FCC RF Test Report

FCC ID	:	**UZ7TC15BK**
Equipment	:	**Touch computer**
Brand Name	:	**Zebra**
Model Name	:	**TC15BK**
Applicant	:	**Zebra Technologies Corporation 1 Zebra Plaza, Holtsville, NY 11742**
Manufacturer	:	**Zebra Technologies Corporation 1 Zebra Plaza, Holtsville, NY 11742**
Standard	:	**47 CFR Part 2, 22(H), 24(E), 27(L), 27(M)**
Classification	:	**PCS Licensed Transmitter Held to Ear (PCE)**
Test Date(s)	:	**Jan. 30, 2022 ~ Mar. 23, 2022**

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Reviewed by: Jason Jia / Supervisor

Approved by: Alex Wang / Manager

ACCREDITED
Cert #5145.02

Sporton International Inc. (Kunshan)

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APPENDIX A. TEST RESULTS OF CONDUCTED TEST

APPENDIX B. TEST RESULTS OF RADIATED TEST

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG212805B	Rev. 01	Initial issue of report	Apr. 01, 2022

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§22.913(a)(5)	Effective Radiated Power (Band 5)	ERP < 7 Watt	PASS	-
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 7) (Band 38) (Band 41)	EIRP < 2Watt		-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		-
3.5	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	-	Report Only	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5)	< 43+10log10(P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41)	§27.53(m)(4)		
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log$_{10}$(P[Watts])		
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 19.83 dB at 7752.000 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log$_{10}$(P[Watts])		

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Touch computer
Brand Name	Zebra
Model Name	TC15BK
FCC ID	UZ7TC15BK
Sample 1	Scanner(SE4710)
Sample 2	Scanner(SE4100)
HW Version	EV2.4
SW Version	Groot-userdebug11 11-06-29.00-RG-U000-PRD-GRT FX3
MFD	26JAN22
EUT Stage	Identical Prototype

Specification of Accessory				
AC Adapter	**Brand Name**	Zebra	**Part Number**	PWR-WUA5V12W0US
Battery 1	**Brand Name**	Zebra	**Model Number**	BT-000454
			Part Number	BT-000454-20
Battery 2	**Brand Name**	Zebra	**Model Number**	BT-000454
			Part Number	BT-000454-70
Earphone	**Brand Name**	Zebra	**Part Number**	HDST-35MM-PTVP-01
USB Cable (Type C to Type A)	**Brand Name**	Zebra	**Part Number**	CBL-TC5X-USBC2A-01
Type C-Audio Cable (Type C to 3.5mm)	**Brand Name**	Zebra	**Part Number**	ADP-USBC-35MM1-01

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 7 : 2500 MHz ~ 2570 MHz LTE Band 38 : 2570 MHz ~ 2620 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz
Rx Frequency	LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 4 : 2110 MHz ~ 2155 MHz LTE Band 5 : 869 MHz ~ 894 MHz LTE Band 7 : 2620 MHz ~ 2690 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7 : 5MHz/ 10MHz / 15MHz / 20MHz LTE Band 38 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	**<Ant 0>:** LTE Band 2 : 22.54 dBm LTE Band 4 : 22.63 dBm LTE Band 5 : 22.92 dBm **<Ant 2>:** LTE Band 7 : 23.37 dBm LTE Band 38 : 23.50 dBm LTE Band 41 : 23.57 dBm
Antenna Gain	**<Ant 0>:** LTE Band 2 : 1.21 dBi LTE Band 4 : -0.74 dBi LTE Band 5 : -0.60 dBi **<Ant 2>:** LTE Band 7 : 0.84 dBi LTE Band 38 : -0.44 dBi LTE Band 41 : -0.05 dBi
Antenna Type	Fixed Internal Antenna
Type of Modulation	QPSK / 16QAM / 64QAM

1.3 Modification of EUT

No modifications are made to the EUT during all test items.

1.4 Maximum ERP/EIRP Power and Emission Designator

LTE Band 2		QPSK		16QAM/64QAM	
BW (MHz)	**Frequency Range (MHz)**	**Maximum EIRP(W)**	**Emission Designator (99%OBW)**	**Maximum EIRP(W)**	**Emission Designator (99%OBW)**
1.4	1850.7 ~ 1909.3	0.2344	1M10G7D	0.2023	1M09W7D
3	1851.5 ~ 1908.5	0.2323	2M75G7D	0.1991	2M72W7D
5	1852.5 ~ 1907.5	0.2328	4M49G7D	0.2004	4M50W7D
10	1855.0 ~ 1905.0	0.2317	9M07G7D	0.2004	9M09W7D
15	1857.5 ~ 1902.5	0.2350	13M5G7D	0.2000	13M5W7D
20	1860.0 ~ 1900.0	0.2371	17M9G7D	0.2032	17M9W7D
LTE Band 4		**QPSK**		**16QAM/64QAM**	
BW (MHz)	**Frequency Range (MHz)**	**Maximum EIRP(W)**	**Emission Designator (99%OBW)**	**Maximum EIRP(W)**	**Emission Designator (99%OBW)**
1.4	1710.7 ~ 1754.3	0.1528	1M10G7D	0.1312	1M10W7D
3	1711.5 ~ 1753.5	0.1486	2M72G7D	0.1303	2M72W7D
5	1712.5 ~ 1752.5	0.1496	4M51G7D	0.1300	4M50W7D
10	1715.0 ~ 1750.0	0.1510	9M07G7D	0.1306	9M05W7D
15	1717.5 ~ 1747.5	0.1521	13M5G7D	0.1306	13M5W7D
20	1720.0 ~ 1745.0	0.1545	17M9G7D	0.1368	17M9W7D
LTE Band 5		**QPSK**		**16QAM/64QAM**	
BW (MHz)	**Frequency Range (MHz)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**
1.4	824.7 ~ 848.3	0.1019	1M09G7D	0.0879	1M09W7D
3	825.5 ~ 847.5	0.1038	2M72G7D	0.0897	2M72W7D
5	826.5 ~ 846.5	0.1033	4M50G7D	0.0910	4M50W7D
10	829.0 ~ 844.0	0.1040	9M05G7D	0.0912	8M99W7D

LTE Band 7		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	2502.5 ~ 2567.5	0.2606	4M49G7D	0.2228	4M50W7D
10	2505.0 ~ 2565.0	0.2606	9M09G7D	0.2259	9M05W7D
15	2507.5 ~ 2562.5	0.2618	13M5G7D	0.2234	13M4W7D
20	2510.0 ~ 2560.0	0.2636	17M9G7D	0.2275	17M9W7D
LTE Band 38		**QPSK**		**16QAM/64QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	2572.5 ~ 2617.5	0.1972	4M48G7D	0.1626	4M49W7D
10	2575.0 ~ 2615.0	0.1954	9M03G7D	0.1614	9M07W7D
15	2577.5 ~ 2612.5	0.2004	13M6G7D	0.1629	13M4W7D
20	2580.0 ~ 2610.0	0.2023	17M9G7D	0.1656	17M9W7D
LTE Band 41		**QPSK**		**16QAM/64QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	2498.5 ~ 2687.5	0.2061	4M48G7D	0.1698	4M49W7D
10	2501.0 ~ 2685.0	0.2094	9M03G7D	0.1706	9M07W7D
15	2503.5 ~ 2682.5	0.2133	13M6G7D	0.1690	13M4W7D
20	2506.0 ~ 2680.0	0.2249	17M9G7D	0.1730	17M9W7D

Note:

1. LTE Band 41 overlaps the entire frequency range of LTE Band 38. Therefore, the test results provided in this report covers Band 41 as well as Band 38.
2. All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.

1.5 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-KS TH01-KS	CN1257	314309

Note: The test site complies with ANSI C63.4 2014 requirement.

1.6 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24a

1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 22(H), 24(E), 27(L), 27(M)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

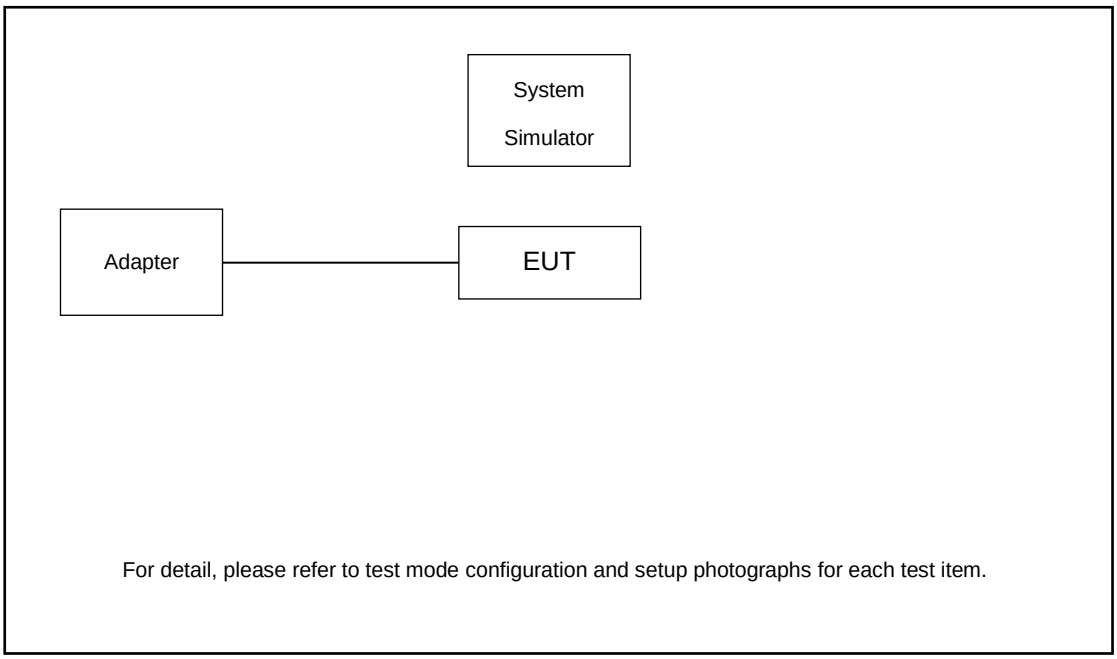
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z and accessory configurations. The worst-cases (Y Plane with adapter) were recorded in this report..

Test Items	Band	Bandwidth (MHz)						Modulation			RB #		Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	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
	38	-	-	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
Peak-to-Average Ratio	2						v	v	v	v	v	v	v	v	v
	4						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
26dB and 99% Bandwidth	2	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
	5	v	v	v	v	-	-	v	v	v		v	v	v	v
	7	-	-	v	v	v	v	v	v	v		v	v	v	v
	41	-	-	v	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		v
	4	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
	7	-	-	v	v	v	v	v	v	v	v	v	v		v
	41	-	-	v	v	v	v	v	v	v	v	v	v		v

Test Items	Band	Bandwidth (MHz)						Modulation			RB #		Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Full	L	M	H
Conducted Spurious Emission	2	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
	5	v	v	v	v	-	-	v	v	v	v		v	v	v
	7	-	-	v	v	v	v	v	v	v	v		v	v	v
	41	-	-	v	v	v	v	v	v	v	v		v	v	v
Frequency Stability	2				v			v				v		v	
	4				v			v				v		v	
	5				v	-	-	v				v		v	
	7	-	-		v			v				v		v	
	41	-	-		v			v				v		v	
E.R.P / E.I.R.P	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
	38	-	-	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
Radiated Spurious Emission	2	Worst Case											v	v	v
	4	Worst Case											v	v	v
	5	Worst Case											v	v	v
	7	Worst Case											v	v	v
	41	Worst Case											v	v	v
Note	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 of 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. 4. All test items are based on engineering evaluation. 5. All the radiated test cases were performed with adapter. 6. LTE Band 41 overlaps the entire frequency range of LTE Band 38. Therefore, the test results provided in this report covers Band 41 as well as Band 38													

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 6.0 dB.

Example :

Offset(dB) = RF cable loss(dB).

= 6.0 (dB)

2.5 Frequency List of Low/Middle/High Channels

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3

LTE Band 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3

LTE Band 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3

LTE Band 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5

LTE Band 38 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	37850	38000	38150
	Frequency	2580	2595	2610
15	Channel	37825	38000	38175
	Frequency	2577.5	2595	2612.5
10	Channel	37800	38000	38200
	Frequency	2575	2595	2615
5	Channel	37775	38000	38225
	Frequency	2572.5	2595	2617.5

LTE Band 41 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	39750	40620	41490
	Frequency	2506	2593	2680
15	Channel	39725	40620	41515
	Frequency	2503.5	2593	2682.5
10	Channel	39700	40620	41540
	Frequency	2501	2593	2685
5	Channel	39675	40620	41565
	Frequency	2498.5	2593	2687.5

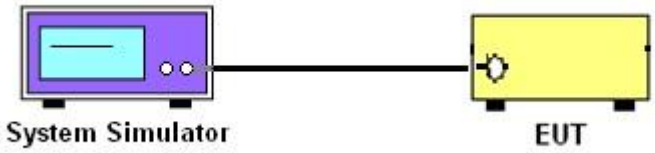
3 Conducted Test Items

3.1 Measuring Instruments

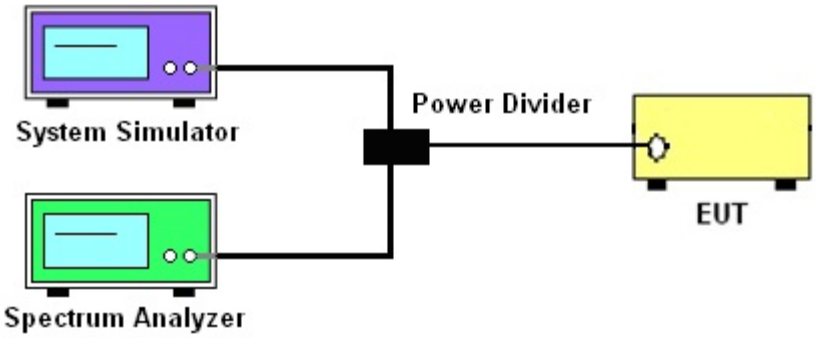
See list of measuring instruments of this test report.

3.2 Test Setup

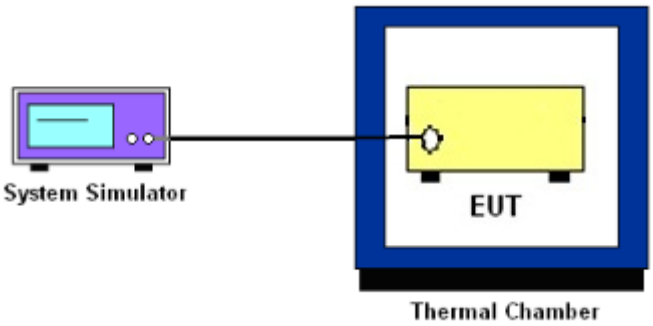
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

3.4.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5.

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 7 and Band 38 and Band 41.

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.
   (this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53(m)(4)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (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 that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 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.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.

   Example:

   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [43 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
9. For LTE Band 7, 38, 41, the other 40 dB, and 55 dB have additionally applied same calculation above.
10. When using the integration method, the starting frequency of the integration shall be centered at one-half of the RBW away from the band edge.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For Band 7,38,41:

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 55 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
11. For Band 7, 38, 41
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [55+ 10log(P)] (dB)
    = [30+ 10log(P)] (dBm) - [55+ 10log(P)] (dB)
    = -25dBm.

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

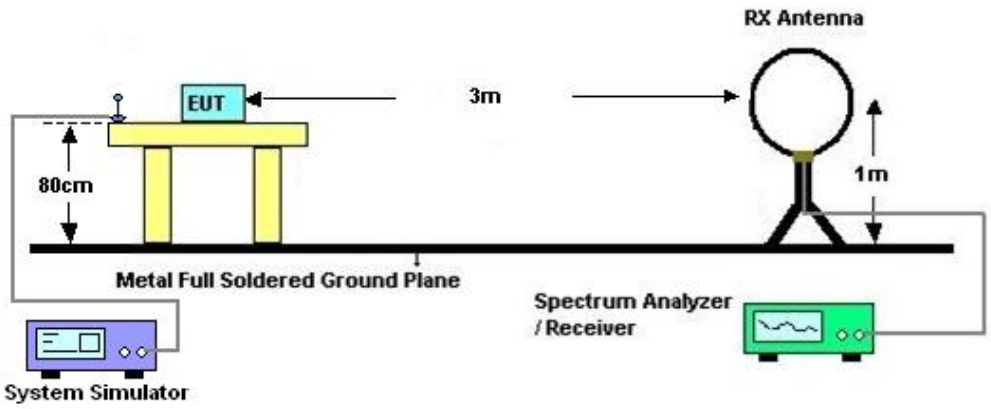
4 Radiated Test Items

4.1 Measuring Instruments

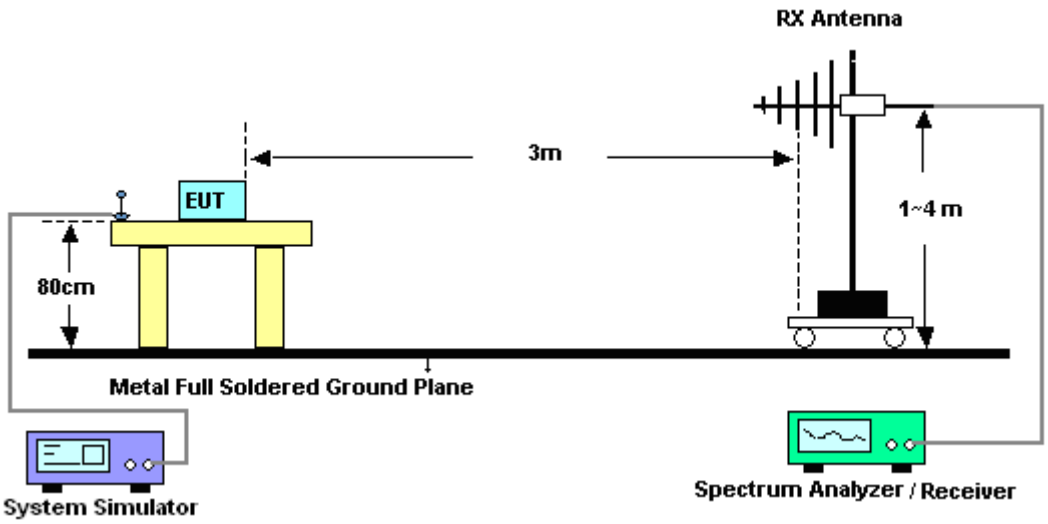
See list of measuring instruments of this test report.

4.2 Test Setup

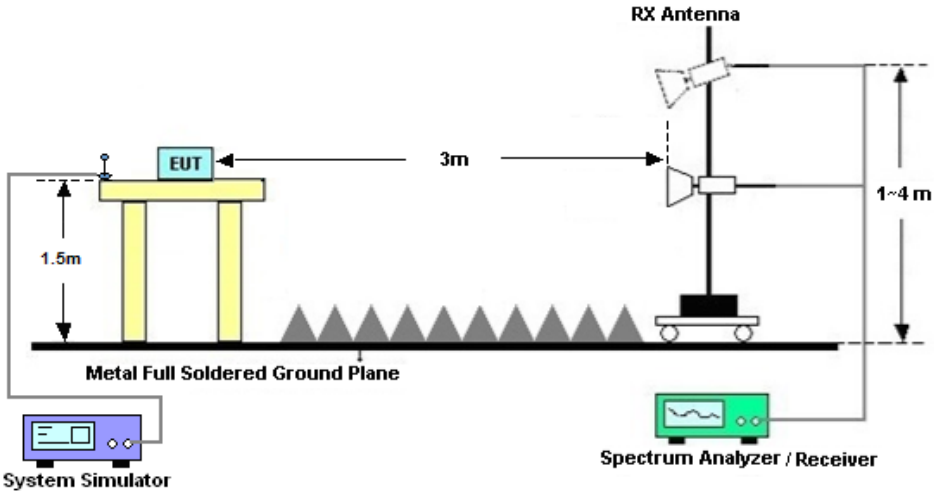
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For Band 7, 38, 41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 55 + 10 log (P) dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
13. For Band 7, 38, 41:
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 14, 2021	Jan. 30, 0222~ Mar. 23, 2022	Oct. 13, 2022	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	Aug. 26, 2021	Jan. 30, 0222~ Mar. 23, 2022	Aug. 25, 2022	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 12, 2021	Jan. 30, 0222~ Mar. 23, 2022	Jul. 11, 2022	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 13, 2021	Mar. 10, 2022	Apr. 12, 2022	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Mar. 10, 2022	Oct. 29, 2022	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 30, 2021	Mar. 10, 2022	May 29, 2022	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1356	1GHz~18GHz	Apr. 18, 2021	Mar. 10, 2022	Apr. 17, 2022	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Jan. 05, 2022	Mar. 10, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 05, 2022	Mar. 10, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 05, 2022	Mar. 10, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Jul. 30, 2021	Mar. 10, 2022	Jul. 29, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 13, 2021	Mar. 10, 2022	Oct. 12, 2022	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Mar. 10, 2022	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Mar. 10, 2022	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Mar. 10, 2022	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.3dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

Appendix A. Test Results of Conducted Test

Test Engineer :	Lex Wu	Temperature :	21~24℃
		Relative Humidity :	45~51%

Conducted Output Power(Average power) and ERP&EIRP

<Ant. 0>

LTE Band 2:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				18700	18900	19100	18700	18900	19100
Frequency (MHz)				1860	1880	1900	1860	1880	1900
20	QPSK	1	0	22.49	22.54	22.49	0.2344	0.2371	0.2344
20	QPSK	1	49	22.45	22.51	22.49	0.2323	0.2355	0.2344
20	QPSK	1	99	22.36	22.40	22.37	0.2275	0.2296	0.2280
20	QPSK	50	0	21.58	21.67	21.66	0.1901	0.1941	0.1936
20	QPSK	50	24	21.64	21.62	21.66	0.1928	0.1919	0.1936
20	QPSK	50	50	21.57	21.59	21.59	0.1897	0.1905	0.1905
20	QPSK	100	0	21.61	21.68	21.60	0.1914	0.1945	0.1910
20	16QAM	1	0	21.78	21.87	21.80	0.1991	0.2032	0.2000
20	16QAM	1	49	21.80	21.86	21.80	0.2000	0.2028	0.2000
20	16QAM	1	99	21.73	21.76	21.68	0.1968	0.1982	0.1945
20	16QAM	50	0	20.56	20.65	20.68	0.1503	0.1535	0.1545
20	16QAM	50	24	20.63	20.63	20.68	0.1528	0.1528	0.1545
20	16QAM	50	50	20.61	20.61	20.63	0.1521	0.1521	0.1528
20	16QAM	100	0	20.63	20.61	20.62	0.1528	0.1521	0.1524
20	64QAM	1	0	20.66	20.72	20.67	0.1538	0.1560	0.1542
20	64QAM	1	49	20.69	20.76	20.66	0.1549	0.1574	0.1538
20	64QAM	1	99	20.62	20.64	20.55	0.1524	0.1531	0.1500
20	64QAM	50	0	19.54	19.66	19.66	0.1189	0.1222	0.1222
20	64QAM	50	24	19.61	19.63	19.63	0.1208	0.1213	0.1213
20	64QAM	50	50	19.58	19.59	19.61	0.1199	0.1202	0.1208
20	64QAM	100	0	19.61	19.60	19.64	0.1208	0.1205	0.1216
Channel				18675	18900	19125	18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5	1857.5	1880	1902.5
15	QPSK	1	0	22.39	22.50	22.34	0.2291	0.2350	0.2265
15	QPSK	1	37	22.34	22.34	22.36	0.2265	0.2265	0.2275
15	QPSK	1	74	22.30	22.26	22.34	0.2244	0.2223	0.2265
15	QPSK	36	0	21.44	21.51	21.57	0.1841	0.1871	0.1897
15	QPSK	36	20	21.46	21.45	21.51	0.1849	0.1845	0.1871
15	QPSK	36	39	21.43	21.46	21.43	0.1837	0.1849	0.1837

15	QPSK	75	0	21.49	21.56	21.53	0.1862	0.1892	0.1879
15	16QAM	1	0	21.65	21.73	21.69	0.1932	0.1968	0.1950
15	16QAM	1	37	21.74	21.80	21.71	0.1972	0.2000	0.1959
15	16QAM	1	74	21.63	21.71	21.56	0.1923	0.1959	0.1892
15	16QAM	36	0	20.52	20.52	20.53	0.1489	0.1489	0.1493
15	16QAM	36	20	20.53	20.61	20.59	0.1493	0.1521	0.1514
15	16QAM	36	39	20.51	20.55	20.55	0.1486	0.1500	0.1500
15	16QAM	75	0	20.52	20.57	20.53	0.1489	0.1507	0.1493
15	64QAM	1	0	20.59	20.58	20.53	0.1514	0.1510	0.1493
15	64QAM	1	37	20.57	20.69	20.50	0.1507	0.1549	0.1483
15	64QAM	1	74	20.54	20.49	20.42	0.1496	0.1479	0.1455
15	64QAM	36	0	19.38	19.62	19.58	0.1146	0.1211	0.1199
15	64QAM	36	20	19.54	19.60	19.51	0.1189	0.1205	0.1180
15	64QAM	36	39	19.51	19.44	19.50	0.1180	0.1161	0.1178
15	64QAM	75	0	19.47	19.49	19.62	0.1169	0.1175	0.1211
Channel				18650	18900	19150	18650	18900	19150
Frequency (MHz)				1855	1880	1905	1855	1880	1905
10	QPSK	1	0	22.43	22.44	22.44	0.2312	0.2317	0.2317
10	QPSK	1	25	22.37	22.35	22.39	0.2280	0.2270	0.2291
10	QPSK	1	49	22.29	22.34	22.19	0.2239	0.2265	0.2188
10	QPSK	25	0	21.51	21.58	21.54	0.1871	0.1901	0.1884
10	QPSK	25	12	21.51	21.49	21.55	0.1871	0.1862	0.1888
10	QPSK	25	25	21.55	21.45	21.55	0.1888	0.1845	0.1888
10	QPSK	50	0	21.50	21.66	21.47	0.1866	0.1936	0.1854
10	16QAM	1	0	21.61	21.79	21.64	0.1914	0.1995	0.1928
10	16QAM	1	25	21.68	21.81	21.64	0.1945	0.2004	0.1928
10	16QAM	1	49	21.62	21.58	21.59	0.1919	0.1901	0.1905
10	16QAM	25	0	20.42	20.52	20.60	0.1455	0.1489	0.1517
10	16QAM	25	12	20.56	20.51	20.51	0.1503	0.1486	0.1486
10	16QAM	25	25	20.50	20.53	20.52	0.1483	0.1493	0.1489
10	16QAM	50	0	20.53	20.54	20.52	0.1493	0.1496	0.1489
10	64QAM	1	0	20.51	20.61	20.61	0.1486	0.1521	0.1521
10	64QAM	1	25	20.67	20.62	20.63	0.1542	0.1524	0.1528
10	64QAM	1	49	20.46	20.62	20.43	0.1469	0.1524	0.1459
10	64QAM	25	0	19.51	19.59	19.51	0.1180	0.1202	0.1180
10	64QAM	25	12	19.57	19.54	19.49	0.1197	0.1189	0.1175
10	64QAM	25	25	19.51	19.47	19.50	0.1180	0.1169	0.1178
10	64QAM	50	0	19.58	19.45	19.48	0.1199	0.1164	0.1172
Channel				18625	18900	19175	18625	18900	19175
Frequency (MHz)				1852.5	1880	1907.5	1852.5	1880	1907.5
5	QPSK	1	0	22.45	22.39	22.43	0.2323	0.2291	0.2312
5	QPSK	1	12	22.30	22.42	22.46	0.2244	0.2307	0.2328
5	QPSK	1	24	22.19	22.25	22.26	0.2188	0.2218	0.2223
5	QPSK	12	0	21.47	21.62	21.59	0.1854	0.1919	0.1905
5	QPSK	12	7	21.59	21.49	21.56	0.1905	0.1862	0.1892

5	QPSK	12	13	21.50	21.47	21.51	0.1866	0.1854	0.1871
5	QPSK	25	0	21.51	21.53	21.57	0.1871	0.1879	0.1897
5	16QAM	1	0	21.72	21.77	21.68	0.1963	0.1986	0.1945
5	16QAM	1	12	21.73	21.81	21.63	0.1968	0.2004	0.1923
5	16QAM	1	24	21.64	21.60	21.55	0.1928	0.1910	0.1888
5	16QAM	12	0	20.54	20.57	20.64	0.1496	0.1507	0.1531
5	16QAM	12	7	20.50	20.58	20.62	0.1483	0.1510	0.1524
5	16QAM	12	13	20.45	20.53	20.55	0.1466	0.1493	0.1500
5	16QAM	25	0	20.55	20.46	20.56	0.1500	0.1469	0.1503
5	64QAM	1	0	20.55	20.54	20.55	0.1500	0.1496	0.1500
5	64QAM	1	12	20.66	20.68	20.61	0.1538	0.1545	0.1521
5	64QAM	1	24	20.48	20.61	20.51	0.1476	0.1521	0.1486
5	64QAM	12	0	19.37	19.59	19.50	0.1143	0.1202	0.1178
5	64QAM	12	7	19.54	19.57	19.59	0.1189	0.1197	0.1202
5	64QAM	12	13	19.45	19.43	19.54	0.1164	0.1159	0.1189
5	64QAM	25	0	19.49	19.43	19.53	0.1175	0.1159	0.1186
Channel				18615	18900	19185	18615	18900	19185
Frequency (MHz)				1851.5	1880	1908.5	1851.5	1880	1908.5
3	QPSK	1	0	22.45	22.36	22.32	0.2323	0.2275	0.2254
3	QPSK	1	8	22.40	22.38	22.33	0.2296	0.2286	0.2259
3	QPSK	1	14	22.27	22.25	22.24	0.2228	0.2218	0.2213
3	QPSK	8	0	21.46	21.59	21.63	0.1849	0.1905	0.1923
3	QPSK	8	4	21.59	21.51	21.50	0.1905	0.1871	0.1866
3	QPSK	8	7	21.40	21.45	21.45	0.1824	0.1845	0.1845
3	QPSK	15	0	21.55	21.52	21.49	0.1888	0.1875	0.1862
3	16QAM	1	0	21.68	21.73	21.63	0.1945	0.1968	0.1923
3	16QAM	1	8	21.77	21.78	21.66	0.1986	0.1991	0.1936
3	16QAM	1	14	21.65	21.72	21.51	0.1932	0.1963	0.1871
3	16QAM	8	0	20.48	20.62	20.58	0.1476	0.1524	0.1510
3	16QAM	8	4	20.59	20.51	20.65	0.1514	0.1486	0.1535
3	16QAM	8	7	20.44	20.52	20.46	0.1462	0.1489	0.1469
3	16QAM	15	0	20.49	20.57	20.58	0.1479	0.1507	0.1510
3	64QAM	1	0	20.57	20.58	20.62	0.1507	0.1510	0.1524
3	64QAM	1	8	20.57	20.60	20.50	0.1507	0.1517	0.1483
3	64QAM	1	14	20.49	20.56	20.39	0.1479	0.1503	0.1445
3	64QAM	8	0	19.51	19.62	19.55	0.1180	0.1211	0.1191
3	64QAM	8	4	19.50	19.46	19.54	0.1178	0.1167	0.1189
3	64QAM	8	7	19.49	19.48	19.52	0.1175	0.1172	0.1183
3	64QAM	15	0	19.47	19.53	19.47	0.1169	0.1186	0.1169
Channel				18607	18900	19193	18607	18900	19193
Frequency (MHz)				1850.7	1880	1909.3	1850.7	1880	1909.3
1.4	QPSK	1	0	22.44	22.37	22.45	0.2317	0.2280	0.2323
1.4	QPSK	1	3	22.31	22.41	22.37	0.2249	0.2301	0.2280
1.4	QPSK	1	5	22.28	22.37	22.21	0.2234	0.2280	0.2198
1.4	QPSK	3	0	22.44	22.41	22.49	0.2317	0.2301	0.2344

1.4	QPSK	3	1	22.49	22.45	22.24	0.2344	0.2323	0.2213
1.4	QPSK	3	3	22.48	22.46	22.42	0.2339	0.2328	0.2307
1.4	QPSK	6	0	21.45	21.62	21.57	0.1845	0.1919	0.1897
1.4	16QAM	1	0	21.68	21.85	21.64	0.1945	0.2023	0.1928
1.4	16QAM	1	3	21.71	21.79	21.65	0.1959	0.1995	0.1932
1.4	16QAM	1	5	21.66	21.70	21.54	0.1936	0.1954	0.1884
1.4	16QAM	3	0	21.52	21.47	21.51	0.1875	0.1854	0.1871
1.4	16QAM	3	1	21.48	21.54	21.64	0.1858	0.1884	0.1928
1.4	16QAM	3	3	21.50	21.57	21.47	0.1866	0.1897	0.1854
1.4	16QAM	6	0	20.54	20.43	20.51	0.1496	0.1459	0.1486
1.4	64QAM	1	0	20.48	20.63	20.52	0.1476	0.1528	0.1489
1.4	64QAM	1	3	20.60	20.61	20.49	0.1517	0.1521	0.1479
1.4	64QAM	1	5	20.55	20.60	20.44	0.1500	0.1517	0.1462
1.4	64QAM	3	0	20.43	20.49	20.59	0.1459	0.1479	0.1514
1.4	64QAM	3	1	20.45	20.56	20.49	0.1466	0.1503	0.1479
1.4	64QAM	3	3	20.41	20.51	20.51	0.1452	0.1486	0.1486
1.4	64QAM	6	0	19.55	19.56	19.59	0.1191	0.1194	0.1202

LTE Band 4:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				20050	20175	20300	20050	20175	20300
Frequency (MHz)				1720	1732.5	1745	1720	1732.5	1745
20	QPSK	1	0	22.46	22.63	22.56	0.1216	0.1208	0.1227
20	QPSK	1	49	22.40	22.48	22.58	0.1202	0.1219	0.1239
20	QPSK	1	99	22.39	22.45	22.50	0.1211	0.1225	0.1222
20	QPSK	50	0	21.51	21.68	21.64	0.1276	0.1300	0.1368
20	QPSK	50	24	21.59	21.56	21.63	0.1268	0.1291	0.1306
20	QPSK	50	50	21.54	21.60	21.67	0.1256	0.1279	0.1306
20	QPSK	100	0	21.57	21.62	21.61	0.0955	0.0962	0.0979
20	16QAM	1	0	21.80	21.88	22.10	0.0973	0.0964	0.0984
20	16QAM	1	49	21.77	21.85	21.90	0.0955	0.0968	0.0986
20	16QAM	1	99	21.73	21.81	21.90	0.0964	0.0975	0.0977
20	16QAM	50	0	20.54	20.57	20.65	0.0989	0.0998	0.1009
20	16QAM	50	24	20.62	20.58	20.67	0.0986	0.0993	0.1026
20	16QAM	50	50	20.54	20.60	20.68	0.0975	0.1000	0.1019
20	16QAM	100	0	20.58	20.63	20.64	0.0759	0.0764	0.0776
20	64QAM	1	0	20.69	20.73	20.78	0.0767	0.0766	0.0780
20	64QAM	1	49	20.68	20.71	20.85	0.0760	0.0769	0.0774
20	64QAM	1	99	20.63	20.74	20.82	0.0764	0.0774	0.0762
20	64QAM	50	0	19.54	19.57	19.64	0.0759	0.0764	0.0776
20	64QAM	50	24	19.59	19.58	19.66	0.0767	0.0766	0.0780
20	64QAM	50	50	19.55	19.60	19.63	0.0760	0.0769	0.0774
20	64QAM	100	0	19.57	19.63	19.56	0.0764	0.0774	0.0762
Channel				20025	20175	20325	20025	20175	20325

Frequency (MHz)				1717.5	1732.5	1747.5	1717.5	1732.5	1747.5
15	QPSK	1	0	22.35	22.56	22.51	0.1449	0.1521	0.1503
15	QPSK	1	37	22.32	22.31	22.56	0.1439	0.1435	0.1521
15	QPSK	1	74	22.39	22.39	22.48	0.1462	0.1462	0.1493
15	QPSK	36	0	21.51	21.52	21.57	0.1194	0.1197	0.1211
15	QPSK	36	20	21.52	21.39	21.52	0.1197	0.1161	0.1197
15	QPSK	36	39	21.53	21.46	21.50	0.1199	0.1180	0.1191
15	QPSK	75	0	21.45	21.43	21.45	0.1178	0.1172	0.1178
15	16QAM	1	0	21.65	21.76	21.90	0.1233	0.1265	0.1306
15	16QAM	1	37	21.62	21.76	21.74	0.1225	0.1265	0.1259
15	16QAM	1	74	21.63	21.70	21.76	0.1227	0.1247	0.1265
15	16QAM	36	0	20.35	20.41	20.54	0.0914	0.0927	0.0955
15	16QAM	36	20	20.54	20.40	20.49	0.0955	0.0925	0.0944
15	16QAM	36	39	20.52	20.55	20.66	0.0951	0.0957	0.0982
15	16QAM	75	0	20.46	20.57	20.51	0.0938	0.0962	0.0948
15	64QAM	1	0	20.53	20.67	20.72	0.0953	0.0984	0.0995
15	64QAM	1	37	20.57	20.66	20.75	0.0962	0.0982	0.1002
15	64QAM	1	74	20.44	20.59	20.66	0.0933	0.0966	0.0982
15	64QAM	36	0	19.39	19.38	19.48	0.0733	0.0731	0.0748
15	64QAM	36	20	19.45	19.47	19.52	0.0743	0.0746	0.0755
15	64QAM	36	39	19.50	19.47	19.61	0.0752	0.0746	0.0771
15	64QAM	75	0	19.56	19.52	19.47	0.0762	0.0755	0.0746
Channel				20000	20175	20350	20000	20175	20350
Frequency (MHz)				1715	1732.5	1750	1715	1732.5	1750
10	QPSK	1	0	22.38	22.53	22.45	0.1459	0.1510	0.1483
10	QPSK	1	25	22.22	22.44	22.41	0.1406	0.1479	0.1469
10	QPSK	1	49	22.20	22.42	22.41	0.1400	0.1472	0.1469
10	QPSK	25	0	21.44	21.68	21.54	0.1175	0.1242	0.1202
10	QPSK	25	12	21.46	21.46	21.61	0.1180	0.1180	0.1222
10	QPSK	25	25	21.41	21.55	21.64	0.1167	0.1205	0.1230
10	QPSK	50	0	21.39	21.59	21.49	0.1161	0.1216	0.1189
10	16QAM	1	0	21.73	21.78	21.89	0.1256	0.1271	0.1303
10	16QAM	1	25	21.65	21.84	21.77	0.1233	0.1288	0.1268
10	16QAM	1	49	21.59	21.77	21.90	0.1216	0.1268	0.1306
10	16QAM	25	0	20.39	20.46	20.51	0.0923	0.0938	0.0948
10	16QAM	25	12	20.48	20.42	20.53	0.0942	0.0929	0.0953
10	16QAM	25	25	20.48	20.58	20.55	0.0942	0.0964	0.0957
10	16QAM	50	0	20.44	20.61	20.48	0.0933	0.0971	0.0942
10	64QAM	1	0	20.65	20.71	20.64	0.0979	0.0993	0.0977
10	64QAM	1	25	20.67	20.64	20.70	0.0984	0.0977	0.0991
10	64QAM	1	49	20.58	20.62	20.66	0.0964	0.0973	0.0982
10	64QAM	25	0	19.40	19.50	19.50	0.0735	0.0752	0.0752
10	64QAM	25	12	19.56	19.57	19.49	0.0762	0.0764	0.0750
10	64QAM	25	25	19.46	19.44	19.49	0.0745	0.0741	0.0750
10	64QAM	50	0	19.43	19.62	19.54	0.0740	0.0773	0.0759

Channel				19975	20175	20375	19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5	1712.5	1732.5	1752.5
5	QPSK	1	0	22.44	22.48	22.44	0.1479	0.1493	0.1479
5	QPSK	1	12	22.39	22.38	22.49	0.1462	0.1459	0.1496
5	QPSK	1	24	22.32	22.36	22.42	0.1439	0.1452	0.1472
5	QPSK	12	0	21.45	21.52	21.62	0.1178	0.1197	0.1225
5	QPSK	12	7	21.50	21.48	21.47	0.1191	0.1186	0.1183
5	QPSK	12	13	21.46	21.60	21.63	0.1180	0.1219	0.1227
5	QPSK	25	0	21.41	21.56	21.48	0.1167	0.1208	0.1186
5	16QAM	1	0	21.63	21.72	21.88	0.1227	0.1253	0.1300
5	16QAM	1	12	21.61	21.78	21.74	0.1222	0.1271	0.1259
5	16QAM	1	24	21.69	21.76	21.72	0.1245	0.1265	0.1253
5	16QAM	12	0	20.37	20.55	20.60	0.0918	0.0957	0.0968
5	16QAM	12	7	20.44	20.39	20.56	0.0933	0.0923	0.0959
5	16QAM	12	13	20.44	20.48	20.65	0.0933	0.0942	0.0979
5	16QAM	25	0	20.40	20.52	20.47	0.0925	0.0951	0.0940
5	64QAM	1	0	20.59	20.55	20.72	0.0966	0.0957	0.0995
5	64QAM	1	12	20.65	20.70	20.80	0.0979	0.0991	0.1014
5	64QAM	1	24	20.48	20.72	20.71	0.0942	0.0995	0.0993
5	64QAM	12	0	19.35	19.46	19.60	0.0726	0.0745	0.0769
5	64QAM	12	7	19.56	19.44	19.47	0.0762	0.0741	0.0746
5	64QAM	12	13	19.51	19.42	19.49	0.0753	0.0738	0.0750
5	64QAM	25	0	19.40	19.47	19.43	0.0735	0.0746	0.0740
Channel				19965	20175	20385	19965	20175	20385
Frequency (MHz)				1711.5	1732.5	1753.5	1711.5	1732.5	1753.5
3	QPSK	1	0	22.26	22.46	22.36	0.1419	0.1486	0.1452
3	QPSK	1	8	22.26	22.42	22.46	0.1419	0.1472	0.1486
3	QPSK	1	14	22.22	22.31	22.32	0.1406	0.1435	0.1439
3	QPSK	8	0	21.35	21.63	21.49	0.1151	0.1227	0.1189
3	QPSK	8	4	21.43	21.54	21.43	0.1172	0.1202	0.1172
3	QPSK	8	7	21.53	21.48	21.57	0.1199	0.1186	0.1211
3	QPSK	15	0	21.43	21.55	21.52	0.1172	0.1205	0.1197
3	16QAM	1	0	21.70	21.80	21.79	0.1247	0.1276	0.1274
3	16QAM	1	8	21.67	21.68	21.89	0.1239	0.1242	0.1303
3	16QAM	1	14	21.69	21.79	21.78	0.1245	0.1274	0.1271
3	16QAM	8	0	20.37	20.51	20.56	0.0918	0.0948	0.0959
3	16QAM	8	4	20.57	20.48	20.49	0.0962	0.0942	0.0944
3	16QAM	8	7	20.37	20.52	20.50	0.0918	0.0951	0.0946
3	16QAM	15	0	20.45	20.59	20.59	0.0935	0.0966	0.0966
3	64QAM	1	0	20.60	20.70	20.58	0.0968	0.0991	0.0964
3	64QAM	1	8	20.51	20.68	20.65	0.0948	0.0986	0.0979
3	64QAM	1	14	20.61	20.58	20.63	0.0971	0.0964	0.0975
3	64QAM	8	0	19.48	19.48	19.58	0.0748	0.0748	0.0766
3	64QAM	8	4	19.40	19.52	19.66	0.0735	0.0755	0.0780
3	64QAM	8	7	19.49	19.41	19.44	0.0750	0.0736	0.0741

3	64QAM	15	0	19.54	19.51	19.53	0.0759	0.0753	0.0757
Channel				19957	20175	20393	19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3	1710.7	1732.5	1754.3
1.4	QPSK	1	0	22.49	22.51	22.51	0.1496	0.1503	0.1503
1.4	QPSK	1	3	22.47	22.41	22.47	0.1489	0.1469	0.1489
1.4	QPSK	1	5	22.40	22.52	22.46	0.1466	0.1507	0.1486
1.4	QPSK	3	0	22.47	22.58	22.51	0.1489	0.1528	0.1503
1.4	QPSK	3	1	22.50	22.53	22.52	0.1500	0.1510	0.1507
1.4	QPSK	3	3	22.45	22.58	22.48	0.1483	0.1528	0.1493
1.4	QPSK	6	0	21.54	21.62	21.72	0.1202	0.1225	0.1253
1.4	16QAM	1	0	21.79	21.89	21.99	0.1274	0.1303	0.1334
1.4	16QAM	1	3	21.84	21.88	21.92	0.1288	0.1300	0.1312
1.4	16QAM	1	5	21.79	21.88	21.95	0.1274	0.1300	0.1321
1.4	16QAM	3	0	21.54	21.71	21.82	0.1202	0.1250	0.1282
1.4	16QAM	3	1	21.63	21.75	21.92	0.1227	0.1262	0.1312
1.4	16QAM	3	3	21.53	21.67	21.88	0.1199	0.1239	0.1300
1.4	16QAM	6	0	20.57	20.69	20.79	0.0962	0.0989	0.1012
1.4	64QAM	1	0	20.69	20.74	20.79	0.0989	0.1000	0.1012
1.4	64QAM	1	3	20.71	20.83	20.92	0.0993	0.1021	0.1042
1.4	64QAM	1	5	20.67	20.72	20.85	0.0984	0.0995	0.1026
1.4	64QAM	3	0	20.59	20.71	20.83	0.0966	0.0993	0.1021
1.4	64QAM	3	1	20.60	20.74	20.84	0.0968	0.1000	0.1023
1.4	64QAM	3	3	20.59	20.71	20.79	0.0966	0.0993	0.1012
1.4	64QAM	6	0	19.54	19.62	19.74	0.0759	0.0773	0.0794

LTE Band 5:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				20450	20525	20600	20450	20525	20600
Frequency (MHz)				829	836.5	844	829	836.5	844
10	QPSK	1	0	22.89	22.92	22.83	0.1033	0.1040	0.1019
10	QPSK	1	25	22.87	22.83	22.82	0.1028	0.1019	0.1016
10	QPSK	1	49	22.80	22.80	22.75	0.1012	0.1012	0.1000
10	QPSK	25	0	21.97	22.07	21.94	0.0836	0.0855	0.0830
10	QPSK	25	12	21.94	21.97	21.96	0.0830	0.0836	0.0834
10	QPSK	25	25	21.97	22.01	21.98	0.0836	0.0843	0.0838
10	QPSK	50	0	21.99	22.01	21.92	0.0839	0.0843	0.0826
10	16QAM	1	0	22.22	22.21	22.23	0.0885	0.0883	0.0887
10	16QAM	1	25	22.35	22.19	22.20	0.0912	0.0879	0.0881
10	16QAM	1	49	22.18	22.19	22.13	0.0877	0.0879	0.0867
10	16QAM	25	0	20.98	21.00	20.98	0.0665	0.0668	0.0665
10	16QAM	25	12	21.04	20.96	20.98	0.0675	0.0662	0.0665
10	16QAM	25	25	21.01	21.00	20.94	0.0670	0.0668	0.0659
10	16QAM	50	0	21.03	20.95	20.91	0.0673	0.0661	0.0655
10	64QAM	1	0	21.16	21.07	21.16	0.0693	0.0679	0.0693
10	64QAM	1	25	21.07	21.01	21.02	0.0679	0.0670	0.0671
10	64QAM	1	49	21.05	21.02	20.99	0.0676	0.0671	0.0667
10	64QAM	25	0	19.94	20.00	19.95	0.0524	0.0531	0.0525
10	64QAM	25	12	20.01	19.97	19.97	0.0532	0.0527	0.0527
10	64QAM	25	25	20.00	20.00	19.95	0.0531	0.0531	0.0525
10	64QAM	50	0	20.01	19.93	19.95	0.0532	0.0522	0.0525
Channel				20425	20525	20625	20425	20525	20625
Frequency (MHz)				826.5	836.5	846.5	826.5	836.5	846.5
5	QPSK	1	0	22.88	22.89	22.80	0.1030	0.1033	0.1012
5	QPSK	1	12	22.84	22.88	22.89	0.1021	0.1030	0.1033
5	QPSK	1	24	22.76	22.86	22.81	0.1002	0.1026	0.1014
5	QPSK	12	0	22.00	21.90	21.89	0.0841	0.0822	0.0820
5	QPSK	12	7	21.95	22.02	21.90	0.0832	0.0845	0.0822
5	QPSK	12	13	21.96	21.97	21.94	0.0834	0.0836	0.0830
5	QPSK	25	0	21.99	21.91	21.83	0.0839	0.0824	0.0809
5	16QAM	1	0	22.34	22.23	22.18	0.0910	0.0887	0.0877
5	16QAM	1	12	22.25	22.16	22.14	0.0891	0.0873	0.0869
5	16QAM	1	24	22.29	22.22	22.18	0.0899	0.0885	0.0877
5	16QAM	12	0	21.03	20.95	20.90	0.0673	0.0661	0.0653
5	16QAM	12	7	20.99	21.03	20.90	0.0667	0.0673	0.0653
5	16QAM	12	13	21.00	21.01	20.95	0.0668	0.0670	0.0661
5	16QAM	25	0	21.00	20.94	20.85	0.0668	0.0659	0.0646
5	64QAM	1	0	21.22	21.19	21.07	0.0703	0.0698	0.0679
5	64QAM	1	12	21.05	21.15	20.91	0.0676	0.0692	0.0655
5	64QAM	1	24	21.11	21.18	21.08	0.0685	0.0697	0.0681

5	64QAM	12	0	20.02	19.94	19.89	0.0533	0.0524	0.0518
5	64QAM	12	7	20.01	19.99	19.88	0.0532	0.0530	0.0516
5	64QAM	12	13	19.99	20.01	19.93	0.0530	0.0532	0.0522
5	64QAM	25	0	19.98	19.91	19.82	0.0528	0.0520	0.0509
Channel				20415	20525	20635	20415	20525	20635
Frequency (MHz)				825.5	836.5	847.5	825.5	836.5	847.5
3	QPSK	1	0	22.90	22.91	22.84	0.1035	0.1038	0.1021
3	QPSK	1	8	22.87	22.82	22.86	0.1028	0.1016	0.1026
3	QPSK	1	14	22.85	22.80	22.80	0.1023	0.1012	0.1012
3	QPSK	8	0	21.93	21.88	21.90	0.0828	0.0818	0.0822
3	QPSK	8	4	21.96	21.98	21.92	0.0834	0.0838	0.0826
3	QPSK	8	7	21.91	21.91	21.87	0.0824	0.0824	0.0817
3	QPSK	15	0	21.91	21.86	21.92	0.0824	0.0815	0.0826
3	16QAM	1	0	22.22	22.13	22.19	0.0885	0.0867	0.0879
3	16QAM	1	8	22.27	22.28	22.24	0.0895	0.0897	0.0889
3	16QAM	1	14	22.20	22.16	22.14	0.0881	0.0873	0.0869
3	16QAM	8	0	20.98	20.95	20.98	0.0665	0.0661	0.0665
3	16QAM	8	4	21.01	21.05	20.98	0.0670	0.0676	0.0665
3	16QAM	8	7	20.95	20.95	20.93	0.0661	0.0661	0.0658
3	16QAM	15	0	20.94	20.91	20.91	0.0659	0.0655	0.0655
3	64QAM	1	0	21.08	21.02	21.12	0.0681	0.0671	0.0687
3	64QAM	1	8	21.18	21.24	21.11	0.0697	0.0706	0.0685
3	64QAM	1	14	21.18	21.14	20.99	0.0697	0.0690	0.0667
3	64QAM	8	0	19.98	19.92	19.98	0.0528	0.0521	0.0528
3	64QAM	8	4	19.94	19.94	19.99	0.0524	0.0524	0.0530
3	64QAM	8	7	19.98	20.00	19.91	0.0528	0.0531	0.0520
3	64QAM	15	0	19.94	19.87	19.93	0.0524	0.0515	0.0522
Channel				20407	20525	20643	20407	20525	20643
Frequency (MHz)				824.7	836.5	848.3	824.7	836.5	848.3
1.4	QPSK	1	0	22.73	22.70	22.66	0.0995	0.0989	0.0979
1.4	QPSK	1	3	22.83	22.80	22.75	0.1019	0.1012	0.1000
1.4	QPSK	1	5	22.70	22.72	22.74	0.0989	0.0993	0.0998
1.4	QPSK	3	0	22.80	22.74	22.72	0.1012	0.0998	0.0993
1.4	QPSK	3	1	22.82	22.81	22.74	0.1016	0.1014	0.0998
1.4	QPSK	3	3	22.78	22.79	22.74	0.1007	0.1009	0.0998
1.4	QPSK	6	0	21.50	21.80	21.77	0.0750	0.0804	0.0798
1.4	16QAM	1	0	22.14	22.09	22.04	0.0869	0.0859	0.0849
1.4	16QAM	1	3	22.19	22.09	22.11	0.0879	0.0859	0.0863
1.4	16QAM	1	5	22.13	22.06	22.01	0.0867	0.0853	0.0843
1.4	16QAM	3	0	21.86	21.92	21.81	0.0815	0.0826	0.0805
1.4	16QAM	3	1	21.91	21.78	21.82	0.0824	0.0800	0.0807
1.4	16QAM	3	3	21.85	21.84	21.77	0.0813	0.0811	0.0798
1.4	16QAM	6	0	20.56	20.85	20.83	0.0604	0.0646	0.0643
1.4	64QAM	1	0	20.99	20.99	20.94	0.0667	0.0667	0.0659
1.4	64QAM	1	3	21.01	21.07	20.91	0.0670	0.0679	0.0655

1.4	64QAM	1	5	20.99	20.95	20.89	0.0667	0.0661	0.0652
1.4	64QAM	3	0	20.96	20.88	20.84	0.0662	0.0650	0.0644
1.4	64QAM	3	1	20.92	20.92	20.82	0.0656	0.0656	0.0641
1.4	64QAM	3	3	20.87	20.90	20.85	0.0649	0.0653	0.0646
1.4	64QAM	6	0	19.85	19.76	19.78	0.0513	0.0502	0.0505

<Ant. 2>

LTE Band 7:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				20850	21100	21350	20850	21100	21350
Frequency (MHz)				2510	2535	2560	2510	2535	2560
20	QPSK	1	0	23.32	23.37	23.28	0.2606	0.2636	0.2582
20	QPSK	1	49	23.31	23.33	23.35	0.2600	0.2612	0.2624
20	QPSK	1	99	23.26	23.36	23.29	0.2570	0.2630	0.2588
20	QPSK	50	0	22.35	22.52	22.40	0.2084	0.2168	0.2109
20	QPSK	50	24	22.50	22.41	22.44	0.2158	0.2113	0.2128
20	QPSK	50	50	22.47	22.50	22.36	0.2143	0.2158	0.2089
20	QPSK	100	0	22.37	22.46	22.41	0.2094	0.2138	0.2113
20	16QAM	1	0	22.48	22.55	22.53	0.2148	0.2183	0.2173
20	16QAM	1	49	22.60	22.66	22.68	0.2208	0.2239	0.2249
20	16QAM	1	99	22.63	22.72	22.73	0.2223	0.2270	0.2275
20	16QAM	50	0	21.35	21.36	21.38	0.1656	0.1660	0.1667
20	16QAM	50	24	21.49	21.40	21.43	0.1710	0.1675	0.1687
20	16QAM	50	50	21.46	21.50	21.51	0.1698	0.1714	0.1718
20	16QAM	100	0	21.46	21.39	21.43	0.1698	0.1671	0.1687
20	64QAM	1	0	21.39	21.36	21.34	0.1671	0.1660	0.1652
20	64QAM	1	49	21.42	21.46	21.48	0.1683	0.1698	0.1706
20	64QAM	1	99	21.48	21.54	21.60	0.1706	0.1730	0.1754
20	64QAM	50	0	20.34	20.35	20.39	0.1312	0.1315	0.1327
20	64QAM	50	24	20.47	20.40	20.43	0.1352	0.1330	0.1340
20	64QAM	50	50	20.45	20.46	20.51	0.1346	0.1349	0.1365
20	64QAM	100	0	20.46	20.39	20.42	0.1349	0.1327	0.1337
Channel				20825	21100	21375	20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5	2507.5	2535	2562.5
15	QPSK	1	0	23.26	23.34	23.20	0.2570	0.2618	0.2535
15	QPSK	1	37	23.17	23.18	23.29	0.2518	0.2523	0.2588
15	QPSK	1	74	23.24	23.23	23.20	0.2559	0.2553	0.2535
15	QPSK	36	0	22.28	22.36	22.24	0.2051	0.2089	0.2032
15	QPSK	36	20	22.35	22.29	22.32	0.2084	0.2056	0.2070
15	QPSK	36	39	22.42	22.38	22.22	0.2118	0.2099	0.2023
15	QPSK	75	0	22.27	22.44	22.29	0.2046	0.2128	0.2056
15	16QAM	1	0	22.40	22.40	22.45	0.2109	0.2109	0.2133
15	16QAM	1	37	22.56	22.60	22.55	0.2188	0.2208	0.2183

15	16QAM	1	74	22.61	22.65	22.60	0.2213	0.2234	0.2208
15	16QAM	36	0	21.31	21.27	21.23	0.1641	0.1626	0.1611
15	16QAM	36	20	21.41	21.35	21.40	0.1679	0.1656	0.1675
15	16QAM	36	39	21.36	21.34	21.46	0.1660	0.1652	0.1698
15	16QAM	75	0	21.34	21.32	21.36	0.1652	0.1644	0.1660
15	64QAM	1	0	21.27	21.21	21.25	0.1626	0.1603	0.1618
15	64QAM	1	37	21.37	21.42	21.39	0.1663	0.1683	0.1671
15	64QAM	1	74	21.35	21.42	21.43	0.1656	0.1683	0.1687
15	64QAM	36	0	20.31	20.30	20.34	0.1303	0.1300	0.1312
15	64QAM	36	20	20.38	20.22	20.35	0.1324	0.1276	0.1315
15	64QAM	36	39	20.38	20.34	20.45	0.1324	0.1312	0.1346
15	64QAM	75	0	20.33	20.23	20.26	0.1309	0.1279	0.1288
Channel				20800	21100	21400	20800	21100	21400
Frequency (MHz)				2505	2535	2565	2505	2535	2565
10	QPSK	1	0	23.15	23.25	23.11	0.2506	0.2564	0.2483
10	QPSK	1	25	23.25	23.20	23.32	0.2564	0.2535	0.2606
10	QPSK	1	49	23.11	23.18	23.15	0.2483	0.2523	0.2506
10	QPSK	25	0	22.26	22.46	22.31	0.2042	0.2138	0.2065
10	QPSK	25	12	22.38	22.32	22.40	0.2099	0.2070	0.2109
10	QPSK	25	25	22.34	22.43	22.27	0.2080	0.2123	0.2046
10	QPSK	50	0	22.26	22.39	22.37	0.2042	0.2104	0.2094
10	16QAM	1	0	22.33	22.38	22.50	0.2075	0.2099	0.2158
10	16QAM	1	25	22.55	22.49	22.56	0.2183	0.2153	0.2188
10	16QAM	1	49	22.52	22.70	22.60	0.2168	0.2259	0.2208
10	16QAM	25	0	21.32	21.26	21.33	0.1644	0.1622	0.1648
10	16QAM	25	12	21.43	21.30	21.27	0.1687	0.1637	0.1626
10	16QAM	25	25	21.35	21.35	21.49	0.1656	0.1656	0.1710
10	16QAM	50	0	21.42	21.26	21.28	0.1683	0.1622	0.1629
10	64QAM	1	0	21.36	21.24	21.32	0.1660	0.1614	0.1644
10	64QAM	1	25	21.33	21.38	21.33	0.1648	0.1667	0.1648
10	64QAM	1	49	21.44	21.37	21.45	0.1690	0.1663	0.1694
10	64QAM	25	0	20.22	20.30	20.28	0.1276	0.1300	0.1294
10	64QAM	25	12	20.33	20.37	20.34	0.1309	0.1321	0.1312
10	64QAM	25	25	20.33	20.41	20.44	0.1309	0.1334	0.1343
10	64QAM	50	0	20.41	20.28	20.39	0.1334	0.1294	0.1327
Channel				20775	21100	21425	20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5	2502.5	2535	2567.5
5	QPSK	1	0	23.30	23.23	23.14	0.2594	0.2553	0.2500
5	QPSK	1	12	23.15	23.28	23.22	0.2506	0.2582	0.2547
5	QPSK	1	24	23.22	23.32	23.14	0.2547	0.2606	0.2500
5	QPSK	12	0	22.20	22.45	22.31	0.2014	0.2133	0.2065
5	QPSK	12	7	22.42	22.26	22.35	0.2118	0.2042	0.2084
5	QPSK	12	13	22.42	22.44	22.23	0.2118	0.2128	0.2028
5	QPSK	25	0	22.26	22.37	22.32	0.2042	0.2094	0.2070
5	16QAM	1	0	22.33	22.48	22.45	0.2075	0.2148	0.2133

5	16QAM	1	12	22.49	22.61	22.61	0.2153	0.2213	0.2213
5	16QAM	1	24	22.61	22.61	22.64	0.2213	0.2213	0.2228
5	16QAM	12	0	21.25	21.31	21.31	0.1618	0.1641	0.1641
5	16QAM	12	7	21.42	21.32	21.29	0.1683	0.1644	0.1633
5	16QAM	12	13	21.42	21.45	21.38	0.1683	0.1694	0.1667
5	16QAM	25	0	21.33	21.33	21.27	0.1648	0.1648	0.1626
5	64QAM	1	0	21.30	21.26	21.16	0.1637	0.1622	0.1585
5	64QAM	1	12	21.39	21.37	21.31	0.1671	0.1663	0.1641
5	64QAM	1	24	21.40	21.39	21.54	0.1675	0.1671	0.1730
5	64QAM	12	0	20.19	20.28	20.30	0.1268	0.1294	0.1300
5	64QAM	12	7	20.30	20.30	20.27	0.1300	0.1300	0.1291
5	64QAM	12	13	20.32	20.35	20.43	0.1306	0.1315	0.1340
5	64QAM	25	0	20.43	20.25	20.27	0.1340	0.1285	0.1291

LTE Band 38:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				37850	38000	38150	37850	38000	38150
Frequency (MHz)				2580	2595	2610	2580	2595	2610
20	QPSK	1	0	23.36	23.50	23.31	0.1959	0.2023	0.1936
20	QPSK	1	49	23.44	23.38	23.36	0.1995	0.1968	0.1959
20	QPSK	1	99	23.49	23.45	23.36	0.2018	0.2000	0.1959
20	QPSK	50	0	22.41	22.55	22.44	0.1574	0.1626	0.1585
20	QPSK	50	24	22.47	22.54	22.48	0.1596	0.1622	0.1600
20	QPSK	50	50	22.43	22.50	22.37	0.1581	0.1607	0.1560
20	QPSK	100	0	22.49	22.51	22.45	0.1603	0.1611	0.1589
20	16QAM	1	0	22.47	22.54	22.50	0.1596	0.1622	0.1607
20	16QAM	1	49	22.58	22.63	22.52	0.1637	0.1656	0.1614
20	16QAM	1	99	22.60	22.58	22.48	0.1644	0.1637	0.1600
20	16QAM	50	0	21.39	21.45	21.46	0.1245	0.1262	0.1265
20	16QAM	50	24	21.56	21.52	21.51	0.1294	0.1282	0.1279
20	16QAM	50	50	21.53	21.52	21.36	0.1285	0.1282	0.1236
20	16QAM	100	0	21.51	21.49	21.45	0.1279	0.1274	0.1262
20	64QAM	1	0	21.17	21.18	21.20	0.1183	0.1186	0.1191
20	64QAM	1	49	21.22	21.35	21.23	0.1197	0.1233	0.1199
20	64QAM	1	99	21.29	21.27	21.21	0.1216	0.1211	0.1194
20	64QAM	50	0	20.31	20.39	20.40	0.0971	0.0989	0.0991
20	64QAM	50	24	20.47	20.47	20.45	0.1007	0.1007	0.1002
20	64QAM	50	50	20.47	20.44	20.32	0.1007	0.1000	0.0973
20	64QAM	100	0	20.53	20.52	20.50	0.1021	0.1019	0.1014
Channel				37825	38000	38175	37825	38000	38175
Frequency (MHz)				2577.5	2595	2612.5	2577.5	2595	2612.5
15	QPSK	1	0	23.25	23.46	23.23	0.1910	0.2004	0.1901
15	QPSK	1	37	23.33	23.24	23.33	0.1945	0.1905	0.1945
15	QPSK	1	74	23.40	23.31	23.24	0.1977	0.1936	0.1905

15	QPSK	36	0	22.32	22.38	22.32	0.1542	0.1563	0.1542
15	QPSK	36	20	22.35	22.51	22.46	0.1552	0.1611	0.1592
15	QPSK	36	39	22.28	22.33	22.30	0.1528	0.1545	0.1535
15	QPSK	75	0	22.47	22.36	22.42	0.1596	0.1556	0.1578
15	16QAM	1	0	22.32	22.45	22.32	0.1542	0.1589	0.1542
15	16QAM	1	37	22.42	22.56	22.42	0.1578	0.1629	0.1578
15	16QAM	1	74	22.45	22.50	22.44	0.1589	0.1607	0.1585
15	16QAM	36	0	21.27	21.30	21.41	0.1211	0.1219	0.1250
15	16QAM	36	20	21.41	21.46	21.38	0.1250	0.1265	0.1242
15	16QAM	36	39	21.39	21.37	21.32	0.1245	0.1239	0.1225
15	16QAM	75	0	21.38	21.39	21.36	0.1242	0.1245	0.1236
15	64QAM	1	0	21.06	21.06	21.15	0.1153	0.1153	0.1178
15	64QAM	1	37	21.06	21.33	21.10	0.1153	0.1227	0.1164
15	64QAM	1	74	21.26	21.14	21.06	0.1208	0.1175	0.1153
15	64QAM	36	0	20.16	20.23	20.34	0.0938	0.0953	0.0977
15	64QAM	36	20	20.33	20.37	20.41	0.0975	0.0984	0.0993
15	64QAM	36	39	20.33	20.28	20.29	0.0975	0.0964	0.0966
15	64QAM	75	0	20.35	20.44	20.37	0.0979	0.1000	0.0984
Channel				37800	38000	38200	37800	38000	38200
Frequency (MHz)				2575	2595	2615	2575	2595	2615
10	QPSK	1	0	23.20	23.35	23.16	0.1888	0.1954	0.1871
10	QPSK	1	25	23.28	23.28	23.31	0.1923	0.1923	0.1936
10	QPSK	1	49	23.35	23.32	23.28	0.1954	0.1941	0.1923
10	QPSK	25	0	22.26	22.46	22.38	0.1521	0.1592	0.1563
10	QPSK	25	12	22.30	22.39	22.36	0.1535	0.1567	0.1556
10	QPSK	25	25	22.35	22.37	22.21	0.1552	0.1560	0.1503
10	QPSK	50	0	22.45	22.36	22.41	0.1589	0.1556	0.1574
10	16QAM	1	0	22.45	22.45	22.41	0.1589	0.1589	0.1574
10	16QAM	1	25	22.52	22.50	22.38	0.1614	0.1607	0.1563
10	16QAM	1	49	22.47	22.50	22.39	0.1596	0.1607	0.1567
10	16QAM	25	0	21.22	21.40	21.41	0.1197	0.1247	0.1250
10	16QAM	25	12	21.50	21.38	21.44	0.1276	0.1242	0.1259
10	16QAM	25	25	21.45	21.44	21.28	0.1262	0.1259	0.1213
10	16QAM	50	0	21.39	21.35	21.38	0.1245	0.1233	0.1242
10	64QAM	1	0	21.14	21.02	21.11	0.1175	0.1143	0.1167
10	64QAM	1	25	21.08	21.27	21.12	0.1159	0.1211	0.1169
10	64QAM	1	49	21.14	21.12	21.04	0.1175	0.1169	0.1148
10	64QAM	25	0	20.29	20.22	20.24	0.0966	0.0951	0.0955
10	64QAM	25	12	20.35	20.39	20.40	0.0979	0.0989	0.0991
10	64QAM	25	25	20.33	20.31	20.17	0.0975	0.0971	0.0940
10	64QAM	50	0	20.38	20.44	20.33	0.0986	0.1000	0.0975
Channel				37775	38000	38225	37775	38000	38225
Frequency (MHz)				2572.5	2595	2617.5	2572.5	2595	2617.5
5	QPSK	1	0	23.27	23.34	23.21	0.1919	0.1950	0.1892
5	QPSK	1	12	23.27	23.28	23.22	0.1919	0.1923	0.1897

5	QPSK	1	24	23.39	23.39	23.24	0.1972	0.1972	0.1905
5	QPSK	12	0	22.33	22.39	22.41	0.1545	0.1567	0.1574
5	QPSK	12	7	22.30	22.46	22.45	0.1535	0.1592	0.1589
5	QPSK	12	13	22.31	22.45	22.22	0.1538	0.1589	0.1507
5	QPSK	25	0	22.46	22.36	22.38	0.1592	0.1556	0.1563
5	16QAM	1	0	22.37	22.48	22.42	0.1560	0.1600	0.1578
5	16QAM	1	12	22.55	22.53	22.42	0.1626	0.1618	0.1578
5	16QAM	1	24	22.55	22.45	22.34	0.1626	0.1589	0.1549
5	16QAM	12	0	21.34	21.30	21.41	0.1230	0.1219	0.1250
5	16QAM	12	7	21.41	21.46	21.38	0.1250	0.1265	0.1242
5	16QAM	12	13	21.37	21.45	21.25	0.1239	0.1262	0.1205
5	16QAM	25	0	21.42	21.37	21.33	0.1253	0.1239	0.1227
5	64QAM	1	0	21.13	21.09	21.12	0.1172	0.1161	0.1169
5	64QAM	1	12	21.17	21.24	21.06	0.1183	0.1202	0.1153
5	64QAM	1	24	21.25	21.19	21.14	0.1205	0.1189	0.1175
5	64QAM	12	0	20.14	20.22	20.33	0.0933	0.0951	0.0975
5	64QAM	12	7	20.43	20.43	20.34	0.0998	0.0998	0.0977
5	64QAM	12	13	20.36	20.41	20.22	0.0982	0.0993	0.0951
5	64QAM	25	0	20.42	20.42	20.42	0.0995	0.0995	0.0995

LTE Band 41:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				39750	40620	41490	39750	40620	41490
Frequency (MHz)				2506	2593	2680	2506	2593	2680
20	QPSK	1	0	23.21	23.57	23.29	0.2070	0.2249	0.2109
20	QPSK	1	49	23.16	23.22	23.24	0.2046	0.2075	0.2084
20	QPSK	1	99	23.13	23.29	23.24	0.2032	0.2109	0.2084
20	QPSK	50	0	22.27	22.47	22.44	0.1667	0.1746	0.1734
20	QPSK	50	24	22.36	22.44	22.42	0.1702	0.1734	0.1726
20	QPSK	50	50	22.35	22.43	22.31	0.1698	0.1730	0.1683
20	QPSK	100	0	22.17	22.31	22.21	0.1629	0.1683	0.1644
20	16QAM	1	0	22.28	22.43	22.42	0.1671	0.1730	0.1726
20	16QAM	1	49	22.29	22.36	22.35	0.1675	0.1702	0.1698
20	16QAM	1	99	22.25	22.43	22.36	0.1660	0.1730	0.1702
20	16QAM	50	0	21.31	21.45	21.44	0.1337	0.1380	0.1377
20	16QAM	50	24	21.39	21.45	21.45	0.1361	0.1380	0.1380
20	16QAM	50	50	21.38	21.47	21.33	0.1358	0.1387	0.1343
20	16QAM	100	0	21.42	21.45	21.42	0.1371	0.1380	0.1371
20	64QAM	1	0	21.02	21.12	21.22	0.1250	0.1279	0.1309
20	64QAM	1	49	20.98	21.08	21.10	0.1239	0.1268	0.1274
20	64QAM	1	99	20.95	21.13	21.07	0.1230	0.1282	0.1265
20	64QAM	50	0	20.24	20.40	20.33	0.1045	0.1084	0.1067
20	64QAM	50	24	20.34	20.39	20.38	0.1069	0.1081	0.1079
20	64QAM	50	50	20.32	20.40	20.27	0.1064	0.1084	0.1052

20	64QAM	100	0	20.43	20.49	20.47	0.1091	0.1107	0.1102
Channel				39725	40620	41515	39725	40620	41515
Frequency (MHz)				2503.5	2593	2682.5	2503.5	2593	2682.5
15	QPSK	1	0	23.17	23.34	23.23	0.2051	0.2133	0.2080
15	QPSK	1	37	23.11	23.04	23.07	0.2023	0.1991	0.2004
15	QPSK	1	74	23.07	23.25	23.12	0.2004	0.2089	0.2028
15	QPSK	36	0	22.21	22.43	22.41	0.1644	0.1730	0.1722
15	QPSK	36	20	22.32	22.30	22.25	0.1687	0.1679	0.1660
15	QPSK	36	39	22.25	22.40	22.16	0.1660	0.1718	0.1626
15	QPSK	75	0	22.27	22.31	22.36	0.1667	0.1683	0.1702
15	16QAM	1	0	22.16	22.29	22.33	0.1626	0.1675	0.1690
15	16QAM	1	37	22.22	22.27	22.22	0.1648	0.1667	0.1648
15	16QAM	1	74	22.10	22.33	22.32	0.1603	0.1690	0.1687
15	16QAM	36	0	21.20	21.38	21.33	0.1303	0.1358	0.1343
15	16QAM	36	20	21.31	21.31	21.40	0.1337	0.1337	0.1365
15	16QAM	36	39	21.28	21.34	21.28	0.1327	0.1346	0.1327
15	16QAM	75	0	21.28	21.28	21.40	0.1327	0.1327	0.1365
15	64QAM	1	0	20.98	20.96	21.04	0.1239	0.1233	0.1256
15	64QAM	1	37	20.86	21.05	20.94	0.1205	0.1259	0.1227
15	64QAM	1	74	20.83	21.06	20.95	0.1197	0.1262	0.1230
15	64QAM	36	0	20.11	20.24	20.27	0.1014	0.1045	0.1052
15	64QAM	36	20	20.26	20.34	20.21	0.1050	0.1069	0.1038
15	64QAM	36	39	20.27	20.26	20.13	0.1052	0.1050	0.1019
15	64QAM	75	0	20.29	20.39	20.32	0.1057	0.1081	0.1064
Channel				39700	40620	41540	39700	40620	41540
Frequency (MHz)				2501	2593	2685	2501	2593	2685
10	QPSK	1	0	23.16	23.26	23.19	0.2046	0.2094	0.2061
10	QPSK	1	25	23.08	23.18	23.21	0.2009	0.2056	0.2070
10	QPSK	1	49	23.02	23.14	23.14	0.1982	0.2037	0.2037
10	QPSK	25	0	22.14	22.42	22.34	0.1618	0.1726	0.1694
10	QPSK	25	12	22.28	22.30	22.29	0.1671	0.1679	0.1675
10	QPSK	25	25	22.24	22.30	22.20	0.1656	0.1679	0.1641
10	QPSK	50	0	22.25	22.34	22.26	0.1660	0.1694	0.1663
10	16QAM	1	0	22.23	22.26	22.29	0.1652	0.1663	0.1675
10	16QAM	1	25	22.16	22.22	22.29	0.1626	0.1648	0.1675
10	16QAM	1	49	22.11	22.37	22.26	0.1607	0.1706	0.1663
10	16QAM	25	0	21.27	21.33	21.37	0.1324	0.1343	0.1355
10	16QAM	25	12	21.30	21.41	21.31	0.1334	0.1368	0.1337
10	16QAM	25	25	21.24	21.29	21.22	0.1315	0.1330	0.1309
10	16QAM	50	0	21.27	21.40	21.26	0.1324	0.1365	0.1321
10	64QAM	1	0	20.94	21.09	21.11	0.1227	0.1271	0.1276
10	64QAM	1	25	20.86	20.94	20.94	0.1205	0.1227	0.1227
10	64QAM	1	49	20.88	21.05	20.92	0.1211	0.1259	0.1222
10	64QAM	25	0	20.20	20.23	20.16	0.1035	0.1042	0.1026
10	64QAM	25	12	20.20	20.31	20.34	0.1035	0.1062	0.1069

10	64QAM	25	25	20.22	20.26	20.20	0.1040	0.1050	0.1035
10	64QAM	50	0	20.34	20.41	20.33	0.1069	0.1086	0.1067
Channel				39675	40620	41565	39675	40620	41565
Frequency (MHz)				2498.5	2593	2687.5	2498.5	2593	2687.5
5	QPSK	1	0	23.15	23.19	23.19	0.2042	0.2061	0.2061
5	QPSK	1	12	22.98	23.06	23.13	0.1963	0.2000	0.2032
5	QPSK	1	24	23.09	23.16	23.12	0.2014	0.2046	0.2028
5	QPSK	12	0	22.10	22.30	22.35	0.1603	0.1679	0.1698
5	QPSK	12	7	22.22	22.40	22.38	0.1648	0.1718	0.1710
5	QPSK	12	13	22.22	22.27	22.13	0.1648	0.1667	0.1614
5	QPSK	25	0	22.32	22.35	22.28	0.1687	0.1698	0.1671
5	16QAM	1	0	22.17	22.35	22.28	0.1629	0.1698	0.1671
5	16QAM	1	12	22.23	22.28	22.25	0.1652	0.1671	0.1660
5	16QAM	1	24	22.22	22.32	22.32	0.1648	0.1687	0.1687
5	16QAM	12	0	21.14	21.40	21.34	0.1285	0.1365	0.1346
5	16QAM	12	7	21.24	21.36	21.35	0.1315	0.1352	0.1349
5	16QAM	12	13	21.35	21.31	21.28	0.1349	0.1337	0.1327
5	16QAM	25	0	21.37	21.43	21.38	0.1355	0.1374	0.1358
5	64QAM	1	0	20.97	21.08	21.12	0.1236	0.1268	0.1279
5	64QAM	1	12	20.87	20.98	21.01	0.1208	0.1239	0.1247
5	64QAM	1	24	20.81	21.04	21.00	0.1191	0.1256	0.1245
5	64QAM	12	0	20.06	20.25	20.16	0.1002	0.1047	0.1026
5	64QAM	12	7	20.24	20.22	20.22	0.1045	0.1040	0.1040
5	64QAM	12	13	20.20	20.38	20.09	0.1035	0.1079	0.1009
5	64QAM	25	0	20.38	20.35	20.39	0.1079	0.1072	0.1081

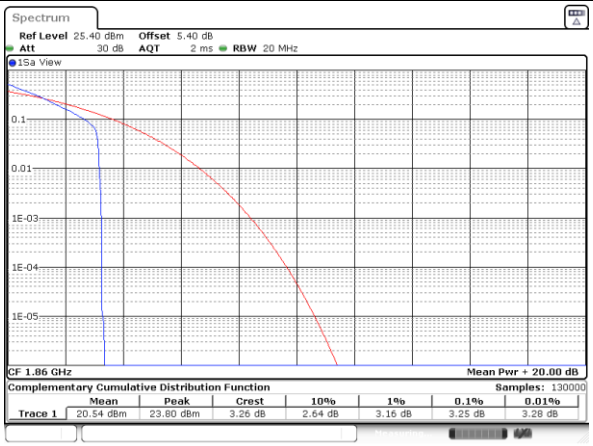
LTE Band 2

Peak-to-Average Ratio

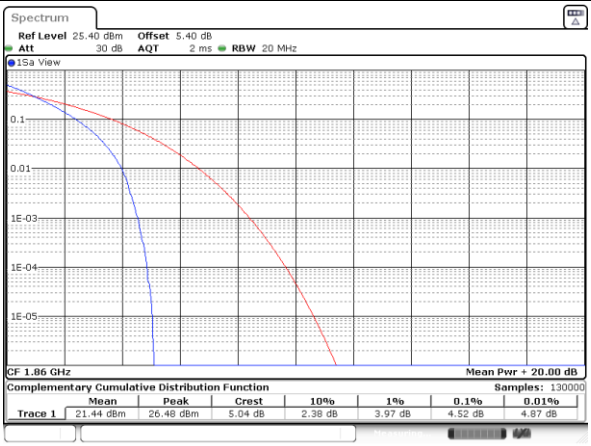
Mode	LTE Band 2 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.25	4.52	4.75	5.45	PASS
Middle CH	3.28	4.78	4.32	5.77	
Highest CH	3.39	4.64	4.75	5.59	
Mode	LTE Band 2 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	4.67	5.45	-	-	PASS
Middle CH	4.43	5.68	-	-	
Highest CH	4.81	5.57	-	-	

LTE Band 2 / 20MHz / QPSK

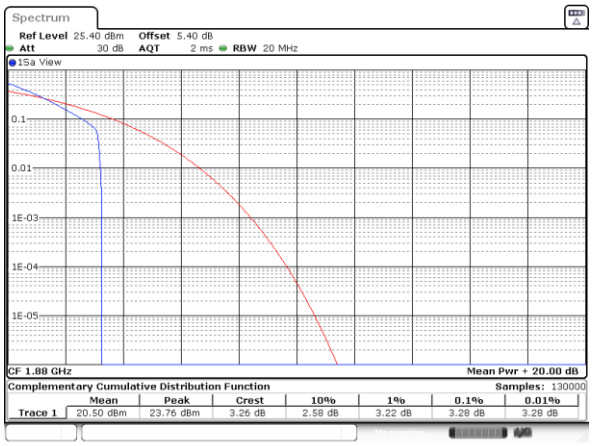
Lowest Channel / 1RB



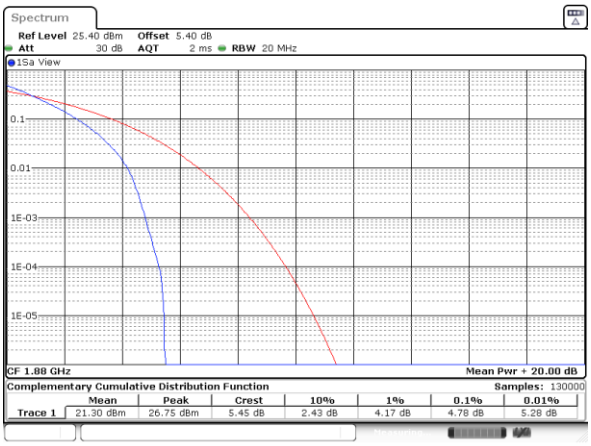
Lowest Channel / Full RB



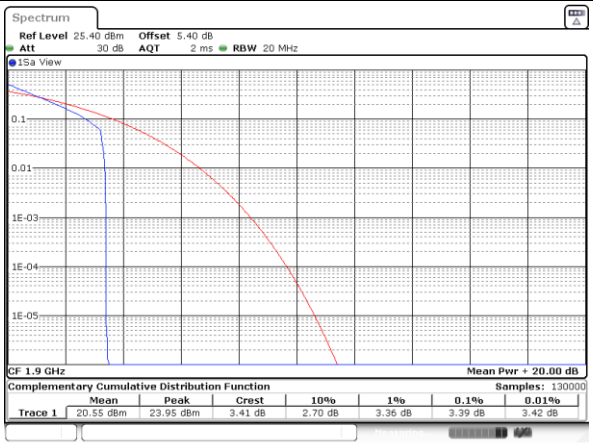
Middle Channel / 1RB



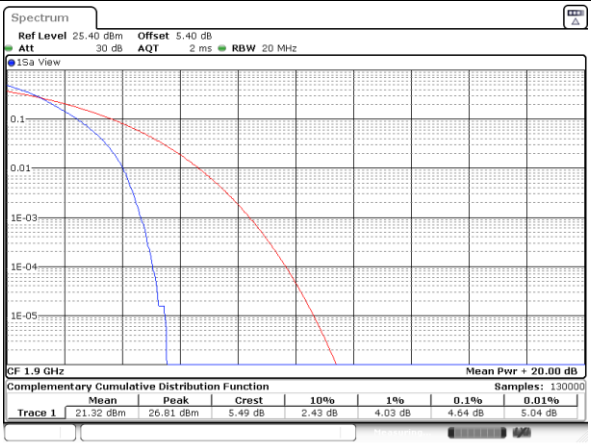
Middle Channel / Full RB



Highest Channel / 1RB

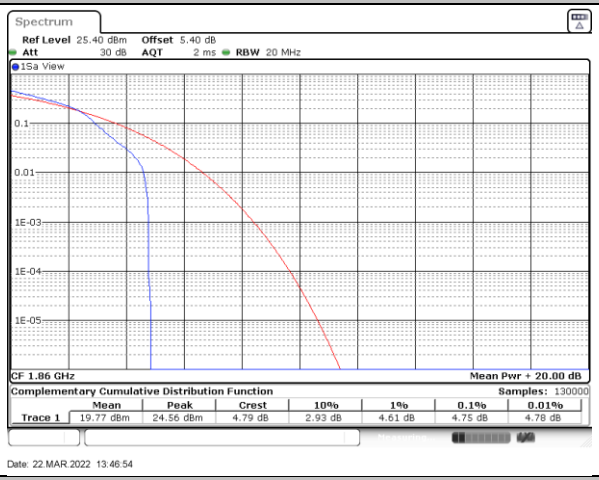


Highest Channel / Full RB

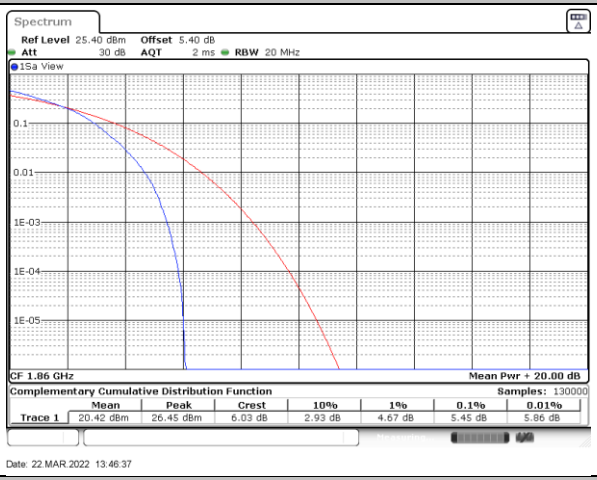


LTE Band 2 / 20MHz / 16QAM

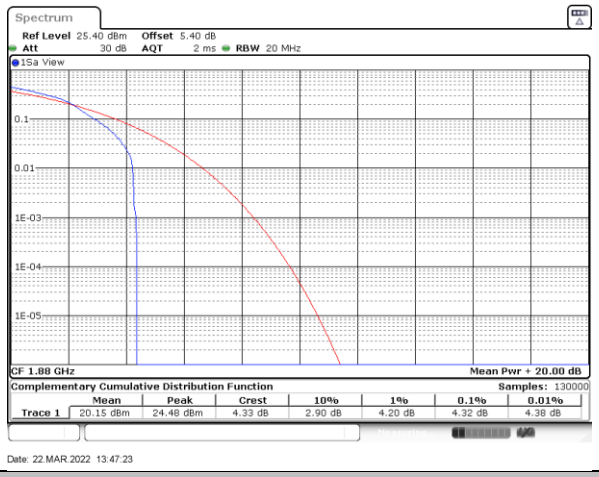
Lowest Channel / 1RB



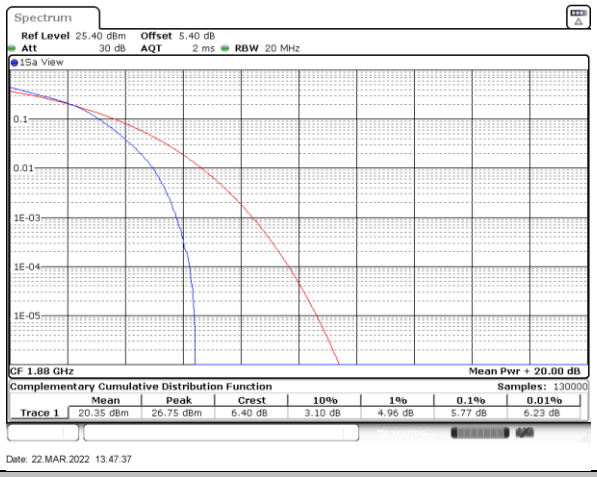
Lowest Channel / Full RB



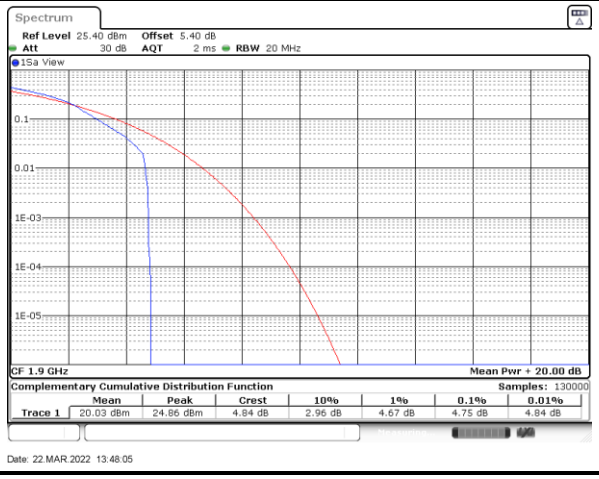
Middle Channel / 1RB



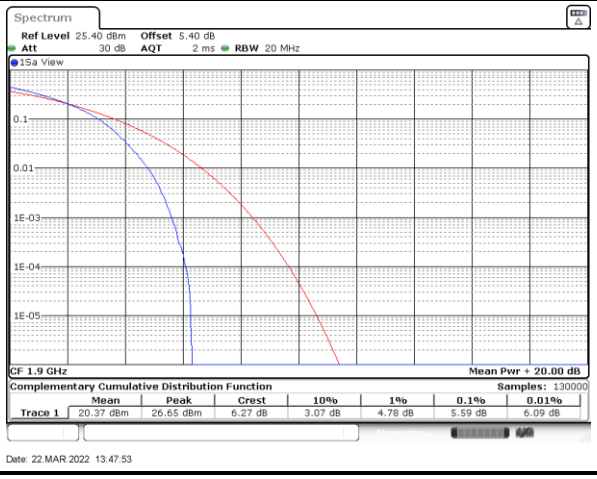
Middle Channel / Full RB



Highest Channel / 1RB

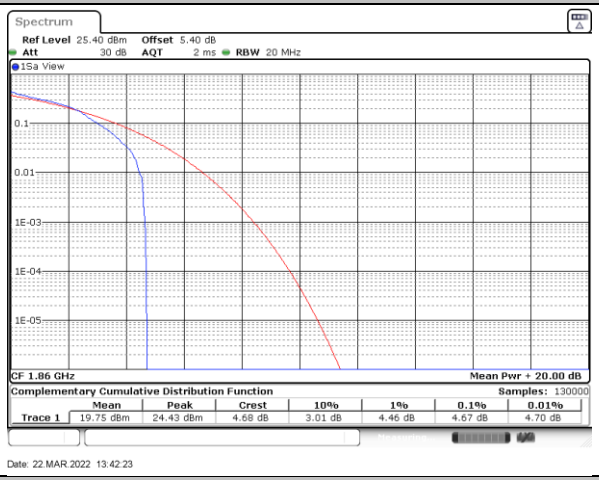


Highest Channel / Full RB

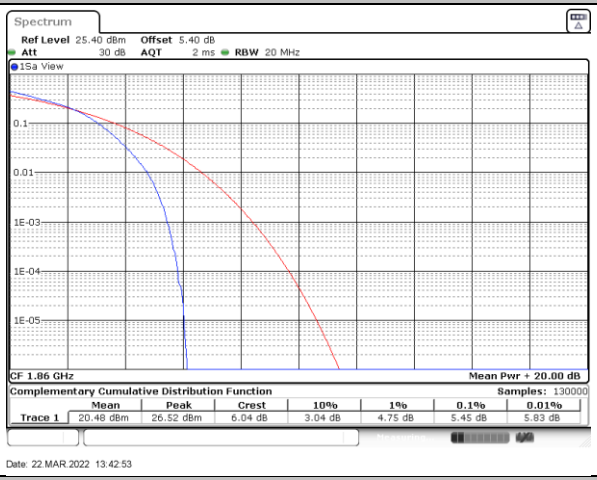


LTE Band 2 / 20MHz / 64QAM

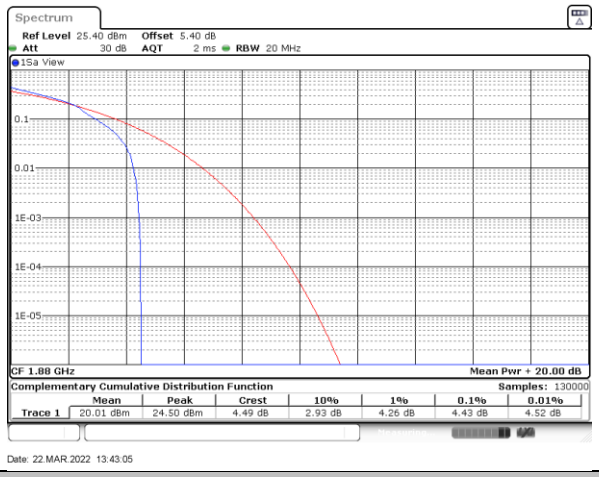
Lowest Channel / 1RB



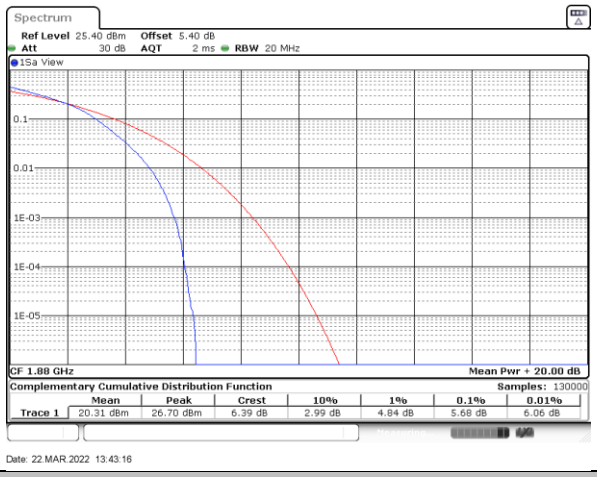
Lowest Channel / Full RB



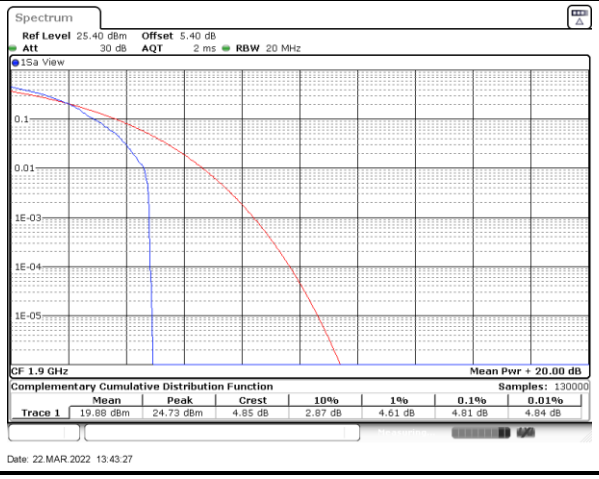
Middle Channel / 1RB



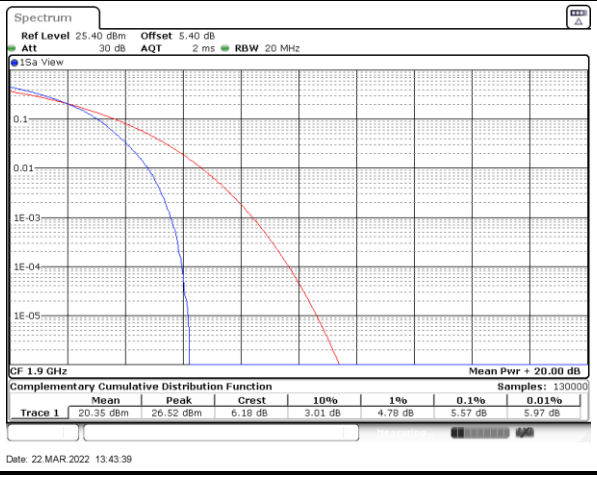
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

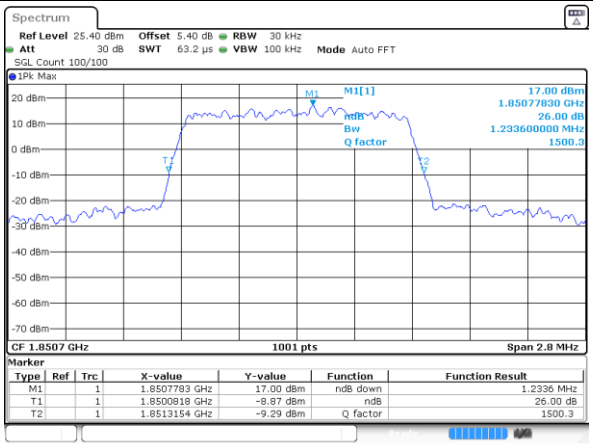


26dB Bandwidth

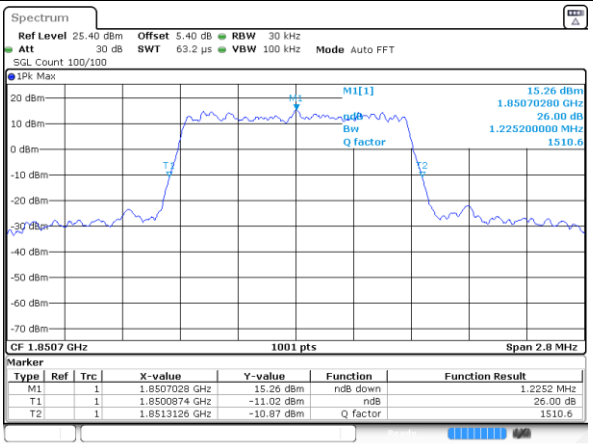
Mode	LTE Band 2 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.23	1.23	3.00	3.06	4.99	4.93	9.91	9.77	14.39	14.57	18.98	18.98
Middle CH	1.22	1.23	3.02	2.99	4.87	4.87	9.69	9.77	14.60	14.72	19.22	19.22
Highest CH	1.23	1.23	3.03	2.98	4.90	4.95	9.87	9.83	14.48	14.48	18.74	19.02
Mode	LTE Band 2 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.23	-	3.00	-	4.91	-	9.73	-	14.54	-	19.42	-
Middle CH	1.22	-	3.00	-	4.83	-	9.85	-	14.39	-	18.90	-
Highest CH	1.23	-	3.04	-	4.90	-	9.67	-	14.72	-	19.18	-

LTE Band 2

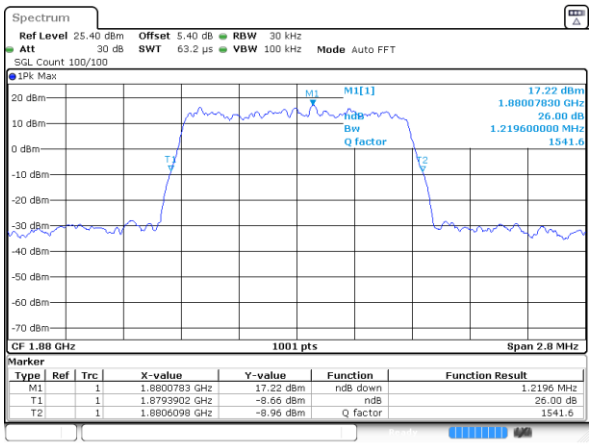
Lowest Channel / 1.4MHz / QPSK



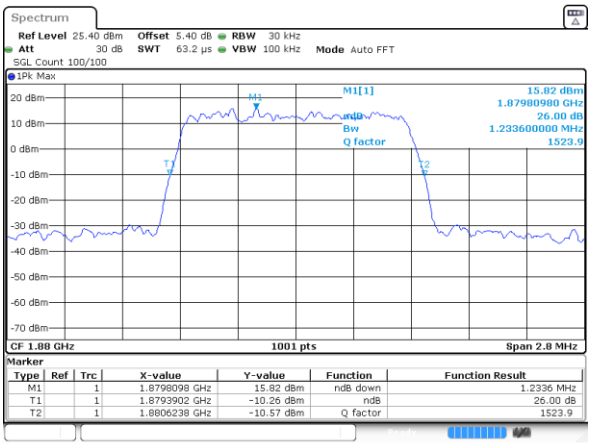
Lowest Channel / 1.4MHz / 16QAM



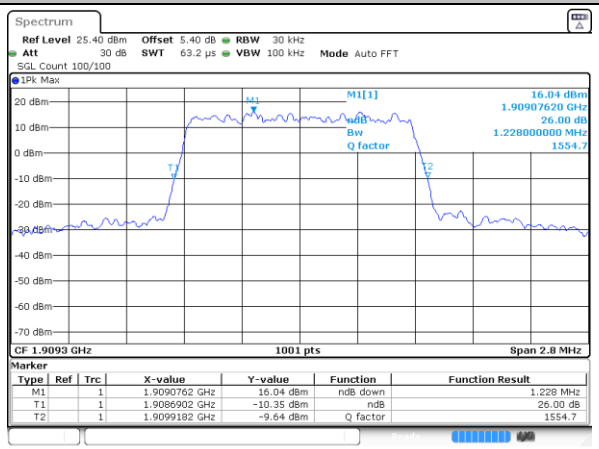
Middle Channel / 1.4MHz / QPSK



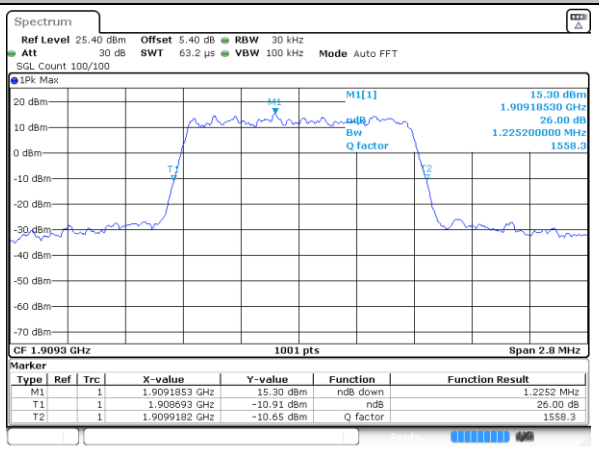
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

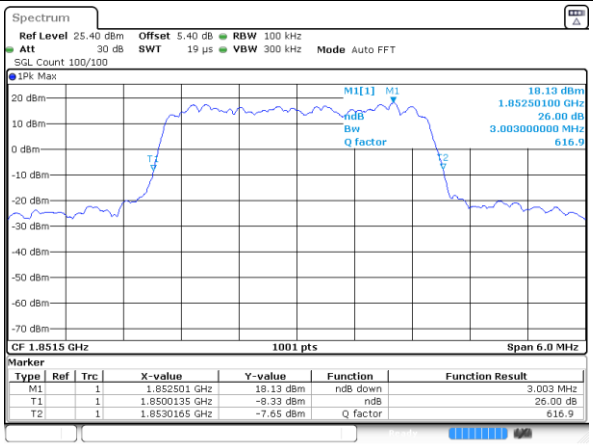


Highest Channel / 1.4MHz / 16QAM

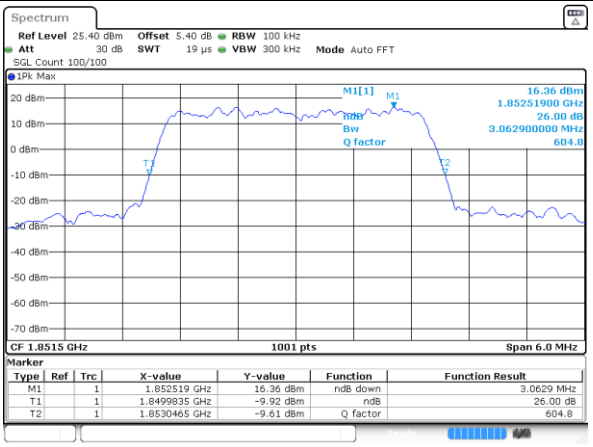


LTE Band 2

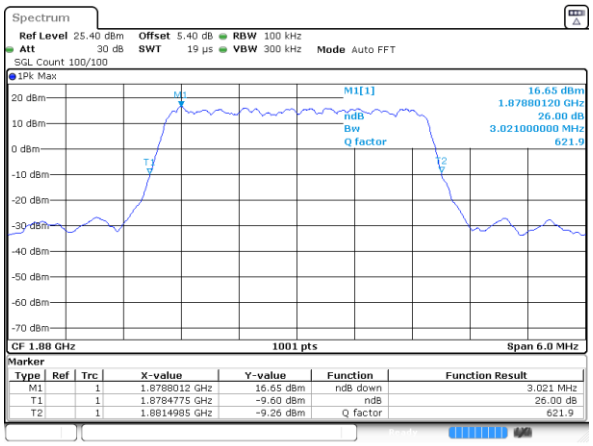
Lowest Channel / 3MHz / QPSK



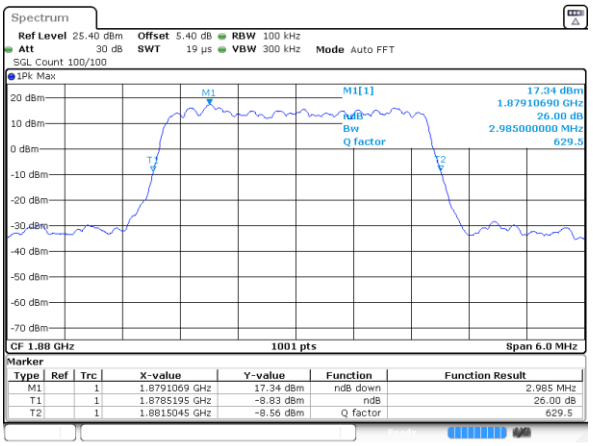
Lowest Channel / 3MHz / 16QAM



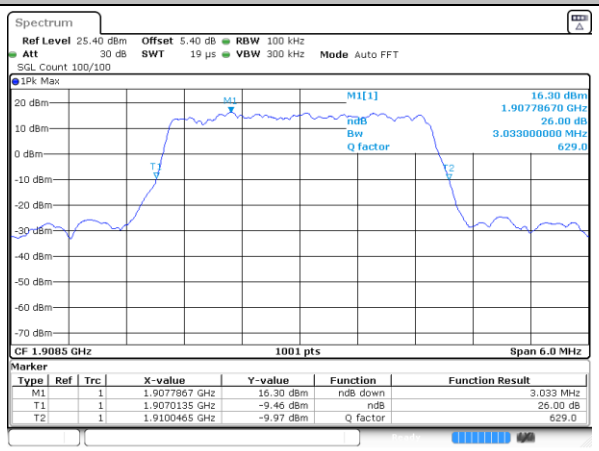
Middle Channel / 3MHz / QPSK



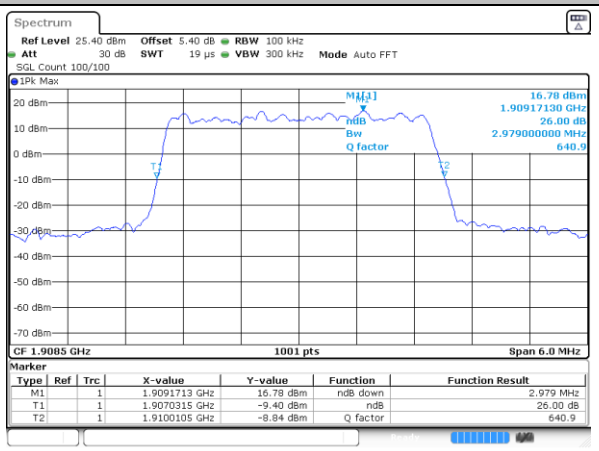
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

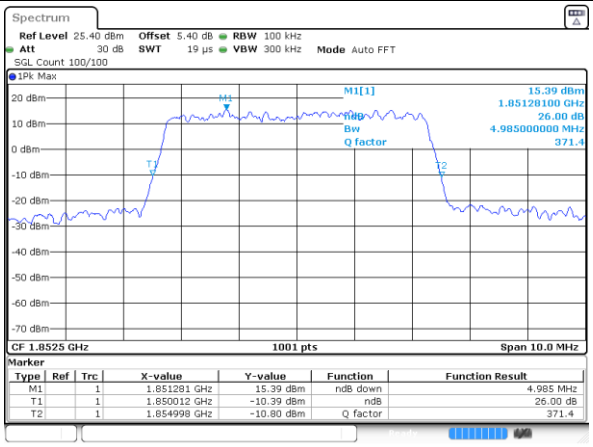


Highest Channel / 3MHz / 16QAM

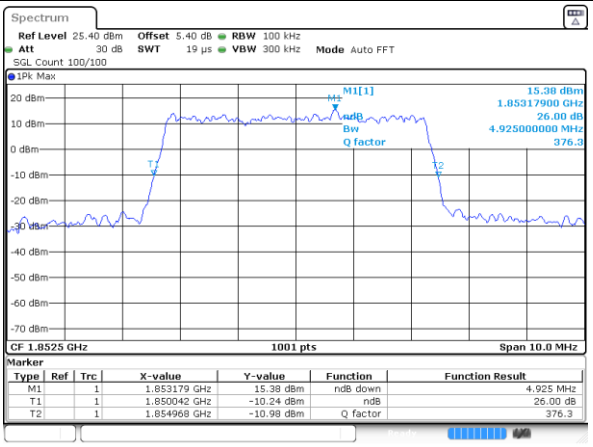


LTE Band 2

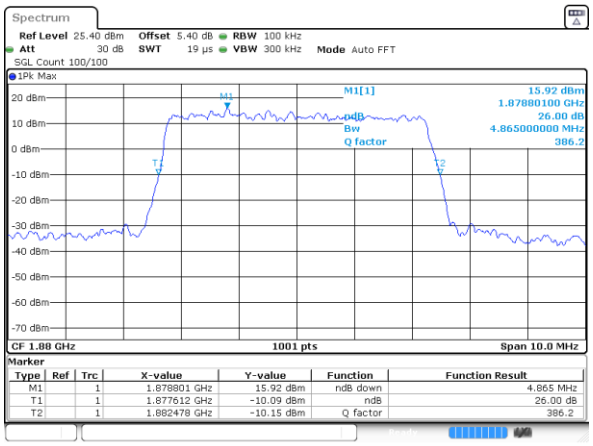
Lowest Channel / 5MHz / QPSK



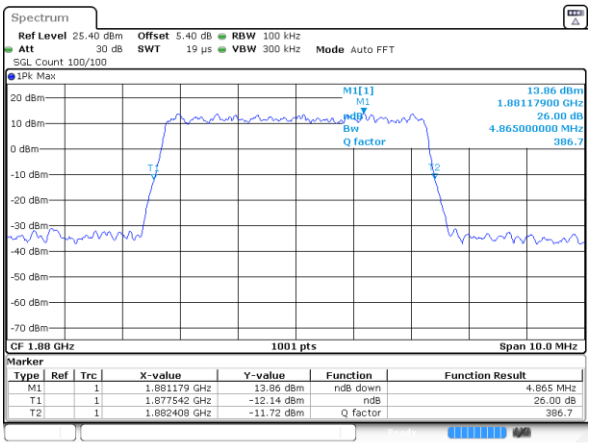
Lowest Channel / 5MHz / 16QAM



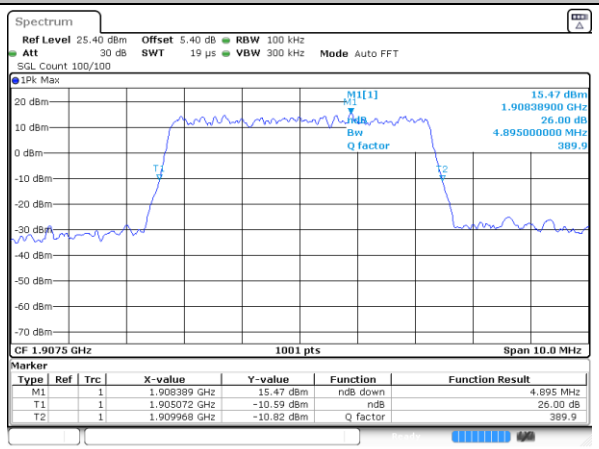
Middle Channel / 5MHz / QPSK



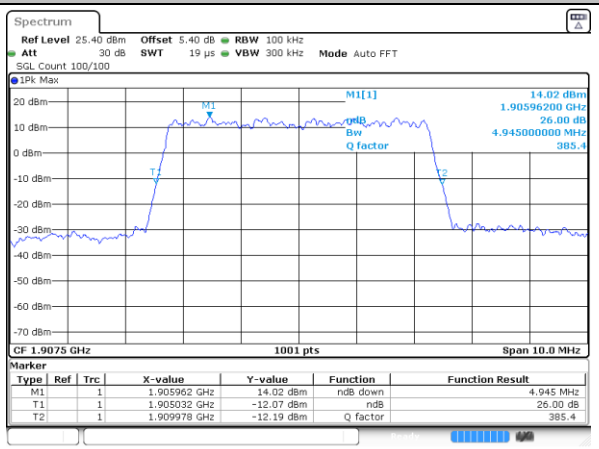
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

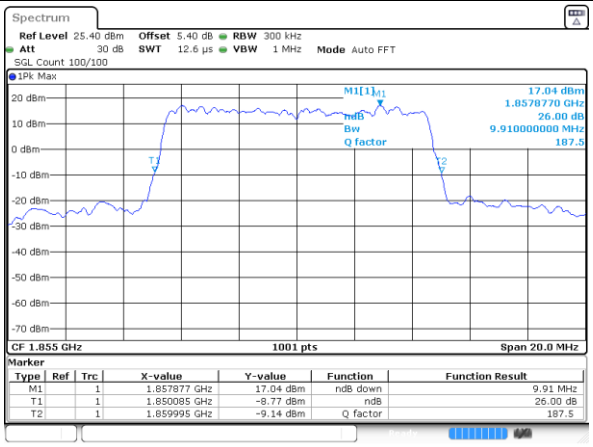


Highest Channel / 5MHz / 16QAM

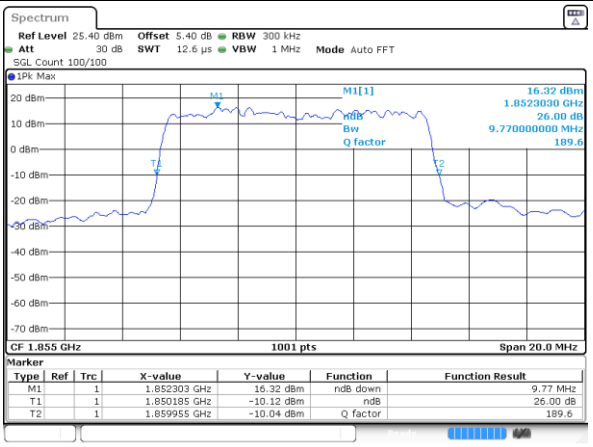


LTE Band 2

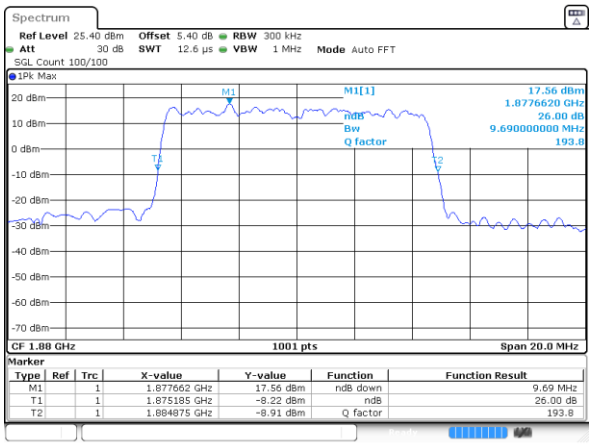
Lowest Channel / 10MHz / QPSK



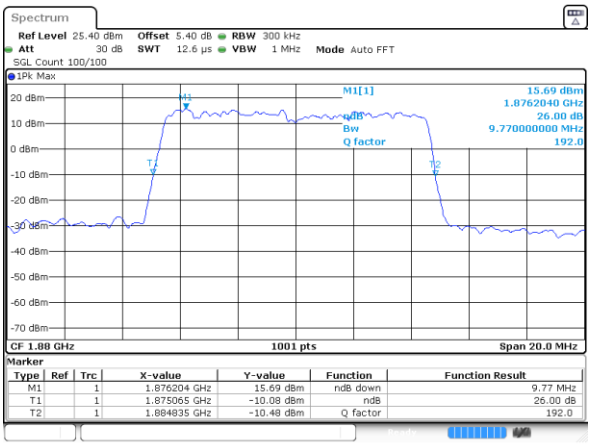
Lowest Channel / 10MHz / 16QAM



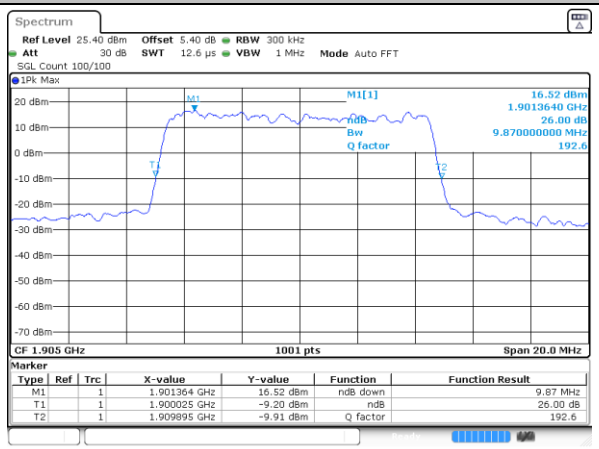
Middle Channel / 10MHz / QPSK



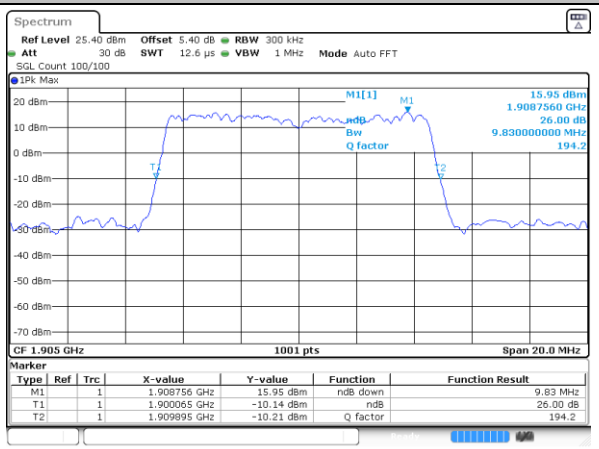
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

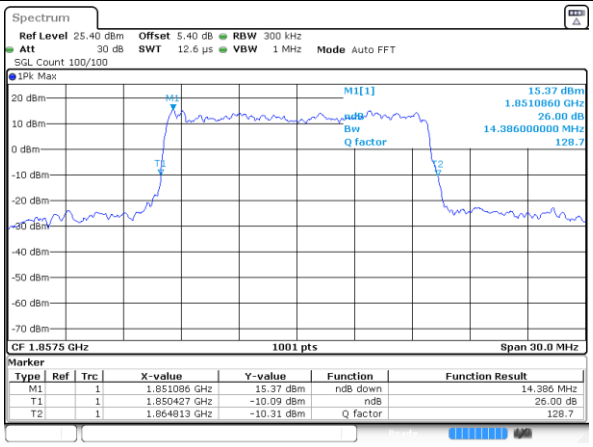


Highest Channel / 10MHz / 16QAM

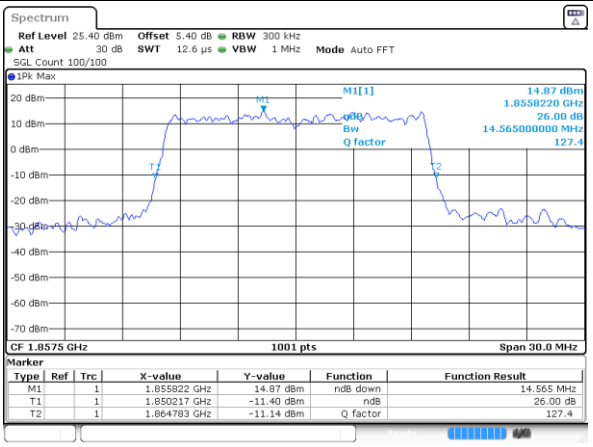


LTE Band 2

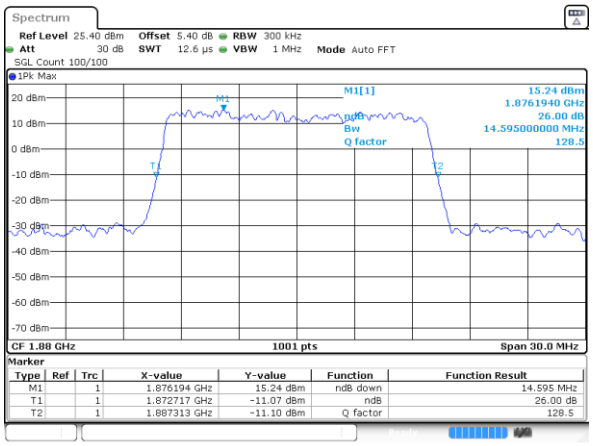
Lowest Channel / 15MHz / QPSK



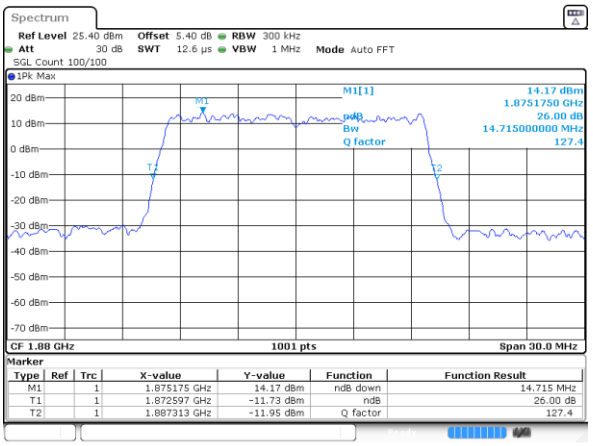
Lowest Channel / 15MHz / 16QAM



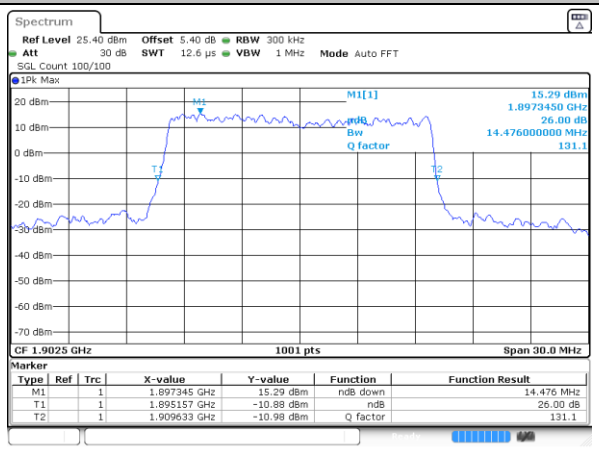
Middle Channel / 15MHz / QPSK



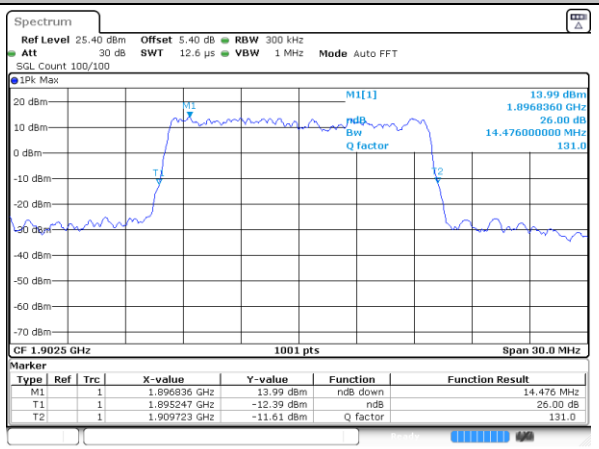
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

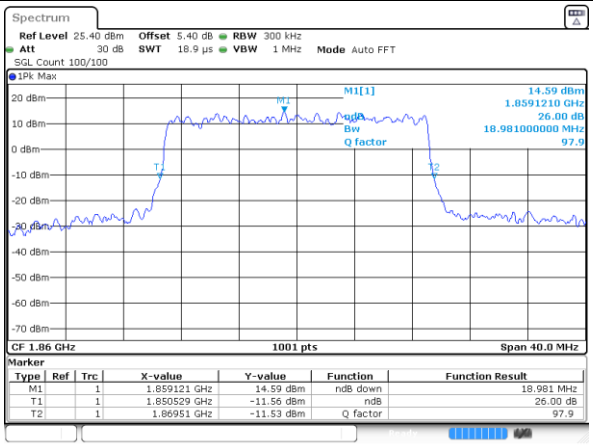


Highest Channel / 15MHz / 16QAM

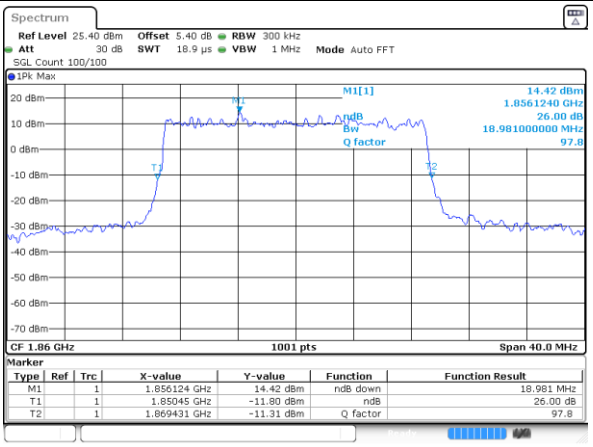


LTE Band 2

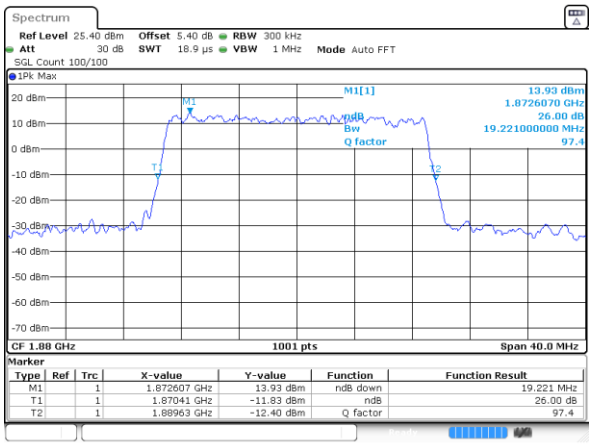
Lowest Channel / 20MHz / QPSK



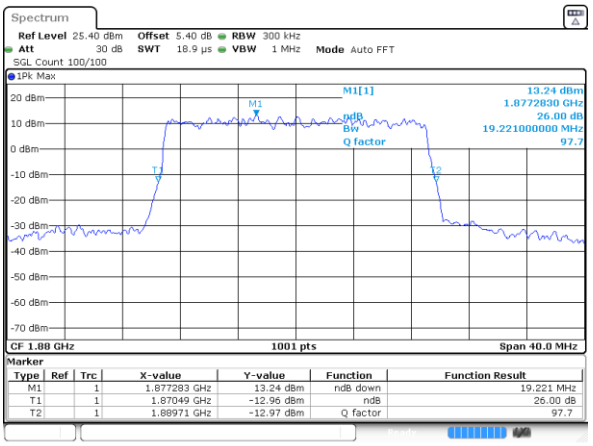
Lowest Channel / 20MHz / 16QAM



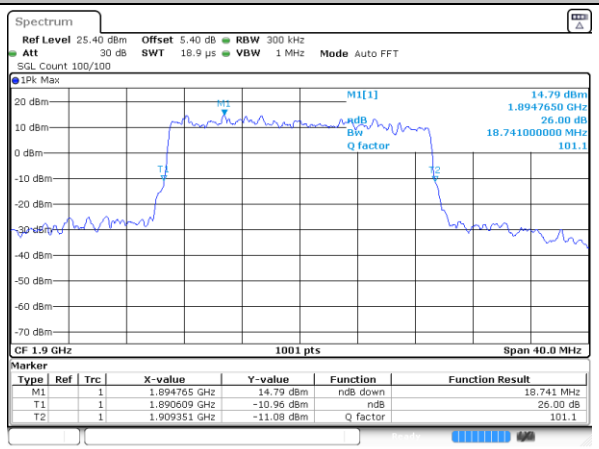
Middle Channel / 20MHz / QPSK



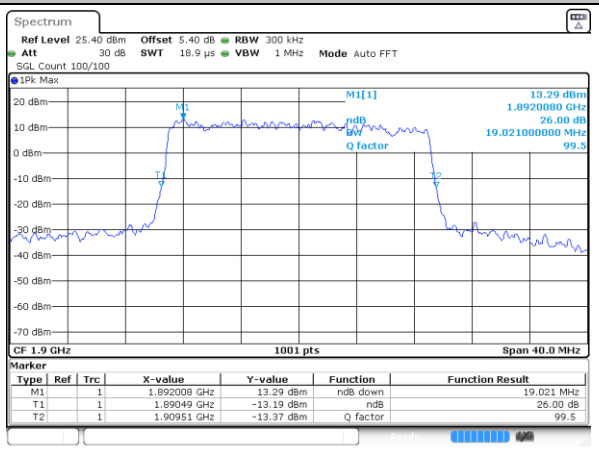
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK

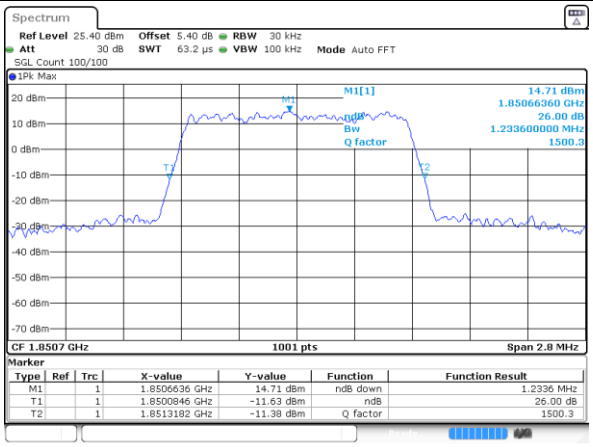


Highest Channel / 20MHz / 16QAM

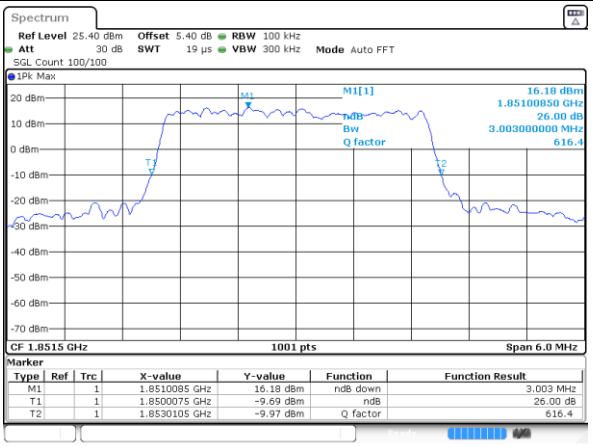


LTE Band 2

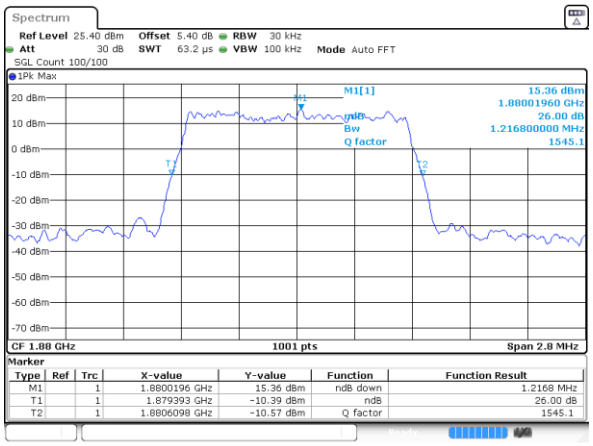
Lowest Channel / 1.4MHz / 64QAM



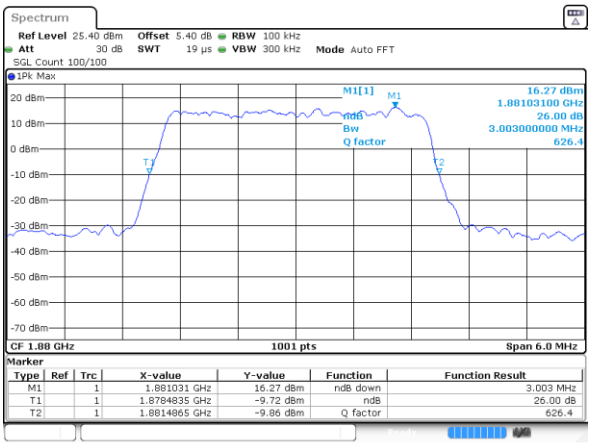
Lowest Channel / 3MHz / 64QAM



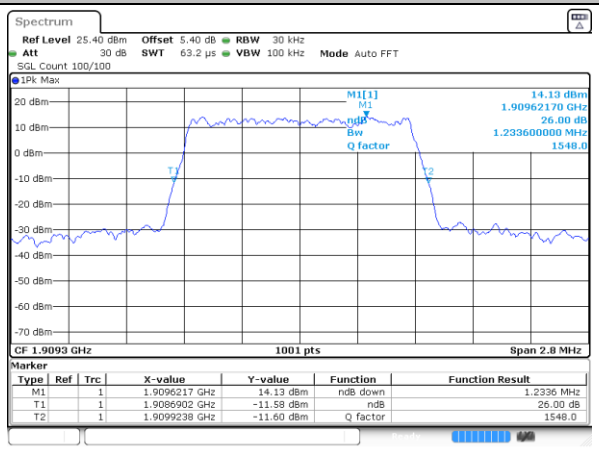
Middle Channel / 1.4MHz / 64QAM



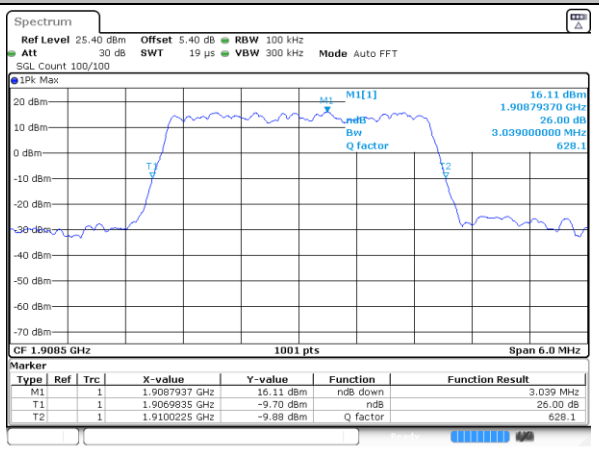
Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM

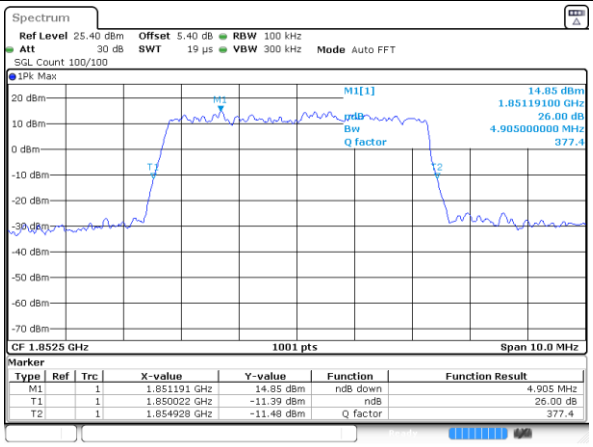


Highest Channel / 3MHz / 64QAM

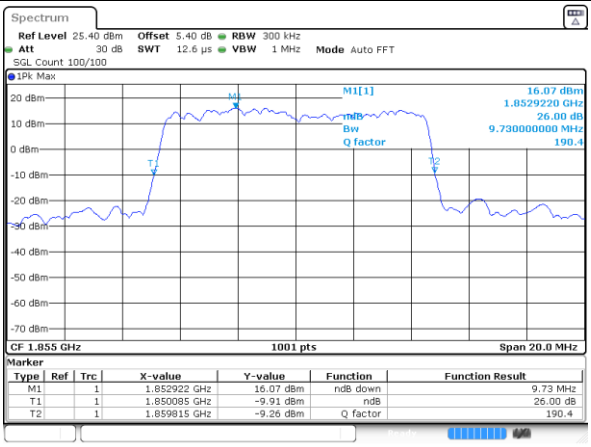


LTE Band 2

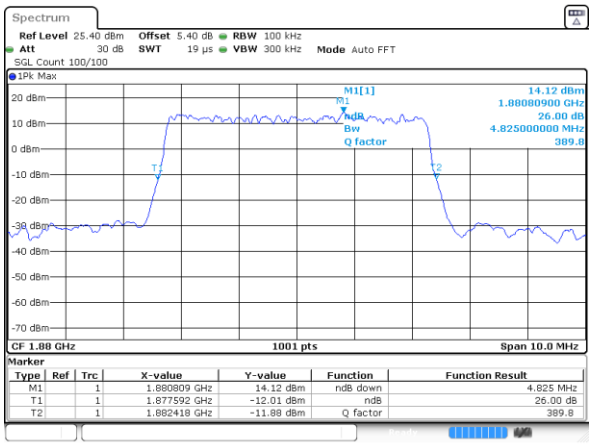
Lowest Channel / 5MHz / 64QAM



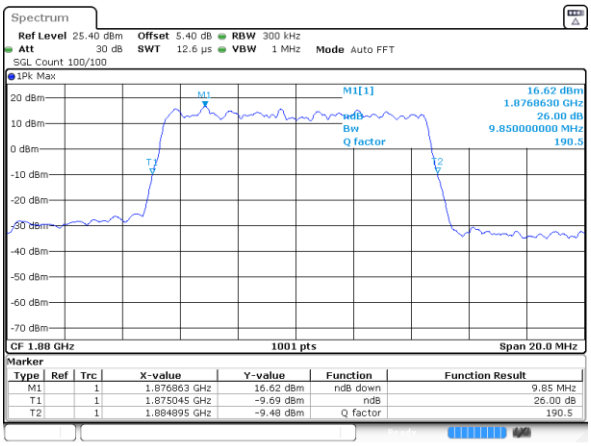
Lowest Channel / 10MHz / 64QAM



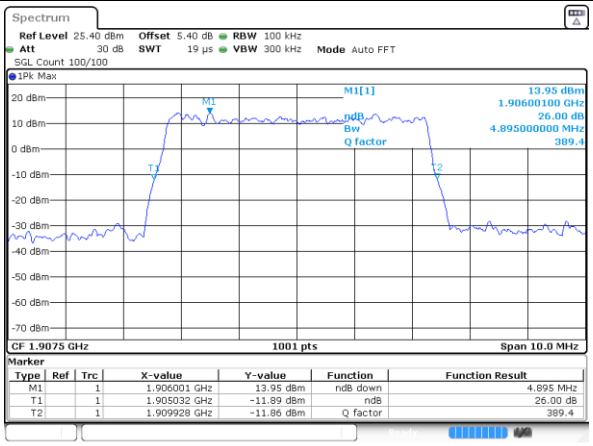
Middle Channel / 5MHz / 64QAM



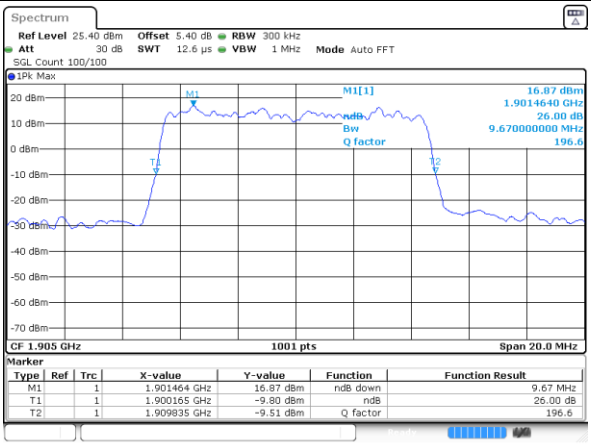
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

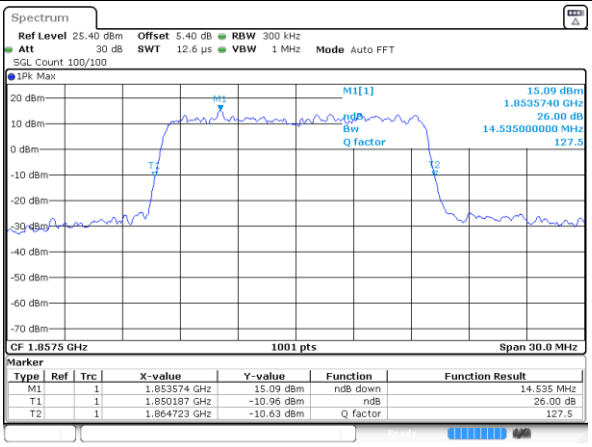


Highest Channel / 10MHz / 64QAM

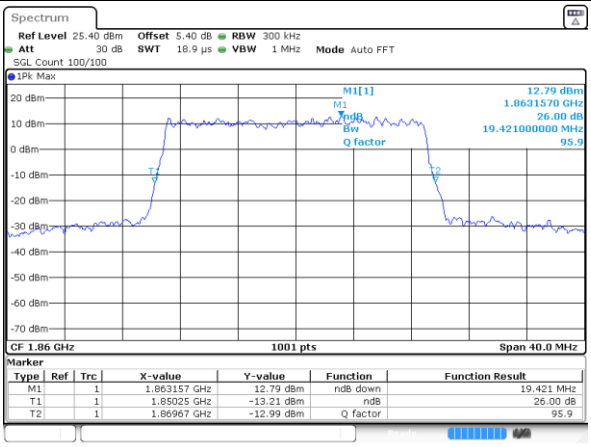


LTE Band 2

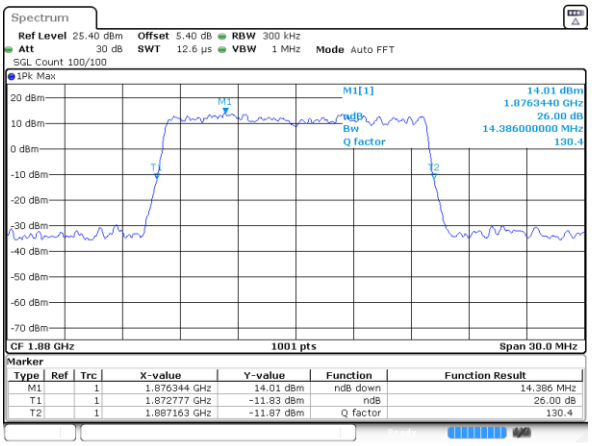
Lowest Channel / 15MHz / 64QAM



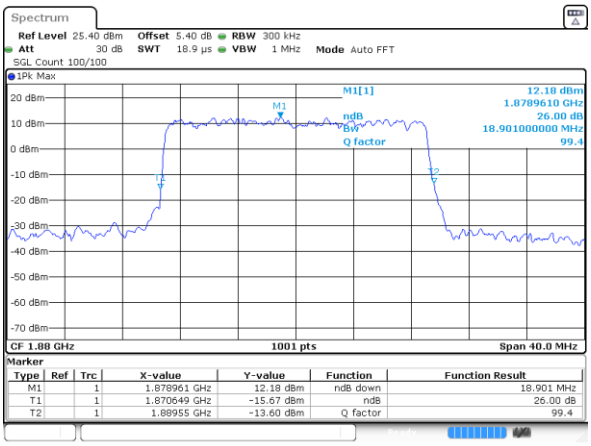
Lowest Channel / 20MHz / 64QAM



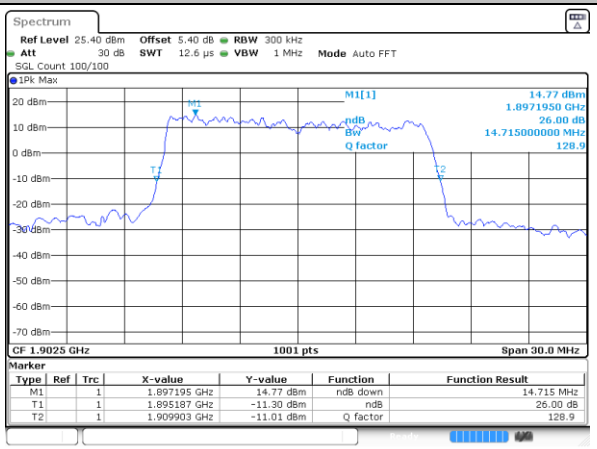
Middle Channel / 15MHz / 64QAM



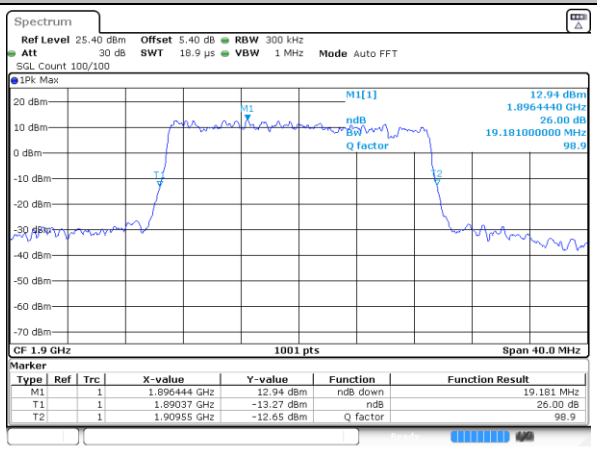
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM

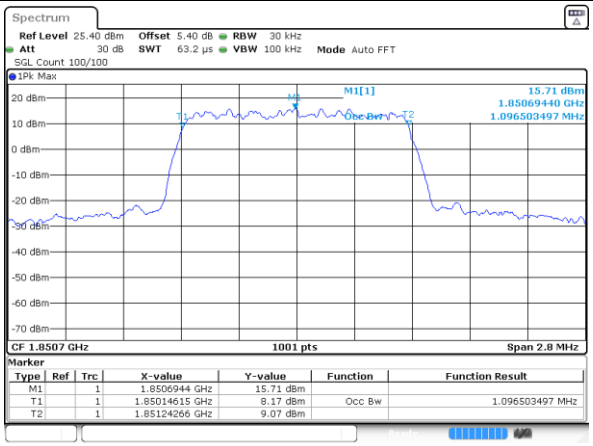


Occupied Bandwidth

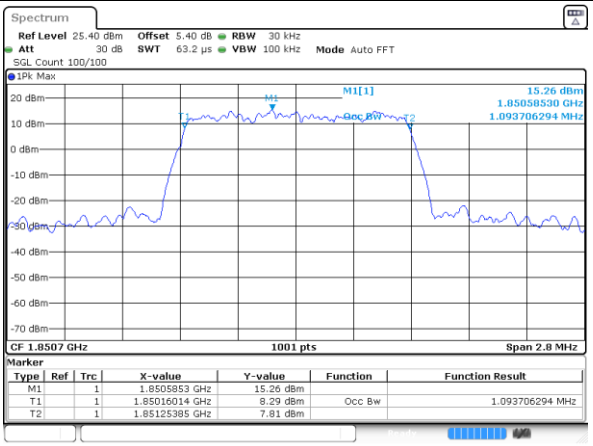
Mode	LTE Band 2 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.10	1.09	2.75	2.72	4.49	4.49	9.05	9.09	13.46	13.49	17.90	17.94
Middle CH	1.10	1.09	2.70	2.71	4.49	4.50	9.07	9.09	13.43	13.46	17.82	17.90
Highest CH	1.09	1.09	2.71	2.72	4.49	4.50	9.03	9.05	13.43	13.49	17.82	17.86
Mode	LTE Band 2 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.10	-	2.73	-	4.48	-	8.99	-	13.43	-	17.90	-
Middle CH	1.09	-	2.73	-	4.49	-	8.97	-	13.43	-	17.86	-
Highest CH	1.09	-	2.73	-	4.48	-	9.01	-	13.46	-	17.90	-

LTE Band 2

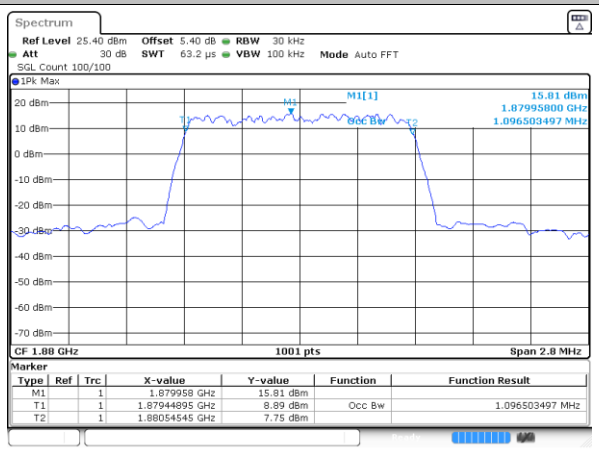
Lowest Channel / 1.4MHz / QPSK



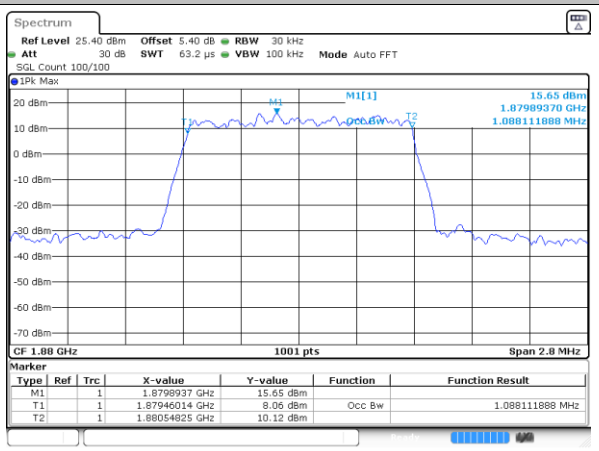
Lowest Channel / 1.4MHz / 16QAM



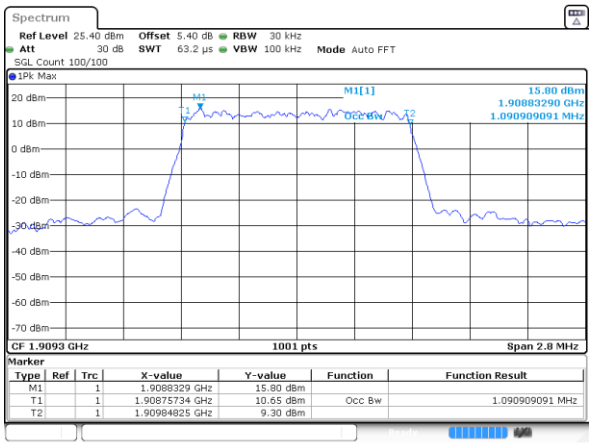
Middle Channel / 1.4MHz / QPSK



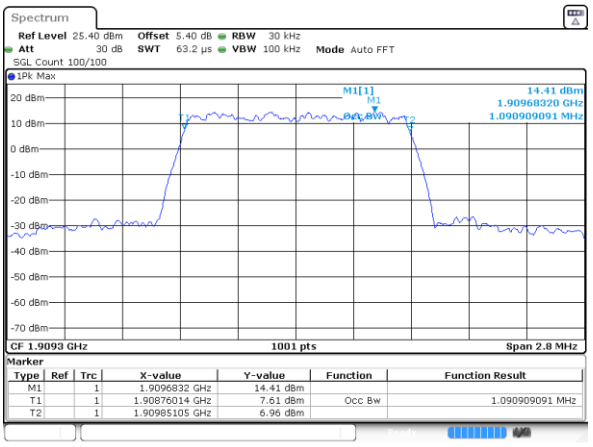
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

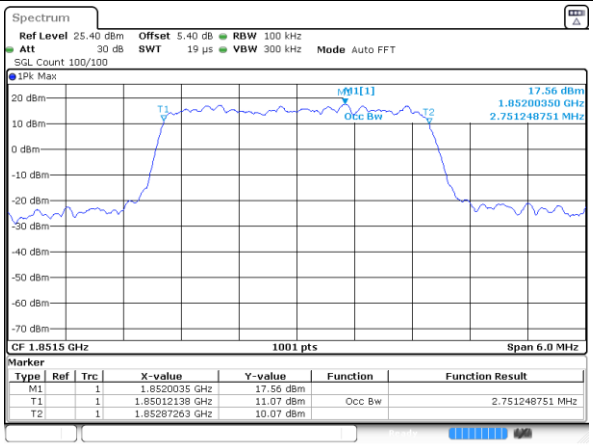


Highest Channel / 1.4MHz / 16QAM

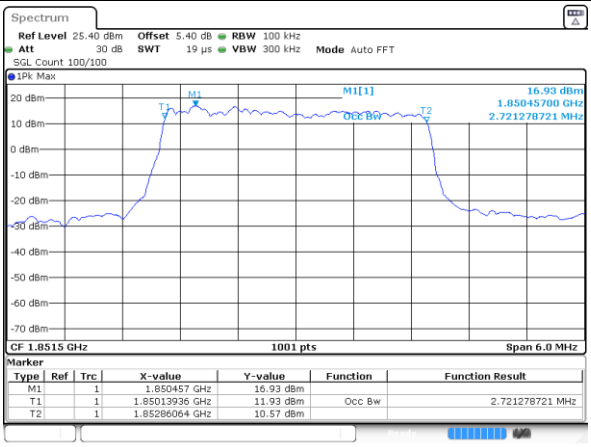


LTE Band 2

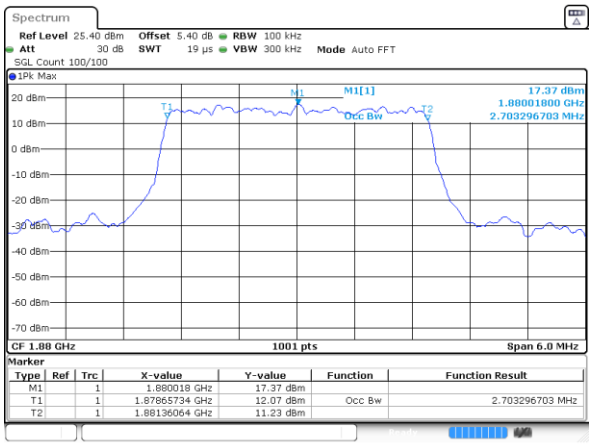
Lowest Channel / 3MHz / QPSK



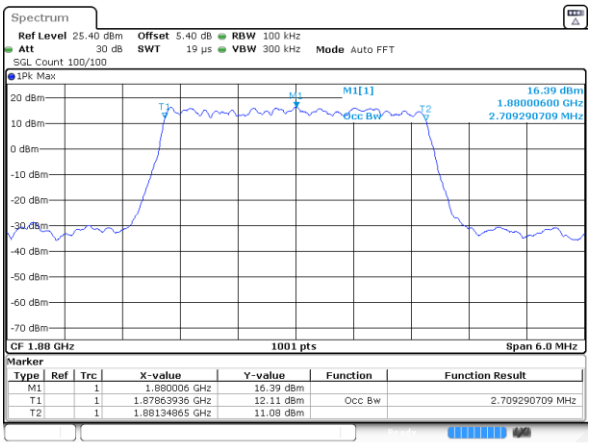
Lowest Channel / 3MHz / 16QAM



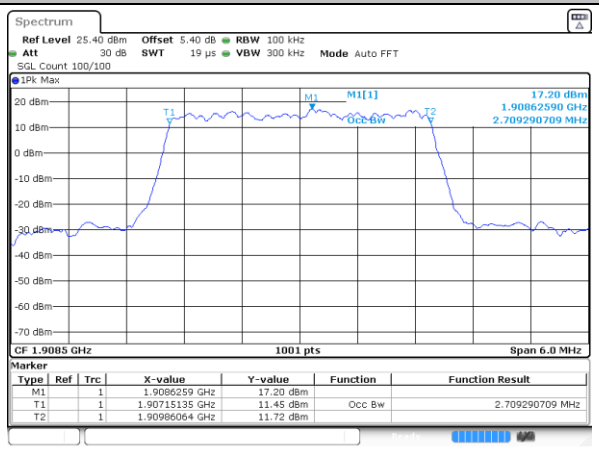
Middle Channel / 3MHz / QPSK



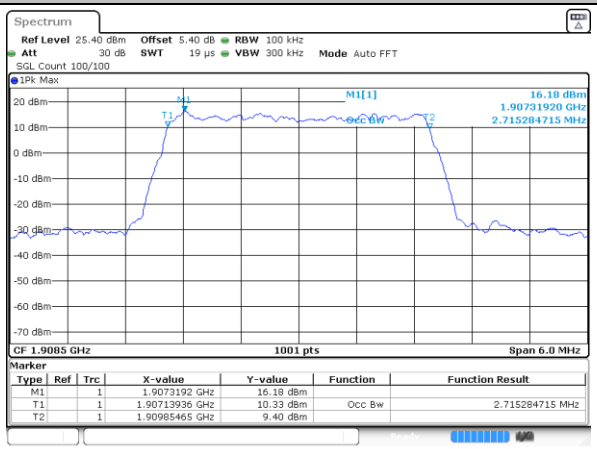
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

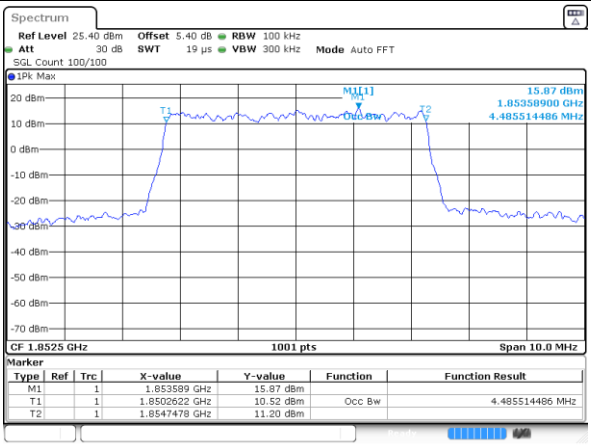


Highest Channel / 3MHz / 16QAM

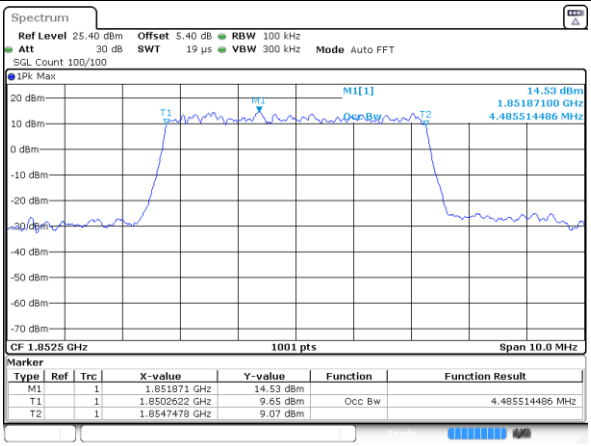


LTE Band 2

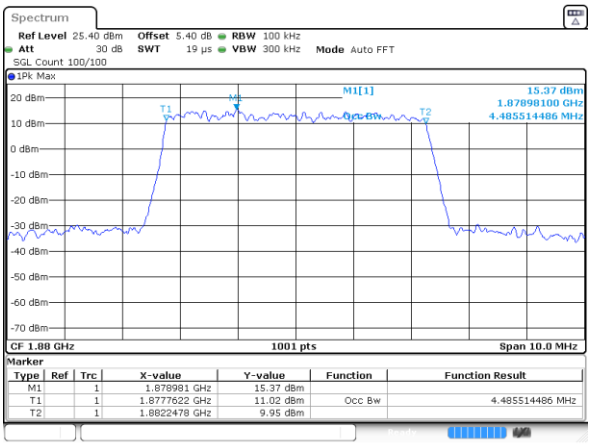
Lowest Channel / 5MHz / QPSK



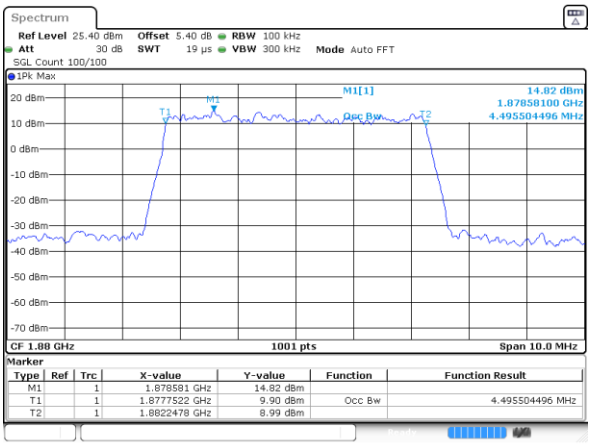
Lowest Channel / 5MHz / 16QAM



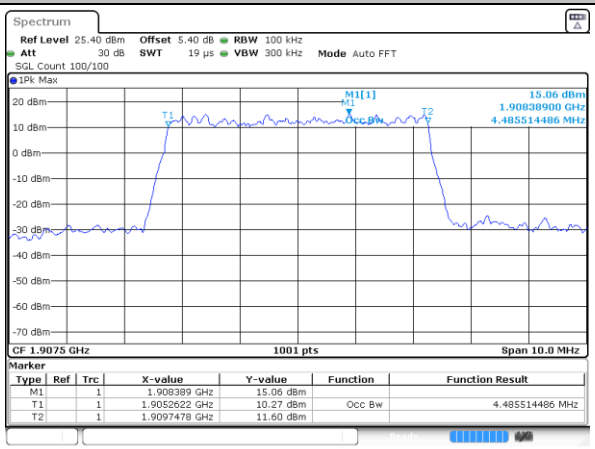
Middle Channel / 5MHz / QPSK



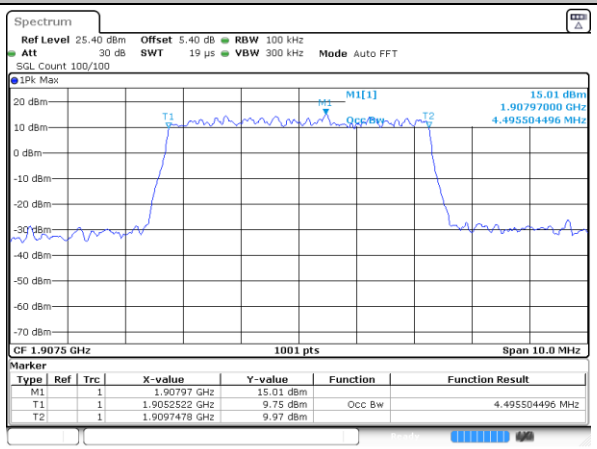
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

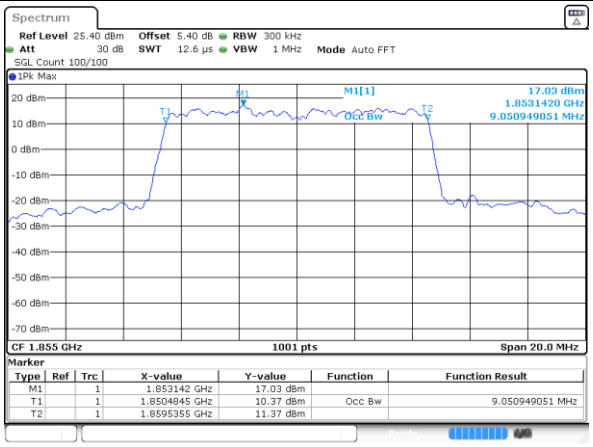


Highest Channel / 5MHz / 16QAM

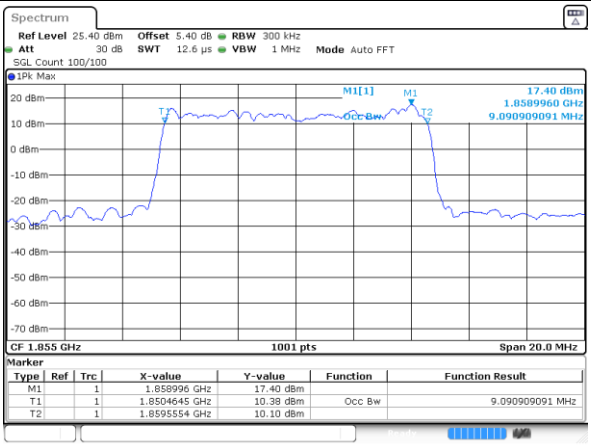


LTE Band 2

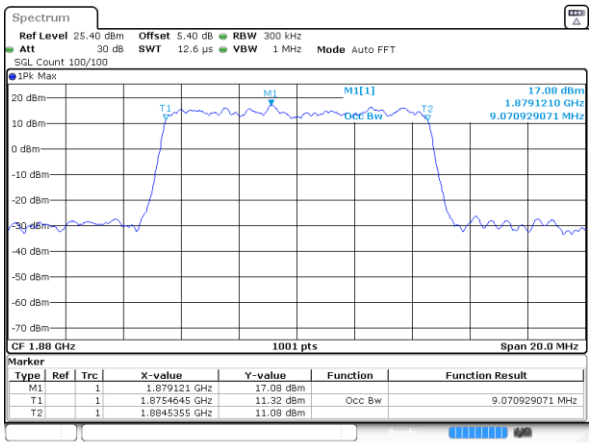
Lowest Channel / 10MHz / QPSK



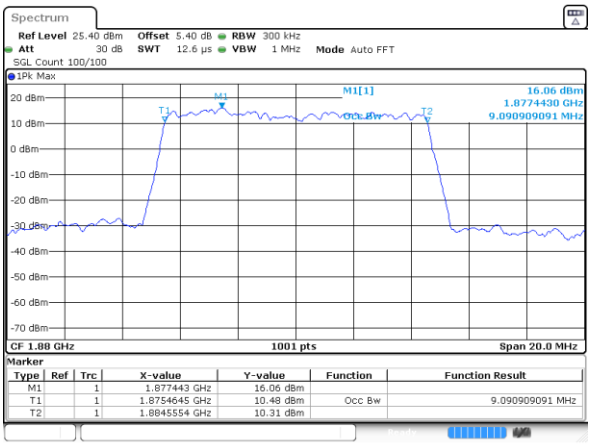
Lowest Channel / 10MHz / 16QAM



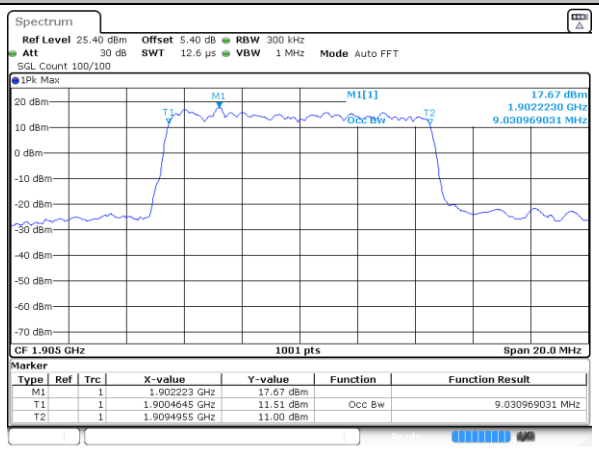
Middle Channel / 10MHz / QPSK



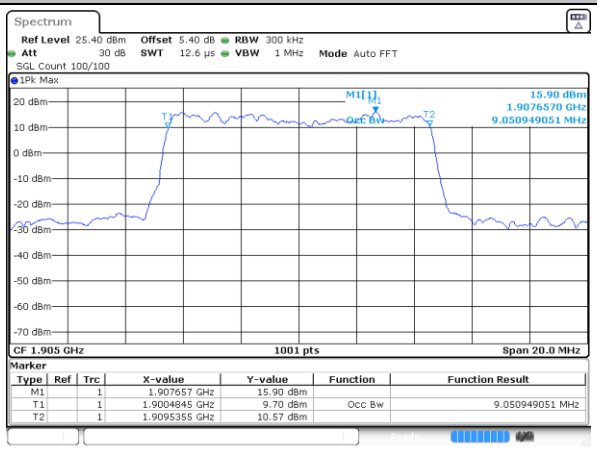
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

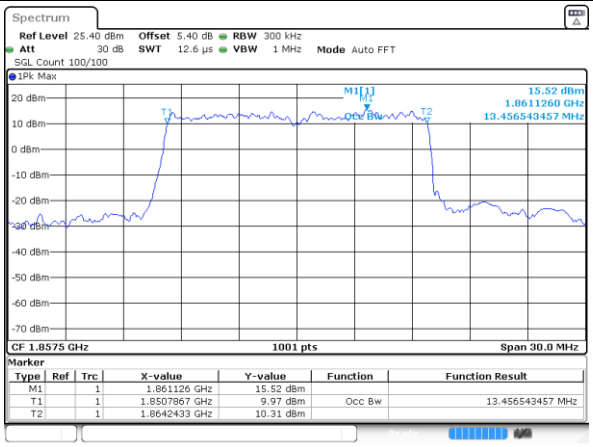


Highest Channel / 10MHz / 16QAM

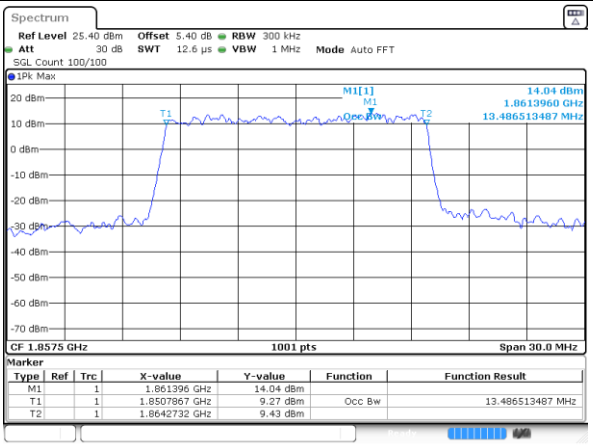


LTE Band 2

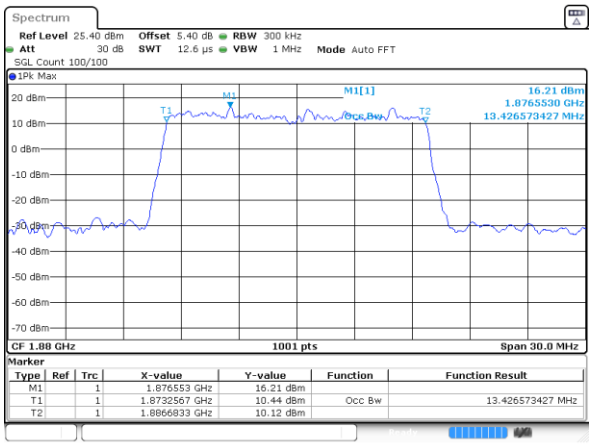
Lowest Channel / 15MHz / QPSK



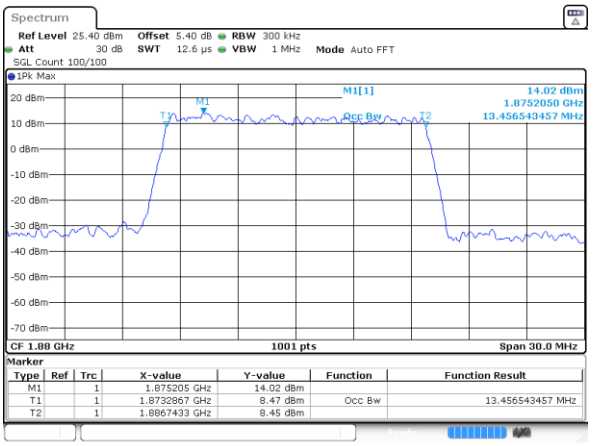
Lowest Channel / 15MHz / 16QAM



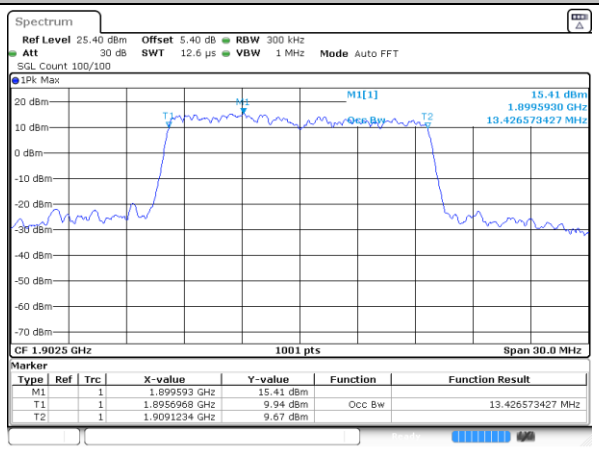
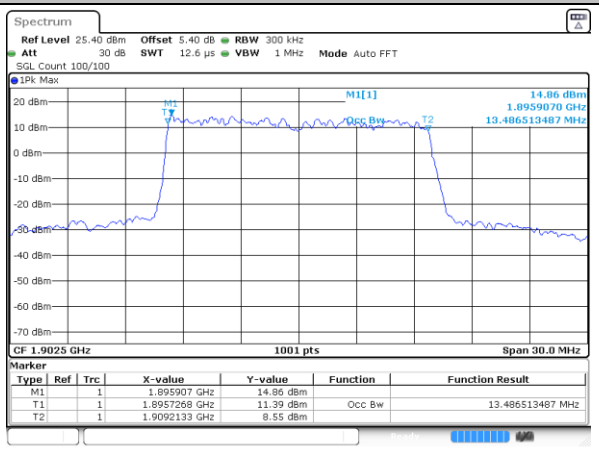
Middle Channel / 15MHz / QPSK



Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



Highest Channel / 15MHz / 16QAM