

TEST REPORT

of

FCC Part 22 Subpart H and Part 27 Subpart C

FCC ID: BEJIGCJ1PHE

Equipment Under Test : Car AVN
Model Name : IGCJ1PHE
Applicant : LG Electronics USA
Manufacturer : LG Electronics USA
Date of Receipt : 2018.09.21
Date of Test(s) : 2018.09.22 ~ 2019.04.22
Date of Issue : 2019.05.14

In the configuration tested, the EUT complied with the standards specified above.

Tested By:



Nancy Park

Date:

2019.05.14

Technical
Manager:



Jungmin Yang

Date:

2019.05.14

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

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1.2. Details of Applicant

Applicant : LG Electronics USA
 Address : 1000 Sylvan Avenue, Englewood Cliffs, New Jersey, United States, 07632
 Contact Person : Han, Kyung-su
 Phone No. : +2 201 472 2623

1.3. Details of Manufacturer

Company : LG Electronics Inc.
 Address : 10, Magokjungang 10-ro, Gangseo-gu, Seoul, Korea, 07796

1.4. Description of EUT

Kind of Product	Car AVN
Model Name	IGCJ1PHE
Power Supply	DC 12 V
Rated Power	LTE Band 5, 7, 26: 23 dB m
Frequency Range	LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2 500 MHz ~ 2 570 MHz LTE Band 26: 824 MHz ~ 849 MHz
Emission Designator	LTE Band 5 (1.4 MHz): 1M10G7D (QPSK) / 1M10D7D (16QAM) LTE Band 5 (3 MHz): 2M70G7D (QPSK) / 2M69D7D (16QAM) LTE Band 5 (5 MHz): 4M53G7D (QPSK) / 4M52D7D (16QAM) LTE Band 5 (10 MHz): 8M94G7D (QPSK) / 8M97D7D (16QAM) LTE Band 7 (5 MHz): 4M52G7D (QPSK) / 4M52D7D (16QAM) LTE Band 7 (10 MHz): 8M97G7D (QPSK) / 8M97D7D (16QAM) LTE Band 7 (15 MHz): 13M5G7D (QPSK) / 13M5D7D (16QAM) LTE Band 7 (20 MHz): 18M0G7D (QPSK) / 17M9D7D (16QAM) LTE Band 26 (1.4 MHz): 1M10G7D (QPSK) / 1M10D7D (16QAM) LTE Band 26 (3 MHz): 2M69G7D (QPSK) / 2M69D7D (16QAM) LTE Band 26 (5 MHz): 4M52G7D (QPSK) / 4M52D7D (16QAM) LTE Band 26 (10 MHz): 8M97G7D (QPSK) / 8M97D7D (16QAM) LTE Band 26 (15 MHz): 13M5G7D (QPSK) / 13M5D7D (16QAM)
Modulation Technique	QPSK, 16QAM
Antenna Type	External antenna
Antenna gain	824 MHz ~ 849 MHz: -0.69 dB i, 2 500 MHz ~ 2 570 MHz: 0.99 dB i

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1.5. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Signal Generator	Agilent	E8257D	MY51501169	Jul. 03, 2018	Annual	Jul. 03, 2019
Spectrum Analyzer	R&S	FSV30	103102	Jun. 11, 2018	Annual	Jun. 11, 2019
Mobile Test Unit	R&S	CMW500	144035	Feb. 19, 2019	Annual	Feb. 19, 2020
Power Meter	Anritsu	ML2495A	1223004	Jun. 12, 2018	Annual	Jun. 12, 2019
Power Sensor	Anritsu	MA2411B	1207272	Jun. 12, 2018	Annual	Jun. 12, 2019
Directional Coupler	KRYTAR	152613	140972	Jun. 14, 2018	Annual	Jun. 14, 2019
Temperature Chamber	ESPEC CORP.	PL-1J	15000793	Jun. 14, 2018	Annual	Jun. 14, 2019
High Pass Filter	Wainwright Instrument GmbH	WHKX10-900-1000-18000-40SS	7	Mar. 12, 2019	Annual	Mar. 12, 2020
High Pass Filter	Wainwright Instrument GmbH	WHK3.0/18G-10SS	344	May 27, 2018	Annual	May 27, 2019
High Pass Filter	Wainwright Instrument GmbH	WHKX2.2/12.75G-10SS	8	Mar. 12, 2019	Annual	Mar. 12, 2020
DC Power Supply	R&S	HMP2020	019258024	Nov. 06, 2018	Annual	Nov. 06, 2019
Preamplifier	H.P.	8447F	2944A03909	Aug. 07, 2018	Annual	Aug. 07, 2019
Preamplifier	Agilent	8449B	3008A01932	Feb. 22, 2019	Annual	Feb. 22, 2020
Preamplifier	MITEQ Inc.	JS44-18004000-35-8P	1546891	May 13, 2018	Annual	May 13, 2019
Test Receiver	R&S	ESU26	100109	Jan. 31, 2019	Annual	Jan. 31, 2020
Loop Antenna	SCHWARZBECK MESSELEKTRONIK	FMZB 1519	1519-039	Aug. 23, 2017	Biennial	Aug. 23, 2019
Bilog Antenna	SCHWARZBECK MESSELEKTRONIK	VULB9163	01126	Mar. 26, 2018	Biennial	Mar. 26, 2020
Horn Antenna	R&S	HF906	100326	Feb. 14, 2018	Biennial	Feb. 14, 2020
Horn Antenna	SCHWARZBECK MESSELEKTRONIK	BBHA9170	BBHA9170223	Sep. 10, 2018	Biennial	Sep. 10, 2020
Antenna Master	Innco systems GmbH	MM4000	N/A	N.C.R.	N/A	N.C.R.
Turn Table	Innco systems GmbH	DS 1200S	N/A	N.C.R.	N/A	N.C.R.
Controller	Innco systems GmbH	CONTROLLER CO3000-4P	CO3000/963/383 30516/L	N.C.R.	N/A	N.C.R.
Anechoic Chamber	SY Corporation	L x W x H (9.6 m x 6.4 m x 6.4 m)	N/A	N.C.R.	N/A	N.C.R.

► Support Equipment

Description	Manufacturer	Model	Serial Number
N/A	-	-	-

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1.6. Summary of Test Results

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 2, 22 and 27		
Section	Test Item	Result
§2.1046 §22.913(a)(5) §27.50(h)(2)	RF Radiated Output Power	Complied
§2.1053 §22.917(a) §27.53(m)(4)	Spurious Radiated Emission	Complied
§2.1046	Conducted Output Power	Complied
§2.1049	Occupied Bandwidth	Complied
§22.913(d) §27.50(d)(5)	Peak-Average Ratio	Complied
§2.1051 §22.917(a) §27.53(m)(4)	Spurious Emission at Antenna Terminal	Complied
§22.917(a) §27.53(m)(4)	Band Edge	Complied
§2.1055 §22.355 §27.54	Frequency Stability	Complied

1.7. Test Report Revision

Revision	Report number	Date of Issue	Description
0	F690501/RF-RTL013758	2019.04.24	Initial
1	F690501/RF-RTL013758-1	2019.05.14	Added the information of clause 1.4 and the test method of C63.26

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1.8. Sample Calculation for Offset

Where relevant, the following sample calculation is provided:

1.8.1. Conducted Test

Offset value (dB) = Directional Coupler (dB) + Cable loss (dB)

1.8.2. Radiation Test

E.R.P. & E.I.R.P. = [S.G level + Amp.] (dB m) - Cable loss (dB) + Ant. gain (dB d/dB i)

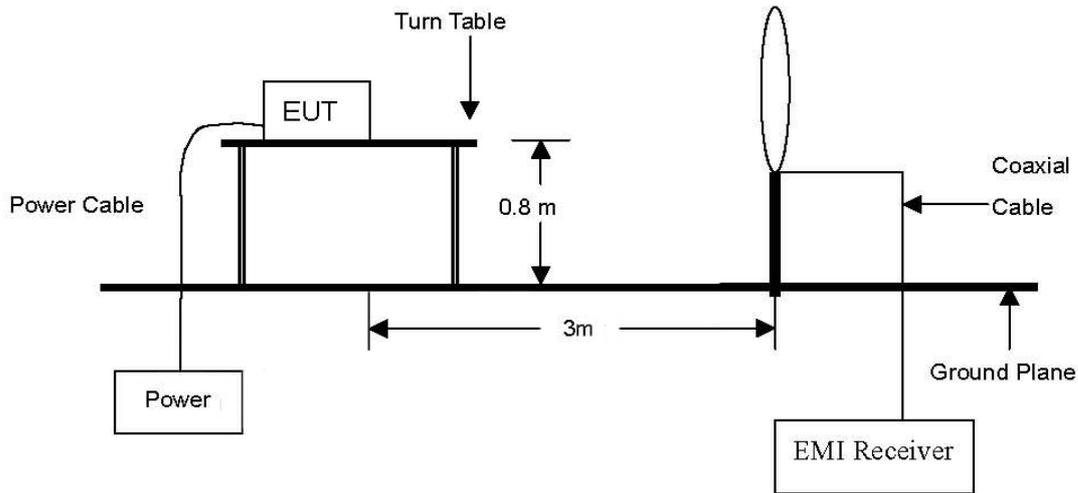
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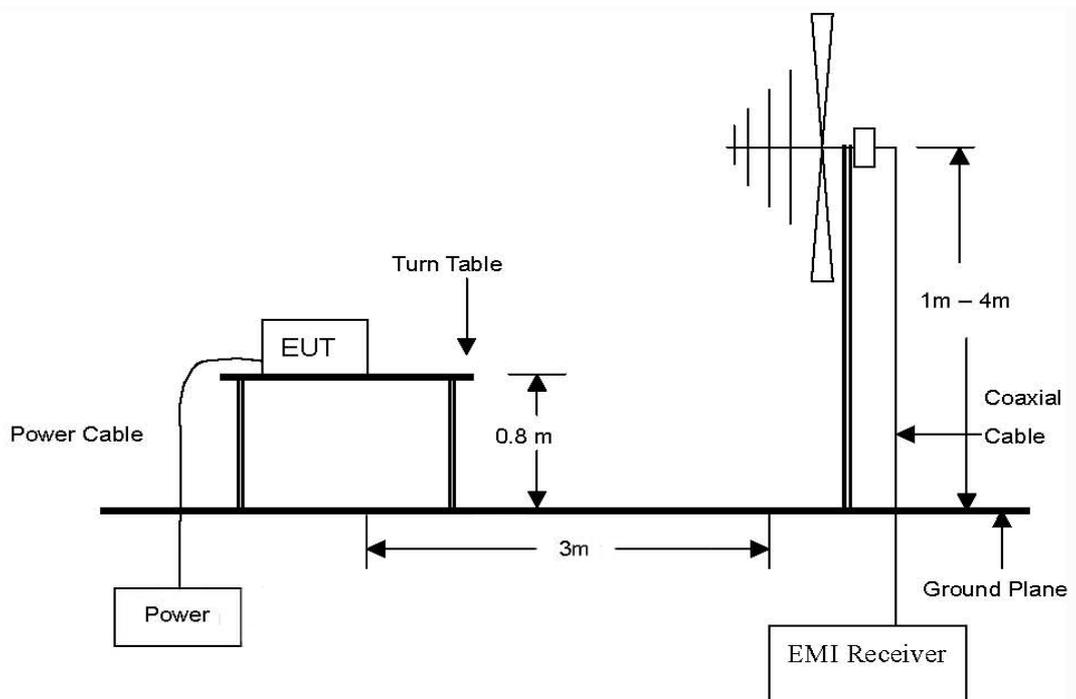
2. RF Radiated Output Power & Spurious Radiated Emission

2.1. Test Setup

The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz.

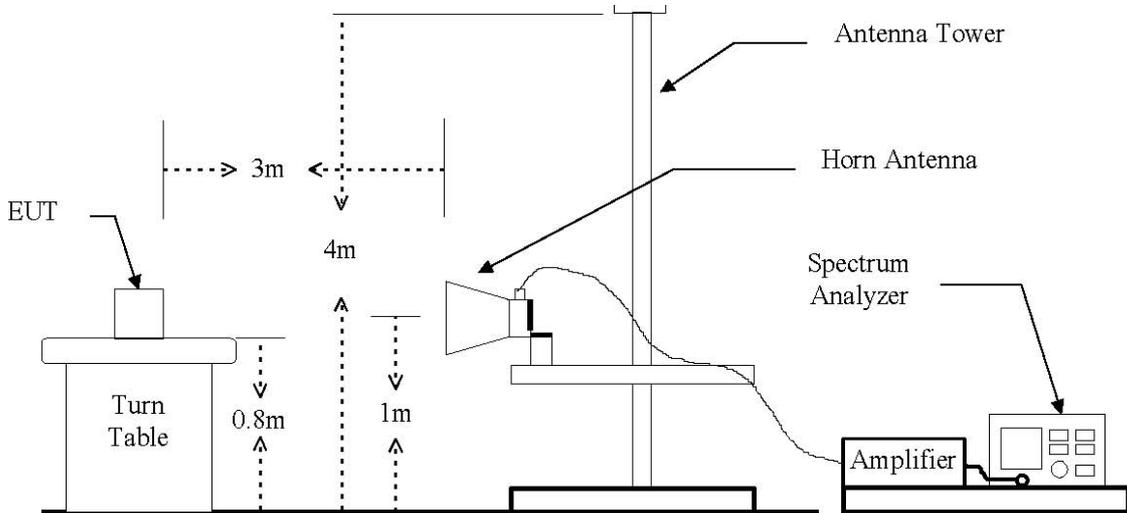


The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 GHz.

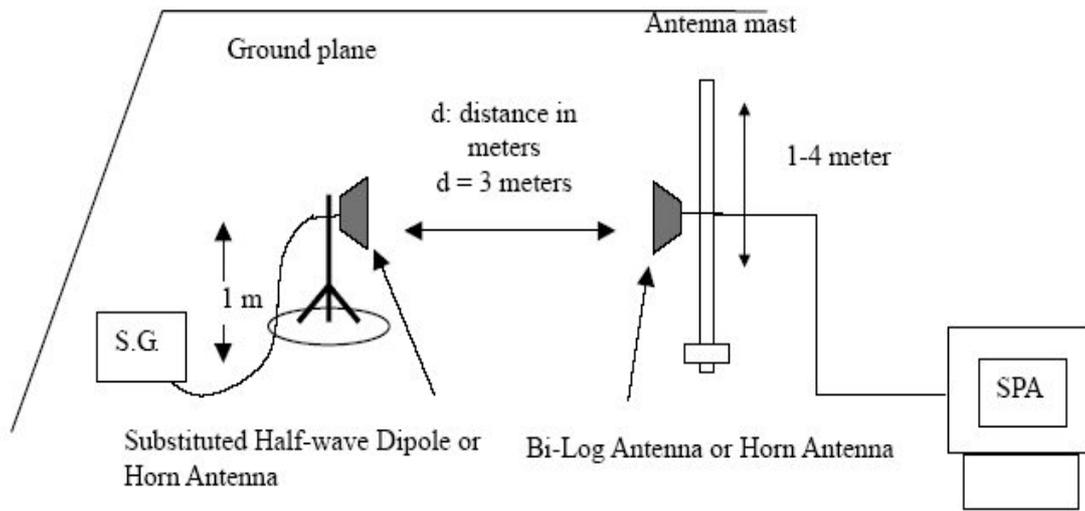


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The diagram below shows the test setup that is utilized to make the measurements for emission from 1 GHz to 26 GHz.



The diagram below shows the test setup for substituted method.



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2.2. Limit

2.2.1. Limit of Radiated Output Power

- §22.913(a)(5), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.
- §27.50(h)(2), Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

2.2.2. Limit of Spurious Radiated Emission

- §22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log_{10} (P)$ dB.
- §27.53(m)(4), For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log_{10} (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log_{10} (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log_{10} (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log_{10} (P)$ dB on all frequencies between 2 490.5 MHz and 2 496 MHz and $55 + 10 \log_{10} (P)$ dB at or below 2 490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2 495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

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2.3. Test Procedure: Based on ANSI/TIA 603E: 2016 and ANSI C63.26-2015

1. On a test site, the EUT shall be placed at 80 cm height on a turn table, and in the position close to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond to the fundamental frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is used for the measurement.
4. The maximized power level is recorded using the spectrum analyzer "Channel Power" function with the integration band set to the emissions occupied bandwidth, RBW = 1-5 % of the OBW (not to exceed 1 MHz), VBW $\geq 3 \times$ RBW, Detector = power averaging (rms), sweep time = auto, trace average at least 100 traces in power averaging (rms) mode, per the guidelines of KDB 971168 D01 Power Meas License Digital Systems v03r01.
5. Radiated spurious emissions measurement method was set as follows:
RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz, VBW $\geq 3 \times$ RBW, Detector = Peak, trace mode = max hold, per the guidelines of KDB 971168 D01 Power Meas License Digital Systems v03r01.
6. The transmitter shall be switched on, the measuring receiver shall be tuned to the frequency of the transmitter under test.
7. The test antenna shall be raised and lowered through the specified range of height until the maximum signal level is detected by the measuring receiver.
8. The transmitter shall be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
9. The test antenna shall be raised and lowered again through the specified range of height until the maximum signal level is detected by the measuring receiver.
10. The maximum signal level detected by the measuring receiver shall be noted.
11. The EUT was replaced by half-wave dipole (1 GHz below) or horn antenna (1 GHz above) connected to a signal generator.
12. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
13. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
14. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, which is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
15. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
16. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.

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2.4. Test Result for RF Radiated Output Power

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

LTE band 5 (1.4 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
824.70	H	25.63	3.26	-4.93	17.44	55.46
824.70	V	21.95	3.26	-4.93	13.76	23.77
836.50	H	25.83	3.45	-5.15	17.23	52.84
836.50	V	24.28	3.45	-5.15	15.68	36.98
848.30	H	26.49	3.52	-4.09	18.88	77.27
848.30	V	24.19	3.52	-4.09	16.58	45.50

* 1.4 BW 1RB size / 0 Offset for B5

LTE band 5 (1.4 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
824.70	H	24.84	3.26	-4.93	16.65	46.24
824.70	V	21.07	3.26	-4.93	12.88	19.41
836.50	H	24.90	3.45	-5.15	16.30	42.66
836.50	V	23.09	3.45	-5.15	14.49	28.12
848.30	H	25.29	3.52	-4.09	17.68	58.61
848.30	V	23.35	3.52	-4.09	15.74	37.50

* 1.4 BW 1RB size / 0 Offset for B5

LTE band 5 (3 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
825.50	H	25.92	3.28	-5.05	17.59	57.41
825.50	V	22.45	3.28	-5.05	14.12	25.82
836.50	H	25.62	3.45	-5.15	17.02	50.35
836.50	V	24.43	3.45	-5.15	15.83	38.28
847.50	H	25.97	3.52	-4.16	18.29	67.45
847.50	V	24.49	3.52	-4.16	16.81	47.97

* 3 BW 1RB size / 0 Offset for B5

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LTE band 5 (3 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
825.50	H	25.29	3.28	-5.05	16.96	49.66
825.50	V	21.35	3.28	-5.05	13.02	20.04
836.50	H	24.81	3.45	-5.15	16.21	41.78
836.50	V	23.25	3.45	-5.15	14.65	29.17
847.50	H	25.30	3.52	-4.16	17.62	57.81
847.50	V	23.39	3.52	-4.16	15.71	37.24

* 3 BW 1RB size / 0 Offset for B5

LTE band 5 (5 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
826.50	H	26.19	3.31	-5.20	17.68	58.61
826.50	V	22.62	3.31	-5.20	14.11	25.76
836.50	H	25.74	3.45	-5.15	17.14	51.76
836.50	V	24.05	3.45	-5.15	15.45	35.08
846.50	H	25.90	3.51	-4.25	18.14	65.16
846.50	V	24.21	3.51	-4.25	16.45	44.16

* 5 BW 1RB size / 0 Offset for B5

LTE band 5 (5 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
826.50	H	25.48	3.31	-5.20	16.97	49.77
826.50	V	22.08	3.31	-5.20	13.57	22.75
836.50	H	24.59	3.45	-5.15	15.99	39.72
836.50	V	23.14	3.45	-5.15	14.54	28.44
846.50	H	25.19	3.51	-4.25	17.43	55.34
846.50	V	23.24	3.51	-4.25	15.48	35.32

* 5 BW 1RB size / 0 Offset for B5

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LTE band 5 (10 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
829.00	H	26.91	3.38	-5.58	17.95	62.37
829.00	V	23.85	3.38	-5.58	14.89	30.83
836.50	H	25.61	3.45	-5.15	17.01	50.23
836.50	V	23.63	3.45	-5.15	15.03	31.84
844.00	H	25.61	3.49	-4.48	17.64	58.08
844.00	V	24.03	3.49	-4.48	16.06	40.36

* 10 BW 1RB size / 0 Offset for B5

LTE band 5 (10 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
829.00	H	25.67	3.38	-5.58	16.71	46.88
829.00	V	22.66	3.38	-5.58	13.70	23.44
836.50	H	24.68	3.45	-5.15	16.08	40.55
836.50	V	22.48	3.45	-5.15	13.88	24.43
844.00	H	23.86	3.49	-4.48	15.89	38.82
844.00	V	23.02	3.49	-4.48	15.05	31.99

* 10 BW 1RB size / 0 Offset for B5

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LTE band 7 (5 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P.	
					(dB m)	(mW)
2 502.5	H	16.11	4.81	9.13	20.43	110.41
2 502.5	V	13.67	4.81	9.13	17.99	62.95
2 535.0	H	16.68	4.86	9.06	20.88	122.46
2 535.0	V	16.30	4.86	9.06	20.50	112.20
2 567.5	H	17.11	4.90	8.98	21.19	131.52
2 567.5	V	16.99	4.90	8.98	21.07	127.94

* 5 BW 1RB size / 0 Offset

LTE band 7 (5 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P.	
					(dB m)	(mW)
2 502.5	H	15.88	4.81	9.13	20.20	104.71
2 502.5	V	12.14	4.81	9.13	16.46	44.26
2 535.0	H	15.89	4.86	9.06	20.09	102.09
2 535.0	V	15.70	4.86	9.06	19.90	97.72
2 567.5	H	16.60	4.90	8.98	20.68	116.95
2 567.5	V	16.37	4.90	8.98	20.45	110.92

* 5 BW 1RB size / 0 Offset

LTE band 7 (10 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P.	
					(dB m)	(mW)
2 505.0	H	16.49	4.82	9.13	20.80	120.23
2 505.0	V	13.22	4.82	9.13	17.53	56.62
2 535.0	H	16.73	4.86	9.06	20.93	123.88
2 535.0	V	16.04	4.86	9.06	20.24	105.68
2 565.0	H	16.91	4.90	8.99	21.00	125.89
2 565.0	V	17.30	4.90	8.99	21.39	137.72

* 10 BW 1RB size / 0 Offset

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LTE band 7 (10 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P.	
					(dB m)	(mW)
2 505.0	H	15.46	4.82	9.13	19.77	94.84
2 505.0	V	12.74	4.82	9.13	17.05	50.70
2 535.0	H	15.65	4.86	9.06	19.85	96.61
2 535.0	V	15.19	4.86	9.06	19.39	86.90
2 565.0	H	16.50	4.90	8.99	20.59	114.55
2 565.0	V	16.24	4.90	8.99	20.33	107.89

* 10 BW 1RB size / 0 Offset

LTE band 7 (15 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P.	
					(dB m)	(mW)
2 507.5	H	17.25	4.82	9.12	21.55	142.89
2 507.5	V	14.34	4.82	9.12	18.64	73.11
2 535.0	H	17.80	4.86	9.06	22.00	158.49
2 535.0	V	16.58	4.86	9.06	20.78	119.67
2 562.5	H	17.95	4.90	9.00	22.05	160.32
2 562.5	V	18.02	4.90	9.00	22.12	162.93

* 15 BW 1RB size / 0 Offset

LTE band 7 (15 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P.	
					(dB m)	(mW)
2 507.5	H	16.27	4.82	9.12	20.57	114.02
2 507.5	V	13.47	4.82	9.12	17.77	59.84
2 535.0	H	16.77	4.86	9.06	20.97	125.03
2 535.0	V	15.69	4.86	9.06	19.89	97.50
2 562.5	H	16.82	4.90	9.00	20.92	123.59
2 562.5	V	17.17	4.90	9.00	21.27	133.97

* 15 BW 1RB size / 0 Offset

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LTE band 7 (20 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P.	
					(dB m)	(mW)
2 510.0	H	17.81	4.82	9.12	22.11	162.55
2 510.0	V	14.96	4.82	9.12	19.26	84.33
2 535.0	H	17.75	4.86	9.06	21.95	156.68
2 535.0	V	16.54	4.86	9.06	20.74	118.58
2 560.0	H	18.21	4.89	9.00	22.32	170.61
2 560.0	V	18.29	4.89	9.00	22.40	173.78

* 20 BW 1RB size / 0 Offset

LTE band 7 (20 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P.	
					(dB m)	(mW)
2 510.0	H	16.87	4.82	9.12	21.17	130.92
2 510.0	V	14.02	4.82	9.12	18.32	67.92
2 535.0	H	16.78	4.86	9.06	20.98	125.31
2 535.0	V	15.71	4.86	9.06	19.91	97.95
2 560.0	H	16.94	4.89	9.00	21.05	127.35
2 560.0	V	17.40	4.89	9.00	21.51	141.58

* 20 BW 1RB size / 0 Offset

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LTE band 26 (1.4 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
824.70	H	25.74	3.26	-4.93	17.55	56.89
824.70	V	21.82	3.26	-4.93	13.63	23.07
836.50	H	25.92	3.45	-5.15	17.32	53.95
836.50	V	24.21	3.45	-5.15	15.61	36.39
848.30	H	26.26	3.52	-4.09	18.65	73.28
848.30	V	24.38	3.52	-4.09	16.77	47.53

* 1.4 BW 1RB size / 0 Offset for B26

LTE band 26 (1.4 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
824.70	H	24.97	3.26	-4.93	16.78	47.64
824.70	V	21.03	3.26	-4.93	12.84	19.23
836.50	H	25.05	3.45	-5.15	16.45	44.16
836.50	V	23.21	3.45	-5.15	14.61	28.91
848.30	H	25.32	3.52	-4.09	17.71	59.02
848.30	V	23.33	3.52	-4.09	15.72	37.33

* 1.4 BW 1RB size / 0 Offset for B26

LTE band 26 (3 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
825.50	H	26.11	3.28	-5.05	17.78	59.98
825.50	V	22.39	3.28	-5.05	14.06	25.47
836.50	H	25.85	3.45	-5.15	17.25	53.09
836.50	V	24.18	3.45	-5.15	15.58	36.14
847.50	H	26.19	3.52	-4.16	18.51	70.96
847.50	V	24.25	3.52	-4.16	16.57	45.39

* 3 BW 1RB size / 0 Offset for B26

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LTE band 26 (3 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
825.50	H	25.32	3.28	-5.05	16.99	50.00
825.50	V	21.55	3.28	-5.05	13.22	20.99
836.50	H	25.10	3.45	-5.15	16.50	44.67
836.50	V	23.32	3.45	-5.15	14.72	29.65
847.50	H	25.32	3.52	-4.16	17.64	58.08
847.50	V	23.46	3.52	-4.16	15.78	37.84

* 3 BW 1RB size / 0 Offset for B26

LTE band 26 (5 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
826.50	H	26.36	3.31	-5.20	17.85	60.95
826.50	V	22.75	3.31	-5.20	14.24	26.55
836.50	H	25.97	3.45	-5.15	17.37	54.58
836.50	V	24.02	3.45	-5.15	15.42	34.83
846.50	H	26.11	3.51	-4.25	18.35	68.39
846.50	V	24.29	3.51	-4.25	16.53	44.98

* 5 BW 1RB size / 0 Offset for B26

LTE band 26 (5 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
826.50	H	25.33	3.31	-5.20	16.82	48.08
826.50	V	21.80	3.31	-5.20	13.29	21.33
836.50	H	24.91	3.45	-5.15	16.31	42.76
836.50	V	23.17	3.45	-5.15	14.57	28.64
846.50	H	25.31	3.51	-4.25	17.55	56.89
846.50	V	23.62	3.51	-4.25	15.86	38.55

* 5 BW 1RB size / 0 Offset for B26

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LTE band 26 (10 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
829.00	H	26.86	3.38	-5.58	17.90	61.66
829.00	V	23.80	3.38	-5.58	14.84	30.48
836.50	H	25.87	3.45	-5.15	17.27	53.33
836.50	V	23.43	3.45	-5.15	14.83	30.41
844.00	H	25.69	3.49	-4.48	17.72	59.16
844.00	V	24.24	3.49	-4.48	16.27	42.36

* 10 BW 1RB size / 0 Offset for B26

LTE band 26 (10 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
829.00	H	26.04	3.38	-5.58	17.08	51.05
829.00	V	22.95	3.38	-5.58	13.99	25.06
836.50	H	24.89	3.45	-5.15	16.29	42.56
836.50	V	22.80	3.45	-5.15	14.20	26.30
844.00	H	24.64	3.49	-4.48	16.67	46.45
844.00	V	23.41	3.49	-4.48	15.44	34.99

* 10 BW 1RB size / 0 Offset for B26

LTE band 26 (15 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
831.50	H	27.41	3.42	-5.59	18.40	69.18
831.50	V	24.36	3.42	-5.59	15.35	34.28
841.50	H	25.86	3.48	-4.70	17.68	58.61
841.50	V	24.02	3.48	-4.70	15.84	38.37

* 15 BW 1RB size / 0 Offset for B26

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LTE band 26 (15 MHz - 16QAM)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P.	
					(dB m)	(mW)
831.50	H	26.59	3.42	-5.59	17.58	57.28
831.50	V	23.34	3.42	-5.59	14.33	27.10
841.50	H	24.94	3.48	-4.70	16.76	47.42
841.50	V	22.86	3.48	-4.70	14.68	29.38

* 15 BW 1RB size / 0 Offset for B26

Remark;

1. E.R.P. & E.I.R.P. = [S.G level + Amp.] (dB m) - Cable loss (dB) + Ant. gain (dB d/dB i)
2. This device was tested under all bandwidths, RB configurations and modulations.
3. The data reported in the table above was measured in worst case.

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2.5. Spurious radiated emission

- Modulation Signal: LTE band 5 (1.4 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (824.7 MHz)							
1 000.12	H	-51.00	3.12	3.79	-50.33	-13	37.33
1 000.02	V	-58.10	3.12	3.79	-57.43	-13	44.43
1 500.26	H	-55.58	3.67	5.75	-53.50	-13	40.50
1 500.06	V	-60.17	3.67	5.75	-58.09	-13	45.09
3 000.00	H	-48.74	5.36	7.27	-46.83	-13	33.83
3 000.10	V	-45.72	5.36	7.27	-43.81	-13	30.81
Middle Channel (836.5 MHz)							
1 000.02	H	-50.62	3.12	3.79	-49.95	-13	36.95
1 000.08	V	-58.01	3.12	3.79	-57.34	-13	44.34
1 500.02	H	-55.29	3.67	5.75	-53.21	-13	40.21
1 500.02	V	-59.74	3.67	5.75	-57.66	-13	44.66
2 508.06	H	-43.75	4.82	6.97	-41.60	-13	28.60
2 508.13	V	-47.81	4.82	6.97	-45.66	-13	32.66
3 000.02	H	-48.61	5.36	7.27	-46.70	-13	33.70
3 000.08	V	-45.69	5.36	7.27	-43.78	-13	30.78
High Channel (848.3 MHz)							
1 000.04	H	-50.98	3.12	3.79	-50.31	-13	37.31
1 000.16	V	-58.25	3.12	3.79	-57.58	-13	44.58
1 500.06	H	-55.62	3.67	5.75	-53.54	-13	40.54
1 500.16	V	-60.79	3.67	5.75	-58.71	-13	45.71
2 543.48	H	-40.31	4.87	6.89	-38.29	-13	25.29
2 543.59	V	-42.57	4.87	6.89	-40.55	-13	27.55
3 000.10	H	-48.77	5.36	7.27	-46.86	-13	33.86
3 000.06	V	-45.73	5.36	7.27	-43.82	-13	30.82

* 1.4 BW 1RB size / 0 Offset for B5

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- Modulation Signal: LTE band 5 (3 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (825.5 MHz)							
1 000.10	H	-50.87	3.12	3.79	-50.20	-13	37.20
999.98	V	-57.60	3.12	3.76	-56.96	-13	43.96
1 499.94	H	-56.16	3.67	5.75	-54.08	-13	41.08
1 500.02	V	-60.16	3.67	5.75	-58.08	-13	45.08
3 000.16	H	-47.62	5.36	7.27	-45.71	-13	32.71
3 000.06	V	-45.73	5.36	7.27	-43.82	-13	30.82
Middle Channel (836.5 MHz)							
1 000.26	H	-50.91	3.12	3.79	-50.24	-13	37.24
1 000.10	V	-58.17	3.12	3.79	-57.50	-13	44.50
1 500.12	H	-55.85	3.67	5.75	-53.77	-13	40.77
1 500.02	V	-60.68	3.67	5.75	-58.60	-13	45.60
2 505.60	H	-43.97	4.82	6.98	-41.81	-13	28.81
2 505.55	V	-49.22	4.82	6.98	-47.06	-13	34.06
3 000.11	H	-48.27	5.36	7.27	-46.36	-13	33.36
2 999.96	V	-46.08	5.36	7.27	-44.17	-13	31.17
High Channel (847.5 MHz)							
1 000.20	H	-51.09	3.12	3.79	-50.42	-13	37.42
999.92	V	-57.78	3.12	3.68	-57.22	-13	44.22
1 500.14	H	-55.98	3.67	5.75	-53.90	-13	40.90
1 500.04	V	-60.00	3.67	5.75	-57.92	-13	44.92
2 538.64	H	-41.65	4.86	6.90	-39.61	-13	26.61
2 538.65	V	-44.74	4.86	6.90	-42.70	-13	29.70
3 000.06	H	-48.53	5.36	7.27	-46.62	-13	33.62
3 000.12	V	-45.94	5.36	7.27	-44.03	-13	31.03

* 3 BW 1RB size / 0 Offset for B5

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- Modulation Signal: LTE band 5 (5 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (826.5 MHz)							
999.90	H	-50.69	3.13	3.65	-50.17	-13	37.17
999.98	V	-58.14	3.12	3.76	-57.50	-13	44.50
1 499.86	H	-55.74	3.67	5.75	-53.66	-13	40.66
1 499.96	V	-60.41	3.67	5.75	-58.33	-13	45.33
3 000.11	H	-48.38	5.36	7.27	-46.47	-13	33.47
3 000.10	V	-45.95	5.36	7.27	-44.04	-13	31.04
Middle Channel (836.5 MHz)							
1 000.22	H	-50.83	3.12	3.79	-50.16	-13	37.16
1 000.04	V	-57.65	3.12	3.79	-56.98	-13	43.98
1 500.04	H	-55.64	3.67	5.75	-53.56	-13	40.56
1 499.96	V	-60.01	3.67	5.75	-57.93	-13	44.93
2 503.20	H	-43.50	4.81	6.98	-41.33	-13	28.33
2 503.10	V	-48.97	4.81	6.98	-46.80	-13	33.80
3 000.15	H	-48.90	5.36	7.27	-46.99	-13	33.99
3 000.05	V	-46.39	5.36	7.27	-44.48	-13	31.48
High Channel (846.5 MHz)							
1 000.12	H	-50.85	3.12	3.79	-50.18	-13	37.18
1 000.16	V	-58.29	3.12	3.79	-57.62	-13	44.62
1 499.96	H	-55.70	3.67	5.75	-53.62	-13	40.62
1 500.06	V	-60.16	3.67	5.75	-58.08	-13	45.08
2 533.05	H	-41.87	4.86	6.91	-39.82	-13	26.82
2 532.90	V	-45.04	4.86	6.91	-42.99	-13	29.99
3 000.02	H	-47.52	5.36	7.27	-45.61	-13	32.61
3 000.10	V	-46.03	5.36	7.27	-44.12	-13	31.12

* 5 BW 1RB size / 0 Offset for B5

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- Modulation Signal: LTE band 5 (10 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (829.0 MHz)							
1 000.28	H	-51.00	3.12	3.79	-50.33	-13	37.33
999.80	V	-57.69	3.13	3.50	-57.32	-13	44.32
1 500.06	H	-55.18	3.67	5.75	-53.10	-13	40.10
1 500.22	V	-59.95	3.67	5.75	-57.87	-13	44.87
3 000.02	H	-48.77	5.36	7.27	-46.86	-13	33.86
3 000.11	V	-46.19	5.36	7.27	-44.28	-13	31.28
Middle Channel (836.5 MHz)							
1 000.04	H	-51.23	3.12	3.79	-50.56	-13	37.56
1 000.16	V	-58.05	3.12	3.79	-57.38	-13	44.38
1 499.80	H	-55.65	3.67	5.75	-53.57	-13	40.57
1 499.86	V	-59.82	3.67	5.75	-57.74	-13	44.74
2 496.25	H	-44.19	4.81	6.99	-42.01	-13	29.01
2 496.35	V	-49.47	4.81	6.99	-47.29	-13	34.29
3 000.18	H	-48.53	5.36	7.27	-46.62	-13	33.62
3 000.04	V	-45.72	5.36	7.27	-43.81	-13	30.81
High Channel (844.0 MHz)							
1 000.10	H	-50.71	3.12	3.79	-50.04	-13	37.04
1 000.14	V	-58.37	3.12	3.79	-57.70	-13	44.70
1 500.20	H	-55.74	3.67	5.75	-53.66	-13	40.66
1 499.78	V	-60.47	3.67	5.75	-58.39	-13	45.39
2 518.70	H	-40.73	4.84	6.95	-38.62	-13	25.62
2 518.80	V	-44.15	4.84	6.95	-42.04	-13	29.04
3 000.08	H	-47.33	5.36	7.27	-45.42	-13	32.42
3 000.10	V	-45.70	5.36	7.27	-43.79	-13	30.79

* 10 BW 1RB size / 0 Offset for B5

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- Modulation Signal: LTE band 7 (5 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (2 502.5 MHz)							
5 000.56	H	-50.57	7.44	9.86	-48.15	-25	23.15
5 000.52	V	-47.23	7.44	9.86	-44.81	-25	19.81
Middle Channel (2 535.0 MHz)							
5 065.82	H	-49.67	7.51	10.20	-46.98	-25	21.98
5 065.68	V	-49.64	7.51	10.20	-46.95	-25	21.95
High Channel (2 567.5 MHz)							
5 130.68	H	-53.64	7.61	10.44	-50.81	-25	25.81
5 130.52	V	-58.99	7.61	10.44	-56.16	-25	31.16

* 5 BW 1RB size / 0 Offset

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- Modulation Signal: LTE band 7 (10 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (2 505.0 MHz)							
5 001.00	H	-49.53	7.44	9.86	-47.11	-25	22.11
5 001.22	V	-46.73	7.44	9.87	-44.30	-25	19.30
Middle Channel (2 535.0 MHz)							
5 061.22	H	-49.56	7.50	10.17	-46.89	-25	21.89
5 061.08	V	-49.54	7.50	10.17	-46.87	-25	21.87
High Channel (2 565.0 MHz)							
5 121.48	H	-53.39	7.59	10.42	-50.56	-25	25.56
5 121.30	V	-59.16	7.59	10.42	-56.33	-25	31.33

* 10 BW 1RB size / 0 Offset

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- Modulation Signal: LTE band 7 (15 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (2 507.5 MHz)							
5 001.74	H	-47.37	7.44	9.87	-44.94	-25	19.94
5 001.72	V	-43.65	7.44	9.87	-41.22	-25	16.22
Middle Channel (2 535.0 MHz)							
5 056.76	H	-50.85	7.50	10.15	-48.20	-25	23.20
5 056.64	V	-49.83	7.50	10.15	-47.18	-25	22.18
High Channel (2 562.5 MHz)							
5 111.74	H	-51.61	7.57	10.40	-48.78	-25	23.78
5 111.78	V	-54.35	7.57	10.40	-51.52	-25	26.52

* 15 BW 1RB size / 0 Offset

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- Modulation Signal: LTE band 7 (20 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (2 510.0 MHz)							
5 002.24	H	-46.18	7.44	9.87	-43.75	-25	18.75
5 002.26	V	-43.36	7.44	9.87	-40.93	-25	15.93
Middle Channel (2 535.0 MHz)							
5 052.18	H	-48.47	7.49	10.13	-45.83	-25	20.83
5 052.16	V	-47.24	7.49	10.13	-44.60	-25	19.60
High Channel (2 560.0 MHz)							
5 102.16	H	-47.65	7.54	10.38	-44.81	-25	19.81
5 102.12	V	-51.03	7.54	10.38	-48.19	-25	23.19

* 20 BW 1RB size / 0 Offset

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- Modulation Signal: LTE band 26 (1.4 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (824.7 MHz)							
1 000.10	H	-51.34	3.12	3.79	-50.67	-13	37.67
1 000.05	V	-58.20	3.12	3.79	-57.53	-13	44.53
1 500.22	H	-55.70	3.67	5.75	-53.62	-13	40.62
1 500.11	V	-60.51	3.67	5.75	-58.43	-13	45.43
3 000.04	H	-49.51	5.36	7.27	-47.60	-13	34.60
3 000.15	V	-46.37	5.36	7.27	-44.46	-13	31.46
Middle Channel (836.5 MHz)							
1 000.13	H	-50.78	3.12	3.79	-50.11	-13	37.11
1 000.05	V	-58.08	3.12	3.79	-57.41	-13	44.41
1 500.02	H	-54.92	3.67	5.75	-52.84	-13	39.84
1 500.01	V	-59.72	3.67	5.75	-57.64	-13	44.64
2 508.28	H	-42.09	4.82	6.97	-39.94	-13	26.94
2 508.19	V	-46.98	4.82	6.97	-44.83	-13	31.83
3 000.02	H	-49.09	5.36	7.27	-47.18	-13	34.18
3 000.08	V	-47.11	5.36	7.27	-45.20	-13	32.20
High Channel (848.3 MHz)							
1 000.11	H	-51.15	3.12	3.79	-50.48	-13	37.48
1 000.13	V	-57.42	3.12	3.79	-56.75	-13	43.75
1 500.10	H	-55.08	3.67	5.75	-53.00	-13	40.00
1 500.15	V	-61.00	3.67	5.75	-58.92	-13	45.92
2 543.70	H	-39.70	4.87	6.89	-37.68	-13	24.68
2 543.55	V	-41.59	4.87	6.89	-39.57	-13	26.57
3 000.07	H	-49.00	5.36	7.27	-47.09	-13	34.09
3 000.18	V	-45.87	5.36	7.27	-43.96	-13	30.96

* 1.4 BW 1RB size / 0 Offset for B26

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- Modulation Signal: LTE band 26 (3 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (825.5 MHz)							
1 000.03	H	-51.50	3.12	3.79	-50.83	-13	37.83
1 000.11	V	-58.33	3.12	3.79	-57.66	-13	44.66
1 500.03	H	-55.26	3.67	5.75	-53.18	-13	40.18
1 500.15	V	-61.08	3.67	5.75	-59.00	-13	46.00
3 000.11	H	-49.28	5.36	7.27	-47.37	-13	34.37
3 000.13	V	-46.53	5.36	7.27	-44.62	-13	31.62
Middle Channel (836.5 MHz)							
1 000.12	H	-51.45	3.12	3.79	-50.78	-13	37.78
1 000.20	V	-58.33	3.12	3.79	-57.66	-13	44.66
1 500.16	H	-55.07	3.67	5.75	-52.99	-13	39.99
1 500.08	V	-60.01	3.67	5.75	-57.93	-13	44.93
2 505.56	H	-42.20	4.82	6.98	-40.04	-13	27.04
2 505.85	V	-47.39	4.82	6.98	-45.23	-13	32.23
3 000.13	H	-49.31	5.36	7.27	-47.40	-13	34.40
3 000.06	V	-47.74	5.36	7.27	-45.83	-13	32.83
High Channel (847.5 MHz)							
1 000.09	H	-51.69	3.12	3.79	-51.02	-13	38.02
1 000.11	V	-57.58	3.12	3.79	-56.91	-13	43.91
1 500.03	H	-54.92	3.67	5.75	-52.84	-13	39.84
1 500.11	V	-61.35	3.67	5.75	-59.27	-13	46.27
2 538.76	H	-41.10	4.86	6.90	-39.06	-13	26.06
2 535.75	V	-43.72	4.86	6.91	-41.67	-13	28.67
3 000.16	H	-48.77	5.36	7.27	-46.86	-13	33.86
3 000.03	V	-46.20	5.36	7.27	-44.29	-13	31.29

* 3 BW 1RB size / 0 Offset for B26

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- Modulation Signal: LTE band 26 (5 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (826.5 MHz)							
1 000.02	H	-50.94	3.12	3.79	-50.27	-13	37.27
999.92	V	-57.28	3.12	3.68	-56.72	-13	43.72
1 500.07	H	-55.10	3.67	5.75	-53.02	-13	40.02
1 499.91	V	-60.91	3.67	5.75	-58.83	-13	45.83
3 000.17	H	-49.61	5.36	7.27	-47.70	-13	34.70
3 000.03	V	-46.19	5.36	7.27	-44.28	-13	31.28
Middle Channel (836.5 MHz)							
1 000.13	H	-51.86	3.12	3.79	-51.19	-13	38.19
1 000.00	V	-57.43	3.12	3.79	-56.76	-13	43.76
1 500.11	H	-55.10	3.67	5.75	-53.02	-13	40.02
1 500.02	V	-59.96	3.67	5.75	-57.88	-13	44.88
2 502.85	H	-41.80	4.81	6.98	-39.63	-13	26.63
2 503.07	V	-47.49	4.81	6.98	-45.32	-13	32.32
3 000.19	H	-49.00	5.36	7.27	-47.09	-13	34.09
3 000.11	V	-47.74	5.36	7.27	-45.83	-13	32.83
High Channel (846.5 MHz)							
1 000.03	H	-51.37	3.12	3.79	-50.70	-13	37.70
1 000.18	V	-57.69	3.12	3.79	-57.02	-13	44.02
1 499.99	H	-55.02	3.67	5.75	-52.94	-13	39.94
1 500.17	V	-60.81	3.67	5.75	-58.73	-13	45.73
2 533.04	H	-41.21	4.86	6.91	-39.16	-13	26.16
2 533.03	V	-43.96	4.86	6.91	-41.91	-13	28.91
3 000.15	H	-49.40	5.36	7.27	-47.49	-13	34.49
3 000.05	V	-46.37	5.36	7.27	-44.46	-13	31.46

* 5 BW 1RB size / 0 Offset for B26

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- Modulation Signal: LTE band 26 (10 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (829.0 MHz)							
1 000.21	H	-51.48	3.12	3.79	-50.81	-13	37.81
1 000.07	V	-58.69	3.12	3.79	-58.02	-13	45.02
1 500.13	H	-55.10	3.67	5.75	-53.02	-13	40.02
1 500.11	V	-61.01	3.67	5.75	-58.93	-13	45.93
3 000.05	H	-49.59	5.36	7.27	-47.68	-13	34.68
3 000.21	V	-46.39	5.36	7.27	-44.48	-13	31.48
Middle Channel (836.5 MHz)							
1 000.10	H	-51.19	3.12	3.79	-50.52	-13	37.52
1 000.13	V	-58.15	3.12	3.79	-57.48	-13	44.48
1 499.96	H	-55.07	3.67	5.75	-52.99	-13	39.99
1 500.02	V	-60.02	3.67	5.75	-57.94	-13	44.94
2 496.28	H	-42.16	4.81	6.99	-39.98	-13	26.98
2 496.49	V	-48.39	4.81	6.99	-46.21	-13	33.21
3 000.11	H	-49.33	5.36	7.27	-47.42	-13	34.42
3 000.17	V	-47.29	5.36	7.27	-45.38	-13	32.38
High Channel (844.0 MHz)							
1 000.07	H	-51.34	3.12	3.79	-50.67	-13	37.67
1 000.18	V	-57.49	3.12	3.79	-56.82	-13	43.82
1 500.03	H	-55.03	3.67	5.75	-52.95	-13	39.95
1 500.18	V	-60.88	3.67	5.75	-58.80	-13	45.80
2 518.69	H	-39.01	4.84	6.95	-36.90	-13	23.90
2 518.83	V	-43.18	4.84	6.95	-41.07	-13	28.07
3 000.13	H	-49.50	5.36	7.27	-47.59	-13	34.59
3 000.15	V	-46.16	5.36	7.27	-44.25	-13	31.25

* 10 BW 1RB size / 0 Offset for B26

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- Modulation Signal: LTE band 26 (15 MHz - QPSK)

Frequency (MHz)	Ant. Pol. (H/V)	S.G level + Amp. (dB m)	Cable loss (dB)	Ant. gain (dB d)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (831.5 MHz)							
1 000.11	H	-51.64	3.12	3.79	-50.97	-13	37.97
1 000.03	V	-57.33	3.12	3.79	-56.66	-13	43.66
1 500.11	H	-56.03	3.67	5.75	-53.95	-13	40.95
1 500.26	V	-60.24	3.67	5.75	-58.16	-13	45.16
3 000.15	H	-49.28	5.36	7.27	-47.37	-13	34.37
3 000.20	V	-46.17	5.36	7.27	-44.26	-13	31.26
High Channel (841.5 MHz)							
1 000.07	H	-51.74	3.12	3.79	-51.07	-13	38.07
1 000.04	V	-58.22	3.12	3.79	-57.55	-13	44.55
1 500.05	H	-55.26	3.67	5.75	-53.18	-13	40.18
1 499.86	V	-61.06	3.67	5.75	-58.98	-13	45.98
2 504.35	H	-42.14	4.82	6.98	-39.98	-13	26.98
2 504.49	V	-47.79	4.82	6.98	-45.63	-13	32.63
3 000.03	H	-49.53	5.36	7.27	-47.62	-13	34.62
3 000.11	V	-46.74	5.36	7.27	-44.83	-13	31.83

* 15 BW 1RB size / 0 Offset for B26

Remark;

1. E.R.P. & E.I.R.P. = S.G level (dB m) - Cable loss (dB) + Ant. gain (dB d/dB i)
2. This device was tested under all bandwidths, RB configurations, and modulations.
3. The data reported in the table above was measured in worst case.

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3. Conducted Output Power

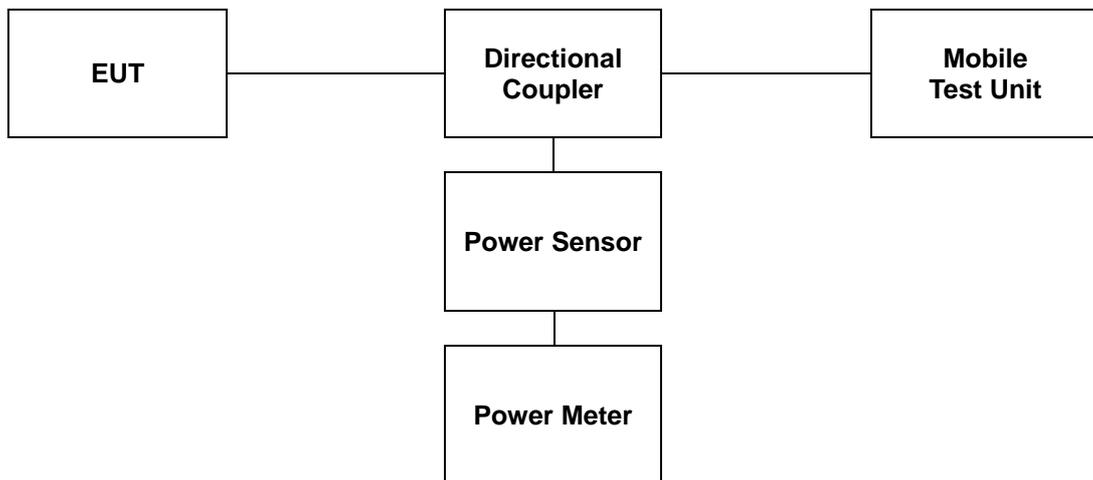
3.1. Limit

CFR 47, Section FCC §2.1046.

3.2. Test Procedure

Output power shall be measured at the RF output terminals for all configurations.

1. The RF output of the transmitter was connected to the input of the mobile test unit in order to establish communication with the EUT.
2. The EUT was set up for the max. output power with pseudo random data modulation by using mobile test unit parameters.
3. The measurement performed using a wideband RF power meter.
4. This EUT was tested under all configurations and the highest power was investigated and reported.



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3.3. Test Result

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

Band	Bandwidth (MHz)	RB Size	RB Offset	QPSK			16QAM			
				20407	20525	20643	20407	20525	20643	
				824.7	836.5	848.3	824.7	836.5	848.3	
5	1.4	1	0	22.81	22.80	22.69	21.94	21.79	21.75	
		1	3	22.92	22.81	22.78	22.09	21.78	21.79	
		1	5	22.77	22.77	22.68	21.93	21.68	21.74	
		3	0	22.87	22.80	22.67	21.87	21.95	21.77	
		3	2	22.83	22.78	22.72	21.83	21.92	21.77	
		3	3	22.81	22.79	22.78	21.85	21.97	21.79	
		6	0	21.91	21.77	21.72	20.96	20.80	20.65	
		Bandwidth (MHz)	RB Size	RB Offset	20415	20525	20635	20415	20525	20635
					825.5	836.5	847.5	825.5	836.5	847.5
		3	1	0	22.81	22.78	22.78	21.97	22.13	22.29
			1	8	22.82	22.74	22.88	22.02	22.15	22.27
			1	14	22.72	22.69	22.81	21.91	22.10	22.27
			8	0	21.83	21.74	21.84	20.84	20.92	21.04
			8	4	21.87	21.72	21.80	20.88	20.87	21.07
			8	7	21.91	21.75	21.82	20.90	20.91	21.10
			15	0	21.90	21.79	21.96	20.87	20.89	21.01
		Bandwidth (MHz)	RB Size	RB Offset	20425	20525	20625	20425	20525	20625
					826.5	836.5	846.5	826.5	836.5	846.5
		5	1	0	22.83	22.68	22.84	22.14	21.55	21.92
			1	12	22.84	22.78	23.03	22.16	21.67	22.03
			1	24	22.69	22.63	22.88	21.99	21.58	21.96
			12	0	21.83	21.82	21.86	20.91	20.79	20.82
			12	7	21.82	21.78	21.87	20.87	20.80	20.83
			12	13	21.79	21.74	21.89	20.88	20.77	20.85
			25	0	21.87	21.81	21.88	20.87	20.86	20.95
		Bandwidth (MHz)	RB Size	RB Offset	20450	20525	20600	20450	20525	20600
					829.0	836.5	844.0	829.0	836.5	844.0
		10	1	0	22.93	22.69	22.82	22.14	22.10	21.89
			1	25	22.95	22.74	22.83	22.13	22.17	21.87
			1	49	22.81	22.44	22.69	22.07	21.99	21.78
	25		0	22.12	21.85	21.98	21.11	20.89	21.06	
	25		12	22.03	21.75	21.90	20.99	20.83	21.02	
	25		25	21.98	21.67	21.94	20.96	20.73	21.00	
	50		0	21.99	21.74	21.98	20.94	20.80	20.98	

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LTE Band	Bandwidth (MHz)	RB Size	RB Offset	QPSK			16QAM			
				20775	21100	21425	20775	21100	21425	
				2 502.5	2 535.0	2 567.5	2 502.5	2 535.0	2 567.5	
7	5	1	0	23.01	23.18	23.34	21.82	22.40	22.34	
		1	12	23.06	23.17	23.36	21.97	22.43	22.37	
		1	24	22.90	23.05	23.19	21.84	22.23	22.18	
		12	0	21.91	22.01	22.18	20.89	21.02	21.17	
		12	7	21.88	21.96	22.15	20.86	21.00	21.13	
		12	13	21.86	21.97	22.20	20.88	21.03	21.12	
		25	0	21.89	22.01	22.17	20.93	20.98	21.20	
		Bandwidth (MHz)	RB Size	RB Offset	20800	21100	21400	20800	21100	21400
					2 505.0	2 535.0	2 565.0	2 505.0	2 535.0	2 565.0
	10	1	0	23.01	23.14	23.29	22.11	22.70	22.24	
		1	25	23.02	23.00	23.25	22.12	22.62	22.19	
		1	49	22.99	22.91	23.07	22.10	22.41	22.09	
		25	0	22.00	22.12	22.18	20.98	21.12	21.22	
		25	12	21.95	22.05	22.16	20.95	21.10	21.20	
		25	25	21.93	22.07	22.15	20.90	21.03	21.23	
		50	0	21.91	22.12	22.20	20.92	21.06	21.19	
		Bandwidth (MHz)	RB Size	RB Offset	20825	21100	21375	20825	21100	21375
					2 507.5	2 535.0	2 562.0	2 507.5	2 535.0	2 562.0
	15	1	0	23.65	23.69	23.66	22.66	23.20	23.13	
		1	37	23.18	23.01	23.05	22.20	22.65	22.49	
		1	74	23.52	23.32	23.33	22.56	22.86	22.68	
		36	0	22.18	22.30	22.28	21.23	21.28	21.21	
		36	20	22.15	22.25	22.15	21.20	21.15	21.17	
		36	39	22.12	22.10	22.06	21.15	21.08	21.04	
		75	0	22.14	22.14	22.18	21.16	21.14	21.13	
		Bandwidth (MHz)	RB Size	RB Offset	20850	21100	21350	20850	21100	21350
					2 510.0	2 535.0	2 560.0	2 510.0	2 535.0	2 560.0
	20	1	0	23.90	23.91	24.01	23.12	23.17	23.50	
		1	50	23.04	22.86	22.99	22.25	22.13	22.56	
		1	99	23.71	23.63	23.52	22.89	22.72	23.05	
		50	0	22.34	22.40	22.33	21.29	21.20	21.37	
		50	25	22.31	22.33	22.26	21.26	21.16	21.23	
		50	50	22.30	22.22	22.24	21.31	21.14	21.19	
		100	0	22.25	22.28	22.30	21.27	21.25	21.28	

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Band	Bandwidth (MHz)	RB Size	RB Offset	QPSK			16QAM			
				26797	26915	27033	26797	26915	27033	
				824.7	836.5	848.3	824.7	836.5	848.3	
26	1.4	1	0	22.79	22.66	22.47	21.88	21.69	21.50	
		1	3	22.84	22.76	22.54	22.01	21.73	21.56	
		1	5	22.77	22.73	22.43	21.87	21.64	21.53	
		3	0	22.82	22.68	22.55	21.75	21.80	21.56	
		3	2	22.77	22.67	22.57	21.73	21.86	21.58	
		3	3	22.75	22.71	22.59	21.72	21.90	21.60	
		6	0	21.83	21.63	21.51	20.85	20.61	20.43	
		Bandwidth (MHz)	RB Size	RB Offset	26805	26915	27025	26805	26915	27025
					825.5	836.5	847.5	825.5	836.5	847.5
	3	1	0	22.81	22.60	22.54	21.95	21.73	21.63	
		1	8	22.77	22.66	22.55	21.91	21.78	21.74	
		1	14	22.75	22.57	22.61	21.88	21.72	21.70	
		8	0	21.79	21.78	21.58	20.77	20.78	20.62	
		8	4	21.81	21.73	21.55	20.80	20.76	20.63	
		8	7	21.83	21.75	21.57	20.83	20.73	20.57	
		15	0	21.87	21.80	21.61	20.85	20.86	20.55	
		Bandwidth (MHz)	RB Size	RB Offset	26815	26915	27015	26815	26915	27015
					826.5	836.5	846.5	826.5	836.5	846.5
	5	1	0	22.83	22.64	22.61	22.07	21.53	21.61	
		1	12	22.87	22.75	22.66	22.17	21.70	21.67	
		1	24	22.76	22.48	22.59	22.02	21.47	21.49	
		12	0	21.87	21.70	21.60	20.90	20.67	20.55	
		12	7	21.85	21.71	21.55	20.86	20.70	20.53	
		12	13	21.82	21.74	21.53	20.88	20.74	20.50	
		25	0	21.84	21.70	21.54	20.82	20.75	20.64	
		Bandwidth (MHz)	RB Size	RB Offset	26840	26915	26990	26840	26915	26990
					829.0	836.5	844.0	829.0	836.5	844.0
	10	1	0	22.72	22.67	22.52	21.88	22.05	21.61	
		1	25	22.75	22.70	22.60	21.90	22.21	21.63	
		1	49	22.52	22.39	22.34	21.76	21.93	21.38	
25		0	21.78	21.74	21.65	21.78	20.79	20.74		
25		12	21.76	21.70	21.60	20.75	20.75	20.73		
25		25	21.80	21.65	21.58	20.76	20.68	20.61		
50		0	21.79	21.68	21.59	20.73	20.66	20.60		
	Bandwidth (MHz)	RB Size	RB Offset	26865	-	26965	26865	-	26965	
				831.5	-	841.5	831.5	-	841.5	
15	1	0	23.14	-	23.07	22.18	-	22.10		
	1	37	22.84	-	22.67	21.80	-	21.97		
	1	74	22.89	-	22.73	21.81	-	21.88		
	36	0	21.90	-	21.86	20.92	-	20.80		
	36	20	21.88	-	21.80	20.88	-	20.75		
	36	39	21.85	-	21.66	20.86	-	20.63		
	75	0	21.81	-	21.73	20.81	-	20.68		

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4. Occupied Bandwidth 99 %

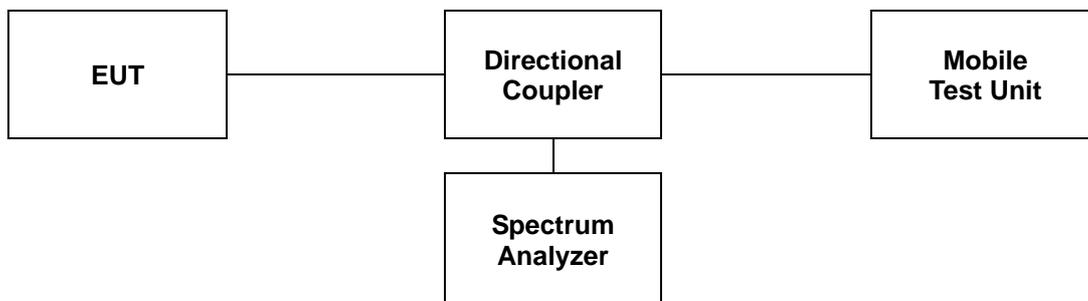
4.1. Limit

CFR 47, Section FCC §2.1049.

4.2. Test Procedure

The test follows section 4.2 of KDB 971168 D01 Power Meas License Digital Systems v03r01.

- a. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation. products including the emission skirts (typically a span of $1.5 \times \text{OBW}$ is sufficient).
- b. The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1 % to 5 % of the anticipated OBW, and the VBW shall be set $\geq 3 \times \text{RBW}$.
- c. Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
- d. Set the detection mode to peak, and the trace mode to max-hold.
- e. If the instrument does not have a 99 % OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5 % of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5 % of the total is reached and record that frequency as the upper OBW frequency. The 99 % power OBW can be determined by computing the difference these two frequencies.
- f. The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).



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4.3 Test Results

Ambient temperature : (23 ± 1) °C

Relative humidity : 47 % R.H.

Band	Mode	Frequency (MHz)	Occupied Bandwidth (MHz)
5 (1.4 MHz)	QPSK	824.7	1.103
		836.5	1.098
		848.3	1.098
5 (1.4 MHz)	16QAM	824.7	1.094
		836.5	1.098
		848.3	1.094
5 (3 MHz)	QPSK	825.5	2.692
		836.5	2.692
		847.5	2.692
5 (3 MHz)	16QAM	825.5	2.692
		836.5	2.683
		847.5	2.683
5 (5 MHz)	QPSK	826.5	4.486
		836.5	4.486
		846.5	4.457
5 (5 MHz)	16QAM	826.5	4.515
		836.5	4.515
		846.5	4.515
5 (10 MHz)	QPSK	829.0	8.915
		836.5	8.973
		844.0	8.944
5 (10 MHz)	16QAM	829.0	8.915
		836.5	8.973
		844.0	8.944

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Band	Mode	Frequency (MHz)	Occupied Bandwidth (MHz)
7 (5 MHz)	QPSK	2 502.5	4.486
		2 535.0	4.486
		2 567.5	4.472
7 (5 MHz)	16QAM	2 502.5	4.515
		2 535.0	4.530
		2 567.5	4.530
7 (10 MHz)	QPSK	2 505.0	8.915
		2 535.0	8.944
		2 565.0	8.944
7 (10 MHz)	16QAM	2 505.0	8.944
		2 535.0	8.944
		2 565.0	8.944
7 (15 MHz)	QPSK	2 507.5	13.502
		2 535.0	13.502
		2 562.5	13.546
7 (15 MHz)	16QAM	2 507.5	13.502
		2 535.0	13.502
		2 562.5	13.546
7 (20 MHz)	QPSK	2 510.0	17.887
		2 535.0	17.945
		2 560.0	17.945
7 (20 MHz)	16QAM	2 510.0	17.945
		2 535.0	18.003
		2 560.0	18.003

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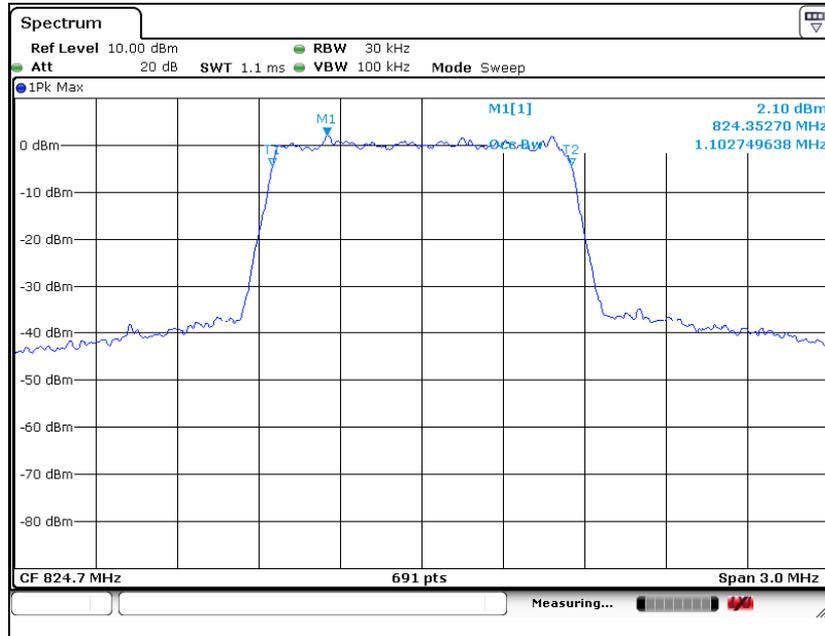
Band	Mode	Frequency (MHz)	Occupied Bandwidth (MHz)
26 (1.4 MHz)	QPSK	824.7	1.098
		836.5	1.098
		848.3	1.094
26 (1.4 MHz)	16QAM	824.7	1.094
		836.5	1.094
		848.3	1.098
26 (3 MHz)	QPSK	825.5	2.692
		836.5	2.692
		847.5	2.692
26 (3 MHz)	16QAM	825.5	2.692
		836.5	2.692
		847.5	2.692
26 (5 MHz)	QPSK	826.5	4.486
		836.5	4.486
		846.5	4.472
26 (5 MHz)	16QAM	826.5	4.530
		836.5	4.530
		846.5	4.501
26 (10 MHz)	QPSK	829.0	8.915
		836.5	8.972
		844.0	8.915
26 (10 MHz)	16QAM	829.0	8.944
		836.5	8.973
		844.0	8.915
26 (15 MHz)	QPSK	831.5	13.459
		841.5	13.459
26 (15 MHz)	16QAM	831.5	13.546
		841.5	13.502

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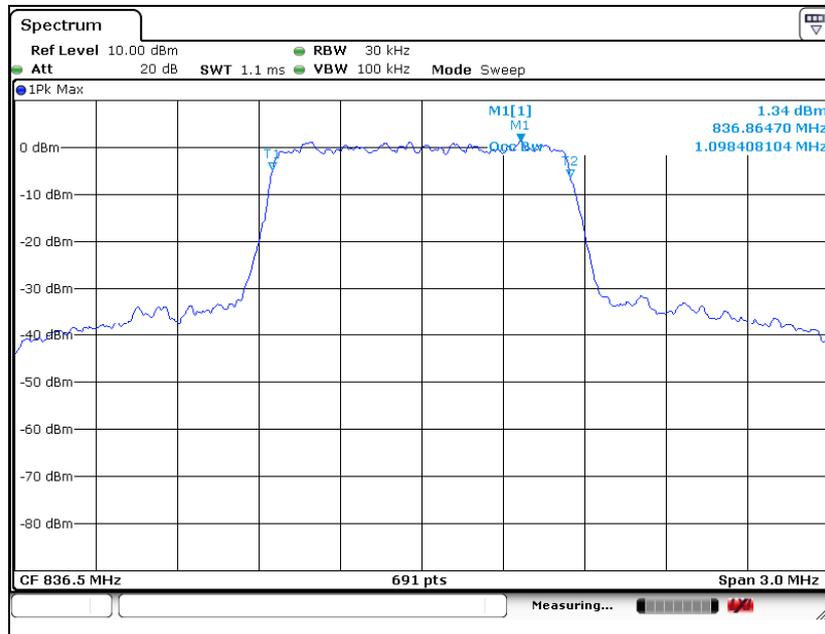
- Test plots

LTE band 5 (1.4 MHz - QPSK)

Low Channel

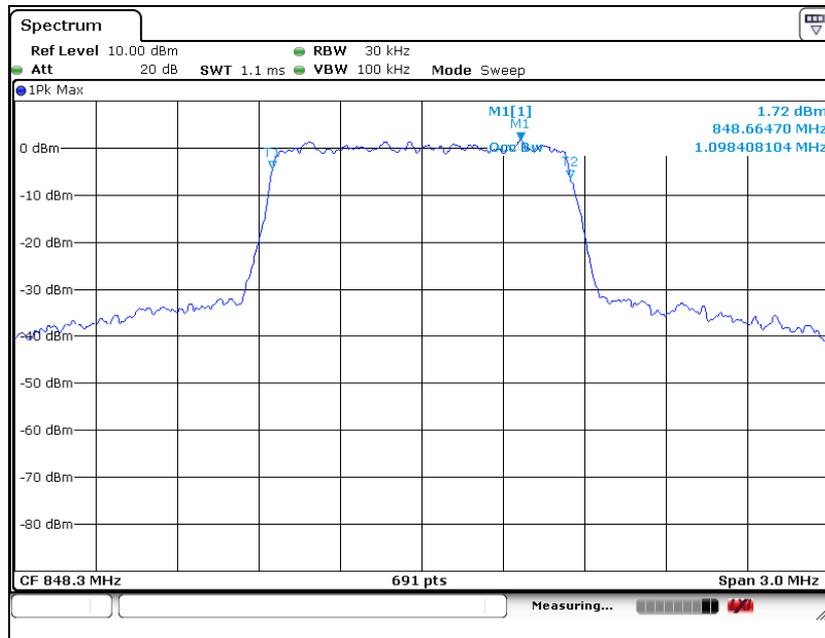


Middle Channel



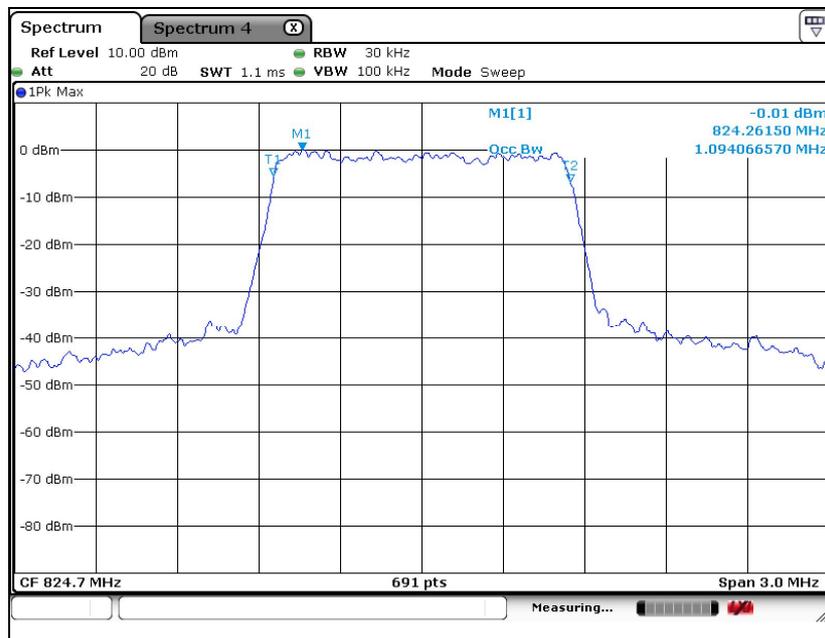
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High Channel



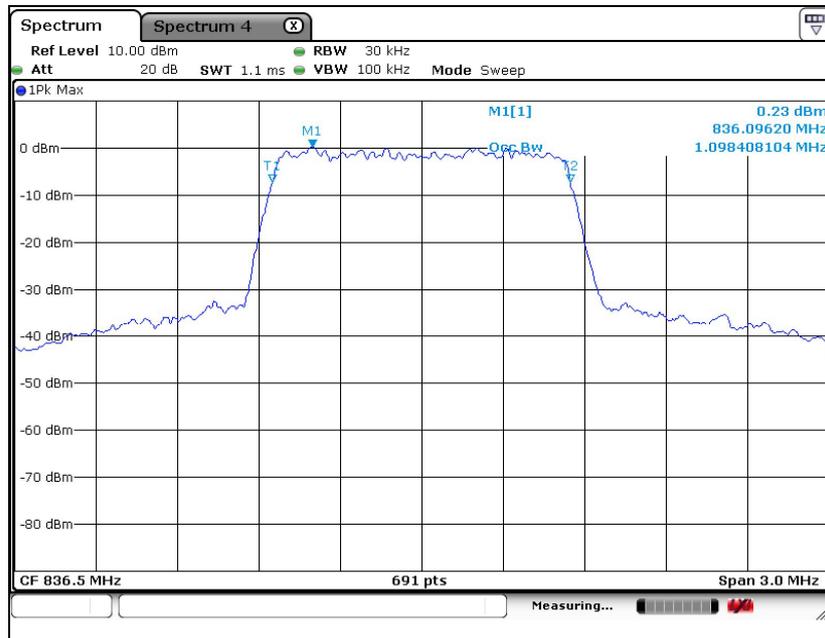
LTE band 5 (1.4 MHz - 16QAM)

Low Channel

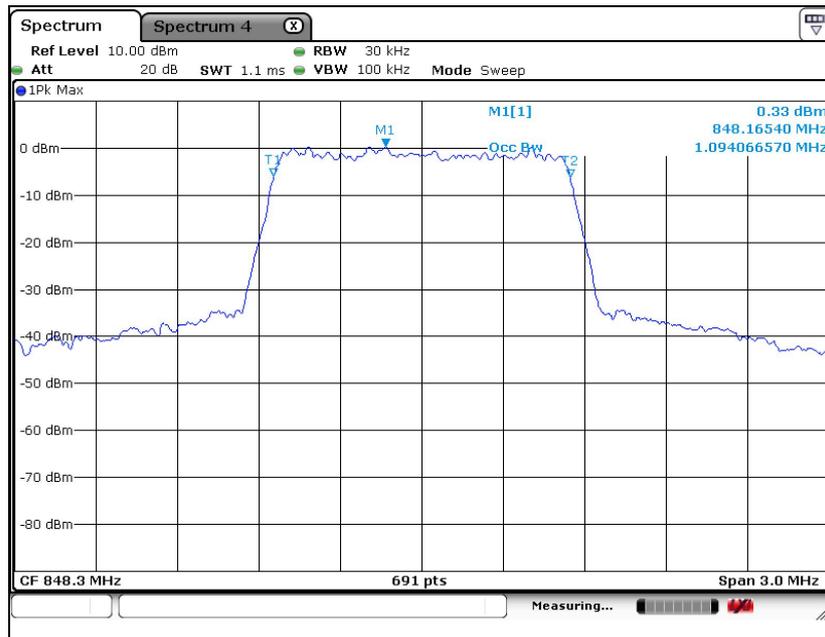


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Middle Channel



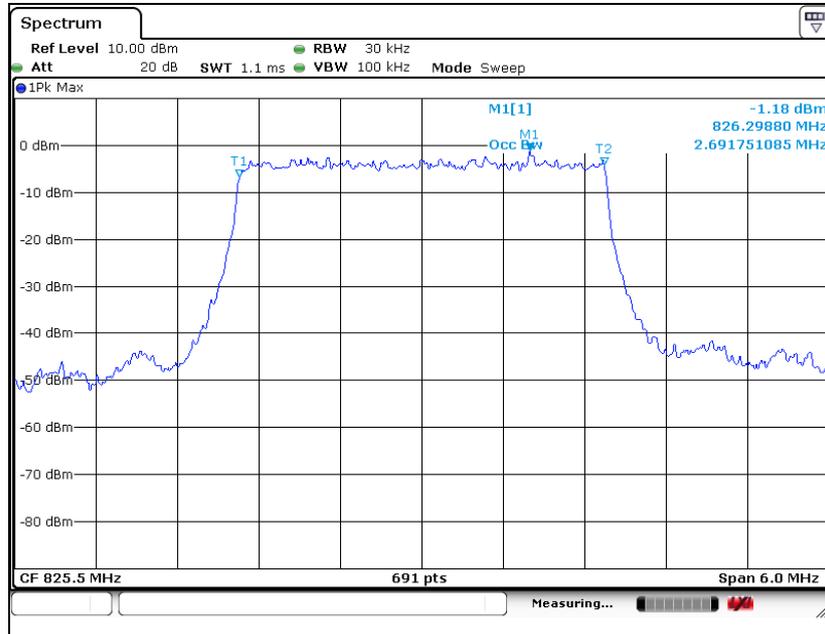
High Channel



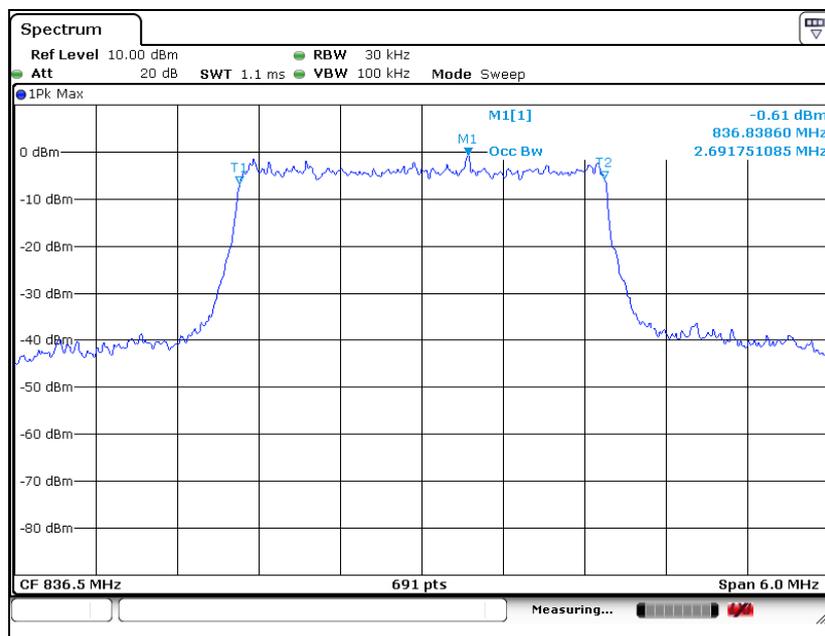
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LTE band 5 (3 MHz - QPSK)

Low Channel

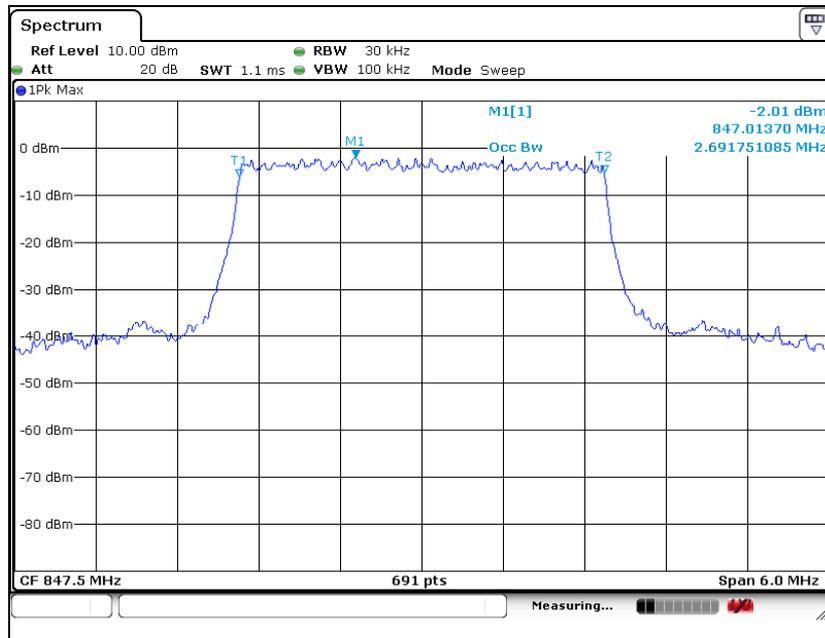


Middle Channel



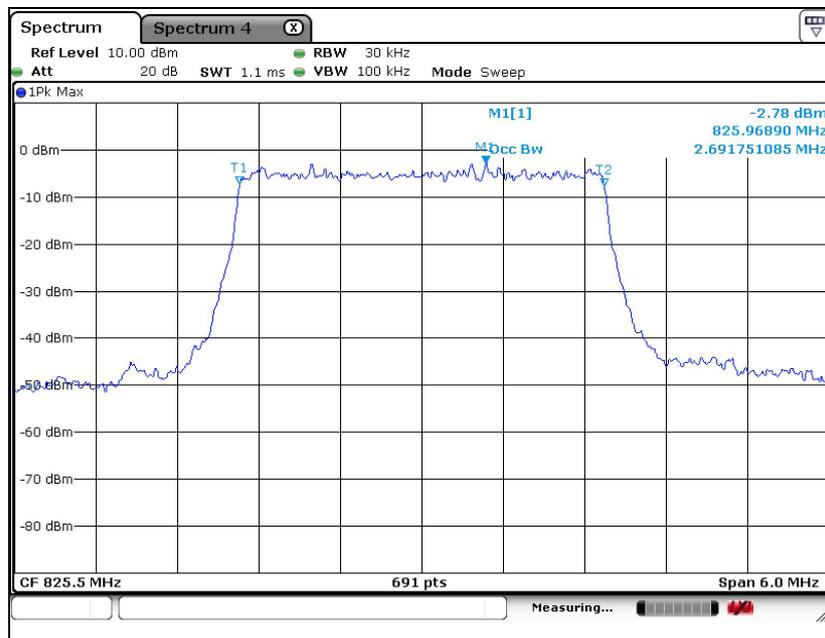
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High Channel



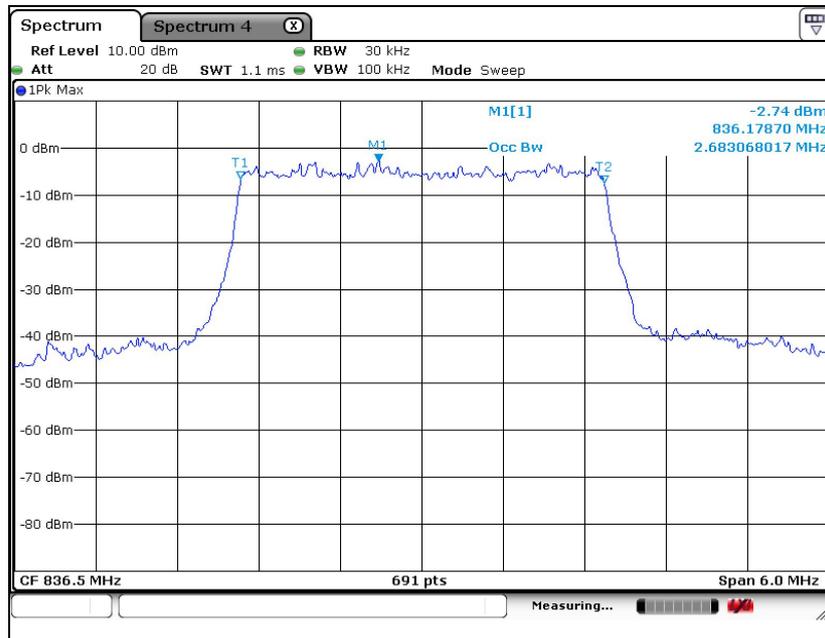
LTE band 5 (3 MHz - 16QAM)

Low Channel

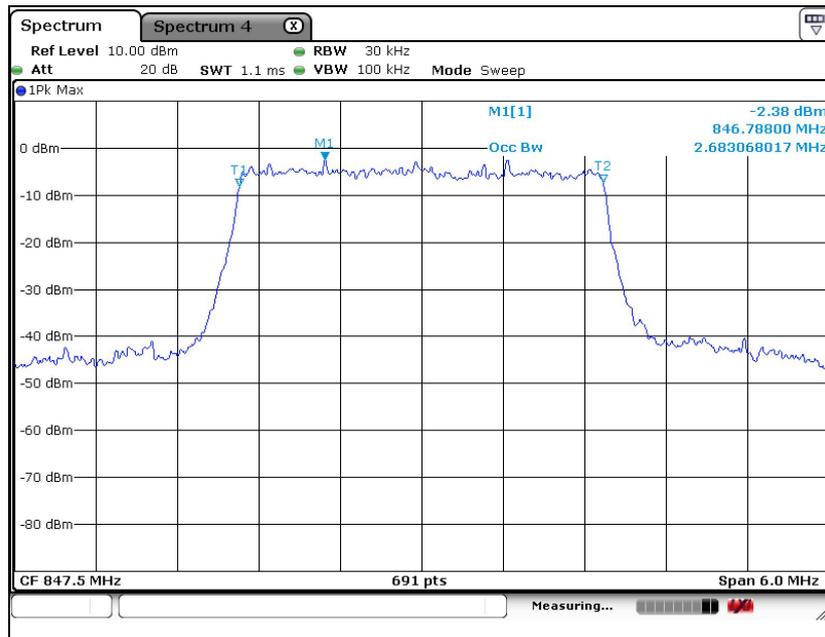


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Middle Channel



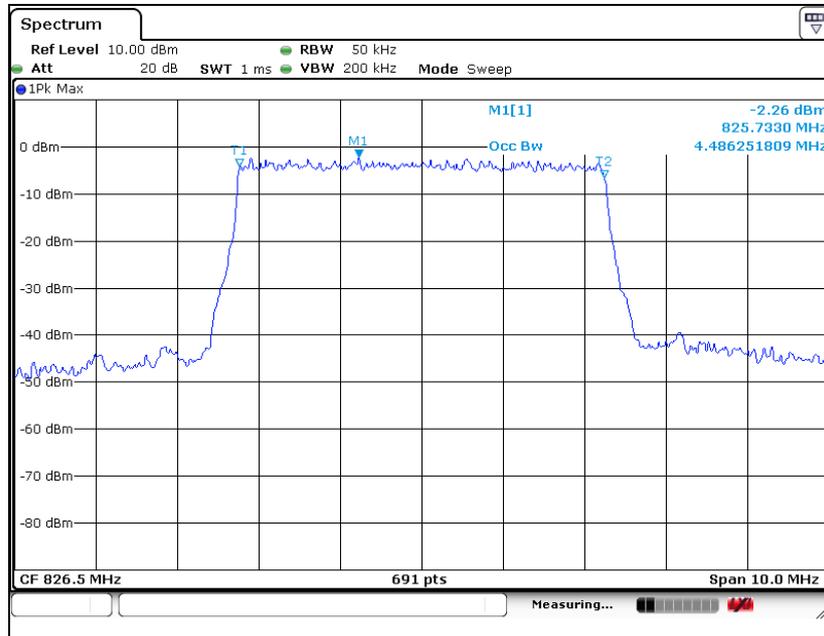
High Channel



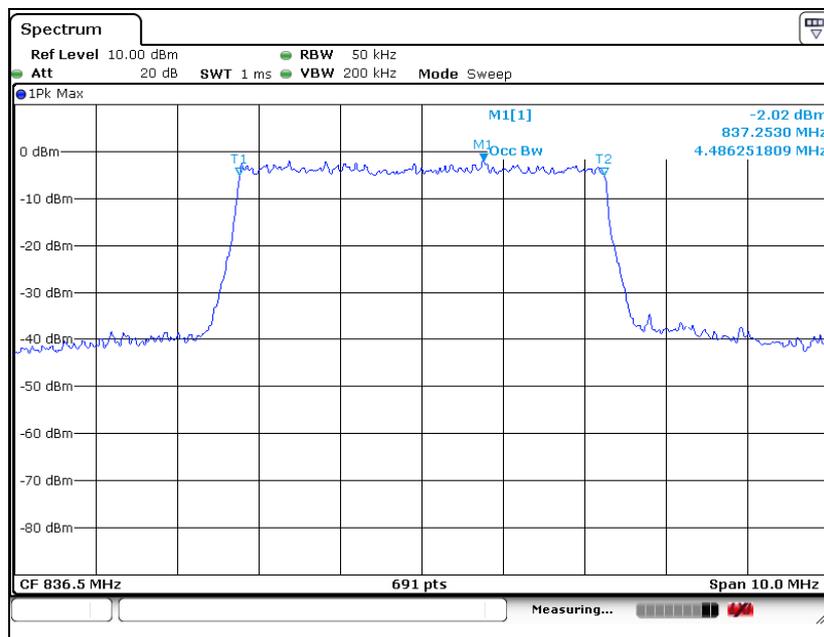
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LTE band 5 (5 MHz - QPSK)

Low Channel

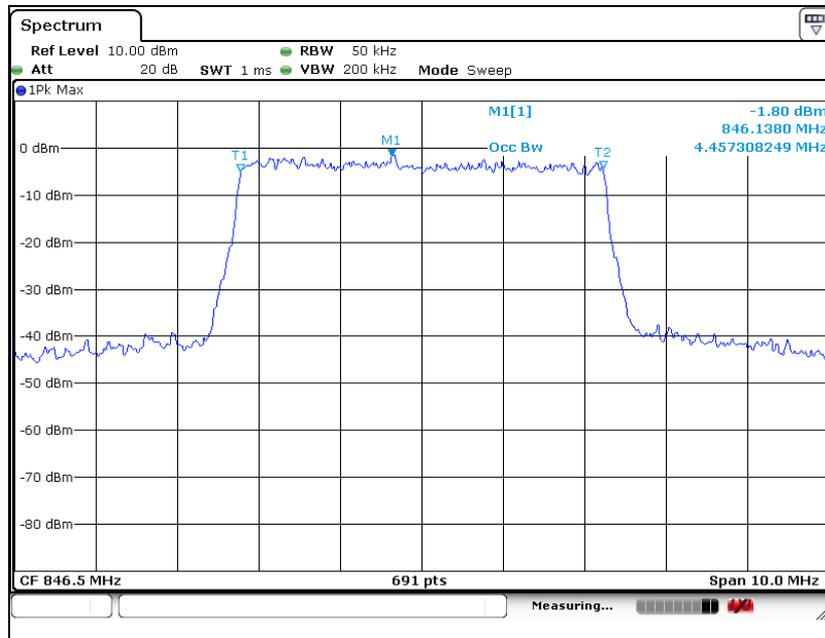


Middle Channel



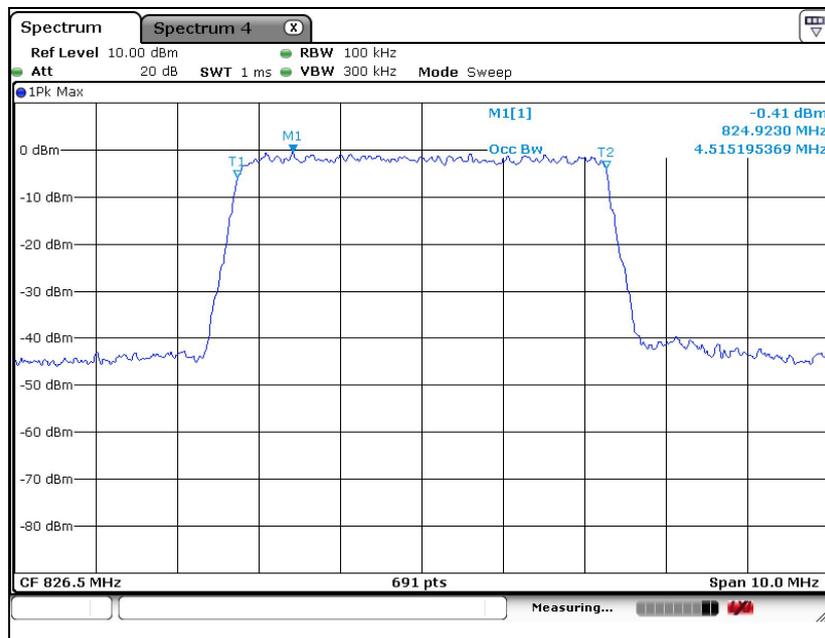
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High Channel



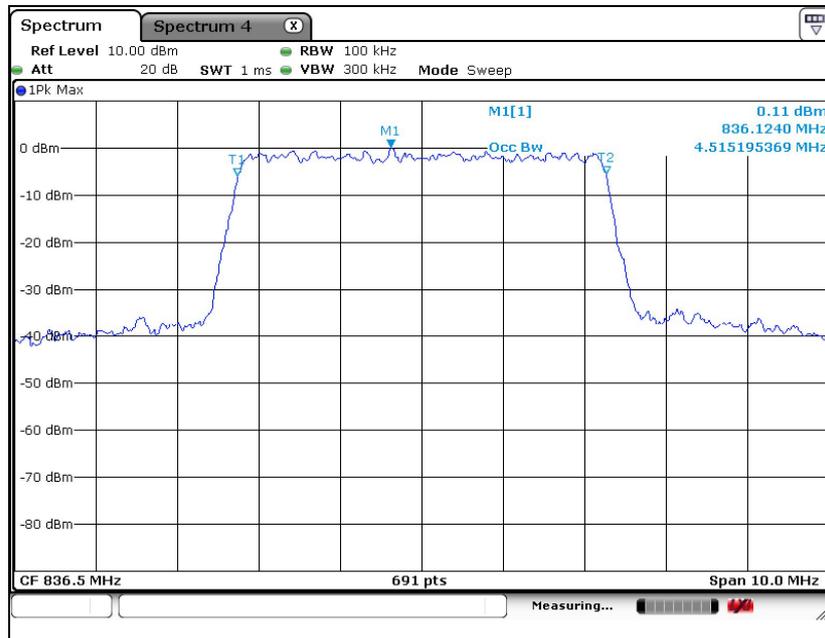
LTE band 5 (5 MHz - 16QAM)

Low Channel

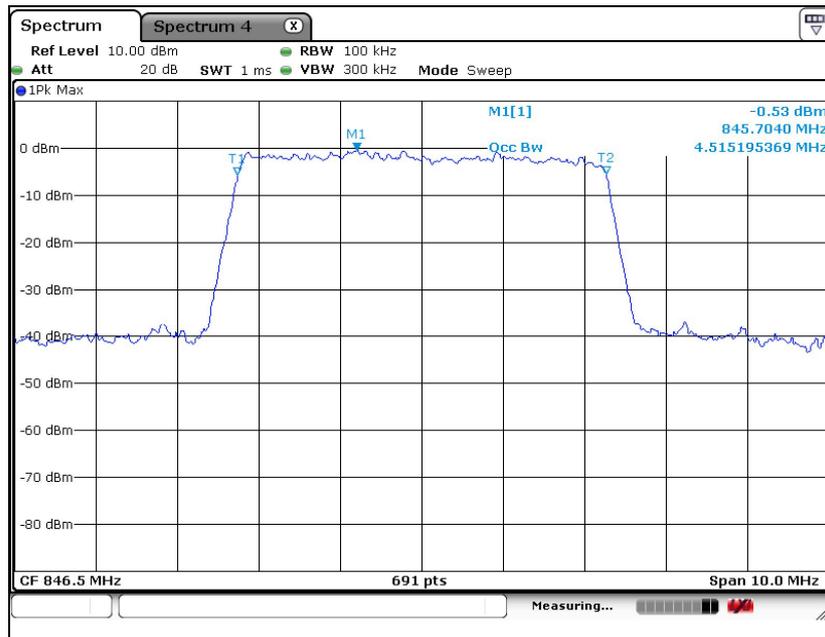


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Middle Channel



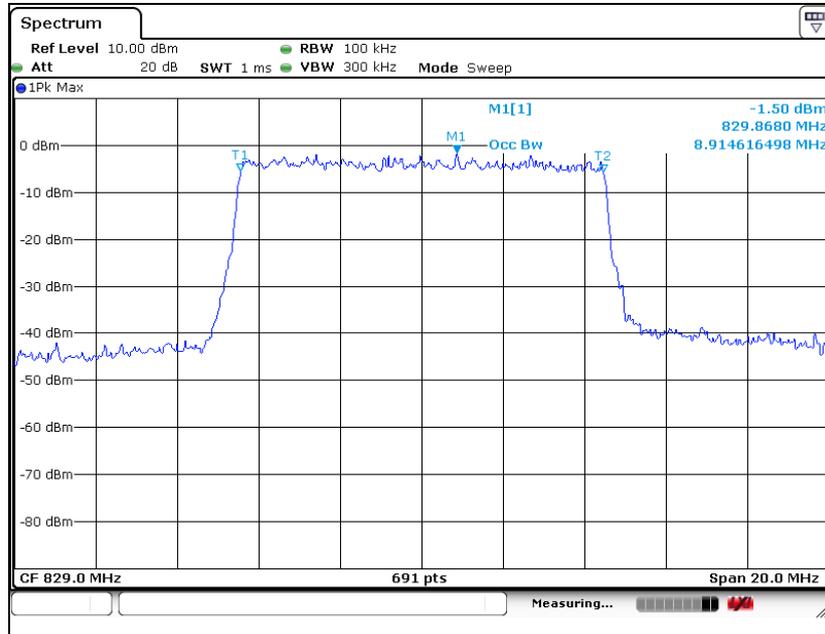
High Channel



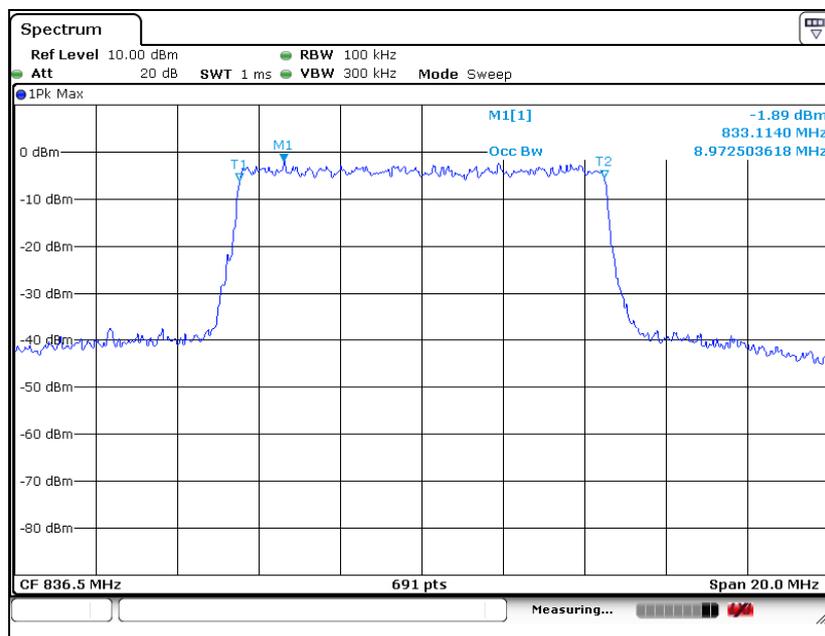
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LTE band 5 (10 MHz - QPSK)

Low Channel

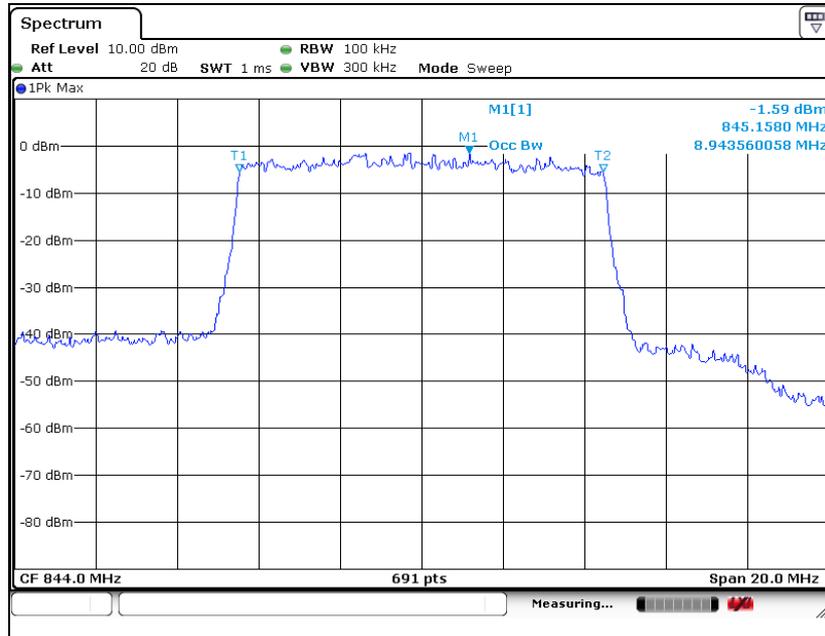


Middle Channel



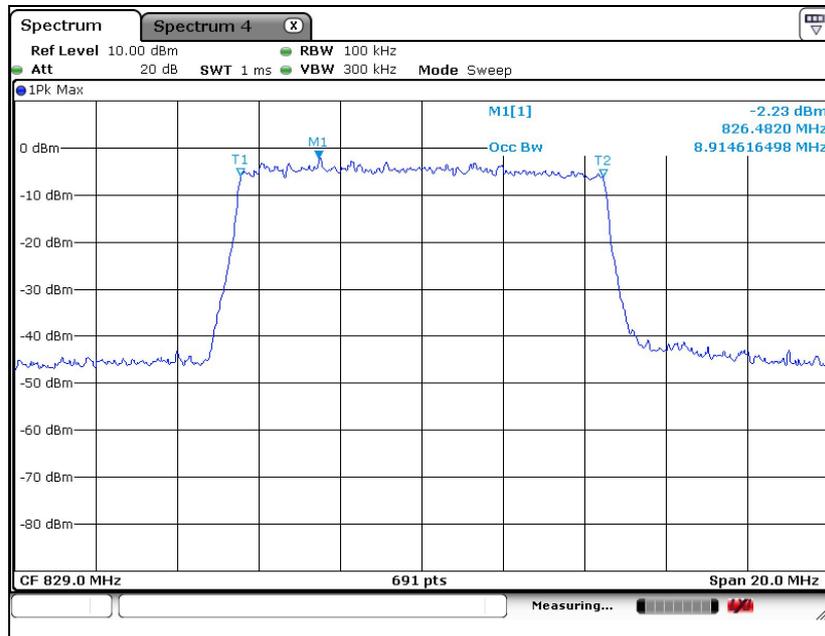
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High Channel



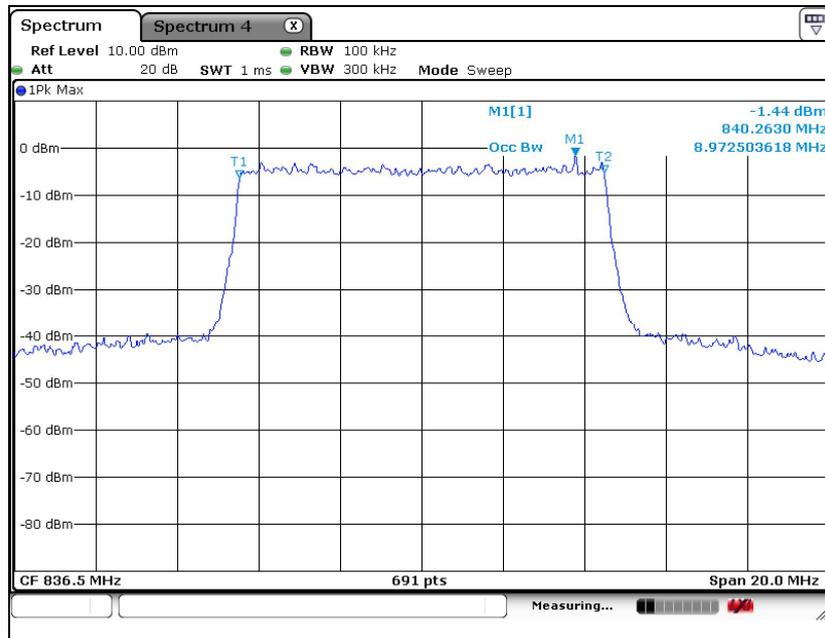
LTE band 5 (10 MHz - 16QAM)

Low Channel

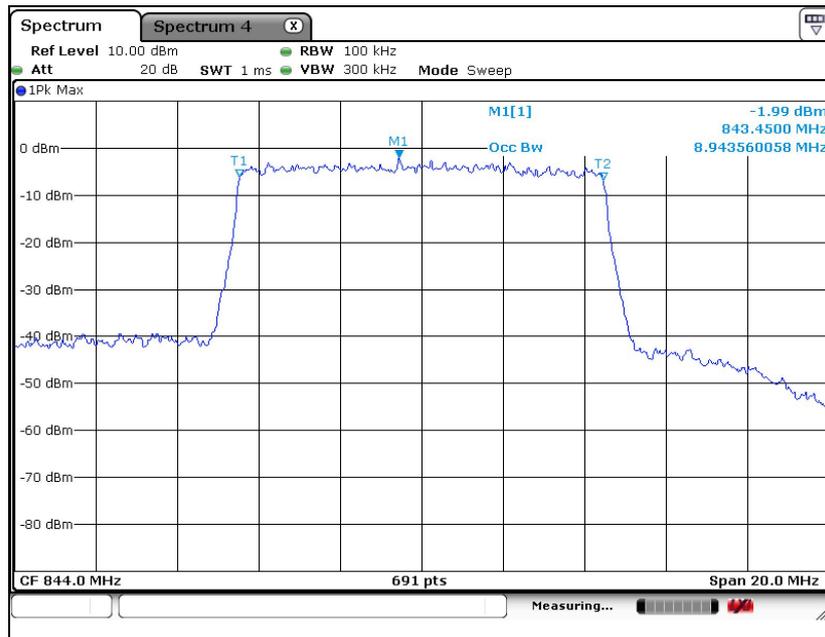


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Middle Channel



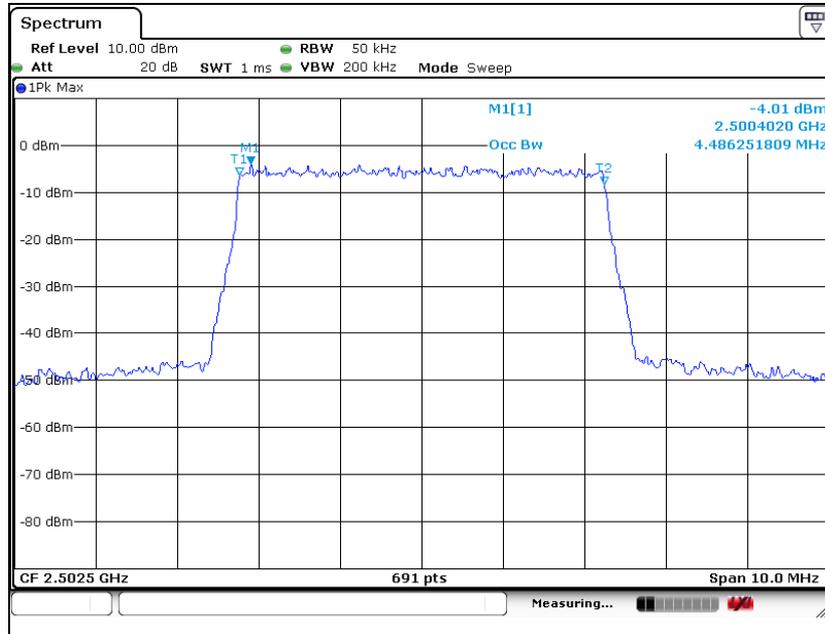
High Channel



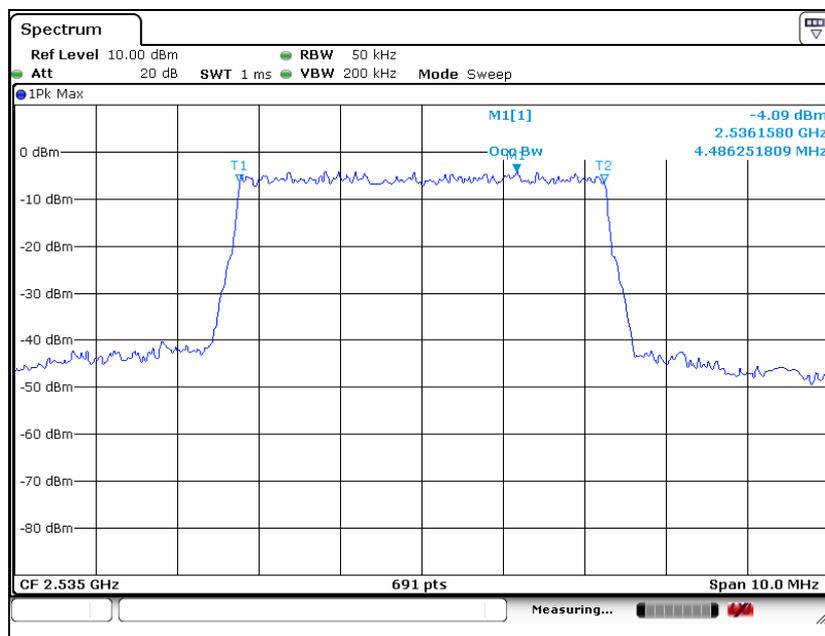
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LTE band 7 (5 MHz - QPSK)

Low Channel

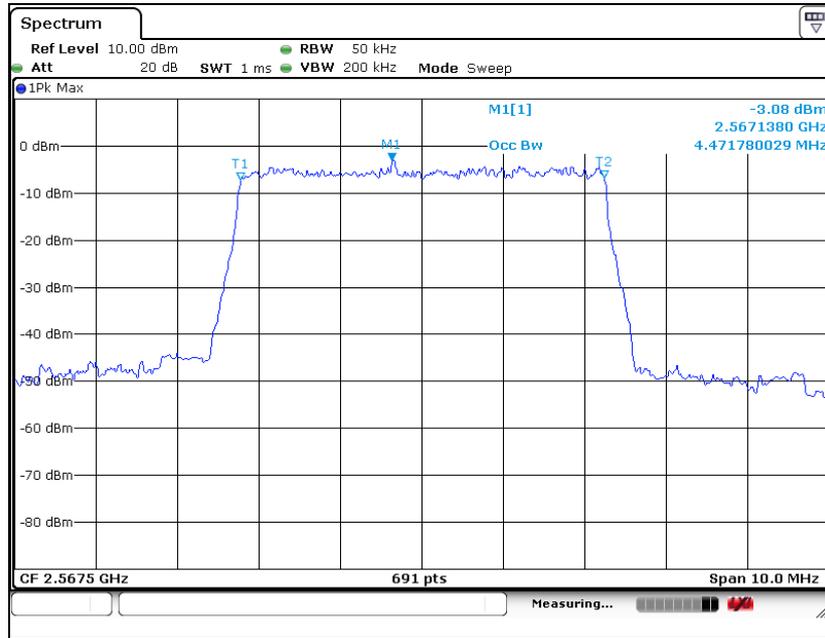


Middle Channel



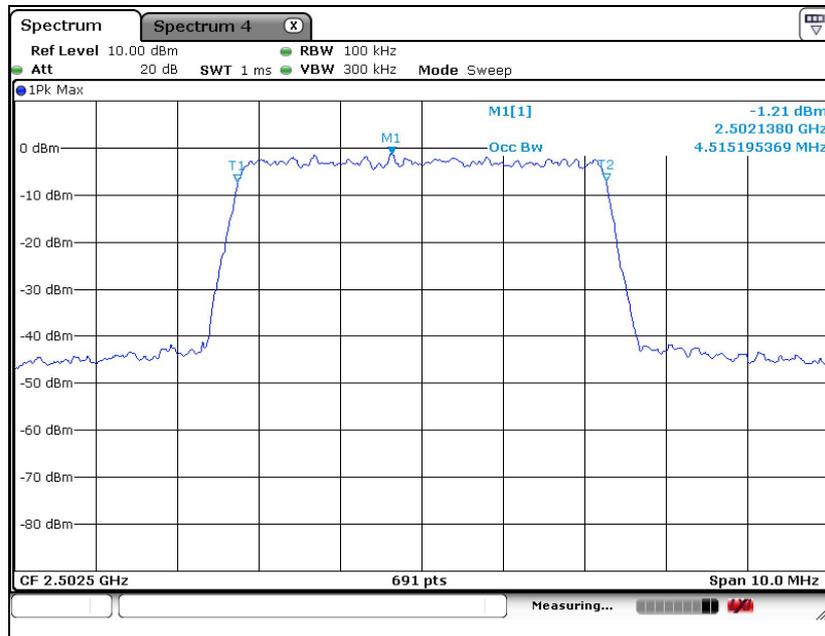
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High Channel



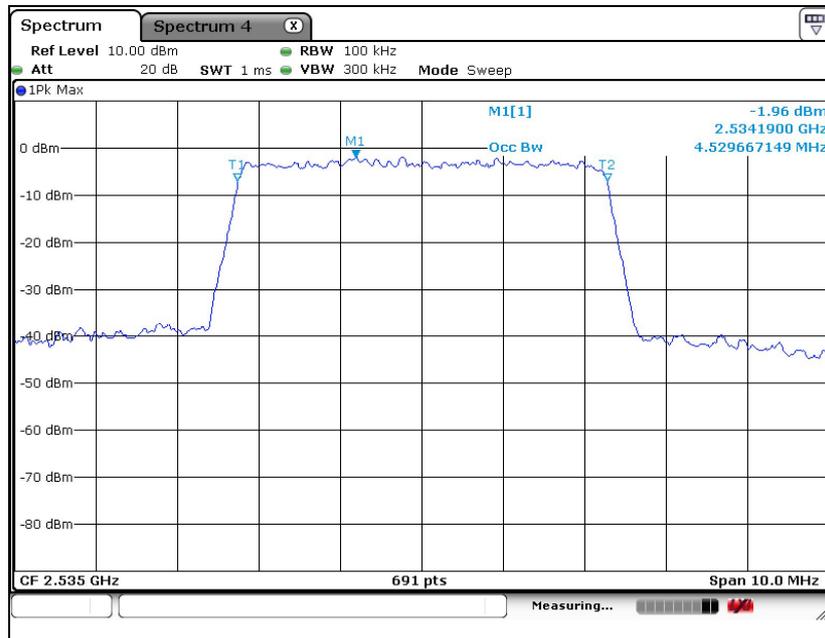
LTE band 7 (5 MHz - 16QAM)

Low Channel

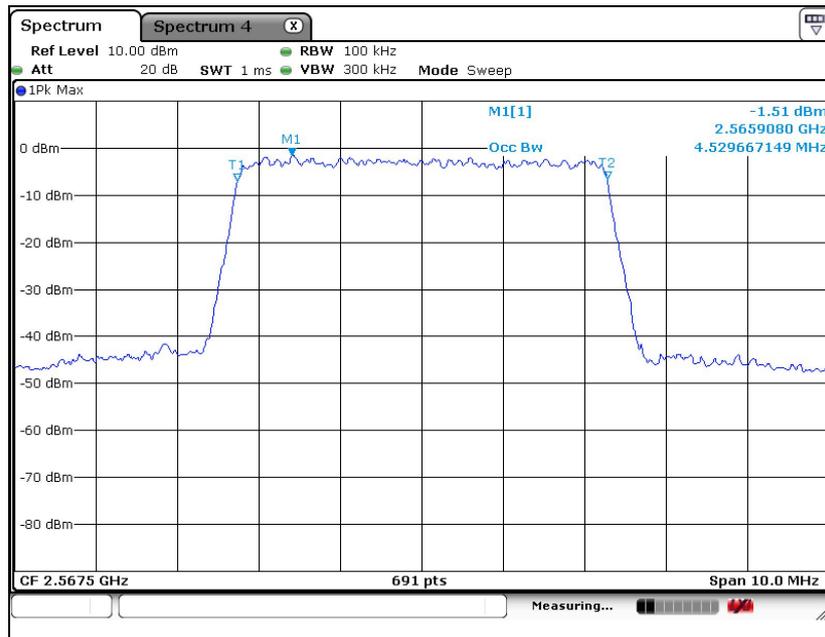


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Middle Channel



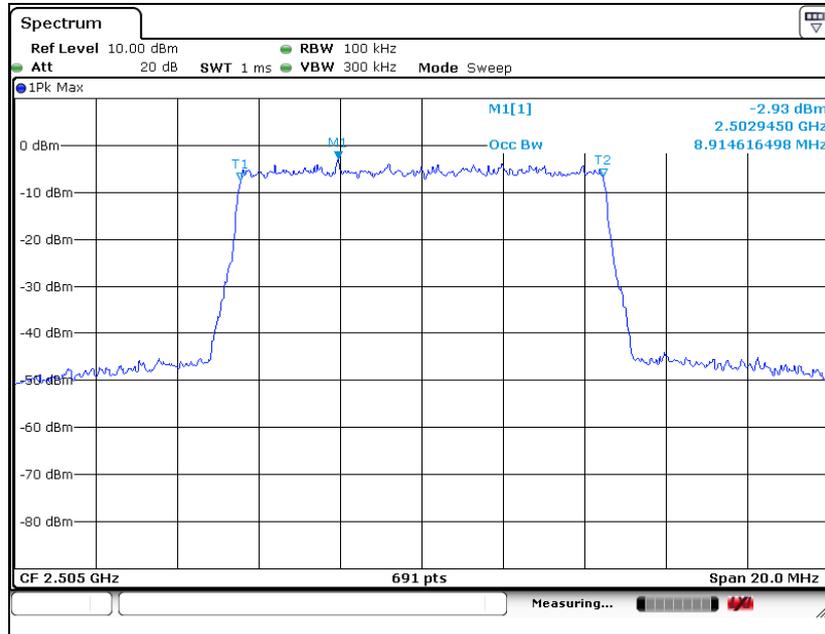
High Channel



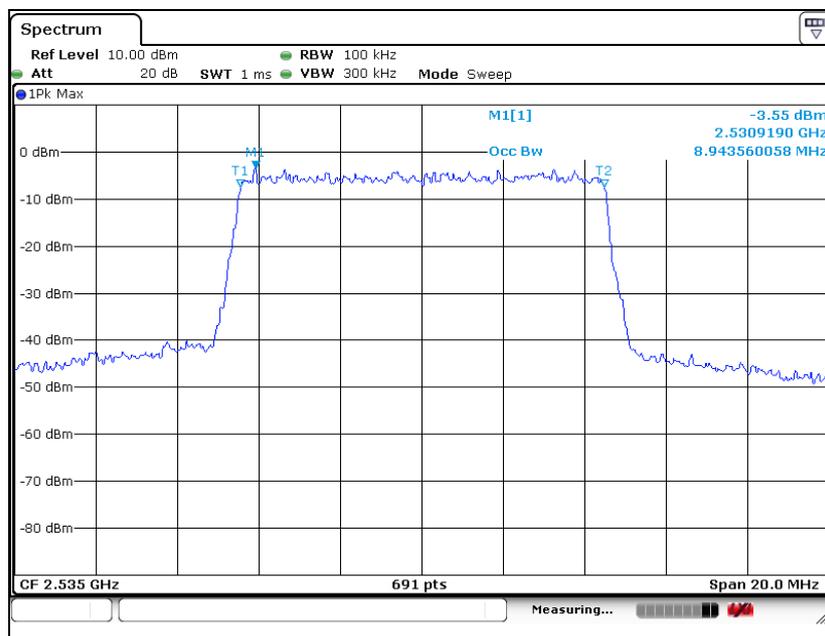
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LTE band 7 (10 MHz - QPSK)

Low Channel

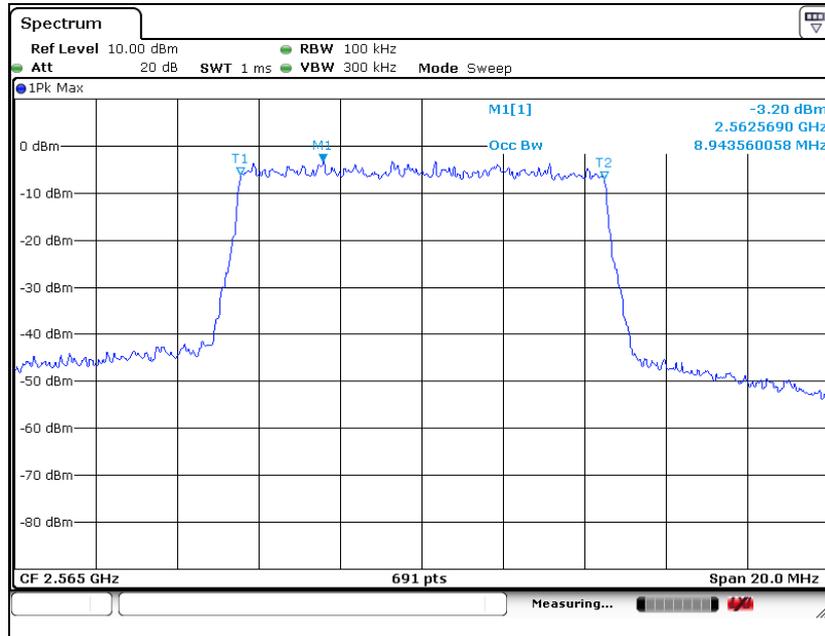


Middle Channel



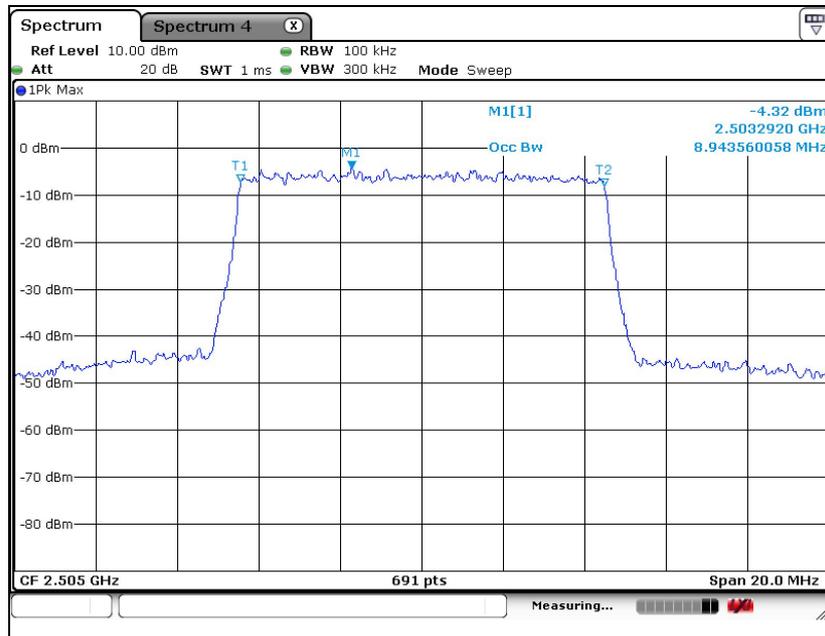
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High Channel



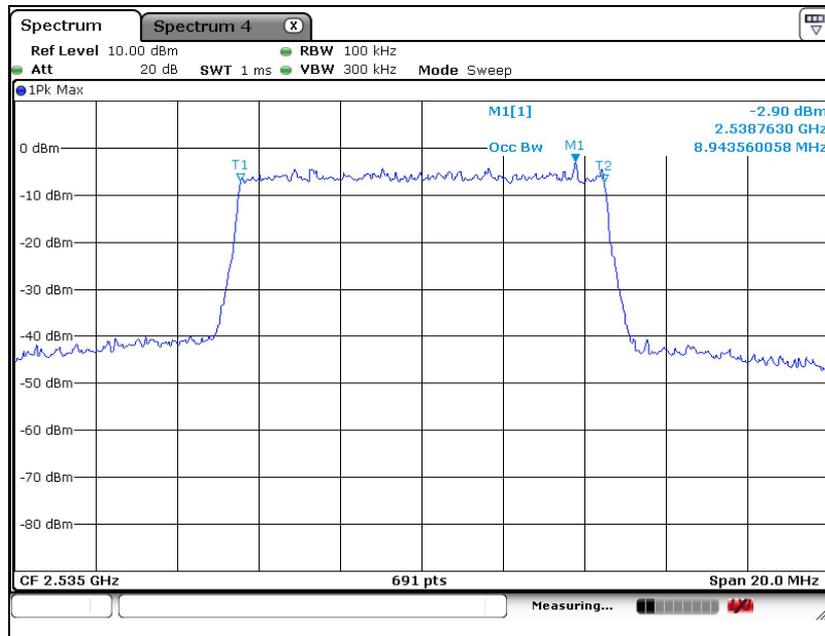
LTE band 7 (10 MHz - 16QAM)

Low Channel

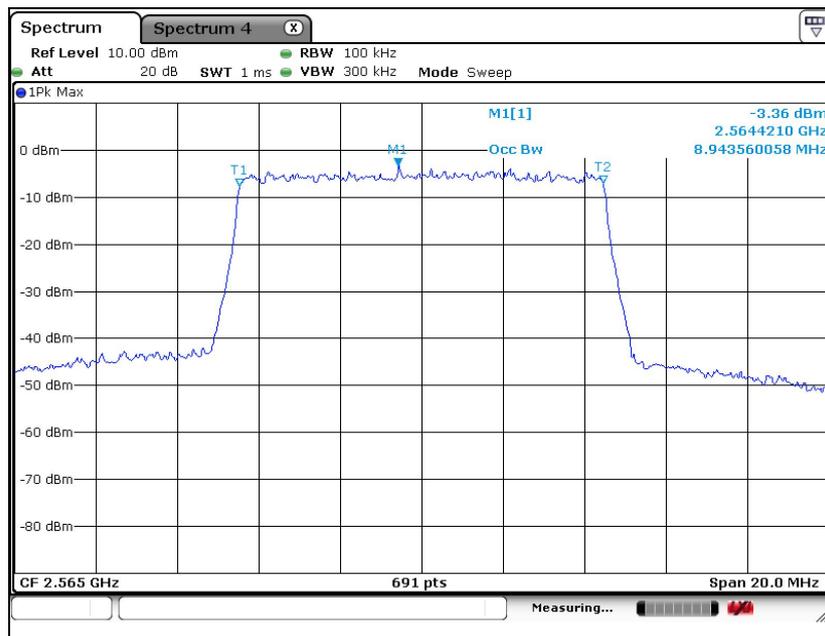


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Middle Channel



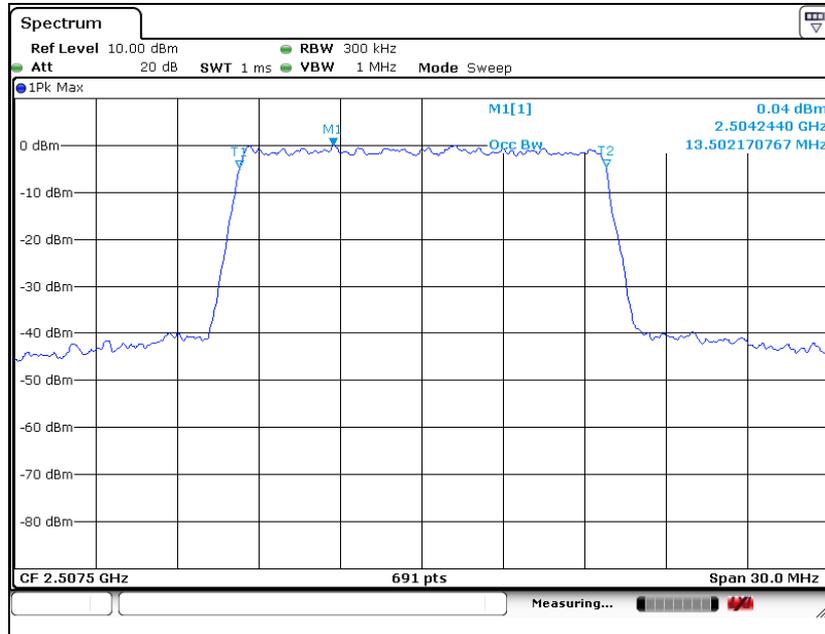
High Channel



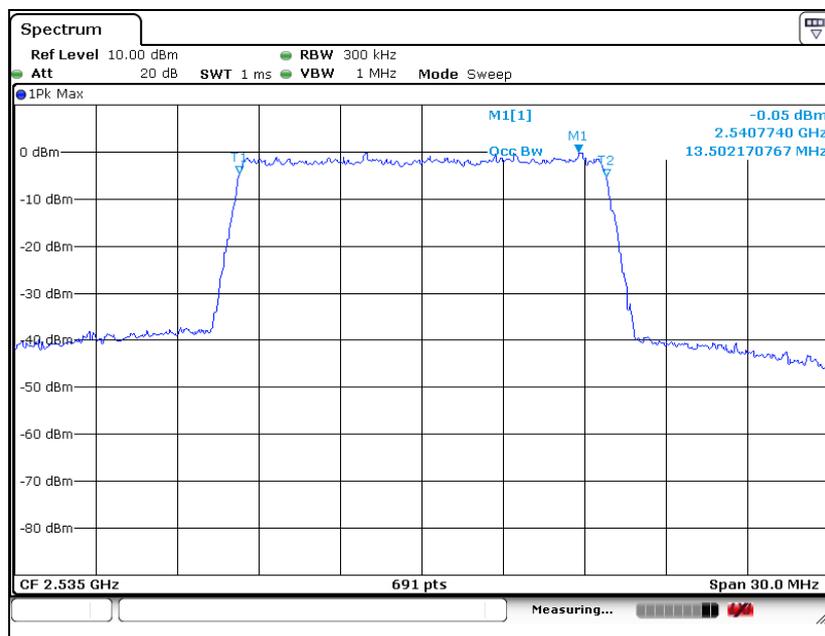
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LTE band 7 (15 MHz - QPSK)

Low Channel

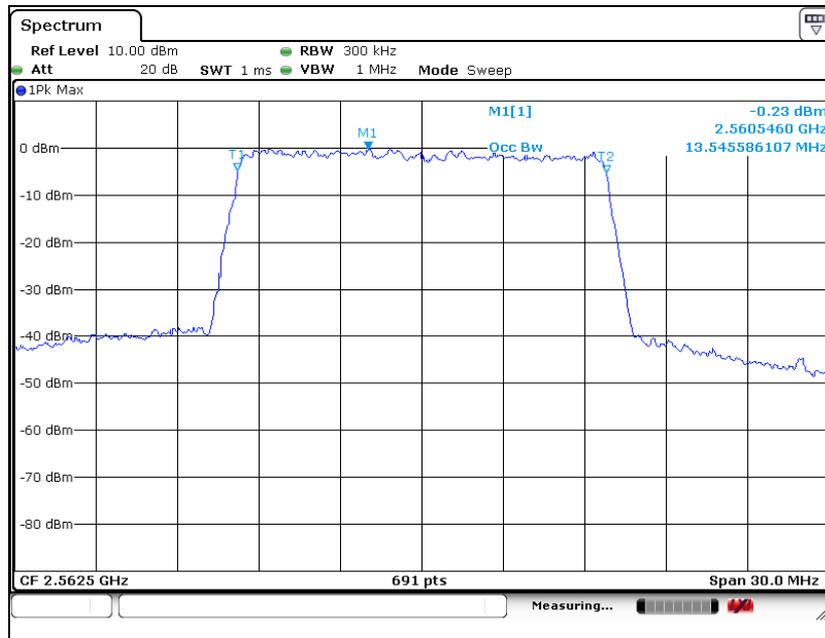


Middle Channel



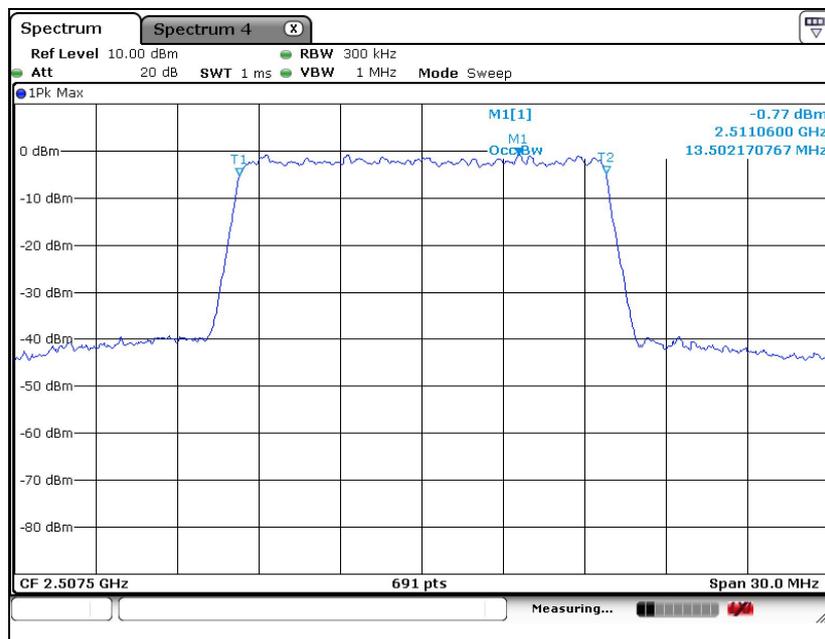
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High Channel



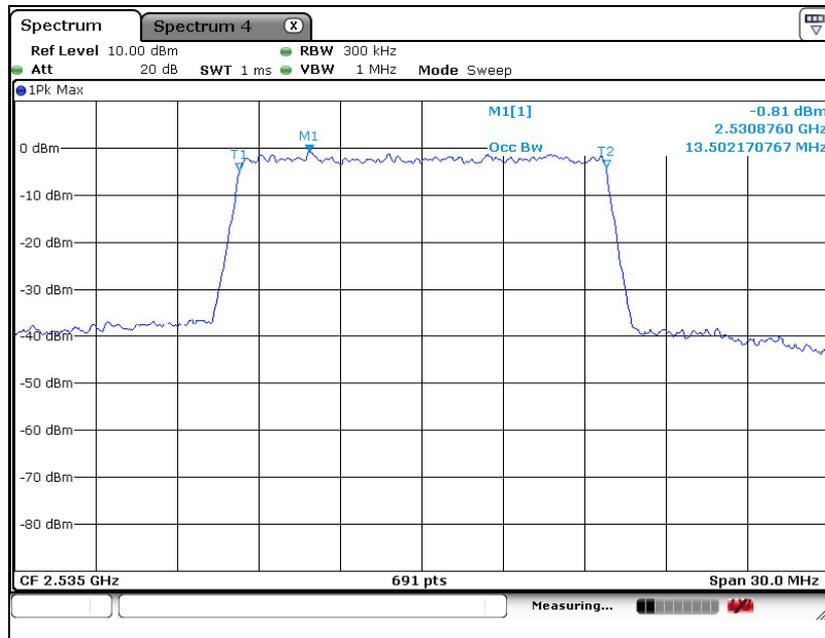
LTE band 7 (15 MHz - 16QAM)

Low Channel

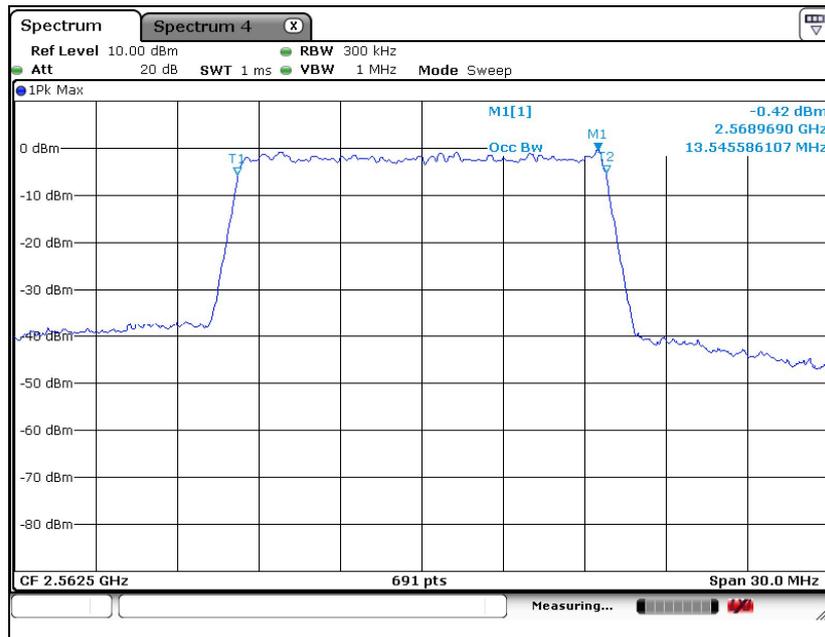


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Middle Channel



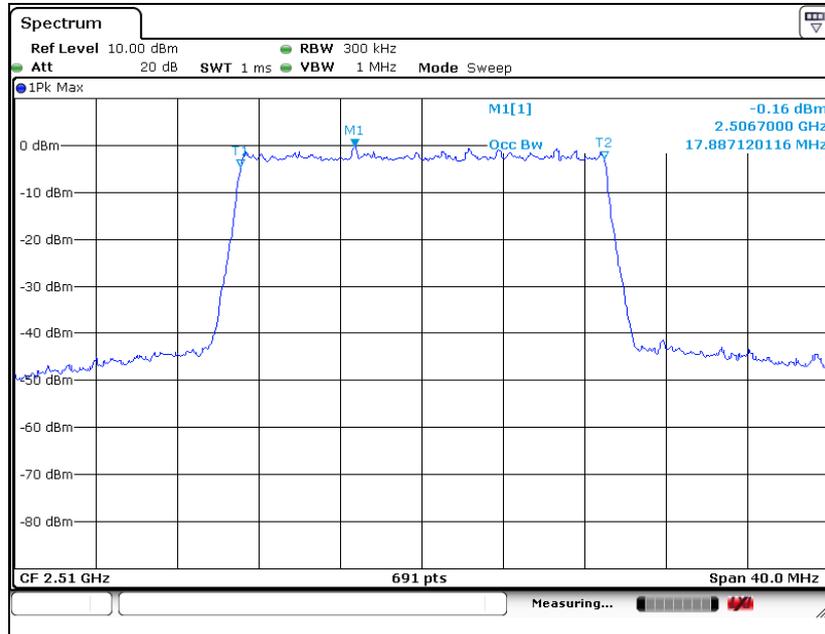
High Channel



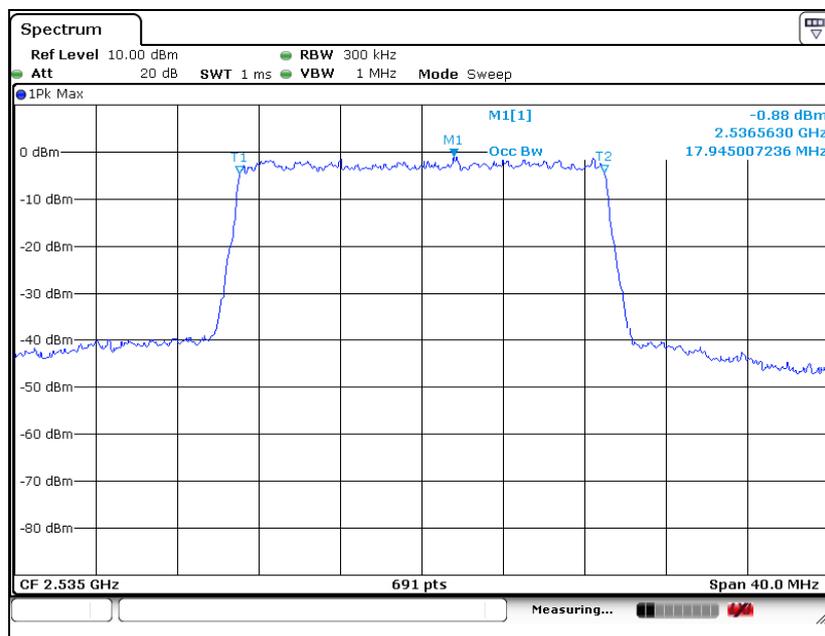
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LTE band 7 (20 MHz - QPSK)

Low Channel

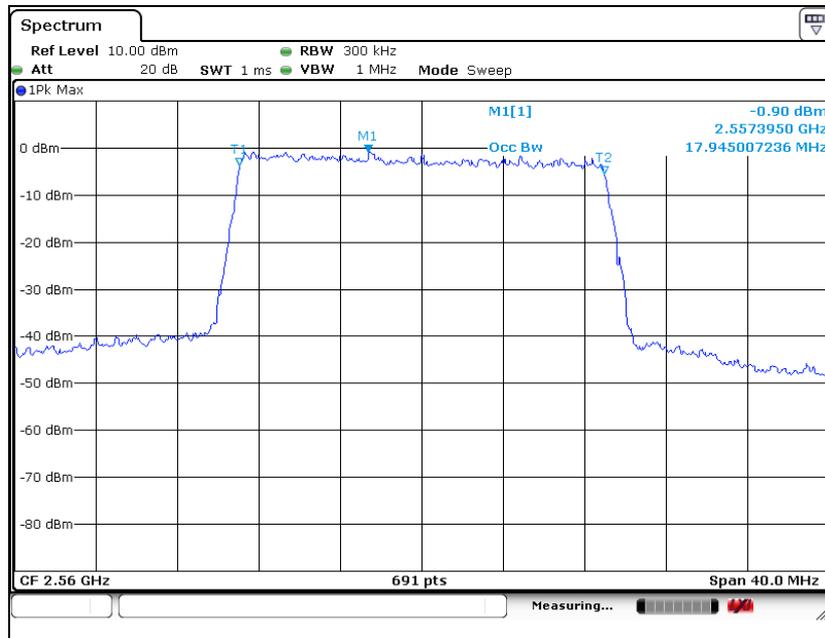


Middle Channel



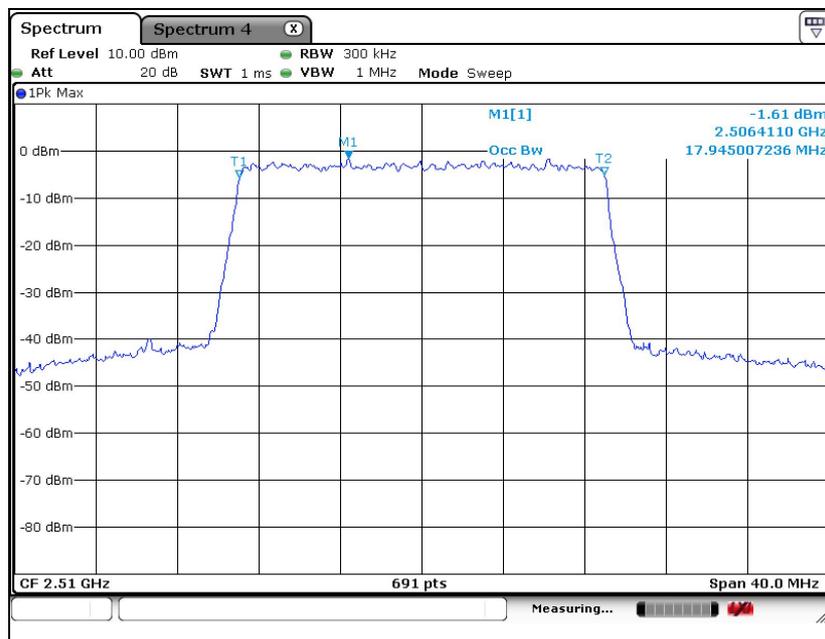
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High Channel



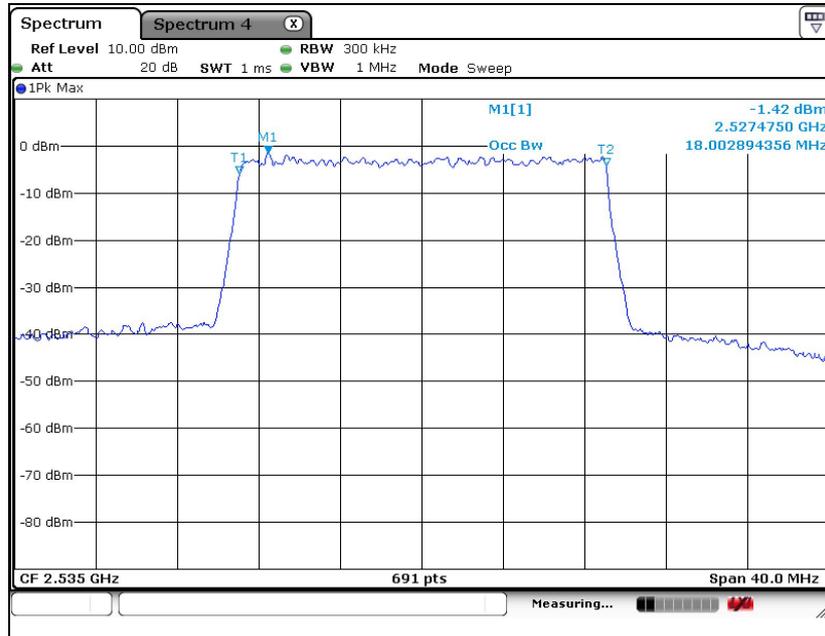
LTE band 7 (20 MHz - 16QAM)

Low Channel

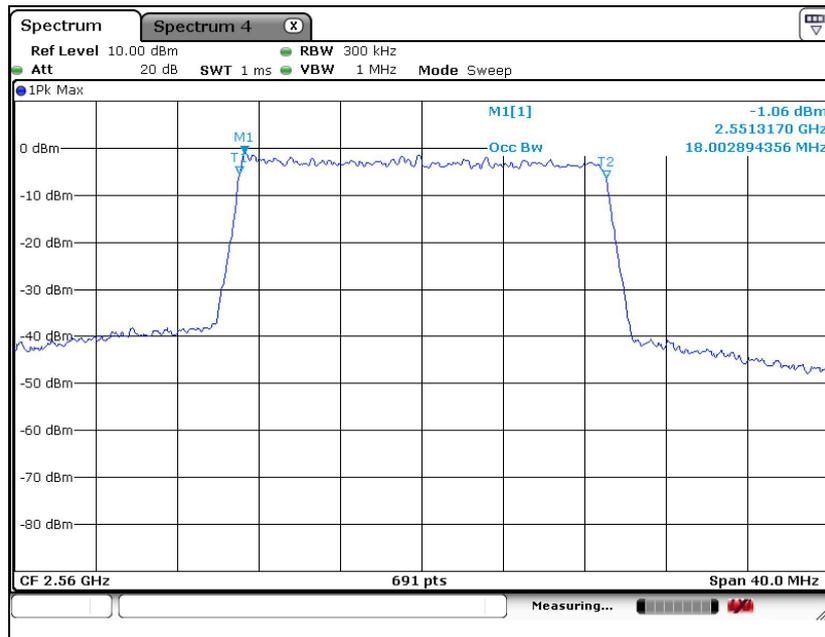


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Middle Channel



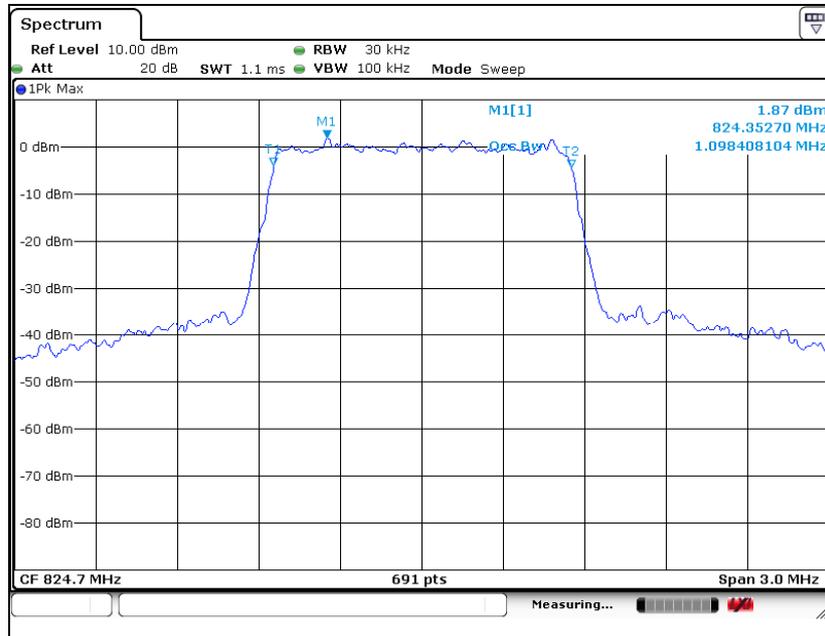
High Channel



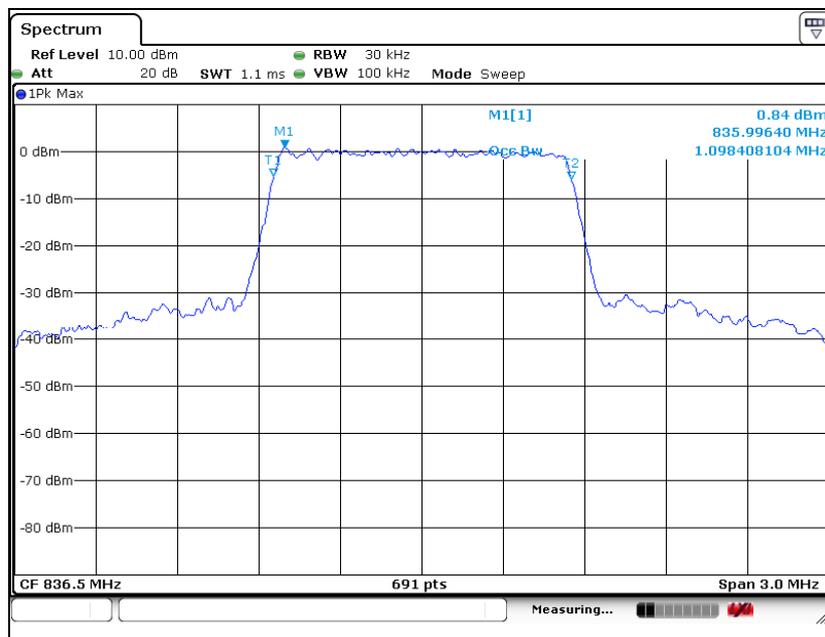
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LTE band 26 (1.4 MHz - QPSK)

Low Channel

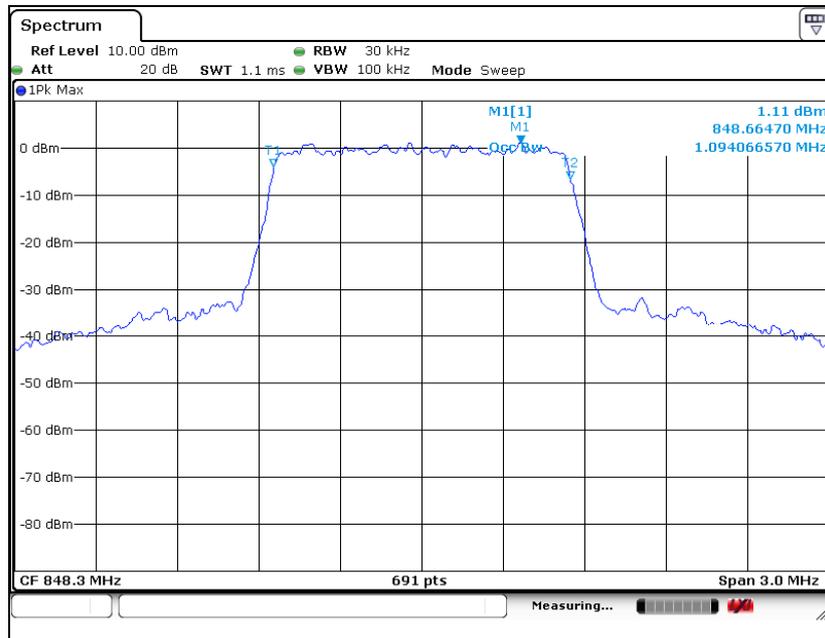


Middle Channel



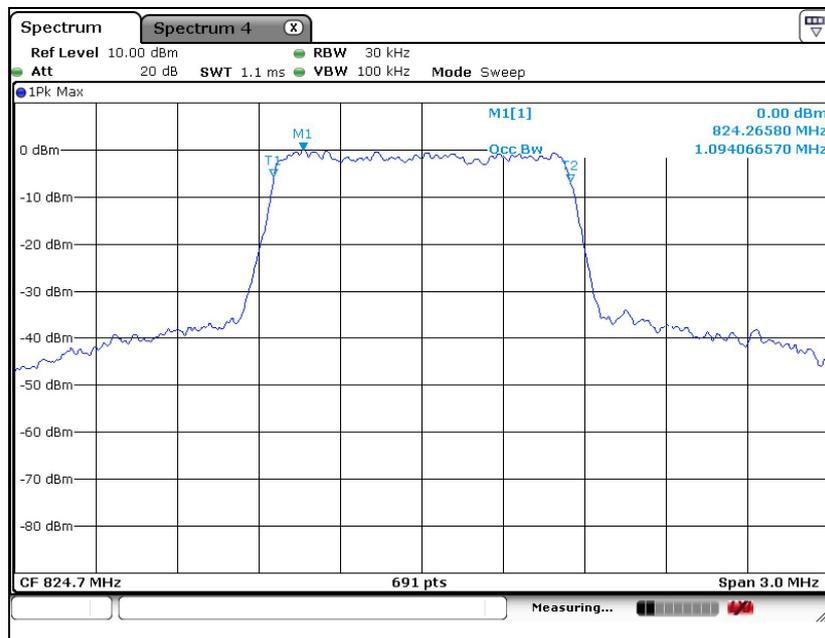
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High Channel



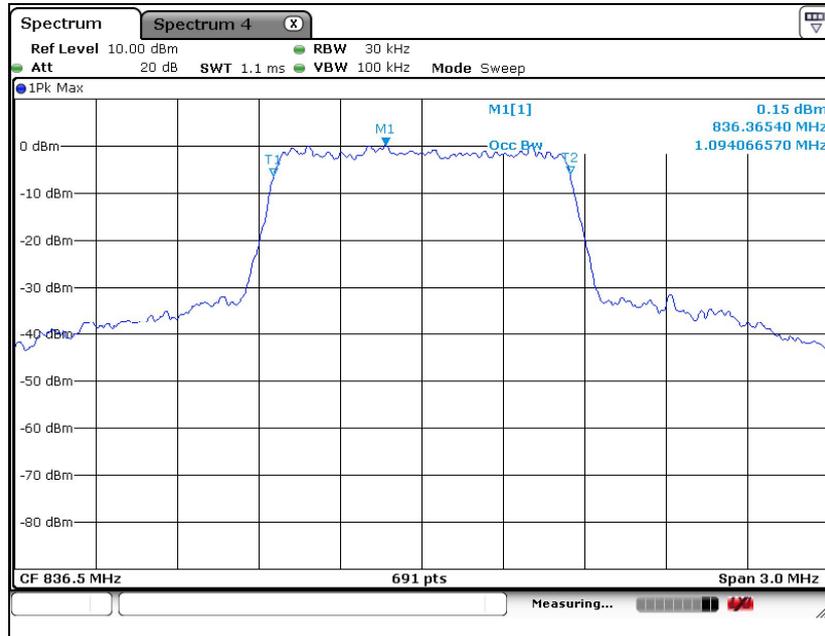
LTE band 26 (1.4 MHz - 16QAM)

Low Channel

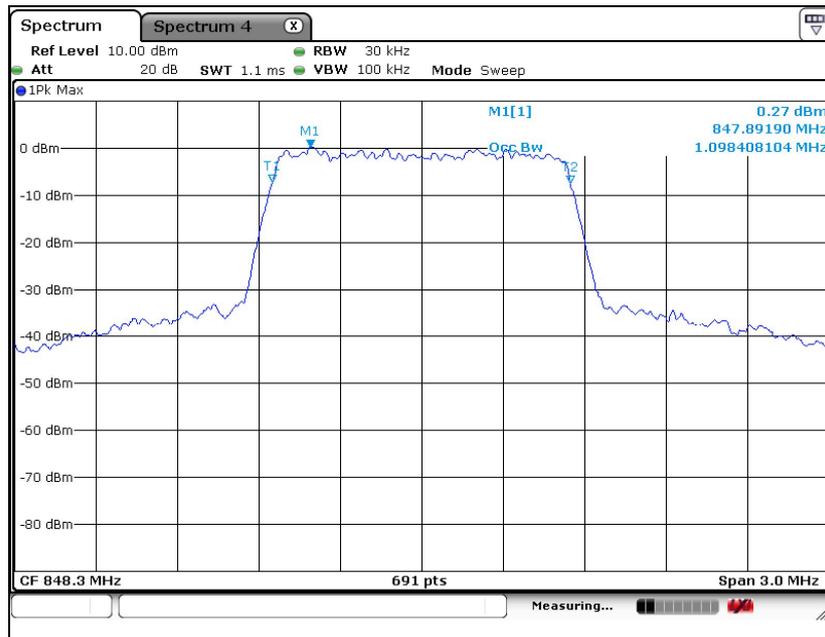


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Middle Channel



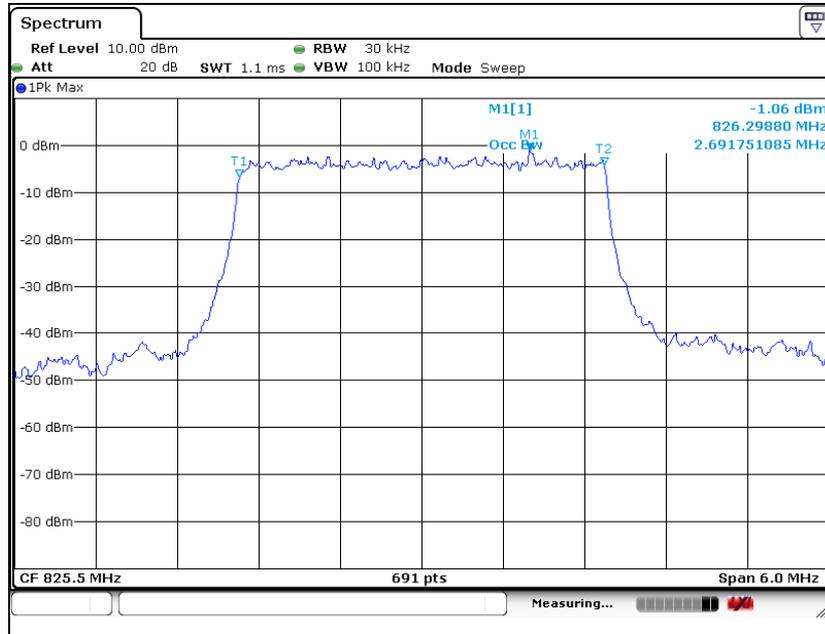
High Channel



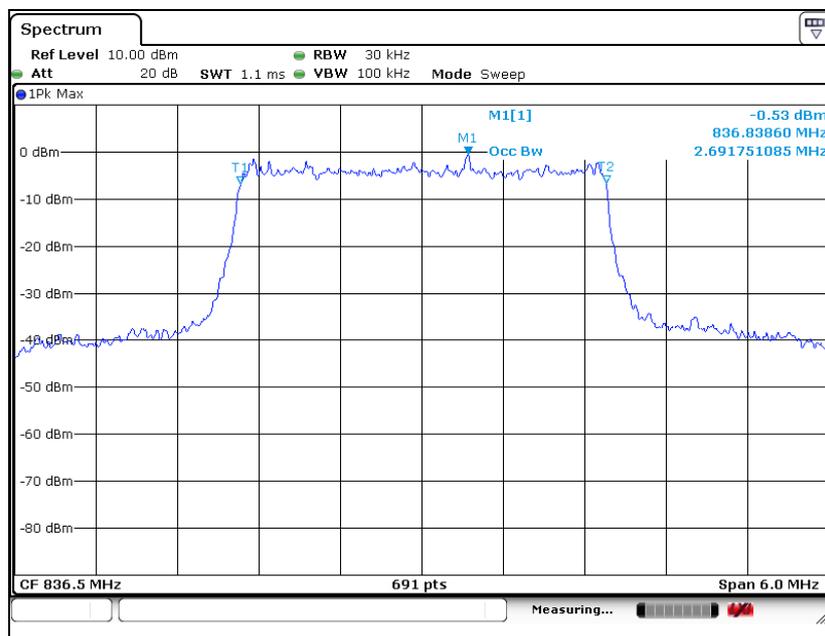
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LTE band 26 (3 MHz - QPSK)

Low Channel

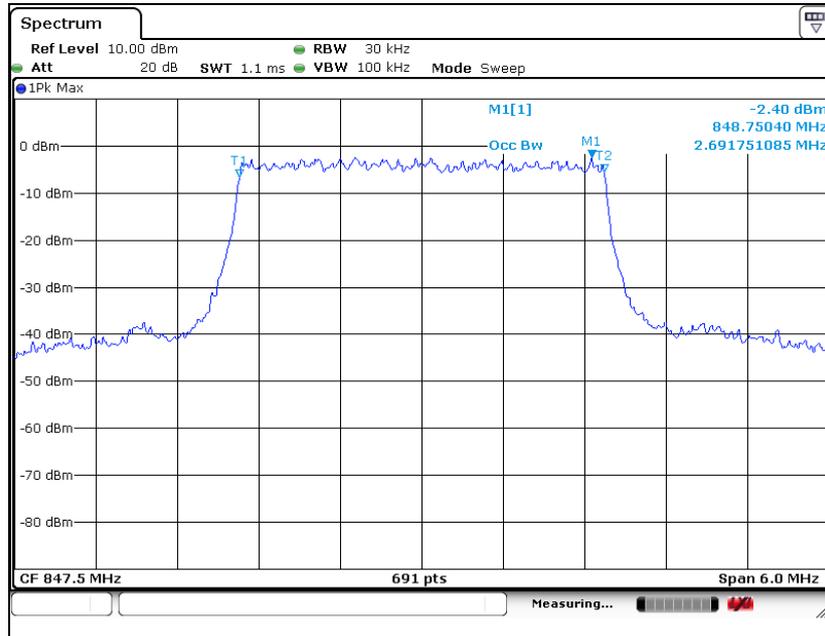


Middle Channel



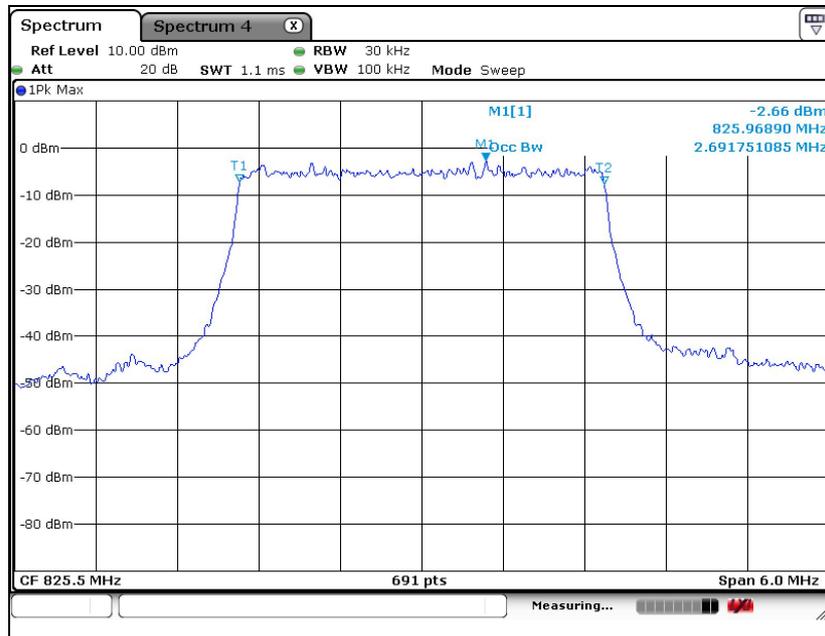
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High Channel



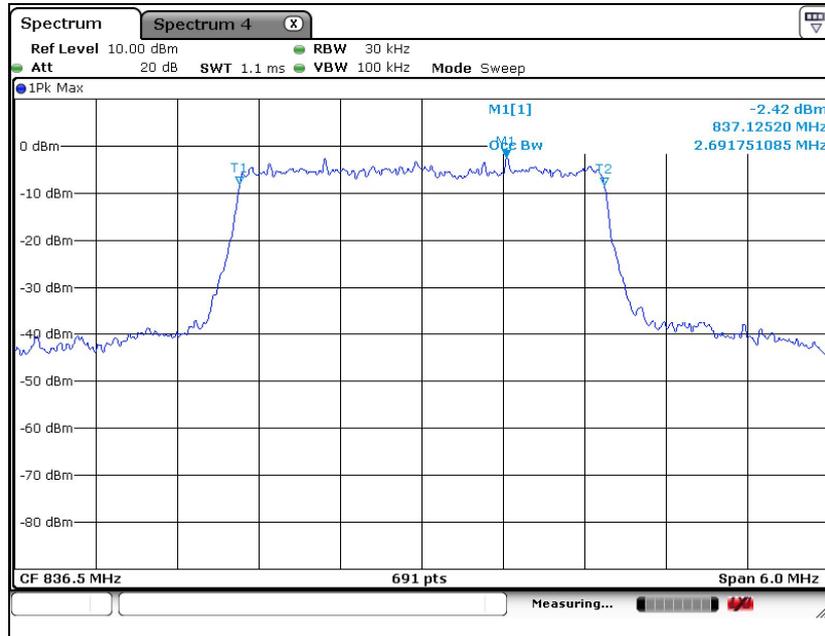
LTE band 26 (3 MHz - 16QAM)

Low Channel

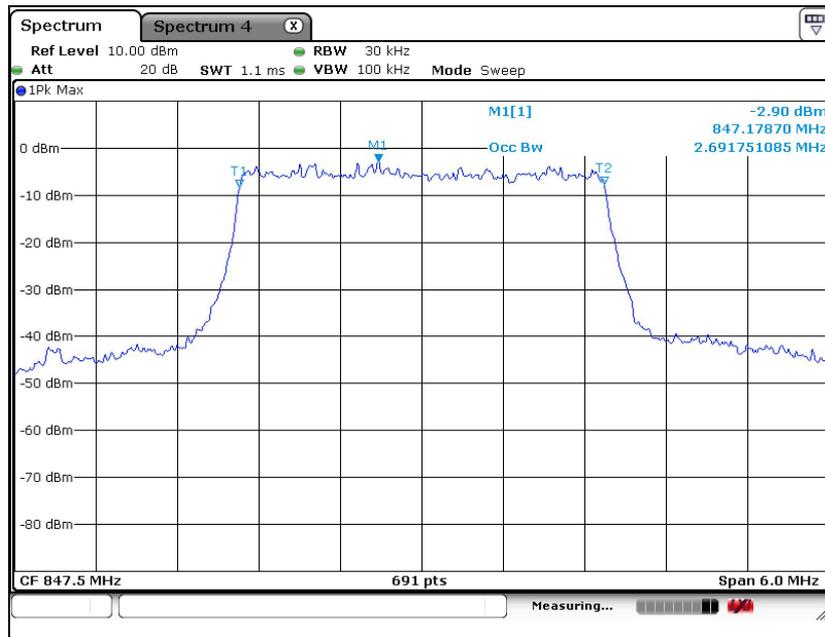


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Middle Channel



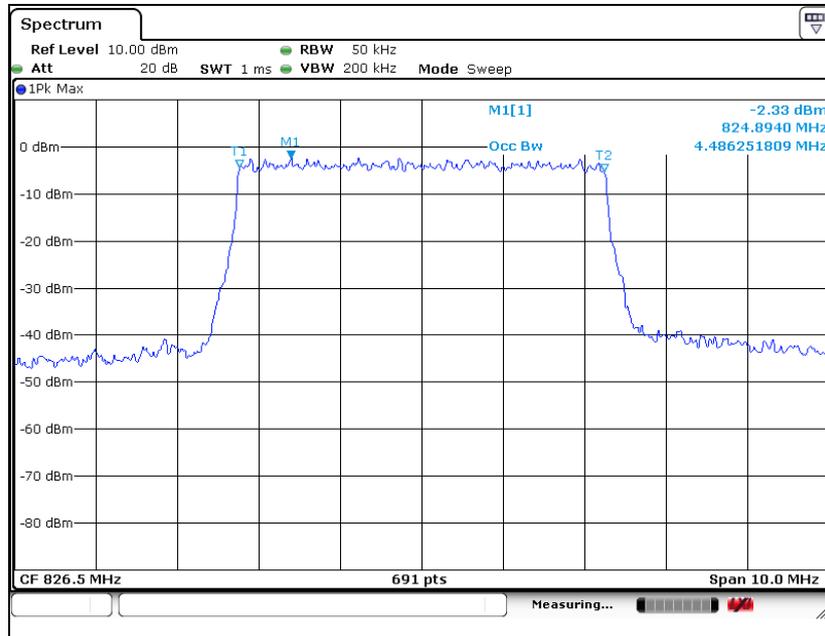
High Channel



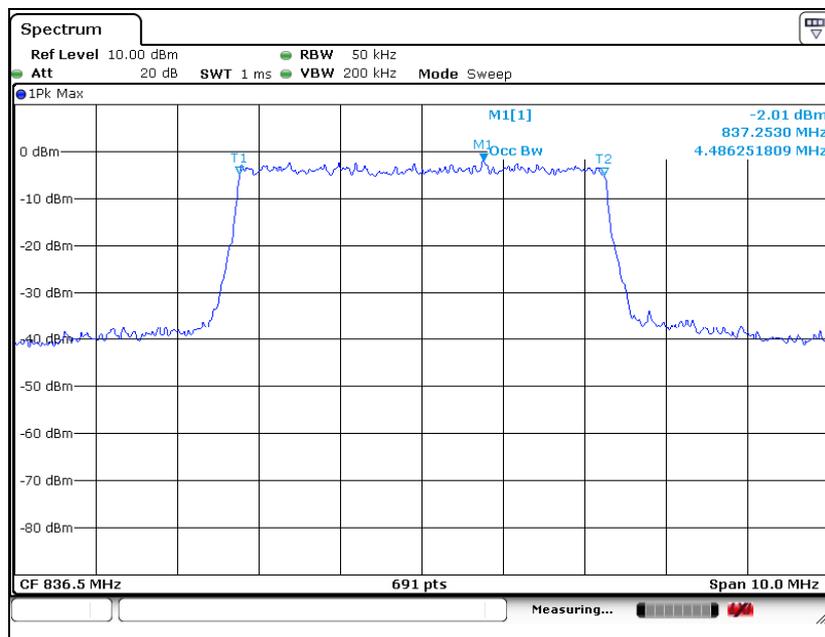
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LTE band 26 (5 MHz - QPSK)

Low Channel

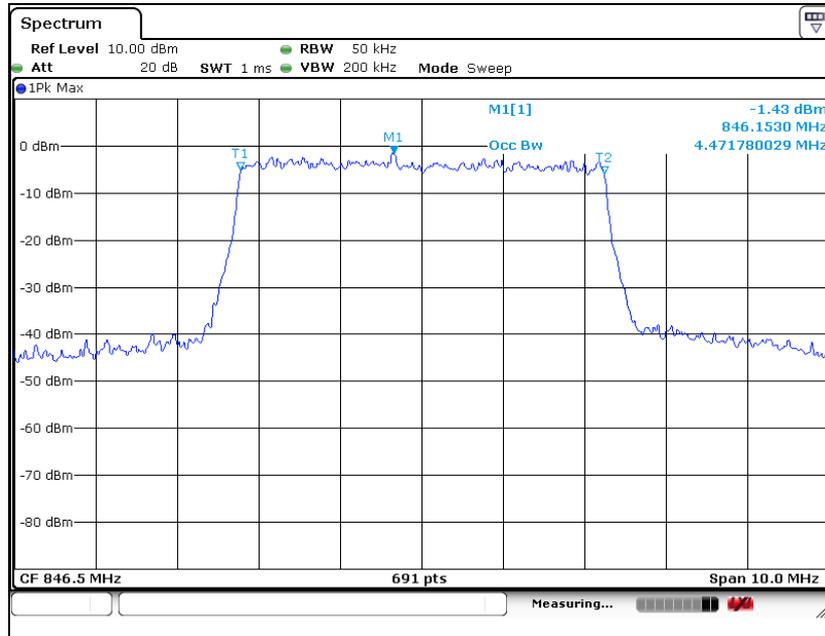


Middle Channel



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High Channel



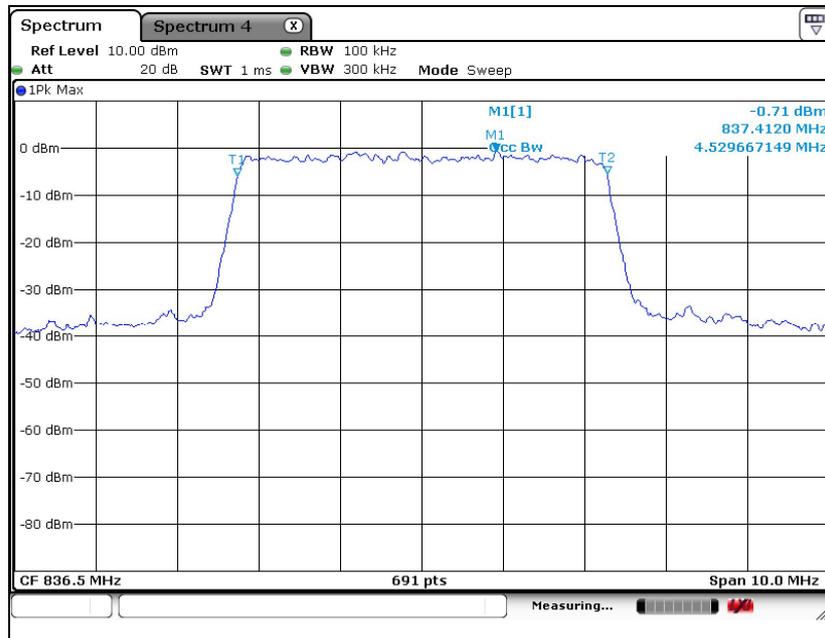
LTE band 26 (5 MHz - 16QAM)

Low Channel

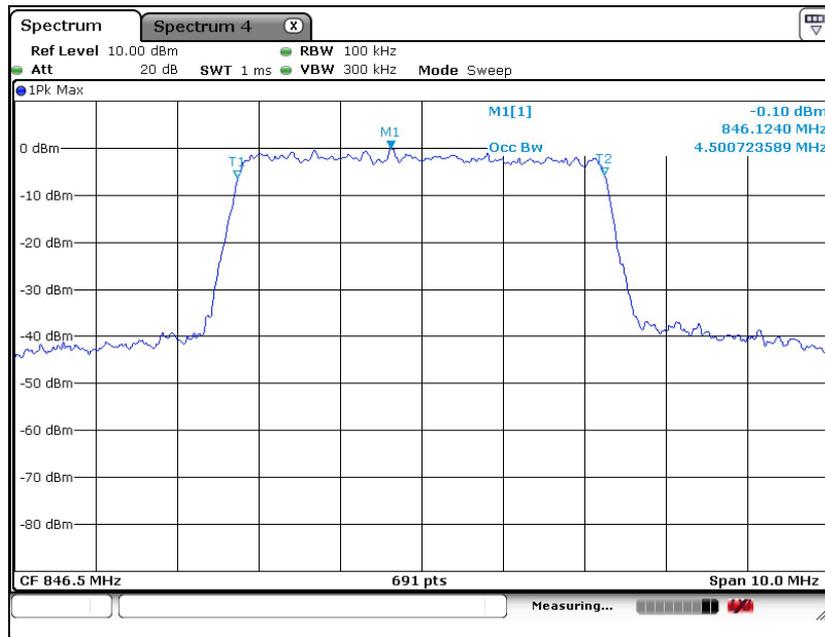


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Middle Channel



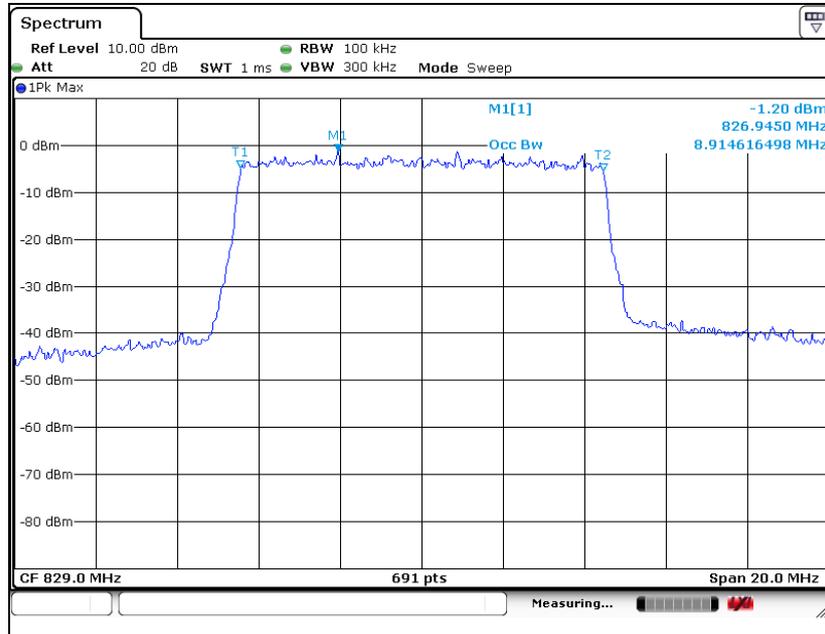
High Channel



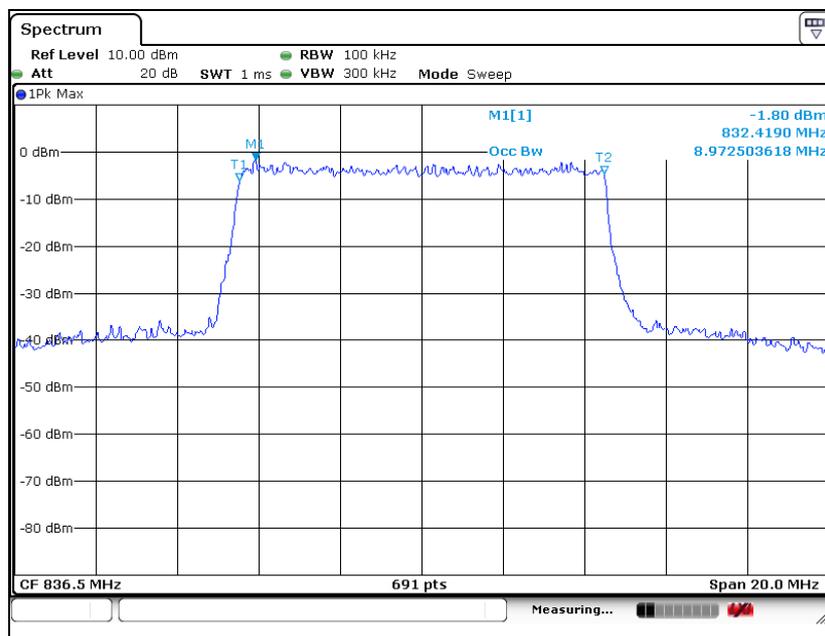
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LTE band 26 (10 MHz - QPSK)

Low Channel

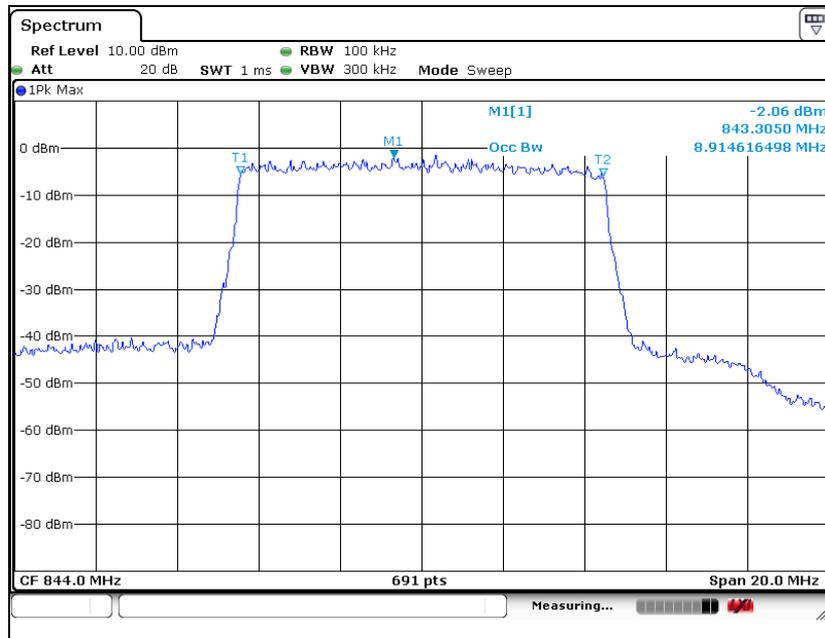


Middle Channel



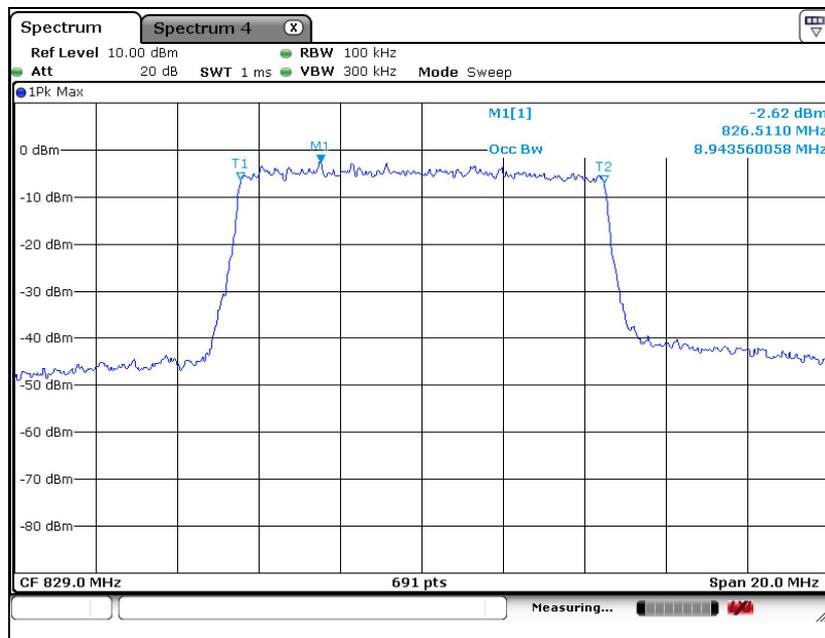
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High Channel



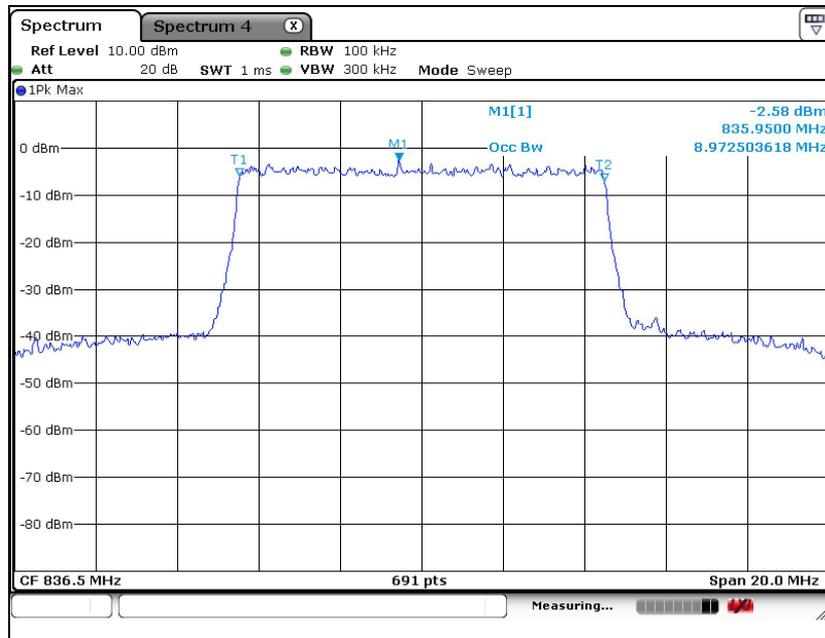
LTE band 26 (10 MHz - 16QAM)

Low Channel

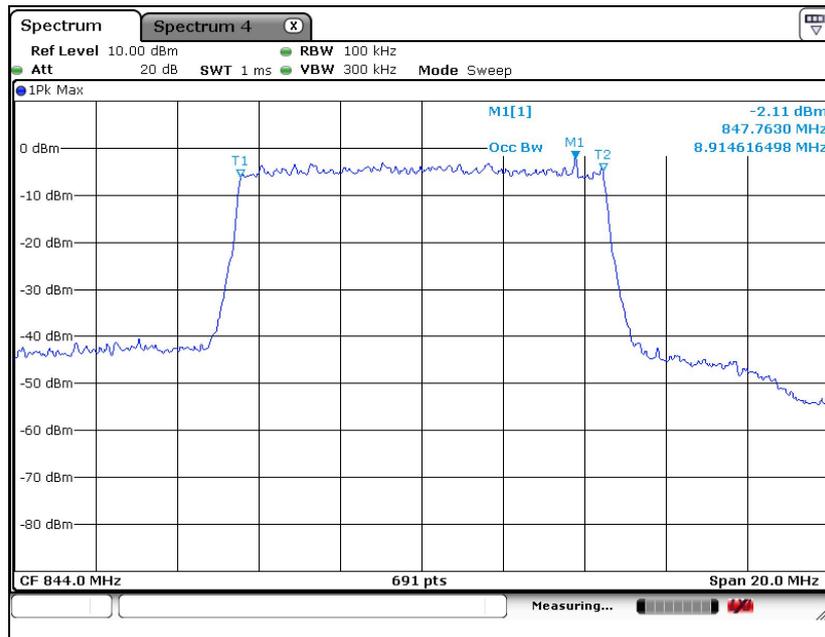


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Middle Channel



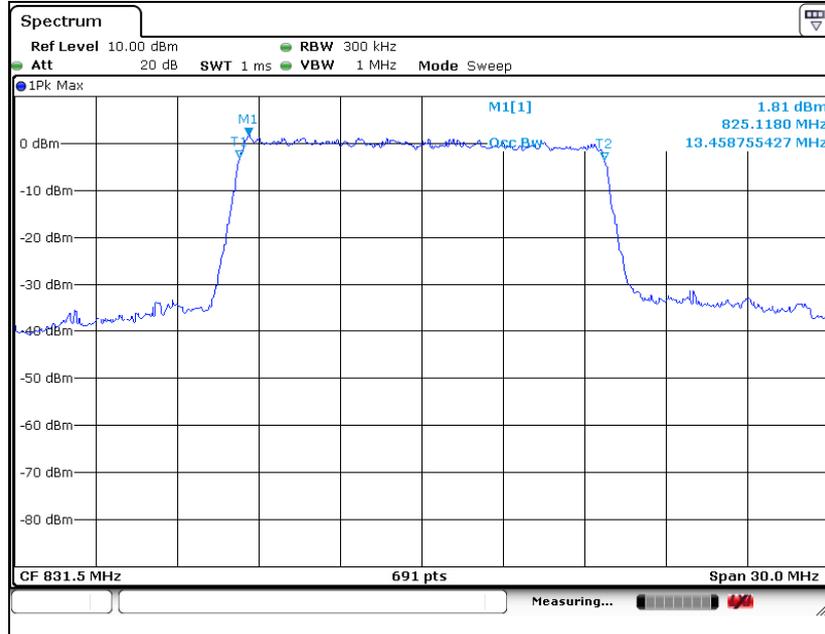
High Channel



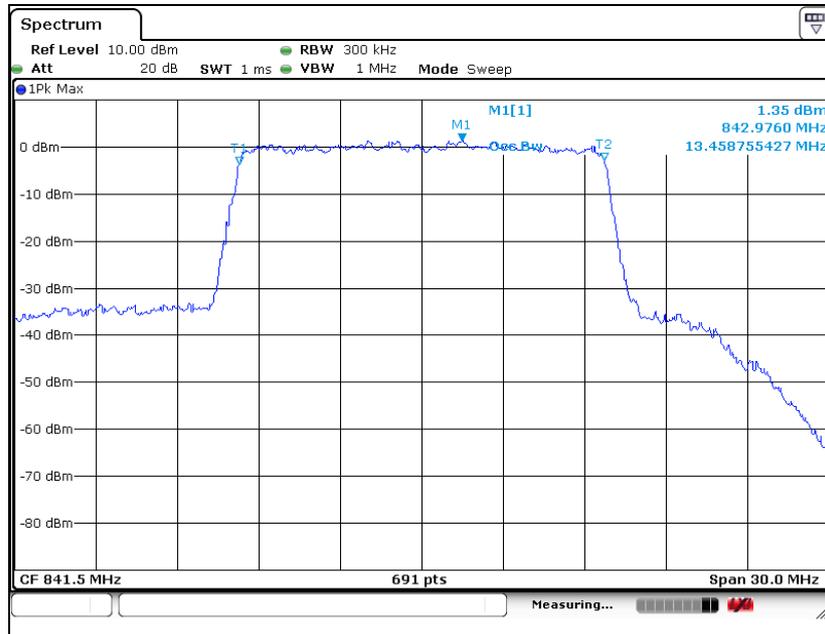
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LTE band 26 (15 MHz - QPSK)

Low Channel



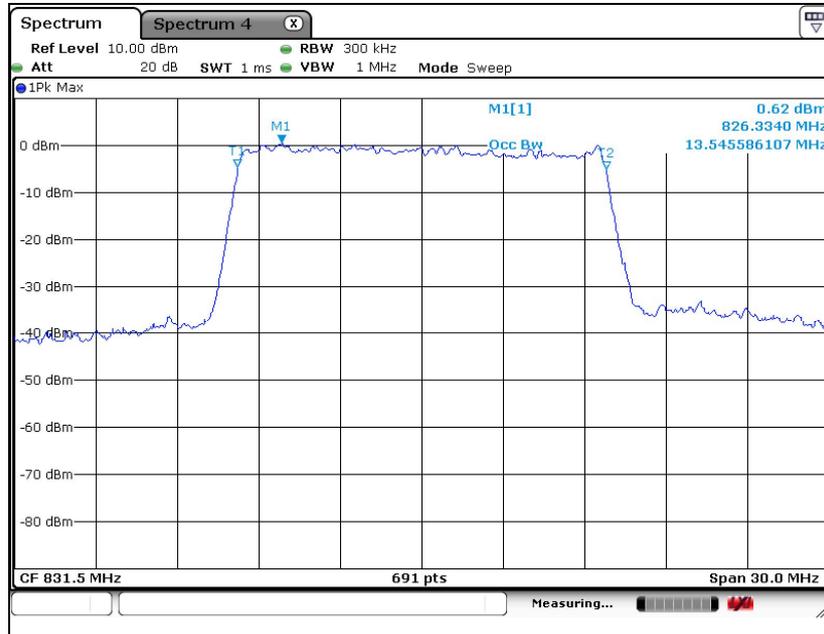
High Channel



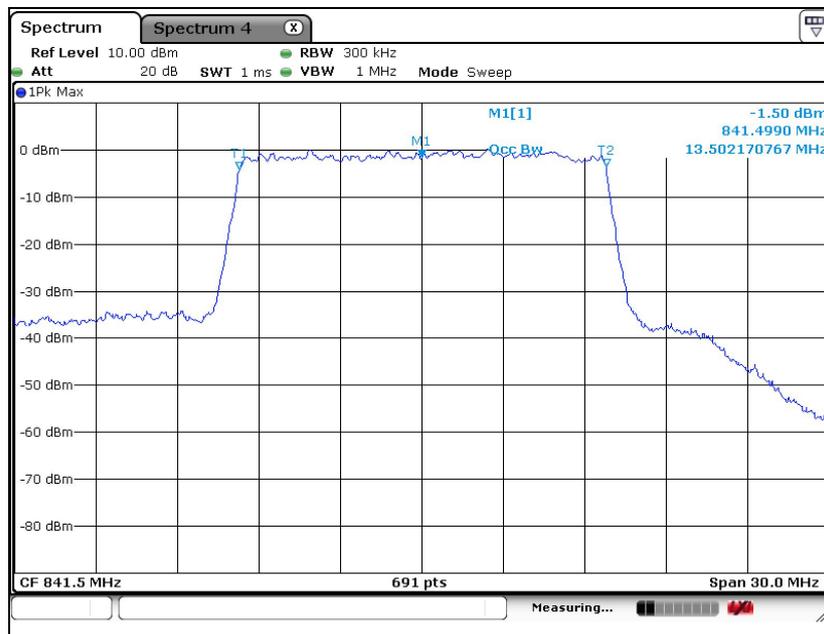
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LTE band 26 (15 MHz - 16QAM)

Low Channel



High Channel



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