



TEST REPORT

APPLICANT : Power Idea Technology
(Shenzhen) Co., Ltd.

PRODUCT NAME : LTE SMARTPHONE

MODEL NAME : RG170

BRAND NAME : RugGear

FCC ID : ZLE-RG170

STANDARD(S) : 47 CFR Part 22, Subpart H
47 CFR Part 24, Subpart E
47 CFR Part 27, Subpart H&L&M

RECEIPT DATE : 2019-08-22

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DIRECTORY

1. Technical Information	4
1.1. Applicant and Manufacturer Information	4
1.2. Equipment Under Test (EUT) Description	4
1.3. Test Standards and Results	7
1.4. Environmental Conditions	9
2. 47 CFR Part 2, Part 22H, Part 24E and 27H&L&M Requirements	10
2.1. Transmitter Conducted Output Power And ERP/EIPR	10
2.2. Occupied Bandwidth	41
2.3. Frequency Stability	85
2.4. Peak to Average Radio	88
2.5. Conducted Spurious Emissions	92
2.6. Band Edge	175
2.7. Radiated Spurious Emissions	233
Annex A Test Uncertainty	248
Annex B Testing Laboratory Information	249



Change History		
Version	Date	Reason for change
1.0	2019-09-10	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Power Idea Technology (Shenzhen) Co., Ltd.
Applicant Address:	4th Floor, A Section, Languang Science&technology Building, No.7 Xinxi RD, Hi-Tech Industrial Park North, Nanshan District, ShenZhen, P.R.C.
Manufacturer:	Power Idea Technology (Shenzhen) Co., Ltd.
ManufacturerAddress:	4th Floor, A Section, Languang Science&technology Building, No.7 Xinxi RD, Hi-Tech Industrial Park North, Nanshan District, ShenZhen, P.R.C.

1.2. Equipment Under Test (EUT) Description

Product Name:	LTE SMARTPHONE	
Serial No:	(N/A, marked #1 by test site)	
Hardware Version:	V1.0	
Software Version:	RG170_US_1.0.0.0.0_1_20190903	
Modulation Type:	QPSK, 16QAM, 64QAM	
Operation Band:	Band 2 / 4 / 5 / 7	
Frequency Range:	LTE Band 2	Tx: 1850.7MHz -1909.3MHz
		Rx: 1930.7MHz -1989.3MHz
	LTE Band 4	Tx: 1710.7MHz -1754.3MHz
		Rx: 2110.7MHz - 2154.3MHz
	LTE Band 5	Tx: 824.7MHz -848.3MHz
		Rx: 869.7MHz – 893.3MHz
	LTE Band 7	Tx: 2500MHz - 2570MHz
		Rx: 2620MHz–2690MHz
Channel Bandwidth	LTE Band 2	1.4MHz, 3 MHz, 5 MHz, 10MHz, 15 MHz, 20 MHz
	LTE Band 4	1.4MHz, 3 MHz, 5 MHz, 10MHz, 15 MHz, 20 MHz
	LTE Band 5	1.4MHz, 3 MHz, 5 MHz, 10MHz
	LTE Band 7	5 MHz, 10MHz, 15 MHz, 20 MHz
Emission Designator:	1M10G7D (LTE Band 2, QPSK, BW 1.4MHz)	
	1M10W7D (LTE Band 2, 16QAM, BW 1.4MHz)	



	1M10D7W (LTE Band 2, 64QAM, BW 1.4MHz) 2M69G7D (LTE Band 2, QPSK, BW 3MHz) 2M70W7D (LTE Band 2, 16QAM, BW 3MHz) 2M69D7W (LTE Band 2, 64QAM, BW 3MHz) 4M52G7D (LTE Band 2, QPSK, BW 5MHz) 4M52W7D (LTE Band 2, 16QAM, BW 5MHz) 4M52D7W (LTE Band 2, 64QAM, BW 5MHz) 9M04G7D (LTE Band 2, QPSK, BW 10MHz) 8M99W7D (LTE Band 2, 16QAM, BW 10MHz) 9M00D7W (LTE Band 2, 64QAM, BW 10MHz) 13M50G7D (LTE Band 2, QPSK, BW 15MHz) 13M52W7D (LTE Band 2, 16QAM, BW 15MHz) 13M51D7W (LTE Band 2, 64QAM, BW 15MHz) 18M0G7D (LTE Band 2, QPSK, BW 20MHz) 18M0W7D (LTE Band 2, 16QAM, BW 20MHz) 18M0D7W (LTE Band 2, 64QAM, BW 20MHz) 1M10G7D (LTE Band 4, QPSK, BW 1.4MHz) 1M10W7D (LTE Band 4, 16QAM, BW 1.4MHz) 1M10D7W (LTE Band 4, 64QAM, BW 1.4MHz) 2M69G7D (LTE Band 4, QPSK, BW 3MHz) 2M69W7D (LTE Band 4, 16QAM, BW 3MHz) 2M70D7W (LTE Band 4, 64QAM, BW 3MHz) 4M52G7D (LTE Band 4, QPSK, BW 5MHz) 4M52W7D (LTE Band 4, 16QAM, BW 5MHz) 4M52D7W (LTE Band 4, 64QAM, BW 5MHz) 9M05G7D (LTE Band 4, QPSK, BW 10MHz) 9M0W7D (LTE Band 4, 16QAM, BW 10MHz) 9M0D7W (LTE Band 4, 64QAM, BW 10MHz) 13M5G7D (LTE Band 4, QPSK, BW 15MHz) 13M5W7D (LTE Band 4, 16QAM, BW 15MHz) 13M5D7W (LTE Band 4, 64QAM, BW 15MHz) 18M0G7D (LTE Band 4, QPSK, BW 20MHz) 18M0W7D (LTE Band 4, 16QAM, BW 20MHz) 18M0D7W (LTE Band 4, 64QAM, BW 20MHz) 1M10G7D (LTE Band 5, QPSK, BW 1.4MHz) 1M10W7D (LTE Band 5, 16QAM, BW 1.4MHz) 1M10D7W (LTE Band 5, 64QAM, BW 1.4MHz) 2M69G7D (LTE Band 5, QPSK, BW 3MHz) 2M69W7D (LTE Band 5, 16QAM, BW 3MHz)
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	2M9D7W (LTE Band 5, 64QAM, BW 3MHz) 4M52G7D (LTE Band 5, QPSK, BW 5MHz) 4M51W7D (LTE Band 5, 16QAM, BW 5MHz) 4M54D7W (LTE Band 5, 64QAM, BW 5MHz) 9M02G7D (LTE Band 5, QPSK, BW 10MHz) 8M99W7D (LTE Band 5, 16QAM, BW 10MHz) 8M99D7W (LTE Band 5, 64QAM, BW 10MHz) 4M52G7D (LTE Band 4, QPSK, BW 5MHz) 4M51W7D (LTE Band 4, 16QAM, BW 5MHz) 4M51D7W (LTE Band 4, 64QAM, BW 5MHz) 9M01G7D (LTE Band 4, QPSK, BW 10MHz) 8M99W7D (LTE Band 4, 16QAM, BW 10MHz) 9M01D7W (LTE Band 4, 64QAM, BW 10MHz) 13M5G7D (LTE Band 4, QPSK, BW 15MHz) 13M5W7D (LTE Band 4, 16QAM, BW 15MHz) 13M5D7W (LTE Band 4, 64QAM, BW 15MHz) 18M0G7D (LTE Band 4, QPSK, BW 20MHz) 18M0W7D (LTE Band 4, 16QAM, BW 20MHz) 18M0D7W (LTE Band 4, 64QAM, BW 20MHz)	
Antenna Type:	PIFAAntenna	
Antenna Gain:	LTEBand 2	0.8 dBi
	LTE Band 4	0.5 dBi
	LTE Band 5	-0.5 dBi
	LTE Band 7	-1.0 dBi
Accessory Information:	Battery 1	
	Brand Name:	N/A
	Model No.:	BL280MP
	Serial No.:	(N/A, marked #1 by test site)
	Capacity:	2800mAh
	Rated Voltage:	3.7V
	Charge Limit:	4.2V
	Battery 2	
	Brand Name:	N/A
	Model No.:	BL312NP
	Serial No.:	(N/A, marked #1 by test site)
	Capacity:	3120mAh
	Rated Voltage:	3.6V
	Charge Limit:	4.2V



Accessory Information:	AC Adapter	
	Brand Name:	N/A
	Model No.:	HKC0055010-2D
	Serial No.:	(N/A, marked #1 by test site)
	Rated Input:	100-240V~50/60Hz 0.2A
	Rated Output:	5V= 1.0A

Note 1: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

1.3. Test Standards and Results

The objective of the report is to perform testing according to Part 2, Part 22, Part 24 and Part 27 for the EUT FCC ID Certification:

No	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22	Public Mobile Services
3	47 CFR Part 24	Personal Communications Services
4	47 CFR Part 27	Miscellaneous Wireless Communications Services

Test detailed items/section required by FCC rules and results are as below:

Section	Description	Test Date	Test Engineer	Result
2.1046, 22.913(a)(2), 24.232(c), 27.50(c)(10) 27.50(d)(4), 27.50(h)(2)	Transmitter Conducted Output Power and ERP/EIRP	Aug23, 2019 Aug29, 2019	Gao Mingzhou Peng Xuewei	PASS
2.1049	Occupied Bandwidth	Aug23, 2019	Gao Mingzhou	PASS
2.1055, 22.355, 24.235, 27.54	Frequency Stability	Sept02, 2019	Gao Mingzhou	PASS
24.232(d), 27.50(d)(5)	Peak to Average Ratio	Aug23, 2019	Gao Mingzhou	PASS
2.1051, 22.917(a), 24.238, 27.53(g)(h)(m)(4)	Conducted Spurious Emissions	Aug23, 2019 Sept04, 2019	Gao Mingzhou	PASS
2.1051, 22.917(a), 24.238, 27.53(g)(h)(m)(4)	Band Edge	Aug23, 2019 Sept06, 2019	Gao Mingzhou	PASS
2.1051, 22.917(a), 24.238, 27.53(g)(h)(m)(4)	Radiated Spurious Emissions	Sept06, 2019	Peng Xuewei	PASS

Note 1: The tests were performed according to the method of measurements prescribed in KDB 971168 D01 V03R01 (Oct 27, 2017) and ANSI/TIA-603-E-2016.



Note 2: The path loss during the RF test is calibrated to correct the results by the offset setting in the test equipments. The ref offset 26.5dB contains two parts that cable loss 16.5dB and Attenuator 10dB.



1.4. Environmental Conditions

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

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106

2.47 CFR Part 2, Part 22H, Part 24E and 27H&L&M Requirements

2.1. Transmitter Conducted Output Power And ERP/EIPR

2.1.1. Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

According to FCC section 24.232 (c) for LTE Band 2/25, Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

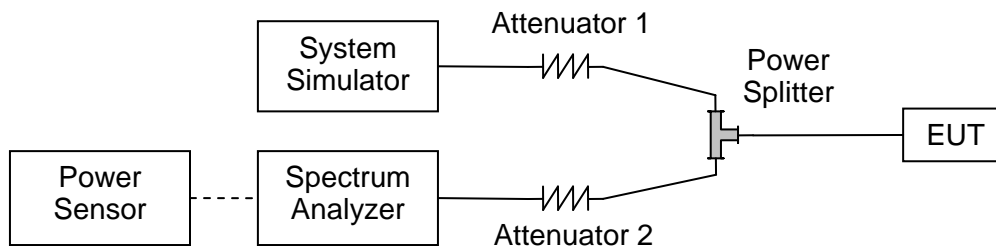
According to FCC section 27.50 (d) for LTE Band 4, fixed, mobile and portable (hand-held) stations in the 1710-1755MHz band are limited to 1wat EIRP.

According to FCC section 22.913 (a.2) for LTE Band 5/26, the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC section 27.50 (h) for LTE Band 7/41, Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

According to FCC section 27.50 (c) for LTE Band 12/17, Portable stations (hand-held devices) operating in the 704-716MHz band are limited to 3watts ERP.

2.1.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate



at the maximum output power. A call is established between the EUT and the SS.

2.1.3. Test procedure

KDB 971168 D01v03 Section 5.2 and ANSI C63.26 2015 section 5.2.5.5.

$EIRP \text{ (dBm)} = \text{Conducted Output Power (dBm)} + \text{Antenna Gain (dBi)}$

$ERP \text{ (dBm)} = EIPR \text{ (dBm)} - 2.15$

2.1.4. Result



Transmitter Conducted Output Power

LTE Band2						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	QPSK	1	0	23.49	23.25	23.36
20	QPSK	1	49	23.24	23.21	23.33
20	QPSK	1	99	23.12	23.12	23.25
20	QPSK	50	0	22.45	22.43	22.38
20	QPSK	50	24	22.21	22.35	22.28
20	QPSK	50	50	22.19	22.14	22.46
20	QPSK	100	0	22.22	22.23	22.34
20	16QAM	1	0	22.66	22.64	22.84
20	16QAM	1	49	22.57	22.52	22.74
20	16QAM	1	99	22.49	22.45	22.66
20	16QAM	50	0	21.18	21.16	21.28
20	16QAM	50	24	21.19	21.20	21.18
20	16QAM	50	50	21.15	21.30	21.29
20	16QAM	100	0	21.11	21.23	21.27
20	64QAM	1	0	22.21	22.16	22.19
20	64QAM	1	49	22.21	22.11	22.00
20	64QAM	1	99	21.83	21.76	21.86
20	64QAM	50	0	21.25	21.12	21.33
20	64QAM	50	24	21.22	21.15	21.19
20	64QAM	50	50	21.20	21.18	21.25
20	64QAM	100	0	21.14	21.11	21.39
Channel				18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5
15	QPSK	1	0	23.18	23.18	23.18
15	QPSK	1	37	23.09	23.31	23.42
15	QPSK	1	74	23.08	23.04	23.09
15	QPSK	36	0	22.22	22.24	22.19
15	QPSK	36	20	22.30	22.25	22.15
15	QPSK	36	39	21.99	22.34	22.21



15	QPSK	75	0	22.20	22.17	22.27
15	16QAM	1	0	22.56	22.45	22.46
15	16QAM	1	37	22.81	22.82	22.56
15	16QAM	1	74	22.47	22.51	22.41
15	16QAM	36	0	21.28	21.25	21.15
15	16QAM	36	20	21.33	21.37	21.24
15	16QAM	36	39	21.09	21.15	21.20
15	16QAM	75	0	21.23	21.22	21.19
15	64QAM	1	0	22.57	22.66	22.51
15	64QAM	1	37	22.42	22.46	22.21
15	64QAM	1	74	22.56	22.30	22.60
15	64QAM	36	0	21.29	21.15	21.24
15	64QAM	36	20	21.19	21.14	21.23
15	64QAM	36	39	21.24	21.13	21.11
15	64QAM	75	0	21.32	21.19	21.31

LTE Band2						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				18650	18900	19150
Frequency (MHz)				1855	1880	1905
10	QPSK	1	0	23.23	23.16	23.28
10	QPSK	1	25	23.33	23.45	23.17
10	QPSK	1	49	23.10	23.19	23.05
10	QPSK	25	0	22.28	22.15	22.14
10	QPSK	25	12	22.31	22.21	22.22
10	QPSK	25	25	22.34	22.22	22.21
10	QPSK	50	0	22.25	22.30	22.24
10	16QAM	1	0	22.61	22.20	22.34
10	16QAM	1	25	22.46	22.66	22.40
10	16QAM	1	49	22.64	22.60	22.28
10	16QAM	25	0	21.25	21.27	21.11
10	16QAM	25	12	21.28	21.15	21.10
10	16QAM	25	25	21.21	21.35	21.30
10	16QAM	50	0	21.17	21.26	21.16
10	64QAM	1	0	22.74	22.28	22.39
10	64QAM	1	25	22.67	22.67	22.45



10	64QAM	1	49	22.39	22.39	22.35
10	64QAM	25	0	21.20	21.09	21.19
10	64QAM	25	12	21.25	21.14	21.14
10	64QAM	25	25	21.51	21.11	21.21
10	64QAM	50	0	21.14	21.24	21.18
Channel				18625	18900	19175
Frequency (MHz)				1852.5	1880	1907.5
5	QPSK	1	0	23.24	23.32	23.04
5	QPSK	1	12	23.34	23.43	23.21
5	QPSK	1	24	23.22	23.04	23.12
5	QPSK	12	0	22.21	22.15	22.05
5	QPSK	12	7	22.27	22.14	22.09
5	QPSK	12	13	22.15	22.27	22.05
5	QPSK	25	0	22.30	22.17	22.14
5	16QAM	1	0	22.65	22.38	22.70
5	16QAM	1	12	22.61	22.37	22.67
5	16QAM	1	24	22.59	22.23	22.53
5	16QAM	12	0	21.15	21.14	20.99
5	16QAM	12	7	21.31	21.20	21.12
5	16QAM	12	13	21.16	21.28	21.06
5	16QAM	25	0	21.20	21.15	21.16
5	64QAM	1	0	22.59	22.56	22.44
5	64QAM	1	12	22.63	22.53	22.35
5	64QAM	1	24	22.42	22.41	22.31
5	64QAM	12	0	21.20	21.19	20.93
5	64QAM	12	7	21.23	21.32	21.21
5	64QAM	12	13	21.19	21.13	21.14
5	64QAM	25	0	21.22	21.24	21.06

LTE Band2						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				18615	18900	19185
Frequency (MHz)				1851.5	1880	1908.5
3	QPSK	1	0	23.25	23.15	23.12
3	QPSK	1	8	23.14	23.22	23.08



3	QPSK	1	14	23.23	23.22	22.98
3	QPSK	8	0	22.31	22.18	22.03
3	QPSK	8	4	22.33	22.25	22.05
3	QPSK	8	7	22.29	22.20	22.07
3	QPSK	15	0	22.33	22.23	22.17
3	16QAM	1	0	22.48	22.25	22.16
3	16QAM	1	8	22.33	22.20	22.46
3	16QAM	1	14	22.44	22.17	22.42
3	16QAM	8	0	21.39	21.13	21.19
3	16QAM	8	4	21.21	21.32	21.05
3	16QAM	8	7	21.29	21.23	21.07
3	16QAM	15	0	21.36	21.16	21.01
3	64QAM	1	0	22.64	22.65	22.18
3	64QAM	1	8	22.38	22.63	22.13
3	64QAM	1	14	22.32	22.53	22.23
3	64QAM	8	0	21.23	21.24	21.12
3	64QAM	8	4	21.24	21.10	21.06
3	64QAM	8	7	21.45	21.12	21.01
3	64QAM	15	0	21.16	21.20	20.98
Channel				18607	18900	19193
Frequency (MHz)				1850.7	1880	1909.3
1.4	QPSK	1	0	23.28	23.10	23.00
1.4	QPSK	1	3	23.28	23.43	23.11
1.4	QPSK	1	5	23.16	23.17	23.00
1.4	QPSK	3	0	23.29	23.21	23.17
1.4	QPSK	3	1	23.38	23.28	23.28
1.4	QPSK	3	3	23.28	23.19	23.25
1.4	QPSK	6	0	22.30	22.17	22.12
1.4	16QAM	1	0	22.46	22.79	22.39
1.4	16QAM	1	3	22.37	22.67	22.38
1.4	16QAM	1	5	22.36	22.53	22.31
1.4	16QAM	3	0	22.24	22.15	22.04
1.4	16QAM	3	1	22.26	22.13	22.22
1.4	16QAM	3	3	22.28	22.04	22.14
1.4	16QAM	6	0	21.43	21.19	21.22
1.4	64QAM	1	0	22.31	22.18	21.87
1.4	64QAM	1	3	22.33	22.23	22.05
1.4	64QAM	1	5	22.28	22.15	21.83



1.4	64QAM	3	0	22.35	22.47	22.12
1.4	64QAM	3	1	22.35	22.42	22.11
1.4	64QAM	3	3	22.31	22.19	22.09
1.4	64QAM	6	0	21.33	21.14	21.18

LTE Band4						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	QPSK	1	0	23.00	22.98	22.97
20	QPSK	1	49	23.22	22.82	23.24
20	QPSK	1	99	22.88	22.81	22.75
20	QPSK	50	0	22.02	21.96	22.01
20	QPSK	50	24	22.05	21.98	22.09
20	QPSK	50	50	21.91	22.03	22.00
20	QPSK	100	0	22.06	21.98	22.07
20	16QAM	1	0	22.35	22.43	22.34
20	16QAM	1	49	22.29	22.33	22.44
20	16QAM	1	99	22.14	21.99	22.20
20	16QAM	50	0	21.04	21.09	21.10
20	16QAM	50	24	21.02	21.05	21.01
20	16QAM	50	50	21.05	21.08	20.98
20	16QAM	100	0	21.02	21.02	21.07
20	64QAM	1	0	21.99	22.06	21.74
20	64QAM	1	49	22.05	22.00	22.00
20	64QAM	1	99	21.57	21.67	21.58
20	64QAM	50	0	20.99	21.09	21.07
20	64QAM	50	24	21.08	20.97	21.00
20	64QAM	50	50	21.04	21.02	21.05
20	64QAM	100	0	20.98	21.03	20.98
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	22.98	22.96	22.95
15	QPSK	1	37	23.20	22.80	23.22
15	QPSK	1	74	22.86	22.79	22.73



15	QPSK	36	0	22.00	21.94	21.99
15	QPSK	36	20	22.07	21.96	22.02
15	QPSK	36	39	21.89	22.01	21.98
15	QPSK	75	0	22.04	21.96	22.05
15	16QAM	1	0	22.33	22.41	22.32
15	16QAM	1	37	22.27	22.31	22.42
15	16QAM	1	74	22.12	21.97	22.18
15	16QAM	36	0	21.02	21.07	21.08
15	16QAM	36	20	21.00	21.03	20.99
15	16QAM	36	39	21.03	21.06	20.96
15	16QAM	75	0	21.00	21.00	21.05
15	64QAM	1	0	21.97	22.04	21.72
15	64QAM	1	37	22.03	21.98	21.98
15	64QAM	1	74	21.55	21.65	21.56
15	64QAM	36	0	20.97	21.07	21.05
15	64QAM	36	20	21.06	20.95	20.98
15	64QAM	36	39	21.02	21.00	21.03
15	64QAM	75	0	20.96	21.01	20.96

LTE Band4						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20000	20175	20350
Frequency (MHz)				1715	1732.5	1750
10	QPSK	1	0	22.96	22.95	23.03
10	QPSK	1	25	23.12	23.02	23.23
10	QPSK	1	49	22.86	23.03	22.99
10	QPSK	25	0	22.00	22.09	22.12
10	QPSK	25	12	22.03	22.16	22.01
10	QPSK	25	25	22.08	22.02	22.02
10	QPSK	50	0	22.04	22.12	21.92
10	16QAM	1	0	22.43	22.06	22.20
10	16QAM	1	25	22.18	22.48	22.41
10	16QAM	1	49	22.16	22.39	22.11
10	16QAM	25	0	21.01	21.24	21.14
10	16QAM	25	12	21.18	21.12	21.13



10	16QAM	25	25	21.22	21.03	20.99
10	16QAM	50	0	21.18	21.11	21.01
10	64QAM	1	0	22.10	22.35	21.90
10	64QAM	1	25	22.32	22.16	22.20
10	64QAM	1	49	21.86	21.95	21.96
10	64QAM	25	0	21.09	21.12	21.04
10	64QAM	25	12	21.11	21.16	21.11
10	64QAM	25	25	21.06	21.08	21.16
10	64QAM	50	0	21.23	21.03	20.99
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	22.88	22.87	22.90
5	QPSK	1	12	23.17	23.08	22.99
5	QPSK	1	24	22.89	22.90	22.86
5	QPSK	12	0	21.99	22.01	21.95
5	QPSK	12	7	22.06	22.06	22.02
5	QPSK	12	13	22.06	21.89	21.87
5	QPSK	25	0	22.10	21.96	22.00
5	16QAM	1	0	22.15	22.19	22.20
5	16QAM	1	12	22.20	22.45	22.43
5	16QAM	1	24	22.06	22.25	22.19
5	16QAM	12	0	21.03	21.09	20.99
5	16QAM	12	7	21.13	21.24	21.05
5	16QAM	12	13	21.06	21.00	21.03
5	16QAM	25	0	21.20	21.15	21.13
5	64QAM	1	0	21.78	21.74	22.23
5	64QAM	1	12	22.23	22.22	22.16
5	64QAM	1	24	21.88	21.91	21.89
5	64QAM	12	0	20.98	21.03	21.10
5	64QAM	12	7	21.14	21.17	20.93
5	64QAM	12	13	21.08	20.92	20.95
5	64QAM	25	0	20.99	21.12	20.94

LTE Band4



BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				19965	20175	20385
Frequency (MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	22.90	22.89	22.92
3	QPSK	1	8	23.19	23.10	23.01
3	QPSK	1	14	22.91	22.92	22.88
3	QPSK	8	0	22.01	22.03	21.97
3	QPSK	8	4	22.08	22.08	22.04
3	QPSK	8	7	22.08	21.91	21.89
3	QPSK	15	0	22.12	21.98	22.02
3	16QAM	1	0	22.17	22.21	22.22
3	16QAM	1	8	22.22	22.47	22.45
3	16QAM	1	14	22.08	22.27	22.21
3	16QAM	8	0	21.05	21.11	21.01
3	16QAM	8	4	21.15	21.26	21.07
3	16QAM	8	7	21.08	21.02	21.05
3	16QAM	15	0	21.22	21.17	21.15
3	64QAM	1	0	21.80	21.76	22.25
3	64QAM	1	8	22.25	22.24	22.18
3	64QAM	1	14	21.90	21.93	21.91
3	64QAM	8	0	21.00	21.05	21.12
3	64QAM	8	4	21.16	21.19	20.95
3	64QAM	8	7	21.10	20.94	20.97
3	64QAM	15	0	21.01	21.14	20.96
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	22.95	22.86	22.79
1.4	QPSK	1	3	23.10	23.08	23.04
1.4	QPSK	1	5	22.87	22.93	22.84
1.4	QPSK	3	0	23.05	23.06	23.00
1.4	QPSK	3	1	23.16	23.14	22.89
1.4	QPSK	3	3	22.97	23.01	22.89
1.4	QPSK	6	0	22.04	21.95	21.84
1.4	16QAM	1	0	22.15	21.85	22.15
1.4	16QAM	1	3	21.95	22.16	22.23
1.4	16QAM	1	5	21.99	21.80	22.09



1.4	16QAM	3	0	21.96	22.04	21.76
1.4	16QAM	3	1	21.90	22.08	22.00
1.4	16QAM	3	3	22.02	22.00	21.84
1.4	16QAM	6	0	21.33	21.01	20.97
1.4	64QAM	1	0	21.91	22.27	21.98
1.4	64QAM	1	3	22.08	22.32	22.27
1.4	64QAM	1	5	22.05	21.94	21.89
1.4	64QAM	3	0	22.20	22.02	21.98
1.4	64QAM	3	1	22.01	22.20	22.13
1.4	64QAM	3	3	21.93	22.23	21.77
1.4	64QAM	6	0	20.95	21.11	21.19

LTE Band5						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20450	20525	20600
Frequency (MHz)				829	836.5	844
10	QPSK	1	0	21.66	21.93	21.73
10	QPSK	1	25	21.60	21.80	21.87
10	QPSK	1	49	21.89	21.77	21.84
10	QPSK	25	0	20.82	20.78	20.88
10	QPSK	25	12	20.85	20.83	20.90
10	QPSK	25	25	20.88	20.98	20.83
10	QPSK	50	0	20.95	20.94	20.89
10	16QAM	1	0	20.79	20.78	20.77
10	16QAM	1	25	21.24	21.18	20.84
10	16QAM	1	49	20.75	20.87	21.23
10	16QAM	25	0	19.80	19.78	19.88
10	16QAM	25	12	19.86	19.83	19.96
10	16QAM	25	25	20.01	19.91	20.02
10	16QAM	50	0	19.98	19.86	19.84
10	64QAM	1	0	20.68	21.01	20.82
10	64QAM	1	25	21.13	21.10	20.68
10	64QAM	1	49	20.87	20.76	20.90
10	64QAM	25	0	19.87	19.84	19.94



10	64QAM	25	12	19.87	19.82	19.86
10	64QAM	25	25	19.98	19.80	19.90
10	64QAM	50	0	19.99	19.93	19.95
Channel				20425	20525	20625
Frequency (MHz)				826.5	836.5	846.5
5	QPSK	1	0	21.65	21.66	21.58
5	QPSK	1	12	21.71	21.81	21.81
5	QPSK	1	24	21.74	21.61	21.79
5	QPSK	12	0	20.72	20.70	20.73
5	QPSK	12	7	20.77	20.79	20.84
5	QPSK	12	13	20.74	20.82	20.86
5	QPSK	25	0	20.84	20.70	20.88
5	16QAM	1	0	20.88	20.91	21.18
5	16QAM	1	12	20.86	20.87	21.35
5	16QAM	1	24	20.85	20.92	20.86
5	16QAM	12	0	19.72	19.78	19.96
5	16QAM	12	7	19.82	19.90	19.99
5	16QAM	12	13	19.77	19.81	19.97
5	16QAM	25	0	19.98	19.77	19.85
5	64QAM	1	0	20.98	21.04	20.75
5	64QAM	1	12	20.64	21.06	21.03
5	64QAM	1	24	20.60	20.57	20.65
5	64QAM	12	0	19.77	19.76	19.87
5	64QAM	12	7	19.79	19.72	19.90
5	64QAM	12	13	19.95	19.93	19.86
5	64QAM	25	0	19.85	19.98	19.86

LTE Band5						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20415	20525	20635
Frequency (MHz)				825.5	836.5	847.5
3	QPSK	1	0	21.81	21.68	21.71
3	QPSK	1	8	21.74	21.67	21.83
3	QPSK	1	14	21.75	21.69	21.86



3	QPSK	8	0	20.79	20.72	20.92
3	QPSK	8	4	20.75	20.91	20.96
3	QPSK	8	7	20.72	20.73	20.85
3	QPSK	15	0	20.64	20.78	20.85
3	16QAM	1	0	20.84	21.20	20.99
3	16QAM	1	8	20.80	21.11	21.23
3	16QAM	1	14	20.77	21.01	21.26
3	16QAM	8	0	19.96	19.84	20.11
3	16QAM	8	4	19.88	19.90	20.10
3	16QAM	8	7	19.93	19.80	20.07
3	16QAM	15	0	19.86	19.92	19.77
3	64QAM	1	0	20.82	20.84	21.18
3	64QAM	1	8	21.03	20.84	21.24
3	64QAM	1	14	20.87	20.85	21.28
3	64QAM	8	0	19.86	19.80	19.99
3	64QAM	8	4	19.88	19.88	19.98
3	64QAM	8	7	19.76	19.80	19.80
3	64QAM	15	0	19.74	19.80	19.97
Channel				20407	20525	20643
Frequency (MHz)				824.7	836.5	848.3
1.4	QPSK	1	0	21.70	21.61	21.71
1.4	QPSK	1	3	21.65	21.61	21.77
1.4	QPSK	1	5	21.55	21.60	21.71
1.4	QPSK	3	0	21.66	21.66	21.76
1.4	QPSK	3	1	21.67	21.74	21.91
1.4	QPSK	3	3	21.61	21.75	21.82
1.4	QPSK	6	0	20.68	20.64	20.91
1.4	16QAM	1	0	20.73	20.64	21.12
1.4	16QAM	1	3	20.72	20.88	21.13
1.4	16QAM	1	5	20.73	20.96	20.68
1.4	16QAM	3	0	20.52	20.70	20.82
1.4	16QAM	3	1	20.68	20.69	20.86
1.4	16QAM	3	3	20.65	20.62	20.79
1.4	16QAM	6	0	19.88	19.96	19.83
1.4	64QAM	1	0	20.62	20.63	20.49
1.4	64QAM	1	3	20.56	20.85	20.91
1.4	64QAM	1	5	20.58	20.73	20.74
1.4	64QAM	3	0	20.57	20.74	20.85



1.4	64QAM	3	1	20.76	20.55	21.00
1.4	64QAM	3	3	20.54	20.74	20.79
1.4	64QAM	6	0	19.64	19.81	19.86

LTE Band7						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	20.46	20.87	20.52
20	QPSK	1	49	20.46	20.72	20.57
20	QPSK	1	99	20.32	20.44	20.52
20	QPSK	50	0	19.42	19.91	19.73
20	QPSK	50	24	19.50	19.69	19.74
20	QPSK	50	50	19.59	19.59	19.51
20	QPSK	100	0	19.43	19.70	19.84
20	16QAM	1	0	19.10	19.52	19.89
20	16QAM	1	49	19.93	20.20	19.79
20	16QAM	1	99	19.81	19.63	19.70
20	16QAM	50	0	18.54	18.59	18.82
20	16QAM	50	24	18.55	18.78	18.77
20	16QAM	50	50	18.65	18.66	19.00
20	16QAM	100	0	18.57	18.67	18.81
20	64QAM	1	0	19.28	19.68	19.54
20	64QAM	1	49	19.38	19.96	19.90
20	64QAM	1	99	19.39	19.58	19.74
20	64QAM	50	0	18.56	18.50	18.76
20	64QAM	50	24	18.62	18.78	18.82
20	64QAM	50	50	18.55	18.74	18.87
20	64QAM	100	0	18.58	18.69	18.86
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	20.31	20.48	20.72
15	QPSK	1	37	20.57	20.83	20.81
15	QPSK	1	74	20.49	20.57	20.81
15	QPSK	36	0	19.54	19.69	19.83
15	QPSK	36	20	19.55	19.66	19.78



15	QPSK	36	39	19.56	19.73	19.85
15	QPSK	75	0	19.51	19.68	19.85
15	16QAM	1	0	19.59	19.84	19.57
15	16QAM	1	37	19.91	20.13	20.46
15	16QAM	1	74	19.77	19.74	19.87
15	16QAM	36	0	18.63	18.75	18.79
15	16QAM	36	20	18.64	18.77	18.93
15	16QAM	36	39	18.59	18.75	18.89
15	16QAM	75	0	18.58	18.73	18.90
15	64QAM	1	0	19.56	19.66	19.48
15	64QAM	1	37	19.80	20.19	20.07
15	64QAM	1	74	19.76	19.98	19.89
15	64QAM	36	0	18.55	18.67	18.91
15	64QAM	36	20	18.70	18.71	18.93
15	64QAM	36	39	18.71	18.79	19.00
15	64QAM	75	0	18.61	18.73	18.87

LTE Band7						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20800	21100	21400
Frequency (MHz)				2505	2535	2565
10	QPSK	1	0	20.47	20.60	20.65
10	QPSK	1	25	20.61	20.81	20.80
10	QPSK	1	49	20.55	20.65	20.83
10	QPSK	25	0	19.51	19.72	19.87
10	QPSK	25	12	19.61	19.68	19.83
10	QPSK	25	25	19.61	19.68	19.86
10	QPSK	50	0	19.61	19.71	19.90
10	16QAM	1	0	19.97	19.82	20.24
10	16QAM	1	25	19.95	19.82	20.04
10	16QAM	1	49	19.96	20.13	20.27
10	16QAM	25	0	18.49	18.62	18.92
10	16QAM	25	12	18.66	18.75	18.94
10	16QAM	25	25	18.79	18.84	19.01
10	16QAM	50	0	18.62	18.71	18.97



10	64QAM	1	0	19.43	19.50	20.10
10	64QAM	1	25	19.76	19.79	19.93
10	64QAM	1	49	19.63	19.60	20.06
10	64QAM	25	0	18.59	18.73	18.84
10	64QAM	25	12	18.67	18.80	19.00
10	64QAM	25	25	18.65	18.92	18.90
10	64QAM	50	0	18.51	18.69	18.84
Channel				20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5
5	QPSK	1	0	20.41	20.37	20.66
5	QPSK	1	12	20.73	20.83	20.81
5	QPSK	1	24	20.44	20.42	20.76
5	QPSK	12	0	19.43	19.58	19.82
5	QPSK	12	7	19.49	19.66	19.82
5	QPSK	12	13	19.50	19.69	19.81
5	QPSK	25	0	19.50	19.66	19.79
5	16QAM	1	0	19.51	19.73	19.81
5	16QAM	1	12	20.11	20.20	20.25
5	16QAM	1	24	19.59	19.83	19.83
5	16QAM	12	0	18.53	18.56	18.90
5	16QAM	12	7	18.63	18.79	19.00
5	16QAM	12	13	18.62	18.73	18.83
5	16QAM	25	0	18.52	18.57	18.86
5	64QAM	1	0	19.31	19.64	19.51
5	64QAM	1	12	19.75	19.78	19.94
5	64QAM	1	24	19.39	19.63	19.62
5	64QAM	12	0	18.48	18.62	18.78
5	64QAM	12	7	18.67	18.84	19.02
5	64QAM	12	13	18.56	18.58	18.87
5	64QAM	25	0	18.50	18.67	18.92



Effective Radiated Power and Effective Isotropic Radiated Power

LTE Band2				Measured EIRP					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				18700		18900		19100	
Frequency (MHz)				1860		1880		1900	
				dbm	W	dbm	W	dbm	W
20	QPSK	1	0	24.29	0.269	24.05	0.254	24.16	0.261
20	QPSK	1	49	24.04	0.254	24.01	0.252	24.13	0.259
20	QPSK	1	99	23.92	0.247	23.92	0.247	24.05	0.254
20	QPSK	50	0	23.25	0.211	23.23	0.210	23.18	0.208
20	QPSK	50	24	23.01	0.200	23.15	0.207	23.08	0.203
20	QPSK	50	50	22.99	0.199	22.94	0.197	23.26	0.212
20	QPSK	100	0	23.02	0.200	23.03	0.201	23.14	0.206
20	16QAM	1	0	23.46	0.222	23.44	0.221	23.64	0.231
20	16QAM	1	49	23.37	0.217	23.32	0.215	23.54	0.226
20	16QAM	1	99	23.29	0.213	23.25	0.211	23.46	0.222
20	16QAM	50	0	21.98	0.158	21.96	0.157	22.08	0.161
20	16QAM	50	24	21.99	0.158	22.00	0.158	21.98	0.158
20	16QAM	50	50	21.95	0.157	22.10	0.162	22.09	0.162
20	16QAM	100	0	21.91	0.155	22.03	0.160	22.07	0.161
20	64QAM	1	0	23.01	0.200	22.96	0.198	22.99	0.199
20	64QAM	1	49	23.01	0.200	22.91	0.195	22.80	0.191
20	64QAM	1	99	22.63	0.183	22.56	0.180	22.66	0.185
20	64QAM	50	0	22.05	0.160	21.92	0.156	22.13	0.163
20	64QAM	50	24	22.02	0.159	21.95	0.157	21.99	0.158
20	64QAM	50	50	22.00	0.158	21.98	0.158	22.05	0.160
20	64QAM	100	0	21.94	0.156	21.91	0.155	22.19	0.166
Channel				18675		18900		19125	
Frequency (MHz)				1857.5		1880		1902.5	
				dbm	W	dbm	W	dbm	W
15	QPSK	1	0	23.98	0.250	23.98	0.250	23.98	0.250
15	QPSK	1	37	23.89	0.245	24.11	0.258	24.22	0.264
15	QPSK	1	74	23.88	0.244	23.84	0.242	23.89	0.245
15	QPSK	36	0	23.02	0.200	23.04	0.201	22.99	0.199
15	QPSK	36	20	23.10	0.204	23.05	0.202	22.95	0.197
15	QPSK	36	39	22.79	0.190	23.14	0.206	23.01	0.200
15	QPSK	75	0	23.00	0.200	22.97	0.198	23.07	0.203



15	16QAM	1	0	23.36	0.217	23.25	0.211	23.26	0.212
15	16QAM	1	37	23.61	0.230	23.62	0.230	23.36	0.217
15	16QAM	1	74	23.27	0.212	23.31	0.214	23.21	0.209
15	16QAM	36	0	22.08	0.161	22.05	0.160	21.95	0.157
15	16QAM	36	20	22.13	0.163	22.17	0.165	22.04	0.160
15	16QAM	36	39	21.89	0.155	21.95	0.157	22.00	0.158
15	16QAM	75	0	22.03	0.160	22.02	0.159	21.99	0.158
15	64QAM	1	0	23.37	0.217	23.46	0.222	23.31	0.214
15	64QAM	1	37	23.22	0.210	23.26	0.212	23.01	0.200
15	64QAM	1	74	23.36	0.217	23.10	0.204	23.40	0.219
15	64QAM	36	0	22.09	0.162	21.95	0.157	22.04	0.160
15	64QAM	36	20	21.99	0.158	21.94	0.156	22.03	0.160
15	64QAM	36	39	22.04	0.160	21.93	0.156	21.91	0.155
15	64QAM	75	0	22.12	0.163	21.99	0.158	22.11	0.163

LTE Band2				Measured EIRP					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				18650		18900		19150	
Frequency (MHz)				1855		1880		1905	
10	QPSK	1	0	24.03	0.253	23.96	0.249	24.08	23.96
10	QPSK	1	25	24.13	0.259	24.25	0.266	23.97	24.25
10	QPSK	1	49	23.90	0.245	23.99	0.251	23.85	23.99
10	QPSK	25	0	23.08	0.203	22.95	0.197	22.94	22.95
10	QPSK	25	12	23.11	0.205	23.01	0.200	23.02	23.01
10	QPSK	25	25	23.14	0.206	23.02	0.200	23.01	23.02
10	QPSK	50	0	23.05	0.202	23.10	0.204	23.04	23.1
10	16QAM	1	0	23.41	0.219	23.00	0.200	23.14	23
10	16QAM	1	25	23.26	0.212	23.46	0.222	23.20	23.46
10	16QAM	1	49	23.44	0.221	23.40	0.219	23.08	23.4
10	16QAM	25	0	22.05	0.160	22.07	0.161	21.91	22.07
10	16QAM	25	12	22.08	0.161	21.95	0.157	21.90	21.95
10	16QAM	25	25	22.01	0.159	22.15	0.164	22.10	22.15
10	16QAM	50	0	21.97	0.157	22.06	0.161	21.96	22.06
10	64QAM	1	0	23.54	0.226	23.08	0.203	23.19	23.08
10	64QAM	1	25	23.47	0.222	23.47	0.222	23.25	23.47



10	64QAM	1	49	23.19	0.208	23.19	0.208	23.15	23.19
10	64QAM	25	0	22.00	0.158	21.89	0.155	21.99	21.89
10	64QAM	25	12	22.05	0.160	21.94	0.156	21.94	21.94
10	64QAM	25	25	22.31	0.170	21.91	0.155	22.01	21.91
10	64QAM	50	0	21.94	0.156	22.04	0.160	21.98	22.04
Channel				18625		18900		19175	
Frequency (MHz)				1852.5		1880		1907.5	
				dbm	W	dbm	W	dbm	W
5	QPSK	1	0	24.04	0.254	24.12	0.258	23.84	0.242
5	QPSK	1	12	24.14	0.259	24.23	0.265	24.01	0.252
5	QPSK	1	24	24.02	0.252	23.84	0.242	23.92	0.247
5	QPSK	12	0	23.01	0.200	22.95	0.197	22.85	0.193
5	QPSK	12	7	23.07	0.203	22.94	0.197	22.89	0.195
5	QPSK	12	13	22.95	0.197	23.07	0.203	22.85	0.193
5	QPSK	25	0	23.10	0.204	22.97	0.198	22.94	0.197
5	16QAM	1	0	23.45	0.221	23.18	0.208	23.50	0.224
5	16QAM	1	12	23.41	0.219	23.17	0.207	23.47	0.222
5	16QAM	1	24	23.39	0.218	23.03	0.201	23.33	0.215
5	16QAM	12	0	21.95	0.157	21.94	0.156	21.79	0.151
5	16QAM	12	7	22.11	0.163	22.00	0.158	21.92	0.156
5	16QAM	12	13	21.96	0.157	22.08	0.161	21.86	0.153
5	16QAM	25	0	22.00	0.158	21.95	0.157	21.96	0.157
5	64QAM	1	0	23.39	0.218	23.36	0.217	23.24	0.211
5	64QAM	1	12	23.43	0.220	23.33	0.215	23.15	0.207
5	64QAM	1	24	23.22	0.210	23.21	0.209	23.11	0.205
5	64QAM	12	0	22.00	0.158	21.99	0.158	21.73	0.149
5	64QAM	12	7	22.03	0.160	22.12	0.163	22.01	0.159
5	64QAM	12	13	21.99	0.158	21.93	0.156	21.94	0.156
5	64QAM	25	0	22.02	0.159	22.04	0.160	21.86	0.153

LTE Band2				Measured EIRP		
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.
Channel				18615	18900	19185
Frequency (MHz)				1851.5	1880	1908.5



				dbm	W	dbm	W	dbm	W
3	QPSK	1	0	24.05	0.254	23.95	0.248	23.92	23.95
3	QPSK	1	8	23.94	0.248	24.02	0.252	23.88	24.02
3	QPSK	1	14	24.03	0.253	24.02	0.252	23.78	24.02
3	QPSK	8	0	23.11	0.205	22.98	0.199	22.83	22.98
3	QPSK	8	4	23.13	0.206	23.05	0.202	22.85	23.05
3	QPSK	8	7	23.09	0.204	23.00	0.200	22.87	23
3	QPSK	15	0	23.13	0.206	23.03	0.201	22.97	23.03
3	16QAM	1	0	23.28	0.213	23.05	0.202	22.96	23.05
3	16QAM	1	8	23.13	0.206	23.00	0.200	23.26	23
3	16QAM	1	14	23.24	0.211	22.97	0.198	23.22	22.97
3	16QAM	8	0	22.19	0.166	21.93	0.156	21.99	21.93
3	16QAM	8	4	22.01	0.159	22.12	0.163	21.85	22.12
3	16QAM	8	7	22.09	0.162	22.03	0.160	21.87	22.03
3	16QAM	15	0	22.16	0.164	21.96	0.157	21.81	21.96
3	64QAM	1	0	23.44	0.221	23.45	0.221	22.98	23.45
3	64QAM	1	8	23.18	0.208	23.43	0.220	22.93	23.43
3	64QAM	1	14	23.12	0.205	23.33	0.215	23.03	23.33
3	64QAM	8	0	22.03	0.160	22.04	0.160	21.92	22.04
3	64QAM	8	4	22.04	0.160	21.90	0.155	21.86	21.9
3	64QAM	8	7	22.25	0.168	21.92	0.156	21.81	21.92
3	64QAM	15	0	21.96	0.157	22.00	0.158	21.78	22
Channel				18607		18900		19193	
Frequency (MHz)				1850.7		1880		1909.3	
				dbm	W	dbm	W	dbm	W
1.4	QPSK	1	0	24.08	0.256	23.90	0.245	23.80	0.240
1.4	QPSK	1	3	24.08	0.256	24.23	0.265	23.91	0.246
1.4	QPSK	1	5	23.96	0.249	23.97	0.249	23.80	0.240
1.4	QPSK	3	0	24.09	0.256	24.01	0.252	23.97	0.249
1.4	QPSK	3	1	24.18	0.262	24.08	0.256	24.08	0.256
1.4	QPSK	3	3	24.08	0.256	23.99	0.251	24.05	0.254
1.4	QPSK	6	0	23.10	0.204	22.97	0.198	22.92	0.196
1.4	16QAM	1	0	23.26	0.212	23.59	0.229	23.19	0.208
1.4	16QAM	1	3	23.17	0.207	23.47	0.222	23.18	0.208
1.4	16QAM	1	5	23.16	0.207	23.33	0.215	23.11	0.205
1.4	16QAM	3	0	23.04	0.201	22.95	0.197	22.84	0.192
1.4	16QAM	3	1	23.06	0.202	22.93	0.196	23.02	0.200
1.4	16QAM	3	3	23.08	0.203	22.84	0.192	22.94	0.197



1.4	16QAM	6	0	22.23	0.167	21.99	0.158	22.02	0.159
1.4	64QAM	1	0	23.11	0.205	22.98	0.199	22.67	0.185
1.4	64QAM	1	3	23.13	0.206	23.03	0.201	22.85	0.193
1.4	64QAM	1	5	23.08	0.203	22.95	0.197	22.63	0.183
1.4	64QAM	3	0	23.15	0.207	23.27	0.212	22.92	0.196
1.4	64QAM	3	1	23.15	0.207	23.22	0.210	22.91	0.195
1.4	64QAM	3	3	23.11	0.205	22.99	0.199	22.89	0.195
1.4	64QAM	6	0	22.13	0.163	21.94	0.156	21.98	0.158

LTE Band4				Measured EIRP					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20050		20175		20300	
Frequency (MHz)				1720		1732.5		1745	
				dbm	W	dbm	W	dbm	W
20	QPSK	1	0	23.00	0.200	22.98	0.199	22.97	0.198
20	QPSK	1	49	23.22	0.210	22.82	0.191	23.24	0.211
20	QPSK	1	99	22.88	0.194	22.81	0.191	22.75	0.188
20	QPSK	50	0	22.02	0.159	21.96	0.157	22.01	0.159
20	QPSK	50	24	22.05	0.160	21.98	0.158	22.09	0.162
20	QPSK	50	50	21.91	0.155	22.03	0.160	22.00	0.158
20	QPSK	100	0	22.06	0.161	21.98	0.158	22.07	0.161
20	16QAM	1	0	22.35	0.172	22.43	0.175	22.34	0.171
20	16QAM	1	49	22.29	0.169	22.33	0.171	22.44	0.175
20	16QAM	1	99	22.14	0.164	21.99	0.158	22.20	0.166
20	16QAM	50	0	21.04	0.127	21.09	0.129	21.10	0.129
20	16QAM	50	24	21.02	0.126	21.05	0.127	21.01	0.126
20	16QAM	50	50	21.05	0.127	21.08	0.128	20.98	0.125
20	16QAM	100	0	21.02	0.126	21.02	0.126	21.07	0.128
20	64QAM	1	0	21.99	0.158	22.06	0.161	21.74	0.149
20	64QAM	1	49	22.05	0.160	22.00	0.158	22.00	0.158
20	64QAM	1	99	21.57	0.144	21.67	0.147	21.58	0.144
20	64QAM	50	0	20.99	0.126	21.09	0.129	21.07	0.128
20	64QAM	50	24	21.08	0.128	20.97	0.125	21.00	0.126
20	64QAM	50	50	21.04	0.127	21.02	0.126	21.05	0.127
20	64QAM	100	0	20.98	0.125	21.03	0.127	20.98	0.125



Channel				20025		20175		20325	
Frequency (MHz)				1717.5		1732.5		1747.5	
				dbm	W	dbm	W	dbm	W
15	QPSK	1	0	22.98	0.199	22.96	0.198	22.95	0.197
15	QPSK	1	37	23.20	0.209	22.80	0.191	23.22	0.210
15	QPSK	1	74	22.86	0.193	22.79	0.190	22.73	0.187
15	QPSK	36	0	22.00	0.158	21.94	0.156	21.99	0.158
15	QPSK	36	20	22.07	0.161	21.96	0.157	22.02	0.159
15	QPSK	36	39	21.89	0.155	22.01	0.159	21.98	0.158
15	QPSK	75	0	22.04	0.160	21.96	0.157	22.05	0.160
15	16QAM	1	0	22.33	0.171	22.41	0.174	22.32	0.171
15	16QAM	1	37	22.27	0.169	22.31	0.170	22.42	0.175
15	16QAM	1	74	22.12	0.163	21.97	0.157	22.18	0.165
15	16QAM	36	0	21.02	0.126	21.07	0.128	21.08	0.128
15	16QAM	36	20	21.00	0.126	21.03	0.127	20.99	0.126
15	16QAM	36	39	21.03	0.127	21.06	0.128	20.96	0.125
15	16QAM	75	0	21.00	0.126	21.00	0.126	21.05	0.127
15	64QAM	1	0	21.97	0.157	22.04	0.160	21.72	0.149
15	64QAM	1	37	22.03	0.160	21.98	0.158	21.98	0.158
15	64QAM	1	74	21.55	0.143	21.65	0.146	21.56	0.143
15	64QAM	36	0	20.97	0.125	21.07	0.128	21.05	0.127
15	64QAM	36	20	21.06	0.128	20.95	0.124	20.98	0.125
15	64QAM	36	39	21.02	0.126	21.00	0.126	21.03	0.127
15	64QAM	75	0	20.96	0.125	21.01	0.126	20.96	0.125

LTE Band4				Measured EIRP					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20000		20175		20350	
Frequency (MHz)				1715		1732.5		1750	
				dbm	W	dbm	W	dbm	W
10	QPSK	1	0	22.96	0.198	22.95	0.197	23.03	0.201
10	QPSK	1	25	23.12	0.205	23.02	0.200	23.23	0.210
10	QPSK	1	49	22.86	0.193	23.03	0.201	22.99	0.199
10	QPSK	25	0	22.00	0.158	22.09	0.162	22.12	0.163
10	QPSK	25	12	22.03	0.160	22.16	0.164	22.01	0.159



10	QPSK	25	25	22.08	0.161	22.02	0.159	22.02	0.159
10	QPSK	50	0	22.04	0.160	22.12	0.163	21.92	0.156
10	16QAM	1	0	22.43	0.175	22.06	0.161	22.20	0.166
10	16QAM	1	25	22.18	0.165	22.48	0.177	22.41	0.174
10	16QAM	1	49	22.16	0.164	22.39	0.173	22.11	0.163
10	16QAM	25	0	21.01	0.126	21.24	0.133	21.14	0.130
10	16QAM	25	12	21.18	0.131	21.12	0.129	21.13	0.130
10	16QAM	25	25	21.22	0.132	21.03	0.127	20.99	0.126
10	16QAM	50	0	21.18	0.131	21.11	0.129	21.01	0.126
10	64QAM	1	0	22.10	0.162	22.35	0.172	21.90	0.155
10	64QAM	1	25	22.32	0.171	22.16	0.164	22.20	0.166
10	64QAM	1	49	21.86	0.153	21.95	0.157	21.96	0.157
10	64QAM	25	0	21.09	0.129	21.12	0.129	21.04	0.127
10	64QAM	25	12	21.11	0.129	21.16	0.131	21.11	0.129
10	64QAM	25	25	21.06	0.128	21.08	0.128	21.16	0.131
10	64QAM	50	0	21.23	0.133	21.03	0.127	20.99	0.126
Channel				19975		20175		20375	
Frequency (MHz)				1712.5		1732.5		1752.5	
				dbm	W	dbm	W	dbm	W
5	QPSK	1	0	22.88	0.194	22.87	0.194	22.90	0.195
5	QPSK	1	12	23.17	0.207	23.08	0.203	22.99	0.199
5	QPSK	1	24	22.89	0.195	22.90	0.195	22.86	0.193
5	QPSK	12	0	21.99	0.158	22.01	0.159	21.95	0.157
5	QPSK	12	7	22.06	0.161	22.06	0.161	22.02	0.159
5	QPSK	12	13	22.06	0.161	21.89	0.155	21.87	0.154
5	QPSK	25	0	22.10	0.162	21.96	0.157	22.00	0.158
5	16QAM	1	0	22.15	0.164	22.19	0.166	22.20	0.166
5	16QAM	1	12	22.20	0.166	22.45	0.176	22.43	0.175
5	16QAM	1	24	22.06	0.161	22.25	0.168	22.19	0.166
5	16QAM	12	0	21.03	0.127	21.09	0.129	20.99	0.126
5	16QAM	12	7	21.13	0.130	21.24	0.133	21.05	0.127
5	16QAM	12	13	21.06	0.128	21.00	0.126	21.03	0.127
5	16QAM	25	0	21.20	0.132	21.15	0.130	21.13	0.130
5	64QAM	1	0	21.78	0.151	21.74	0.149	22.23	0.167
5	64QAM	1	12	22.23	0.167	22.22	0.167	22.16	0.164
5	64QAM	1	24	21.88	0.154	21.91	0.155	21.89	0.155
5	64QAM	12	0	20.98	0.125	21.03	0.127	21.10	0.129
5	64QAM	12	7	21.14	0.130	21.17	0.131	20.93	0.124



5	64QAM	12	13	21.08	0.128	20.92	0.124	20.95	0.124
5	64QAM	25	0	20.99	0.126	21.12	0.129	20.94	0.124

LTE Band4				Measured EIRP					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				19965		20175		20385	
Frequency (MHz)				1711.5		1732.5		1753.5	
				dbm	W	dbm	W	dbm	W
3	QPSK	1	0	22.90	0.195	22.89	0.195	22.92	0.196
3	QPSK	1	8	23.19	0.208	23.10	0.204	23.01	0.200
3	QPSK	1	14	22.91	0.195	22.92	0.196	22.88	0.194
3	QPSK	8	0	22.01	0.159	22.03	0.160	21.97	0.157
3	QPSK	8	4	22.08	0.161	22.08	0.161	22.04	0.160
3	QPSK	8	7	22.08	0.161	21.91	0.155	21.89	0.155
3	QPSK	15	0	22.12	0.163	21.98	0.158	22.02	0.159
3	16QAM	1	0	22.17	0.165	22.21	0.166	22.22	0.167
3	16QAM	1	8	22.22	0.167	22.47	0.177	22.45	0.176
3	16QAM	1	14	22.08	0.161	22.27	0.169	22.21	0.166
3	16QAM	8	0	21.05	0.127	21.11	0.129	21.01	0.126
3	16QAM	8	4	21.15	0.130	21.26	0.134	21.07	0.128
3	16QAM	8	7	21.08	0.128	21.02	0.126	21.05	0.127
3	16QAM	15	0	21.22	0.132	21.17	0.131	21.15	0.130
3	64QAM	1	0	21.80	0.151	21.76	0.150	22.25	0.168
3	64QAM	1	8	22.25	0.168	22.24	0.167	22.18	0.165
3	64QAM	1	14	21.90	0.155	21.93	0.156	21.91	0.155
3	64QAM	8	0	21.00	0.126	21.05	0.127	21.12	0.129
3	64QAM	8	4	21.16	0.131	21.19	0.132	20.95	0.124
3	64QAM	8	7	21.10	0.129	20.94	0.124	20.97	0.125
3	64QAM	15	0	21.01	0.126	21.14	0.130	20.96	0.125
Channel				19957		20175		20393	
Frequency (MHz)				1710.7		1732.5		1754.3	
				dbm	W	dbm	W	dbm	W
1.4	QPSK	1	0	22.95	0.197	22.86	0.193	22.79	0.190
1.4	QPSK	1	3	23.10	0.204	23.08	0.203	23.04	0.201
1.4	QPSK	1	5	22.87	0.194	22.93	0.196	22.84	0.192



1.4	QPSK	3	0	23.05	0.202	23.06	0.202	23.00	0.200
1.4	QPSK	3	1	23.16	0.207	23.14	0.206	22.89	0.195
1.4	QPSK	3	3	22.97	0.198	23.01	0.200	22.89	0.195
1.4	QPSK	6	0	22.04	0.160	21.95	0.157	21.84	0.153
1.4	16QAM	1	0	22.15	0.164	21.85	0.153	22.15	0.164
1.4	16QAM	1	3	21.95	0.157	22.16	0.164	22.23	0.167
1.4	16QAM	1	5	21.99	0.158	21.80	0.151	22.09	0.162
1.4	16QAM	3	0	21.96	0.157	22.04	0.160	21.76	0.150
1.4	16QAM	3	1	21.90	0.155	22.08	0.161	22.00	0.158
1.4	16QAM	3	3	22.02	0.159	22.00	0.158	21.84	0.153
1.4	16QAM	6	0	21.33	0.136	21.01	0.126	20.97	0.125
1.4	64QAM	1	0	21.91	0.155	22.27	0.169	21.98	0.158
1.4	64QAM	1	3	22.08	0.161	22.32	0.171	22.27	0.169
1.4	64QAM	1	5	22.05	0.160	21.94	0.156	21.89	0.155
1.4	64QAM	3	0	22.20	0.166	22.02	0.159	21.98	0.158
1.4	64QAM	3	1	22.01	0.159	22.20	0.166	22.13	0.163
1.4	64QAM	3	3	21.93	0.156	22.23	0.167	21.77	0.150
1.4	64QAM	6	0	20.95	0.124	21.11	0.129	21.19	0.132

LTE Band5				Measured ERP					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20450		20525		20600	
Frequency (MHz)				829		836.5		844	
				dbm	W	dbm	W	dbm	W
10	QPSK	1	0	19.01	0.080	19.28	0.085	19.08	0.081
10	QPSK	1	25	18.95	0.079	19.15	0.082	19.22	0.084
10	QPSK	1	49	19.24	0.084	19.12	0.082	19.19	0.083
10	QPSK	25	0	18.17	0.066	18.13	0.065	18.23	0.067
10	QPSK	25	12	18.20	0.066	18.18	0.066	18.25	0.067
10	QPSK	25	25	18.23	0.067	18.33	0.068	18.18	0.066
10	QPSK	50	0	18.30	0.068	18.29	0.067	18.24	0.067
10	16QAM	1	0	18.14	0.065	18.13	0.065	18.12	0.065
10	16QAM	1	25	18.59	0.072	18.53	0.071	18.19	0.066
10	16QAM	1	49	18.10	0.065	18.22	0.066	18.58	0.072
10	16QAM	25	0	17.15	0.052	17.13	0.052	17.23	0.053



10	16QAM	25	12	17.21	0.053	17.18	0.052	17.31	0.054
10	16QAM	25	25	17.36	0.054	17.26	0.053	17.37	0.055
10	16QAM	50	0	17.33	0.054	17.21	0.053	17.19	0.052
10	64QAM	1	0	18.03	0.064	18.36	0.069	18.17	0.066
10	64QAM	1	25	18.48	0.070	18.45	0.070	18.03	0.064
10	64QAM	1	49	18.22	0.066	18.11	0.065	18.25	0.067
10	64QAM	25	0	17.22	0.053	17.19	0.052	17.29	0.054
10	64QAM	25	12	17.22	0.053	17.17	0.052	17.21	0.053
10	64QAM	25	25	17.33	0.054	17.15	0.052	17.25	0.053
10	64QAM	50	0	17.34	0.054	17.28	0.053	17.30	0.054
Channel				20425		20525		20625	
Frequency (MHz)				826.5		836.5		846.5	
				dbm	W	dbm	W	dbm	W
5	QPSK	1	0	19.00	0.079	19.01	0.080	18.93	0.078
5	QPSK	1	12	19.06	0.081	19.16	0.082	19.16	0.082
5	QPSK	1	24	19.09	0.081	18.96	0.079	19.14	0.082
5	QPSK	12	0	18.07	0.064	18.05	0.064	18.08	0.064
5	QPSK	12	7	18.12	0.065	18.14	0.065	18.19	0.066
5	QPSK	12	13	18.09	0.064	18.17	0.066	18.21	0.066
5	QPSK	25	0	18.19	0.066	18.05	0.064	18.23	0.067
5	16QAM	1	0	18.23	0.067	18.26	0.067	18.53	0.071
5	16QAM	1	12	18.21	0.066	18.22	0.066	18.70	0.074
5	16QAM	1	24	18.20	0.066	18.27	0.067	18.21	0.066
5	16QAM	12	0	17.07	0.051	17.13	0.052	17.31	0.054
5	16QAM	12	7	17.17	0.052	17.25	0.053	17.34	0.054
5	16QAM	12	13	17.12	0.052	17.16	0.052	17.32	0.054
5	16QAM	25	0	17.33	0.054	17.12	0.052	17.20	0.052
5	64QAM	1	0	18.33	0.068	18.39	0.069	18.10	0.065
5	64QAM	1	12	17.99	0.063	18.41	0.069	18.38	0.069
5	64QAM	1	24	17.95	0.062	17.92	0.062	18.00	0.063
5	64QAM	12	0	17.12	0.052	17.11	0.051	17.22	0.053
5	64QAM	12	7	17.14	0.052	17.07	0.051	17.25	0.053
5	64QAM	12	13	17.30	0.054	17.28	0.053	17.21	0.053
5	64QAM	25	0	17.20	0.052	17.33	0.054	17.21	0.053

LTE Band5				Measured ERP		
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.



Channel				20415		20525		20635	
Frequency (MHz)				825.5		836.5		847.5	
				dbm	W	dbm	W	dbm	W
3	QPSK	1	0	19.16	0.082	19.03	0.080	19.06	0.081
3	QPSK	1	8	19.09	0.081	19.02	0.080	19.18	0.083
3	QPSK	1	14	19.10	0.081	19.04	0.080	19.21	0.083
3	QPSK	8	0	18.14	0.065	18.07	0.064	18.27	0.067
3	QPSK	8	4	18.10	0.065	18.26	0.067	18.31	0.068
3	QPSK	8	7	18.07	0.064	18.08	0.064	18.20	0.066
3	QPSK	15	0	17.99	0.063	18.13	0.065	18.20	0.066
3	16QAM	1	0	18.19	0.066	18.55	0.072	18.34	0.068
3	16QAM	1	8	18.15	0.065	18.46	0.070	18.58	0.072
3	16QAM	1	14	18.12	0.065	18.36	0.069	18.61	0.073
3	16QAM	8	0	17.31	0.054	17.19	0.052	17.46	0.056
3	16QAM	8	4	17.23	0.053	17.25	0.053	17.45	0.056
3	16QAM	8	7	17.28	0.053	17.15	0.052	17.42	0.055
3	16QAM	15	0	17.21	0.053	17.27	0.053	17.12	0.052
3	64QAM	1	0	18.17	0.066	18.19	0.066	18.53	0.071
3	64QAM	1	8	18.38	0.069	18.19	0.066	18.59	0.072
3	64QAM	1	14	18.22	0.066	18.20	0.066	18.63	0.073
3	64QAM	8	0	17.21	0.053	17.15	0.052	17.34	0.054
3	64QAM	8	4	17.23	0.053	17.23	0.053	17.33	0.054
3	64QAM	8	7	17.11	0.051	17.15	0.052	17.15	0.052
3	64QAM	15	0	17.09	0.051	17.15	0.052	17.32	0.054
Channel				20407		20525		20643	
Frequency (MHz)				824.7		836.5		848.3	
				dbm	W	dbm	W	dbm	W
1.4	QPSK	1	0	19.05	0.080	18.96	0.079	19.06	0.081
1.4	QPSK	1	3	19.00	0.079	18.96	0.079	19.12	0.082
1.4	QPSK	1	5	18.90	0.078	18.95	0.079	19.06	0.081
1.4	QPSK	3	0	19.01	0.080	19.01	0.080	19.11	0.081
1.4	QPSK	3	1	19.02	0.080	19.09	0.081	19.26	0.084
1.4	QPSK	3	3	18.96	0.079	19.10	0.081	19.17	0.083
1.4	QPSK	6	0	18.03	0.064	17.99	0.063	18.26	0.067
1.4	16QAM	1	0	18.08	0.064	17.99	0.063	18.47	0.070
1.4	16QAM	1	3	18.07	0.064	18.23	0.067	18.48	0.070
1.4	16QAM	1	5	18.08	0.064	18.31	0.068	18.03	0.064
1.4	16QAM	3	0	17.87	0.061	18.05	0.064	18.17	0.066



1.4	16QAM	3	1	18.03	0.064	18.04	0.064	18.21	0.066
1.4	16QAM	3	3	18.00	0.063	17.97	0.063	18.14	0.065
1.4	16QAM	6	0	17.23	0.053	17.31	0.054	17.18	0.052
1.4	64QAM	1	0	17.97	0.063	17.98	0.063	17.84	0.061
1.4	64QAM	1	3	17.91	0.062	18.20	0.066	18.26	0.067
1.4	64QAM	1	5	17.93	0.062	18.08	0.064	18.09	0.064
1.4	64QAM	3	0	17.92	0.062	18.09	0.064	18.20	0.066
1.4	64QAM	3	1	18.11	0.065	17.90	0.062	18.35	0.068
1.4	64QAM	3	3	17.89	0.062	18.09	0.064	18.14	0.065
1.4	64QAM	6	0	16.99	0.050	17.16	0.052	17.21	0.053

LTE Band7				Measured EIRP					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20850		21100		21350	
Frequency (MHz)				2510		2535		2560	
				dbm	W	dbm	W	dbm	W
20	QPSK	1	0	21.96	0.157	22.37	0.173	22.02	0.159
20	QPSK	1	49	21.96	0.157	22.22	0.167	22.07	0.161
20	QPSK	1	99	21.82	0.152	21.94	0.156	22.02	0.159
20	QPSK	50	0	20.92	0.124	21.41	0.138	21.23	0.133
20	QPSK	50	24	21.00	0.126	21.19	0.132	21.24	0.133
20	QPSK	50	50	21.09	0.129	21.09	0.129	21.01	0.126
20	QPSK	100	0	20.93	0.124	21.20	0.132	21.34	0.136
20	16QAM	1	0	20.60	0.115	21.02	0.126	21.39	0.138
20	16QAM	1	49	21.43	0.139	21.70	0.148	21.29	0.135
20	16QAM	1	99	21.31	0.135	21.13	0.130	21.20	0.132
20	16QAM	50	0	20.04	0.101	20.09	0.102	20.32	0.108
20	16QAM	50	24	20.05	0.101	20.28	0.107	20.27	0.106
20	16QAM	50	50	20.15	0.104	20.16	0.104	20.50	0.112
20	16QAM	100	0	20.07	0.102	20.17	0.104	20.31	0.107
20	64QAM	1	0	20.78	0.120	21.18	0.131	21.04	0.127
20	64QAM	1	49	20.88	0.122	21.46	0.140	21.40	0.138
20	64QAM	1	99	20.89	0.123	21.08	0.128	21.24	0.133
20	64QAM	50	0	20.06	0.101	20.00	0.100	20.26	0.106
20	64QAM	50	24	20.12	0.103	20.28	0.107	20.32	0.108
20	64QAM	50	50	20.05	0.101	20.24	0.106	20.37	0.109



20	64QAM	100	0	20.08	0.102	20.19	0.104	20.36	0.109
Channel				20825		21100		21375	
Frequency (MHz)				2507.5		2535		2562.5	
				dbm	W	dbm	W	dbm	W
15	QPSK	1	0	21.81	0.152	21.98	0.158	22.22	0.167
15	QPSK	1	37	22.07	0.161	22.33	0.171	22.31	0.170
15	QPSK	1	74	21.99	0.158	22.07	0.161	22.31	0.170
15	QPSK	36	0	21.04	0.127	21.19	0.132	21.33	0.136
15	QPSK	36	20	21.05	0.127	21.16	0.131	21.28	0.134
15	QPSK	36	39	21.06	0.128	21.23	0.133	21.35	0.136
15	QPSK	75	0	21.01	0.126	21.18	0.131	21.35	0.136
15	16QAM	1	0	21.09	0.129	21.34	0.136	21.07	0.128
15	16QAM	1	37	21.41	0.138	21.63	0.146	21.96	0.157
15	16QAM	1	74	21.27	0.134	21.24	0.133	21.37	0.137
15	16QAM	36	0	20.13	0.103	20.25	0.106	20.29	0.107
15	16QAM	36	20	20.14	0.103	20.27	0.106	20.43	0.110
15	16QAM	36	39	20.09	0.102	20.25	0.106	20.39	0.109
15	16QAM	75	0	20.08	0.102	20.23	0.105	20.40	0.110
15	64QAM	1	0	21.06	0.128	21.16	0.131	20.98	0.125
15	64QAM	1	37	21.30	0.135	21.69	0.148	21.57	0.144
15	64QAM	1	74	21.26	0.134	21.48	0.141	21.39	0.138
15	64QAM	36	0	20.05	0.101	20.17	0.104	20.41	0.110
15	64QAM	36	20	20.20	0.105	20.21	0.105	20.43	0.110
15	64QAM	36	39	20.21	0.105	20.29	0.107	20.50	0.112
15	64QAM	75	0	20.11	0.103	20.23	0.105	20.37	0.109

LTE Band7				Measured EIRP					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20800		21100		21425	
Frequency (MHz)				2505		2535		2565	
				dbm	W	dbm	W	dbm	W
10	QPSK	1	0	21.97	0.157	22.10	0.162	22.15	0.164
10	QPSK	1	25	22.11	0.163	22.31	0.170	22.30	0.170
10	QPSK	1	49	22.05	0.160	22.15	0.164	22.33	0.171
10	QPSK	25	0	21.01	0.126	21.22	0.132	21.37	0.137



10	QPSK	25	12	21.11	0.129	21.18	0.131	21.33	0.136
10	QPSK	25	25	21.11	0.129	21.18	0.131	21.36	0.137
10	QPSK	50	0	21.11	0.129	21.21	0.132	21.40	0.138
10	16QAM	1	0	21.47	0.140	21.32	0.136	21.74	0.149
10	16QAM	1	25	21.45	0.140	21.32	0.136	21.54	0.143
10	16QAM	1	49	21.46	0.140	21.63	0.146	21.77	0.150
10	16QAM	25	0	19.99	0.100	20.12	0.103	20.42	0.110
10	16QAM	25	12	20.16	0.104	20.25	0.106	20.44	0.111
10	16QAM	25	25	20.29	0.107	20.34	0.108	20.51	0.112
10	16QAM	50	0	20.12	0.103	20.21	0.105	20.47	0.111
10	64QAM	1	0	20.93	0.124	21.00	0.126	21.60	0.145
10	64QAM	1	25	21.26	0.134	21.29	0.135	21.43	0.139
10	64QAM	1	49	21.13	0.130	21.10	0.129	21.56	0.143
10	64QAM	25	0	20.09	0.102	20.23	0.105	20.34	0.108
10	64QAM	25	12	20.17	0.104	20.30	0.107	20.50	0.112
10	64QAM	25	25	20.15	0.104	20.42	0.110	20.40	0.110
10	64QAM	50	0	20.01	0.100	20.19	0.104	20.34	0.108
Channel				20775		21100		21425	
Frequency (MHz)				2502.5		2535		2567.5	
				dbm	W	dbm	W	dbm	W
5	QPSK	1	0	21.91	0.155	21.87	0.154	22.16	0.164
5	QPSK	1	12	22.23	0.167	22.33	0.171	22.31	0.170
5	QPSK	1	24	21.94	0.156	21.92	0.156	22.26	0.168
5	QPSK	12	0	20.93	0.124	21.08	0.128	21.32	0.136
5	QPSK	12	7	20.99	0.126	21.16	0.131	21.32	0.136
5	QPSK	12	13	21.00	0.126	21.19	0.132	21.31	0.135
5	QPSK	25	0	21.00	0.126	21.16	0.131	21.29	0.135
5	16QAM	1	0	21.01	0.126	21.23	0.133	21.31	0.135
5	16QAM	1	12	21.61	0.145	21.70	0.148	21.75	0.150
5	16QAM	1	24	21.09	0.129	21.33	0.136	21.33	0.136
5	16QAM	12	0	20.03	0.101	20.06	0.101	20.40	0.110
5	16QAM	12	7	20.13	0.103	20.29	0.107	20.50	0.112
5	16QAM	12	13	20.12	0.103	20.23	0.105	20.33	0.108
5	16QAM	25	0	20.02	0.100	20.07	0.102	20.36	0.109
5	64QAM	1	0	20.81	0.121	21.14	0.130	21.01	0.126
5	64QAM	1	12	21.25	0.133	21.28	0.134	21.44	0.139
5	64QAM	1	24	20.89	0.123	21.13	0.130	21.12	0.129
5	64QAM	12	0	19.98	0.100	20.12	0.103	20.28	0.107



REPORT No.: SZ19080162W02

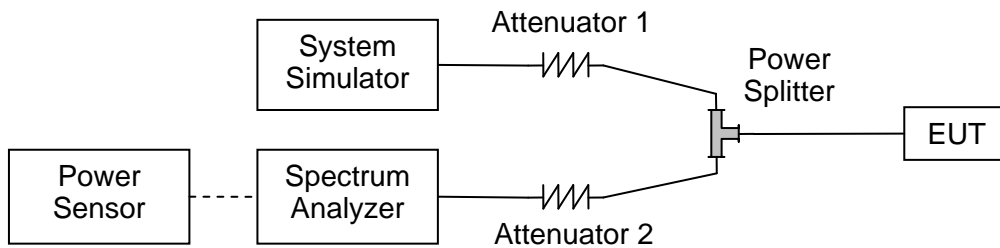
5	64QAM	12	7	20.17	0.104	20.34	0.108	20.52	0.113
5	64QAM	12	13	20.06	0.101	20.08	0.102	20.37	0.109
5	64QAM	25	0	20.00	0.100	20.17	0.104	20.42	0.110

2.2. Occupied Bandwidth

2.2.1. Requirement

According to FCC section 2.1049, the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission. Occupied bandwidth is also known as the 99% emission bandwidth.

2.2.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.2.3. Test procedure

KDB 971168 D01v03 Section 4.1 and ANSI/TIA-603-E-2016.

2.2.4. Test Result

LTE Band 2							
BW (MHz)	Modulation	Low CH		Mid CH		High CH	
		OBW (MHz)	26dB BW (MHz)	OBW (MHz)	26dB BW (MHz)	OBW (MHz)	26dB BW (MHz)
1.4	QPSK	1.1	1.3	1.1	1.28	1.09	1.27
	16QAM	1.1	1.3	1.1	1.3	1.1	1.29
	64QAM	1.1	1.27	1.1	1.3	1.1	1.3
3	QPSK	2.69	2.94	2.69	2.91	2.69	2.92
	16QAM	2.69	3.16	2.7	3.3	2.69	2.91
	64QAM	2.69	3.16	2.69	3.14	2.69	2.93



5	QPSK	4.51	5.31	4.52	5.14	4.52	5.21
	16QAM	4.52	5.14	4.47	4.92	4.51	5.17
	64QAM	4.51	5.19	4.52	5.18	4.51	5.1
10	QPSK	9.0	10.0	9.0	10.02	9.04	10.07
	16QAM	8.98	9.94	8.99	10.0	8.97	10.02
	64QAM	8.97	9.92	8.99	9.97	9.0	9.94
15	QPSK	13.5	14.94	13.52	15.14	13.53	15.09
	16QAM	13.46	14.73	13.48	15.11	13.52	15.07
	64QAM	13.48	15.1	13.5	15.1	13.51	15.0
20	QPSK	17.96	19.67	17.97	19.91	18.0	19.75
	16QAM	17.97	19.78	17.98	19.73	18.01	19.72
	64QAM	17.98	19.66	17.98	19.8	18.0	19.84

LTE Band 4							
BW (MHz)	Modulation	Low CH		Mid CH		High CH	
		OBW (MHz)	26dB BW (MHz)	OBW (MHz)	26dB BW (MHz)	OBW (MHz)	26dB BW (MHz)
1.4	QPSK	1.1	1.29	1.09	1.27	1.1	1.27
	16QAM	1.09	1.3	1.1	1.3	1.1	1.3
	64QAM	1.1	1.3	1.1	1.3	1.09	1.23
3	QPSK	2.69	2.91	2.69	2.91	2.69	2.92
	16QAM	2.69	2.93	2.69	2.93	2.69	2.93
	64QAM	2.69	2.93	2.69	2.92	2.7	2.93
5	QPSK	4.51	5.19	4.51	5.21	4.52	5.22
	16QAM	4.52	5.15	4.51	5.1	4.51	5.16
	64QAM	4.52	5.13	4.52	5.14	4.51	5.17
10	QPSK	9.03	10.01	9.03	10.04	9.05	10.14
	16QAM	9.0	9.96	8.98	9.96	9.0	10.02
	64QAM	8.97	9.96	8.98	9.95	9.0	9.89
15	QPSK	13.49	15.2	13.47	15.01	13.49	15.41
	16QAM	13.5	14.98	13.49	14.92	13.53	15.21
	64QAM	13.48	14.98	13.49	15.19	13.49	15.02
20	QPSK	17.97	19.65	17.98	19.69	18.0	19.75
	16QAM	17.96	19.6	17.95	19.38	17.97	19.39
	64QAM	17.99	19.66	18.0	19.68	17.98	19.69



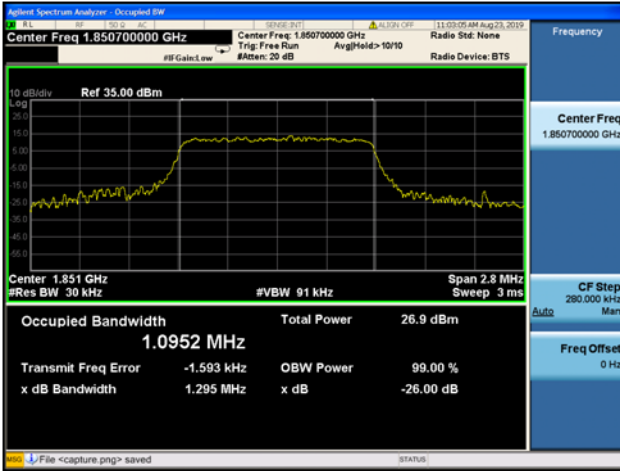
LTE Band 5							
BW (MHz)	Modulation	Low CH		Mid CH		High CH	
		OBW (MHz)	26dB BW (MHz)	OBW (MHz)	26dB BW (MHz)	OBW (MHz)	26dB BW (MHz)
1.4	QPSK	1.09	1.26	1.09	1.27	1.1	1.28
	16QAM	1.1	1.29	1.1	1.3	1.1	1.29
	64QAM	1.1	1.3	1.1	1.29	1.1	1.29
3	QPSK	2.69	2.91	2.69	2.92	2.69	2.93
	16QAM	2.69	2.93	2.69	2.94	2.69	2.93
	64QAM	2.69	2.93	2.69	2.92	2.69	2.93
5	QPSK	4.51	5.24	4.52	5.18	4.52	5.14
	16QAM	4.51	5.14	4.50	4.99	4.51	5.14
	64QAM	4.54	5.64	4.51	5.2	4.51	5.08
10	QPSK	9.02	10.13	9.02	10.01	9.02	10.03
	16QAM	8.98	9.94	8.99	9.96	8.99	9.88
	64QAM	8.98	9.97	8.98	9.96	8.99	10.49

LTE Band 7							
BW (MHz)	Modulation	Low CH		Mid CH		High CH	
		OBW (MHz)	26dB BW (MHz)	OBW (MHz)	26dB BW (MHz)	OBW (MHz)	26dB BW (MHz)
5	QPSK	4.52	5.19	4.52	5.18	4.51	5.19
	16QAM	4.51	5.16	4.51	5.16	4.51	5.18
	64QAM	4.51	5.11	4.51	5.1	4.51	5.14
10	QPSK	9.01	10.06	9.04	10.07	8.99	9.99
	16QAM	8.98	9.94	8.99	10.0	8.98	9.96
	64QAM	9.01	10.09	9.02	10.06	9.0	10.13
15	QPSK	13.52	15.09	13.51	15.06	13.51	15.02
	16QAM	13.49	15.15	13.48	14.93	13.49	15.13
	64QAM	13.52	15.09	13.5	14.88	13.47	14.91
20	QPSK	17.95	19.72	17.98	19.74	17.95	19.71
	16QAM	17.96	19.69	17.99	19.86	17.96	19.46
	64QAM	17.96	19.55	17.97	19.78	17.95	19.76

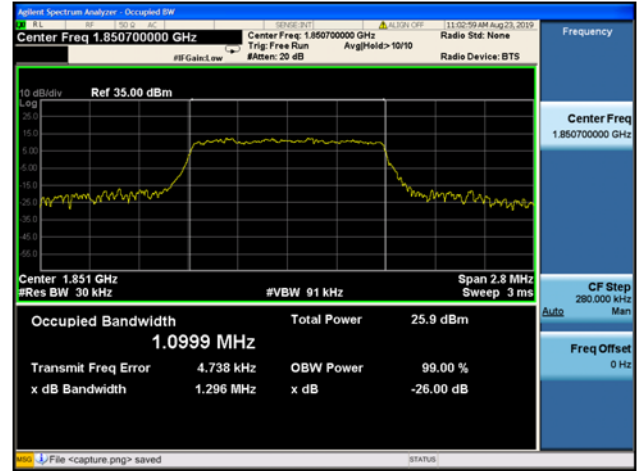


LTE Band 2 99%&26dB Bandwidth

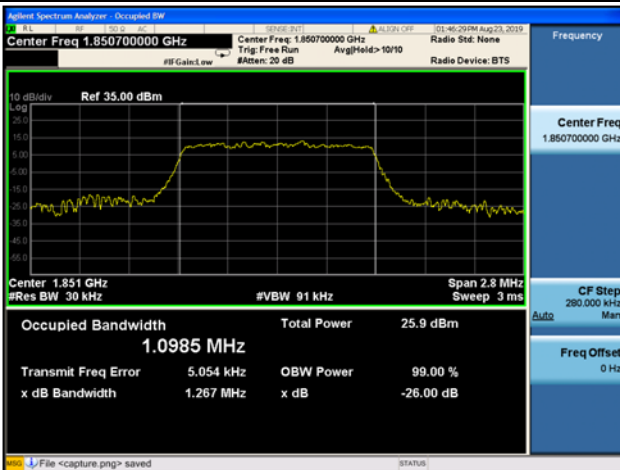
1.4MHz/QPSK/ LCH



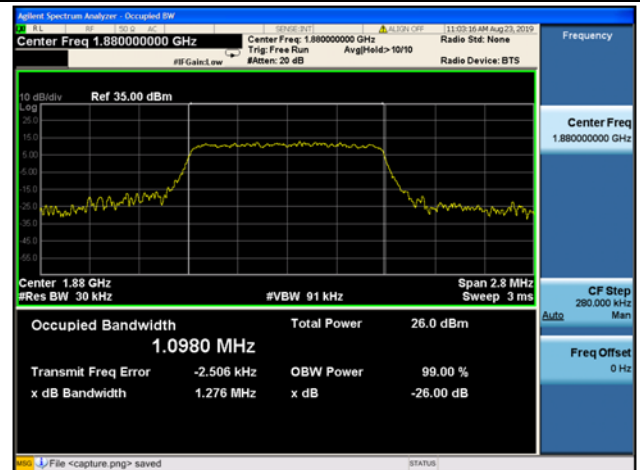
1.4MHz/16QAM/ LCH



1.4MHz/ 64QAM / LCH



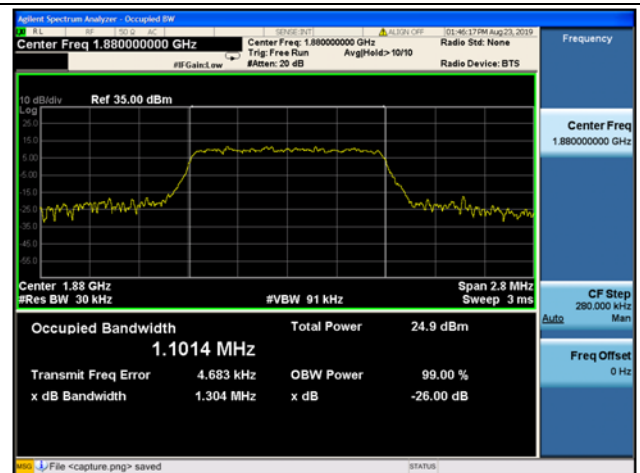
1.4MHz/QPSK/ MCH



1.4MHz/16QAM/ MCH

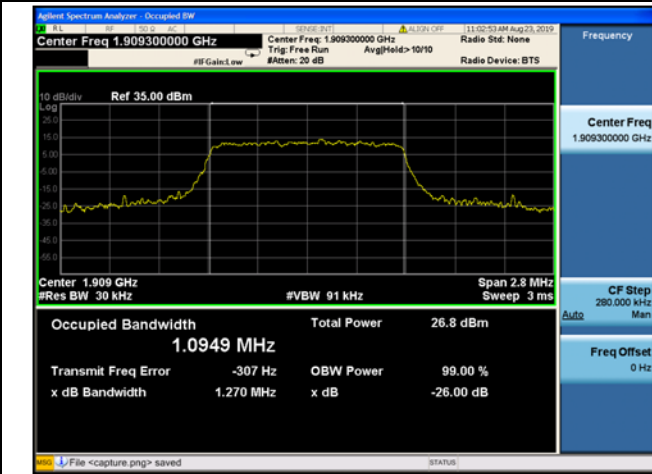


1.4MHz/64QAM/ MCH

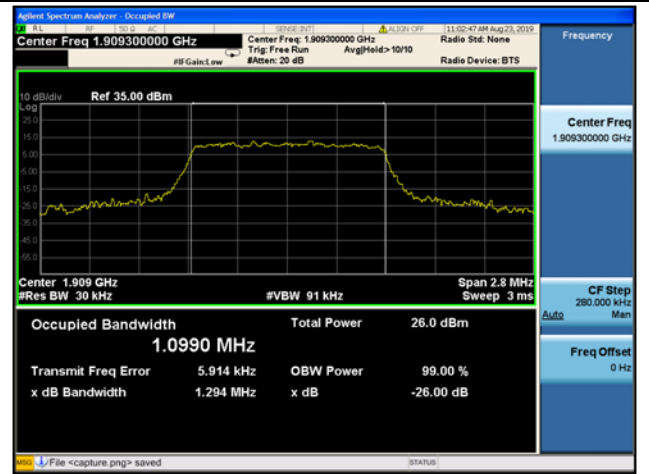




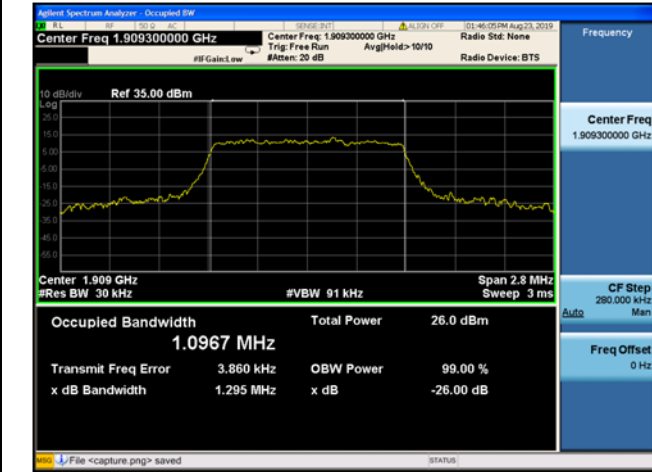
1.4MHz/ QPSK / HCH



1.4MHz/ 16QAM/ HCH



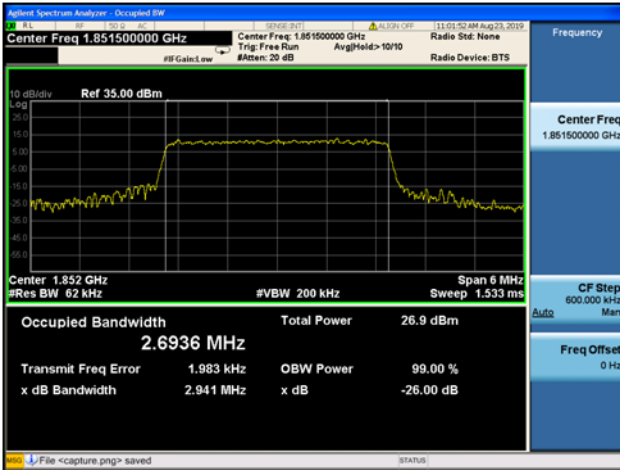
1.4MHz/ 64QAM/ HCH



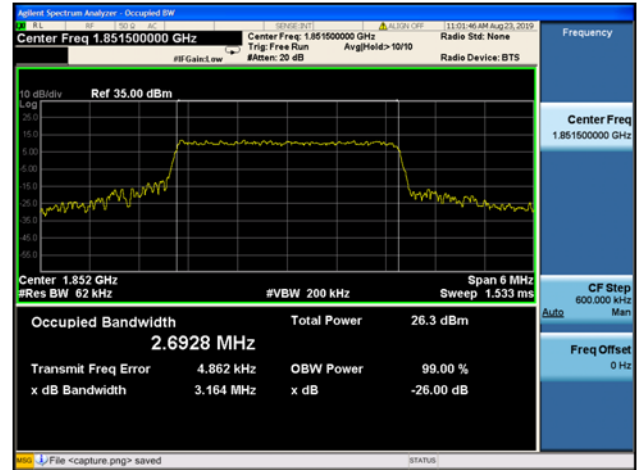


LTE Band 2 99%&26dB Bandwidth

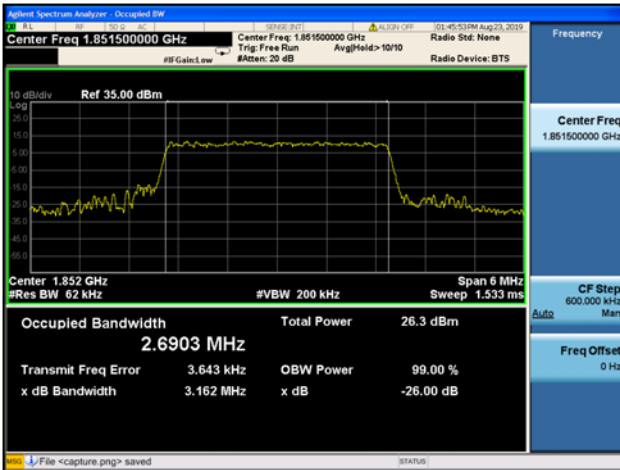
3MHz/QPSK / LCH



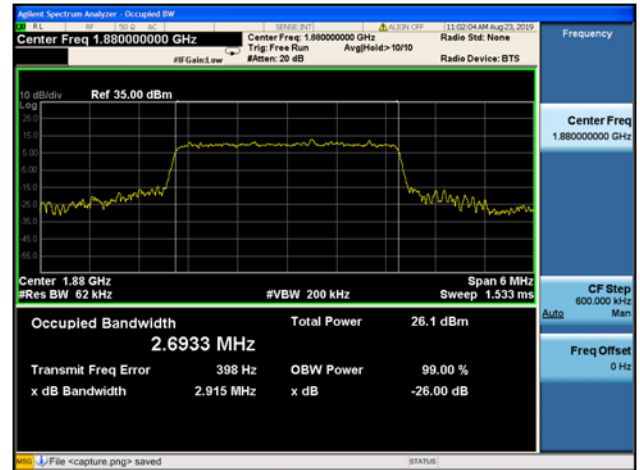
3MHz/16QAM / LCH



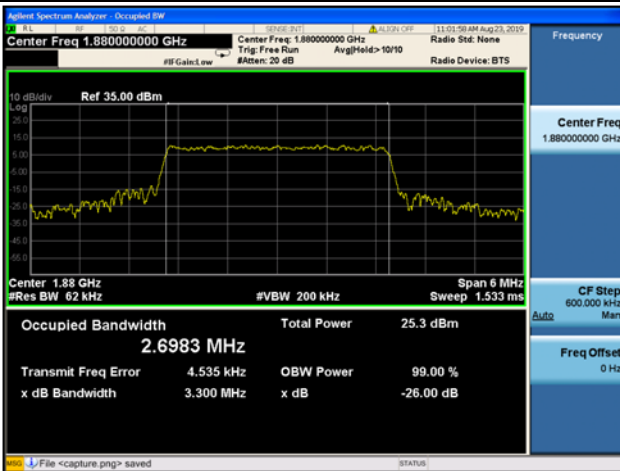
3MHz/ 64QAM / LCH



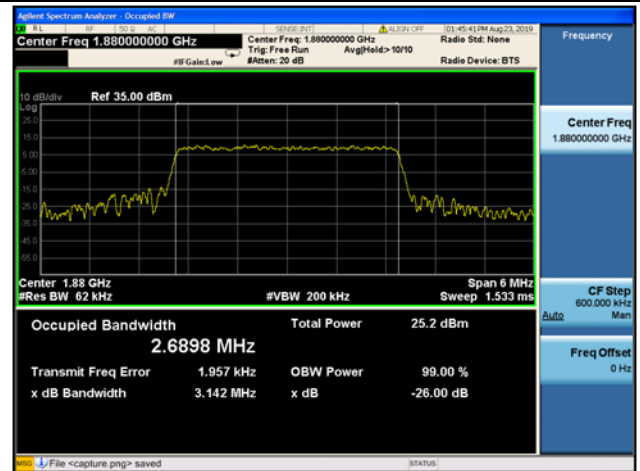
3MHz/QPSK / MCH



3MHz/ 16QAM / MCH

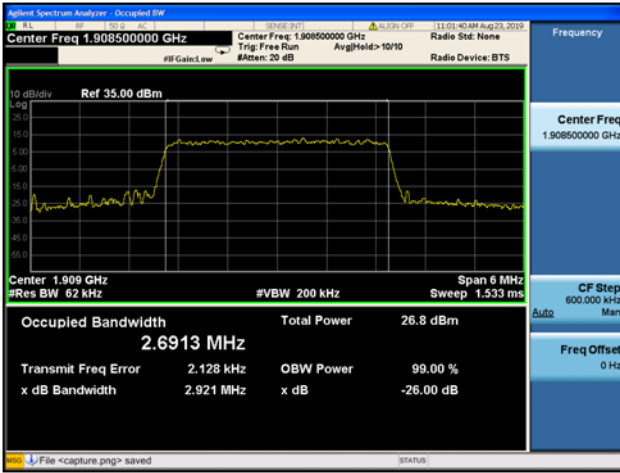


3MHz/ 64QAM/ MCH

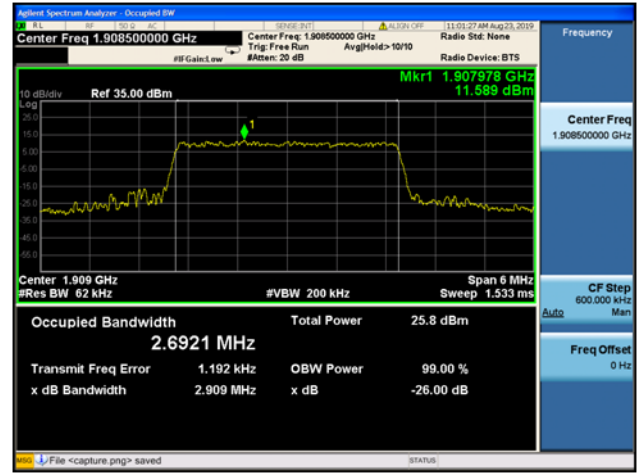




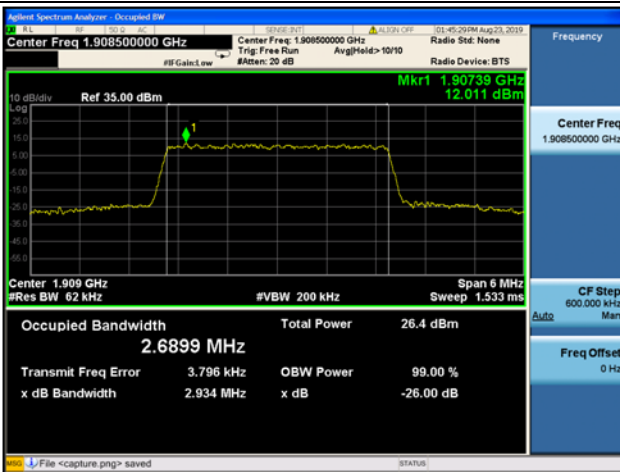
3MHz/ QPSK / HCH



3MHz/ 16QAM/ HCH



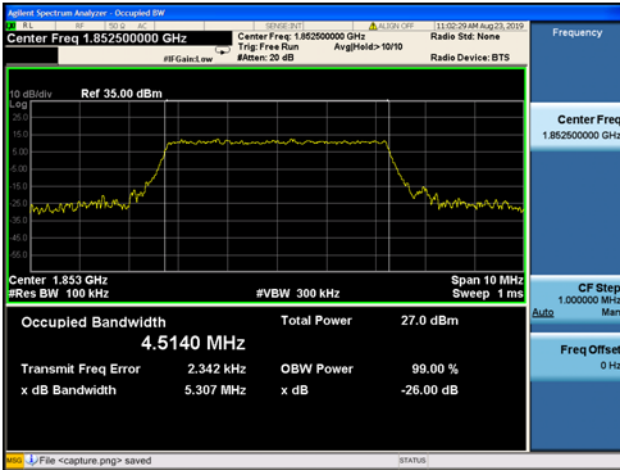
3MHz/ 64QAM/ HCH



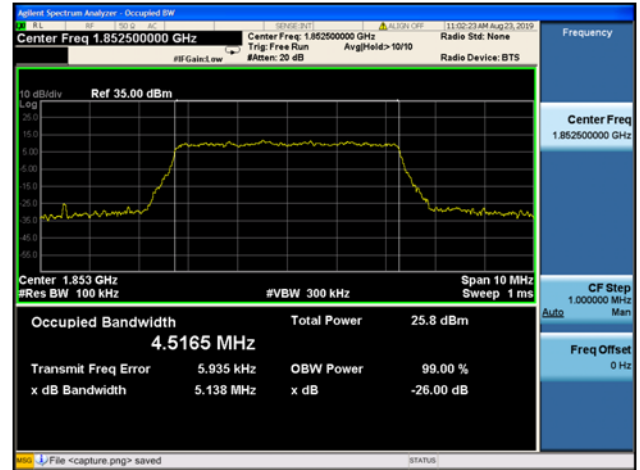


LTE Band 2 99%&26dB Bandwidth

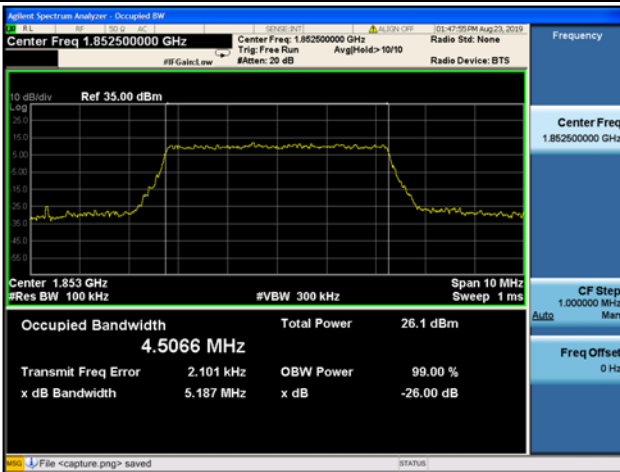
5MHz/QPSK / LCH



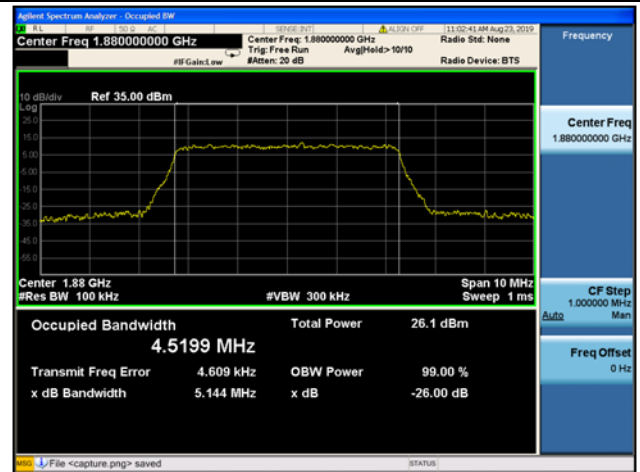
5MHz/16QAM / LCH



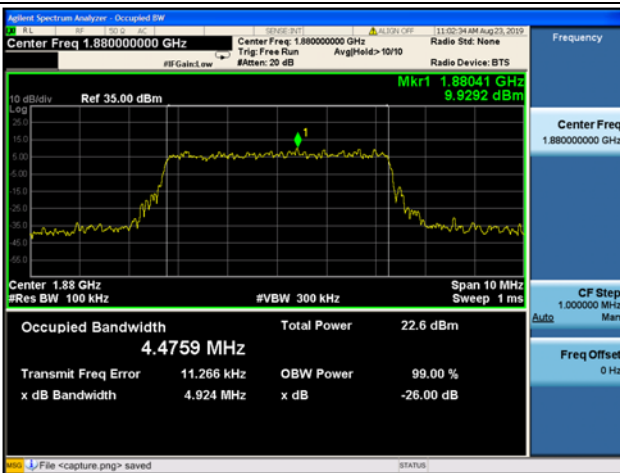
5MHz/ 64QAM / LCH



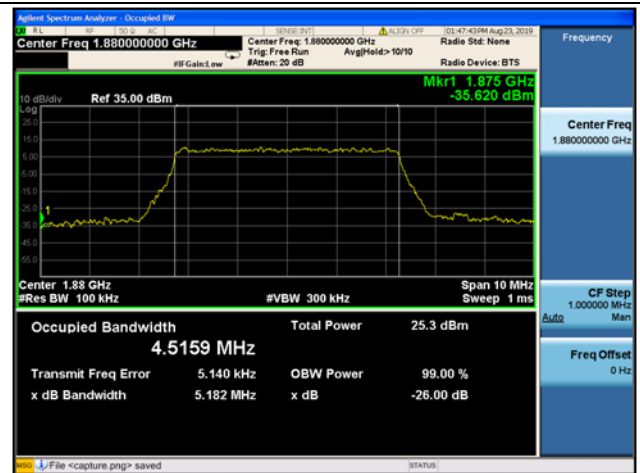
5MHz/QPSK / MCH



5MHz/ 16QAM / MCH

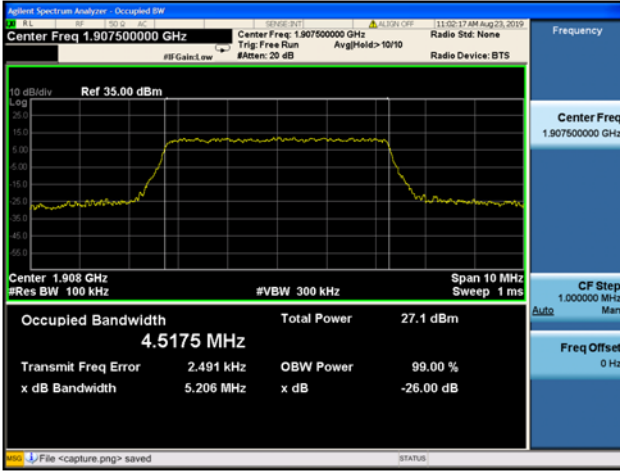


5MHz/ 64QAM/ MCH

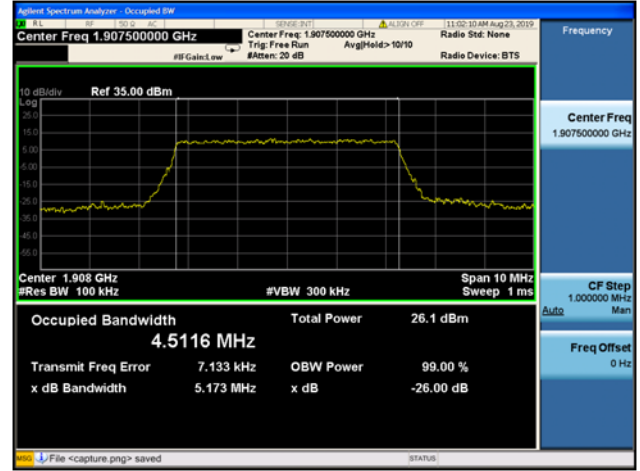




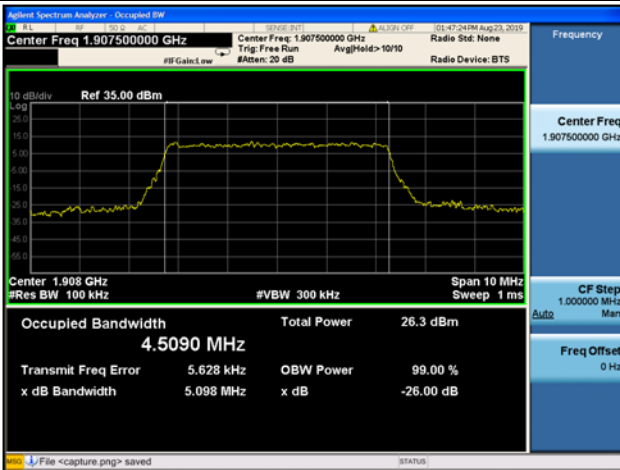
5MHz/ QPSK / HCH



5MHz/ 16QAM/ HCH



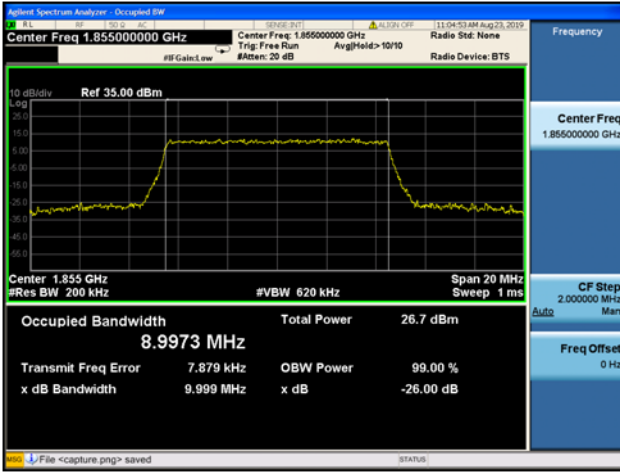
5MHz/ 64QAM/ HCH



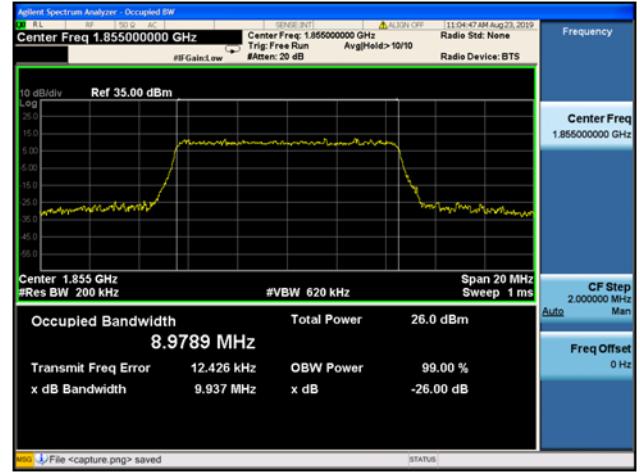


LTE Band 2 99%&26dB Bandwidth

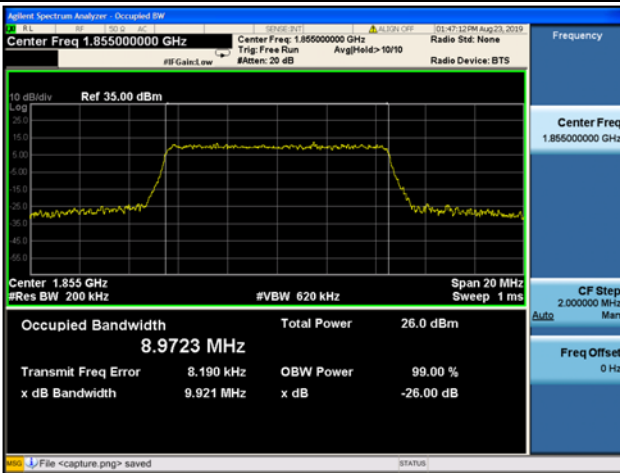
10MHz/QPSK / LCH



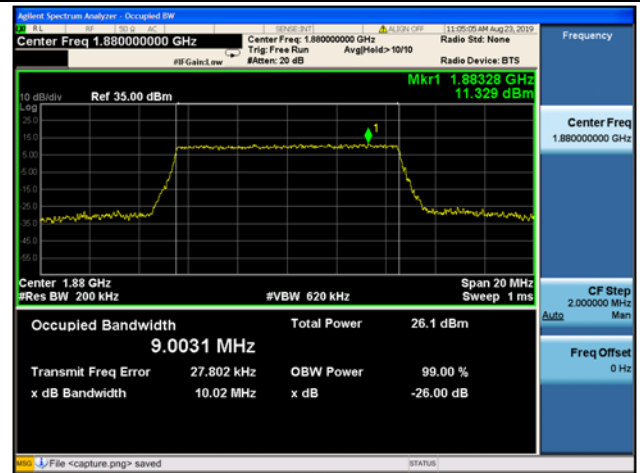
10MHz/16QAM / LCH



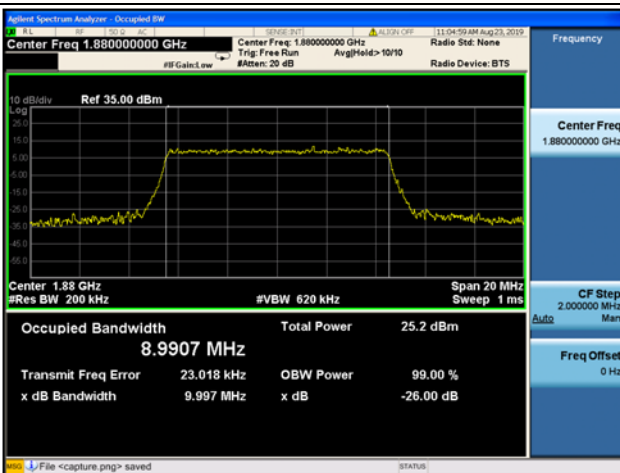
10MHz/ 64QAM / LCH



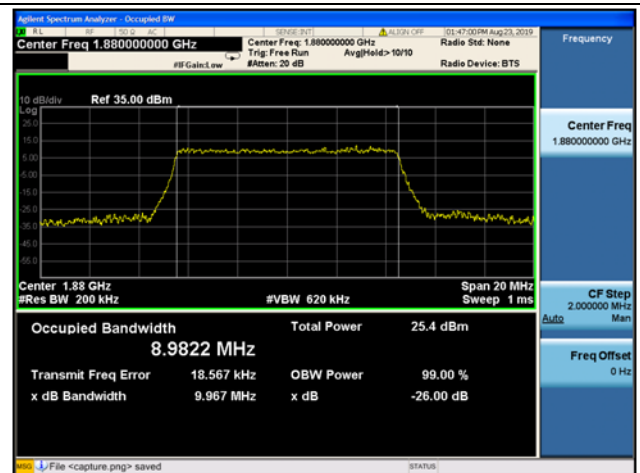
10MHz/QPSK / MCH

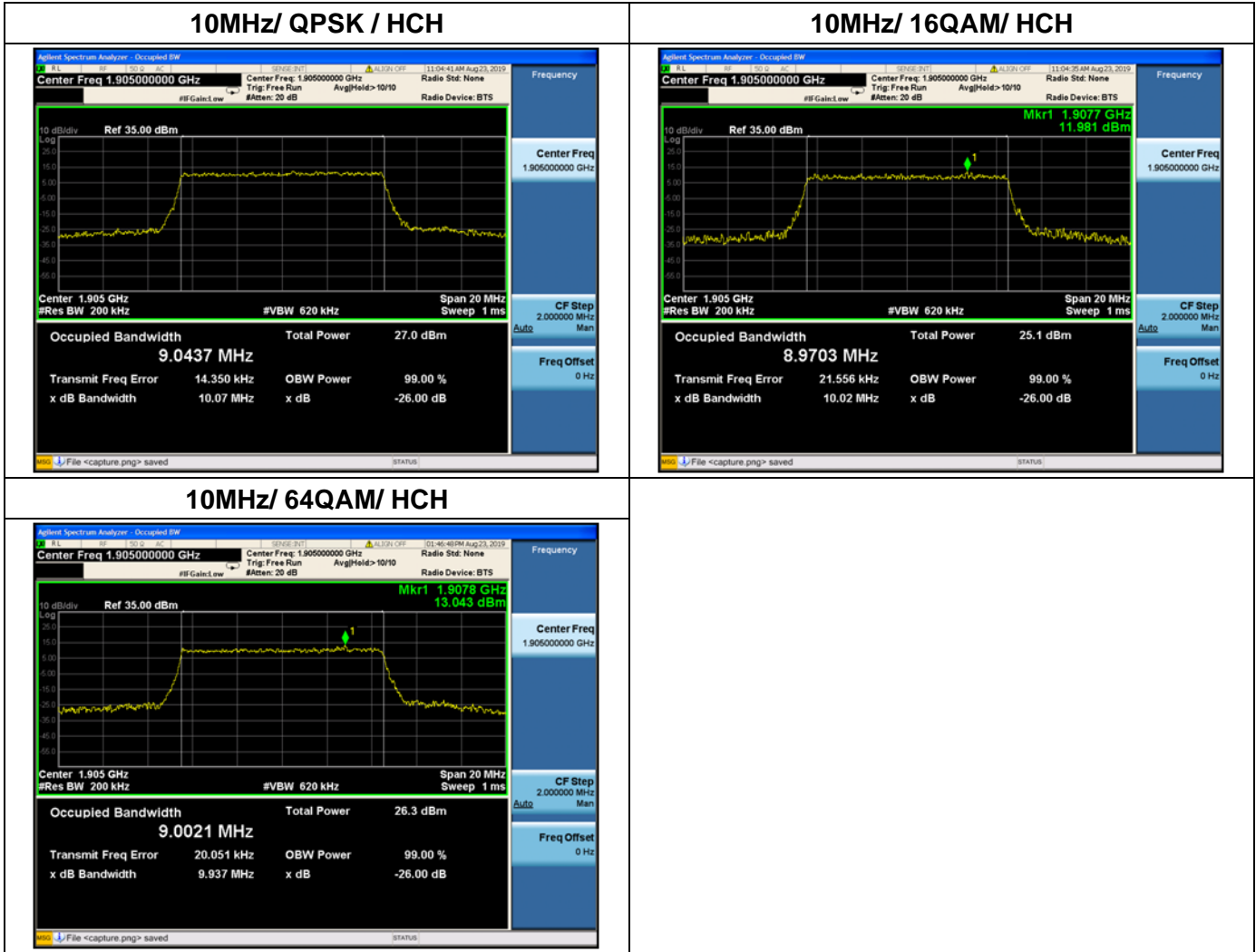


10MHz/ 16QAM / MCH



10MHz/ 64QAM/ MCH

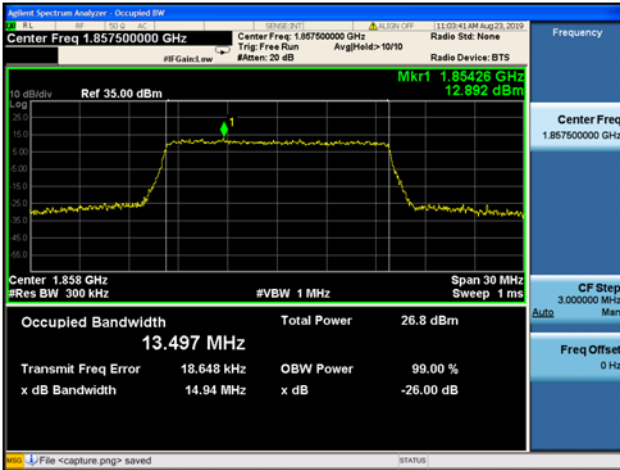




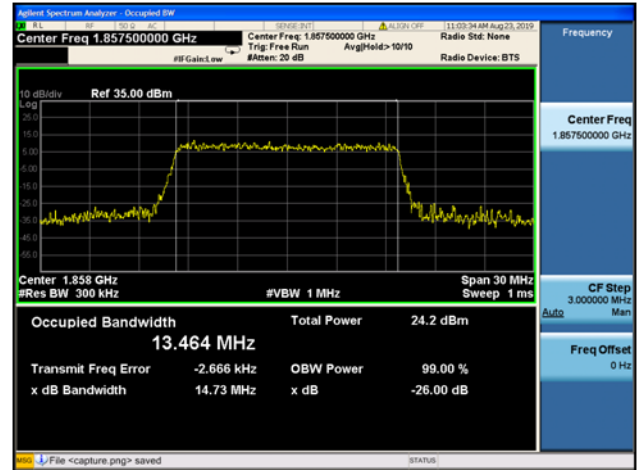


LTE Band 2 99%&26dB Bandwidth

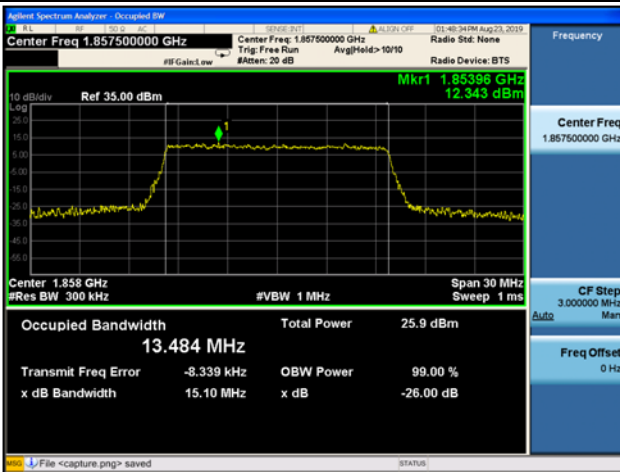
15MHz/QPSK / LCH



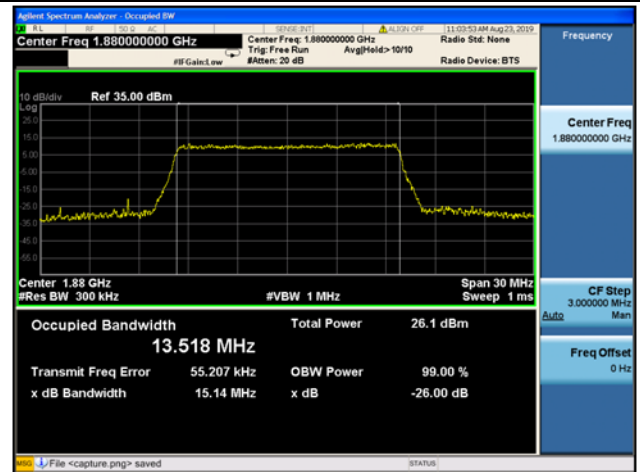
15MHz/16QAM / LCH



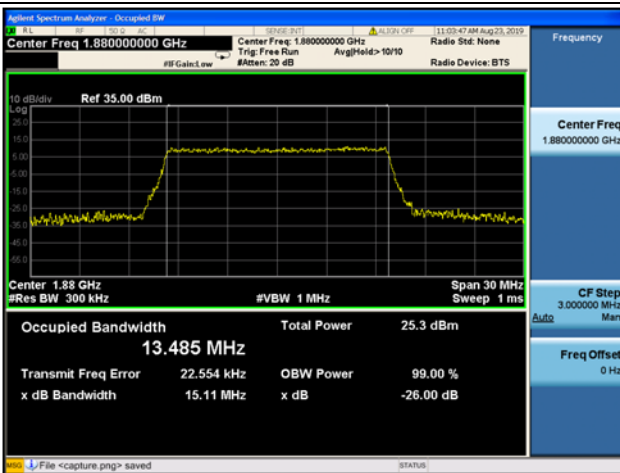
15MHz/ 64QAM / LCH



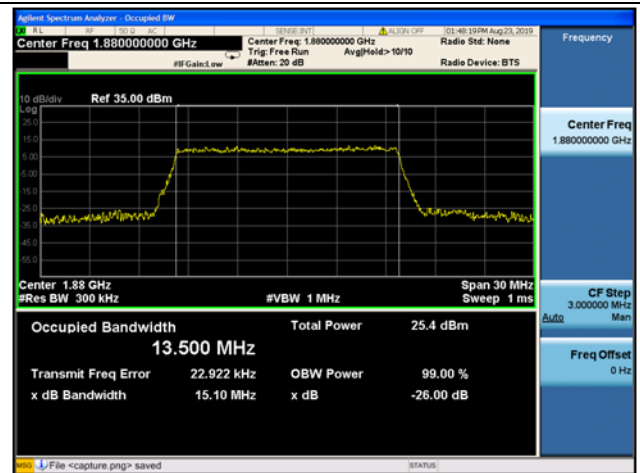
15MHz/QPSK / MCH

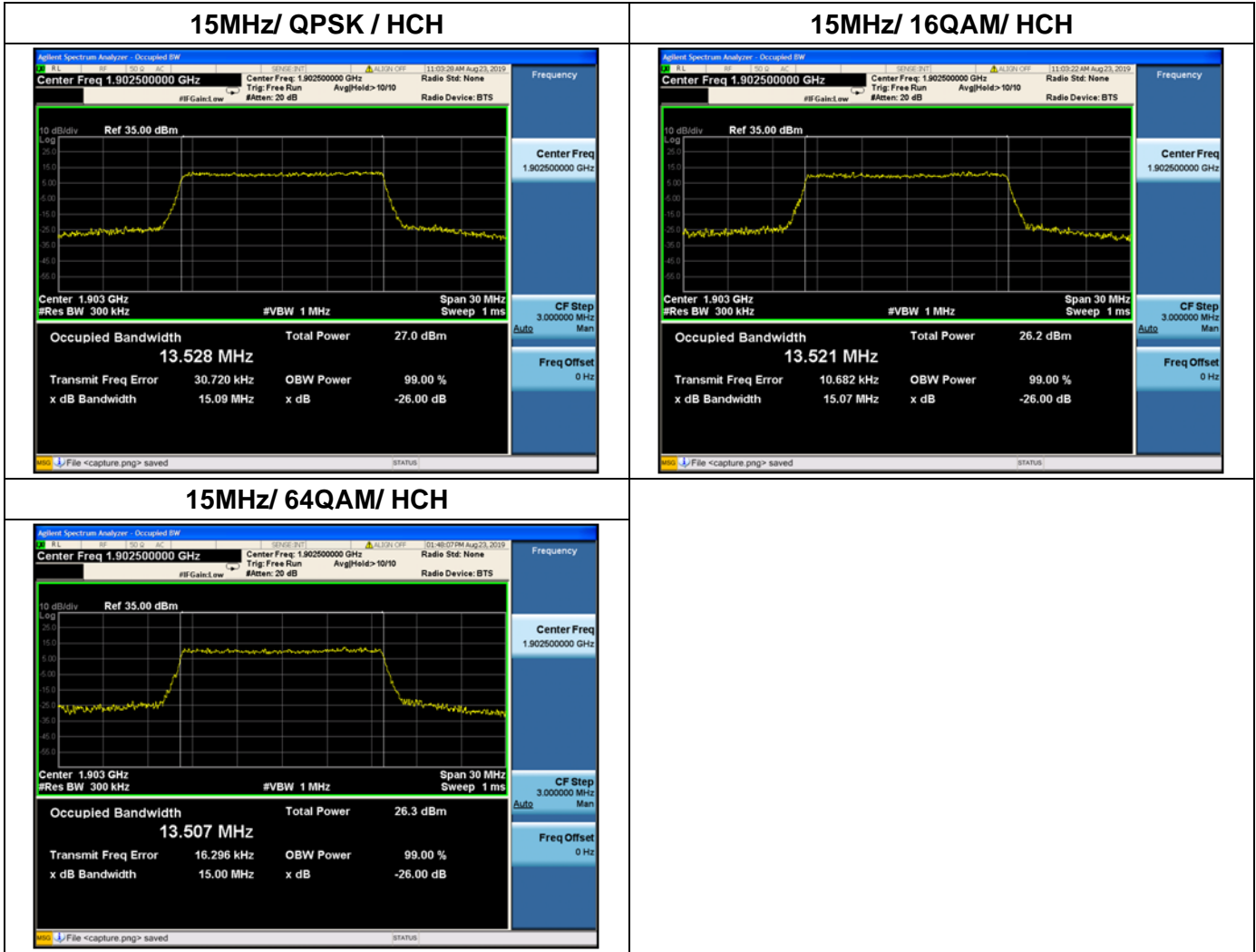


15MHz/ 16QAM / MCH



15MHz/ 64QAM/ MCH

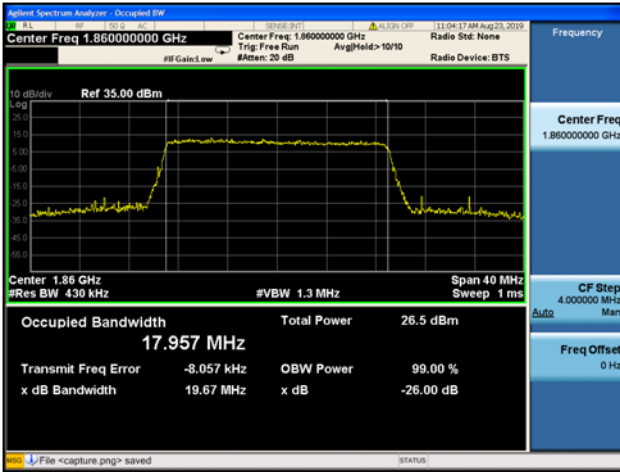




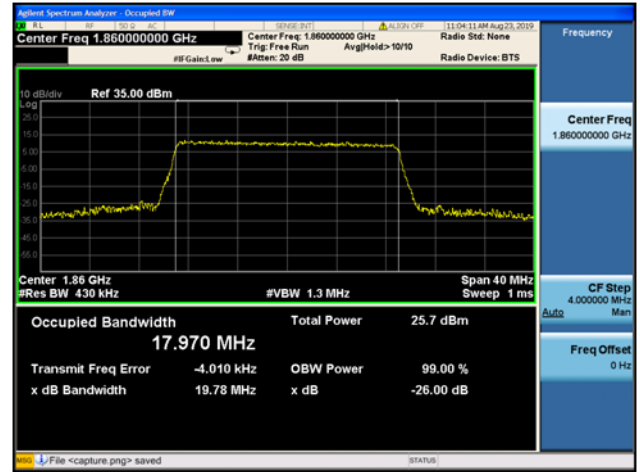


LTE Band 2 99%&26dB Bandwidth

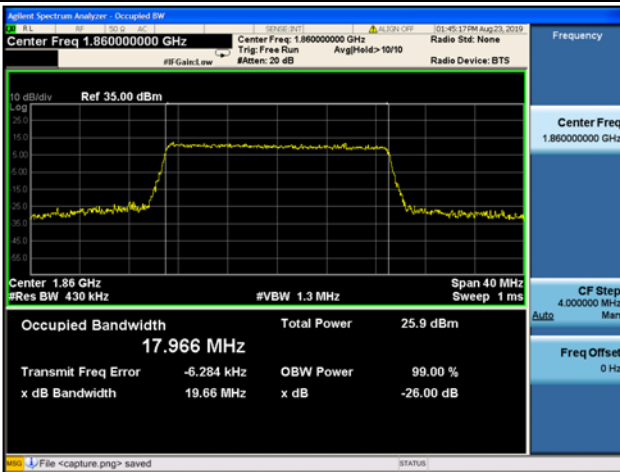
20MHz/QPSK / LCH



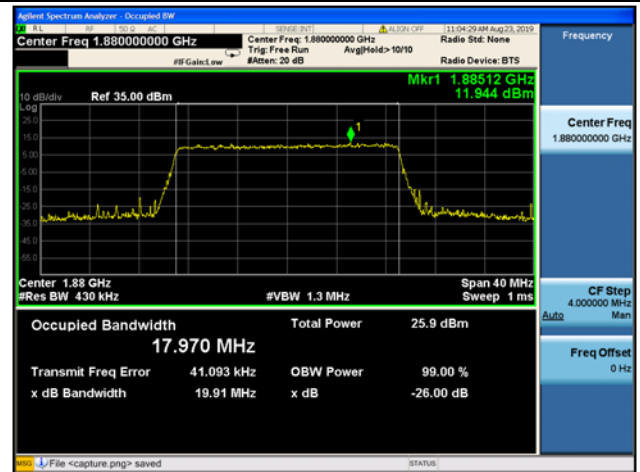
20MHz/16QAM / LCH



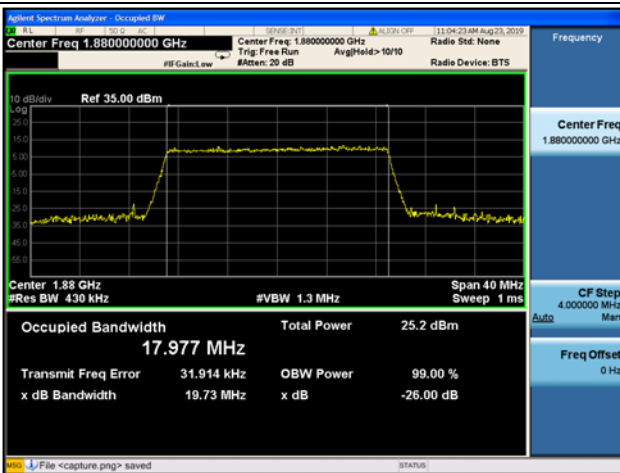
20MHz/ 64QAM / LCH



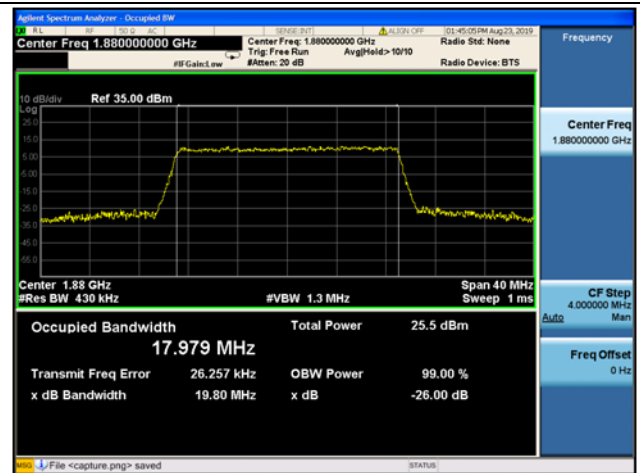
20MHz/QPSK / MCH

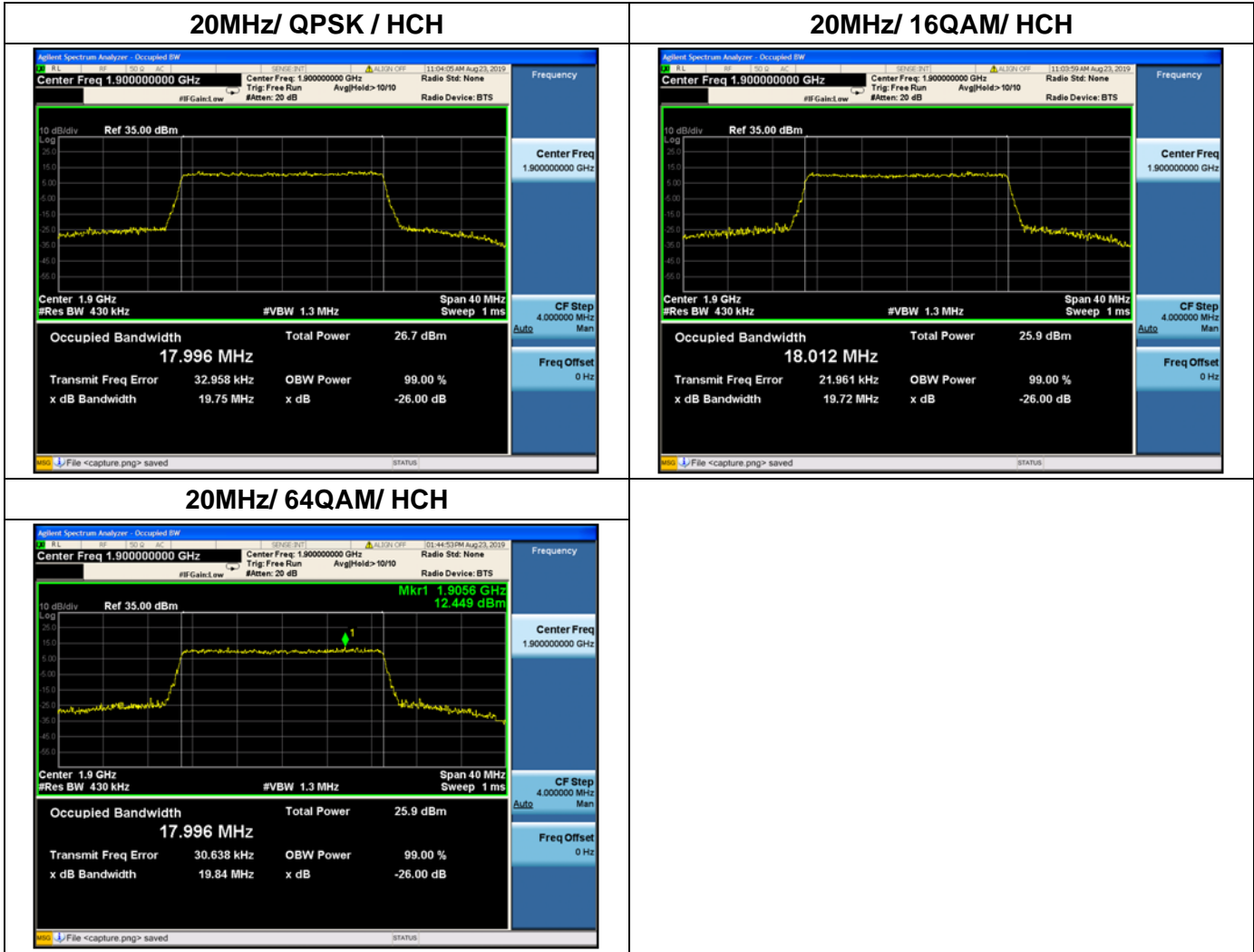


20MHz/ 16QAM / MCH



20MHz/ 64QAM/ MCH







REPORT No.: SZ19080162W02