



# TEST REPORT

**Test Report No. : UL-RPT-RP11265293JD07AA V3.0**

**Manufacturer** : Apple Inc.  
**Model No.** : A1785  
**FCC ID** : BCG-E3088A  
**Technology** : LTE – Band 41  
**Test Standard(s)** : FCC Part 27 Subpart C

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2. The results in this report apply only to the sample(s) tested.
3. The sample tested is in compliance with the above standard(s).
4. The test results in this report are traceable to the national or international standards.
5. Version 3.0 supersedes all previous versions.

**Date of Issue:** 03 August 2016

**Checked by:**

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Engineer, Radio Laboratory

**Company Signatory:**

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Service Lead, Radio Laboratory  
UL VS LTD



This laboratory is accredited by UKAS.  
The tests reported herein have been  
performed in accordance with its terms  
of accreditation.

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**1. Customer Information**

|                      |                                                  |
|----------------------|--------------------------------------------------|
| <b>Company Name:</b> | Apple Inc.                                       |
| <b>Address:</b>      | 1 Infinite Loop<br>Cupertino, CA 95014<br>U.S.A. |

## **2. Summary of Testing**

### **2.1. General Information**

|                                 |                                                                                                                                  |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Specification Reference:</b> | 47CFR27                                                                                                                          |
| <b>Specification Title:</b>     | Code of Federal Regulations Volume 47 (Telecommunications):<br>Part 27 Subpart C (Miscellaneous Wireless Communication Services) |
| <b>Site Registration:</b>       | 209735                                                                                                                           |
| <b>Location of Testing:</b>     | UL VS LTD, Unit 3 Horizon, Wade Road, Kingsland Business Park,<br>Basingstoke, Hampshire, RG24 8AH, United Kingdom               |
| <b>Test Dates:</b>              | 02 June 2016 to 23 July 2016                                                                                                     |

### **2.2. Summary of Test Results**

| <b>FCC Reference (47CFR)</b> | <b>Measurement</b>                                                     | <b>Result</b> |
|------------------------------|------------------------------------------------------------------------|---------------|
| 2.1046 / 27.50(h)(2)         | Transmitter Output Power (EIRP)                                        | Complied      |
| 27.50(d)(5)                  | Transmitter Peak-to-Average Ratio (PAR)                                | Complied      |
| 2.1049                       | Transmitter Occupied Bandwidth                                         | Complied      |
| 2.1051 / 27.53(m)(4)         | Transmitter Conducted Emissions at Band Edges +/- X MHz                | Complied      |
| 2.1053 / 27.53(m)(4)         | Transmitter Radiated Spurious Emissions                                | Complied      |
| 2.1053 / 27.53(m)(4)         | Transmitter Radiated Emissions at Band Edges                           | Complied      |
| 2.1055 / 27.54               | Transmitter Frequency Stability<br>(Temperature and Voltage Variation) | Complied      |

### **2.3. Methods and Procedures**

|                   |                                                                                         |
|-------------------|-----------------------------------------------------------------------------------------|
| <b>Reference:</b> | ANSI/TIA-603-D-2010                                                                     |
| <b>Title:</b>     | Land Mobile FM or PM Communications Equipment Measurements and<br>Performance Standards |
| <b>Reference:</b> | FCC KDB 971168 D01 v02r02, 17 October 2014                                              |
| <b>Title:</b>     | Measurement Guidance for Certification of Licensed Digital Transmitters                 |

### **2.4. Deviations from the Test Specification**

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above.

### **3. Equipment Under Test (EUT)**

#### **3.1. Identification of Equipment Under Test (EUT)**

|                            |                                                |
|----------------------------|------------------------------------------------|
| Brand Name:                | Apple                                          |
| Model Name or Number:      | A1785                                          |
| Test Sample Serial Number: | C39RW006HFMH                                   |
| Test Sample IMEI:          | 358640070286456 ( <i>Radiated LAT Sample</i> ) |
| Hardware Version:          | REV1.0                                         |
| Software Version:          | iOS: 14A22580n<br>BB FW: 0.16.01-3             |
| FCC ID:                    | BCG-E3088A                                     |

|                            |                                                |
|----------------------------|------------------------------------------------|
| Brand Name:                | Apple                                          |
| Model Name or Number:      | A1785                                          |
| Test Sample Serial Number: | C39RW00HHFMH                                   |
| Test Sample IMEI:          | 358640070309175 ( <i>Radiated UAT Sample</i> ) |
| Hardware Version:          | REV1.0                                         |
| Software Version:          | iOS: 14A22580n<br>BB FW: 0.16.01-3             |
| FCC ID:                    | BCG-E3088A                                     |

|                            |                                                |
|----------------------------|------------------------------------------------|
| Brand Name:                | Apple                                          |
| Model Name or Number:      | A1785                                          |
| Test Sample Serial Number: | C39RW013HFML                                   |
| Test Sample IMEI:          | 358640070269106 ( <i>Conducted Sample #1</i> ) |
| Hardware Version:          | REV1.0                                         |
| Software Version:          | iOS: 14A22580n<br>BB FW: 0.16.01-3             |
| FCC ID:                    | BCG-E3088A                                     |

|                            |                                                |
|----------------------------|------------------------------------------------|
| Brand Name:                | Apple                                          |
| Model Name or Number:      | A1785                                          |
| Test Sample Serial Number: | C39RP002H940                                   |
| Test Sample IMEI:          | 358640070266615 ( <i>Conducted Sample #2</i> ) |
| Hardware Version:          | REV1.0                                         |
| Software Version:          | iOS: 14A273<br>BB FW: 0.21.02                  |
| FCC ID:                    | BCG-E3088A                                     |

**Identification of Equipment Under Test (EUT) (continued)**

|                                   |                                                |
|-----------------------------------|------------------------------------------------|
| <b>Brand Name:</b>                | Apple                                          |
| <b>Model Name or Number:</b>      | A1785                                          |
| <b>Test Sample Serial Number:</b> | C39RW01FHFML                                   |
| <b>Test Sample IMEI:</b>          | 358640070309241 ( <i>Conducted Sample #3</i> ) |
| <b>Hardware Version:</b>          | REV1.0                                         |
| <b>Software Version:</b>          | iOS: 14A273<br>BB FW: 0.21.02                  |
| <b>FCC ID:</b>                    | BCG-E3088A                                     |

**3.2. Description of EUT**

The Equipment Under Test was a mobile phone with GSM/GPRS/EGPRS/UMTS/LTE/TD-SCDMA and CDMA technologies. It also supports IEEE 802.11a/b/g/n/ac, Bluetooth®, GPS and NFC. The rechargeable battery is not user accessible.

**3.3. Modifications Incorporated in the EUT**

No modifications were applied to the EUT during testing.

**3.4. Additional Information Related to Testing**

|                           |                                |                 |                           |
|---------------------------|--------------------------------|-----------------|---------------------------|
| Tested Technology:        | LTE Band 41                    |                 |                           |
| Type of Equipment         | Transceiver                    |                 |                           |
| Channel Bandwidth:        | 5 MHz, 10 MHz, 15 MHz & 20 MHz |                 |                           |
| Modulation Type:          | QPSK & 16QAM                   |                 |                           |
| Duty Cycle:               | 50%                            |                 |                           |
| Antenna Type:             | Integral                       |                 |                           |
| Antenna Gain (LAT):       | -2.6 dBi                       |                 |                           |
| Antenna Gain (UAT):       | 0.6 dBi                        |                 |                           |
| Power Supply Requirement: | Nominal                        | 3.8 VDC         |                           |
|                           | Minimum                        | 3.5 VDC         |                           |
|                           | Maximum                        | 4.4 VDC         |                           |
| Transmit Frequency Range: | 2496 MHz to 2690 MHz           |                 |                           |
| Channels Tested:          | Channel Bandwidth (MHz)        | N <sub>ul</sub> | Frequency of Uplink (MHz) |
| Bottom Channel            | 5                              | 39675           | 2498.5                    |
|                           | 10                             | 39700           | 2501.0                    |
|                           | 15                             | 39725           | 2503.5                    |
|                           | 20                             | 39750           | 2506.0                    |
| Middle Channel            | All                            | 40620           | 2593.0                    |
| Top Channel               | 5                              | 41565           | 2687.5                    |
|                           | 10                             | 41540           | 2685.0                    |
|                           | 15                             | 41515           | 2682.5                    |
|                           | 20                             | 41490           | 2680.0                    |

**3.5. Support Equipment**

The following support equipment was used to exercise the EUT during testing:

|                              |                    |
|------------------------------|--------------------|
| <b>Description:</b>          | Laptop PC          |
| <b>Brand Name:</b>           | Dell               |
| <b>Model Name or Number:</b> | Latitude E5410     |
| <b>Serial Number:</b>        | UL Asset No. 00763 |

|                              |                      |
|------------------------------|----------------------|
| <b>Description:</b>          | USB diagnostic cable |
| <b>Brand Name:</b>           | Not stated           |
| <b>Model Name or Number:</b> | Kong                 |
| <b>Serial Number:</b>        | 202D5E               |

|                              |                           |
|------------------------------|---------------------------|
| <b>Description:</b>          | Personal Hands Free (PHF) |
| <b>Brand Name:</b>           | Apple                     |
| <b>Model Name or Number:</b> | Apple Ear Plugs           |
| <b>Serial Number:</b>        | Not stated                |

## **4. Operation and Monitoring of the EUT during Testing**

### **4.1. Operating Modes**

The EUT was tested in the following operating mode(s):

- Transmit Mode - The EUT was set to transmit with maximum output power using the required channel bandwidth. QPSK and 16QAM modulations were both tested, with Resource Block allocation as detailed in section 4.3.

### **4.2. Configuration and Peripherals**

The EUT was tested in the following configuration(s):

- The EUT was placed into a non-ui mode by using the teraterm application on a UL laptop PC. Instructions were provided by the customer to enable the baseband and radio (*Cellular\_RSE\_setup\_V3.0.doc*). This enabled the EUT to connect via a radiated link with the Rohde & Schwarz CMW 500 system simulator operating in transceiver mode. The CMW 500 was used to configure the EUT operating mode.
- The device contains two cellular antennas which do not transmit simultaneously.
  - o LAT – Lower Antenna (Primary)
  - o UAT – Upper Antenna (Secondary)Both antennas have been tested to demonstrate compliance.
- For the LAT conducted measurements, the RF conducted port was connected with an external RF cable, supplied by the customer.
- For the UAT conducted cellular measurements, the RF conducted port was exposed and extended with a short RF cable supplied by the customer.
- Conducted measurements at temperature and voltage extremes were performed using a conducted sample supplied by the customer. Short DC flying leads were connected internally to the device in place of the battery, and exited through a hole in the casing. These leads were then extended to a DC power supply for testing purposes.
- The EUT was placed in three orthogonal orientations X, Y and Z to determine the worst case orientation for radiated spurious emissions. The worst case orientation was Z for LAT and X for UAT.
- Transmitter radiated spurious emissions tests were performed with the EUT set to transmit with a 10 MHz channel bandwidth with QPSK modulation applied and 1 resource block with 0 offset. This was found to be the worst case modulation scheme with regards to emissions after preliminary investigations and therefore it was deemed to be the worst case.
- The worst-case radiated emission among all accessories, is determined by the manufacturer to be with the headset connected. The compliance lab performed final testing only with the headset attached.
- Transmitter radiated spurious emissions tests were performed with the PHF connected to the EUT.

### **4.3. Resource Block Allocation**

| Channel Bandwidth (MHz) | Maximum No. of Resource Blocks | Resource Block / Offset Number |        |            |        |            |        |
|-------------------------|--------------------------------|--------------------------------|--------|------------|--------|------------|--------|
|                         |                                | Sub Test 1                     |        | Sub Test 2 |        | Sub Test 3 |        |
|                         |                                | RB                             | Offset | RB         | Offset | RB         | Offset |
| 5                       | 25                             | 1                              | 0      | 1          | 24     | 25         | 0      |
| 10                      | 50                             | 1                              | 0      | 1          | 49     | 50         | 0      |
| 15                      | 75                             | 1                              | 0      | 1          | 74     | 75         | 0      |
| 20                      | 100                            | 1                              | 0      | 1          | 99     | 100        | 0      |

Transmitter Occupied Bandwidth was carried out using sub test 3, for both QPSK and 16QAM modulation schemes.

Transmitter radiated spurious emissions tests were performed with the EUT set to transmit with a 10 MHz channel bandwidth with QPSK modulation applied and 1 resource block with 0 offset. This was found to be the worst case modulation scheme with regards to emissions after preliminary investigations and therefore it was deemed to be the worst case.

Transmitter Radiated Band Edge Emissions was tested with sub tests 1, 2 and 3 on all supported channel bandwidths using QPSK and 16-QAM modulations.

Transmitter Frequency Stability test was carried out with sub test 3, with a channel bandwidth of 5 MHz only.

## **5. Measurements, Examinations and Derived Results**

### **5.1. General Comments**

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to *Section 6* for Measurement Uncertainty details.

In accordance with UKAS requirements all the measurement equipment is on a calibration schedule. All equipment was within the calibration period on the date of testing.

## 5.2. Test Results

### 5.2.1. Transmitter Output Power (EIRP) - LAT

#### Test Summary:

|                   |                 |            |              |
|-------------------|-----------------|------------|--------------|
| Test Engineer:    | Keith Tucker    | Test Date: | 23 July 2016 |
| Test Sample IMEI: | 358640070269106 |            |              |

|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| FCC Reference:    | Parts 2.1046 & 27.50(h)(2)                                   |
| Test Method Used: | KDB 971168 Section 2.2 footnote 1, Section 5.6 & Notes below |

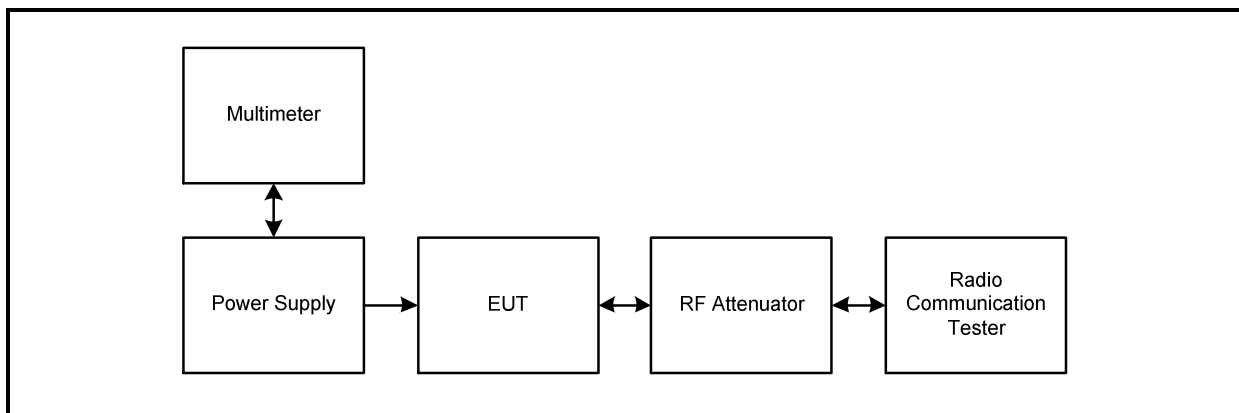
#### Environmental Conditions:

|                        |    |
|------------------------|----|
| Temperature (°C):      | 25 |
| Relative Humidity (%): | 47 |

#### Note(s):

1. The customer stated that the antenna gain is -2.63 dBi which has been rounded to a value of 1 decimal place for reporting purposes. The antenna gain was added to the conducted output power to obtain the EIRP.
2. Measurements were performed with the EUT transmitting with QPSK and 16QAM modulation schemes, with resource blocks settings as detailed.
3. Conducted average power was measured using a calibrated Rohde and Schwarz CMW 500 Wideband Radio Communication Tester.
4. The RF port of the EUT was connected to the Communication Tester via an RF cable and suitable attenuation. An RF level offset was entered on the Communication Tester to compensate for the loss of the attenuator and RF cable.

#### Test setup:



**Transmitter Output Power (EIRP) (continued)****Results: 5 MHz Channel Bandwidth / Bottom Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2498.5          | 25                | 0                     | 21.3                     | -2.6               | 18.7       | 33.0             | 14.3        | Complied |
| 2498.5          | 12                | 13                    | 21.4                     | -2.6               | 18.8       | 33.0             | 14.2        | Complied |
| 2498.5          | 12                | 0                     | 21.4                     | -2.6               | 18.8       | 33.0             | 14.2        | Complied |
| 2498.5          | 12                | 7                     | 21.3                     | -2.6               | 18.7       | 33.0             | 14.3        | Complied |
| 2498.5          | 1                 | 24                    | 22.3                     | -2.6               | 19.7       | 33.0             | 13.3        | Complied |
| 2498.5          | 1                 | 0                     | 22.4                     | -2.6               | 19.8       | 33.0             | 13.2        | Complied |
| 2498.5          | 1                 | 12                    | 22.3                     | -2.6               | 19.7       | 33.0             | 13.3        | Complied |

**Results: 5 MHz Channel Bandwidth / Bottom Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2498.5          | 25                | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2498.5          | 12                | 13                    | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2498.5          | 12                | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2498.5          | 12                | 7                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2498.5          | 1                 | 24                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2498.5          | 1                 | 0                     | 21.3                     | -2.6               | 18.7       | 33.0             | 14.3        | Complied |
| 2498.5          | 1                 | 12                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |

**Results: 5 MHz Channel Bandwidth / Middle Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 25                | 0                     | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2593.0          | 12                | 13                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2593.0          | 12                | 0                     | 21.3                     | -2.6               | 18.7       | 33.0             | 14.3        | Complied |
| 2593.0          | 12                | 7                     | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2593.0          | 1                 | 24                    | 22.1                     | -2.6               | 19.5       | 33.0             | 13.5        | Complied |
| 2593.0          | 1                 | 0                     | 22.3                     | -2.6               | 19.7       | 33.0             | 13.3        | Complied |
| 2593.0          | 1                 | 12                    | 22.2                     | -2.6               | 19.6       | 33.0             | 13.4        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 5 MHz Channel Bandwidth / Middle Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 25                | 0                     | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2593.0          | 12                | 13                    | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2593.0          | 12                | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2593.0          | 12                | 7                     | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2593.0          | 1                 | 24                    | 21.1                     | -2.6               | 18.5       | 33.0             | 14.5        | Complied |
| 2593.0          | 1                 | 0                     | 21.3                     | -2.6               | 18.7       | 33.0             | 14.3        | Complied |
| 2593.0          | 1                 | 12                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |

**Results: 5 MHz Channel Bandwidth / Top Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2687.5          | 25                | 0                     | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2687.5          | 12                | 13                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2687.5          | 12                | 0                     | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2687.5          | 12                | 7                     | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2687.5          | 1                 | 24                    | 22.2                     | -2.6               | 19.6       | 33.0             | 13.4        | Complied |
| 2687.5          | 1                 | 0                     | 22.2                     | -2.6               | 19.6       | 33.0             | 13.4        | Complied |
| 2687.5          | 1                 | 12                    | 22.2                     | -2.6               | 19.6       | 33.0             | 13.4        | Complied |

**Results: 5 MHz Channel Bandwidth / Top Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2687.5          | 25                | 0                     | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2687.5          | 12                | 13                    | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2687.5          | 12                | 0                     | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2687.5          | 12                | 7                     | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2687.5          | 1                 | 24                    | 21.1                     | -2.6               | 18.5       | 33.0             | 14.5        | Complied |
| 2687.5          | 1                 | 0                     | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2687.5          | 1                 | 12                    | 21.1                     | -2.6               | 18.5       | 33.0             | 14.5        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 10 MHz Channel Bandwidth / Bottom Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2501.0          | 50                | 0                     | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2501.0          | 25                | 24                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2501.0          | 25                | 0                     | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2501.0          | 25                | 12                    | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2501.0          | 1                 | 49                    | 21.4                     | -2.6               | 18.8       | 33.0             | 14.2        | Complied |
| 2501.0          | 1                 | 0                     | 21.5                     | -2.6               | 18.9       | 33.0             | 14.1        | Complied |
| 2501.0          | 1                 | 24                    | 22.3                     | -2.6               | 19.7       | 33.0             | 13.3        | Complied |

**Results: 10 MHz Channel Bandwidth / Bottom Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2501.0          | 50                | 0                     | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2501.0          | 25                | 24                    | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2501.0          | 25                | 0                     | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2501.0          | 25                | 12                    | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2501.0          | 1                 | 49                    | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2501.0          | 1                 | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2501.0          | 1                 | 24                    | 21.0                     | -2.6               | 18.4       | 33.0             | 14.6        | Complied |

**Results: 10 MHz Channel Bandwidth / Middle Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 50                | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2593.0          | 25                | 24                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2593.0          | 25                | 0                     | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2593.0          | 25                | 12                    | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2593.0          | 1                 | 49                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2593.0          | 1                 | 0                     | 21.4                     | -2.6               | 18.8       | 33.0             | 14.2        | Complied |
| 2593.0          | 1                 | 24                    | 22.2                     | -2.6               | 19.6       | 33.0             | 13.4        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 10 MHz Channel Bandwidth / Middle Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 50                | 0                     | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2593.0          | 25                | 24                    | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2593.0          | 25                | 0                     | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2593.0          | 25                | 12                    | 19.2                     | -2.6               | 16.6       | 33.0             | 16.4        | Complied |
| 2593.0          | 1                 | 49                    | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2593.0          | 1                 | 0                     | 20.5                     | -2.6               | 17.9       | 33.0             | 15.1        | Complied |
| 2593.0          | 1                 | 24                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |

**Results: 10 MHz Channel Bandwidth / Top Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2685.0          | 50                | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2685.0          | 25                | 24                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2685.0          | 25                | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2685.0          | 25                | 12                    | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2685.0          | 1                 | 49                    | 21.3                     | -2.6               | 18.7       | 33.0             | 14.3        | Complied |
| 2685.0          | 1                 | 0                     | 21.5                     | -2.6               | 18.9       | 33.0             | 14.1        | Complied |
| 2685.0          | 1                 | 24                    | 22.1                     | -2.6               | 19.5       | 33.0             | 13.5        | Complied |

**Results: 10 MHz Channel Bandwidth / Top Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2685.0          | 50                | 0                     | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2685.0          | 25                | 24                    | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2685.0          | 25                | 0                     | 19.2                     | -2.6               | 16.6       | 33.0             | 16.4        | Complied |
| 2685.0          | 25                | 12                    | 19.2                     | -2.6               | 16.6       | 33.0             | 16.4        | Complied |
| 2685.0          | 1                 | 49                    | 19.9                     | -2.6               | 17.3       | 33.0             | 15.7        | Complied |
| 2685.0          | 1                 | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2685.0          | 1                 | 24                    | 20.9                     | -2.6               | 18.3       | 33.0             | 14.7        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 15 MHz Channel Bandwidth / Bottom Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2503.5          | 75                | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2503.5          | 36                | 37                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2503.5          | 36                | 0                     | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2503.5          | 36                | 18                    | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2503.5          | 1                 | 74                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2503.5          | 1                 | 0                     | 21.9                     | -2.6               | 19.3       | 33.0             | 13.7        | Complied |
| 2503.5          | 1                 | 36                    | 22.3                     | -2.6               | 19.7       | 33.0             | 13.3        | Complied |

**Results: 15 MHz Channel Bandwidth / Bottom Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2503.5          | 75                | 0                     | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2503.5          | 36                | 37                    | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2503.5          | 36                | 0                     | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2503.5          | 36                | 18                    | 19.2                     | -2.6               | 16.6       | 33.0             | 16.4        | Complied |
| 2503.5          | 1                 | 74                    | 19.9                     | -2.6               | 17.3       | 33.0             | 15.7        | Complied |
| 2503.5          | 1                 | 0                     | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2503.5          | 1                 | 36                    | 21.0                     | -2.6               | 18.4       | 33.0             | 14.6        | Complied |

**Results: 15 MHz Channel Bandwidth / Middle Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 75                | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2593.0          | 36                | 37                    | 21.1                     | -2.6               | 18.5       | 33.0             | 14.5        | Complied |
| 2593.0          | 36                | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2593.0          | 36                | 18                    | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2593.0          | 1                 | 74                    | 21.1                     | -2.6               | 18.5       | 33.0             | 14.5        | Complied |
| 2593.0          | 1                 | 0                     | 21.4                     | -2.6               | 18.8       | 33.0             | 14.2        | Complied |
| 2593.0          | 1                 | 36                    | 22.2                     | -2.6               | 19.6       | 33.0             | 13.4        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 15 MHz Channel Bandwidth / Middle Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 75                | 0                     | 19.2                     | -2.6               | 16.6       | 33.0             | 16.4        | Complied |
| 2593.0          | 36                | 37                    | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2593.0          | 36                | 0                     | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2593.0          | 36                | 18                    | 19.2                     | -2.6               | 16.6       | 33.0             | 16.4        | Complied |
| 2593.0          | 1                 | 74                    | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2593.0          | 1                 | 0                     | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2593.0          | 1                 | 36                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |

**Results: 15 MHz Channel Bandwidth / Top Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2682.5          | 75                | 0                     | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2682.5          | 36                | 37                    | 21.1                     | -2.6               | 18.5       | 33.0             | 14.5        | Complied |
| 2682.5          | 36                | 0                     | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2682.5          | 36                | 18                    | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2682.5          | 1                 | 74                    | 21.3                     | -2.6               | 18.7       | 33.0             | 14.3        | Complied |
| 2682.5          | 1                 | 0                     | 21.5                     | -2.6               | 18.9       | 33.0             | 14.1        | Complied |
| 2682.5          | 1                 | 36                    | 22.0                     | -2.6               | 19.4       | 33.0             | 13.6        | Complied |

**Results: 15 MHz Channel Bandwidth / Top Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2682.5          | 75                | 0                     | 19.2                     | -2.6               | 16.6       | 33.0             | 16.4        | Complied |
| 2682.5          | 36                | 37                    | 20.0                     | -2.6               | 17.4       | 33.0             | 15.6        | Complied |
| 2682.5          | 36                | 0                     | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2682.5          | 36                | 18                    | 19.1                     | -2.6               | 16.5       | 33.0             | 16.5        | Complied |
| 2682.5          | 1                 | 74                    | 19.8                     | -2.6               | 17.2       | 33.0             | 15.8        | Complied |
| 2682.5          | 1                 | 0                     | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2682.5          | 1                 | 36                    | 20.9                     | -2.6               | 18.3       | 33.0             | 14.7        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 20 MHz Channel Bandwidth / Bottom Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2506.0          | 100               | 0                     | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2506.0          | 50                | 49                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2506.0          | 50                | 0                     | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2506.0          | 50                | 24                    | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2506.0          | 1                 | 99                    | 21.3                     | -2.6               | 18.7       | 33.0             | 14.3        | Complied |
| 2506.0          | 1                 | 0                     | 21.8                     | -2.6               | 19.2       | 33.0             | 13.8        | Complied |
| 2506.0          | 1                 | 49                    | 22.3                     | -2.6               | 19.7       | 33.0             | 13.3        | Complied |

**Results: 20 MHz Channel Bandwidth / Bottom Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2506.0          | 100               | 0                     | 19.4                     | -2.6               | 16.8       | 33.0             | 16.2        | Complied |
| 2506.0          | 50                | 49                    | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2506.0          | 50                | 0                     | 19.4                     | -2.6               | 16.8       | 33.0             | 16.2        | Complied |
| 2506.0          | 50                | 24                    | 19.4                     | -2.6               | 16.8       | 33.0             | 16.2        | Complied |
| 2506.0          | 1                 | 99                    | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2506.0          | 1                 | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2506.0          | 1                 | 49                    | 21.0                     | -2.6               | 18.4       | 33.0             | 14.6        | Complied |

**Results: 20 MHz Channel Bandwidth / Middle Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 100               | 0                     | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2593.0          | 50                | 49                    | 21.1                     | -2.6               | 18.5       | 33.0             | 14.5        | Complied |
| 2593.0          | 50                | 0                     | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2593.0          | 50                | 24                    | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2593.0          | 1                 | 99                    | 21.1                     | -2.6               | 18.5       | 33.0             | 14.5        | Complied |
| 2593.0          | 1                 | 0                     | 21.6                     | -2.6               | 19.0       | 33.0             | 14.0        | Complied |
| 2593.0          | 1                 | 49                    | 22.1                     | -2.6               | 19.5       | 33.0             | 13.5        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 20 MHz Channel Bandwidth / Middle Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 100               | 0                     | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2593.0          | 50                | 49                    | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2593.0          | 50                | 0                     | 19.4                     | -2.6               | 16.8       | 33.0             | 16.2        | Complied |
| 2593.0          | 50                | 24                    | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2593.0          | 1                 | 99                    | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2593.0          | 1                 | 0                     | 20.5                     | -2.6               | 17.9       | 33.0             | 15.1        | Complied |
| 2593.0          | 1                 | 49                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |

**Results: 20 MHz Channel Bandwidth / Top Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2680.0          | 100               | 0                     | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2680.0          | 50                | 49                    | 21.1                     | -2.6               | 18.5       | 33.0             | 14.5        | Complied |
| 2680.0          | 50                | 0                     | 20.4                     | -2.6               | 17.8       | 33.0             | 15.2        | Complied |
| 2680.0          | 50                | 24                    | 20.3                     | -2.6               | 17.7       | 33.0             | 15.3        | Complied |
| 2680.0          | 1                 | 99                    | 21.2                     | -2.6               | 18.6       | 33.0             | 14.4        | Complied |
| 2680.0          | 1                 | 0                     | 21.6                     | -2.6               | 19.0       | 33.0             | 14.0        | Complied |
| 2680.0          | 1                 | 49                    | 22.2                     | -2.6               | 19.6       | 33.0             | 13.4        | Complied |

**Results: 20 MHz Channel Bandwidth / Top Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2680.0          | 100               | 0                     | 19.2                     | -2.6               | 16.6       | 33.0             | 16.4        | Complied |
| 2680.0          | 50                | 49                    | 20.1                     | -2.6               | 17.5       | 33.0             | 15.5        | Complied |
| 2680.0          | 50                | 0                     | 19.4                     | -2.6               | 16.8       | 33.0             | 16.2        | Complied |
| 2680.0          | 50                | 24                    | 19.3                     | -2.6               | 16.7       | 33.0             | 16.3        | Complied |
| 2680.0          | 1                 | 99                    | 20.0                     | -2.6               | 17.4       | 33.0             | 15.6        | Complied |
| 2680.0          | 1                 | 0                     | 20.2                     | -2.6               | 17.6       | 33.0             | 15.4        | Complied |
| 2680.0          | 1                 | 49                    | 21.0                     | -2.6               | 18.4       | 33.0             | 14.6        | Complied |

**Transmitter Output Power (EIRP) (continued)****Test Equipment Used:**

| Asset No. | Instrument                  | Manufacturer    | Type No.     | Serial No. | Date Calibration Due  | Cal. Interval (Months) |
|-----------|-----------------------------|-----------------|--------------|------------|-----------------------|------------------------|
| M2002     | Thermohygrometer            | Testo           | 608-H1       | 45041825   | 02 Apr 2017           | 12                     |
| M1869     | Wideband Radio Comms Tester | Rohde & Schwarz | CMW500       | 145923     | 05 Apr 2017           | 12                     |
| A2845     | Attenuator                  | Radiall         | R411.806.121 | 24325927   | Calibrated before use | -                      |
| A2844     | Attenuator                  | Radiall         | R411.803.121 | 23404066   | Calibrated before use | -                      |
| S0562     | Power Supply                | Thurlby Thandar | PL330QMD     | 054895     | Calibrated before use | -                      |
| M1269     | Multimeter                  | Fluke           | 179          | 90250210   | 13 May 2017           | 12                     |
| G0628     | Signal Generator            | Rohde & Schwarz | SMBV100A     | 261847     | 25 Jan 2017           | 12                     |
| M1835     | Signal Analyser             | Rohde & Schwarz | FSV30        | 103050     | 26 Feb 2017           | 12                     |

**5.2.2. Transmitter Output Power (EIRP) - UAT****Test Summary:**

|                   |                 |            |              |
|-------------------|-----------------|------------|--------------|
| Test Engineer:    | Keith Tucker    | Test Date: | 22 July 2016 |
| Test Sample IMEI: | 358640070269106 |            |              |

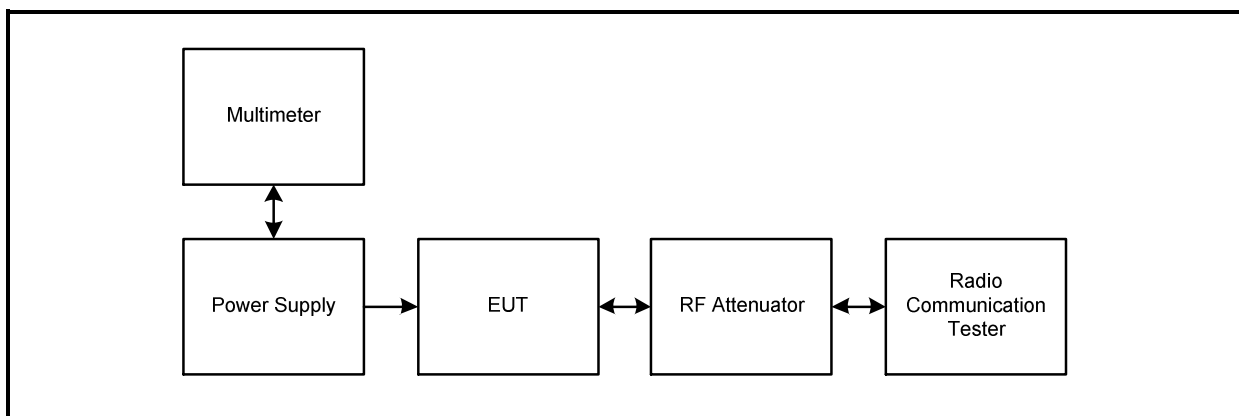
|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| FCC Reference:    | Parts 2.1046 & 27.50(h)(2)                                   |
| Test Method Used: | KDB 971168 Section 2.2 footnote 1, Section 5.6 & Notes below |

**Environmental Conditions:**

|                        |    |
|------------------------|----|
| Temperature (°C):      | 25 |
| Relative Humidity (%): | 51 |

**Note(s):**

1. The customer stated that the antenna gain is 0.64 dBi which has been rounded to a value of 1 decimal place for reporting purposes. The antenna gain was added to the conducted output power to obtain the EIRP.
2. Measurements were performed with the EUT transmitting with QPSK and 16QAM modulation schemes, with resource blocks settings as detailed.
3. Conducted average power was measured using a calibrated Rohde and Schwarz CMW 500 Wideband Radio Communication Tester.
4. The RF port of the EUT was connected to the Communication Tester via an RF cable and suitable attenuation. An RF level offset was entered on the Communication Tester to compensate for the loss of the attenuator and RF cable.

**Test setup:**

**Transmitter Output Power (EIRP) (continued)****Results: 5 MHz Channel Bandwidth / Bottom Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2498.5          | 25                | 0                     | 18.4                     | 0.6                | 19.0       | 33.0             | 14.0        | Complied |
| 2498.5          | 12                | 13                    | 18.7                     | 0.6                | 19.3       | 33.0             | 13.7        | Complied |
| 2498.5          | 12                | 0                     | 18.2                     | 0.6                | 18.8       | 33.0             | 14.2        | Complied |
| 2498.5          | 12                | 7                     | 18.5                     | 0.6                | 19.1       | 33.0             | 13.9        | Complied |
| 2498.5          | 1                 | 24                    | 19.8                     | 0.6                | 20.4       | 33.0             | 12.6        | Complied |
| 2498.5          | 1                 | 0                     | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |
| 2498.5          | 1                 | 12                    | 19.3                     | 0.6                | 19.9       | 33.0             | 13.1        | Complied |

**Results: 5 MHz Channel Bandwidth / Bottom Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2498.5          | 25                | 0                     | 17.5                     | 0.6                | 18.1       | 33.0             | 14.9        | Complied |
| 2498.5          | 12                | 13                    | 17.8                     | 0.6                | 18.4       | 33.0             | 14.6        | Complied |
| 2498.5          | 12                | 0                     | 17.2                     | 0.6                | 17.8       | 33.0             | 15.2        | Complied |
| 2498.5          | 12                | 7                     | 17.5                     | 0.6                | 18.1       | 33.0             | 14.9        | Complied |
| 2498.5          | 1                 | 24                    | 18.9                     | 0.6                | 19.5       | 33.0             | 13.5        | Complied |
| 2498.5          | 1                 | 0                     | 17.9                     | 0.6                | 18.5       | 33.0             | 14.5        | Complied |
| 2498.5          | 1                 | 12                    | 18.4                     | 0.6                | 19.0       | 33.0             | 14.0        | Complied |

**Results: 5 MHz Channel Bandwidth / Middle Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 25                | 0                     | 18.6                     | 0.6                | 19.2       | 33.0             | 13.8        | Complied |
| 2593.0          | 12                | 13                    | 18.6                     | 0.6                | 19.2       | 33.0             | 13.8        | Complied |
| 2593.0          | 12                | 0                     | 18.6                     | 0.6                | 19.2       | 33.0             | 13.8        | Complied |
| 2593.0          | 12                | 7                     | 18.6                     | 0.6                | 19.2       | 33.0             | 13.8        | Complied |
| 2593.0          | 1                 | 24                    | 19.5                     | 0.6                | 20.1       | 33.0             | 12.9        | Complied |
| 2593.0          | 1                 | 0                     | 19.6                     | 0.6                | 20.2       | 33.0             | 12.8        | Complied |
| 2593.0          | 1                 | 12                    | 19.5                     | 0.6                | 20.1       | 33.0             | 12.9        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 5 MHz Channel Bandwidth / Middle Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 25                | 0                     | 17.6                     | 0.6                | 18.2       | 33.0             | 14.8        | Complied |
| 2593.0          | 12                | 13                    | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2593.0          | 12                | 0                     | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2593.0          | 12                | 7                     | 17.8                     | 0.6                | 18.4       | 33.0             | 14.6        | Complied |
| 2593.0          | 1                 | 24                    | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |
| 2593.0          | 1                 | 0                     | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |
| 2593.0          | 1                 | 12                    | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |

**Results: 5 MHz Channel Bandwidth / Top Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2687.5          | 25                | 0                     | 18.9                     | 0.6                | 19.5       | 33.0             | 13.5        | Complied |
| 2687.5          | 12                | 13                    | 19.0                     | 0.6                | 19.6       | 33.0             | 13.4        | Complied |
| 2687.5          | 12                | 0                     | 19.0                     | 0.6                | 19.6       | 33.0             | 13.4        | Complied |
| 2687.5          | 12                | 7                     | 19.0                     | 0.6                | 19.6       | 33.0             | 13.4        | Complied |
| 2687.5          | 1                 | 24                    | 19.8                     | 0.6                | 20.4       | 33.0             | 12.6        | Complied |
| 2687.5          | 1                 | 0                     | 20.0                     | 0.6                | 20.6       | 33.0             | 12.4        | Complied |
| 2687.5          | 1                 | 12                    | 19.9                     | 0.6                | 20.5       | 33.0             | 12.5        | Complied |

**Results: 5 MHz Channel Bandwidth / Top Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2687.5          | 25                | 0                     | 17.9                     | 0.6                | 18.5       | 33.0             | 14.5        | Complied |
| 2687.5          | 12                | 13                    | 17.9                     | 0.6                | 18.5       | 33.0             | 14.5        | Complied |
| 2687.5          | 12                | 0                     | 18.0                     | 0.6                | 18.6       | 33.0             | 14.4        | Complied |
| 2687.5          | 12                | 7                     | 18.0                     | 0.6                | 18.6       | 33.0             | 14.4        | Complied |
| 2687.5          | 1                 | 24                    | 18.9                     | 0.6                | 19.5       | 33.0             | 13.5        | Complied |
| 2687.5          | 1                 | 0                     | 19.0                     | 0.6                | 19.6       | 33.0             | 13.4        | Complied |
| 2687.5          | 1                 | 12                    | 18.9                     | 0.6                | 19.5       | 33.0             | 13.5        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 10 MHz Channel Bandwidth / Bottom Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2501.0          | 50                | 0                     | 18.7                     | 0.6                | 19.3       | 33.0             | 13.7        | Complied |
| 2501.0          | 25                | 24                    | 19.3                     | 0.6                | 19.9       | 33.0             | 13.1        | Complied |
| 2501.0          | 25                | 0                     | 18.6                     | 0.6                | 19.2       | 33.0             | 13.8        | Complied |
| 2501.0          | 25                | 12                    | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |
| 2501.0          | 1                 | 49                    | 19.9                     | 0.6                | 20.5       | 33.0             | 12.5        | Complied |
| 2501.0          | 1                 | 0                     | 19.0                     | 0.6                | 19.6       | 33.0             | 13.4        | Complied |
| 2501.0          | 1                 | 24                    | 19.9                     | 0.6                | 20.5       | 33.0             | 12.5        | Complied |

**Results: 10 MHz Channel Bandwidth / Bottom Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2501.0          | 50                | 0                     | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2501.0          | 25                | 24                    | 18.3                     | 0.6                | 18.9       | 33.0             | 14.1        | Complied |
| 2501.0          | 25                | 0                     | 17.6                     | 0.6                | 18.2       | 33.0             | 14.8        | Complied |
| 2501.0          | 25                | 12                    | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2501.0          | 1                 | 49                    | 18.6                     | 0.6                | 19.2       | 33.0             | 13.8        | Complied |
| 2501.0          | 1                 | 0                     | 17.8                     | 0.6                | 18.4       | 33.0             | 14.6        | Complied |
| 2501.0          | 1                 | 24                    | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |

**Results: 10 MHz Channel Bandwidth / Middle Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 50                | 0                     | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2593.0          | 25                | 24                    | 18.7                     | 0.6                | 19.3       | 33.0             | 13.7        | Complied |
| 2593.0          | 25                | 0                     | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2593.0          | 25                | 12                    | 17.6                     | 0.6                | 18.2       | 33.0             | 14.8        | Complied |
| 2593.0          | 1                 | 49                    | 18.7                     | 0.6                | 19.3       | 33.0             | 13.7        | Complied |
| 2593.0          | 1                 | 0                     | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |
| 2593.0          | 1                 | 24                    | 19.6                     | 0.6                | 20.2       | 33.0             | 12.8        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 10 MHz Channel Bandwidth / Middle Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 50                | 0                     | 16.7                     | 0.6                | 17.3       | 33.0             | 15.7        | Complied |
| 2593.0          | 25                | 24                    | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2593.0          | 25                | 0                     | 16.7                     | 0.6                | 17.3       | 33.0             | 15.7        | Complied |
| 2593.0          | 25                | 12                    | 16.7                     | 0.6                | 17.3       | 33.0             | 15.7        | Complied |
| 2593.0          | 1                 | 49                    | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2593.0          | 1                 | 0                     | 17.9                     | 0.6                | 18.5       | 33.0             | 14.5        | Complied |
| 2593.0          | 1                 | 24                    | 18.7                     | 0.6                | 19.3       | 33.0             | 13.7        | Complied |

**Results: 10 MHz Channel Bandwidth / Top Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2685.0          | 50                | 0                     | 18.5                     | 0.6                | 19.1       | 33.0             | 13.9        | Complied |
| 2685.0          | 25                | 24                    | 19.0                     | 0.6                | 19.6       | 33.0             | 13.4        | Complied |
| 2685.0          | 25                | 0                     | 18.5                     | 0.6                | 19.1       | 33.0             | 13.9        | Complied |
| 2685.0          | 25                | 12                    | 18.4                     | 0.6                | 19.0       | 33.0             | 14.0        | Complied |
| 2685.0          | 1                 | 49                    | 19.5                     | 0.6                | 20.1       | 33.0             | 12.9        | Complied |
| 2685.0          | 1                 | 0                     | 19.6                     | 0.6                | 20.2       | 33.0             | 12.8        | Complied |
| 2685.0          | 1                 | 24                    | 20.1                     | 0.6                | 20.7       | 33.0             | 12.3        | Complied |

**Results: 10 MHz Channel Bandwidth / Top Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2685.0          | 50                | 0                     | 17.4                     | 0.6                | 18.0       | 33.0             | 15.0        | Complied |
| 2685.0          | 25                | 24                    | 17.9                     | 0.6                | 18.5       | 33.0             | 14.5        | Complied |
| 2685.0          | 25                | 0                     | 17.4                     | 0.6                | 18.0       | 33.0             | 15.0        | Complied |
| 2685.0          | 25                | 12                    | 17.4                     | 0.6                | 18.0       | 33.0             | 15.0        | Complied |
| 2685.0          | 1                 | 49                    | 18.3                     | 0.6                | 18.9       | 33.0             | 14.1        | Complied |
| 2685.0          | 1                 | 0                     | 18.4                     | 0.6                | 19.0       | 33.0             | 14.0        | Complied |
| 2685.0          | 1                 | 24                    | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 15 MHz Channel Bandwidth / Bottom Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2503.5          | 75                | 0                     | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |
| 2503.5          | 36                | 37                    | 19.7                     | 0.6                | 20.3       | 33.0             | 12.7        | Complied |
| 2503.5          | 36                | 0                     | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |
| 2503.5          | 36                | 18                    | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |
| 2503.5          | 1                 | 74                    | 19.5                     | 0.6                | 20.1       | 33.0             | 12.9        | Complied |
| 2503.5          | 1                 | 0                     | 19.2                     | 0.6                | 19.8       | 33.0             | 13.2        | Complied |
| 2503.5          | 1                 | 36                    | 20.2                     | 0.6                | 20.8       | 33.0             | 12.2        | Complied |

**Results: 15 MHz Channel Bandwidth / Bottom Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2503.5          | 75                | 0                     | 17.8                     | 0.6                | 18.4       | 33.0             | 14.6        | Complied |
| 2503.5          | 36                | 37                    | 18.7                     | 0.6                | 19.3       | 33.0             | 13.7        | Complied |
| 2503.5          | 36                | 0                     | 17.8                     | 0.6                | 18.4       | 33.0             | 14.6        | Complied |
| 2503.5          | 36                | 18                    | 17.8                     | 0.6                | 18.4       | 33.0             | 14.6        | Complied |
| 2503.5          | 1                 | 74                    | 18.4                     | 0.6                | 19.0       | 33.0             | 14.0        | Complied |
| 2503.5          | 1                 | 0                     | 18.1                     | 0.6                | 18.7       | 33.0             | 14.3        | Complied |
| 2503.5          | 1                 | 36                    | 19.1                     | 0.6                | 19.7       | 33.0             | 13.3        | Complied |

**Results: 15 MHz Channel Bandwidth / Middle Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 75                | 0                     | 17.6                     | 0.6                | 18.2       | 33.0             | 14.8        | Complied |
| 2593.0          | 36                | 37                    | 18.6                     | 0.6                | 19.2       | 33.0             | 13.8        | Complied |
| 2593.0          | 36                | 0                     | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2593.0          | 36                | 18                    | 17.6                     | 0.6                | 18.2       | 33.0             | 14.8        | Complied |
| 2593.0          | 1                 | 74                    | 18.6                     | 0.6                | 19.2       | 33.0             | 13.8        | Complied |
| 2593.0          | 1                 | 0                     | 18.9                     | 0.6                | 19.5       | 33.0             | 13.5        | Complied |
| 2593.0          | 1                 | 36                    | 19.6                     | 0.6                | 20.2       | 33.0             | 12.8        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 15 MHz Channel Bandwidth / Middle Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 75                | 0                     | 16.7                     | 0.6                | 17.3       | 33.0             | 15.7        | Complied |
| 2593.0          | 36                | 37                    | 17.6                     | 0.6                | 18.2       | 33.0             | 14.8        | Complied |
| 2593.0          | 36                | 0                     | 16.8                     | 0.6                | 17.4       | 33.0             | 15.6        | Complied |
| 2593.0          | 36                | 18                    | 16.7                     | 0.6                | 17.3       | 33.0             | 15.7        | Complied |
| 2593.0          | 1                 | 74                    | 17.6                     | 0.6                | 18.2       | 33.0             | 14.8        | Complied |
| 2593.0          | 1                 | 0                     | 17.9                     | 0.6                | 18.5       | 33.0             | 14.5        | Complied |
| 2593.0          | 1                 | 36                    | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |

**Results: 15 MHz Channel Bandwidth / Top Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2682.5          | 75                | 0                     | 18.5                     | 0.6                | 19.1       | 33.0             | 13.9        | Complied |
| 2682.5          | 36                | 37                    | 19.1                     | 0.6                | 19.7       | 33.0             | 13.3        | Complied |
| 2682.5          | 36                | 0                     | 18.6                     | 0.6                | 19.2       | 33.0             | 13.8        | Complied |
| 2682.5          | 36                | 18                    | 18.5                     | 0.6                | 19.1       | 33.0             | 13.9        | Complied |
| 2682.5          | 1                 | 74                    | 19.2                     | 0.6                | 19.8       | 33.0             | 13.2        | Complied |
| 2682.5          | 1                 | 0                     | 19.6                     | 0.6                | 20.2       | 33.0             | 12.8        | Complied |
| 2682.5          | 1                 | 36                    | 20.2                     | 0.6                | 20.8       | 33.0             | 12.2        | Complied |

**Results: 15 MHz Channel Bandwidth / Top Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2682.5          | 75                | 0                     | 17.4                     | 0.6                | 18.0       | 33.0             | 15.0        | Complied |
| 2682.5          | 36                | 37                    | 18.0                     | 0.6                | 18.6       | 33.0             | 14.4        | Complied |
| 2682.5          | 36                | 0                     | 17.4                     | 0.6                | 18.0       | 33.0             | 15.0        | Complied |
| 2682.5          | 36                | 18                    | 17.3                     | 0.6                | 17.9       | 33.0             | 15.1        | Complied |
| 2682.5          | 1                 | 74                    | 18.1                     | 0.6                | 18.7       | 33.0             | 14.3        | Complied |
| 2682.5          | 1                 | 0                     | 18.5                     | 0.6                | 19.1       | 33.0             | 13.9        | Complied |
| 2682.5          | 1                 | 36                    | 19.0                     | 0.6                | 19.6       | 33.0             | 13.4        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 20 MHz Channel Bandwidth / Bottom Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2506.0          | 100               | 0                     | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |
| 2506.0          | 50                | 49                    | 19.7                     | 0.6                | 20.3       | 33.0             | 12.7        | Complied |
| 2506.0          | 50                | 0                     | 18.9                     | 0.6                | 19.5       | 33.0             | 13.5        | Complied |
| 2506.0          | 50                | 24                    | 18.9                     | 0.6                | 19.5       | 33.0             | 13.5        | Complied |
| 2506.0          | 1                 | 99                    | 19.6                     | 0.6                | 20.2       | 33.0             | 12.8        | Complied |
| 2506.0          | 1                 | 0                     | 19.4                     | 0.6                | 20.0       | 33.0             | 13.0        | Complied |
| 2506.0          | 1                 | 49                    | 20.5                     | 0.6                | 21.1       | 33.0             | 11.9        | Complied |

**Results: 20 MHz Channel Bandwidth / Bottom Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2506.0          | 100               | 0                     | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2506.0          | 50                | 49                    | 18.7                     | 0.6                | 19.3       | 33.0             | 13.7        | Complied |
| 2506.0          | 50                | 0                     | 17.9                     | 0.6                | 18.5       | 33.0             | 14.5        | Complied |
| 2506.0          | 50                | 24                    | 17.9                     | 0.6                | 18.5       | 33.0             | 14.5        | Complied |
| 2506.0          | 1                 | 99                    | 18.4                     | 0.6                | 19.0       | 33.0             | 14.0        | Complied |
| 2506.0          | 1                 | 0                     | 18.2                     | 0.6                | 18.8       | 33.0             | 14.2        | Complied |
| 2506.0          | 1                 | 49                    | 19.4                     | 0.6                | 20.0       | 33.0             | 13.0        | Complied |

**Results: 20 MHz Channel Bandwidth / Middle Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 100               | 0                     | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2593.0          | 50                | 49                    | 18.7                     | 0.6                | 19.3       | 33.0             | 13.7        | Complied |
| 2593.0          | 50                | 0                     | 17.9                     | 0.6                | 18.5       | 33.0             | 14.5        | Complied |
| 2593.0          | 50                | 24                    | 17.8                     | 0.6                | 18.4       | 33.0             | 14.6        | Complied |
| 2593.0          | 1                 | 99                    | 18.7                     | 0.6                | 19.3       | 33.0             | 13.7        | Complied |
| 2593.0          | 1                 | 0                     | 19.2                     | 0.6                | 19.8       | 33.0             | 13.2        | Complied |
| 2593.0          | 1                 | 49                    | 19.6                     | 0.6                | 20.2       | 33.0             | 12.8        | Complied |

**Transmitter Output Power (EIRP) (continued)****Results: 20 MHz Channel Bandwidth / Middle Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2593.0          | 100               | 0                     | 16.7                     | 0.6                | 17.3       | 33.0             | 15.7        | Complied |
| 2593.0          | 50                | 49                    | 17.6                     | 0.6                | 18.2       | 33.0             | 14.8        | Complied |
| 2593.0          | 50                | 0                     | 16.9                     | 0.6                | 17.5       | 33.0             | 15.5        | Complied |
| 2593.0          | 50                | 24                    | 16.7                     | 0.6                | 17.3       | 33.0             | 15.7        | Complied |
| 2593.0          | 1                 | 99                    | 17.6                     | 0.6                | 18.2       | 33.0             | 14.8        | Complied |
| 2593.0          | 1                 | 0                     | 18.0                     | 0.6                | 18.6       | 33.0             | 14.4        | Complied |
| 2593.0          | 1                 | 49                    | 18.6                     | 0.6                | 19.2       | 33.0             | 13.8        | Complied |

**Results: 20 MHz Channel Bandwidth / Top Channel / QPSK**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2680.0          | 100               | 0                     | 18.5                     | 0.6                | 19.1       | 33.0             | 13.9        | Complied |
| 2680.0          | 50                | 49                    | 19.1                     | 0.6                | 19.7       | 33.0             | 13.3        | Complied |
| 2680.0          | 50                | 0                     | 18.7                     | 0.6                | 19.3       | 33.0             | 13.7        | Complied |
| 2680.0          | 50                | 24                    | 18.5                     | 0.6                | 19.1       | 33.0             | 13.9        | Complied |
| 2680.0          | 1                 | 99                    | 19.5                     | 0.6                | 20.1       | 33.0             | 12.9        | Complied |
| 2680.0          | 1                 | 0                     | 20.0                     | 0.6                | 20.6       | 33.0             | 12.4        | Complied |
| 2680.0          | 1                 | 49                    | 20.3                     | 0.6                | 20.9       | 33.0             | 12.1        | Complied |

**Results: 20 MHz Channel Bandwidth / Top Channel / 16QAM**

| Frequency (MHz) | Resource Block(s) | Resource Block Offset | Conducted RF Power (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Margin (dB) | Result   |
|-----------------|-------------------|-----------------------|--------------------------|--------------------|------------|------------------|-------------|----------|
| 2680.0          | 100               | 0                     | 17.4                     | 0.6                | 18.0       | 33.0             | 15.0        | Complied |
| 2680.0          | 50                | 49                    | 18.2                     | 0.6                | 18.8       | 33.0             | 14.2        | Complied |
| 2680.0          | 50                | 0                     | 17.7                     | 0.6                | 18.3       | 33.0             | 14.7        | Complied |
| 2680.0          | 50                | 24                    | 17.5                     | 0.6                | 18.1       | 33.0             | 14.9        | Complied |
| 2680.0          | 1                 | 99                    | 18.3                     | 0.6                | 18.9       | 33.0             | 14.1        | Complied |
| 2680.0          | 1                 | 0                     | 18.8                     | 0.6                | 19.4       | 33.0             | 13.6        | Complied |
| 2680.0          | 1                 | 49                    | 19.2                     | 0.6                | 19.8       | 33.0             | 13.2        | Complied |

**Transmitter Output Power (EIRP) (continued)****Test Equipment Used:**

| Asset No. | Instrument                  | Manufacturer    | Type No.     | Serial No. | Date Calibration Due  | Cal. Interval (Months) |
|-----------|-----------------------------|-----------------|--------------|------------|-----------------------|------------------------|
| M2002     | Thermohygrometer            | Testo           | 608-H1       | 45041825   | 02 Apr 2017           | 12                     |
| M1869     | Wideband Radio Comms Tester | Rohde & Schwarz | CMW500       | 145923     | 05 Apr 2017           | 12                     |
| A2845     | Attenuator                  | Radiall         | R411.806.121 | 24325927   | Calibrated before use | -                      |
| A2844     | Attenuator                  | Radiall         | R411.803.121 | 23404066   | Calibrated before use | -                      |
| S0562     | Power Supply                | Thurlby Thandar | PL330QMD     | 054895     | Calibrated before use | -                      |
| M1269     | Multimeter                  | Fluke           | 179          | 90250210   | 13 May 2017           | 12                     |
| G0628     | Signal Generator            | Rohde & Schwarz | SMBV100A     | 261847     | 25 Jan 2017           | 12                     |
| M1835     | Signal Analyser             | Rohde & Schwarz | FSV30        | 103050     | 26 Feb 2017           | 12                     |

**5.2.3. Transmitter Peak-To-Average Ratio (PAR)****Test Summary:**

|                   |                 |            |              |
|-------------------|-----------------|------------|--------------|
| Test Engineer:    | Keith Tucker    | Test Date: | 23 July 2016 |
| Test Sample IMEI: | 358640070269106 |            |              |

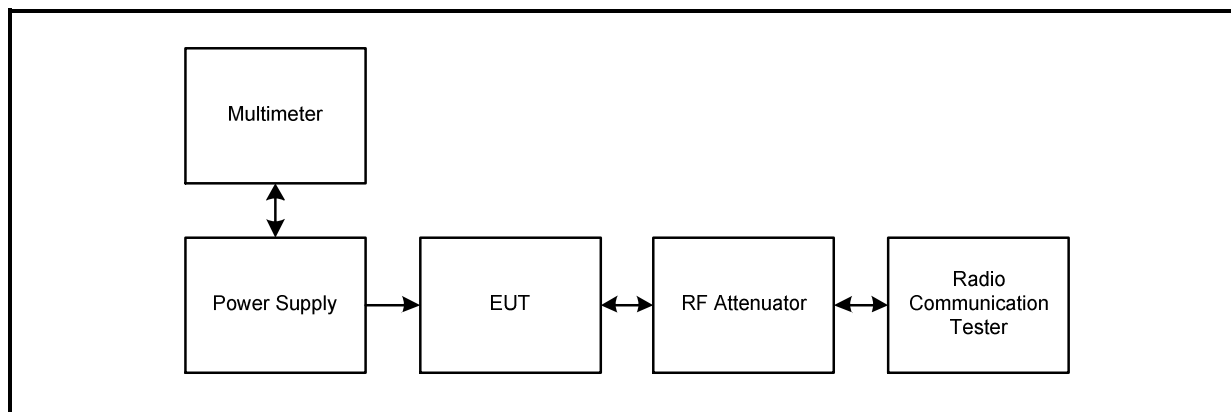
|                   |                          |
|-------------------|--------------------------|
| FCC Reference:    | Part 27.50(d)(5)         |
| Test Method Used: | KDB 971168 Section 5.7.1 |

**Environmental Conditions:**

|                        |    |
|------------------------|----|
| Temperature (°C):      | 25 |
| Relative Humidity (%): | 47 |

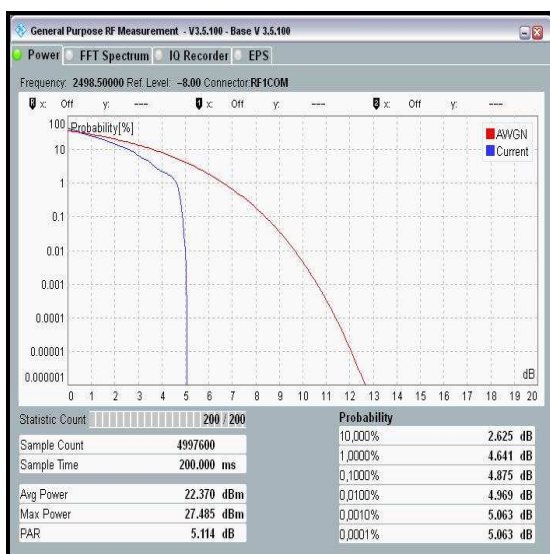
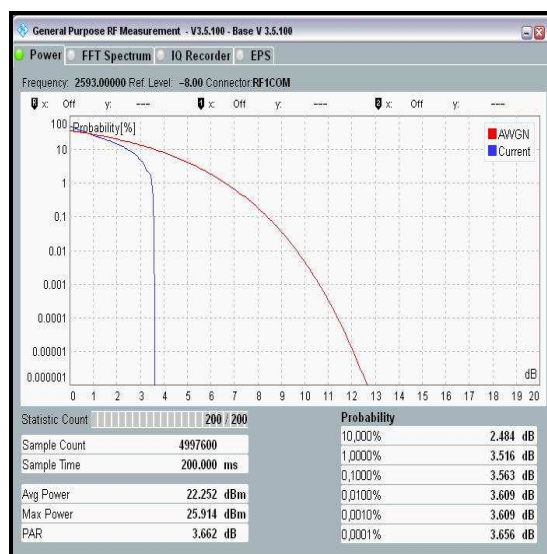
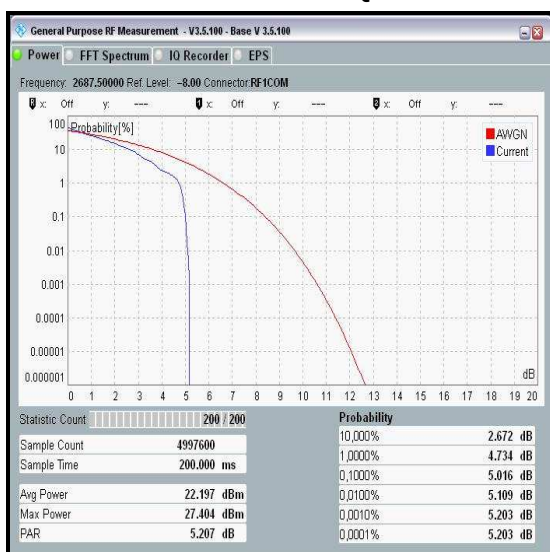
**Note(s):**

1. The CCDF analyser function of a communications test set was used to measure PAPR when the EUT was transmitting with both QPSK and 16QAM modulations, all supported channel bandwidths on bottom, middle and top channels for 1 resource block. Maximum PAPR levels associated with a probability of 0.1% were recorded.

**Test setup:**

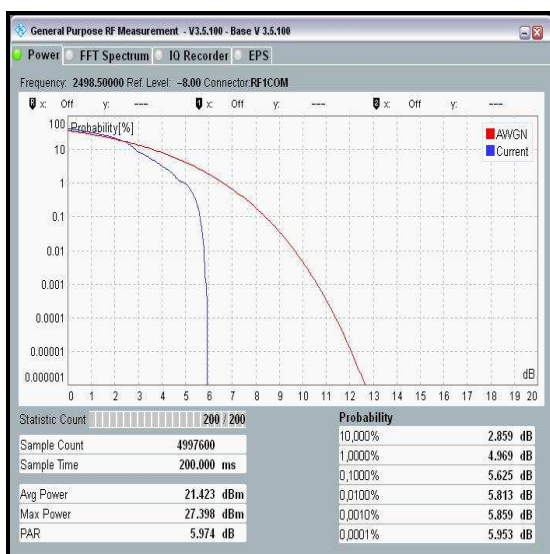
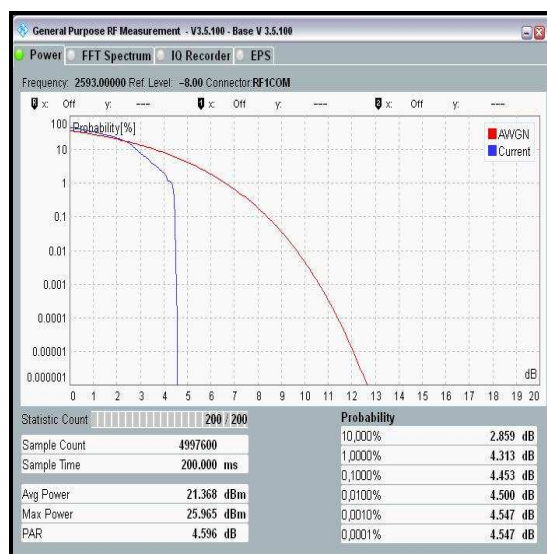
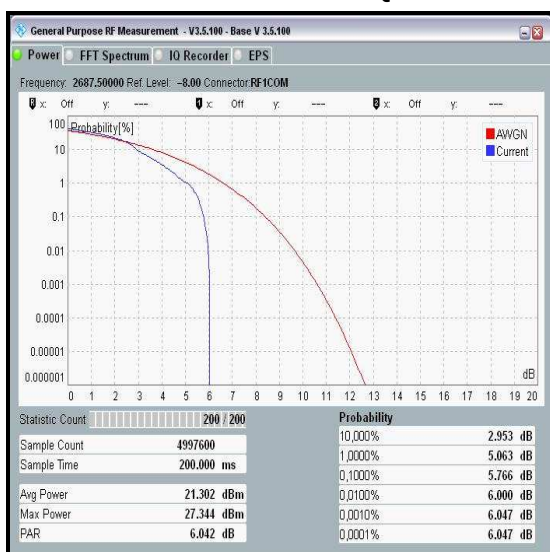
**Transmitter Peak-To-Average Ratio (PAR) (continued)****Results: 5 MHz Channel Bandwidth / QPSK**

| Channel | Resource Block(s) | Resource Block Offset | PAR (dB) | Ratio Limit (dB) | Margin (dB) | Result   |
|---------|-------------------|-----------------------|----------|------------------|-------------|----------|
| Bottom  | 1                 | 0                     | 4.9      | 13.0             | 8.1         | Complied |
| Middle  | 1                 | 0                     | 3.6      | 13.0             | 9.4         | Complied |
| Top     | 1                 | 0                     | 5.0      | 13.0             | 8.0         | Complied |

**Bottom Channel / QPSK****Middle Channel / QPSK****Top Channel / QPSK**

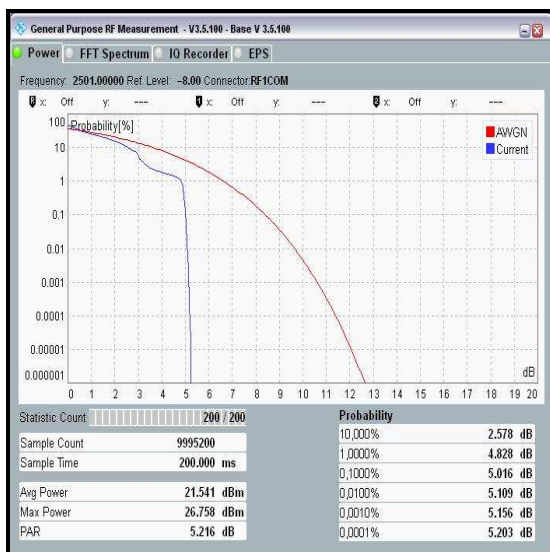
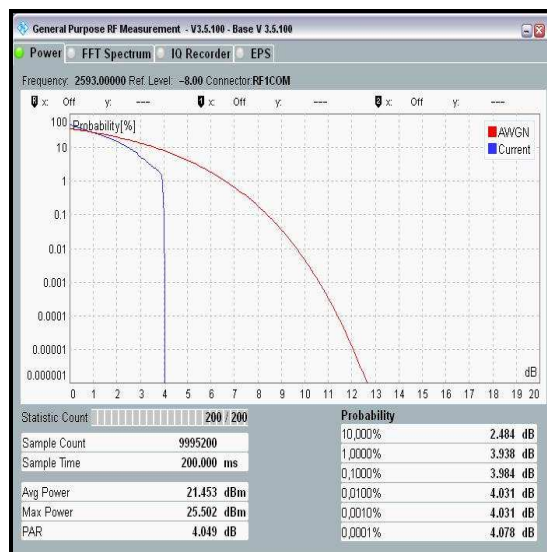
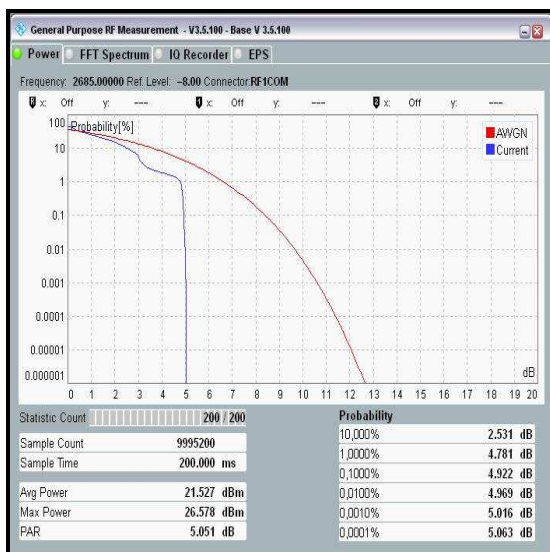
**Transmitter Peak-To-Average Ratio (PAR) (continued)****Results: 5 MHz Channel Bandwidth / 16QAM**

| Channel | Resource Block(s) | Resource Block Offset | PAR (dB) | Ratio Limit (dB) | Margin (dB) | Result   |
|---------|-------------------|-----------------------|----------|------------------|-------------|----------|
| Bottom  | 1                 | 0                     | 5.6      | 13.0             | 7.4         | Complied |
| Middle  | 1                 | 0                     | 4.5      | 13.0             | 8.5         | Complied |
| Top     | 1                 | 0                     | 5.8      | 13.0             | 7.2         | Complied |

**Bottom Channel / 16QAM****Middle Channel / 16QAM****Top Channel / 16QAM**

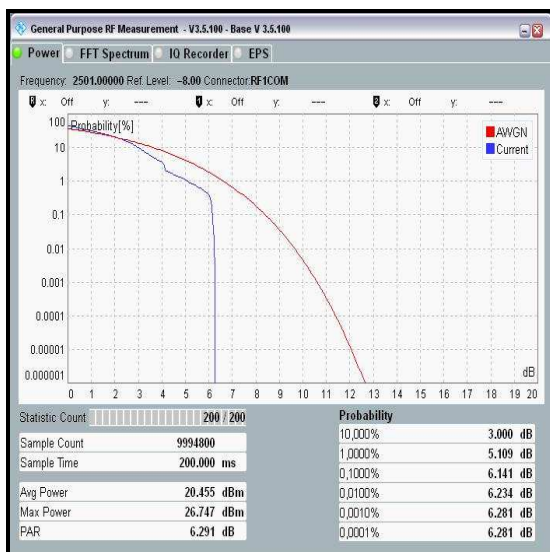
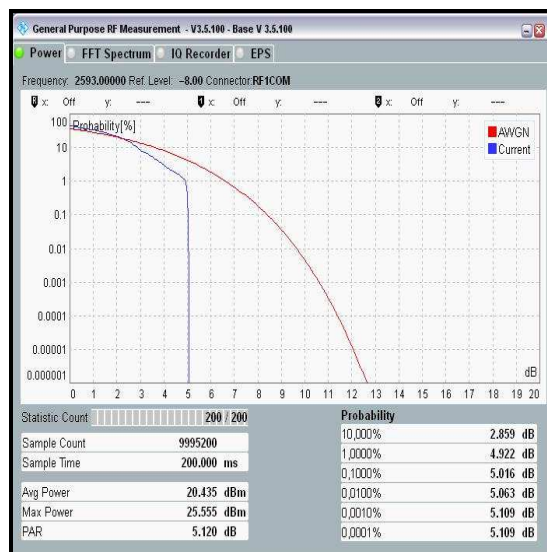
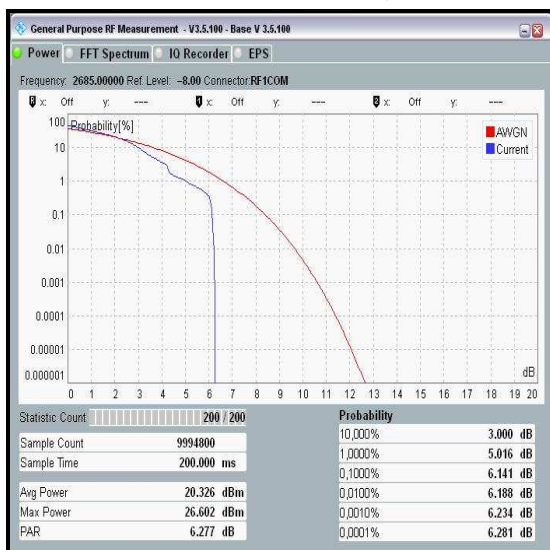
**Transmitter Peak-To-Average Ratio (PAR) (continued)****Results: 10 MHz Channel Bandwidth / QPSK**

| Channel | Resource Block(s) | Resource Block Offset | PAR (dB) | Ratio Limit (dB) | Margin (dB) | Result   |
|---------|-------------------|-----------------------|----------|------------------|-------------|----------|
| Bottom  | 1                 | 0                     | 5.0      | 13.0             | 8.0         | Complied |
| Middle  | 1                 | 0                     | 4.0      | 13.0             | 9.0         | Complied |
| Top     | 1                 | 0                     | 4.9      | 13.0             | 8.1         | Complied |

**Bottom Channel / QPSK****Middle Channel / QPSK****Top Channel / QPSK**

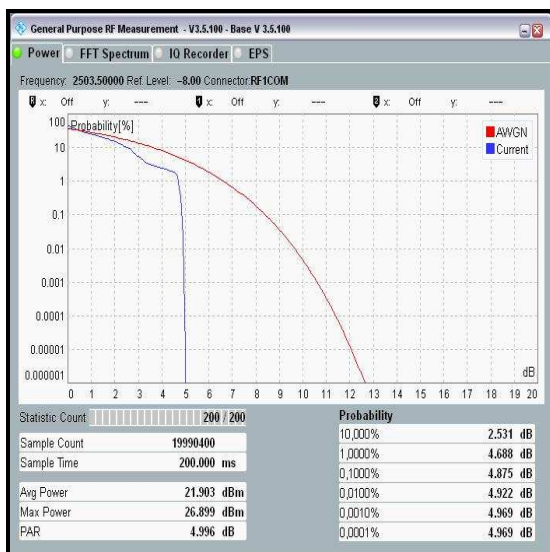
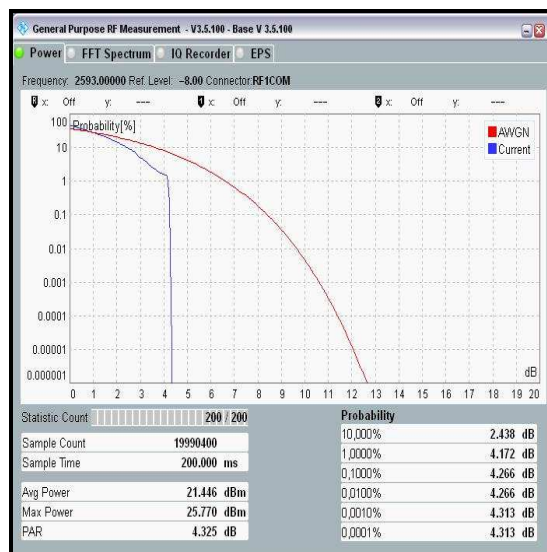
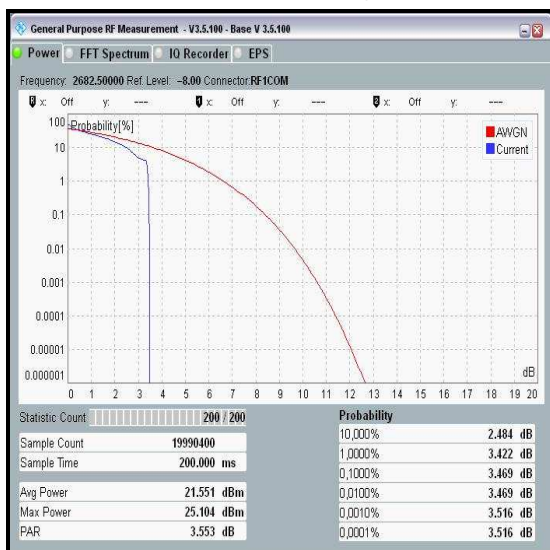
**Transmitter Peak-To-Average Ratio (PAR) (continued)****Results: 10 MHz Channel Bandwidth / 16QAM**

| Channel | Resource Block(s) | Resource Block Offset | PAR (dB) | Ratio Limit (dB) | Margin (dB) | Result   |
|---------|-------------------|-----------------------|----------|------------------|-------------|----------|
| Bottom  | 1                 | 0                     | 6.1      | 13.0             | 6.9         | Complied |
| Middle  | 1                 | 0                     | 5.0      | 13.0             | 8.0         | Complied |
| Top     | 1                 | 0                     | 6.1      | 13.0             | 6.9         | Complied |

**Bottom Channel / 16QAM****Middle Channel / 16QAM****Top Channel / 16QAM**

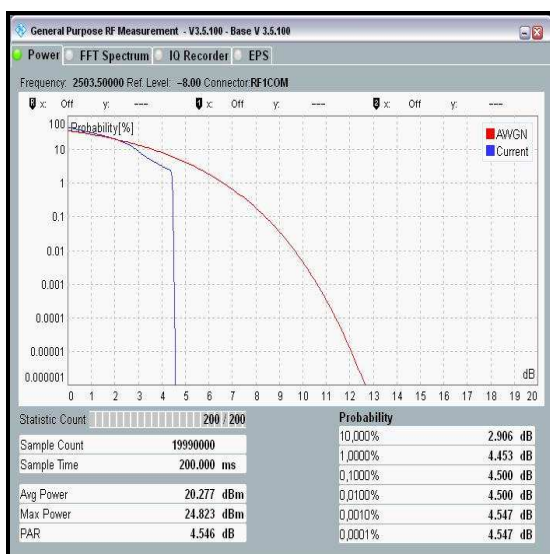
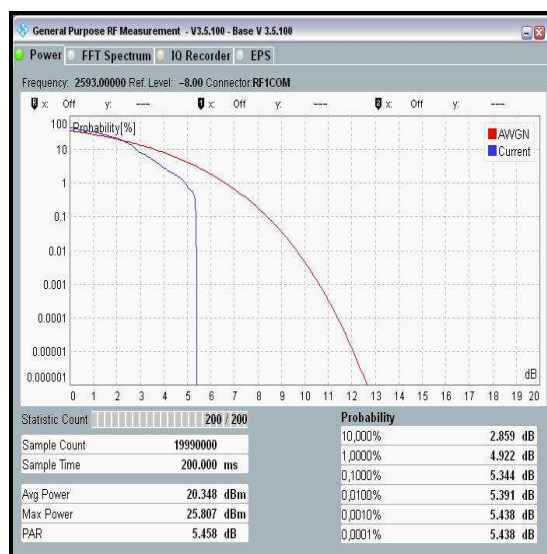
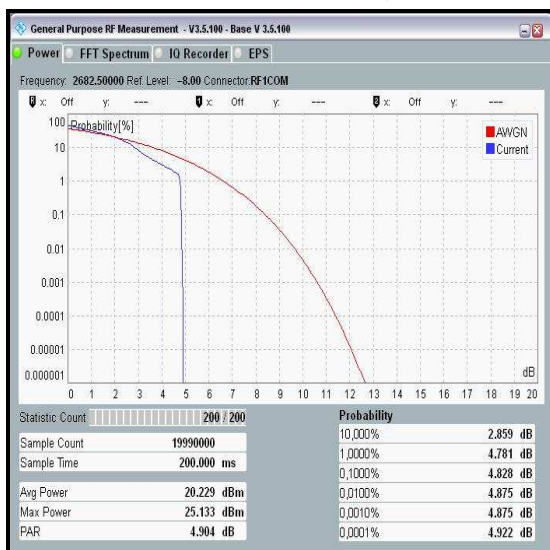
**Transmitter Peak-To-Average Ratio (PAR) (continued)****Results: 15 MHz Channel Bandwidth / QPSK**

| Channel | Resource Block(s) | Resource Block Offset | PAR (dB) | Ratio Limit (dB) | Margin (dB) | Result   |
|---------|-------------------|-----------------------|----------|------------------|-------------|----------|
| Bottom  | 1                 | 0                     | 4.9      | 13.0             | 8.1         | Complied |
| Middle  | 1                 | 0                     | 4.3      | 13.0             | 8.7         | Complied |
| Top     | 1                 | 0                     | 3.5      | 13.0             | 9.5         | Complied |

**Bottom Channel / QPSK****Middle Channel / QPSK****Top Channel / QPSK**

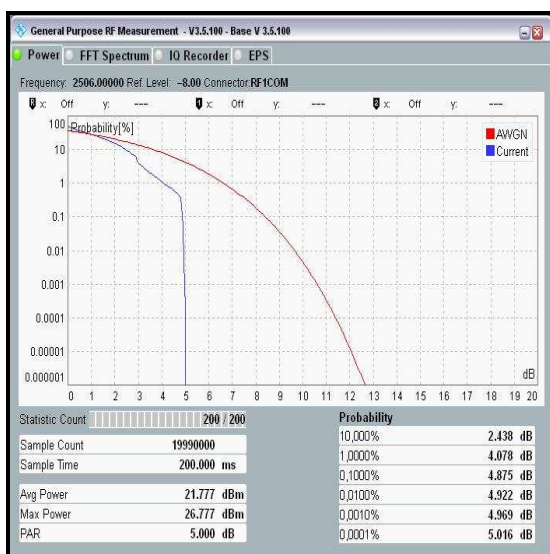
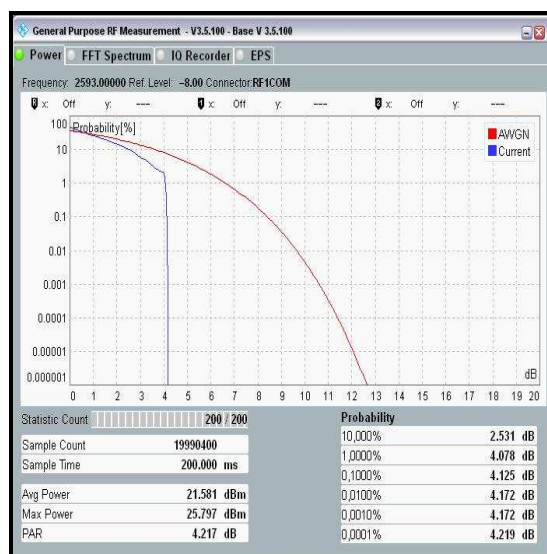
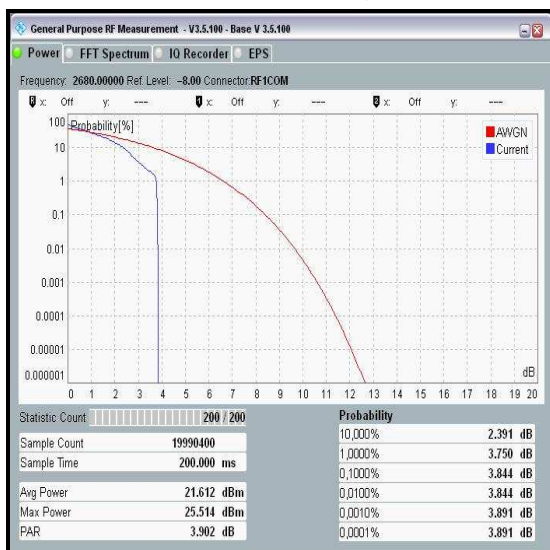
**Transmitter Peak-To-Average Ratio (PAR) (continued)****Results: 15 MHz Channel Bandwidth / 16QAM**

| Channel | Resource Block(s) | Resource Block Offset | PAR (dB) | Ratio Limit (dB) | Margin (dB) | Result   |
|---------|-------------------|-----------------------|----------|------------------|-------------|----------|
| Bottom  | 1                 | 0                     | 4.5      | 13.0             | 8.5         | Complied |
| Middle  | 1                 | 0                     | 5.3      | 13.0             | 7.7         | Complied |
| Top     | 1                 | 0                     | 4.8      | 13.0             | 8.2         | Complied |

**Bottom Channel / 16QAM****Middle Channel / 16QAM****Top Channel / 16QAM**

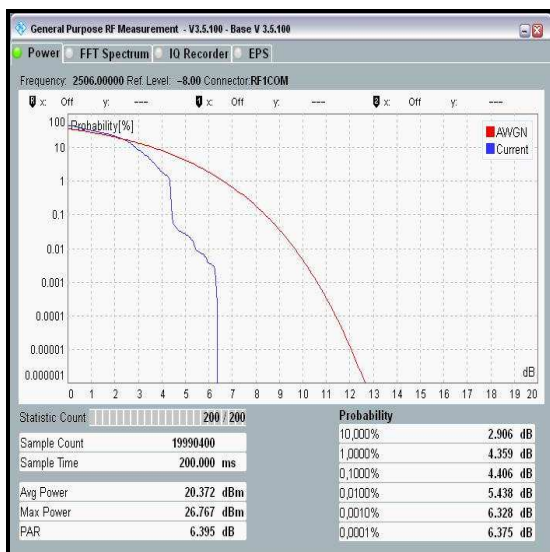
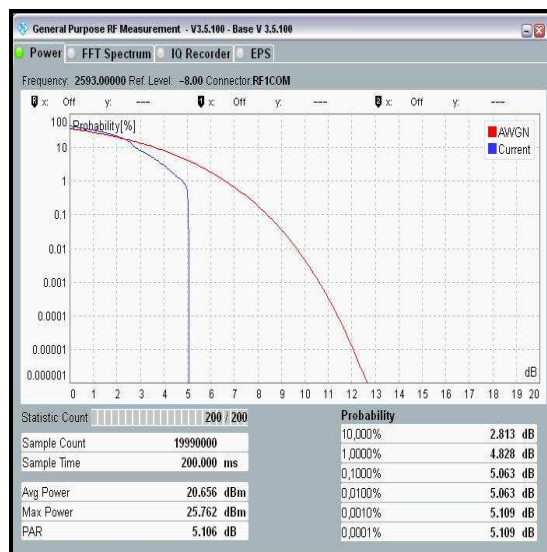
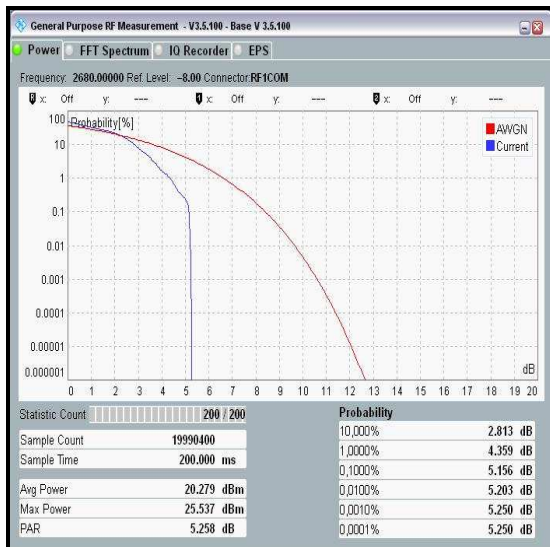
**Transmitter Peak-To-Average Ratio (PAR) (continued)****Results: 20 MHz Channel Bandwidth / QPSK**

| Channel | Resource Block(s) | Resource Block Offset | PAR (dB) | Ratio Limit (dB) | Margin (dB) | Result   |
|---------|-------------------|-----------------------|----------|------------------|-------------|----------|
| Bottom  | 1                 | 0                     | 4.9      | 13.0             | 8.1         | Complied |
| Middle  | 1                 | 0                     | 4.1      | 13.0             | 8.9         | Complied |
| Top     | 1                 | 0                     | 3.8      | 13.0             | 9.2         | Complied |

**Bottom Channel / QPSK****Middle Channel / QPSK****Top Channel / QPSK**

**Transmitter Peak-To-Average Ratio (PAR) (continued)****Results: 20 MHz Channel Bandwidth / 16QAM**

| Channel | Resource Block(s) | Resource Block Offset | PAR (dB) | Ratio Limit (dB) | Margin (dB) | Result   |
|---------|-------------------|-----------------------|----------|------------------|-------------|----------|
| Bottom  | 1                 | 0                     | 4.4      | 13.0             | 8.6         | Complied |
| Middle  | 1                 | 0                     | 5.1      | 13.0             | 7.9         | Complied |
| Top     | 1                 | 0                     | 5.2      | 13.0             | 7.8         | Complied |

**Bottom Channel / 16QAM****Middle Channel / 16QAM****Top Channel / 16QAM**

**Transmitter Peak-To-Average Ratio (PAR) (continued)****Test Equipment Used:**

| Asset No. | Instrument                  | Manufacturer    | Type No.     | Serial No. | Date Calibration Due  | Cal. Interval (Months) |
|-----------|-----------------------------|-----------------|--------------|------------|-----------------------|------------------------|
| M2002     | Thermohygrometer            | Testo           | 608-H1       | 45041825   | 02 Apr 2017           | 12                     |
| M1869     | Wideband Radio Comms Tester | Rohde & Schwarz | CMW500       | 145923     | 05 Apr 2017           | 12                     |
| A2845     | Attenuator                  | Radiall         | R411.806.121 | 24325927   | Calibrated before use | -                      |
| A2844     | Attenuator                  | Radiall         | R411.803.121 | 23404066   | Calibrated before use | -                      |
| S0562     | Power Supply                | Thurlby Thandar | PL330QMD     | 054895     | Calibrated before use | -                      |
| M1269     | Multimeter                  | Fluke           | 179          | 90250210   | 13 May 2017           | 12                     |
| G0628     | Signal Generator            | Rohde & Schwarz | SMBV100A     | 261847     | 25 Jan 2017           | 12                     |
| M1835     | Signal Analyser             | Rohde & Schwarz | FSV30        | 103050     | 26 Feb 2017           | 12                     |

**5.2.4. Transmitter Occupied Bandwidth****Test Summary:**

|                   |                 |            |              |
|-------------------|-----------------|------------|--------------|
| Test Engineer:    | Keith Tucker    | Test Date: | 04 July 2016 |
| Test Sample IMEI: | 358640070269106 |            |              |

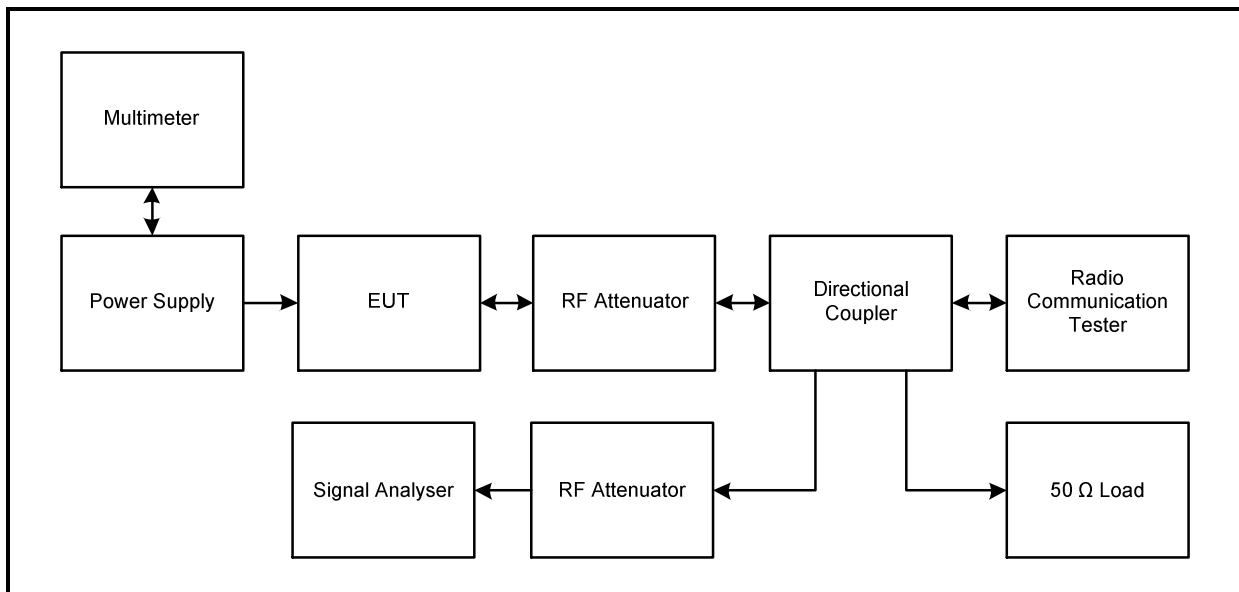
|                   |                        |
|-------------------|------------------------|
| FCC Reference:    | Part 2.1049            |
| Test Method Used: | KDB 971168 Section 4.2 |

**Environmental Conditions:**

|                        |    |
|------------------------|----|
| Temperature (°C):      | 23 |
| Relative Humidity (%): | 46 |

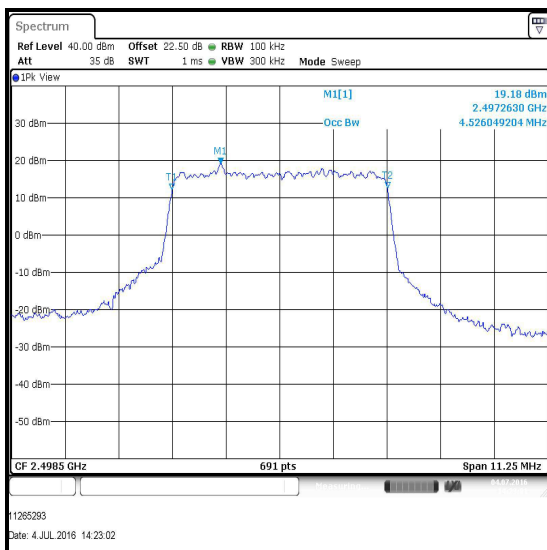
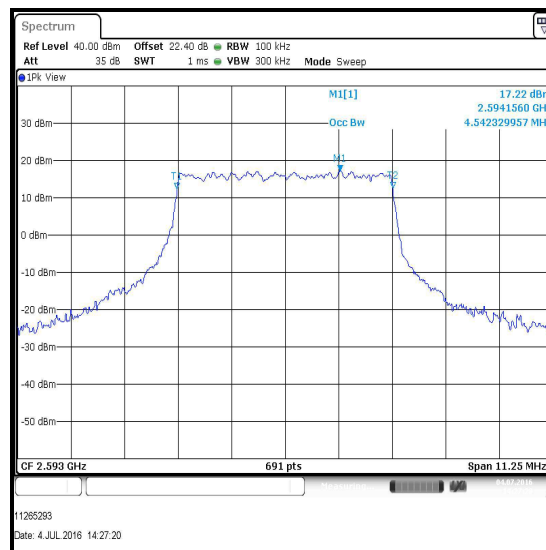
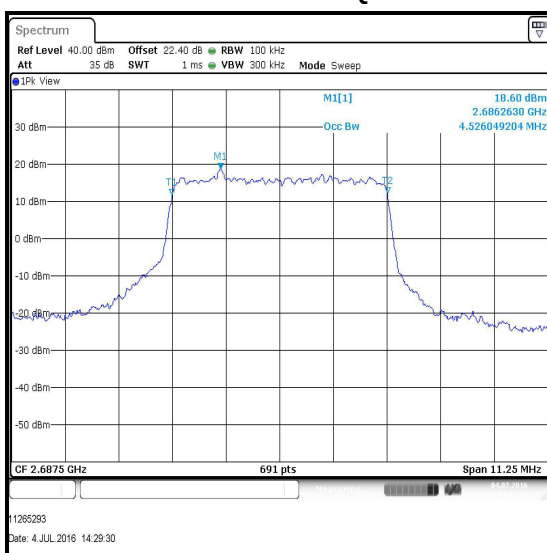
**Note(s):**

1. Occupied bandwidth (99% bandwidth) was measured using a signal analyser occupied bandwidth function.
2. Measurements were performed with the EUT transmitting with QPSK and 16QAM modulation schemes, with resource blocks settings as detailed in section 4.3 of this report.
3. The RF port of the EUT was connected to the signal analyser via RF cables, directional coupler and suitable attenuation.

**Test setup:**

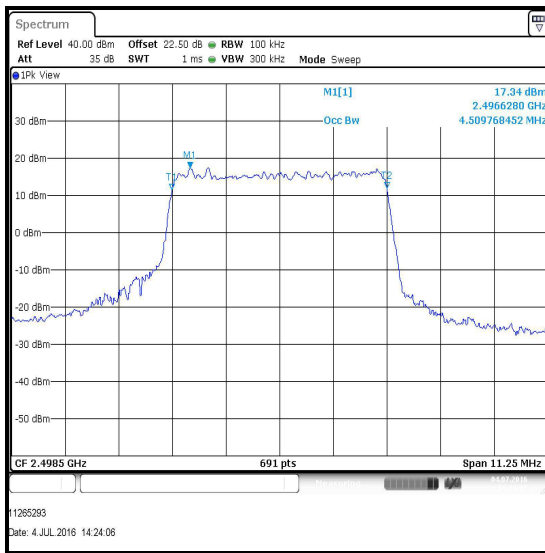
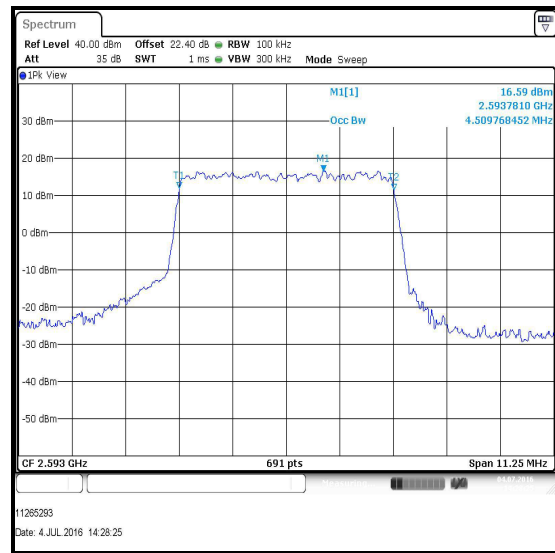
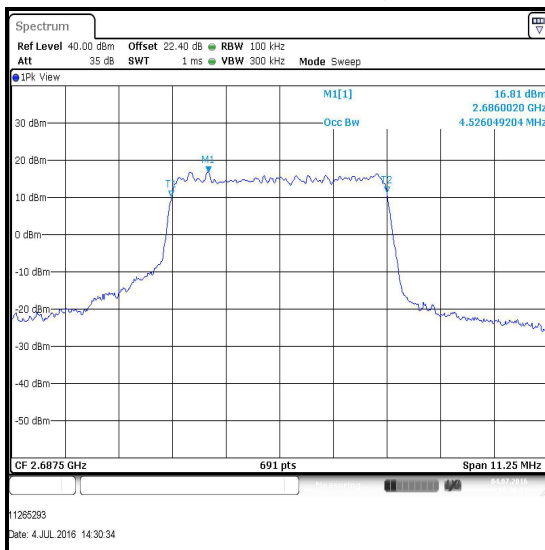
**Transmitter Occupied Bandwidth (continued)****Results: 5 MHz Channel Bandwidth / QPSK**

| Channel | Resource Block(s) | Resource Block Offset | Resolution Bandwidth (kHz) | Video Bandwidth (kHz) | Occupied Bandwidth (MHz) |
|---------|-------------------|-----------------------|----------------------------|-----------------------|--------------------------|
| Bottom  | 25                | 0                     | 100                        | 300                   | 4.526                    |
| Middle  | 25                | 0                     | 100                        | 300                   | 4.542                    |
| Top     | 25                | 0                     | 100                        | 300                   | 4.526                    |

**Bottom Channel / QPSK****Middle Channel / QPSK****Top Channel / QPSK**

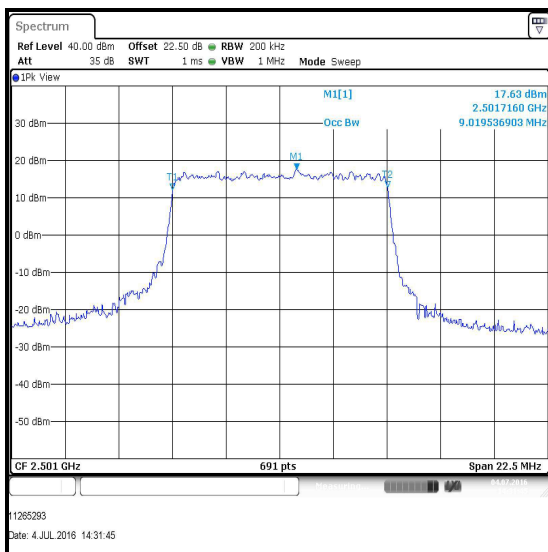
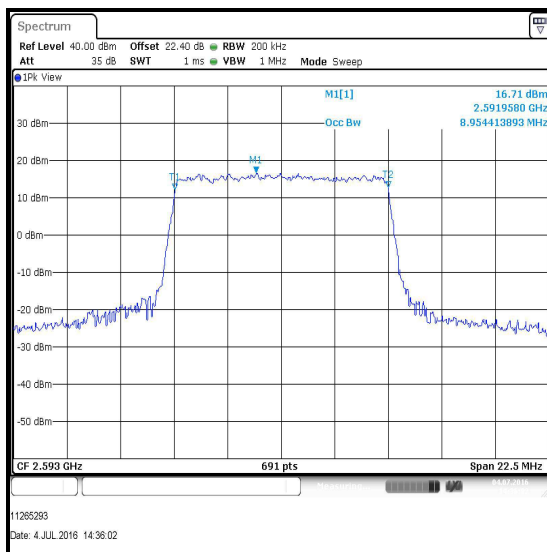
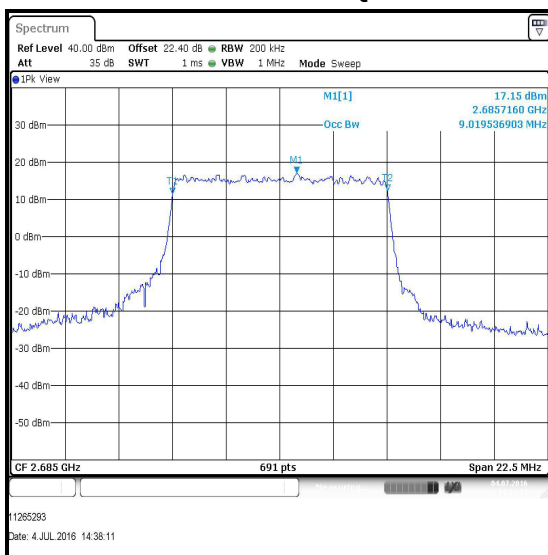
**Transmitter Occupied Bandwidth (continued)****Results: 5 MHz Channel Bandwidth / 16QAM**

| Channel | Resource Block(s) | Resource Block Offset | Resolution Bandwidth (kHz) | Video Bandwidth (kHz) | Occupied Bandwidth (MHz) |
|---------|-------------------|-----------------------|----------------------------|-----------------------|--------------------------|
| Bottom  | 25                | 0                     | 100                        | 300                   | 4.510                    |
| Middle  | 25                | 0                     | 100                        | 300                   | 4.510                    |
| Top     | 25                | 0                     | 100                        | 300                   | 4.526                    |

**Bottom Channel / 16QAM****Middle Channel / 16QAM****Top Channel / 16QAM**

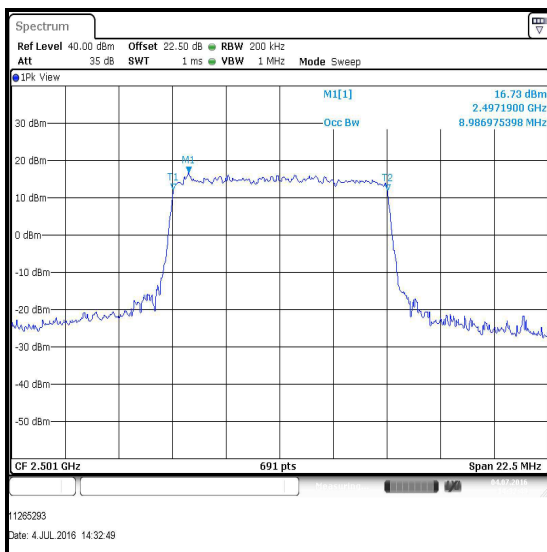
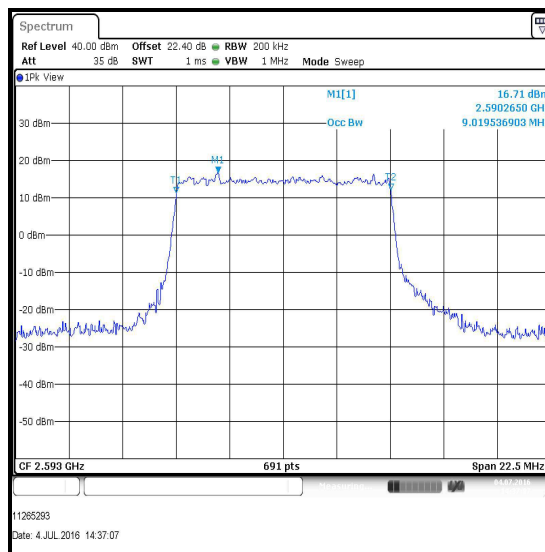
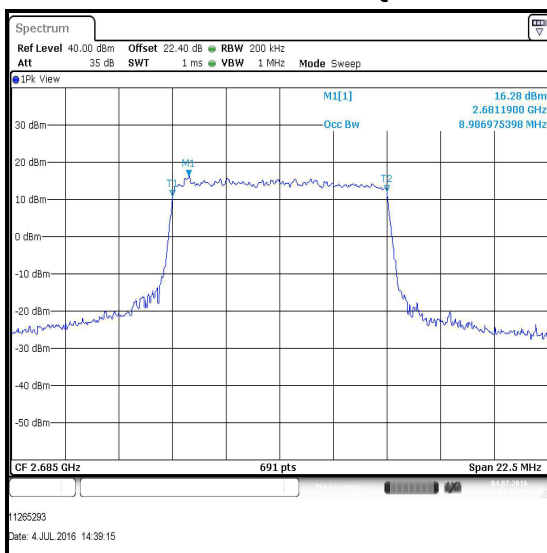
**Transmitter Occupied Bandwidth (continued)****Results: 10 MHz Channel Bandwidth / QPSK**

| Channel | Resource Block(s) | Resource Block Offset | Resolution Bandwidth (kHz) | Video Bandwidth (kHz) | Occupied Bandwidth (MHz) |
|---------|-------------------|-----------------------|----------------------------|-----------------------|--------------------------|
| Bottom  | 50                | 0                     | 200                        | 1000                  | 9.020                    |
| Middle  | 50                | 0                     | 200                        | 1000                  | 8.954                    |
| Top     | 50                | 0                     | 200                        | 1000                  | 9.020                    |

**Bottom Channel / QPSK****Middle Channel / QPSK****Top Channel / QPSK**

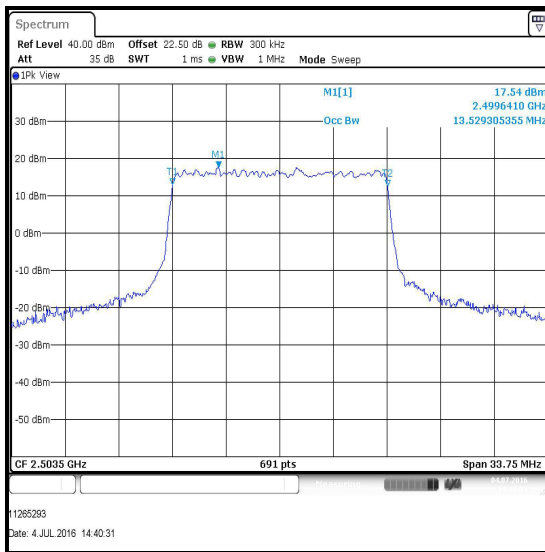
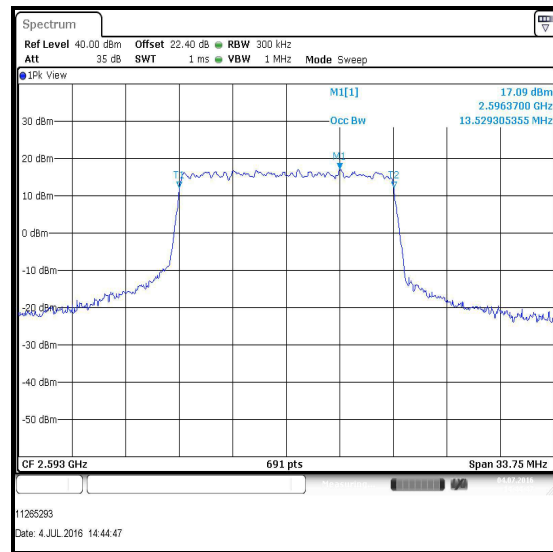
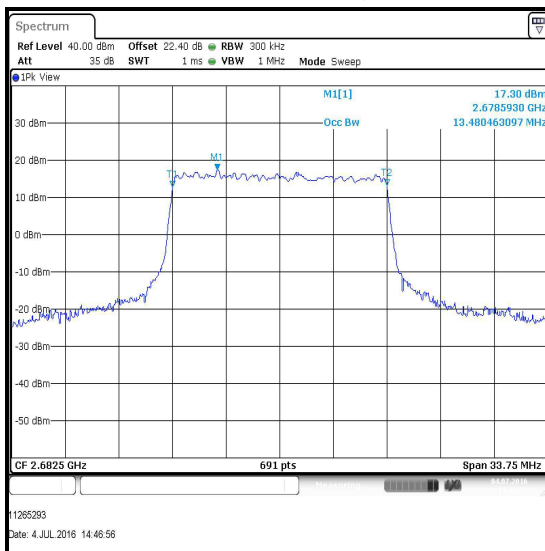
**Transmitter Occupied Bandwidth (continued)****Results: 10 MHz Channel Bandwidth / 16QAM**

| Channel | Resource Block(s) | Resource Block Offset | Resolution Bandwidth (kHz) | Video Bandwidth (kHz) | Occupied Bandwidth (MHz) |
|---------|-------------------|-----------------------|----------------------------|-----------------------|--------------------------|
| Bottom  | 50                | 0                     | 200                        | 1000                  | 8.987                    |
| Middle  | 50                | 0                     | 200                        | 1000                  | 9.020                    |
| Top     | 50                | 0                     | 200                        | 1000                  | 8.987                    |

**Bottom Channel / 16QAM****Middle Channel / 16QAM****Top Channel / 16QAM**

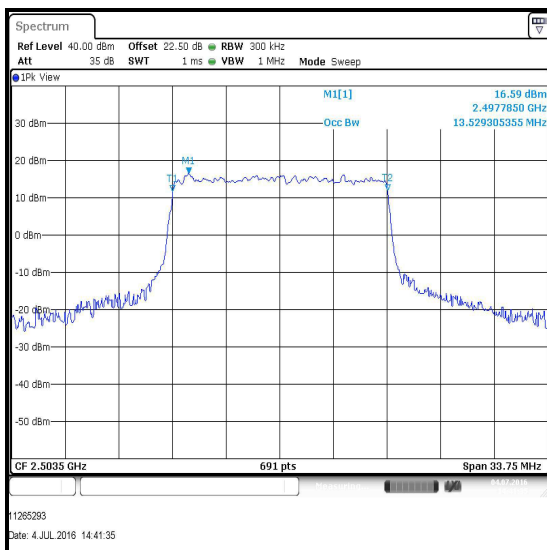
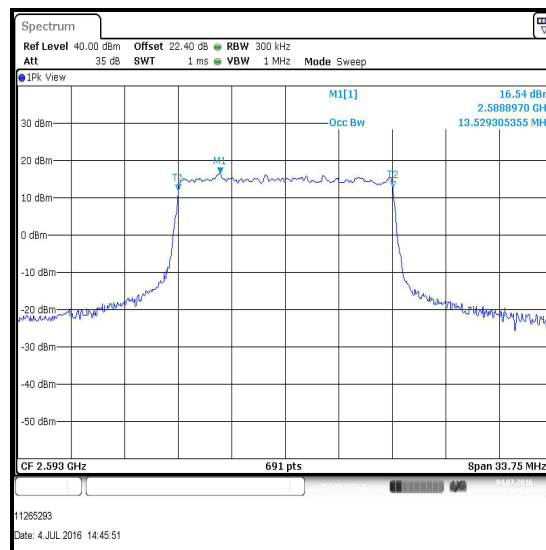
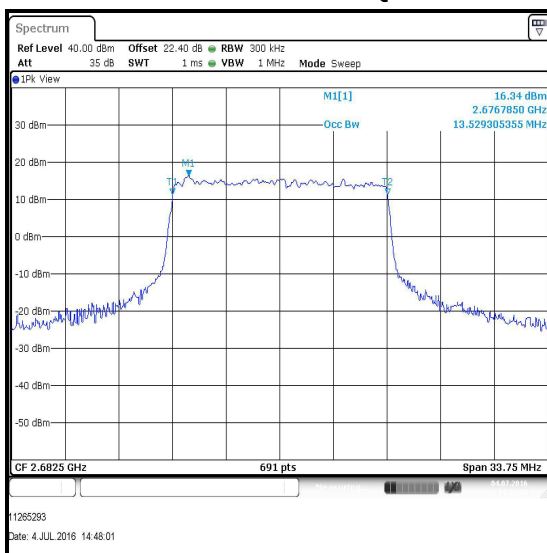
**Transmitter Occupied Bandwidth (continued)****Results: 15 MHz Channel Bandwidth / QPSK**

| Channel | Resource Block(s) | Resource Block Offset | Resolution Bandwidth (kHz) | Video Bandwidth (kHz) | Occupied Bandwidth (MHz) |
|---------|-------------------|-----------------------|----------------------------|-----------------------|--------------------------|
| Bottom  | 75                | 0                     | 300                        | 1000                  | 13.529                   |
| Middle  | 75                | 0                     | 300                        | 1000                  | 13.529                   |
| Top     | 75                | 0                     | 300                        | 1000                  | 13.480                   |

**Bottom Channel / QPSK****Middle Channel / QPSK****Top Channel / QPSK**

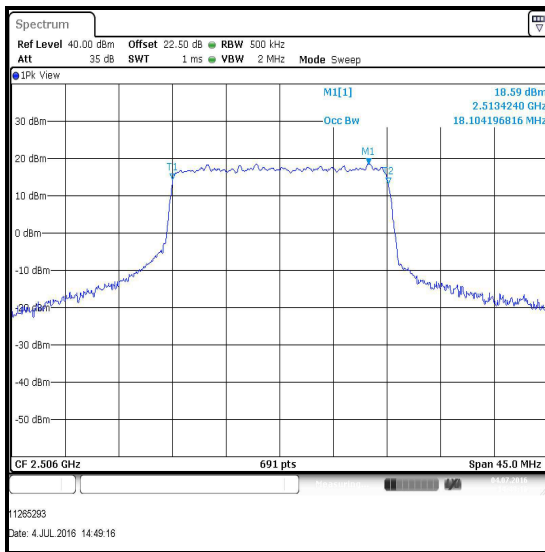
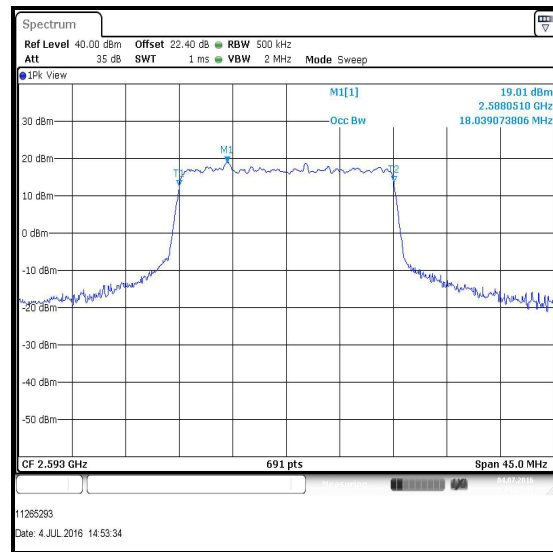
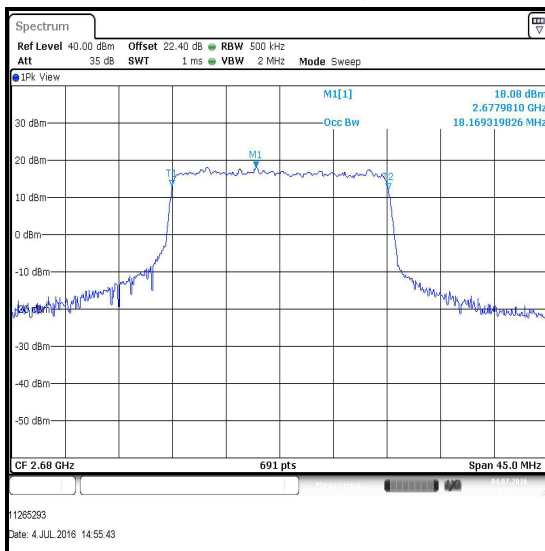
**Transmitter Occupied Bandwidth (continued)****Results: 15 MHz Channel Bandwidth / 16QAM**

| Channel | Resource Block(s) | Resource Block Offset | Resolution Bandwidth (kHz) | Video Bandwidth (kHz) | Occupied Bandwidth (MHz) |
|---------|-------------------|-----------------------|----------------------------|-----------------------|--------------------------|
| Bottom  | 75                | 0                     | 300                        | 1000                  | 13.529                   |
| Middle  | 75                | 0                     | 300                        | 1000                  | 13.529                   |
| Top     | 75                | 0                     | 300                        | 1000                  | 13.529                   |

**Bottom Channel / 16QAM****Middle Channel / 16QAM****Top Channel / 16QAM**

**Transmitter Occupied Bandwidth (continued)****Results: 20 MHz Channel Bandwidth / QPSK**

| Channel | Resource Block(s) | Resource Block Offset | Resolution Bandwidth (kHz) | Video Bandwidth (kHz) | Occupied Bandwidth (MHz) |
|---------|-------------------|-----------------------|----------------------------|-----------------------|--------------------------|
| Bottom  | 100               | 0                     | 500                        | 2000                  | 18.104                   |
| Middle  | 100               | 0                     | 500                        | 2000                  | 18.039                   |
| Top     | 100               | 0                     | 500                        | 2000                  | 18.169                   |

**Bottom Channel / QPSK****Middle Channel / QPSK****Top Channel / QPSK**