



FCC REPORT

Report Reference No. : TRE1705015007 R/C.....:75990

FCC ID..... : YAMPTC760FXB1

Applicant's name : Hytera Communications Corporation Limited

Address..... : Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road, Nanshan District, Shenzhen, People's Republic of China

Manufacturer..... : Hytera Communications Corporation Limited

Address..... : Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road, Nanshan District, Shenzhen, People's Republic of China

Test item description : Multi-mode Advanced Radio

Trade Mark : Hytera

Model/Type reference..... : PTC760 FxB1

Listed Model(s) : -

Standard : FCC Part 22: PUBLIC MOBILE SERVICES
FCC Part 24: PERSONAL COMMUNICATIONS SERVICES
FCC Part 27: MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

Date of receipt of test sample..... : May 17, 2017

Date of testing..... : May 18, 2017 - Jul. 03, 2017

Date of issue..... : Jul. 04, 2017

Result..... : Pass

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Testing Laboratory Name : Shenzhen Huatongwei International Inspection Co., Ltd.

Address..... : 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

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The test report merely corresponds to the test sample.

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1. Test standards and Report version

1.1. Test standards

The tests were performed according to following standards:

[FCC Part 22](#):PRIVATE LAND MOBILE RADIO SERVICES.

[FCC Part 24](#):PUBLIC MOBILE SERVICES

[FCC Part 27](#):MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

[TIA/EIA 603 D June 2010](#):Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

[FCC Part 2](#):FREQUENCY ALLOCA-TIONS AND RADIO TREATY MAT-TERS; GENERAL RULES AND REG-ULATIONS

[971168 D01 Power Meas License Digital Systems v02r02](#):provides a methodology for fully characterizing the fundamental power of wideband (> 1 MHz) digitally modulated RF signals acceptable to the FCC for demonstrating compliance for licensed transmitters.

1.2. Report version

Version No.	Date of issue	Description
00	Jul. 04, 2017	Original

2. Test Description

Test Item	Section in CFR 47	Result
RF Output Power	Part 2.1046 Part 22.913(a) Part 24.232(c) Part 27.50	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(b) Part 24.238(b)	Pass
Conducted Spurious Emissions	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	Pass
Band Edge	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	Pass
ERP and EIRP	Part 22.913(a) Part 24.232(b)	Pass
Radiated Spurious Emissions	Part 2.1053 Part 22.917 Part 24.238 Part 27.53	Pass
Frequency stability vs. temperature	Part 2.1055(a)(1)(b) Part 22.255 Part 24.235 Part 27.54	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2) Part 22.255 Part 24.235 Part 27.54	Pass
Peak-Average Ratio	Part 24.232 Part 27.50	Pass

Note: The measurement uncertainty is not included in the test result.

3. SUMMARY

3.1. Client Information

Applicant:	Hytera Communications Corporation Limited
Address:	Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road, Nanshan District, Shenzhen, People's Republic of China
Manufacturer:	Hytera Communications Corporation Limited
Address:	Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road, Nanshan District, Shenzhen, People's Republic of China

3.2. Product Description

Name of EUT:	Multi-mode Advanced Radio
Trade Mark:	Hytera
Model/Type reference:	PTC760 FxB1
Listed Model(s):	-
Power supply:	DC 7.6V
Adapter information:	Model: S024WM1200200 Input: 100-240Va.c., 50/60Hz, 600mA Output: 12.0Vd.c., 2000mA
Battery information:	Model: BP2901 Output: 7.6Vd.c., 2900mAh
Charger information:	Model: CH20L08 Input: 12Vd.c., 2000mA Output: 12Vd.c., 2000mA
Hardware version:	V1.0
Software version:	R1.0
RF Technical Description	
☒ FDD Band 2	
Operation Frequency:	Uplink: 1850.7 MHz – 1909.3 MHz Downlink: 1930.7 MHz – 1989.3 MHz
Channel bandwidth:	☒ 1.4MHz ☒ 3MHz ☒ 5MHz ☒ 10MHz ☒ 15MHz
☒ FDD Band 4	
Operation Frequency:	Uplink: 1710.7 MHz – 1754.3 MHz Downlink: 2110.7 MHz – 2154.3 MHz
Channel bandwidth:	☒ 1.4MHz ☒ 3MHz ☒ 5MHz ☒ 10MHz ☒ 15MHz ☒ 20MHz
☒ FDD Band 5	
Operation Frequency:	Uplink: 824.7 MHz – 848.3 MHz Downlink: 869.7 MHz – 893.3 MHz
Channel bandwidth:	☒ 1.4MHz ☒ 3MHz ☒ 5MHz ☒ 10MHz ☐ 15MHz ☐ 20MHz
☒ FDD Band 7	
Operation Frequency:	Uplink: 2502.5 MHz – 2567.5 MHz Downlink: 2622.5 MHz – 2687.5 MHz

Channel bandwidth:	☐ 1.4MHz ☐ 3MHz ☒ 5MHz ☒ 10MHz ☒ 15MHz ☒ 20MHz
☒ FDD Band 26	
Operation Frequency:	Uplink: 814 MHz – 849 MHz Downlink: 859 MHz – 894 MHz
Channel bandwidth:	☒ 1.4MHz ☒ 3MHz ☒ 5MHz ☒ 10MHz ☒ 15MHz ☐ 20MHz
Channel bandwidth:	☐ 1.4MHz ☐ 3MHz ☒ 5MHz ☒ 10MHz ☒ 15MHz ☒ 20MHz
☒ TDD Band 41	
Operation Frequency:	Uplink: 2496 MHz – 2690 MHz Downlink: 2496 MHz – 2690 MHz
Channel bandwidth:	☐ 1.4MHz ☐ 3MHz ☒ 5MHz ☒ 10MHz ☒ 15MHz ☒ 20MHz
Power Class:	☐ Class 1 ☐ Class 2 ☒ Class 3 ☐ Class 4
Modulation type:	☒ QPSK ☒ 16QAM ☐ 64QAM
Antennna type:	IntegralAntennna
Antenna gain:	0 dBi

3.3. Operation state

➤ Test frequency list

FDD Band 2

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	18607	1850.7	607	1930.7
	3	18615	1851.5	615	1931.5
	5	18625	1852.5	625	1932.5
	10	18650	1855	650	1935
	15 ^[1]	18675	1857.5	675	1937.5
	20 ^[1]	18700	1860	700	1940
Mid Range	1.4/3/5/10/15 ^[1] /20 ^[1]	18900	1880	900	1960
High Range	1.4	19193	1909.3	1193	1989.3
	3	19185	1908.5	1185	1988.5
	5	19175	1907.5	1175	1987.5
	10	19150	1905	1150	1985
	15 ^[1]	19125	1902.5	1125	1982.5
	20 ^[1]	19100	1900	1100	1980

NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.

FDD Band 4

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	19957	1710.7	1957	2110.7
	3	19965	1711.5	1965	2111.5
	5	19975	1712.5	1975	2112.5
	10	20000	1715	2000	2115
	15	20025	1717.5	2025	2117.5
	20	20050	1720	2050	2120
Mid Range	1.4/3/5/10/15/20	20175	1732.5	2175	2132.5
High Range	1.4	20393	1754.3	2393	2154.3
	3	20385	1753.5	2385	2153.5
	5	20375	1752.5	2375	2152.5
	10	20350	1750	2350	2150
	15	20325	1747.5	2325	2147.5
	20	20300	1745	2300	2145

FDD Band 5

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	20407	824.7	2407	869.7
	3	20415	825.5	2415	870.5
	5	20425	826.5	2425	871.5
	10 ^[1]	20450	829	2450	874
Mid Range	1.4/3/5/10 ^[1]	20525	836.5	2525	881.5
High Range	1.4	20643	848.3	2643	893.3
	3	20635	847.5	2635	892.5
	5	20625	846.5	2625	891.5
	10 ^[1]	20600	844	2600	889

NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.

FDD Band 7

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	5	20775	2502.5	2775	2622.5
	10	20800	2505	2800	2625
	15	20825	2507.5	2825	2627.5
	20 ^[1]	20850	2510	2850	2630
Mid Range	5/10/15/20 ^[1]	21100	2535	3100	2655
High Range	5	21425	2567.5	3425	2687.5
	10	21400	2565	3400	2685
	15	21375	2562.5	3375	2682.5
	20 ^[1]	21350	2560	3350	2680

NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.

FDD Band 26

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	26697	814.7	8697	859.7
	3	26705	815.5	8705	860.5
	5	26715	816.5	8715	861.5
	10 ^[1]	26740	819	8740	864
	15 ^[1]	26765	821.5	8765	866.5
Mid Range	1.4/3/5/10 ^[1] 15 ^[1]	26865	831.5	8865	876.5
High Range	1.4	27033	848.3	9033	893.3
	3	27025	847.5	9025	892.5
	5	27015	846.5	9015	891.5
	10 ^[1]	26990	844	8990	889
	15 ^[1]	26965	841.5	8965	886.5

NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.

TDD Band 41

Test Frequency ID	Bandwidth [MHz]	EARFCN	Frequency (UL and DL) [MHz]
Low Range	5	39675	2498.5
	10	39700	2501
	15	39725	2503.5
	20	39750	2506
Mid Range	5/10/15/20	40620	2593
High Range	5	41565	2687.5
	10	41540	2685
	15	41515	2682.5
	20	41490	2680

3.4. EUT operation mode

For RF test items

The EUT has been tested under typical operating condition. The Applicant provides software to control the EUT for staying in continuous transmitting and receiving mode for testing.

Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max Output Power	2	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	4	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	5	V	V	V	V	-	-	V	V	V	V	V	V	V	V
	7	-	-	V	V	V	V	V	V	V	V	V	V	V	V
	41	-	-	V	V	V	V	V	V	V	V	V	V	V	V
26dB and 99% Bandwidth	2	V	V	V	V	V	V	V	V	-	-	V	V	V	V
	4	V	V	V	V	V	V	V	V	-	-	V	V	V	V
	5	V	V	V	V	-	-	V	V	-	-	V	V	V	V
	7	-	-	V	V	V	V	V	V	-	-	V	V	V	V
	41	-	-	V	V	V	V	V	V	-	-	V	V	V	V
Conducted Band Edge	2	V	V	V	V	V	V	V	V	V	-	V	V		V
	4	V	V	V	V	V	V	V	V	V	-	V	V		V
	5	V	V	V	V	-	-	V	V	V	-	V	V		V
	7	-	-	V	V	V	V	V	V	V	-	V	V		V
	41	-	-	V	V	V	V	V	V	-	-	V	V	V	V
Conducted Spurious Emission	2	V	V	V	V	V	V	V	V	V	-	-	V	V	V
	4	V	V	V	V	V	V	V	V	V	-	-	V	V	V
	5	V	V	V	V	-	-	V	V	V	-	-	V	V	V
	7	-	-	V	V	V	V	V	V	V	-	-	V	V	V
	41	-	-	V	V	V	V	V	V	V	-	-	V	V	V
E.R.P./ E.I.R.P.	2	V	V	V	V	V	V	V	V	V	-	-	V	V	V
	4	V	V	V	V	V	V	V	V	V	-	-	V	V	V
	5	V	V	V	V	-	-	V	V	V	-	-	V	V	V
	7	-	-	V	V	V	V	V	V	V	-	-	V	V	V
	41	-	-	V	V	V	V	V	V	V	-	-	V	V	V
Radiated Spurious Emission	2	V	V	V	V	V	V	V	-	V	-	-	V	V	V
	4	V	V	V	V	V	V	V	-	V	-	-	V	V	V
	5	V	V	V	V	-	-	V	-	V	-	-	V	V	V
	7	-	-	V	V	V	V	V	-	V	-	-	V	V	V
	41	-	-	V	V	V	V	V	V	V	-	-	V	V	V
Frequency Stability	2	-	-	-	-	-	V	V	V	-	-	V	-	V	
	4	-	-	-	-	-	V	V	V	-	-	V	-	V	
	5	-	-	-	V	-		V	V	-	-	V	-	V	
	7	-	-	-	-	-	V	V	V	-	-	V	-	V	
	41	-	-	V	V	V	V	V	V	-	-	V	V	V	V
Peak-to-Average Ratio	2	-	-	-	-	-	V	V	V	V	-	V	V	V	V
	4	-	-	-	-	-	V	V	V	V	-	V	V	V	V
	5	-	-	-	V	-	-	V	V	V	-	V	V	V	V
	7	-	-	-	-	-	V	V	V	V	-	V	V	V	V
	41	-	-	V	V	V	V	V	V	V	-	V	V	V	V

Remark	1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times off fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.
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3.5. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer

○ - supplied by the lab

		Manufacturer :	
		Model No. :	
		Manufacturer :	
		Model No. :	
		Manufacturer :	
		Model No. :	

3.6. Modifications

No modifications were implemented to meet testing criteria.

4. TEST ENVIRONMENT

4.1. Address of the test laboratory

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd.

Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

Phone: 86-755-26748019 Fax: 86-755-26748089

4.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 317478

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 317478.

IC-Registration No.: 5377B

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

4.3. Equipments Used during the Test

Output Power(Conducted) &Occupied Bandwidth&EmissionBandwidth&Band Edge Compliance&Conducted Spurious Emission					
No.	Equipment	Manufacturer	Model No.	SerialNo.	Last Cal.
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13
2	WIDEB.RADIO COMM.TESRER	Rohde&Schwarz	CMW500	1201.0002K50	2016/11/13
3	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13
4	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13

Frequency Stability					
No.	Equipment	Manufacturer	Model No.	SerialNo.	Last Cal.
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13
2	WIDEB.RADIO COMM.TESRER	Rohde&Schwarz	CMW500	1201.0002K50	2016/11/13
3	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13
4	Climate Chamber	ESPEC	EL-10KA	05107008	2016/11/13
5	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13

Output Power (Radiated) &Radiated Spurious Emission					
No.	Equipment	Manufacturer	Model No.	SerialNo.	Last Cal.
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13
2	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13
3	HORNANTENNA	ShwarzBeck	9120D	1012	2016/11/13
4	HORNANTENNA	ShwarzBeck	9120D	1011	2016/11/13
5	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	538	2016/11/13
6	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	539	2016/11/13
7	TURNTABLE	MATURO	TT2.0	----	2016/11/13
8	ANTENNA MAST	MATURO	TAM-4.0-P	----	N/A
9	EMI Test Software	Audix	E3	N/A	N/A
10	EMI Test Receiver	Rohde&Schwarz	ESIB 26	100009	2016/11/13
11	RF Test Panel	Rohde&Schwarz	TS / RSP	335015/ 0017	2016/11/13
12	High pass filter	Compliance Direction systems	BSU-6	34202	2016/11/13
13	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13
14	Horn Antenna	SCHWARZBECK	BBHA9170	25841	2016/11/13
15	Horn Antenna	SCHWARZBECK	BBHA9170	25842	2016/11/13
16	Preamplifier	ShwarzBeck	BBV 9718	BBV 9718	2016/11/13
17	Broadband Preamplifier	ShwarzBeck	BBV743	9743-0079	2016/11/13
18	Signal Generator	Rohde&Schwarz	SMF100A	101932	2016/11/13
19	Amplifier	Compliance Direction systems	PAP1-4060	120	2016/11/13
20	TURNTABLE	ETS	2088	2149	2016/11/13
21	ANTENNA MAST	ETS	2075	2346	2016/11/13
22	HORNANTENNA	Rohde&Schwarz	HF906	100068	2016/11/13
23	HORNANTENNA	Rohde&Schwarz	HF906	100039	2016/11/13
24	WIDEB.RADIO COMM.TESRER	R&S	CMW500	1201.0002K50	2016/11/13

The calibration interval was one year.

4.4. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature/T _{nor} :	15~35°C
Relative Humidity	30~60 %
Air Pressure	950-1050 hPa

4.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system according to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Frequency stability	25 Hz	(1)
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emission 9KHz-12.75 GHz	1.60 dB	(1)
Conducted Emission 9KHz-30MHz	3.39 dB	(1)
Radiated Emission 30~1000MHz	4.24 dB	(1)
Radiated Emission 1~18GHz	5.16 dB	(1)
Radiated Emission 18-40GHz	5.54 dB	(1)
Occupied Bandwidth	-----	(1)
Emission Mask	-----	(1)
Modulation Characteristic	-----	(1)
Transmitter Frequency Behavior	-----	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

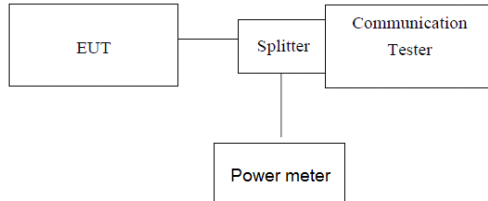
5. TEST CONDITIONS AND RESULTS

5.1. Conducted Output Power

LIMIT

N/A

TEST CONFIGURATION

*Note: Measurement setup for testing on Antenna connector*

TEST PROCEDURE

1. The transmitter output port was connected to base station.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement.
3. Set EUT at maximum power through base station.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure the maximum burst average power.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

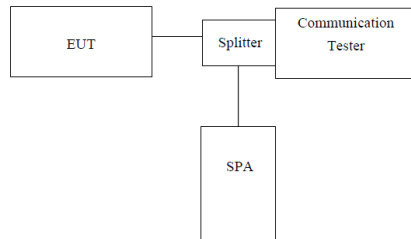
EUT Mode	Frequency (MHz)	Max Avg.Power QPSK (dBm)	Max Avg.Power 16QAM (dBm)
LTE Band 2	1850.7-1909.3	21.80	20.83
LTE Band 4	1710.7 - 1754.3	22.38	21.06
LTE Band 5	824.7 - 848.3	22.21	23.35
LTE Band 7	2502.5 - 2567.5	21.51	20.39
LTE Band 41	2496 - 2690	21.65	21.16

5.2. 99% & -26 dB Occupied Bandwidth

LIMIT

N/A

TEST CONFIGURATION



Note: Measurement setup for testing on Antenna connector

TEST PROCEDURE

1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer
2. RBW was set to about 1% of emission BW, VBW= 3 times RBW.
3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

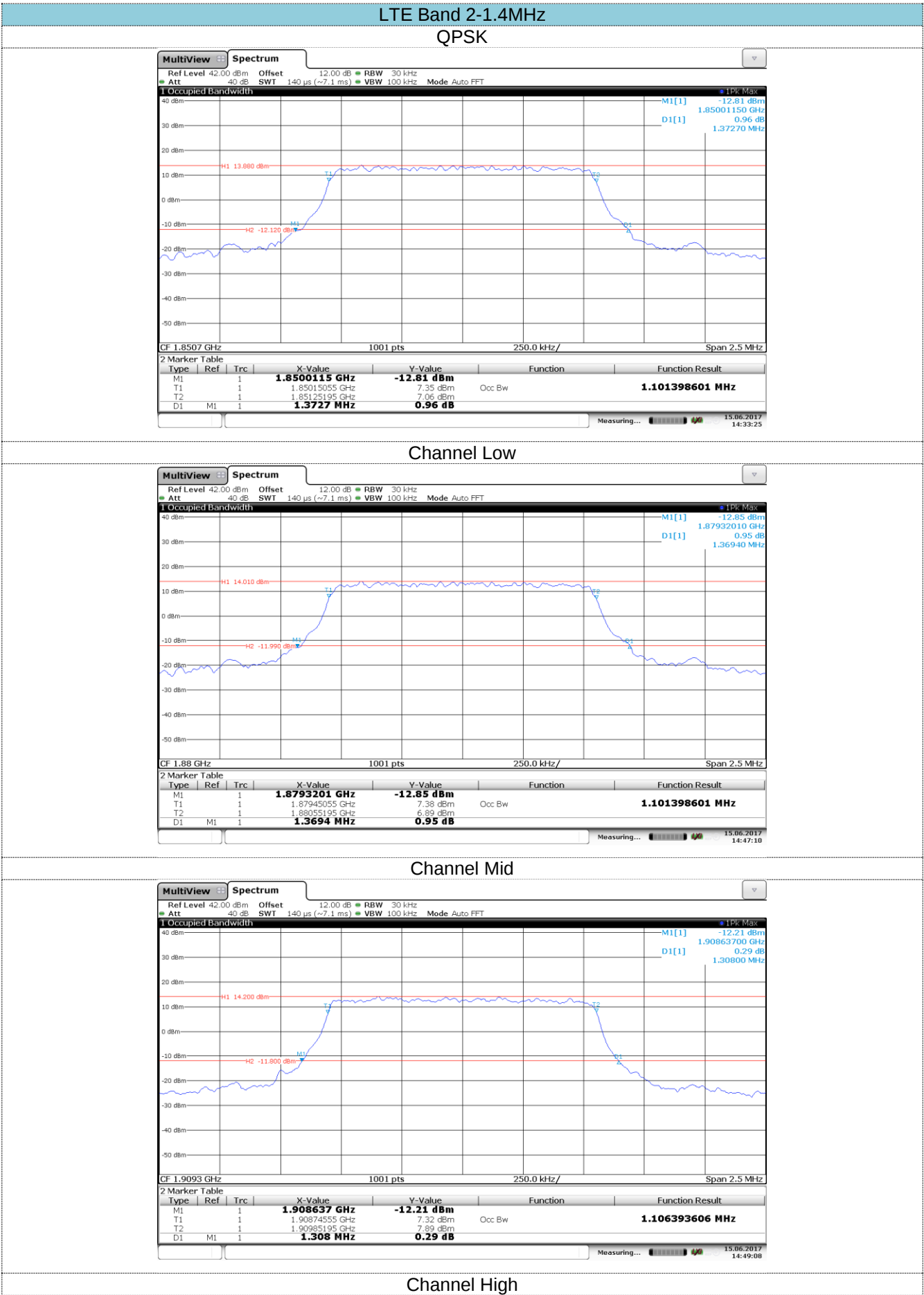
LTE Band 2					
Bandwidth	Channel	99% Occupy bandwidth (MHz)		-26dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
1.4MHz	Low	1.10	1.10	1.37	1.31
	Mid	1.10	1.10	1.37	1.33
	High	1.11	1.10	1.31	1.32
3MHz	Low	2.69	2.68	2.95	2.95
	Mid	2.69	2.68	2.95	2.96
	High	2.69	2.68	2.95	2.95
5MHz	Low	4.51	4.52	5.03	5.04
	Mid	4.51	4.48	5.02	5.00
	High	4.49	4.51	5.04	5.05
10MHz	Low	8.94	8.92	9.74	9.67
	Mid	8.94	8.92	9.85	9.73
	High	8.94	8.94	9.76	9.72
15MHz	Low	13.48	13.43	14.90	14.76
	Mid	13.43	13.45	14.77	14.83
	High	13.43	13.45	14.83	14.85
20MHz	Low	17.87	17.90	19.31	19.32
	Mid	17.90	17.90	19.18	19.31
	High	17.90	17.86	19.23	19.42

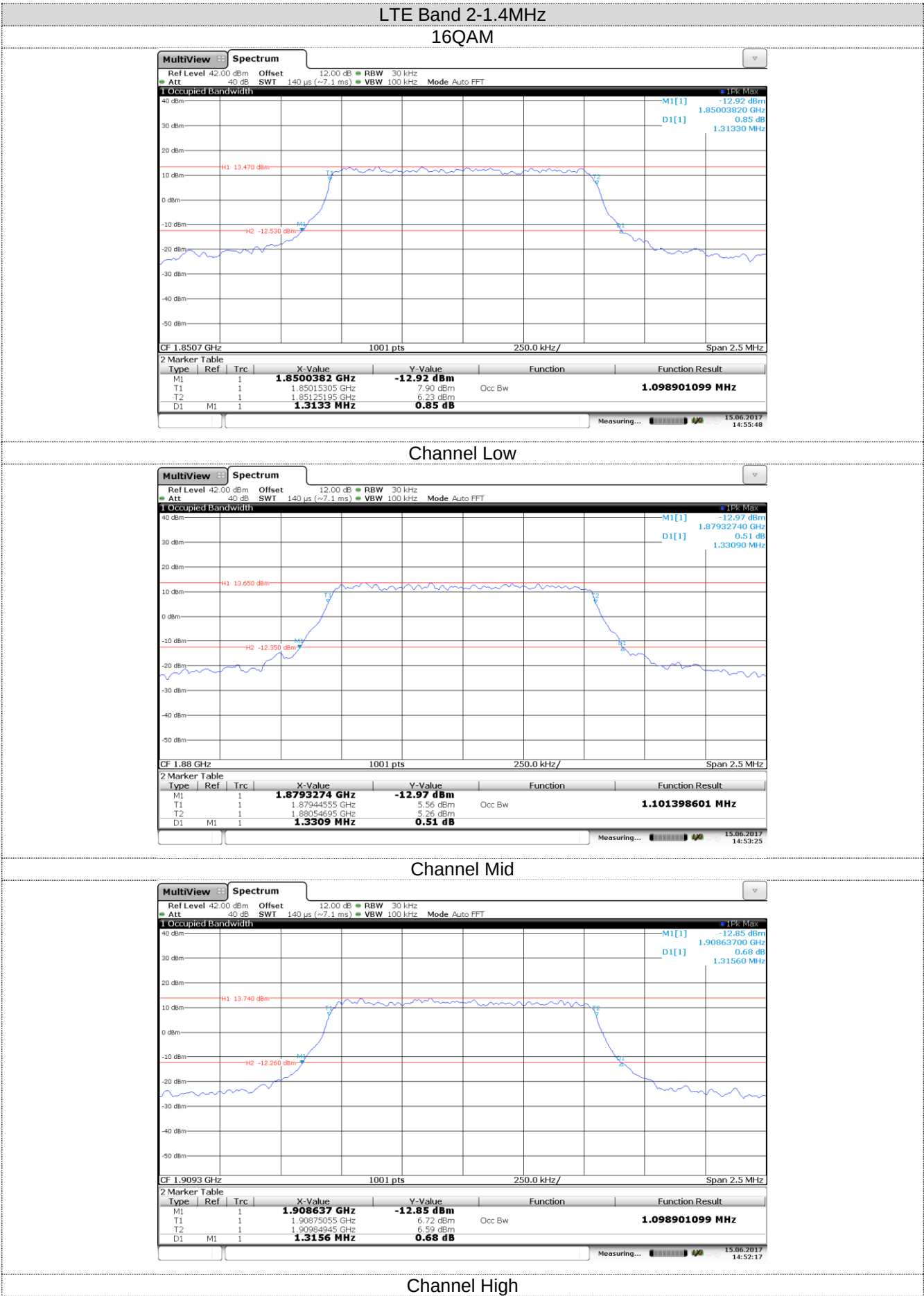
LTE Band 4					
Bandwidth	Channel	99% Occupy bandwidth (MHz)		-26dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
1.4MHz	Low	1.10	1.10	1.36	1.32
	Mid	1.10	1.10	1.31	1.31
	High	1.11	1.10	1.32	1.33
3MHz	Low	2.69	2.68	2.94	2.95
	Mid	2.69	2.68	2.96	2.96
	High	2.68	2.68	2.95	2.95
5MHz	Low	4.51	4.52	5.04	5.04
	Mid	4.49	4.52	5.02	5.03
	High	4.51	4.49	5.03	5.00
10MHz	Low	8.93	8.95	9.73	9.72
	Mid	8.93	8.93	9.71	9.72
	High	8.95	8.93	8.95	9.63
15MHz	Low	13.43	13.45	14.80	14.86
	Mid	13.43	13.43	14.79	14.74
	High	13.48	13.48	14.88	14.74
20MHz	Low	17.87	17.87	19.35	19.42
	Mid	17.87	17.87	19.55	19.42
	High	17.91	17.91	19.40	19.40

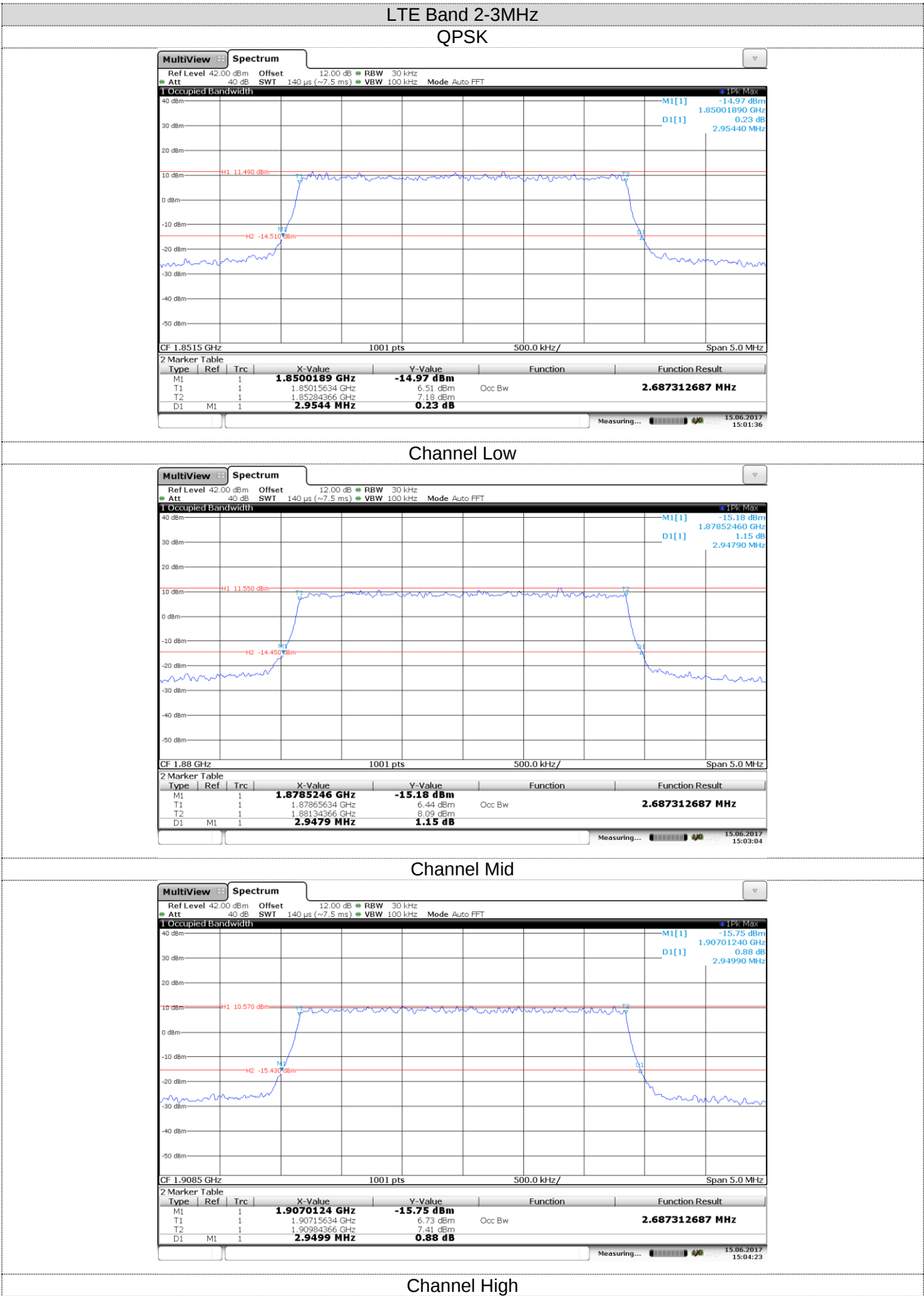
LTE Band 5					
Bandwidth	Channel	99% Occupy bandwidth (MHz)		-26dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
1.4MHz	Low	1.10	1.10	1.31	1.29
	Mid	1.10	1.10	1.29	1.29
	High	1.10	1.10	1.30	1.31
3MHz	Low	2.69	2.68	2.94	2.93
	Mid	2.68	2.68	2.94	2.94
	High	2.69	2.68	2.94	2.95
5MHz	Low	4.50	4.51	5.05	5.05
	Mid	4.48	4.51	4.99	5.02
	High	4.50	4.48	5.00	5.00
10MHz	Low	8.92	8.94	9.73	9.76
	Mid	8.92	8.92	9.74	9.73
	High	8.94	8.94	9.80	9.67

LTE Band 7					
Bandwidth	Channel	99% Occupy bandwidth (MHz)		-26dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
5MHz	Low	4.49	4.51	5.00	5.05
	Mid	4.49	4.96	5.03	5.04
	High	4.51	4.48	5.02	4.98
10MHz	Low	8.92	8.92	9.75	9.67
	Mid	8.94	8.92	9.77	9.77
	High	8.94	8.92	9.81	9.67
15MHz	Low	13.41	13.43	14.79	14.78
	Mid	13.43	13.46	14.79	14.77
	High	13.46	13.46	14.86	14.79
20MHz	Low	17.87	17.87	19.31	19.39
	Mid	17.91	17.87	19.61	19.42
	High	17.87	17.95	19.32	19.51

LTE Band 41					
Bandwidth	Channel	99% Occupy bandwidth (MHz)		-26dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
5MHz	Low	4.50	4.48	4.98	4.97
	Mid	4.50	4.49	4.96	5.17
	High	4.49	4.50	5.04	5.02
10MHz	Low	8.95	8.91	10.38	9.58
	Mid	8.93	8.93	10.00	9.58
	High	8.93	8.93	9.66	9.81
15MHz	Low	13.43	13.48	15.04	15.22
	Mid	13.45	13.48	16.22	15.07
	High	13.48	13.45	15.93	16.00
20MHz	Low	17.87	17.84	19.52	19.36
	Mid	17.87	17.91	19.54	20.28
	High	17.91	17.87	19.32	19.55







Channel Low

MultViewSpectrum

Ref Level 42.00 dBm Offset 12.00 dB RBW 30 kHz Att 40 dB SWI 140 μ s (~7.5 ms) VBW 100 kHz Mode Auto FFT

1 Occupied Bandwidth

M1[1] -15.18 dBm 1.87852460 GHz

D1[1] 1.15 dB 2.94790 MHz

H1 11.550 dBm

H2 -14.450 dBm

CF 1.88 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		1.8785246 GHz	-15.18 dBm		
T1	1		1.87865634 GHz	6.44 dBm	Occ Bw	2.687312687 MHz
T2	1		1.88134366 GHz	8.09 dBm		
D1	M1	1	2.9479 MHz	1.15 dB		

Measuring... 15.06.2017 15:03:04

Channel Mid

MultViewSpectrum

Ref Level 42.00 dBm Offset 12.00 dB RBW 30 kHz Att 40 dB SWI 140 μ s (~7.5 ms) VBW 100 kHz Mode Auto FFT

1 Occupied Bandwidth

M1[1] -15.75 dBm 1.90701240 GHz

D1[1] 0.88 dB 2.94990 MHz

H1 10.570 dBm

H2 -15.430 dBm

CF 1.9085 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz

2 Marker Table

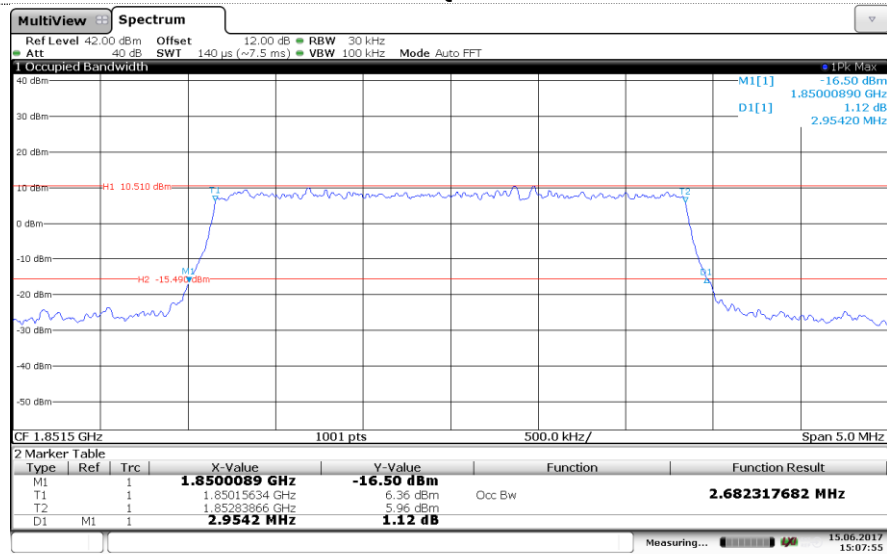
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		1.9070124 GHz	-15.75 dBm		
T1	1		1.90715634 GHz	6.73 dBm	Occ Bw	2.687312687 MHz
T2	1		1.90984366 GHz	7.41 dBm		
D1	M1	1	2.9499 MHz	0.88 dB		

Measuring... 15.06.2017 15:04:23

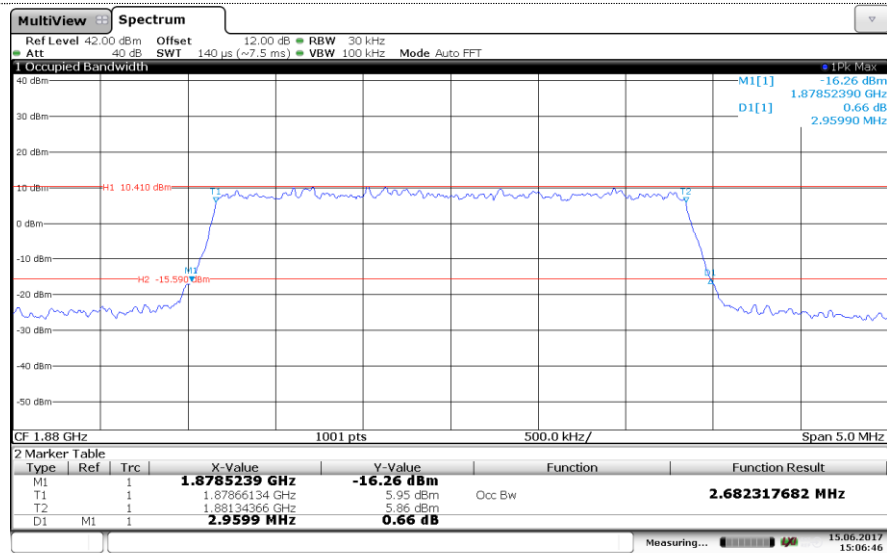
Channel High

LTE Band 2-3MHz

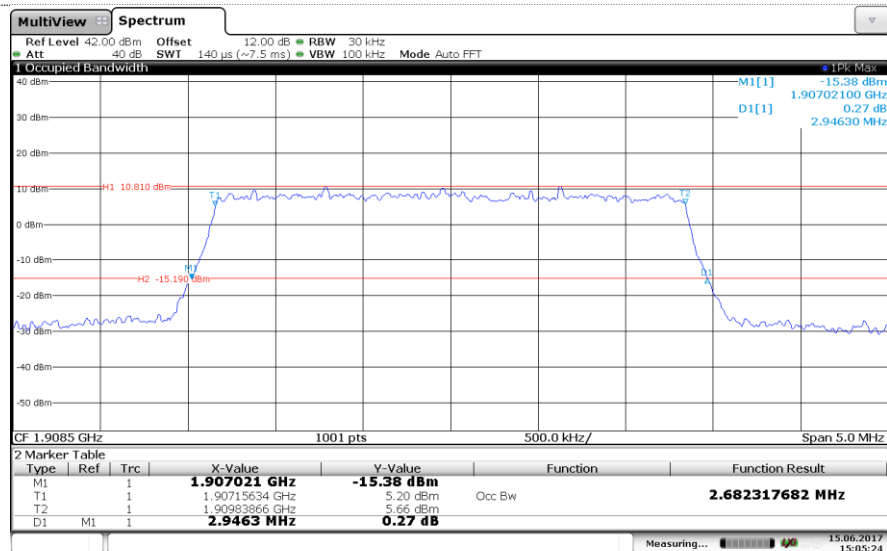
16QAM



Channel Low



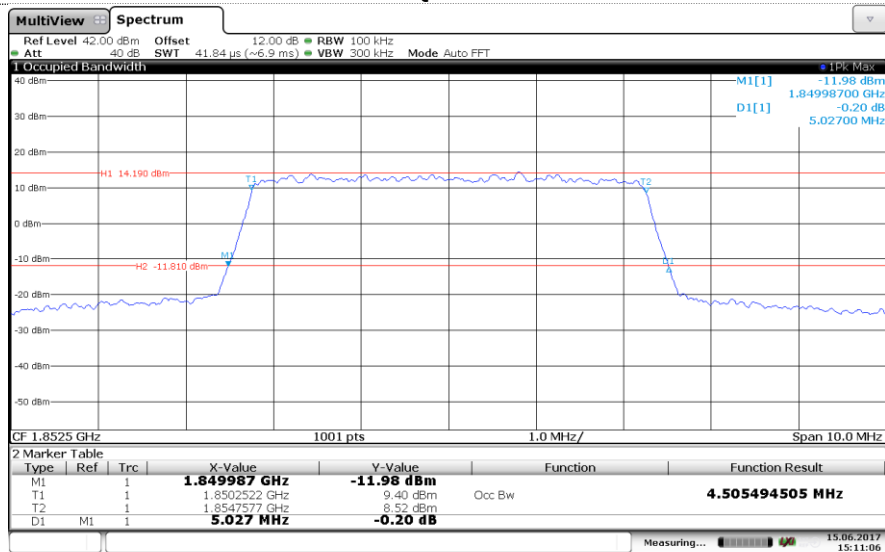
Channel Mid



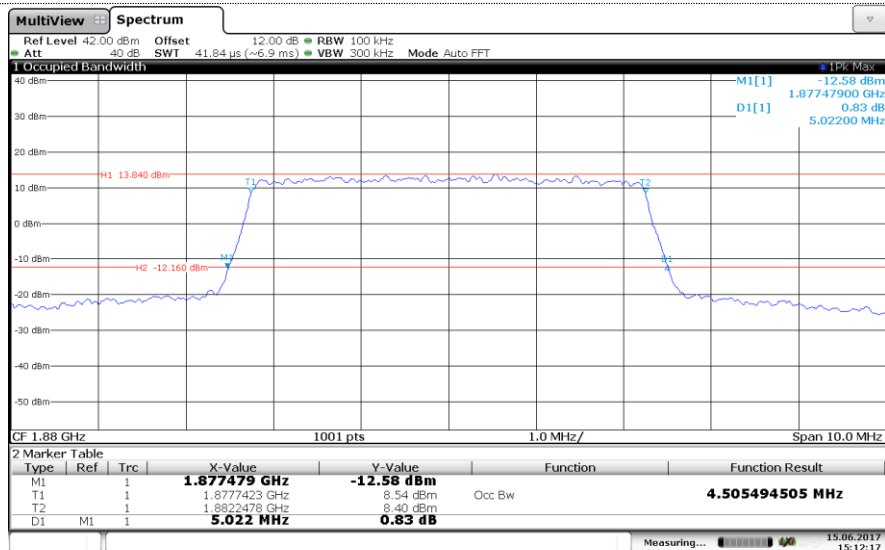
Channel High

LTE Band 2-5MHz

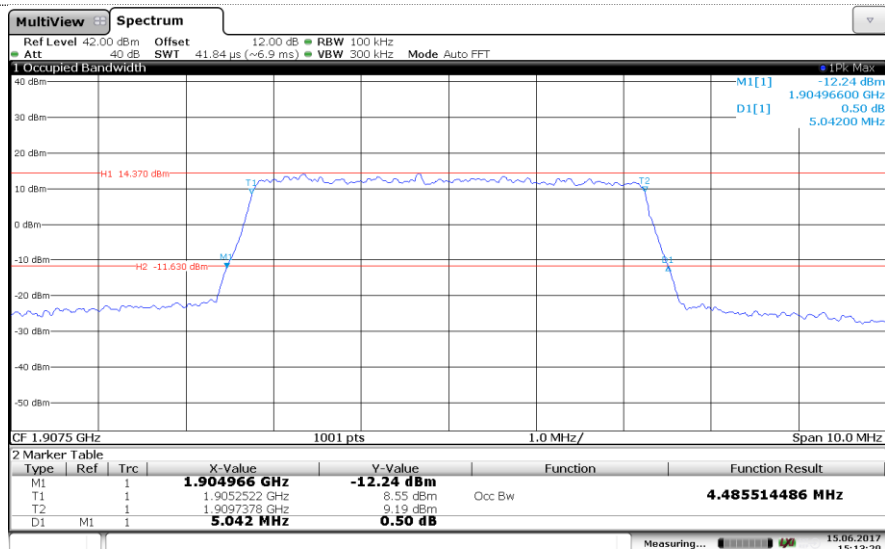
QPSK



Channel Low



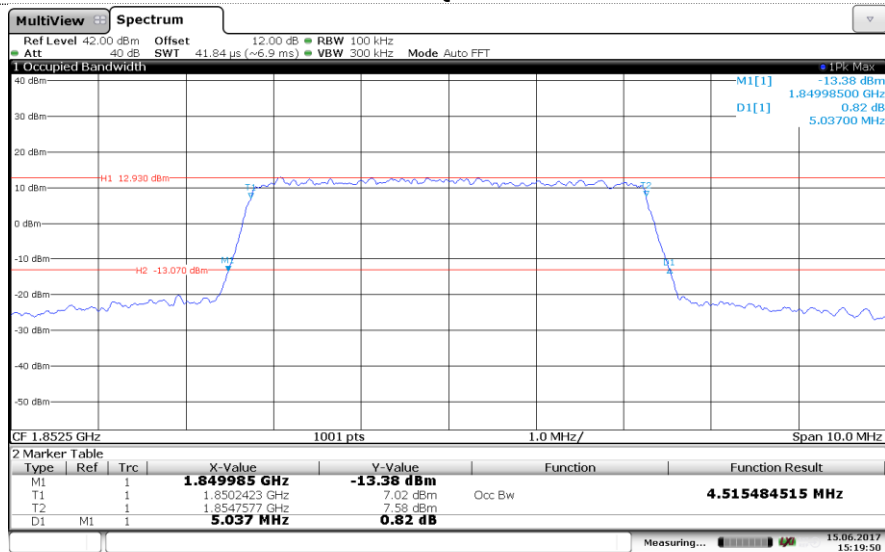
Channel Mid



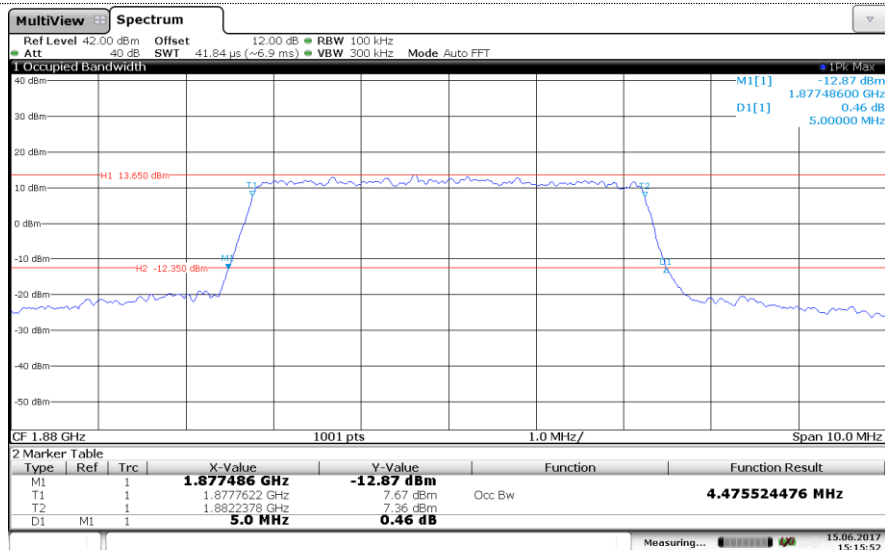
Channel High

LTE Band 2-5MHz

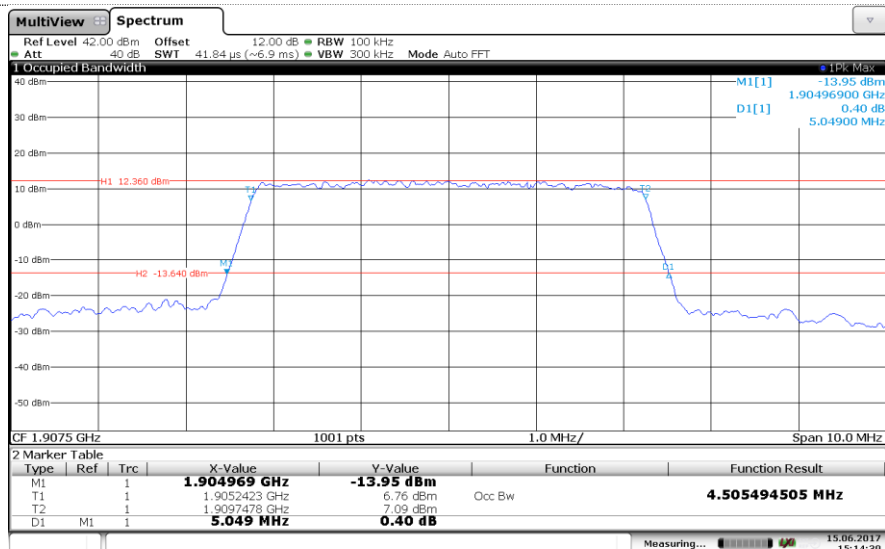
16QAM



Channel Low



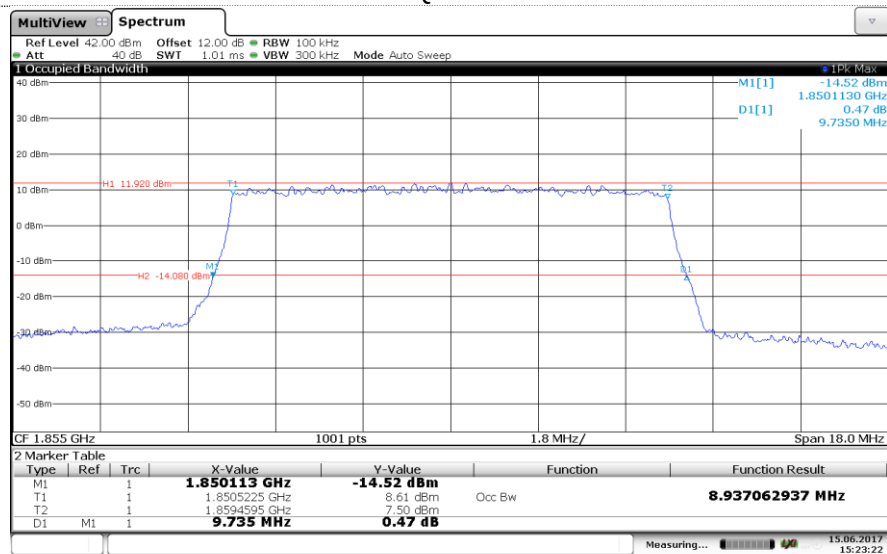
Channel Mid



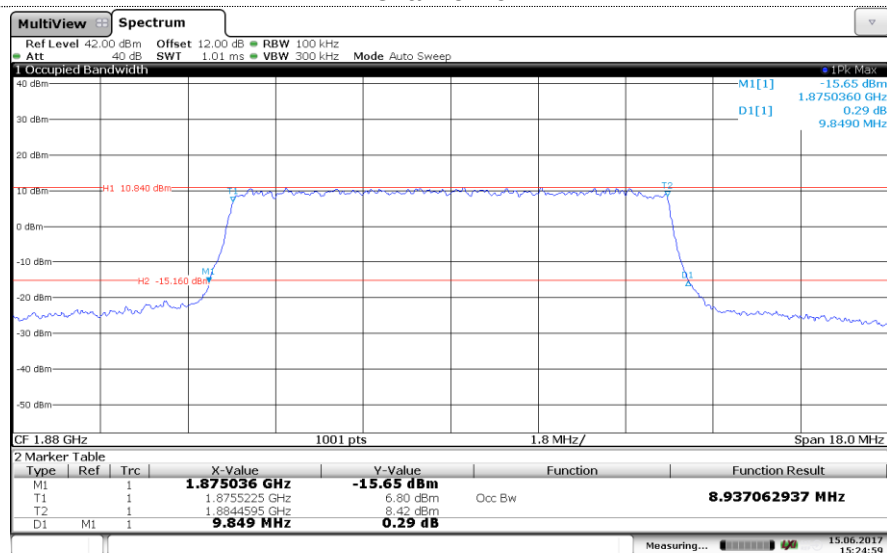
Channel High

LTE Band 2-10MHz

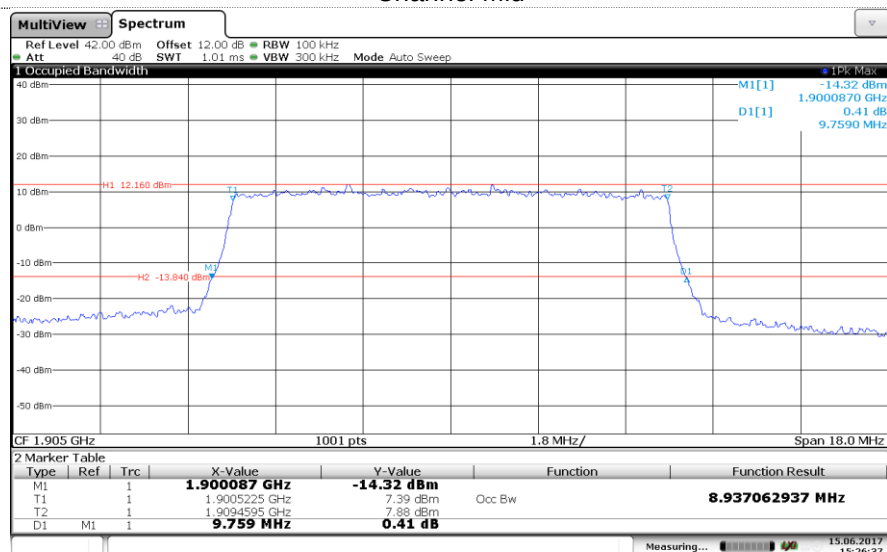
QPSK



Channel Low



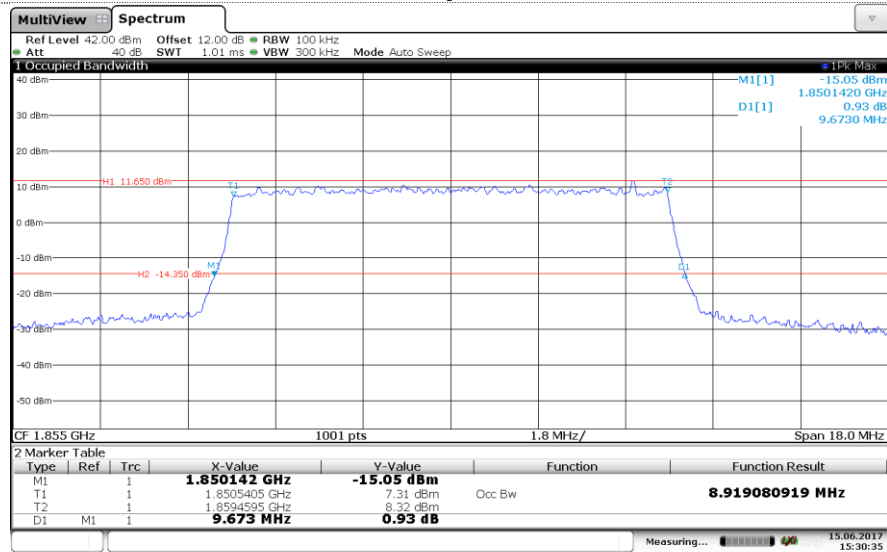
Channel Mid



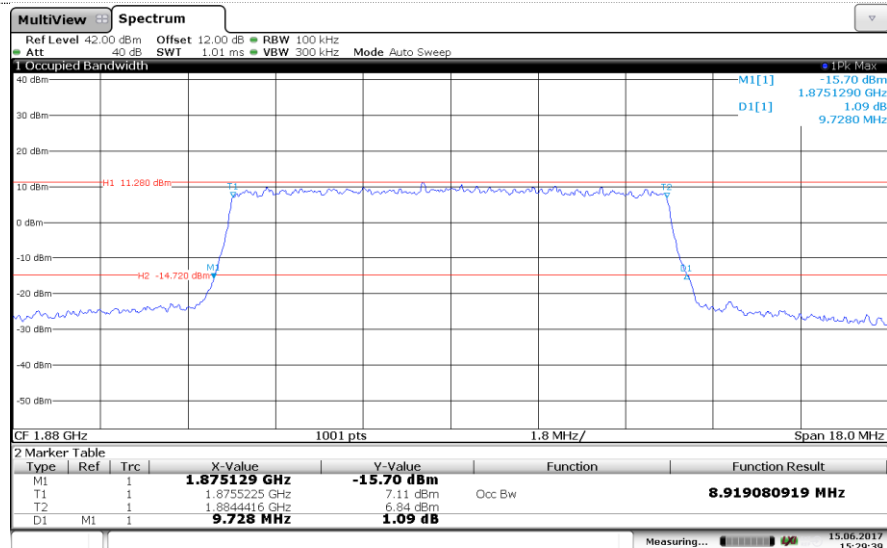
Channel High

LTE Band 2-10MHz

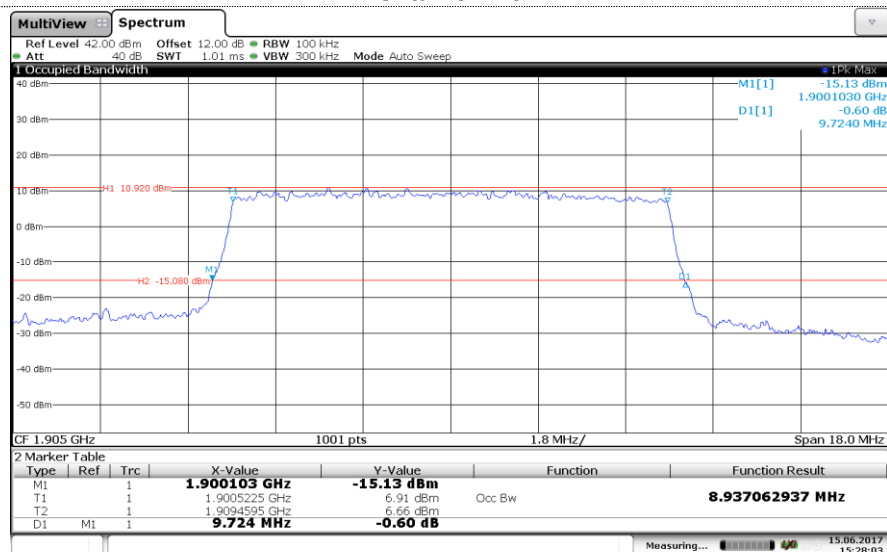
16QAM



Channel Low



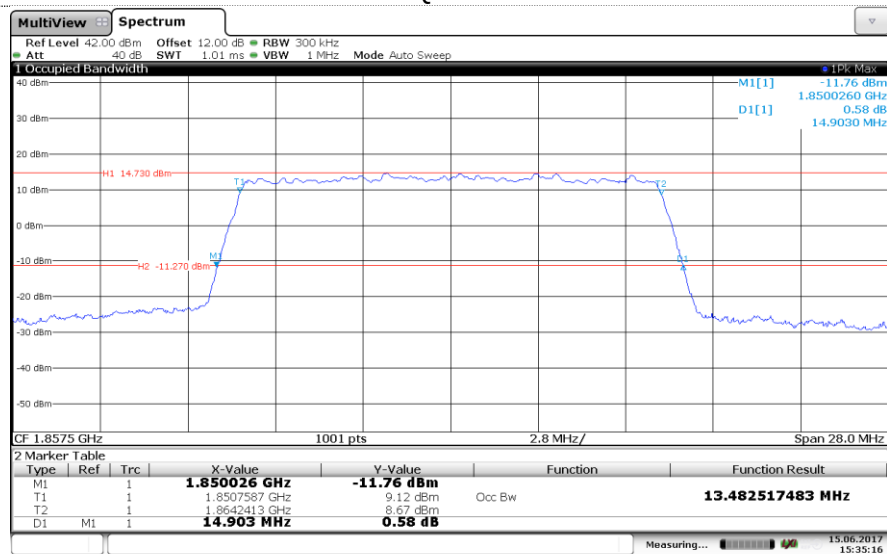
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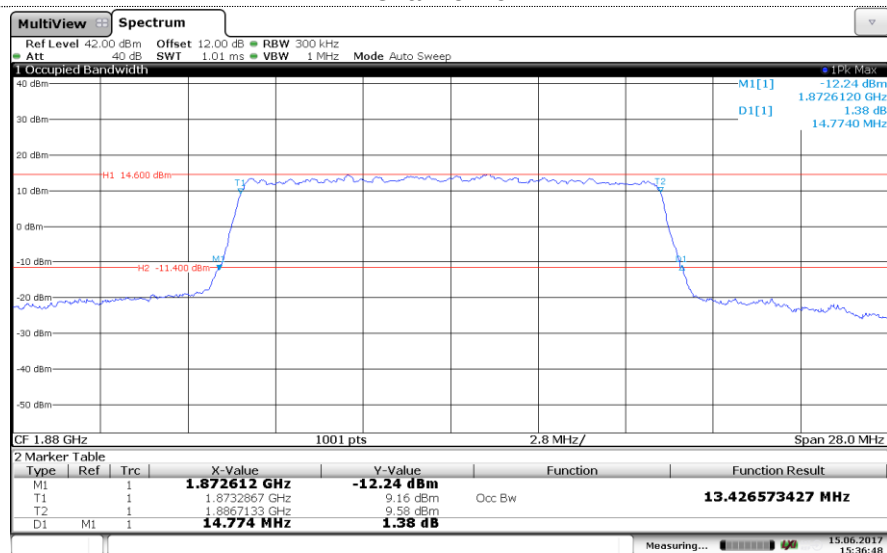
Channel High

LTE Band 2-15MHz

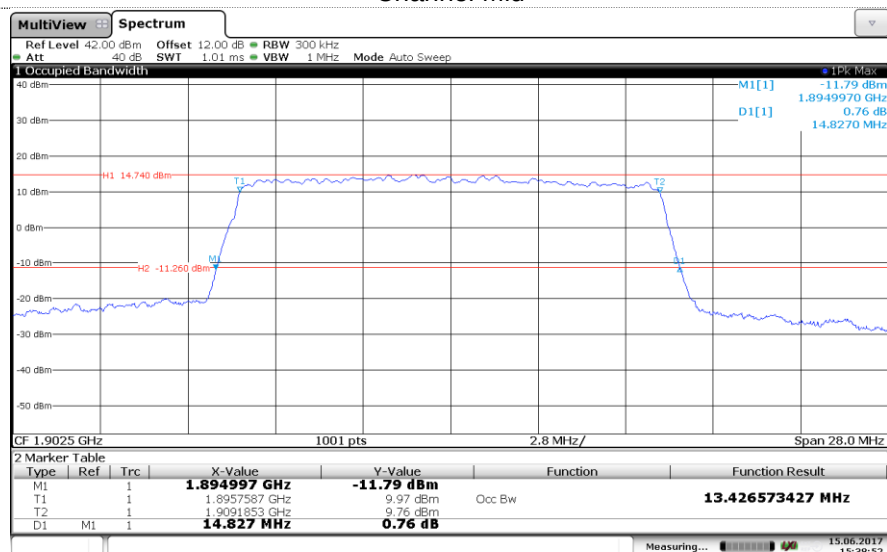
QPSK



Channel Low



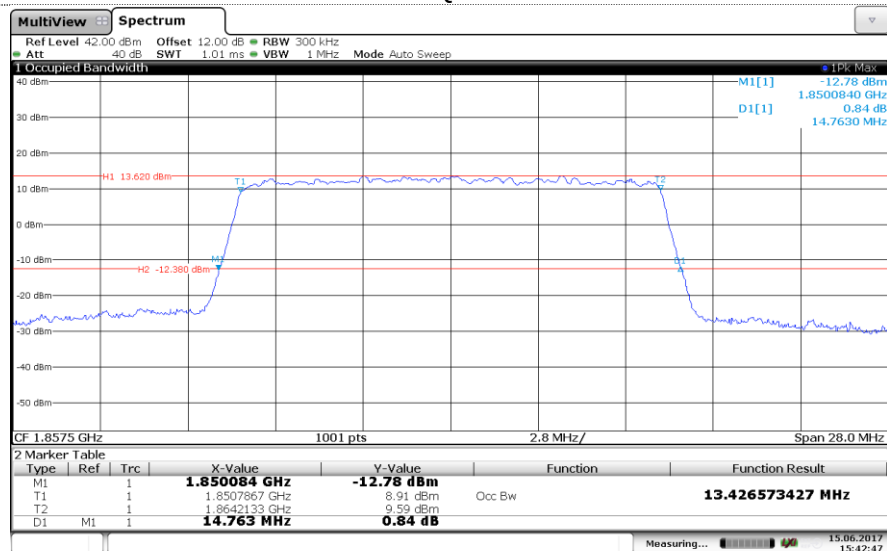
Channel Mid



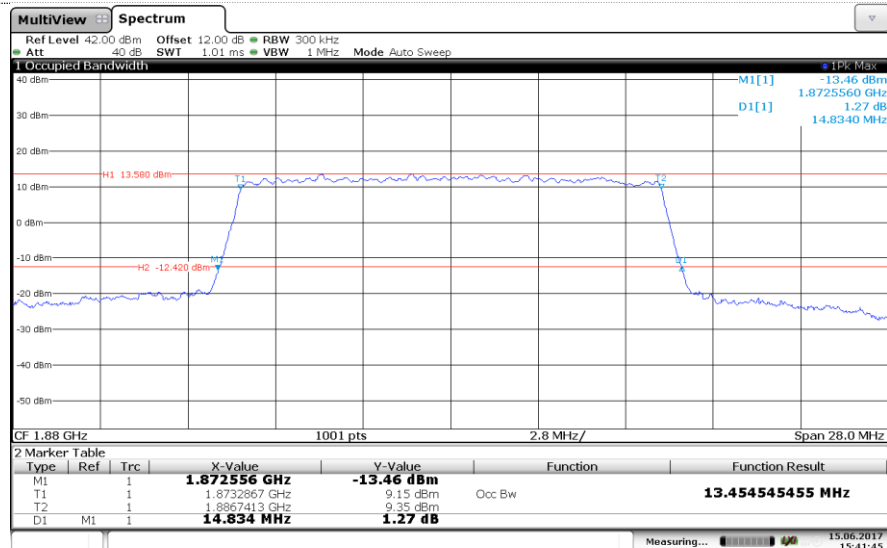
Channel High

LTE Band 2-15MHz

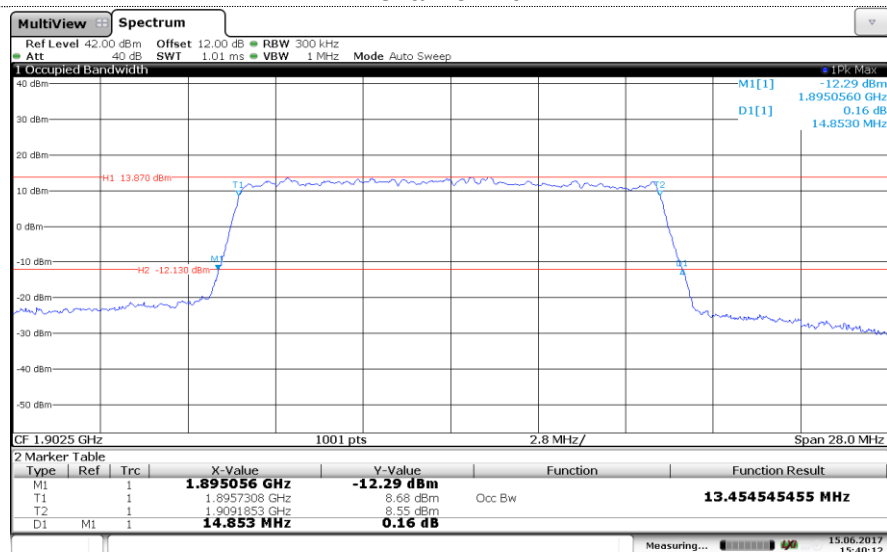
16QAM



Channel Low



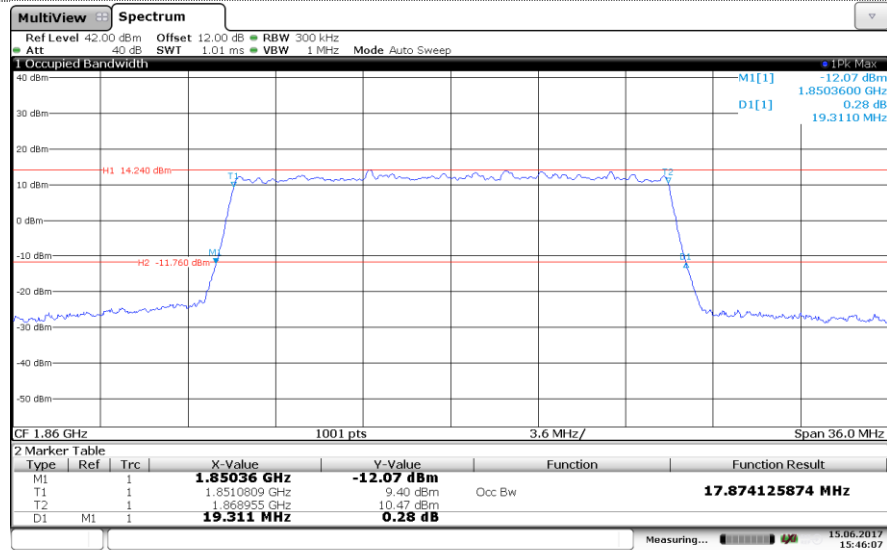
Channel Mid



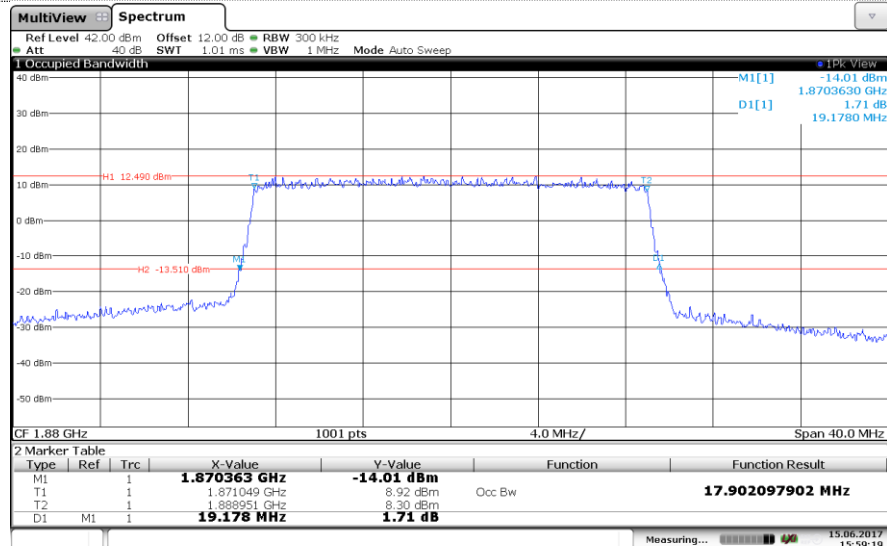
Channel High

LTE Band 2-20MHz

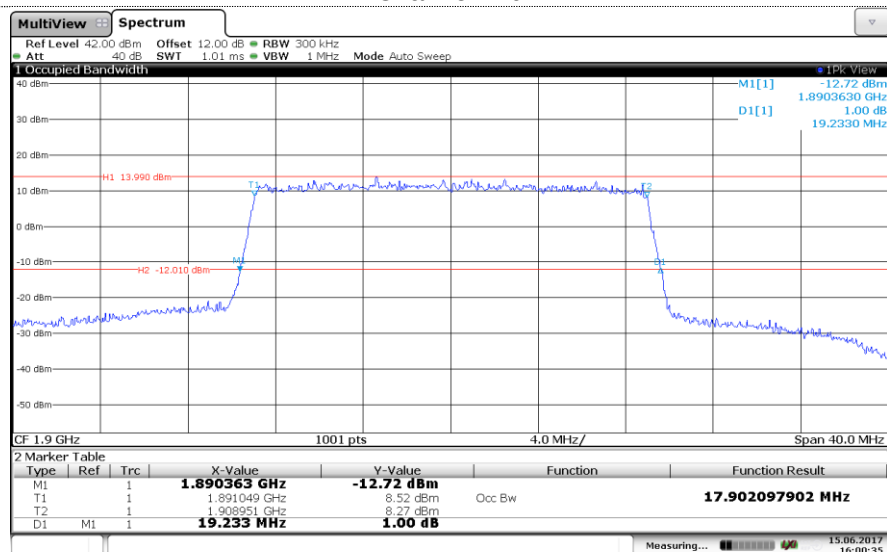
QPSK



Channel Low



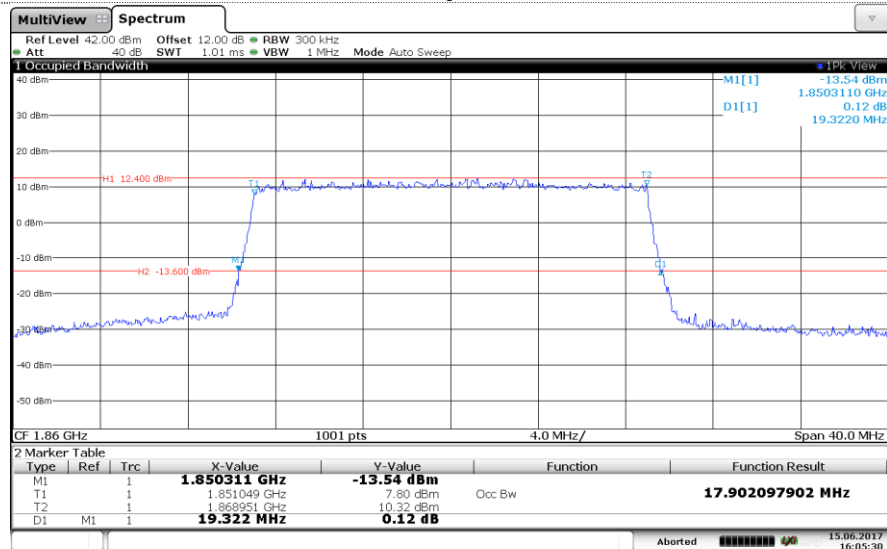
Channel Mid



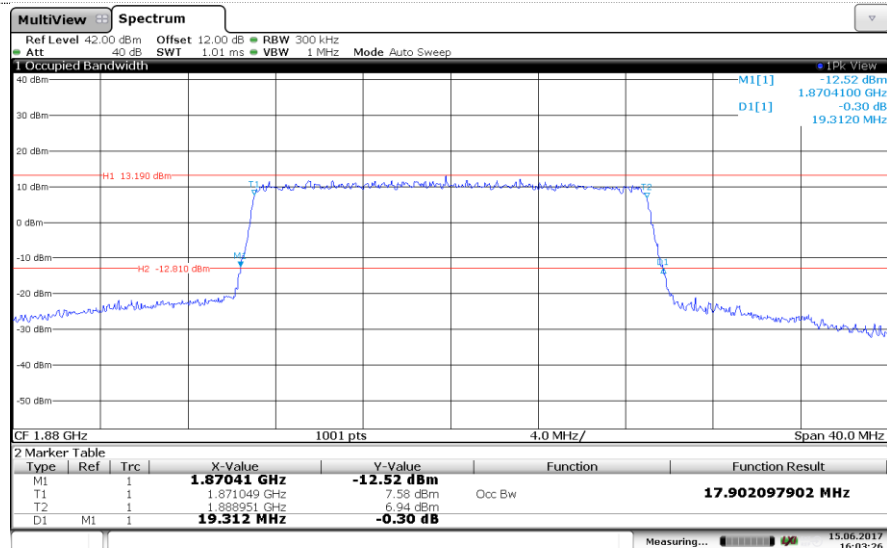
Channel High

LTE Band 2-20MHz

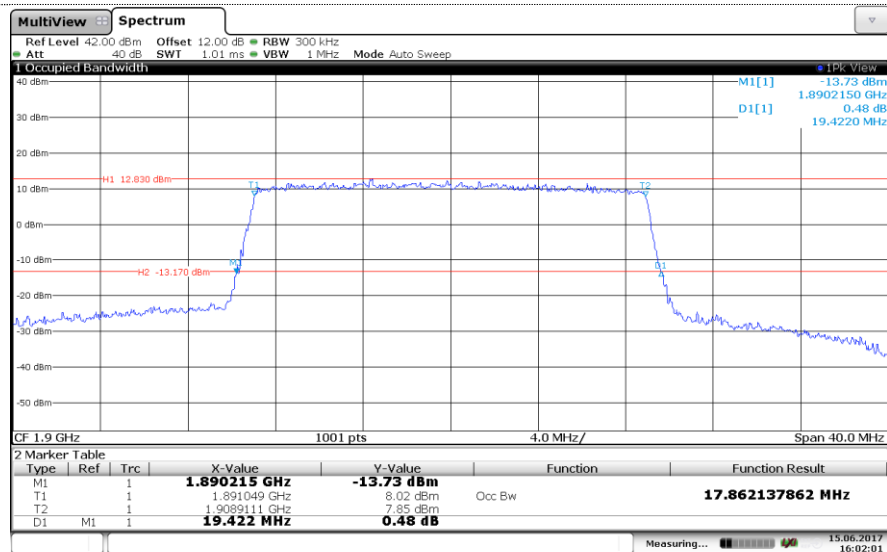
16QAM



Channel Low



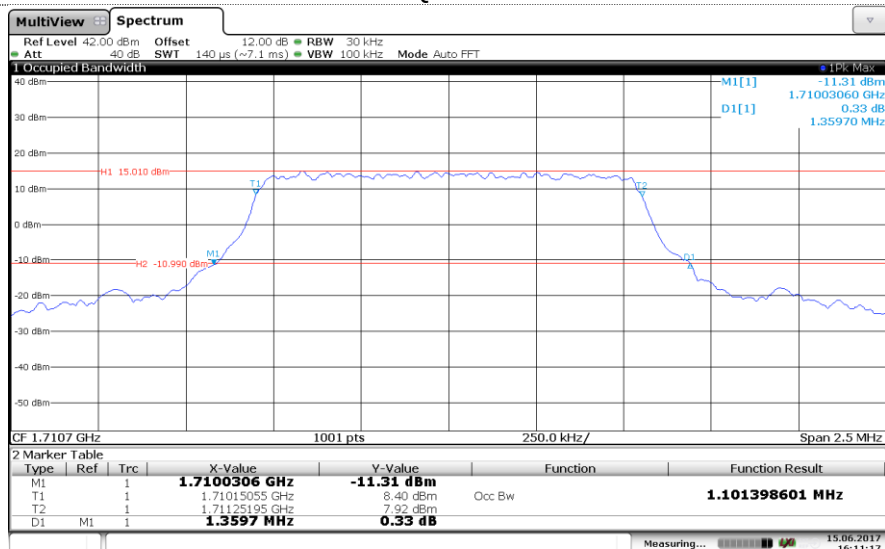
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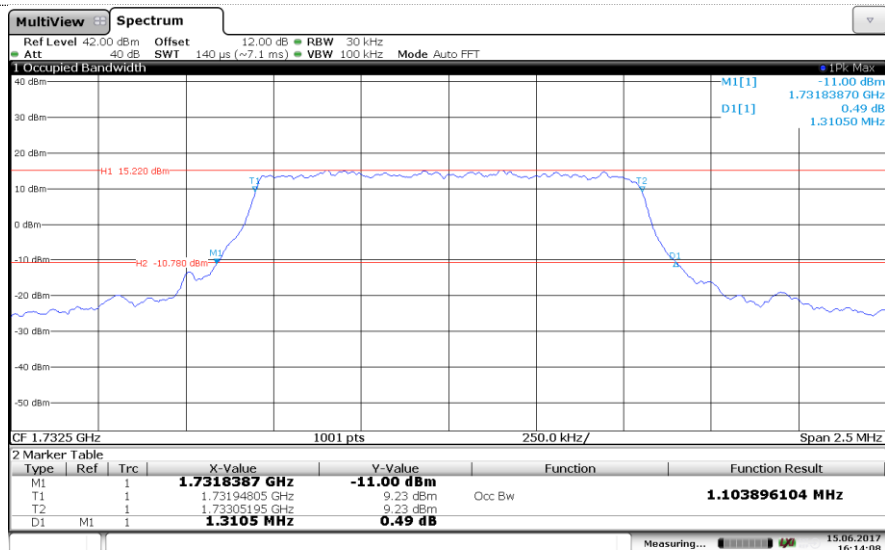
Channel High

LTE Band 4-1.4MHz

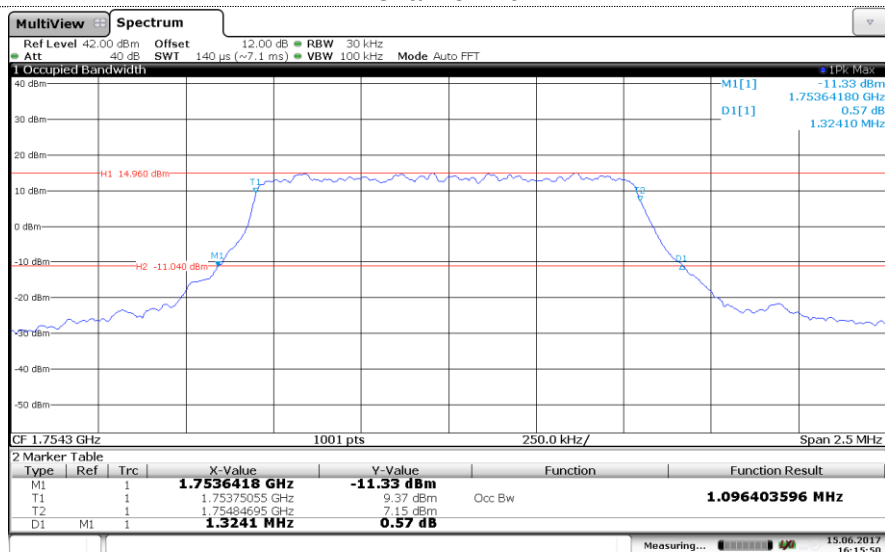
QPSK



Channel Low

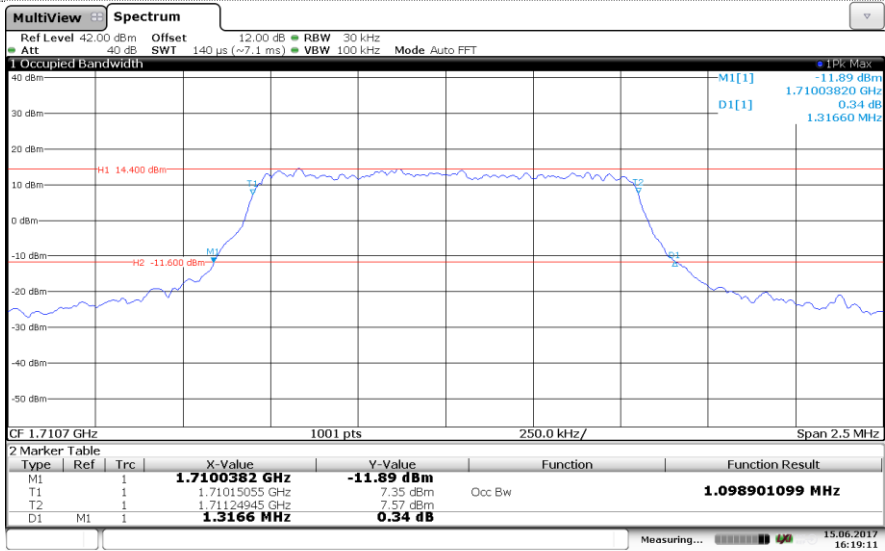


Channel Mid

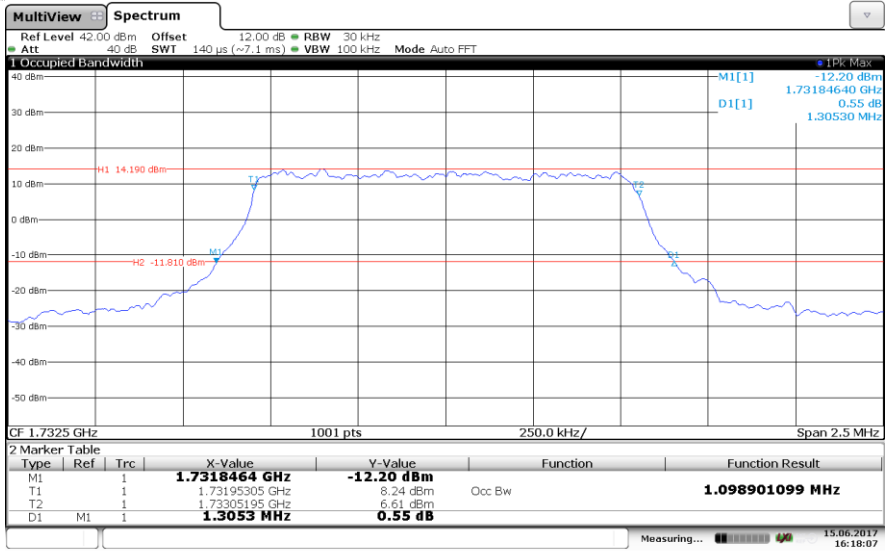


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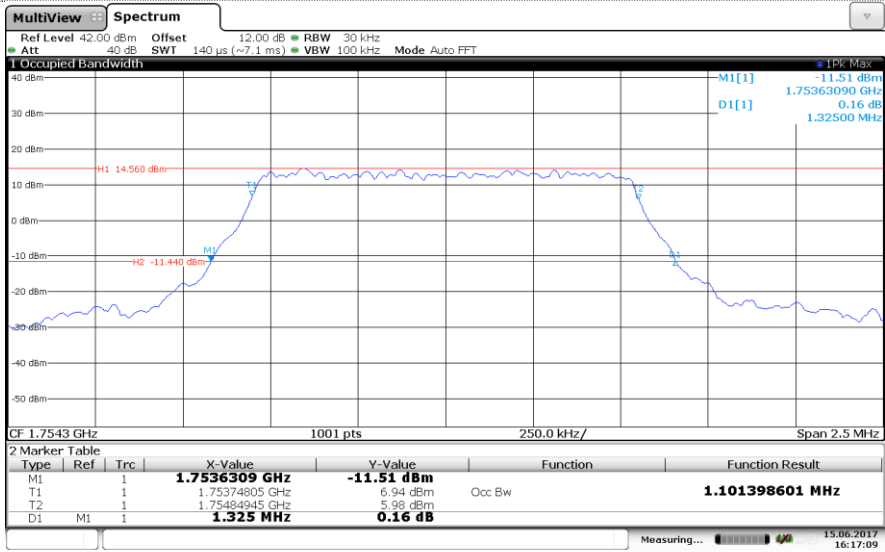
LTE Band 4-1.4MHz
16QAM



Channel Low

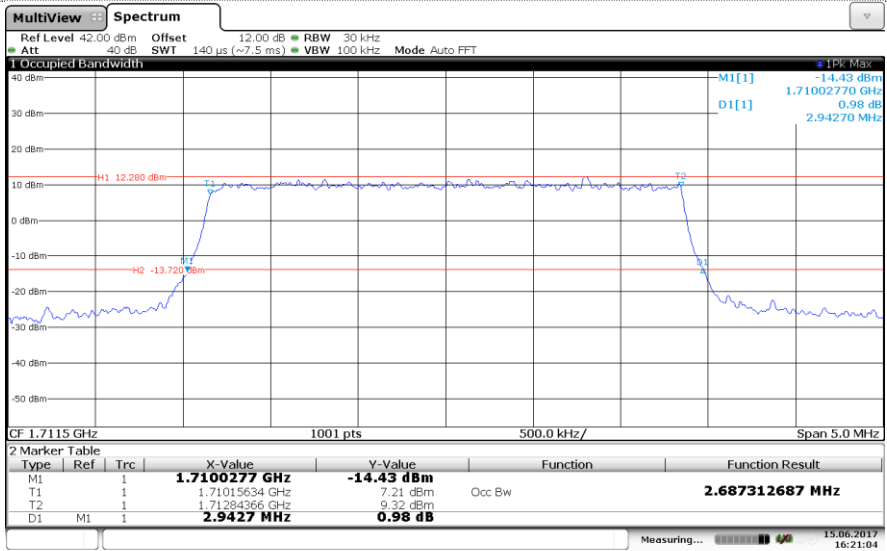


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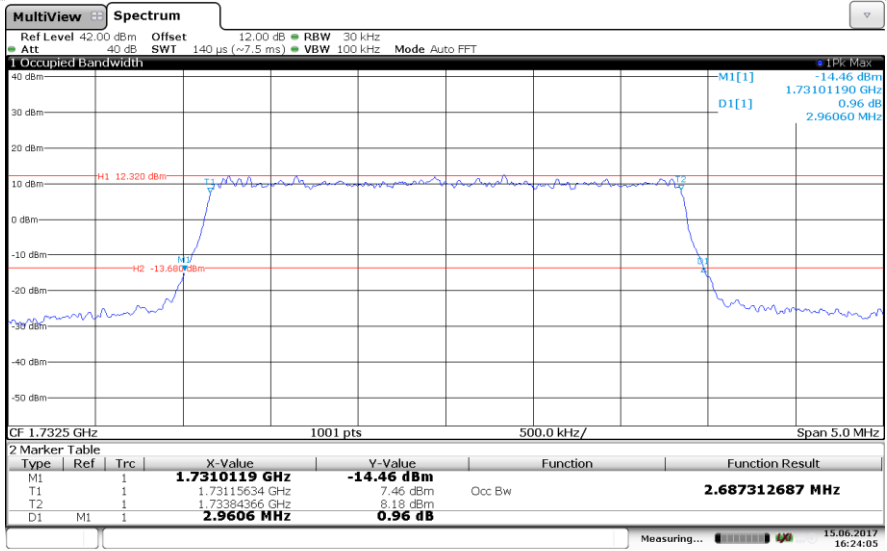


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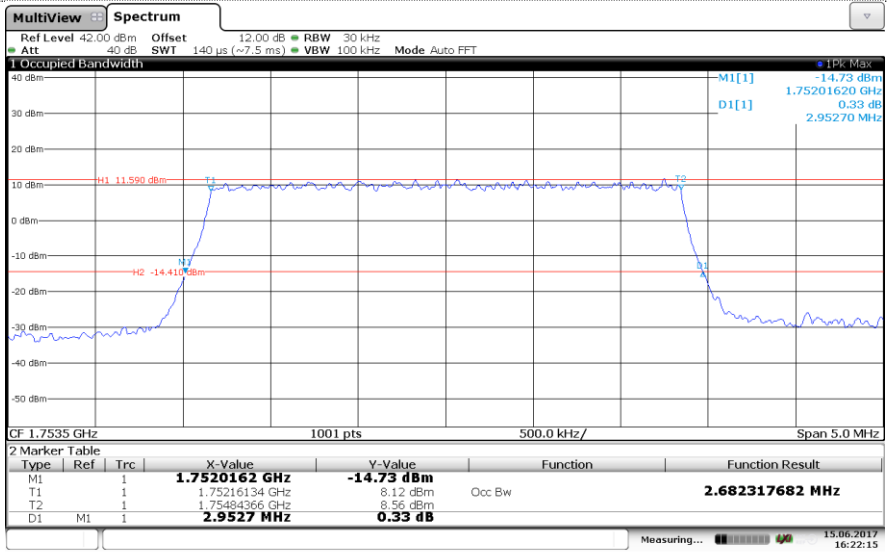
LTE Band 4-3MHz
QPSK



Channel Low



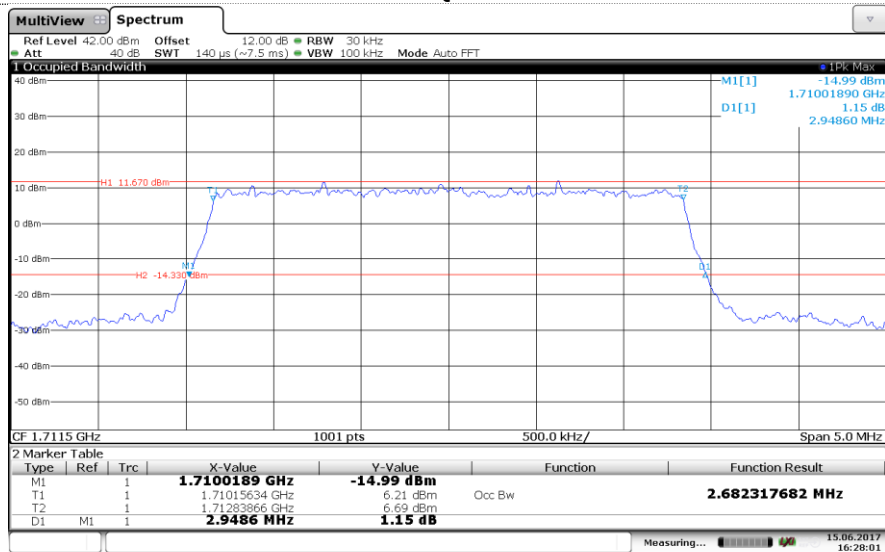
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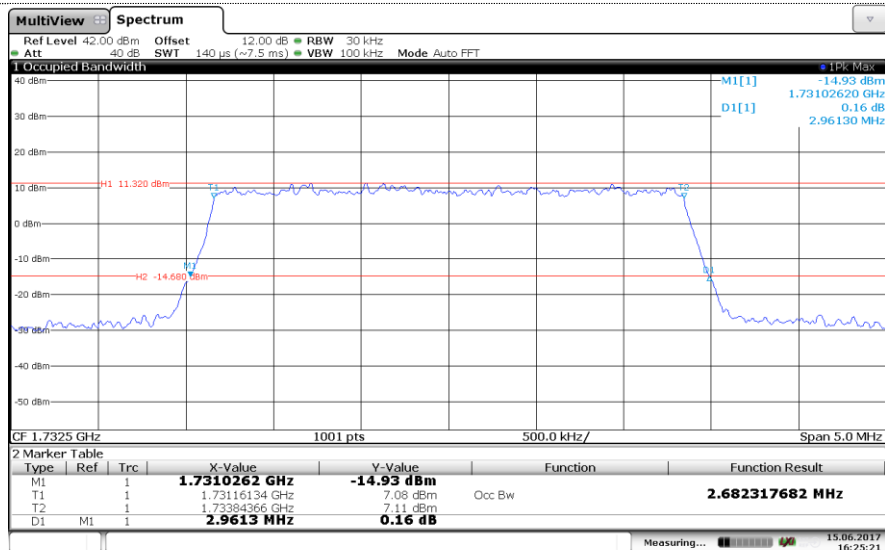
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LTE Band 4-3MHz

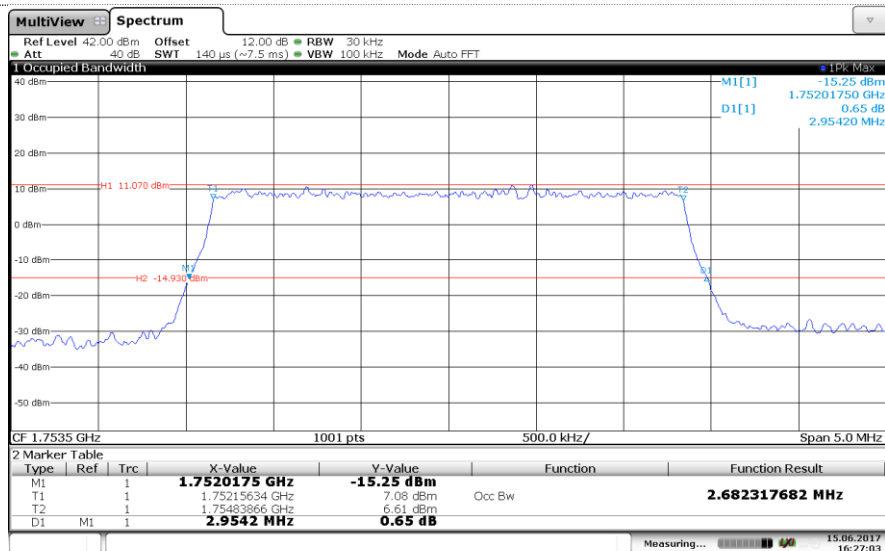
16QAM



Channel Low



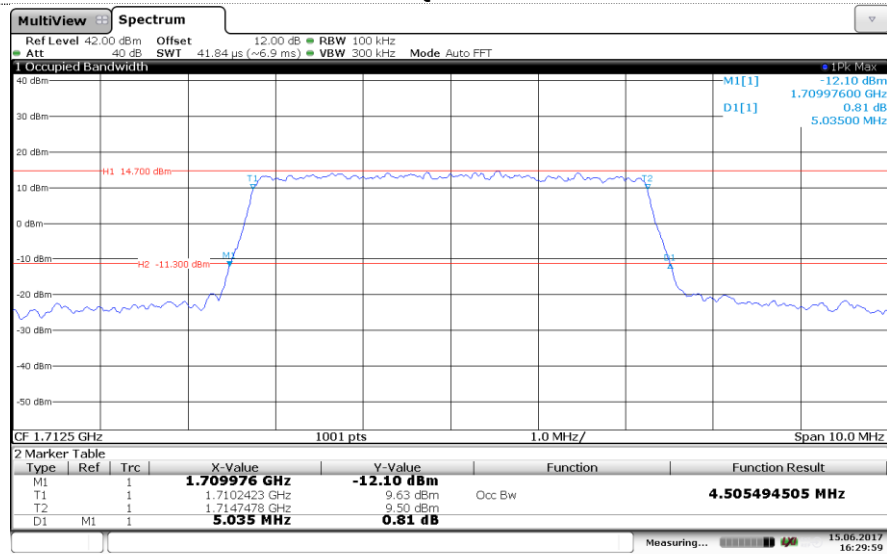
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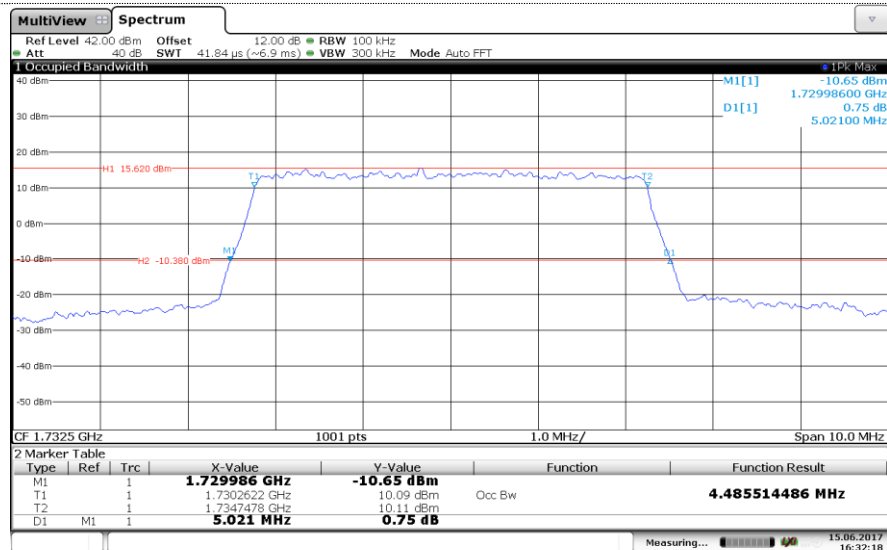
Channel High

LTE Band 4-5MHz

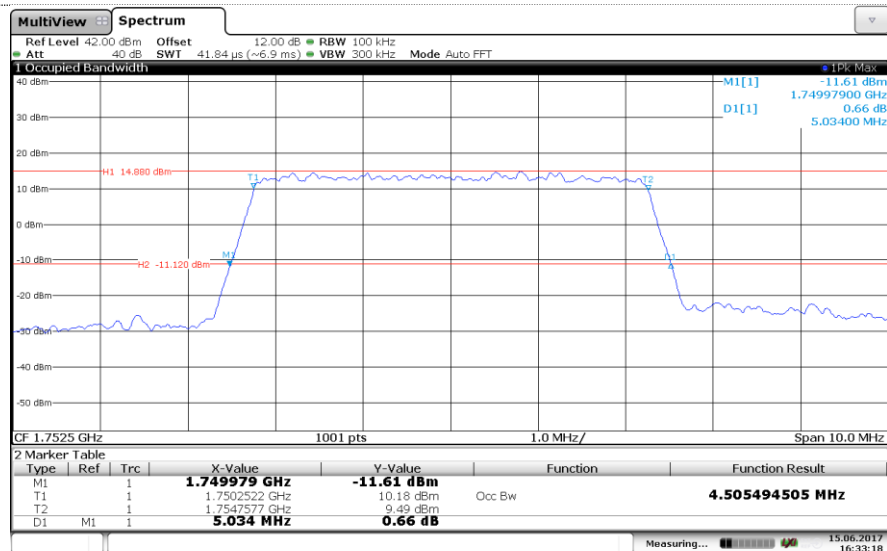
QPSK



Channel Low



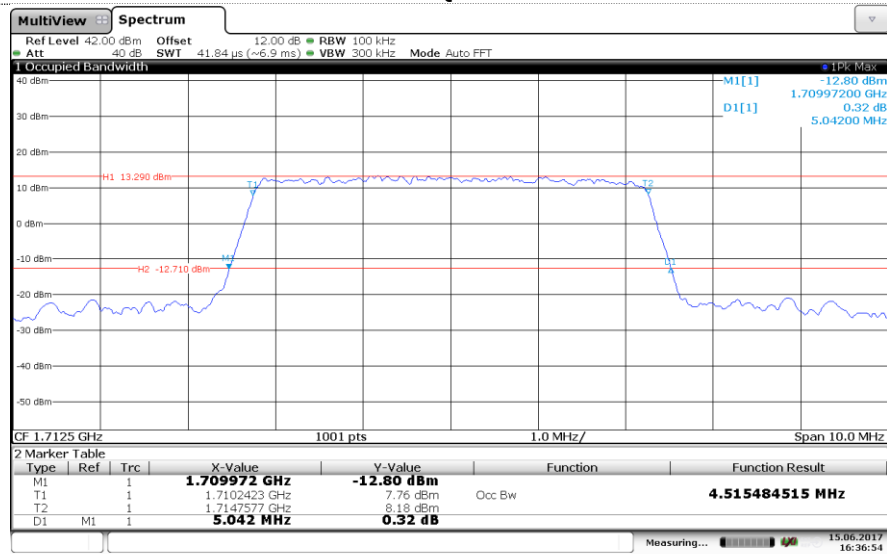
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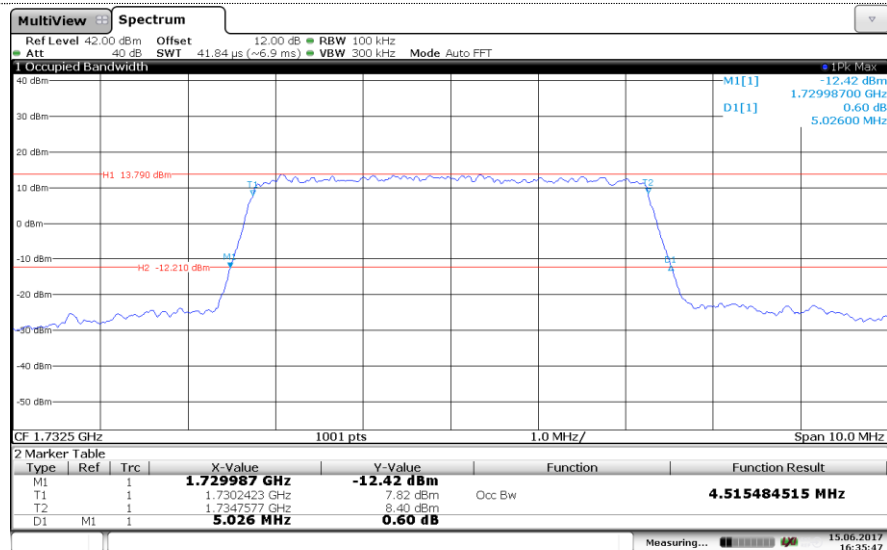
Channel High

LTE Band 4-5MHz

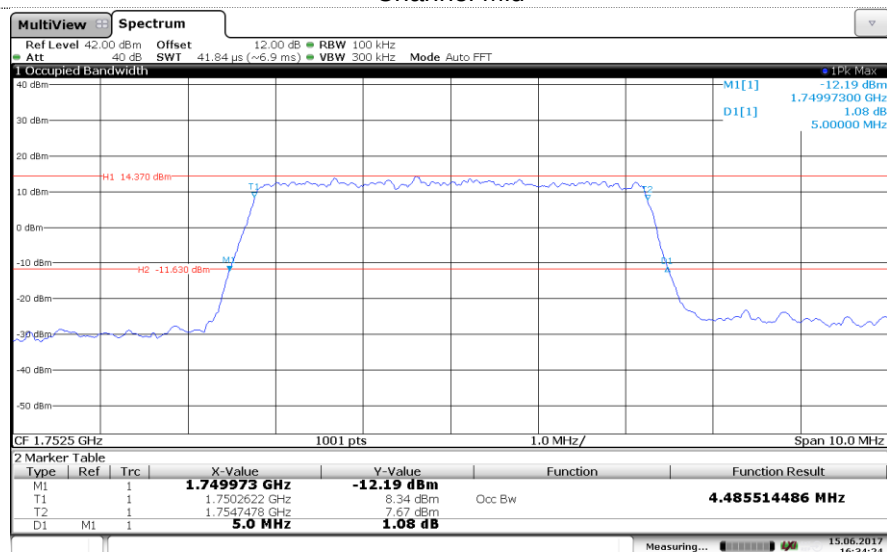
16QAM



Channel Low

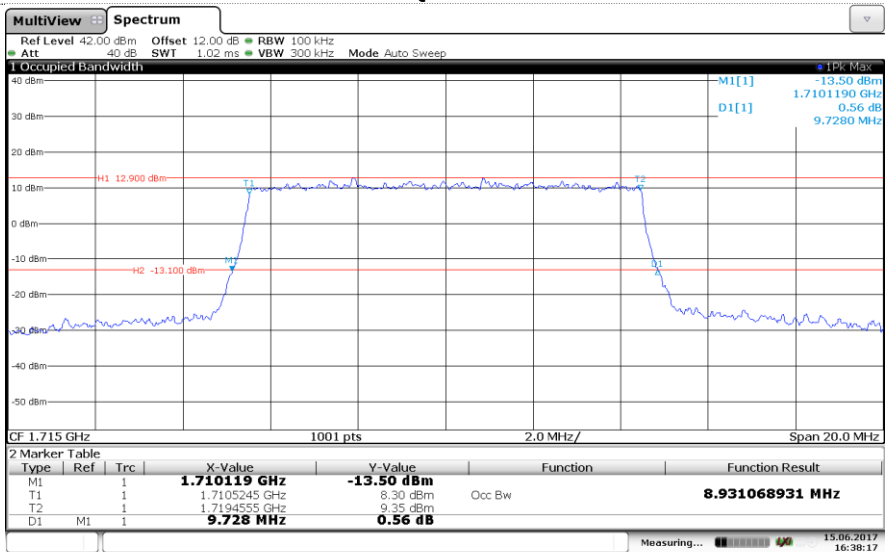


Channel Mid

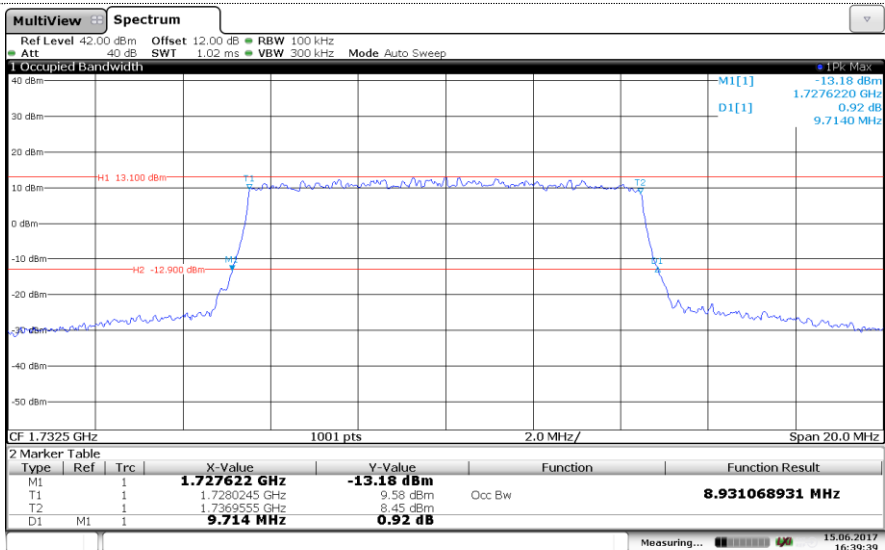


Channel High

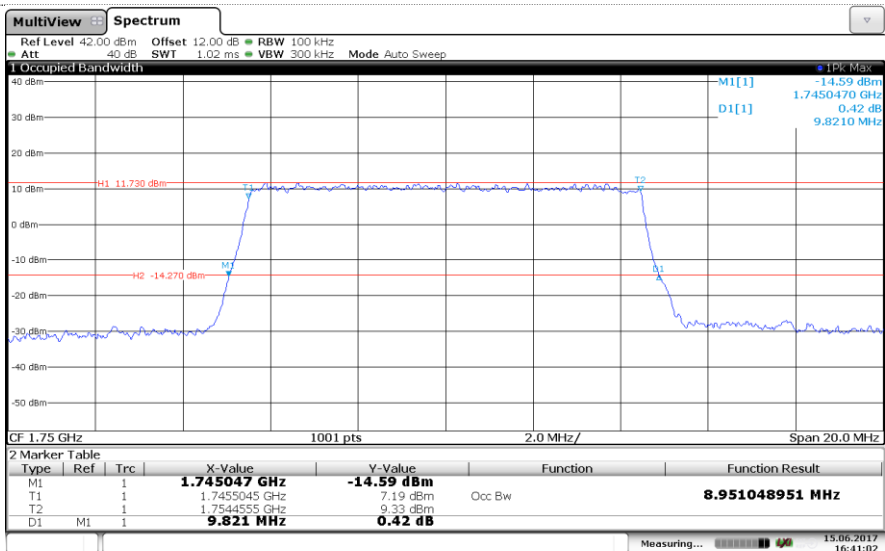
LTE Band 4-10MHz
QPSK



Channel Low

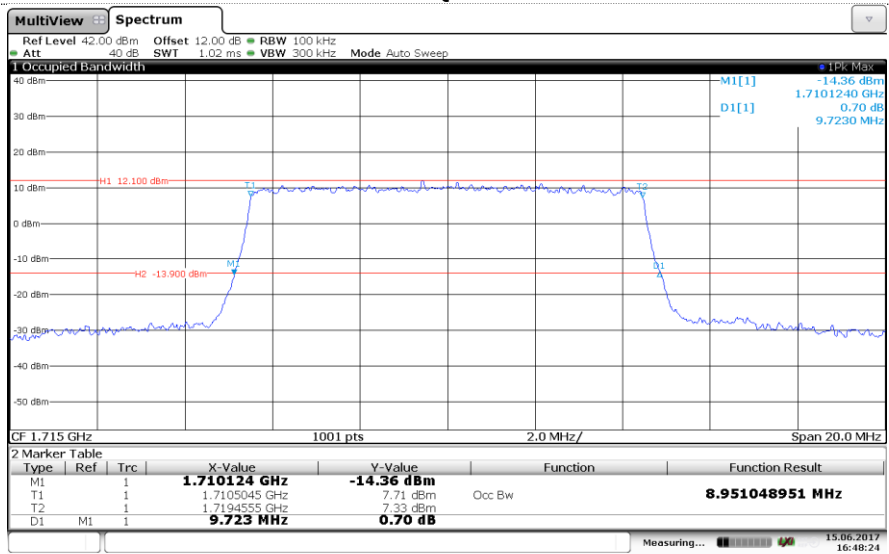


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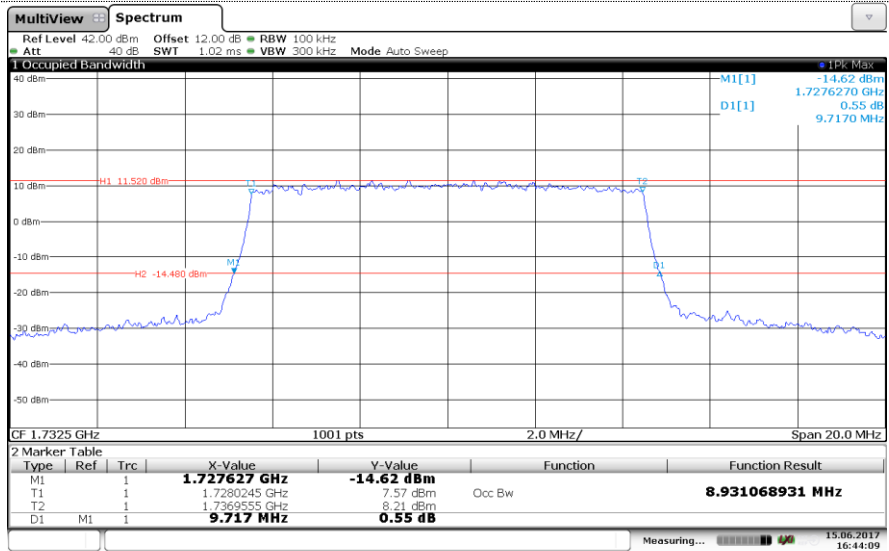


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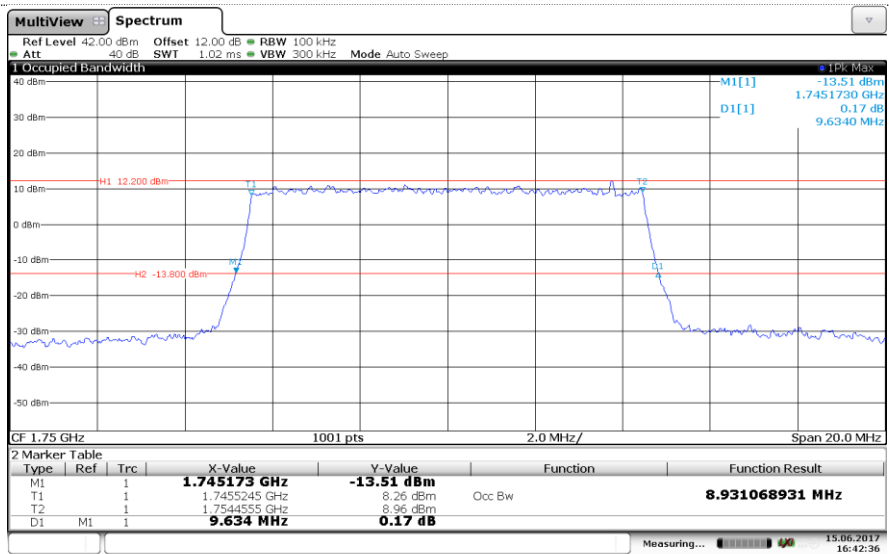
LTE Band 4-10MHz
16QAM



Channel Low

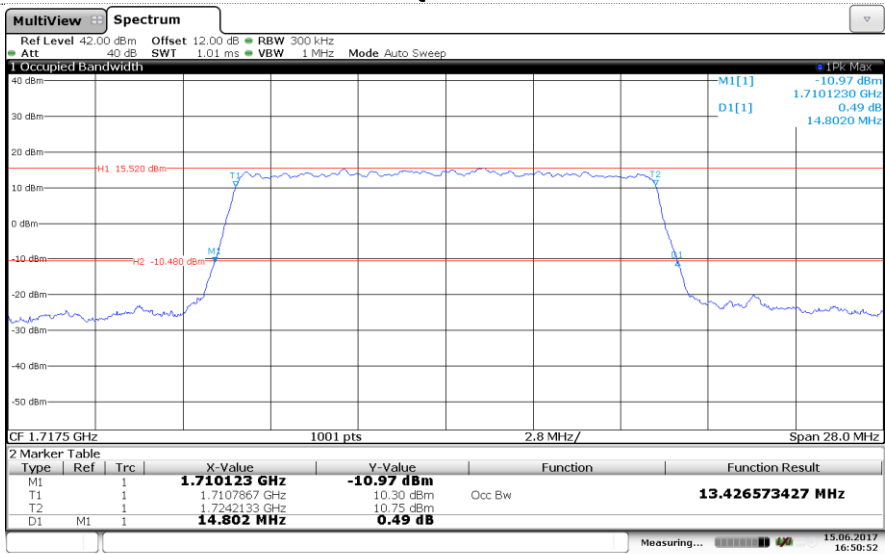


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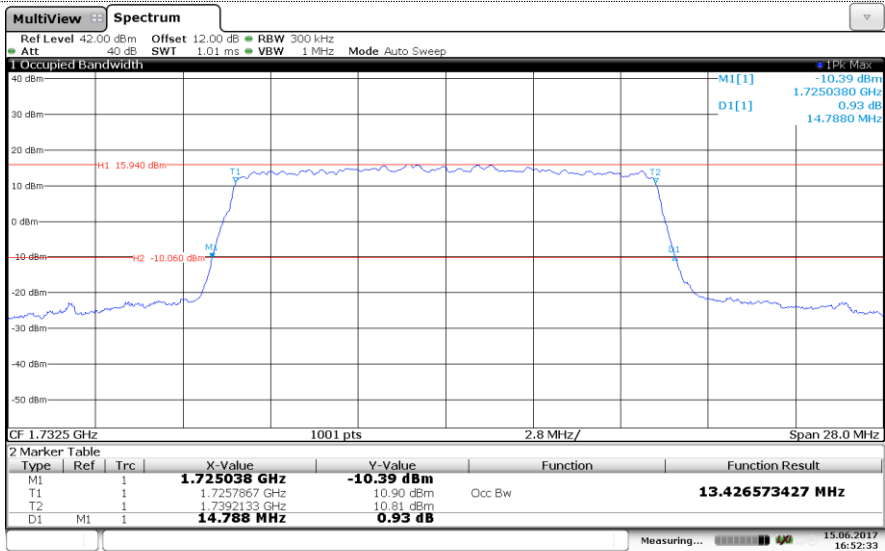


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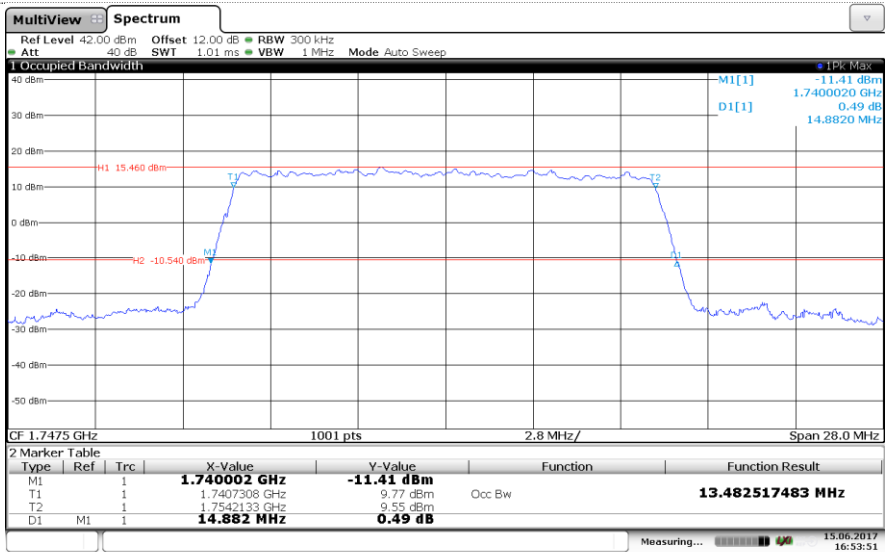
LTE Band 4-15MHz
QPSK



Channel Low



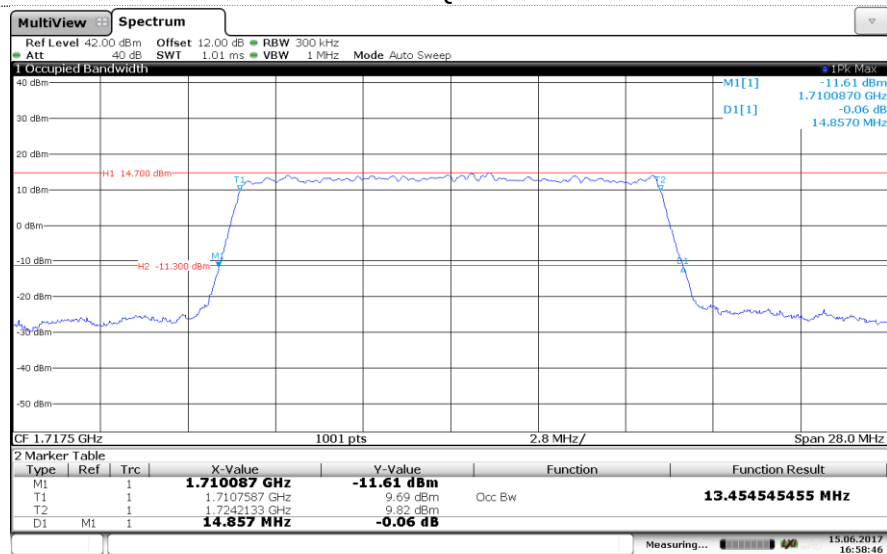
Channel Mid



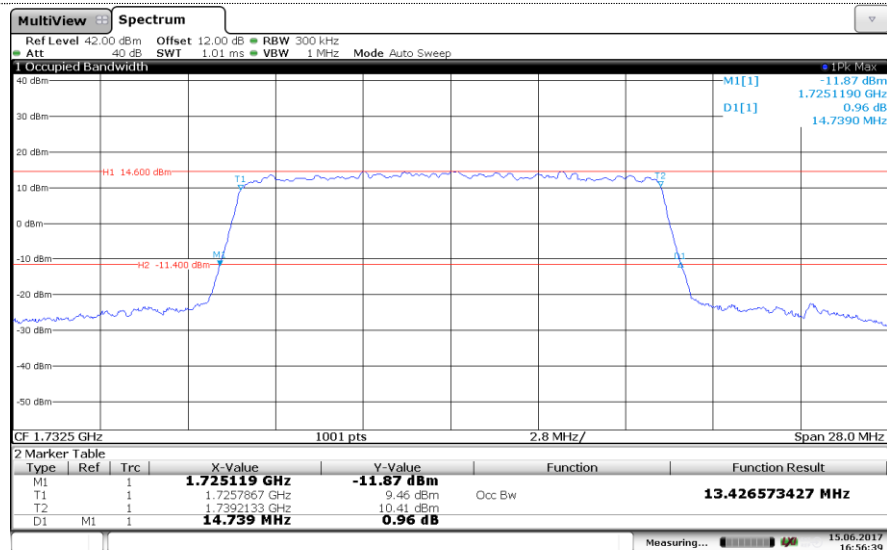
Channel High

LTE Band 4-15MHz

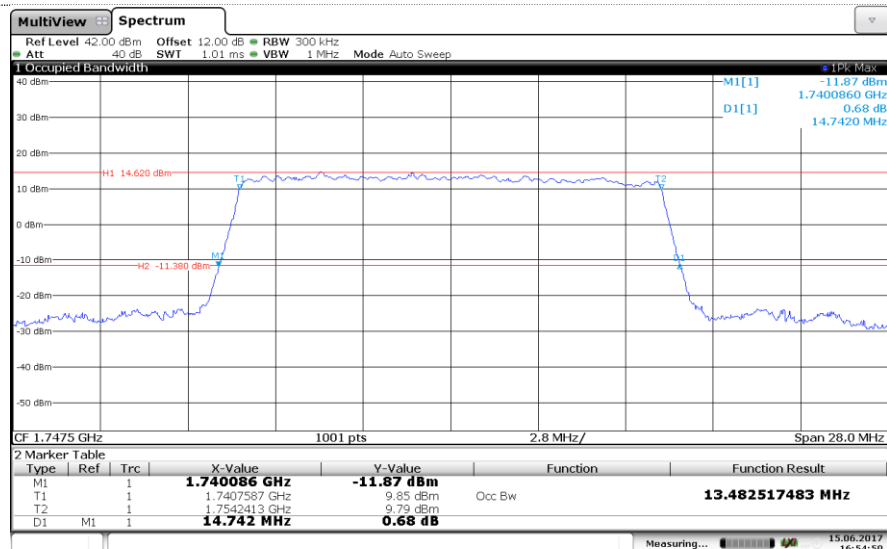
16QAM



Channel Low

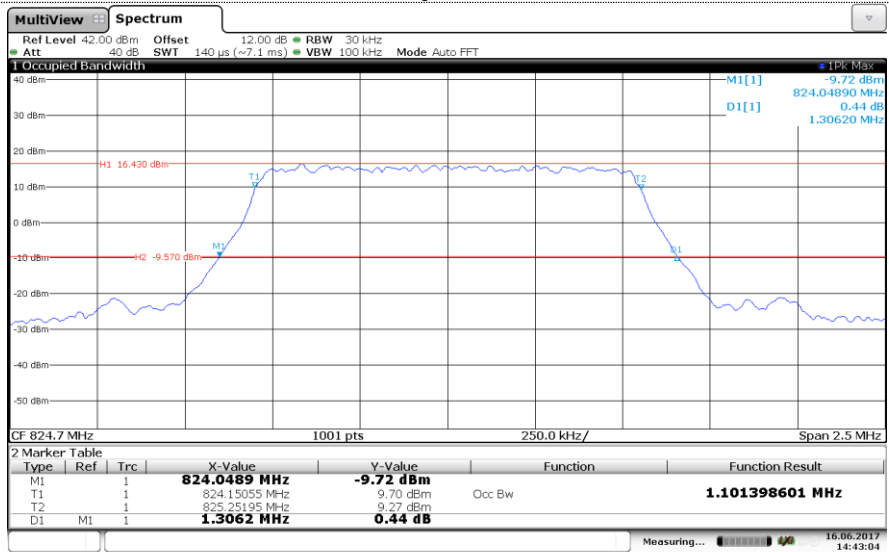


Channel Mid

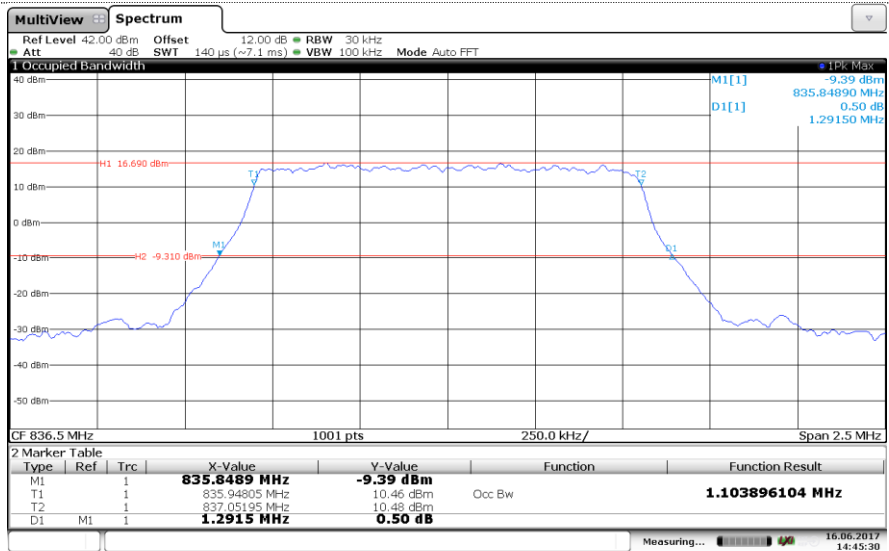


Channel High

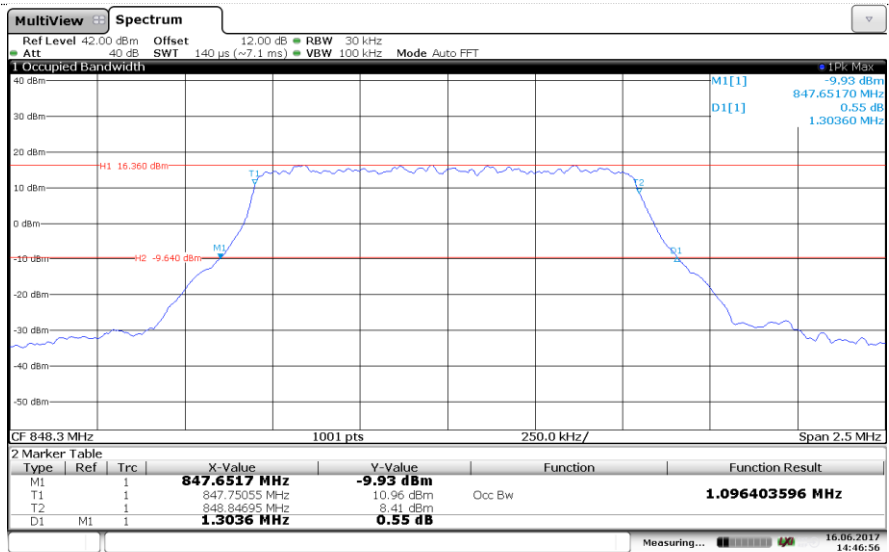
LTE Band 5-1.4MHz
QPSK



Channel Low

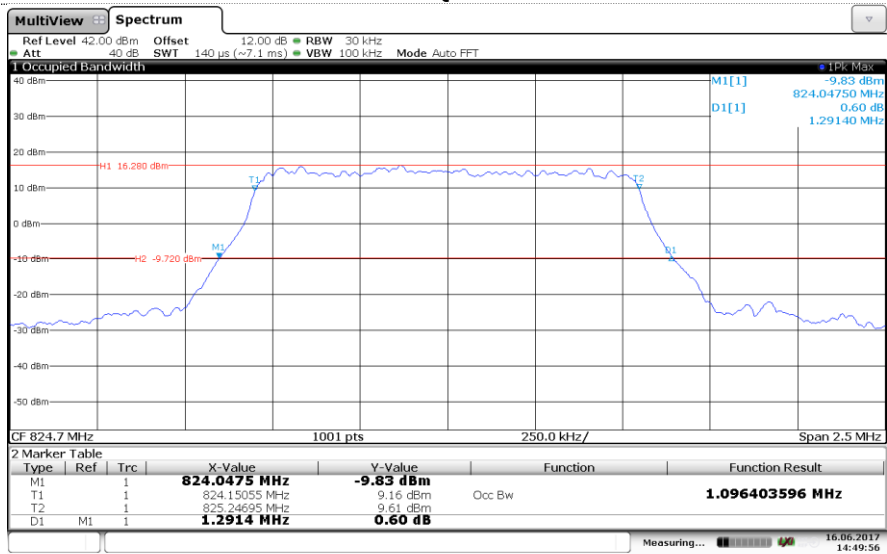


Channel Mid

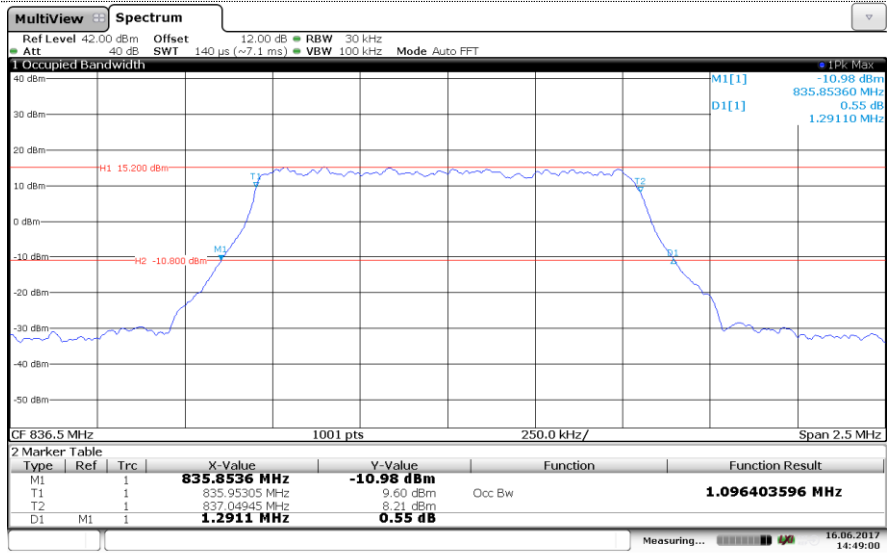


Channel High

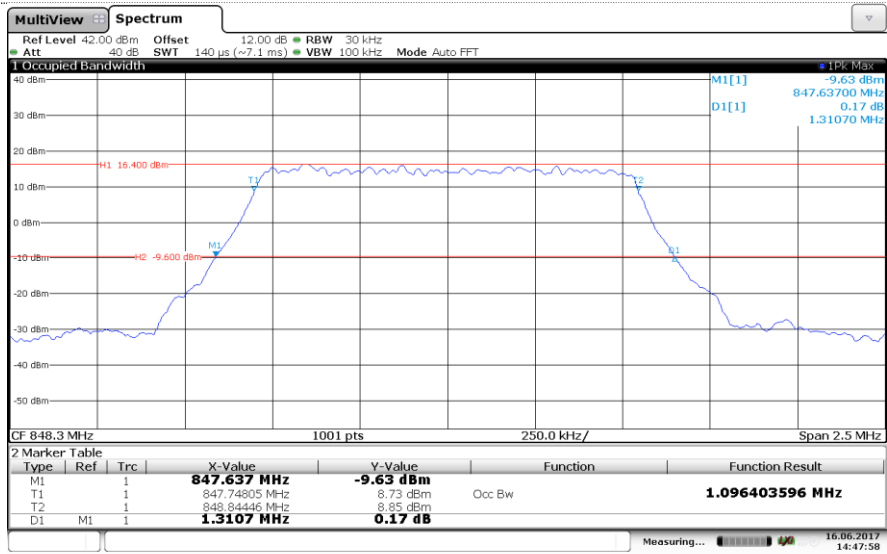
LTE Band 5-1.4MHz
16QAM



Channel Low

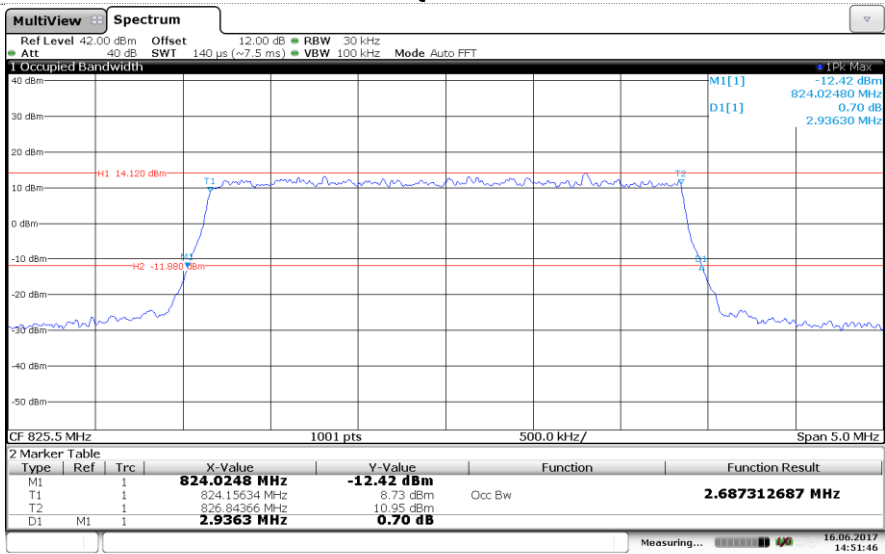


Channel Mid

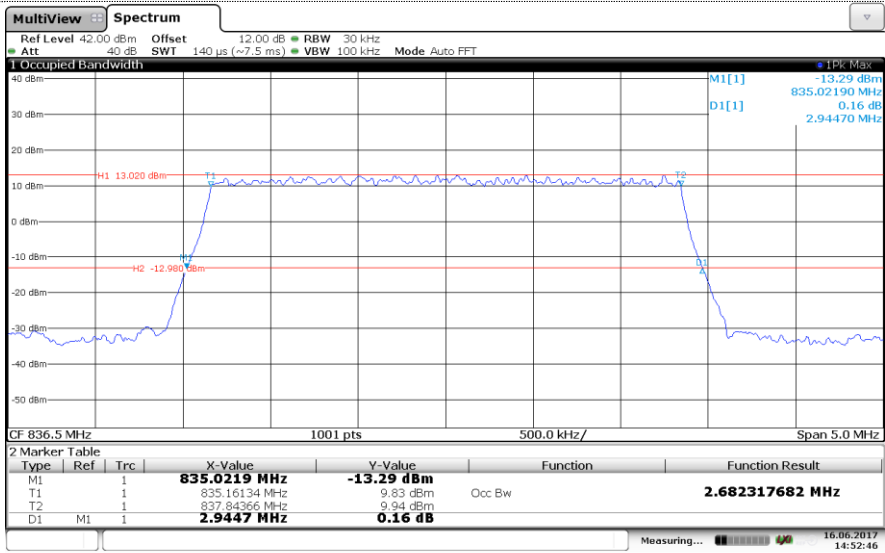


Channel High

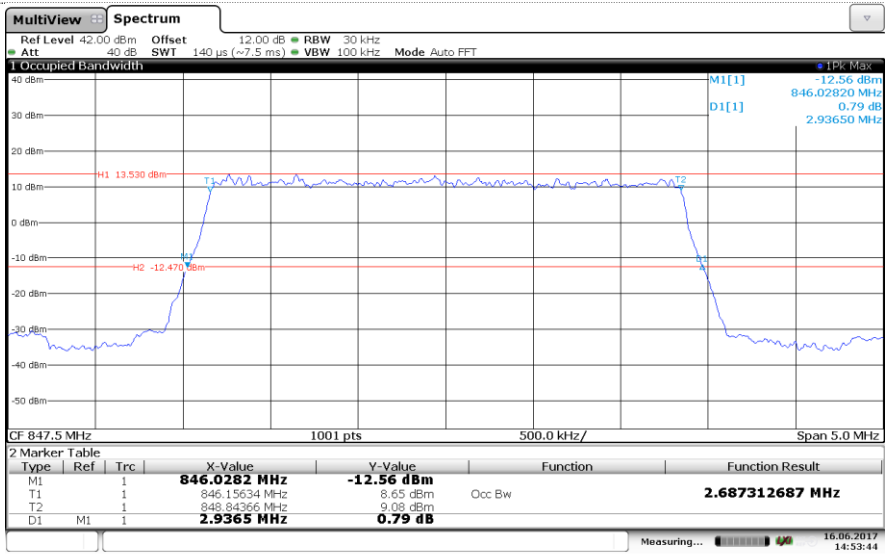
LTE Band 5-3MHz
QPSK



Channel Low

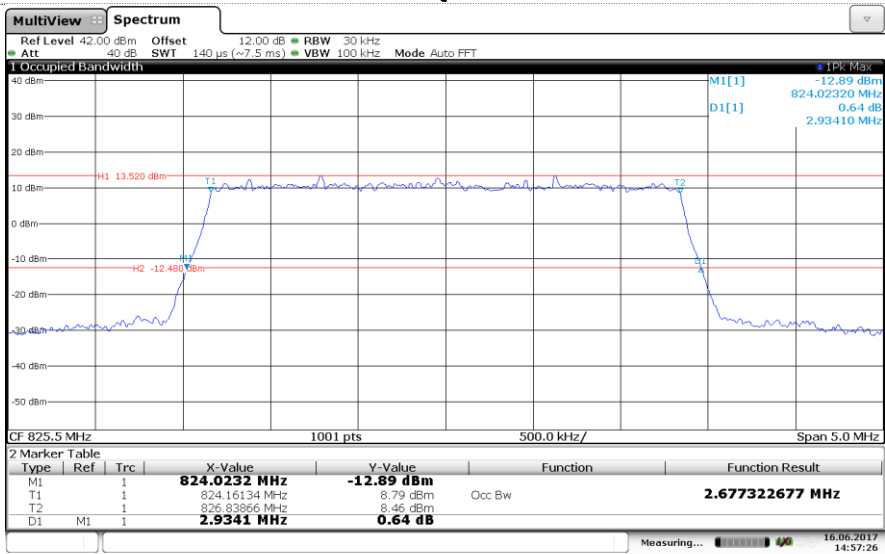


Channel Mid

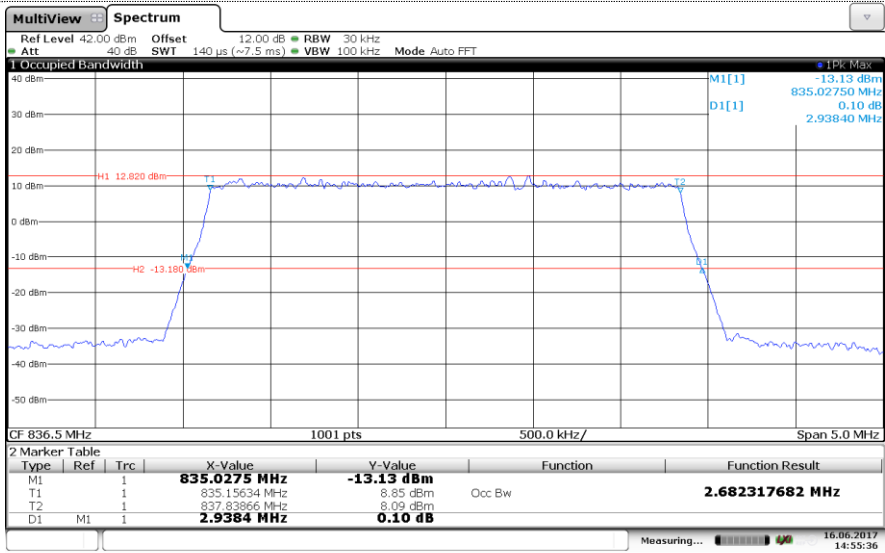


Channel High

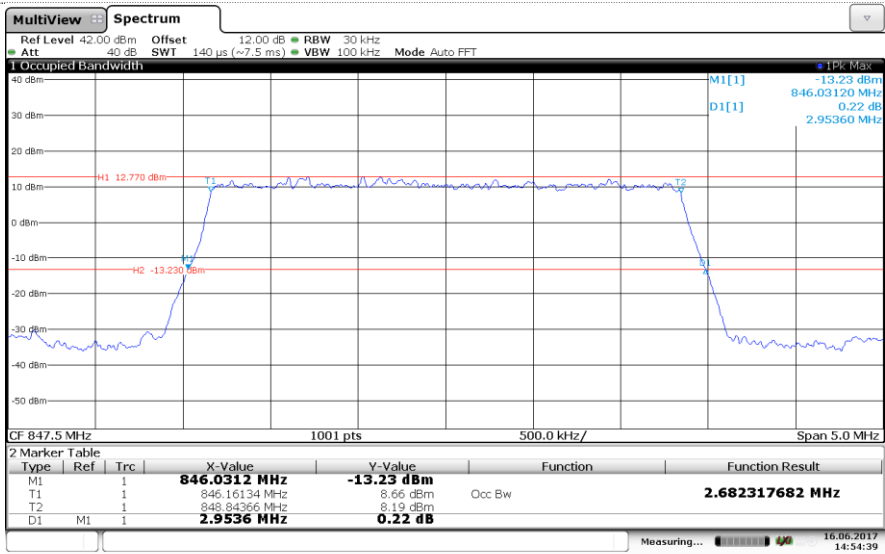
LTE Band 5-3MHz
16QAM



Channel Low



Channel Mid



Channel High