



DATE: 16 June 2014

**I.T.L. (PRODUCT TESTING) LTD.**  
**FCC Radio Test Report**  
for  
**Kyma Medical Technological  
Ltd.**

Equipment under test:

**µCOR System Monitor**

**µCOR V1.0.0**

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Approved by: A. Sharabi

A. Sharabi, Test Engineer

Approved by: I. Raz

I. Raz, EMC Laboratory Manager

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This report relates only to items tested.



## Measurement/Technical Report for Kyma Medical Technological Ltd.

### μCOR System Monitor

μCOR V1.0.0

**FCC ID: 2ABHFUCOR100**

This report concerns:      Original Grant:  X

Class I Change:

Class II Change:

Equipment type:      Low Power Transceiver, Rx Verified

Limits used:      47CFR15 Section 15.209

Measurement procedure used is ANSI C63.4: 2003.

Application for Certification  
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## 1. General Information

### 1.1 Administrative Information

Manufacturer: Kyma Medical Technological Ltd.

Manufacturer's Address: Atir-Yeda Industry Park,  
17 Atir-Yeda St., Kfar-Sava,  
4464313, Israel

Manufacturer's Representative: Moshik Mosesko

Equipment Under Test (E.U.T): µCOR System Monitor

Equipment Model No.: µCOR V1.0.0

Equipment Part No.: Not Designated

Date of Receipt of E.U.T: 02.12.13

Start of Test: 03.12.13

End of Test: 09.06.14

Test Laboratory Location: I.T.L (Product Testing) Ltd.  
Kfar Bin Nun,  
ISRAEL 99780

Test Specifications: FCC Part 15 Subpart C



## 1.2 List of Accreditations

The EMC laboratory of I.T.L. is accredited by the following bodies:

1. The American Association for Laboratory Accreditation (A2LA) (U.S.A.), Certificate No. 1152.01.
2. The Federal Communications Commission (FCC) (U.S.A.), Registration No. 90715.
3. The Israel Ministry of the Environment (Israel), Registration No. 1104/01.
4. The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) (Japan), Registration Numbers: C-1350, R-1285.
5. Industry Canada (Canada), IC File No.: 46405-4025; Site No. IC 4025B-1.

I.T.L. Product Testing Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this test report have been determined in accordance with I.T.L.'s terms of accreditation unless stated otherwise in the report.



### 1.3 **Product Description:**

Kyma's non-invasive uCor system is an impedance-based device that assesses a patient's Fluid Status (FS) by measuring the electromagnetic properties of the thorax. The System is attached to the skin using an adhesive patch. It transmits stepped-frequency hopping signals in the UHF frequency band (0.5 GHz – 2.3 GHz) and measures the reflections from body tissues, indicative of the thoracic fluid status.

All raw data is captured into the device's memory and transmitted over a wireless ISM standard interface (Bluetooth) using its telemetry antenna (back antenna) to a general purpose off-the-shelf Bluetooth access point (gateway).

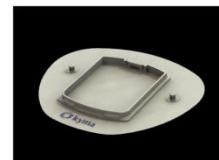
The uCor contains a Li-Pol rechargeable battery that is charged using a dedicated Kyma desktop cradle and power adaptor charger.



uCor Cartridge



Desktop cradle for charging



uCor Patch

### 1.4 **Test Methodology**

Radiated testing were performed according to the procedures in and ANSI 63-4: 2003. Radiated testing was performed at an antenna to EUT distance of 3 meters.

### 1.5 **Test Facility**

The radiated emissions tests were performed at I.T.L.'s testing facility at Kfar Bin-Nun, Israel. This site is a FCC listed test laboratory (FCC Registration No. 90715, date of listing November 21, 2012).

I.T.L.'s EMC Laboratory is also accredited by A2LA, certificate No. 1152.01.

### 1.6 **Measurement Uncertainty**

#### **Radiated Emission**

Radiated Emission (CISPR 11, EN 55011, CISPR 22, EN 55022, ANSI C63.4) for open site 30-1000MHz:

Expanded Uncertainty (95% Confidence, K=2):  
± 4.98 dB

Note: See ITL Procedure No. PM 198.



## 2. System Test Configuration

### 2.1 ***Justification***

Kyma's uCor V1.0.0 Radio device was tested to determine maximum emissions according to the FCC Part 15.209 (ISM non-restricted).

According to FCC approval the unit was placed against “Phantom JIG” to imitate the human body. Testing was performed on 3 representative channels of the operational band.

The channel lists which the unit operates at are as follows:

505[MHz], 530[MHz], 555[MHz], 580[MHz], 605[MHz], 630[MHz],  
655[MHz], 680[MHz], 705[MHz], 730[MHz], 755[MHz], 780[MHz],  
805[MHz], 830[MHz], 855[MHz], 880[MHz], 905[MHz], 930[MHz],  
955[MHz], 1255[MHz], 1280[MHz], 1430[MHz], 1630[MHz], 1655[MHz],  
1780[MHz], 1805[MHz], 1830[MHz], 1855[MHz], 1880[MHz], 1905[MHz],  
1930[MHz], 1955[MHz], 1980[MHz], 2005[MHz], 2030[MHz], 2055[MHz],  
2080[MHz], 2105[MHz], 2130[MHz], 2155[MHz], 2180[MHz].

### 2.2 ***EUT Exercise Software***

No exercise software was used.

### 2.3 ***Special Accessories***

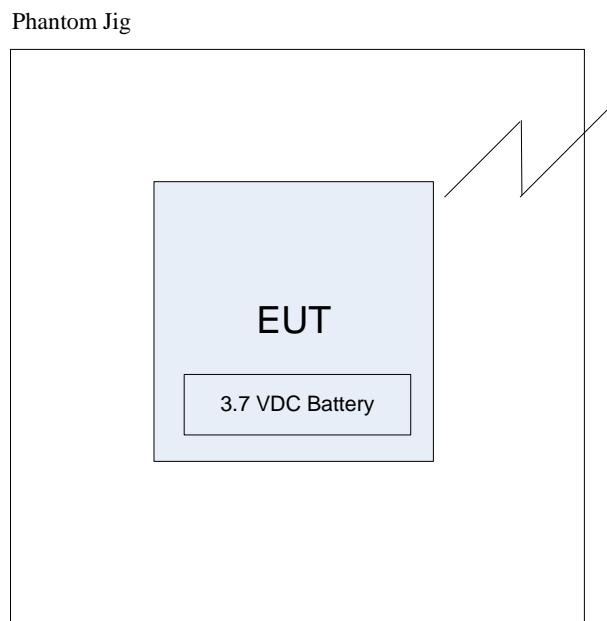
No special accessories were needed in order to achieve compliance.

### 2.4 ***Equipment Modifications***

No equipment modifications were needed to achieve compliance.



## 2.5 Configuration of Tested System



**Figure 1. Configuration of Tested System**

### 3. Test Setup Photo



Figure 2. Radiated Emission Test Setup



Figure 3. Radiated Emission Test Setup



**Figure 4. Radiated Emission Test Setup**



**Figure 5. Radiated Emission Test Setup**



## 4. Field Strength of Fundamental

### 4.1 Test Specification

F.C.C., Part 15, Subpart C, Section 15.209

### 4.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 3.

The E.U.T. was placed on a non-conductive table, 0.8 meters above the O.A.T.S. ground plane.

The EMI receiver was set to the E.U.T. Fundamental Frequencies and Peak Detection.

The distance between the E.U.T. and test antenna was 3 meters.

The turntable and antenna were adjusted for maximum level reading on the EMI receiver.

### 4.3 Test Results

JUDGEMENT: Passed by 0.15 dB

The EUT met the FCC Part 15, Subpart C, Section 15.209 specification requirements.

The details of the highest emissions are given in *Figure 6* to *Figure 47*.

TEST PERSONNEL:

Tester Signature: 

Date: 22.06.14

Typed/Printed Name: A. Sharabi



## Field Strength of Fundamental

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Frequency Band :410MHz-608MHz							
Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
505.0	H	45.85	46.0	-	-	-	-0.15
505.0	V	44.17	46.0	-	-	-	-1.83
555.0	H	45.01	46.0	-	-	-	-0.99
555.0	V	42.50	46.0	-	-	-	-3.5
605.0	H	45.75	46.0	-	-	-	-0.25
605.0	V	43.09	46.0	-	-	-	-2.91

Figure 6 410MHz-608MHz

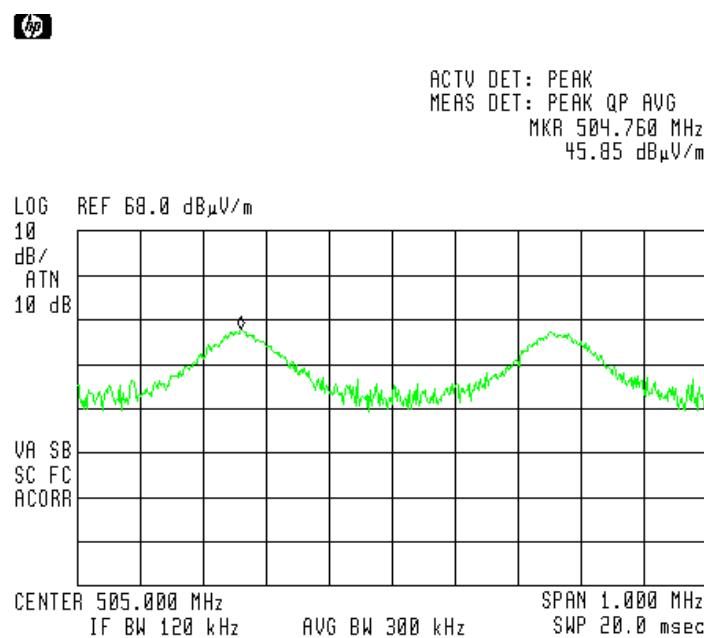
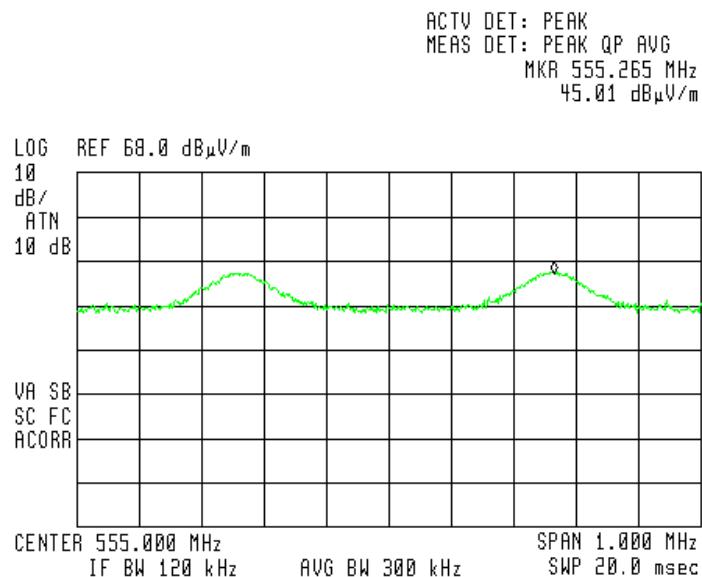
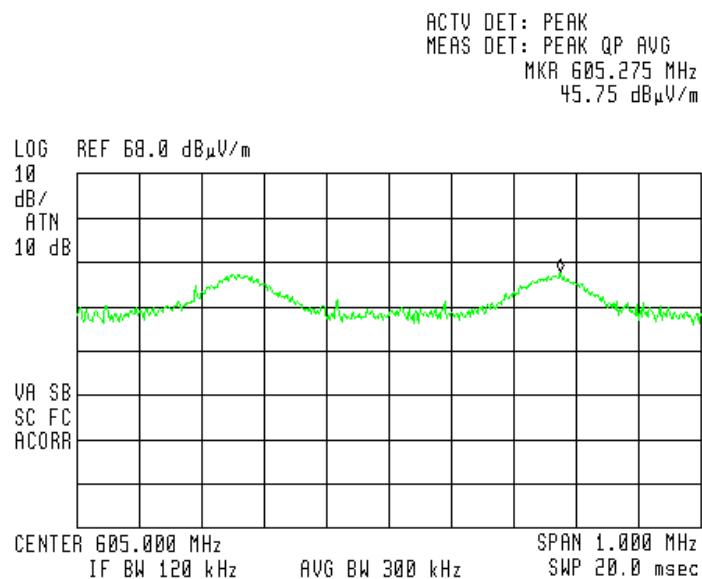


Figure 7. Low Channel



**Figure 8. Mid Channel**



**Figure 9. High Channel**



49

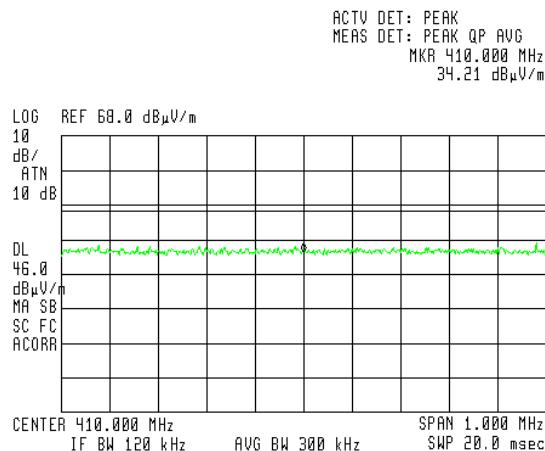


Figure 10. Lower Band Edge

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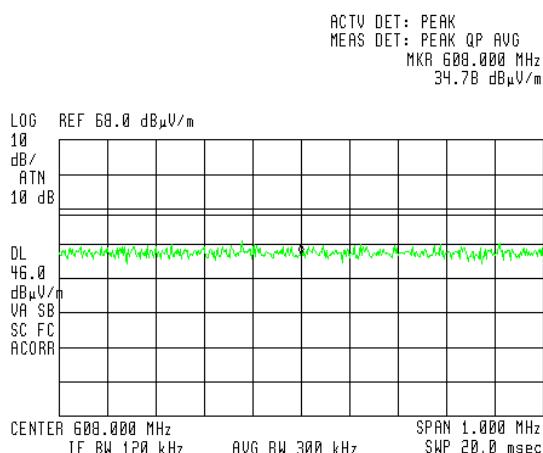


Figure 11. Upper Band Edge

Frequency Band :410MHz-608MHz								
Operational Frequency	Band Edge Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)	(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
505.0	410.0	H	34.2	46.0	-	-	-	-11.8
605.0	608.0	H	34.7	46.0	-	-	-	-11.3

Figure 12. Band Edge Results 410MHz-608MHz

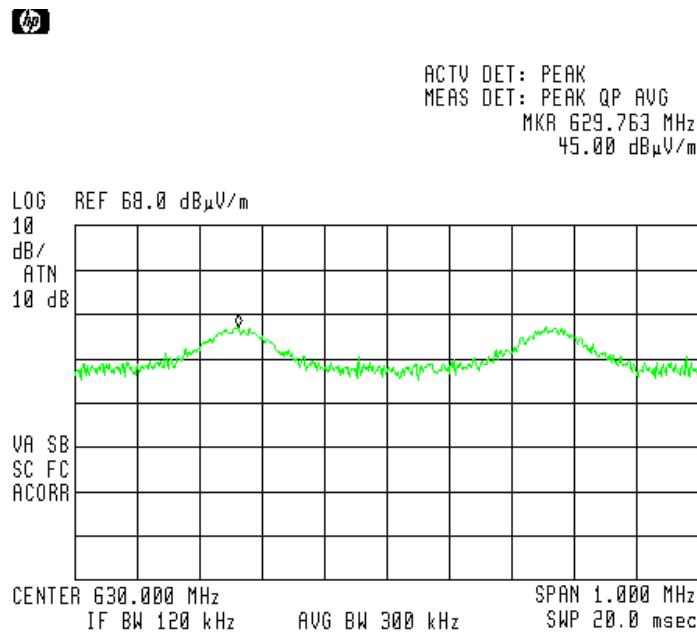


## Field Strength of Fundamental

E.U.T Description      µCOR System Monitor  
 Model Number            µCOR V1.0.0  
 Part Number:            Not Designated

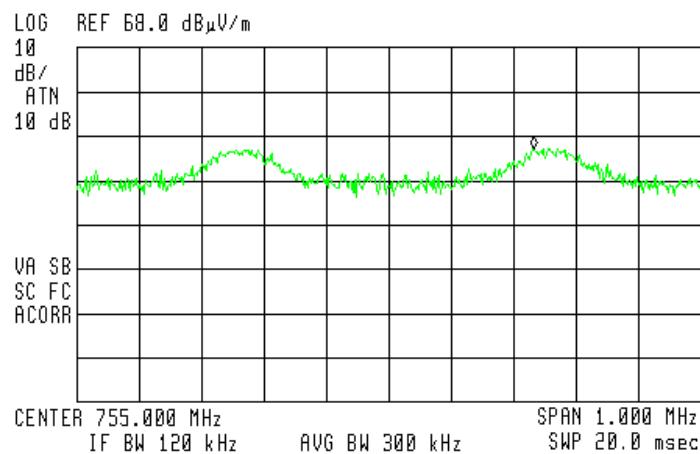
Frequency Band :614MHz-960MHz							
Frequency (MHz)	Polarity	Peak Reading (dbuV/m)	Peak Specification (dbuV/m)	Duty Cycle Factor (dB)	Average Result (dbuV/m)	Average Specification (dbuV/m)	Margin (dB)
630.0	H	45.00	46.0	-	-	-	-1.0
630.0	V	43.15	46.0	-	-	-	-2.85
755.0	H	45.18	46.0	-	-	-	-0.82
755.0	V	40.16	46.0	-	-	-	-5.84
955.0	H	43.40	46.0	-	-	-	-2.6
955.0	V	44.90	46.0	-	-	-	-1.1

Figure 13 614MHz-960MHz





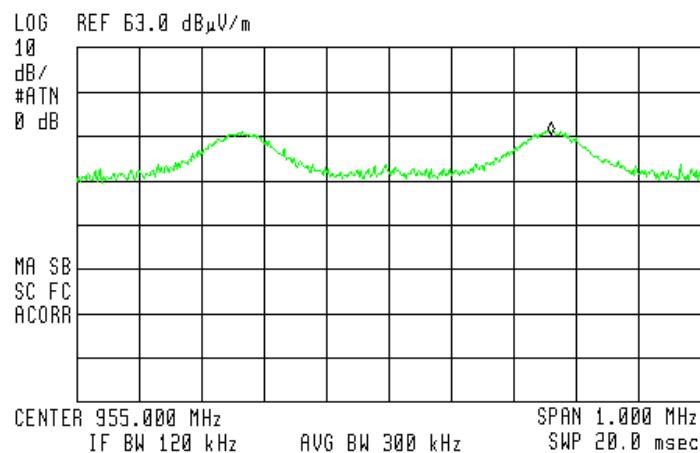
ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 755.233 MHz  
45.18 dB $\mu$ V/m



**Figure 15. Mid Channel**



ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 955.260 MHz  
43.40 dB $\mu$ V/m



**Figure 16. High Channel**



40

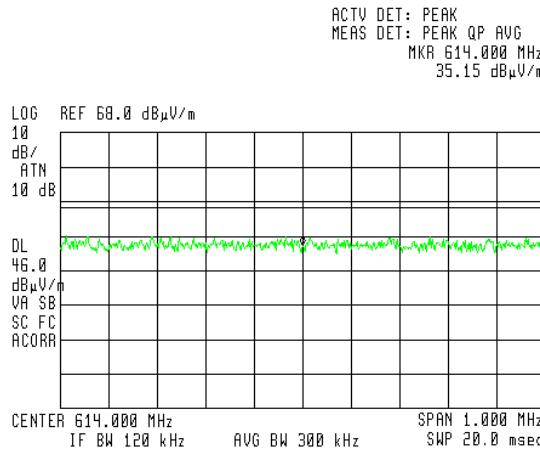


Figure 17. Lower Band Edge

40

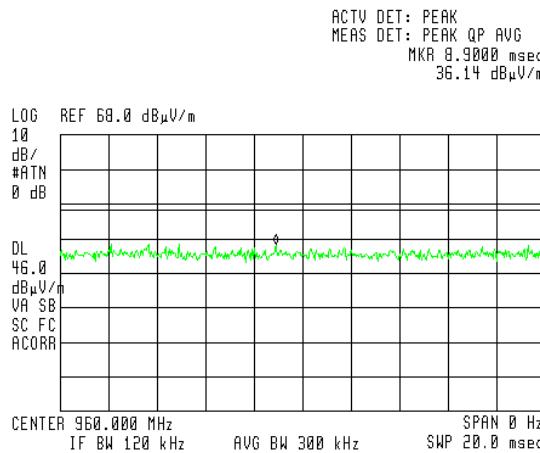


Figure 18. Upper Band Edge

Frequency Band : 614MHz-960MHz								
Operational Frequency (MHz)	Band Edge Frequency (MHz)	Polarity	Peak Reading (dbuV/m)	Peak Specification (dbuV/m)	Duty Cycle Factor (dB)	Average Result (dbuV/m)	Average Specification (dbuV/m)	Margin (dB)
630.0	614.0	H	35.14	46.0	-	-	-	-10.86
955.0	960.0	H	36.14	46.0	-	-	-	-9.86

Figure 19. Band Edge Results 614MHz-960MHz



## Field Strength of Fundamental

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Frequency Band :1240MHz-1300MHz							
Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
1255.0	H	73.01	74.0	-45.8	27.21	54.0	-26.79
1255.0	V	61.88	74.0	-45.8	16.08	54.0	-37.92
1280.0	H	73.14	74.0	-45.8	27.34	54.0	-26.66
1280.0	V	61.50	74.0	-45.8	15.7	54.0	-38.30

Figure 20 1240MHz-1300MHz

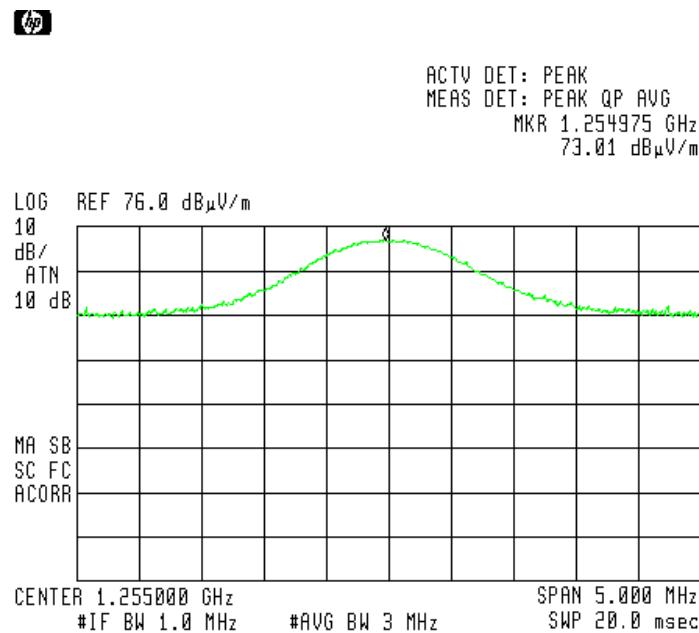
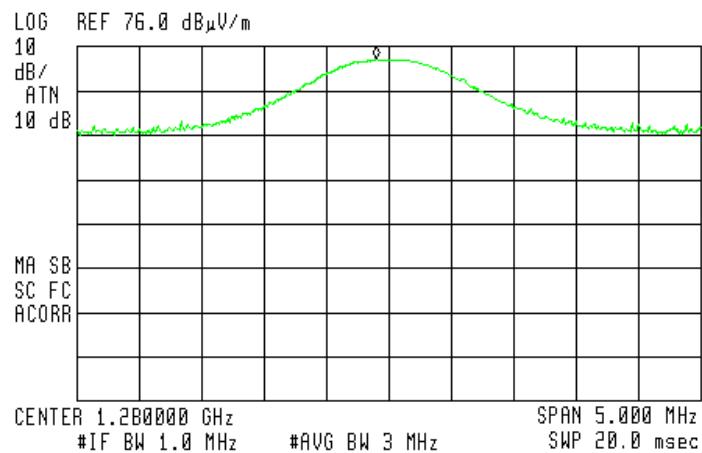


Figure 21. Low Channel



ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 1.279900 GHz  
73.14 dB $\mu$ V/m



**Figure 22. High Channel**

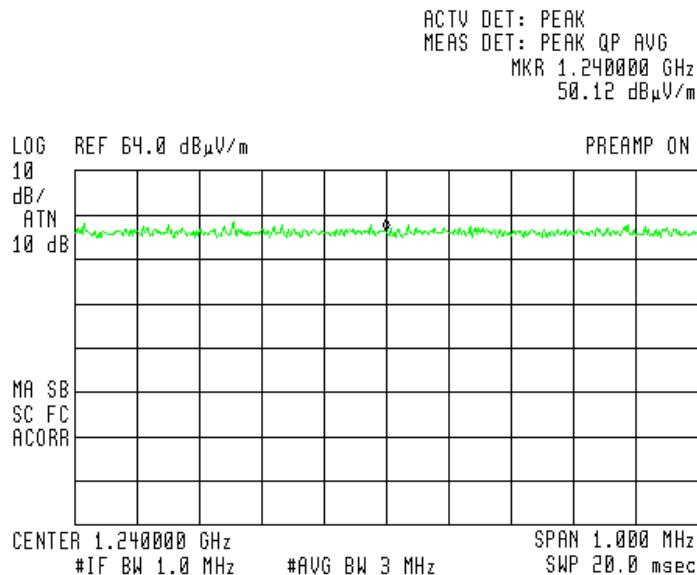


Figure 23. Lower Band Edge

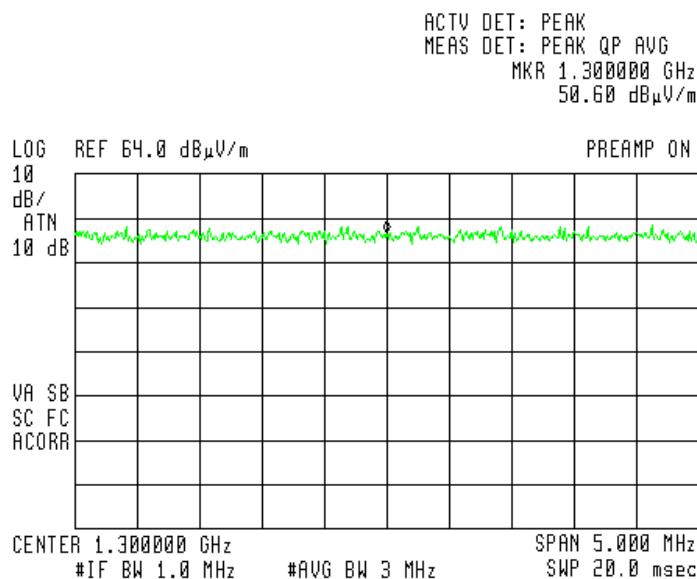


Figure 24. Upper Band Edge

Frequency Band : 1240MHz-1300MHz								
Operational Frequency	Band Edge Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)	(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
1255.0	1240.0	H	50.12	74.0	-45.8	4.32	54.0	-49.68
1280.0	1300.0	H	50.16	74.0	-45.8	4.36	54.0	-49.64

Figure 25. Band Edge Results 1240MHz-1300MHz



## Field Strength of Fundamental

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Frequency Band :1427MHz-1435MHz							
Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
1430.0	H	72.87	74.0	-45.8	27.07	54.0	-26.93
1430.0	V	62.86	74.0	-45.8	17.06	54.0	-36.94

Figure 26 1427MHz-1435MHz

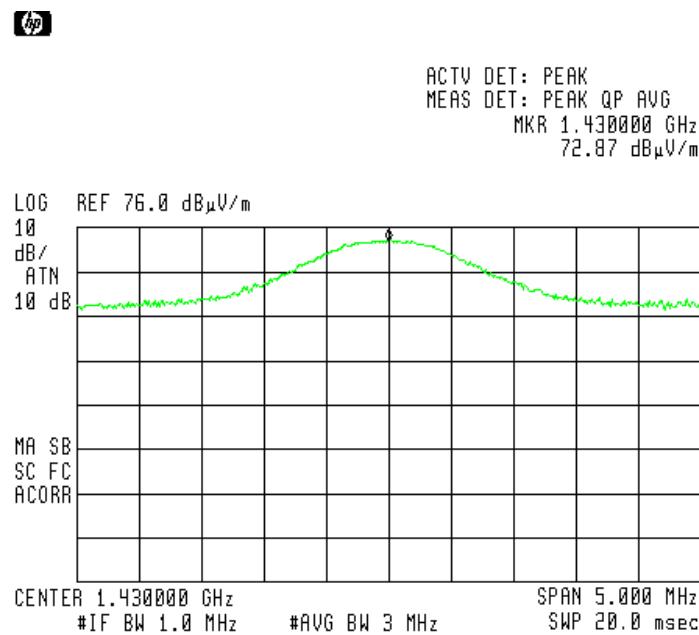


Figure 27. Mid Channel

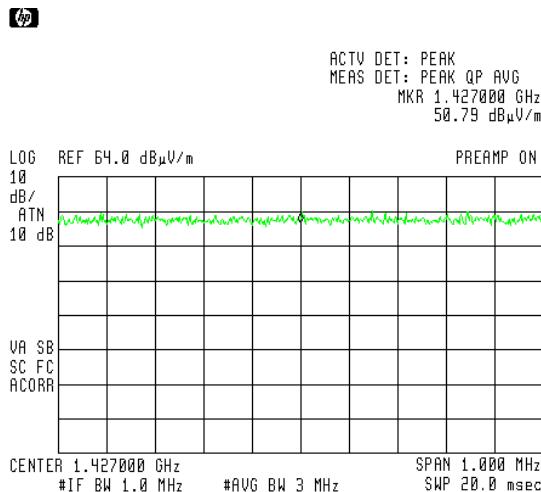


Figure 28. Lower Band Edge

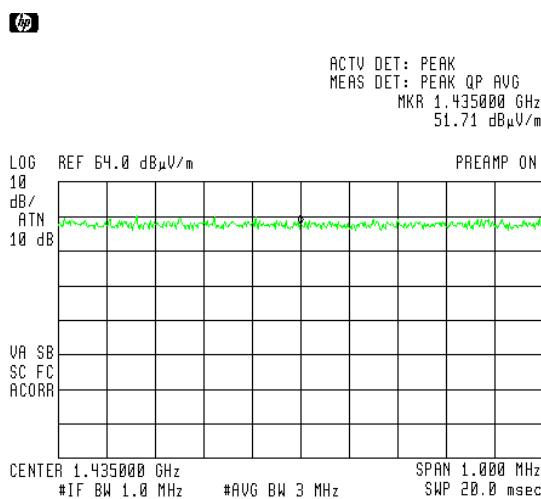


Figure 29. Upper Band Edge

Frequency Band : 1427MHz-1435MHz								
Operational Frequency	Band Edge Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)	(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
1427.0	1427.0	H	50.79	74.0	-45.8	4.99	54.0	-49.01
1435.0	1435.0	H	51.71	74.0	-45.8	5.91	54.0	-48.09

Figure 30. Band Edge Results 1427MHz-1435MHz



## Field Strength of Fundamental

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Frequency Band :1626.5MHz-1645.5MHz							
Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
1630.0	H	70.73	74.0	-45.8	24.93	54.0	-29.07
1630.0	V	59.43	74.0	-45.8	13.63	54.0	-40.37

Figure 31 1626.5MHz-1645.5MHz

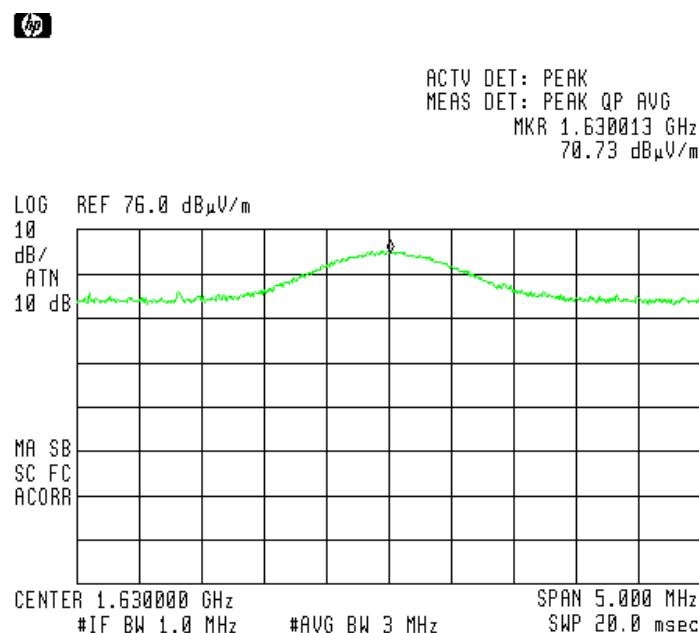


Figure 32. Mid Channel

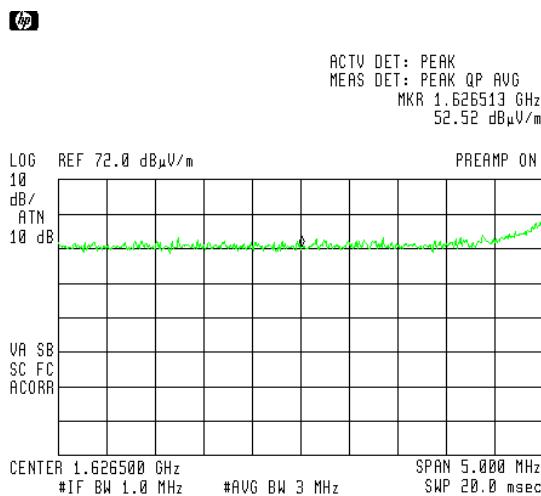


Figure 33. Lower Band Edge

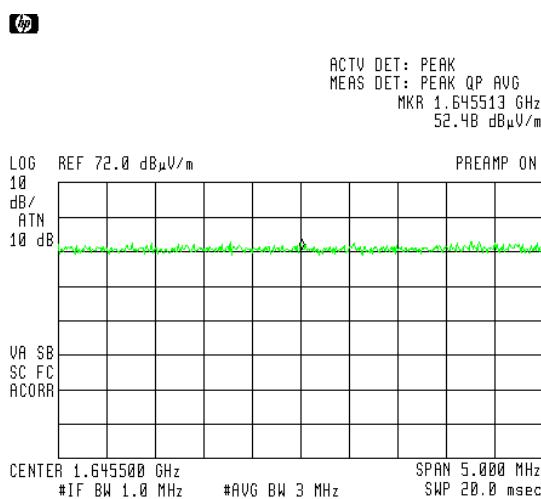


Figure 34. Upper Band Edge

Frequency Band : 1626.5MHz-1645.5MHz								
Operational Frequency	Band Edge Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)	(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
1626.5	1626.5	H	52.52	74.0	-45.8	6.72	54.0	-47.28
1645.5	1645.5	H	52.48	74.0	-45.8	6.68	54.0	-47.32

Figure 35. Band Edge Results 1626.5MHz-1645.5MHz



## Field Strength of Fundamental

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Frequency Band :1646.5MHz-1660.0MHz							
Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
1655.0	H	71.77	74.0	-45.8	25.97	54.0	-28.03
1655.0	V	59.58	74.0	-45.8	13.78	54.0	-40.22

Figure 36 1646.5MHz-1660.0MHz

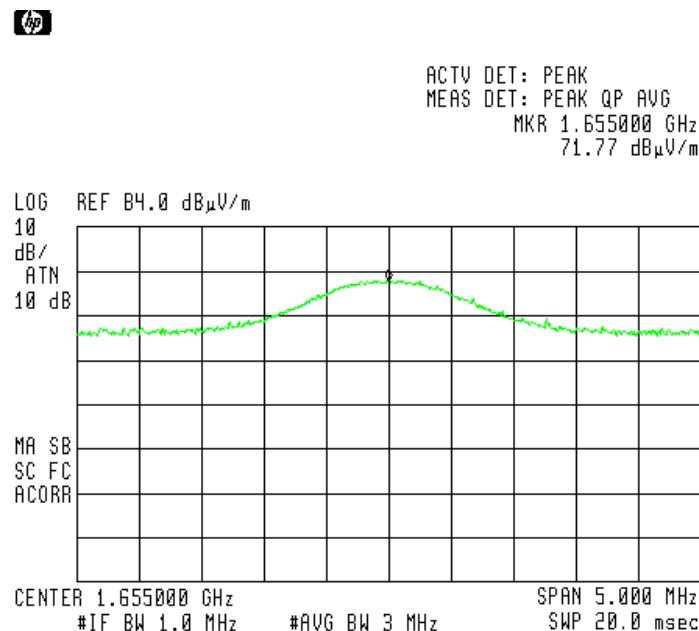


Figure 37. Mid Channel



4p

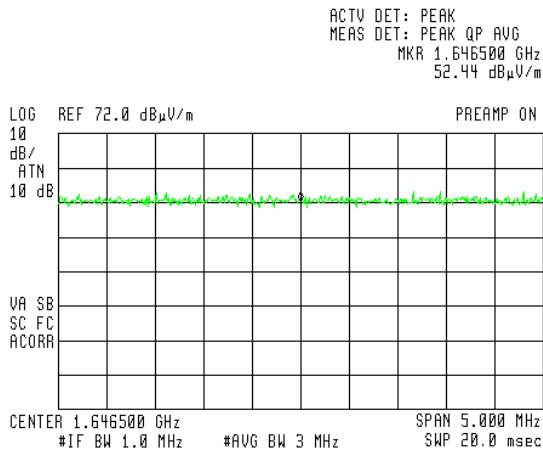


Figure 38. Lower Band Edge

4p

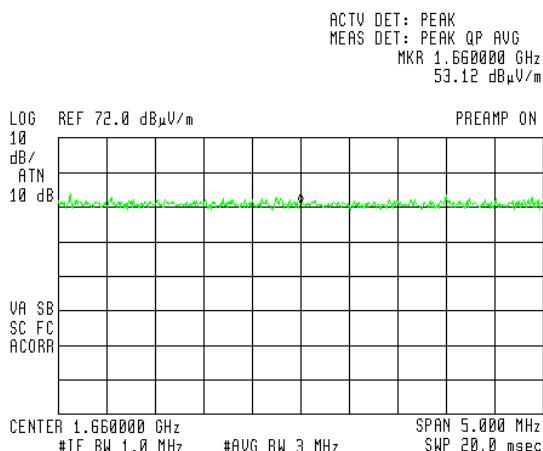


Figure 39. Upper Band Edge

Frequency Band : 1646.5MHz-1660.0MHz								
Operational Frequency	Band Edge Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)	(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
1646.5	1646.5	H	52.44	74.0	-45.8	6.64	54.0	-47.36
1660.0	1660.0	H	53.12	74.0	-45.8	7.32	54.0	-46.68

Figure 40. Band Edge Results 1646.5MHz-1660.0MHz



## Field Strength of Fundamental

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Frequency Band :1722.2MHz-2200MHz							
Frequency (MHz)	Polarity	Peak Reading (dbuV/m)	Peak Specification (dbuV/m)	Duty Cycle Factor (dB)	Average Result (dbuV/m)	Average Specification (dbuV/m)	Margin (dB)
1780.0	H	69.59	74.0	-45.8	23.79	54.0	-30.21
1780.0	V	60.07	74.0	-45.8	14.27	54.0	-39.73
2005.0	H	73.15	74.0	-45.8	27.35	54.0	-26.65
2005.0	V	64.80	74.0	-45.8	19.00	54.0	-35.00
2180.0	H	72.49	74.0	-45.8	27.10	54.0	-26.90
2180.0	V	62.64	74.0	-45.8	16.84	54.0	-37.16

Figure 41 1722MHz-2200MHz

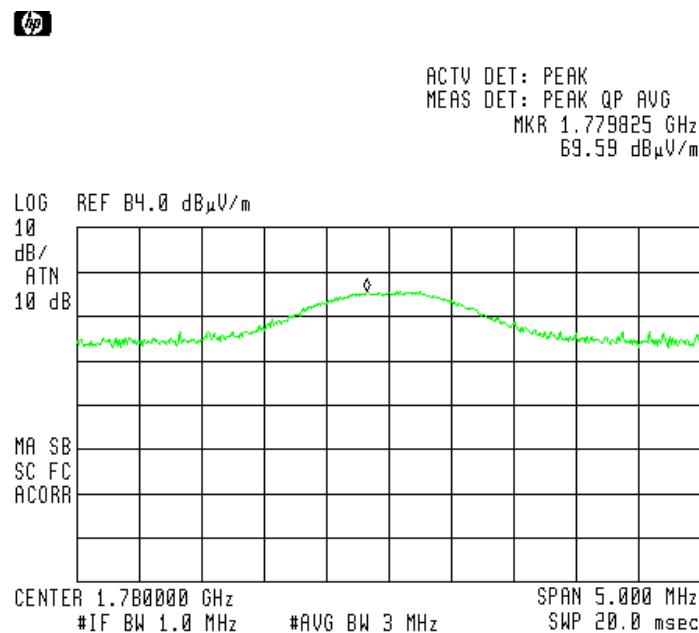


Figure 42. Low Channel

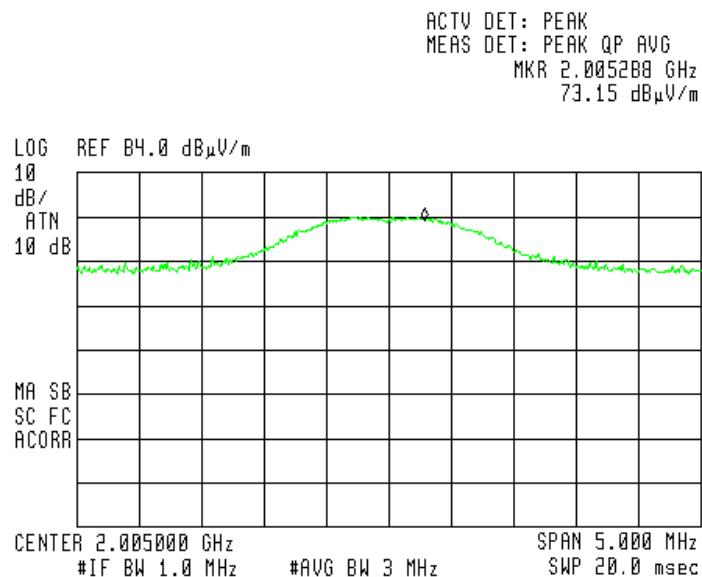


Figure 43. Mid Channel

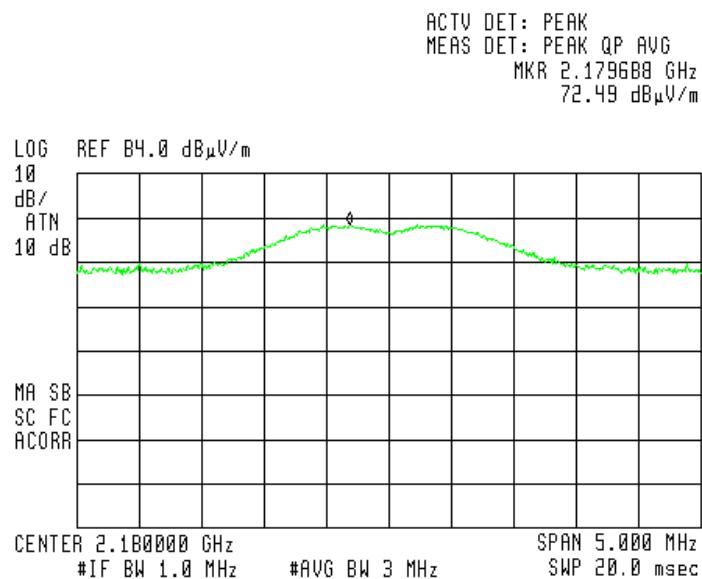
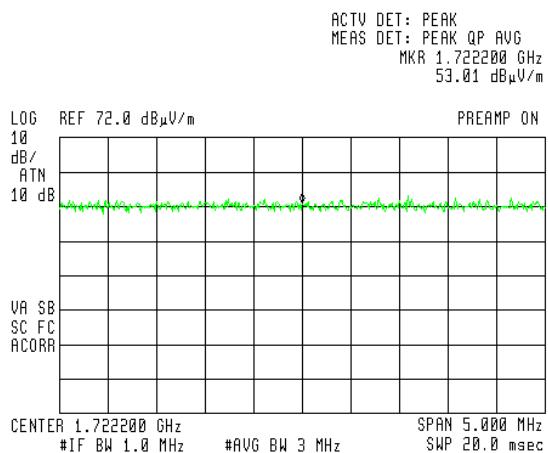


Figure 44. High Channel

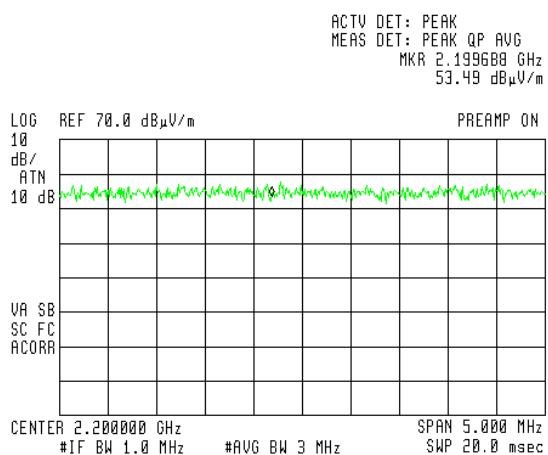


hp



**Figure 45. Lower Band Edge**

hp



**Figure 46. Upper Band Edge**

Frequency Band : 1722MHz-2200MHz								
Operational Frequency	Band Edge Frequency	Polarity	Peak Reading	Peak Specification	Duty Cycle Factor	Average Result	Average Specification	Margin
(MHz)	(MHz)		(dbuV/m)	(dbuV/m)	(dB)	(dbuV/m)	(dbuV/m)	(dB)
1722.0	1722.2	H	53.01	74.0	-45.8	7.21	54.0	-46.79
2200.0	2200.0	H	53.49	74.0	-45.8	7.69	54.0	-46.31

**Figure 47. Band Edge Results 1722MHz-2200MHz**



#### 4.4 **Test Instrumentation Used, Field Strength of Fundamental**

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Period
EMI Receiver	HP	85422E	3906A00276	January 15, 2014	1 Year
RF Filter Section	HP	85420E	3705A00248	January 15, 2014	1 Year
Antenna Biconical	EMCO	3104	2606	August 30, 2012	2 Years
Antenna Log Periodic	ARA	LPD-2010/A	1038	April 2, 2013	2 Years
Horn Antenna	ETS	3115	29845	March 14, 2012	3 years
Horn Antenna	ARA	SWH-28	1007	March 30, 2014	3 Years
Low Noise Amplifier	Narda	LNA-DBS-0411N313	013	August 21, 2013	1 Year
Low Noise Amplifier	Sophia Wireless	LNA 28-B	232	August 28, 2013	1 Year
Spectrum Analyzer	HP	8592L	3826A01204	February 28, 2014	1 Year
Spectrum Analyzer	HP	8546E	3442A00275	March 2, 2014	1 Year
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A
Printer	HP	LaserJet 2200	JPKG19982	N/A	N/A



## 5. Radiated Emission, 9 kHz – 30 MHz

### 5.1 Test Specification

9 kHz-30 MHz, FCC, Part 15, Subpart C, Section 209

### 5.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 2.

A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The configuration tested is shown in Figure 3.1.

The frequency range 9 kHz-30 MHz was scanned.

The emissions were measured using a computerized EMI receiver complying with CISPR 16 requirements. The specification limits and applicable correction factors are loaded to the receiver via a 3.5" floppy disk.

In the frequency range 9 kHz-30MHz, the loop antenna was rotated on its vertical axis. The antenna height (center of loop) was 1 meter at a distance of 3 meters.

The E.U.T. was operated at the frequency of 125 kHz. This frequency was measured using a peak detector.

### 5.3 Test Results

JUDGEMENT: PASSED

The EUT met the requirements of the F.C.C. Part 15, Subpart C, Section 209 specification.

TEST PERSONNEL:

Tester Signature: 

Date: 22.06.14

Typed/Printed Name: A. Sharabi



#### 5.4 **Test Instrumentation Used, Radiated Measurements**

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	January 15, 2014	1 year
RF Section	HP	85420E	3705A00248	January 15, 2014	1 year
Active Loop Antenna	EMCO	6502	9506-2950	November 4, 2013	1 year
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A

#### 5.5 **Field Strength Calculation**

The field strength is calculated directly by the EMI Receiver software, and a "Correction Factors" data disk, using the following equation:

$$FS = RA + AF + CF$$

FS: Field Strength [dB $\mu$ V/m]  
RA: Receiver Amplitude [dB $\mu$ V]  
AF: Receiving Antenna Correction Factor [dB/m]  
CF: Cable Attenuation Factor [dB]

Example:  $FS = 30.7 \text{ dB}\mu\text{V (RA)} + 14.0 \text{ dB (AF)} + 0.9 \text{ dB (CF)} = 45.6 \text{ dB}\mu\text{V}$

No external pre-amplifiers are used.



## 6. Spurious Radiated Emission, 30 – 25000 MHz

### 6.1 ***Test Specification***

30 MHz-25000 MHz, F.C.C., Part 15, Subpart C

### 6.2 ***Test Procedure***

The E.U.T. operation mode and test set-up are as described in Section 3.

See Section 3.1 Justification of the System Test Configuration concerning the E.U.T. orientation for this test.

A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground.

The E.U.T. highest frequency source or used frequency is 2.4 GHz.

The frequency range 30 MHz-25000 MHz was scanned and the list of the highest emissions was verified and updated accordingly.

The levels of the emissions within the frequency ranges of the restricted bands (Section 15.205 of FCC Part 15) were compared to the limits of the table in Section 15.209 (a), General Requirements.

The emissions were measured using a computerized EMI receiver complying with CISPR 16 requirements. The specification limits and applicable correction factors are loaded to the receiver via a 3.5" floppy disk.

In the frequency range 1-2.9 GHz, a computerized EMI receiver complying with CISPR 16 requirements was used.

In the frequency range 2.9-25.0 GHz, a spectrum analyzer including a low noise amplifier was used. During average measurements, the IF bandwidth was 1 MHz and the video bandwidth was 100Hz. During peak measurements, the IF bandwidth was 1 MHz and the video bandwidth was 3 MHz.

The test distance was 3 meters.

The readings were maximized by adjusting the antenna height between 1-4 meters, the turntable azimuth between 0-360°, and the antenna polarization.

Verification of the E.U.T emissions was based on the following methods: turning the E.U.T on and off; using a frequency span less than 10 MHz; observation of the signal level during turntable rotation. (Background noise is not affected by the rotation of the E.U.T.)

The E.U.T. was tested in three operating channels and frequencies per band.



### 6.3 **Test Results**

JUDGEMENT: Passed 45.9 dB

TEST PERSONNEL:

Tester Signature:  Date: 22.06.14

Typed/Printed Name: A. Sharabi



## Radiated Emission

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical      Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters                              Detector: Peak

Operation Frequency (MHz)	Frequency (MHz)	Polarity (H/V)	Peak Reading (dBµV/m)	Peak Specification (dB µV/m)	Duty Cycle Factor (dB)	Average Reading (dBµV/m)	Average Specification (dB µV/m)	Margin (dB)
505.0	1010.0	H	52.7	74.0	-45.8	6.9	54.0	-47.1
505.0	1010.0	V	52.5	74.0	-45.8	6.7	54.0	-47.3
505.0	1514.0	H	52.9	74.0	-45.8	7.1	54.0	-46.9
505.0	1514.0	V	50.7	74.0	-45.8	4.9	54.0	-49.1
555.0	1110.0	H	49.5	74.0	-45.8	3.7	54.0	-50.3
555.0	1110.0	V	50.3	74.0	-45.8	4.5	54.0	-49.5
555.0	1665.0	H	53.0	74.0	-45.8	7.2	54.0	-46.8
555.0	1665.0	V	51.3	74.0	-45.8	5.5	54.0	-48.5
605.0	1210.0	H	52.3	74.0	-45.8	6.5	54.0	-47.5
605.0	1210.0	V	49.7	74.0	-45.8	3.9	54.0	-50.1
605.0	1815.0	H	52.6	74.0	-45.8	6.8	54.0	-47.2
605.0	1815.0	V	50.3	74.0	-45.8	4.5	54.0	-49.5

**Figure 48. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL.  
Detector: Peak**

Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

“Peak Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Radiated Emission

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical      Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters                              Detector: Peak

Operation Frequency (MHz)	Frequency (MHz)	Polarity (H/V)	Peak Reading (dB $\mu$ V/m)	Peak Specification (dB $\mu$ V/m)	Duty Cycle Factor (dB)	Average Reading (dB $\mu$ V/m)	Average Specification (dB $\mu$ V/m)	Margin (dB)
630.0	1260.0	H	51.2	74.0	-45.8	5.4	54.0	-48.6
630.0	1260.0	V	49.5	74.0	-45.8	3.7	54.0	-50.3
630.0	1890.0	H	53.0	74.0	-45.8	7.2	54.0	-46.8
630.0	1890.0	V	51.2	74.0	-45.8	5.4	54.0	-48.6
755.0	1510.0	H	51.9	74.0	-45.8	6.1	54.0	-47.9
755.0	1510.0	V	50.8	74.0	-45.8	5.0	54.0	-49.0
755.0	2265.0	H	53.3	74.0	-45.8	7.5	54.0	-46.5
755.0	2265.0	V	53.7	74.0	-45.8	7.9	54.0	-46.1
955.0	1910.0	H	52.5	74.0	-45.8	6.7	54.0	-47.3
955.0	1910.0	V	50.8	74.0	-45.8	5.0	54.0	-49.0
955.0	2865.0	H	51.8	74.0	-45.8	6.0	54.0	-48.0
955.0	2865.0	V	50.0	74.0	-45.8	4.2	54.0	-49.8

**Figure 49. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL. Detector: Peak**

Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

“Peak Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Radiated Emission

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical      Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters                              Detector: Peak

Operation Frequency (MHz)	Frequency (MHz)	Polarity (H/V)	Peak Reading (dBµV/m)	Peak Specification (dB µV/m)	Duty Cycle Factor (dB)	Average Reading (dBµV/m)	Average Specification (dB µV/m)	Margin (dB)
1255.0	2510.0	H	50.0	74.0	-45.8	4.2	54.0	-49.8
1255.0	2510.0	V	51.0	74.0	-45.8	5.2	54.0	-48.8
1255.0	3765.0	H	50.8	74.0	-45.8	5.0	54.0	-49.0
1255.0	3765.0	V	51.3	74.0	-45.8	5.5	54.0	-48.5
1280.0	2560.0	H	50.9	74.0	-45.8	5.1	54.0	-48.9
1280.0	2560.0	V	51.2	74.0	-45.8	5.4	54.0	-48.6
1280.0	3840.0	H	52.7	74.0	-45.8	6.9	54.0	-47.1
1280.0	3840.0	V	51.5	74.0	-45.8	5.7	54.0	-48.3

**Figure 50. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL.  
Detector: Peak**

Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

“Peak Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Radiated Emission

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical      Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters                              Detector: Peak

Operation Frequency (MHz)	Frequency (MHz)	Polarity (H/V)	Peak Reading (dB $\mu$ V/m)	Peak Specification (dB $\mu$ V/m)	Duty Cycle Factor (dB)	Average Reading (dB $\mu$ V/m)	Average Specification (dB $\mu$ V/m)	Margin (dB)
1430.0	2860.0	H	50.3	74.0	-45.8	4.5	54.0	-49.5
1430.0	2860.0	V	50.3	74.0	-45.8	4.5	54.0	-49.5
1430.0	4290.0	H	53.3	74.0	-45.8	7.5	54.0	-46.5
1430.0	4290.0	V	53.9	74.0	-45.8	8.1	54.0	-45.9

**Figure 51. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL. Detector: Peak**

Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

“Peak Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Radiated Emission

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical      Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters                              Detector: Peak

Operation Frequency (MHz)	Frequency (MHz)	Polarity (H/V)	Peak Reading (dBµV/m)	Peak Specification (dB µV/m)	Duty Cycle Factor (dB)	Average Reading (dBµV/m)	Average Specification (dB µV/m)	Margin (dB)
1630.0	3260.0	H	50.6	74.0	-45.8	4.8	54.0	-49.2
1630.0	3260.0	V	49.8	74.0	-45.8	4.0	54.0	-50.0
1630.0	4890.0	H	52.3	74.0	-45.8	6.5	54.0	-47.5
1630.0	4890.0	V	51.9	74.0	-45.8	6/1	54.0	-47.9

**Figure 52. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL.  
Detector: Peak**

Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

“Peak Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Radiated Emission

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical      Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters                              Detector: Peak

Operation Frequency (MHz)	Frequency (MHz)	Polarity (H/V)	Peak Reading (dB $\mu$ V/m)	Peak Specification (dB $\mu$ V/m)	Duty Cycle Factor (dB)	Average Reading (dB $\mu$ V/m)	Average Specification (dB $\mu$ V/m)	Margin (dB)
1655.0	3310.0	H	50.5	74.0	-45.8	4.7	54.0	-49.3
1655.0	3310.0	V	50.0	74.0	-45.8	4.2	54.0	-49.8
1655.0	4965.0	H	51.8	74.0	-45.8	6.0	54.0	-48.0
1655.0	4965.0	V	51.3	74.0	-45.8	5.5	54.0	-48.5

**Figure 53. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL. Detector: Peak**

Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

“Peak Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Radiated Emission

E.U.T Description      µCOR System Monitor  
Model Number            µCOR V1.0.0  
Part Number:            Not Designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical      Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters                              Detector: Peak

Operation Frequency (MHz)	Frequency (MHz)	Polarity (H/V)	Peak Reading (dB $\mu$ V/m)	Peak Specification (dB $\mu$ V/m)	Duty Cycle Factor (dB)	Average Reading (dB $\mu$ V/m)	Average Specification (dB $\mu$ V/m)	Margin (dB)
1780.0	3560.0	H	53.0	74.0	-45.8	7.2	54.0	-46.8
1780.0	3560.0	V	50.5	74.0	-45.8	4.7	54.0	-49.3
1780.0	5340.0	H	52.7	74.0	-45.8	6.9	54.0	-47.1
1780.0	5340.0	V	51.8	74.0	-45.8	6.0	54.0	-48.0
2005.0	4010.0	H	52.0	74.0	-45.8	6.2	54.0	-47.8
2005.0	4010.0	V	52.6	74.0	-45.8	6.8	54.0	-47.2
2005.0	6015.0	H	53.5	74.0	-45.8	7.7	54.0	-46.3
2005.0	6015.0	V	52.4	74.0	-45.8	6.6	54.0	-47.4
2180.0	4360.0	H	52.9	74.0	-45.8	7.1	54.0	-46.9
2180.0	4360.0	V	53.6	74.0	-45.8	7.8	54.0	-46.2
2180.0	6540.0	H	53.9	74.0	-45.8	8.1	54.0	-45.9
2180.0	6540.0	V	53.3	74.0	-45.8	7.5	54.0	-46.5

**Figure 54. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL.  
Detector: Peak**

Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

“Peak Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



#### 6.4 **Test Equipment Used, Spurious Radiated Emission, 30 MHz – 25 GHz**

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Period
EMI Receiver	HP	85422E	3906A00276	January 15, 2014	1 Year
RF Filter Section	HP	85420E	3705A00248	January 15, 2014	1 Year
Antenna Biconical	EMCO	3104	2606	August 30, 2012	2 Years
Antenna Log Periodic	ARA	LPD-2010/A	1038	April 2, 2013	2 Years
Horn Antenna	ETS	3115	29845	March 14, 2012	3 years
Horn Antenna	ARA	SWH-28	1007	March 30, 2014	3 Years
Low Noise Amplifier	Narda	LNA-DBS-0411N313	013	August 21, 2013	1 Year
Low Noise Amplifier	Sophia Wireless	LNA 28-B	232	August 28, 2013	1 Year
Spectrum Analyzer	HP	8592L	3826A01204	February 28, 2014	1 Year
Spectrum Analyzer	HP	8564E	3442A00275	March 2, 2014	1 Year
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A

**Figure 55 Test Equipment Used**



## 6.5 **Field Strength Calculation 30 MHz – 1000 MHz**

The field strength is calculated directly by the EMI Receiver software, and a "Correction Factors" data disk, using the following equation:

$$[\text{dB}\mu\text{v}/\text{m}] \text{ FS} = \text{RA} + \text{AF} + \text{CF}$$

FS: Field Strength [dB $\mu$ v/m]

RA: Receiver Amplitude [dB $\mu$ v]

AF: Receiving Antenna Correction Factor [dB/m]

CF: Cable Attenuation Factor [dB]

Example: FS = 30.7 dB $\mu$ V (RA) + 14.0 dB (AF) + 0.9 dB (CF) = 45.6 dB $\mu$ V

No external pre-amplifiers are used.

## 7. Average Factor Calculation

1. Burst duration = 102.6 usec
2. Time between bursts = 5 transmissions within 100msec

$$3. \text{ Average Factor} = 20 \log \left[ \frac{\text{Pulse duration}}{\text{Pulse period}} \times \frac{\text{burst duration}}{100\text{msec}} \times \text{Num of burst within 100msec} \right]$$

$$\text{Average Factor} = 20 \log \left[ \frac{0.1026 \times 5}{100} \right] = -45.8 \text{dB}$$

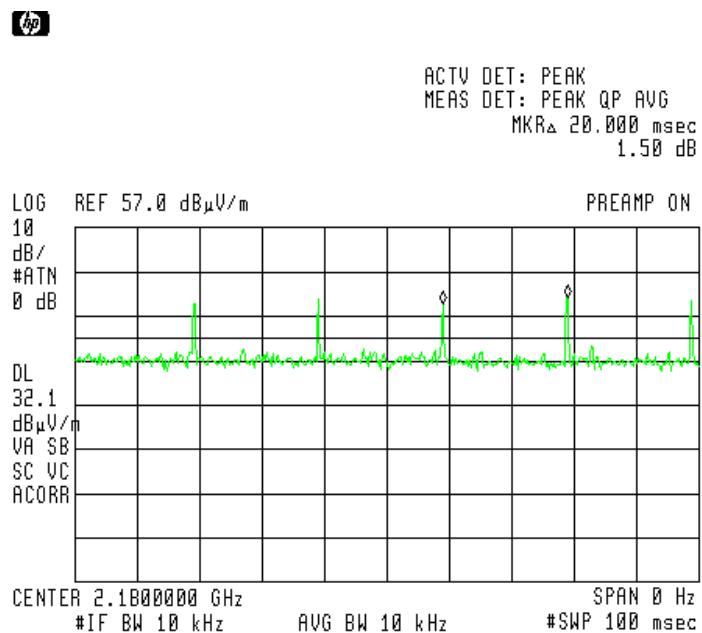
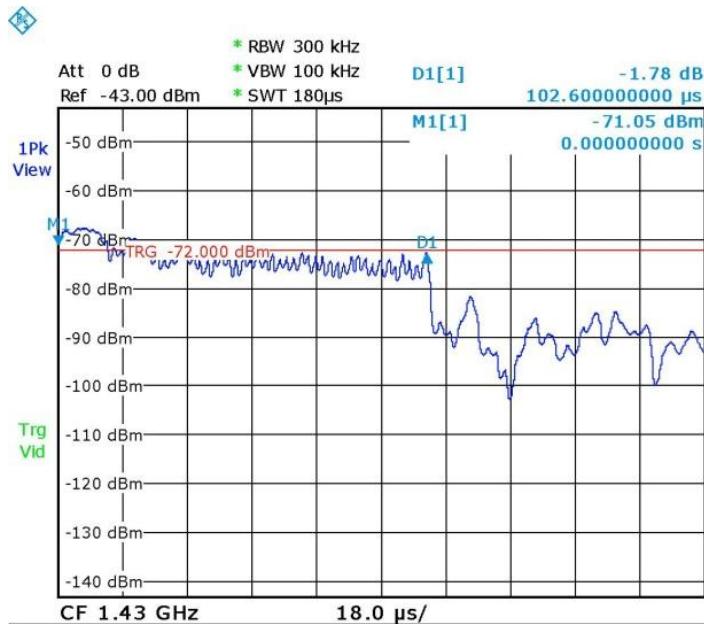


Figure 56. Transmission within 100msec



**Figure 57. Transmission pulse period = 102.6usec**

## 7.1 Test Instrumentation Used

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	January 15, 2014	1 Year
Spectrum Analyzer	R&S	FSL6	100194	December 1, 2013	1 Year



## 8. Plots of the Hopping Frequencies per Band

### 8.1 ***Test Specification***

F.C.C., Part 15, Subpart C

### 8.2 ***Test Procedure***

The E.U.T. was set to an operational hopping mode and each band was evaluated for the number of hopping channels.

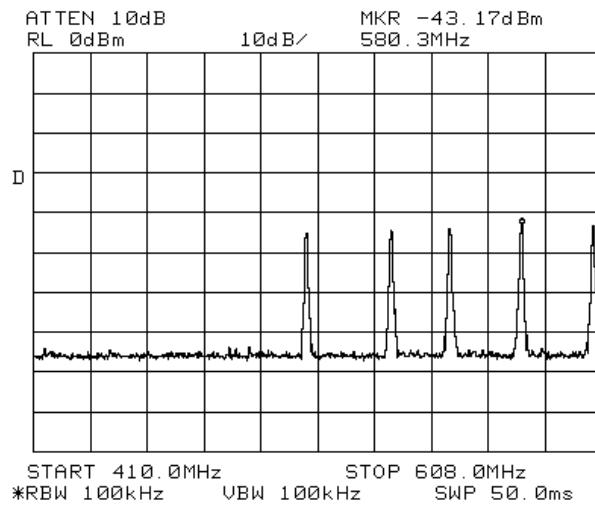
Detector Function: Peak

Trace: Maximum Hold

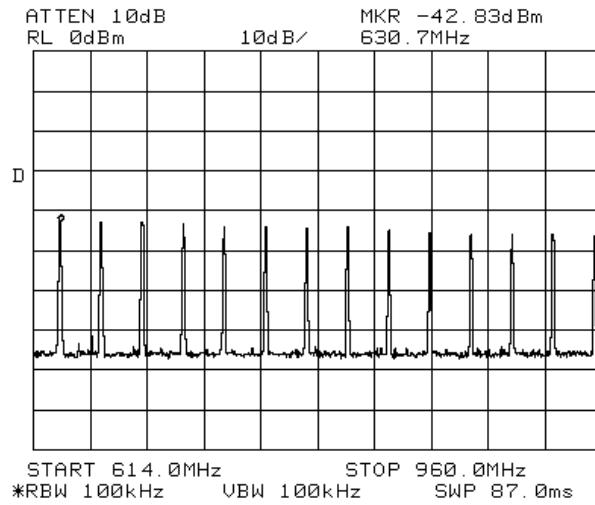


## Number of Hopping Frequencies

E.U.T Description      µCOR System Monitor  
Type                      µCOR V1.0.0  
Serial Number:           Not Designated



**Figure 58. 410-608 MHz**

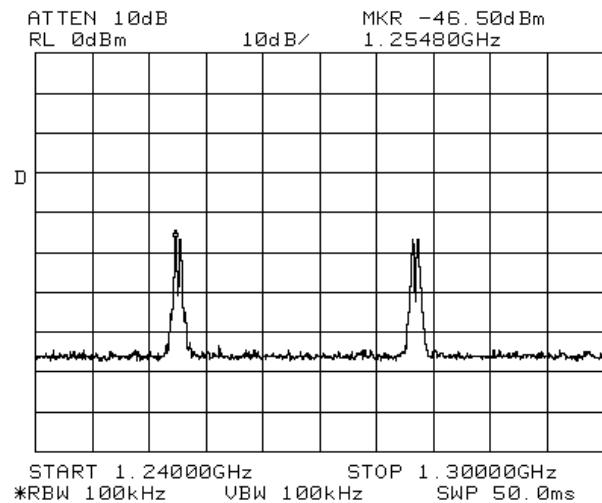


**Figure 59. 614-960 MHz**



## Number of Hopping Frequencies

E.U.T Description      µCOR System Monitor  
Type                      µCOR V1.0.0  
Serial Number:           Not Designated

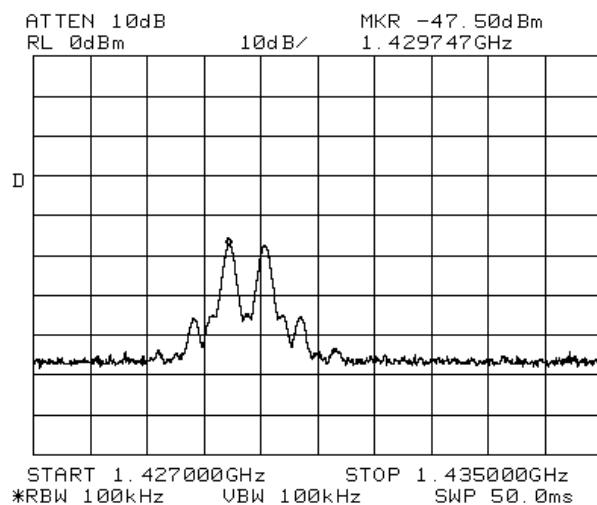


**Figure 60. 1240-1300 MHz**



## Number of Hopping Frequencies

E.U.T Description      µCOR System Monitor  
Type                      µCOR V1.0.0  
Serial Number:           Not Designated

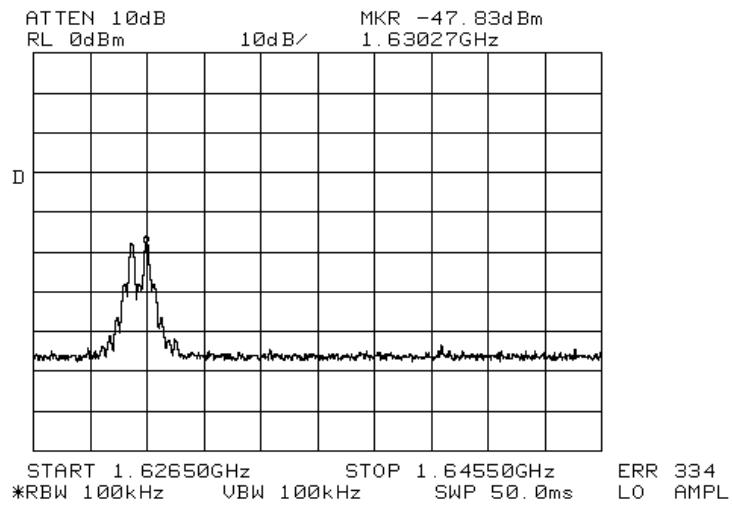


**Figure 61. 1427-1435 MHz**



## Number of Hopping Frequencies

E.U.T Description      μCOR System Monitor  
Type                      μCOR V1.0.0  
Serial Number:           Not Designated

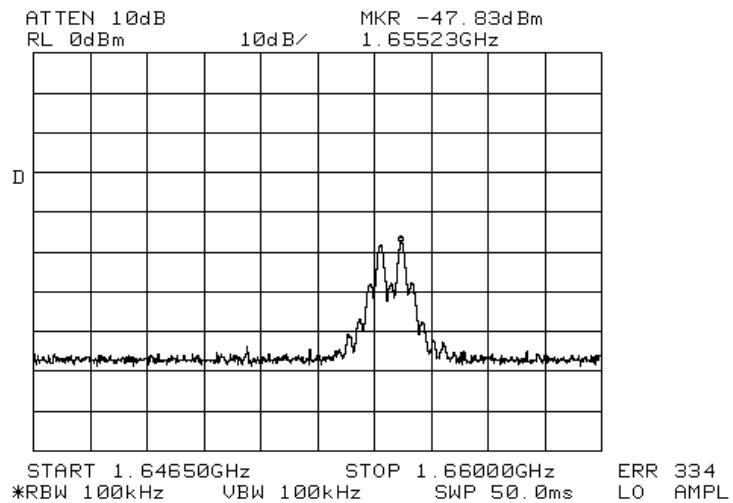


**Figure 62. 1626.5-1645.5 MHz**



## Number of Hopping Frequencies

E.U.T Description      µCOR System Monitor  
Type                      µCOR V1.0.0  
Serial Number:           Not Designated

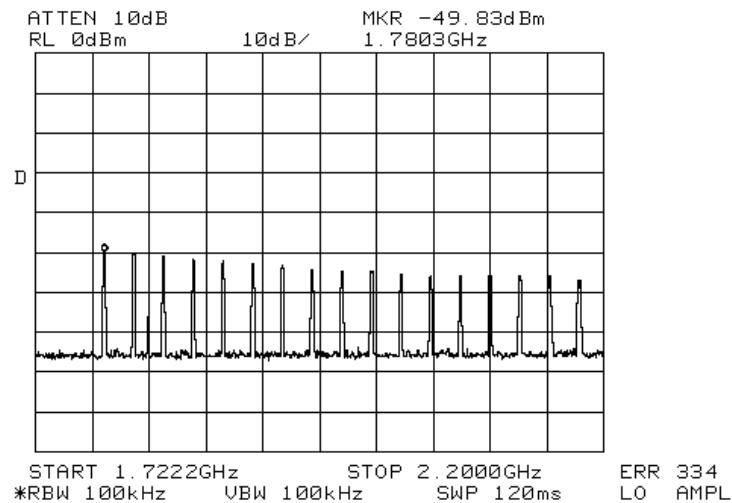


**Figure 63. 1646.5-1660 MHz**



## Number of Hopping Frequencies

E.U.T Description      µCOR System Monitor  
Type                      µCOR V1.0.0  
Serial Number:           Not Designated



**Figure 64. 1722.2-2200 MHz**

### 8.1 *Test Instrumentation Used*

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
Spectrum Analyzer	Agilent	8562EC	-	March 17, 2013	2 Years



## 9. Dwell Time on Each Channel

### 9.1 Test Specification

FCC Part 15, Subpart C

### 9.2 Test Procedure

The E.U.T. was tested in radiated mode. The spectrum analyzer was set to capture the time of occupancy per 1 second.

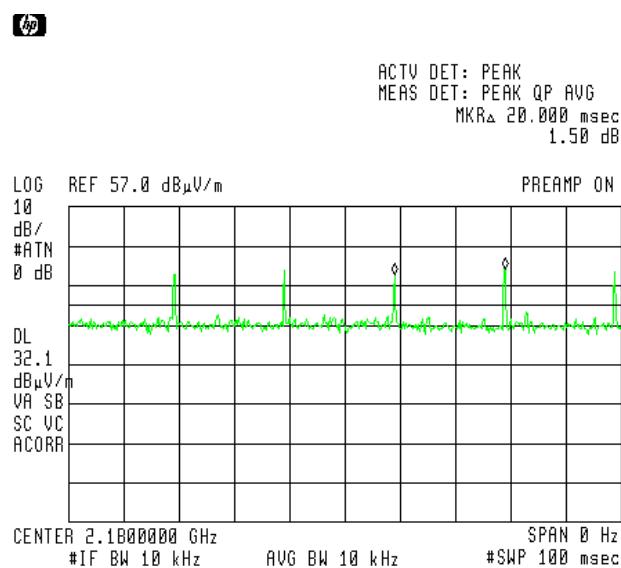
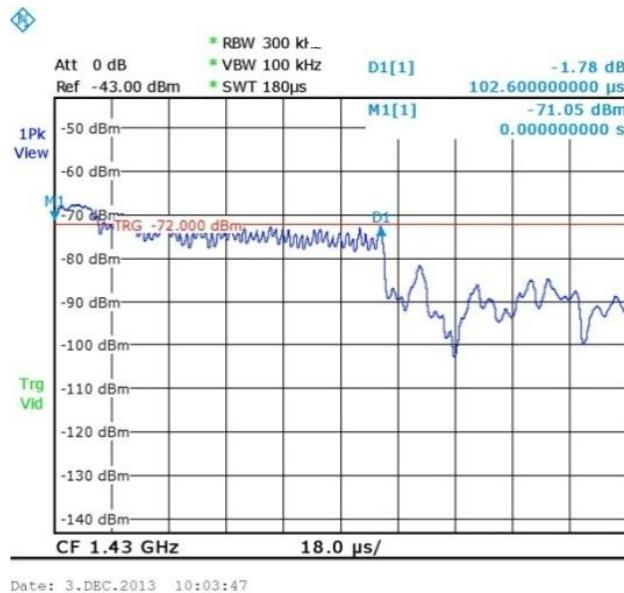


Figure 65 — Number of channels in 100 msec. =5



**Figure 66 — Dwell time**  
[5X100usec=500usec/sec]

### 9.3 Test Instrumentation Used

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	February 26, 2013	1 Year
Spectrum Analyzer	R&S	FSL6	100194	December 1, 2013	1 Year

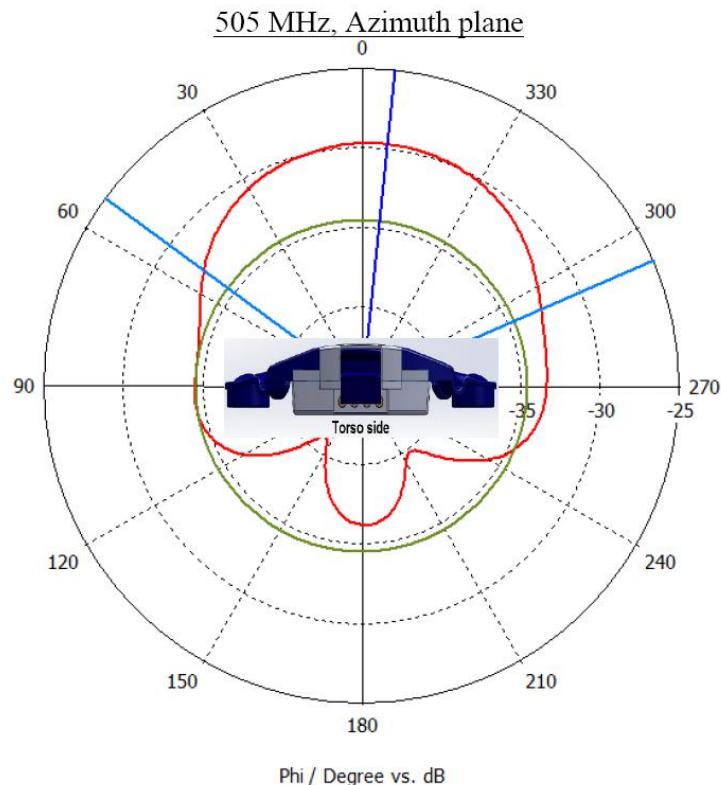
## 10. Antenna Gain/Information

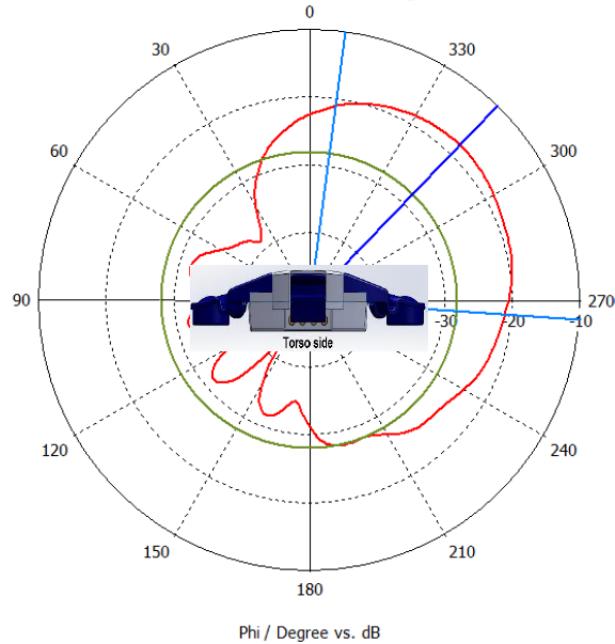
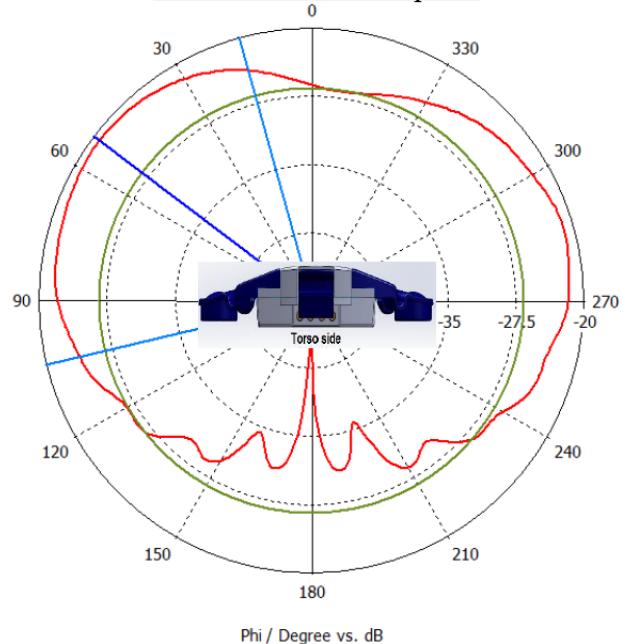


### *uCor Antenna*

Frequency range	0.505 - 2.18 GHz
Polarization	Horizontal

uCor antenna Radiation pattern (attached to human torso)  
Gain [dBi]



1430 MHz, Azimuth plane2180 MHz, Azimuth plane



## 11. R.F Exposure/Safety

Typical use of the E.U.T. is as a non invasive sensing device that assesses and displays a patient's thoracic fluid content. The typical distance between the E.U.T. and the user is 0.25 cm.

### Calculation of Maximum Permissible Exposure (MPE) based on Section 1.1310 Requirements

(a) FCC limits at 505 MHz is:  $0.34 \frac{mW}{cm^2}$

FCC limits at 755 MHz is:  $0.50 \frac{mW}{cm^2}$

FCC limits at 1280 MHz is:  $1 \frac{mW}{cm^2}$

FCC limits at 1430 MHz is:  $1 \frac{mW}{cm^2}$

FCC limits at 1630 MHz is:  $1 \frac{mW}{cm^2}$

FCC limits at 1655 MHz is:  $1 \frac{mW}{cm^2}$

FCC limits at 2005 MHz is:  $1 \frac{mW}{cm^2}$



Using table 1 of Section 1.1310 limit for general population/uncontrolled exposures, the above level is an average over 30 minutes.

(b) The power density produced by the E.U.T. is

$P_t$  - Transmitted Power ( $P_t + G_t$ )

R - Distance from Transmitter using 0.25 cm worst case

$$S = \frac{P_t}{4\pi R^2}$$

(c) The peak power density is:

Frequency (MHz)	Power (dBuV/m)	Power (mW)	S (mW/cm <sup>2</sup> )	Specification (mW/cm <sup>2</sup> )
505.0	45.85	0.0001	1.27 x10 <sup>-4</sup>	0.34
755.0	45.18	0.0001	1.27 x10 <sup>-4</sup>	0.50
1280.0	73.14	0.00622	0.008	1
1430.0	72.87	0.00585	0.007	1
1630.0	70.73	0.00357	0.005	1
1655.0	71.77	0.00454	0.006	1
2005.0	73.15	0.00624	0.008	1

(d) This is below the FCC limit



## 12. APPENDIX B - CORRECTION FACTORS

### 12.1 Correction factors for CABLE

from EMI receiver  
to test antenna  
at 3 meter range.

FREQUENCY (MHz)	CORRECTION FACTOR (dB)	FREQUENCY (MHz)	CORRECTION FACTOR (dB)
10.0	0.3	1200.0	7.3
20.0	0.6	1400.0	7.8
30.0	0.8	1600.0	8.4
40.0	0.9	1800.0	9.1
50.0	1.1	2000.0	9.9
60.0	1.2	2300.0	11.2
70.0	1.3	2600.0	12.2
80.0	1.4	2900.0	13.0
90.0	1.6		
100.0	1.7		
150.0	2.0		
200.0	2.3		
250.0	2.7		
300.0	3.1		
350.0	3.4		
400.0	3.7		
450.0	4.0		
500.0	4.3		
600.0	4.7		
700.0	5.3		
800.0	5.9		
900.0	6.3		
1000.0	6.7		

#### NOTES:

1. The cable type is RG-214.
2. The overall length of the cable is 27 meters.
3. The above data is located in file 27MO3MO.CBL on the disk marked "Radiated Emission Tests EMI Receiver".



## 12.2 Correction factors for CABLE

from EMI receiver  
to test antenna  
at 3 meter range.

FREQUENCY (GHz)	CORRECTION FACTOR (dB)
1.0	1.2
2.0	1.6
3.0	2.0
4.0	2.4
5.0	3.0
6.0	3.4
7.0	3.8
8.0	4.2
9.0	4.6
10.0	5.0
12.0	5.8

### NOTES:

1. The cable type is RG-8.
2. The overall length of the cable is 10 meters.



### 12.3 Correction factors for CABLE

from spectrum analyzer  
to test antenna above 2.9 GHz

FREQUENCY (GHz)	CORRECTION FACTOR (dB)	FREQUENCY (GHz)	CORRECTION FACTOR (dB)
1.0	1.9	14.0	9.1
2.0	2.7	15.0	9.5
3.0	3.5	16.0	9.9
4.0	4.2	17.0	10.2
5.0	4.9	18.0	10.4
6.0	5.5	19.0	10.7
7.0	6.0	20.0	10.9
8.0	6.5	21.0	11.2
9.0	7.0	22.0	11.6
10.0	7.5	23.0	11.9
11.0	7.9	24.0	12.3
12.0	8.3	25.0	12.6
13.0	8.7	26.0	13.0

*NOTES:*

1. The cable type is SUCOFLEX 104 E manufactured by SUHNER.
2. The cable is used for measurements above 2.9 GHz.
3. The overall length of the cable is 10 meters.



**12.4 Correction factors for**

**LOG PERIODIC ANTENNA**

**Type LPD 2010/A**

**at 3 and 10 meter ranges.**

**Distance of 3 meters**

<b>FREQUENCY</b> (MHz)	<b>AFE</b> (dB/m)
200.0	9.1
250.0	10.2
300.0	12.5
400.0	15.4
500.0	16.1
600.0	19.2
700.0	19.4
800.0	19.9
900.0	21.2
1000.0	23.5

**Distance of 10 meters**

<b>FREQUENCY</b> (MHz)	<b>AFE</b> (dB/m)
200.0	9.0
250.0	10.1
300.0	11.8
400.0	15.3
500.0	15.6
600.0	18.7
700.0	19.1
800.0	20.2
900.0	21.1
1000.0	23.2

**NOTES:**

1. Antenna serial number is 1038.
2. The above lists are located in file number 38M30.ANT for a 3 meter range, and file number 38M100.ANT for a 10 meter range.
3. The files mentioned above are located on the disk marked "Radiated Emission Test EMI Receiver".



**12.5 Correction factors for LOG PERIODIC ANTENNA  
Type SAS-200/511  
at 3 meter range.**

FREQUENCY (GHz)	ANTENNA FACTOR (dB)
1.0	24.9
1.5	27.8
2.0	29.9
2.5	31.2
3.0	32.8
3.5	33.6
4.0	34.3
4.5	35.2
5.0	36.2
5.5	36.7
6.0	37.2
6.5	38.1

FREQUENCY (GHz)	ANTENNA FACTOR (dB)
7.0	38.6
7.5	39.2
8.0	39.9
8.5	40.4
9.0	40.8
9.5	41.1
10.0	41.7
10.5	42.4
11.0	42.5
11.5	43.1
12.0	43.4
12.5	44.4
13.0	44.6

*NOTES:*

1. Antenna serial number is 253.
2. The above lists are located in file number SAS3M0.ANT for a 3 meter range.
3. The files mentioned above are located on the disk marked "Antenna Factors".



## 12.6 Correction factors for BICONICAL ANTENNA

### Type BCD-235/B, at 3 meter range

FREQUENCY (MHz)	AFE (dB/m)
20.0	19.4
30.0	14.8
40.0	11.9
50.0	10.2
60.0	9.1
70.0	8.5
80.0	8.9
90.0	9.6
100.0	10.3
110.0	11.0
120.0	11.5
130.0	11.7
140.0	12.1
150.0	12.6
160.0	12.8
170.0	13.0
180.0	13.5
190.0	14.0
200.0	14.8
210.0	15.3
220.0	15.8
230.0	16.2
240.0	16.6
250.0	17.6
260.0	18.2
270.0	18.4
280.0	18.7
290.0	19.2
300.0	19.9
310	20.7
320	21.9
330	23.4
340	25.1
350	27.0

#### NOTES:

1. Antenna serial number is 1041.
2. The above list is located in file 19BC10M1.ANT on the disk marked "Radiated Emissions Tests EMI Receiver".



**12.7 Correction factors for  
Horn**

**Double-Ridged Waveguide**

**Model: 3115, S/N 29845  
at 3 meter range.**

FREQUENCY (GHz)	ANTENNA FACTOR (dB 1/m)	ANTENNA Gain (dBi)	FREQUENCY (GHz)	ANTENNA FACTOR (dB 1/m)	ANTENNA Gain (dBi)
1.0	24.8	5.4	10.0	38.8	11.4
1.5	26.1	7.6	10.5	38.9	11.8
2.0	28.6	7.7	11.0	39.0	12.1
2.5	29.8	8.4	11.5	39.6	11.8
3.0	31.4	8.4	12.0	39.8	12.0
3.5	32.4	8.7	12.5	39.6	12.5
4.0	33.7	8.6	13.0	40.0	12.5
4.5	33.4	9.9	13.5	39.8	13.0
5.0	34.5	9.7	14.0	40.2	13.0
5.5	35.1	9.9	14.5	40.6	12.9
6.0	35.4	10.4	15.0	41.3	12.4
6.5	35.6	10.8	15.5	39.5	14.6
7.0	36.2	10.9	16.0	38.8	15.5
7.5	37.3	10.4	16.5	40.0	14.6
8.0	37.7	10.6	17.0	41.4	13.4
8.5	38.3	10.5	17.5	44.8	10.3
9.0	38.5	10.8	18.0	47.2	8.1
9.5	38.7	11.1			



**12.8 Correction factors for**

**Horn Antenna**  
**Model: SWH-28**  
**at 1 meter range.**

<b>FREQUENCY</b> (GHz)	<b>AFE</b> (dB /m)	<b>Gain</b> (dB1)
18.0	40.3	16.1
19.0	40.3	16.3
20.0	40.3	16.1
21.0	40.3	16.3
22.0	40.4	16.8
23.0	40.5	16.4
24.0	40.5	16.6
25.0	40.5	16.7
26.0	40.6	16.4



**12.9 Correction factors for ACTIVE LOOP ANTENNA**  
**Model 6502**  
**S/N 9506-2950**

FREQUENCY (MHz)	Magnetic Antenna Factor (dB)	Electric Antenna Factor (dB)
.009	-35.1	16.4
.010	-35.7	15.8
.020	-38.5	13.0
.050	-39.6	11.9
.075	-39.8	11.8
.100	-40.0	11.6
.150	-40.0	11.5
.250	-40.0	11.6
.500	-40.0	11.5
.750	-40.1	11.5
1.000	-39.9	11.7
2.000	-39.5	12.0
3.000	-39.4	12.1
4.000	-39.7	11.9
5.000	-39.7	11.8
10.000	40.2	11.3
15.000	-40.7	10.8
20.000	-40.5	11.0
25.000	-41.3	10.2
30.000	42.3	9.2