TEST REPORT

Test Report No. : UL-RPT-RP11265293JD07Y V3.0

Manufacturer	:	Apple Inc.
Model No.	:	A1785
FCC ID	:	BCG-E3088A
Technology	:	LTE – Band 30
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:

Sarah Williams
Engineer, Radio Laboratory

Company Signatory:

Steven White
Service Lead, Radio Laboratory
UL VS LTD

ilac-MRA UKAS TESTING 0644

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

UL VS LTD

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1. Customer Information

Company Name:	Apple Inc.
Address:	1 Infinite Loop Cupertino, CA 95014 U.S.A.

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR27
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 27 Subpart C (Miscellaneous Wireless Communication Services)
Site Registration:	209735
Location of Testing:	UL VS LTD, Unit 3 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire, RG24 8AH, United Kingdom
Test Dates:	02 June 2016 to 25 July 2016

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
2.1046 / 27.50(a)(3)	Transmitter Output Power Spectral Density (EIRP)	Complied
2.1049	Transmitter Occupied Bandwidth	Complied
2.1051 / 27.53(a)(4)	Transmitter Conducted Emission Mask	Complied
2.1053 / 27.53(a)(4)	Transmitter Radiated Spurious Emissions	Complied
2.1053 / 27.53(a)(4)	Transmitter Radiated Emissions at Band Edges	Complied
2.1055 / 27.54	Transmitter Frequency Stability (Temperature and Voltage Variation)	Complied

2.3. Methods and Procedures

Reference:	ANSI/TIA-603-D-2010
Title:	Land Mobile FM or PM Communications Equipment Measurements and Performance Standards
Reference:	FCC KDB 971168 D01 v02r02, October 17 2014
Title:	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 *(Radiated LAT Sample)*
Hardware Version:	REV1.0
Software Version:	iOS: 14A22580n 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 *(Radiated UAT Sample)*
Hardware Version:	REV1.0
Software Version:	iOS: 14A22580n 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 *(Conducted Sample #1)*
Hardware Version:	REV1.0
Software Version:	iOS: 14A22580n 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 *(Conducted Sample #2)*
Hardware Version:	REV1.0
Software Version:	iOS: 14A273 BB FW: 0.21.02
FCC ID:	BCG-E3088A

Identification of Equipment Under Test (EUT) (continued)

Brand Name:	Apple
Model Name or Number:	A1785
Test Sample Serial Number:	C39RW01FHFML
Test Sample IMEI:	358640070309241 *(Conducted Sample #3)*
Hardware Version:	REV1.0
Software Version:	iOS: 14A273 BB FW: 0.21.02
FCC ID:	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 30			
Type of Equipment	Transceiver			
Channel Bandwidth:	5 & 10 MHz			
Modulation Type:	QPSK & 16QAM			
Duty Cycle:	100%			
Antenna Type:	Integral			
Antenna Gain (LAT):	-2.0 dBi			
Antenna Gain (UAT):	-2.9 dBi			
Power Supply Requirement(s):	Nominal	3.8 VDC		
	Minimum	3.5 VDC		
	Maximum	4.4 VDC		
Transmit Frequency Range:	2305 MHz to 2315 MHz			
Channels Tested:	**Channel Bandwidth (MHz)**		**N_{ul}**	**Frequency of Uplink (MHz)**
Bottom Channel	5		27685	2307.5
Middle Channel	All		27710	2310.0
Top Channel	5		27735	2312.5

3.5. Support Equipment

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

Description:	Laptop PC
Brand Name:	Dell
Model Name or Number:	Latitude E5410
Serial Number:	UL Asset No. 00763

Description:	USB diagnostic cable
Brand Name:	Not stated
Model Name or Number:	Kong
Serial Number:	202D5E

Description:	Personal Hands Free (PHF)
Brand Name:	Apple
Model Name or Number:	Apple Ear Plugs
Serial Number:	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 ad 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.
    - LAT – Lower Antenna (Primary)
    - 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 for both LAT and UAT was Z.
- 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

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 Spectral Density (EIRP) - LAT

Test Summary:

Test Engineer:	Keith Tucker	**Test Date:**	25 July 2016
Test Sample IMEI:	358640070269106		

FCC Reference:	Parts 2.1046 & 27.50(a)(3)
Test Method Used:	FCC KDB 971168 Section 5.4.1

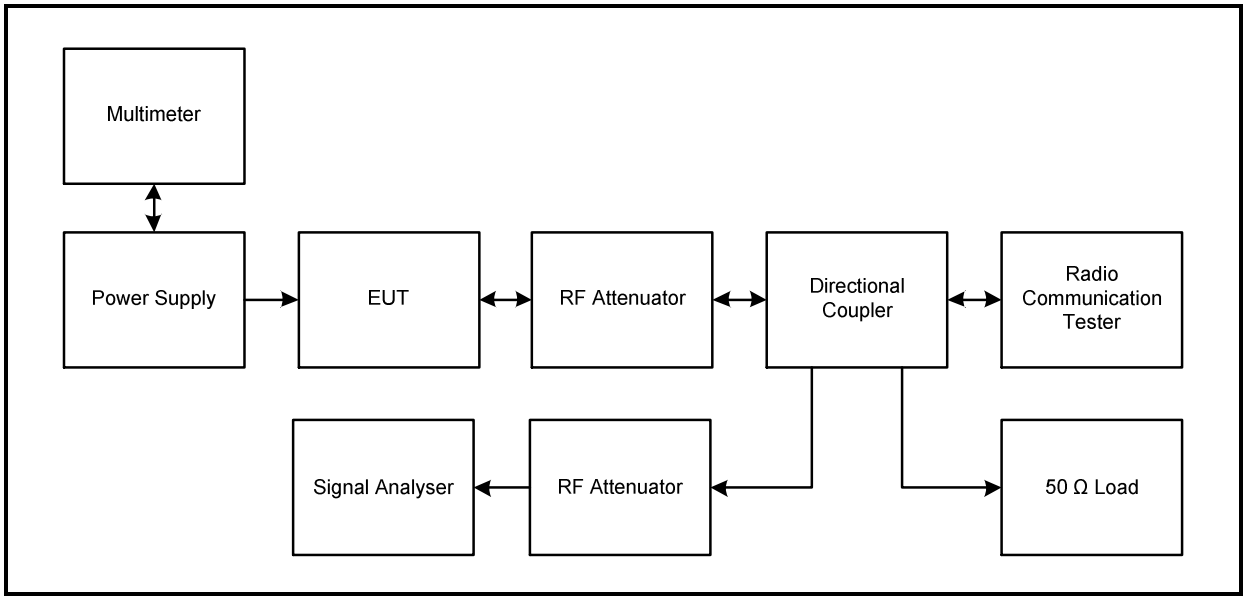
Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	52

Note(s):

1. The customer stated that the EUT has a maximum antenna gain of -2.07 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. The RF port of the EUT was connected to the power meter via RF cables, directional coupler and suitable attenuation. An RF level offset was entered on the signal analyser, to compensate for the signal path losses in these components.
4. As the EUT was transmitting continuously over the measurement period, the test method of FCC KDB 971168 Section 5.4.1 was used to determine transmitter output PSD. The span was set to at least 2 times the OBW and the RBW was set to the specified reference bandwidth (5 MHz for LTE). An RMS detector was used with power averaging selected over at least 100 traces. A peak marker was used to determine the amplitude level.

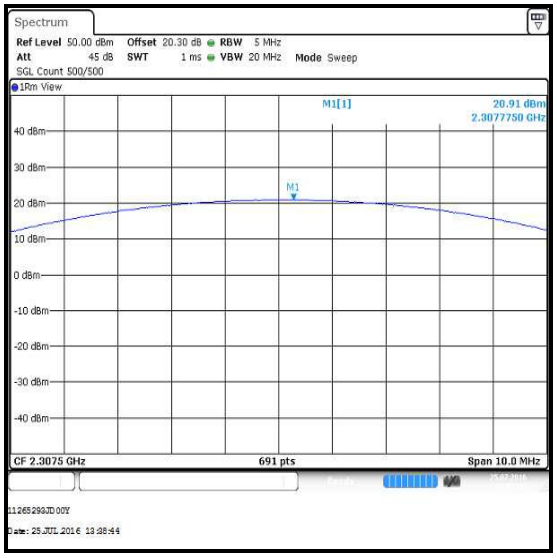
Test setup:



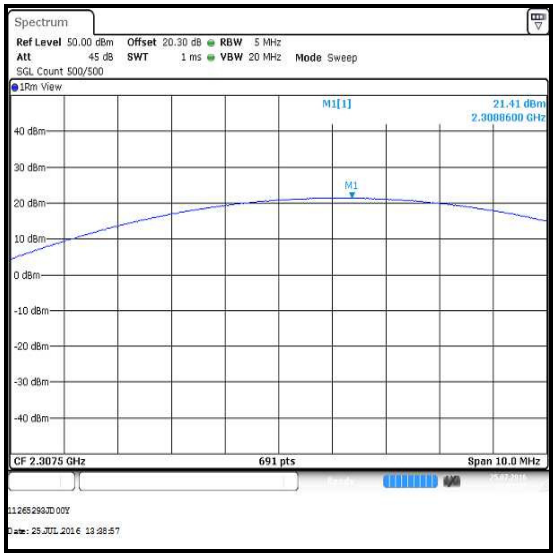
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Bottom Channel / QPSK

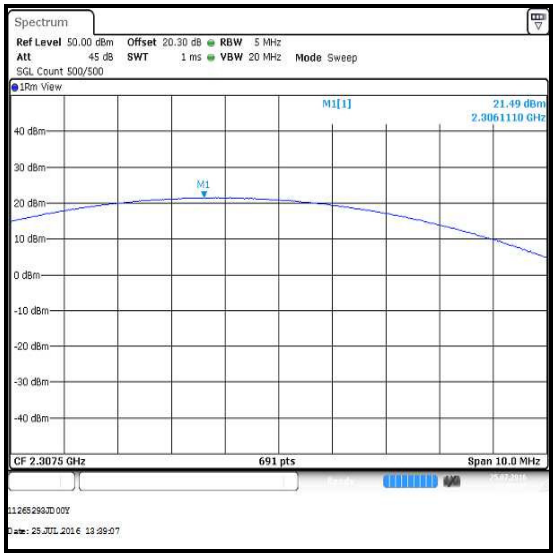
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2307.5	25	0	20.9	-2.0	18.9	24.0	5.1	Complied
2307.5	12	13	21.4	-2.0	19.4	24.0	4.6	Complied
2307.5	12	0	21.5	-2.0	19.5	24.0	4.5	Complied
2307.5	12	7	21.5	-2.0	19.5	24.0	4.5	Complied



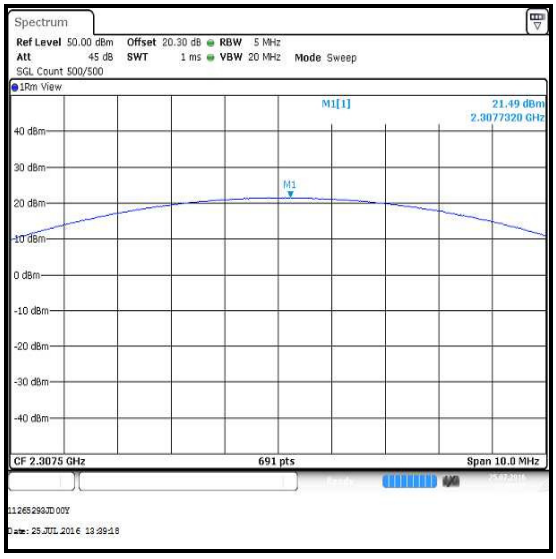
QPSK / 25 Resource Block (0 offset)



QPSK / 12 Resource Block (13 offset)



QPSK / 12 Resource Blocks (0 offset)

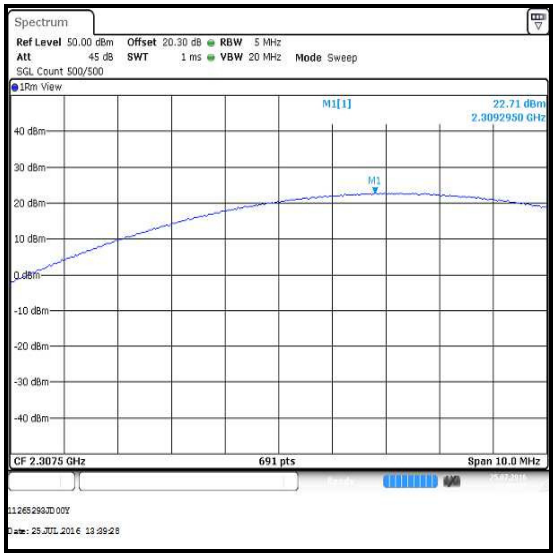


QPSK / 12 Resource Blocks (7 offset)

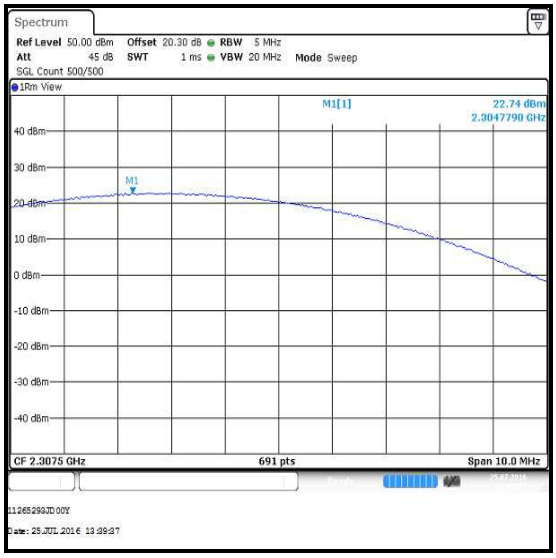
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Bottom Channel / QPSK

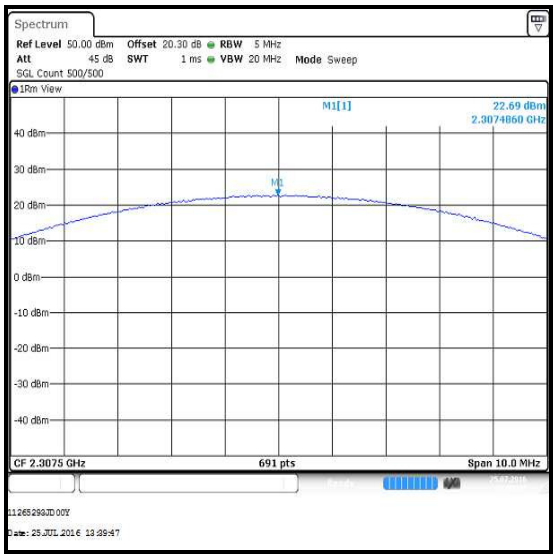
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2307.5	1	24	22.7	-2.0	20.7	24.0	3.3	Complied
2307.5	1	0	22.7	-2.0	20.7	24.0	3.3	Complied
2307.5	1	12	22.7	-2.0	20.7	24.0	3.3	Complied



QPSK / 1 Resource Block (24 offset)



QPSK / 1 Resource Block (0 offset)

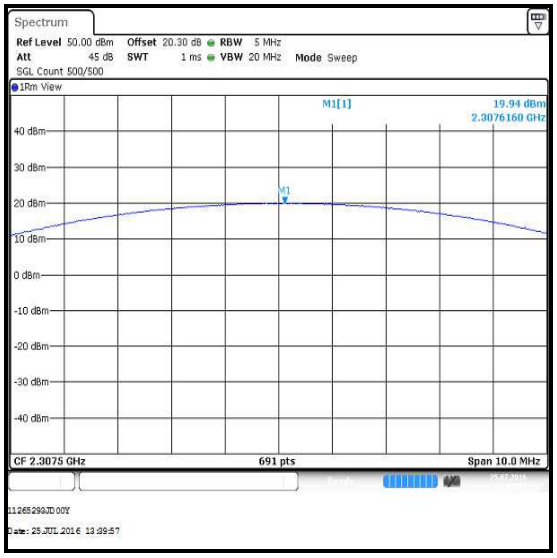


QPSK / 1 Resource Blocks (12 offset)

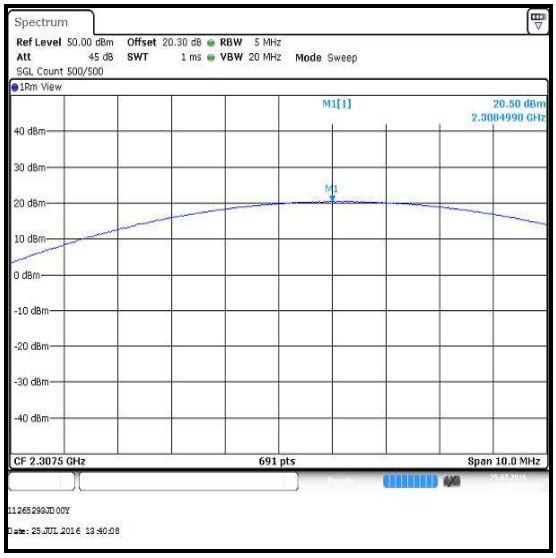
Transmitter Output Power Spectral Density (EIRP) (continued)

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

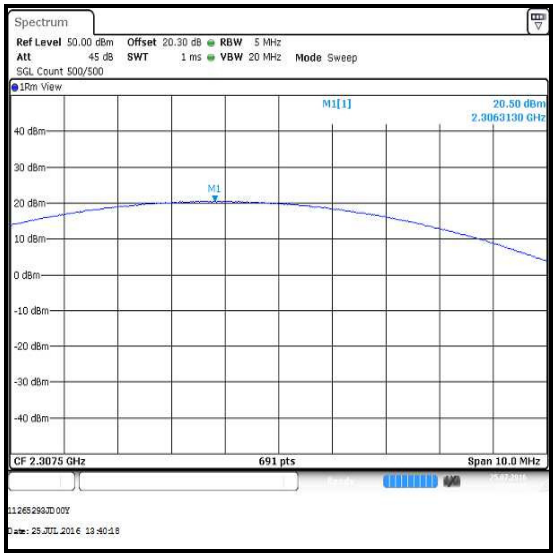
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2307.5	25	0	19.9	-2.0	17.9	24.0	6.1	Complied
2307.5	12	13	20.5	-2.0	18.5	24.0	5.5	Complied
2307.5	12	0	20.5	-2.0	18.5	24.0	5.5	Complied
2307.5	12	7	20.5	-2.0	18.5	24.0	5.5	Complied



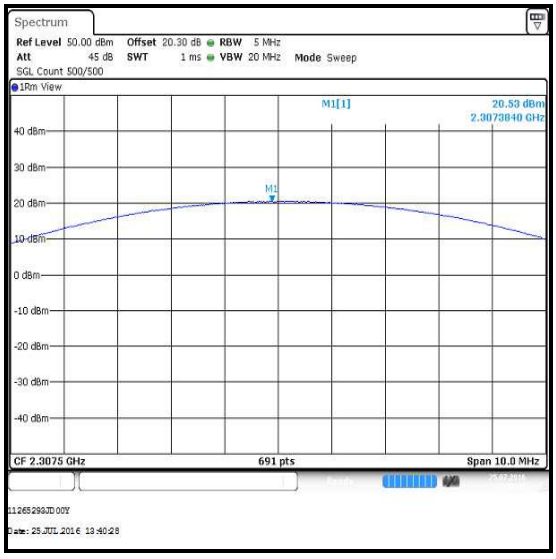
16QAM / 25 Resource Block (0 offset)



16QAM / 12 Resource Block (13 offset)



16QAM / 12 Resource Blocks (0 offset)

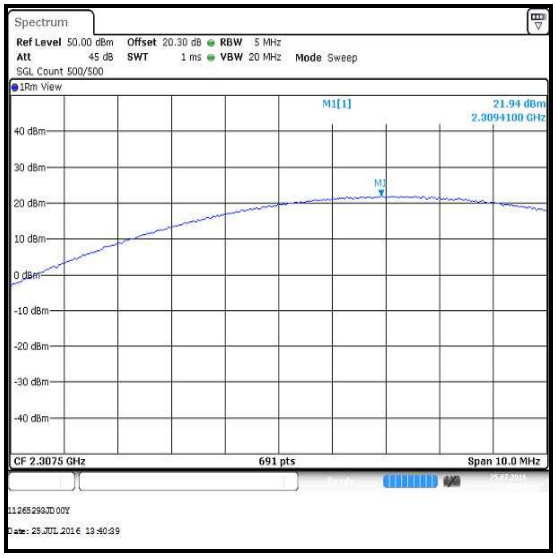


16QAM / 12 Resource Blocks (7 offset)

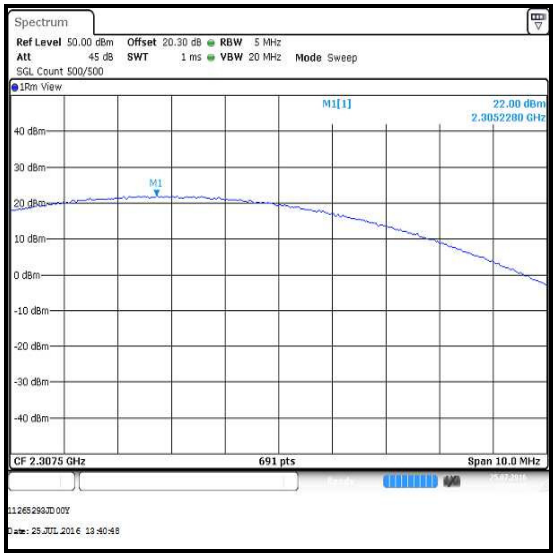
Transmitter Output Power Spectral Density (EIRP) (continued)

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

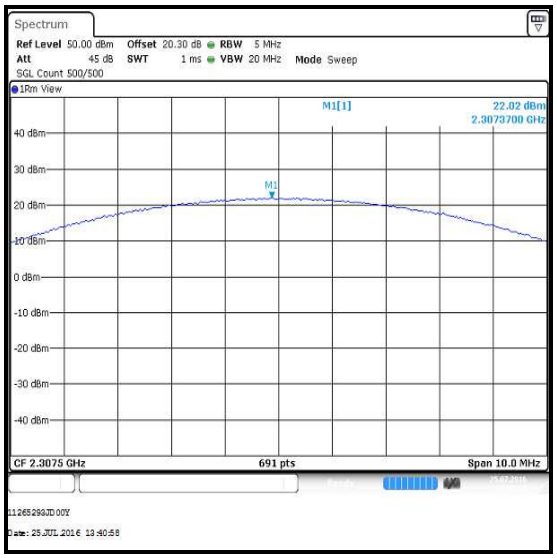
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2307.5	1	24	21.9	-2.0	19.9	24.0	4.1	Complied
2307.5	1	0	22.0	-2.0	20.0	24.0	4.0	Complied
2307.5	1	12	22.0	-2.0	20.0	24.0	4.0	Complied



16QAM / 1 Resource Block (24 offset)



16QAM / 1 Resource Block (0 offset)

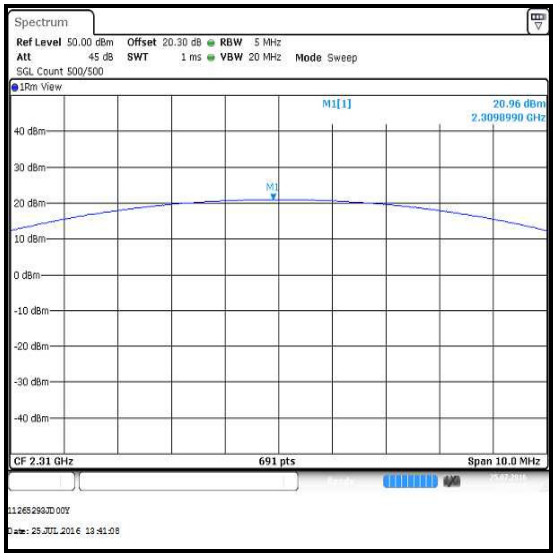


16QAM / 1 Resource Blocks (12 offset)

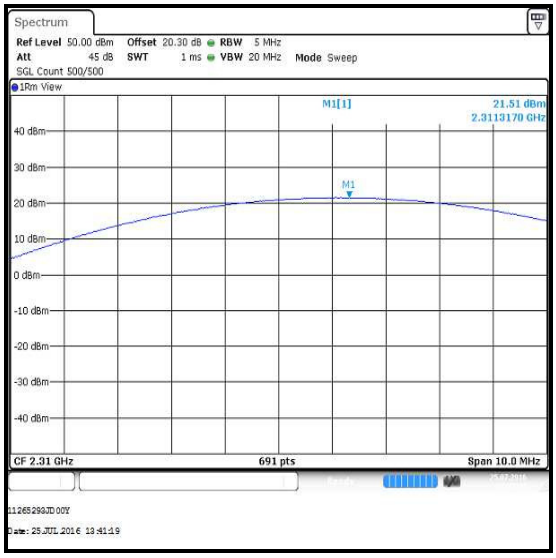
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Middle Channel / QPSK

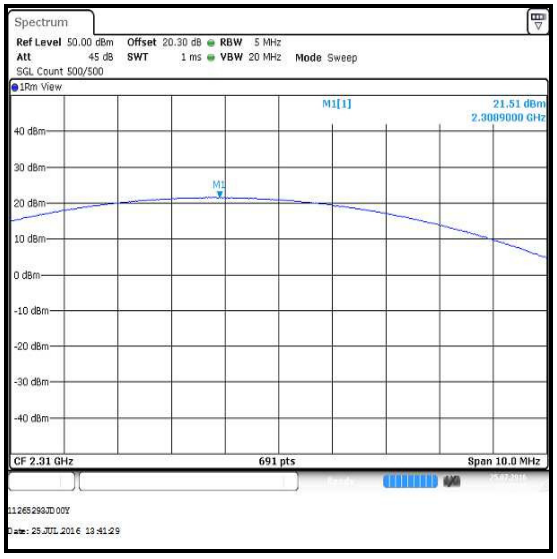
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	25	0	21.0	-2.0	19.0	24.0	5.0	Complied
2310.0	12	13	21.5	-2.0	19.5	24.0	4.5	Complied
2310.0	12	0	21.5	-2.0	19.5	24.0	4.5	Complied
2310.0	12	7	21.5	-2.0	19.5	24.0	4.5	Complied



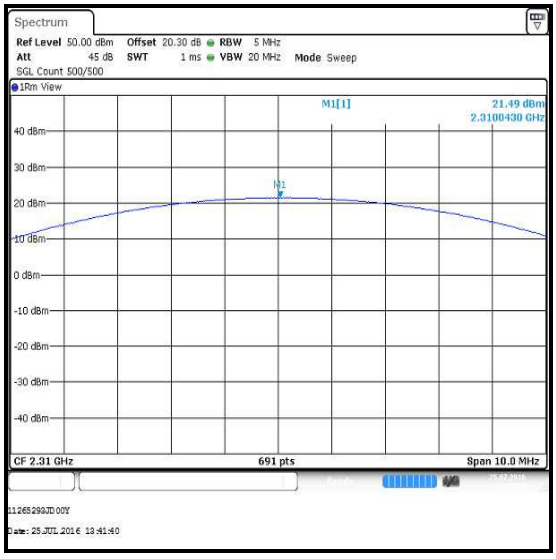
QPSK / 25 Resource Block (0 offset)



QPSK / 12 Resource Block (13 offset)



QPSK / 12 Resource Blocks (0 offset)

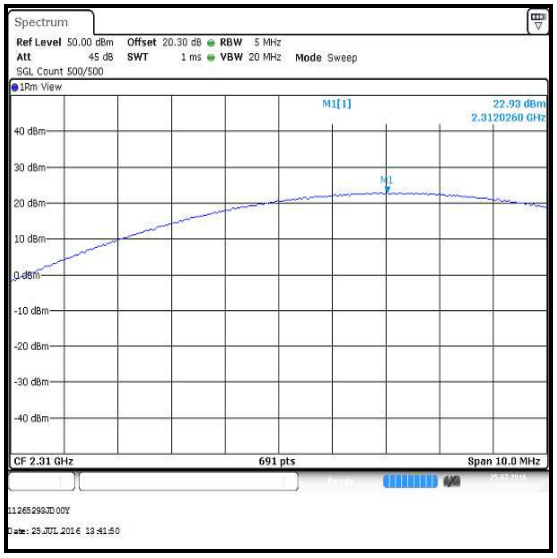


QPSK / 12 Resource Blocks (7 offset)

Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Middle Channel / QPSK

Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	1	24	22.9	-2.0	20.9	24.0	3.1	Complied
2310.0	1	0	22.8	-2.0	20.8	24.0	3.2	Complied
2310.0	1	12	22.9	-2.0	20.9	24.0	3.1	Complied



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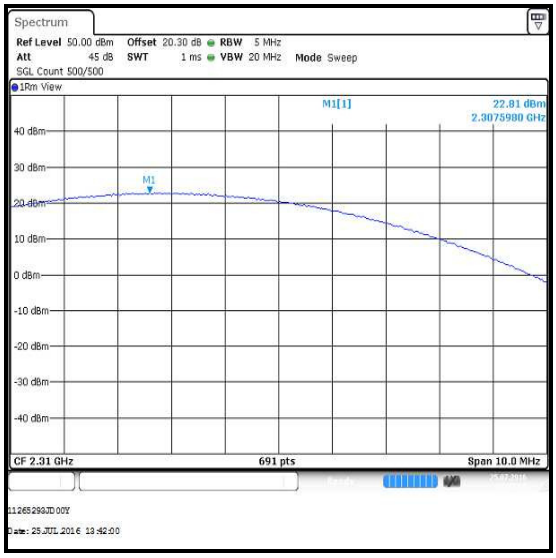
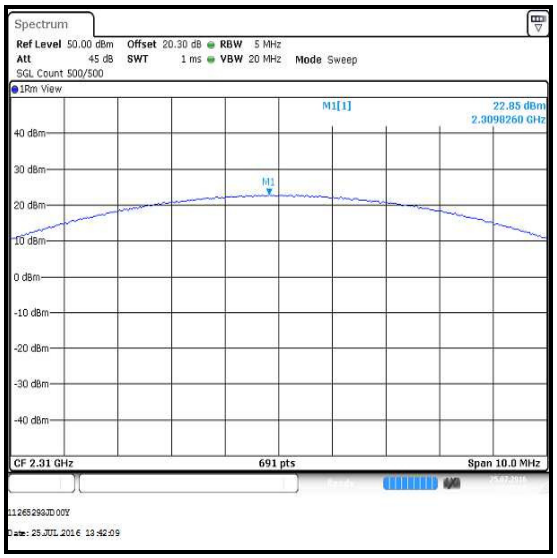


QPSK / 1 Resource Block (0 offset)

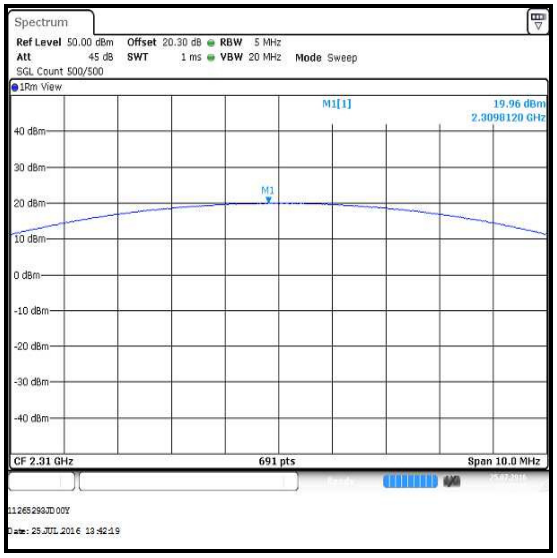


QPSK / 1 Resource Blocks (12 offset)

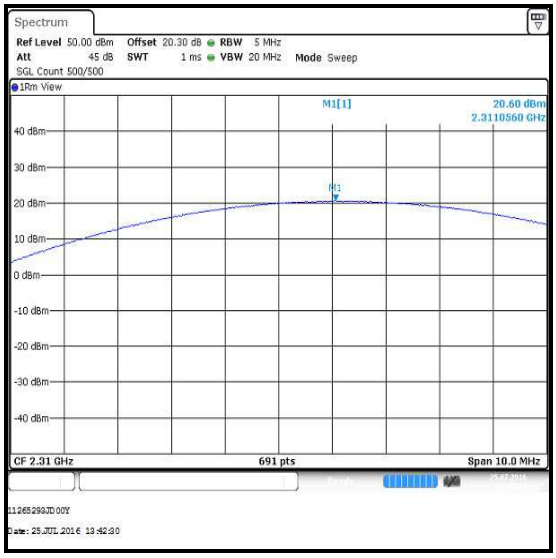
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Middle Channel / 16QAM

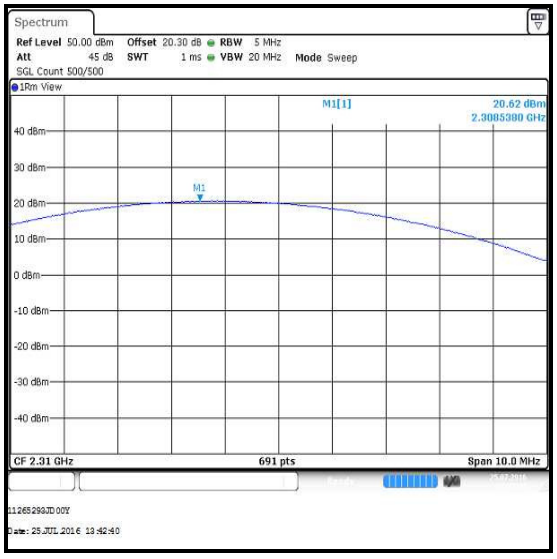
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	25	0	20.0	-2.0	18.0	24.0	6.0	Complied
2310.0	12	13	20.6	-2.0	18.6	24.0	5.4	Complied
2310.0	12	0	20.6	-2.0	18.6	24.0	5.4	Complied
2310.0	12	7	20.5	-2.0	18.5	24.0	5.5	Complied



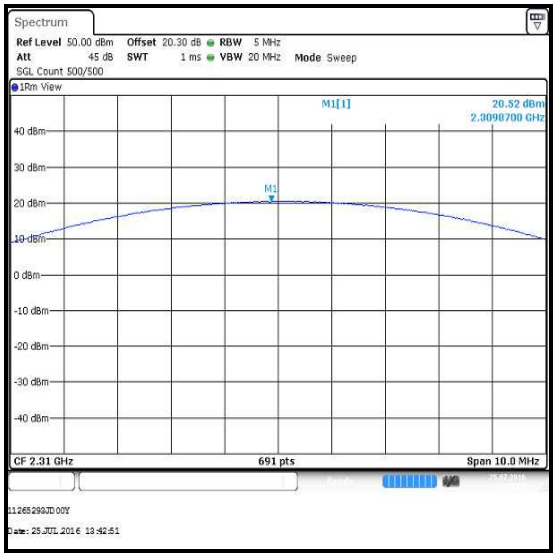
16QAM / 25 Resource Block (0 offset)



16QAM / 12 Resource Block (13 offset)



16QAM / 12 Resource Blocks (0 offset)

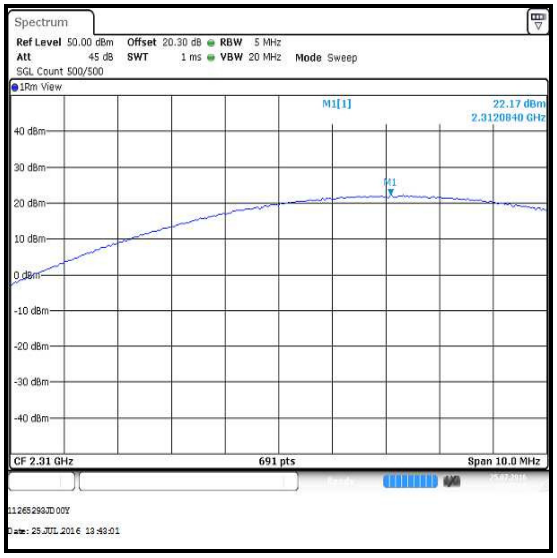


16QAM / 12 Resource Blocks (7 offset)

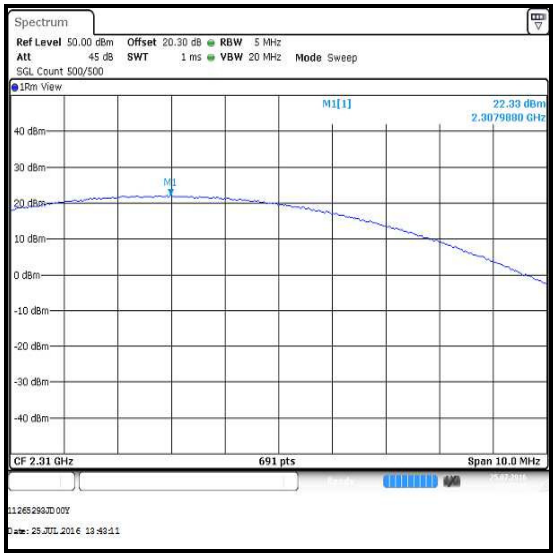
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Middle Channel / 16QAM

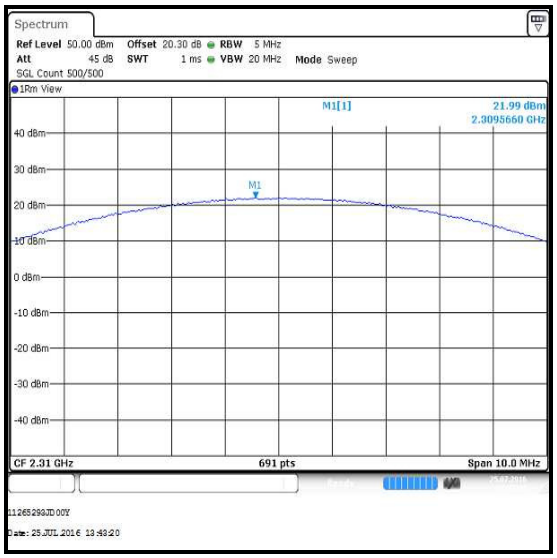
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	1	24	22.2	-2.0	20.2	24.0	3.8	Complied
2310.0	1	0	22.3	-2.0	20.3	24.0	3.7	Complied
2310.0	1	12	22.0	-2.0	20.0	24.0	4.0	Complied



16QAM / 1 Resource Block (24 offset)



16QAM / 1 Resource Block (0 offset)

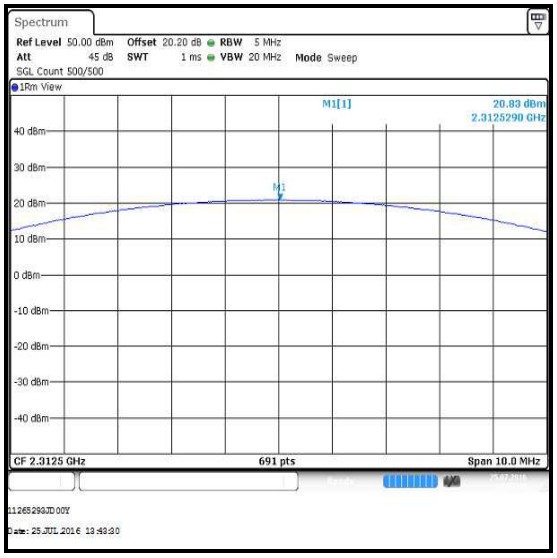


16QAM / 1 Resource Blocks (12 offset)

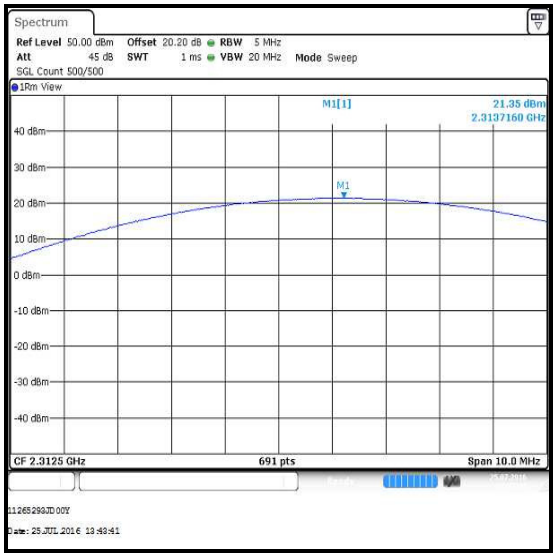
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Top Channel / QPSK

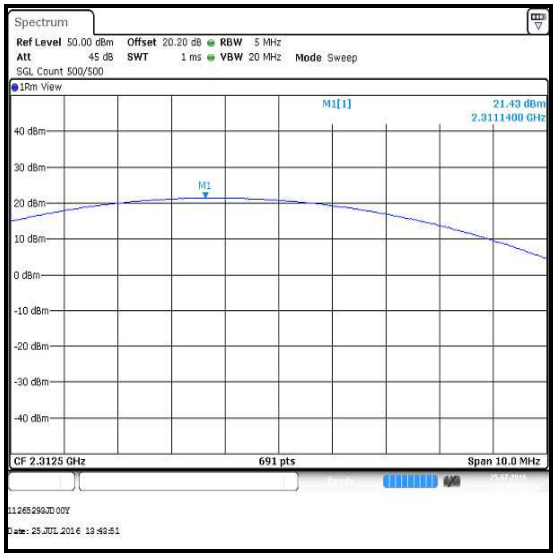
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2312.5	25	0	20.8	-2.0	18.8	24.0	5.2	Complied
2312.5	12	13	21.4	-2.0	19.4	24.0	4.6	Complied
2312.5	12	0	21.4	-2.0	19.4	24.0	4.6	Complied
2312.5	12	7	21.4	-2.0	19.4	24.0	4.6	Complied



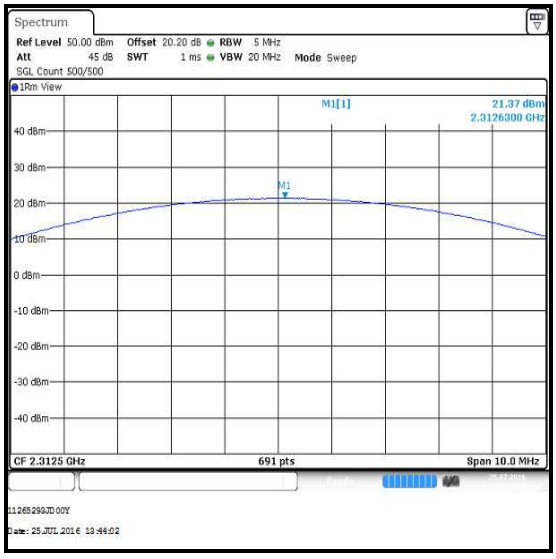
QPSK / 25 Resource Block (0 offset)



QPSK / 12 Resource Block (13 offset)



QPSK / 12 Resource Blocks (0 offset)

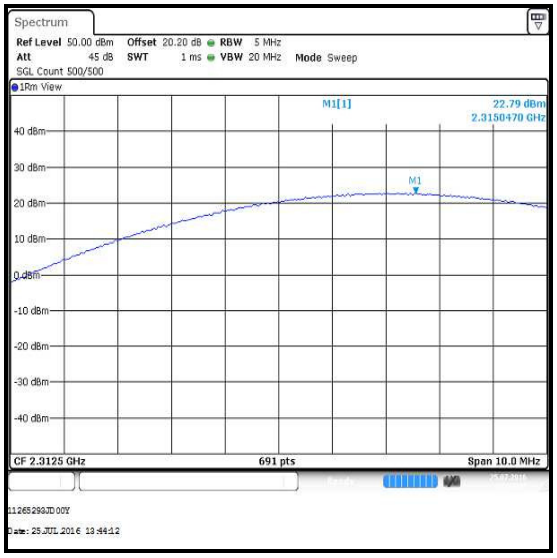


QPSK / 12 Resource Blocks (7 offset)

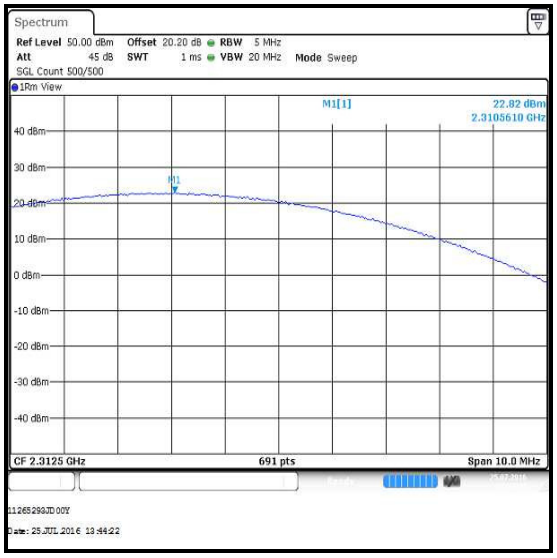
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Top Channel / QPSK

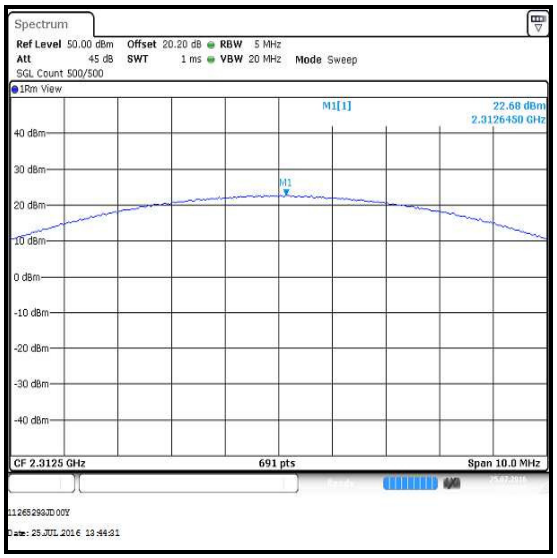
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2312.5	1	24	22.8	-2.0	20.8	24.0	3.2	Complied
2312.5	1	0	22.8	-2.0	20.8	24.0	3.2	Complied
2312.5	1	12	22.7	-2.0	20.7	24.0	3.3	Complied



QPSK / 1 Resource Block (24 offset)



QPSK / 1 Resource Block (0 offset)

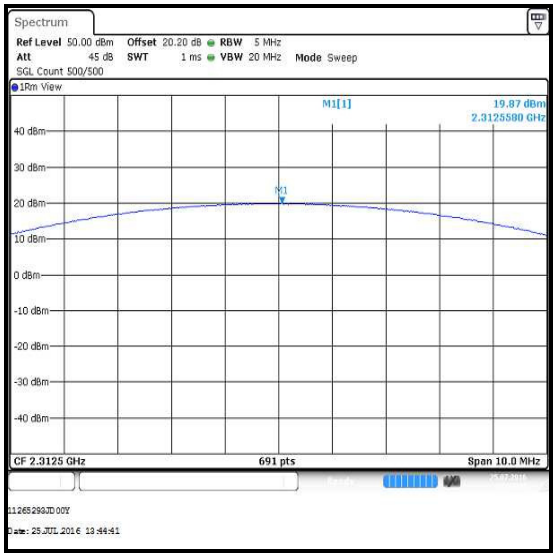


QPSK / 1 Resource Blocks (12 offset)

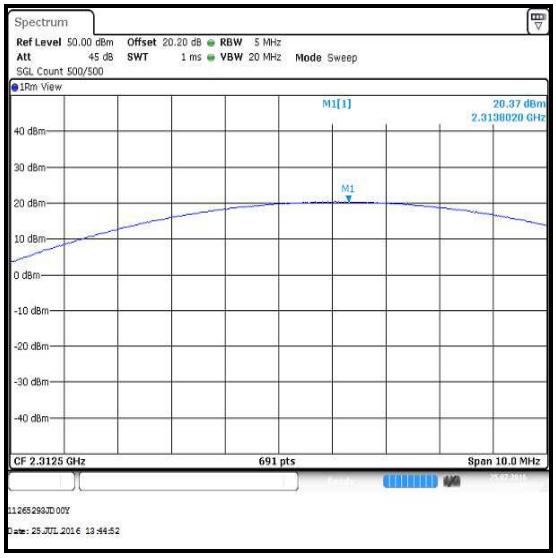
Transmitter Output Power Spectral Density (EIRP) (continued)

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

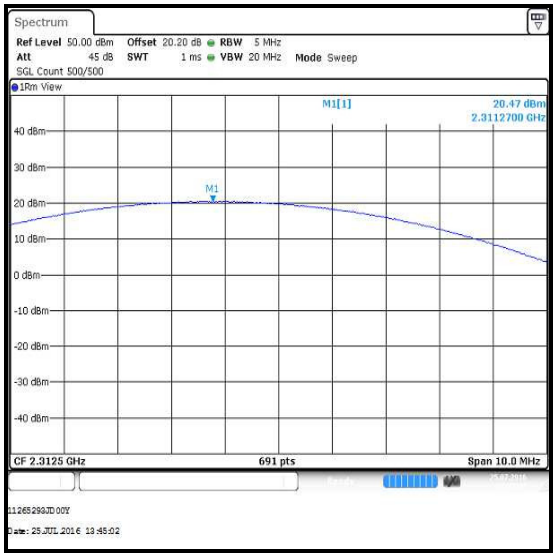
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2312.5	25	0	19.9	-2.0	17.9	24.0	6.1	Complied
2312.5	12	13	20.4	-2.0	18.4	24.0	5.6	Complied
2312.5	12	0	20.5	-2.0	18.5	24.0	5.5	Complied
2312.5	12	7	20.4	-2.0	18.4	24.0	5.6	Complied



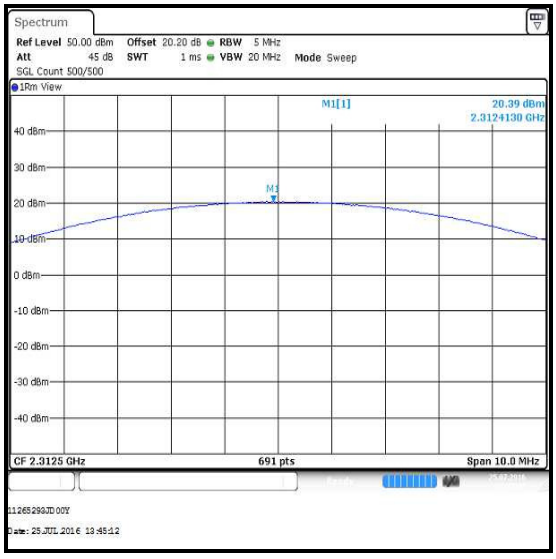
16QAM / 25 Resource Block (0 offset)



16QAM / 12 Resource Block (13 offset)



16QAM / 12 Resource Blocks (0 offset)

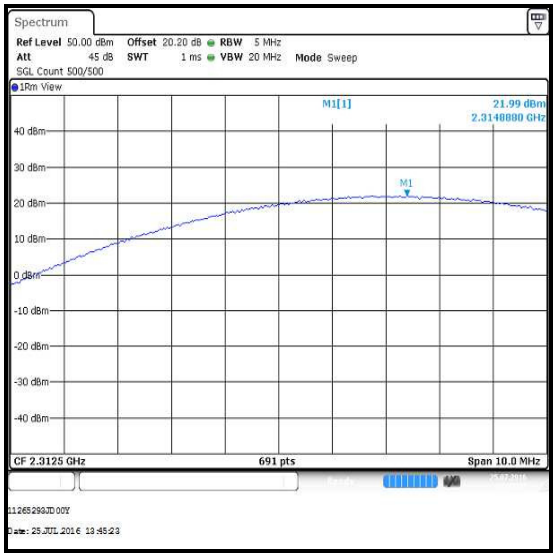


16QAM / 12 Resource Blocks (7 offset)

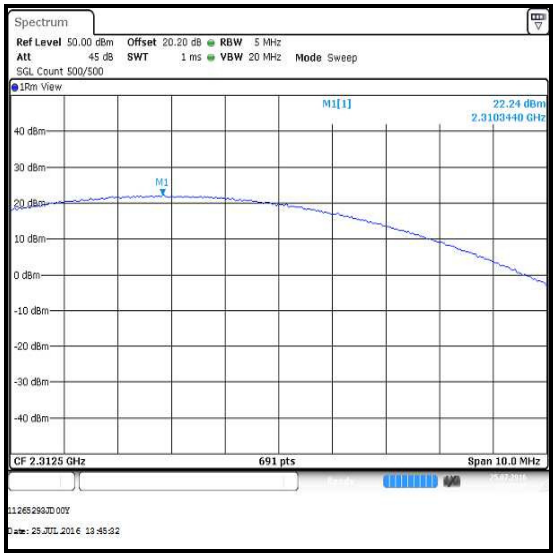
Transmitter Output Power Spectral Density (EIRP) (continued)

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

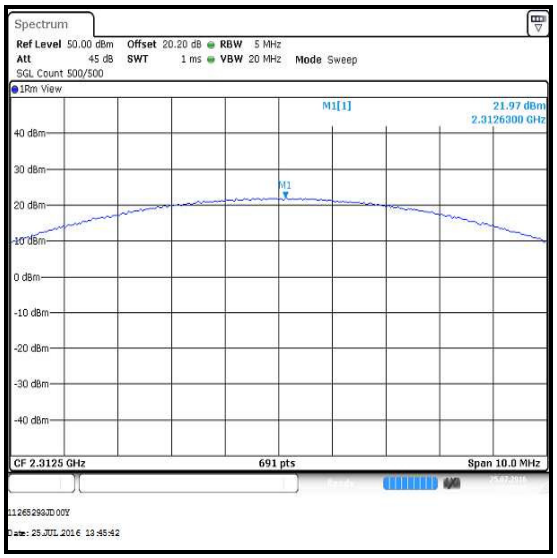
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2312.5	1	24	22.0	-2.0	20.0	24.0	4.0	Complied
2312.5	1	0	22.2	-2.0	20.2	24.0	3.8	Complied
2312.5	1	12	22.0	-2.0	20.0	24.0	4.0	Complied



16QAM / 1 Resource Block (24 offset)



16QAM / 1 Resource Block (0 offset)

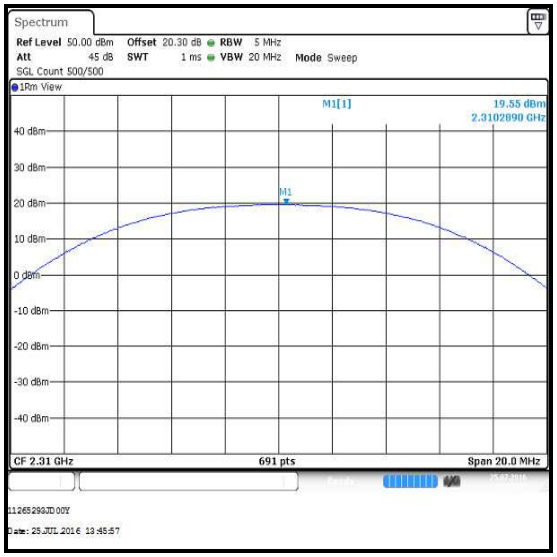


16QAM / 1 Resource Blocks (12 offset)

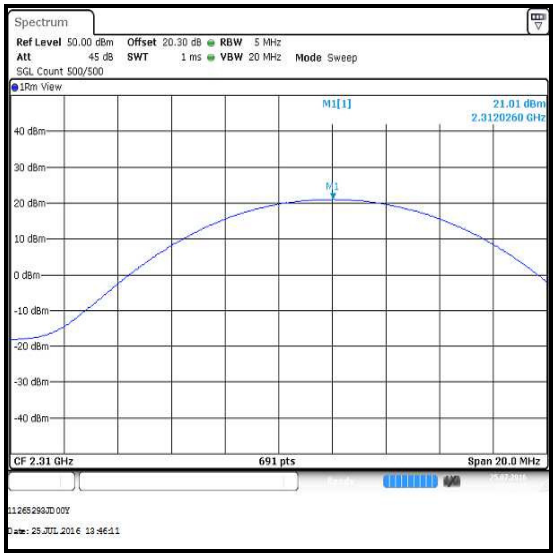
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 10 MHz Channel Bandwidth / Middle Channel / QPSK

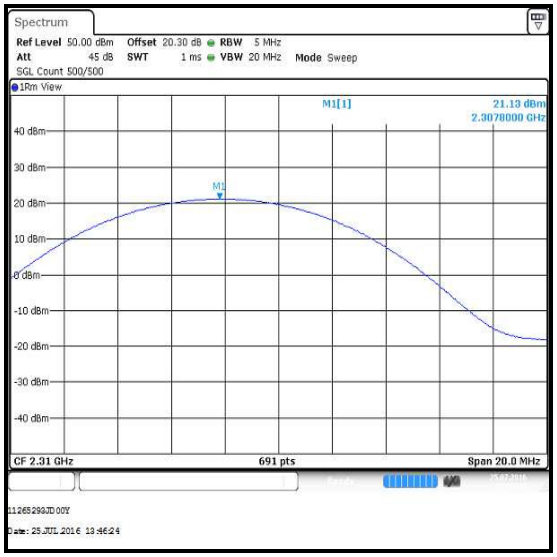
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	50	0	19.6	-2.0	17.6	24.0	6.4	Complied
2310.0	25	24	21.0	-2.0	19.0	24.0	5.0	Complied
2310.0	25	0	21.1	-2.0	19.1	24.0	4.9	Complied
2310.0	25	12	21.0	-2.0	19.0	24.0	5.0	Complied



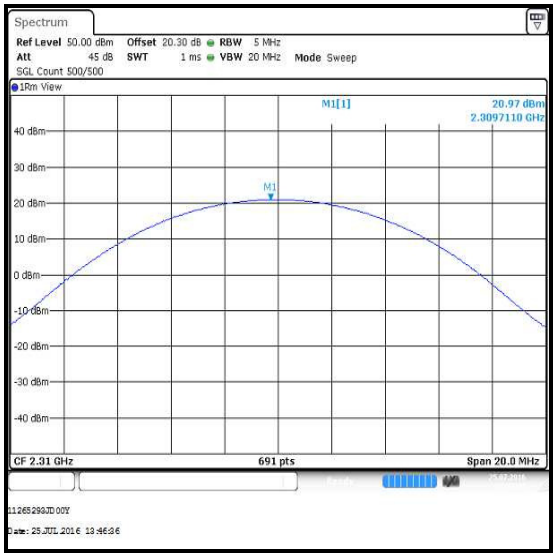
QPSK / 50 Resource Block (0 offset)



QPSK / 25 Resource Block (24 offset)



QPSK / 25 Resource Blocks (0 offset)

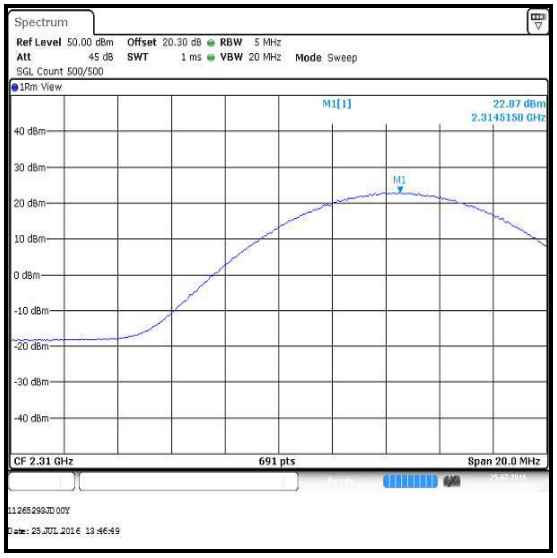


QPSK / 25 Resource Blocks (12 offset)

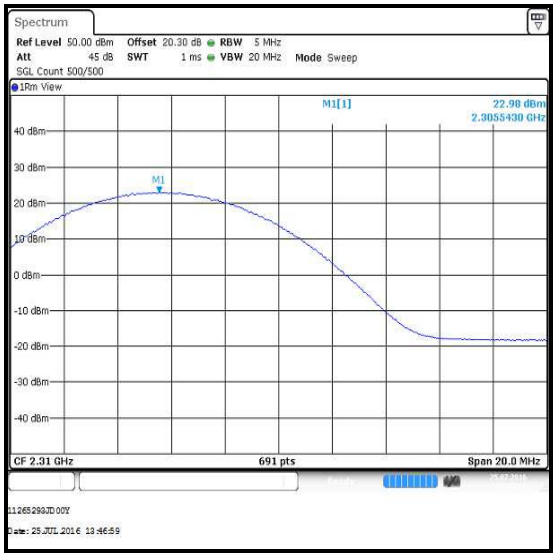
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 10 MHz Channel Bandwidth / Middle Channel / QPSK

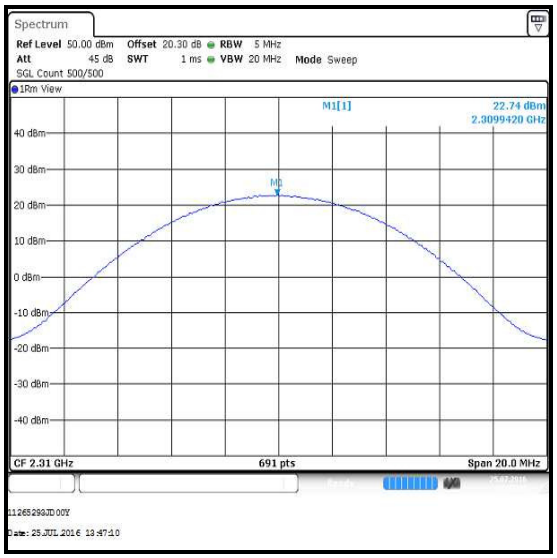
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	1	49	22.9	-2.0	20.9	24.0	3.1	Complied
2310.0	1	0	23.0	-2.0	21.0	24.0	3.0	Complied
2310.0	1	24	22.7	-2.0	20.7	24.0	3.3	Complied



QPSK / 1 Resource Block (49 offset)



QPSK / 1 Resource Block (0 offset)

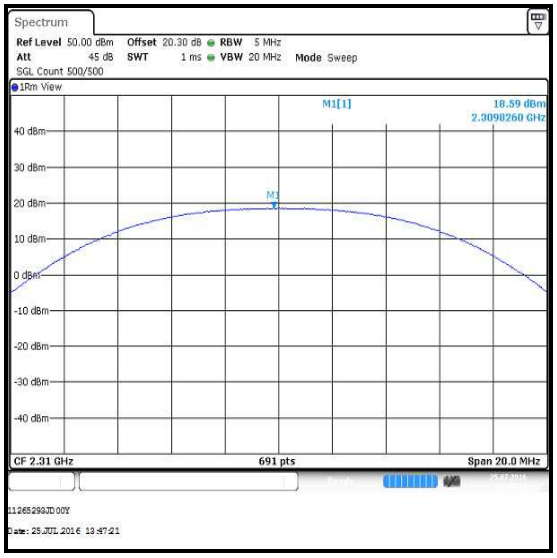


QPSK / 1 Resource Blocks (24 offset)

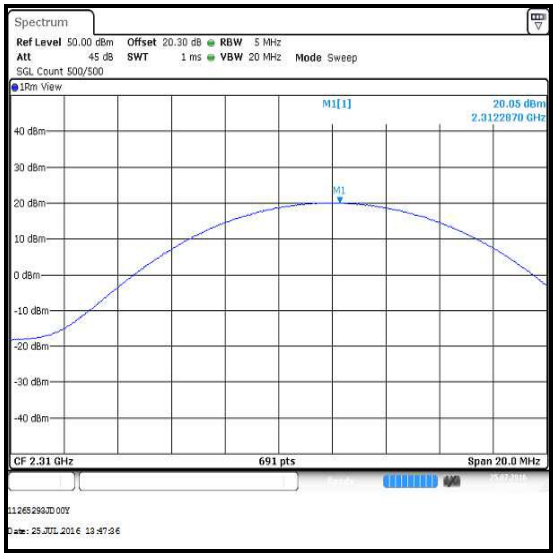
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 10 MHz Channel Bandwidth / Middle Channel / 16QAM

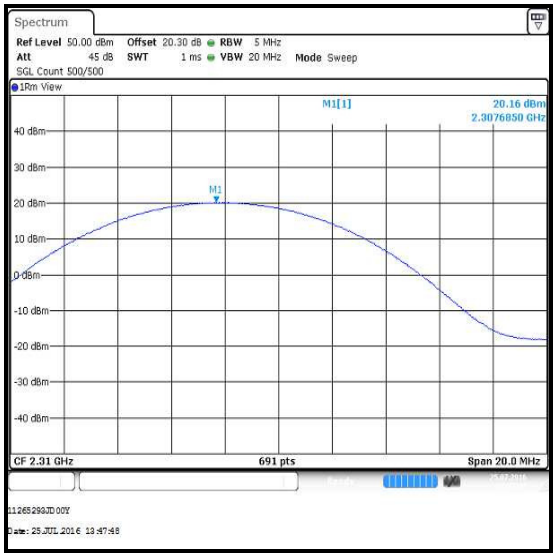
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	50	0	18.6	-2.0	16.6	24.0	7.4	Complied
2310.0	25	24	20.1	-2.0	18.1	24.0	5.9	Complied
2310.0	25	0	20.2	-2.0	18.2	24.0	5.8	Complied
2310.0	25	12	20.0	-2.0	18.0	24.0	6.0	Complied



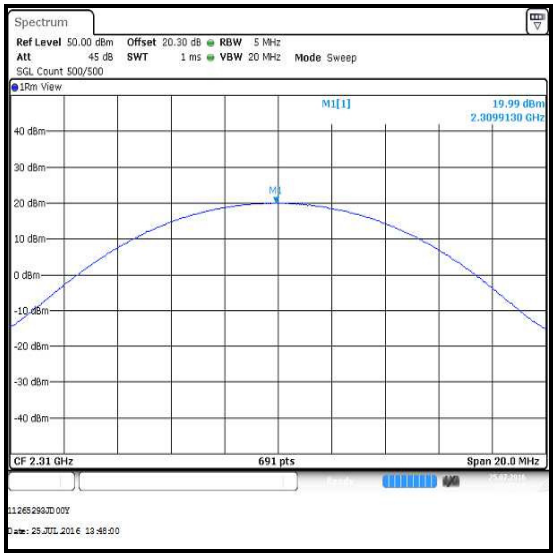
16QAM / 50 Resource Block (0 offset)



16QAM / 25 Resource Block (24 offset)



16QAM / 25 Resource Blocks (0 offset)

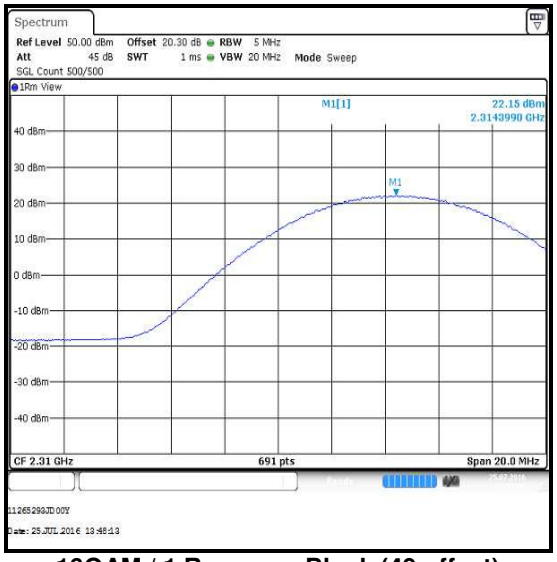


16QAM / 25 Resource Blocks (12 offset)

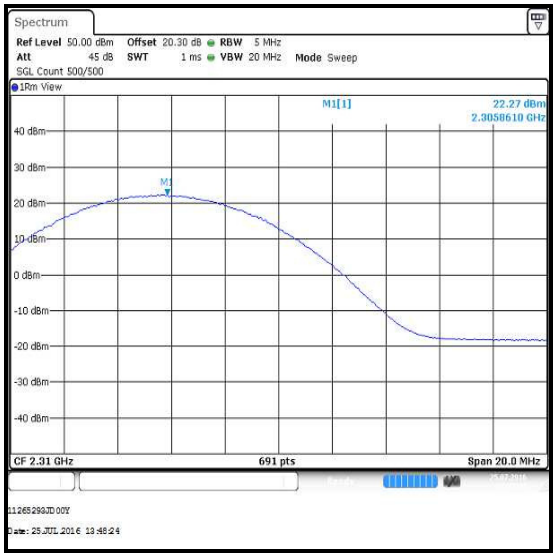
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 10 MHz Channel Bandwidth / Middle Channel / 16QAM

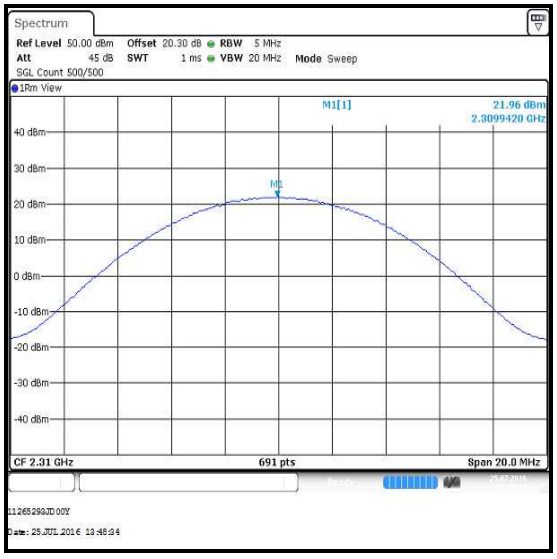
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	1	49	22.2	-2.0	20.2	24.0	3.8	Complied
2310.0	1	0	22.3	-2.0	20.3	24.0	3.7	Complied
2310.0	1	24	22.0	-2.0	20.0	24.0	4.0	Complied



16QAM / 1 Resource Block (49 offset)



16QAM / 1 Resource Block (0 offset)



16QAM / 1 Resource Blocks (24 offset)

Transmitter Output Power Spectral Density (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	Communications Tester	Rohde & Schwarz	CMW500	145923	05 Apr 2017	12
M1873	Signal Analyser	Rohde & Schwarz	FSV30	103074	27 Jun 2017	12
A2845	Attenuator	Radiall	R411.806.121	24325927	Calibrated before use	-
A2844	Attenuator	Radiall	R411.803.121	23404066	Calibrated before use	-
A2500	Directional Coupler	AtlanTecRF	CDC-003060-10	13122501835	Calibrated before use	-
S0562	Power Supply	Thurlby Thandar	PL330QMD	054895	Calibrated before use	-
M1269	Multimeter	Fluke	179	90250210	13 May 2017	12

5.2.2. Transmitter Output Power Spectral Density (EIRP) - UAT

Test Summary:

Test Engineer:	Keith Tucker	**Test Date:**	18 July 2016
Test Sample IMEI:	358640070269106		

FCC Reference:	Parts 2.1046 & 27.50(a)(3)
Test Method Used:	FCC KDB 971168 Section 5.4.1

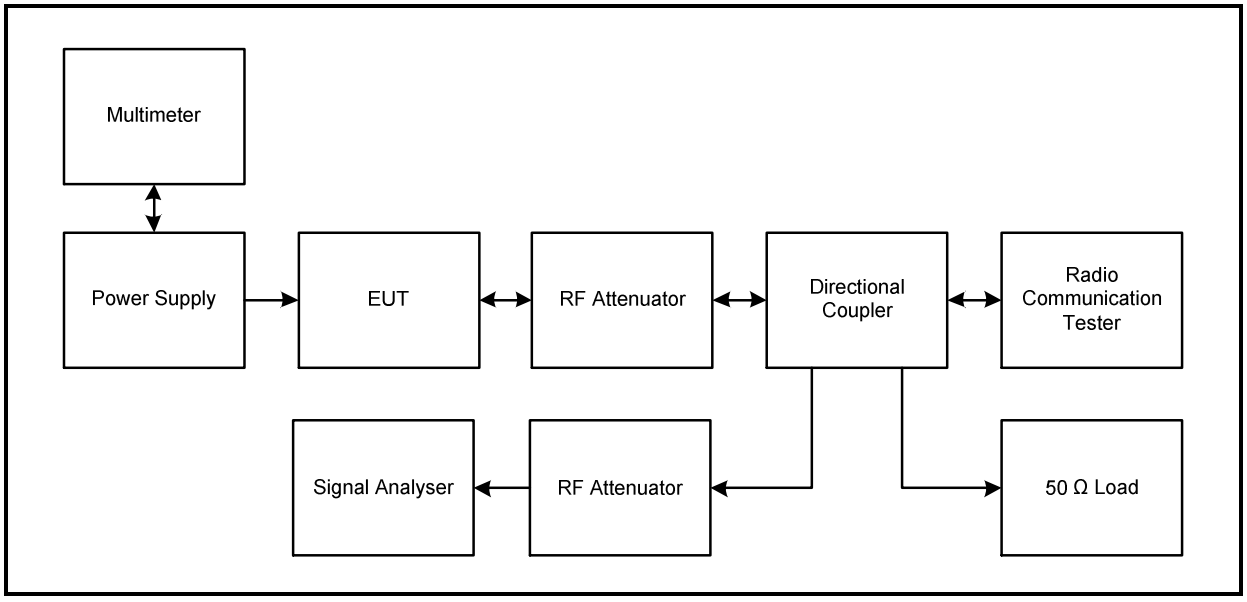
Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	53

Note(s):

1. The customer stated that the EUT has a maximum antenna gain of -2.98 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. The RF port of the EUT was connected to the power meter via RF cables, directional coupler and suitable attenuation. An RF level offset was entered on the signal analyser, to compensate for the signal path losses in these components.
4. As the EUT was transmitting continuously over the measurement period, the test method of FCC KDB 971168 Section 5.4.1 was used to determine transmitter output PSD. The span was set to at least 2 times the OBW and the RBW was set to the specified reference bandwidth (5 MHz for LTE). An RMS detector was used with power averaging selected over at least 100 traces. A peak marker was used to determine the amplitude level.

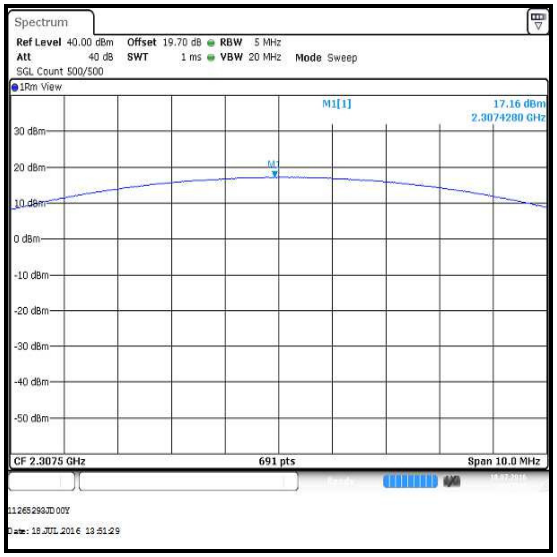
Test setup:



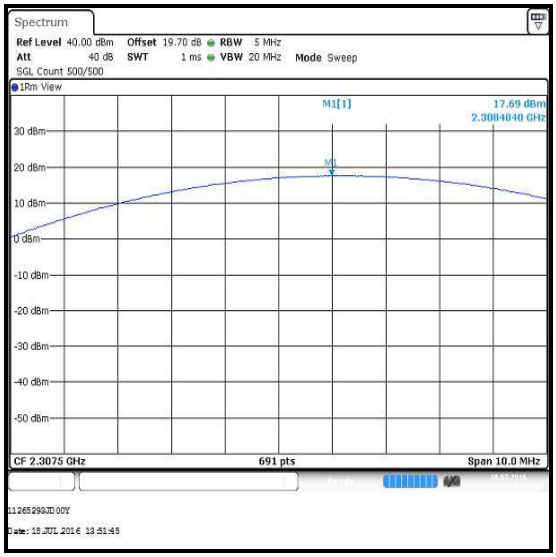
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Bottom Channel / QPSK

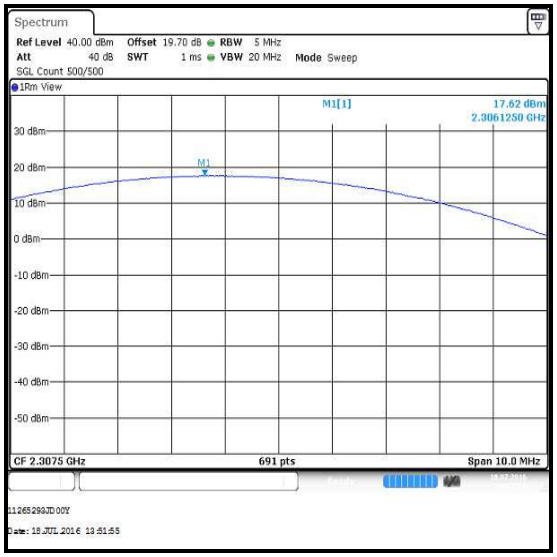
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2307.5	25	0	17.2	-2.9	14.3	24.0	9.7	Complied
2307.5	12	13	17.7	-2.9	14.8	24.0	9.2	Complied
2307.5	12	0	17.6	-2.9	14.7	24.0	9.3	Complied
2307.5	12	7	17.6	-2.9	14.7	24.0	9.3	Complied



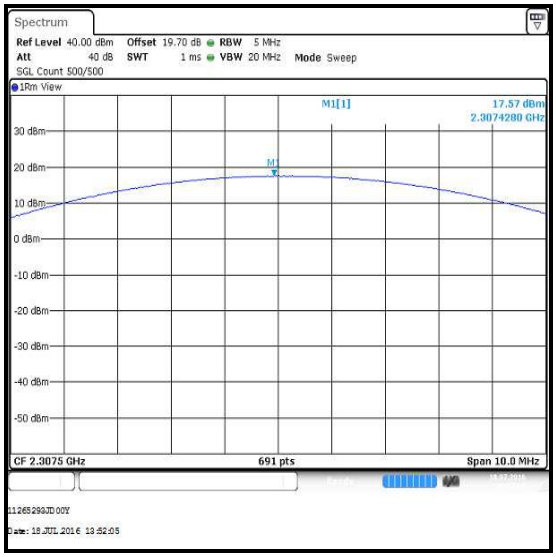
QPSK / 25 Resource Block (0 offset)



QPSK / 12 Resource Block (13 offset)



QPSK / 12 Resource Blocks (0 offset)

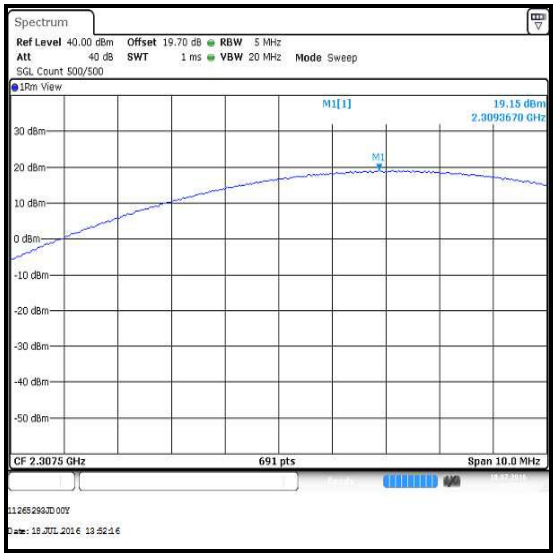


QPSK / 12 Resource Blocks (7 offset)

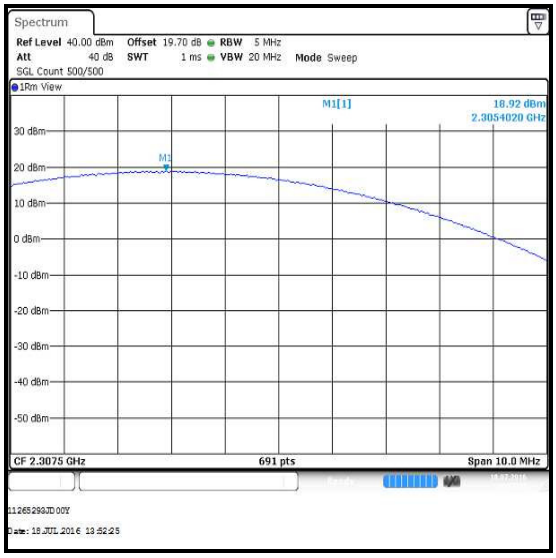
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Bottom Channel / QPSK

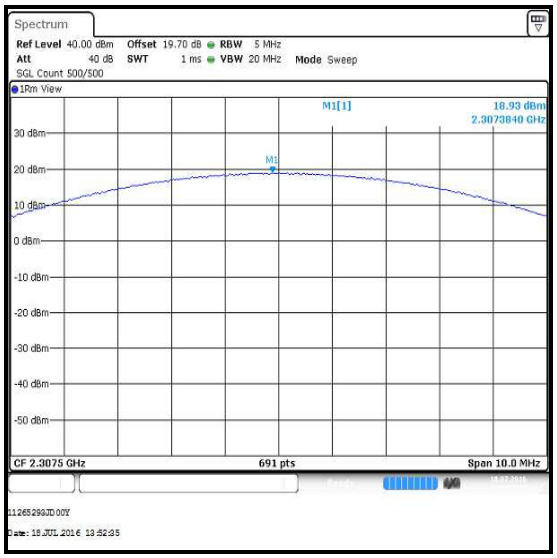
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2307.5	1	24	19.1	-2.9	16.2	24.0	7.8	Complied
2307.5	1	0	18.9	-2.9	16.0	24.0	8.0	Complied
2307.5	1	12	18.9	-2.9	16.0	24.0	8.0	Complied



QPSK / 1 Resource Block (24 offset)



QPSK / 1 Resource Block (0 offset)

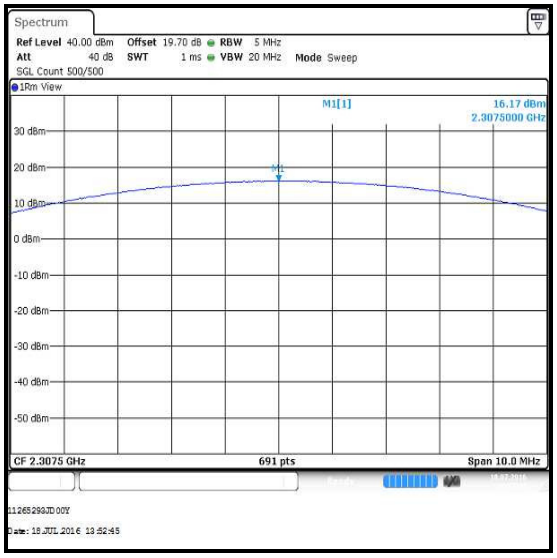


QPSK / 1 Resource Blocks (12 offset)

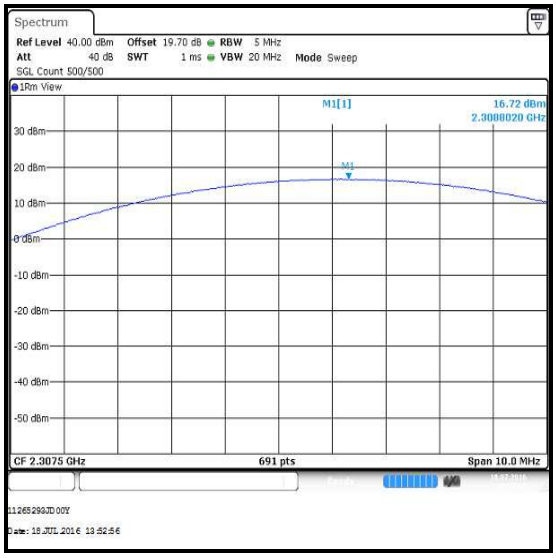
Transmitter Output Power Spectral Density (EIRP) (continued)

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

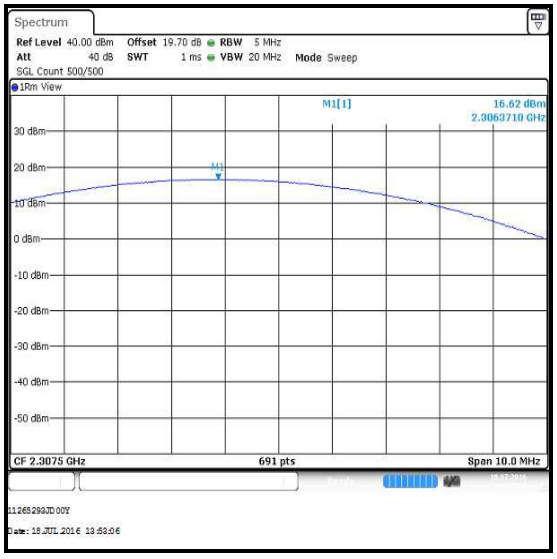
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2307.5	25	0	16.2	-2.9	13.3	24.0	10.7	Complied
2307.5	12	13	16.7	-2.9	13.8	24.0	10.2	Complied
2307.5	12	0	16.6	-2.9	13.7	24.0	10.3	Complied
2307.5	12	7	16.7	-2.9	13.8	24.0	10.2	Complied



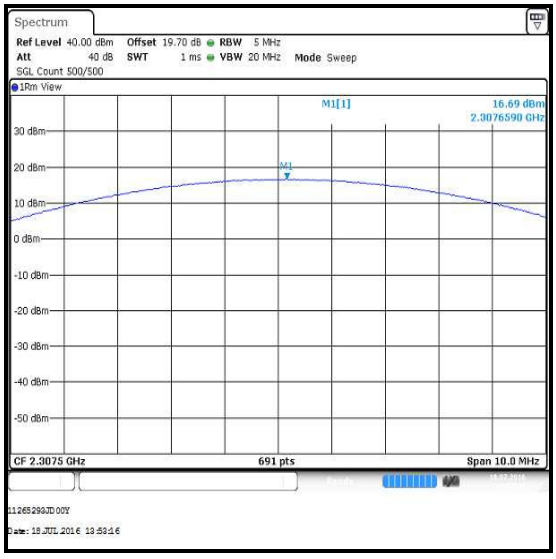
16QAM / 25 Resource Block (0 offset)



16QAM / 12 Resource Block (13 offset)



16QAM / 12 Resource Blocks (0 offset)

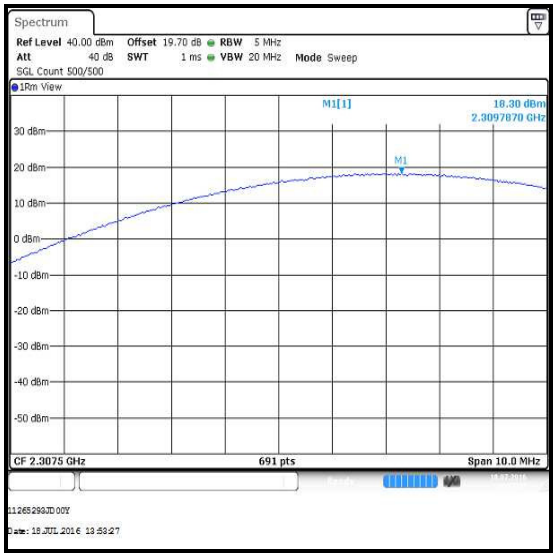


16QAM / 12 Resource Blocks (7 offset)

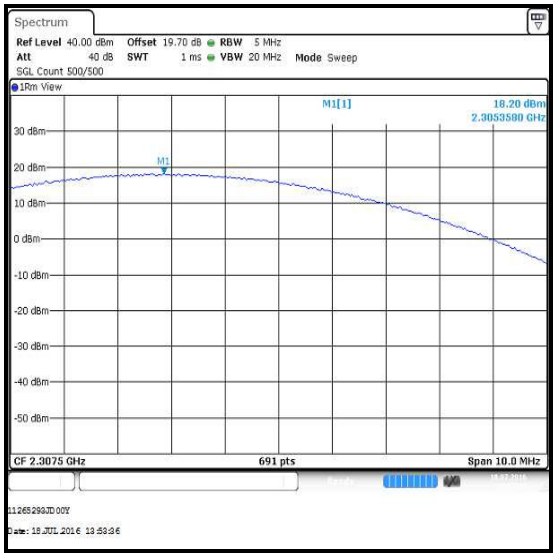
Transmitter Output Power Spectral Density (EIRP) (continued)

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

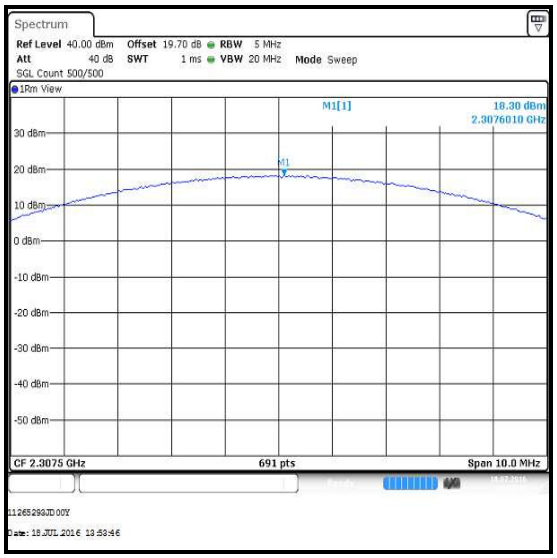
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2307.5	1	24	18.3	-2.9	15.4	24.0	8.6	Complied
2307.5	1	0	18.2	-2.9	15.3	24.0	8.7	Complied
2307.5	1	12	18.3	-2.9	15.4	24.0	8.6	Complied



16QAM / 1 Resource Block (24 offset)



16QAM / 1 Resource Block (0 offset)

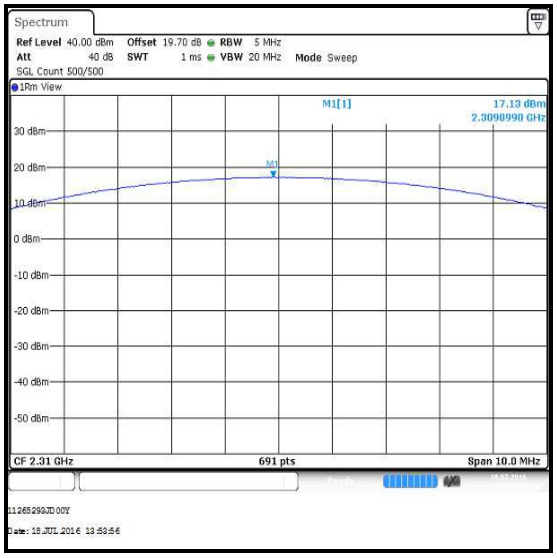


16QAM / 1 Resource Blocks (12 offset)

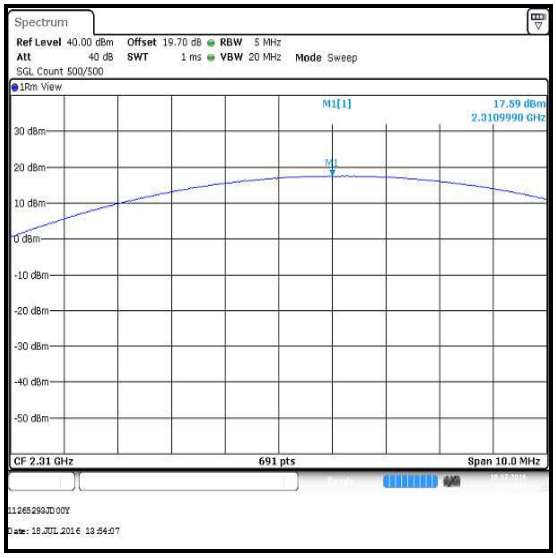
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Middle Channel / QPSK

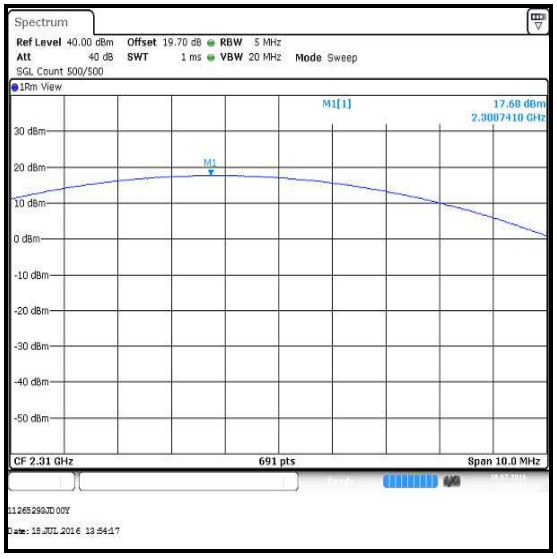
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	25	0	17.1	-2.9	14.2	24.0	9.8	Complied
2310.0	12	13	17.6	-2.9	14.7	24.0	9.3	Complied
2310.0	12	0	17.7	-2.9	14.8	24.0	9.2	Complied
2310.0	12	7	17.7	-2.9	14.8	24.0	9.2	Complied



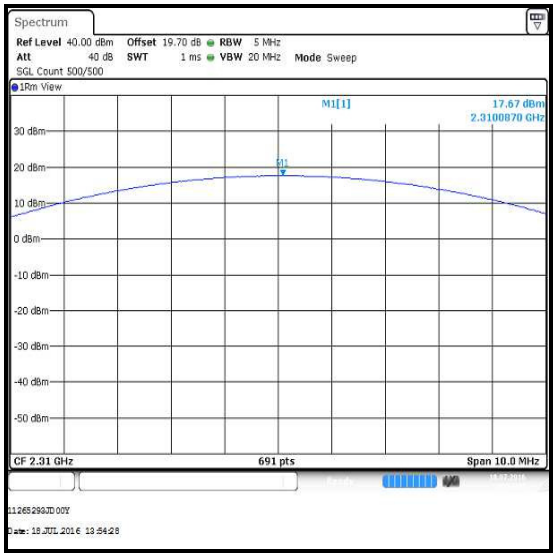
QPSK / 25 Resource Block (0 offset)



QPSK / 12 Resource Block (13 offset)



QPSK / 12 Resource Blocks (0 offset)

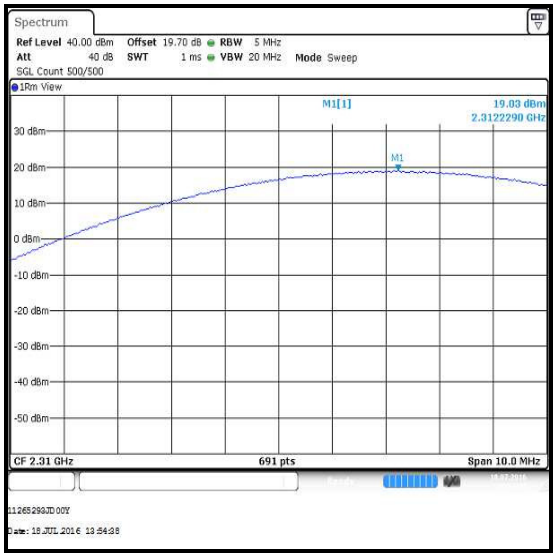


QPSK / 12 Resource Blocks (7 offset)

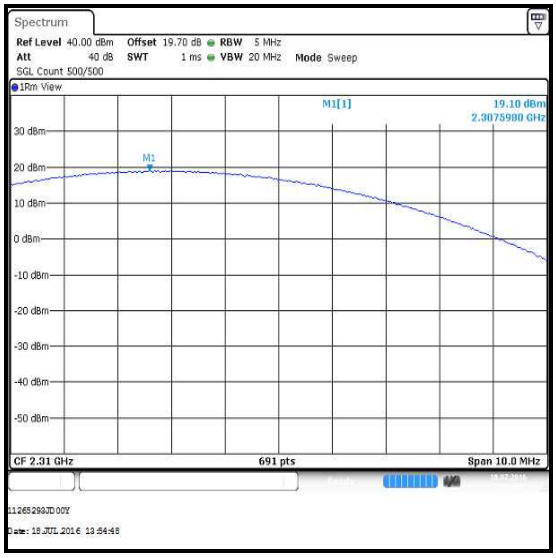
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Middle Channel / QPSK

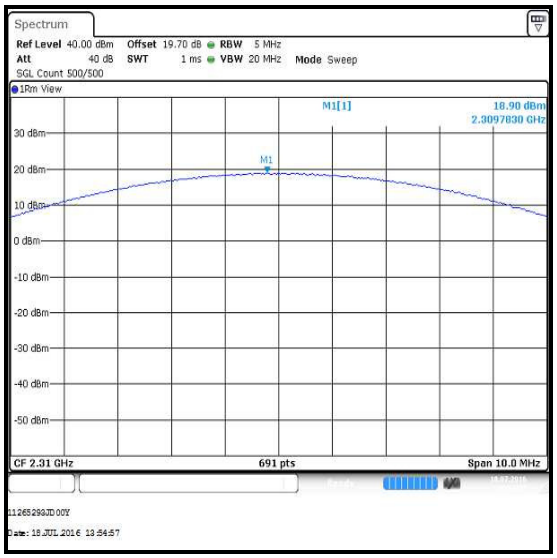
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	1	24	19.0	-2.9	16.1	24.0	7.9	Complied
2310.0	1	0	19.1	-2.9	16.2	24.0	7.8	Complied
2310.0	1	12	18.9	-2.9	16.0	24.0	8.0	Complied



QPSK / 1 Resource Block (24 offset)



QPSK / 1 Resource Block (0 offset)

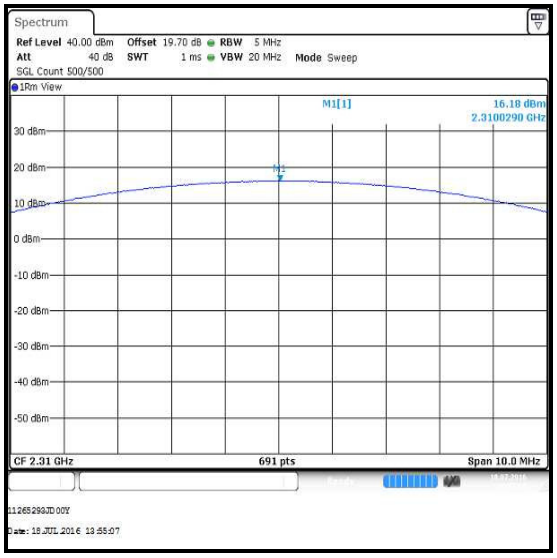


QPSK / 1 Resource Blocks (12 offset)

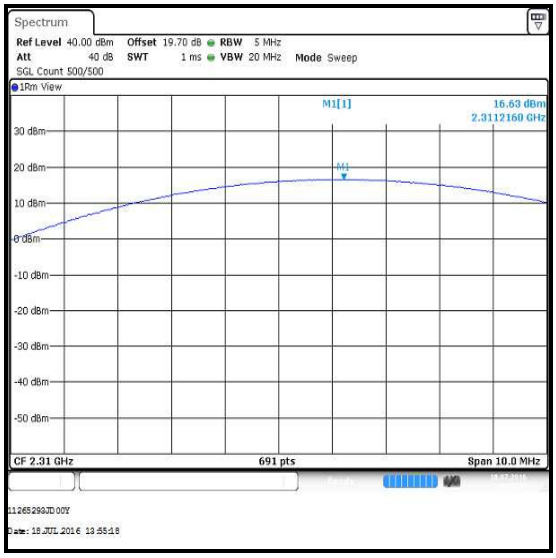
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Middle Channel / 16QAM

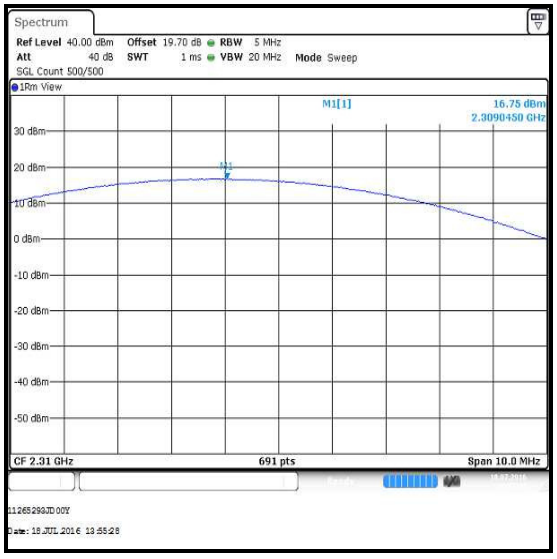
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	25	0	16.2	-2.9	13.3	24.0	10.7	Complied
2310.0	12	13	16.6	-2.9	13.7	24.0	10.3	Complied
2310.0	12	0	16.8	-2.9	13.9	24.0	10.1	Complied
2310.0	12	7	16.7	-2.9	13.8	24.0	10.2	Complied



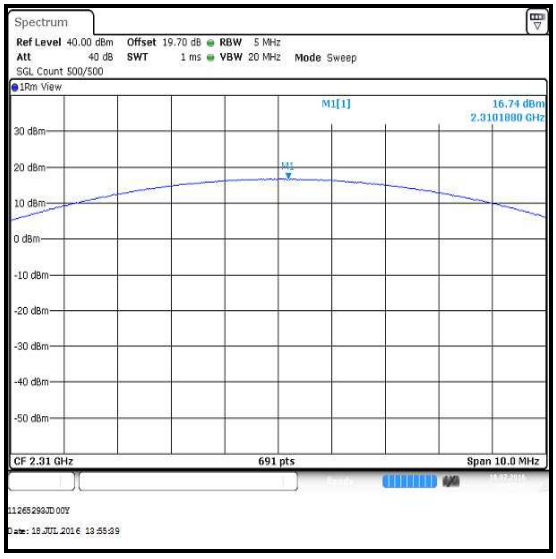
16QAM / 25 Resource Block (0 offset)



16QAM / 12 Resource Block (13 offset)



16QAM / 12 Resource Blocks (0 offset)

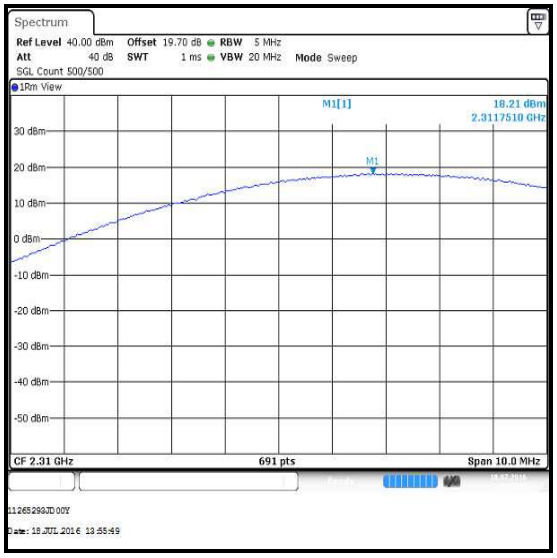


16QAM / 12 Resource Blocks (7 offset)

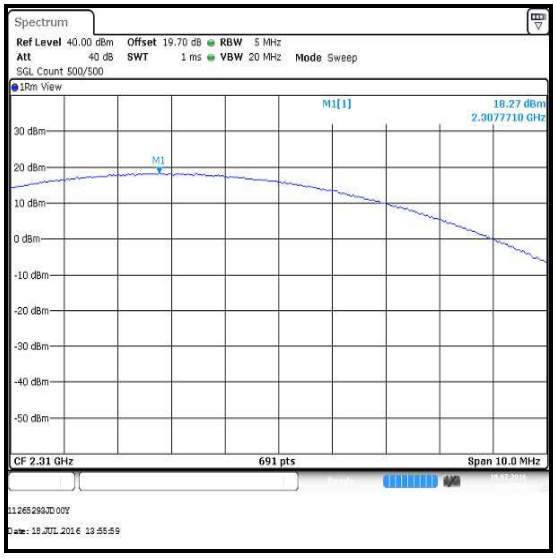
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Middle Channel / 16QAM

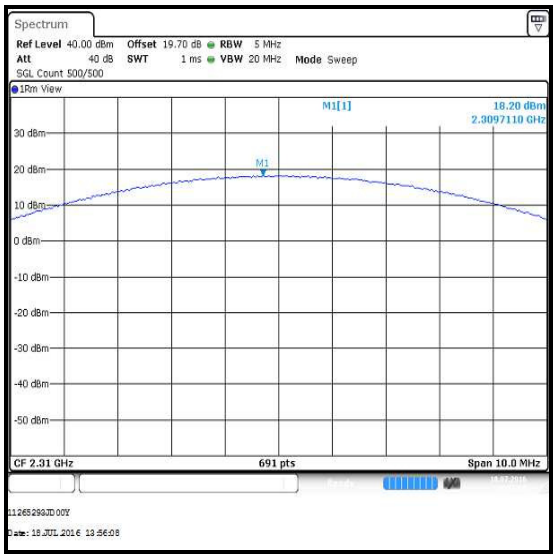
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	1	24	18.2	-2.9	15.3	24.0	8.7	Complied
2310.0	1	0	18.3	-2.9	15.4	24.0	8.6	Complied
2310.0	1	12	18.2	-2.9	15.3	24.0	8.7	Complied



16QAM / 1 Resource Block (24 offset)



16QAM / 1 Resource Block (0 offset)

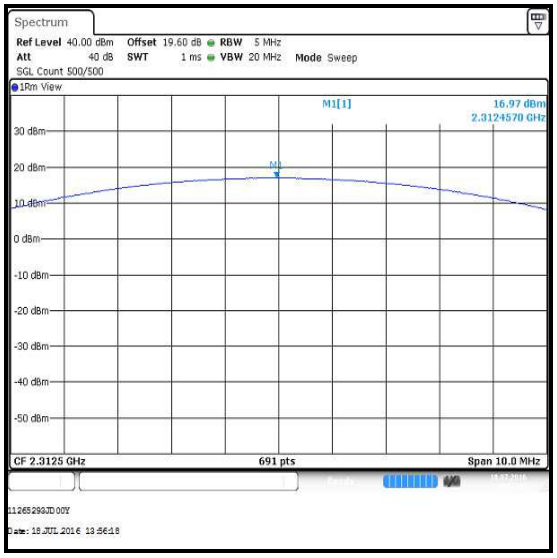


16QAM / 1 Resource Blocks (12 offset)

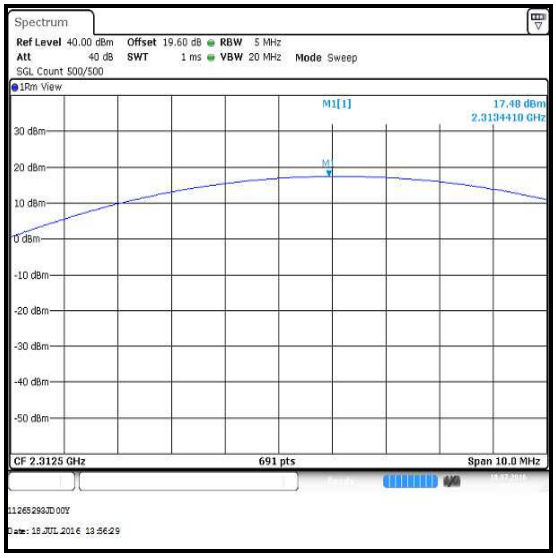
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Top Channel / QPSK

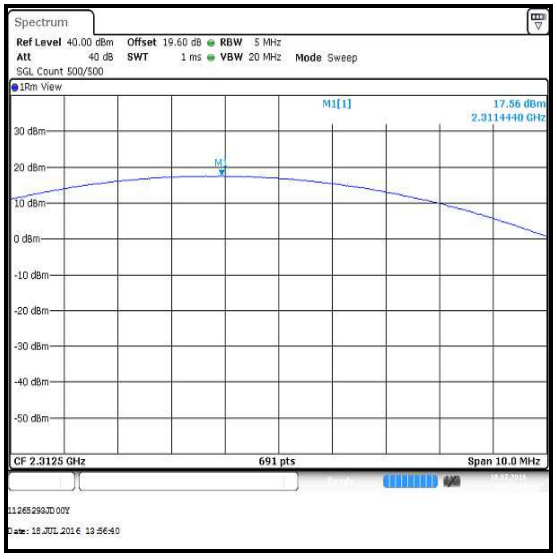
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2312.5	25	0	17.0	-2.9	14.1	24.0	9.9	Complied
2312.5	12	13	17.5	-2.9	14.6	24.0	9.4	Complied
2312.5	12	0	17.6	-2.9	14.7	24.0	9.3	Complied
2312.5	12	7	17.6	-2.9	14.7	24.0	9.3	Complied



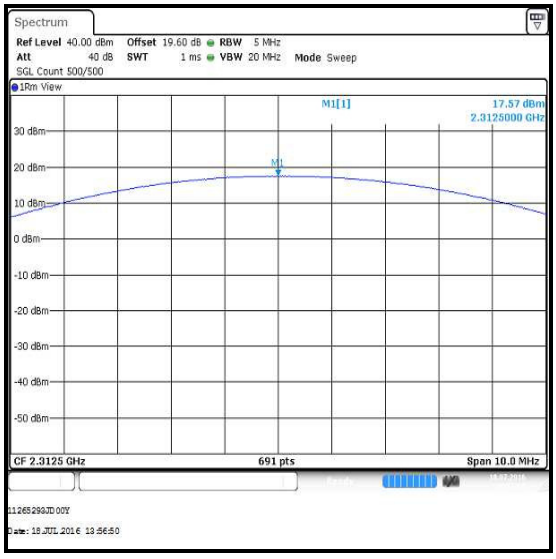
QPSK / 25 Resource Block (0 offset)



QPSK / 12 Resource Block (13 offset)



QPSK / 12 Resource Blocks (0 offset)

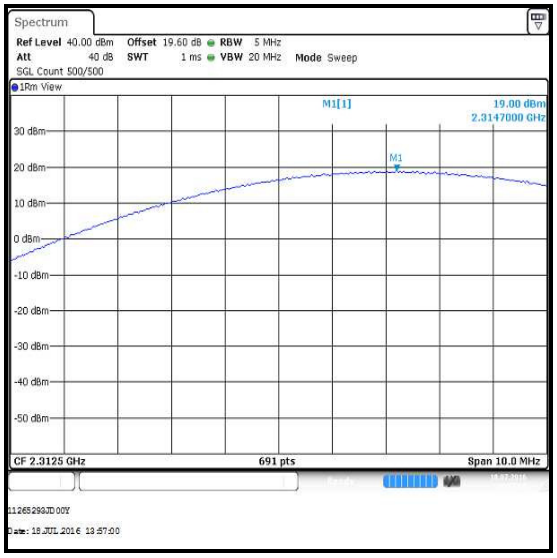


QPSK / 12 Resource Blocks (7 offset)

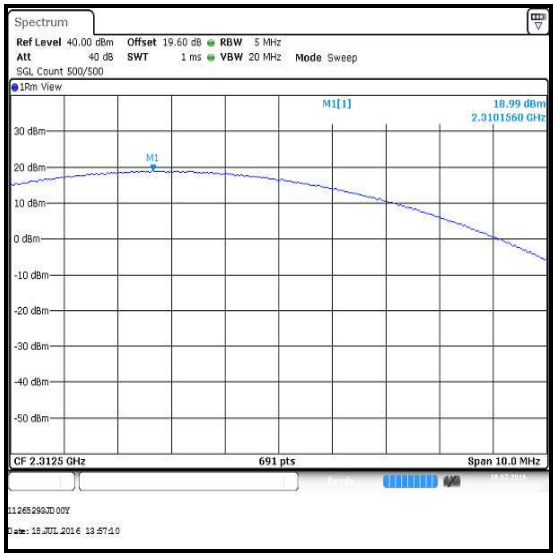
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 5 MHz Channel Bandwidth / Top Channel / QPSK

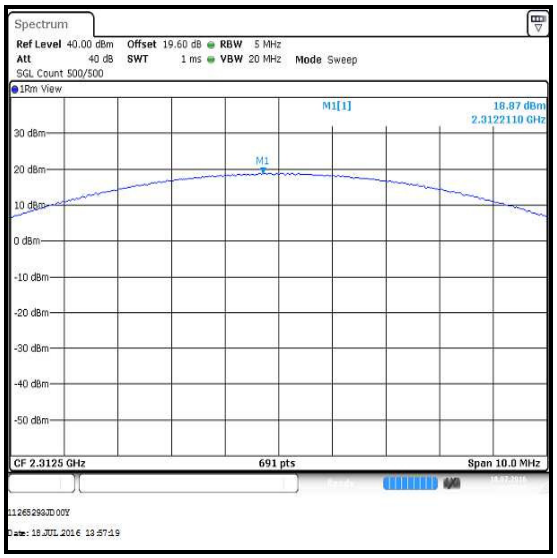
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2312.5	1	24	19.0	-2.9	16.1	24.0	7.9	Complied
2312.5	1	0	19.0	-2.9	16.1	24.0	7.9	Complied
2312.5	1	12	18.9	-2.9	16.0	24.0	8.0	Complied



QPSK / 1 Resource Block (24 offset)



QPSK / 1 Resource Block (0 offset)

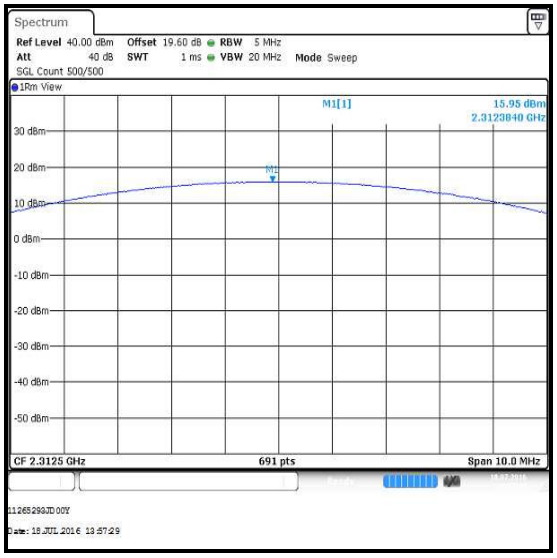


QPSK / 1 Resource Blocks (12 offset)

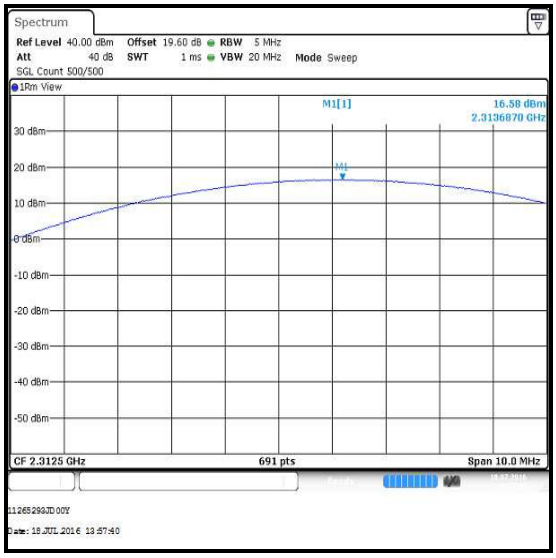
Transmitter Output Power Spectral Density (EIRP) (continued)

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

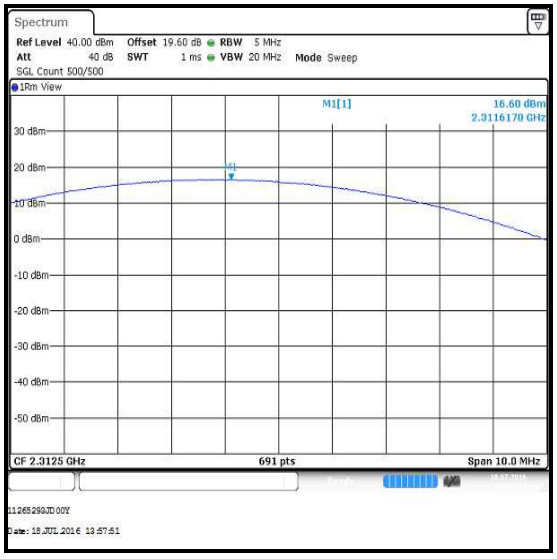
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2312.5	25	0	16.0	-2.9	13.1	24.0	10.9	Complied
2312.5	12	13	16.6	-2.9	13.7	24.0	10.3	Complied
2312.5	12	0	16.6	-2.9	13.7	24.0	10.3	Complied
2312.5	12	7	16.6	-2.9	13.7	24.0	10.3	Complied



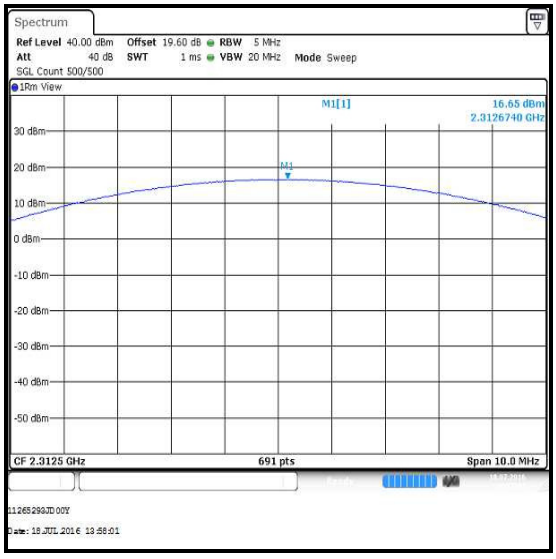
16QAM / 25 Resource Block (0 offset)



16QAM / 12 Resource Block (13 offset)



16QAM / 12 Resource Blocks (0 offset)

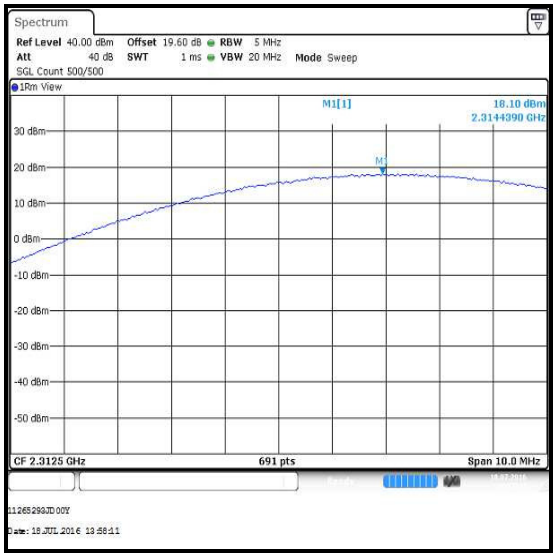


16QAM / 12 Resource Blocks (7 offset)

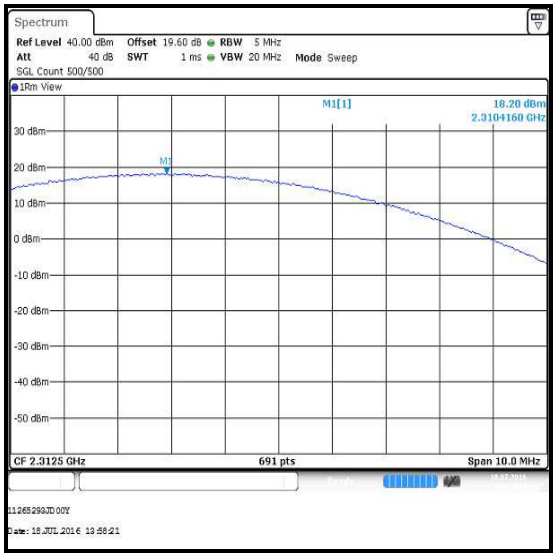
Transmitter Output Power Spectral Density (EIRP) (continued)

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

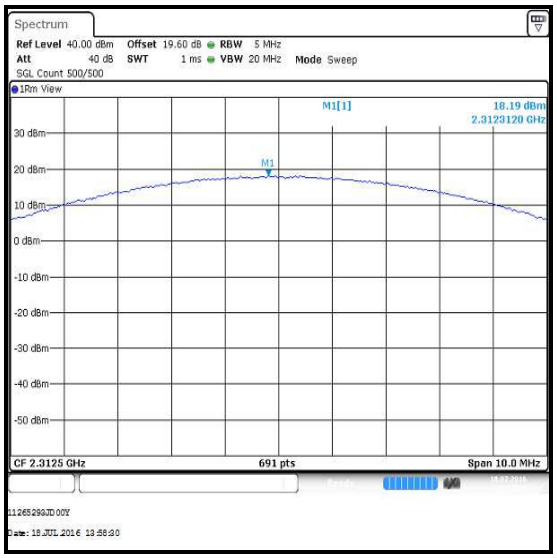
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2312.5	1	24	18.1	-2.9	15.2	24.0	8.8	Complied
2312.5	1	0	18.2	-2.9	15.3	24.0	8.7	Complied
2312.5	1	12	18.2	-2.9	15.3	24.0	8.7	Complied



16QAM / 1 Resource Block (24 offset)



16QAM / 1 Resource Block (0 offset)

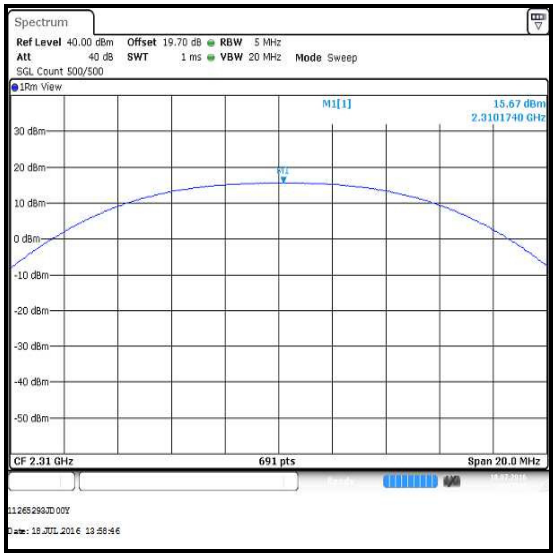


16QAM / 1 Resource Blocks (12 offset)

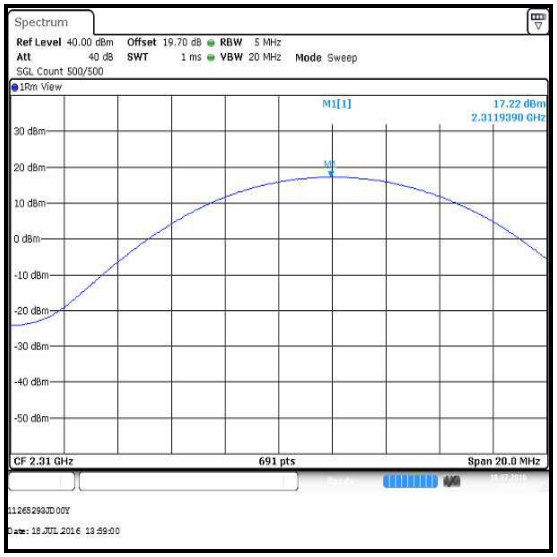
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 10 MHz Channel Bandwidth / Middle Channel / QPSK

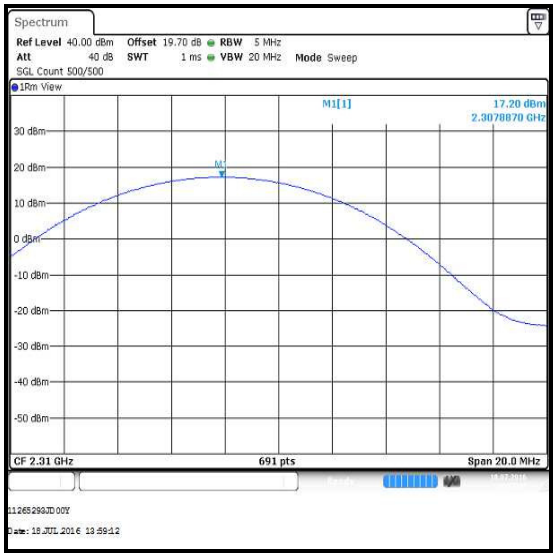
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	50	0	15.7	-2.9	12.8	24.0	11.2	Complied
2310.0	25	24	17.2	-2.9	14.3	24.0	9.7	Complied
2310.0	25	0	17.2	-2.9	14.3	24.0	9.7	Complied
2310.0	25	12	17.2	-2.9	14.3	24.0	9.7	Complied



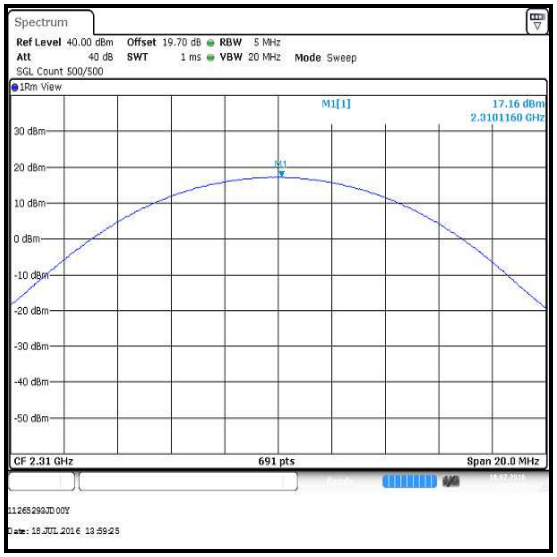
QPSK / 50 Resource Block (0 offset)



QPSK / 25 Resource Block (24 offset)



QPSK / 25 Resource Blocks (0 offset)

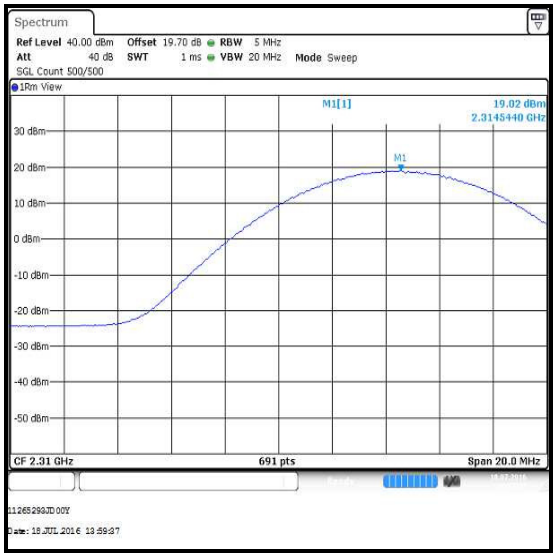


QPSK / 25 Resource Blocks (12 offset)

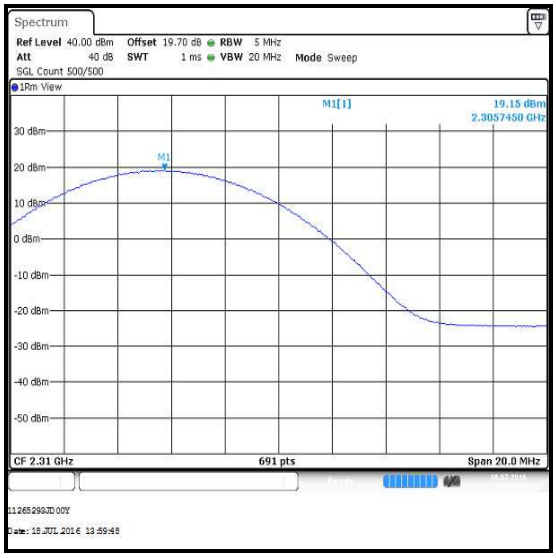
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 10 MHz Channel Bandwidth / Middle Channel / QPSK

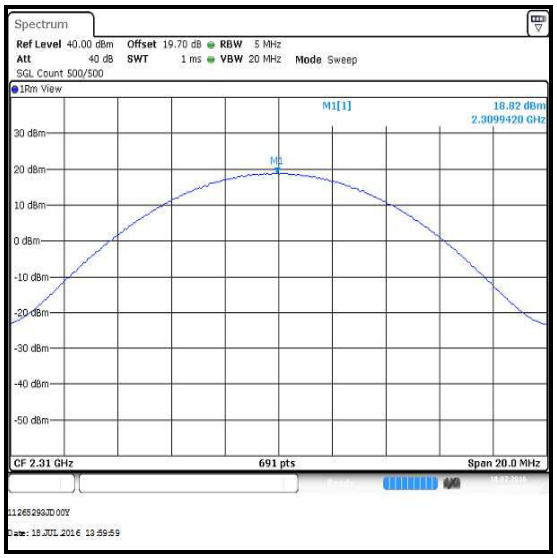
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	1	49	19.0	-2.9	16.1	24.0	7.9	Complied
2310.0	1	0	19.2	-2.9	16.3	24.0	7.7	Complied
2310.0	1	24	18.8	-2.9	15.9	24.0	8.1	Complied



QPSK / 1 Resource Block (49 offset)



QPSK / 1 Resource Block (0 offset)

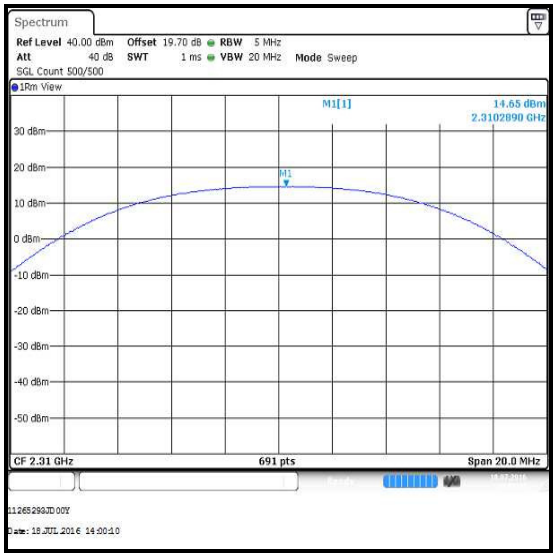


QPSK / 1 Resource Blocks (24 offset)

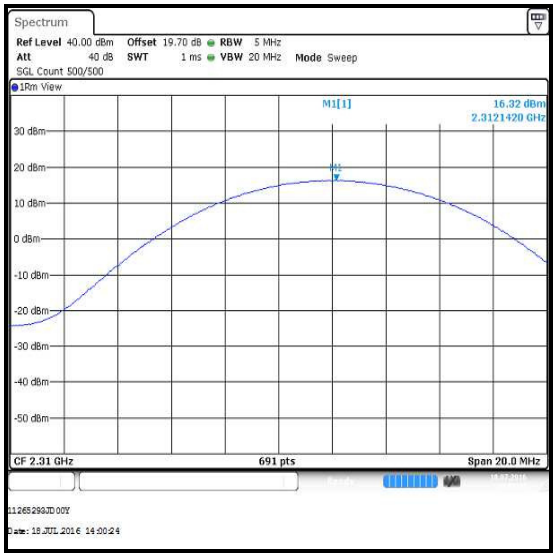
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 10 MHz Channel Bandwidth / Middle Channel / 16QAM

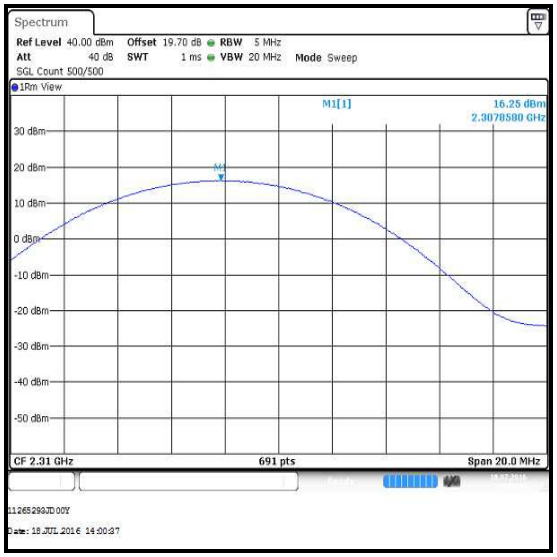
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	50	0	14.7	-2.9	11.8	24.0	12.2	Complied
2310.0	25	24	16.3	-2.9	13.4	24.0	10.6	Complied
2310.0	25	0	16.3	-2.9	13.4	24.0	10.6	Complied
2310.0	25	12	16.2	-2.9	13.3	24.0	10.7	Complied



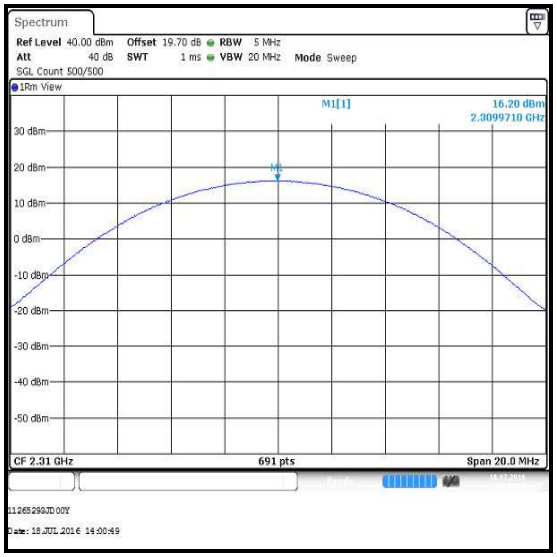
16QAM / 50 Resource Block (0 offset)



16QAM / 25 Resource Block (24 offset)



16QAM / 25 Resource Blocks (0 offset)

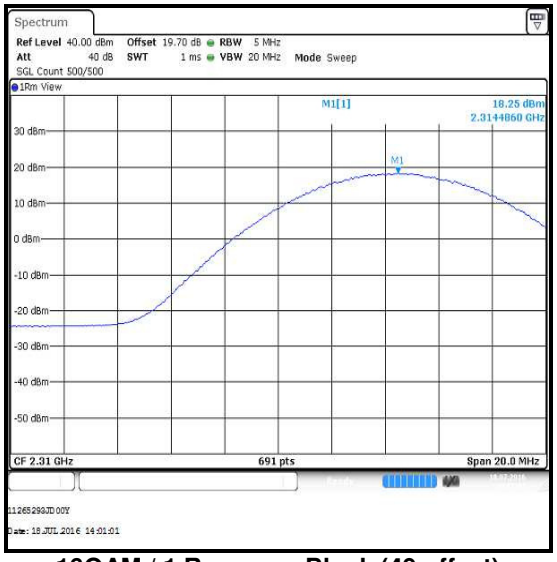


16QAM / 25 Resource Blocks (12 offset)

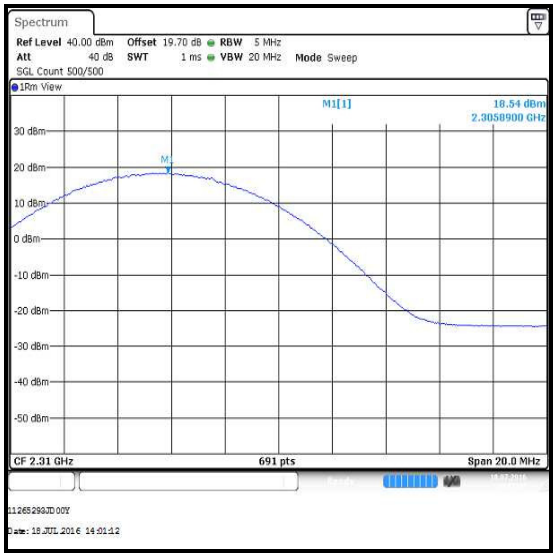
Transmitter Output Power Spectral Density (EIRP) (continued)

Results: 10 MHz Channel Bandwidth / Middle Channel / 16QAM

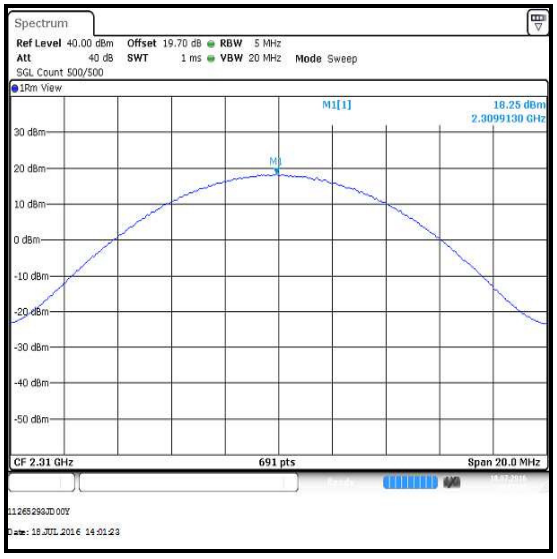
Frequency (MHz)	Resource Block(s)	Resource Block Offset	Conducted PSD (dBm/5 MHz)	Antenna Gain (dBi)	PSD EIRP (dBm/ 5 MHz)	EIRP Limit (dBm/ 5 MHz)	Margin (dB)	Result
2310.0	1	49	18.3	-2.9	15.4	24.0	8.6	Complied
2310.0	1	0	18.5	-2.9	15.6	24.0	8.4	Complied
2310.0	1	24	18.3	-2.9	15.4	24.0	8.6	Complied



16QAM / 1 Resource Block (49 offset)



16QAM / 1 Resource Block (0 offset)



16QAM / 1 Resource Blocks (24 offset)

Transmitter Output Power Spectral Density (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	Communications Tester	Rohde & Schwarz	CMW500	145923	05 Apr 2017	12
M1873	Signal Analyser	Rohde & Schwarz	FSV30	103074	27 Jun 2017	12
A2845	Attenuator	Radiall	R411.806.121	24325927	Calibrated before use	-
A2844	Attenuator	Radiall	R411.803.121	23404066	Calibrated before use	-
A2500	Directional Coupler	AtlanTecRF	CDC-003060-10	13122501835	Calibrated before use	-
S0562	Power Supply	Thurlby Thandar	PL330QMD	054895	Calibrated before use	-
M1269	Multimeter	Fluke	179	90250210	13 May 2017	12

5.2.3. 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

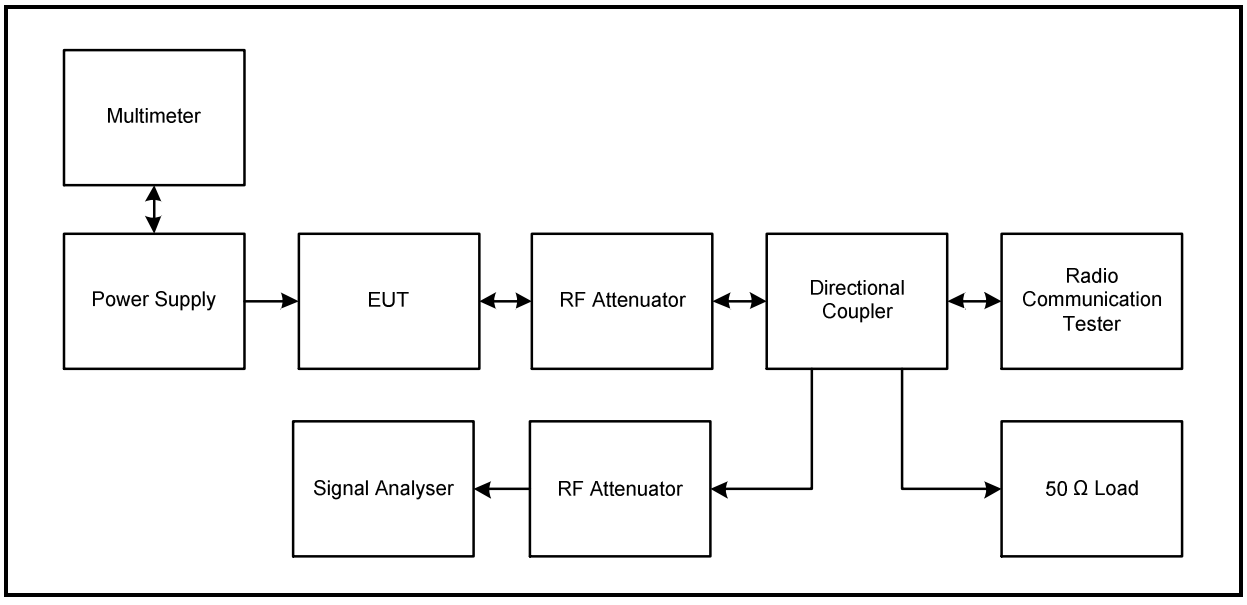
Environmental Conditions:

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.

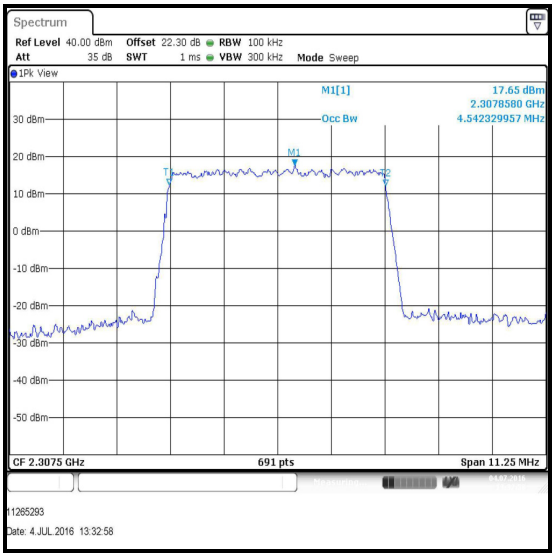
Test setup:



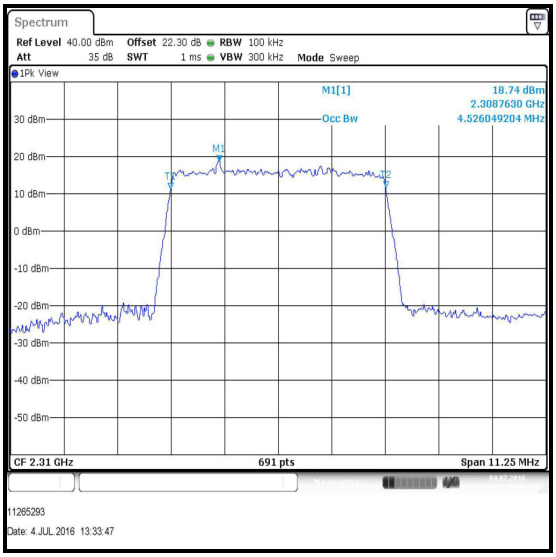
Transmitter Occupied Bandwidth (continued)

Results: 5 MHz Channel Bandwidth / QPSK

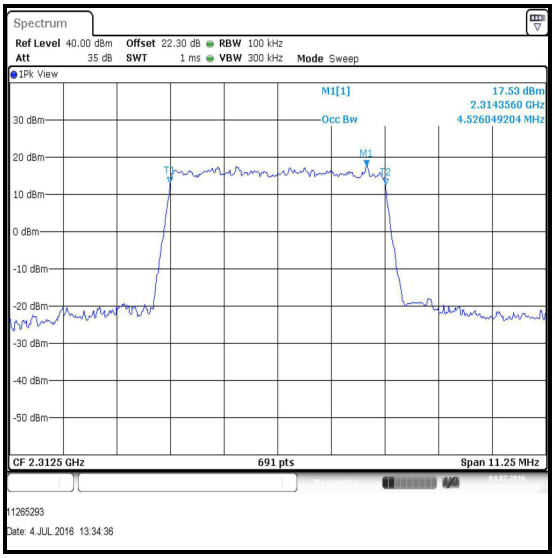
Channel	Resource Block(s)	Resource Block Offset	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Occupied Bandwidth (MHz)
Bottom	25	0	100	300	4.542
Middle	25	0	100	300	4.526
Top	25	0	100	300	4.526



Bottom Channel / QPSK



Middle Channel / QPSK

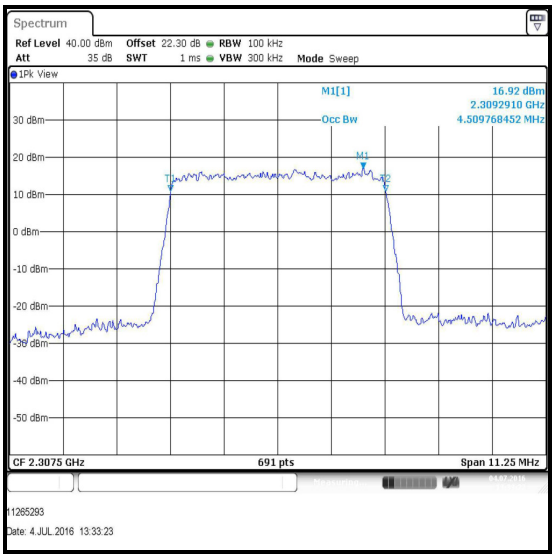


Top Channel / QPSK

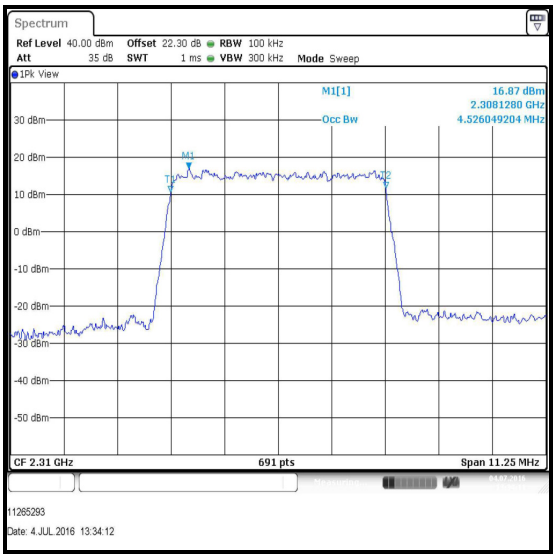
Transmitter Occupied Bandwidth (continued)

Results: 5 MHz Channel Bandwidth / 16QAM

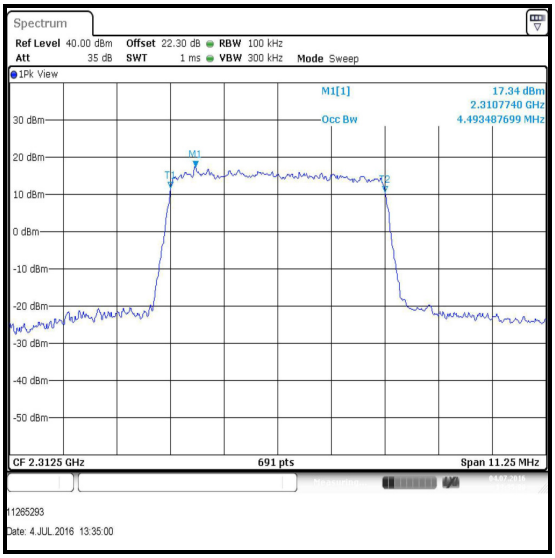
Channel	Resource Block(s)	Resource Block Offset	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Occupied Bandwidth (MHz)
Bottom	25	0	100	300	4.510
Middle	25	0	100	300	4.526
Top	25	0	100	300	4.493



Bottom Channel / 16QAM



Middle Channel / 16QAM

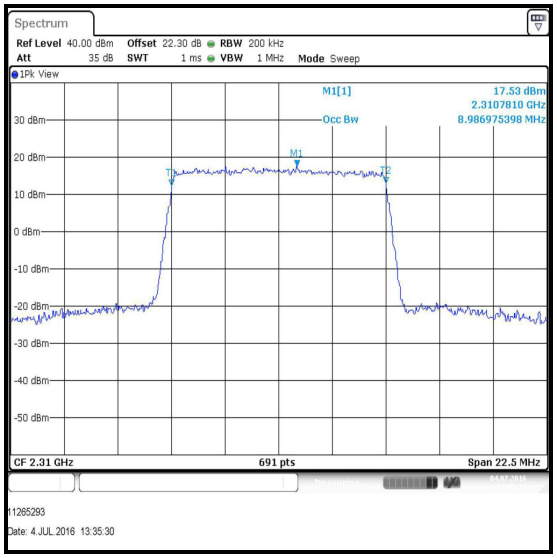


Top Channel / 16QAM

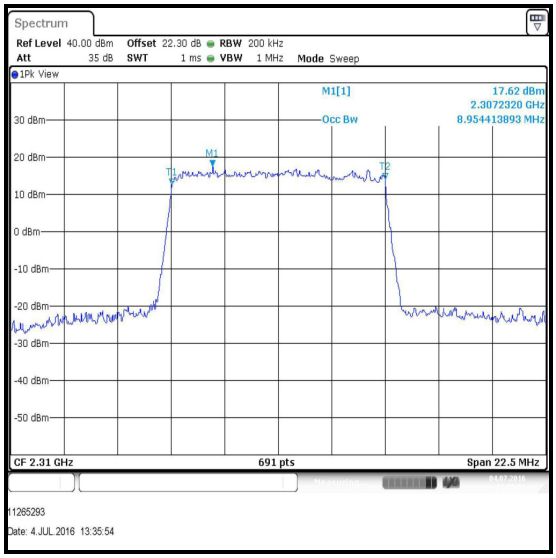
Transmitter Occupied Bandwidth (continued)

Results: 10 MHz Channel Bandwidth / Middle Channel

Modulation	Resource Block(s)	Resource Block Offset	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Occupied Bandwidth (MHz)
QPSK	50	0	200	1000	8.987
16QAM	50	0	200	1000	8.954



Middle Channel / QPSK



Middle Channel / 16QAM

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
M1873	Signal Analyser	Rohde & Schwarz	FSV30	103074	27 Jun 2017	12
A2845	Attenuator	Radiall	R411.806.121	24325927	Calibrated before use	-
A2844	Attenuator	Radiall	R411.803.121	23404066	Calibrated before use	-
A2504	Directional Coupler	AtlanTecRF	CDC-003060-10	13122501839	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 Conducted Emission Mask – LAT

Test Summary:

Test Engineer:	Ben Mercer	**Test Date:**	25 July 2016
Test Sample IMEI:	358640070309241		

FCC Reference:	Parts 2.1051 & 27.53(a)(4)
Test Method Used:	KDB 971168 Section 6 referencing FCC Part 27.53 & notes below

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	55

Note(s):

1. Measurements were performed conducted with the antenna gain included in the spectrum analyser reference level offset. The customer stated that the antenna gain is -2.1 dB.
2. Measurements were performed with the EUT transmitting QPSK and 16QAM modulation schemes, with resource block settings stated in section 4.3.
3. The plots of this section illustrate the conducted emissions at band edges, at frequencies below 2304 MHz and above 2316 MHz. Compliance in the frequency ranges 2304 to 2305 MHz and 2315 to 2516 MHz are shown in section 5.2.8 of this report.
4. In accordance with Part 27.53(a)(5), a narrower resolution bandwidth may be used, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz. The channel power function of the spectrum analyser was used where necessary.
5. * Integrated level (dBm)

Test setup: