FCC RF Test Report

APPLICANT	:	Sierra Wireless, Inc.
EQUIPMENT	:	Wireless Module
BRAND NAME	:	AirPrime
MODEL NAME	:	EM9190
FCC ID	:	N7NEM91
STANDARD	:	47 CFR Part 2, 27(L), 27(N)
CLASSIFICATION	:	PCS Licensed Transmitter (PCB)

The product was received on Feb. 15, 2020 and completely tested on Apr. 22, 2020. We, Sporton International (ShenZhen) 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 (ShenZhen) Inc., the test report shall not be reproduced except in full.

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Approved by: Eric Shih / Manager

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People's Republic of China

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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
FG021501C	Rev. 01	Initial issue of report	May. 25, 2020
FG021501C	Rev. 02	Update FCC ID information	Jun. 05, 2020

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(c)(10)	Effective Radiated Power (Band 71)	ERP < 3 Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)	EIRP < 1Watt		
3.5	N/A	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §27.53(g) §27.53(h)	Conducted Band Edge Measurement (Band 4)(Band 66)(Band 71)	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §27.53(g) §27.53(h)	Conducted Spurious Emission (Band 4) (Band 66) (Band 71)	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 4) (Band 66) (Band 71)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 41.33 dB at 6840.960 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

Sierra Wireless, Inc.
13811 Wireless Way, Richmond, BC, Canada V6A 3A4

1.2 Manufacturer

Sierra Wireless, Inc.
13811 Wireless Way, Richmond, BC, Canada V6A 3A4

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Wireless Module
Brand Name	AirPrime
Model Name	EM9190
FCC ID	N7NEM91
EUT supports Radios application	WCDMA/LTE/5G NR/GNSS
HW Version	1.0
SW Version	00.15.01.00
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 66 : 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5MHz
Rx Frequency	LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 66 : 2110.7 MHz~ 2199.3 MHz LTE Band 71: 619.5 MHz ~ 649.5MHz
Bandwidth	LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 71 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 4 : 23.56 dBm LTE Band 66 : 23.56 dBm; LTE Band 71 : 23.24 dBm LTE Band 66C_CA : 23.80 dBm LTE Band 66B_CA : 23.19 dBm
Antenna Gain	LTE Band 4 : 4.00 dBi LTE Band 66 : 4.00 dBi LTE Band 71 : 2.00 dBi
Type of Modulation	QPSK / 16QAM / 64QAM / 256QAM

Remark: For modulation of QPSK / 16QAM / 64QAM / 256QAM supports uplink and measurement output power, according to the maximum power of 256QAM is lower than other modulation, therefore,

256QAM measurement is unnecessary. We always chose higher power (QPSK / 16QAM / 64QAM) to perform all tests.

1.5 Modification of EUT

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

1.6 Maximum Conducted Power, Frequency Tolerance, and Emission Designator

LTE Band 4		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
1.4	1710.7 ~ 1754.3	1M09G7D	-	0.2133	1M09W7D	-	0.1820
3	1711.5 ~ 1753.5	2M72G7D	-	0.2168	2M73W7D	-	0.1837
5	1712.5 ~ 1752.5	4M49G7D	-	0.2158	4M50W7D	-	0.1832
10	1715.0 ~ 1750.0	9M03G7D	0.0078	0.2128	9M05W7D	-	0.1832
15	1717.5 ~ 1747.5	13M5G7D	-	0.2270	13M6W7D	-	0.1941
20	1720.0 ~ 1745.0	17M9G7D	-	0.2270	17M9W7D	-	0.1963

LTE Band 4		64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
1.4	1710.7 ~ 1754.3	1M09W7D	-	0.1416
3	1711.5 ~ 1753.5	2M73W7D	-	0.1452
5	1712.5 ~ 1752.5	4M50W7D	-	0.1426
10	1715.0 ~ 1750.0	9M07W7D	-	0.1422
15	1717.5 ~ 1747.5	13M5W7D	-	0.1486
20	1720.0 ~ 1745.0	17M9W7D	-	0.1517

LTE Band 66		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
1.4	1710.7 ~ 1779.3	1M09G7D	-	0.2128	1M10W7D	-	0.1811
3	1711.5 ~ 1778.5	2M73G7D	-	0.2183	2M72W7D	-	0.1879
5	1712.5 ~ 1777.5	4M51G7D	-	0.2158	4M50W7D	-	0.1837
10	1715.0 ~ 1775.0	9M07G7D	0.0140	0.2183	9M05W7D	-	0.1871
15	1717.5 ~ 1772.5	13M5G7D	-	0.2254	13M5W7D	-	0.1928
20	1720.0 ~ 1770.0	18M0G7D	-	0.2270	17M9W7D	-	0.1959

LTE Band 66		64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
1.4	1710.7 ~ 1779.3	1M09W7D	-	0.1416
3	1711.5 ~ 1778.5	2M74W7D	-	0.1455
5	1712.5 ~ 1777.5	4M50W7D	-	0.1435
10	1715.0 ~ 1775.0	9M03W7D	-	0.1452
15	1717.5 ~ 1772.5	13M5W7D	-	0.1489
20	1720.0 ~ 1770.0	18M0W7D	-	0.1521

LTE Band 71		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
5	665.5 ~ 695.5	4M51G7D	-	0.2070	4M51W7D	-	0.1820
10	668.0 ~ 693.0	9M03G7D	0.0033	0.2032	9M05W7D	-	0.1778
15	670.5 ~ 690.5	13M5G7D	-	0.2089	13M5W7D	-	0.1762
20	673.0 ~ 688.0	17M9G7D	-	0.2109	17M9W7D	-	0.1778

LTE Band 71		64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
5	665.5 ~ 695.5	4M49W7D	-	0.1361
10	668.0 ~ 693.0	9M03W7D	-	0.1371
15	670.5 ~ 690.5	13M5W7D	-	0.1365
20	673.0 ~ 688.0	17M9W7D	-	0.1330

LTE Band 66C_CA	QPSK			16QAM		
BW (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
10MHz+15MHz	23M5G7D	-	0.2065	23M6W7D	-	0.1563
5MHz+20MHz	23M1G7D	-	0.2094	23M2W7D	-	0.1592
10MHz+20MHz	28M0G7D	-	0.2138	28M1W7D	-	0.1637
15MHz+15MHz	28M6G7D	-	0.2123	28M7W7D	-	0.1622
15MHz+20MHz	32M8G7D	-	0.2168	32M6W7D	-	0.1698
15MHz+10MHz	23M5G7D	-	0.2080	23M6W7D	-	0.1578
20MHz+5MHz	23M1G7D	-	0.2109	23M4W7D	-	0.1607
20MHz+10MHz	28M0G7D	-	0.2153	27M9W7D	-	0.1652
20MHz+15MHz	32M6G7D	-	0.2178	32M9W7D	-	0.1710
20MHz+20MHz	37M6G7D	-	0.2254	37M5W7D	-	0.2399

LTE Band 66C_CA	64QAM		
BW (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
10MHz+15MHz	23M7W7D	-	0.1524
5MHz+20MHz	23M3W7D	-	0.1538
10MHz+20MHz	27M9W7D	-	0.1560
15MHz+15MHz	28M4W7D	-	0.1552
15MHz+20MHz	32M6W7D	-	0.1574
15MHz+10MHz	23M3W7D	-	0.1531
20MHz+5MHz	23M1W7D	-	0.1545
20MHz+10MHz	27M9W7D	-	0.1567
20MHz+15MHz	32M9W7D	-	0.1581
20MHz+20MHz	37M4W7D	-	0.1858

LTE Band 66B_CA	QPSK			16QAM		
BW (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
5MHz+5MHz	9M29G7D	-	0.1884	9M33W7D	-	0.1514
10MHz+5MHz	13M9G7D	-	0.1854	13M9W7D	-	0.1528
5MHz+10MHz	13M9G7D	-	0.1871	13M9W7D	-	0.1542
5MHz+15MHz	18M3G7D	-	0.1858	18M2W7D	-	0.1556
15MHz+5MHz	18M2G7D	-	0.1905	18M2W7D	-	0.1567
10MHz+10MHz	18M8G7D	-	0.1932	18M9W7D	-	0.2084

LTE Band 66B_CA	64QAM		
BW (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
5MHz+5MHz	9M27W7D	-	0.1205
10MHz+5MHz	14M0W7D	-	0.1189
5MHz+10MHz	13M9W7D	-	0.1199
5MHz+15MHz	18M2W7D	-	0.1194
15MHz+5MHz	18M2W7D	-	0.1211
10MHz+10MHz	18M8W7D	-	0.1592

1.7 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan Shenzhen, 518055 People's Republic of China TEL: +86-755-33202398		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH02-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH02-SZ	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(L), 27(N)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

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.

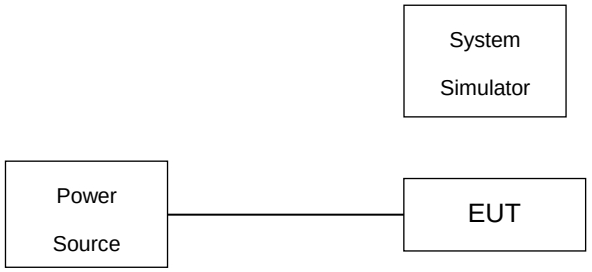
Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	71	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	4						v	v	v	v	v		v	v	v	v
	66						v	v	v	v	v		v	v	v	v
	71	-	-				v	v	v	v	v		v	v	v	v
26dB and 99% Bandwidth	4	v	v	v	v	v	v	v	v	v			v	v	v	v
	66	v	v	v	v	v	v	v	v	v			v	v	v	v
	71	-	-	v	v	v	v	v	v	v			v	v	v	v
Conducted Band Edge	4	v	v	v	v	v	v	v	v	v	v		v	v		v
	66	v	v	v	v	v	v	v	v	v	v		v	v		v
	71	-	-	v	v	v	v	v	v	v	v		v	v		v
Conducted Spurious Emission	4	v	v	v	v	v	v	v	v	v	v			v	v	v
	66	v	v	v	v	v	v	v	v	v	v			v	v	v
	71	-	-	v	v	v	v	v	v	v	v			v	v	v
Frequency Stability	4				v			v					v		v	
	66				v			v					v		v	
	71	-	-		v			v					v		v	

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
E.R.P / E.I.R.P	4	v	v	v	v	v	v	v	v	v	v			v	v	v
	66	v	v	v	v	v	v	v	v	v	v			v	v	v
	71	-	-	v	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	4	v	v	v	v	v	v	v			v			v	v	v
	66	v	v	v	v	v	v	v			v			v	v	v
	71	-	-	v	v	v	v	v			v			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.															

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	1	Half	Full	L	M	H
Max. Output Power	66C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
26dB and 99% Bandwidth	66C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v			v	v	v	v
Conducted Band Edge	66C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v		v	v		v
Conducted Spurious Emission	66C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v			v	v	v
E.I.R.P.	66C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	66C_CA	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.																			

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		5+5	5+10	5+15	10+10	10+5	15+5	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	66B_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
26dB and 99% Bandwidth	66B_CA	v	v	v	v	v	v	v	v	v			v	v	v	v
Conducted Band Edge	66B_CA	v	v	v	v	v	v	v	v	v	v		v	v		v
Conducted Spurious Emission	66B_CA	v	v	v	v	v	v	v	v	v	v			v	v	v
E.I.R.P.	66B_CA	v	v	v	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	66B_CA	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.															

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

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

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 and attenuator factor 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 and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.5 dB and 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.5 + 10 = 14.5 (dB)

2.5 Frequency List of Low/Middle/High Channels

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 66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	132072	132322	132572
	Frequency	1720	1745	1770
15	Channel	132047	132322	132597
	Frequency	1717.5	1745	1772.5
10	Channel	132022	132322	132622
	Frequency	1715	1745	1775
5	Channel	131997	132322	132647
	Frequency	1712.5	1745	1777.5
3	Channel	131987	132322	132657
	Frequency	1711.5	1745	1778.5
1.4	Channel	131979	132322	132665
	Frequency	1710.7	1745	1779.3

LTE Band 66C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
10 + 15	PCC	Channel	132025	132351	132477
		Frequency	1715.3	1747.9	1760.5
	SCC	Channel	132145	132471	132597
		Frequency	1727.3	1759.9	1772.5
15 + 10	PCC	Channel	132047	132373	132499
		Frequency	1717.5	1750.1	1762.7
	SCC	Channel	132167	132493	132619
		Frequency	1729.5	1762.1	1774.7
10 + 20	PCC	Channel	132027	132328	132428
		Frequency	1715.5	1745.6	1755.6
	SCC	Channel	132171	132472	132572
		Frequency	1729.9	1760	1770
20 + 10	PCC	Channel	132072	132373	132473
		Frequency	1720	1750.1	1760.1
	SCC	Channel	132216	132517	132617
		Frequency	1734.4	1764.5	1774.5
15 + 15	PCC	Channel	132047	132347	132447
		Frequency	1717.5	1747.5	1757.5
	SCC	Channel	132197	132497	132597
		Frequency	1732.5	1762.5	1772.5
15 + 20	PCC	Channel	132050	132325	132401
		Frequency	1717.8	1745.3	1752.9
	SCC	Channel	132221	132496	132572
		Frequency	1734.9	1762.4	1770
20 + 15	PCC	Channel	132072	132348	132423
		Frequency	1720	1747.6	1755.1
	SCC	Channel	132243	132519	132594
		Frequency	1737.1	1764.7	1772.2
20 + 5	PCC	Channel	132072	132397	132522
		Frequency	1720	1752.5	1765
	SCC	Channel	132189	132514	132639
		Frequency	1731.7	1764.2	1776.7
5 + 20	PCC	Channel	132005	132330	132455

		Frequency	1713.3	1745.8	1758.3
	SCC	Channel	132122	132447	132572
		Frequency	1725	1757.5	1770
20 + 20	PCC	Channel	132072	132323	132374
		Frequency	1720	1745.1	1750.2
	SCC	Channel	132270	132521	132572
		Frequency	1739.8	1764.9	1770

LTE Band 66B_CA Channel and Frequency List					
BW [MHz]	**Channel/Frequency(MHz)**		**Lowest**	**Middle**	**Highest**
5 + 5	PCC	Channel	131997	132398	132599
		Frequency	1712.5	1752.6	1772.7
	SCC	Channel	132045	132446	132647
		Frequency	1717.3	1757.4	1777.5
5 + 10	PCC	Channel	132000	132375	132550
		Frequency	1712.8	1750.3	1767.8
	SCC	Channel	132072	132447	132622
		Frequency	1720	1757.5	1775
10 + 5	PCC	Channel	132022	132397	132572
		Frequency	1715	1752.5	1770
	SCC	Channel	132094	132469	132644
		Frequency	1722.2	1759.7	1777.2
5 + 15	PCC	Channel	132002	132353	132504
		Frequency	1713	1748.1	1763.2
	SCC	Channel	132095	132446	132597
		Frequency	1722.3	1757.4	1772.5
15 + 5	PCC	Channel	132047	132398	132549
		Frequency	1717.5	1752.6	1767.7
	SCC	Channel	132140	132491	132642
		Frequency	1726.8	1761.9	1777
10 + 10	PCC	Channel	132022	132373	132523
		Frequency	1715	1750.1	1765.1
	SCC	Channel	132121	132472	132622
		Frequency	1724.9	1760	1775

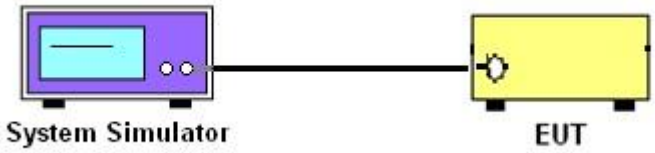
3 Conducted Test Items

3.1 Measuring Instruments

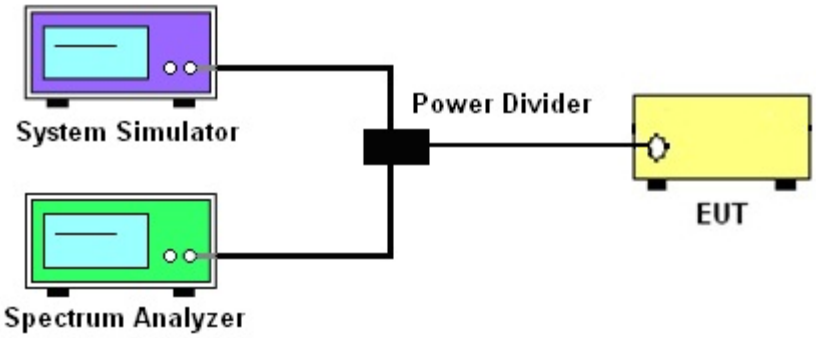
See list of measuring instruments of this test report.

3.2 Test Setup

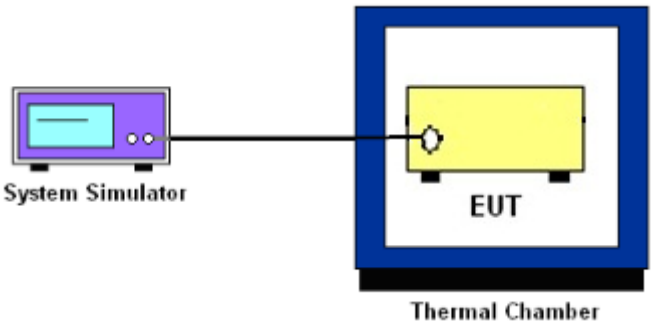
3.2.1 Conducted Output Power



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 3 Watts for LTE Band 71.

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 (g)

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz 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.

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.

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.

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.

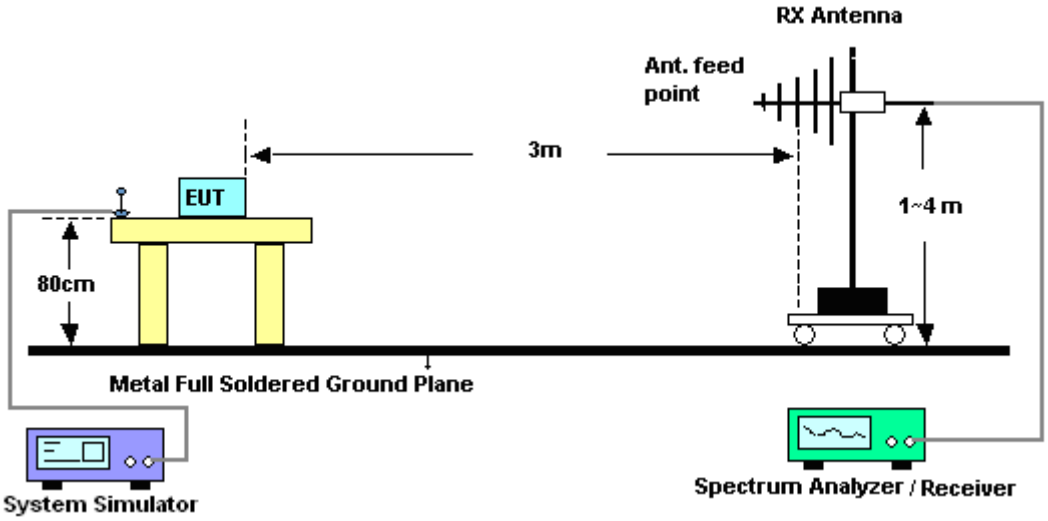
4 Radiated Test Items

4.1 Measuring Instruments

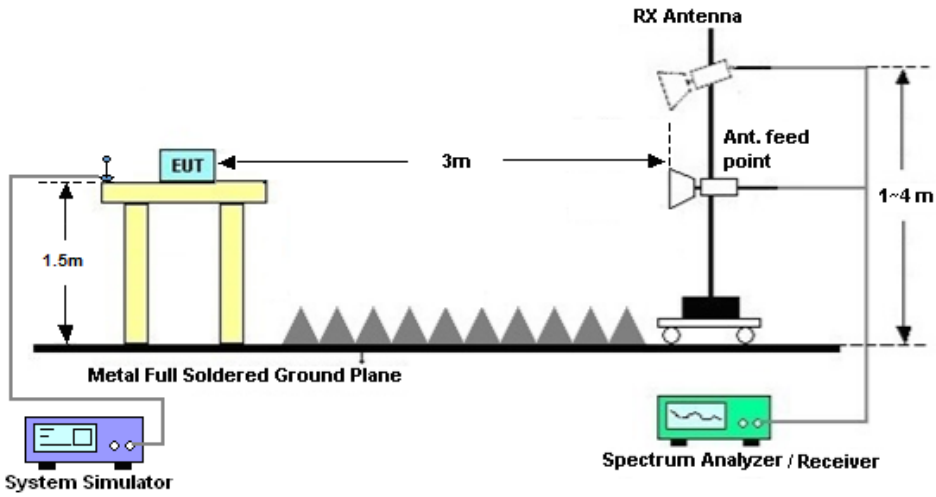
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test 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.

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.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 18, 2019	Mar. 17, 2020~ Apr. 22, 2020	Apr. 17, 2020	Conducted (TH01-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 16, 2020		Apr. 15, 2021	Conducted (TH01-SZ)
DC Power Supply	GWINSTEK	AnritsuGPS-3030D	EM882636	Max 30V	Apr. 18, 2019	Mar. 17, 2020~ Apr. 22, 2020	Apr. 17, 2020	Conducted (TH01-SZ)
DC Power Supply	GWINSTEK	AnritsuGPS-3030D	EM882636	Max 30V	Apr. 16, 2020		Apr. 15, 2021	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Dec. 26, 2019	Mar. 17, 2020~ Apr. 22, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Apr. 19, 2019	Apr. 03, 2020	Apr. 18, 2020	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Jul. 19, 2019	Apr. 03, 2020	Jul. 18, 2020	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Aug. 27, 2019	Apr. 03, 2020	Aug. 26, 2020	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 22, 2019	Apr. 03, 2020	Jul. 21, 2020	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 18, 2019	Apr. 03, 2020	Apr. 17, 2020	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 18, 2019	Apr. 03, 2020	Oct. 17, 2020	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 18, 2019	Apr. 03, 2020	Oct. 17, 2020	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	Apr. 03, 2020	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Apr. 03, 2020	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Apr. 03, 2020	NCR	Radiation (03CH02-SZ)

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))	**2.5dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

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

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.7dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.45	23.50	23.56
20	1	49		23.34	23.44	23.36
20	1	99		23.21	23.37	23.31
20	50	0		22.52	22.62	22.53
20	50	24		22.59	22.57	22.54
20	50	50		22.49	22.55	22.40
20	100	0		22.53	22.56	22.54
20	1	0	16-QAM	22.86	22.93	22.91
20	1	49		22.65	22.88	22.69
20	1	99		22.80	22.75	22.60
20	50	0		21.55	21.64	21.58
20	50	24		21.57	21.57	21.56
20	50	50		21.51	21.55	21.44
20	100	0		21.55	21.54	21.55
20	1	0	64-QAM	21.68	21.81	21.56
20	1	49		21.60	21.80	21.61
20	1	99		21.71	21.65	21.58
20	50	0		20.56	20.67	20.56
20	50	24		20.56	20.60	20.57
20	50	50		20.48	20.55	20.46
20	100	0		20.53	20.59	20.54
15	1	0	QPSK	23.38	23.56	23.50
15	1	37		23.26	23.41	23.30
15	1	74		23.38	23.35	23.24
15	36	0		22.45	22.60	22.51
15	36	20		22.44	22.54	22.42
15	36	39		22.43	22.53	22.42
15	75	0		22.47	22.52	22.42
15	1	0	16-QAM	22.72	22.88	22.77

15	1	37		22.56	22.71	22.64
15	1	74		22.59	22.66	22.54
15	36	0		21.46	21.61	21.52
15	36	20		21.48	21.51	21.40
15	36	39		21.43	21.51	21.44
15	75	0		21.49	21.55	21.42
15	1	0		21.56	21.72	21.67
15	1	37		21.48	21.64	21.56
15	1	74		21.52	21.59	21.45
15	36	0	**64-QAM**	20.51	20.68	20.55
15	36	20		20.47	20.57	20.45
15	36	39		20.47	20.56	20.46
15	75	0		20.51	20.54	20.43

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.10	23.28	23.13
10	1	25		23.04	23.24	23.10
10	1	49		23.09	23.21	23.14
10	25	0		22.23	22.33	22.19
10	25	12		22.25	22.33	22.29
10	25	25		22.26	22.41	22.28
10	50	0		22.23	22.34	22.21
10	1	0	16-QAM	22.48	22.63	22.54
10	1	25		22.44	22.62	22.55
10	1	49		22.48	22.57	22.51
10	25	0		21.21	21.31	21.20
10	25	12		21.22	21.31	21.34
10	25	25		21.24	21.41	21.29
10	50	0		21.26	21.31	21.24
10	1	0	64-QAM	21.45	21.42	21.45
10	1	25		21.39	21.53	21.43
10	1	49		21.33	21.48	21.45
10	25	0		20.29	20.35	20.26
10	25	12		20.29	20.39	20.34
10	25	25		20.27	20.43	20.31
10	50	0		20.31	20.37	20.27
5	1	0	QPSK	23.12	23.20	23.18
5	1	12		23.16	23.34	23.17
5	1	24		23.14	23.28	23.14
5	12	0		22.20	22.35	22.23
5	12	7		22.25	22.36	22.27
5	12	13		22.22	22.35	22.25
5	25	0		22.21	22.34	22.25
5	1	0	16-QAM	22.41	22.51	22.49
5	1	12		22.47	22.60	22.49
5	1	24		22.44	22.63	22.49
5	12	0		21.23	21.34	21.28
5	12	7		21.28	21.37	21.31

5	12	13		21.25	21.40	21.29
5	25	0		21.26	21.31	21.27
5	1	0		21.38	21.45	21.43
5	1	12		21.37	21.52	21.42
5	1	24		21.43	21.54	21.39
5	12	0	**64-QAM**	20.28	20.35	20.35
5	12	7		20.29	20.41	20.34
5	12	13		20.29	20.47	20.34
5	25	0		20.24	20.37	20.29

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.12	23.21	23.14
3	1	8		23.19	23.36	23.24
3	1	14		23.12	23.26	23.17
3	8	0		22.20	22.31	22.22
3	8	4		22.25	22.34	22.24
3	8	7		22.25	22.37	22.22
3	15	0		22.25	22.31	22.23
3	1	0	16-QAM	22.44	22.54	22.43
3	1	8		22.51	22.64	22.49
3	1	14		22.50	22.60	22.45
3	8	0		21.30	21.37	21.30
3	8	4		21.35	21.41	21.33
3	8	7		21.27	21.46	21.28
3	15	0		21.26	21.37	21.29
3	1	0	64-QAM	21.38	21.48	21.41
3	1	8		21.45	21.62	21.47
3	1	14		21.45	21.56	21.39
3	8	0		20.24	20.37	20.31
3	8	4		20.32	20.42	20.34
3	8	7		20.26	20.46	20.33
3	15	0		20.27	20.37	20.28
1.4	1	0	QPSK	22.99	23.16	23.05
1.4	1	3		23.12	23.25	23.12
1.4	1	5		23.05	23.22	23.07
1.4	3	0		23.09	23.18	23.09
1.4	3	1		23.12	23.29	23.13
1.4	3	3		23.09	23.23	23.09
1.4	6	0		22.17	22.26	22.17
1.4	1	0	16-QAM	22.37	22.48	22.38
1.4	1	3		22.45	22.60	22.45
1.4	1	5		22.37	22.53	22.41
1.4	3	0		22.17	22.30	22.19
1.4	3	1		22.20	22.40	22.23

1.4	3	3		22.16	22.30	22.15
1.4	6	0		21.21	21.32	21.26
1.4	1	0	64-QAM	21.28	21.40	21.32
1.4	1	3		21.35	21.51	21.37
1.4	1	5		21.32	21.44	21.29
1.4	3	0		21.29	21.38	21.29
1.4	3	1		21.30	21.48	21.35
1.4	3	3		21.26	21.41	21.29
1.4	6	0		20.18	20.28	20.19

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.53	23.56	23.51
20	1	49		23.45	23.50	23.36
20	1	99		23.42	23.40	23.15
20	50	0		22.52	22.61	22.48
20	50	24		22.59	22.58	22.48
20	50	50		22.56	22.57	22.42
20	100	0		22.54	22.55	22.54
20	1	0	16-QAM	22.86	22.89	22.77
20	1	49		22.75	22.92	22.68
20	1	99		22.75	22.74	22.46
20	50	0		21.55	21.63	21.52
20	50	24		21.60	21.61	21.56
20	50	50		21.57	21.57	21.41
20	100	0		21.53	21.55	21.55
20	1	0	64-QAM	21.68	21.82	21.65
20	1	49		21.66	21.72	21.58
20	1	99		21.75	21.62	21.36
20	50	0		20.57	20.64	20.53
20	50	24		20.61	20.63	20.55
20	50	50		20.58	20.62	20.44
20	100	0		20.58	20.60	20.54
15	1	0	QPSK	23.46	23.53	23.44
15	1	37		23.41	23.49	23.31
15	1	74		23.36	23.42	23.20
15	36	0		22.49	22.60	22.48
15	36	20		22.57	22.59	22.42
15	36	39		22.53	22.59	22.38
15	75	0		22.54	22.56	22.41
15	1	0	16-QAM	22.75	22.85	22.80
15	1	37		22.71	22.83	22.71
15	1	74		22.68	22.76	22.54
15	36	0		21.51	21.62	21.44
15	36	20		21.59	21.59	21.44

15	36	39		21.53	21.60	21.42
15	75	0		21.57	21.56	21.40
15	1	0	64-QAM	21.65	21.73	21.64
15	1	37		21.69	21.73	21.61
15	1	74		21.58	21.61	21.45
15	36	0		20.57	20.67	20.53
15	36	20		20.61	20.65	20.46
15	36	39		20.56	20.63	20.44
15	75	0		20.58	20.58	20.43

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.29	23.39	23.15
10	1	25		23.19	23.26	23.03
10	1	49		23.12	23.22	22.98
10	25	0		22.35	22.38	22.19
10	25	12		22.36	22.36	22.23
10	25	25		22.29	22.39	22.15
10	50	0		22.35	22.35	22.13
10	1	0	16-QAM	22.63	22.69	22.51
10	1	25		22.53	22.72	22.45
10	1	49		22.55	22.57	22.38
10	25	0		21.36	21.41	21.17
10	25	12		21.37	21.39	21.24
10	25	25		21.28	21.36	21.17
10	50	0		21.35	21.39	21.14
10	1	0	64-QAM	21.51	21.61	21.40
10	1	25		21.48	21.62	21.39
10	1	49		21.44	21.53	21.26
10	25	0		20.41	20.43	20.23
10	25	12		20.41	20.44	20.30
10	25	25		20.33	20.45	20.19
10	50	0		20.37	20.41	20.20
5	1	0	QPSK	23.25	23.29	23.13
5	1	12		23.27	23.34	23.10
5	1	24		23.22	23.28	23.04
5	12	0		22.37	22.40	22.23
5	12	7		22.38	22.38	22.21
5	12	13		22.30	22.41	22.15
5	25	0		22.34	22.36	22.15
5	1	0	16-QAM	22.60	22.64	22.44
5	1	12		22.58	22.62	22.43
5	1	24		22.47	22.58	22.33
5	12	0		21.40	21.42	21.26
5	12	7		21.38	21.44	21.27

5	12	13		21.35	21.44	21.21
5	25	0		21.34	21.40	21.26
5	1	0	64-QAM	21.48	21.57	21.36
5	1	12		21.46	21.57	21.37
5	1	24		21.43	21.49	21.26
5	12	0		20.43	20.49	20.32
5	12	7		20.47	20.49	20.32
5	12	13		20.35	20.49	20.24
5	25	0		20.36	20.40	20.23

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.24	23.28	23.11
3	1	8		23.33	23.39	23.13
3	1	14		23.21	23.30	23.02
3	8	0		22.35	22.37	22.20
3	8	4		22.38	22.39	22.23
3	8	7		22.33	22.40	22.18
3	15	0		22.36	22.37	22.19
3	1	0	16-QAM	22.60	22.58	22.39
3	1	8		22.66	22.74	22.51
3	1	14		22.56	22.62	22.38
3	8	0		21.42	21.48	21.25
3	8	4		21.44	21.45	21.26
3	8	7		21.40	21.48	21.21
3	15	0		21.41	21.41	21.24
3	1	0	64-QAM	21.50	21.54	21.32
3	1	8		21.61	21.63	21.37
3	1	14		21.48	21.58	21.29
3	8	0		20.41	20.45	20.27
3	8	4		20.43	20.47	20.28
3	8	7		20.39	20.49	20.26
3	15	0		20.38	20.42	20.25
1.4	1	0	QPSK	23.19	23.23	23.07
1.4	1	3		23.21	23.28	23.04
1.4	1	5		23.16	23.22	22.98
1.4	3	0		22.31	22.34	22.17
1.4	3	1		22.32	22.32	22.15
1.4	3	3		22.24	22.35	22.09
1.4	6	0		22.28	22.30	22.09
1.4	1	0	16-QAM	22.54	22.58	22.38
1.4	1	3		22.52	22.56	22.37
1.4	1	5		22.41	22.52	22.27
1.4	3	0		21.34	21.36	21.20
1.4	3	1		21.32	21.38	21.21

1.4	3	3		21.29	21.38	21.15
1.4	6	0		21.28	21.34	21.20
1.4	1	0	64-QAM	21.42	21.51	21.30
1.4	1	3		21.40	21.51	21.31
1.4	1	5		21.37	21.43	21.20
1.4	3	0		20.37	20.43	20.26
1.4	3	1		20.41	20.43	20.26
1.4	3	3		20.29	20.43	20.18
1.4	6	0		20.30	20.34	20.17

LTE Band 71 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.06	23.11	23.24
20	1	49		22.98	23.13	23.19
20	1	99		22.88	22.90	23.00
20	50	0		21.99	22.02	22.10
20	50	24		22.12	22.12	22.15
20	50	50		22.15	22.17	22.20
20	100	0		22.09	22.10	22.12
20	1	0	16-QAM	22.38	22.40	22.45
20	1	49		22.25	22.23	22.32
20	1	99		22.40	22.45	22.50
20	50	0		21.07	21.12	21.19
20	50	24		21.13	21.24	21.17
20	50	50		21.11	21.12	21.19
20	100	0		21.10	21.11	21.13
20	1	0	64-QAM	21.22	21.23	21.24
20	1	49		21.01	21.00	21.18
20	1	99		21.02	21.01	21.09
20	50	0		20.11	20.11	20.23
20	50	24		20.80	20.90	20.91
20	50	50		20.06	20.12	20.14
20	100	0		20.02	20.01	20.02
15	1	0	QPSK	23.05	23.08	23.20
15	1	37		22.97	23.10	23.15
15	1	74		22.86	22.89	22.97
15	36	0		21.98	22.05	22.20
15	36	20		22.10	22.10	22.25
15	36	39		22.12	22.14	22.10
15	75	0		21.99	22.05	22.00
15	1	0	16-QAM	22.26	22.39	22.36
15	1	37		22.35	22.26	22.28
15	1	74		22.38	22.42	22.46
15	36	0		21.08	21.11	21.14
15	36	20		21.14	21.27	21.15

15	36	39		21.07	21.15	21.15
15	75	0		21.06	21.16	20.99
15	1	0	64-QAM	21.25	21.35	21.23
15	1	37		20.97	20.88	21.21
15	1	74		20.98	20.90	21.06
15	36	0		20.15	19.99	20.22
15	36	20		20.75	20.67	20.87
15	36	39		20.01	19.91	20.18
15	75	0		20.03	19.91	19.97

LTE Band 71 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.03	23.07	23.02
10	1	25		22.97	23.08	22.94
10	1	49		22.91	22.88	22.85
10	25	0		21.97	21.98	22.01
10	25	12		22.09	21.98	22.08
10	25	25		22.10	22.16	22.09
10	50	0		22.08	22.13	21.94
10	1	0	16-QAM	22.41	22.30	22.25
10	1	25		22.22	22.11	22.38
10	1	49		22.50	22.36	22.35
10	25	0		20.97	21.08	21.07
10	25	12		21.01	21.20	21.17
10	25	25		21.02	21.15	21.10
10	50	0		21.06	21.09	21.11
10	1	0	64-QAM	21.18	21.20	21.37
10	1	25		20.96	20.95	20.85
10	1	49		21.00	21.00	20.87
10	25	0		20.00	20.14	20.03
10	25	12		20.79	20.87	20.52
10	25	25		20.09	20.10	19.80
10	50	0		19.99	19.90	19.93
5	1	0	QPSK	23.00	23.16	22.98
5	1	12		22.96	23.11	22.89
5	1	24		22.94	22.94	22.83
5	12	0		21.95	22.30	21.97
5	12	7		22.06	22.35	21.94
5	12	13		22.05	22.00	22.08
5	25	0		22.07	21.88	21.97
5	1	0	16-QAM	22.44	22.27	22.15
5	1	12		22.19	22.24	22.26
5	1	24		22.60	22.42	22.26
5	12	0		20.87	21.09	21.03
5	12	7		20.89	21.13	21.13

5	12	13		20.93	21.11	21.13
5	25	0		21.02	20.85	21.09
5	1	0		21.14	21.22	21.34
5	1	12		20.91	21.24	20.80
5	1	24		20.98	21.03	20.86
5	12	0	**64-QAM**	19.89	20.21	20.06
5	12	7		20.78	20.83	20.49
5	12	13		20.12	20.22	19.78
5	25	0		19.96	19.92	19.82

CA Power

CA_66C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
132072	132270	QPSK	100	0	100	0	200	22.71
			1	0	1	99	2	16.23
			1	0	1	0	2	18.46
			1	99	1	0	2	23.53
			100	0	1	99	101	16.91
		16QAM	100	0	100	0	200	21.75
			1	0	1	99	2	16.48
			1	0	1	0	2	18.92
			1	99	1	0	2	23.78
			100	0	1	99	101	21.24
		64QAM	100	0	100	0	200	21.71
			1	0	1	99	2	16.38
			1	0	1	0	2	18.71
			1	99	1	0	2	22.18
			100	0	1	99	101	21.14

132323	132521	QPSK	100	0	100	0	200	22.65
			1	0	1	99	2	16.08
			1	0	1	0	2	18.52
			1	99	1	0	2	23.48
			100	0	1	99	101	16.77
		16QAM	100	0	100	0	200	21.71
			1	0	1	99	2	16.57
			1	0	1	0	2	19.01
			1	99	1	0	2	23.8
			100	0	1	99	101	21.21
		64QAM	100	0	100	0	200	21.71
			1	0	1	99	2	16.36
			1	0	1	0	2	18.75
			1	99	1	0	2	22.68
			100	0	1	99	101	21.28
132374	132572	QPSK	100	0	100	0	200	22.78
			1	0	1	99	2	16.15
			1	0	1	0	2	18.53
			1	99	1	0	2	22.01
			100	0	1	99	101	17.11
		16QAM	100	0	100	0	200	21.84
			1	0	1	99	2	16.43
			1	0	1	0	2	18.95
			1	99	1	0	2	23.72
			100	0	1	99	101	21.12
		64QAM	100	0	100	0	200	21.69
			1	0	1	99	2	16.45
			1	0	1	0	2	18.82
			1	99	1	0	2	22.69
			100	0	1	99	101	21.26

CA_66C								
Combination 20MHz+15MHz (100RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132072	132243	QPSK	1	99	1	0	2	23.29
		16QAM	1	99	1	0	2	22.33
		64QAM	1	99	1	0	2	21.74
132348	132519	QPSK	1	99	1	0	2	23.38
		16QAM	1	99	1	0	2	22.23
		64QAM	1	99	1	0	2	21.99
132423	132594	QPSK	1	99	1	0	2	23.29
		16QAM	1	99	1	0	2	22.24
		64QAM	1	99	1	0	2	21.88

CA_66C								
Combination 15MHz+20MHz (75RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132050	132221	QPSK	1	74	1	0	2	23.26
		16QAM	1	74	1	0	2	22.3
		64QAM	1	74	1	0	2	21.7
132325	132496	QPSK	1	74	1	0	2	23.36
		16QAM	1	74	1	0	2	22.11
		64QAM	1	74	1	0	2	21.97
132401	132572	QPSK	1	74	1	0	2	23.26
		16QAM	1	74	1	0	2	22.2
		64QAM	1	74	1	0	2	21.86

CA_66C								
Combination 20MHz+10MHz (100RB+50RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132072	132216	QPSK	1	99	1	0	2	23.24
		16QAM	1	99	1	0	2	22.18
		64QAM	1	99	1	0	2	21.68
132373	132517	QPSK	1	99	1	0	2	23.33
		16QAM	1	99	1	0	2	22.07
		64QAM	1	99	1	0	2	21.95
132473	132617	QPSK	1	99	1	0	1	23.23
		16QAM	1	99	1	0	2	22.16
		64QAM	1	99	1	0	2	21.84

CA_66C								
Combination 10MHz+20MHz (50RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132027	132171	QPSK	1	49	1	0	2	23.2
		16QAM	1	49	1	0	2	22.14
		64QAM	1	49	1	0	2	21.66
132328	132472	QPSK	1	49	1	0	2	23.3
		16QAM	1	49	1	0	2	22.03
		64QAM	1	49	1	0	2	21.93
132428	132572	QPSK	1	49	1	0	2	23.2
		16QAM	1	49	1	0	2	22.12
		64QAM	1	49	1	0	2	21.82

CA_66C								
Combination 15MHz+15MHz (75RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132047	132197	QPSK	1	74	1	0	1	23.16
		16QAM	1	74	1	0	1	22.1
		64QAM	1	74	1	0	1	21.64
132347	132497	QPSK	1	74	1	0	1	23.27
		16QAM	1	74	1	0	1	21.99
		64QAM	1	74	1	0	1	21.91
132447	132597	QPSK	1	74	1	0	1	23.17
		16QAM	1	74	1	0	1	22.08
		64QAM	1	74	1	0	1	21.8

CA_66C								
Combination 20MHz+5MHz (100RB+25RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132072	132189	QPSK	1	99	1	0	2	23.12
		16QAM	1	99	1	0	2	22.06
		64QAM	1	99	1	0	2	21.62
132397	132514	QPSK	1	99	1	0	2	23.24
		16QAM	1	99	1	0	2	21.95
		64QAM	1	99	1	0	2	21.89
132522	1322639	QPSK	1	99	1	0	2	23.14
		16QAM	1	99	1	0	2	22.04
		64QAM	1	99	1	0	2	21.78

CA_66C								
Combination 5MHz+20MHz (25RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132005	132122	QPSK	1	24	1	0	2	23.08
		16QAM	1	24	1	0	2	22.02
		64QAM	1	24	1	0	2	21.6
132330	132447	QPSK	1	99	1	0	2	23.24
		16QAM	1	99	1	0	2	21.95
		64QAM	1	99	1	0	2	21.89
132455	132572	QPSK	1	99	1	0	2	23.14
		16QAM	1	99	1	0	2	22.04
		64QAM	1	99	1	0	2	21.78

CA_66C								
Combination 15MHz+10MHz (75RB+50RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132047	132167	QPSK	1	74	1	0	2	23.04
		16QAM	1	74	1	0	2	21.98
		64QAM	1	74	1	0	2	21.58
132373	132493	QPSK	1	74	1	0	2	23.04
		16QAM	1	74	1	0	2	21.98
		64QAM	1	74	1	0	2	21.58
132499	132619	QPSK	1	74	1	0	2	23.08
		16QAM	1	74	1	0	2	21.96
		64QAM	1	74	1	0	2	21.74

CA_66C								
Combination 10MHz+15MHz (50RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132025	132145	QPSK	1	49	1	0	2	23
		16QAM	1	49	1	0	2	21.94
		64QAM	1	49	1	0	2	21.56
132351	132471	QPSK	1	49	1	0	2	23.15
		16QAM	1	49	1	0	2	21.83
		64QAM	1	49	1	0	2	21.83
132477	132597	QPSK	1	49	1	0	2	23.05
		16QAM	1	49	1	0	2	21.92
		64QAM	1	49	1	0	2	21.72

CA_66B								
Combination 10MHz+10MHz (50RB+50RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
132022	132121	QPSK	50	0	50	0	100	22.04
			1	0	1	49	2	15.56
			1	0	1	0	2	17.79
			1	49	1	0	2	22.86
			50	0	1	49	99	16.55
		16QAM	50	0	50	0	100	21.08
			1	0	1	49	2	15.81
			1	0	1	0	2	18.25
			1	49	1	0	2	23.19
			50	0	1	49	99	20.57
		64QAM	50	0	50	0	100	21.04
			1	0	1	49	2	15.71
			1	0	1	0	2	18.04
			1	49	1	0	2	21.51
			50	0	1	49	99	20.47

132373	132472	QPSK	50	0	50	0	100	21.98
			1	0	1	49	2	15.41
			1	0	1	0	2	17.85
			1	49	1	0	2	22.81
			50	0	1	49	99	16.5
		16QAM	50	0	50	0	100	21.04
			1	0	1	49	2	15.9
			1	0	1	0	2	18.34
			1	49	1	0	2	23.14
			50	0	1	49	99	20.54
		64QAM	50	0	50	0	100	21.04
			1	0	1	49	2	15.69
			1	0	1	0	2	18.08
			1	49	1	0	2	22.01
			50	0	1	49	99	20.61
132523	132622	QPSK	50	0	50	0	100	22.11
			1	0	1	49	2	15.48
			1	0	1	0	2	17.86
			1	49	1	0	2	22
			50	0	1	49	99	16.5
		16QAM	50	0	50	0	100	21.17
			1	0	1	49	2	15.76
			1	0	1	0	2	18.28
			1	49	1	0	2	23.05
			50	0	1	49	99	20.45
		64QAM	50	0	50	0	100	21.02
			1	0	1	49	2	15.78
			1	0	1	0	2	18.15
			1	49	1	0	2	22.02
			50	0	1	49	99	20.59

CA_66B								
Combination 15MHz+5MHz (75RB+25RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132047	132140	QPSK	1	74	1	0	2	22.58
		16QAM	1	74	1	0	2	21.95
		64QAM	1	74	1	0	2	20.72
132398	132491	QPSK	1	74	1	0	2	22.8
		16QAM	1	74	1	0	2	21.78
		64QAM	1	74	1	0	2	20.83
132549*	132642	QPSK	1	74	1	0	2	22.78
		16QAM	1	74	1	0	2	21.67
		64QAM	1	74	1	0	2	20.59

CA_66B								
Combination 5MHz+15MHz (25RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132002	132095	QPSK	1	24	1	0	2	22.55
		16QAM	1	24	1	0	2	21.92
		64QAM	1	24	1	0	2	20.68
132353	132446	QPSK	1	24	1	0	2	22.57
		16QAM	1	24	1	0	2	21.58
		64QAM	1	24	1	0	2	20.77
132504	132597	QPSK	1	24	1	0	2	22.69
		16QAM	1	24	1	0	2	21.55
		64QAM	1	24	1	0	2	20.53

CA_66B								
Combination 5MHz+10MHz (25RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132000	132072	QPSK	1	24	1	0	2	22.51
		16QAM	1	24	1	0	2	21.88
		64QAM	1	24	1	0	2	20.66
132375	132447	QPSK	1	24	1	0	2	22.6
		16QAM	1	24	1	0	2	21.62
		64QAM	1	24	1	0	2	20.79
132550	132622	QPSK	1	24	1	0	1	22.72
		16QAM	1	24	1	0	2	21.59
		64QAM	1	24	1	0	2	20.55

CA_66B								
Combination 10MHz+5MHz (50RB+25RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
132022	132094	QPSK	1	49	1	0	2	22.47
		16QAM	1	49	1	0	2	21.84
		64QAM	1	49	1	0	2	20.64
132397	132469	QPSK	1	49	1	0	2	22.68
		16QAM	1	49	1	0	2	21.54
		64QAM	1	49	1	0	2	20.75
132572	132644	QPSK	1	49	1	0	2	22.66
		16QAM	1	49	1	0	2	21.51
		64QAM	1	49	1	0	2	20.51

CA_66B								
Combination 5MHz+5MHz (25RB+25RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
131997	132045	QPSK	1	24	1	0	1	22.43
		16QAM	1	24	1	0	1	21.8
		64QAM	1	24	1	0	1	20.62
132375	132423	QPSK	1	24	1	0	1	22.73
		16QAM	1	24	1	0	1	21.66
		64QAM	1	24	1	0	1	20.81
132599	132647	QPSK	1	24	1	0	1	22.75
		16QAM	1	24	1	0	1	21.63
		64QAM	1	24	1	0	1	20.57

ERP/EIRP

LTE Band 4 (GT - LC = 4.00 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	19957	20175	20393	19965	20175	20385	19975	20175	20375
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Conducted Power (dBm)	23.12	23.29	23.13	23.19	23.36	23.24	23.16	23.34	23.17
Conducted Power (Watts)	0.2051	0.2133	0.2056	0.2084	0.2168	0.2109	0.2070	0.2158	0.2075
EIRP(dBm)	27.12	27.29	27.13	27.19	27.36	27.24	27.16	27.34	27.17
EIRP(Watts)	0.5152	0.5358	0.5164	0.5236	0.5445	0.5297	0.5200	0.5420	0.5212

LTE Band 4 (GT - LC = 4.00 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	20000	20175	20350	20025	20175	20325	20050	20175	20300
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Conducted Power (dBm)	23.10	23.28	23.13	23.38	23.56	23.50	23.45	23.50	23.56
Conducted Power (Watts)	0.2042	0.2128	0.2056	0.2178	0.2270	0.2239	0.2213	0.2239	0.2270
EIRP(dBm)	27.10	27.28	27.13	27.38	27.56	27.50	27.45	27.50	27.56
EIRP(Watts)	0.5129	0.5346	0.5164	0.5470	0.5702	0.5623	0.5559	0.5623	0.5702

LTE Band 4 (GT - LC = 4.00 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	19957	20175	20393	19965	20175	20385	19975	20175	20375
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Conducted Power (dBm)	22.45	22.60	22.45	22.51	22.64	22.49	22.44	22.63	22.49
Conducted Power (Watts)	0.1758	0.1820	0.1758	0.1782	0.1837	0.1774	0.1754	0.1832	0.1774
EIRP(dBm)	26.45	26.60	26.45	26.51	26.64	26.49	26.44	26.63	26.49
EIRP(Watts)	0.4416	0.4571	0.4416	0.4477	0.4613	0.4457	0.4406	0.4603	0.4457

LTE Band 4 (GT - LC = 4.00 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	20000	20175	20350	20025	20175	20325	20050	20175	20300
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Conducted Power (dBm)	22.48	22.63	22.54	22.72	22.88	22.77	22.86	22.93	22.91
Conducted Power (Watts)	0.1770	0.1832	0.1795	0.1871	0.1941	0.1892	0.1932	0.1963	0.1954
EIRP(dBm)	26.48	26.63	26.54	26.72	26.88	26.77	26.86	26.93	26.91
EIRP(Watts)	0.4446	0.4603	0.4508	0.4699	0.4875	0.4753	0.4853	0.4932	0.4909

LTE Band 4 (GT - LC = 4.00 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	19957	20175	20393	19965	20175	20385	19975	20175	20375
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Conducted Power (dBm)	21.35	21.51	21.37	21.45	21.62	21.47	21.43	21.54	21.39
Conducted Power (Watts)	0.1365	0.1416	0.1371	0.1396	0.1452	0.1403	0.1390	0.1426	0.1377
EIRP(dBm)	25.35	25.51	25.37	25.45	25.62	25.47	25.43	25.54	25.39
EIRP(Watts)	0.3428	0.3556	0.3443	0.3508	0.3648	0.3524	0.3491	0.3581	0.3459

LTE Band 4 (GT - LC = 4.00 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	20000	20175	20350	20025	20175	20325	20050	20175	20300
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Conducted Power (dBm)	21.39	21.53	21.43	21.56	21.72	21.67	21.68	21.81	21.56
Conducted Power (Watts)	0.1377	0.1422	0.1390	0.1432	0.1486	0.1469	0.1472	0.1517	0.1432
EIRP(dBm)	25.39	25.53	25.43	25.56	25.72	25.67	25.68	25.81	25.56
EIRP(Watts)	0.3459	0.3573	0.3491	0.3597	0.3733	0.3690	0.3698	0.3811	0.3597

LTE Band 66 (GT - LC = 4.00 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	131979	132322	132665	131987	132322	132657	131997	132322	132647
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	23.21	23.28	23.04	23.33	23.39	23.13	23.27	23.34	23.10
Conducted Power (Watts)	0.2094	0.2128	0.2014	0.2153	0.2183	0.2056	0.2123	0.2158	0.2042
EIRP(dBm)	27.21	27.28	27.04	27.33	27.39	27.13	27.27	27.34	27.10
EIRP(Watts)	0.5260	0.5346	0.5058	0.5408	0.5483	0.5164	0.5333	0.5420	0.5129

LTE Band 66 (GT - LC = 4.00 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	132022	132322	132622	132047	132322	132597	132072	132322	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(Mid)
Frequency (MHz)	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	23.29	23.39	23.15	23.46	23.53	23.44	23.53	23.56	23.51
Conducted Power (Watts)	0.2133	0.2183	0.2065	0.2218	0.2254	0.2208	0.2254	0.2270	0.2244
EIRP(dBm)	27.29	27.39	27.15	27.46	27.53	27.44	27.53	27.56	27.51
EIRP(Watts)	0.5358	0.5483	0.5188	0.5572	0.5662	0.5546	0.5662	0.5702	0.5636

LTE Band 66 (GT - LC = 4.00 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	131979	132322	132665	131987	132322	132657	131997	132322	132647
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	22.54	22.58	22.38	22.66	22.74	22.51	22.60	22.64	22.44
Conducted Power (Watts)	0.1795	0.1811	0.1730	0.1845	0.1879	0.1782	0.1820	0.1837	0.1754
EIRP(dBm)	26.54	26.58	26.38	26.66	26.74	26.51	26.60	26.64	26.44
EIRP(Watts)	0.4508	0.4550	0.4345	0.4634	0.4721	0.4477	0.4571	0.4613	0.4406

LTE Band 66 (GT - LC = 4.00dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	132022	132322	132622	132047	132322	132597	132072	132322	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(Mid)
Frequency (MHz)	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	22.53	22.72	22.45	22.75	22.85	22.80	22.75	22.92	22.68
Conducted Power (Watts)	0.1791	0.1871	0.1758	0.1884	0.1928	0.1905	0.1884	0.1959	0.1854
EIRP(dBm)	26.53	26.72	26.45	26.75	26.85	26.80	26.75	26.92	26.68
EIRP(Watts)	0.4498	0.4699	0.4416	0.4732	0.4842	0.4786	0.4732	0.4920	0.4656

LTE Band 66 (GT - LC = 4.00 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	131979	132322	132665	131987	132322	132657	131997	132322	132647
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	21.42	21.51	21.30	21.61	21.63	21.37	21.48	21.57	21.36
Conducted Power (Watts)	0.1387	0.1416	0.1349	0.1449	0.1455	0.1371	0.1406	0.1435	0.1368
EIRP(dBm)	25.42	25.51	25.30	25.61	25.63	25.37	25.48	25.57	25.36
EIRP(Watts)	0.3483	0.3556	0.3388	0.3639	0.3656	0.3443	0.3532	0.3606	0.3436

LTE Band 66 (GT - LC = 4.00dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	132022	132322	132622	132047	132322	132597	132072	132322	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(Mid)
Frequency (MHz)	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	21.48	21.62	21.39	21.69	21.73	21.61	21.68	21.82	21.65
Conducted Power (Watts)	0.1406	0.1452	0.1377	0.1476	0.1489	0.1449	0.1472	0.1521	0.1462
EIRP(dBm)	25.48	25.62	25.39	25.69	25.73	25.61	25.68	25.82	25.65
EIRP(Watts)	0.3532	0.3648	0.3459	0.3707	0.3741	0.3639	0.3698	0.3819	0.3673

LTE Band 71 (GT - LC = 2.00 dB) QPSK									
Bandwidth	5M			10M			15M		
Channel	133147	133297	133447	133172	133297	133422	133197	133297	133397
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	665.5	680.5	695.5	668	680.5	693	670.5	680.5	690.5
Conducted Power (dBm)	23.00	23.16	22.98	22.97	23.08	22.94	23.05	23.08	23.20
Conducted Power (Watts)	0.1995	0.2070	0.1986	0.1982	0.2032	0.1968	0.2018	0.2032	0.2089
ERP(dBm)	22.85	23.01	22.83	22.82	22.93	22.79	22.90	22.93	23.05
ERP(Watts)	0.1928	0.2000	0.1919	0.1914	0.1963	0.1901	0.1950	0.1963	0.2018

LTE Band 71 (GT - LC = 2.00 dB) QPSK			
Bandwidth	20M		
Channel	133222	133297	133372
	(Low)	(Mid)	(High)
Frequency (MHz)	673	680.5	688
Conducted Power (dBm)	23.06	23.11	23.24
Conducted Power (Watts)	0.2023	0.2046	0.2109
ERP(dBm)	22.91	22.96	23.09
ERP(Watts)	0.1954	0.1977	0.2037

LTE Band 71 (GT - LC = 2.00 dB) 16QAM									
Bandwidth	5M			10M			15M		
Channel	133147	133297	133447	133172	133297	133422	133197	133297	133397
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	665.5	680.5	695.5	668	680.5	693	670.5	680.5	690.5
Conducted Power (dBm)	22.60	22.42	22.26	22.50	22.36	22.35	22.38	22.42	22.46
Conducted Power (Watts)	0.1820	0.1746	0.1683	0.1778	0.1722	0.1718	0.1730	0.1746	0.1762
ERP(dBm)	22.45	22.27	22.11	22.35	22.21	22.20	22.23	22.27	22.31
ERP(Watts)	0.1758	0.1687	0.1626	0.1718	0.1663	0.1660	0.1671	0.1687	0.1702

LTE Band 71 (GT - LC = 2.00 dB) 16QAM			
Bandwidth	20M		
Channel	133222	133297	133372
	(Low)	(Mid)	(High)
Frequency (MHz)	673	680.5	688
Conducted Power (dBm)	22.40	22.45	22.50
Conducted Power (Watts)	0.1738	0.1758	0.1778
ERP(dBm)	22.25	22.30	22.35
ERP(Watts)	0.1679	0.1698	0.1718

LTE Band 71 (GT - LC = 2.00 dB) 16QAM									
Bandwidth	5M			10M			15M		
Channel	133147	133297	133447	133172	133297	133422	133197	133297	133397
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	665.5	680.5	695.5	668	680.5	693	670.5	680.5	690.5
Conducted Power (dBm)	21.14	21.22	21.34	21.18	21.20	21.37	21.25	21.35	21.23
Conducted Power (Watts)	0.1300	0.1324	0.1361	0.1312	0.1318	0.1371	0.1334	0.1365	0.1327
ERP(dBm)	20.99	21.07	21.19	21.03	21.05	21.22	21.10	21.20	21.08
ERP(Watts)	0.1256	0.1279	0.1315	0.1268	0.1274	0.1324	0.1288	0.1318	0.1282

LTE Band 71 (GT - LC = 2.00 dB) 16QAM			
Bandwidth	20M		
Channel	133222	133297	133372
	(Low)	(Mid)	(High)
Frequency (MHz)	673	680.5	688
Conducted Power (dBm)	21.22	21.23	21.24
Conducted Power (Watts)	0.1324	0.1327	0.1330
ERP(dBm)	21.07	21.08	21.09
ERP(Watts)	0.1279	0.1282	0.1285

CA EIRP

LTE Band 66C_CA (GT - LC = 4.00 dB) QPSK									
Bandwidth	10M + 15M			15M + 10M			10M+20M		
Channel PCC	132025	132351	132477	132047	132373	132499	132027	132328	132428
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132145	132471	132597	132167	132493	132619	132171	132472	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.00	23.15	23.05	23.04	23.18	23.08	23.21	23.30	23.20
Conducted Power (Watts)	0.1995	0.2065	0.2018	0.2014	0.2080	0.2032	0.2094	0.2138	0.2089
EIRP(dBm)	27.00	27.15	27.05	27.04	27.18	27.08	27.21	27.30	27.20
EIRP(Watts)	0.5012	0.5188	0.5070	0.5058	0.5224	0.5105	0.5260	0.5370	0.5248

LTE Band 66C_CA (GT - LC = 4.00 dB) QPSK									
Bandwidth	20M+10M			15M+15M			15M + 20M		
Channel PCC	132072	132373	132473	132047	132347	132447	132050	132325	132401
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132216	132517	132617	132197	132497	132597	132221	132496	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.24	23.33	23.23	23.16	23.27	23.17	23.26	23.36	23.26
Conducted Power (Watts)	0.2109	0.2153	0.2104	0.2070	0.2123	0.2075	0.2118	0.2168	0.2118
EIRP(dBm)	27.24	27.33	27.23	27.16	27.27	27.17	27.26	27.36	27.26
EIRP(Watts)	0.5297	0.5408	0.5284	0.5200	0.5333	0.5212	0.5321	0.5445	0.5321

LTE Band 66C_CA (GT - LC = 4.00 dB) QPSK									
Bandwidth	20M+15M			20M+5M			5M + 20M		
Channel PCC	132072	132348	132423	132072	132397	132522	132005	132330	132455
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132243	132519	132594	132189	132514	132639	132122	132447	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.29	23.38	23.29	23.12	23.24	23.14	23.08	23.21	23.11
Conducted Power (Watts)	0.2133	0.2178	0.2133	0.2051	0.2109	0.2061	0.2032	0.2094	0.2046
EIRP(dBm)	27.29	27.38	27.29	27.12	27.24	27.14	27.08	27.21	27.11
EIRP(Watts)	0.5358	0.5470	0.5358	0.5152	0.5297	0.5176	0.5105	0.5260	0.5140

LTE Band 66C_CA (GT - LC = 4.00 dB) QPSK			
Bandwidth	20M + 20M		
Channel PCC	132005	132330	132455
	(Low)	(Mid)	(High)
Channel SCC	132122	132447	132572
	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.53	23.48	22.78
Conducted Power (Watts)	0.2254	0.2228	0.1897
EIRP(dBm)	27.53	27.48	26.78
EIRP(Watts)	0.5662	0.5598	0.4764

LTE Band 66C_CA (GT - LC = 4.00 dB) 16QAM									
Bandwidth	10M + 15M			15M + 10M			10M+20M		
Channel PCC	132025	132351	132477	132047	132373	132499	132027	132328	132428
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132145	132471	132597	132167	132493	132619	132171	132472	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	21.94	21.83	21.92	21.98	21.87	21.96	22.14	22.03	22.12
Conducted Power (Watts)	0.1563	0.1524	0.1556	0.1578	0.1538	0.1570	0.1637	0.1596	0.1629
EIRP(dBm)	25.94	25.83	25.92	25.98	25.87	25.96	26.14	26.03	26.12
EIRP(Watts)	0.3926	0.3828	0.3908	0.3963	0.3864	0.3945	0.4111	0.4009	0.4093

LTE Band 66C_CA (GT - LC = 4.00 dB) 16QAM									
Bandwidth	20M+10M			15M+15M			15M + 20M		
Channel PCC	132072	132373	132473	132047	132347	132447	132050	132325	132401
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132216	132517	132617	132197	132497	132597	132221	132496	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	22.18	22.07	22.16	22.10	21.99	22.08	22.30	22.11	22.20
Conducted Power (Watts)	0.1652	0.1611	0.1644	0.1622	0.1581	0.1614	0.1698	0.1626	0.1660
EIRP(dBm)	26.18	26.07	26.16	26.10	25.99	26.08	26.30	26.11	26.20
EIRP(Watts)	0.4150	0.4046	0.4130	0.4074	0.3972	0.4055	0.4266	0.4083	0.4169

LTE Band 66C_CA (GT - LC = 4.00 dB) 16QAM									
Bandwidth	20M+15M			20M+5M			5M + 20M		
Channel PCC	132072	132348	132423	132072	132397	132522	132005	132330	132455
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132243	132519	132594	132189	132514	132639	132122	132447	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	22.33	22.23	22.24	22.06	21.95	22.04	22.02	21.91	22.00
Conducted Power (Watts)	0.1710	0.1671	0.1675	0.1607	0.1567	0.1600	0.1592	0.1552	0.1585
EIRP(dBm)	26.33	26.23	26.24	26.06	25.95	26.04	26.02	25.91	26.00
EIRP(Watts)	0.4295	0.4198	0.4207	0.4036	0.3936	0.4018	0.3999	0.3899	0.3981

LTE Band 66C_CA (GT - LC = 4.00 dB) 16QAM			
Bandwidth	20M + 20M		
Channel PCC	132005	132330	132455
	(Low)	(Mid)	(High)
Channel SCC	132122	132447	132572
	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.78	23.80	23.72
Conducted Power (Watts)	0.2388	0.2399	0.2355
EIRP(dBm)	27.78	27.80	27.72
EIRP(Watts)	0.5998	0.6026	0.5916

LTE Band 66C_CA (GT - LC = 4.00 dB) 64QAM									
Bandwidth	10M + 15M			15M + 10M			10M+20M		
Channel PCC	132025	132351	132477	132047	132373	132499	132027	132328	132428
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132145	132471	132597	132167	132493	132619	132171	132472	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	21.56	21.83	21.72	21.58	21.85	21.74	21.66	21.93	21.82
Conducted Power (Watts)	0.1432	0.1524	0.1486	0.1439	0.1531	0.1493	0.1466	0.1560	0.1521
EIRP(dBm)	25.56	25.83	25.72	25.58	25.85	25.74	25.66	25.93	25.82
EIRP(Watts)	0.3597	0.3828	0.3733	0.3614	0.3846	0.3750	0.3681	0.3917	0.3819

LTE Band 66C_CA (GT - LC = 4.00 dB) 64QAM									
Bandwidth	20M+10M			15M+15M			15M + 20M		
Channel PCC	132072	132373	132473	132047	132347	132447	132050	132325	132401
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132216	132517	132617	132197	132497	132597	132221	132496	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	21.68	21.95	21.84	21.64	21.91	21.80	21.70	21.97	21.86
Conducted Power (Watts)	0.1472	0.1567	0.1528	0.1459	0.1552	0.1514	0.1479	0.1574	0.1535
EIRP(dBm)	25.68	25.95	25.84	25.64	25.91	25.80	25.70	25.97	25.86
EIRP(Watts)	0.3698	0.3936	0.3837	0.3664	0.3899	0.3802	0.3715	0.3954	0.3855

LTE Band 66C_CA (GT - LC = 4.00 dB) 64QAM									
Bandwidth	20M+15M			20M+5M			5M + 20M		
Channel PCC	132072	132348	132423	132072	132397	132522	132005	132330	132455
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132243	132519	132594	132189	132514	132639	132122	132447	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	21.74	21.99	21.88	21.62	21.89	21.78	21.60	21.87	21.76
Conducted Power (Watts)	0.1493	0.1581	0.1542	0.1452	0.1545	0.1507	0.1445	0.1538	0.1500
EIRP(dBm)	25.74	25.99	25.88	25.62	25.89	25.78	25.60	25.87	25.76
EIRP(Watts)	0.3750	0.3972	0.3873	0.3648	0.3882	0.3784	0.3631	0.3864	0.3767

LTE Band 66C_CA (GT - LC = 4.00 dB) 64QAM			
Bandwidth	20M + 20M		
Channel PCC	132005	132330	132455
	(Low)	(Mid)	(High)
Channel SCC	132122	132447	132572
	(Low)	(Mid)	(High)
Conducted Power (dBm)	22.18	22.68	22.69
Conducted Power (Watts)	0.1652	0.1854	0.1858
EIRP(dBm)	26.18	26.68	26.69
EIRP(Watts)	0.4150	0.4656	0.4667

LTE Band 66B_CA (GT - LC = 4.00 dB) QPSK									
Bandwidth	5M + 5M			5M + 10M			10M+5M		
Channel PCC	131997	132398	132599	132000	132375	132550	132022	132397	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132045	132446	132647	132072	132447	132622	132094	132469	132644
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	22.43	22.73	22.75	22.51	22.60	22.72	22.47	22.68	22.66
Conducted Power (Watts)	0.1750	0.1875	0.1884	0.1782	0.1820	0.1871	0.1766	0.1854	0.1845
EIRP(dBm)	26.43	26.73	26.75	26.51	26.60	26.72	26.47	26.68	26.66
EIRP(Watts)	0.4395	0.4710	0.4732	0.4477	0.4571	0.4699	0.4436	0.4656	0.4634

LTE Band 66B_CA (GT - LC = 4.00 dB) QPSK									
Bandwidth	5M+15M			15M+5M			10M + 10M		
Channel PCC	132002	132353	132504	132047	132398	132549	132022	132373	132523
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132095	132446	132597	132140	132491	132642	132121	132472	132622
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	22.55	22.57	22.69	22.58	22.80	22.78	22.86	22.81	22.11
Conducted Power (Watts)	0.1799	0.1807	0.1858	0.1811	0.1905	0.1897	0.1932	0.1910	0.1626
EIRP(dBm)	26.55	26.57	26.69	26.58	26.80	26.78	26.86	26.81	26.11
EIRP(Watts)	0.4519	0.4539	0.4667	0.4550	0.4786	0.4764	0.4853	0.4797	0.4083

LTE Band 66B_CA (GT - LC = 4.00 dB) 16QAM									
Bandwidth	5M + 5M			5M + 10M			10M+5M		
Channel PCC	131997	132398	132599	132000	132375	132550	132022	132397	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132045	132446	132647	132072	132447	132622	132094	132469	132644
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	21.80	21.66	21.63	21.88	21.62	21.59	21.84	21.54	21.51
Conducted Power (Watts)	0.1514	0.1466	0.1455	0.1542	0.1452	0.1442	0.1528	0.1426	0.1416
EIRP(dBm)	25.80	25.66	25.63	25.88	25.62	25.59	25.84	25.54	25.51
EIRP(Watts)	0.3802	0.3681	0.3656	0.3873	0.3648	0.3622	0.3837	0.3581	0.3556

LTE Band 66B_CA (GT - LC = 4.00 dB) 16QAM									
Bandwidth	5M+15M			15M+5M			10M + 10M		
Channel PCC	132002	132353	132504	132047	132398	132549	132022	132373	132523
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132095	132446	132597	132140	132491	132642	132121	132472	132622
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	21.92	21.58	21.55	21.95	21.78	21.67	23.19	23.14	23.05
Conducted Power (Watts)	0.1556	0.1439	0.1429	0.1567	0.1507	0.1469	0.2084	0.2061	0.2018
EIRP(dBm)	25.92	25.58	25.55	25.95	25.78	25.67	27.19	27.14	27.05
EIRP(Watts)	0.3908	0.3614	0.3589	0.3936	0.3784	0.3690	0.5236	0.5176	0.5070

LTE Band 66B_CA (GT - LC = 4.00 dB) 64QAM									
Bandwidth	5M + 5M			5M + 10M			10M+5M		
Channel PCC	131997	132398	132599	132000	132375	132550	132022	132397	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132045	132446	132647	132072	132447	132622	132094	132469	132644
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	20.62	20.81	20.57	20.66	20.79	20.55	20.64	20.75	20.51
Conducted Power (Watts)	0.1153	0.1205	0.1140	0.1164	0.1199	0.1135	0.1159	0.1189	0.1125
EIRP(dBm)	24.62	24.81	24.57	24.66	24.79	24.55	24.64	24.75	24.51
EIRP(Watts)	0.2897	0.3027	0.2864	0.2924	0.3013	0.2851	0.2911	0.2985	0.2825

LTE Band 66B_CA (GT - LC = 4.00 dB) 64QAM									
Bandwidth	5M+15M			15M+5M			10M + 10M		
Channel PCC	132002	132353	132504	132047	132398	132549	132022	132373	132523
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	132095	132446	132597	132140	132491	132642	132121	132472	132622
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	20.68	20.77	20.53	20.72	20.83	20.59	21.51	22.01	22.02
Conducted Power (Watts)	0.1169	0.1194	0.1130	0.1180	0.1211	0.1146	0.1416	0.1589	0.1592
EIRP(dBm)	24.68	24.77	24.53	24.72	24.83	24.59	25.51	26.01	26.02
EIRP(Watts)	0.2938	0.2999	0.2838	0.2965	0.3041	0.2877	0.3556	0.3990	0.3999

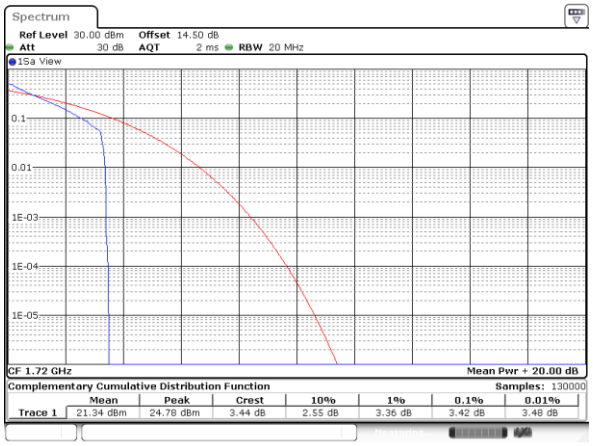
LTE Band 4

Peak-to-Average Ratio

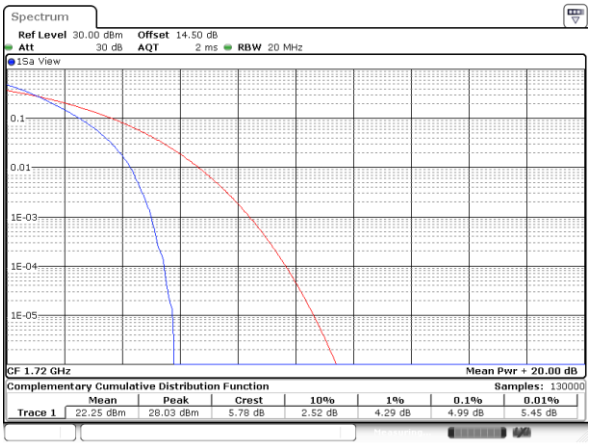
Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.42	4.99	4.81	5.94	PASS
Middle CH	3.59	4.93	5.45	5.97	
Highest CH	3.83	5.19	4.52	6.03	
Mode	LTE Band 4 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.16	5.83	-	-	PASS
Middle CH	5.48	5.88	-	-	
Highest CH	4.61	5.97	-	-	

LTE Band 4 / 20MHz / QPSK

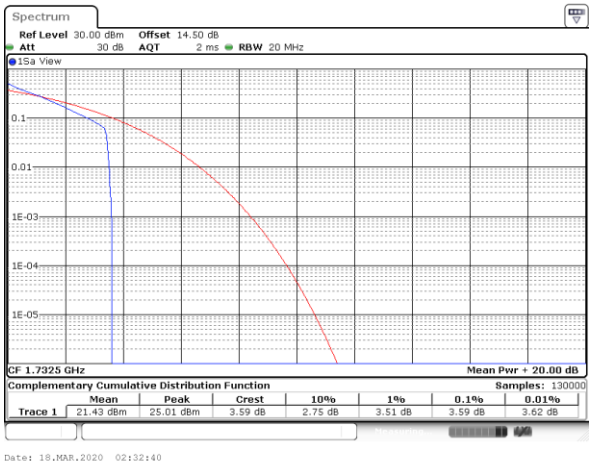
Lowest Channel / 1RB



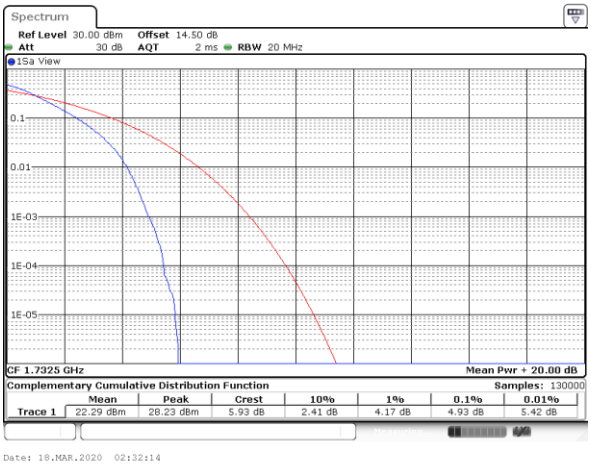
Lowest Channel / Full RB



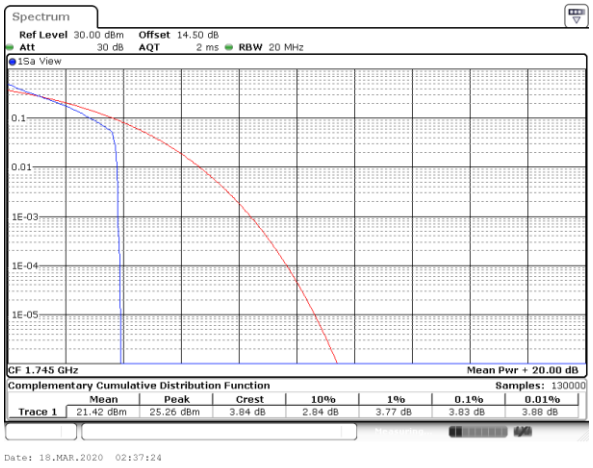
Middle Channel / 1RB



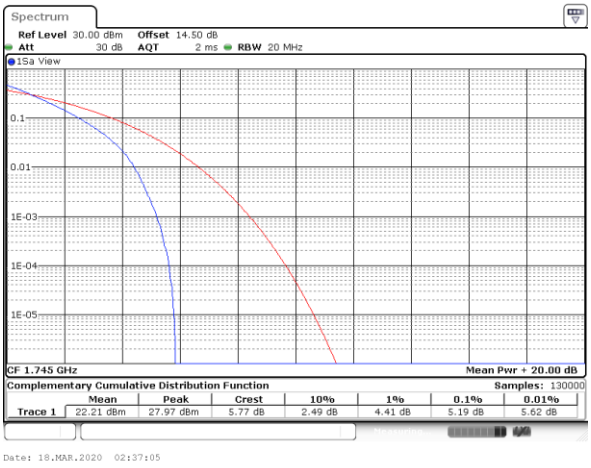
Middle Channel / Full RB



Highest Channel / 1RB

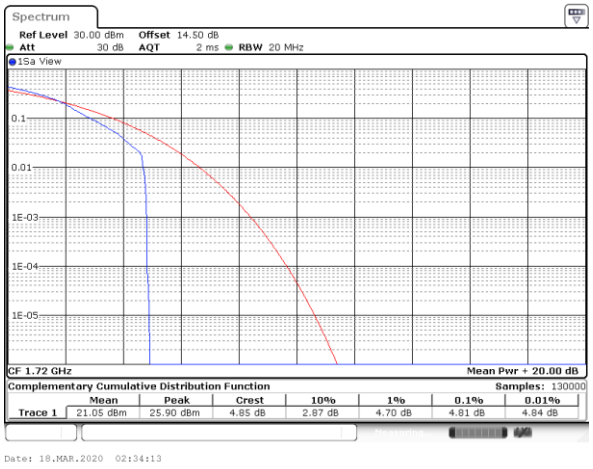


Highest Channel / Full RB

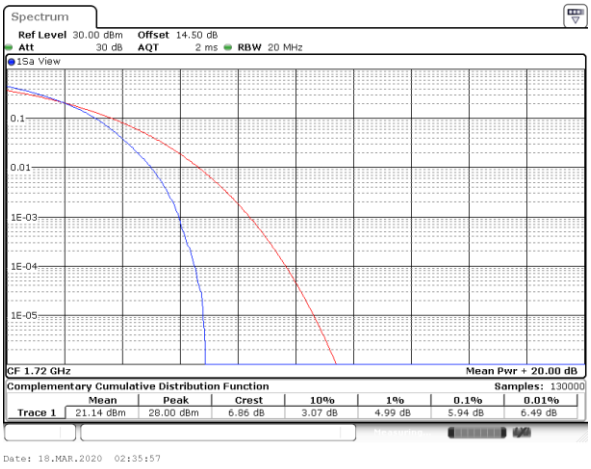


LTE Band 4 / 20MHz / 16QAM

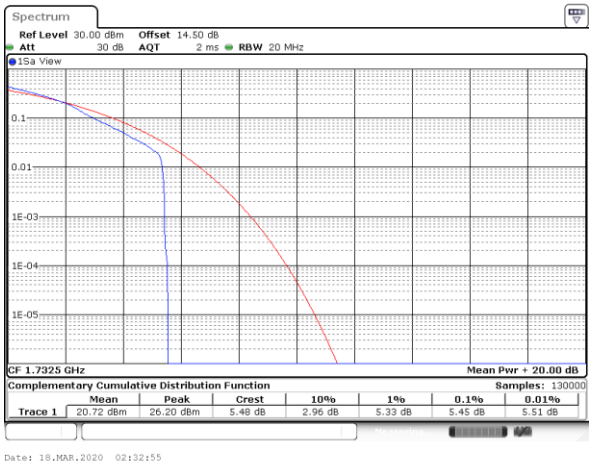
Lowest Channel / 1RB



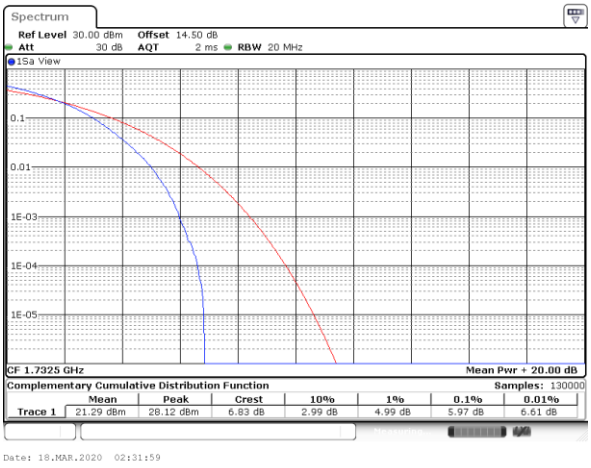
Lowest Channel / Full RB



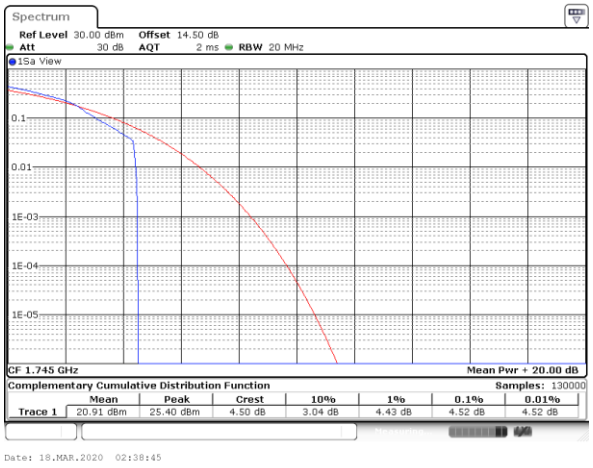
Middle Channel / 1RB



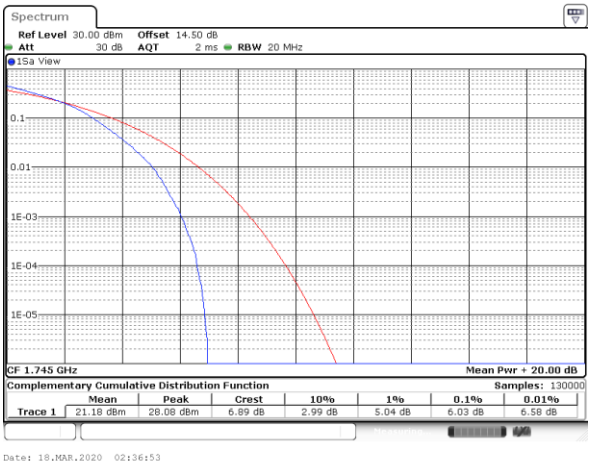
Middle Channel / Full RB



Highest Channel / 1RB

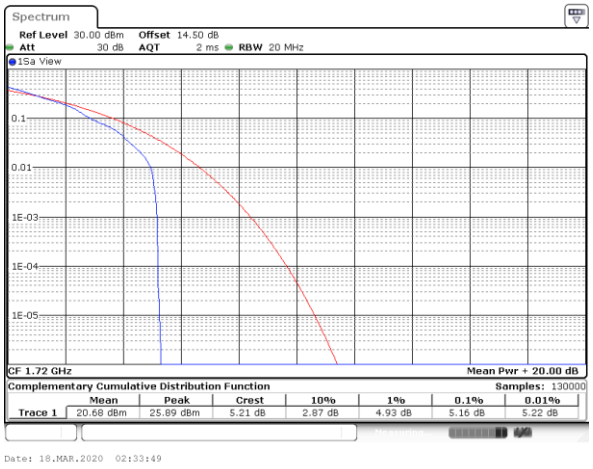


Highest Channel / Full RB

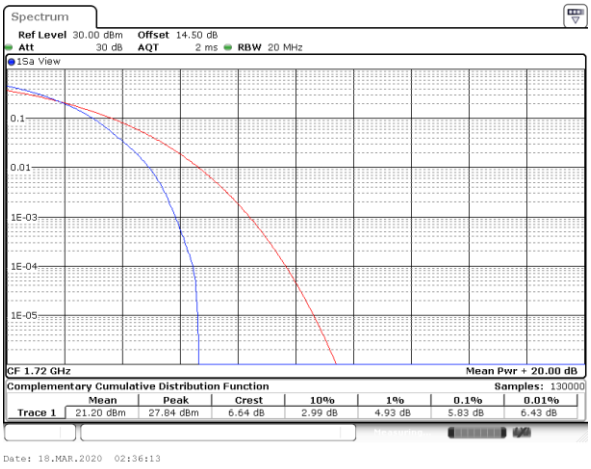


LTE Band 4 / 20MHz / 64QAM

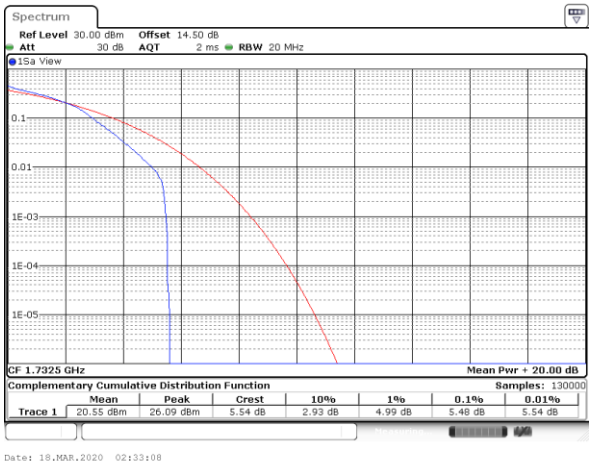
Lowest Channel / 1RB



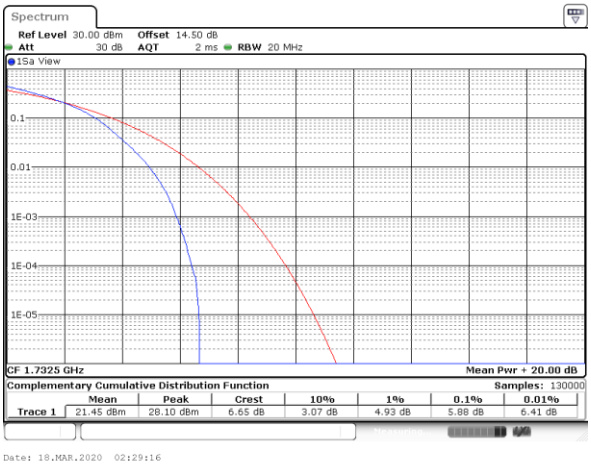
Lowest Channel / Full RB



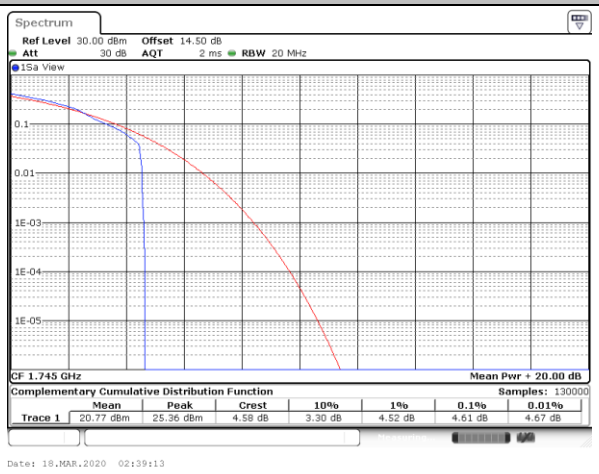
Middle Channel / 1RB



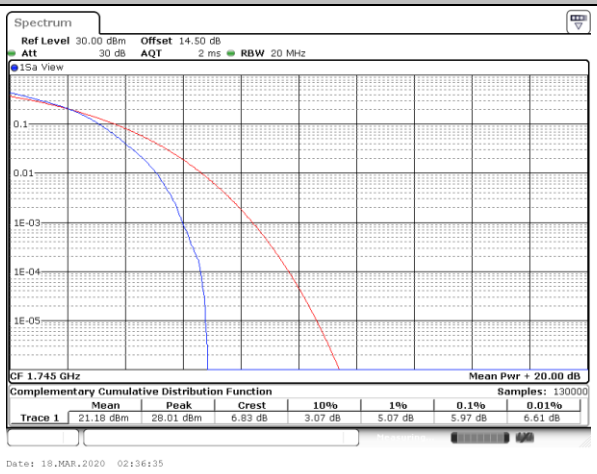
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB



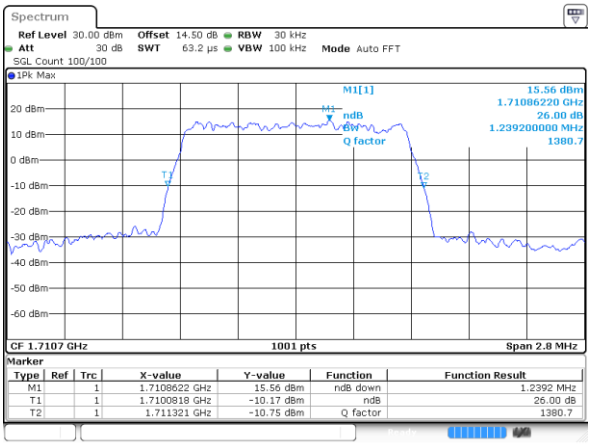
26dB Bandwidth

Mode	LTE Band 4 : 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	1.24	1.22	3.00	3.03	4.96	4.91	9.85	9.69	14.30	14.48	18.82	19.10
Middle CH	1.23	1.24	2.97	3.04	4.89	4.93	9.67	9.71	14.42	14.36	18.98	19.02
Highest CH	1.23	1.23	3.03	3.03	4.83	4.89	9.67	9.99	14.18	14.48	19.18	19.18

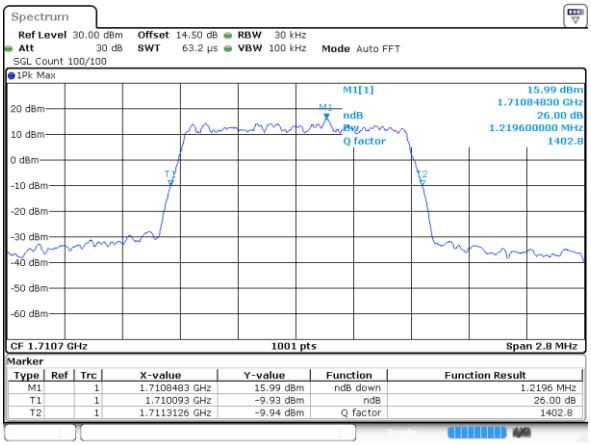
Mode	LTE Band 4 : 26dB BW(MHz)					
BW	1.4MHz	3MHz	5MHz	10MHz	15MHz	20MHz
Mod.	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM
Lowest CH	1.24	3.05	4.88	9.83	14.30	19.02
Middle CH	1.23	2.99	4.90	9.67	14.57	19.22
Highest CH	1.23	2.97	4.92	9.81	14.60	18.90

LTE Band 4

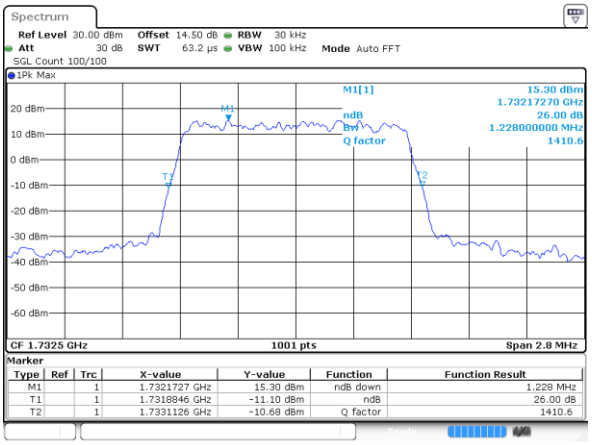
Lowest Channel / 1.4MHz / QPSK



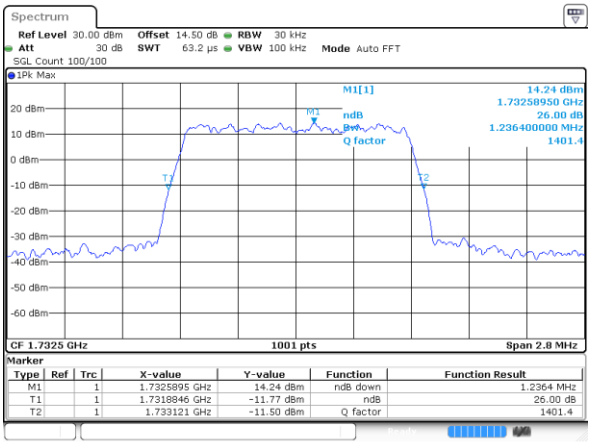
Lowest Channel / 1.4MHz / 16QAM



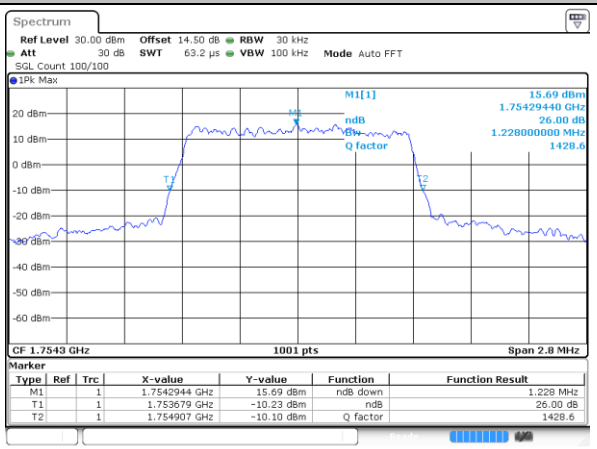
Middle Channel / 1.4MHz / QPSK



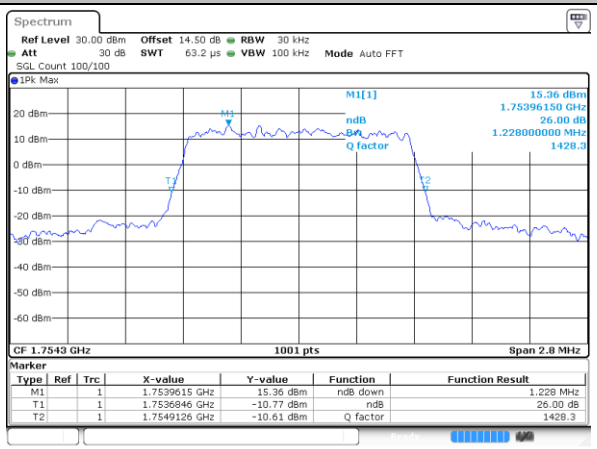
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

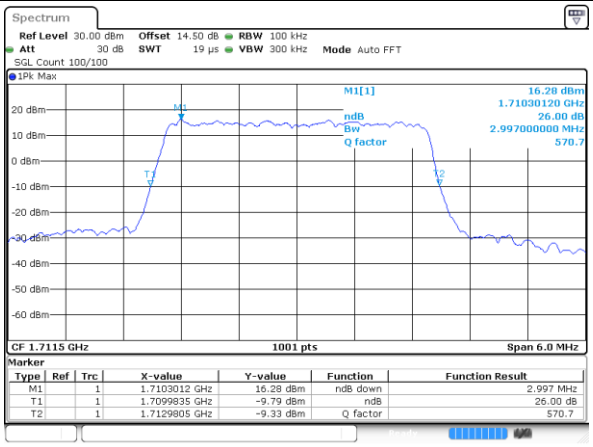


Highest Channel / 1.4MHz / 16QAM

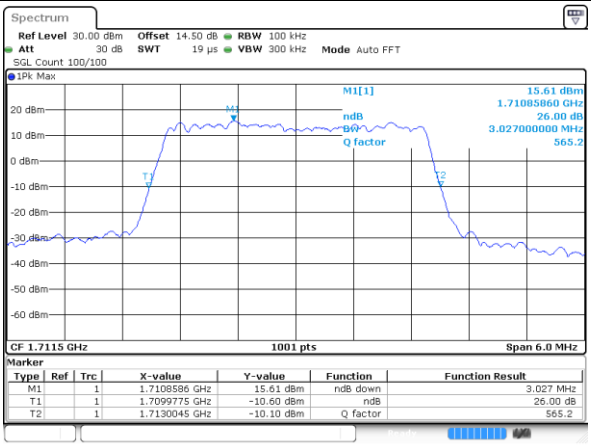


LTE Band 4

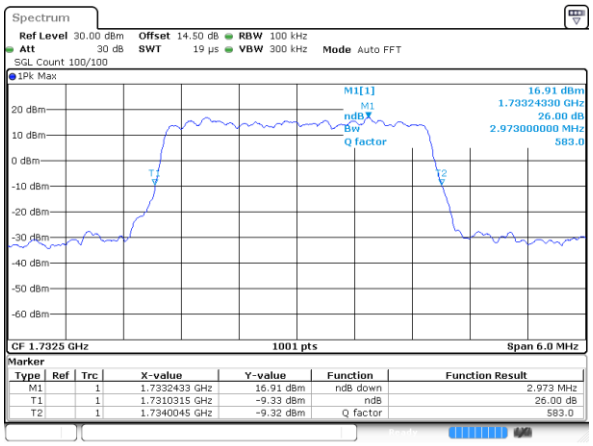
Lowest Channel / 3MHz / QPSK



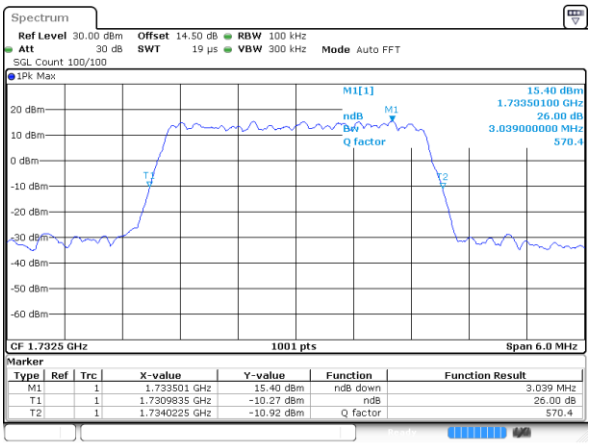
Lowest Channel / 3MHz / 16QAM



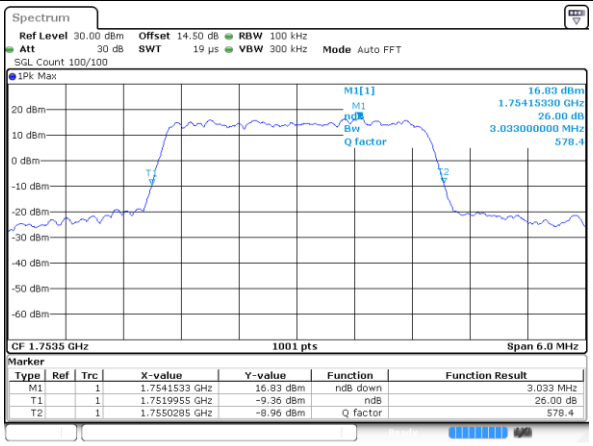
Middle Channel / 3MHz / QPSK



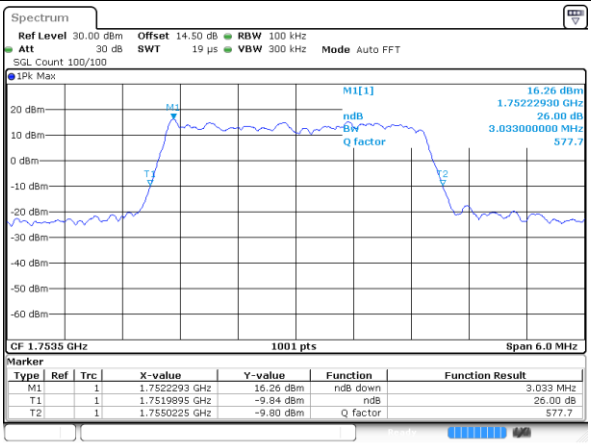
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

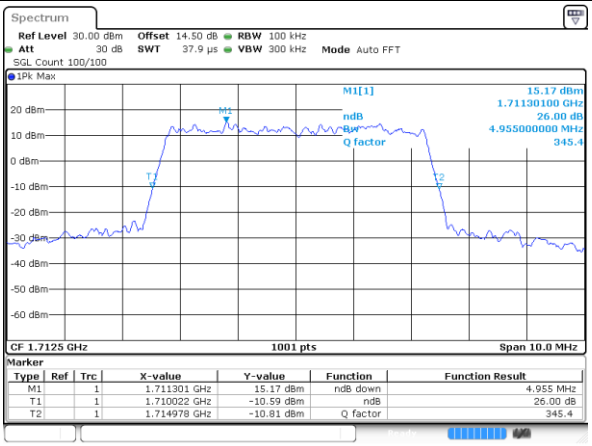


Highest Channel / 3MHz / 16QAM

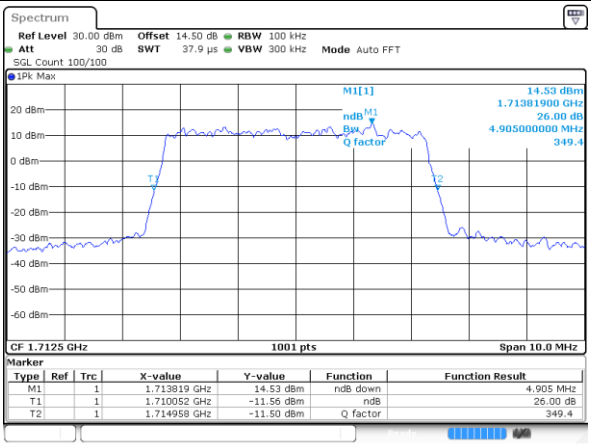


LTE Band 4

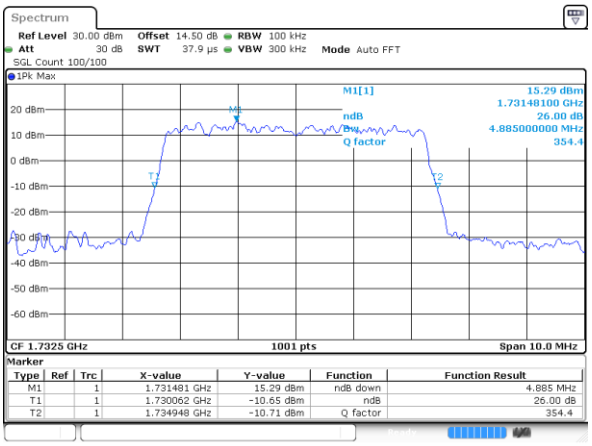
Lowest Channel / 5MHz / QPSK



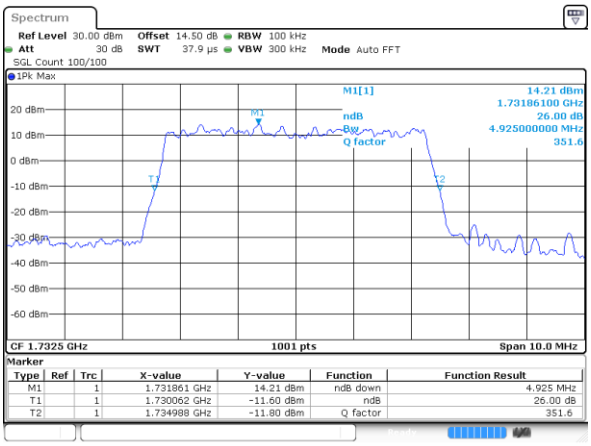
Lowest Channel / 5MHz / 16QAM



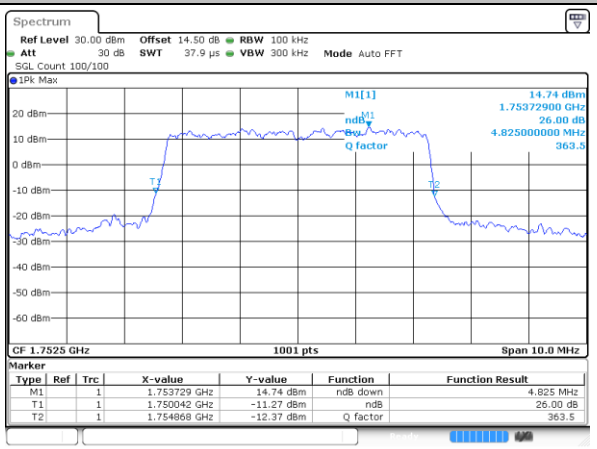
Middle Channel / 5MHz / QPSK



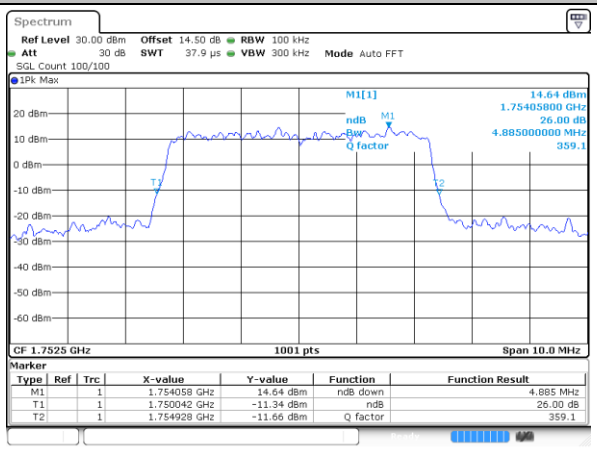
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

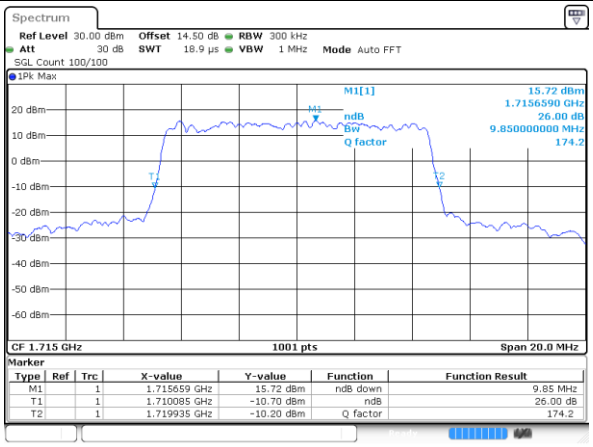


Highest Channel / 5MHz / 16QAM



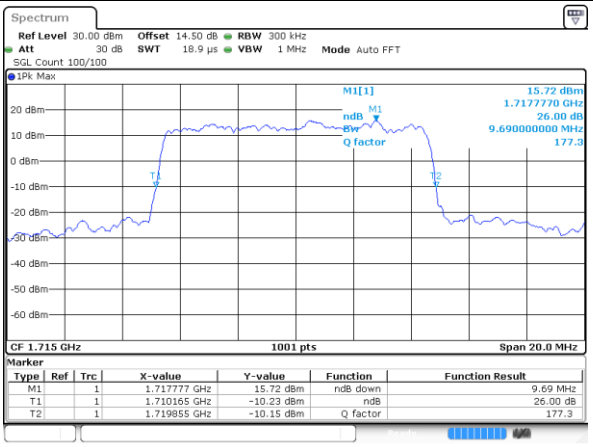
LTE Band 4

Lowest Channel / 10MHz / QPSK



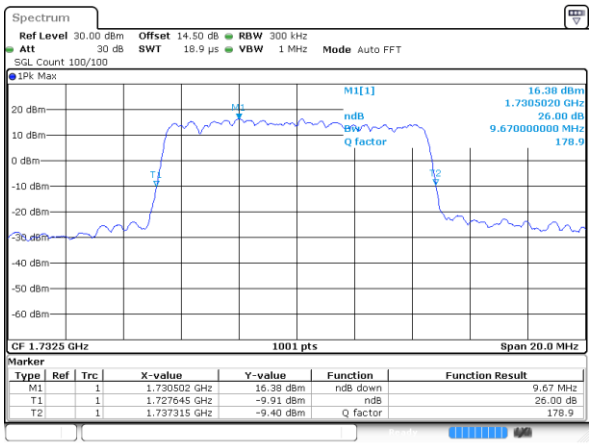
Date: 17.MAR.2020 21:44:46

Lowest Channel / 10MHz / 16QAM



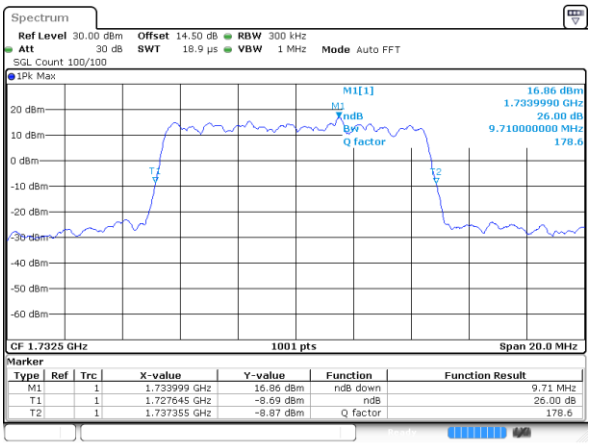
Date: 17.MAR.2020 21:44:57

Middle Channel / 10MHz / QPSK



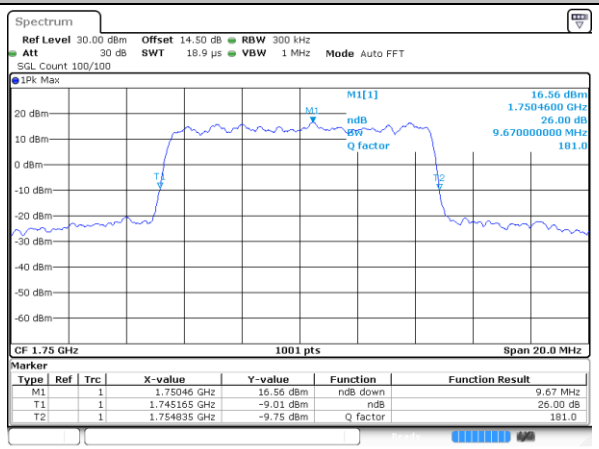
Date: 17.MAR.2020 21:50:34

Middle Channel / 10MHz / 16QAM



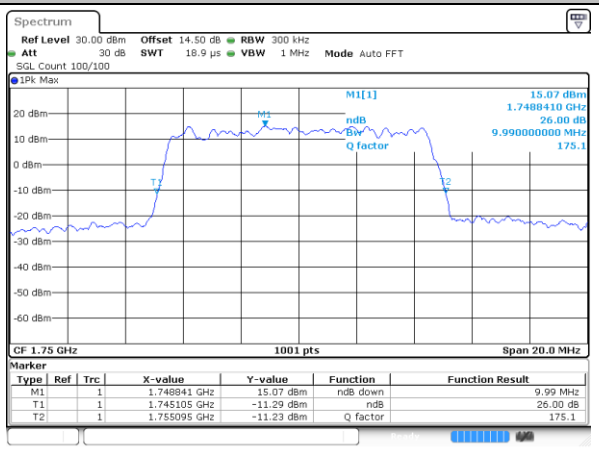
Date: 17.MAR.2020 21:50:45

Highest Channel / 10MHz / QPSK



Date: 17.MAR.2020 21:52:28

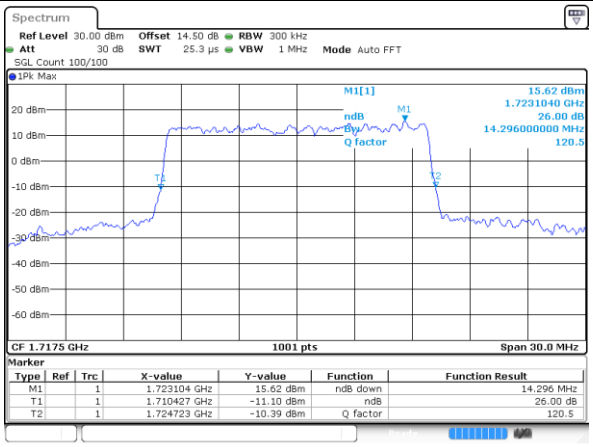
Highest Channel / 10MHz / 16QAM



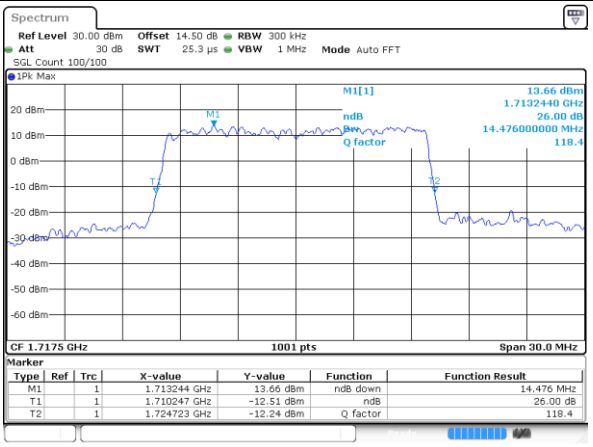
Date: 17.MAR.2020 21:52:38

LTE Band 4

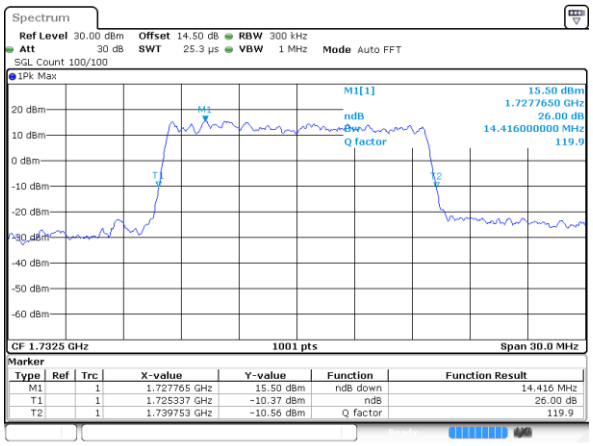
Lowest Channel / 15MHz / QPSK



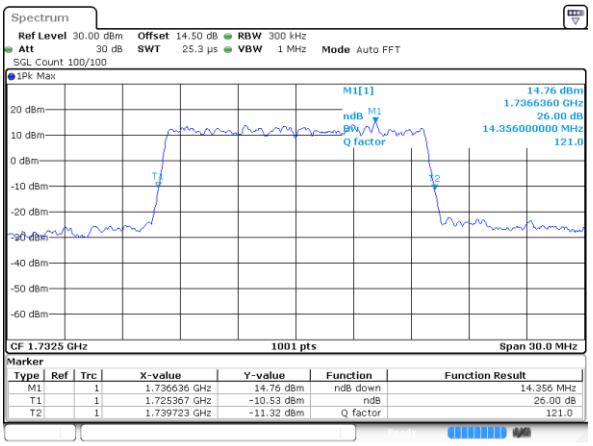
Lowest Channel / 15MHz / 16QAM



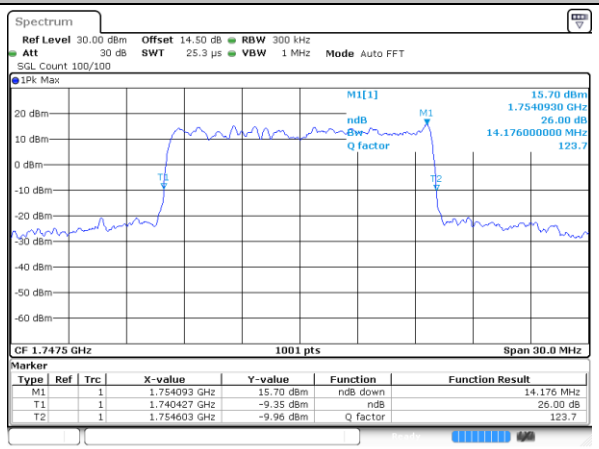
Middle Channel / 15MHz / QPSK



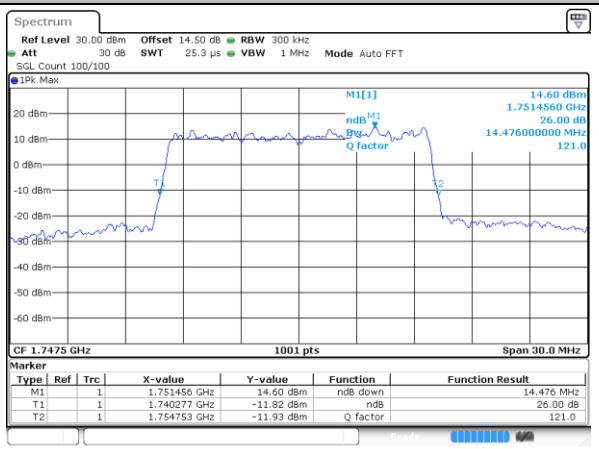
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

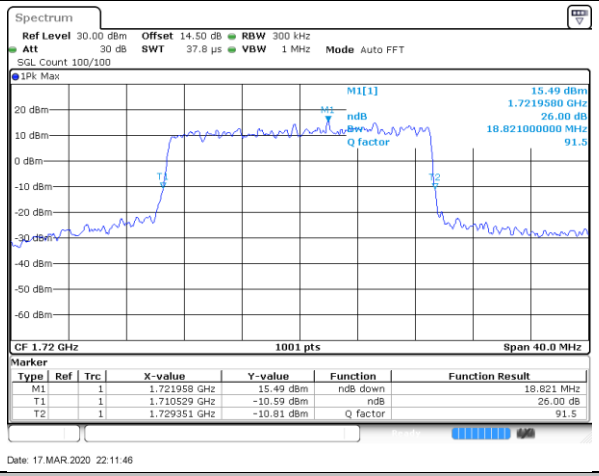


Highest Channel / 15MHz / 16QAM

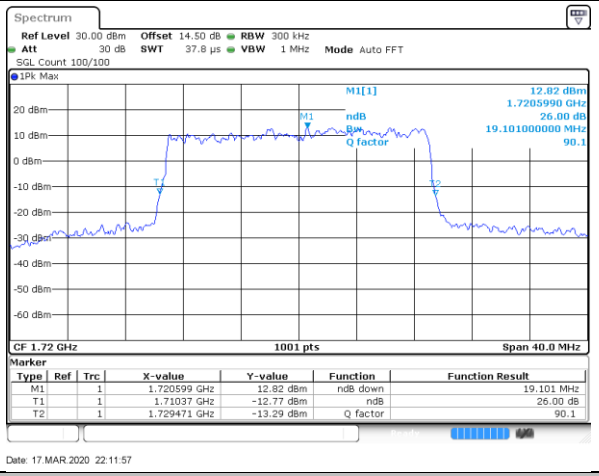


LTE Band 4

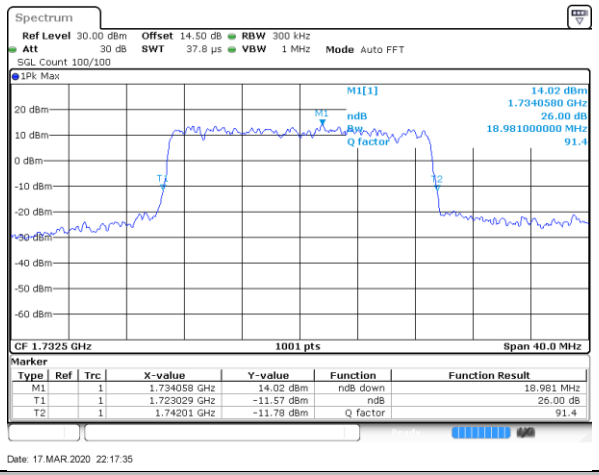
Lowest Channel / 20MHz / QPSK



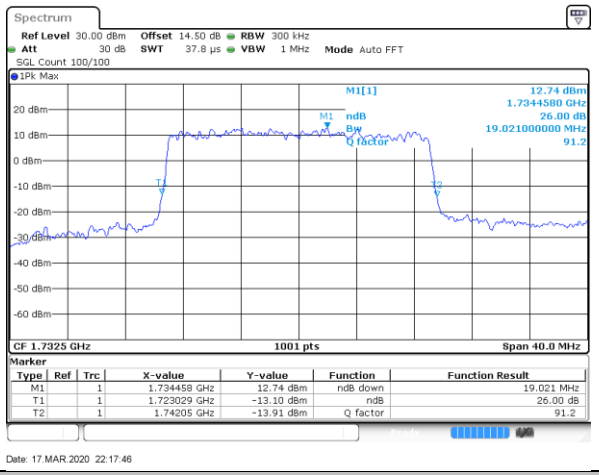
Lowest Channel / 20MHz / 16QAM



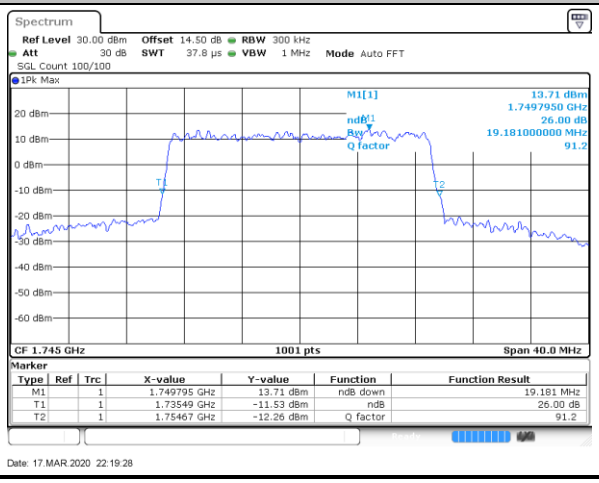
Middle Channel / 20MHz / QPSK



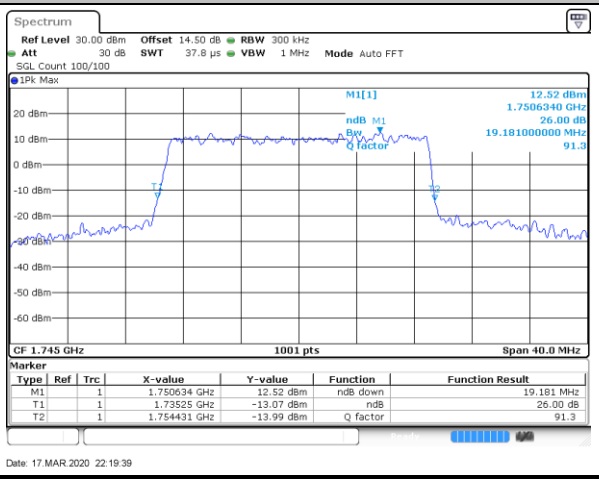
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK

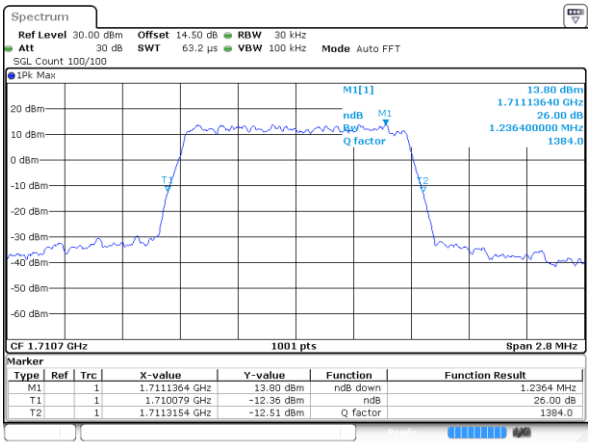


Highest Channel / 20MHz / 16QAM

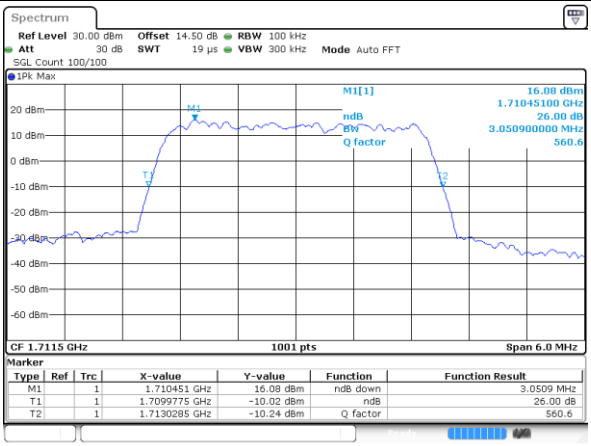


LTE Band 4

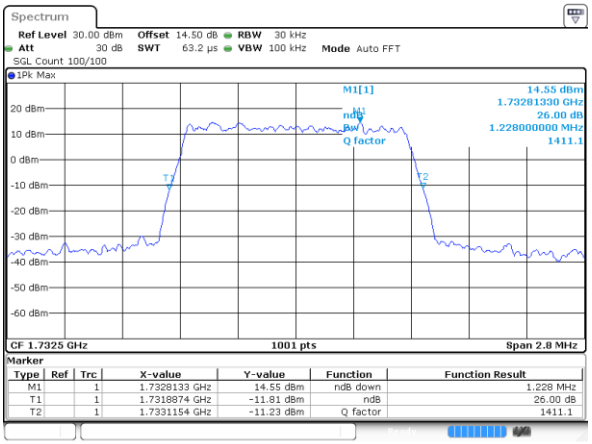
Lowest Channel / 1.4MHz / 64QAM



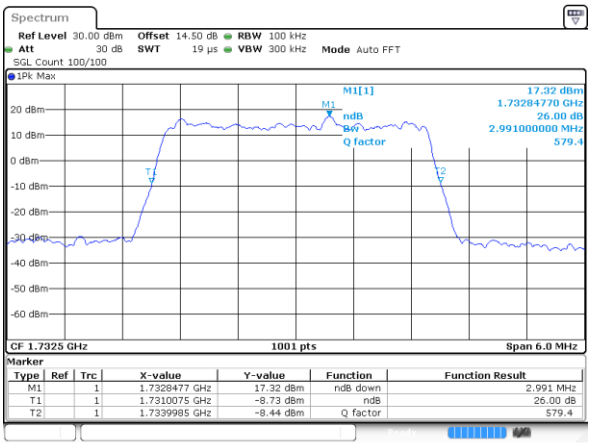
Lowest Channel / 3MHz / 64QAM



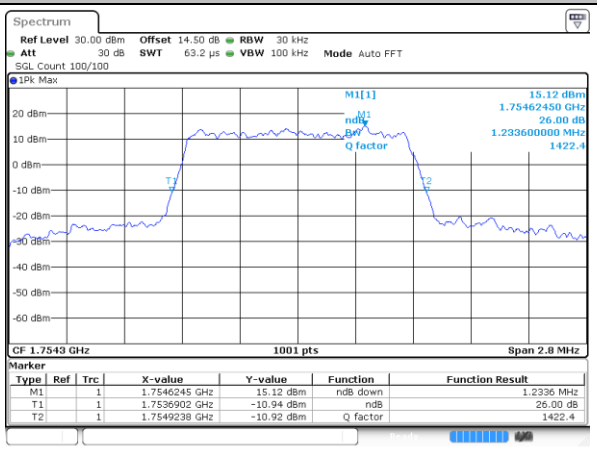
Middle Channel / 1.4MHz / 64QAM



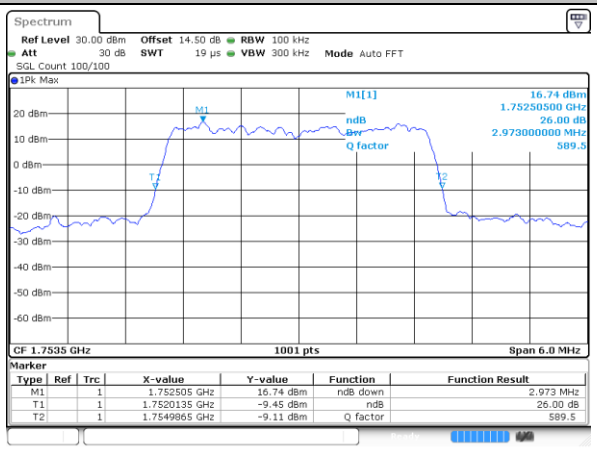
Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM

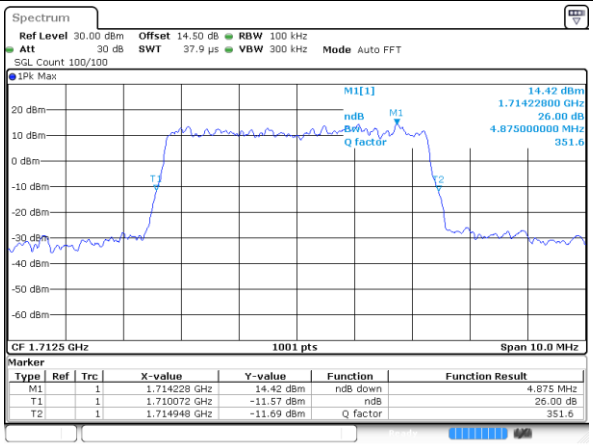


Highest Channel / 3MHz / 64QAM

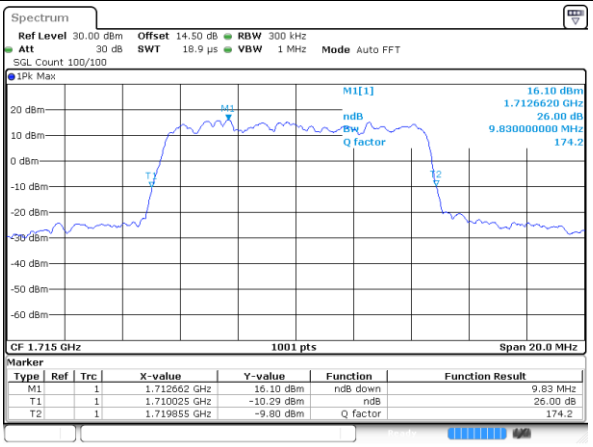


LTE Band 4

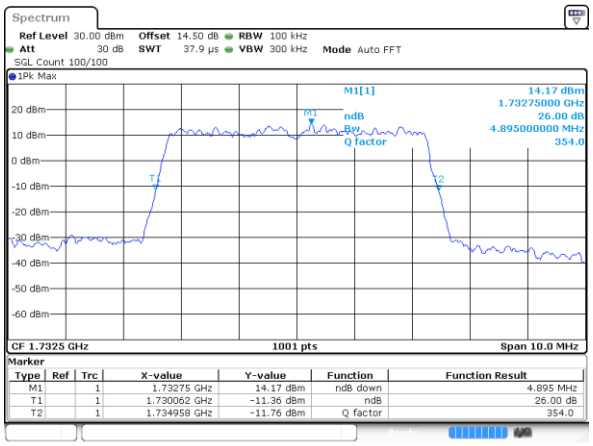
Lowest Channel / 5MHz / 64QAM



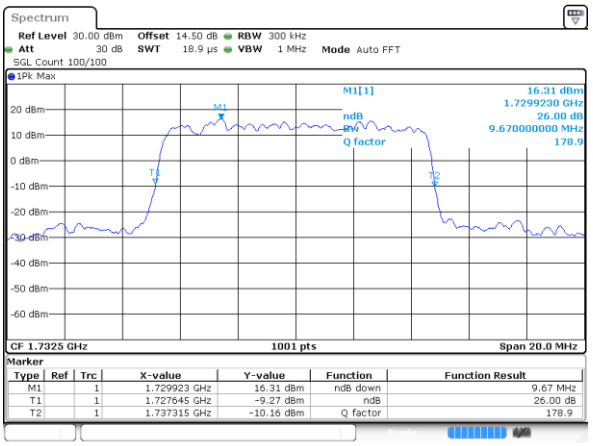
Lowest Channel / 10MHz / 64QAM



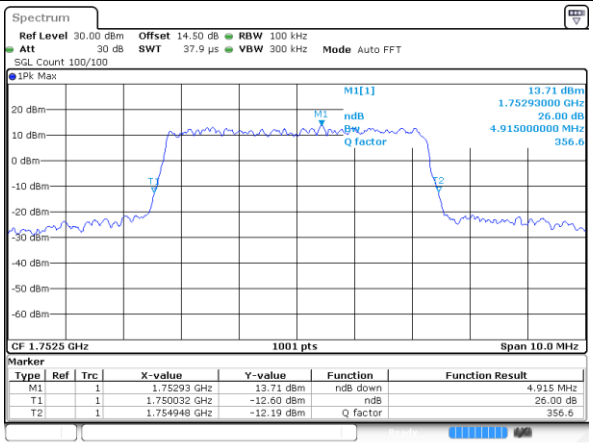
Middle Channel / 5MHz / 64QAM



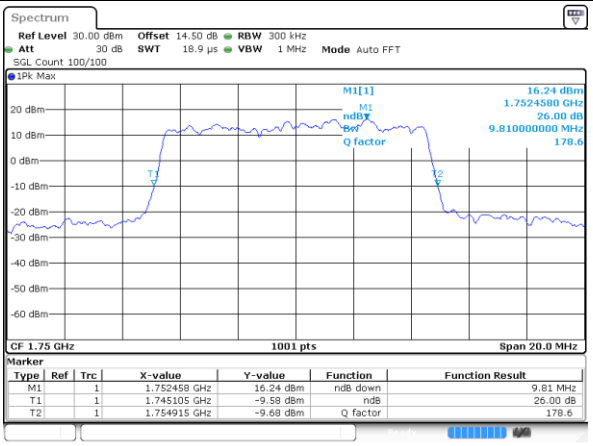
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

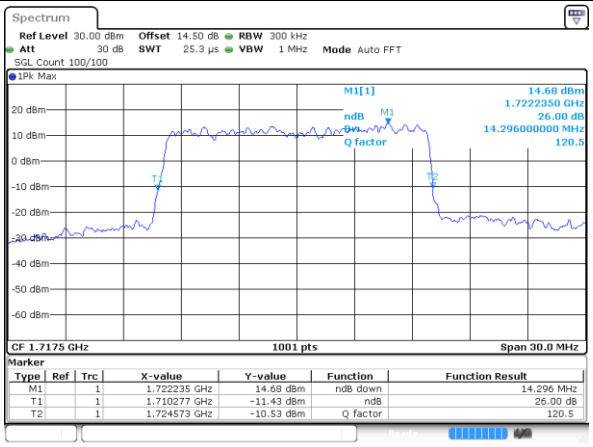


Highest Channel / 10MHz / 64QAM

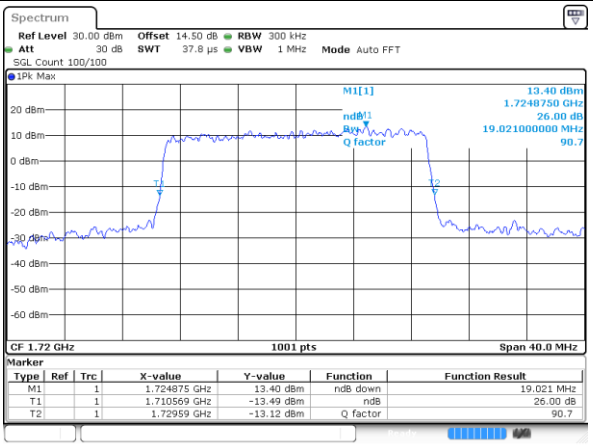


LTE Band 4

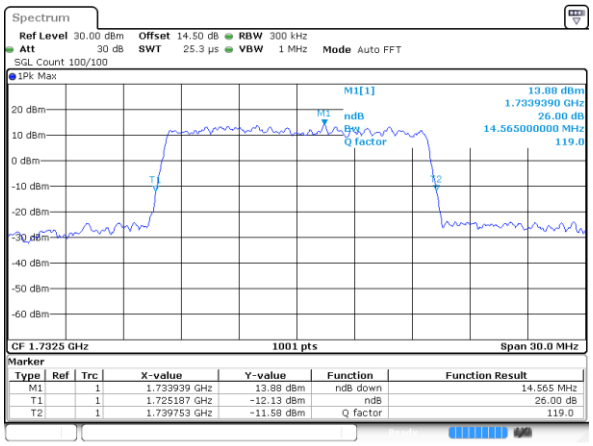
Lowest Channel / 15MHz / 64QAM



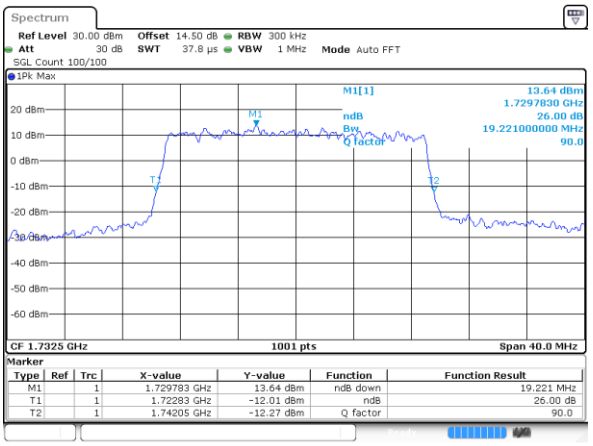
Lowest Channel / 20MHz / 64QAM



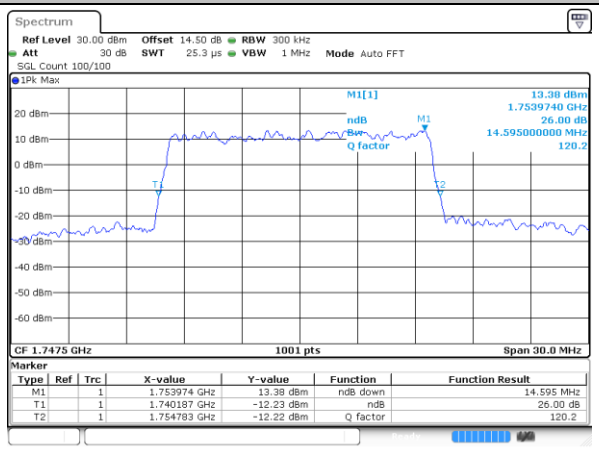
Middle Channel / 15MHz / 64QAM



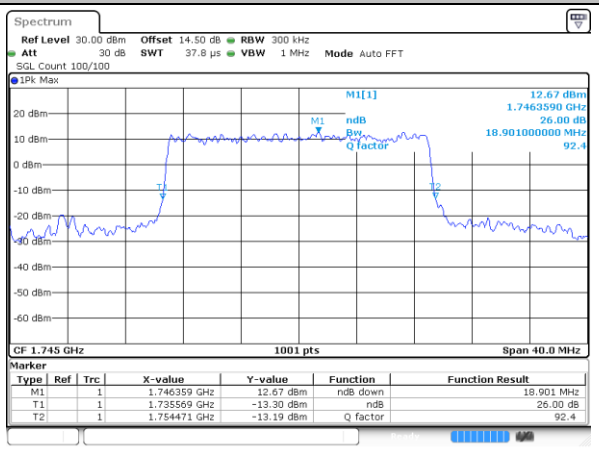
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM



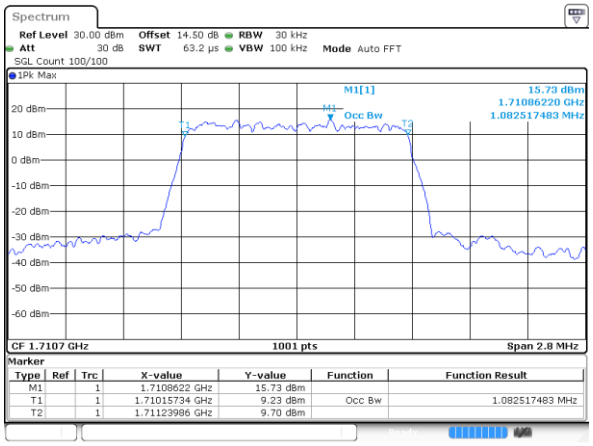
Occupied Bandwidth

Mode	LTE Band 4 : 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	1.08	1.09	2.70	2.73	4.49	4.49	9.03	9.05	13.46	13.55	17.94	17.82
Middle CH	1.09	1.09	2.72	2.72	4.48	4.50	8.99	9.01	13.43	13.40	17.82	17.86
Highest CH	1.09	1.09	2.71	2.72	4.48	4.49	9.03	9.03	13.37	13.49	17.86	17.90

Mode	LTE Band 4 : 99%OBW(MHz)					
BW	1.4MHz	3MHz	5MHz	10MHz	15MHz	20MHz
Mod.	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM
Lowest CH	1.09	2.73	4.50	9.05	13.46	17.90
Middle CH	1.08	2.72	4.50	9.03	13.46	17.78
Highest CH	1.09	2.72	4.50	9.07	13.52	17.90

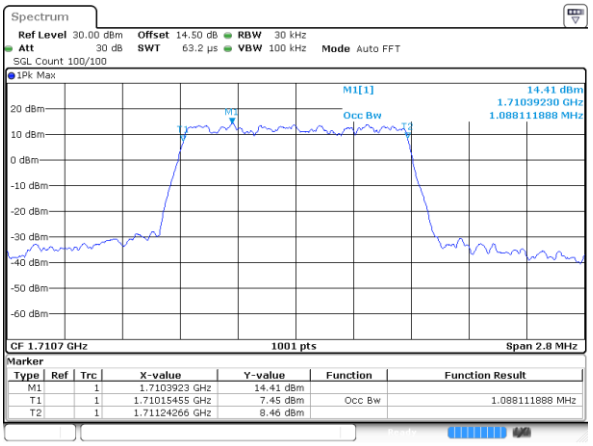
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



Date: 17.MAR.2020 23:48:22

Lowest Channel / 1.4MHz / 16QAM



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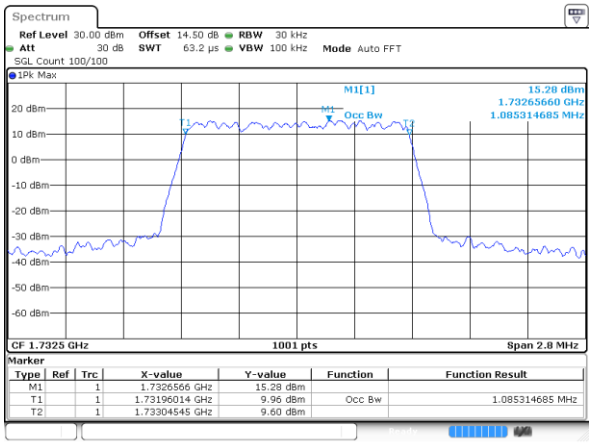
Middle Channel / 1.4MHz / QPSK



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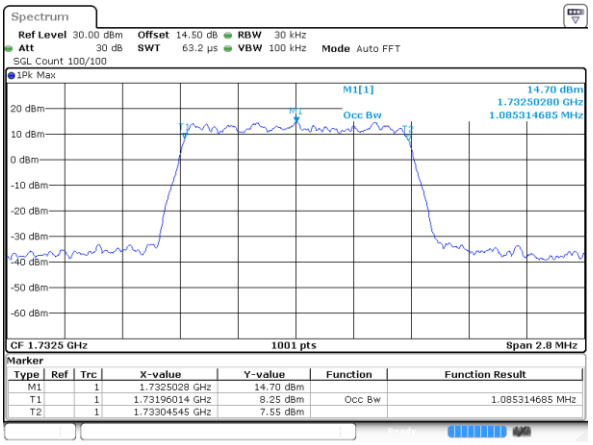
Middle Channel / 1.4MHz / 16QAM



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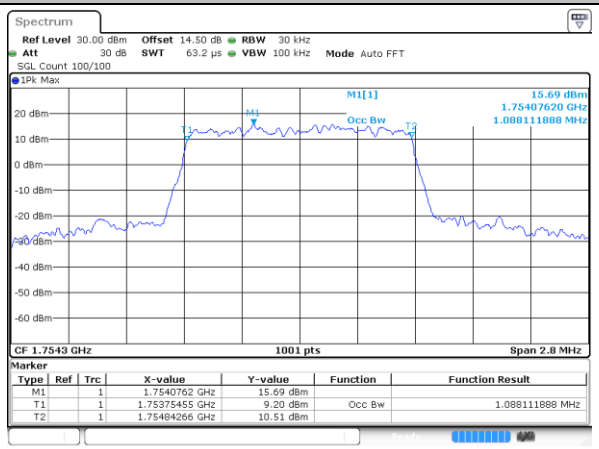
Highest Channel / 1.4MHz / QPSK



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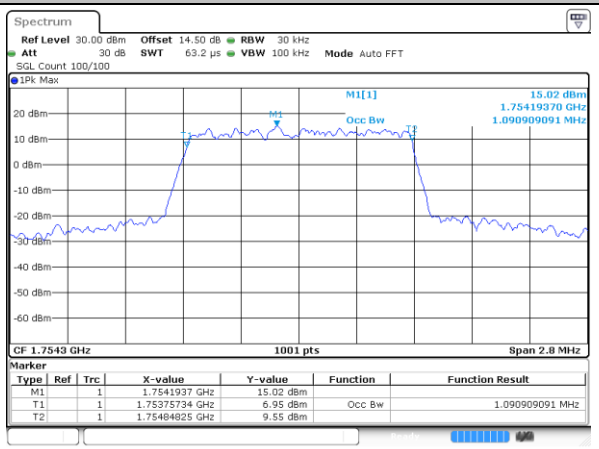
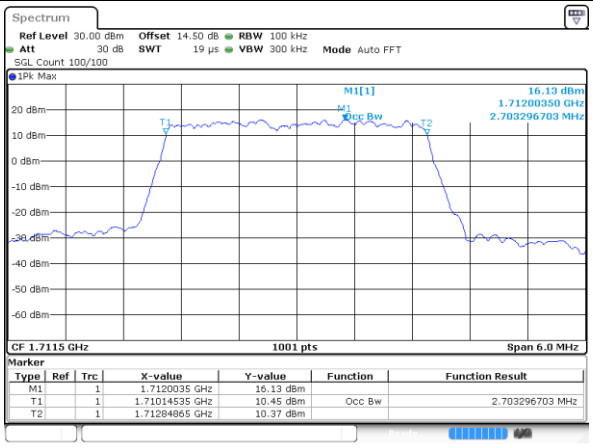
Highest Channel / 1.4MHz / 16QAM



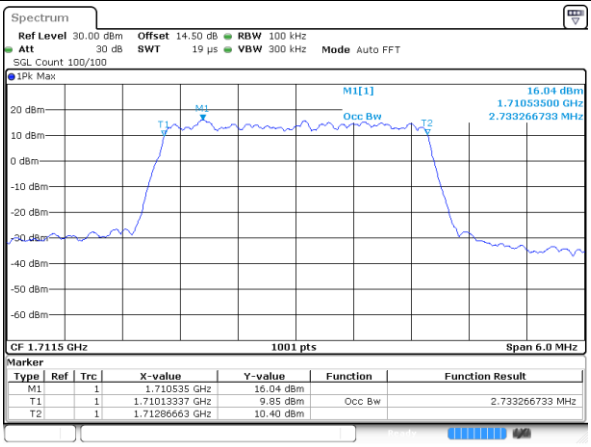
Date: 17.MAR.2020 23:51:38

LTE Band 4

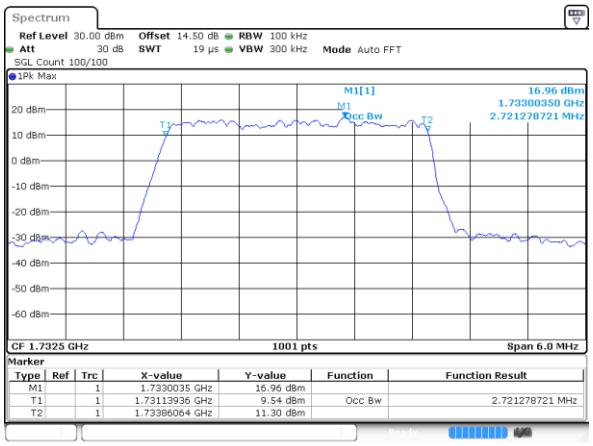
Lowest Channel / 3MHz / QPSK



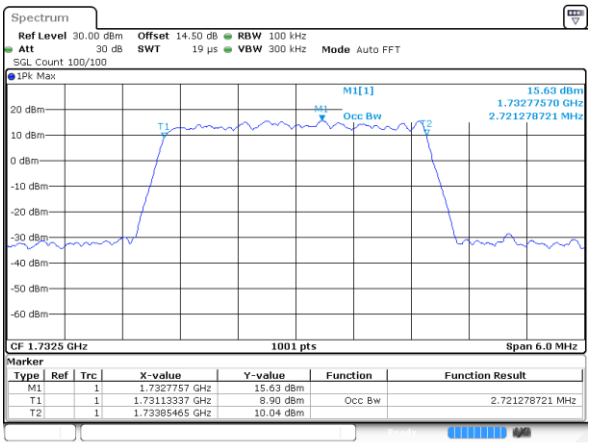
Lowest Channel / 3MHz / 16QAM



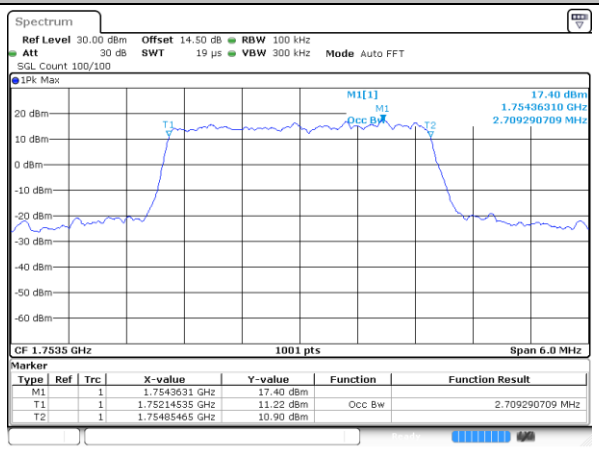
Middle Channel / 3MHz / QPSK



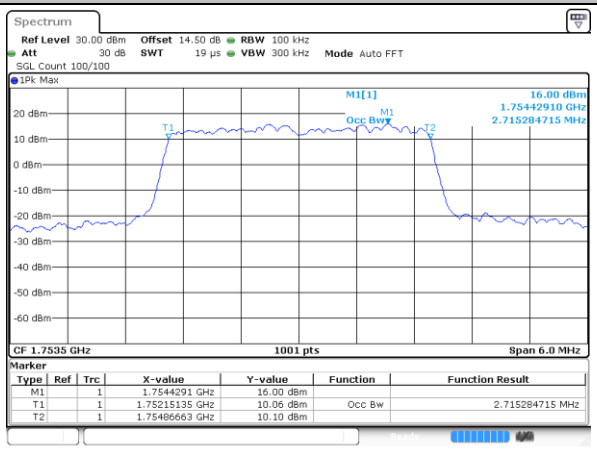
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

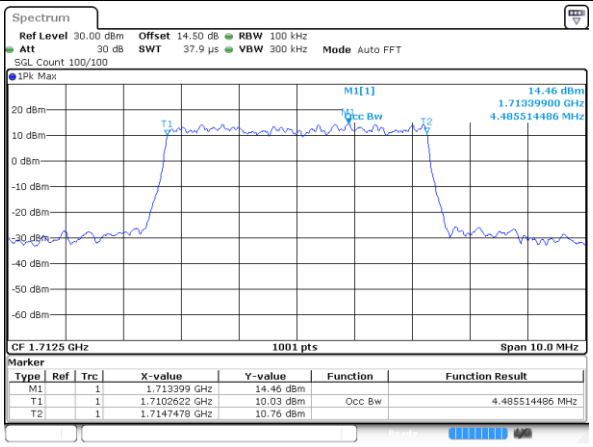


Highest Channel / 3MHz / 16QAM

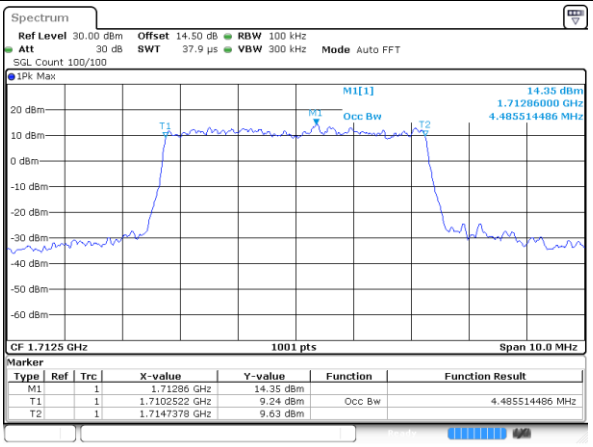


LTE Band 4

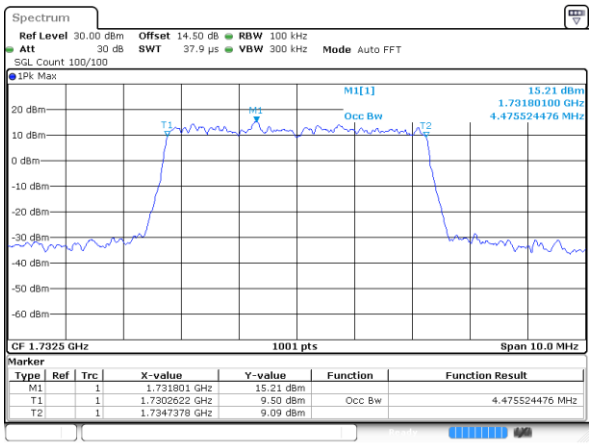
Lowest Channel / 5MHz / QPSK



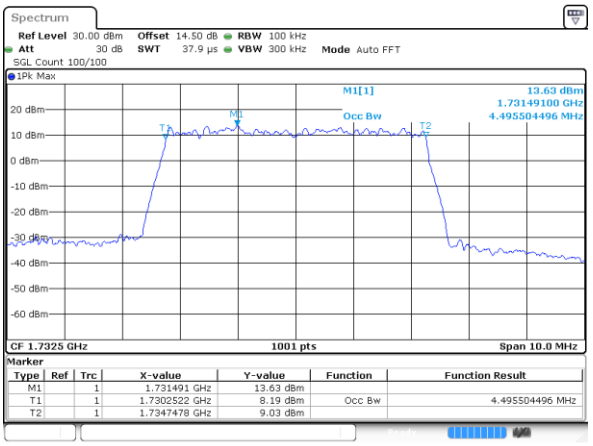
Lowest Channel / 5MHz / 16QAM



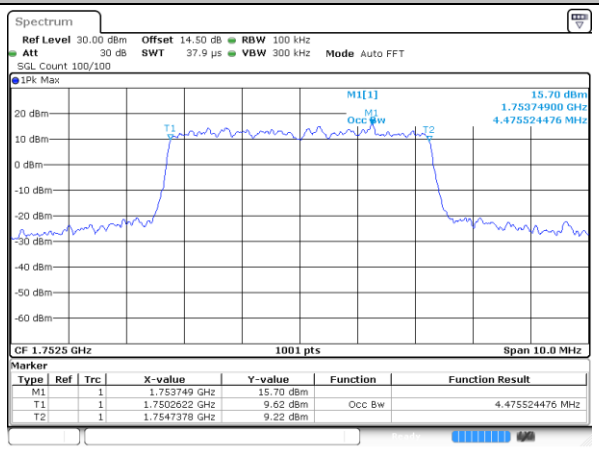
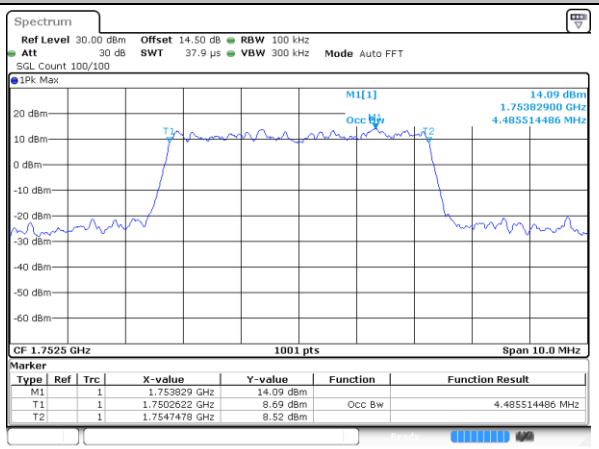
Middle Channel / 5MHz / QPSK



Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



Highest Channel / 5MHz / 16QAM