TEST REPORT

APPLICANT	:	Reliance Communications LLC
PRODUCT NAME	:	Orbic Magic
MODEL NAME	:	R678EL
BRAND NAME	:	Orbic
FCC ID	:	2ABGH-R678EL
STANDARD(S)	:	47 CFR Part 22, Subpart H 47 CFR Part 24, Subpart E 47 CFR Part 27, Subpart D&L&M
RECEIPT DATE	:	2020-11-05
TEST DATE	:	2020-11-06 to 2021-02-9
ISSUE DATE	:	2020 -02-10

Edited by: tang jinde

Tang Jinde (Rapporteur)

Approved by: Peng Hu

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MORLAB

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Change History		
Version	**Date**	**Reason for change**
1.0	2021-02-10	First edition

1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Reliance Communications LLC
Applicant Address:	91 Colin Drive, Unit 1, HOLBROOK, New York 11741, United States
Manufacturer:	ZJY RIGHT SOURCE INDIA PRIVATE LIMITED
ManufacturerAddress:	MIDC industrial Area, Shiravane，Nerul,India

1.2. Equipment Under Test (EUT) Description

Product Name:	Orbic Magic	
Hardware Version:	V2.1	
Software Version:	ORB678EL_V1.0.47_BTF	
IMEI:	35405354	
Modulation Type:	QPSK, 16QAM,64QAM	
Operation Band:	Uplink:2A_4A; 2A_5A; 2A_12A; 2A_13A; 2A_66A; 4A_5A; 4A_12A; 4A_13A; 5A_66A; 12A_66A; 13A_66A; 5B; 41C; 66B; 66C	
Channel Bandwidth	LTE 2A_4A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 2A_5A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 2A_12A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 2A_13A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 2A_66A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 4A_5A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 4A_12A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 4A_13A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 5A_66A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 12A_66A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 13A_66A	5MHz, 10MHz, 15MHz, 20MHz
	LTE 5B	5MHz, 10MHz, 15MHz, 20MHz
	LTE 41C	5MHz, 10MHz, 15MHz, 20MHz
	LTE 66B	5MHz, 10MHz, 15MHz, 20MHz
	LTE 66C	5MHz, 10MHz, 15MHz, 20MHz

Antenna Type:	Fixed Internal	
Antenna Gain:	LTE Band 2	-2.40 dBi
	LTE Band 4	-2.90 dBi
	LTE Band 5	-2.00 dBi
	LTE Band 12	-2.00 dBi
	LTE Band 13	-2.00 dBi
	LTE Band 41	1.00 dBi
	LTE Band 66	-2.90 dBi
Accessory Information:	AC Adapter	
	Brand Name:	Orbic
	Model No.:	BLJ-QC06HU
	Serial No.:	(N/A, marked #1 by test site)
	Rated Input:	100-240V~ 50HZ, 0.50A
	Rated Output:	5⎓3A;9⎓2A; 12⎓1.5A
	Manufacturer:	Baolijin
	Battery	
	Brand Name:	Orbic
	Model No.:	BLE-5001
	Serial No.:	(N/A, marked #1 by test site)
	Capacity:	5000.00mAh
	Rated Voltage:	3.85V
	Charge Limit:	4.40V
	Manufacturer:	HUIZHOU DXDRAGON INC

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

1.3. Maximum ERP/EIRP and Emission Designator

Top antenna

Channel bandwidth	Maximum ERP/EIRP（W）			Emission Designator (99%OBW)		
LTE 5B	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
10+10	0.169	0.147	0.113	18M7G7D	/	/
LTE 41C	QPSK	16QAM	64QAM		/	/
20+20	0.190	0.187	0.135	38M8G7D	/	/
LTE 66B	QPSK	16QAM	64QAM		/	/
20+20	0.056	0.054	0.055	18M2G7D	/	/
LTE 66C	QPSK	16QAM	64QAM		/	/
20+20	0.059	0.050	0.052	38M4G7D	/	/
LTE 2A-4A	0.091	/	/	/	/	/
LTE 2A-5A	0.083	/	/	/	/	/
LTE 2A-12A	0.076	/	/	/	/	/
LTE 2A-13A	0.099	/	/	/	/	/
LTE 2A-66A	0.103	/	/	/	/	/
LTE 4A-5A	0.107	/	/	/	/	/
LTE 4A-12A	0.108	/	/	/	/	/
LTE 4A-13A	0.082	/	/	/	/	/
LTE 5A-66A	0.147	/	/	/	/	/
LTE 12A-66A	0.116	/	/	/	/	/
LTE 13A-66A	0.157	/	/	/	/	/

Bottom antenna

Channel bandwidth	Maximum ERP/EIRP（W）		
LTE 5B	QPSK	16QAM	64QAM
10+10	0.142	0.138	0.141
LTE 41C	QPSK	16QAM	64QAM
20+20	0.383	0.370	0.339
LTE 66B	QPSK	16QAM	64QAM
20+20	0.057	0.053	0.056
LTE 66C	QPSK	16QAM	64QAM
20+20	0.061	0.052	0.052
LTE 2A-4A	0.089	/	/
LTE 2A-5A	0.086	/	/
LTE 2A-12A	0.089	/	/
LTE 2A-13A	0.079	/	/
LTE 2A-66A	0.059	/	/
LTE 4A-5A	0.083	/	/
LTE 4A-12A	0.080	/	/
LTE 4A-13A	0.089	/	/
LTE 5A-66A	0.188	/	/
LTE 12A-66A	0.132	/	/
LTE 13A-66A	0.145	/	/

1.4. 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	Method Determination /Remark
2.1046, 22.913(a)(2), 24.232(c),27.50	Transmitter Conducted Output Power and ERP/EIRP	Nov 6 to 25, 2020	Tang Jinde	PASS	No deviation
2.1049	Occupied Bandwidth	Jan 20 to Feb 9, 2021	Tang Jinde	PASS	No deviation
2.1055, 22.355, 24.235, 27.54	Frequency Stability	Dec 1 to 19, 2020	Tang Jinde	PASS	No deviation
2.1051, 22.917(a), 24.238, 27.53	Conducted Spurious Emissions	Dec 19 to 30, 2020	Tang Jinde	PASS	No deviation
2.1051, 22.917(a), 24.238, 27.53	Band Edge	Jan 1 to 19, 2021	Tang Jinde	PASS	No deviation
2.1051, 22.917(a), 24.238, 27.53	Radiated Spurious Emissions	Dec 5 to 29, 2020	Peng Xuewei	PASS	No deviation

Note 1: The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 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 23.5dB contains two parts that cable loss 13.5dB and Attenuator 10dB.

1.5. 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, 22H, 24E and 27D&L&MRequirements

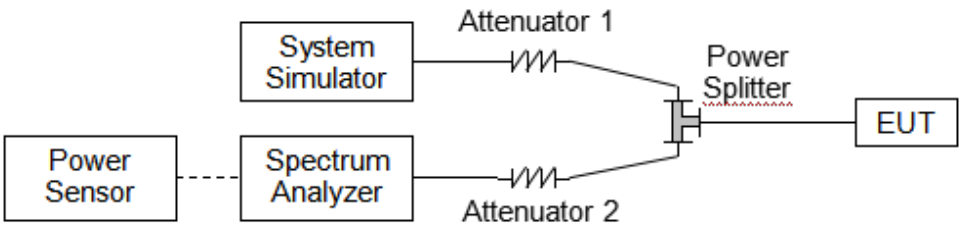
2.1. Transmitter Conducted Output Power And ERP/EIPR

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 section22.913 (a.2) for LTE Band 5, the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.
According to FCC section 27.50 (h) for LTE Band 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.

2.1.2. Test Descrip



The EUTis 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/TIA-603-E-2016.

EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)
ERP (dBm) = EIPR (dBm) - 2.15

2.1.4. Result

Conducted Output Power

Top antenna

CA_5B								
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		
20450	20549	QPSK	1	0	0	0	1	24.21
20525	20575	QPSK	1	0	0	0	1	24.27
20600	20600	QPSK	1	0	0	0	1	24.12
20450	20549	16QAM	1	0	0	0	1	23.66
20525	20575	16QAM	1	0	0	0	1	23.44
20600	20600	16QAM	1	0	0	0	1	23.31
20450	20549	64QAM	1	0	0	0	1	22.38
20525	20575	64QAM	1	0	0	0	1	22.47
20600	20600	64QAM	1	0	0	0	1	22.52
20450	20549	QPSK	25	0	0	0	1	23.45
20525	20575	QPSK	25	0	0	0	1	23.23
20600	20600	QPSK	25	0	0	0	1	23.42

CA_41C								
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		
39750	39948	QPSK	1	0	0	0	1	23.93
40185	39987	QPSK	1	0	0	0	1	23.84
40620	40422	QPSK	1	0	0	0	1	23.72
41055	40857	QPSK	1	0	0	0	1	23.88
41490	41292	QPSK	1	0	0	0	1	23.55
39750	39948	16QAM	1	0	0	0	1	23.62
40185	39987	16QAM	1	0	0	0	1	23.78
40620	40422	16QAM	1	0	0	0	1	23.62
41055	40857	16QAM	1	0	0	0	1	23.63
41490	41292	16QAM	1	0	0	0	1	23.88
39750	39948	64QAM	1	0	0	0	1	22.37
40185	39987	64QAM	1	0	0	0	1	22.44
40620	40422	64QAM	1	0	0	0	1	22.29
41055	40857	64QAM	1	0	0	0	1	22.16
41490	41292	64QAM	1	0	0	0	1	22.24
39750	39948	QPSK	50	0	0	0	1	23.29
40185	39987	QPSK	50	0	0	0	1	23.08
40620	40422	QPSK	50	0	0	0	1	23.49
41055	40857	QPSK	50	0	0	0	1	23.17
41490	41292	QPSK	50	0	0	0	1	23.28

CA_66B								
Combination:20MHz+20MHz(50RB+50RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
			RB Size	RB Offset	RB Size	RB Offset		
132072	132121	QPSK	1	0	0	0	1	22.38
132322	132472	QPSK	1	0	0	0	1	22.4
132572	132622	QPSK	1	0	0	0	1	22.51
132072	132121	16QAM	1	0	0	0	1	22.34
132322	132472	16QAM	1	0	0	0	1	22.21
132572	132622	16QAM	1	0	0	0	1	22.24
132072	132121	64QAM	1	0	0	0	1	22.36
132322	132472	64QAM	1	0	0	0	1	22.25
132572	132622	64QAM	1	0	0	0	1	22.44
132072	132121	QPSK	50	0	0	0	1	21.6
132322	132472	QPSK	50	0	0	0	1	21.72
132572	132622	QPSK	50	0	0	0	1	21.73

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	1	0	0	0	1	22.78
132322	132521	QPSK	1	0	0	0	1	22.74
132572	132572	QPSK	1	0	0	0	1	22.64
132072	132270	16QAM	1	0	0	0	1	22.08
132322	132521	16QAM	1	0	0	0	1	22.03
132572	132572	16QAM	1	0	0	0	1	22.02
132072	132270	64QAM	1	0	0	0	1	22.14
132322	132521	64QAM	1	0	0	0	1	22.09
132572	132572	64QAM	1	0	0	0	1	22.21
132072	132270	QPSK	50	0	0	0	1	21.96
132322	132521	QPSK	50	0	0	0	1	21.86
132572	132572	QPSK	50	0	0	0	1	21.64

Configure	CA Configuration	PCC				
		Band	BW (MHz)	UL Channel	UL Fre. (MHz)	UL Mode (Modulation/RB/Offset)
Inter-band	CA_2A-4A	2	20	19100	1900	QPSK/1#0
	CA_2A-5A	4	20	19100	1900	QPSK/1#0
	CA_2A-12A	2	20	19100	1900	QPSK/1#0
	CA_2A-13A	4	20	19100	1900	QPSK/1#0
	CA_2A-66A	2	20	19100	1900	QPSK/1#0
	CA_4A-5A	4	20	20175	1732.5	QPSK/1#0
	CA_4A-12A	2	20	20175	1732.5	QPSK/1#0
	CA_4A-13A	4	20	20175	1732.5	QPSK/1#0
	CA_5A-66A	5	20	20525	836.5	QPSK/1#0
	CA_12A-66A	12	10	23060	704	QPSK/1#0
	CA_13A-66A	13	10	23230	782	QPSK/1#0

SCC				
Band	BW (MHz)	UL Channel	UL Fre. (MHz)	Measured Power(dBm)
4	20	20175	1732.5	24.15
5	20	20525	836.5	23.72
12	10	23060	704	23.33
13	10	23230	782	24.51
66	20	132322	1745	24.68
5	20	20525	836.5	25.36
12	10	23060	704	25.40
13	10	23230	782	24.21
66	20	132322	1745	23.67
66	20	132322	1745	22.63
66	20	132322	1745	23.97

Bottom antenna

CA_5B							
Combination:10MHz+10MHz(50RB+50RB)							
SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
		RB Size	RB Offset	RB Size	RB Offset		
20549	QPSK	1	0	0	0	1	23.45
20575	QPSK	1	0	0	0	1	23.52
20600	QPSK	1	0	0	0	1	23.38
20549	16QAM	1	0	0	0	1	22.98
20575	16QAM	1	0	0	0	1	23.01
20600	16QAM	1	0	0	0	1	23.39
20549	64QAM	1	0	0	0	1	23.3
20575	64QAM	1	0	0	0	1	23.49
20600	64QAM	1	0	0	0	1	23.12
20549	QPSK	25	25	0	0	1	22.63
20575	QPSK	25	25	0	0	1	22.57
20600	QPSK	25	25	0	0	1	22.36

CA_41C							
Combination:20MHz+20MHz(100RB+100RB)							
SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
		RB Size	RB Offset	RB Size	RB Offset		
39948	QPSK	1	0	0	0	1	26.36
39987	QPSK	1	0	0	0	1	26.79
40422	QPSK	1	0	0	0	1	26.98
40857	QPSK	1	0	0	0	1	26.83
41292	QPSK	1	0	0	0	1	26.77
39948	16QAM	1	0	0	0	1	25.84
39987	16QAM	1	0	0	0	1	26.13
40422	16QAM	1	0	0	0	1	26.45
40857	16QAM	1	0	0	0	1	26.22
41292	16QAM	1	0	0	0	1	26.14
39948	64QAM	1	0	0	0	1	25.92
39987	64QAM	1	0	0	0	1	26.02
40422	64QAM	1	0	0	0	1	26.31
40857	64QAM	1	0	0	0	1	26.34
41292	64QAM	1	0	0	0	1	26.02
39948	QPSK	50	0	0	0	1	25.49
39987	QPSK	50	0	0	0	1	25.92
40422	QPSK	50	0	0	0	1	26.01
40857	QPSK	50	0	0	0	1	25.99
41292	QPSK	50	0	0	0	1	25.89

CA_66B							
Combination:20MHz+20MHz(50RB+50RB)							
SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
		RB Size	RB Offset	RB Size	RB Offset		
132121	QPSK	1	0	0	0	1	22.42
132472	QPSK	1	0	0	0	1	22.39
132622	QPSK	1	0	0	0	1	22.63
132121	16QAM	1	0	0	0	1	22.27
132472	16QAM	1	0	0	0	1	22.3
132622	16QAM	1	0	0	0	1	22.2
132121	64QAM	1	0	0	0	1	22.39
132472	64QAM	1	0	0	0	1	22.33
132622	64QAM	1	0	0	0	1	22.51
132472	QPSK	50	0	0	0	1	21.41
132622	QPSK	50	0	0	0	1	21.54

CA_66C								
Combination:20MHz+20MHz(100RB+100RB)								
SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level(dB)	Measured Power(dBm)
		RB Size	RB Offset	RB Size	RB Offset			
132270	QPSK	1	0	0	0	1	0	22.82
132521	QPSK	1	0	0	0	1	0	22.89
132572	QPSK	1	0	0	0	1	0	22.73
132270	16QAM	1	0	0	0	1	0	22.21
132521	16QAM	1	0	0	0	1	0	22.14
132572	16QAM	1	0	0	0	1	0	22.09
132270	64QAM	1	0	0	0	1	0	22.21
132521	64QAM	1	0	0	0	1	0	22.13
132572	64QAM	1	0	0	0	1	0	22.18
132270	QPSK	50	0	0	0	1	0	21.84
132521	QPSK	50	0	0	0	1	0	21.92
132572	QPSK	50	0	0	0	1	0	21.73

Configure	CA Configuration	PCC				
		Band	BW (MHz)	UL Channel	UL Fre. (MHz)	UL Mode (Modulation/RB/Offset)
Inter-band	CA_2A-4A	2	20	19100	1900	QPSK/1#0
	CA_2A-5A	4	20	19100	1900	QPSK/1#0
	CA_2A-12A	2	20	19100	1900	QPSK/1#0
	CA_2A-13A	4	20	19100	1900	QPSK/1#0
	CA_2A-66A	2	20	19100	1900	QPSK/1#0
	CA_4A-5A	4	20	20175	1732.5	QPSK/1#0
	CA_4A-12A	2	20	20175	1732.5	QPSK/1#0
	CA_4A-13A	4	20	20175	1732.5	QPSK/1#0
	CA_5A-66A	5	20	20525	836.5	QPSK/1#0
	CA_12A-66A	12	10	23060	704	QPSK/1#0
	CA_13A-66A	13	10	23230	782	QPSK/1#0

SCC			Power	
Band	BW (MHz)	UL Channel	UL Fre. (MHz)	Measured Power(dBm)
4	20	20175	1732.5	24.02
5	20	20525	836.5	23.89
12	10	23060	704	24.06
13	10	23230	782	23.51
66	20	132322	1745	22.23
5	20	20525	836.5	24.22
12	10	23060	704	24.08
13	10	23230	782	24.55
66	20	132322	1745	24.75
66	20	132322	1745	23.21
66	20	132322	1745	23.62

Effective Radiated Power and Effective Isotropic Radiated Power

Top antenna

CA_5B									
Combination:10MHz+10MHz(50RB+50RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)	Measured ERP(W)
			RB Size	RB Offset	RB Size	RB Offset			
20450	20549	QPSK	1	0	0	0	1	24.21	0.166
20525	20575	QPSK	1	0	0	0	1	24.27	0.169
20600	20600	QPSK	1	0	0	0	1	24.12	0.163
20450	20549	16QAM	1	0	0	0	1	23.66	0.147
20525	20575	16QAM	1	0	0	0	1	23.44	0.139
20600	20600	16QAM	1	0	0	0	1	23.31	0.135
20450	20549	64QAM	1	0	0	0	1	22.38	0.109
20525	20575	64QAM	1	0	0	0	1	22.47	0.111
20600	20600	64QAM	1	0	0	0	1	22.52	0.113
20450	20549	QPSK	25	0	0	0	1	23.45	0.140
20525	20575	QPSK	25	0	0	0	1	23.23	0.133
20600	20600	QPSK	25	0	0	0	1	23.42	0.139

CA_41C									
Combination:20MHz+20MHz(100RB+100RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)	Measured EIRP(W)
			RB Size	RB Offset	RB Size	RB Offset			
39750	39948	QPSK	1	0	0	0	1	23.93	0.190
40185	39987	QPSK	1	0	0	0	1	23.84	0.186
40620	40422	QPSK	1	0	0	0	1	23.72	0.181
41055	40857	QPSK	1	0	0	0	1	23.88	0.187
41490	41292	QPSK	1	0	0	0	1	23.55	0.174
39750	39948	16QAM	1	0	0	0	1	23.62	0.177
40185	39987	16QAM	1	0	0	0	1	23.78	0.183
40620	40422	16QAM	1	0	0	0	1	23.62	0.177
41055	40857	16QAM	1	0	0	0	1	23.63	0.177
41490	41292	16QAM	1	0	0	0	1	23.88	0.187
39750	39948	64QAM	1	0	0	0	1	22.37	0.132
40185	39987	64QAM	1	0	0	0	1	22.44	0.135
40620	40422	64QAM	1	0	0	0	1	22.29	0.130
41055	40857	64QAM	1	0	0	0	1	22.16	0.126
41490	41292	64QAM	1	0	0	0	1	22.24	0.129
39750	39948	QPSK	50	0	0	0	1	23.29	0.164
40185	39987	QPSK	50	0	0	0	1	23.08	0.156
40620	40422	QPSK	50	0	0	0	1	23.49	0.171
41055	40857	QPSK	50	0	0	0	1	23.17	0.159
41490	41292	QPSK	50	0	0	0	1	23.28	0.163

CA_66B									
Combination:20MHz+20MHz(50RB+50RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)	Measured EIRP(W)
			RB Size	RB Offset	RB Size	RB Offset			
132072	132121	QPSK	1	0	0	0	1	22.38	0.054
132322	132472	QPSK	1	0	0	0	1	22.4	0.054
132572	132622	QPSK	1	0	0	0	1	22.51	0.056
132072	132121	16QAM	1	0	0	0	1	22.34	0.054
132322	132472	16QAM	1	0	0	0	1	22.21	0.052
132572	132622	16QAM	1	0	0	0	1	22.24	0.052
132072	132121	64QAM	1	0	0	0	1	22.36	0.054
132322	132472	64QAM	1	0	0	0	1	22.25	0.052
132572	132622	64QAM	1	0	0	0	1	22.44	0.055
132072	132121	QPSK	50	0	0	0	1	21.6	0.045
132322	132472	QPSK	50	0	0	0	1	21.72	0.046
132572	132622	QPSK	50	0	0	0	1	21.73	0.047

CA_66C									
Combination:20MHz+20MHz(100RB+100RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)	Measured EIRP(W)
			RB Size	RB Offset	RB Size	RB Offset			
132072	132270	QPSK	1	0	0	0	1	22.78	0.055
132322	132521	QPSK	1	0	0	0	1	22.74	0.054
132572	132572	QPSK	1	0	0	0	1	22.64	0.057
132072	132270	16QAM	1	0	0	0	1	22.08	0.053
132322	132521	16QAM	1	0	0	0	1	22.03	0.053
132572	132572	16QAM	1	0	0	0	1	22.02	0.052
132072	132270	64QAM	1	0	0	0	1	22.14	0.054
132322	132521	64QAM	1	0	0	0	1	22.09	0.053
132572	132572	64QAM	1	0	0	0	1	22.21	0.056
132072	132270	QPSK	50	0	0	0	1	21.96	0.043
132322	132521	QPSK	50	0	0	0	1	21.86	0.045
132572	132572	QPSK	50	0	0	0	1	21.64	0.055

Configure	CA Configuration	PCC				
		Band	BW (MHz)	UL Channel	UL Fre. (MHz)	UL Mode (Modulation/RB/Offset)
Inter-band	CA_2A-4A	2	20	19100	1900	QPSK/1#0
	CA_2A-5A	4	20	19100	1900	QPSK/1#0
	CA_2A-12A	2	20	19100	1900	QPSK/1#0
	CA_2A-13A	4	20	19100	1900	QPSK/1#0
	CA_2A-66A	2	20	19100	1900	QPSK/1#0
	CA_4A-5A	4	20	20175	1732.5	QPSK/1#0
	CA_4A-12A	2	20	20175	1732.5	QPSK/1#0
	CA_4A-13A	4	20	20175	1732.5	QPSK/1#0
	CA_5A-66A	5	20	20525	836.5	QPSK/1#0
	CA_12A-66A	12	10	23060	704	QPSK/1#0
	CA_13A-66A	13	10	23230	782	QPSK/1#0

SCC					
Band	BW (MHz)	UL Channel	UL Fre. (MHz)	Measured Power(dBm)	Measured EIRP/ERP(W)
4	20	20175	1732.5	24.15	0.091
5	20	20525	836.5	23.72	0.083
12	10	23060	704	23.33	0.076
13	10	23230	782	24.51	0.099
66	20	132322	1745	24.68	0.103
5	20	20525	836.5	25.36	0.107
12	10	23060	704	25.40	0.108
13	10	23230	782	24.21	0.082
66	20	132322	1745	23.67	0.147
66	20	132322	1745	22.63	0.116
66	20	132322	1745	23.97	0.157

Bottom antenna

CA_5B								
Combination:10MHz+10MHz(50RB+50RB)								
SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)	Measured ERP(W)
		RB Size	RB Offset	RB Size	RB Offset			
20549	QPSK	1	0	0	0	1	23.45	0.140
20575	QPSK	1	0	0	0	1	23.52	0.142
20600	QPSK	1	0	0	0	1	23.38	0.137
20549	16QAM	1	0	0	0	1	22.98	0.125
20575	16QAM	1	0	0	0	1	23.01	0.126
20600	16QAM	1	0	0	0	1	23.39	0.138
20549	64QAM	1	0	0	0	1	23.3	0.135
20575	64QAM	1	0	0	0	1	23.49	0.141
20600	64QAM	1	0	0	0	1	23.12	0.129
20549	QPSK	25	25	0	0	1	22.63	0.116
20575	QPSK	25	25	0	0	1	22.57	0.114
20600	QPSK	25	25	0	0	1	22.36	0.109

CA_41C								
Combination:20MHz+20MHz(100RB+100RB)								
SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)	Measured EIRP(W)
		RB Size	RB Offset	RB Size	RB Offset			
39948	QPSK	1	0	0	0	1	26.36	0.332
39987	QPSK	1	0	0	0	1	26.79	0.366
40422	QPSK	1	0	0	0	1	26.98	0.383
40857	QPSK	1	0	0	0	1	26.83	0.370
41292	QPSK	1	0	0	0	1	26.77	0.365
39948	16QAM	1	0	0	0	1	25.84	0.294
39987	16QAM	1	0	0	0	1	26.13	0.315
40422	16QAM	1	0	0	0	1	26.45	0.339
40857	16QAM	1	0	0	0	1	26.22	0.321
41292	16QAM	1	0	0	0	1	26.14	0.316
39948	64QAM	1	0	0	0	1	25.92	0.300
39987	64QAM	1	0	0	0	1	26.02	0.307
40422	64QAM	1	0	0	0	1	26.31	0.328
40857	64QAM	1	0	0	0	1	26.34	0.330
41292	64QAM	1	0	0	0	1	26.02	0.307
39948	QPSK	50	0	0	0	1	25.49	0.272
39987	QPSK	50	0	0	0	1	25.92	0.300
40422	QPSK	50	0	0	0	1	26.01	0.306
40857	QPSK	50	0	0	0	1	25.99	0.305
41292	QPSK	50	0	0	0	1	25.89	0.298

CA_66B								
Combination:20MHz+20MHz(50RB+50RB)								
SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)	Measured EIRP(W)
		RB Size	RB Offset	RB Size	RB Offset			
132121	QPSK	1	0	0	0	1	22.42	0.059
132472	QPSK	1	0	0	0	1	22.39	0.059
132622	QPSK	1	0	0	0	1	22.63	0.057
132121	16QAM	1	0	0	0	1	22.27	0.050
132472	16QAM	1	0	0	0	1	22.3	0.050
132622	16QAM	1	0	0	0	1	22.2	0.050
132121	64QAM	1	0	0	0	1	22.39	0.051
132472	64QAM	1	0	0	0	1	22.33	0.051
132622	64QAM	1	0	0	0	1	22.51	0.052
132472	QPSK	50	0	0	0	1	21.41	0.049
132622	QPSK	50	0	0	0	1	21.54	0.048

CA_66C								
Combination:20MHz+20MHz(100RB+100RB)								
SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)	Measured EIRP(W)
		RB Size	RB Offset	RB Size	RB Offset			
132270	QPSK	1	0	0	0	1	22.82	0.060
132521	QPSK	1	0	0	0	1	22.89	0.061
132572	QPSK	1	0	0	0	1	22.73	0.059
132270	16QAM	1	0	0	0	1	22.21	0.052
132521	16QAM	1	0	0	0	1	22.14	0.051
132572	16QAM	1	0	0	0	1	22.09	0.051
132270	64QAM	1	0	0	0	1	22.21	0.052
132521	64QAM	1	0	0	0	1	22.13	0.051
132572	64QAM	1	0	0	0	1	22.18	0.052
132270	QPSK	50	0	0	0	1	21.84	0.048
132521	QPSK	50	0	0	0	1	21.92	0.049
132572	QPSK	50	0	0	0	1	21.73	0.047

Configure	CA Configuration	PCC				
		Band	BW (MHz)	UL Channel	UL Fre. (MHz)	UL Mode (Modulation/RB/Offset)
Inter-band	CA_2A-4A	2	20	19100	1900	QPSK/1#0
	CA_2A-5A	4	20	19100	1900	QPSK/1#0
	CA_2A-12A	2	20	19100	1900	QPSK/1#0
	CA_2A-13A	4	20	19100	1900	QPSK/1#0
	CA_2A-66A	2	20	19100	1900	QPSK/1#0
	CA_4A-5A	4	20	20175	1732.5	QPSK/1#0
	CA_4A-12A	2	20	20175	1732.5	QPSK/1#0
	CA_4A-13A	4	20	20175	1732.5	QPSK/1#0
	CA_5A-66A	5	20	20525	836.5	QPSK/1#0
	CA_12A-66A	12	10	23060	704	QPSK/1#0
	CA_13A-66A	13	10	23230	782	QPSK/1#0

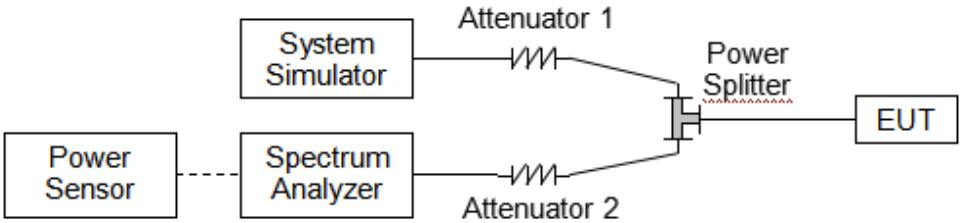
SCC			Power	
Band	BW (MHz)	UL Channel	UL Fre. (MHz)	Measured Power(dBm)
4	20	20175	1732.5	24.02
5	20	20525	836.5	23.89
12	10	23060	704	24.06
13	10	23230	782	23.51
66	20	132322	1745	22.23
5	20	20525	836.5	24.22
12	10	23060	704	24.08
13	10	23230	782	24.55
66	20	132322	1745	24.75
66	20	132322	1745	23.21
66	20	132322	1745	23.62

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 EUTis 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.

2.2.3. Test procedure

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

2.2.4. Test Result

LTE Band 66C				
BW(MHz)	ChannelLevel	Modulation	99% BW(MHz)	26dB BW(MHz)
5+20	Low	QPSK	25.33	37.41
	Mid	QPSK	25.13	29.81
	High	QPSK	25.11	33.38
	Low	16QAM	25.12	33.45
	Mid	16QAM	25.12	29.87
	High	16QAM	25.05	33.05
	Low	64QAM	24.99	29.65
	Mid	64QAM	25.12	28.94
	High	64QAM	25.08	30.02
10+15	Low	QPSK	25.34	31.77
	Mid	QPSK	25.27	31.90
	High	QPSK	25.80	36.58
	Low	16QAM	24.65	29.33
	Mid	16QAM	24.90	37.97
	High	16QAM	25.40	38.24
	Low	64QAM	25.04	34.20
	Mid	64QAM	24.88	30.41
	High	64QAM	25.11	33.77
10+20	Low	QPSK	29.56	35.23
	Mid	QPSK	29.60	35.35
	High	QPSK	25.13	29.81
	Low	16QAM	29.30	34.02
	Mid	16QAM	29.42	39.29
	High	16QAM	29.86	40.67
	Low	64QAM	29.32	34.26
	Mid	64QAM	29.31	33.44
	High	64QAM	29.41	34.05
15+10	Low	QPSK	25.02	29.82
	Mid	QPSK	24.97	29.80
	High	QPSK	25.96	34.42
	Low	16QAM	24.62	29.79
	Mid	16QAM	24.76	29.87
	High	16QAM	25.65	36.48
	Low	64QAM	24.83	30.70
	Mid	64QAM	24.53	29.47
	High	64QAM	24.84	35.06

15+15	Low	QPSK	29.29	36.15
	Mid	QPSK	29.45	41.82
	High	QPSK	29.66	35.73
	Low	16QAM	29.20	39.21
	Mid	16QAM	29.24	34.05
	High	16QAM	29.59	34.95
	Low	64QAM	29.19	34.18
	Mid	64QAM	29.34	47.98
	High	64QAM	29.35	35.08
15+20	Low	QPSK	33.54	38.41
	Mid	QPSK	33.63	46.10
	High	QPSK	33.70	38.93
	Low	16QAM	33.45	37.77
	Mid	16QAM	33.59	44.53
	High	16QAM	33.55	38.27
	Low	64QAM	33.18	36.30
	Mid	64QAM	33.39	45.94
	High	64QAM	33.57	38.01
20+5	Low	QPSK	25.01	38.84
	Mid	QPSK	24.79	29.28
	High	QPSK	25.02	29.82
	Low	16QAM	24.80	29.32
	Mid	16QAM	24.75	29.49
	High	16QAM	24.93	29.94
	Low	64QAM	24.46	29.00
	Mid	64QAM	24.77	29.21
	High	64QAM	25.05	29.43
20+10	Low	QPSK	28.77	33.45
	Mid	QPSK	28.39	32.81
	High	QPSK	29.31	34.20
	Low	16QAM	28.59	33.78
	Mid	16QAM	28.34	32.11
	High	16QAM	29.08	34.66
	Low	64QAM	28.59	33.94
	Mid	64QAM	28.35	32.22
	High	64QAM	28.84	33.70
20+15	Low	QPSK	33.45	38.81
	Mid	QPSK	33.49	41.67

	High	QPSK	33.66	39.37
	Low	16QAM	33.42	38.41
	Mid	16QAM	33.34	38.81
	High	16QAM	33.58	38.76
	Low	64QAM	33.33	37.83
	Mid	64QAM	33.35	37.91
	High	64QAM	33.49	38.08
20+20	Low	QPSK	38.23	43.68
	Mid	QPSK	38.44	47.77
	High	QPSK	38.41	47.48
	Low	16QAM	38.23	42.77
	Mid	16QAM	38.40	45.70
	High	16QAM	38.31	44.71
	Low	64QAM	38.18	42.47
	Mid	64QAM	38.28	48.22
	High	64QAM	38.26	51.31

LTE Band 66B				
BW(MHz)	ChannelLevel	Modulation	99% BW(MHz)	26dB BW(MHz)
5+5	Low	QPSK	9.28	9.75
	Mid	QPSK	9.26	9.73
	High	QPSK	9.26	9.71
	Low	16QAM	9.23	9.72
	Mid	16QAM	9.24	9.72
	High	16QAM	9.24	9.71
	Low	64QAM	9.23	9.68
	Mid	64QAM	9.21	9.71
	High	64QAM	9.23	9.72
5+10	Low	QPSK	13.87	14.50
	Mid	QPSK	13.83	14.38
	High	QPSK	13.87	14.42
	Low	16QAM	13.84	14.41
	Mid	16QAM	13.79	14.43
	High	16QAM	13.85	14.42
	Low	64QAM	13.83	14.35
	Mid	64QAM	13.83	14.34
	High	64QAM	13.82	14.37
5+15	Low	QPSK	18.12	18.71
	Mid	QPSK	18.14	18.70
	High	QPSK	18.15	18.69
	Low	16QAM	18.11	18.69
	Mid	16QAM	18.09	18.69
	High	16QAM	18.15	18.69
	Low	64QAM	18.10	18.69
	Mid	64QAM	18.07	18.69
	High	64QAM	18.11	18.69
10+5	Low	QPSK	13.82	14.37
	Mid	QPSK	13.82	14.42
	High	QPSK	13.85	14.48
	Low	16QAM	13.81	14.44
	Mid	16QAM	13.81	14.39
	High	16QAM	13.84	14.40
	Low	64QAM	13.83	13.48
	Mid	64QAM	13.83	14.45
	High	64QAM	13.88	14.54

10+10	Low	QPSK	18.71	19.40
	Mid	QPSK	18.70	19.45
	High	QPSK	18.79	19.51
	Low	16QAM	18.67	19.36
	Mid	16QAM	18.67	19.40
	High	16QAM	18.78	19.38
	Low	64QAM	18.63	19.36
	Mid	64QAM	18.69	19.43
	High	64QAM	18.76	19.44
15+5	Low	QPSK	18.10	18.85
	Mid	QPSK	18.13	18.80
	High	QPSK	18.19	18.88
	Low	16QAM	18.14	18.84
	Mid	16QAM	18.11	18.84
	High	16QAM	19.18	18.91
	Low	64QAM	18.12	18.89
	Mid	64QAM	18.08	18.81
	High	64QAM	18.18	18.98

LTE Band 5B				
BW(MHz)	ChannelLevel	Modulation	99% BW(MHz)	26dB BW(MHz)
3+5	Low	QPSK	7.49	7.94
	Mid	QPSK	7.49	7.92
	High	QPSK	7.48	7.89
	Low	16QAM	7.49	7.93
	Mid	16QAM	7.47	7.93
	High	16QAM	7.49	7.95
	Low	64QAM	7.46	7.86
	Mid	64QAM	7.46	8.01
	High	64QAM	7.45	8.19
5+3	Low	QPSK	7.46	7.91
	Mid	QPSK	7.48	7.94
	High	QPSK	7.45	7.87
	Low	16QAM	7.46	8.06
	Mid	16QAM	7.45	7.90
	High	16QAM	7.45	7.87
	Low	64QAM	7.49	7.91
	Mid	64QAM	7.49	7.94
	High	64QAM	7.46	7.93
5+10	Low	QPSK	13.87	14.42
	Mid	QPSK	13.87	14.34
	High	QPSK	13.81	14.37
	Low	16QAM	13.85	14.43
	Mid	16QAM	13.81	14.38
	High	16QAM	13.78	14.41
	Low	64QAM	13.81	14.35
	Mid	64QAM	13.82	14.37
	High	64QAM	13.78	14.33
10+5	Low	QPSK	13.83	14.42
	Mid	QPSK	13.85	14.44
	High	QPSK	13.83	14.46
	Low	16QAM	13.84	14.43
	Mid	16QAM	13.82	14.44
	High	16QAM	13.83	14.49
	Low	64QAM	13.86	14.46
	Mid	64QAM	13.83	14.47
	High	64QAM	13.84	14.53

10+10	Low	QPSK	18.68	19.45
	Mid	QPSK	18.69	19.41
	High	QPSK	18.69	19.42
	Low	16QAM	18.68	19.38
	Mid	16QAM	18.67	19.35
	High	16QAM	18.67	19.33
	Low	64QAM	18.68	19.33
	Mid	64QAM	18.66	19.39
	High	64QAM	18.69	19.43

LTE Band 41C				
BW(MHz)	ChannelLevel	Modulation	99% BW(MHz)	26dB BW(MHz)
5+20	Low	QPSK	25.03	35.04
	Mid	QPSK	24.93	31.43
	High	QPSK	25.62	39.63
	Low	16QAM	25.34	35.76
	Mid	16QAM	25.65	43.25
	High	16QAM	25.42	37.78
	Low	64QAM	25.35	31.86
	Mid	64QAM	25.42	37.72
	High	64QAM	25.26	33.03
10+15	Low	QPSK	25.59	36.56
	Mid	QPSK	25.60	33.97
	High	QPSK	25.13	33.84
	Low	16QAM	24.99	30.62
	Mid	16QAM	25.34	32.45
	High	16QAM	25.57	32.72
	Low	64QAM	24.92	33.82
	Mid	64QAM	24.91	31.04
	High	64QAM	25.20	38.18
10+20	Low	QPSK	29.71	41.60
	Mid	QPSK	29.92	41.01
	High	QPSK	30.23	44.89
	Low	16QAM	29.42	39.18
	Mid	16QAM	29.54	35.67
	High	16QAM	29.62	38.09
	Low	64QAM	29.37	42.38
	Mid	64QAM	29.34	44.03
	High	64QAM	29.81	43.01
15+10	Low	QPSK	24.64	29.69
	Mid	QPSK	25.74	32.38
	High	QPSK	25.99	36.92
	Low	16QAM	24.98	34.01
	Mid	16QAM	25.03	37.06
	High	16QAM	25.77	37.92
	Low	64QAM	24.67	35.48
	Mid	64QAM	24.85	42.92
	High	64QAM	24.95	38.57

15+15	Low	QPSK	29.56	47.65
	Mid	QPSK	30.19	38.05
	High	QPSK	30.00	49.81
	Low	16QAM	29.52	42.65
	Mid	16QAM	29.99	40.93
	High	16QAM	30.61	53.33
	Low	64QAM	29.69	41.29
	Mid	64QAM	30.17	53.85
	High	64QAM	30.00	45.35
15+20	Low	QPSK	33.90	38.74
	Mid	QPSK	34.26	41.88
	High	QPSK	33.70	42.91
	Low	16QAM	33.89	38.65
	Mid	16QAM	33.82	49.26
	High	16QAM	33.78	46.71
	Low	64QAM	33.88	39.55
	Mid	64QAM	33.84	45.21
	High	64QAM	33.53	40.57
20+5	Low	QPSK	25.39	34.36
	Mid	QPSK	24.38	35.49
	High	QPSK	26.06	37.35
	Low	16QAM	25.06	37.53
	Mid	16QAM	25.33	37.77
	High	16QAM	25.45	41.30
	Low	64QAM	24.06	29.11
	Mid	64QAM	25.34	32.34
	High	64QAM	24.87	30.01
20+10	Low	QPSK	29.37	39.89
	Mid	QPSK	29.65	39.43
	High	QPSK	29.45	38.97
	Low	16QAM	28.90	39.55
	Mid	16QAM	29.15	40.24
	High	16QAM	29.01	36.73
	Low	64QAM	29.09	37.31
	Mid	64QAM	29.41	37.28
	High	64QAM	29.07	41.92
20+15	Low	QPSK	33.64	44.25
	Mid	QPSK	34.14	46.53

	High	QPSK	33.86	44.37
	Low	16QAM	33.54	46.95
	Mid	16QAM	33.78	45.10
	High	16QAM	33.86	44.37
	Low	64QAM	33.56	46.04
	Mid	64QAM	33.66	38.66
	High	64QAM	33.56	44.19
20+20	Low	QPSK	38.29	46.65
	Mid	QPSK	38.53	49.22
	High	QPSK	38.82	52.91
	Low	16QAM	38.30	43.38
	Mid	16QAM	38.60	61.76
	High	16QAM	38.472	50.19
	Low	64QAM	38.33	45.45
	Mid	64QAM	38.54	46.11
	High	64QAM	38.67	48.84

LTE Band 66C	
5MHz+20MHz/QPSK / LCH	5MHz+20MHz/16QAM / LCH
5MHz+20MHz/64QAM / LCH	5MHz+20MHz /QPSK / MCH
5MHz+20MHz /16QAM / MCH	5MHz+20MHz /64QAM / MCH

5MHz+20MHz / QPSK / HCH

5MHz+20MHz / QPSK / HCH

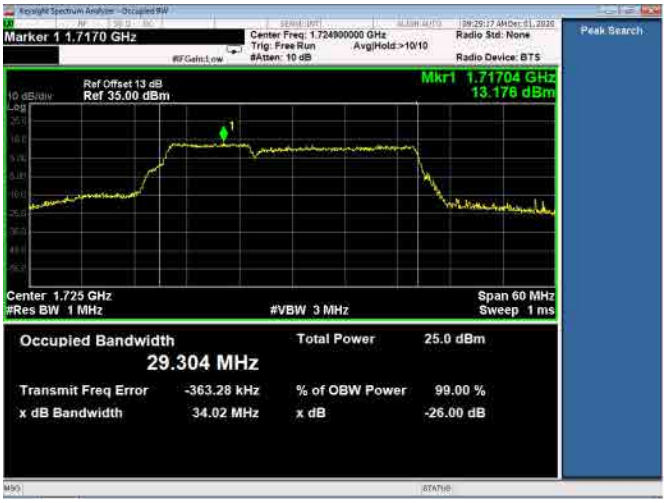
5MHz+20MHz / 64QAM / HCH

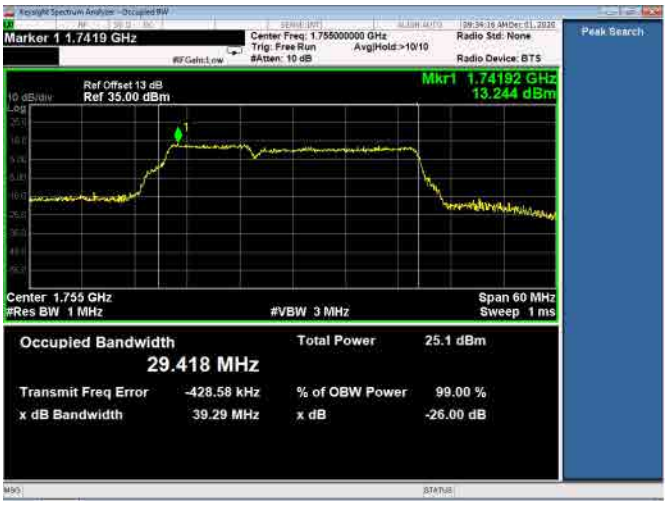
LTE Band 66C	
10MHz+15MHz /QPSK / LCH	10MHz+15MHz /16QAM / LCH
10MHz+15MHz /64QAM / LCH	10MHz+15MHz / QPSK / MCH
10MHz+15MHz / 16QAM / MCH	10MHz+15MHz /64QAM / MCH

10MHz+15MHz / QPSK / HCH

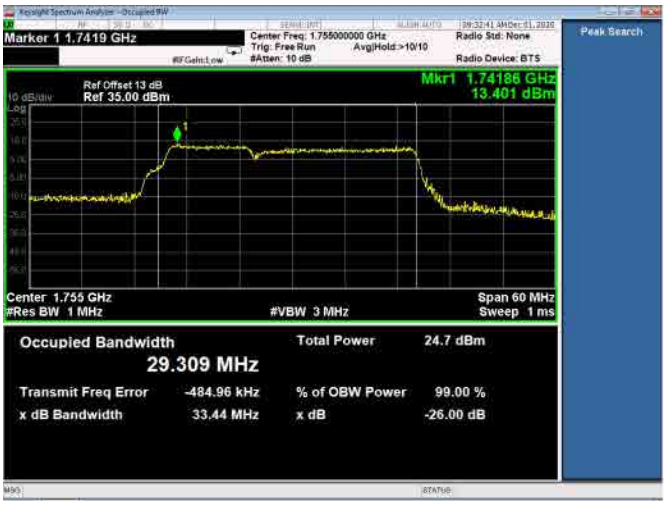
10MHz+15MHz / 16QAM / HCH

10MHz+15MHz / 64QAM / HCH

LTE Band 66C	
10MHz+20MHz/QPSK / LCH	10MHz+20MHz/16QAM / LCH
	
10MHz+20MHz/64QAM / LCH	10MHz+20MHz / QPSK / MCH
10MHz+20MHz / 16QAM / MCH	10MHz+20MHz / 64QAM / MCH

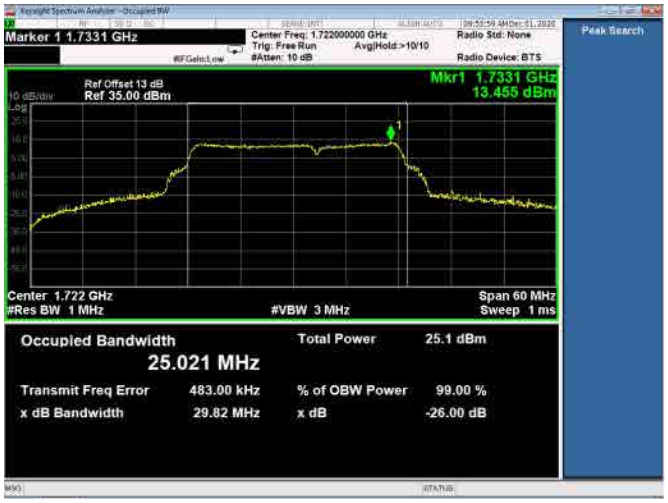
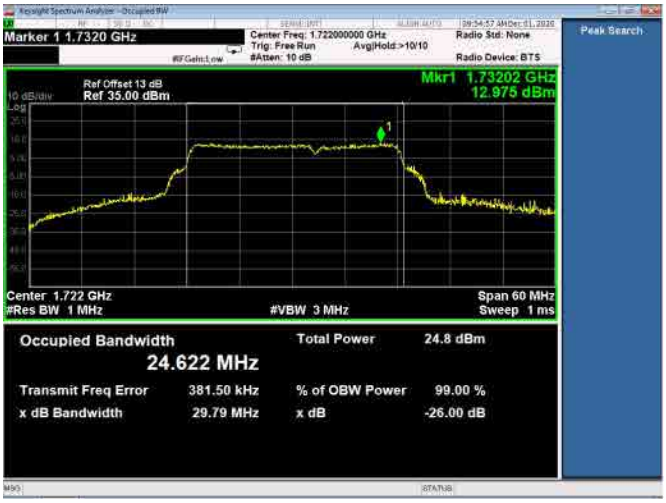
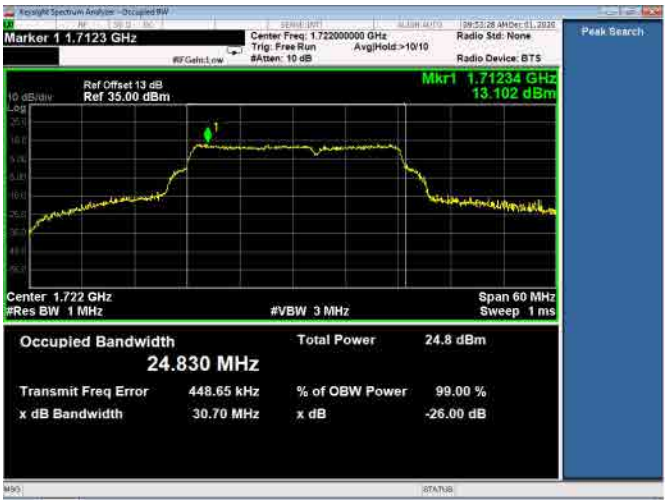


10MHz+20MHz / QPSK / HCH



10MHz+20MHz / 16QAM / HCH

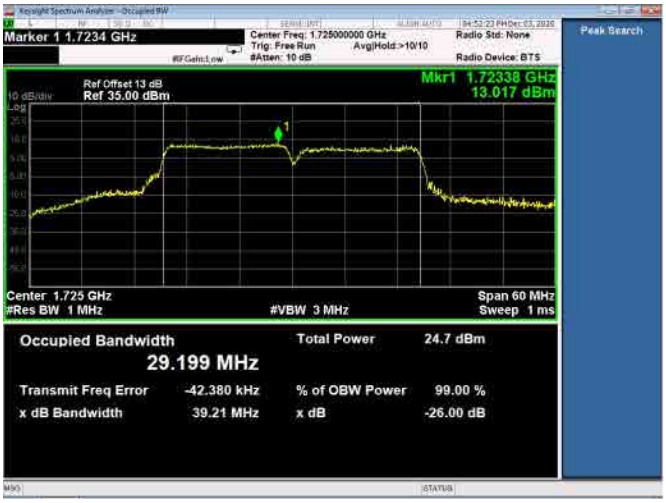
10MHz+20MHz / 64QAM / HCH

LTE Band 66C	
15MHz+10MHz/QPSK / LCH	15MHz+10MHz/16QAM / LCH
	
15MHz+10MHz/64QAM / LCH	15MHz+10MHz / QPSK /MCH
	
15MHz+10MHz / 16QAM /MCH	15MHz+10MHz / 64QAM /MCH

15MHz+10MHz / QPSK / HCH

15MHz+10MHz / 16QAM / HCH

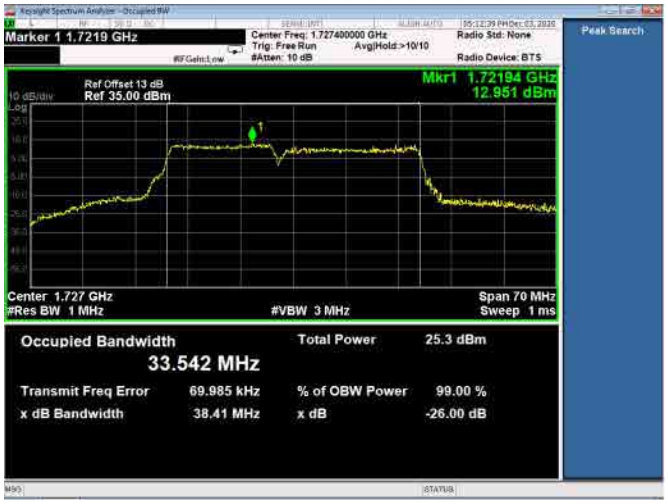
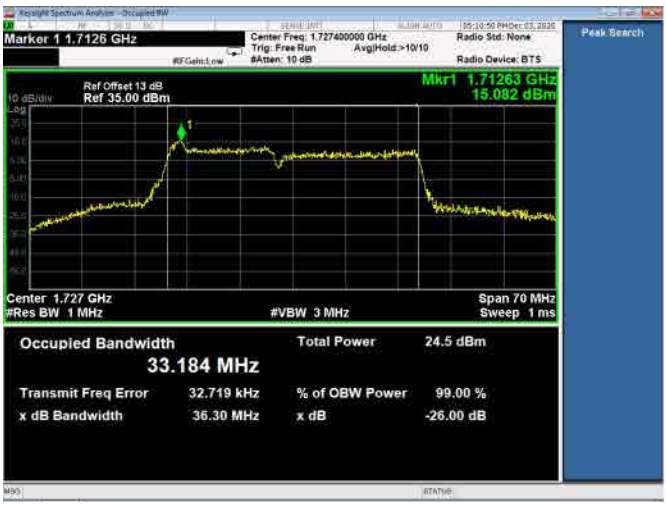
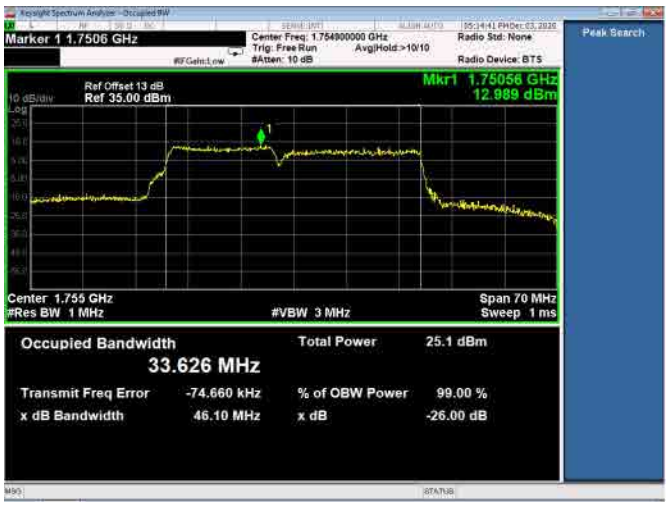
15MHz+10MHz / 64QAM / HCH

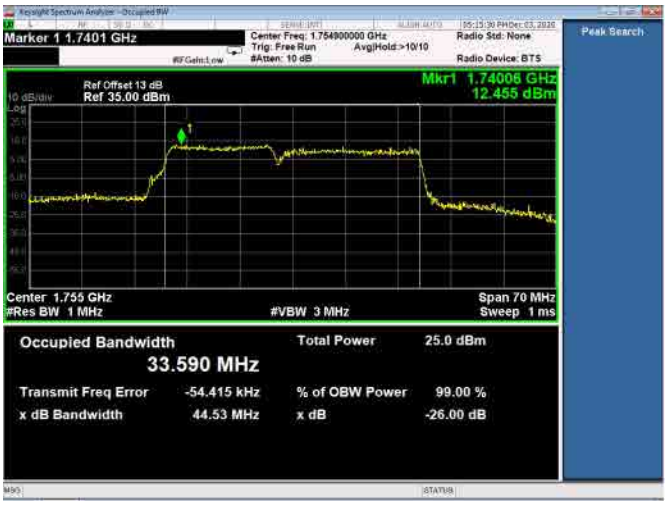
LTE Band 66C	
15MHz+15MHz/QPSK / LCH	15MHz+15MHz/16QAM / LCH
	
15MHz+15MHz/64QAM/ LCH	15MHz+15MHz QPSK / MCH
15MHz+15MHz / 16QAM / MCH	15MHz+15MHz / 64QAM / MCH

15MHz+15MHz / QPSK / HCH

15MHz+15MHz / 16QAM / HCH

15MHz+15MHz / 64QAM / HCH

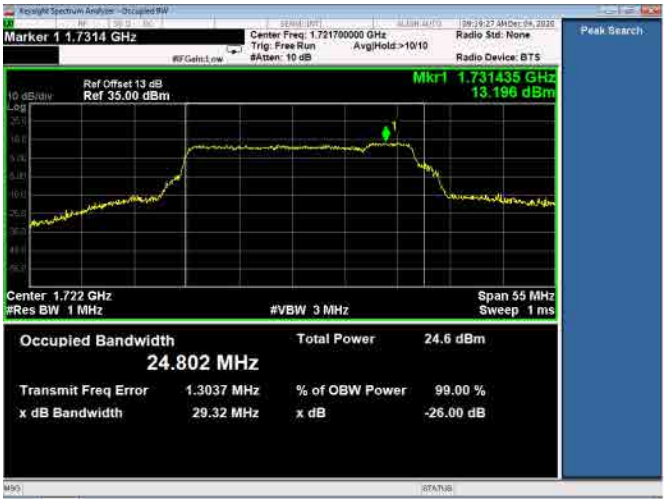
LTE Band 66C	
15MHz+20MHz/QPSK / LCH	15MHz+20MHz/16QAM / LCH
4  	
15MHz+20MHz/64QAM / LCH	15MHz+20MHz / QPSK /MCH
 	
15MHz+20MHz / 16QAM /MCH	15MHz+20MHz / 64QAM /MCH



15MHz+20MHz / QPSK / HCH

15MHz+20MHz / 16QAM / HCH

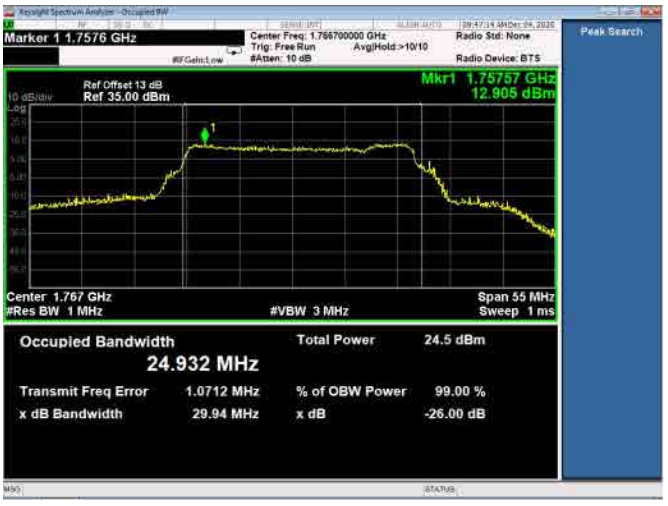
15MHz+20MHz / 64QAM / HCH

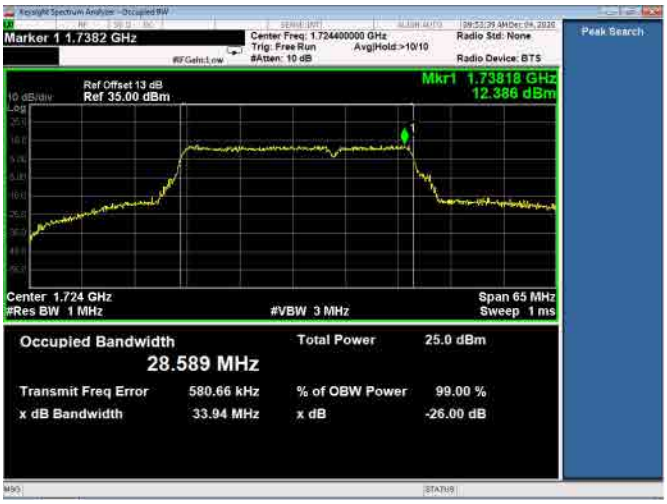
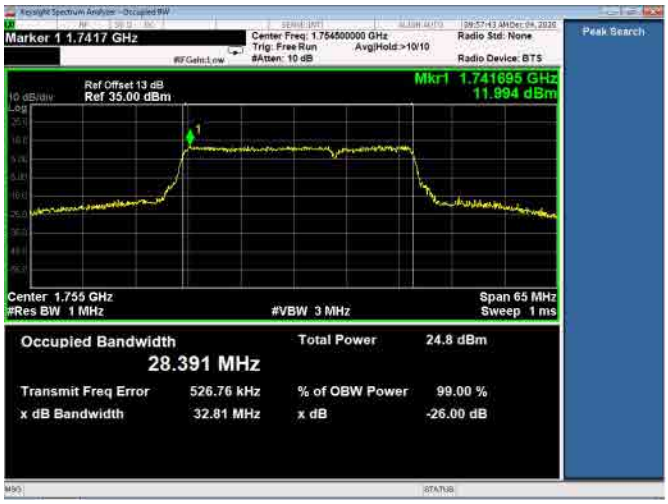
LTE Band 66C	
20MHz+5MHz/QPSK / LCH	20MHz+5MHz/16QAM / LCH
	
20MHz+5MHz/64QAM / LCH	20MHz+5MHz / QPSK /MCH
20MHz+5MHz / 16QAM /MCH	20MHz+5MHz / 64QAM /MCH

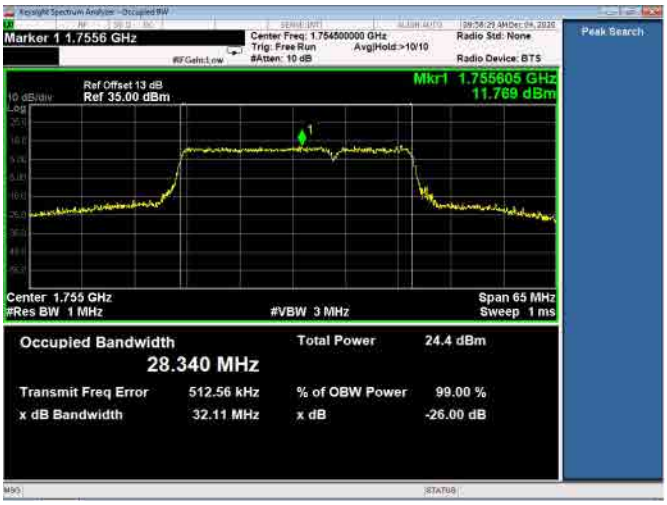
20MHz+5MHz / QPSK / HCH

20MHz+5MHz / 16QAM / HCH

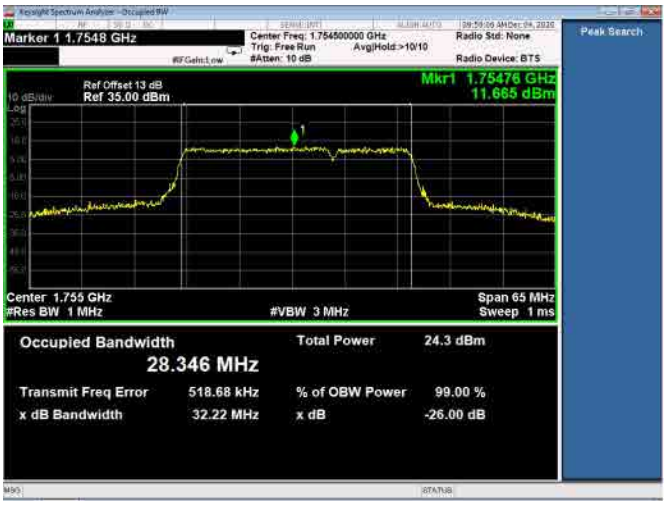
20MHz+5MHz / 64QAM / HCH



LTE Band 66C	
20MHz+10MHz /QPSK / LCH	20MHz+10MHz / 16QAM / LCH
20MHz+10MHz / / L64QAMCH	20MHz+10MHz / QPSK / MCH
	
20MHz+10MHz / 16QAM / MCH	20MHz+10MHz / 64QAM / MCH



20MHz+10MHz / QPSK / HCH



20MHz+10MHz / 16QAM / HCH

20MHz+10MHz / 64QAM / HCH

LTE Band 66C	
20MHz+15MHz / QPSK / LCH	20MHz+15MHz / 16QAM / LCH
20MHz+15MHz / 64QAM / LCH	20MHz+15MHz / QPSK / MCH
20MHz+15MHz / 16QAM / MCH	20MHz+15MHz / 64QAM / MCH

20MHz+15MHz / QPSK / HCH

20MHz+15MHz / 16QAM / HCH

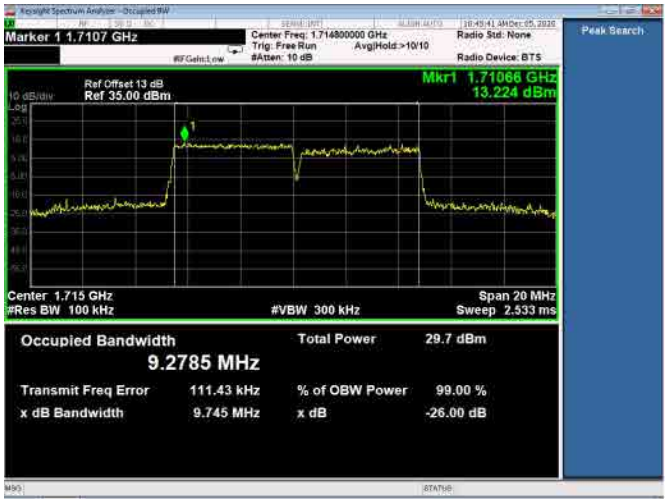
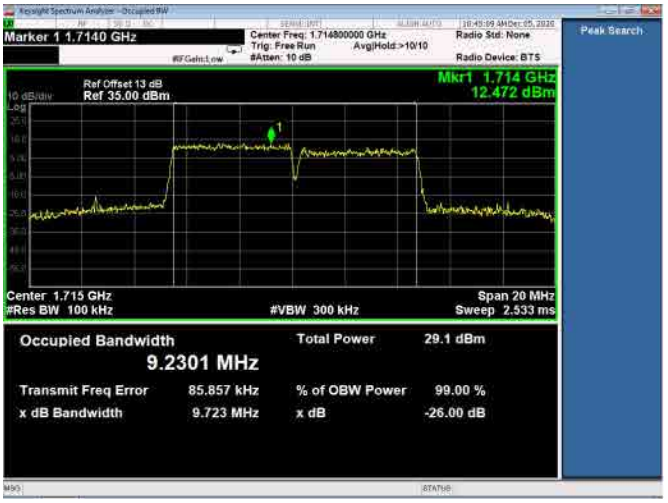
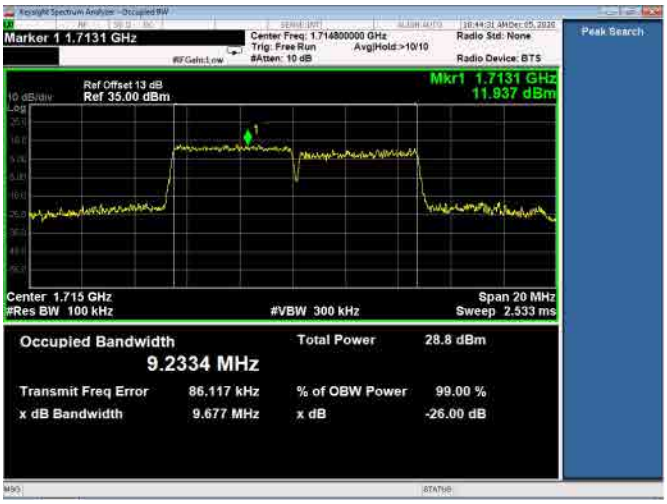
20MHz+15MHz / 64QAM / HCH

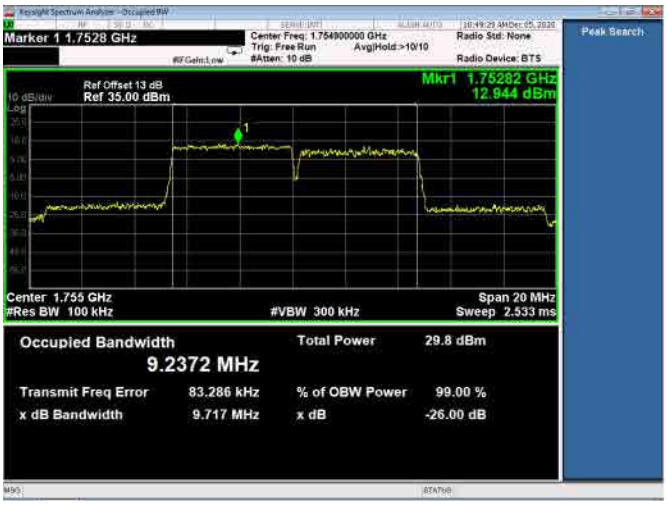
LTE Band 66C	
20MHz+20MHz /QPSK / LCH	20MHz+20MHz / 16QAM / LCH
20MHz+20MHz / 64QAM/ LCH	20MHz+20MHz / QPSK /MCH
20MHz+20MHz / 16QAM /MCH	20MHz+20MHz / 64QAM /MCH

20MHz+20MHz / QPSK / HCH

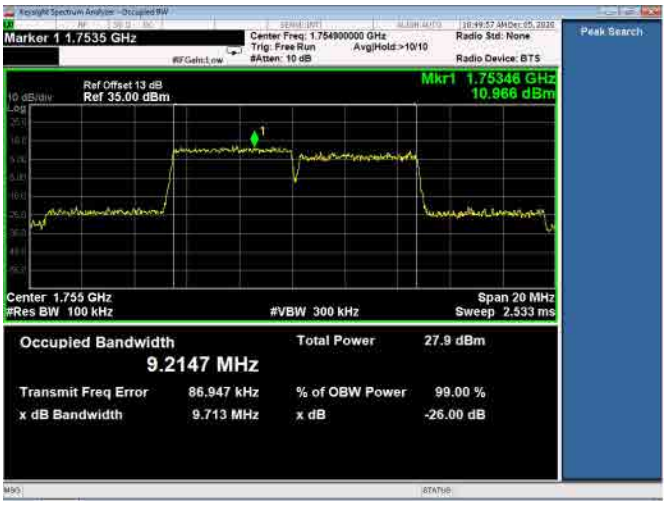
20MHz+20MHz / 16QAM / HCH

20MHz+20MHz / 64QAM / HCH

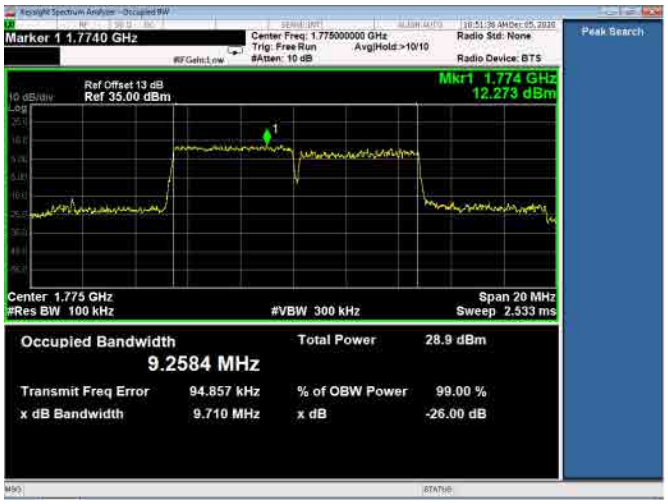
LTE Band 66B	
5MHz+5MHz /QPSK / LCH	5MHz+5MHz / 16QAM / LCH
	
5MHz+5MHz /64QAM / LCH	5MHz+5MHz / QPSK / MCH
	
5MHz+5MHz / 16QAM / MCH	5MHz+5MHz / 64QAM / MCH

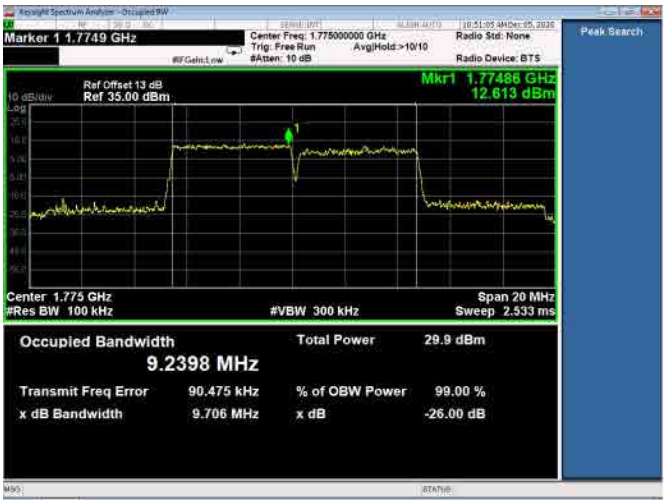


5MHz+5MHz / QPSK /HCH

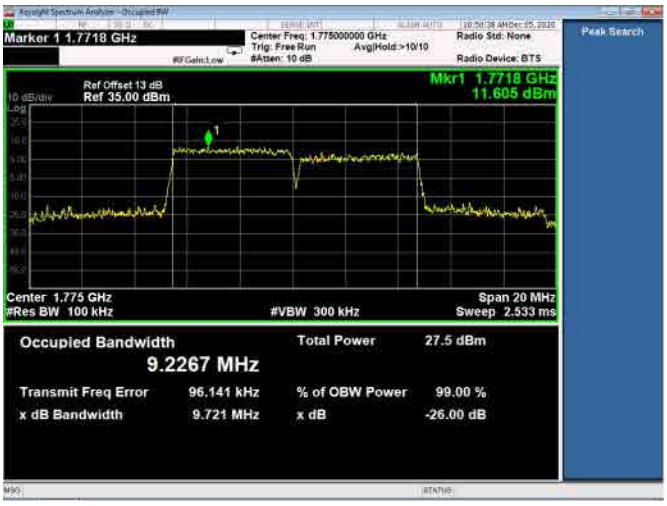


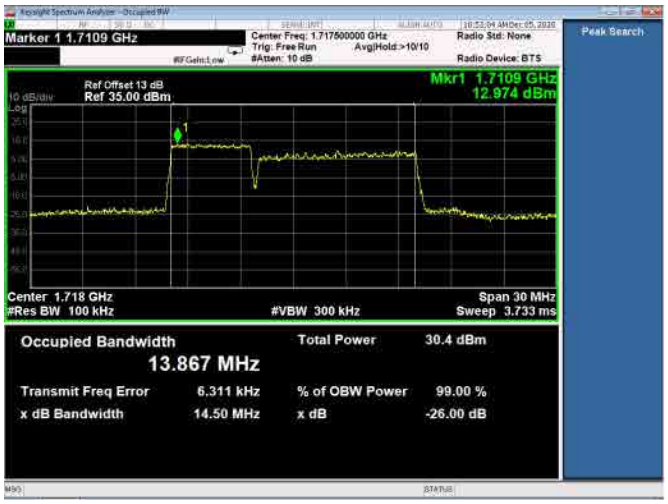
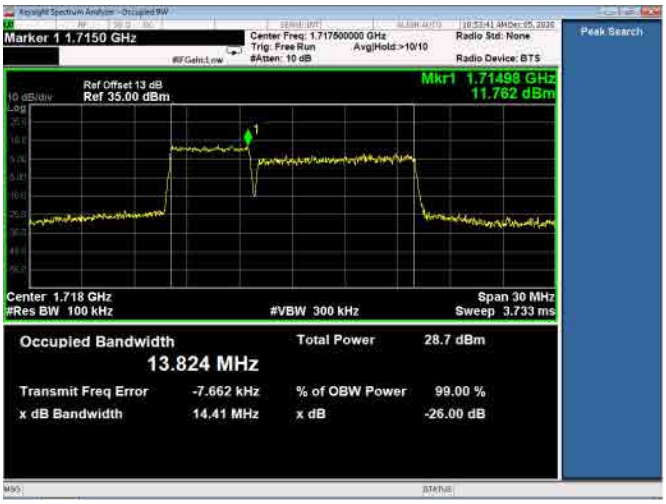
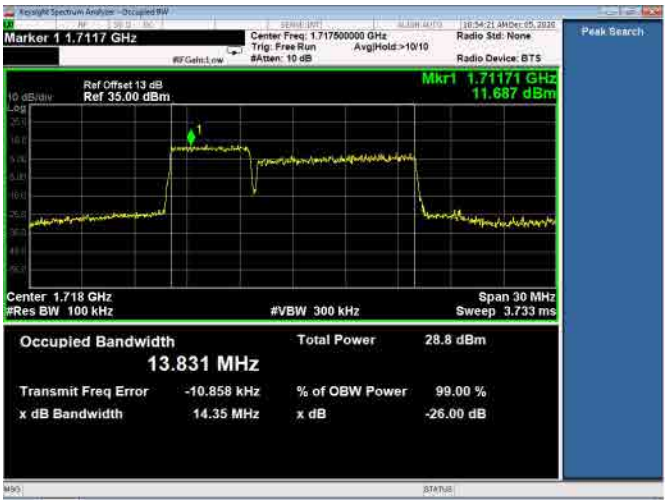
5MHz+5MHz / 16QAM /HCH

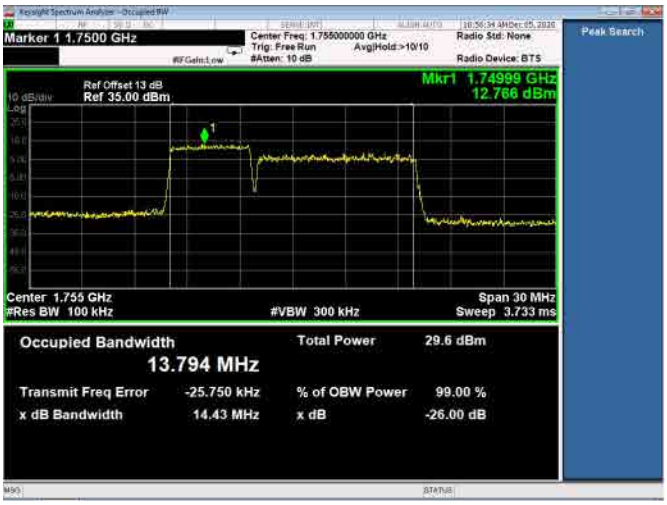




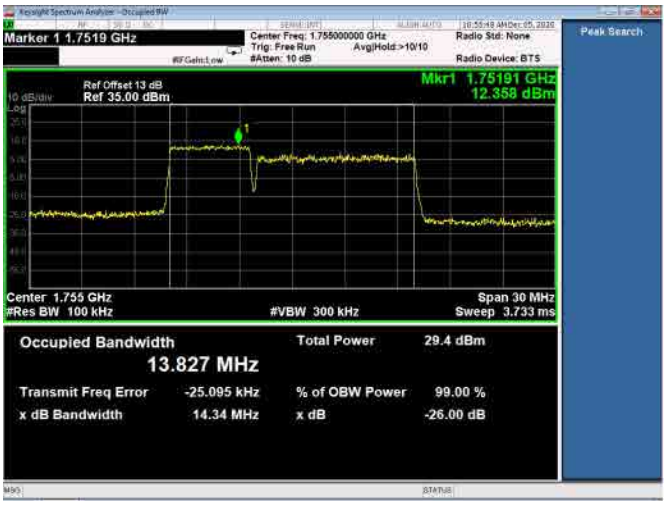
5MHz+5MHz / 64QAM /HCH



LTE Band 66B	
5MHz+10MHz /QPSK / LCH	5MHz+10MHz / 16QAM / LCH
	
5MHz+10MHz / 64QAM / LCH	5MHz+10MHz / QPSK / MCH
	
5MHz+10MHz / 16QAM / MCH	5MHz+10MHz / 64QAM / MCH

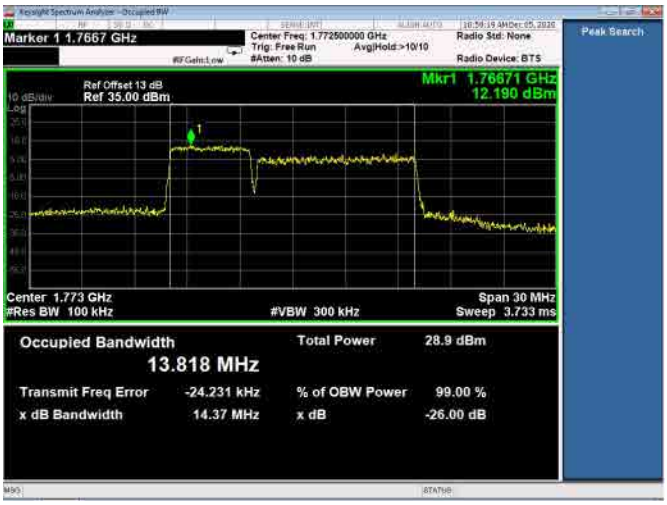


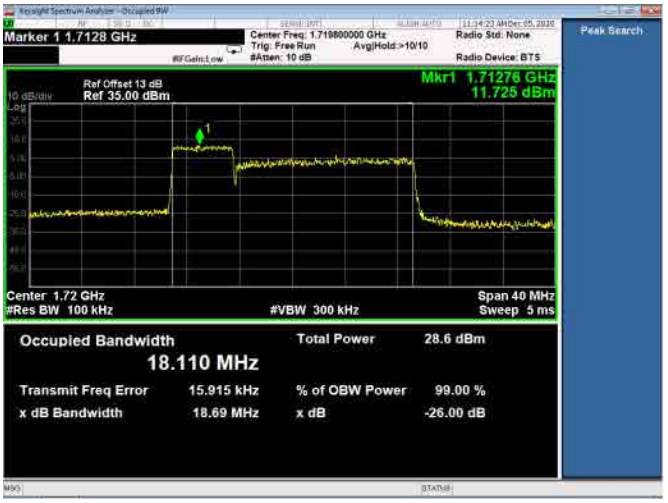
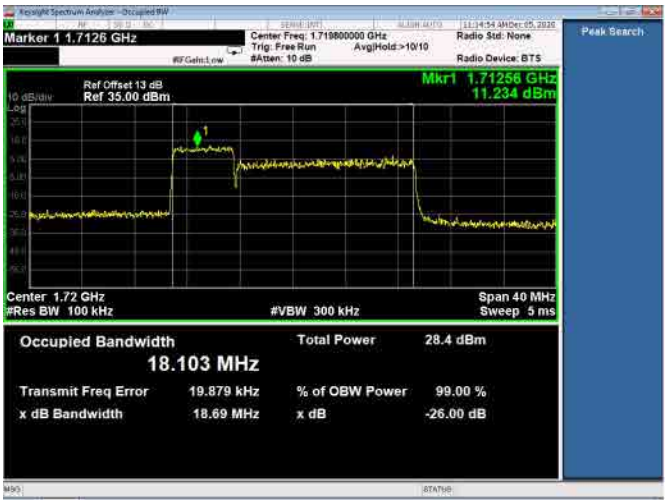
5MHz+10MHz / QPSK / HCH

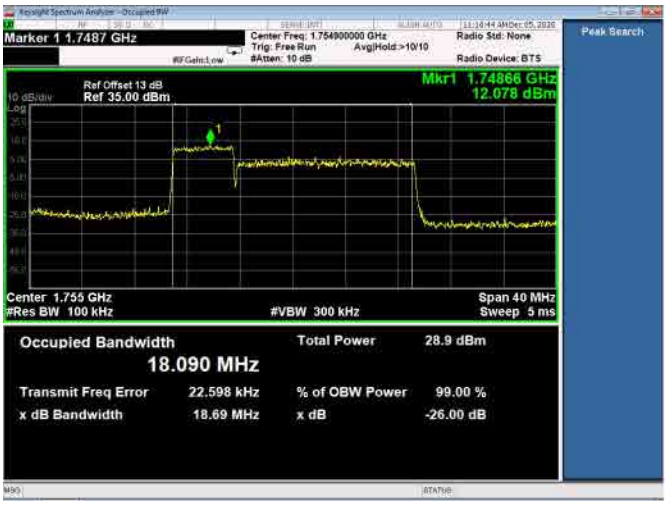


5MHz+10MHz /16QAM / HCH

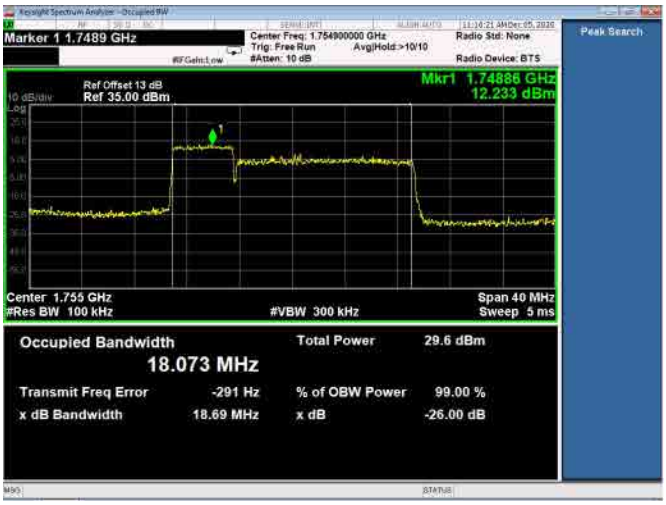
5MHz+10MHz / 64QAM / HCH



LTE Band 66B	
5MHz+15MHz /QPSK / LCH	5MHz+15MHz / 16QAM / LCH
	
5MHz+15MHz / 64QAM / LCH	5MHz+15MHz / QPSK / MCH
	
5MHz+15MHz / 16QAM / MCH	5MHz+15MHz / 64QAM / MCH

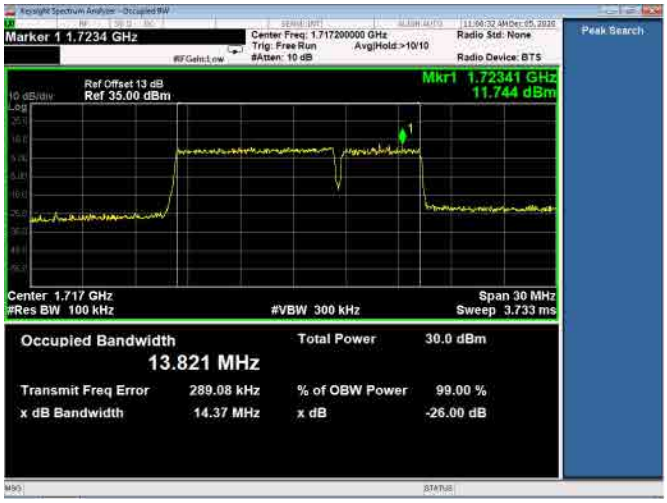
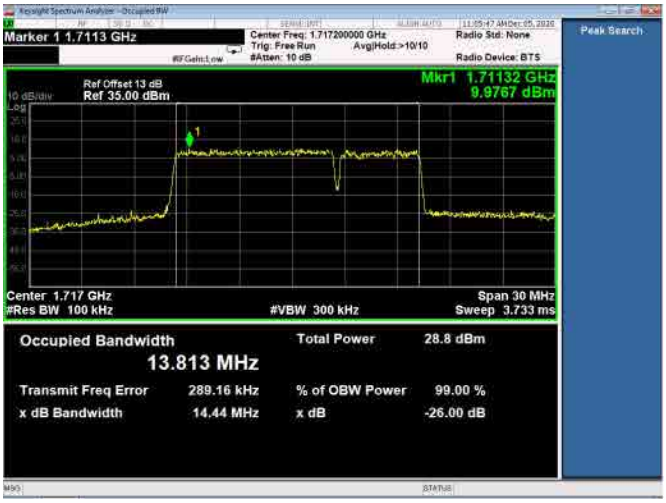
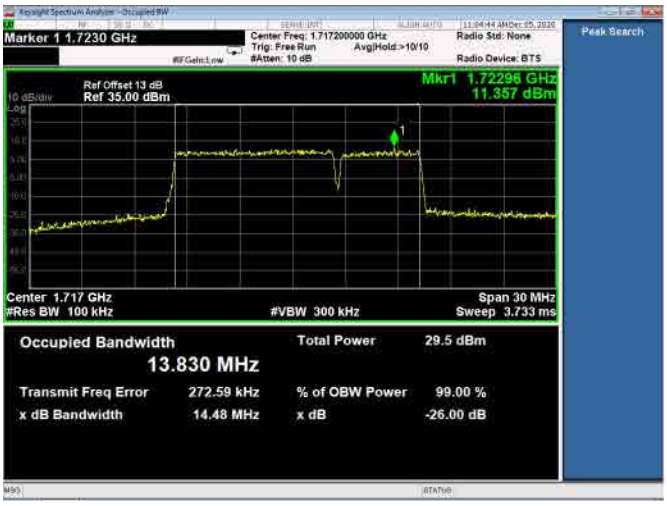
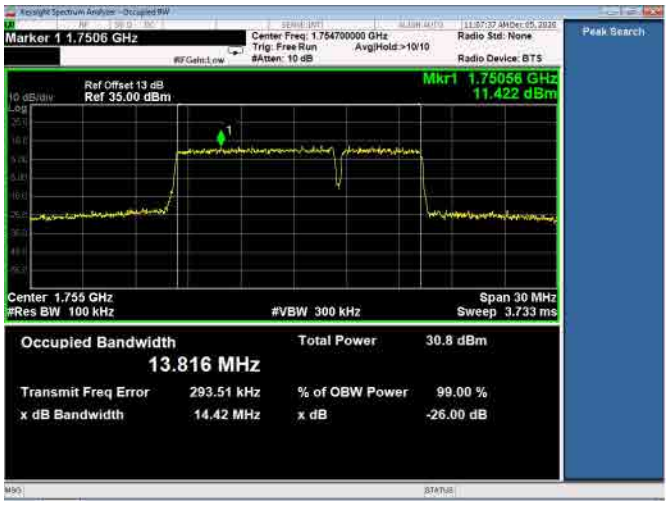


5MHz+15MHz / QPSK / HCH

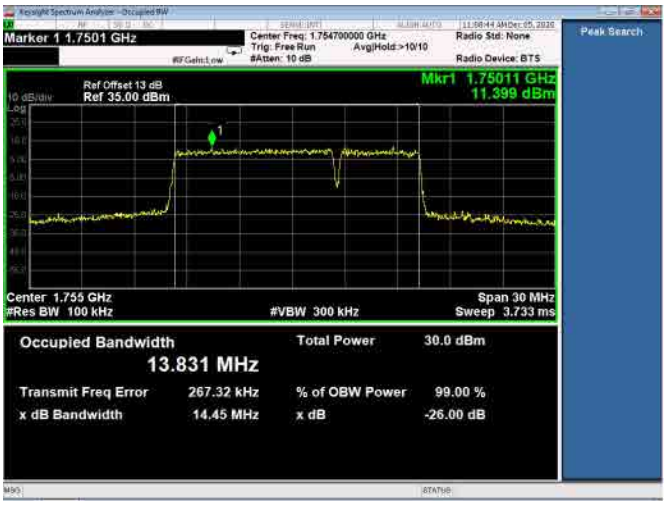


5MHz+15MHz / 16QAM / HCH

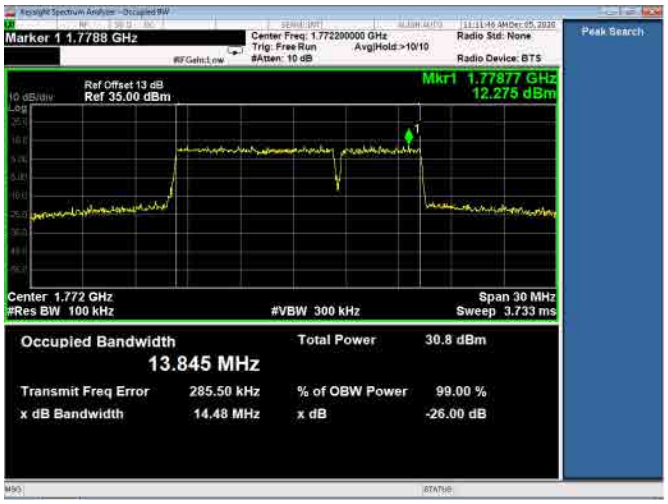
5MHz+15MHz / 64QAM / HCH

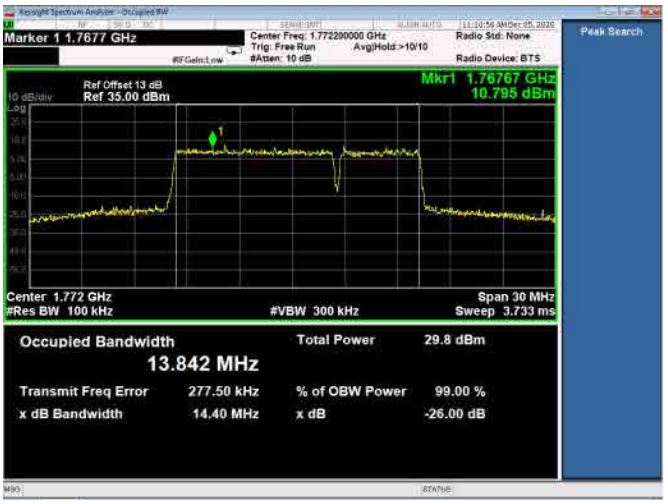
LTE Band 66B	
10MHz+5MHz /QPSK / LCH	10MHz+5MHz / 16QAM / LCH
	
10MHz+5MHz / 64QAM / LCH	10MHz+5MHz / QPSK / MCH
	
10MHz+5MHz / 16QAM / MCH	10MHz+5MHz / 64QAM / MCH

10MHz+5MHz / QPSK / HCH

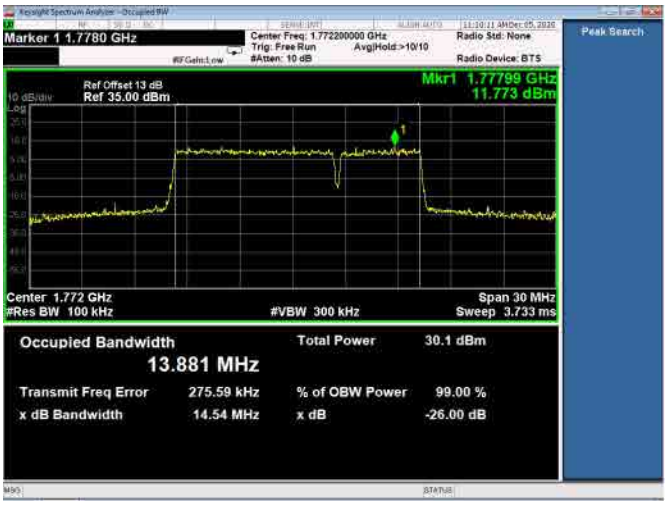


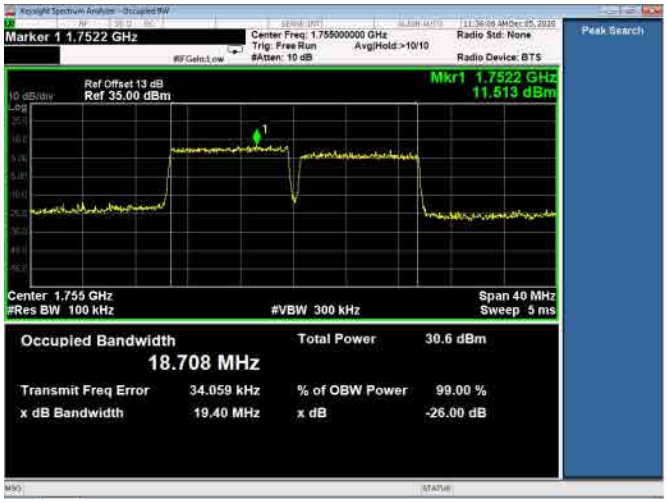
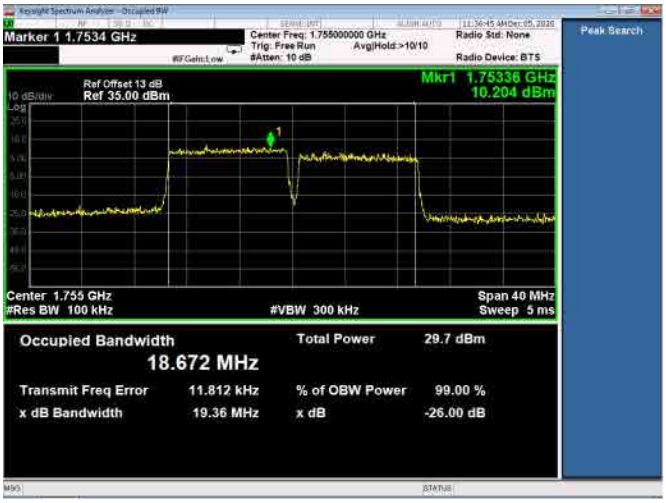
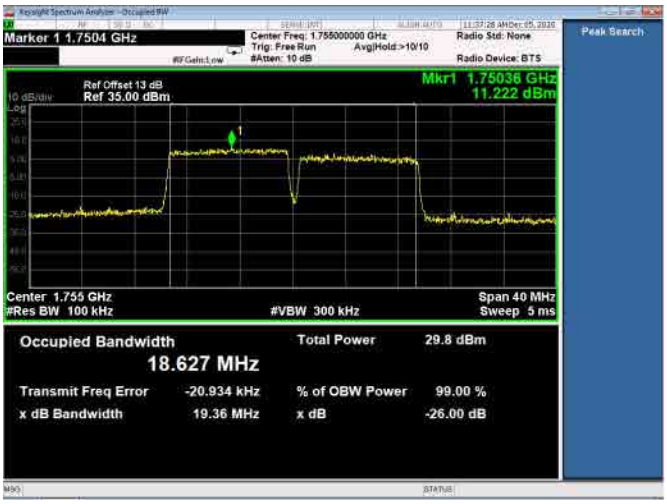
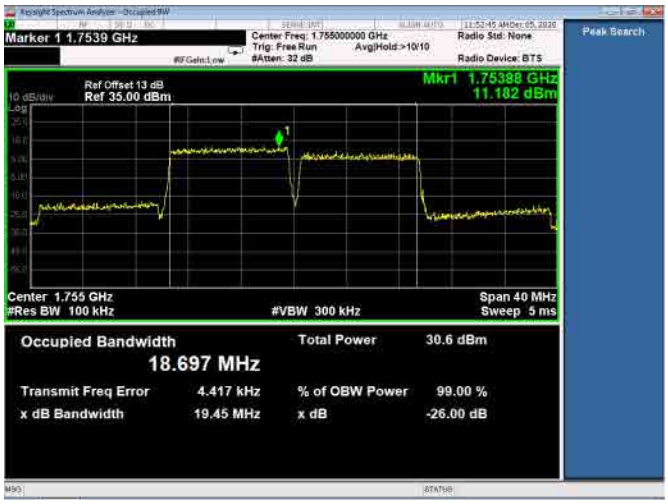
10MHz+5MHz / 16QAM / HCH

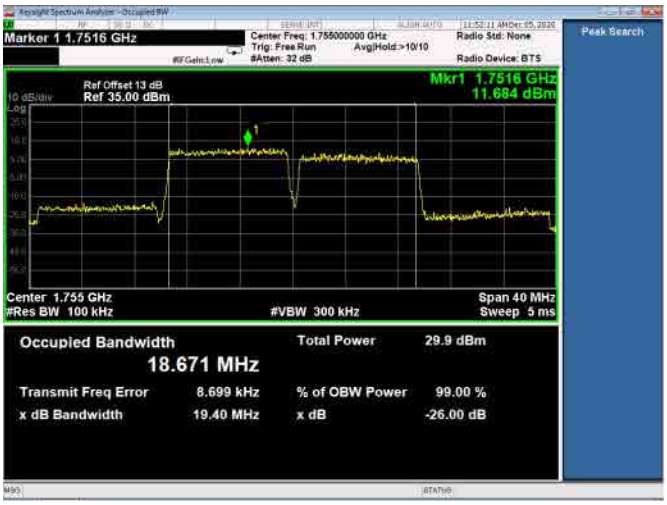




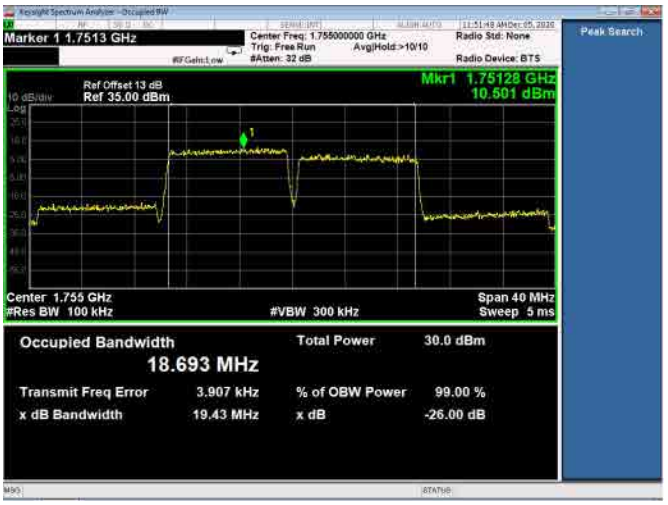
10MHz+5MHz / 64QAM/HCH



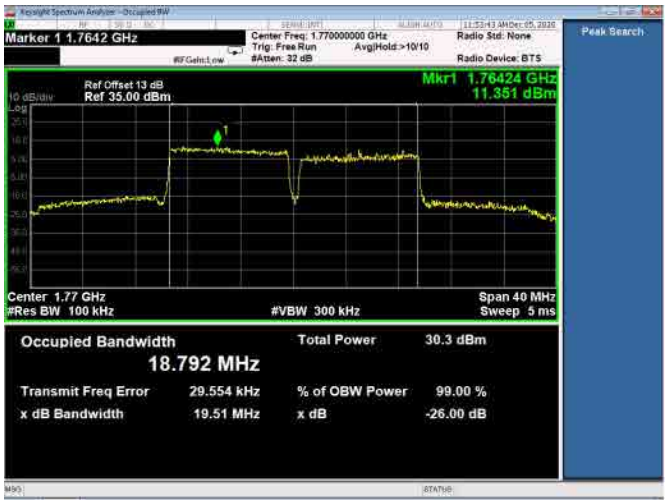
LTE Band 66B	
10MHz+10MHz /QPSK / LCH	10MHz+10MHz / 16QAM / LCH
	
10MHz+10MHz / 64QAM / LCH	10MHz+10MHz / QPSK / MCH
	
10MHz+10MHz / 16QAM / MCH	10MHz+10MHz / 64QAM / MCH



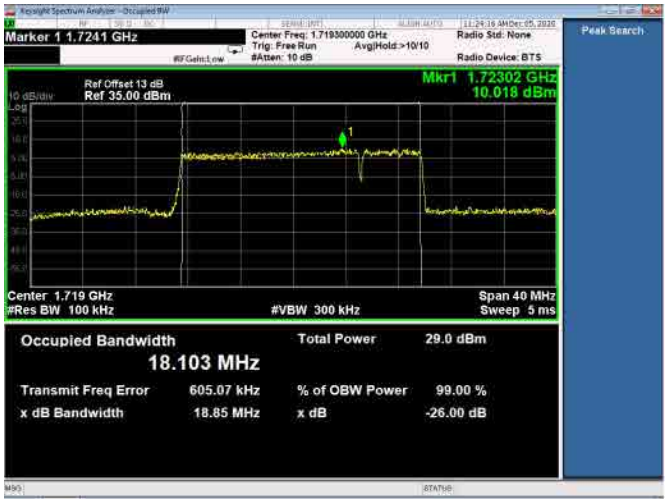
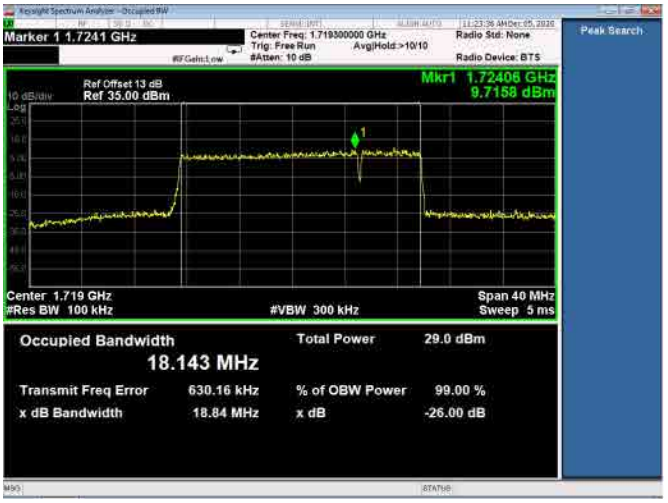
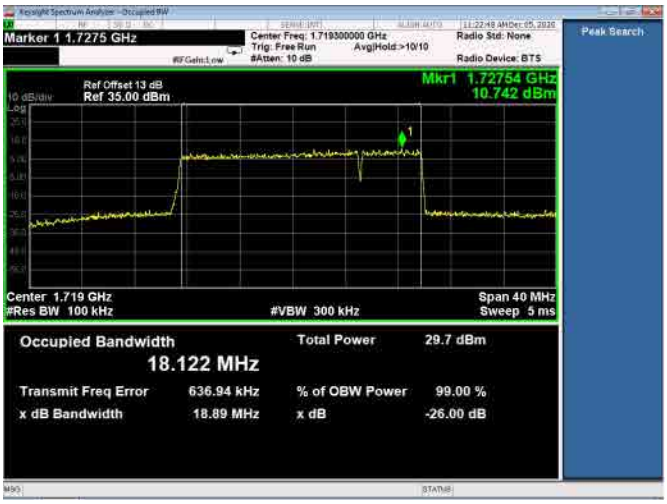
10MHz+10MHz / QPSK / HCH

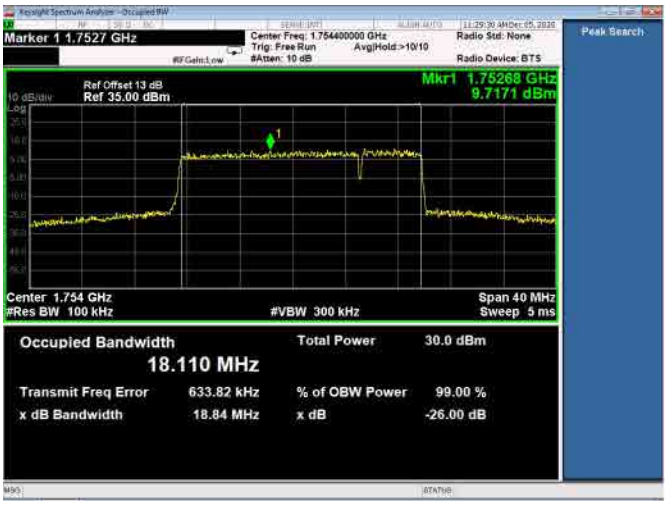


10MHz+10MHz / 16QAM / HCH



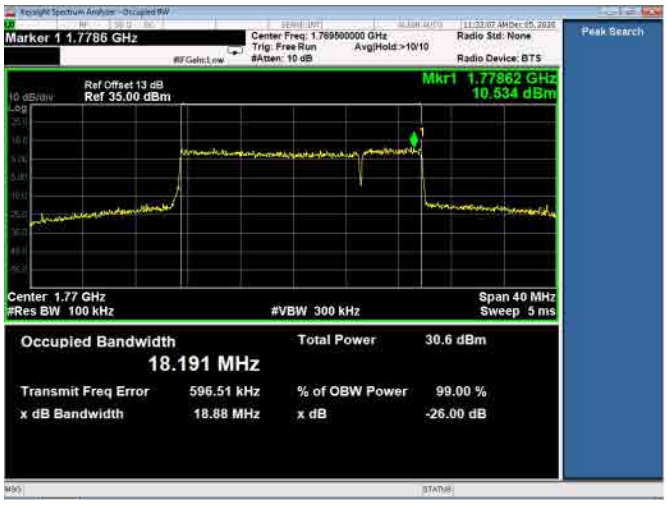
10MHz+10MHz / 64QAM / HCH

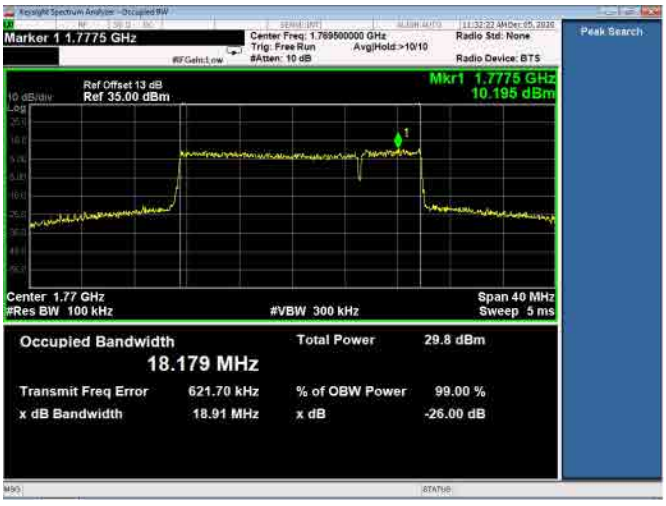
LTE Band 66B	
15MHz+5MHz / QPSK / LCH	15MHz+5MHz / 16QAM / LCH
	
15MHz+5MHz / 64QAM / LCH	15MHz+5MHz / QPSK / MCH
	
15MHz+5MHz /16Q /AM MCH	15MHz+5MHz / 64QAM / MCH



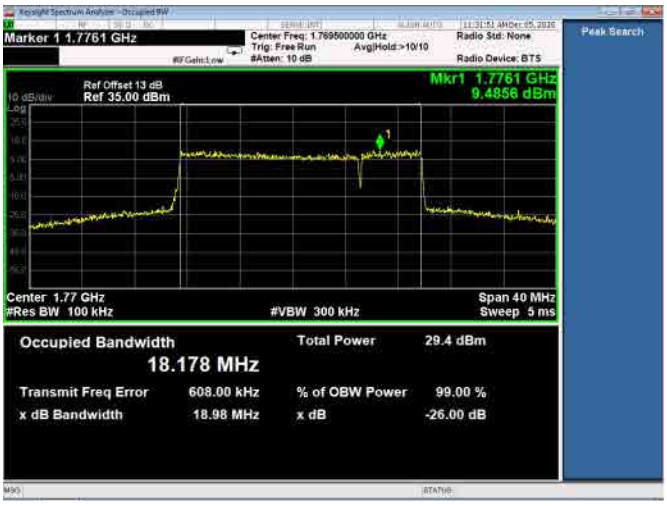
15MHz+5MHz / QPSK / HCH

15MHz+5MHz /16QAM / HCH





15MHz+5MHz / 64QAM / HCH

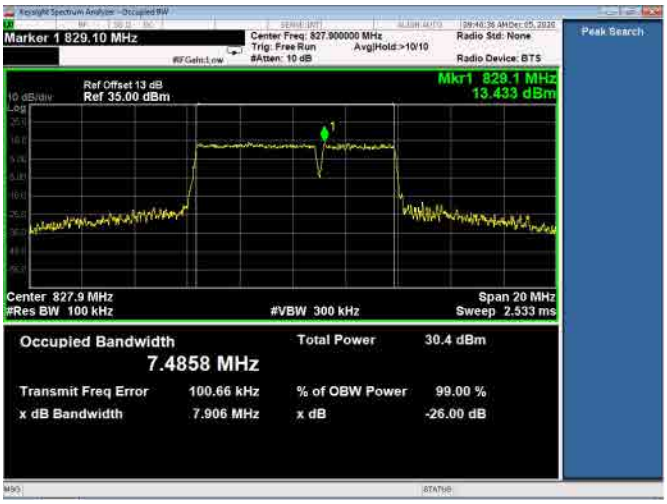


LTE Band 5B	
3MHz+5MHz /QPSK / LCH	3MHz+5MHz / 16QAM / LCH
3MHz+5MHz / 64QAM / LCH	3MHz+5MHz / QPSK / MCH
3MHz+5MHz / 16QAM / MCH	3MHz+5MHz / 64QAM / MCH

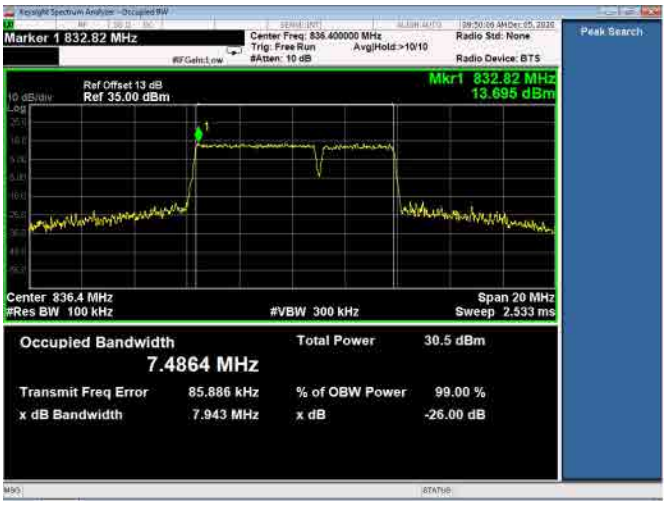
3MHz+5MHz / QPSK / HCH

3MHz+5MHz / 16QAM / HCH

3MHz+5MHz / 64QAM / HCH

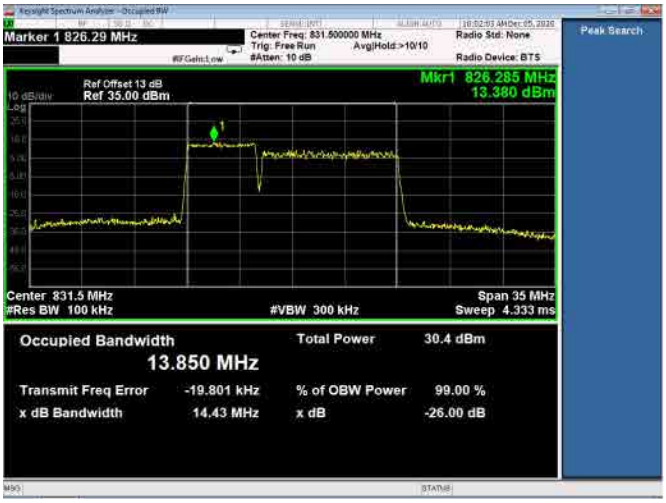
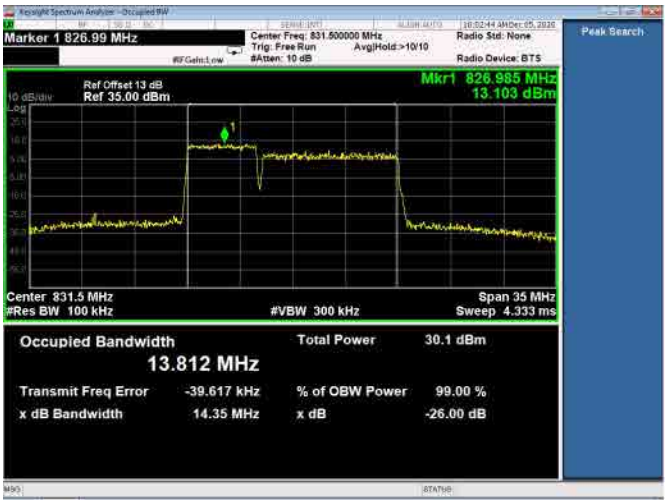
LTE Band 5B	
5MHz+3MHz / QPSK / LCH	5MHz+3MHz / 16QAM / LCH
5MHz+3MHz / 64QAM / LCH	5MHz+3MHz / QPSK / MCH
	
5MHz+3MHz / 16QAM / MCH	5MHz+3MHz / 64QAM / MCH

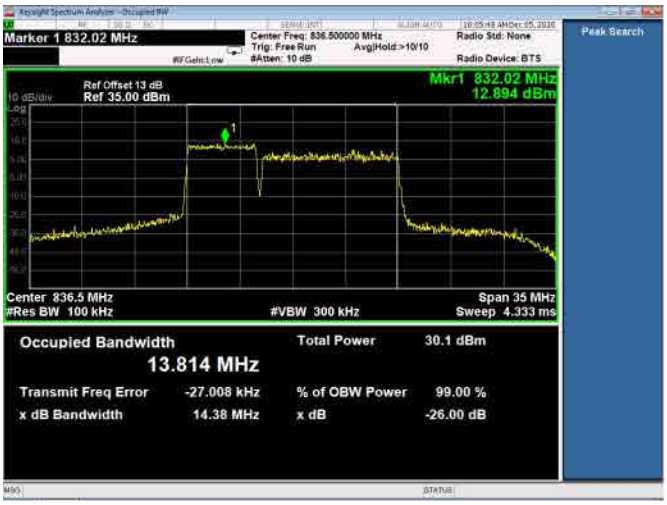
5MHz+3MHz / QPSK / HCH



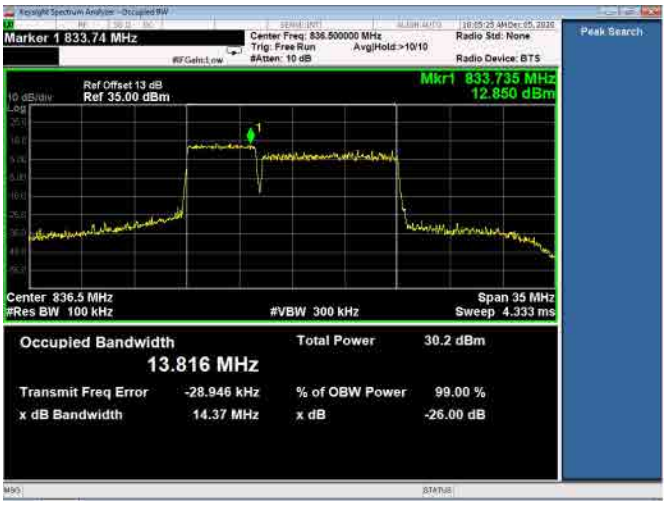
5MHz+3MHz / 16QAM / HCH

5MHz+3MHz / 64QAM / HCH

LTE Band 5B	
5MHz+10MHz /QPSK / LCH	5MHz+10MHz /16QAM / LCH
	
5MHz+10MHz / 64QAM / LCH	5MHz+10MHz / QPSK /MCH
	
5MHz+10MHz / 16QAM /MCH	5MHz+10MHz / 64QAM /MCH

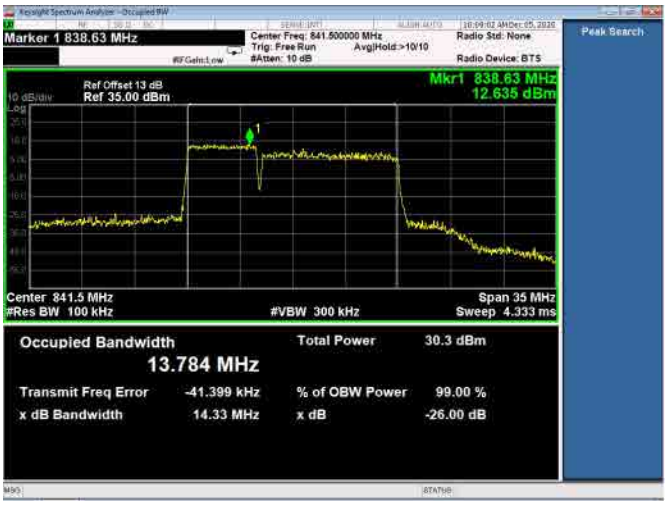


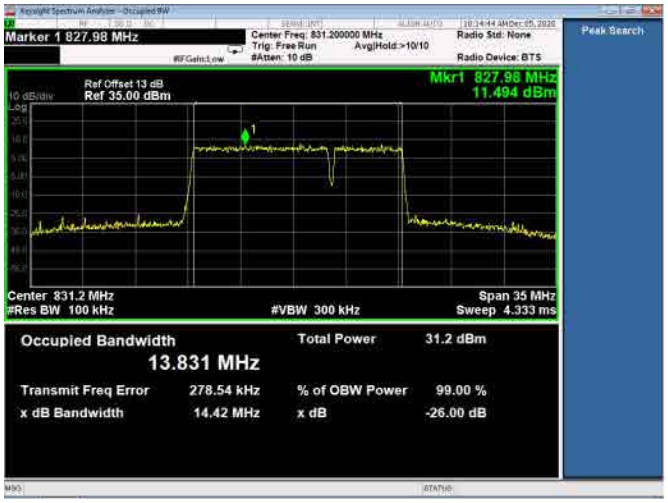
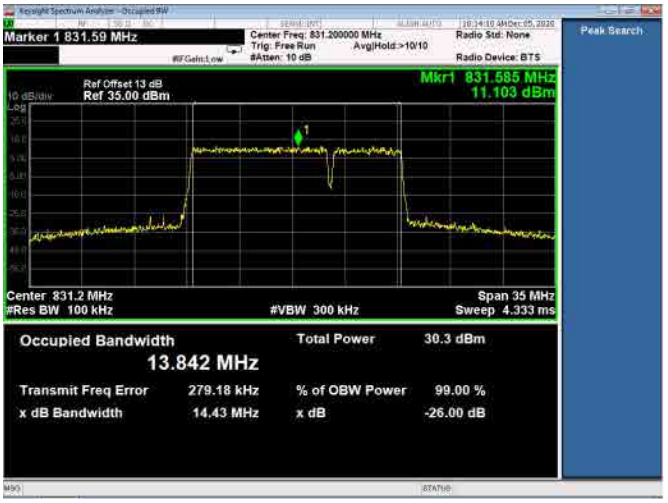
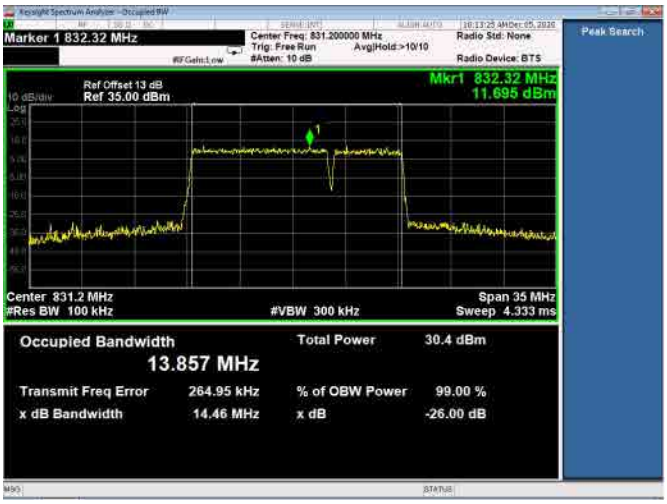
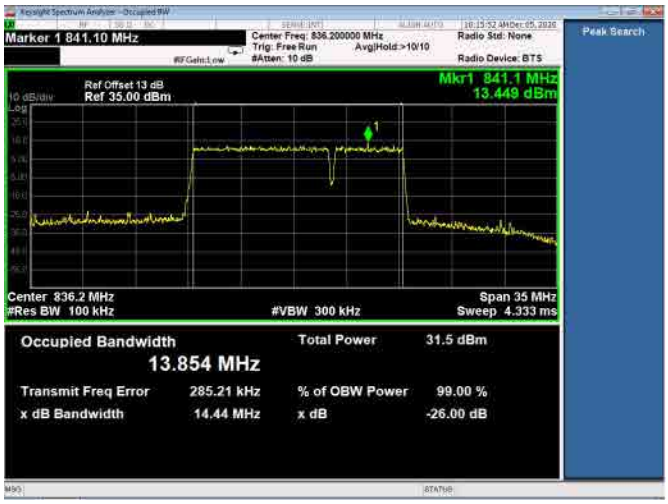
5MHz+10MHz / QPSK / HCH



5MHz+10MHz / 16QAM / HCH

5MHz+10MHz / 64QAM / HCH



LTE Band 5B	
10MHz+5MHz / QPSK / LCH	10MHz+5MHz / 16QAM / LCH
	
10MHz+5MHz / 64QAM / LCH	10MHz+5MHz / QPSK / MCH
	
10MHz+5MHz / 16QAM / MCH	10MHz+5MHz / 64QAM / MCH