



# FCC RF Test Report

**APPLICANT** : Xiaomi Communications Co., Ltd.  
**EQUIPMENT** : Mobile Phone  
**BRAND NAME** : Xiaomi  
**MODEL NAME** : M2011K2G  
**FCC ID** : 2AFZZK2G  
**STANDARD** : 47 CFR Part 2, 27(M)  
**CLASSIFICATION** : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Oct. 23, 2020 and completely tested on Dec. 04, 2020. We, Sporton International (Kunshan) Inc., 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

James Huang

Approved by: James Huang / Manager



**Sporton International (Kunshan) Inc.**

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People's Republic of China



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### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 7) (Band 38) (Band 41)	EIRP < 2Watt	PASS	-
3.5	N/A	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§27.53(m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41)	§27.53(m)(4)	PASS	-
3.8	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log <sub>10</sub> (P[Watts])	PASS	-
3.9	§2.1055 §24.235 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log <sub>10</sub> (P[Watts])	PASS	Under limit 29.58 dB at 5052.00 MHz

**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 Applicant

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

## 1.2 Manufacturer

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	Xiaomi
Model Name	M2011K2G
FCC ID	2AFZZK2G
EUT supports Radios application	GSM/WCDMA/LTE/5G NR/NFC WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz 802.11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE GNSS
IMEI Code	Conducted: 868285059998003 Radiation: 868285059998011
HW Version	P2
SW Version	MIUI12
EUT Stage	Identical Prototype

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are two types of EUT, the sample 1 is 6+128GB capacity and the sample 2 is 8+256GB capacity. According to the difference, we only choose sample 1 to perform full tests.



### 1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
<b>Tx Frequency</b>	LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 38 : 2572.5MHz ~ 2617.5MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz
<b>Rx Frequency</b>	LTE Band 7 : 2622.5MHz ~ 2687.5 MHz LTE Band 38 : 2572.5MHz ~ 2617.5MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz
<b>Bandwidth</b>	LTE Band 7 : 5MHz/ 10MHz / 15MHz / 20MHz LTE Band 38 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz
<b>Maximum Output Power to Antenna</b>	LTE Band 41 : 24.41 dBm LTE Band 38 : 24.37 dBm LTE Band 38_CA : 24.11 dBm LTE Band 7 : 24.33 dBm LTE Band 7_CA : 24.35 dBm
<b>Antenna Gain</b>	LTE Band 38 : -1.28 dBi LTE Band 41 : -1.28 dBi LTE Band 7 : -1.61 dBi
<b>Type of Modulation</b>	QPSK / 16QAM / 64QAM / 256QAM

**Note:**

1. For Ant2& Ant4 & Ant3 & Ant7, the whole testing has assessed Ant2/Ant4 by referring to the higher conducted power.
2. The Maximum ERP/EIRP is calculated from Max Output power and Max antenna gain, only the maximum ERP/EIRP is shown in the report

### 1.5 Modification of EUT

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



### 1.6 Maximum EIRP Power, Frequency Tolerance, and Emission Designator

LTE Band 7		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2502.5 ~ 2567.5	4M49G7D	-	0.1854	4M50W7D	-	0.1596
10	2505.0 ~ 2565.0	9M13G7D	0.0057	0.1841	9M03W7D	-	0.1607
15	2507.5 ~ 2562.5	13M5G7D	-	0.1862	13M5W7D	-	0.1596
20	2510.0 ~ 2560.0	18M2G7D	-	0.1871	18M5W7D	-	0.1618
LTE Band 7		64QAM			256QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2502.5 ~ 2567.5	4M50W7D	-	0.1230	4M49W7D	-	0.0600
10	2505.0 ~ 2565.0	9M03W7D	-	0.1265	9M05W7D	-	0.0583
15	2507.5 ~ 2562.5	13M5W7D	-	0.1227	13M5W7D	-	0.0590
20	2510.0 ~ 2560.0	18M5W7D	-	0.1230	18M3W7D	-	0.0604



LTE Band 38		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2572.5 ~ 2617.5	4M53G7D	-	0.2028	4M50W7D	-	0.1730
10	2575.0 ~ 2615.0	9M05G7D	0.0056	0.2051	9M07W7D	-	0.1596
15	2577.5 ~ 2612.5	13M5G7D	-	0.2032	13M5W7D	-	0.1671
20	2580.0 ~ 2610.0	18M5G7D	-	0.2056	18M4W7D	-	0.1660
LTE Band 38		64QAM			256QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2572.5 ~ 2617.5	4M52W7D	-	0.1276	4M47W7D	-	0.0719
10	2575.0 ~ 2615.0	9M07W7D	-	0.1309	9M07W7D	-	0.0687
15	2577.5 ~ 2612.5	13M4W7D	-	0.1256	13M5W7D	-	0.0705
20	2580.0 ~ 2610.0	18M5W7D	-	0.1253	18M4W7D	-	0.0719

LTE Band 41		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2498.5 ~ 2687.5	4M53G7D	-	0.2028	4M50W7D	-	0.1730
10	2501.0 ~ 2685.0	9M05G7D	0.0056	0.2051	9M07W7D	-	0.1596
15	2503.5 ~ 2682.5	13M5G7D	-	0.2032	13M5W7D	-	0.1671
20	2506.0 ~ 2680.0	18M5G7D	-	0.2056	18M4W7D	-	0.1660
LTE Band 41		64QAM			256QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2498.5 ~ 2687.5	4M52W7D	-	0.1276	4M47W7D	-	0.0719
10	2501.0 ~ 2685.0	9M07W7D	-	0.1309	9M07W7D	-	0.0687
15	2503.5 ~ 2682.5	13M4W7D	-	0.1256	13M5W7D	-	0.0705
20	2506.0 ~ 2680.0	18M5W7D	-	0.1253	18M4W7D	-	0.0719



LTE Band 7 CA	QPSK			16QAM		
BW (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
20MHz+20MHz	37M5G7D	-	0.1879	37M6W7D	-	0.1479
LTE Band 7 CA	64QAM			256QAM		
BW (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Emission Designator (99%OBW)	Emission Designator (99%OBW)
20MHz+20MHz	37M6W7D	-	0.1245	-		

LTE Band 38 CA	QPSK			16QAM		
BW (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
20MHz+20MHz	37M6G7D	-	0.1919	37M9W7D	-	0.1730
LTE Band 38 CA	64QAM			256QAM		
BW (MHz)	Emission Designator (99%OBW)					
20MHz+20MHz	37M8W7D	-	0.1442	-		

**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. The maximum power and EIRP of CA\_B7/CA\_B38's 256QAM modulation is less than other modulations, So the relevant test data is not shown in the report.



### 1.7 Testing Location

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

<b>Test Firm</b>	Sporton International (Kunshan) Inc.		
<b>Test Site Location</b>	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		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	03CH04-KS TH01-KS	CN1257	314309

### 1.8 Test Software

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

### 1.9 Applicable Standards

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

- ♦ 47 CFR Part 2, 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.

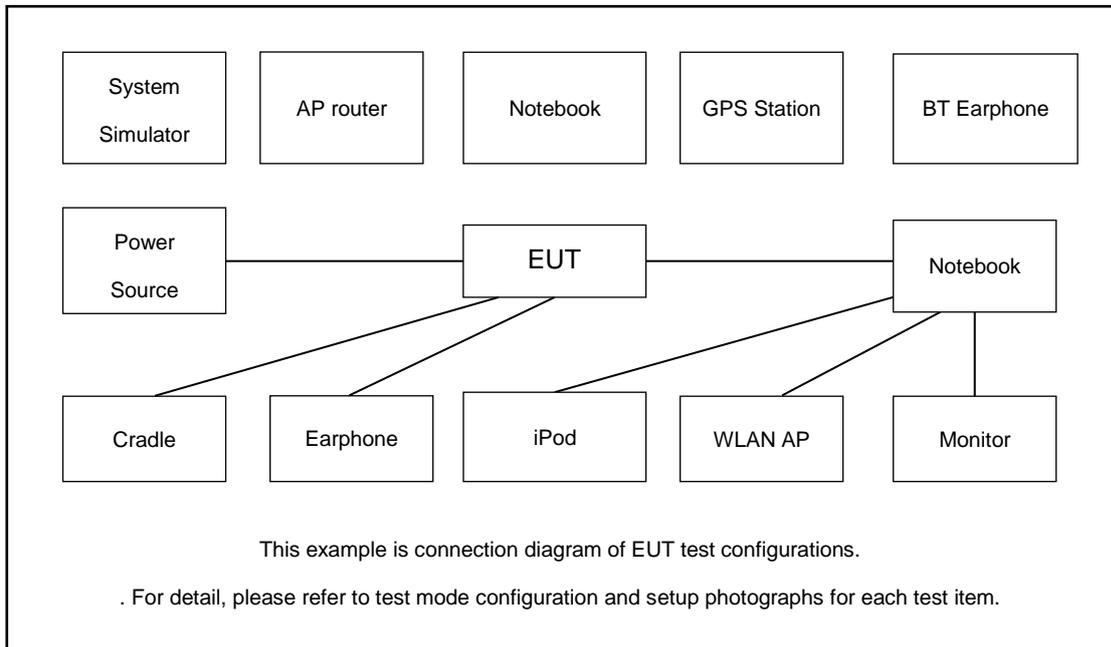
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth (MHz)						Modulation				RB #			Test Channel			
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H	
Max. Output Power	7	-	-	v	v	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	v	v	
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	
Peak-to-Average Ratio	7	-	-				v	v	v	v	v	v		v	v	v	v	
	41	-	-				v	v	v	v	v	v		v	v	v	v	
26dB and 99% Bandwidth	7	-	-	v	v	v	v	v	v	v	v			v	v	v	v	
	41	-	-	v	v	v	v	v	v	v	v			v	v	v	v	
Conducted Band Edge	7	-	-	v	v	v	v	v	v	v	v	v		v	v		v	
	41	-	-	v	v	v	v	v	v	v	v	v		v	v		v	
Conducted Spurious Emission	7	-	-	v	v	v	v	v	v	v	v	v			v	v	v	
	41	-	-	v	v	v	v	v	v	v	v	v			v	v	v	
Frequency Stability	7	-	-		v			v						v		v		
	41	-	-		v			v						v		v		
E.R.P / E.I.R.P	7	-	-	v	v	v	v	v	v	v	v	v			v	v	v	
	41	-	-	v	v	v	v	v	v	v	v	v			v	v	v	
Radiated Spurious Emission	7	Worst Case															v	
	41	Worst Case															v	
Note	1.	2. The mark "v" means that this configuration is chosen for testing 3. The mark "-" means that this bandwidth is not supported. 4. 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. 5. 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.																



Test Items	Band	Bandwidth (MHz)										Modulation				RB #			Test Channel		
		20+20	20+15	15+20	20+10	10+20	20+5	5+20	15+15	15+10	10+15	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v	v	v	v	v
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v	v	v	v	v	v
26dB and 99% Bandwidth	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v			v	v	v	v
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v			v	v	v	v
Conducted Band Edge	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v		v	v		v
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v		v	v		v
Conducted Spurious Emission	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v			v	v	v
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v			v	v	v
E.I.R.P.	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v			v	v	v
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v			v	v	v
Radiated Spurious Emission	7C_CA	Worst Case																		v	
	38C_CA	Worst Case																		v	
Note	1.	2. The mark "v" means that this configuration is chosen for testing 3. The mark "-" means that this bandwidth is not supported. 4. 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. 5. The maximum power and EIRP of CA_B7/CA_B38's 256QAM modulation is less than other modulations, So the relevant test data is not shown in the report																			

## 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.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	LTE Base Station	Anritsu	MT8821C	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 6.0dB.

Example :

$Offset(dB) = RF\ cable\ loss(dB).$   
 $= 6.0\ (dB)$



### 2.5 Frequency List of Low/Middle/High Channels

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



LTE Band 7C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	20850	21001	21152
		Frequency	2510.0	2525.1	2540.2
	SCC	Channel	21048	21199	21350
		Frequency	2529.8	2544.9	2560.0
20 + 15	PCC	Channel	20850	21026	21201
		Frequency	2510.0	2527.6	2545.1
	SCC	Channel	21021	21197	21372
		Frequency	2527.1	2544.7	2562.2
15 + 20	PCC	Channel	20828	21003	21179
		Frequency	2507.8	2525.3	2542.9
	SCC	Channel	20999	21174	21350
		Frequency	2524.9	2542.4	2560.0
20 + 10	PCC	Channel	20850	21051	21251
		Frequency	2510.0	2530.1	2550.1
	SCC	Channel	20994	21195	21395
		Frequency	2524.4	2544.5	2564.5
10 + 20	PCC	Channel	20805	21006	21206
		Frequency	2505.5	2525.6	2545.6
	SCC	Channel	20949	21150	21350
		Frequency	2519.9	2540.0	2560.0
15 + 15	PCC	Channel	20825	21025	21225
		Frequency	2507.5	2527.5	2547.5
	SCC	Channel	20975	21175	21375
		Frequency	2522.5	2542.5	2562.5
15 + 10	PCC	Channel	20825	21051	21277
		Frequency	2507.5	2530.1	2552.7
	SCC	Channel	20945	21171	21397
		Frequency	2519.5	2542.1	2564.7



LTE Band 38C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	37850	37901	37952
		Frequency	2580.0	2585.1	2590.2
	SCC	Channel	38048	38099	38150
		Frequency	2599.8	2604.9	2610.0
15+ 15	PCC	Channel	37825	37925	38025
		Frequency	2577.5	2587.5	2597.5
	SCC	Channel	37975	38075	38175
		Frequency	2592.5	2602.5	2612.5

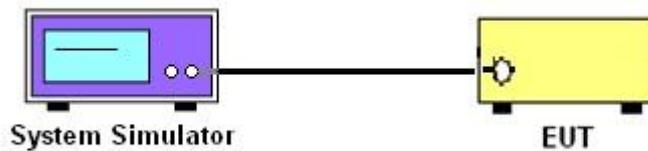
### 3 Conducted Test Items

#### 3.1 Measuring Instruments

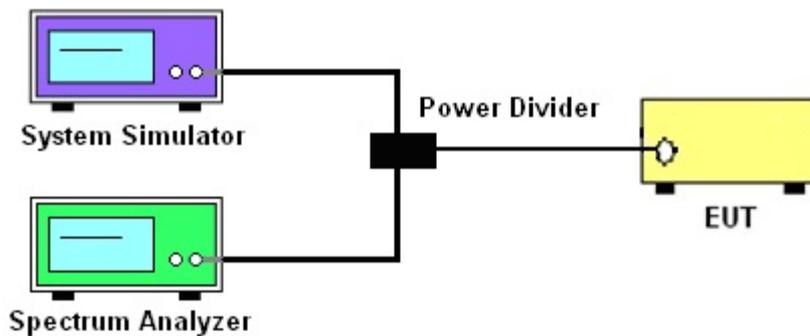
See list of measuring instruments of this test report.

#### 3.2 Test Setup

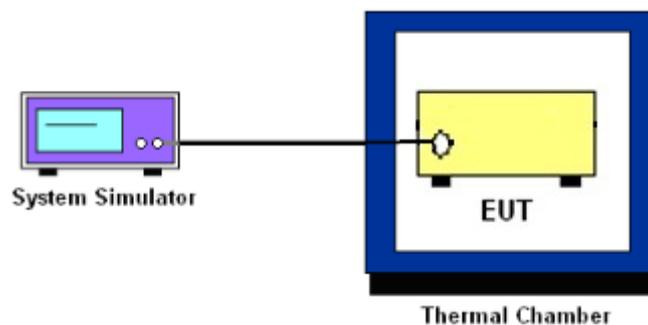
##### 3.2.1 Conducted Output Power



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

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4 and Band 66.

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

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  $\geq$  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  $43 + 10\log(P)$ 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.



### 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 10<sup>th</sup> 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  $43 + 10\log(P)$ dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)]$  (dB)  
 $= [30 + 10\log(P)]$  (dBm) -  $[43 + 10\log(P)]$  (dB)  
 $= -13$ dBm.
11. For Band 7, 38, 41  
The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)  
 $= P(W) - [55 + 10\log(P)]$  (dB)  
 $= [30 + 10\log(P)]$  (dBm) -  $[55 + 10\log(P)]$  (dB)  
 $= -25$ dBm.



## 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  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) 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  $-30^{\circ}\text{C}$  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  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . 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  $20\pm 5^{\circ}\text{C}$  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.

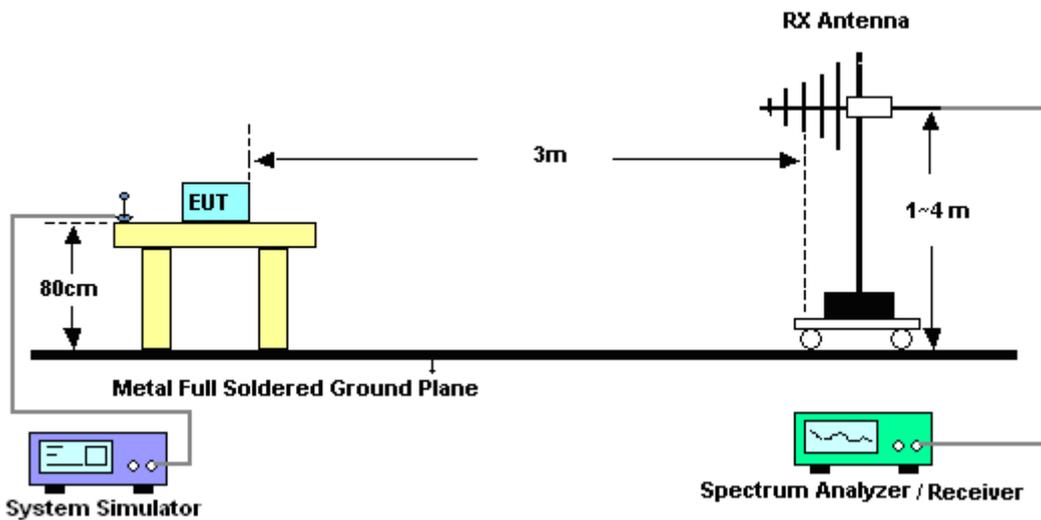
## 4 Radiated Test Items

### 4.1 Measuring Instruments

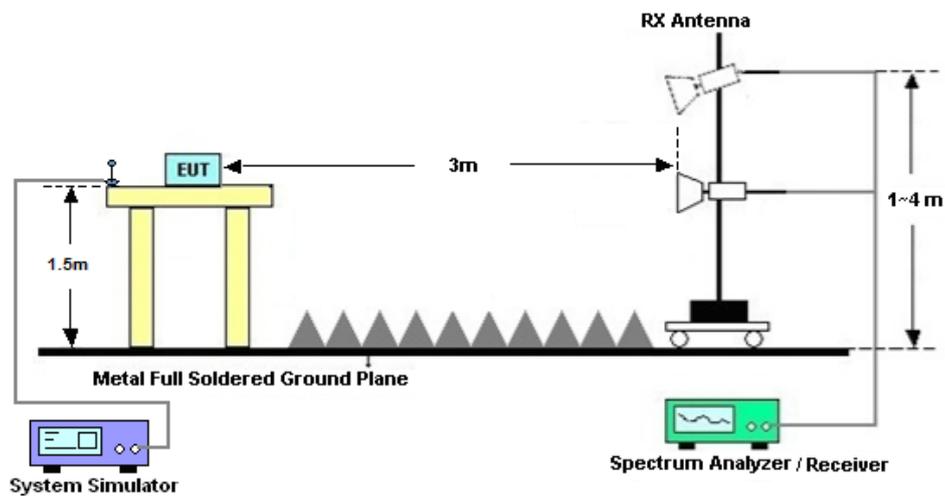
See list of measuring instruments of this test report.

### 4.2 Test Setup

#### 4.2.1 For radiated test from 30MHz to 1GHz



#### 4.2.2 For radiated test above 1GHz



### 4.3 Test Result of Radiated Test

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  $43 + 10\log(P)$ dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)] (dB)$   
 $= [30 + 10\log(P)] (dBm) - [43 + 10\log(P)] (dB)$   
 $= -13dBm.$

13. For Band 7, 38, 41:

The limit line is derived from  $55 + 10\log(P)$ 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	Nov. 02, 2020	Nov. 03, 2020~Nov. 16, 2020	Nov. 01, 2021	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 03, 2020	Nov. 03, 2020~Nov. 16, 2020	Jul. 02, 2021	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 15, 2020	Dec. 04, 2020	Apr. 14, 2021	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Jan. 03, 2020	Dec. 04, 2020	Jan. 02, 2021	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1356	1GHz~18GHz	Apr. 20, 2020	Dec. 04, 2020	Apr. 19, 2021	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 09, 2020	Dec. 04, 2020	Nov. 08, 2021	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 03, 2020	Dec. 04, 2020	Jan. 02, 2021	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 08, 2020	Dec. 04, 2020	Jan. 07, 2021	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Jan. 03, 2020	Dec. 04, 2020	Jan. 02, 2021	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 14, 2020	Dec. 04, 2020	Oct. 13, 2021	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 04, 2020	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 04, 2020	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 04, 2020	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
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### Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.8dB
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# Appendix A. Test Results of Conducted Test

## Conducted Output Power(Average power)

For Ant. 2:

LTE Band 38						
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				37850	38000	38150
Frequency (MHz)				2580	2595	2610
20	QPSK	1	0	24.27	24.37	24.27
20	QPSK	1	49	24.32	24.30	24.28
20	QPSK	1	99	24.34	24.32	24.31
20	QPSK	50	0	23.39	23.36	23.35
20	QPSK	50	24	23.41	23.40	23.36
20	QPSK	50	50	23.47	23.46	23.43
20	QPSK	100	0	23.39	23.37	23.35
20	16QAM	1	0	23.46	23.43	23.40
20	16QAM	1	49	23.38	23.41	23.36
20	16QAM	1	99	23.45	23.43	23.49
20	16QAM	50	0	22.41	22.43	22.38
20	16QAM	50	24	22.41	22.44	22.38
20	16QAM	50	50	22.48	22.49	22.46
20	16QAM	100	0	22.41	22.40	22.36
20	64QAM	1	0	22.32	22.24	22.24
20	64QAM	1	49	22.23	22.21	22.25
20	64QAM	1	99	22.28	22.30	22.32
20	64QAM	50	0	21.42	21.40	21.39
20	64QAM	50	24	21.42	21.43	21.39
20	64QAM	50	50	21.51	21.48	21.46
20	64QAM	100	0	21.53	21.50	21.44
20	256QAM	1	0	19.27	19.46	19.46
20	256QAM	1	49	19.18	19.62	19.22
20	256QAM	1	99	19.46	19.27	19.34
20	256QAM	50	0	19.51	19.46	19.25
20	256QAM	50	24	19.02	19.24	19.16
20	256QAM	50	50	19.35	19.63	19.43
20	256QAM	100	0	19.42	19.46	19.75
Channel				37825	38000	38175
Frequency (MHz)				2577.5	2595	2612.5
15	QPSK	1	0	24.32	24.25	24.21
15	QPSK	1	37	24.26	24.29	24.24
15	QPSK	1	74	24.33	24.29	24.31
15	QPSK	36	0	23.38	23.37	23.36
15	QPSK	36	20	23.43	23.44	23.35
15	QPSK	36	39	23.43	23.45	23.43
15	QPSK	75	0	23.46	23.37	23.34
15	16QAM	1	0	23.48	23.39	23.37
15	16QAM	1	37	23.34	23.37	23.38
15	16QAM	1	74	23.42	23.44	23.46
15	16QAM	36	0	22.32	22.33	22.32



15	16QAM	36	20	22.38	22.40	22.31
15	16QAM	36	39	22.41	22.42	22.39
15	16QAM	75	0	22.45	22.38	22.37
15	64QAM	1	0	22.30	22.26	22.25
15	64QAM	1	37	22.22	22.32	22.31
15	64QAM	1	74	22.26	22.28	22.33
15	64QAM	36	0	21.43	21.45	21.43
15	64QAM	36	20	21.51	21.52	21.43
15	64QAM	36	39	21.50	21.54	21.52
15	64QAM	75	0	21.52	21.46	21.46
15	256QAM	1	0	19.32	19.15	19.24
15	256QAM	1	37	19.46	19.24	19.24
15	256QAM	1	74	19.54	19.52	19.13
15	256QAM	36	0	19.76	19.46	19.25
15	256QAM	36	20	19.35	19.35	19.13
15	256QAM	36	39	19.46	19.46	19.42
15	256QAM	75	0	19.32	19.35	19.22
Channel				37800	38000	38200
Frequency (MHz)				2575	2595	2615
10	QPSK	1	0	24.08	24.27	24.29
10	QPSK	1	25	24.31	24.35	24.32
10	QPSK	1	49	24.14	24.14	24.32
10	QPSK	25	0	23.47	23.40	23.37
10	QPSK	25	12	23.46	23.50	23.46
10	QPSK	25	25	23.48	23.50	23.44
10	QPSK	50	0	23.48	23.42	23.45
10	16QAM	1	0	23.52	23.44	23.42
10	16QAM	1	25	23.44	23.49	23.44
10	16QAM	1	49	23.50	23.47	23.48
10	16QAM	25	0	22.48	22.40	22.37
10	16QAM	25	12	22.47	22.52	22.48
10	16QAM	25	25	22.45	22.50	22.46
10	16QAM	50	0	22.49	22.44	22.49
10	64QAM	1	0	22.48	22.47	22.43
10	64QAM	1	25	22.40	22.42	22.38
10	64QAM	1	49	22.44	22.38	22.49
10	64QAM	25	0	21.50	21.42	21.42
10	64QAM	25	12	21.52	21.56	21.51
10	64QAM	25	25	21.48	21.56	21.51
10	64QAM	50	0	21.52	21.49	21.50
10	256QAM	1	0	19.07	19.25	19.34
10	256QAM	1	25	19.12	19.62	19.64
10	256QAM	1	49	19.25	19.35	19.52
10	256QAM	25	0	19.35	19.25	19.25
10	256QAM	25	12	19.25	19.34	19.34
10	256QAM	25	25	19.36	19.45	19.24
10	256QAM	50	0	19.75	19.63	19.65
Channel				37775	38000	38225
Frequency (MHz)				2572.5	2595	2617.5
5	QPSK	1	0	24.15	24.31	24.22
5	QPSK	1	12	24.36	24.34	24.27
5	QPSK	1	24	24.25	24.13	24.30
5	QPSK	12	0	23.50	23.44	23.36
5	QPSK	12	7	23.47	23.53	23.50
5	QPSK	12	13	23.43	23.51	23.43
5	QPSK	25	0	23.47	23.48	23.44



5	16QAM	1	0	23.51	23.42	23.39
5	16QAM	1	12	23.55	23.53	23.51
5	16QAM	1	24	23.47	23.54	23.53
5	16QAM	12	0	22.49	22.41	22.36
5	16QAM	12	7	22.50	22.50	22.47
5	16QAM	12	13	22.38	22.48	22.44
5	16QAM	25	0	22.52	22.50	22.45
5	64QAM	1	0	22.40	22.28	22.23
5	64QAM	1	12	22.33	22.35	22.31
5	64QAM	1	24	22.25	22.37	22.36
5	64QAM	12	0	21.56	21.47	21.44
5	64QAM	12	7	21.58	21.57	21.51
5	64QAM	12	13	21.44	21.54	21.48
5	64QAM	25	0	21.54	21.51	21.51
5	256QAM	1	0	19.25	19.23	19.27
5	256QAM	1	12	19.15	19.16	19.20
5	256QAM	1	24	19.24	19.27	19.26
5	256QAM	12	0	19.32	19.34	19.33
5	256QAM	12	7	19.12	19.18	19.10
5	256QAM	12	13	19.24	19.25	19.24
5	256QAM	25	0	19.18	19.22	19.25



LTE Band 41						
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40620	41490
Frequency (MHz)				2506	2593	2680
20	QPSK	1	0	24.34	24.41	24.20
20	QPSK	1	49	24.28	24.27	24.10
20	QPSK	1	99	24.30	24.35	24.11
20	QPSK	50	0	23.44	23.48	23.26
20	QPSK	50	24	23.42	23.45	23.23
20	QPSK	50	50	23.47	23.42	23.20
20	QPSK	100	0	23.45	23.46	23.23
20	16QAM	1	0	23.48	23.46	23.35
20	16QAM	1	49	23.38	23.38	23.20
20	16QAM	1	99	23.42	23.44	23.21
20	16QAM	50	0	22.47	22.37	22.30
20	16QAM	50	24	22.47	22.44	22.26
20	16QAM	50	50	22.46	22.46	22.24
20	16QAM	100	0	22.44	22.45	22.25
20	64QAM	1	0	22.26	22.24	22.13
20	64QAM	1	49	22.15	22.15	21.99
20	64QAM	1	99	22.19	22.23	21.99
20	64QAM	50	0	21.44	21.33	21.23
20	64QAM	50	24	21.43	21.41	21.23
20	64QAM	50	50	21.43	21.41	21.18
20	64QAM	100	0	21.51	21.51	21.32
20	256QAM	1	0	19.32	19.34	19.34
20	256QAM	1	49	19.47	19.08	19.75
20	256QAM	1	99	19.52	19.42	19.24
20	256QAM	50	0	19.34	19.34	19.64
20	256QAM	50	24	19.76	19.12	19.85
20	256QAM	50	50	19.28	19.34	19.63
20	256QAM	100	0	19.24	19.25	19.45
Channel				39725	40620	41515
Frequency (MHz)				2503.5	2593	2682.5
15	QPSK	1	0	24.31	24.25	24.12
15	QPSK	1	37	24.25	24.24	24.01
15	QPSK	1	74	24.25	24.36	24.10
15	QPSK	36	0	23.42	23.34	23.22
15	QPSK	36	20	23.39	23.43	23.24
15	QPSK	36	39	23.42	23.41	23.18
15	QPSK	75	0	23.41	23.41	23.20
15	16QAM	1	0	23.47	23.42	23.27
15	16QAM	1	37	23.29	23.30	23.03
15	16QAM	1	74	23.40	23.51	23.28
15	16QAM	36	0	22.40	22.29	22.24
15	16QAM	36	20	22.39	22.38	22.19
15	16QAM	36	39	22.37	22.41	22.15
15	16QAM	75	0	22.46	22.44	22.25
15	64QAM	1	0	22.25	22.20	22.07
15	64QAM	1	37	22.18	22.23	22.02
15	64QAM	1	74	22.17	22.27	22.03
15	64QAM	36	0	21.46	21.36	21.27
15	64QAM	36	20	21.44	21.44	21.24



15	64QAM	36	39	21.45	21.45	21.24
15	64QAM	75	0	21.48	21.44	21.25
15	256QAM	1	0	19.75	19.16	19.54
15	256QAM	1	37	19.52	19.46	19.36
15	256QAM	1	74	19.35	19.75	19.46
15	256QAM	36	0	19.75	19.76	19.66
15	256QAM	36	20	19.42	19.72	19.52
15	256QAM	36	39	19.35	19.24	19.22
15	256QAM	75	0	19.58	19.52	19.12
Channel				39700	40620	41540
Frequency (MHz)				2501	2593	2685
10	QPSK	1	0	24.36	24.30	24.13
10	QPSK	1	25	24.37	24.36	24.11
10	QPSK	1	49	24.40	24.38	24.08
10	QPSK	25	0	23.45	23.36	23.23
10	QPSK	25	12	23.47	23.46	23.24
10	QPSK	25	25	23.48	23.50	23.22
10	QPSK	50	0	23.49	23.46	23.24
10	16QAM	1	0	23.50	23.43	23.25
10	16QAM	1	25	23.48	23.47	23.22
10	16QAM	1	49	23.49	23.45	23.20
10	16QAM	25	0	22.50	22.40	22.27
10	16QAM	25	12	22.50	22.50	22.28
10	16QAM	25	25	22.48	22.43	22.22
10	16QAM	50	0	22.53	22.52	22.27
10	64QAM	1	0	22.45	22.34	22.19
10	64QAM	1	25	22.37	22.34	22.10
10	64QAM	1	49	22.43	22.38	22.10
10	64QAM	25	0	21.49	21.37	21.22
10	64QAM	25	12	21.50	21.50	21.24
10	64QAM	25	25	21.49	21.45	21.22
10	64QAM	50	0	21.46	21.45	21.23
10	256QAM	1	0	19.46	19.42	19.36
10	256QAM	1	25	19.45	19.35	19.47
10	256QAM	1	49	19.35	19.64	19.54
10	256QAM	25	0	19.58	19.53	19.52
10	256QAM	25	12	19.25	19.65	19.65
10	256QAM	25	25	19.46	19.46	19.54
10	256QAM	50	0	19.54	19.52	19.56
Channel				39675	40620	41565
Frequency (MHz)				2498.5	2593	2687.5
5	QPSK	1	0	24.15	24.30	24.12
5	QPSK	1	12	24.35	24.31	24.04
5	QPSK	1	24	24.35	24.32	24.03
5	QPSK	12	0	23.49	23.41	23.20
5	QPSK	12	7	23.52	23.50	23.23
5	QPSK	12	13	23.49	23.48	23.20
5	QPSK	25	0	23.48	23.44	23.18
5	16QAM	1	0	23.55	23.43	23.19
5	16QAM	1	12	23.66	23.60	23.30
5	16QAM	1	24	23.58	23.53	23.23
5	16QAM	12	0	22.49	22.47	22.17
5	16QAM	12	7	22.53	22.43	22.18
5	16QAM	12	13	22.47	22.41	22.13
5	16QAM	25	0	22.52	22.45	22.25
5	64QAM	1	0	22.30	22.19	22.01



5	64QAM	1	12	22.33	22.26	22.01
5	64QAM	1	24	22.34	22.25	22.01
5	64QAM	12	0	21.49	21.46	21.17
5	64QAM	12	7	21.51	21.44	21.22
5	64QAM	12	13	21.45	21.43	21.16
5	64QAM	25	0	21.49	21.46	21.20
5	256QAM	1	0	19.85	19.03	19.45
5	256QAM	1	12	18.98	19.12	19.24
5	256QAM	1	24	18.99	19.24	19.24
5	256QAM	12	0	19.21	19.34	19.21
5	256QAM	12	7	19.12	19.14	19.32
5	256QAM	12	13	19.32	18.95	19.11
5	256QAM	25	0	19.14	19.01	19.10



For Ant. 4:

LTE Band 7						
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	24.26	24.33	24.26
20	QPSK	1	49	24.26	24.24	24.32
20	QPSK	1	99	24.31	24.31	24.08
20	QPSK	50	0	23.29	23.44	23.39
20	QPSK	50	24	23.36	23.37	23.50
20	QPSK	50	50	23.37	23.37	23.52
20	QPSK	100	0	23.34	23.45	23.44
20	16QAM	1	0	23.57	23.59	23.64
20	16QAM	1	49	23.59	23.63	23.70
20	16QAM	1	99	23.61	23.59	23.47
20	16QAM	50	0	22.32	22.33	22.41
20	16QAM	50	24	22.37	22.38	22.52
20	16QAM	50	50	22.40	22.36	22.55
20	16QAM	100	0	22.35	22.35	22.43
20	64QAM	1	0	22.40	22.40	22.43
20	64QAM	1	49	22.38	22.35	22.51
20	64QAM	1	99	22.40	22.39	22.36
20	64QAM	50	0	21.21	21.22	21.28
20	64QAM	50	24	21.27	21.28	21.42
20	64QAM	50	50	21.26	21.25	21.44
20	64QAM	100	0	21.28	21.26	21.31
20	256QAM	1	0	19.07	19.27	19.34
20	256QAM	1	49	19.23	19.05	19.32
20	256QAM	1	99	19.35	19.42	19.09
20	256QAM	50	0	18.38	18.59	18.52
20	256QAM	50	24	18.33	18.31	18.55
20	256QAM	50	50	18.31	18.54	18.72
20	256QAM	100	0	18.29	18.42	18.29
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	24.18	24.28	24.21
15	QPSK	1	37	24.20	24.31	24.31
15	QPSK	1	74	24.27	24.30	23.98
15	QPSK	36	0	23.22	23.34	23.40
15	QPSK	36	20	23.38	23.37	23.49
15	QPSK	36	39	23.38	23.34	23.47
15	QPSK	75	0	23.33	23.33	23.40
15	16QAM	1	0	23.46	23.58	23.64
15	16QAM	1	37	23.57	23.60	23.64
15	16QAM	1	74	23.61	23.54	23.41
15	16QAM	36	0	22.24	22.32	22.40
15	16QAM	36	20	22.37	22.35	22.50
15	16QAM	36	39	22.39	22.35	22.49
15	16QAM	75	0	22.36	22.34	22.42
15	64QAM	1	0	22.37	22.40	22.44
15	64QAM	1	37	22.32	22.40	22.49
15	64QAM	1	74	22.45	22.36	22.24
15	64QAM	36	0	21.15	21.24	21.28



15	64QAM	36	20	21.25	21.25	21.40
15	64QAM	36	39	21.25	21.26	21.42
15	64QAM	75	0	21.26	21.26	21.33
15	256QAM	1	0	19.17	19.21	19.29
15	256QAM	1	37	19.19	19.32	19.25
15	256QAM	1	74	19.27	19.24	19.05
15	256QAM	36	0	18.31	18.24	18.50
15	256QAM	36	20	18.49	18.31	18.37
15	256QAM	36	39	18.28	18.29	18.55
15	256QAM	75	0	18.40	18.24	18.49
Channel				20800	21100	21400
Frequency (MHz)				2505	2535	2565
10	QPSK	1	0	24.11	24.20	24.25
10	QPSK	1	25	24.13	24.23	24.26
10	QPSK	1	49	24.18	24.22	24.18
10	QPSK	25	0	23.31	23.31	23.40
10	QPSK	25	12	23.38	23.37	23.42
10	QPSK	25	25	23.35	23.36	23.48
10	QPSK	50	0	23.36	23.34	23.38
10	16QAM	1	0	23.50	23.54	23.65
10	16QAM	1	25	23.52	23.61	23.67
10	16QAM	1	49	23.56	23.60	23.51
10	16QAM	25	0	22.31	22.36	22.39
10	16QAM	25	12	22.39	22.39	22.38
10	16QAM	25	25	22.36	22.35	22.44
10	16QAM	50	0	22.33	22.36	22.37
10	64QAM	1	0	22.47	22.53	22.58
10	64QAM	1	25	22.45	22.51	22.57
10	64QAM	1	49	22.51	22.51	22.28
10	64QAM	25	0	21.25	21.22	21.32
10	64QAM	25	12	21.30	21.29	21.35
10	64QAM	25	25	21.25	21.26	21.38
10	64QAM	50	0	21.26	21.25	21.32
10	256QAM	1	0	19.02	19.27	19.25
10	256QAM	1	25	19.04	19.18	19.19
10	256QAM	1	49	19.19	19.24	19.08
10	256QAM	25	0	18.27	18.31	18.42
10	256QAM	25	12	18.36	18.42	18.41
10	256QAM	25	25	18.28	18.30	18.58
10	256QAM	50	0	18.33	18.32	18.46
Channel				20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5
5	QPSK	1	0	24.19	24.20	24.29
5	QPSK	1	12	24.23	24.29	24.28
5	QPSK	1	24	24.19	24.22	24.28
5	QPSK	12	0	23.34	23.32	23.43
5	QPSK	12	7	23.33	23.35	23.44
5	QPSK	12	13	23.35	23.37	23.43
5	QPSK	25	0	23.30	23.34	23.42
5	16QAM	1	0	23.47	23.51	23.64
5	16QAM	1	12	23.48	23.59	23.58
5	16QAM	1	24	23.51	23.55	23.62
5	16QAM	12	0	22.36	22.38	22.47
5	16QAM	12	7	22.36	22.35	22.45
5	16QAM	12	13	22.36	22.37	22.42
5	16QAM	25	0	22.33	22.38	22.45



5	64QAM	1	0	22.31	22.29	22.46
5	64QAM	1	12	22.24	22.38	22.37
5	64QAM	1	24	22.32	22.34	22.45
5	64QAM	12	0	21.22	21.23	21.34
5	64QAM	12	7	21.20	21.28	21.34
5	64QAM	12	13	21.19	21.27	21.33
5	64QAM	25	0	21.25	21.29	21.38
5	256QAM	1	0	19.25	19.31	19.31
5	256QAM	1	12	19.22	19.09	19.26
5	256QAM	1	24	19.26	19.39	19.11
5	256QAM	12	0	18.20	18.39	18.37
5	256QAM	12	7	18.34	18.34	18.53
5	256QAM	12	13	18.23	18.26	18.61
5	256QAM	25	0	18.39	18.21	18.25



**CA Power**

For Ant. 2:

CA_38C							
Combination 20MHz+20MHz (100RB+100RB)							
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset	
37850	38048	QPSK	1	0	0	0	24.11
37901	38099	QPSK	1	0	0	0	23.99
38150	37952	QPSK	1	0	1	99	24.03
37850	38048	16QAM	1	0	0	0	23.56
37901	38099	16QAM	1	0	0	0	23.43
38150	37952	16QAM	1	0	1	99	23.66
37850	38048	64QAM	1	0	0	0	22.76
37901	38099	64QAM	1	0	0	0	22.77
38150	37952	64QAM	1	0	1	99	22.87

For Ant. 4

CA_7C							
Combination 20MHz+20MHz (100RB+100RB)							
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset	
20850	21048	QPSK	1	0	0	0	24.21
21100	20902	QPSK	1	0	1	99	24.35
21350	21152	QPSK	1	0	1	99	24.11
20850	21048	16QAM	1	0	0	0	23.22
21100	20902	16QAM	1	0	1	99	23.31
21350	21152	16QAM	1	0	1	99	23.11
20850	21048	64QAM	1	0	0	0	22.54
21100	20902	64QAM	1	0	1	99	22.43
21350	21152	64QAM	1	0	1	99	22.56



**EIRP**

For Ant. 2:

LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = -1.28 dB) QPSK									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
Conducted Power (dBm)	24.35	24.31	24.04	24.40	24.38	24.08	24.25	24.36	24.10
Conducted Power (Watts)	0.2723	0.2698	0.2535	0.2754	0.2742	0.2559	0.2661	0.2729	0.2570
EIRP(dBm)	23.07	23.03	22.76	23.12	23.10	22.80	22.97	23.08	22.82
EIRP(Watts)	0.2028	0.2009	0.1888	0.2051	0.2042	0.1905	0.1982	0.2032	0.1914

LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = -1.28 dB) QPSK			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency (MHz)	2506	2593	2680
Conducted Power (dBm)	24.34	24.41	24.20
Conducted Power (Watts)	0.2716	0.2761	0.2630
EIRP(dBm)	23.06	23.13	22.92
EIRP(Watts)	0.2023	0.2056	0.1959



LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = -1.28 dB) 16QAM									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
Conducted Power (dBm)	23.66	23.60	23.30	22.50	22.50	22.28	23.40	23.51	23.28
Conducted Power (Watts)	0.2323	0.2291	0.2138	0.1778	0.1778	0.1690	0.2188	0.2244	0.2128
EIRP(dBm)	22.38	22.32	22.02	21.22	21.22	21.00	22.12	22.23	22.00
EIRP(Watts)	0.1730	0.1706	0.1592	0.1324	0.1324	0.1259	0.1629	0.1671	0.1585

LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = -1.28 dB) 16QAM			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency (MHz)	2506	2593	2680
Conducted Power (dBm)	23.48	23.46	23.35
Conducted Power (Watts)	0.2228	0.2218	0.2163
EIRP(dBm)	22.20	22.18	22.07
EIRP(Watts)	0.1660	0.1652	0.1611



LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = -1.28 dB) 64QAM									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
(MHz)									
Conducted Power (dBm)	22.34	22.25	22.01	22.45	22.34	22.19	22.17	22.27	22.03
Conducted Power (Watts)	0.1714	0.1679	0.1589	0.1758	0.1714	0.1656	0.1648	0.1687	0.1596
EIRP(dBm)	21.06	20.97	20.73	21.17	21.06	20.91	20.89	20.99	20.75
EIRP(Watts)	0.1276	0.1250	0.1183	0.1309	0.1276	0.1233	0.1227	0.1256	0.1189

LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = -1.28 dB) 64QAM			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency	2506	2593	2680
(MHz)			
Conducted Power (dBm)	22.26	22.24	22.13
Conducted Power (Watts)	0.1683	0.1675	0.1633
EIRP(dBm)	20.98	20.96	20.85
EIRP(Watts)	0.1253	0.1247	0.1216



LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = -1.28 dB) 256QAM									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
(MHz)									
Conducted Power (dBm)	19.85	19.03	19.45	19.25	19.65	19.65	19.75	19.76	19.66
Conducted Power (Watts)	0.0966	0.0800	0.0881	0.0841	0.0923	0.0923	0.0944	0.0946	0.0925
EIRP(dBm)	18.57	17.75	18.17	17.97	18.37	18.37	18.47	18.48	18.38
EIRP(Watts)	0.0719	0.0596	0.0656	0.0627	0.0687	0.0687	0.0703	0.0705	0.0689

LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = -1.28 dB) 256QAM			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency	2506	2593	2680
(MHz)			
Conducted Power (dBm)	19.76	19.12	19.85
Conducted Power (Watts)	0.0946	0.0817	0.0966
EIRP(dBm)	18.48	17.84	18.57
EIRP(Watts)	0.0705	0.0608	0.0719



For Ant. 4:

LTE Band 7 (GT - LC = -1.61 dB) QPSK			
Bandwidth	5M		
Channel	20775	21100	21425
	(Low)	(Mid)	(High)
Frequency	2502.5	2535	2567.5
(MHz)			
Conducted Power (dBm)	24.19	24.20	24.29
Conducted Power (Watts)	0.2624	0.2630	0.2685
EIRP(dBm)	22.58	22.59	22.68
EIRP(Watts)	0.1811	0.1816	0.1854

LTE Band 7 (GT - LC = -1.61 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	20800	21100	21400	20825	21100	21375	20850	21100	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
(MHz)									
Conducted Power (dBm)	24.13	24.23	24.26	24.20	24.31	24.31	24.26	24.33	24.26
Conducted Power (Watts)	0.2588	0.2649	0.2667	0.2630	0.2698	0.2698	0.2667	0.2710	0.2667
EIRP(dBm)	22.52	22.62	22.65	22.59	22.70	22.70	22.65	22.72	22.65
EIRP(Watts)	0.1786	0.1828	0.1841	0.1816	0.1862	0.1862	0.1841	0.1871	0.1841



LTE Band 7 (GT - LC = -1.61 dB) 16QAM			
Bandwidth	5M		
Channel	20775	21100	21425
	(Low)	(Mid)	(High)
Frequency	2502.5	2535	2567.5
(MHz)			
Conducted Power (dBm)	23.47	23.51	23.64
Conducted Power (Watts)	0.2223	0.2244	0.2312
EIRP(dBm)	21.86	21.90	22.03
EIRP(Watts)	0.1535	0.1549	0.1596

LTE Band 7 (GT - LC = -1.61 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	20800	21100	21400	20825	21100	21375	20850	21100	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
(MHz)									
Conducted Power (dBm)	23.52	23.61	23.67	23.57	23.60	23.64	23.59	23.63	23.70
Conducted Power (Watts)	0.2249	0.2296	0.2328	0.2275	0.2291	0.2312	0.2286	0.2307	0.2344
EIRP(dBm)	21.91	22.00	22.06	21.96	21.99	22.03	21.98	22.02	22.09
EIRP(Watts)	0.1552	0.1585	0.1607	0.1570	0.1581	0.1596	0.1578	0.1592	0.1618



LTE Band 7 (GT - LC = -1.61 dB) 64QAM			
Bandwidth	5M		
Channel	20775	21100	21425
	(Low)	(Mid)	(High)
Frequency	2502.5	2535	2567.5
(MHz)			
Conducted Power (dBm)	22.31	22.29	22.46
Conducted Power (Watts)	0.1702	0.1694	0.1762
EIRP(dBm)	20.70	20.68	20.85
EIRP(Watts)	0.1175	0.1169	0.1216

LTE Band 7 (GT - LC = -1.61 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	20800	21100	21400	20825	21100	21375	20850	21100	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
(MHz)									
Conducted Power (dBm)	22.47	22.53	22.58	22.32	22.40	22.49	22.38	22.35	22.51
Conducted Power (Watts)	0.1766	0.1791	0.1811	0.1706	0.1738	0.1774	0.1730	0.1718	0.1782
EIRP(dBm)	20.86	20.92	20.97	20.71	20.79	20.88	20.77	20.74	20.90
EIRP(Watts)	0.1219	0.1236	0.1250	0.1178	0.1199	0.1225	0.1194	0.1186	0.1230



LTE Band 7 (GT - LC = -1.61 dB) 256QAM			
Bandwidth	5M		
Channel	20775	21100	21425
	(Low)	(Mid)	(High)
Frequency	2502.5	2535	2567.5
(MHz)			
Conducted Power (dBm)	19.26	19.39	19.11
Conducted Power (Watts)	0.0843	0.0869	0.0815
EIRP(dBm)	17.65	17.78	17.50
EIRP(Watts)	0.0582	0.0600	0.0562

LTE Band 7 (GT - LC = -1.61 dB) 256QAM									
Bandwidth	10M			15M			20M		
Channel	20800	21100	21400	20825	21100	21375	20850	21100	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
(MHz)									
Conducted Power (dBm)	19.02	19.27	19.25	19.19	19.32	19.25	19.35	19.42	19.09
Conducted Power (Watts)	0.0798	0.0845	0.0841	0.0830	0.0855	0.0841	0.0861	0.0875	0.0811
EIRP(dBm)	17.41	17.66	17.64	17.58	17.71	17.64	17.74	17.81	17.48
EIRP(Watts)	0.0551	0.0583	0.0581	0.0573	0.0590	0.0581	0.0594	0.0604	0.0560



**CA EIRP**

For Ant. 2:

LTE Band 38 CA (GT - LC = -1.28 dB) QPSK			
Bandwidth	20M + 20M		
Channel PCC	37850	37901	37952
	(Low)	(Mid)	(High)
Channel SCC	38048	38099	38150
	(Low)	(Mid)	(High)
Conducted Power (dBm)	24.11	23.99	24.03
Conducted Power (Watts)	0.2576	0.2506	0.2529
EIRP(dBm)	22.83	22.71	22.75
EIRP(Watts)	0.1919	0.1866	0.1884

LTE Band 38 CA (GT - LC = -1.28 dB) 16QAM			
Bandwidth	20M + 20M		
Channel PCC	37850	37901	37952
	(Low)	(Mid)	(High)
Channel SCC	38048	38099	38150
	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.56	23.43	23.66
Conducted Power (Watts)	0.2270	0.2203	0.2323
EIRP(dBm)	22.28	22.15	22.38
EIRP(Watts)	0.1690	0.1641	0.1730



LTE Band 38 CA (GT - LC = -1.28 dB) 64QAM			
Bandwidth	20M + 20M		
Channel PCC	37850	37901	37952
	(Low)	(Mid)	(High)
Channel SCC	38048	38099	38150
	(Low)	(Mid)	(High)
Conducted Power (dBm)	22.76	22.77	22.87
Conducted Power (Watts)	0.1888	0.1892	0.1936
EIRP(dBm)	21.48	21.49	21.59
EIRP(Watts)	0.1406	0.1409	0.1442

For Ant. 4:

LTE Band 7 CA (GT - LC = -1.61 dB) QPSK			
Bandwidth	20M + 20M		
Channel PCC	20850	21001	21152
	(Low)	(Mid)	(High)
Channel SCC	21048	21199	21350
	(Low)	(Mid)	(High)
Conducted Power (dBm)	24.21	24.35	24.11
Conducted Power (Watts)	0.2636	0.2723	0.2576
EIRP(dBm)	22.60	22.74	22.50
EIRP(Watts)	0.1820	0.1879	0.1778



LTE Band 7 CA (GT - LC = -1.61 dB) 16QAM			
Bandwidth	20M + 20M		
Channel PCC	20850	20850	20850
	(Low)	(Low)	(Low)
Channel SCC	21048	21048	21048
	(Low)	(Low)	(Low)
Conducted Power (dBm)	23.22	23.31	23.11
Conducted Power (Watts)	0.2099	0.2143	0.2046
EIRP(dBm)	21.61	21.70	21.50
EIRP(Watts)	0.1449	0.1479	0.1413

LTE Band 7 CA (GT - LC = -1.61 dB) 64QAM			
Bandwidth	20M + 20M		
Channel PCC	20850	20850	20850
	(Low)	(Low)	(Low)
Channel SCC	21048	21048	21048
	(Low)	(Low)	(Low)
Conducted Power (dBm)	22.54	22.43	22.56
Conducted Power (Watts)	0.1795	0.1750	0.1803
EIRP(dBm)	20.93	20.82	20.95
EIRP(Watts)	0.1239	0.1208	0.1245



# LTE Band 7

## Peak-to-Average Ratio

Mode	LTE Band 7 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.36	4.81	3.86	5.77	<b>PASS</b>
Middle CH	3.57	4.93	5.54	5.86	
Highest CH	3.71	4.46	4.46	5.54	
Mode	LTE Band 7 / 20MHz				
Mod.	64QAM		256QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.83	6.38	6.06	6.46	<b>PASS</b>
Middle CH	6.67	6.46	7.54	6.55	
Highest CH	6.52	6.32	6.43	6.55	



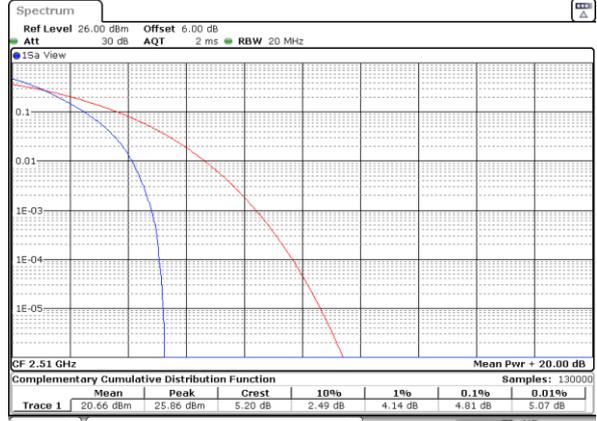
LTE Band 7 / 20MHz / QPSK

Lowest Channel / 1RB



Date: 4 NOV 2020 10:01:28

Lowest Channel / Full RB



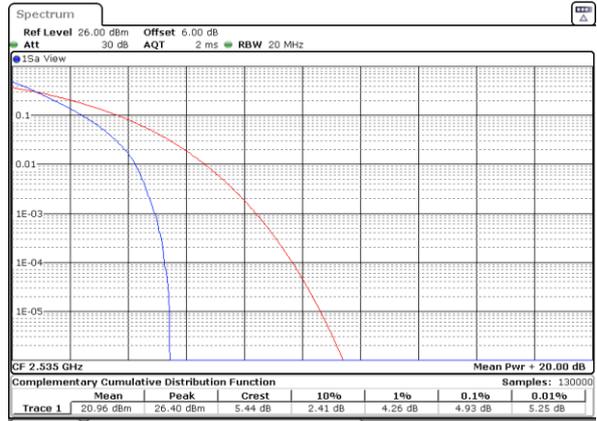
Date: 4 NOV 2020 10:01:16

Middle Channel / 1RB



Date: 4 NOV 2020 10:02:02

Middle Channel / Full RB



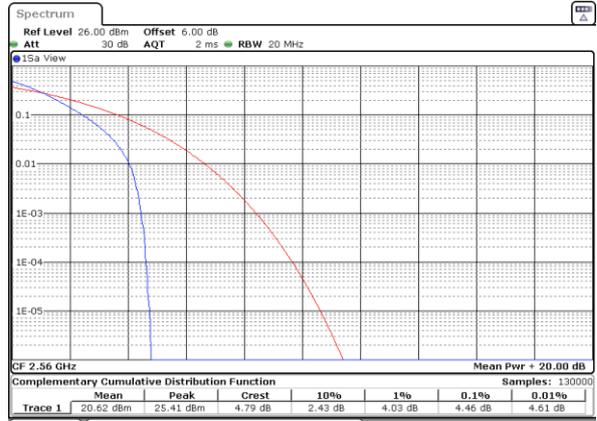
Date: 4 NOV 2020 10:00:45

Highest Channel / 1RB



Date: 4 NOV 2020 10:02:14

Highest Channel / Full RB

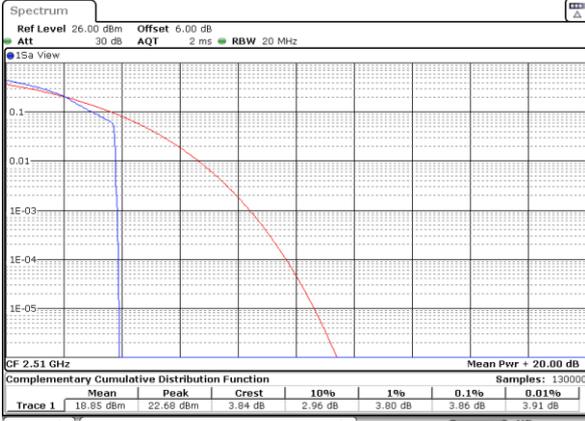


Date: 4 NOV 2020 10:00:33



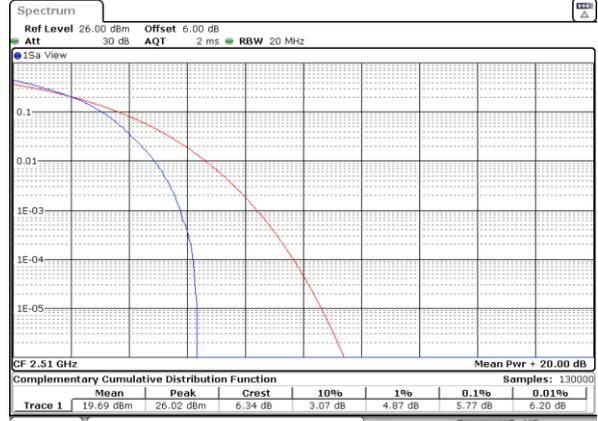
LTE Band 7 / 20MHz / 16QAM

Lowest Channel / 1RB



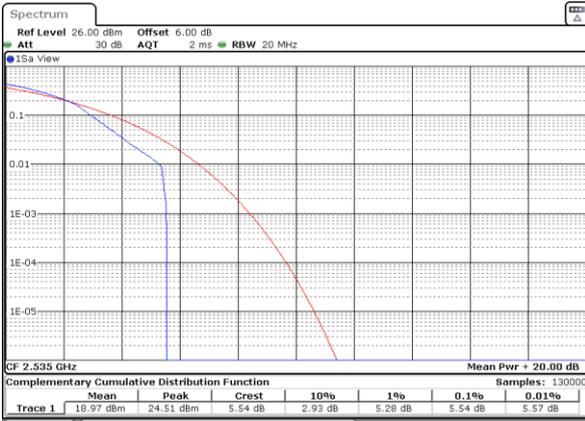
Date: 4 NOV 2020 10:01:39

Lowest Channel / Full RB



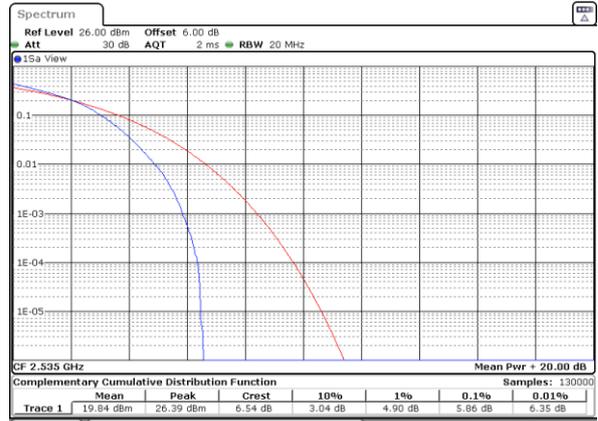
Date: 4 NOV 2020 10:01:06

Middle Channel / 1RB



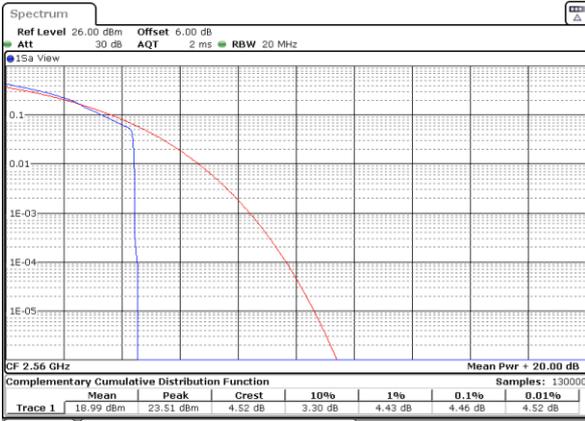
Date: 4 NOV 2020 10:01:51

Middle Channel / Full RB



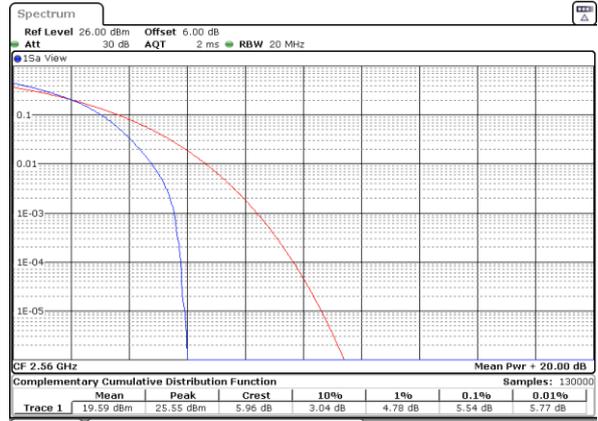
Date: 4 NOV 2020 10:00:55

Highest Channel / 1RB



Date: 4 NOV 2020 10:02:25

Highest Channel / Full RB



Date: 4 NOV 2020 10:00:23



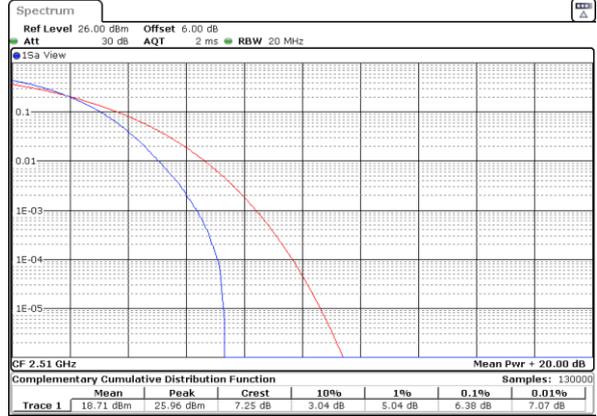
LTE Band 7 / 20MHz / 64QAM

Lowest Channel / 1RB



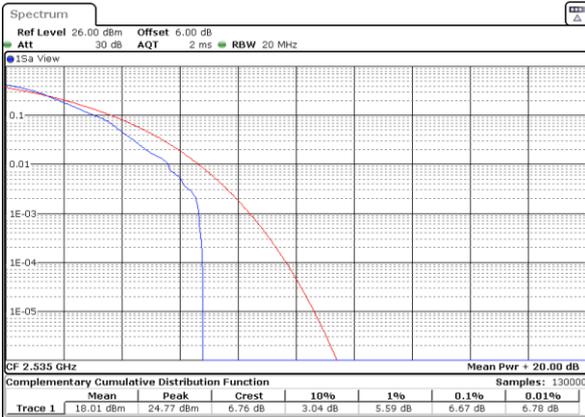
Date: 4 NOV 2020 09:59:23

Lowest Channel / Full RB



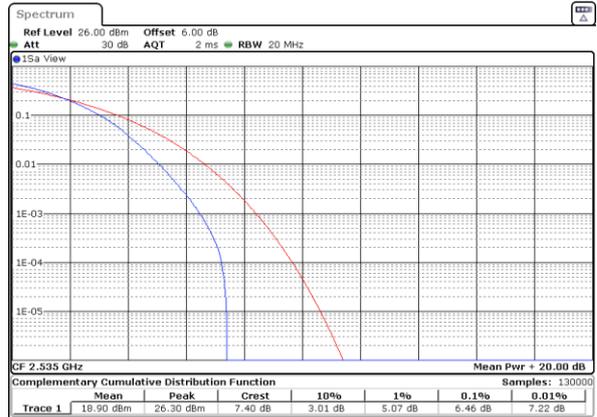
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Middle Channel / 1RB



Date: 4 NOV 2020 09:59:51

Middle Channel / Full RB



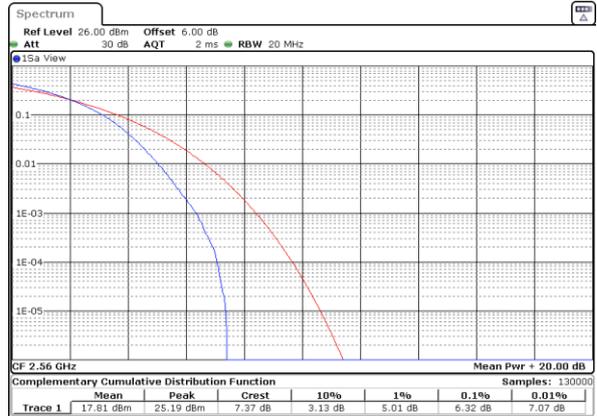
Date: 4 NOV 2020 09:59:41

Highest Channel / 1RB



Date: 4 NOV 2020 09:59:59

Highest Channel / Full RB

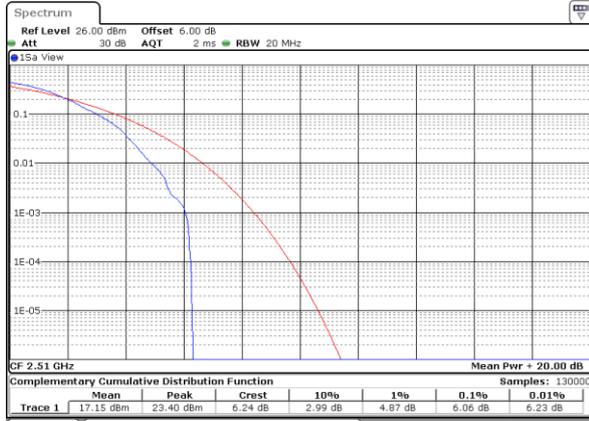


Date: 4 NOV 2020 10:00:08



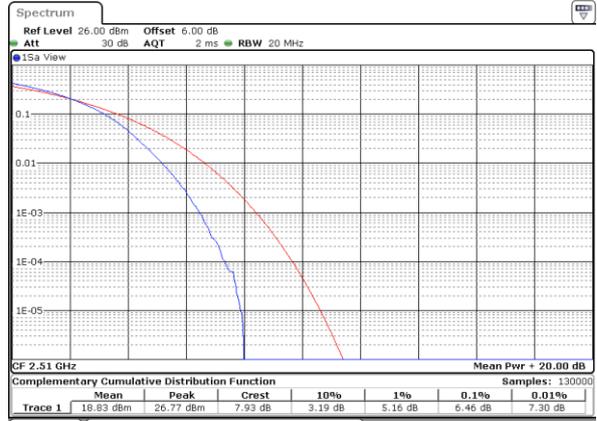
LTE Band 7 / 20MHz / 256QAM

Lowest Channel / 1RB



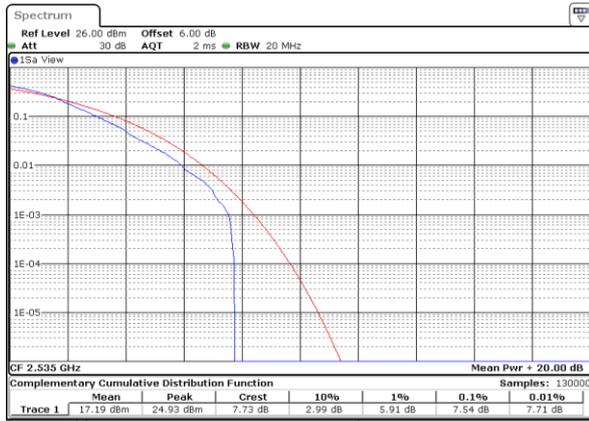
Date: 12.NOV.2020 21:28:32

Lowest Channel / Full RB



Date: 12.NOV.2020 21:28:18

Middle Channel / 1RB



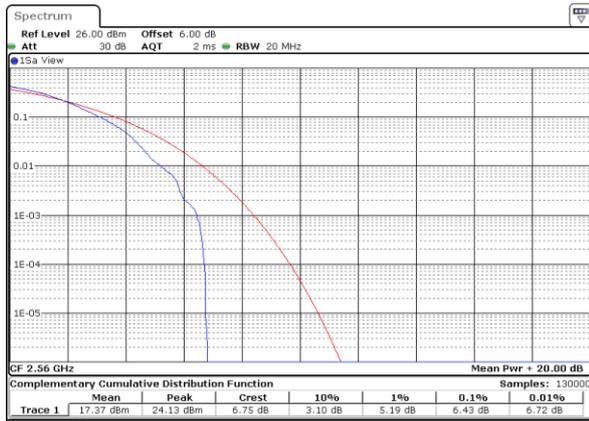
Date: 12.NOV.2020 21:28:51

Middle Channel / Full RB



Date: 12.NOV.2020 21:29:08

Highest Channel / 1RB



Date: 12.NOV.2020 21:30:56

Highest Channel / Full RB



Date: 12.NOV.2020 21:30:35



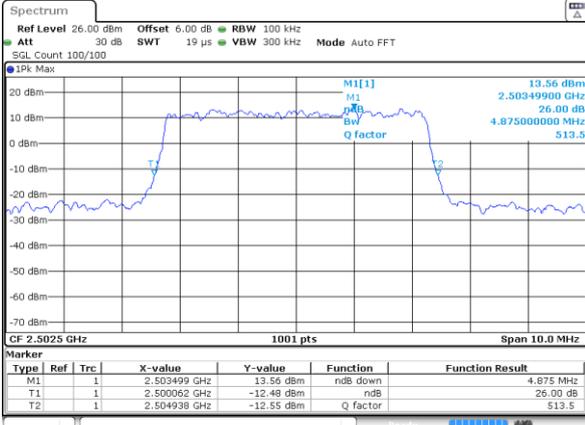
**26dB Bandwidth**

Mode	LTE Band 7 : 26dB BW(MHz)											
BW				5MHz		10MHz		15MHz		20MHz		
Mod.				QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	
Lowest CH	-	-	-	4.88	4.93	9.77	9.67	14.36	14.36	20.30	20.18	
Middle CH	-	-	-	4.93	4.86	9.87	9.81	14.21	14.51	20.34	20.14	
Highest CH	-	-	-	4.99	4.90	9.63	9.69	14.39	14.39	20.14	20.22	
Mode	LTE Band 7 : 26dB BW(MHz)											
BW				5MHz		10MHz		15MHz		20MHz		
Mod.				64QAM	256QA QM	64QAM	256QA QM	64QAM	256QA QM	64QAM	256QA QM	
Lowest CH	-	-	-	4.91	4.92	9.87	9.77	14.51	14.39	20.34	19.86	
Middle CH	-	-	-	4.88	4.90	9.81	9.81	14.36	14.45	20.22	20.14	
Highest CH	-	-	-	4.90	4.84	9.77	9.67	14.57	14.24	20.46	20.14	



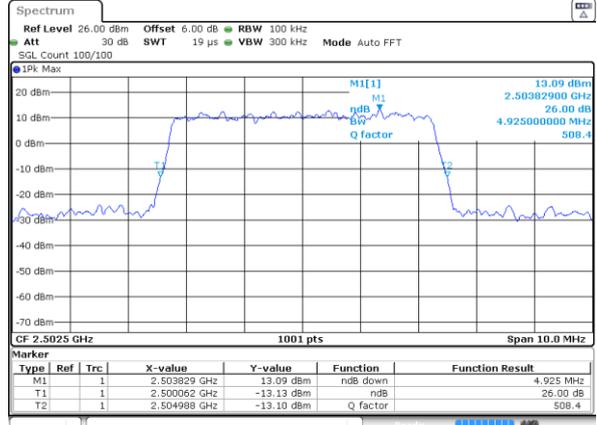
LTE Band 7

Lowest Channel / 5MHz / QPSK



Date: 3 NOV 2020 14:08:29

Lowest Channel / 5MHz / 16QAM



Date: 3 NOV 2020 14:08:49

Middle Channel / 5MHz / QPSK



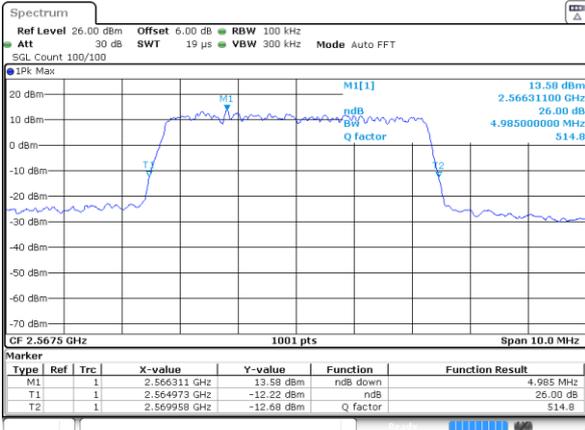
Date: 3 NOV 2020 14:09:29

Middle Channel / 5MHz / 16QAM



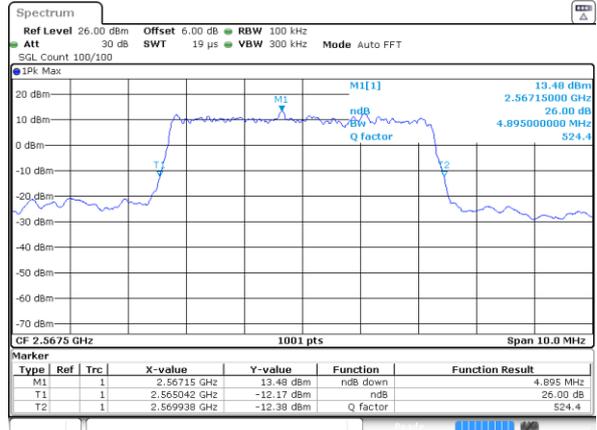
Date: 3 NOV 2020 14:09:09

Highest Channel / 5MHz / QPSK



Date: 3 NOV 2020 14:09:49

Highest Channel / 5MHz / 16QAM

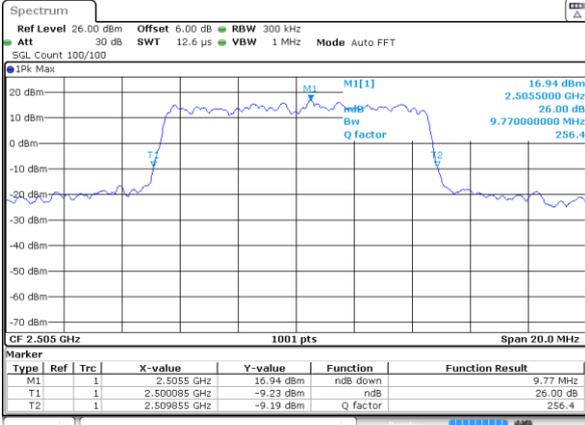


Date: 3 NOV 2020 14:10:09



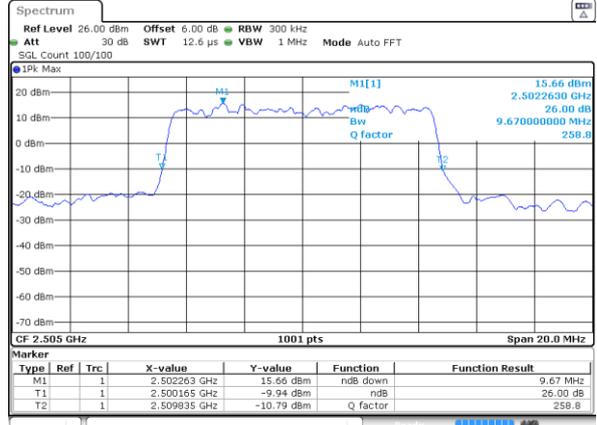
LTE Band 7

Lowest Channel / 10MHz / QPSK



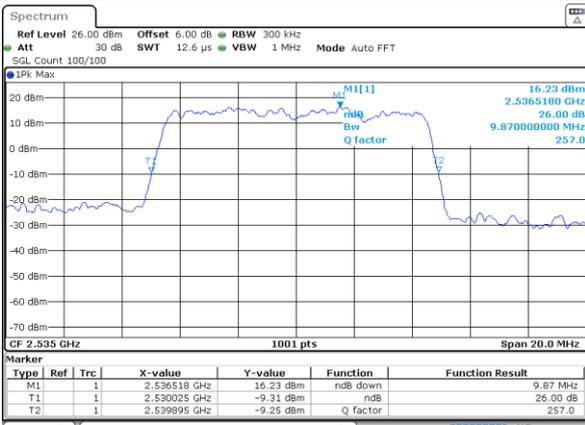
Date: 3 NOV 2020 14:26:30

Lowest Channel / 10MHz / 16QAM



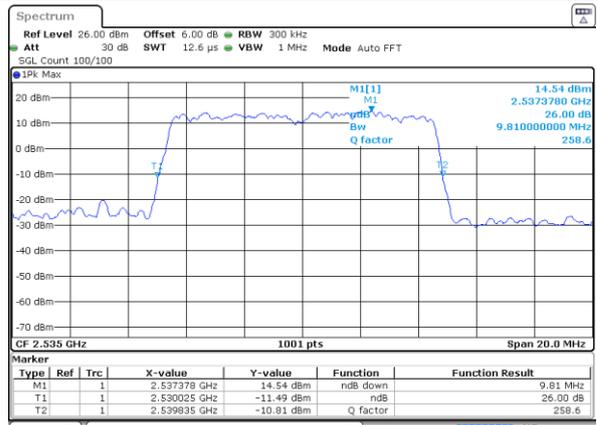
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Middle Channel / 10MHz / QPSK



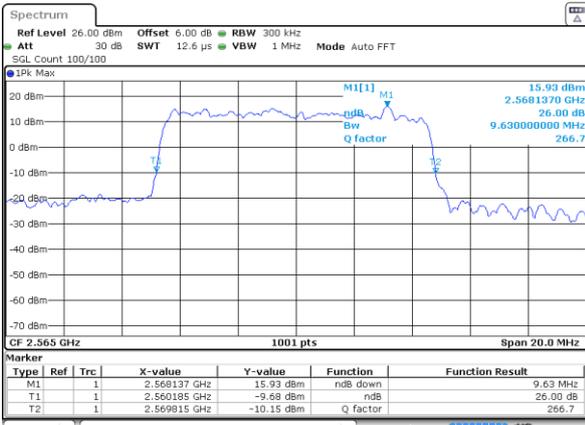
Date: 3 NOV 2020 14:27:30

Middle Channel / 10MHz / 16QAM



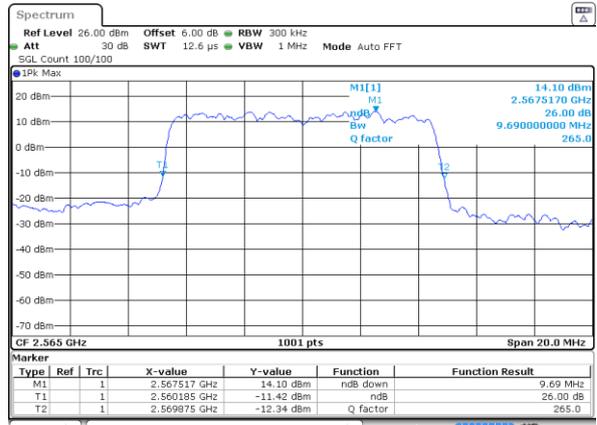
Date: 3 NOV 2020 14:27:10

Highest Channel / 10MHz / QPSK



Date: 3 NOV 2020 14:27:50

Highest Channel / 10MHz / 16QAM

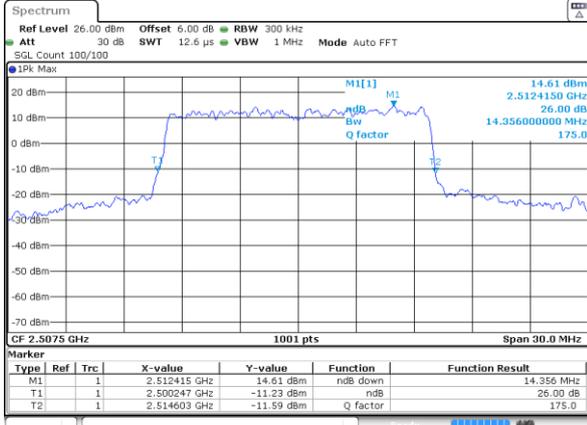


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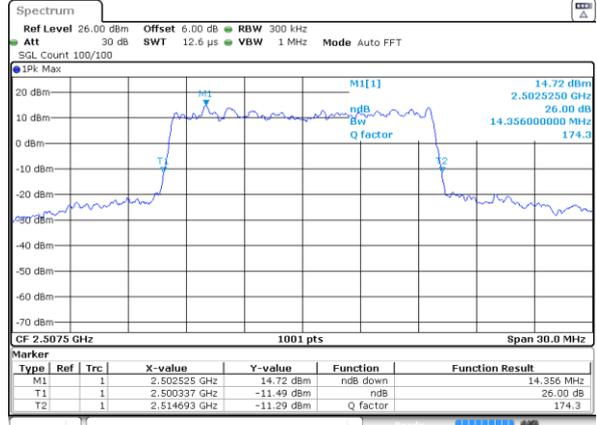
LTE Band 7

Lowest Channel / 15MHz / QPSK



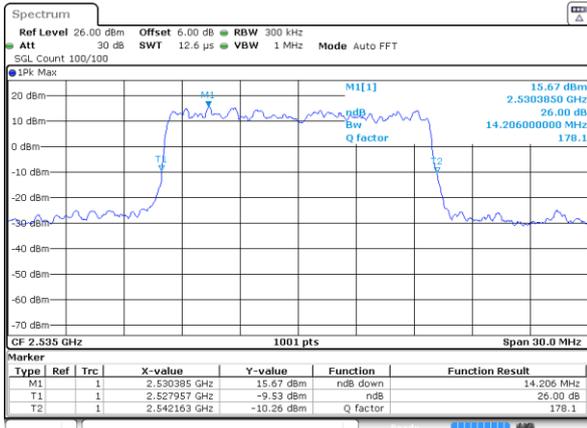
Date: 3 NOV 2020 14:54:41

Lowest Channel / 15MHz / 16QAM



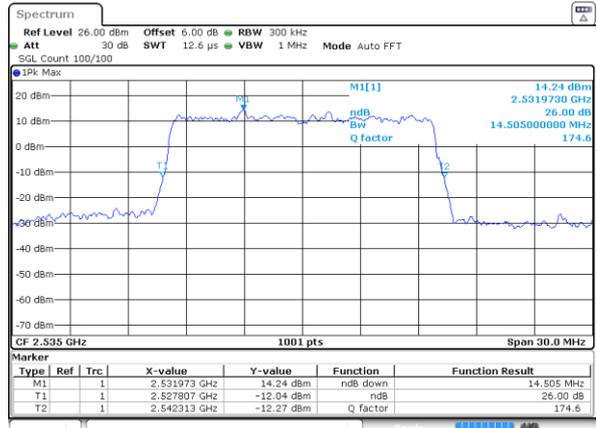
Date: 3 NOV 2020 14:54:21

Middle Channel / 15MHz / QPSK



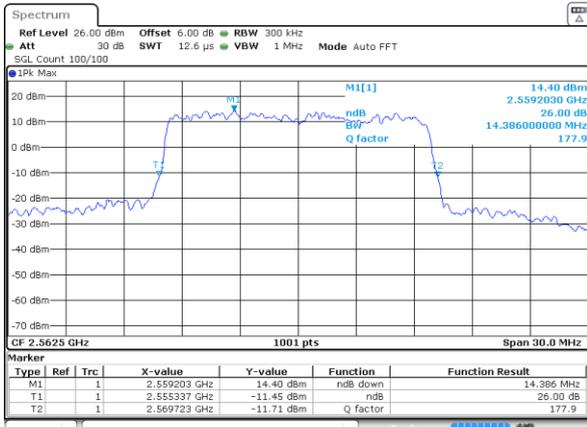
Date: 3 NOV 2020 14:55:01

Middle Channel / 15MHz / 16QAM



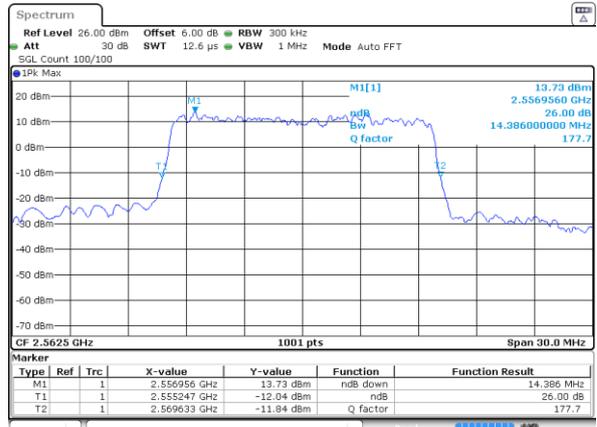
Date: 3 NOV 2020 14:55:21

Highest Channel / 15MHz / QPSK



Date: 3 NOV 2020 14:56:01

Highest Channel / 15MHz / 16QAM

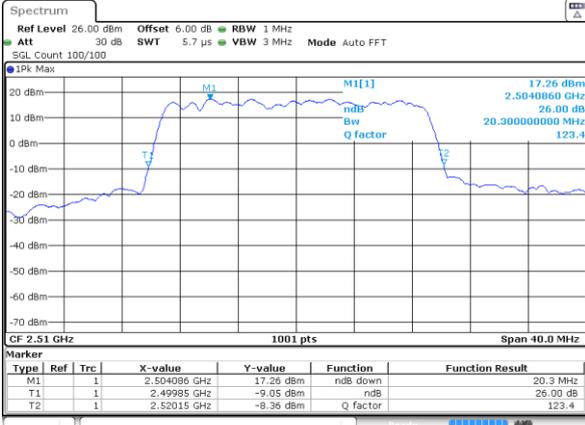


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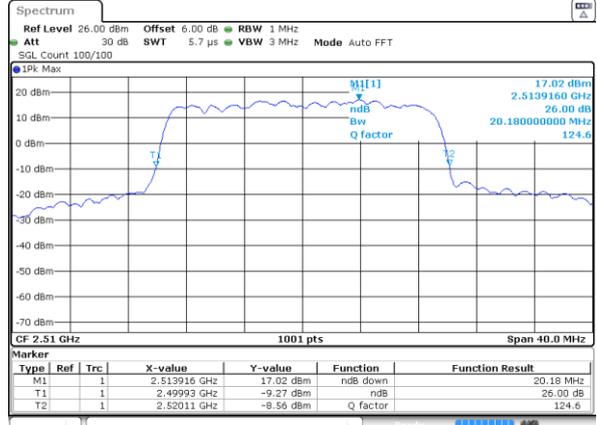
LTE Band 7

Lowest Channel / 20MHz / QPSK



Date: 3 NOV 2020 15:32:48

Lowest Channel / 20MHz / 16QAM



Date: 3 NOV 2020 15:32:28

Middle Channel / 20MHz / QPSK



Date: 3 NOV 2020 15:33:08

Middle Channel / 20MHz / 16QAM



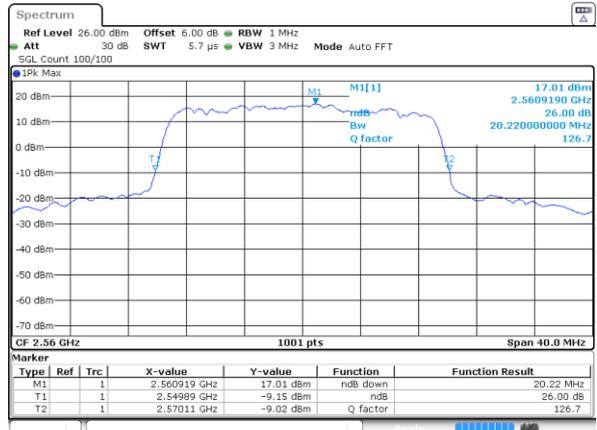
Date: 3 NOV 2020 15:33:28

Highest Channel / 20MHz / QPSK



Date: 3 NOV 2020 15:34:08

Highest Channel / 20MHz / 16QAM

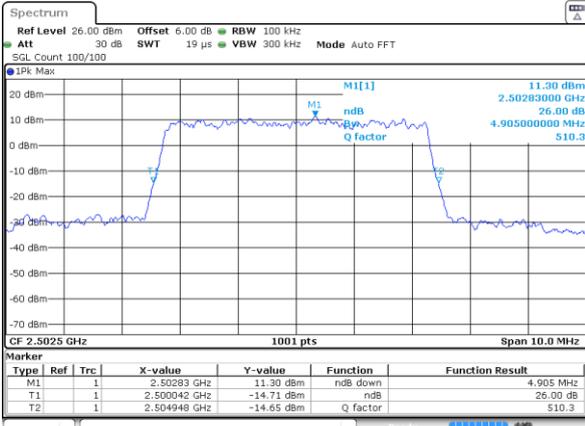


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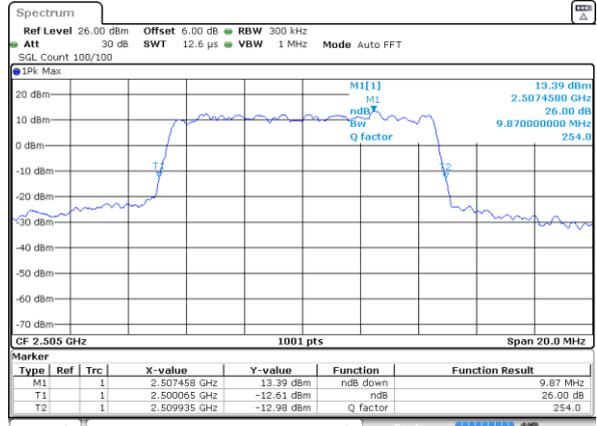
LTE Band 7

Lowest Channel / 5MHz / 64QAM



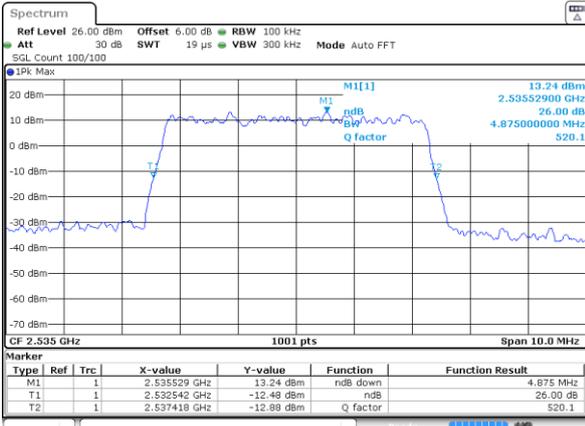
Date: 3 NOV 2020 15:49:15

Lowest Channel / 10MHz / 64QAM



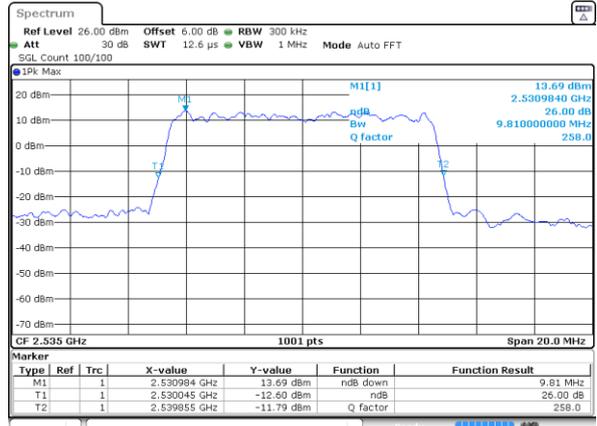
Date: 3 NOV 2020 16:11:37

Middle Channel / 5MHz / 64QAM



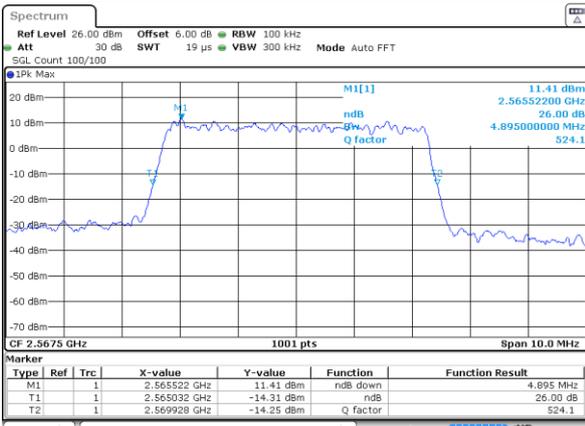
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Middle Channel / 10MHz / 64QAM



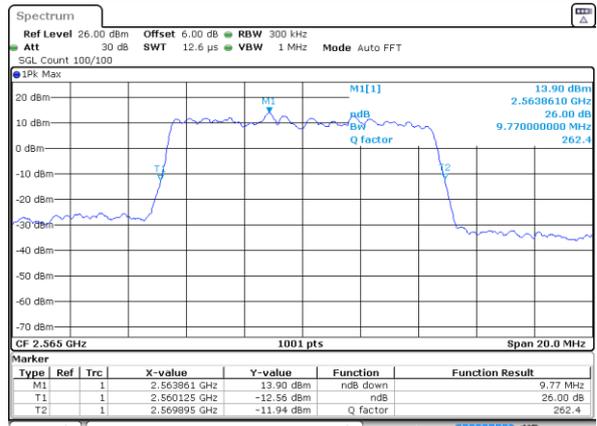
Date: 3 NOV 2020 16:11:47

Highest Channel / 5MHz / 64QAM



Date: 3 NOV 2020 15:49:35

Highest Channel / 10MHz / 64QAM

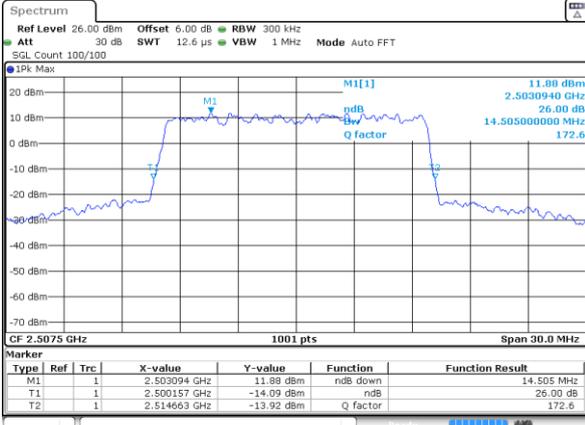


Date: 3 NOV 2020 16:11:57



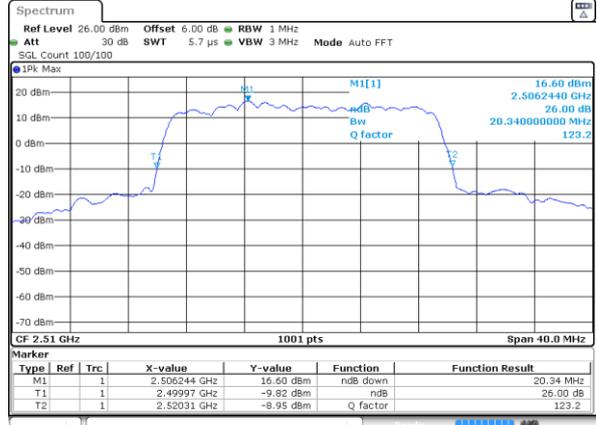
LTE Band 7

Lowest Channel / 15MHz / 64QAM



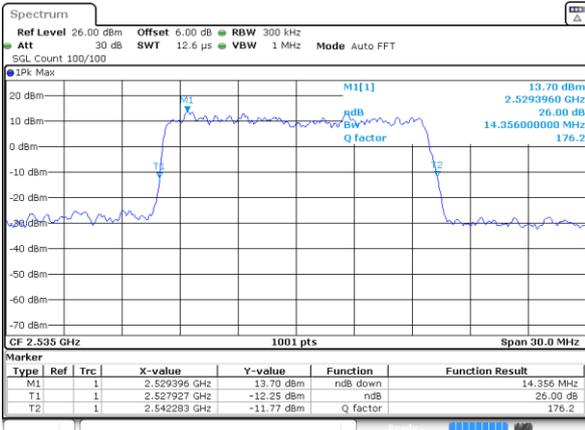
Date: 4 NOV 2020 09:41:21

Lowest Channel / 20MHz / 64QAM



Date: 4 NOV 2020 09:52:27

Middle Channel / 15MHz / 64QAM



Date: 4 NOV 2020 09:41:31

Middle Channel / 20MHz / 64QAM



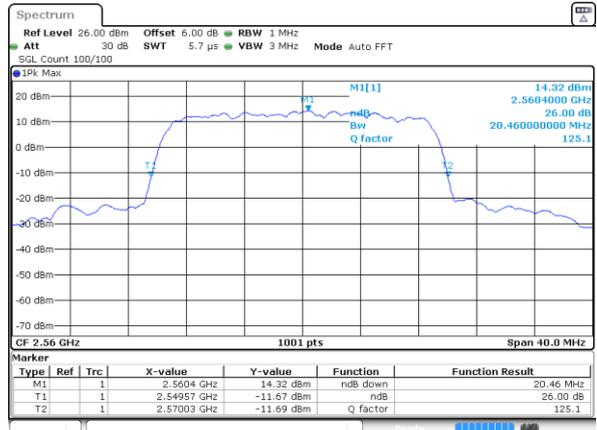
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Highest Channel / 15MHz / 64QAM



Date: 4 NOV 2020 09:41:41

Highest Channel / 20MHz / 64QAM

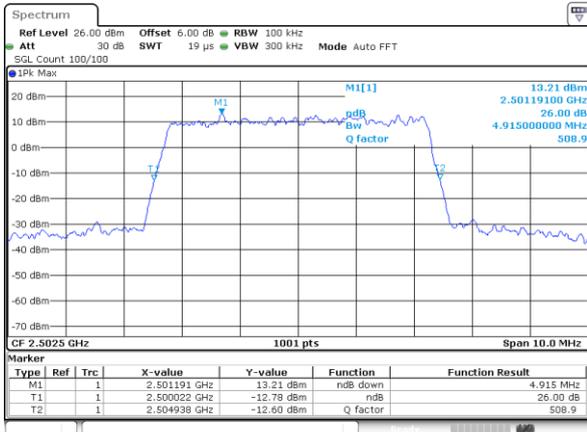


Date: 4 NOV 2020 09:52:47



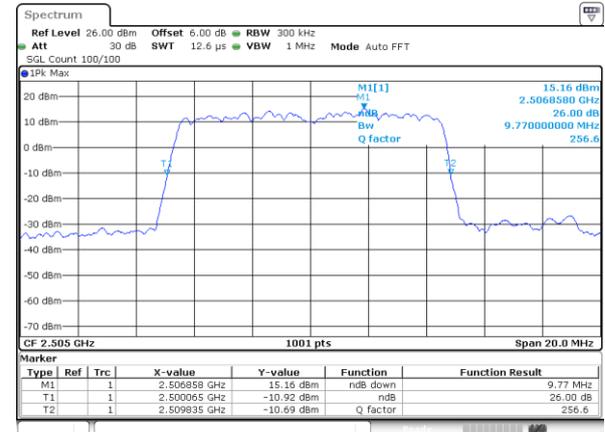
LTE Band 7

Lowest Channel / 5MHz / 256QAM



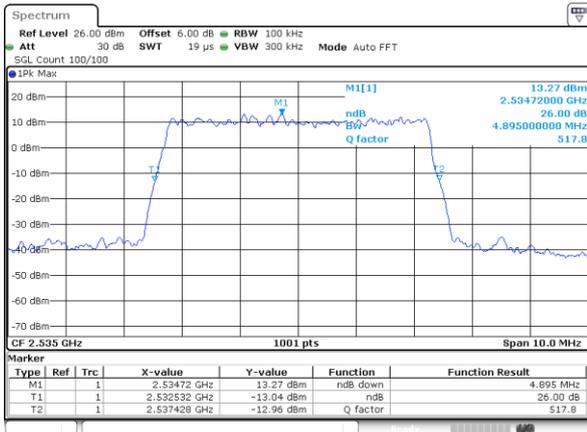
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Lowest Channel / 10MHz / 256QAM



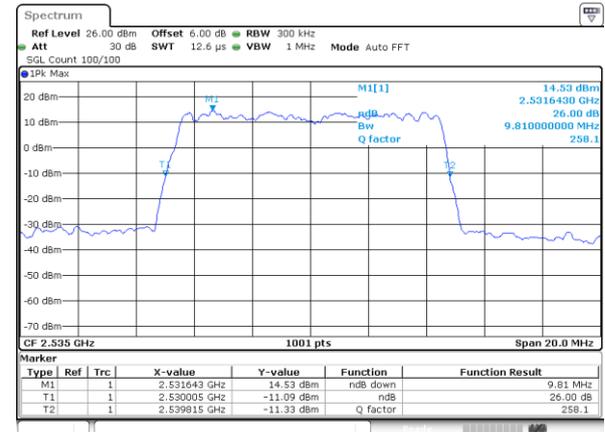
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Middle Channel / 5MHz / 256QAM



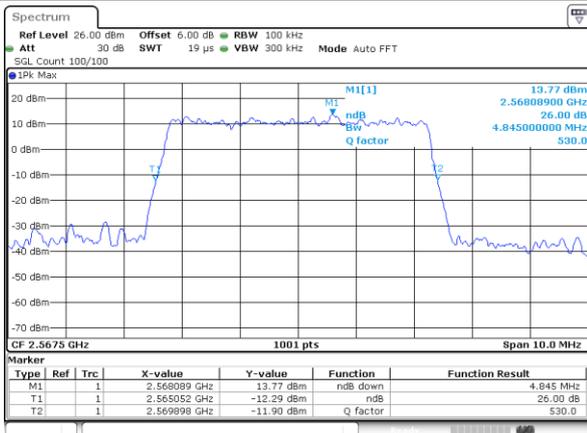
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Middle Channel / 10MHz / 256QAM



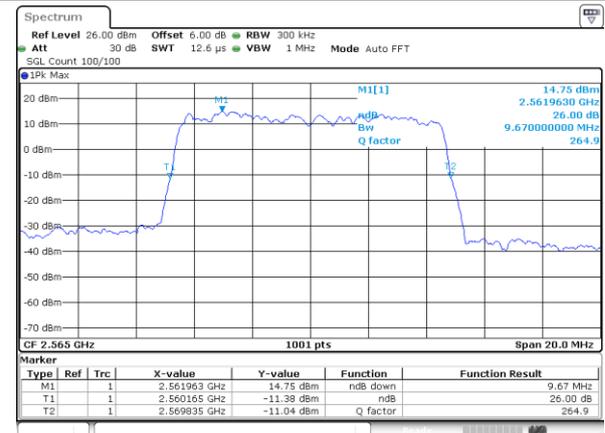
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Highest Channel / 5MHz / 256QAM



Date: 12.NOV.2020 18:41:00

Highest Channel / 10MHz / 256QAM

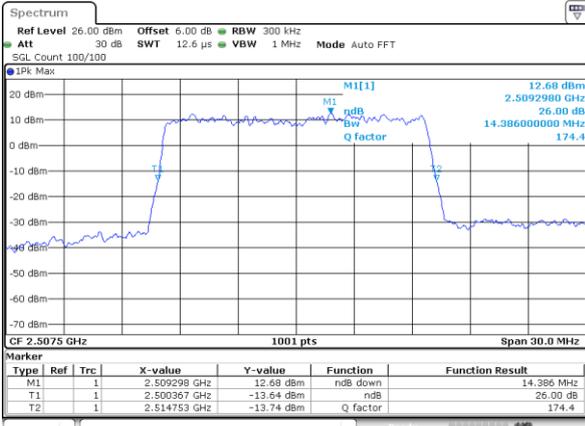


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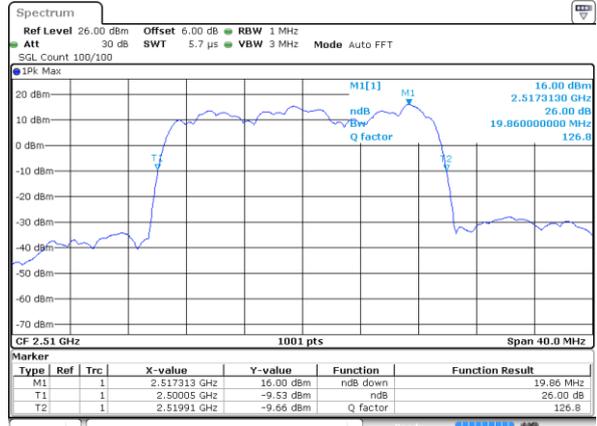
LTE Band 7

Lowest Channel / 15MHz / 256QAM



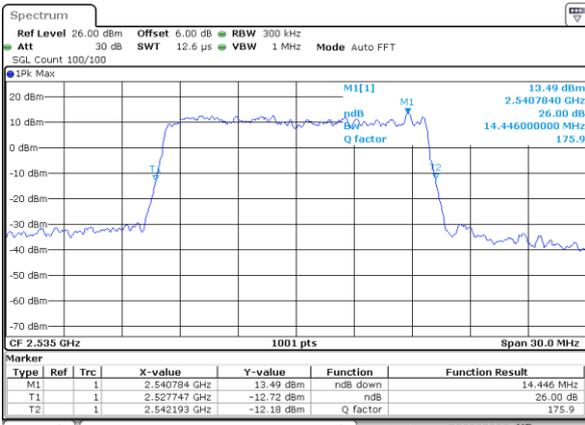
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Lowest Channel / 20MHz / 256QAM



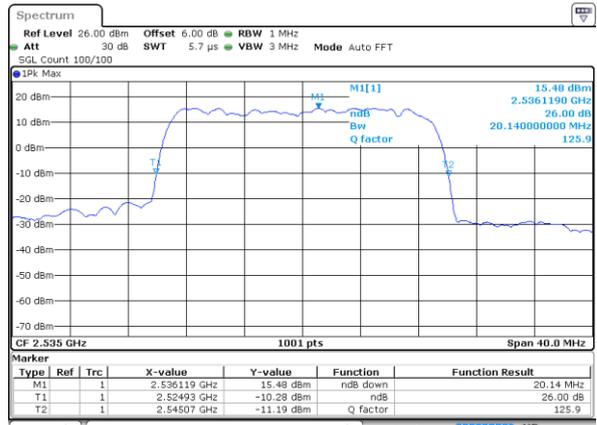
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Middle Channel / 15MHz / 256QAM



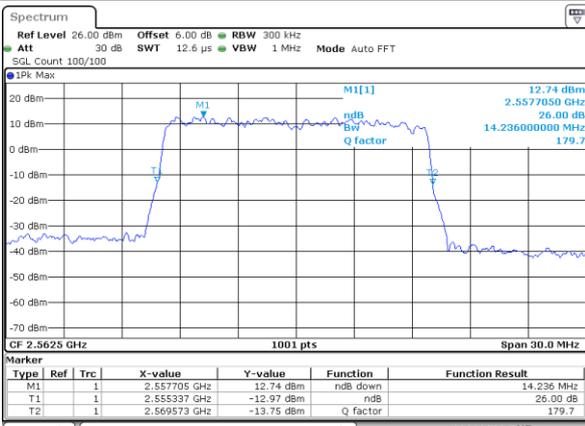
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Middle Channel / 20MHz / 256QAM



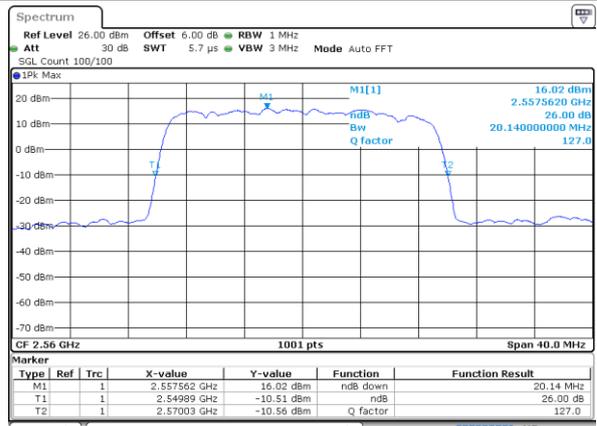
Date: 19 NOV 2020 17:01:34

Highest Channel / 15MHz / 256QAM



Date: 12.NOV.2020 19:09:17

Highest Channel / 20MHz / 256QAM



Date: 19 NOV 2020 17:02:46



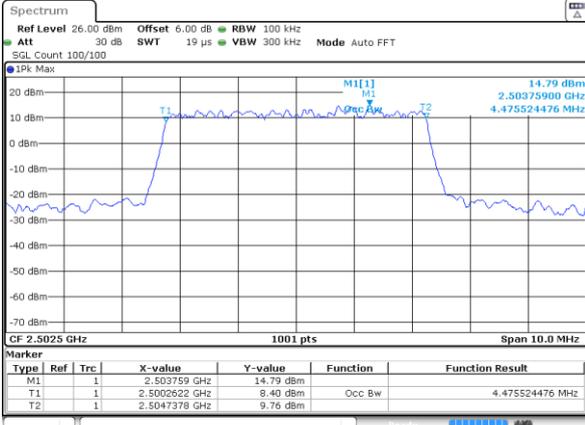
Occupied Bandwidth

Mode	LTE Band 7 : 99%OBW(MHz)											
BW					5MHz		10MHz		15MHz		20MHz	
Mod.					QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.48	4.49	9.13	9.03	13.46	13.49	18.22	18.50
Middle CH	-	-	-	-	4.49	4.50	9.03	9.03	13.43	13.49	18.22	18.30
Highest CH	-	-	-	-	4.47	4.50	9.05	9.03	13.43	13.43	18.22	18.38
Mode	LTE Band 7 : 99%OBW(MHz)											
BW					5MHz		10MHz		15MHz		20MHz	
Mod.					64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	-	-	-	-	4.50	4.49	9.03	9.05	13.49	13.46	18.50	18.30
Middle CH	-	-	-	-	4.49	4.48	8.97	8.99	13.46	13.49	18.26	18.34
Highest CH	-	-	-	-	4.50	4.47	9.01	8.99	13.40	13.37	18.30	18.18



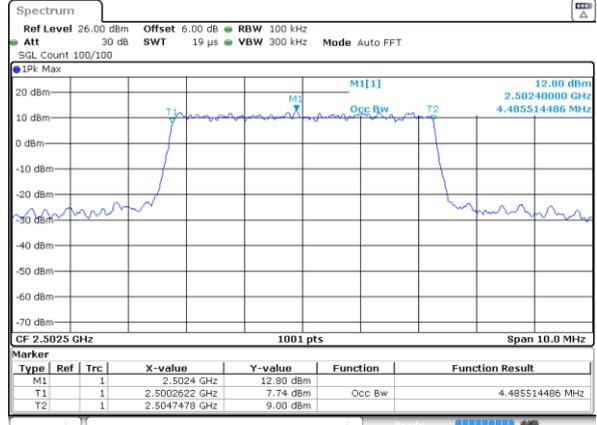
LTE Band 7

Lowest Channel / 5MHz / QPSK



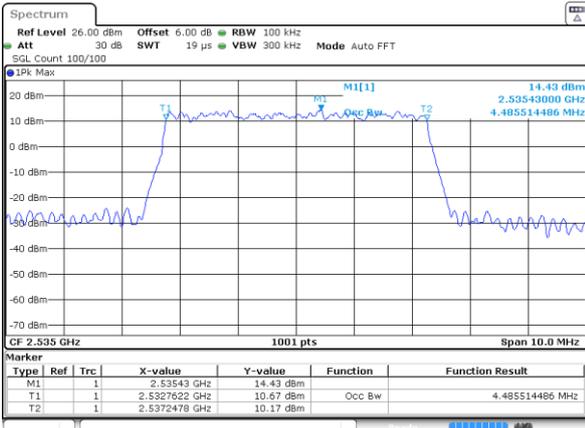
Date: 3 NOV 2020 14:08:19

Lowest Channel / 5MHz / 16QAM



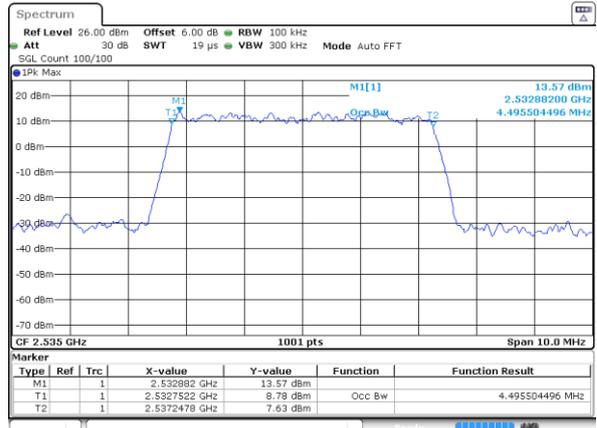
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Middle Channel / 5MHz / QPSK



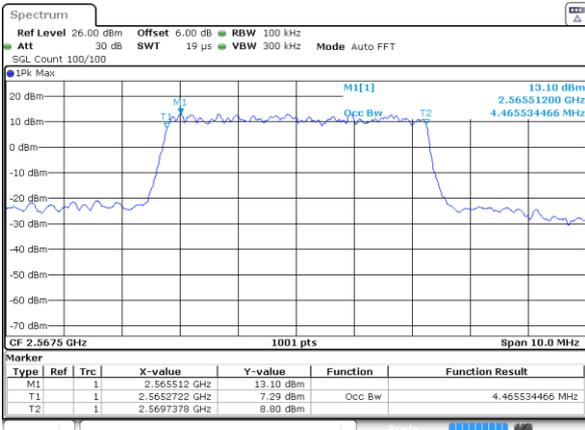
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Middle Channel / 5MHz / 16QAM



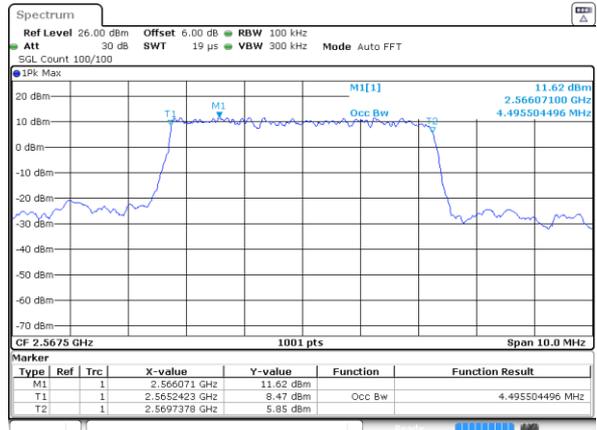
Date: 3 NOV 2020 14:08:59

Highest Channel / 5MHz / QPSK



Date: 3 NOV 2020 14:09:39

Highest Channel / 5MHz / 16QAM

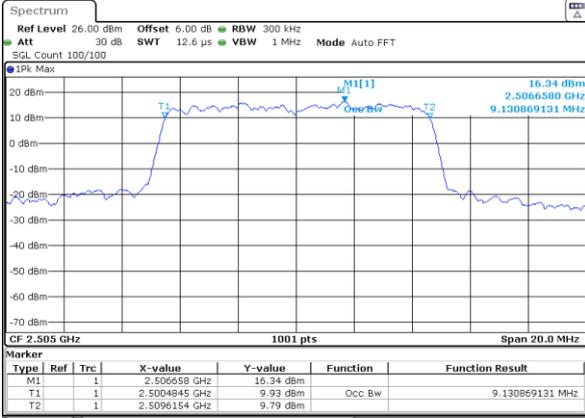


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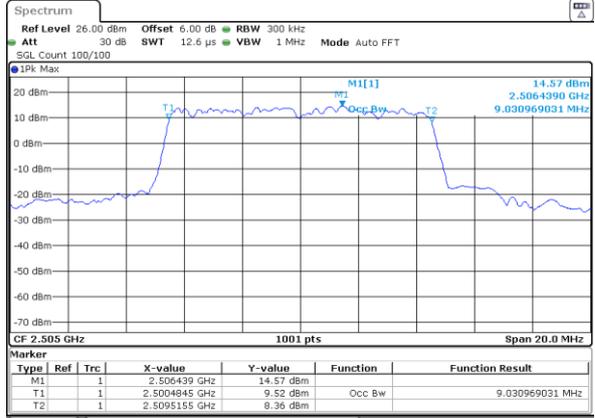
LTE Band 7

Lowest Channel / 10MHz / QPSK



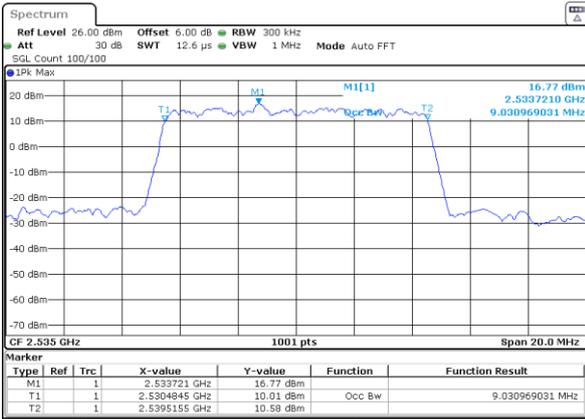
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Lowest Channel / 10MHz / 16QAM



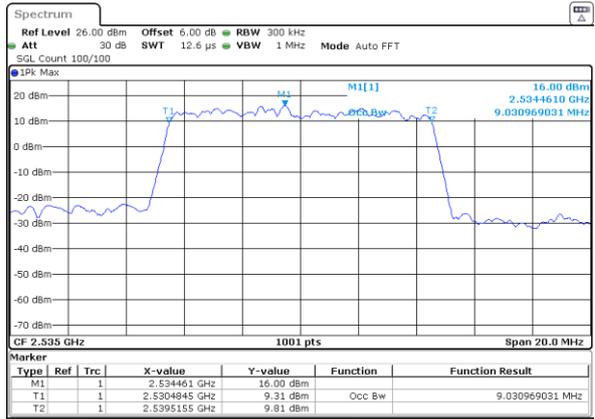
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Middle Channel / 10MHz / QPSK



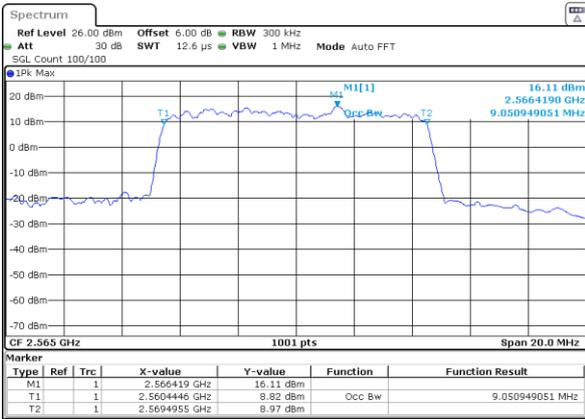
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Middle Channel / 10MHz / 16QAM



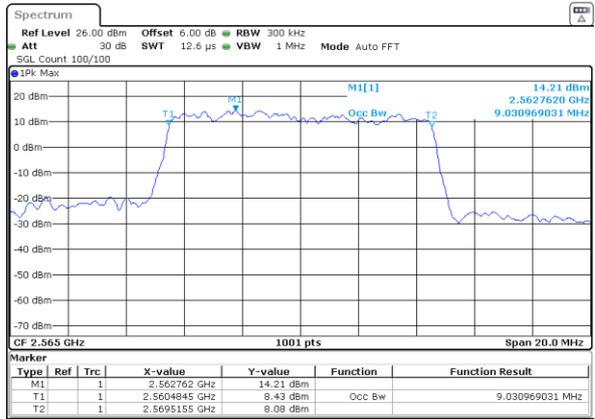
Date: 3 NOV 2020 14:27:00

Highest Channel / 10MHz / QPSK



Date: 3 NOV 2020 14:27:40

Highest Channel / 10MHz / 16QAM

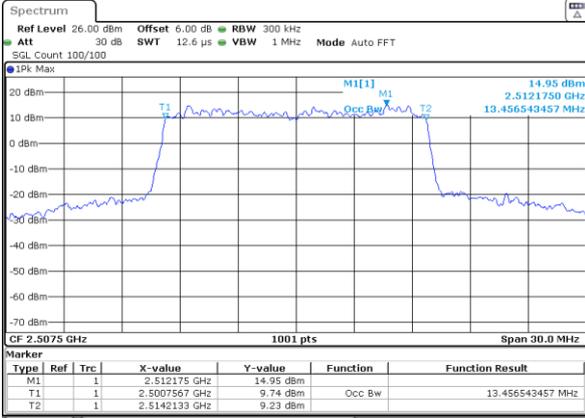


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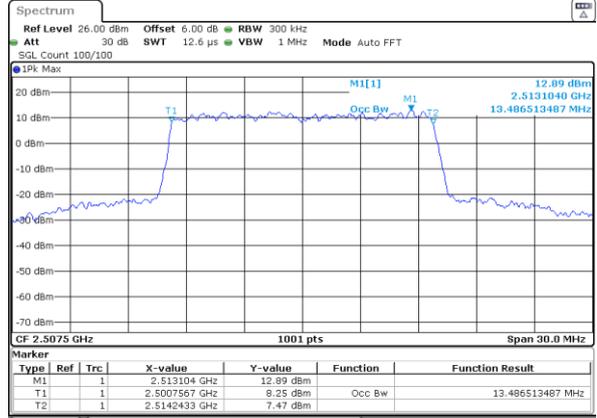
LTE Band 7

Lowest Channel / 15MHz / QPSK



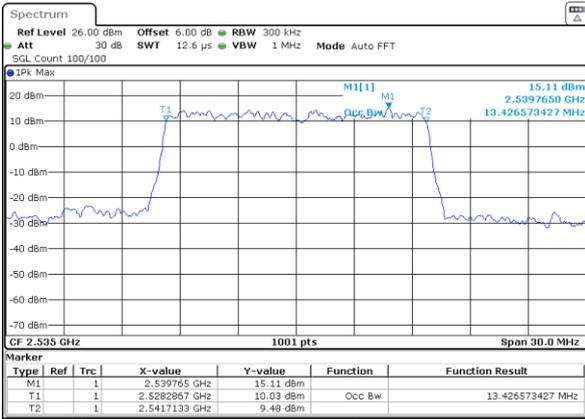
Date: 3 NOV 2020 14:54:31

Lowest Channel / 15MHz / 16QAM



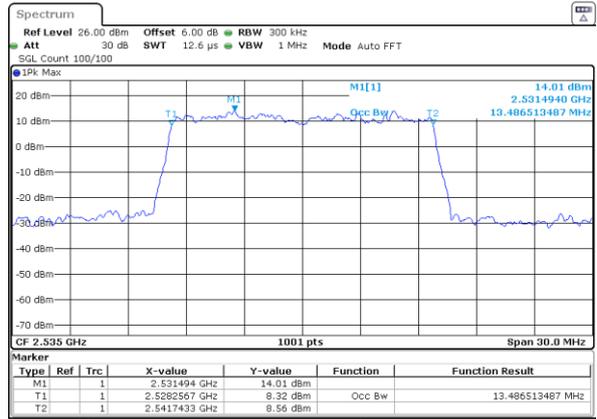
Date: 3 NOV 2020 14:54:11

Middle Channel / 15MHz / QPSK



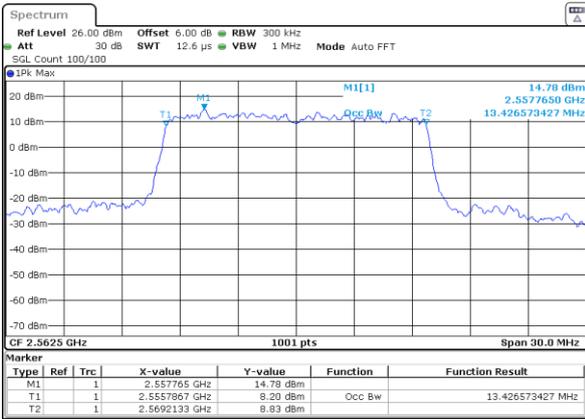
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Middle Channel / 15MHz / 16QAM



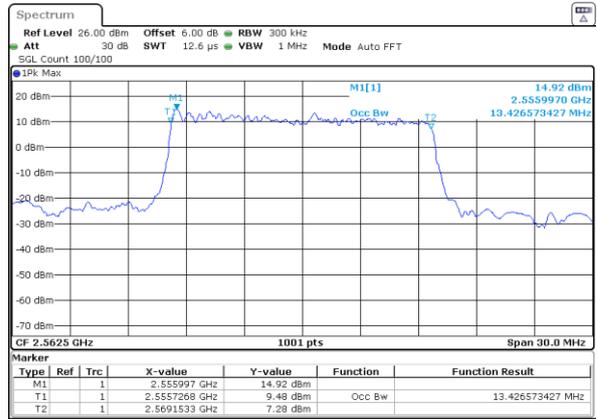
Date: 3 NOV 2020 14:55:11

Highest Channel / 15MHz / QPSK



Date: 3 NOV 2020 14:55:51

Highest Channel / 15MHz / 16QAM

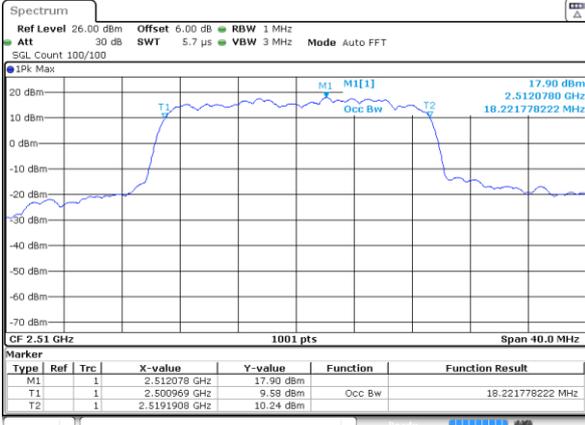


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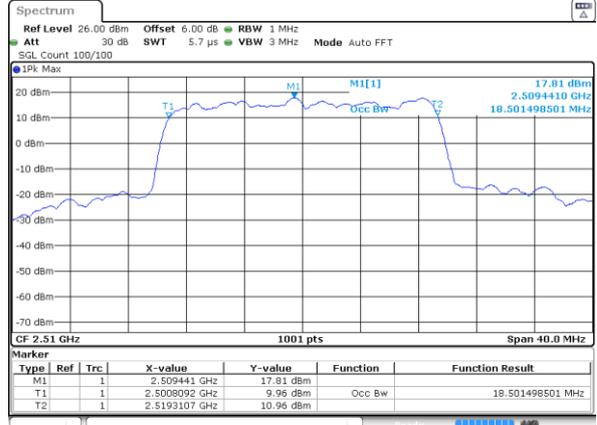
LTE Band 7

Lowest Channel / 20MHz / QPSK



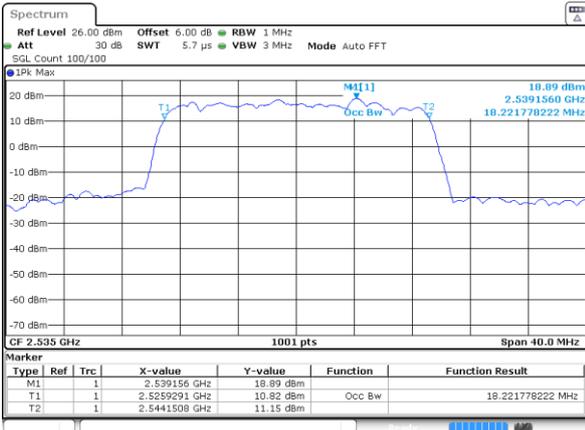
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Lowest Channel / 20MHz / 16QAM



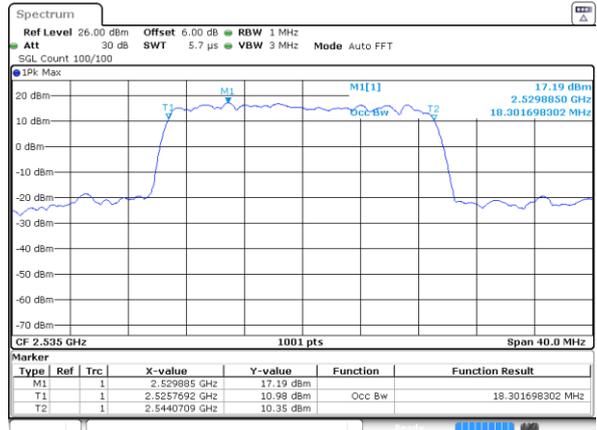
Date: 3 NOV 2020 15:32:18

Middle Channel / 20MHz / QPSK



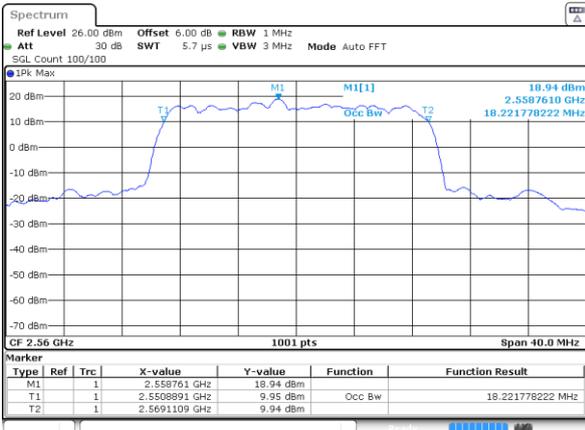
Date: 3 NOV 2020 15:32:58

Middle Channel / 20MHz / 16QAM



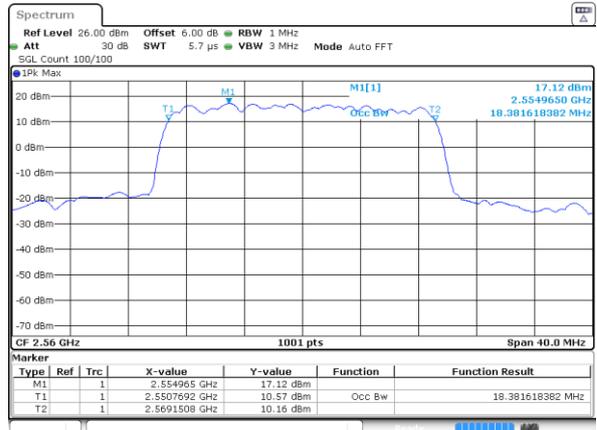
Date: 3 NOV 2020 15:33:18

Highest Channel / 20MHz / QPSK



Date: 3 NOV 2020 15:33:58

Highest Channel / 20MHz / 16QAM

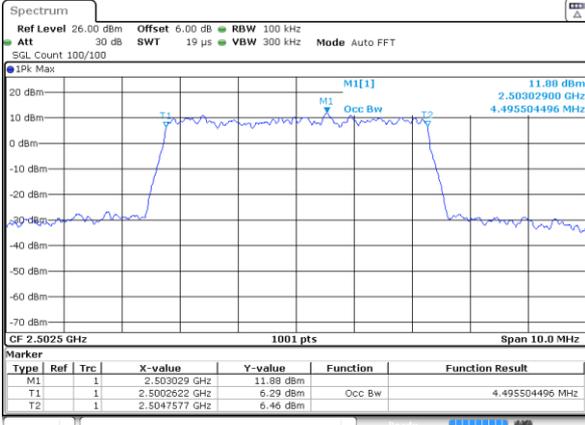


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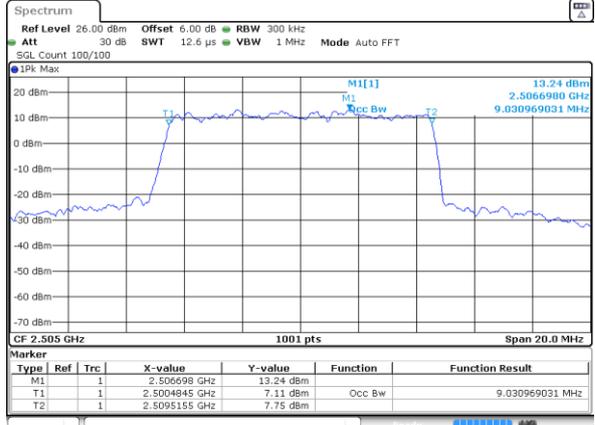
LTE Band 7

Lowest Channel / 5MHz / 64QAM



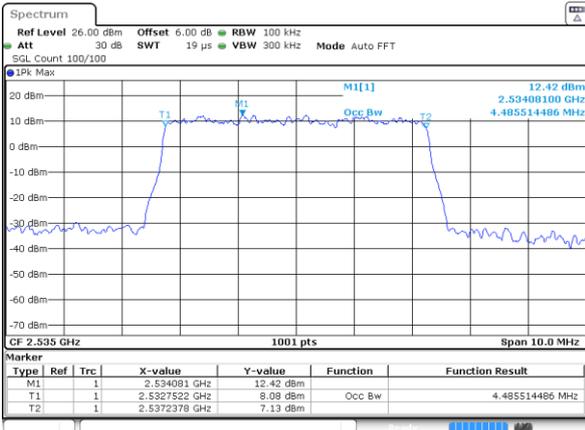
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Lowest Channel / 10MHz / 64QAM



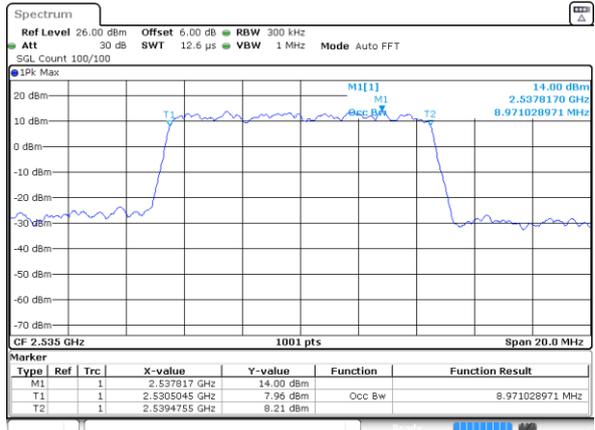
Date: 3 NOV 2020 16:11:07

Middle Channel / 5MHz / 64QAM



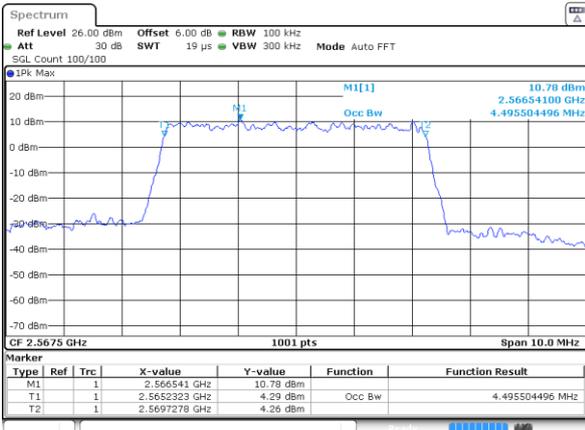
Date: 3 NOV 2020 15:48:55

Middle Channel / 10MHz / 64QAM



Date: 3 NOV 2020 16:11:17

Highest Channel / 5MHz / 64QAM



Date: 3 NOV 2020 15:49:05

Highest Channel / 10MHz / 64QAM

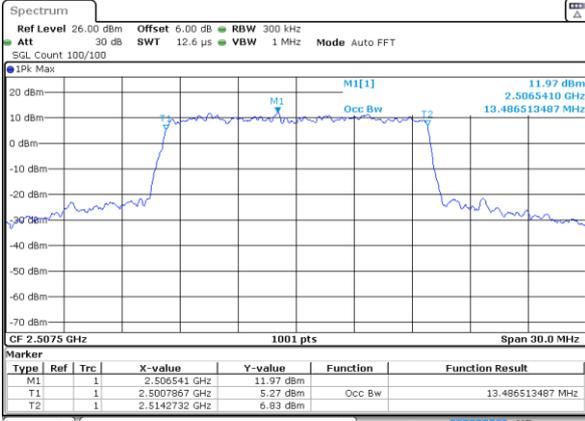


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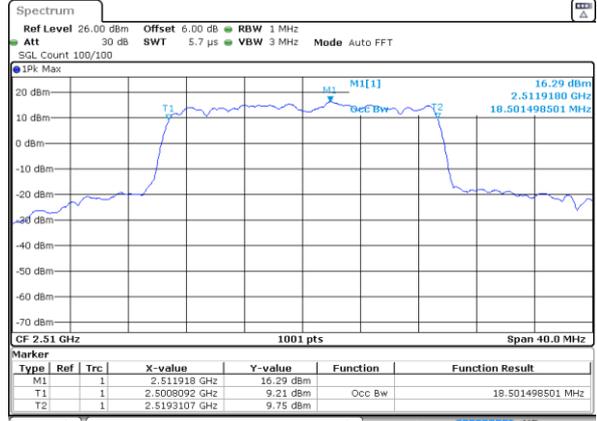
LTE Band 7

Lowest Channel / 15MHz / 64QAM



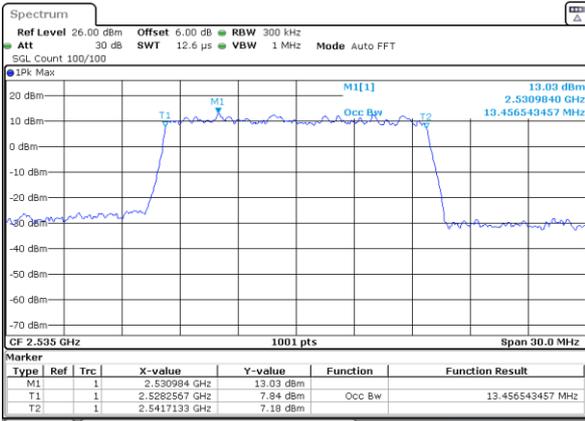
Date: 4 NOV 2020 09:40:50

Lowest Channel / 20MHz / 64QAM



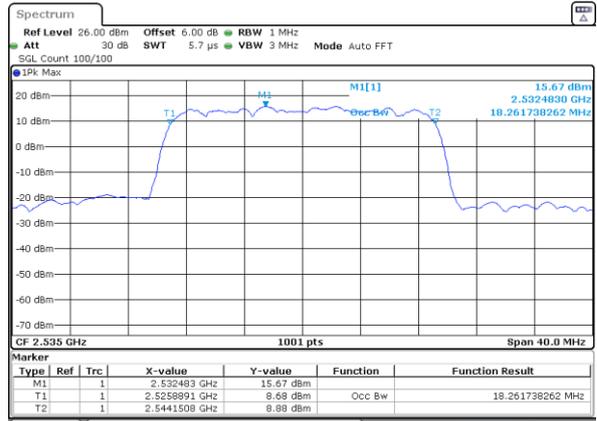
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Middle Channel / 15MHz / 64QAM



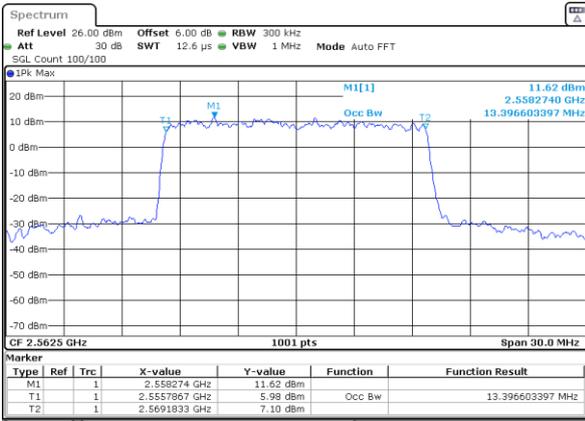
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Middle Channel / 20MHz / 64QAM



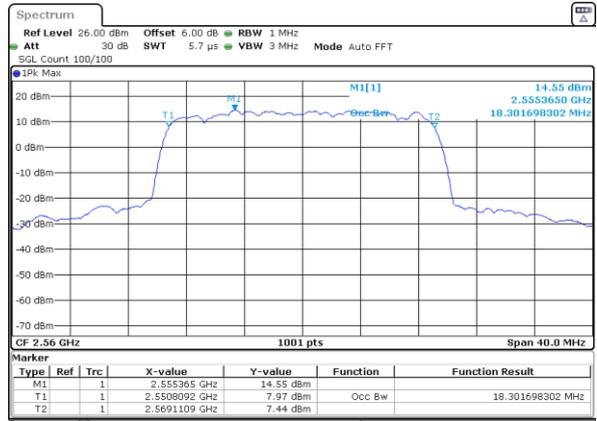
Date: 4 NOV 2020 09:52:07

Highest Channel / 15MHz / 64QAM



Date: 4 NOV 2020 09:41:10

Highest Channel / 20MHz / 64QAM



Date: 4 NOV 2020 09:52:17