

**MOTOROLA SOLUTIONS**

TESTING CERT # 2518.01

**DECLARATION OF COMPLIANCE: MPE/SAR ASSESSMENT****EME Test Laboratory**8000 West Sunrise Blvd  
Fort Lauderdale, FL. 33322**Date of Report:** November 16, 2011**Report Revision:** O**Report ID:** SR9819\_ MPE rpt\_XPR 5550/5350\_VHF\_Mobile\_  
Rev O 111116

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**Date(s) Tested:** 8/24/2011- 8/31/2011; 11/2/2011 - 11/10/2011  
**Manufacturer/Location:** Motorola Solutions, Penang  
**Date submitted for test:** 7/27/2011  
**DUT Description:** VHF, 136-174 MHz, 25-45W, radio with internal GPS and Bluetooth.  
**Test TX mode(s):** CW  
**Max. Power output:** 54W (VHF); 10mW (Bluetooth)  
**TX Frequency Bands:** 136-174 MHz (VHF); 2.402-2.480 GHz (Bluetooth)  
**Signaling type:** FM, and TDMA 1:2, FHSS(BT)  
**Model(s) Tested:** PMUD2567A  
**Model(s) Certified:** PMUD2567A  
**Serial Number(s):** 511TMM0378  
**Classification:** Occupational/Controlled Environment  
**FCC ID:** ABZ99FT3087  
Part 90 VHF (150.8-173.4MHz)  
Results outside FCC bands are not applicable for FCC compliance demonstration.  
**IC:** 109AB-99FT3087  
IC band: VHF (138-174MHz)  
Results outside IC bands are not applicable for IC compliance demonstration.

Based on the information and the testing results provided herein, the undersigned certifies that when used as stated in the operating instructions supplied, said product complies with the national and international reference standards and guidelines listed in section 3.0 of this report. This report shall not be reproduced without written approval from an officially designated representative of the Motorola Solutions Inc. EME Laboratory.

I attest to the accuracy of the data and assume full responsibility for the completeness of these measurements.

This reporting format is consistent with the suggested guidelines of the TIA TSB-159 April 2006

The results and statements contained in this report pertain only to the device(s) evaluated herein.

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Laboratory Director

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**Document Revision History**

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|-------------|-----------------|-----------------|
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## 1.0 Introduction

This report details the test setup, test equipment and test results of Maximum Permissible Exposure (MPE) performed at Motorola Solutions' outside test site and Specific Absorption Rate (SAR) simulations for product model PMUD2567A.

## 2.0 Abbreviations / Definitions

BS: Bystander  
BT: Bluetooth  
4FSK: 4-Level Frequency Shift Keying  
CNR: Calibration Not Required  
CW: Continuous Wave  
DUT: Device Under Test  
EME: Electromagnetic Energy  
FHSS: Frequency Hopping Spread Spectrum  
FM: Frequency Modulation  
GPS: Global Positioning System  
MPE: Maximum Permissible Exposure  
NA: Not Applicable  
PB: Passenger Back seat  
PF: Passenger Front seat  
PTT: Push to Talk  
SAR: Specific Absorption Rate  
TDMA: Time Division Multiple Access

## 3.0 Referenced Standards and Guidelines

This product is designed to comply with the following applicable national and international standards and guidelines.

- United States Federal Communications Commission, Code of Federal Regulations; Rule Part 47CFR § 1.1310, § 2.1091 (d) and § 2.1093 for RF Exposure, where applicable.
- Federal Communications Commission, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields", OET Bulletin 65, Supplement C (Edition 01-01), FCC, Washington, D.C.: June 2001.
- American National Standards Institute (ANSI) / Institute of Electrical and Electronics Engineers (IEEE) C95. 1-1999
- American National Standards Institute (ANSI) / Institute of Electrical and Electronics Engineers (IEEE) C95. 1-1992. Specific to FCC rules and regulations.
- Institute of Electrical and Electronics Engineers (IEEE) C95.3-2002
- Ministry of Health (Canada) Safety Code 6 (2009), Limits of Human Exposure to Radio frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz

#### 4.0 Power Density Limits

**Table 1 – Occupational / Controlled Exposure Limits**

| Frequency Range (MHz) | FCC OET Bulletin 65 Supplement C | ICNIRP           | IEEE C95.1 1992/1999 | IEEE C95.1 2005  | RSS 102 issue 4 - 2010 |
|-----------------------|----------------------------------|------------------|----------------------|------------------|------------------------|
|                       | mW/cm <sup>2</sup>               | W/m <sup>2</sup> | mW/cm <sup>2</sup>   | W/m <sup>2</sup> | W/m <sup>2</sup>       |
|                       |                                  |                  |                      |                  |                        |
| 30 - 300              | 1.0                              |                  |                      |                  | *10.0                  |
| 10 - 400              |                                  | 10.0             |                      |                  |                        |
| 100 - 300             |                                  |                  | 1.0                  | 10.0             |                        |
| 300 - 1,500           | f/300                            |                  |                      |                  | f/30                   |
| 300 - 3,000           |                                  |                  | f/300                | f/30             |                        |
| 400 - 2,000           |                                  | f/40             |                      |                  |                        |
| 1,500 - 15,000        |                                  |                  |                      |                  | 50.0                   |
| 1,500 - 100,000       | 5.0                              |                  |                      |                  |                        |
| 2,000 – 300,000       |                                  | 50.0             |                      |                  |                        |
| 3,000 - 300,000       |                                  |                  | 10.0                 | 100.0            |                        |

\*Power density limit is applicable at frequencies greater than 100MHz

**Table 2 – General Population / Uncontrolled Exposure Limits**

| Frequency Range (MHz) | FCC OET Bulletin 65 Supplement C | ICNIRP           | IEEE C95.1 1992/1999 | IEEE C95.1 2005  | RSS 102 issue 4 – 2010 |
|-----------------------|----------------------------------|------------------|----------------------|------------------|------------------------|
|                       | mW/cm <sup>2</sup>               | W/m <sup>2</sup> | mW/cm <sup>2</sup>   | W/m <sup>2</sup> | W/m <sup>2</sup>       |
|                       |                                  |                  |                      |                  |                        |
| 30 – 300              | 0.2                              |                  |                      |                  | *2.0                   |
| 10 – 400              |                                  | 2.0              |                      |                  |                        |
| 100 – 300             |                                  |                  | 0.2                  |                  |                        |
| 100 – 400             |                                  |                  |                      | 2.0              |                        |
| 300 – 1,500           | f/1,500                          |                  |                      |                  | f/150                  |
| 400 – 2,000           |                                  | f/200            |                      | f/200            |                        |
| 300 – 15,000          |                                  |                  | f/1,500              |                  |                        |
| 1,500 – 15,000        |                                  |                  |                      |                  | 10.0                   |
| 1,500 – 100,000       | 1.0                              |                  |                      |                  |                        |
| 2,000 – 100,000       |                                  |                  |                      | 10.0             |                        |
| 2,000 – 300,000       |                                  | 10.0             |                      |                  |                        |

\*Power density limit is applicable at frequencies greater than 100MHz

## 5.0 $N_c$ Test Channels

The number of test channels are determined by using Equation 1 below. This equation is available in FCC's KDB 447498. The test channels are appropriately spaced across the antenna's frequency range.

Equation 1 – Number of test channels

$$N_c = \text{Round} \{ [100(f_{\text{high}} - f_{\text{low}})/f_c]^{0.5} \times (f_c / 100)^{0.2} \}$$

where  $N_c$  is the number of test channels,  $f_{\text{high}}$  and  $f_{\text{low}}$  are the highest and lowest frequencies within the transmission band,  $f_c$  is the mid-band frequency, and frequencies are in MHz.

## 6.0 Measurement Equipment

**Table 3 - Equipment**

| Equipment Type  | Model #                          | SN       | Calibration Date | Calibration Due Date |
|-----------------|----------------------------------|----------|------------------|----------------------|
| Automobile      | 2003 Ford Crown Victoria, 4-Door | NA       | NA               | NA                   |
|                 |                                  |          |                  |                      |
| Survey Meter    | ETS Model HI-2200                | 00086887 | 5/10/2011        | 5/10/2012            |
| Probe – E-Field | ETS Model E100                   | 00126277 |                  |                      |
| Probe – H-Field | ETS Model H200                   | 00084225 |                  |                      |

E-field measurements are in mW/cm<sup>2</sup>.

H-field measurements are in A/m

## 7.0 Measurement System Uncertainty Levels

**Table 4 - Uncertainty Budget for Near Field Probe Measurements**

|                                                            | Tol.<br>(± %) | Prob.<br>Dist. | Divisor | $u_i$<br>(± %) | $v_i$ |
|------------------------------------------------------------|---------------|----------------|---------|----------------|-------|
| <b>Measurement System</b>                                  |               |                |         |                |       |
| Probe Calibration                                          | 6.0           | N              | 1.00    | 6.0            | ∞     |
| Survey Meter Calibration                                   | 3.0           | N              | 1.00    | 3.0            | ∞     |
| Hemispherical Isotropy                                     | 8.0           | R              | 1.73    | 4.6            | ∞     |
| Linearity                                                  | 5.0           | R              | 1.73    | 2.9            | ∞     |
| Pulse Response                                             | 1.0           | R              | 1.73    | 0.6            | ∞     |
| RF Ambient Noise                                           | 3.0           | R              | 1.73    | 1.7            | ∞     |
| RF Reflections                                             | 8.0           | R              | 1.73    | 4.6            | ∞     |
| Probe Positioning                                          | 10.0          | R              | 1.73    | 5.8            | ∞     |
| <b>Test sample Related</b>                                 |               |                |         |                |       |
| Antenna Positioning                                        | 3.0           | N              | 1.00    | 3.0            | ∞     |
| Power drift                                                | 5.0           | R              | 1.73    | 2.9            | ∞     |
| <b>Combined Standard Uncertainty</b>                       |               | RSS            |         | 12.2           | ∞     |
| <b>Expanded Uncertainty<br/>(95% CONFIDENCE<br/>LEVEL)</b> |               | $k=2$          |         | 24             |       |

## 8.0 Product and System Description

Model PMUD2567A is a mobile transceiver that utilizes analog and digital two-way radio communications, Bluetooth and GPS technologies. The analog modulation scheme uses narrowband Frequency Modulation (FM). The digital modulation scheme is 4 Level Frequency Shift Keying (4FSK) and Time Division Multiple Access (TDMA). The system can accommodate 2-voice channels in a standard 12.5 kHz channel as used in two-way radio. The TDMA 1:2 protocol allocates portions of the RF signal by dividing time into two slots (2 slots TDMA). Transmission from a unit or base station is accommodated in time-slot lengths of 30 milliseconds and frame lengths of 60 milliseconds. This product also incorporates a Class 1 (10mW max power) BT modem which uses Frequency Hopping Spread Spectrum (FHSS) technology. The Bluetooth radio modem is used to link wireless audio accessories. The maximum transmission duty cycle of 29.3% is imposed by the Bluetooth standard.

The maximum duty cycle for TDMA is 1:2 (50%) and is controlled by software. The FM signal is continuous. However, because of hand shaking or Push-To-Talk (PTT) between users and/or base stations a conservative 50% duty cycle is applied. The TDMA mode was not tested because its duty cycle is inherently 50% and would include an additional 50% duty cycle for PTT.

The intended use of the radio is PTT while the device is properly installed in a vehicle with an external antenna mounted at the roof or trunk.

This device will be marketed to and used by employees solely for work-related operations, such as public safety agencies, e.g. police, fire and emergency medical. User training is the responsibility of these agencies which can be expected to employ the usage instructions, safety information and operational cautions set forth in the user's manual, instructional sessions or other means.

Accordingly this product is classified as Occupational/Controlled Exposure. However, in accordance with FCC requirements, the passengers inside the vehicle and the bystanders external to the vehicle are evaluated to the General Population/Uncontrolled Exposure Limits.

(Note that "Bystanders" as used herein are people other than operator)

## 9.0 Additional Options and Accessories

Refer to Table 5 for complete list of tested antennas.

PMAN4004B - Optional GPS base.

Below are additional antenna kits which include the tested antennas in Table 5 and optional GPS base.

RAD4214A - Includes GPS base and tested antenna RAD4226A.

RAD4215A - Includes GPS base and tested antenna RAD4225A.

RAD4216A - Includes GPS base and tested antenna RAD4224A.

RAD4217A - Includes GPS base and tested antenna RAD4223A.

RAD4218A - Includes GPS base and tested antenna RAD4227A.

## 10.0 Test Set-Up Description

Assessments were performed with mobile radio installed in the test vehicle while engine was at idle, at the specified distances and test locations indicated in sections 11.0, 12.0 and Appendix A.

All antennas described in Table 5 were considered in order to develop the test plan for this product. Antennas were installed and tested per their appropriate mount locations (Roof / Trunk) and defined test channels.

### 11.0 Method of Measurement with trunk mounted antenna(s)

#### 11.1 External/Bystander vehicle MPE measurements

Antenna is located at the center of the trunk. Refer to Appendix A for antenna location and distance.

MPE measurements for bystander (BS) conditions are determined by taking the average of (10) measurements in a 2 m vertical line for each of the (3) bystander test locations indicated in Appendix A with 20 cm height increments, with antenna to probe sensor separation distances of 90 cm directly behind vehicle, 104 cm (45 degree radial) and 110.5 cm (90 degree radial). The separation distance used for testing is defined from the antenna where as the RF safety booklet defines the same distance from the vehicle body to ensure that the assessment is applicable to other vehicles. The measurement probe is positioned orthogonal to antenna (typically parallel to ground with a vertically mounted antenna) and aimed directly at the antenna's axis. These measurements are representative of persons other than the operator standing next to the vehicle.

Each of the offered antennas mounted at the center of the trunk were assessed at the rear of the vehicle while maintaining a minimum of twenty (20) centimeter separation distance between the probe sensor and vehicle body. The worst case antenna was then tested at a 45° radial at the corner of the trunk, and 90° radial at the side of the trunk.

**Note:** The distance from the centered trunk-mounted antenna to the rear edge of the vehicle is 42cm and the distance from the rear edge of the vehicle to the survey probe sensor is 48cm.

#### 11.2 Internal/Passenger vehicle MPE measurements

Antenna is located toward the center of the trunk at a minimum 85cm from back seat passenger. Users are instructed, per installation manual, to mount antennas on the roof only if a minimum 85cm cannot be achieved. Refer to Appendix A for antenna location and distance.

MPE measurements for passenger front seat (PF) and back seat (PB) conditions are determined by taking the average of the (3) measurements (Head, Chest, and Lower Trunk) inside the vehicle for both the front and back seats.

The back seat is a bench seat and therefore each position (Head, Chest & Lower Trunk) were scanned across (horizontally) the seat starting from the middle of the seat to the edge of the seat stopping 20 cm from the vehicle door. Similar process was used in the front bucket seat.

The probe handle is oriented parallel (horizontal) to the ground and pointed towards the back of the vehicle. The probe handle is not oriented normal to the seat surface. The probe head (incorporating the field sensors) is scanned continuously (using the max-hold function available in the meter) along three test axes which are parallel to the seat angle (intended as the line determined by the intersection of the plane of the seat and the plane of the backrest) and are 20 cm from the seat surface. One test axis is at the Head height, another is at the Chest height, and another is at the Lower Trunk height. The maximum field level value recorded for each test axis is logged. The MPE is determined by averaging these three maximum values regardless of the geometrical location where they were observed. For instance, the locations of the three maxima may lie on different vertical (relative to ground) lines.

This approach leads to results that are representative of the exposure of vehicle occupants since it is based on an average across the body portions closest to the antenna for both trunk and roof mount positions, and is conservatively biased because the highest results for each test axis are combined, e.g. the highest head exposure could be in the middle of the seat while the highest lower trunk exposure could be closer to the door

## **12.0 Method of Measurement with roof mounted antenna(s)**

### **12.1 External/Bystander vehicle MPE measurements**

Antenna is located at the center of the roof. Refer to Appendix A for antenna location and distance.

MPE measurements for bystander (BS) conditions are determined by taking the average of (10) measurements in a 2m vertical line for the test location indicated in Appendix A with 20cm increments at the test distance of 117cm from the antenna under test. The measurement probe is positioned orthogonal to antenna (typically parallel to ground with a vertically mounted antenna) and aimed directly at the antenna's axis. These measurements are representative of persons other than the operator standing next to the vehicle.

**Note:** Actual test distance was approximately 117cm from centered roof-mounted antenna to the probe element (97cm from antenna to edge of car door and 20cm from the edge of the car door to the survey probe sensor); this is the closest distance that can be achieved to a centered roof-mounted antenna used for MPE compliance assessment herein.

### **12.2 Internal/Passenger vehicle MPE measurements**

Antenna is located at the center of the roof. Refer to Appendix A for antenna location and distance.

MPE measurements for passenger front seat (PF) and back seat (PB) conditions are determined by taking the average of the (3) measurements (Head, Chest, and Lower Trunk) inside the vehicle for both the front and back seats.

The back seat is a bench seat and therefore each position (Head, Chest & Lower Trunk) were scanned across (horizontally) the seat starting from the middle of the seat to the edge of the seat stopping 20 cm from the vehicle door. Similar process was used in the front bucket seat.

The probe handle is oriented parallel (horizontal) to the ground and pointed towards the back of the vehicle. The probe handle is not oriented normal to the seat surface. The probe head (incorporating the field sensors) is scanned continuously (using the max-hold function available in the meter) along three test axes which are parallel to the seat angle (intended as the line determined by the intersection of the plane of the seat and the plane of the backrest) and are 20 cm from the seat surface. One test axis is at the Head height, another is at the Chest height, and another is at the Lower Trunk height. The maximum field level value recorded for each test axis is logged. The MPE is determined by averaging these three maximum values regardless of the geometrical location where they were observed. For instance, the locations of the three maxima may lie on different vertical (relative to ground) lines.

This approach leads to results that are representative of the exposure of vehicle occupants since it is based on an average across the body portions closest to the antenna for both trunk and roof mount positions, and is conservatively biased because the highest results for each test axis are combined, e.g. the highest head exposure could be in the middle of the seat while the highest lower trunk exposure could be closer to the door

### 13.0 MPE Calculations

The final MPE results for this mobile radio are presented in section 15.0 Tables 6 - 17. These results are based on 50% duty cycle for PTT.

Below is an explanation of how the MPE results are calculated. Refer to Appendix D for MPE measurement results and calculations.

External to vehicle (Bystander) - 10 measurements are averaged over the body (Avg\_over\_body).  
Internal to vehicle (Passengers) - 3 measurements are averaged over the body (Avg\_over\_body).

The Average over Body test methodology is consistent with IEEE/ANSI C95.3-2002 guidelines.

Therefore;

Equation 2 – Power Density Calculation (Calc.\_P.D.)

$$\text{Calc._P.D.} = (\text{Avg\_over\_body}) * (\text{probe\_frequency\_cal\_factor}) * (\text{duty\_cycle})$$

*Note 1: The highest “average” cal factors from the calibration certificates were selected for the applicable frequency range. Linear interpretation was used to determine “probe\_frequency\_cal\_factor” for the specific test frequencies.*

*Note 2: The E-field probe calibration certificate’s frequency cal factors were determined by measuring V/m. The survey meter’s results were measured in power density (mW/cm<sup>2</sup>) and therefore the “probe\_frequency\_cal\_factor” was squared in equation 2 to account for these results.*

*Note 3: The H-field probe calibration certificate’s frequency cal factors were determined by measuring A/m. The survey meter’s results were measured in A/m and therefore the “Avg\_over\_body” A/m results were converted to power density (mW/cm<sup>2</sup>) using the equation 3. H-field measurements are only applicable to frequencies below 300MHz.*

Equation 3 – Converting A/m to mW/cm<sup>2</sup>

$$mW/cm^2 = (A/m)^2 * 37.699$$

Equation 4 – Power Density Maximum Calculation

$$Max\_Calc.\_P.D. = P.D.\_calc * \frac{max\_output\_power}{initial\_output\_power}$$

Note 4; For initial output power > max\_output\_power; max\_output\_power / initial output power = 1

#### 14.0 Antenna Summary

Table 5 below summarizes the tested antennas and their descriptions, mount location (roof/trunk), overlap of FCC bands, number of test channels per FCC KDB 447498 (FCC N<sub>c</sub>) and actual number of tested channels (Actual N<sub>c</sub>). This information was used to determine the test configurations presented in this report.

**Table 5**

| #  | Antenna Model | Frequency Range (MHz) | Physical Length (cm)                             | Gain (dBi) | Remarks        | Mount Location (Roof/Trunk) | Overlap FCC Bands | FCC N <sub>c</sub> | Actual N <sub>c</sub> |
|----|---------------|-----------------------|--------------------------------------------------|------------|----------------|-----------------------------|-------------------|--------------------|-----------------------|
| 1  | HAD4006A      | 136-144               | 52.0                                             | 2.15       | 1/4 wave, wire | R/T                         | NA                | 3                  | 3                     |
| 2  | HAD4007A      | 146-150.8             | 49.0                                             | 2.15       | 1/4 wave, wire | R/T                         | 150.8             | 2                  | 3                     |
| 3  | HAD4008A      | 150.8-162             | 45.5                                             | 2.15       | 1/4 wave, wire | R/T                         | 150.8-162         | 3                  | 3                     |
| 4  | HAD4009A      | 162-174               | 43.0                                             | 2.15       | 1/4 wave, wire | R/T                         | 162-173.4         | 3                  | 3                     |
| 5  | *HAD4022A     | 132-174               | 130.0<br>118.3<br>113.8<br>102.7<br>96.5<br>89.9 | 5.15       | 5/8 wave, wire | R/T                         | 150.8-173.4       | 5                  | 6                     |
| 6  | RAD4226A      | 136-144               | 50.4                                             | 2.15       | 1/4 wave, wire | R/T                         | NA                | 3                  | 3                     |
| 7  | RAD4225A      | 146-150.8             | 47.5                                             | 2.15       | 1/4 wave, wire | R/T                         | 150.8             | 2                  | 3                     |
| 8  | RAD4224A      | 150.8-162             | 44.2                                             | 2.15       | 1/4 wave, wire | R/T                         | 150.8-162         | 3                  | 3                     |
| 9  | RAD4223A      | 162-174               | 41.0                                             | 2.15       | 1/4 wave, wire | R/T                         | 162-173.4         | 3                  | 3                     |
| 10 | RAD4227A      | 146-172               | 88.0                                             | 5.15       | 5/8 wave, wire | R/T                         | 150.8-172         | 4                  | 5                     |

\* Antennas trimmed per test frequency.

#### 15.0 Test Results Summary

The following tables below summarize the MPE results for each test configuration: antenna location, test positions (BS-Bystander, PB-Passenger Back seat, PF-Passenger Front seat), E/H field measurements, angle, antenna model & freq. range, maximum output power, initial power, TX frequency, max calculated power density results, applicable FCC/IEEE/ICNIRP specification limits and % of the applicable specification limits.

Table 6

## Bystander MPE assessment to General Pop. / Uncontrolled Exposure Limits for roof mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Roof           | BS               | E            | 0                 | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.047                                       | 0.2                     | 23.4                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.045                                       | 0.2                     | 22.5                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.046                                       | 0.2                     | 22.8                  |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.060                                       | 0.2                     | 29.8                  |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.060                                       | 0.2                     | 30.1                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.067                                       | 0.2                     | 33.7                  |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.051                                       | 0.2                     | 25.6                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.057                                       | 0.2                     | 28.7                  |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.069                                       | 0.2                     | 34.3                  |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.052                                       | 0.2                     | 26.0                  |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.047                                       | 0.2                     | 23.7                  |
|                |                  |              |                   | HAD4006A,<br>(136-144MHz)  | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.071                                       | 0.2                     | 35.6                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.067                                       | 0.2                     | 33.4                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.069                                       | 0.2                     | 34.3                  |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.071                                       | 0.2                     | 35.4                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.068                                       | 0.2                     | 34.0                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.071                                       | 0.2                     | 35.7                  |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.066                                       | 0.2                     | 33.1                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.083                                       | 0.2                     | 41.4                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.068                                       | 0.2                     | 34.0                  |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.064                                       | 0.2                     | 32.0                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.067                                       | 0.2                     | 33.4                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.076                                       | 0.2                     | 38.2                  |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.060                                       | 0.2                     | 30.0                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.062                                       | 0.2                     | 31.1                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.073                                       | 0.2                     | 36.3                  |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.064                                       | 0.2                     | 31.9                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.067                                       | 0.2                     | 33.5                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.072                                       | 0.2                     | 35.9                  |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.056                                       | 0.2                     | 28.2                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.071                                       | 0.2                     | 35.5                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.069                                       | 0.2                     | 34.5                  |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.049                                       | 0.2                     | 24.6                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.059                                       | 0.2                     | 29.5                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.069                                       | 0.2                     | 34.7                  |

Table 7

## Passenger MPE assessment to General Pop. / Uncontrolled Exposure Limits for roof mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Roof           | PB               | E            | NA                | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.022                                       | 0.2                     | 11.0                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.039                                       | 0.2                     | 19.6                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.026                                       | 0.2                     | 12.9                  |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.012                                       | 0.2                     | 6.0                   |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.040                                       | 0.2                     | 19.9                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.033                                       | 0.2                     | 16.4                  |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.057                                       | 0.2                     | 28.4                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.050                                       | 0.2                     | 25.0                  |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.019                                       | 0.2                     | 9.4                   |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.042                                       | 0.2                     | 21.0                  |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.024                                       | 0.2                     | 12.2                  |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.078                                       | 0.2                     | 39.0                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.188                                       | 0.2                     | 94.1                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.131                                       | 0.2                     | 65.6                  |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.078                                       | 0.2                     | 38.8                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.037                                       | 0.2                     | 18.4                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.062                                       | 0.2                     | 31.0                  |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.057                                       | 0.2                     | 28.7                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.034                                       | 0.2                     | 17.1                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.064                                       | 0.2                     | 32.1                  |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.066                                       | 0.2                     | 33.0                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.059                                       | 0.2                     | 29.7                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.043                                       | 0.2                     | 21.3                  |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.075                                       | 0.2                     | 37.3                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.198                                       | 0.2                     | 99.2                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.138                                       | 0.2                     | 69.0                  |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.071                                       | 0.2                     | 35.3                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.040                                       | 0.2                     | 19.9                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.067                                       | 0.2                     | 33.6                  |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.052                                       | 0.2                     | 25.9                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.027                                       | 0.2                     | 13.7                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.068                                       | 0.2                     | 33.8                  |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.051                                       | 0.2                     | 25.4                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.053                                       | 0.2                     | 26.4                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.039                                       | 0.2                     | 19.7                  |

Table 8

## Passenger MPE assessment to General Pop. / Uncontrolled Exposure Limits for roof mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Roof           | PF               | E            | NA                | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.005                                       | 0.2                     | 2.5                   |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.014                                       | 0.2                     | 6.8                   |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.009                                       | 0.2                     | 4.3                   |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.012                                       | 0.2                     | 6.0                   |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.020                                       | 0.2                     | 10.0                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.015                                       | 0.2                     | 7.4                   |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.022                                       | 0.2                     | 11.2                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.026                                       | 0.2                     | 12.9                  |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.015                                       | 0.2                     | 7.7                   |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.018                                       | 0.2                     | 9.2                   |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.005                                       | 0.2                     | 2.4                   |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.027                                       | 0.2                     | 13.6                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.039                                       | 0.2                     | 19.7                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.041                                       | 0.2                     | 20.5                  |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.041                                       | 0.2                     | 20.7                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.035                                       | 0.2                     | 17.3                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.033                                       | 0.2                     | 16.4                  |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.029                                       | 0.2                     | 14.7                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.031                                       | 0.2                     | 15.4                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.032                                       | 0.2                     | 16.1                  |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.029                                       | 0.2                     | 14.4                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.020                                       | 0.2                     | 9.9                   |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.013                                       | 0.2                     | 6.6                   |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.027                                       | 0.2                     | 13.6                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.043                                       | 0.2                     | 21.4                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.046                                       | 0.2                     | 23.0                  |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.021                                       | 0.2                     | 10.3                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.028                                       | 0.2                     | 13.8                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.034                                       | 0.2                     | 17.2                  |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.031                                       | 0.2                     | 15.5                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.026                                       | 0.2                     | 12.9                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.034                                       | 0.2                     | 16.9                  |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.019                                       | 0.2                     | 9.3                   |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.017                                       | 0.2                     | 8.3                   |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.008                                       | 0.2                     | 4.1                   |

Table 9

Bystander MPE assessment to General Pop. / Uncontrolled Exposure Limits for roof mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|--------------------------------------------|-------------------------|-----------------------|
| Roof           | BS               | H            | 0                 | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.035                                      | 0.2                     | 17.7                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.045                                      | 0.2                     | 22.5                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.043                                      | 0.2                     | 21.4                  |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.055                                      | 0.2                     | 27.5                  |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.060                                      | 0.2                     | 29.9                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.064                                      | 0.2                     | 32.0                  |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           | 52.2               | 146.0125         | 0.060                                      | 0.2                     | 30.0                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.058                                      | 0.2                     | 29.0                  |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.060                                      | 0.2                     | 30.2                  |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.052                                      | 0.2                     | 25.8                  |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.046                                      | 0.2                     | 23.1                  |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           | 52.6               | 136.0125         | 0.077                                      | 0.2                     | 38.6                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.077                                      | 0.2                     | 38.6                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.081                                      | 0.2                     | 40.7                  |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           | 52.2               | 146.0125         | 0.080                                      | 0.2                     | 40.2                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.072                                      | 0.2                     | 36.1                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.070                                      | 0.2                     | 34.9                  |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           | 52.2               | 150.8000         | 0.070                                      | 0.2                     | 34.9                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.077                                      | 0.2                     | 38.4                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.068                                      | 0.2                     | 33.8                  |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           | 52.7               | 162.0125         | 0.070                                      | 0.2                     | 34.8                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.055                                      | 0.2                     | 27.4                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.080                                      | 0.2                     | 39.9                  |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           | 52.6               | 136.0125         | 0.065                                      | 0.2                     | 32.4                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.071                                      | 0.2                     | 35.4                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.081                                      | 0.2                     | 40.7                  |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           | 52.2               | 146.0125         | 0.074                                      | 0.2                     | 37.0                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.070                                      | 0.2                     | 35.0                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.072                                      | 0.2                     | 35.9                  |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           | 52.2               | 150.8000         | 0.056                                      | 0.2                     | 28.1                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.067                                      | 0.2                     | 33.3                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.068                                      | 0.2                     | 33.8                  |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           | 52.7               | 162.0125         | 0.047                                      | 0.2                     | 23.7                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.058                                      | 0.2                     | 28.9                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.070                                      | 0.2                     | 34.8                  |

Table 10

## Passenger MPE assessment to General Pop. / Uncontrolled Exposure Limits for roof mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Roof           | PB               | H            | NA                | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.011                                       | 0.2                     | 5.4                   |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.017                                       | 0.2                     | 8.5                   |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.020                                       | 0.2                     | 10.2                  |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.011                                       | 0.2                     | 5.3                   |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.040                                       | 0.2                     | 20.2                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.035                                       | 0.2                     | 17.3                  |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.028                                       | 0.2                     | 14.2                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.038                                       | 0.2                     | 18.9                  |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.016                                       | 0.2                     | 8.2                   |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.031                                       | 0.2                     | 15.6                  |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.018                                       | 0.2                     | 9.2                   |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.068                                       | 0.2                     | 34.1                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.098                                       | 0.2                     | 49.0                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.068                                       | 0.2                     | 33.9                  |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.048                                       | 0.2                     | 24.2                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.028                                       | 0.2                     | 14.2                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.038                                       | 0.2                     | 18.9                  |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.033                                       | 0.2                     | 16.4                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.024                                       | 0.2                     | 11.9                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.037                                       | 0.2                     | 18.3                  |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.032                                       | 0.2                     | 15.9                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.045                                       | 0.2                     | 22.6                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.026                                       | 0.2                     | 13.0                  |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.033                                       | 0.2                     | 16.7                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.082                                       | 0.2                     | 41.2                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.075                                       | 0.2                     | 37.4                  |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.043                                       | 0.2                     | 21.5                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.024                                       | 0.2                     | 12.1                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.038                                       | 0.2                     | 18.9                  |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.033                                       | 0.2                     | 16.4                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.024                                       | 0.2                     | 11.9                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.037                                       | 0.2                     | 18.3                  |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.023                                       | 0.2                     | 11.7                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.040                                       | 0.2                     | 20.1                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.026                                       | 0.2                     | 13.0                  |

Table 11

## Passenger MPE assessment to General Pop. / Uncontrolled Exposure Limits for roof mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Roof           | PF               | H            | NA                | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.006                                       | 0.2                     | 3.1                   |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.011                                       | 0.2                     | 5.4                   |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.011                                       | 0.2                     | 5.4                   |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.013                                       | 0.2                     | 6.7                   |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.010                                       | 0.2                     | 5.0                   |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.012                                       | 0.2                     | 6.2                   |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.028                                       | 0.2                     | 14.2                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.028                                       | 0.2                     | 14.2                  |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.020                                       | 0.2                     | 9.9                   |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.013                                       | 0.2                     | 6.5                   |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.007                                       | 0.2                     | 3.7                   |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.025                                       | 0.2                     | 12.3                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.033                                       | 0.2                     | 16.7                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.055                                       | 0.2                     | 27.5                  |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.048                                       | 0.2                     | 24.2                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.055                                       | 0.2                     | 27.3                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.054                                       | 0.2                     | 27.2                  |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.043                                       | 0.2                     | 21.5                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.024                                       | 0.2                     | 11.9                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.020                                       | 0.2                     | 9.8                   |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.016                                       | 0.2                     | 8.1                   |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.016                                       | 0.2                     | 7.8                   |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.015                                       | 0.2                     | 7.7                   |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.025                                       | 0.2                     | 12.3                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.033                                       | 0.2                     | 16.7                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.055                                       | 0.2                     | 27.5                  |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.054                                       | 0.2                     | 27.2                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.049                                       | 0.2                     | 24.3                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.048                                       | 0.2                     | 24.2                  |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.043                                       | 0.2                     | 21.5                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.021                                       | 0.2                     | 10.5                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.020                                       | 0.2                     | 9.8                   |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.016                                       | 0.2                     | 8.1                   |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.013                                       | 0.2                     | 6.3                   |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.019                                       | 0.2                     | 9.3                   |

Table 12

## Bystander MPE assessment to General Pop. / Uncontrolled Exposure Limits for trunk mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Trunk          | BS               | E            | 0                 | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.108                                       | 0.2                     | 54.1                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.128                                       | 0.2                     | 64.2                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.111                                       | 0.2                     | 55.6                  |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.109                                       | 0.2                     | 54.6                  |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.124                                       | 0.2                     | 62.1                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.126                                       | 0.2                     | 63.0                  |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           | 52.2               | 146.0125         | 0.115                                       | 0.2                     | 57.7                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.112                                       | 0.2                     | 56.1                  |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.100                                       | 0.2                     | 50.2                  |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.095                                       | 0.2                     | 47.6                  |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.074                                       | 0.2                     | 37.1                  |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           | 52.6               | 136.0125         | 0.118                                       | 0.2                     | 59.2                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.157                                       | 0.2                     | 78.3                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.151                                       | 0.2                     | 75.7                  |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           | 52.2               | 146.0125         | 0.144                                       | 0.2                     | 72.2                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.129                                       | 0.2                     | 64.4                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.123                                       | 0.2                     | 61.3                  |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           | 52.2               | 150.8000         | 0.103                                       | 0.2                     | 51.5                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.097                                       | 0.2                     | 48.3                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.114                                       | 0.2                     | 56.8                  |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           | 52.7               | 162.0125         | 0.100                                       | 0.2                     | 50.2                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.114                                       | 0.2                     | 57.0                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.128                                       | 0.2                     | 64.0                  |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           | 52.6               | 136.0125         | 0.107                                       | 0.2                     | 53.6                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.131                                       | 0.2                     | 65.7                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.158                                       | 0.2                     | 78.8                  |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           | 52.2               | 146.0125         | 0.134                                       | 0.2                     | 67.0                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.133                                       | 0.2                     | 66.5                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.127                                       | 0.2                     | 63.6                  |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           | 52.2               | 150.8000         | 0.076                                       | 0.2                     | 37.8                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.087                                       | 0.2                     | 43.4                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.112                                       | 0.2                     | 56.0                  |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           | 52.7               | 162.0125         | 0.038                                       | 0.2                     | 19.0                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.091                                       | 0.2                     | 45.3                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.114                                       | 0.2                     | 57.1                  |
| Trunk          | BS               | E            | 45                | RAD4226A<br>(136-144MHz)   | 54.0           | 52.8               | 143.9875         | 0.204                                       | 0.2                     | *102.0                |
|                |                  |              | 90                |                            |                | 52.8               | 143.9875         | 0.164                                       | 0.2                     | 81.8                  |
| Trunk          | BS               | E            | 45                | HAD4009A<br>(162-174MHz)   | 54.0           | 53.2               | 173.4000         | 0.162                                       | 0.2                     | 81.0                  |
|                |                  |              | 90                |                            |                | 53.2               | 173.4000         | 0.141                                       | 0.2                     | 70.4                  |

Note - \* Results required SAR simulations

Table 13

## Passenger MPE assessment to General Pop. / Uncontrolled Exposure Limits for trunk mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Trunk          | PB               | E            | NA                | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.029                                       | 0.2                     | 14.4                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.159                                       | 0.2                     | 79.3                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.186                                       | 0.2                     | 93.1                  |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.351                                       | 0.2                     | *175.3                |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.453                                       | 0.2                     | *226.7                |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.382                                       | 0.2                     | *191.2                |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.505                                       | 0.2                     | *252.6                |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.531                                       | 0.2                     | *265.5                |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.642                                       | 0.2                     | *320.9                |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.506                                       | 0.2                     | *252.8                |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.217                                       | 0.2                     | *108.3                |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.745                                       | 0.2                     | *372.7                |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.729                                       | 0.2                     | *364.4                |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.873                                       | 0.2                     | *436.4                |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.950                                       | 0.2                     | *475.0                |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.800                                       | 0.2                     | *399.8                |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.716                                       | 0.2                     | *357.8                |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.636                                       | 0.2                     | *318.1                |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 1.062                                       | 0.2                     | *531.2                |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.747                                       | 0.2                     | *373.6                |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.754                                       | 0.2                     | *377.0                |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.856                                       | 0.2                     | *427.8                |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.504                                       | 0.2                     | *251.9                |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.661                                       | 0.2                     | *330.3                |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.583                                       | 0.2                     | *291.7                |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.828                                       | 0.2                     | *414.2                |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.824                                       | 0.2                     | *412.1                |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.782                                       | 0.2                     | *391.2                |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.790                                       | 0.2                     | *394.8                |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.569                                       | 0.2                     | *284.5                |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 1.008                                       | 0.2                     | *503.8                |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.766                                       | 0.2                     | *382.9                |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.298                                       | 0.2                     | *148.8                |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.647                                       | 0.2                     | *323.7                |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.542                                       | 0.2                     | *270.8                |

Note - \* Results required SAR simulations.

Table 14

Passenger MPE assessment to General Pop. / Uncontrolled Exposure Limits for trunk mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Trunk          | PF               | E            | NA                | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.005                                       | 0.2                     | 2.5                   |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.010                                       | 0.2                     | 5.1                   |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.019                                       | 0.2                     | 9.5                   |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.041                                       | 0.2                     | 20.5                  |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.078                                       | 0.2                     | 39.0                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.115                                       | 0.2                     | 57.4                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           | 52.2               | 146.0125         | 0.026                                       | 0.2                     | 12.9                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.053                                       | 0.2                     | 26.7                  |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.053                                       | 0.2                     | 26.5                  |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.077                                       | 0.2                     | 38.6                  |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.077                                       | 0.2                     | 38.3                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           | 52.6               | 136.0125         | 0.036                                       | 0.2                     | 17.8                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.024                                       | 0.2                     | 12.0                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.065                                       | 0.2                     | 32.4                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           | 52.2               | 146.0125         | 0.078                                       | 0.2                     | 38.8                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.102                                       | 0.2                     | 51.1                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.103                                       | 0.2                     | 51.7                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           | 52.2               | 150.8000         | 0.090                                       | 0.2                     | 44.8                  |
|                |                  |              |                   |                            |                | 52                 | 156.4000         | 0.110                                       | 0.2                     | 54.8                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.115                                       | 0.2                     | 57.5                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           | 52.7               | 162.0125         | 0.118                                       | 0.2                     | 59.2                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.142                                       | 0.2                     | 71.0                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.166                                       | 0.2                     | 82.9                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           | 52.6               | 136.0125         | 0.027                                       | 0.2                     | 13.6                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.046                                       | 0.2                     | 23.1                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.046                                       | 0.2                     | 23.0                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           | 52.2               | 146.0125         | 0.048                                       | 0.2                     | 24.1                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.066                                       | 0.2                     | 32.9                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.084                                       | 0.2                     | 42.2                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           | 52.2               | 150.8000         | 0.072                                       | 0.2                     | 36.2                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.115                                       | 0.2                     | 57.4                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.100                                       | 0.2                     | 49.9                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           | 52.7               | 162.0125         | 0.046                                       | 0.2                     | 22.8                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.140                                       | 0.2                     | 70.2                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.149                                       | 0.2                     | 74.7                  |

Table 15

Bystander MPE assessment to General Pop. / Uncontrolled Exposure Limits for trunk mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Trunk          | BS               | H            | 0                 | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.103                                       | 0.2                     | 51.5                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.126                                       | 0.2                     | 63.2                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.109                                       | 0.2                     | 54.6                  |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.125                                       | 0.2                     | 62.6                  |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.123                                       | 0.2                     | 61.3                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.138                                       | 0.2                     | 69.1                  |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.125                                       | 0.2                     | 62.5                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.120                                       | 0.2                     | 59.8                  |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.117                                       | 0.2                     | 58.5                  |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.101                                       | 0.2                     | 50.6                  |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.104                                       | 0.2                     | 51.9                  |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.119                                       | 0.2                     | 59.4                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.133                                       | 0.2                     | 66.3                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.150                                       | 0.2                     | 74.8                  |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.145                                       | 0.2                     | 72.5                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.140                                       | 0.2                     | 70.1                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.133                                       | 0.2                     | 66.7                  |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.112                                       | 0.2                     | 55.8                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.120                                       | 0.2                     | 60.0                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.121                                       | 0.2                     | 60.5                  |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.116                                       | 0.2                     | 57.9                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.119                                       | 0.2                     | 59.7                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.147                                       | 0.2                     | 73.3                  |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.103                                       | 0.2                     | 51.5                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.116                                       | 0.2                     | 58.0                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.147                                       | 0.2                     | 73.3                  |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.145                                       | 0.2                     | 72.5                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.126                                       | 0.2                     | 62.8                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.125                                       | 0.2                     | 62.5                  |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.085                                       | 0.2                     | 42.5                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.105                                       | 0.2                     | 52.3                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.116                                       | 0.2                     | 57.9                  |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.043                                       | 0.2                     | 21.3                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.122                                       | 0.2                     | 61.0                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.138                                       | 0.2                     | 69.1                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
| Trunk          | BS               | H            | 45                | HAD4006A<br>(136-144MHz)   | 54.0           | 52.8               | 143.9875         | 0.198                                       | 0.2                     | 99.2                  |
|                |                  |              | 90                |                            |                | 52.8               | 143.9875         | 0.178                                       | 0.2                     | 89.1                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
| Trunk          | BS               | H            | 45                | HAD4009A<br>(162-174MHz)   | 54.0           | 53.2               | 173.4000         | 0.192                                       | 0.2                     | 96.2                  |
|                |                  |              | 90                |                            |                | 53.2               | 173.4000         | 0.173                                       | 0.2                     | 86.7                  |

Table 16

## Passenger MPE assessment to General Pop. / Uncontrolled Exposure Limits for trunk mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Trunk          | PB               | H            | NA                | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.021                                       | 0.2                     | 10.3                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.055                                       | 0.2                     | 27.5                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.074                                       | 0.2                     | 37.0                  |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.168                                       | 0.2                     | 84.1                  |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.305                                       | 0.2                     | *152.5                |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.258                                       | 0.2                     | *129.1                |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.242                                       | 0.2                     | *121.1                |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.206                                       | 0.2                     | *102.8                |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.262                                       | 0.2                     | *131.2                |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.323                                       | 0.2                     | *161.3                |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.147                                       | 0.2                     | 73.3                  |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.376                                       | 0.2                     | *188.1                |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.315                                       | 0.2                     | *157.5                |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.359                                       | 0.2                     | *179.5                |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.436                                       | 0.2                     | *218.2                |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.421                                       | 0.2                     | *210.5                |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.325                                       | 0.2                     | *162.4                |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.296                                       | 0.2                     | *148.0                |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.412                                       | 0.2                     | *205.8                |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.406                                       | 0.2                     | *203.0                |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.406                                       | 0.2                     | *203.0                |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.545                                       | 0.2                     | *272.6                |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.369                                       | 0.2                     | *184.4                |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.6               | 136.0125         | 0.345                                       | 0.2                     | *172.4                |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.286                                       | 0.2                     | *143.1                |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.407                                       | 0.2                     | *203.7                |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 146.0125         | 0.436                                       | 0.2                     | *218.2                |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.421                                       | 0.2                     | *210.5                |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.310                                       | 0.2                     | *155.1                |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.255                                       | 0.2                     | *127.6                |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.333                                       | 0.2                     | *166.7                |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.374                                       | 0.2                     | *187.1                |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           |                    |                  |                                             |                         |                       |
|                |                  |              |                   |                            |                | 52.7               | 162.0125         | 0.188                                       | 0.2                     | 93.9                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.457                                       | 0.2                     | *228.4                |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.354                                       | 0.2                     | *176.9                |

Note - \* Results required SAR simulations.

Table 17

Passenger MPE assessment to General Pop. / Uncontrolled Exposure Limits for trunk mounted antennas.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna Model              | Max Pwr<br>(W) | Initial Pwr<br>(W) | Tx Freq<br>(MHz) | Max Calc.<br>P.D.<br>(mW/ cm <sup>2</sup> ) | FCC/<br>ICNIRP<br>Limit | % To<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------|----------------|--------------------|------------------|---------------------------------------------|-------------------------|-----------------------|
| Trunk          | PF               | H            | NA                | HAD4022A<br>(132-174MHz)   | 54.0           | 52.6               | 136.0125         | 0.006                                       | 0.2                     | 3.1                   |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.014                                       | 0.2                     | 6.9                   |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.033                                       | 0.2                     | 16.4                  |
|                |                  |              |                   |                            |                | 52.1               | 158.3000         | 0.028                                       | 0.2                     | 13.9                  |
|                |                  |              |                   |                            |                | 53.1               | 165.9875         | 0.040                                       | 0.2                     | 20.2                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.039                                       | 0.2                     | 19.7                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | RAD4227A<br>(146-172MHz)   | 54.0           | 52.2               | 146.0125         | 0.074                                       | 0.2                     | 37.0                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.074                                       | 0.2                     | 37.0                  |
|                |                  |              |                   |                            |                | 52.2               | 157.9875         | 0.053                                       | 0.2                     | 26.6                  |
|                |                  |              |                   |                            |                | 52.5               | 164.9875         | 0.041                                       | 0.2                     | 20.4                  |
|                |                  |              |                   |                            |                | 53.6               | 171.9875         | 0.026                                       | 0.2                     | 12.9                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | HAD4006A<br>(136-144MHz)   | 54.0           | 52.6               | 136.0125         | 0.068                                       | 0.2                     | 34.1                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.106                                       | 0.2                     | 53.2                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.090                                       | 0.2                     | 44.9                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | HAD4007A<br>(146-150.8MHz) | 54.0           | 52.2               | 146.0125         | 0.122                                       | 0.2                     | 61.2                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.132                                       | 0.2                     | 66.0                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.113                                       | 0.2                     | 56.7                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | HAD4008A<br>(150.8-162MHz) | 54.0           | 52.2               | 150.8000         | 0.122                                       | 0.2                     | 61.2                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.095                                       | 0.2                     | 47.4                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.047                                       | 0.2                     | 23.5                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | HAD4009A<br>(162-174MHz)   | 54.0           | 52.7               | 162.0125         | 0.042                                       | 0.2                     | 20.8                  |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.069                                       | 0.2                     | 34.5                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.074                                       | 0.2                     | 37.2                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | RAD4226A<br>(136-144MHz)   | 54.0           | 52.6               | 136.0125         | 0.038                                       | 0.2                     | 19.2                  |
|                |                  |              |                   |                            |                | 52.6               | 140.0125         | 0.055                                       | 0.2                     | 27.6                  |
|                |                  |              |                   |                            |                | 52.8               | 143.9875         | 0.124                                       | 0.2                     | 61.8                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | RAD4225A<br>(146-150.8MHz) | 54.0           | 52.2               | 146.0125         | 0.122                                       | 0.2                     | 61.2                  |
|                |                  |              |                   |                            |                | 52.0               | 148.4000         | 0.114                                       | 0.2                     | 56.9                  |
|                |                  |              |                   |                            |                | 52.2               | 150.8000         | 0.122                                       | 0.2                     | 61.2                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | RAD4224A<br>(150.8-162MHz) | 54.0           | 52.2               | 150.8000         | 0.097                                       | 0.2                     | 48.3                  |
|                |                  |              |                   |                            |                | 52.0               | 156.4000         | 0.080                                       | 0.2                     | 39.8                  |
|                |                  |              |                   |                            |                | 52.7               | 161.9875         | 0.047                                       | 0.2                     | 23.5                  |
|                |                  |              |                   |                            |                |                    |                  |                                             |                         |                       |
|                |                  |              |                   | RAD4223A<br>(162-174MHz)   | 54.0           | 52.7               | 162.0125         | 0.020                                       | 0.2                     | 9.8                   |
|                |                  |              |                   |                            |                | 53.4               | 167.7000         | 0.069                                       | 0.2                     | 34.5                  |
|                |                  |              |                   |                            |                | 53.2               | 173.4000         | 0.068                                       | 0.2                     | 33.9                  |

## 16.0 Conclusion

The assessments for this device were performed with an output power range as indicated in section 15.0 Tables 6 thru 17. The maximum allowable output power is equal to the upper limit of the final test factory transmit power specification of 54W. The highest power density results for the mobile device scaled to the maximum allowable power output are indicated in the Table 18 thru 20 for internal/passenger to the vehicle, and external/bystander to the vehicle.

**Table 18: RF Exposure Results for FCC**

|                                                 | <b>150.8-173.4MHz</b>    |
|-------------------------------------------------|--------------------------|
| <b>Passenger - Max Calculated Power Density</b> | 1.062 mW/cm <sup>2</sup> |
| <b>Bystander - Max Calculated Power Density</b> | 0.192 mW/cm <sup>2</sup> |

**Table 19: RF Exposure Results for IC**

|                                                 | <b>138-174MHz</b>        |
|-------------------------------------------------|--------------------------|
| <b>Passenger - Max Calculated Power Density</b> | 1.062 mW/cm <sup>2</sup> |
| <b>Bystander - Max Calculated Power Density</b> | 0.204 mW/cm <sup>2</sup> |

**Table 20: RF Exposure Results**

|                                                 | <b>136-174MHz</b>        |
|-------------------------------------------------|--------------------------|
| <b>Passenger - Max Calculated Power Density</b> | 1.062 mW/cm <sup>2</sup> |
| <b>Bystander - Max Calculated Power Density</b> | 0.204 mW/cm <sup>2</sup> |

These MPE results herein demonstrate compliance to the FCC/IEEE/ICNIRP Occupational/Controlled Exposure limit. FCC rules require compliance for Passengers and Bystanders to the FCC General Population/Uncontrolled limits. Although MPE is a convenient method of demonstrating compliance, SAR is recognized as the "basic restriction". For those configurations exceeding the MPE limit noted \* in section 15 Tables 6 thru 17, compliance to the FCC SAR General Population/ Uncontrolled limit of 1.6mW/g is demonstrated in Appendix E via SAR computational analysis.

The computational results show that this device, when used with the offered antennas in accordance with the user manual instructions, exhibits the maximum peak 1-g average SAR values as indicated in the table below.

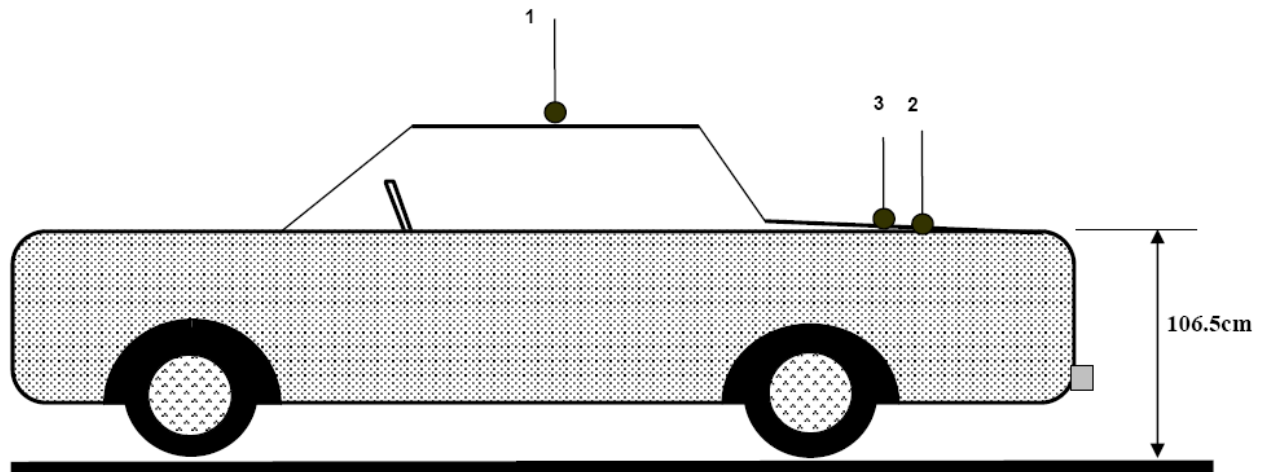
**Table 21: Highest SAR simulation result**

| <b>Maximum peak 1g average SAR</b> |           |
|------------------------------------|-----------|
| Frequency (MHz)                    | SAR       |
| 173.4                              | 1.30 mW/g |

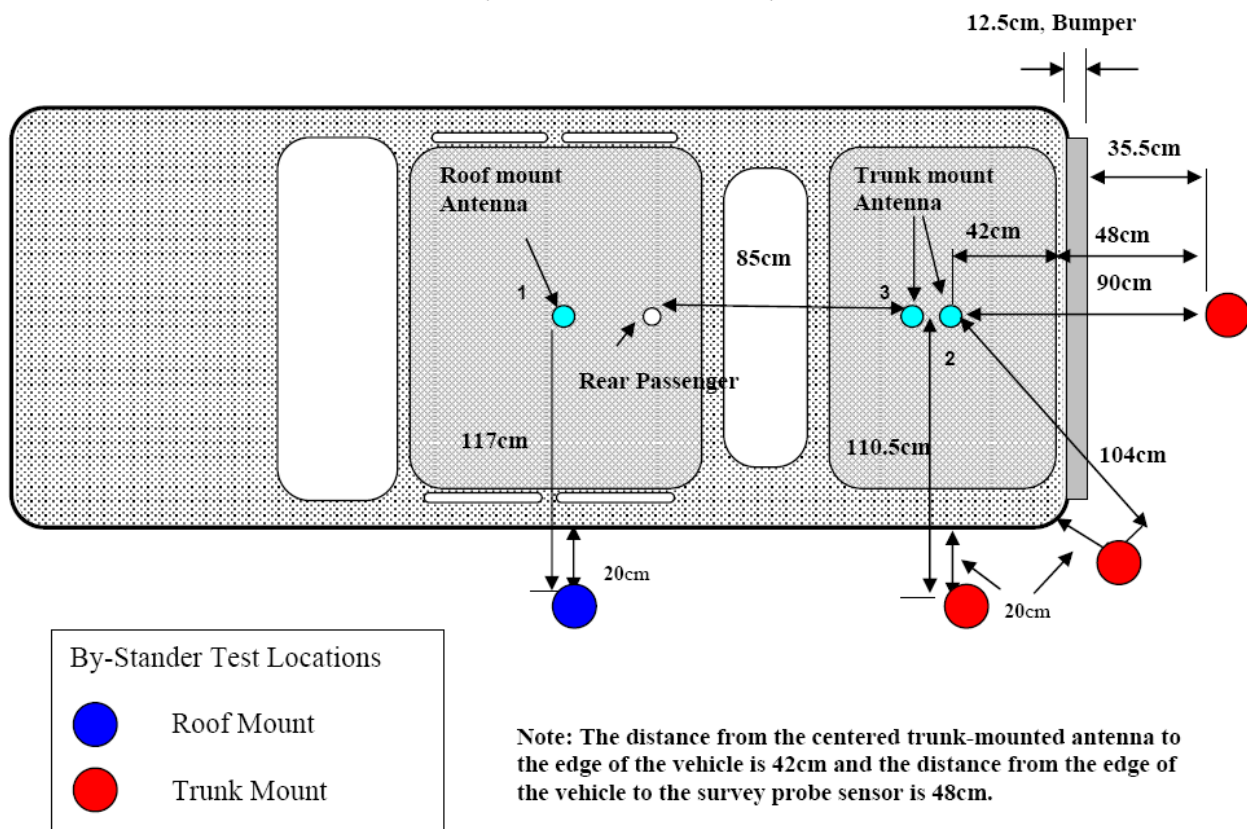
Bluetooth assessment for this device is not required per the guidelines in KDB447498, section 8. Note that the BT device and BT antenna are internal to the vehicular dash mount mobile radio while the UHF antennas are installed externally on the roof or trunk of a vehicle. The separation distance between the BT antenna and UHF antennas greatly exceed 20cm.

The average output power of the BT device is 2.93mW; 10mW (max power) \* 29.3% (max duty cycle).

## **Appendix A - Illustration of Antenna Locations and Test Distances**



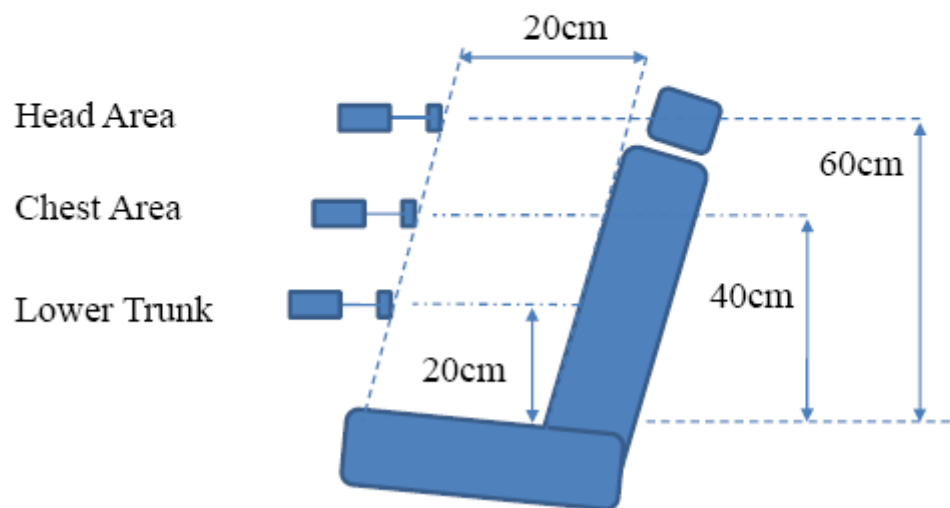
- 1 - Roof (center)  
 2 - Trunk (center)  
 3 - Trunk (85cm from back of the back seat)



Seat scan areas  
(Applicable to both front and back seats)

Meter - Probe

 Probe diameter is 5.5cm



## **Appendix B - Probe Calibration Certificates**

**Service Test Report**

QAF 1126, 03/11

Report ID: 84882



An ESCO Technologies Company

1301 Arrow Point Drive  
Cedar Park, Texas 78613  
(512) 531-6498



An ESCO Technologies Company

Tracking #: 500022195

**Equipment Check**

Attested by RS Date: 10-May-11  
www.ets-lindgren.com

**Certificate of Test Conformance**

Page 1 of 1

**Reference:** S 000022195**Customer:** AGILENT/MOTOROLA (FL)

The instrument listed below has been tested and verified to Internal Quality Standards. Test data is Not Applicable. Equipment used during instrument testing is controlled by laboratory compliance with ISO/IEC 17025-2005 and ANSI/NCSL Z540-1-1994 using ETS-Lindgren Quality Management System internal procedures.

**Manufacturer** ETS-Lindgren**Instrument Type** RF Survey Meter**Model** HI-2200**Serial Number/ID** 00086887**Status In**

In Tolerance

**Date Completed**

10-May-11

**Status Out**

Compliant with Internal Quality Standards

**Remarks**

Calibrated with E100 S/N 00126277 and H200 S/N 00084225

I would like to take this opportunity to express our appreciation for using ETS-Lindgren for your EMI test equipment services and I am looking forward to continued business with your organization. Please feel free to contact our offices at (512) 531-6400, if you have any questions regarding this report.

Sincerely,

A handwritten signature in blue ink that reads "Richard Goodlow".

Richard Goodlow

Calibration Supervisor

**Date Attested:** 10-May-11



Cert I.D.: 84880

## Certificate of Calibration Conformance

Page 1 of 4

The instrument identified below has been individually calibrated in compliance with the following standard(s):

IEEE 1309 - 2005, Institute of Electrical and Electronics Engineers, Standard for Calibration of Electromagnetic Field Sensors and Probes, Excluding Antennas from 9 kHz to 40 GHz

Environment: Laboratory MTE is maintained in a temperature controlled environment with ambient conditions from 18 to 28 C, relative humidity less than 90%. The instrument under test has been calibrated in a suitable environment using an EMCO TEM Cell 5101C, GTEM 5305 and an RF Shielded EMC Chamber which is conducive to maintaining accurate and reliable measurement quality.

|                                 |                                |                                                            |                         |
|---------------------------------|--------------------------------|------------------------------------------------------------|-------------------------|
| <b>Manufacturer:</b>            | ETS-Lindgren                   | <b>Operating Range:</b>                                    | 100kHz - 5GHz           |
| <b>Model Number:</b>            | E100                           | <b>Instrument Type:</b>                                    | Isotropic Probe > 1 GHz |
| <b>Serial Number/ ID:</b>       | 00126277                       | <b>Date Code:</b>                                          |                         |
| <b>Tracking Number:</b>         | S000022195                     | <b>Alternate ID:</b>                                       |                         |
| <b>Date Completed:</b>          | 10-May-11                      | <b>Customer:</b>                                           | AGILENT/MOTOROLA (FL)   |
| <b>Test Type:</b>               | Standard Field, Field Strength |                                                            |                         |
| <b>Calibration Uncertainty:</b> | Std Field Method               | 10kHz - 18000 MHz, +/-0.7 dB, 26.5GHz - 40GHz, +/- 0.95 dB |                         |
| k=2, (95% Confidence Level)     |                                |                                                            |                         |

**Test Remarks:** Special Cal; Calibrated to customer specified frequencies. Calibrated with HI-2200 S/N 00086887.

Calibration Traceability: All Measuring and Test Equipment (MTE) identified below are traceable to the SI units through the National Institute for Standards and Technology (NIST). Calibration Laboratory and Quality System controls are compliant with ISO/IEC 17025:2005 and ANSI/NCCL Z540-1-1994.

### Standards and Equipment Used:

#### Make / Model / Name / S/N / Recall Date

|                 |             |                       |            |           |
|-----------------|-------------|-----------------------|------------|-----------|
| Agilent         | 8648C       | Signal Generator      | 3623A03573 | 24-Feb-12 |
| Beornon         | 9200C       | RF Voltmeter          | 324501AE   | 11-Oct-11 |
| Hewlett Packard | 437B        | HP Power Meter        | 3125U12370 | 15-Jun-11 |
| Marconi         | 2022        | Signal Generator      | 119019/077 | 23-Sep-11 |
| Rohde & Schwarz | 857.8008.02 | Power Meter NRVD      | 100451     | 17-Mar-12 |
| Hewlett Packard | 83650L      | Synthesized Sweep Gen | 3844A00422 | 08-Dec-11 |

#### Condition of Instrument Upon Receipt:

In Tolerance to Internal Quality Standards

#### On Release:

In Tolerance to Internal Quality Standards

Calibration Completed By  
Maynard Reich, Calibration Technician

Attested and Issued on 10-May-11  
Richard Goodlow, Calibration Supervisor

This document provides traceability of measurements to recognized national standards using controlled processes at the ETS-Lindgren Calibration Laboratory. Uncertainties listed are derived from the methods described by NIST Tech Note 1297. This certificate and report may not be reproduced, except in full, without the written approval of ETS-Lindgren Calibration Laboratory in accordance with ISO/IEC 17025:2005 and ANSI/NCCL Z540-1-1994, QAF 1127 (03/11)



**Frequency Response Calibration Factors**  
**Model E100 Serial Number 00126277**  
**Date of Calibration 10 May 2011**

| Frequency<br>(MHz) | Applied<br>V/m | Probe Reading |        |        | Correction Factor |      |      |      |
|--------------------|----------------|---------------|--------|--------|-------------------|------|------|------|
|                    |                | X             | Y      | Z      | X                 | Y    | Z    | Avg  |
| 0.10               | 7.99           | 4.55          | 4.13   | 4.47   | 1.76              | 1.93 | 1.79 | 1.83 |
| 0.10               | 20.05          | 11.31         | 10.10  | 11.15  | 1.77              | 1.99 | 1.80 | 1.85 |
| 0.10               | 70.05          | 38.46         | 35.55  | 39.18  | 1.81              | 1.98 | 1.79 | 1.86 |
| 0.10               | 123.92         | 69.33         | 62.16  | 68.17  | 1.79              | 1.99 | 1.82 | 1.87 |
| 0.50               | 7.97           | 6.16          | 6.16   | 6.16   | 1.30              | 1.29 | 1.29 | 1.29 |
| 0.50               | 20.08          | 15.52         | 15.43  | 15.57  | 1.29              | 1.30 | 1.29 | 1.29 |
| 0.50               | 70.00          | 52.90         | 52.80  | 53.09  | 1.33              | 1.32 | 1.32 | 1.32 |
| 0.50               | 124.71         | 93.40         | 93.05  | 93.77  | 1.34              | 1.34 | 1.33 | 1.34 |
| 1.00               | 7.96           | 6.83          | 6.80   | 6.82   | 1.17              | 1.17 | 1.17 | 1.17 |
| 1.00               | 20.05          | 17.11         | 16.94  | 17.09  | 1.17              | 1.18 | 1.17 | 1.18 |
| 1.00               | 70.03          | 58.97         | 58.45  | 58.86  | 1.19              | 1.20 | 1.18 | 1.19 |
| 1.00               | 125.51         | 104.76        | 103.90 | 104.84 | 1.20              | 1.21 | 1.19 | 1.20 |
| 10.00              | 7.98           | 7.82          | 7.52   | 7.77   | 1.02              | 1.06 | 1.03 | 1.04 |
| 10.00              | 19.93          | 19.47         | 19.22  | 19.28  | 1.02              | 1.04 | 1.04 | 1.03 |
| 10.00              | 69.72          | 67.45         | 66.64  | 67.02  | 1.03              | 1.05 | 1.04 | 1.04 |
| 10.00              | 125.53         | 120.59        | 119.32 | 120.28 | 1.04              | 1.05 | 1.05 | 1.05 |
| 15.00              | 8.03           | 8.05          | 7.93   | 7.97   | 1.00              | 1.01 | 1.01 | 1.01 |
| 15.00              | 20.05          | 19.95         | 19.69  | 19.73  | 1.00              | 1.02 | 1.02 | 1.01 |
| 15.00              | 69.93          | 68.85         | 68.09  | 68.36  | 1.02              | 1.03 | 1.02 | 1.02 |
| 15.00              | 125.49         | 122.99        | 121.80 | 121.94 | 1.02              | 1.03 | 1.03 | 1.03 |
| 20.00              | 8.03           | 8.30          | 8.20   | 8.21   | 0.97              | 0.98 | 0.98 | 0.98 |
| 20.00              | 20.10          | 20.60         | 20.40  | 20.40  | 0.98              | 0.99 | 0.98 | 0.98 |
| 20.00              | 70.12          | 71.17         | 70.42  | 70.70  | 0.99              | 1.00 | 0.99 | 0.99 |
| 20.00              | 125.42         | 126.75        | 125.82 | 126.10 | 0.99              | 1.00 | 0.99 | 0.99 |
| 30.00              | 8.02           | 8.20          | 8.10   | 8.14   | 0.98              | 0.99 | 0.98 | 0.98 |
| 30.00              | 20.02          | 20.30         | 20.06  | 20.13  | 0.99              | 1.00 | 0.99 | 0.99 |
| 30.00              | 70.17          | 70.60         | 69.70  | 70.04  | 1.00              | 1.00 | 1.00 | 1.00 |
| 30.00              | 125.13         | 124.97        | 124.08 | 124.40 | 1.00              | 1.01 | 1.00 | 1.01 |
| 50.00              | 8.01           | 8.23          | 8.13   | 8.18   | 0.98              | 0.98 | 0.98 | 0.98 |
| 50.00              | 20.02          | 20.54         | 20.32  | 20.36  | 0.98              | 0.98 | 0.98 | 0.98 |
| 50.00              | 70.06          | 71.48         | 70.67  | 71.04  | 0.98              | 0.99 | 0.98 | 0.99 |
| 50.00              | 125.31         | 127.59        | 126.47 | 127.04 | 0.98              | 0.99 | 0.99 | 0.99 |
| 75.00              | 7.97           | 8.17          | 8.10   | 8.10   | 0.97              | 0.99 | 0.98 | 0.98 |
| 75.00              | 20.02          | 20.53         | 20.42  | 20.34  | 0.97              | 0.98 | 0.99 | 0.98 |
| 75.00              | 69.50          | 70.77         | 70.23  | 70.26  | 0.99              | 0.99 | 0.99 | 0.99 |
| 75.00              | 124.45         | 126.26        | 125.57 | 125.35 | 0.99              | 0.99 | 0.99 | 0.99 |
| 100.00             | 7.97           | 8.19          | 8.11   | 8.13   | 0.97              | 0.98 | 0.98 | 0.98 |
| 100.00             | 20.13          | 20.56         | 20.42  | 20.42  | 0.98              | 0.99 | 0.99 | 0.98 |
| 100.00             | 69.91          | 70.80         | 70.21  | 70.40  | 0.99              | 1.00 | 0.99 | 0.99 |
| 100.00             | 124.52         | 126.26        | 125.53 | 125.60 | 0.98              | 0.99 | 0.99 | 0.99 |
| 150.00             | 8.01           | 8.16          | 8.11   | 8.12   | 0.98              | 0.99 | 0.99 | 0.99 |
| 150.00             | 19.95          | 20.21         | 20.08  | 20.01  | 0.99              | 0.99 | 1.00 | 0.99 |
| 150.00             | 69.83          | 70.46         | 70.04  | 69.84  | 0.99              | 1.00 | 1.00 | 1.00 |
| 150.00             | 124.55         | 125.17        | 124.64 | 124.25 | 1.00              | 1.00 | 1.00 | 1.00 |
| 200.00             | 7.97           | 8.38          | 8.36   | 8.23   | 0.95              | 0.95 | 0.97 | 0.96 |
| 200.00             | 19.92          | 20.88         | 20.81  | 20.41  | 0.95              | 0.96 | 0.98 | 0.96 |
| 200.00             | 69.59          | 72.50         | 72.39  | 71.23  | 0.96              | 0.96 | 0.98 | 0.97 |
| 200.00             | 124.56         | 128.97        | 129.29 | 127.06 | 0.97              | 0.96 | 0.98 | 0.97 |



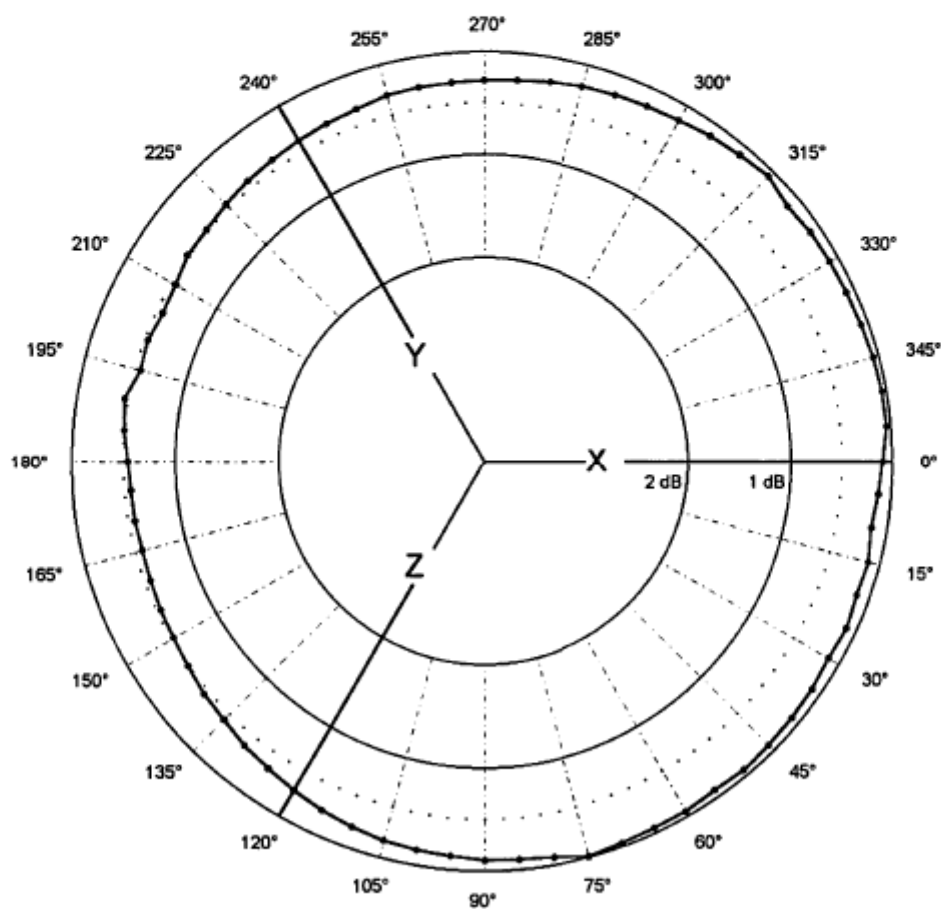
**Frequency Response Calibration Factors**  
**Model E100 Serial Number 00126277**  
**Date of Calibration 10 May 2011**

| Frequency<br>(MHz) | Applied<br>V/m | Probe Reading |        |        | Correction Factor |      |      |      |
|--------------------|----------------|---------------|--------|--------|-------------------|------|------|------|
|                    |                | X             | Y      | Z      | X                 | Y    | Z    | Avg  |
| 250.00             | 8.04           | 8.29          | 8.13   | 8.30   | 0.97              | 0.99 | 0.97 | 0.98 |
| 250.00             | 20.12          | 20.73         | 20.34  | 20.65  | 0.97              | 0.99 | 0.97 | 0.98 |
| 250.00             | 70.27          | 72.21         | 70.78  | 72.10  | 0.97              | 1.00 | 0.97 | 0.98 |
| 250.00             | 125.50         | 128.72        | 126.86 | 129.06 | 0.98              | 0.99 | 0.97 | 0.98 |
| 300.00             | 8.00           | 8.27          | 8.12   | 8.23   | 0.97              | 0.98 | 0.97 | 0.98 |
| 300.00             | 19.94          | 20.56         | 20.23  | 20.41  | 0.97              | 0.99 | 0.98 | 0.98 |
| 300.00             | 70.30          | 71.90         | 70.76  | 71.68  | 0.98              | 0.99 | 0.98 | 0.98 |
| 300.00             | 124.48         | 127.44        | 125.62 | 127.05 | 0.97              | 0.99 | 0.98 | 0.98 |
| 400.00             | 8.00           | 8.24          | 8.12   | 8.19   | 0.97              | 0.98 | 0.98 | 0.98 |
| 400.00             | 20.03          | 20.53         | 20.22  | 20.35  | 0.98              | 0.99 | 0.98 | 0.98 |
| 400.00             | 69.79          | 71.15         | 70.05  | 70.76  | 0.98              | 1.00 | 0.98 | 0.99 |
| 400.00             | 125.03         | 126.95        | 125.67 | 126.40 | 0.99              | 0.99 | 0.99 | 0.99 |
| 500.00             | 7.99           | 8.11          | 8.06   | 8.02   | 0.99              | 0.99 | 1.00 | 0.99 |
| 500.00             | 20.12          | 20.38         | 20.30  | 20.12  | 0.98              | 0.99 | 1.00 | 0.99 |
| 500.00             | 70.18          | 70.78         | 70.48  | 70.18  | 0.99              | 1.00 | 1.00 | 1.00 |
| 500.00             | 124.55         | 125.52        | 125.09 | 124.30 | 0.99              | 1.00 | 1.00 | 1.00 |
| 600.00             | 7.96           | 7.84          | 7.74   | 7.79   | 1.02              | 1.03 | 1.02 | 1.02 |
| 600.00             | 20.01          | 19.61         | 19.36  | 19.48  | 1.02              | 1.03 | 1.03 | 1.03 |
| 600.00             | 70.18          | 68.55         | 67.62  | 68.29  | 1.02              | 1.04 | 1.03 | 1.03 |
| 600.00             | 124.97         | 121.80        | 120.20 | 121.54 | 1.03              | 1.04 | 1.03 | 1.03 |
| 700.00             | 7.96           | 7.62          | 7.44   | 7.57   | 1.05              | 1.07 | 1.05 | 1.06 |
| 700.00             | 20.04          | 19.05         | 18.59  | 18.95  | 1.06              | 1.08 | 1.06 | 1.06 |
| 700.00             | 69.61          | 66.10         | 64.43  | 65.93  | 1.05              | 1.08 | 1.06 | 1.06 |
| 700.00             | 125.08         | 118.72        | 115.95 | 118.71 | 1.05              | 1.08 | 1.05 | 1.06 |
| 800.00             | 7.97           | 7.55          | 7.45   | 7.48   | 1.05              | 1.07 | 1.07 | 1.06 |
| 800.00             | 19.99          | 18.86         | 18.59  | 18.64  | 1.06              | 1.08 | 1.07 | 1.07 |
| 800.00             | 70.27          | 66.19         | 65.37  | 65.58  | 1.06              | 1.08 | 1.07 | 1.07 |
| 800.00             | 124.83         | 117.02        | 116.10 | 116.53 | 1.06              | 1.08 | 1.07 | 1.07 |
| 900.00             | 7.99           | 8.05          | 7.99   | 7.90   | 0.99              | 1.00 | 1.01 | 1.00 |
| 900.00             | 19.87          | 19.97         | 19.80  | 19.51  | 1.00              | 1.00 | 1.02 | 1.01 |
| 900.00             | 70.33          | 70.31         | 69.68  | 69.09  | 1.00              | 1.01 | 1.02 | 1.01 |
| 900.00             | 124.88         | 125.13        | 123.25 | 121.99 | 1.00              | 1.01 | 1.02 | 1.01 |
| 1000.00            | 7.99           | 8.35          | 8.07   | 8.29   | 0.95              | 0.99 | 0.96 | 0.97 |
| 1000.00            | 19.91          | 20.73         | 20.02  | 20.50  | 0.96              | 1.00 | 0.97 | 0.98 |
| 1000.00            | 69.88          | 72.46         | 70.03  | 72.02  | 0.96              | 1.00 | 0.97 | 0.98 |
| 1000.00            | 124.64         | 128.78        | 124.85 | 128.46 | 0.97              | 1.00 | 0.97 | 0.98 |
| 2000.00            | 20.13          | 20.27         | 18.83  | 19.96  | 0.99              | 1.07 | 1.01 | 1.02 |
| 2450.00            | 20.07          | 19.16         | 19.30  | 19.68  | 1.05              | 1.04 | 1.02 | 1.04 |
| 3000.00            | 20.01          | 19.48         | 18.46  | 19.39  | 1.03              | 1.08 | 1.03 | 1.05 |
| 3500.00            | 19.72          | 20.68         | 19.85  | 19.85  | 0.95              | 0.99 | 0.99 | 0.98 |
| 4000.00            | 20.03          | 19.85         | 18.92  | 20.20  | 1.01              | 1.06 | 0.99 | 1.02 |
| 5000.00            | 19.74          | 13.37         | 13.95  | 14.54  | 1.48              | 1.41 | 1.36 | 1.42 |
| 5500.00            | 19.99          | 15.19         | 13.96  | 13.30  | 1.32              | 1.43 | 1.50 | 1.42 |
| 6000.00            | 20.07          | 12.82         | 14.90  | 15.21  | 1.57              | 1.35 | 1.32 | 1.41 |



## PROBE ROTATIONAL RESPONSE

Model E100  
S/N 00126277  
Date 10-May-2011  
Time 13:43:11  
Variation 0.57 dB



• Isotropic response measured in a 20 V/m field at 400 MHz

Page 4 of 4



An ESCO Technologies Company

1301 Arrow Point Drive  
Cedar Park, Texas 78613  
(512) 531-6498



Cert I.D.: 84881

**Certificate of Calibration Conformance**

Page 1 of 2

The instrument identified below has been individually calibrated in compliance with the following standard(s):

IEEE 1309 - 2005, Institute of Electrical and Electronics Engineers, Standard for Calibration of Electromagnetic Field Sensors and Probes, Excluding Antennas from 9 kHz to 40 GHz

Environment: Laboratory MTE is maintained in a temperature controlled environment with ambient conditions from 18 to 28 C, relative humidity less than 90%. The instrument under test has been calibrated in a suitable environment using an EMCO TEM Cell 5101C, GTEM! 5305 and an RF Shielded EMC Chamber which is conducive to maintaining accurate and reliable measurement quality.

|                                 |                                |                         |                                    |
|---------------------------------|--------------------------------|-------------------------|------------------------------------|
| <b>Manufacturer:</b>            | ETS-Lindgren                   | <b>Operating Range:</b> | 5-300MHz / 30mA/m-10A/m            |
| <b>Model Number:</b>            | H200                           | <b>Instrument Type:</b> | Isotropic Magnetic Field Probe (2) |
| <b>Serial Number/ ID:</b>       | 00084225                       | <b>Date Code:</b>       |                                    |
| <b>Tracking Number:</b>         | S000022195                     | <b>Alternate ID:</b>    |                                    |
| <b>Date Completed:</b>          | 10-May-11                      | <b>Customer:</b>        | AGILENT/MOTOROLA (FL)              |
| <b>Test Type:</b>               | Standard Field, Field Strength |                         |                                    |
| <b>Calibration Uncertainty:</b> | Direct Field Method            | 1.15dB                  |                                    |
| k=2, (95% Confidence Level)     |                                |                         |                                    |

**Test Remarks:** Special Cal: Calibrated to customer specified frequencies. Calibrated with HI-2200 S/N 00086887.

Calibration Traceability: All Measuring and Test Equipment (MTE) identified below are traceable to the SI units through the National Institute for Standards and Technology (NIST). Calibration Laboratory and Quality System controls are compliant with ISO/IEC 17025-2005 and ANSI/NCSL Z540-1-1994.

**Standards and Equipment Used:****Make / Model / Name / S/N / Recall Date**

|                 |       |                  |            |           |
|-----------------|-------|------------------|------------|-----------|
| Agilent         | 8648C | Signal Generator | 3623A03573 | 24-Feb-12 |
| Boonton         | 9200C | RF Voltmeter     | 324501AE   | 11-Oct-11 |
| Hewlett Packard | 437B  | HP Power Meter   | 3125U12370 | 15-Jun-11 |
| Marconi         | 2022  | Signal Generator | 119019/077 | 23-Sep-11 |

**Condition of Instrument****Upon Receipt:**

In Tolerance to Internal Quality Standards

**On Release:**

In Tolerance to Internal Quality Standards

  
Calibration Completed By  
Maynard Reich, Calibration Technician

  
Attested and Issued on 10-May-11  
Richard Goodlow, Calibration Supervisor

This document provides traceability of measurements to recognized national standards using controlled processes at the ETS-Lindgren Calibration Laboratory. Uncertainties listed are derived from the methods described by NIST Tech Note 1297. This certificate and report may not be reproduced, except in full, without the written approval of ETS-Lindgren Calibration Laboratory in accordance with ISO/IEC 17025-2005 and ANSI/NCSL Z540-1-1994. OAF 1127 (03/11)



**Frequency Response Calibration Factors**  
**ETS-Lindgren Model H200 Serial Number 00084225**  
**Date of Calibration 10 May 2011**

| Frequency<br>(MHz) | Applied Field (A/m) |       |       | Indicated Field (A/m) |       |       | Correction Factor |      |      |      | Error (dB) |       |       |
|--------------------|---------------------|-------|-------|-----------------------|-------|-------|-------------------|------|------|------|------------|-------|-------|
|                    | X                   | Y     | Z     | X                     | Y     | Z     | X                 | Y    | Z    | AVG  | X          | Y     | Z     |
| 10.00              | 0.079               | 0.080 | 0.079 | 0.076                 | 0.077 | 0.076 | 1.04              | 1.04 | 1.05 | 1.04 | -0.37      | -0.36 | -0.39 |
| 15.00              | 0.079               | 0.080 | 0.079 | 0.079                 | 0.080 | 0.079 | 1.00              | 1.00 | 1.00 | 1.00 | -0.03      | -0.03 | -0.04 |
| 30.00              | 0.079               | 0.079 | 0.079 | 0.080                 | 0.080 | 0.079 | 1.00              | 0.99 | 1.00 | 0.99 | 0.04       | 0.06  | 0.04  |
| 50.00              | 0.080               | 0.080 | 0.080 | 0.081                 | 0.082 | 0.082 | 0.98              | 0.98 | 0.98 | 0.98 | 0.16       | 0.18  | 0.20  |
| 75.00              | 0.080               | 0.080 | 0.080 | 0.082                 | 0.083 | 0.083 | 0.97              | 0.96 | 0.96 | 0.96 | 0.26       | 0.37  | 0.39  |
| 100.00             | 0.079               | 0.079 | 0.079 | 0.084                 | 0.085 | 0.086 | 0.95              | 0.93 | 0.92 | 0.93 | 0.45       | 0.63  | 0.69  |
| 150.00             | 0.080               | 0.080 | 0.079 | 0.086                 | 0.093 | 0.093 | 0.94              | 0.86 | 0.85 | 0.88 | 0.56       | 1.31  | 1.42  |
| 175.00             | 0.079               | 0.079 | 0.079 | 0.086                 | 0.095 | 0.099 | 0.93              | 0.83 | 0.80 | 0.85 | 0.66       | 1.62  | 1.90  |
| 200.00             | 0.080               | 0.080 | 0.080 | 0.089                 | 0.101 | 0.109 | 0.89              | 0.79 | 0.73 | 0.80 | 0.99       | 2.08  | 2.70  |
| 250.00             | 0.080               | 0.080 | 0.080 | 0.101                 | 0.115 | 0.143 | 0.79              | 0.69 | 0.56 | 0.68 | 2.02       | 3.19  | 5.07  |
| 300.00             | 0.080               | 0.080 | 0.080 | 0.134                 | 0.116 | 0.145 | 0.59              | 0.68 | 0.55 | 0.61 | 4.54       | 3.30  | 5.18  |

**Appendix C - Photos of Assessed Antennas**

(Refer to Exhibit 7B)

## **Appendix D – MPE Measurement Results**

## MPE measurement data for Bystander

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm | 200 cm |                    |                          |                      |                          |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | BS        | 0.03                     | 0.05  | 0.06  | 0.04  | 0.03   | 0.04   | 0.09   | 0.14   | 0.20   | 0.24   | 0.5                | 0.092                    | 0.046                | 0.047                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | BS        | 0.03                     | 0.05  | 0.05  | 0.03  | 0.02   | 0.05   | 0.09   | 0.15   | 0.19   | 0.22   | 0.5                | 0.088                    | 0.044                | 0.045                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.02                     | 0.03  | 0.03  | 0.02  | 0.03   | 0.06   | 0.11   | 0.16   | 0.20   | 0.22   | 0.5                | 0.088                    | 0.044                | 0.046                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | E           | 0.99              | BS        | 0.03                     | 0.04  | 0.03  | 0.03  | 0.06   | 0.12   | 0.17   | 0.21   | 0.23   | 0.24   | 0.5                | 0.116                    | 0.057                | 0.060                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | E           | 0.98              | BS        | 0.02                     | 0.03  | 0.02  | 0.02  | 0.06   | 0.14   | 0.18   | 0.22   | 0.25   | 0.27   | 0.5                | 0.121                    | 0.059                | 0.060                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | BS        | 0.01                     | 0.01  | 0.01  | 0.05  | 0.13   | 0.17   | 0.20   | 0.24   | 0.27   | 0.28   | 0.5                | 0.137                    | 0.066                | 0.067                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.04                     | 0.07  | 0.06  | 0.04  | 0.03   | 0.08   | 0.12   | 0.17   | 0.19   | 0.19   | 0.5                | 0.099                    | 0.050                | 0.051                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.03                     | 0.05  | 0.04  | 0.03  | 0.05   | 0.10   | 0.16   | 0.19   | 0.23   | 0.23   | 0.5                | 0.111                    | 0.056                | 0.057                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 157.9875      | 54          | 52.2            | CW        | E           | 0.99              | BS        | 0.04                     | 0.05  | 0.04  | 0.02  | 0.08   | 0.15   | 0.21   | 0.26   | 0.25   | 0.24   | 0.5                | 0.134                    | 0.066                | 0.069                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 164.9875      | 54          | 52.5            | CW        | E           | 0.98              | BS        | 0.02                     | 0.03  | 0.02  | 0.02  | 0.07   | 0.12   | 0.15   | 0.19   | 0.20   | 0.21   | 0.5                | 0.103                    | 0.050                | 0.052                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 171.9875      | 54          | 53.6            | CW        | E           | 0.97              | BS        | 0.01                     | 0.01  | 0.01  | 0.04  | 0.09   | 0.12   | 0.14   | 0.17   | 0.18   | 0.20   | 0.5                | 0.097                    | 0.047                | 0.047                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | BS        | 0.05                     | 0.15  | 0.16  | 0.11  | 0.08   | 0.10   | 0.15   | 0.20   | 0.21   | 0.19   | 0.5                | 0.140                    | 0.069                | 0.071                    |
| Roof         | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | E           | 1.00              | BS        | 0.04                     | 0.04  | 0.14  | 0.10  | 0.08   | 0.11   | 0.17   | 0.20   | 0.22   | 0.20   | 0.5                | 0.130                    | 0.065                | 0.067                    |
| Roof         | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | BS        | 0.04                     | 0.14  | 0.16  | 0.07  | 0.06   | 0.10   | 0.16   | 0.20   | 0.21   | 0.20   | 0.5                | 0.134                    | 0.067                | 0.069                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.06                     | 0.09  | 0.09  | 0.07  | 0.06   | 0.11   | 0.19   | 0.23   | 0.24   | 0.23   | 0.5                | 0.137                    | 0.069                | 0.071                    |
| Roof         | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | E           | 1.00              | BS        | 0.05                     | 0.08  | 0.06  | 0.04  | 0.06   | 0.12   | 0.18   | 0.24   | 0.25   | 0.23   | 0.5                | 0.131                    | 0.066                | 0.068                    |
| Roof         | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.04                     | 0.07  | 0.05  | 0.04  | 0.08   | 0.15   | 0.20   | 0.25   | 0.26   | 0.24   | 0.5                | 0.138                    | 0.069                | 0.071                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.04                     | 0.06  | 0.05  | 0.04  | 0.07   | 0.14   | 0.20   | 0.24   | 0.22   | 0.22   | 0.5                | 0.128                    | 0.064                | 0.066                    |
| Roof         | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52              | CW        | E           | 0.99              | BS        | 0.04                     | 0.06  | 0.04  | 0.05  | 0.12   | 0.21   | 0.28   | 0.30   | 0.27   | 0.24   | 0.5                | 0.161                    | 0.080                | 0.083                    |
| Roof         | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | E           | 0.99              | BS        | 0.03                     | 0.05  | 0.03  | 0.04  | 0.12   | 0.21   | 0.21   | 0.22   | 0.22   | 0.21   | 0.5                | 0.134                    | 0.066                | 0.068                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | E           | 0.99              | BS        | 0.03                     | 0.05  | 0.03  | 0.04  | 0.10   | 0.17   | 0.21   | 0.22   | 0.20   | 0.21   | 0.5                | 0.126                    | 0.062                | 0.064                    |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | E           | 0.98              | BS        | 0.02                     | 0.03  | 0.02  | 0.05  | 0.14   | 0.20   | 0.19   | 0.22   | 0.24   | 0.24   | 0.5                | 0.135                    | 0.066                | 0.067                    |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | BS        | 0.02                     | 0.02  | 0.03  | 0.09  | 0.19   | 0.22   | 0.24   | 0.25   | 0.24   | 0.25   | 0.5                | 0.155                    | 0.075                | 0.076                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |

MPE calculations are defined in section 13.0.

## MPE measurement data for Bystander

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm | 200 cm |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | BS        | 0.05                     | 0.09  | 0.11  | 0.09  | 0.08   | 0.10   | 0.14   | 0.17   | 0.18   | 0.17   | 0.5                | 0.118                    | 0.058                | 0.060                    |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | E           | 1.00              | BS        | 0.06                     | 0.12  | 0.10  | 0.08  | 0.09   | 0.08   | 0.15   | 0.18   | 0.17   | 0.18   | 0.5                | 0.121                    | 0.061                | 0.062                    |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | BS        | 0.06                     | 0.10  | 0.11  | 0.07  | 0.08   | 0.12   | 0.15   | 0.20   | 0.22   | 0.31   | 0.5                | 0.142                    | 0.071                | 0.073                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.05                     | 0.10  | 0.08  | 0.05  | 0.05   | 0.11   | 0.17   | 0.21   | 0.21   | 0.20   | 0.5                | 0.123                    | 0.062                | 0.064                    |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | E           | 1.00              | BS        | 0.04                     | 0.06  | 0.06  | 0.04  | 0.06   | 0.12   | 0.20   | 0.23   | 0.25   | 0.23   | 0.5                | 0.129                    | 0.065                | 0.067                    |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.04                     | 0.07  | 0.06  | 0.04  | 0.08   | 0.15   | 0.22   | 0.24   | 0.25   | 0.24   | 0.5                | 0.139                    | 0.070                | 0.072                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.04                     | 0.05  | 0.04  | 0.03  | 0.06   | 0.11   | 0.17   | 0.20   | 0.20   | 0.19   | 0.5                | 0.109                    | 0.055                | 0.056                    |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | E           | 0.99              | BS        | 0.04                     | 0.06  | 0.05  | 0.03  | 0.09   | 0.16   | 0.24   | 0.24   | 0.25   | 0.22   | 0.5                | 0.138                    | 0.068                | 0.071                    |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | E           | 0.99              | BS        | 0.04                     | 0.05  | 0.04  | 0.04  | 0.11   | 0.19   | 0.23   | 0.23   | 0.21   | 0.22   | 0.5                | 0.136                    | 0.067                | 0.069                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | E           | 0.99              | BS        | 0.03                     | 0.04  | 0.02  | 0.03  | 0.08   | 0.12   | 0.16   | 0.17   | 0.16   | 0.16   | 0.5                | 0.097                    | 0.048                | 0.049                    |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | E           | 0.98              | BS        | 0.02                     | 0.02  | 0.02  | 0.04  | 0.12   | 0.16   | 0.20   | 0.20   | 0.21   | 0.20   | 0.5                | 0.119                    | 0.058                | 0.059                    |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | BS        | 0.01                     | 0.02  | 0.03  | 0.09  | 0.16   | 0.20   | 0.22   | 0.21   | 0.22   | 0.25   | 0.5                | 0.141                    | 0.068                | 0.069                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | BS        | 0.02                     | 0.03  | 0.03  | 0.04  | 0.04   | 0.04   | 0.05   | 0.06   | 0.08   | 0.09   | 0.5                | 0.048                    | 0.034                | 0.035                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | BS        | 0.02                     | 0.03  | 0.04  | 0.04  | 0.05   | 0.05   | 0.06   | 0.07   | 0.08   | 0.10   | 0.5                | 0.054                    | 0.044                | 0.045                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.02                     | 0.03  | 0.03  | 0.04  | 0.05   | 0.05   | 0.06   | 0.07   | 0.08   | 0.10   | 0.5                | 0.053                    | 0.041                | 0.043                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | H           | 0.87              | BS        | 0.03                     | 0.03  | 0.04  | 0.05  | 0.06   | 0.06   | 0.07   | 0.08   | 0.09   | 0.10   | 0.5                | 0.061                    | 0.053                | 0.055                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | H           | 0.86              | BS        | 0.03                     | 0.03  | 0.04  | 0.05  | 0.06   | 0.06   | 0.07   | 0.09   | 0.11   | 0.11   | 0.5                | 0.065                    | 0.059                | 0.060                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | BS        | 0.02                     | 0.03  | 0.04  | 0.05  | 0.06   | 0.07   | 0.08   | 0.10   | 0.11   | 0.12   | 0.5                | 0.068                    | 0.063                | 0.064                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.03                     | 0.04  | 0.05  | 0.05  | 0.06   | 0.07   | 0.07   | 0.08   | 0.09   | 0.09   | 0.5                | 0.063                    | 0.058                | 0.060                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.03                     | 0.03  | 0.04  | 0.05  | 0.06   | 0.07   | 0.08   | 0.08   | 0.09   | 0.09   | 0.5                | 0.062                    | 0.056                | 0.058                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 157.9875      | 54          | 52.2            | CW        | H           | 0.87              | BS        | 0.02                     | 0.04  | 0.05  | 0.06  | 0.06   | 0.07   | 0.07   | 0.08   | 0.09   | 0.10   | 0.5                | 0.064                    | 0.058                | 0.060                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 164.9875      | 54          | 52.5            | CW        | H           | 0.86              | BS        | 0.02                     | 0.03  | 0.04  | 0.05  | 0.06   | 0.06   | 0.07   | 0.08   | 0.09   | 0.10   | 0.5                | 0.060                    | 0.050                | 0.052                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 171.9875      | 54          | 53.6            | CW        | H           | 0.85              | BS        | 0.02                     | 0.03  | 0.03  | 0.05  | 0.05   | 0.06   | 0.07   | 0.08   | 0.09   | 0.10   | 0.5                | 0.058                    | 0.046                | 0.046                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |

MPE calculations are defined in section 13.0.

## MPE measurement data for Bystander

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm | 200 cm |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | BS        | 0.03                     | 0.04  | 0.05  | 0.07  | 0.08   | 0.08   | 0.09   | 0.09   | 0.09   | 0.09   | 0.5                | 0.071                    | 0.075                | 0.077                    |
| Roof         | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | H           | 0.89              | BS        | 0.03                     | 0.04  | 0.05  | 0.07  | 0.08   | 0.08   | 0.09   | 0.09   | 0.09   | 0.09   | 0.5                | 0.071                    | 0.075                | 0.077                    |
| Roof         | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | BS        | 0.03                     | 0.04  | 0.06  | 0.07  | 0.08   | 0.09   | 0.09   | 0.09   | 0.09   | 0.09   | 0.5                | 0.073                    | 0.080                | 0.081                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.03                     | 0.05  | 0.06  | 0.07  | 0.08   | 0.08   | 0.09   | 0.09   | 0.09   | 0.09   | 0.5                | 0.073                    | 0.078                | 0.080                    |
| Roof         | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | H           | 0.88              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.09   | 0.09   | 0.09   | 0.09   | 0.5                | 0.069                    | 0.069                | 0.072                    |
| Roof         | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.08   | 0.09   | 0.09   | 0.09   | 0.5                | 0.068                    | 0.067                | 0.070                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.08   | 0.09   | 0.09   | 0.09   | 0.5                | 0.068                    | 0.067                | 0.070                    |
| Roof         | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52              | CW        | H           | 0.87              | BS        | 0.03                     | 0.04  | 0.05  | 0.07  | 0.08   | 0.08   | 0.09   | 0.09   | 0.09   | 0.10   | 0.5                | 0.072                    | 0.074                | 0.077                    |
| Roof         | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | H           | 0.87              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.08   | 0.08   | 0.09   | 0.10   | 0.5                | 0.068                    | 0.066                | 0.068                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.08   | 0.09   | 0.09   | 0.10   | 0.5                | 0.069                    | 0.068                | 0.070                    |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | BS        | 0.03                     | 0.03  | 0.03  | 0.05  | 0.06   | 0.07   | 0.08   | 0.08   | 0.09   | 0.10   | 0.5                | 0.062                    | 0.054                | 0.055                    |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | BS        | 0.03                     | 0.04  | 0.05  | 0.07  | 0.08   | 0.08   | 0.09   | 0.10   | 0.11   | 0.11   | 0.5                | 0.076                    | 0.079                | 0.080                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.08   | 0.08   | 0.08   | 0.08   | 0.5                | 0.065                    | 0.063                | 0.065                    |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | H           | 0.89              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.08   | 0.09   | 0.09   | 0.09   | 0.5                | 0.068                    | 0.069                | 0.071                    |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | BS        | 0.03                     | 0.04  | 0.06  | 0.07  | 0.08   | 0.09   | 0.09   | 0.09   | 0.09   | 0.09   | 0.5                | 0.073                    | 0.080                | 0.081                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.03                     | 0.04  | 0.05  | 0.07  | 0.07   | 0.08   | 0.09   | 0.09   | 0.09   | 0.09   | 0.5                | 0.070                    | 0.072                | 0.074                    |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | H           | 0.88              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.08   | 0.09   | 0.09   | 0.09   | 0.5                | 0.068                    | 0.067                | 0.070                    |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.09   | 0.09   | 0.09   | 0.09   | 0.5                | 0.069                    | 0.069                | 0.072                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.02                     | 0.03  | 0.04  | 0.06  | 0.07   | 0.07   | 0.08   | 0.08   | 0.08   | 0.08   | 0.5                | 0.061                    | 0.054                | 0.056                    |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | H           | 0.87              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.08   | 0.08   | 0.09   | 0.09   | 0.5                | 0.067                    | 0.064                | 0.067                    |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | H           | 0.87              | BS        | 0.03                     | 0.04  | 0.05  | 0.06  | 0.07   | 0.08   | 0.08   | 0.08   | 0.09   | 0.10   | 0.5                | 0.068                    | 0.066                | 0.068                    |

MPE calculations are defined in section 13.0.

## MPE measurement data for Bystander

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm | 200 cm |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | BS        | 0.02                     | 0.03  | 0.04  | 0.05  | 0.06   | 0.06   | 0.07   | 0.08   | 0.08   | 0.08   | 0.5                | 0.057                    | 0.046                | 0.047                    |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | BS        | 0.02                     | 0.03  | 0.04  | 0.06  | 0.07   | 0.07   | 0.08   | 0.08   | 0.09   | 0.10   | 0.5                | 0.064                    | 0.057                | 0.058                    |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | BS        | 0.03                     | 0.03  | 0.05  | 0.06  | 0.07   | 0.08   | 0.08   | 0.10   | 0.10   | 0.11   | 0.5                | 0.071                    | 0.069                | 0.070                    |
| Trunk        |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | BS        | 0.03                     | 0.05  | 0.07  | 0.11  | 0.17   | 0.27   | 0.37   | 0.38   | 0.34   | 0.34   | 0.5                | 0.213                    | 0.105                | 0.108                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | BS        | 0.04                     | 0.07  | 0.11  | 0.16  | 0.23   | 0.34   | 0.41   | 0.41   | 0.38   | 0.36   | 0.5                | 0.251                    | 0.126                | 0.128                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.04                     | 0.07  | 0.10  | 0.12  | 0.17   | 0.27   | 0.35   | 0.38   | 0.33   | 0.32   | 0.5                | 0.215                    | 0.108                | 0.111                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | E           | 0.99              | BS        | 0.04                     | 0.07  | 0.08  | 0.11  | 0.18   | 0.29   | 0.35   | 0.35   | 0.33   | 0.33   | 0.5                | 0.213                    | 0.105                | 0.109                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | E           | 0.98              | BS        | 0.05                     | 0.08  | 0.09  | 0.13  | 0.24   | 0.37   | 0.43   | 0.41   | 0.38   | 0.31   | 0.5                | 0.249                    | 0.122                | 0.124                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | BS        | 0.04                     | 0.06  | 0.08  | 0.14  | 0.25   | 0.38   | 0.43   | 0.43   | 0.39   | 0.36   | 0.5                | 0.256                    | 0.124                | 0.126                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.08                     | 0.13  | 0.18  | 0.21  | 0.24   | 0.26   | 0.29   | 0.30   | 0.29   | 0.25   | 0.5                | 0.223                    | 0.112                | 0.115                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.08                     | 0.14  | 0.17  | 0.18  | 0.20   | 0.25   | 0.29   | 0.34   | 0.30   | 0.22   | 0.5                | 0.217                    | 0.109                | 0.112                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 157.9875      | 54          | 52.2            | CW        | E           | 0.99              | BS        | 0.07                     | 0.10  | 0.10  | 0.13  | 0.18   | 0.26   | 0.29   | 0.32   | 0.27   | 0.24   | 0.5                | 0.196                    | 0.097                | 0.100                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 164.9875      | 54          | 52.5            | CW        | E           | 0.98              | BS        | 0.04                     | 0.06  | 0.08  | 0.12  | 0.19   | 0.28   | 0.32   | 0.30   | 0.27   | 0.23   | 0.5                | 0.189                    | 0.093                | 0.095                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 171.9875      | 54          | 53.6            | CW        | E           | 0.97              | BS        | 0.03                     | 0.05  | 0.06  | 0.09  | 0.15   | 0.22   | 0.24   | 0.23   | 0.23   | 0.22   | 0.5                | 0.152                    | 0.074                | 0.074                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | BS        | 0.12                     | 0.18  | 0.21  | 0.23  | 0.25   | 0.26   | 0.32   | 0.30   | 0.26   | 0.20   | 0.5                | 0.233                    | 0.115                | 0.118                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | E           | 1.00              | BS        | 0.16                     | 0.24  | 0.30  | 0.31  | 0.32   | 0.37   | 0.39   | 0.37   | 0.33   | 0.26   | 0.5                | 0.305                    | 0.153                | 0.157                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | BS        | 0.16                     | 0.24  | 0.29  | 0.29  | 0.29   | 0.33   | 0.37   | 0.39   | 0.34   | 0.26   | 0.5                | 0.296                    | 0.148                | 0.151                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.15                     | 0.23  | 0.25  | 0.25  | 0.26   | 0.31   | 0.37   | 0.38   | 0.34   | 0.25   | 0.5                | 0.279                    | 0.140                | 0.144                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | E           | 1.00              | BS        | 0.12                     | 0.19  | 0.21  | 0.19  | 0.23   | 0.30   | 0.36   | 0.36   | 0.30   | 0.22   | 0.5                | 0.248                    | 0.124                | 0.129                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.12                     | 0.18  | 0.19  | 0.18  | 0.22   | 0.30   | 0.35   | 0.34   | 0.28   | 0.21   | 0.5                | 0.237                    | 0.119                | 0.123                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.09                     | 0.14  | 0.16  | 0.17  | 0.20   | 0.25   | 0.30   | 0.28   | 0.23   | 0.17   | 0.5                | 0.199                    | 0.100                | 0.103                    |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52              | CW        | E           | 0.99              | BS        | 0.10                     | 0.14  | 0.14  | 0.14  | 0.18   | 0.25   | 0.29   | 0.27   | 0.22   | 0.15   | 0.5                | 0.188                    | 0.093                | 0.097                    |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | E           | 0.99              | BS        | 0.08                     | 0.13  | 0.16  | 0.19  | 0.26   | 0.32   | 0.35   | 0.32   | 0.25   | 0.18   | 0.5                | 0.224                    | 0.111                | 0.114                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |

MPE calculations are defined in section 13.0.

## MPE measurement data for Bystander

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |        |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------------------|--------------------------|----------------------|--------------------------|--------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |                    |                          |                      |                          |        |
|              |                                   |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm |                    |                          |                      |                          | 200 cm |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |                    |                          |                      |                          |        |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | E           | 0.99              | BS        | 0.08                     | 0.11  | 0.12  | 0.18  | 0.21   | 0.29   | 0.32   | 0.29   | 0.22   | 0.16               | 0.5                      | 0.198                | 0.098                    | 0.100  |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | E           | 0.98              | BS        | 0.08                     | 0.13  | 0.15  | 0.21  | 0.31   | 0.38   | 0.36   | 0.31   | 0.22   | 0.15               | 0.5                      | 0.230                | 0.113                    | 0.114  |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | BS        | 0.11                     | 0.14  | 0.18  | 0.23  | 0.33   | 0.40   | 0.40   | 0.34   | 0.27   | 0.20               | 0.5                      | 0.260                | 0.126                    | 0.128  |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |                    |                          |                      |                          |        |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | BS        | 0.09                     | 0.13  | 0.16  | 0.21  | 0.26   | 0.27   | 0.29   | 0.28   | 0.24   | 0.18               | 0.5                      | 0.211                | 0.104                    | 0.107  |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | E           | 1.00              | BS        | 0.11                     | 0.17  | 0.23  | 0.28  | 0.30   | 0.31   | 0.34   | 0.33   | 0.28   | 0.21               | 0.5                      | 0.256                | 0.128                    | 0.131  |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | BS        | 0.14                     | 0.22  | 0.29  | 0.34  | 0.35   | 0.37   | 0.40   | 0.39   | 0.33   | 0.25               | 0.5                      | 0.308                | 0.154                    | 0.158  |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |                    |                          |                      |                          |        |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.12                     | 0.19  | 0.24  | 0.26  | 0.26   | 0.30   | 0.34   | 0.36   | 0.31   | 0.21               | 0.5                      | 0.259                | 0.130                    | 0.134  |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | E           | 1.00              | BS        | 0.11                     | 0.19  | 0.24  | 0.24  | 0.25   | 0.29   | 0.35   | 0.36   | 0.31   | 0.22               | 0.5                      | 0.256                | 0.128                    | 0.133  |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.11                     | 0.18  | 0.22  | 0.22  | 0.25   | 0.30   | 0.37   | 0.33   | 0.28   | 0.20               | 0.5                      | 0.246                | 0.123                    | 0.127  |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |                    |                          |                      |                          |        |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | BS        | 0.06                     | 0.11  | 0.13  | 0.13  | 0.15   | 0.18   | 0.21   | 0.20   | 0.17   | 0.12               | 0.5                      | 0.146                | 0.073                    | 0.076  |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | E           | 0.99              | BS        | 0.08                     | 0.11  | 0.12  | 0.14  | 0.17   | 0.23   | 0.26   | 0.25   | 0.19   | 0.14               | 0.5                      | 0.169                | 0.084                    | 0.087  |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | E           | 0.99              | BS        | 0.08                     | 0.13  | 0.15  | 0.18  | 0.25   | 0.32   | 0.35   | 0.32   | 0.25   | 0.18               | 0.5                      | 0.221                | 0.109                    | 0.112  |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |                    |                          |                      |                          |        |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | E           | 0.99              | BS        | 0.03                     | 0.04  | 0.04  | 0.06  | 0.08   | 0.11   | 0.12   | 0.11   | 0.09   | 0.07               | 0.5                      | 0.075                | 0.037                    | 0.038  |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | E           | 0.98              | BS        | 0.06                     | 0.10  | 0.13  | 0.18  | 0.25   | 0.29   | 0.28   | 0.24   | 0.18   | 0.12               | 0.5                      | 0.183                | 0.090                    | 0.091  |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | BS        | 0.08                     | 0.12  | 0.15  | 0.21  | 0.30   | 0.37   | 0.36   | 0.31   | 0.24   | 0.18               | 0.5                      | 0.232                | 0.113                    | 0.114  |
| 45 (corner)  |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |                    |                          |                      |                          |        |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | BS        | 0.24                     | 0.40  | 0.48  | 0.53  | 0.50   | 0.46   | 0.41   | 0.38   | 0.33   | 0.26               | 0.5                      | 0.399                | 0.200                    | 0.204  |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | BS        | 0.21                     | 0.37  | 0.38  | 0.40  | 0.42   | 0.39   | 0.34   | 0.30   | 0.26   | 0.22               | 0.5                      | 0.329                | 0.160                    | 0.162  |
| 90 (side)    |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |                    |                          |                      |                          |        |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | BS        | 0.21                     | 0.40  | 0.39  | 0.31  | 0.31   | 0.37   | 0.34   | 0.33   | 0.30   | 0.24               | 0.5                      | 0.320                | 0.160                    | 0.164  |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | BS        | 0.16                     | 0.26  | 0.23  | 0.27  | 0.39   | 0.39   | 0.35   | 0.31   | 0.27   | 0.23               | 0.5                      | 0.286                | 0.139                    | 0.141  |

MPE calculations are defined in section 13.0.

## MPE measurement data for Bystander

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm | 200 cm |                    |                          |                      |                          |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | BS        | 0.03                     | 0.03  | 0.03  | 0.05  | 0.07   | 0.09   | 0.11   | 0.13   | 0.14   | 0.14   | 0.5                | 0.082                    | 0.100                | 0.103                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | BS        | 0.03                     | 0.03  | 0.04  | 0.06  | 0.08   | 0.11   | 0.13   | 0.14   | 0.15   | 0.14   | 0.5                | 0.091                    | 0.124                | 0.126                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.03                     | 0.03  | 0.05  | 0.06  | 0.08   | 0.10   | 0.11   | 0.13   | 0.13   | 0.13   | 0.5                | 0.085                    | 0.105                | 0.109                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | H           | 0.87              | BS        | 0.04                     | 0.04  | 0.06  | 0.08  | 0.09   | 0.11   | 0.12   | 0.13   | 0.13   | 0.12   | 0.5                | 0.092                    | 0.121                | 0.125                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | H           | 0.86              | BS        | 0.03                     | 0.04  | 0.06  | 0.08  | 0.10   | 0.11   | 0.13   | 0.13   | 0.13   | 0.12   | 0.5                | 0.093                    | 0.121                | 0.123                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | BS        | 0.03                     | 0.04  | 0.06  | 0.09  | 0.10   | 0.12   | 0.14   | 0.15   | 0.14   | 0.13   | 0.5                | 0.100                    | 0.136                | 0.138                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.05                     | 0.05  | 0.06  | 0.08  | 0.11   | 0.12   | 0.12   | 0.12   | 0.11   | 0.09   | 0.5                | 0.091                    | 0.121                | 0.125                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.05                     | 0.04  | 0.06  | 0.09  | 0.11   | 0.12   | 0.12   | 0.11   | 0.10   | 0.09   | 0.5                | 0.089                    | 0.116                | 0.120                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 157.9875      | 54          | 52.2            | CW        | H           | 0.87              | BS        | 0.04                     | 0.04  | 0.06  | 0.09  | 0.11   | 0.12   | 0.12   | 0.12   | 0.10   | 0.09   | 0.5                | 0.089                    | 0.113                | 0.117                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 164.9875      | 54          | 52.5            | CW        | H           | 0.86              | BS        | 0.03                     | 0.04  | 0.06  | 0.08  | 0.10   | 0.11   | 0.12   | 0.11   | 0.10   | 0.09   | 0.5                | 0.084                    | 0.098                | 0.101                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 171.9875      | 54          | 53.6            | CW        | H           | 0.85              | BS        | 0.03                     | 0.04  | 0.06  | 0.08  | 0.10   | 0.11   | 0.12   | 0.12   | 0.11   | 0.10   | 0.5                | 0.087                    | 0.103                | 0.104                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | BS        | 0.06                     | 0.06  | 0.06  | 0.09  | 0.11   | 0.12   | 0.11   | 0.10   | 0.09   | 0.08   | 0.5                | 0.088                    | 0.116                | 0.119                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | H           | 0.89              | BS        | 0.07                     | 0.06  | 0.07  | 0.09  | 0.11   | 0.12   | 0.12   | 0.11   | 0.10   | 0.08   | 0.5                | 0.093                    | 0.129                | 0.133                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | BS        | 0.07                     | 0.06  | 0.07  | 0.10  | 0.12   | 0.13   | 0.13   | 0.12   | 0.10   | 0.09   | 0.5                | 0.099                    | 0.146                | 0.150                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.06                     | 0.06  | 0.07  | 0.10  | 0.12   | 0.13   | 0.13   | 0.12   | 0.10   | 0.09   | 0.5                | 0.098                    | 0.140                | 0.145                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | H           | 0.88              | BS        | 0.06                     | 0.05  | 0.07  | 0.10  | 0.12   | 0.13   | 0.13   | 0.12   | 0.10   | 0.08   | 0.5                | 0.096                    | 0.135                | 0.140                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.06                     | 0.05  | 0.08  | 0.10  | 0.12   | 0.12   | 0.13   | 0.11   | 0.09   | 0.08   | 0.5                | 0.094                    | 0.129                | 0.133                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.05                     | 0.05  | 0.07  | 0.09  | 0.11   | 0.12   | 0.11   | 0.10   | 0.09   | 0.07   | 0.5                | 0.086                    | 0.108                | 0.112                    |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52              | CW        | H           | 0.87              | BS        | 0.05                     | 0.05  | 0.07  | 0.10  | 0.11   | 0.12   | 0.12   | 0.11   | 0.09   | 0.08   | 0.5                | 0.090                    | 0.116                | 0.120                    |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | H           | 0.87              | BS        | 0.04                     | 0.05  | 0.07  | 0.10  | 0.12   | 0.13   | 0.12   | 0.11   | 0.09   | 0.08   | 0.5                | 0.091                    | 0.118                | 0.121                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | BS        | 0.04                     | 0.04  | 0.07  | 0.10  | 0.12   | 0.12   | 0.12   | 0.11   | 0.09   | 0.08   | 0.5                | 0.089                    | 0.113                | 0.116                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | BS        | 0.04                     | 0.05  | 0.08  | 0.11  | 0.13   | 0.13   | 0.12   | 0.10   | 0.09   | 0.07   | 0.5                | 0.092                    | 0.118                | 0.119                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | BS        | 0.05                     | 0.06  | 0.09  | 0.12  | 0.13   | 0.13   | 0.13   | 0.12   | 0.11   | 0.09   | 0.5                | 0.103                    | 0.144                | 0.147                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |

MPE calculations are defined in section 13.0.

## MPE measurement data for Bystander

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm | 200 cm |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | BS        | 0.06                     | 0.05  | 0.05  | 0.08  | 0.10   | 0.11   | 0.11   | 0.10   | 0.09   | 0.07   | 0.5                | 0.082                    | 0.100                | 0.103                    |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | H           | 0.89              | BS        | 0.06                     | 0.05  | 0.06  | 0.09  | 0.10   | 0.11   | 0.12   | 0.11   | 0.09   | 0.08   | 0.5                | 0.087                    | 0.113                | 0.116                    |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | BS        | 0.06                     | 0.06  | 0.07  | 0.10  | 0.12   | 0.13   | 0.13   | 0.12   | 0.10   | 0.09   | 0.5                | 0.098                    | 0.143                | 0.147                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.06                     | 0.05  | 0.07  | 0.10  | 0.12   | 0.13   | 0.13   | 0.12   | 0.11   | 0.09   | 0.5                | 0.098                    | 0.140                | 0.145                    |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | H           | 0.88              | BS        | 0.06                     | 0.05  | 0.07  | 0.09  | 0.11   | 0.12   | 0.12   | 0.11   | 0.10   | 0.08   | 0.5                | 0.091                    | 0.121                | 0.126                    |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.05                     | 0.05  | 0.07  | 0.10  | 0.12   | 0.12   | 0.12   | 0.11   | 0.09   | 0.08   | 0.5                | 0.091                    | 0.121                | 0.125                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | BS        | 0.04                     | 0.04  | 0.06  | 0.08  | 0.10   | 0.10   | 0.10   | 0.09   | 0.08   | 0.06   | 0.5                | 0.075                    | 0.082                | 0.085                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | H           | 0.87              | BS        | 0.05                     | 0.04  | 0.06  | 0.09  | 0.11   | 0.11   | 0.12   | 0.10   | 0.09   | 0.07   | 0.5                | 0.084                    | 0.101                | 0.105                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | H           | 0.87              | BS        | 0.04                     | 0.05  | 0.07  | 0.10  | 0.12   | 0.12   | 0.12   | 0.11   | 0.09   | 0.07   | 0.5                | 0.089                    | 0.113                | 0.116                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | BS        | 0.03                     | 0.03  | 0.04  | 0.06  | 0.07   | 0.08   | 0.07   | 0.06   | 0.05   | 0.05   | 0.5                | 0.054                    | 0.042                | 0.043                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | BS        | 0.04                     | 0.05  | 0.08  | 0.11  | 0.13   | 0.13   | 0.12   | 0.11   | 0.09   | 0.07   | 0.5                | 0.093                    | 0.121                | 0.122                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | BS        | 0.05                     | 0.06  | 0.09  | 0.11  | 0.13   | 0.13   | 0.13   | 0.11   | 0.10   | 0.09   | 0.5                | 0.100                    | 0.136                | 0.138                    |
| 45 (corner)  |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | BS        | 0.07                     | 0.09  | 0.11  | 0.13  | 0.15   | 0.14   | 0.14   | 0.12   | 0.10   | 0.09   | 0.5                | 0.114                    | 0.194                | 0.198                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | BS        | 0.09                     | 0.11  | 0.12  | 0.14  | 0.14   | 0.13   | 0.13   | 0.12   | 0.11   | 0.09   | 0.5                | 0.118                    | 0.190                | 0.192                    |
| 90 (side)    |                                   |                 |               |             |                 |           |             |                   |           |                          |       |       |       |        |        |        |        |        |        |                    |                          |                      |                          |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | BS        | 0.06                     | 0.09  | 0.11  | 0.13  | 0.14   | 0.14   | 0.12   | 0.11   | 0.10   | 0.08   | 0.5                | 0.108                    | 0.174                | 0.178                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | BS        | 0.08                     | 0.11  | 0.12  | 0.13  | 0.13   | 0.13   | 0.12   | 0.11   | 0.10   | 0.09   | 0.5                | 0.112                    | 0.171                | 0.173                    |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements    |       |             | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|---------------------|-------|-------------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger Positions |       |             |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | Head                | Chest | Lower Trunk |                    |                          |                      |                          |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | PB        | 0.04                | 0.05  | 0.04        | 0.5                | 0.043                    | 0.021                | 0.022                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | PB        | 0.06                | 0.09  | 0.08        | 0.5                | 0.077                    | 0.038                | 0.039                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.01                | 0.06  | 0.08        | 0.5                | 0.050                    | 0.025                | 0.026                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | E           | 0.99              | PB        | 0.05                | 0.01  | 0.01        | 0.5                | 0.023                    | 0.012                | 0.012                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | E           | 0.98              | PB        | 0.06                | 0.07  | 0.11        | 0.5                | 0.080                    | 0.039                | 0.040                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | PB        | 0.05                | 0.04  | 0.11        | 0.5                | 0.067                    | 0.032                | 0.033                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.09                | 0.13  | 0.11        | 0.5                | 0.110                    | 0.055                | 0.057                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.05                | 0.11  | 0.13        | 0.5                | 0.097                    | 0.048                | 0.050                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 157.9875      | 54          | 52.2            | CW        | E           | 0.99              | PB        | 0.07                | 0.03  | 0.01        | 0.5                | 0.037                    | 0.018                | 0.019                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 164.9875      | 54          | 52.5            | CW        | E           | 0.98              | PB        | 0.06                | 0.07  | 0.12        | 0.5                | 0.083                    | 0.041                | 0.042                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 171.9875      | 54          | 53.6            | CW        | E           | 0.97              | PB        | 0.05                | 0.03  | 0.07        | 0.5                | 0.050                    | 0.024                | 0.024                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | PB        | 0.10                | 0.16  | 0.20        | 0.5                | 0.153                    | 0.076                | 0.078                    |
| Roof         | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | E           | 1.00              | PB        | 0.30                | 0.35  | 0.45        | 0.5                | 0.367                    | 0.183                | 0.188                    |
| Roof         | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | PB        | 0.23                | 0.29  | 0.25        | 0.5                | 0.257                    | 0.128                | 0.131                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.14                | 0.18  | 0.13        | 0.5                | 0.150                    | 0.075                | 0.078                    |
| Roof         | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | E           | 1.00              | PB        | 0.08                | 0.08  | 0.05        | 0.5                | 0.071                    | 0.036                | 0.037                    |
| Roof         | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.14                | 0.13  | 0.09        | 0.5                | 0.120                    | 0.060                | 0.062                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.12                | 0.13  | 0.08        | 0.5                | 0.111                    | 0.056                | 0.057                    |
| Roof         | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52              | CW        | E           | 0.99              | PB        | 0.07                | 0.08  | 0.05        | 0.5                | 0.067                    | 0.033                | 0.034                    |
| Roof         | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | E           | 0.99              | PB        | 0.12                | 0.13  | 0.13        | 0.5                | 0.127                    | 0.063                | 0.064                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | E           | 0.99              | PB        | 0.12                | 0.13  | 0.14        | 0.5                | 0.130                    | 0.064                | 0.066                    |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | E           | 0.98              | PB        | 0.16                | 0.09  | 0.11        | 0.5                | 0.120                    | 0.059                | 0.059                    |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | PB        | 0.11                | 0.04  | 0.11        | 0.5                | 0.087                    | 0.042                | 0.043                    |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements    |       |             | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|---------------------|-------|-------------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger Positions |       |             |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | Head                | Chest | Lower Trunk |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | PB        | 0.19                | 0.15  | 0.10        | 0.5                | 0.147                    | 0.073                | 0.075                    |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | E           | 1.00              | PB        | 0.30                | 0.43  | 0.43        | 0.5                | 0.387                    | 0.193                | 0.198                    |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | PB        | 0.25                | 0.30  | 0.26        | 0.5                | 0.270                    | 0.135                | 0.138                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.13                | 0.15  | 0.13        | 0.5                | 0.137                    | 0.068                | 0.071                    |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | E           | 1.00              | PB        | 0.05                | 0.09  | 0.09        | 0.5                | 0.077                    | 0.038                | 0.040                    |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.09                | 0.15  | 0.15        | 0.5                | 0.130                    | 0.065                | 0.067                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.07                | 0.11  | 0.12        | 0.5                | 0.100                    | 0.050                | 0.052                    |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | E           | 0.99              | PB        | 0.04                | 0.07  | 0.05        | 0.5                | 0.053                    | 0.026                | 0.027                    |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | E           | 0.99              | PB        | 0.14                | 0.13  | 0.13        | 0.5                | 0.133                    | 0.066                | 0.068                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | E           | 0.99              | PB        | 0.11                | 0.09  | 0.10        | 0.5                | 0.100                    | 0.050                | 0.051                    |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | E           | 0.98              | PB        | 0.09                | 0.08  | 0.15        | 0.5                | 0.107                    | 0.052                | 0.053                    |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | PB        | 0.11                | 0.04  | 0.09        | 0.5                | 0.080                    | 0.039                | 0.039                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | PF        | 0.01                | 0.01  | 0.01        | 0.5                | 0.010                    | 0.005                | 0.005                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | PF        | 0.02                | 0.03  | 0.03        | 0.5                | 0.027                    | 0.013                | 0.014                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PF        | 0.01                | 0.02  | 0.02        | 0.5                | 0.017                    | 0.008                | 0.009                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | E           | 0.99              | PF        | 0.01                | 0.03  | 0.03        | 0.5                | 0.023                    | 0.012                | 0.012                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | E           | 0.98              | PF        | 0.03                | 0.04  | 0.05        | 0.5                | 0.040                    | 0.020                | 0.020                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | PF        | 0.03                | 0.03  | 0.03        | 0.5                | 0.030                    | 0.015                | 0.015                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | PF        | 0.04                | 0.05  | 0.04        | 0.5                | 0.043                    | 0.022                | 0.022                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PF        | 0.03                | 0.06  | 0.06        | 0.5                | 0.050                    | 0.025                | 0.026                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 157.9875      | 54          | 52.2            | CW        | E           | 0.99              | PF        | 0.02                | 0.05  | 0.02        | 0.5                | 0.030                    | 0.015                | 0.015                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 164.9875      | 54          | 52.5            | CW        | E           | 0.98              | PF        | 0.02                | 0.05  | 0.04        | 0.5                | 0.037                    | 0.018                | 0.018                    |
| Roof         | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 171.9875      | 54          | 53.6            | CW        | E           | 0.97              | PF        | 0.01                | 0.01  | 0.01        | 0.5                | 0.010                    | 0.005                | 0.005                    |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                      |                    |                  |                |                    |           | Probe Info. |                      | Test Pos. | MPE Measurements    |       |             | DUT Max.<br>TX Factor | Avg. over Body<br>(mW/ cm2) | Calc. P.D.<br>(mW/ cm2) | Max Calc. P.D.<br>(mW/ cm2) |
|--------------|--------------------------------------|--------------------|------------------|----------------|--------------------|-----------|-------------|----------------------|-----------|---------------------|-------|-------------|-----------------------|-----------------------------|-------------------------|-----------------------------|
| Ant Loc.     | Ant. Model/ Desc.                    | Ant. Gain<br>(dBi) | Tx Freq<br>(MHz) | Max Pwr<br>(W) | Initial Pwr<br>(W) | Test Mode | E/H Field   | Probe Cal.<br>Factor |           | Passenger Positions |       |             |                       |                             |                         |                             |
|              |                                      |                    |                  |                |                    |           |             |                      |           | Head                | Chest | Lower Trunk |                       |                             |                         |                             |
| Roof         | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 136.0125         | 54             | 52.6               | CW        | E           | 0.99                 | PF        | 0.05                | 0.05  | 0.06        | 0.5                   | 0.053                       | 0.026                   | 0.027                       |
| Roof         | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 140.0125         | 54             | 52.6               | CW        | E           | 1.00                 | PF        | 0.09                | 0.08  | 0.06        | 0.5                   | 0.077                       | 0.038                   | 0.039                       |
| Roof         | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 143.9875         | 54             | 52.8               | CW        | E           | 1.00                 | PF        | 0.08                | 0.09  | 0.07        | 0.5                   | 0.080                       | 0.040                   | 0.041                       |
| Roof         | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 146.0125         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.06                | 0.09  | 0.09        | 0.5                   | 0.080                       | 0.040                   | 0.041                       |
| Roof         | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 148.4000         | 54             | 52.0               | CW        | E           | 1.00                 | PF        | 0.05                | 0.09  | 0.06        | 0.5                   | 0.067                       | 0.033                   | 0.035                       |
| Roof         | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.04                | 0.08  | 0.07        | 0.5                   | 0.063                       | 0.032                   | 0.033                       |
| Roof         | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.04                | 0.06  | 0.07        | 0.5                   | 0.057                       | 0.028                   | 0.029                       |
| Roof         | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 156.4000         | 54             | 52                 | CW        | E           | 0.99                 | PF        | 0.02                | 0.07  | 0.09        | 0.5                   | 0.060                       | 0.030                   | 0.031                       |
| Roof         | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 161.9875         | 54             | 52.7               | CW        | E           | 0.99                 | PF        | 0.03                | 0.07  | 0.09        | 0.5                   | 0.063                       | 0.031                   | 0.032                       |
| Roof         | HAD4009A, 1/4 wave<br>(162-174MHz)   | 2.15               | 162.0125         | 54             | 52.7               | CW        | E           | 0.99                 | PF        | 0.02                | 0.06  | 0.09        | 0.5                   | 0.057                       | 0.028                   | 0.029                       |
| Roof         | HAD4009A, 1/4 wave<br>(162-174MHz)   | 2.15               | 167.7000         | 54             | 53.4               | CW        | E           | 0.98                 | PF        | 0.02                | 0.03  | 0.07        | 0.5                   | 0.040                       | 0.020                   | 0.020                       |
| Roof         | HAD4009A, 1/4 wave<br>(162-174MHz)   | 2.15               | 173.4000         | 54             | 53.2               | CW        | E           | 0.97                 | PF        | 0.02                | 0.03  | 0.03        | 0.5                   | 0.027                       | 0.013                   | 0.013                       |
| Roof         | RAD4226A, 1/4 wave<br>(136-144MHz)   | 2.15               | 136.0125         | 54             | 52.6               | CW        | E           | 0.99                 | PF        | 0.04                | 0.06  | 0.06        | 0.5                   | 0.053                       | 0.026                   | 0.027                       |
| Roof         | RAD4226A, 1/4 wave<br>(136-144MHz)   | 2.15               | 140.0125         | 54             | 52.6               | CW        | E           | 1.00                 | PF        | 0.08                | 0.09  | 0.08        | 0.5                   | 0.083                       | 0.042                   | 0.043                       |
| Roof         | RAD4226A, 1/4 wave<br>(136-144MHz)   | 2.15               | 143.9875         | 54             | 52.8               | CW        | E           | 1.00                 | PF        | 0.06                | 0.12  | 0.09        | 0.5                   | 0.090                       | 0.045                   | 0.046                       |
| Roof         | RAD4225A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 146.0125         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.03                | 0.05  | 0.04        | 0.5                   | 0.040                       | 0.020                   | 0.021                       |
| Roof         | RAD4225A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 148.4000         | 54             | 52.0               | CW        | E           | 1.00                 | PF        | 0.04                | 0.05  | 0.07        | 0.5                   | 0.053                       | 0.027                   | 0.028                       |
| Roof         | RAD4225A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.05                | 0.06  | 0.09        | 0.5                   | 0.067                       | 0.033                   | 0.034                       |
| Roof         | RAD4224A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.04                | 0.05  | 0.09        | 0.5                   | 0.060                       | 0.030                   | 0.031                       |
| Roof         | RAD4224A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 156.4000         | 54             | 52.0               | CW        | E           | 0.99                 | PF        | 0.03                | 0.08  | 0.04        | 0.5                   | 0.050                       | 0.025                   | 0.026                       |
| Roof         | RAD4224A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 161.9875         | 54             | 52.7               | CW        | E           | 0.99                 | PF        | 0.03                | 0.08  | 0.09        | 0.5                   | 0.067                       | 0.033                   | 0.034                       |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                      |                    |                  |                |                    |           | Probe Info. |                      | Test Pos. | MPE Measurements    |       |             | DUT Max.<br>TX Factor | Avg. over Body<br>(mW/ cm2) | Calc. P.D.<br>(mW/ cm2) | Max Calc. P.D.<br>(mW/ cm2) |
|--------------|--------------------------------------|--------------------|------------------|----------------|--------------------|-----------|-------------|----------------------|-----------|---------------------|-------|-------------|-----------------------|-----------------------------|-------------------------|-----------------------------|
| Ant Loc.     | Ant. Model/ Desc.                    | Ant. Gain<br>(dBi) | Tx Freq<br>(MHz) | Max Pwr<br>(W) | Initial Pwr<br>(W) | Test Mode | E/H Field   | Probe Cal.<br>Factor |           | Passenger Positions |       |             |                       |                             |                         |                             |
|              |                                      |                    |                  |                |                    |           |             |                      |           | Head                | Chest | Lower Trunk |                       |                             |                         |                             |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | RAD4223A, 1/4 wave<br>(162-174MHz)   | 2.15               | 162.0125         | 54             | 52.7               | CW        | E           | 0.99                 | PF        | 0.02                | 0.05  | 0.04        | 0.5                   | 0.037                       | 0.018                   | 0.019                       |
| Roof         | RAD4223A, 1/4 wave<br>(162-174MHz)   | 2.15               | 167.7000         | 54             | 53.4               | CW        | E           | 0.98                 | PF        | 0.01                | 0.04  | 0.05        | 0.5                   | 0.033                       | 0.016                   | 0.017                       |
| Roof         | RAD4223A, 1/4 wave<br>(162-174MHz)   | 2.15               | 173.4000         | 54             | 53.2               | CW        | E           | 0.97                 | PF        | 0.01                | 0.02  | 0.02        | 0.5                   | 0.017                       | 0.008                   | 0.008                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | HAD4022A, 5/8 wave<br>(132-174MHz)   | 5.15               | 136.0125         | 54             | 52.6               | CW        | H           | 0.89                 | PB        | 0.03                | 0.03  | 0.02        | 0.5                   | 0.027                       | 0.011                   | 0.011                       |
| Roof         | HAD4022A, 5/8 wave<br>(132-174MHz)   | 5.15               | 143.9875         | 54             | 52.8               | CW        | H           | 0.89                 | PB        | 0.04                | 0.03  | 0.03        | 0.5                   | 0.033                       | 0.017                   | 0.017                       |
| Roof         | HAD4022A, 5/8 wave<br>(132-174MHz)   | 5.15               | 150.8000         | 54             | 52.2               | CW        | H           | 0.88                 | PB        | 0.04                | 0.04  | 0.03        | 0.5                   | 0.037                       | 0.020                   | 0.020                       |
| Roof         | HAD4022A, 5/8 wave<br>(132-174MHz)   | 5.15               | 158.3000         | 54             | 52.1               | CW        | H           | 0.87                 | PB        | 0.04                | 0.02  | 0.02        | 0.5                   | 0.027                       | 0.010                   | 0.011                       |
| Roof         | HAD4022A, 5/8 wave<br>(132-174MHz)   | 5.15               | 165.9875         | 54             | 53.1               | CW        | H           | 0.86                 | PB        | 0.06                | 0.06  | 0.04        | 0.5                   | 0.053                       | 0.040                   | 0.040                       |
| Roof         | HAD4022A, 5/8 wave<br>(132-174MHz)   | 5.15               | 173.4000         | 54             | 53.2               | CW        | H           | 0.85                 | PB        | 0.05                | 0.06  | 0.04        | 0.5                   | 0.050                       | 0.034                   | 0.035                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 146.0125         | 54             | 52.2               | CW        | H           | 0.88                 | PB        | 0.05                | 0.04  | 0.04        | 0.5                   | 0.043                       | 0.027                   | 0.028                       |
| Roof         | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 150.8000         | 54             | 52.2               | CW        | H           | 0.88                 | PB        | 0.06                | 0.05  | 0.04        | 0.5                   | 0.050                       | 0.036                   | 0.038                       |
| Roof         | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 157.9875         | 54             | 52.2               | CW        | H           | 0.87                 | PB        | 0.05                | 0.03  | 0.02        | 0.5                   | 0.033                       | 0.016                   | 0.016                       |
| Roof         | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 164.9875         | 54             | 52.5               | CW        | H           | 0.86                 | PB        | 0.06                | 0.05  | 0.03        | 0.5                   | 0.047                       | 0.030                   | 0.031                       |
| Roof         | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 171.9875         | 54             | 53.6               | CW        | H           | 0.85                 | PB        | 0.04                | 0.04  | 0.03        | 0.5                   | 0.037                       | 0.018                   | 0.018                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 136.0125         | 54             | 52.6               | CW        | H           | 0.89                 | PB        | 0.06                | 0.06  | 0.08        | 0.5                   | 0.067                       | 0.066                   | 0.068                       |
| Roof         | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 140.0125         | 54             | 52.6               | CW        | H           | 0.89                 | PB        | 0.09                | 0.08  | 0.07        | 0.5                   | 0.080                       | 0.096                   | 0.098                       |
| Roof         | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 143.9875         | 54             | 52.8               | CW        | H           | 0.89                 | PB        | 0.07                | 0.07  | 0.06        | 0.5                   | 0.067                       | 0.066                   | 0.068                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 146.0125         | 54             | 52.2               | CW        | H           | 0.88                 | PB        | 0.06                | 0.05  | 0.06        | 0.5                   | 0.057                       | 0.047                   | 0.048                       |
| Roof         | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 148.4000         | 54             | 52.0               | CW        | H           | 0.88                 | PB        | 0.05                | 0.04  | 0.04        | 0.5                   | 0.043                       | 0.027                   | 0.028                       |
| Roof         | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | H           | 0.88                 | PB        | 0.06                | 0.05  | 0.04        | 0.5                   | 0.050                       | 0.036                   | 0.038                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | H           | 0.88                 | PB        | 0.06                | 0.04  | 0.04        | 0.5                   | 0.047                       | 0.032                   | 0.033                       |
| Roof         | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 156.4000         | 54             | 52                 | CW        | H           | 0.87                 | PB        | 0.05                | 0.04  | 0.03        | 0.5                   | 0.040                       | 0.023                   | 0.024                       |
| Roof         | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 161.9875         | 54             | 52.7               | CW        | H           | 0.87                 | PB        | 0.06                | 0.05  | 0.04        | 0.5                   | 0.050                       | 0.036                   | 0.037                       |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements    |       |             | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|---------------------|-------|-------------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger Positions |       |             |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | Head                | Chest | Lower Trunk |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | PB        | 0.06                | 0.05  | 0.03        | 0.5                | 0.047                    | 0.031                | 0.032                    |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | PB        | 0.07                | 0.06  | 0.04        | 0.5                | 0.057                    | 0.045                | 0.045                    |
| Roof         | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | PB        | 0.04                | 0.05  | 0.04        | 0.5                | 0.043                    | 0.026                | 0.026                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | PB        | 0.05                | 0.05  | 0.04        | 0.5                | 0.047                    | 0.033                | 0.033                    |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | H           | 0.89              | PB        | 0.08                | 0.07  | 0.07        | 0.5                | 0.073                    | 0.080                | 0.082                    |
| Roof         | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | PB        | 0.07                | 0.07  | 0.07        | 0.5                | 0.070                    | 0.073                | 0.075                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.06                | 0.05  | 0.05        | 0.5                | 0.053                    | 0.042                | 0.043                    |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | H           | 0.88              | PB        | 0.05                | 0.04  | 0.03        | 0.5                | 0.040                    | 0.023                | 0.024                    |
| Roof         | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.06                | 0.05  | 0.04        | 0.5                | 0.050                    | 0.036                | 0.038                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.06                | 0.04  | 0.04        | 0.5                | 0.047                    | 0.032                | 0.033                    |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | H           | 0.87              | PB        | 0.05                | 0.04  | 0.03        | 0.5                | 0.040                    | 0.023                | 0.024                    |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | H           | 0.87              | PB        | 0.06                | 0.05  | 0.04        | 0.5                | 0.050                    | 0.036                | 0.037                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | PB        | 0.05                | 0.04  | 0.03        | 0.5                | 0.040                    | 0.023                | 0.023                    |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | PB        | 0.06                | 0.06  | 0.04        | 0.5                | 0.053                    | 0.040                | 0.040                    |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | PB        | 0.04                | 0.05  | 0.04        | 0.5                | 0.043                    | 0.026                | 0.026                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | PF        | 0.02                | 0.02  | 0.02        | 0.5                | 0.020                    | 0.006                | 0.006                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | PF        | 0.03                | 0.03  | 0.02        | 0.5                | 0.027                    | 0.011                | 0.011                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.03                | 0.03  | 0.02        | 0.5                | 0.027                    | 0.010                | 0.011                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | H           | 0.87              | PF        | 0.03                | 0.04  | 0.02        | 0.5                | 0.030                    | 0.013                | 0.013                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | H           | 0.86              | PF        | 0.03                | 0.02  | 0.03        | 0.5                | 0.027                    | 0.010                | 0.010                    |
| Roof         | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | PF        | 0.03                | 0.03  | 0.03        | 0.5                | 0.030                    | 0.012                | 0.012                    |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                      |                    |                  |                |                    |           | Probe Info. |                      | Test Pos. | MPE Measurements    |       |             | DUT Max.<br>TX Factor | Avg. over Body<br>(mW/ cm2) | Calc. P.D.<br>(mW/ cm2) | Max Calc. P.D.<br>(mW/ cm2) |
|--------------|--------------------------------------|--------------------|------------------|----------------|--------------------|-----------|-------------|----------------------|-----------|---------------------|-------|-------------|-----------------------|-----------------------------|-------------------------|-----------------------------|
| Ant Loc.     | Ant. Model/ Desc.                    | Ant. Gain<br>(dBi) | Tx Freq<br>(MHz) | Max Pwr<br>(W) | Initial Pwr<br>(W) | Test Mode | E/H Field   | Probe Cal.<br>Factor |           | Passenger Positions |       |             |                       |                             |                         |                             |
|              |                                      |                    |                  |                |                    |           |             |                      |           | Head                | Chest | Lower Trunk |                       |                             |                         |                             |
| Roof         | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 146.0125         | 54             | 52.2               | CW        | H           | 0.88                 | PF        | 0.04                | 0.05  | 0.04        | 0.5                   | 0.043                       | 0.027                   | 0.028                       |
| Roof         | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 150.8000         | 54             | 52.2               | CW        | H           | 0.88                 | PF        | 0.05                | 0.05  | 0.03        | 0.5                   | 0.043                       | 0.027                   | 0.028                       |
| Roof         | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 157.9875         | 54             | 52.2               | CW        | H           | 0.87                 | PF        | 0.04                | 0.04  | 0.03        | 0.5                   | 0.037                       | 0.019                   | 0.020                       |
| Roof         | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 164.9875         | 54             | 52.5               | CW        | H           | 0.86                 | PF        | 0.03                | 0.03  | 0.03        | 0.5                   | 0.030                       | 0.013                   | 0.013                       |
| Roof         | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 171.9875         | 54             | 53.6               | CW        | H           | 0.85                 | PF        | 0.02                | 0.03  | 0.02        | 0.5                   | 0.023                       | 0.007                   | 0.007                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 136.0125         | 54             | 52.6               | CW        | H           | 0.89                 | PF        | 0.04                | 0.04  | 0.04        | 0.5                   | 0.040                       | 0.024                   | 0.025                       |
| Roof         | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 140.0125         | 54             | 52.6               | CW        | H           | 0.89                 | PF        | 0.04                | 0.05  | 0.05        | 0.5                   | 0.047                       | 0.033                   | 0.033                       |
| Roof         | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 143.9875         | 54             | 52.8               | CW        | H           | 0.89                 | PF        | 0.06                | 0.07  | 0.05        | 0.5                   | 0.060                       | 0.054                   | 0.055                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 146.0125         | 54             | 52.2               | CW        | H           | 0.88                 | PF        | 0.06                | 0.06  | 0.05        | 0.5                   | 0.057                       | 0.047                   | 0.048                       |
| Roof         | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 148.4000         | 54             | 52.0               | CW        | H           | 0.88                 | PF        | 0.07                | 0.07  | 0.04        | 0.5                   | 0.060                       | 0.053                   | 0.055                       |
| Roof         | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | H           | 0.88                 | PF        | 0.07                | 0.07  | 0.04        | 0.5                   | 0.060                       | 0.053                   | 0.054                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | H           | 0.88                 | PF        | 0.06                | 0.06  | 0.04        | 0.5                   | 0.053                       | 0.042                   | 0.043                       |
| Roof         | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 156.4000         | 54             | 52                 | CW        | H           | 0.87                 | PF        | 0.05                | 0.05  | 0.02        | 0.5                   | 0.040                       | 0.023                   | 0.024                       |
| Roof         | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 161.9875         | 54             | 52.7               | CW        | H           | 0.87                 | PF        | 0.05                | 0.04  | 0.02        | 0.5                   | 0.037                       | 0.019                   | 0.020                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | HAD4009A, 1/4 wave<br>(162-174MHz)   | 2.15               | 162.0125         | 54             | 52.7               | CW        | H           | 0.87                 | PF        | 0.04                | 0.04  | 0.02        | 0.5                   | 0.033                       | 0.016                   | 0.016                       |
| Roof         | HAD4009A, 1/4 wave<br>(162-174MHz)   | 2.15               | 167.7000         | 54             | 53.4               | CW        | H           | 0.86                 | PF        | 0.04                | 0.03  | 0.03        | 0.5                   | 0.033                       | 0.015                   | 0.016                       |
| Roof         | HAD4009A, 1/4 wave<br>(162-174MHz)   | 2.15               | 173.4000         | 54             | 53.2               | CW        | H           | 0.85                 | PF        | 0.04                | 0.04  | 0.02        | 0.5                   | 0.033                       | 0.015                   | 0.015                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | RAD4226A, 1/4 wave<br>(136-144MHz)   | 2.15               | 136.0125         | 54             | 52.6               | CW        | H           | 0.89                 | PF        | 0.05                | 0.04  | 0.03        | 0.5                   | 0.040                       | 0.024                   | 0.025                       |
| Roof         | RAD4226A, 1/4 wave<br>(136-144MHz)   | 2.15               | 140.0125         | 54             | 52.6               | CW        | H           | 0.89                 | PF        | 0.05                | 0.05  | 0.04        | 0.5                   | 0.047                       | 0.033                   | 0.033                       |
| Roof         | RAD4226A, 1/4 wave<br>(136-144MHz)   | 2.15               | 143.9875         | 54             | 52.8               | CW        | H           | 0.89                 | PF        | 0.06                | 0.06  | 0.06        | 0.5                   | 0.060                       | 0.054                   | 0.055                       |
|              |                                      |                    |                  |                |                    |           |             |                      |           |                     |       |             |                       |                             |                         |                             |
| Roof         | RAD4225A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 146.0125         | 54             | 52.2               | CW        | H           | 0.88                 | PF        | 0.06                | 0.06  | 0.06        | 0.5                   | 0.060                       | 0.053                   | 0.054                       |
| Roof         | RAD4225A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 148.4000         | 54             | 52.0               | CW        | H           | 0.88                 | PF        | 0.06                | 0.06  | 0.05        | 0.5                   | 0.057                       | 0.047                   | 0.049                       |
| Roof         | RAD4225A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | H           | 0.88                 | PF        | 0.07                | 0.06  | 0.04        | 0.5                   | 0.057                       | 0.047                   | 0.048                       |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements    |       |             | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|---------------------|-------|-------------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger Positions |       |             |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | Head                | Chest | Lower Trunk |                    |                          |                      |                          |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.06                | 0.06  | 0.04        | 0.5                | 0.053                    | 0.042                | 0.043                    |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | H           | 0.87              | PF        | 0.04                | 0.04  | 0.03        | 0.5                | 0.038                    | 0.020                | 0.021                    |
| Roof         | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | H           | 0.87              | PF        | 0.04                | 0.04  | 0.03        | 0.5                | 0.037                    | 0.019                | 0.020                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | PF        | 0.04                | 0.04  | 0.02        | 0.5                | 0.033                    | 0.016                | 0.016                    |
| Roof         | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | PF        | 0.03                | 0.03  | 0.03        | 0.5                | 0.030                    | 0.013                | 0.013                    |
| Roof         | RA D4223A, 1/4 wave (162-174MHz)  | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | PF        | 0.04                | 0.04  | 0.03        | 0.5                | 0.037                    | 0.018                | 0.019                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | PB        | 0.07                | 0.06  | 0.04        | 0.5                | 0.057                    | 0.028                | 0.029                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | PB        | 0.37                | 0.32  | 0.24        | 0.5                | 0.310                    | 0.155                | 0.159                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.39                | 0.40  | 0.29        | 0.5                | 0.360                    | 0.180                | 0.186                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | E           | 0.99              | PB        | 0.63                | 0.81  | 0.61        | 0.5                | 0.683                    | 0.338                | 0.351                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | E           | 0.98              | PB        | 0.66                | 1.04  | 1.03        | 0.5                | 0.910                    | 0.446                | 0.453                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | PB        | 0.78                | 0.72  | 0.83        | 0.5                | 0.777                    | 0.377                | 0.382                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 0.94                | 1.06  | 0.93        | 0.5                | 0.977                    | 0.488                | 0.505                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 1.15                | 1.08  | 0.85        | 0.5                | 1.027                    | 0.513                | 0.531                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 157.9875      | 54          | 52.2            | CW        | E           | 0.99              | PB        | 1.21                | 1.49  | 1.06        | 0.5                | 1.253                    | 0.620                | 0.642                    |
| Trunk        | RA D4227A, 5/8 wave (146-172MHz)  | 5.15            | 164.9875      | 54          | 52.5            | CW        | E           | 0.98              | PB        | 0.76                | 1.18  | 1.07        | 0.5                | 1.003                    | 0.492                | 0.506                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 171.9875      | 54          | 53.6            | CW        | E           | 0.97              | PB        | 0.45                | 0.40  | 0.48        | 0.5                | 0.443                    | 0.215                | 0.217                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | PB        | 1.87                | 1.53  | 1.00        | 0.5                | 1.467                    | 0.726                | 0.745                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | E           | 1.00              | PB        | 1.55                | 1.57  | 1.14        | 0.5                | 1.420                    | 0.710                | 0.729                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | PB        | 1.77                | 1.84  | 1.51        | 0.5                | 1.707                    | 0.853                | 0.873                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 1.77                | 2.02  | 1.72        | 0.5                | 1.837                    | 0.918                | 0.950                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | E           | 1.00              | PB        | 1.49                | 1.66  | 1.47        | 0.5                | 1.540                    | 0.770                | 0.800                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 1.53                | 1.48  | 1.14        | 0.5                | 1.383                    | 0.692                | 0.716                    |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements    |       |             | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|---------------------|-------|-------------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger Positions |       |             |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | Head                | Chest | Lower Trunk |                    |                          |                      |                          |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 1.39                | 1.29  | 1.01        | 0.5                | 1.230                    | 0.615                | 0.636                    |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52              | CW        | E           | 0.99              | PB        | 2.02                | 2.41  | 1.77        | 0.5                | 2.067                    | 1.023                | 1.062                    |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | E           | 0.99              | PB        | 1.30                | 1.74  | 1.38        | 0.5                | 1.473                    | 0.729                | 0.747                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | E           | 0.99              | PB        | 1.30                | 1.77  | 1.39        | 0.5                | 1.487                    | 0.736                | 0.754                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | E           | 0.98              | PB        | 1.09                | 1.85  | 2.24        | 0.5                | 1.727                    | 0.846                | 0.856                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | PB        | 1.19                | 0.72  | 1.16        | 0.5                | 1.023                    | 0.496                | 0.504                    |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | PB        | 1.62                | 1.38  | 0.90        | 0.5                | 1.300                    | 0.644                | 0.661                    |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | E           | 1.00              | PB        | 1.26                | 1.18  | 0.97        | 0.5                | 1.137                    | 0.568                | 0.583                    |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | PB        | 1.65                | 1.75  | 1.46        | 0.5                | 1.620                    | 0.810                | 0.828                    |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 1.59                | 1.70  | 1.49        | 0.5                | 1.593                    | 0.797                | 0.824                    |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | E           | 1.00              | PB        | 1.60                | 1.55  | 1.37        | 0.5                | 1.507                    | 0.753                | 0.782                    |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 1.74                | 1.63  | 1.21        | 0.5                | 1.527                    | 0.763                | 0.790                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PB        | 1.24                | 1.18  | 0.88        | 0.5                | 1.100                    | 0.550                | 0.569                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | E           | 0.99              | PB        | 1.94                | 2.34  | 1.60        | 0.5                | 1.960                    | 0.970                | 1.008                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | E           | 0.99              | PB        | 1.28                | 1.78  | 1.47        | 0.5                | 1.510                    | 0.747                | 0.766                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | E           | 0.99              | PB        | 0.51                | 0.70  | 0.55        | 0.5                | 0.587                    | 0.290                | 0.298                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | E           | 0.98              | PB        | 0.86                | 1.40  | 1.66        | 0.5                | 1.307                    | 0.640                | 0.647                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | PB        | 1.15                | 0.88  | 1.27        | 0.5                | 1.100                    | 0.534                | 0.542                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | E           | 0.99              | PF        | 0.01                | 0.01  | 0.01        | 0.5                | 0.010                    | 0.005                | 0.005                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | E           | 1.00              | PF        | 0.02                | 0.02  | 0.02        | 0.5                | 0.020                    | 0.010                | 0.010                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PF        | 0.05                | 0.04  | 0.02        | 0.5                | 0.037                    | 0.018                | 0.019                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | E           | 0.99              | PF        | 0.13                | 0.08  | 0.03        | 0.5                | 0.080                    | 0.040                | 0.041                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | E           | 0.98              | PF        | 0.17                | 0.17  | 0.13        | 0.5                | 0.157                    | 0.077                | 0.078                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | PF        | 0.24                | 0.27  | 0.19        | 0.5                | 0.233                    | 0.113                | 0.115                    |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                      |                    |                  |                |                    |           | Probe Info. |                      | Test Pos. | MPE Measurements    |       |             | DUT Max.<br>TX Factor | Avg. over Body<br>(mW/ cm2) | Calc. P.D.<br>(mW/ cm2) | Max Calc. P.D.<br>(mW/ cm2) |
|--------------|--------------------------------------|--------------------|------------------|----------------|--------------------|-----------|-------------|----------------------|-----------|---------------------|-------|-------------|-----------------------|-----------------------------|-------------------------|-----------------------------|
| Ant Loc.     | Ant. Model/ Desc.                    | Ant. Gain<br>(dBi) | Tx Freq<br>(MHz) | Max Pwr<br>(W) | Initial Pwr<br>(W) | Test Mode | E/H Field   | Probe Cal.<br>Factor |           | Passenger Positions |       |             |                       |                             |                         |                             |
|              |                                      |                    |                  |                |                    |           |             |                      |           | Head                | Chest | Lower Trunk |                       |                             |                         |                             |
| Trunk        | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 146.0125         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.07                | 0.05  | 0.03        | 0.5                   | 0.050                       | 0.025                   | 0.026                       |
| Trunk        | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 150.8000         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.17                | 0.09  | 0.05        | 0.5                   | 0.103                       | 0.052                   | 0.053                       |
| Trunk        | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 157.9875         | 54             | 52.2               | CW        | E           | 0.99                 | PF        | 0.17                | 0.08  | 0.06        | 0.5                   | 0.103                       | 0.051                   | 0.053                       |
| Trunk        | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 164.9875         | 54             | 52.5               | CW        | E           | 0.98                 | PF        | 0.15                | 0.16  | 0.15        | 0.5                   | 0.153                       | 0.075                   | 0.077                       |
| Trunk        | RAD4227A, 5/8 wave<br>(146-172MHz)   | 5.15               | 171.9875         | 54             | 53.6               | CW        | E           | 0.97                 | PF        | 0.17                | 0.17  | 0.13        | 0.5                   | 0.157                       | 0.076                   | 0.077                       |
| Trunk        | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 136.0125         | 54             | 52.6               | CW        | E           | 0.99                 | PF        | 0.13                | 0.04  | 0.04        | 0.5                   | 0.070                       | 0.035                   | 0.036                       |
| Trunk        | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 140.0125         | 54             | 52.6               | CW        | E           | 1.00                 | PF        | 0.06                | 0.04  | 0.04        | 0.5                   | 0.047                       | 0.023                   | 0.024                       |
| Trunk        | HAD4006A, 1/4 wave<br>(136-144MHz)   | 2.15               | 143.9875         | 54             | 52.8               | CW        | E           | 1.00                 | PF        | 0.23                | 0.10  | 0.05        | 0.5                   | 0.127                       | 0.063                   | 0.065                       |
| Trunk        | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 146.0125         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.29                | 0.09  | 0.07        | 0.5                   | 0.150                       | 0.075                   | 0.078                       |
| Trunk        | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 148.4000         | 54             | 52.0               | CW        | E           | 1.00                 | PF        | 0.36                | 0.12  | 0.11        | 0.5                   | 0.197                       | 0.098                   | 0.102                       |
| Trunk        | HAD4007A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.35                | 0.18  | 0.07        | 0.5                   | 0.200                       | 0.100                   | 0.103                       |
| Trunk        | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.28                | 0.15  | 0.09        | 0.5                   | 0.173                       | 0.087                   | 0.090                       |
| Trunk        | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 156.4000         | 54             | 52                 | CW        | E           | 0.99                 | PF        | 0.37                | 0.19  | 0.08        | 0.5                   | 0.213                       | 0.106                   | 0.110                       |
| Trunk        | HAD4008A, 1/4 wave<br>(150.8-162MHz) | 2.15               | 161.9875         | 54             | 52.7               | CW        | E           | 0.99                 | PF        | 0.29                | 0.26  | 0.13        | 0.5                   | 0.227                       | 0.112                   | 0.115                       |
| Trunk        | HAD4009A, 1/4 wave<br>(162-174MHz)   | 2.15               | 162.0125         | 54             | 52.7               | CW        | E           | 0.99                 | PF        | 0.30                | 0.26  | 0.14        | 0.5                   | 0.233                       | 0.116                   | 0.118                       |
| Trunk        | HAD4009A, 1/4 wave<br>(162-174MHz)   | 2.15               | 167.7000         | 54             | 53.4               | CW        | E           | 0.98                 | PF        | 0.29                | 0.31  | 0.26        | 0.5                   | 0.287                       | 0.140                   | 0.142                       |
| Trunk        | HAD4009A, 1/4 wave<br>(162-174MHz)   | 2.15               | 173.4000         | 54             | 53.2               | CW        | E           | 0.97                 | PF        | 0.32                | 0.37  | 0.32        | 0.5                   | 0.337                       | 0.163                   | 0.166                       |
| Trunk        | RAD4226A, 1/4 wave<br>(136-144MHz)   | 2.15               | 136.0125         | 54             | 52.6               | CW        | E           | 0.99                 | PF        | 0.10                | 0.04  | 0.02        | 0.5                   | 0.053                       | 0.026                   | 0.027                       |
| Trunk        | RAD4226A, 1/4 wave<br>(136-144MHz)   | 2.15               | 140.0125         | 54             | 52.6               | CW        | E           | 1.00                 | PF        | 0.16                | 0.05  | 0.06        | 0.5                   | 0.090                       | 0.045                   | 0.046                       |
| Trunk        | RAD4226A, 1/4 wave<br>(136-144MHz)   | 2.15               | 143.9875         | 54             | 52.8               | CW        | E           | 1.00                 | PF        | 0.10                | 0.11  | 0.06        | 0.5                   | 0.090                       | 0.045                   | 0.046                       |
| Trunk        | RAD4225A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 146.0125         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.14                | 0.09  | 0.05        | 0.5                   | 0.093                       | 0.047                   | 0.048                       |
| Trunk        | RAD4225A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 148.4000         | 54             | 52.0               | CW        | E           | 1.00                 | PF        | 0.22                | 0.10  | 0.06        | 0.5                   | 0.127                       | 0.063                   | 0.066                       |
| Trunk        | RAD4225A, 1/4 wave<br>(146-150.8MHz) | 2.15               | 150.8000         | 54             | 52.2               | CW        | E           | 1.00                 | PF        | 0.29                | 0.15  | 0.05        | 0.5                   | 0.163                       | 0.082                   | 0.084                       |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements    |       |             | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|---------------------|-------|-------------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger Positions |       |             |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | Head                | Chest | Lower Trunk |                    |                          |                      |                          |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | E           | 1.00              | PF        | 0.25                | 0.12  | 0.05        | 0.5                | 0.140                    | 0.070                | 0.072                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | E           | 0.99              | PF        | 0.21                | 0.20  | 0.26        | 0.5                | 0.223                    | 0.111                | 0.115                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | E           | 0.99              | PF        | 0.24                | 0.21  | 0.14        | 0.5                | 0.197                    | 0.097                | 0.100                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | E           | 0.99              | PF        | 0.11                | 0.10  | 0.06        | 0.5                | 0.090                    | 0.045                | 0.046                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | E           | 0.98              | PF        | 0.26                | 0.30  | 0.29        | 0.5                | 0.283                    | 0.139                | 0.140                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | E           | 0.97              | PF        | 0.29                | 0.38  | 0.24        | 0.5                | 0.303                    | 0.147                | 0.149                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | PB        | 0.05                | 0.03  | 0.03        | 0.5                | 0.037                    | 0.020                | 0.021                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | PB        | 0.08                | 0.06  | 0.04        | 0.5                | 0.060                    | 0.054                | 0.055                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.09                | 0.06  | 0.06        | 0.5                | 0.070                    | 0.072                | 0.074                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | H           | 0.87              | PB        | 0.13                | 0.10  | 0.09        | 0.5                | 0.107                    | 0.162                | 0.168                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | H           | 0.86              | PB        | 0.19                | 0.15  | 0.10        | 0.5                | 0.147                    | 0.300                | 0.305                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | PB        | 0.17                | 0.15  | 0.09        | 0.5                | 0.137                    | 0.254                | 0.258                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.16                | 0.12  | 0.10        | 0.5                | 0.127                    | 0.234                | 0.242                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.14                | 0.11  | 0.10        | 0.5                | 0.117                    | 0.199                | 0.206                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 157.9875      | 54          | 52.2            | CW        | H           | 0.87              | PB        | 0.17                | 0.12  | 0.11        | 0.5                | 0.133                    | 0.254                | 0.262                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 164.9875      | 54          | 52.5            | CW        | H           | 0.86              | PB        | 0.20                | 0.15  | 0.10        | 0.5                | 0.150                    | 0.314                | 0.323                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 171.9875      | 54          | 53.6            | CW        | H           | 0.85              | PB        | 0.13                | 0.11  | 0.07        | 0.5                | 0.103                    | 0.145                | 0.147                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | PB        | 0.23                | 0.14  | 0.10        | 0.5                | 0.157                    | 0.366                | 0.376                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | H           | 0.89              | PB        | 0.18                | 0.14  | 0.11        | 0.5                | 0.143                    | 0.307                | 0.315                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | PB        | 0.20                | 0.15  | 0.11        | 0.5                | 0.153                    | 0.351                | 0.359                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.22                | 0.16  | 0.13        | 0.5                | 0.170                    | 0.422                | 0.436                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | H           | 0.88              | PB        | 0.21                | 0.16  | 0.13        | 0.5                | 0.167                    | 0.405                | 0.421                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.18                | 0.14  | 0.12        | 0.5                | 0.147                    | 0.314                | 0.325                    |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements    |       |             | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|---------------------|-------|-------------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger Positions |       |             |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | Head                | Chest | Lower Trunk |                    |                          |                      |                          |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.17                | 0.14  | 0.11        | 0.5                | 0.140                    | 0.286                | 0.296                    |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52              | CW        | H           | 0.87              | PB        | 0.20                | 0.16  | 0.14        | 0.5                | 0.167                    | 0.396                | 0.412                    |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | H           | 0.87              | PB        | 0.22                | 0.16  | 0.12        | 0.5                | 0.167                    | 0.396                | 0.406                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | PB        | 0.22                | 0.16  | 0.12        | 0.5                | 0.167                    | 0.396                | 0.406                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | PB        | 0.25                | 0.21  | 0.13        | 0.5                | 0.197                    | 0.539                | 0.545                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | PB        | 0.20                | 0.18  | 0.11        | 0.5                | 0.163                    | 0.363                | 0.369                    |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | PB        | 0.21                | 0.13  | 0.11        | 0.5                | 0.150                    | 0.336                | 0.345                    |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | H           | 0.89              | PB        | 0.18                | 0.12  | 0.11        | 0.5                | 0.137                    | 0.279                | 0.286                    |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | PB        | 0.21                | 0.16  | 0.12        | 0.5                | 0.163                    | 0.398                | 0.407                    |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.22                | 0.17  | 0.12        | 0.5                | 0.170                    | 0.422                | 0.436                    |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | H           | 0.88              | PB        | 0.21                | 0.16  | 0.13        | 0.5                | 0.167                    | 0.405                | 0.421                    |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.17                | 0.14  | 0.12        | 0.5                | 0.143                    | 0.300                | 0.310                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PB        | 0.16                | 0.13  | 0.10        | 0.5                | 0.130                    | 0.247                | 0.255                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | H           | 0.87              | PB        | 0.18                | 0.14  | 0.13        | 0.5                | 0.150                    | 0.321                | 0.333                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | H           | 0.87              | PB        | 0.21                | 0.15  | 0.12        | 0.5                | 0.160                    | 0.365                | 0.374                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | PB        | 0.15                | 0.11  | 0.08        | 0.5                | 0.113                    | 0.183                | 0.188                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | PB        | 0.23                | 0.19  | 0.12        | 0.5                | 0.180                    | 0.452                | 0.457                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | PB        | 0.20                | 0.17  | 0.11        | 0.5                | 0.160                    | 0.349                | 0.354                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | PF        | 0.02                | 0.02  | 0.02        | 0.5                | 0.020                    | 0.006                | 0.006                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | PF        | 0.03                | 0.03  | 0.03        | 0.5                | 0.030                    | 0.013                | 0.014                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.05                | 0.05  | 0.04        | 0.5                | 0.047                    | 0.032                | 0.033                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 158.3000      | 54          | 52.1            | CW        | H           | 0.87              | PF        | 0.04                | 0.04  | 0.05        | 0.5                | 0.043                    | 0.027                | 0.028                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 165.9875      | 54          | 53.1            | CW        | H           | 0.86              | PF        | 0.05                | 0.05  | 0.06        | 0.5                | 0.053                    | 0.040                | 0.040                    |
| Trunk        | HAD4022A, 5/8 wave (132-174MHz)   | 5.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | PF        | 0.05                | 0.05  | 0.06        | 0.5                | 0.053                    | 0.039                | 0.039                    |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements    |       |             | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|---------------------|-------|-------------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger Positions |       |             |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | Head                | Chest | Lower Trunk |                    |                          |                      |                          |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.08                | 0.07  | 0.06        | 0.5                | 0.070                    | 0.072                | 0.074                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.08                | 0.07  | 0.06        | 0.5                | 0.070                    | 0.072                | 0.074                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 157.9875      | 54          | 52.2            | CW        | H           | 0.87              | PF        | 0.06                | 0.06  | 0.06        | 0.5                | 0.060                    | 0.051                | 0.053                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 164.9875      | 54          | 52.5            | CW        | H           | 0.86              | PF        | 0.05                | 0.05  | 0.06        | 0.5                | 0.053                    | 0.040                | 0.041                    |
| Trunk        | RAD4227A, 5/8 wave (146-172MHz)   | 5.15            | 171.9875      | 54          | 53.6            | CW        | H           | 0.85              | PF        | 0.05                | 0.04  | 0.04        | 0.5                | 0.043                    | 0.026                | 0.026                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | PF        | 0.07                | 0.07  | 0.06        | 0.5                | 0.067                    | 0.066                | 0.068                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | H           | 0.89              | PF        | 0.08                | 0.09  | 0.08        | 0.5                | 0.083                    | 0.104                | 0.106                    |
| Trunk        | HAD4006A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | PF        | 0.08                | 0.08  | 0.07        | 0.5                | 0.077                    | 0.088                | 0.090                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.09                | 0.09  | 0.09        | 0.5                | 0.090                    | 0.118                | 0.122                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | H           | 0.88              | PF        | 0.09                | 0.09  | 0.10        | 0.5                | 0.093                    | 0.127                | 0.132                    |
| Trunk        | HAD4007A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.10                | 0.09  | 0.07        | 0.5                | 0.087                    | 0.110                | 0.113                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.10                | 0.09  | 0.08        | 0.5                | 0.090                    | 0.118                | 0.122                    |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52              | CW        | H           | 0.87              | PF        | 0.08                | 0.08  | 0.08        | 0.5                | 0.080                    | 0.091                | 0.095                    |
| Trunk        | HAD4008A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | H           | 0.87              | PF        | 0.05                | 0.05  | 0.07        | 0.5                | 0.057                    | 0.046                | 0.047                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | PF        | 0.05                | 0.05  | 0.06        | 0.5                | 0.053                    | 0.041                | 0.042                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | PF        | 0.07                | 0.07  | 0.07        | 0.5                | 0.070                    | 0.068                | 0.069                    |
| Trunk        | HAD4009A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | PF        | 0.07                | 0.07  | 0.08        | 0.5                | 0.073                    | 0.073                | 0.074                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 136.0125      | 54          | 52.6            | CW        | H           | 0.89              | PF        | 0.05                | 0.05  | 0.05        | 0.5                | 0.050                    | 0.037                | 0.038                    |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 140.0125      | 54          | 52.6            | CW        | H           | 0.89              | PF        | 0.06                | 0.06  | 0.06        | 0.5                | 0.060                    | 0.054                | 0.055                    |
| Trunk        | RAD4226A, 1/4 wave (136-144MHz)   | 2.15            | 143.9875      | 54          | 52.8            | CW        | H           | 0.89              | PF        | 0.09                | 0.09  | 0.09        | 0.5                | 0.090                    | 0.121                | 0.124                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 146.0125      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.11                | 0.09  | 0.07        | 0.5                | 0.090                    | 0.118                | 0.122                    |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 148.4000      | 54          | 52.0            | CW        | H           | 0.88              | PF        | 0.10                | 0.09  | 0.07        | 0.5                | 0.087                    | 0.110                | 0.114                    |
| Trunk        | RAD4225A, 1/4 wave (146-150.8MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.10                | 0.09  | 0.08        | 0.5                | 0.090                    | 0.118                | 0.122                    |

MPE calculations are defined in section 13.0.

## MPE measurement data for Passenger

| D.U.T. Info. |                                   |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements    |       |             | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |
|--------------|-----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|---------------------|-------|-------------|--------------------|--------------------------|----------------------|--------------------------|
| Ant Loc.     | Ant. Model/ Desc.                 | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger Positions |       |             |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           | Head                | Chest | Lower Trunk |                    |                          |                      |                          |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 150.8000      | 54          | 52.2            | CW        | H           | 0.88              | PF        | 0.09                | 0.08  | 0.07        | 0.5                | 0.080                    | 0.093                | 0.097                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 156.4000      | 54          | 52.0            | CW        | H           | 0.87              | PF        | 0.08                | 0.07  | 0.07        | 0.5                | 0.073                    | 0.077                | 0.080                    |
| Trunk        | RAD4224A, 1/4 wave (150.8-162MHz) | 2.15            | 161.9875      | 54          | 52.7            | CW        | H           | 0.87              | PF        | 0.05                | 0.05  | 0.07        | 0.5                | 0.057                    | 0.046                | 0.047                    |
|              |                                   |                 |               |             |                 |           |             |                   |           |                     |       |             |                    |                          |                      |                          |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 162.0125      | 54          | 52.7            | CW        | H           | 0.87              | PF        | 0.04                | 0.04  | 0.03        | 0.5                | 0.037                    | 0.019                | 0.020                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 167.7000      | 54          | 53.4            | CW        | H           | 0.86              | PF        | 0.07                | 0.07  | 0.07        | 0.5                | 0.070                    | 0.068                | 0.069                    |
| Trunk        | RAD4223A, 1/4 wave (162-174MHz)   | 2.15            | 173.4000      | 54          | 53.2            | CW        | H           | 0.85              | PF        | 0.07                | 0.07  | 0.07        | 0.5                | 0.070                    | 0.067                | 0.068                    |

MPE calculations are defined in section 13.0.

## **Appendix E - SAR Simulation Report**