



# TEST REPORT

**APPLICANT** : Nubia Technology Co.,Ltd.  
**PRODUCT NAME** : 5G Digital Mobile Phone  
**MODEL NAME** : NX659J  
**BRAND NAME** : REDMAGIC  
**FCC ID** : 2AHJO-NX659J  
**STANDARD(S)** : 47 CFR Part 2  
: 47 CFR Part 90, Subpart S  
**RECEIPT DATE** : 2020-01-15  
**TEST DATE** : 2020-02-22 to 2020-03-31  
**ISSUE DATE** : 2020-04-03

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<b>Change History</b>		
<b>Version</b>	<b>Date</b>	<b>Reason for change</b>
1.0	2020-04-03	First edition



# 1. Technical Information

Note: Provide by applicant.

## 1.1. Applicant and Manufacturer Information

<b>Applicant:</b>	Nubia Technology Co.,Ltd.
<b>Applicant Address:</b>	16/F,Building 2,chongwen Park,Nanshan zhiyuan,3370 Liuxian Road,Nanshan District,Shenzhen,China.
<b>Manufacturer:</b>	Nubia Technology Co.,Ltd.
<b>ManufacturerAddress:</b>	16/F,Building 2,chongwen Park,Nanshan zhiyuan,3370 Liuxian Road,Nanshan District,Shenzhen,China.

## 1.2. Equipment Under Test (EUT) Description

<b>Product Name:</b>	5G Digital Mobile Phone		
<b>Hardware Version:</b>	NX659J_V1AMB		
<b>Software Version:</b>	NX659J_ENCommon_V1.22		
<b>Modulation Type:</b>	QPSK, 16QAM,64QAM		
<b>Operation Band:</b>	Band 18,26		
<b>Frequency Range:</b>	LTE Band 18	Tx: 815MHz - 830MHz	
		Rx: 860MHz– 875MHz	
	LTE Band 26	Tx: 814MHz– 824MHz	
		Rx: 859MHz– 869MHz	
<b>Channel Bandwidth</b>	LTE Band 18	5 MHz, 10MHz,15MHz	
	LTE Band 26	1.4MHz, 3 MHz, 5 MHz, 10MHz	
<b>Antenna Type:</b>	Fixed Internal		
<b>Antenna Gain:</b>	Top Antenna		Bottom Antenna
	LTE Band 18	1.52 dBi	LTE Band 18 1.52 dBi
	LTE Band 26	1.44 dBi	LTE Band 26 1.44 dBi
<b>Accessory Information:</b>	Battery		
	Brand Name:	ATL	
	Model No.:	Li3945T44P8h526391	
	Capacity:	4400mAh	
	Rated Voltage:	3.87V	
	Charge Limit:	4.45V	



	AC Adapter 1	
	Brand Name:	N/A
	Model No.:	CYNBY090200-A00
	Rated Input:	100-240V ~ 50/60Hz 0.5A
	Rated Output:	12V=1.5A or 9V=2.0A or 5V=3.0A

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



### 1.3. Maximum ERP/EIRP and Emission Designator

Maximum ERP/EIRP

	Top Antenna				Bottom Antenna		
<b>LTE Band18</b>	<b>Maximum ERP/EIRP (W)</b>				<b>Maximum ERP/EIRP (W)</b>		
BW(MHz)	QPSK	16QAM	64QAM		QPSK	16QAM	64QAM
15	0.101	0.092	0.091		0.175	0.149	0.149
10	0.096	0.084	0.067		0.174	0.157	0.149
5	0.098	0.086	0.064		0.173	0.153	0.141
<b>LTE Band26</b>	<b>Maximum ERP/EIRP (W)</b>				<b>Maximum ERP/EIRP (W)</b>		
BW(MHz)	QPSK	16QAM	64QAM		QPSK	16QAM	64QAM
10	0.096	0.082	0.062		0.218	0.191	0.189
5	0.095	0.084	0.064		0.222	0.195	0.193
3	0.094	0.081	0.065		0.218	0.191	0.189
1.4	0.095	0.079	0.064		0.221	0.190	0.189

Emission Designator

<b>LTE Band18</b>	<b>Emission Designator (99%OBW)</b>		
BW(MHz)	QPSK	16QAM	64QAM
15	13M5G7D	13M5W7D	13M5D7W
10	8M99G7D	8M96W7D	8M97D7W
5	4M51G7D	4M51W7D	4M5D7W
<b>LTE Band26</b>	<b>Emission Designator (99%OBW)</b>		
BW(MHz)	QPSK	16QAM	64QAM
10	8M99G7D	8M95W7D	8M98D7W
5	4M49G7D	4M49W7D	4M49D7W
3	2M70G7D	2M70W7D	2M71D7W
1.4	1M09G7D	1M09W7D	1M09D7W



## 1.4. Test Standards and Results

The objective of the report is to perform testing according to Part 2, and Part 90 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 90	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, 90.635(b)	Transmitter Conducted Output Power and ERP/EIRP	Feb 22, to Mar 7, 2020	Gao Mingzhou Peng Xuewei	PASS	No deviation
90.209	Occupied Bandwidth	Feb 22 to 28, 2020	Gao Mingzhou	PASS	No deviation
2.1055, 90.213	Frequency Stability	Feb 22, to Mar 7, 2020	Gao Mingzhou	PASS	No deviation
2.1051,90.691	Conducted Spurious Emissions	Feb 22, to Mar 31, 2020	Gao Mingzhou	PASS	No deviation
2.1051,90.691	Band Edge	Feb 22, to Mar 7, 2020	Gao Mingzhou	PASS	No deviation
2.1051, 90.691	Radiated Spurious Emissions	Feb 22, to Mar 7, 2020	Peng Xuewei	PASS	No deviation

**Note 1:** The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 (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.





## 1.5. 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

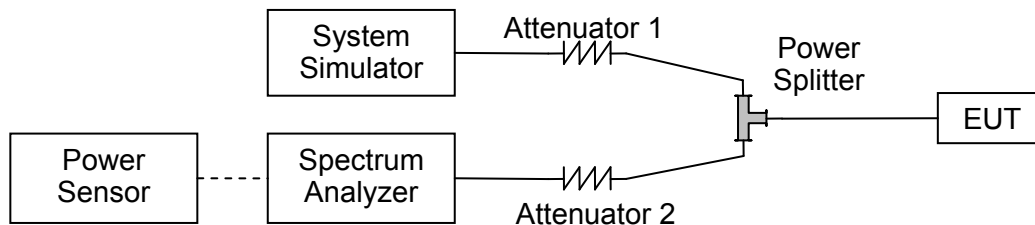
## 2.47 CFR Part 2, and Part 90 Requirements

### 2.1. Transmitter Conducted Output Power And ERP/EIRP

#### 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).

#### 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 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.

#### 2.1.3. Test procedure

KDB 971168 D01v03 Section 5.2 and ANSI/TIA-603-E-2016.

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

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

#### 2.1.4. Result



**Conducted Output Power:  
Top Antenna**

LTE Band 18						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				/	23925	/
Frequency (MHz)				/	822.5	/
15	QPSK	1	0	/	20.58	/
15	QPSK	1	37	/	20.69	/
15	QPSK	1	74	/	20.68	/
15	QPSK	36	0	/	19.73	/
15	QPSK	36	20	/	19.75	/
15	QPSK	36	39	/	19.69	/
15	QPSK	75	0	/	19.69	/
15	16QAM	1	0	/	20.29	/
15	16QAM	1	37	/	20.09	/
15	16QAM	1	74	/	19.66	/
15	16QAM	36	0	/	18.74	/
15	16QAM	36	20	/	18.74	/
15	16QAM	36	39	/	18.88	/
15	16QAM	75	0	/	18.82	/
15	64QAM	1	0	/	20.21	/
15	64QAM	1	25	/	19.92	/
15	64QAM	1	49	/	19.04	/
15	64QAM	25	0	/	18.81	/
15	64QAM	25	12	/	18.69	/
15	64QAM	25	25	/	18.81	/
15	64QAM	50	0	/	18.66	/



LTE Band 18						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23900	23925	23950
Frequency (MHz)				820	822.5	825
10	QPSK	1	0	20.35	20.27	20.43
10	QPSK	1	25	20.18	20.42	20.41
10	QPSK	1	49	20.44	20.45	20.39
10	QPSK	25	0	19.55	19.48	19.45
10	QPSK	25	12	19.63	19.52	19.39
10	QPSK	25	25	19.49	19.61	19.53
10	QPSK	50	0	19.58	19.49	19.57
10	16QAM	1	0	19.65	19.61	19.76
10	16QAM	1	25	19.71	19.85	19.55
10	16QAM	1	49	19.72	19.75	19.71
10	16QAM	25	0	18.48	18.69	18.52
10	16QAM	25	12	18.58	18.58	18.56
10	16QAM	25	25	18.59	18.59	18.65
10	16QAM	50	0	18.56	18.72	18.57
10	64QAM	1	0	18.75	18.62	18.64
10	64QAM	1	25	18.58	18.55	18.75
10	64QAM	1	49	18.89	18.81	18.64
10	64QAM	25	0	18.57	18.72	18.48
10	64QAM	25	12	18.71	18.59	18.62
10	64QAM	25	25	18.57	18.53	18.64
10	64QAM	50	0	18.52	18.53	18.38



LTE Band 18						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23875	23925	23975
Frequency (MHz)				817.5	822.5	827.5
5	QPSK	1	0	20.43	20.43	20.54
5	QPSK	1	12	20.48	20.49	20.45
5	QPSK	1	24	20.36	20.48	20.35
5	QPSK	12	0	19.49	19.56	19.53
5	QPSK	12	7	19.61	19.61	19.54
5	QPSK	12	13	19.55	19.49	19.52
5	QPSK	25	0	19.59	19.52	19.53
5	16QAM	1	0	19.66	19.56	19.62
5	16QAM	1	12	19.55	19.58	19.71
5	16QAM	1	24	19.95	19.77	19.62
5	16QAM	12	0	18.58	18.61	18.55
5	16QAM	12	7	18.61	18.59	18.49
5	16QAM	12	13	18.51	18.63	18.62
5	16QAM	25	0	18.59	18.62	18.51
5	64QAM	1	0	18.69	18.65	18.69
5	64QAM	1	12	18.41	18.65	18.64
5	64QAM	1	24	18.49	18.59	18.64
5	64QAM	12	0	18.61	18.57	18.53
5	64QAM	12	7	18.45	18.62	18.55
5	64QAM	12	13	18.57	18.61	18.47
5	64QAM	25	0	18.54	18.57	18.53



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				/	26740	/
Frequency (MHz)				/	819.0	/
10	QPSK	1	0	/	20.37	/
10	QPSK	1	25	/	20.24	/
10	QPSK	1	49	/	20.48	/
10	QPSK	25	0	/	19.47	/
10	QPSK	25	12	/	19.58	/
10	QPSK	25	25	/	19.48	/
10	QPSK	50	0	/	19.54	/
10	16QAM	1	0	/	19.74	/
10	16QAM	1	25	/	19.89	/
10	16QAM	1	49	/	19.97	/
10	16QAM	25	0	/	18.55	/
10	16QAM	25	12	/	18.57	/
10	16QAM	25	25	/	18.48	/
10	16QAM	50	0	/	18.55	/
10	64QAM	1	0	/	18.66	/
10	64QAM	1	25	/	18.65	/
10	64QAM	1	49	/	18.59	/
10	64QAM	25	0	/	18.48	/
10	64QAM	25	12	/	18.54	/
10	64QAM	25	25	/	18.54	/
10	64QAM	50	0	/	18.76	/



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				26715	26740	26765
Frequency (MHz)				816.5	819.0	821.5
5	QPSK	1	0	20.51	20.49	20.43
5	QPSK	1	12	20.45	20.47	20.46
5	QPSK	1	24	20.39	20.46	20.48
5	QPSK	12	0	19.47	19.48	19.46
5	QPSK	12	7	19.52	19.56	19.56
5	QPSK	12	13	19.53	19.54	19.43
5	QPSK	25	0	19.52	19.52	19.48
5	16QAM	1	0	19.62	19.67	19.81
5	16QAM	1	12	19.52	19.95	19.96
5	16QAM	1	24	19.72	19.64	19.62
5	16QAM	12	0	18.56	18.53	18.52
5	16QAM	12	7	18.62	18.62	18.45
5	16QAM	12	13	18.56	18.61	18.54
5	16QAM	25	0	18.51	18.57	18.43
5	64QAM	1	0	18.72	18.55	18.61
5	64QAM	1	12	18.77	18.65	18.66
5	64QAM	1	24	18.72	18.64	18.65
5	64QAM	12	0	18.52	18.58	18.48
5	64QAM	12	7	18.52	18.54	18.42
5	64QAM	12	13	18.53	18.56	18.57
5	64QAM	25	0	18.61	18.65	18.52



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				26705	26740	26775
Frequency (MHz)				815.5	819.0	822.5
3	QPSK	1	0	20.43	20.43	20.41
3	QPSK	1	8	20.33	20.38	20.35
3	QPSK	1	14	20.45	20.42	20.39
3	QPSK	8	0	19.51	19.49	19.48
3	QPSK	8	4	19.84	19.53	19.33
3	QPSK	8	7	19.55	19.49	19.52
3	QPSK	15	0	19.51	19.56	19.56
3	16QAM	1	0	19.52	19.65	19.71
3	16QAM	1	8	19.65	19.66	19.65
3	16QAM	1	14	19.71	19.78	19.67
3	16QAM	8	0	18.58	18.52	18.49
3	16QAM	8	4	18.88	18.63	18.53
3	16QAM	8	7	18.58	18.57	18.51
3	16QAM	15	0	18.61	18.51	18.55
3	64QAM	1	0	18.55	18.56	18.86
3	64QAM	1	8	18.66	18.72	18.72
3	64QAM	1	14	18.54	18.62	18.65
3	64QAM	8	0	18.64	18.47	18.42
3	64QAM	8	4	18.61	18.61	18.48
3	64QAM	8	7	18.45	18.67	18.61
3	64QAM	15	0	18.62	18.58	18.43





LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				26697	26740	26783
Frequency (MHz)				814.7	819.0	823.3
1.4	QPSK	1	0	20.29	20.28	20.35
1.4	QPSK	1	3	20.21	20.36	20.24
1.4	QPSK	1	5	20.49	20.32	20.39
1.4	QPSK	3	0	19.54	19.85	19.95
1.4	QPSK	3	1	19.61	19.77	19.93
1.4	QPSK	3	3	19.57	19.94	19.61
1.4	QPSK	6	0	19.59	19.51	19.48
1.4	16QAM	1	0	19.59	19.32	19.66
1.4	16QAM	1	3	19.68	19.49	19.65
1.4	16QAM	1	5	19.58	19.67	19.69
1.4	16QAM	3	0	19.55	19.58	19.47
1.4	16QAM	3	1	19.67	19.64	19.44
1.4	16QAM	3	3	19.51	19.62	19.55
1.4	16QAM	6	0	18.64	18.53	18.55
1.4	64QAM	1	0	18.66	18.77	18.72
1.4	64QAM	1	3	18.65	18.62	18.56
1.4	64QAM	1	5	18.66	18.62	18.62
1.4	64QAM	3	0	18.54	18.51	18.46
1.4	64QAM	3	1	18.52	18.65	18.52
1.4	64QAM	3	3	18.43	18.59	18.49
1.4	64QAM	6	0	18.44	18.47	18.37



**Bottom Antenna**

LTE Band 18						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				/	23925	/
Frequency (MHz)				/	822.5	/
15	QPSK	1	0	/	22.79	/
15	QPSK	1	37	/	23.05	/
15	QPSK	1	74	/	23.03	/
15	QPSK	36	0	/	22.06	/
15	QPSK	36	20	/	22.28	/
15	QPSK	36	39	/	22.22	/
15	QPSK	75	0	/	22.17	/
15	16QAM	1	0	/	21.96	/
15	16QAM	1	37	/	22.28	/
15	16QAM	1	74	/	22.35	/
15	16QAM	36	0	/	20.85	/
15	16QAM	36	20	/	21.24	/
15	16QAM	36	39	/	21.34	/
15	16QAM	75	0	/	21.50	/
15	64QAM	1	0	/	21.93	/
15	64QAM	1	25	/	22.35	/
15	64QAM	1	49	/	22.00	/
15	64QAM	25	0	/	20.88	/
15	64QAM	25	12	/	21.26	/
15	64QAM	25	25	/	21.33	/
15	64QAM	50	0	/	21.24	/



LTE Band 18						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23900	23925	23950
Frequency (MHz)				820	822.5	825
10	QPSK	1	0	22.59	22.57	22.83
10	QPSK	1	25	23.00	22.90	23.04
10	QPSK	1	49	22.89	23.02	22.99
10	QPSK	25	0	21.69	22.02	22.07
10	QPSK	25	12	21.97	22.02	21.95
10	QPSK	25	25	22.15	22.05	21.90
10	QPSK	50	0	22.16	22.01	21.96
10	16QAM	1	0	22.15	22.16	22.15
10	16QAM	1	25	22.13	22.35	22.60
10	16QAM	1	49	22.47	22.11	22.51
10	16QAM	25	0	20.73	20.96	21.02
10	16QAM	25	12	20.93	21.07	21.14
10	16QAM	25	25	20.96	21.17	20.98
10	16QAM	50	0	21.02	21.08	20.96
10	64QAM	1	0	21.98	21.89	21.90
10	64QAM	1	25	21.96	22.35	22.37
10	64QAM	1	49	22.37	22.03	22.35
10	64QAM	25	0	20.81	21.14	21.01
10	64QAM	25	12	20.78	21.01	21.12
10	64QAM	25	25	21.02	21.00	21.07
10	64QAM	50	0	20.89	21.07	20.76



LTE Band 18						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23875	23925	23975
Frequency (MHz)				817.5	822.5	827.5
5	QPSK	1	0	22.72	22.89	22.97
5	QPSK	1	12	22.99	22.98	22.98
5	QPSK	1	24	22.78	23.00	23.00
5	QPSK	12	0	21.84	21.76	22.09
5	QPSK	12	7	21.99	22.16	22.10
5	QPSK	12	13	22.26	22.00	21.98
5	QPSK	25	0	21.97	21.88	21.89
5	16QAM	1	0	22.40	22.04	22.48
5	16QAM	1	12	22.05	22.48	22.26
5	16QAM	1	24	22.44	22.43	22.11
5	16QAM	12	0	20.93	20.91	21.06
5	16QAM	12	7	20.98	21.18	21.28
5	16QAM	12	13	21.19	21.10	21.18
5	16QAM	25	0	21.19	21.04	21.25
5	64QAM	1	0	22.02	21.79	22.06
5	64QAM	1	12	22.01	22.13	22.03
5	64QAM	1	24	22.00	21.97	22.12
5	64QAM	12	0	20.93	20.93	21.02
5	64QAM	12	7	21.11	21.18	21.19
5	64QAM	12	13	20.80	21.10	21.12
5	64QAM	25	0	21.02	21.01	21.15



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				/	26740	/
Frequency (MHz)				/	819.0	/
10	QPSK	1	0	/	23.38	/
10	QPSK	1	25	/	23.18	/
10	QPSK	1	49	/	23.18	/
10	QPSK	25	0	/	22.38	/
10	QPSK	25	12	/	22.32	/
10	QPSK	25	25	/	22.38	/
10	QPSK	50	0	/	22.30	/
10	16QAM	1	0	/	22.59	/
10	16QAM	1	25	/	22.58	/
10	16QAM	1	49	/	22.54	/
10	16QAM	25	0	/	21.35	/
10	16QAM	25	12	/	21.39	/
10	16QAM	25	25	/	21.38	/
10	16QAM	50	0	/	21.42	/
10	64QAM	1	0	/	22.56	/
10	64QAM	1	25	/	22.64	/
10	64QAM	1	49	/	22.38	/
10	64QAM	25	0	/	21.33	/
10	64QAM	25	12	/	21.39	/
10	64QAM	25	25	/	21.32	/
10	64QAM	50	0	/	21.37	/



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				26715	26740	26765
Frequency (MHz)				816.5	819.0	821.5
5	QPSK	1	0	23.44	23.47	23.24
5	QPSK	1	12	23.24	23.41	23.18
5	QPSK	1	24	23.24	23.33	23.06
5	QPSK	12	0	22.44	22.57	22.34
5	QPSK	12	7	22.38	22.54	22.38
5	QPSK	12	13	22.44	22.62	22.24
5	QPSK	25	0	22.36	22.51	22.33
5	16QAM	1	0	22.65	22.80	22.68
5	16QAM	1	12	22.64	22.72	22.46
5	16QAM	1	24	22.60	22.89	22.74
5	16QAM	12	0	21.41	21.63	21.34
5	16QAM	12	7	21.45	21.49	21.42
5	16QAM	12	13	21.44	21.52	21.42
5	16QAM	25	0	21.48	21.54	21.29
5	64QAM	1	0	22.62	22.85	22.71
5	64QAM	1	12	22.70	22.66	22.41
5	64QAM	1	24	22.44	22.78	22.55
5	64QAM	12	0	21.39	21.59	21.31
5	64QAM	12	7	21.45	21.54	21.35
5	64QAM	12	13	21.38	21.58	21.36
5	64QAM	25	0	21.43	21.56	21.31



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				26705	26740	26775
Frequency (MHz)				815.5	819.0	822.5
3	QPSK	1	0	23.36	23.39	23.16
3	QPSK	1	8	23.16	23.33	23.10
3	QPSK	1	14	23.16	23.25	22.98
3	QPSK	8	0	22.36	22.49	22.26
3	QPSK	8	4	22.30	22.46	22.30
3	QPSK	8	7	22.36	22.54	22.16
3	QPSK	15	0	22.28	22.43	22.25
3	16QAM	1	0	22.57	22.72	22.60
3	16QAM	1	8	22.56	22.64	22.38
3	16QAM	1	14	22.52	22.81	22.66
3	16QAM	8	0	21.33	21.55	21.26
3	16QAM	8	4	21.37	21.41	21.34
3	16QAM	8	7	21.36	21.44	21.34
3	16QAM	15	0	21.40	21.46	21.21
3	64QAM	1	0	22.54	22.77	22.63
3	64QAM	1	8	22.62	22.58	22.33
3	64QAM	1	14	22.36	22.70	22.57
3	64QAM	8	0	21.31	21.51	21.23
3	64QAM	8	4	21.37	21.46	21.27
3	64QAM	8	7	21.30	21.50	21.28
3	64QAM	15	0	21.35	21.48	21.23



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				26697	26740	26783
Frequency (MHz)				814.7	819.0	823.3
1.4	QPSK	1	0	23.44	23.35	23.29
1.4	QPSK	1	3	23.24	23.29	23.23
1.4	QPSK	1	5	23.24	23.21	23.11
1.4	QPSK	3	0	22.44	22.45	22.39
1.4	QPSK	3	1	22.38	22.42	22.43
1.4	QPSK	3	3	22.44	22.50	22.29
1.4	QPSK	6	0	22.36	22.39	22.38
1.4	16QAM	1	0	22.65	22.68	22.73
1.4	16QAM	1	3	22.64	22.60	22.51
1.4	16QAM	1	5	22.60	22.77	22.79
1.4	16QAM	3	0	21.41	21.51	21.39
1.4	16QAM	3	1	21.45	21.37	21.47
1.4	16QAM	3	3	21.44	21.40	21.47
1.4	16QAM	6	0	21.48	21.42	21.34
1.4	64QAM	1	0	22.62	22.73	22.76
1.4	64QAM	1	3	22.70	22.54	22.36
1.4	64QAM	1	5	22.44	22.66	22.30
1.4	64QAM	3	0	21.39	21.47	21.36
1.4	64QAM	3	1	21.45	21.42	21.40
1.4	64QAM	3	3	21.38	21.46	21.41
1.4	64QAM	6	0	21.43	21.44	21.36





**Effective Radiated Power and Effective Isotropic Radiated Power:**

Top Antenna

LTE Band 18							
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.
Channel				/	23925		/
Frequency (MHz)				/	822.5		/
				/	dbm	W	/
15	QPSK	1	0	/	19.95	0.099	/
15	QPSK	1	37	/	20.06	0.101	/
15	QPSK	1	74	/	20.05	0.101	/
15	QPSK	36	0	/	19.10	0.081	/
15	QPSK	36	20	/	19.12	0.082	/
15	QPSK	36	39	/	19.06	0.081	/
15	QPSK	75	0	/	19.06	0.081	/
15	16QAM	1	0	/	19.66	0.092	/
15	16QAM	1	37	/	19.46	0.088	/
15	16QAM	1	74	/	19.03	0.080	/
15	16QAM	36	0	/	18.11	0.065	/
15	16QAM	36	20	/	18.11	0.065	/
15	16QAM	36	39	/	18.25	0.067	/
15	16QAM	75	0	/	18.19	0.066	/
15	64QAM	1	0	/	19.58	0.091	/
15	64QAM	1	25	/	19.29	0.085	/
15	64QAM	1	49	/	18.41	0.069	/
15	64QAM	25	0	/	18.18	0.066	/
15	64QAM	25	12	/	18.06	0.064	/
15	64QAM	25	25	/	18.18	0.066	/
15	64QAM	50	0	/	18.03	0.064	/



LTE Band 18									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				23900		23925		23950	
Frequency (MHz)				820		822.5		2615	
				dbm	W	dbm	W	dbm	W
10	QPSK	1	0	19.72	0.094	19.64	0.092	19.80	0.095
10	QPSK	1	25	19.55	0.090	19.79	0.095	19.78	0.095
10	QPSK	1	49	19.81	0.096	19.82	0.096	19.76	0.095
10	QPSK	25	0	18.92	0.078	18.85	0.077	18.82	0.076
10	QPSK	25	12	19.00	0.079	18.89	0.077	18.76	0.075
10	QPSK	25	25	18.86	0.077	18.98	0.079	18.90	0.078
10	QPSK	50	0	18.95	0.079	18.86	0.077	18.94	0.078
10	16QAM	1	0	19.02	0.080	18.98	0.079	19.13	0.082
10	16QAM	1	25	19.08	0.081	19.22	0.084	18.92	0.078
10	16QAM	1	49	19.09	0.081	19.12	0.082	19.08	0.081
10	16QAM	25	0	17.85	0.061	18.06	0.064	17.89	0.062
10	16QAM	25	12	17.95	0.062	17.95	0.062	17.93	0.062
10	16QAM	25	25	17.96	0.063	17.96	0.063	18.02	0.063
10	16QAM	50	0	17.93	0.062	18.09	0.064	17.94	0.062
10	64QAM	1	0	18.12	0.065	17.99	0.063	18.01	0.063
10	64QAM	1	25	17.95	0.062	17.92	0.062	18.12	0.065
10	64QAM	1	49	18.26	0.067	18.18	0.066	18.01	0.063
10	64QAM	25	0	17.94	0.062	18.09	0.064	17.85	0.061
10	64QAM	25	12	18.08	0.064	17.96	0.063	17.99	0.063
10	64QAM	25	25	17.94	0.062	17.90	0.062	18.01	0.063
10	64QAM	50	0	17.89	0.062	17.90	0.062	17.75	0.060



LTE Band 18									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				23875		23925		23975	
Frequency (MHz)				817.5		822.5		827.5	
				dbm	W	dbm	W	dbm	W
5	QPSK	1	0	19.80	0.095	19.80	0.095	19.91	0.098
5	QPSK	1	12	19.85	0.097	19.86	0.097	19.82	0.096
5	QPSK	1	24	19.73	0.094	19.85	0.097	19.72	0.094
5	QPSK	12	0	18.86	0.077	18.93	0.078	18.90	0.078
5	QPSK	12	7	18.98	0.079	18.98	0.079	18.91	0.078
5	QPSK	12	13	18.92	0.078	18.86	0.077	18.89	0.077
5	QPSK	25	0	18.96	0.079	18.89	0.077	18.90	0.078
5	16QAM	1	0	19.03	0.080	18.93	0.078	18.99	0.079
5	16QAM	1	12	18.92	0.078	18.95	0.079	19.08	0.081
5	16QAM	1	24	19.32	0.086	19.14	0.082	18.99	0.079
5	16QAM	12	0	17.95	0.062	17.98	0.063	17.92	0.062
5	16QAM	12	7	17.98	0.063	17.96	0.063	17.86	0.061
5	16QAM	12	13	17.88	0.061	18.00	0.063	17.99	0.063
5	16QAM	25	0	17.96	0.063	17.99	0.063	17.88	0.061
5	64QAM	1	0	18.06	0.064	18.02	0.063	18.06	0.064
5	64QAM	1	12	17.78	0.060	18.02	0.063	18.01	0.063
5	64QAM	1	24	17.86	0.061	17.96	0.063	18.01	0.063
5	64QAM	12	0	17.98	0.063	17.94	0.062	17.90	0.062
5	64QAM	12	7	17.82	0.061	17.99	0.063	17.92	0.062
5	64QAM	12	13	17.94	0.062	17.98	0.063	17.84	0.061
5	64QAM	25	0	17.91	0.062	17.94	0.062	17.90	0.062



LTE Band 26							
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.
Channel				/	26740		/
Frequency (MHz)				/	819.0		/
				/	dbm	W	/
10	QPSK	1	0	/	19.61	0.091	/
10	QPSK	1	25	/	19.81	0.096	/
10	QPSK	1	49	/	19.80	0.095	/
10	QPSK	25	0	/	18.78	0.076	/
10	QPSK	25	12	/	18.85	0.077	/
10	QPSK	25	25	/	18.72	0.074	/
10	QPSK	50	0	/	18.84	0.077	/
10	16QAM	1	0	/	18.94	0.078	/
10	16QAM	1	25	/	19.00	0.079	/
10	16QAM	1	49	/	19.12	0.082	/
10	16QAM	25	0	/	17.82	0.061	/
10	16QAM	25	12	/	17.83	0.061	/
10	16QAM	25	25	/	17.82	0.061	/
10	16QAM	50	0	/	17.83	0.061	/
10	64QAM	1	0	/	17.91	0.062	/
10	64QAM	1	25	/	17.85	0.061	/
10	64QAM	1	49	/	17.91	0.062	/
10	64QAM	25	0	/	17.77	0.060	/
10	64QAM	25	12	/	17.91	0.062	/
10	64QAM	25	25	/	17.82	0.061	/
10	64QAM	50	0	/	17.83	0.061	/



LTE Band 26									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				26715		26740		26765	
Frequency (MHz)				816.5		819.0		821.5	
				dbm	W	dbm	W	dbm	W
5	QPSK	1	0	19.80	0.095	19.78	0.095	19.72	0.094
5	QPSK	1	12	19.74	0.094	19.76	0.095	19.75	0.094
5	QPSK	1	24	19.68	0.093	19.75	0.094	19.77	0.095
5	QPSK	12	0	18.76	0.075	18.77	0.075	18.75	0.075
5	QPSK	12	7	18.81	0.076	18.85	0.077	18.85	0.077
5	QPSK	12	13	18.82	0.076	18.83	0.076	18.72	0.074
5	QPSK	25	0	18.81	0.076	18.81	0.076	18.77	0.075
5	16QAM	1	0	18.91	0.078	18.96	0.079	19.10	0.081
5	16QAM	1	12	18.81	0.076	19.24	0.084	19.25	0.084
5	16QAM	1	24	19.01	0.080	18.93	0.078	18.91	0.078
5	16QAM	12	0	17.85	0.061	17.82	0.061	17.81	0.060
5	16QAM	12	7	17.91	0.062	17.91	0.062	17.74	0.059
5	16QAM	12	13	17.85	0.061	17.90	0.062	17.83	0.061
5	16QAM	25	0	17.80	0.060	17.86	0.061	17.72	0.059
5	64QAM	1	0	18.01	0.063	17.84	0.061	17.90	0.062
5	64QAM	1	12	18.06	0.064	17.94	0.062	17.95	0.062
5	64QAM	1	24	18.01	0.063	17.93	0.062	17.94	0.062
5	64QAM	12	0	17.81	0.060	17.87	0.061	17.77	0.060
5	64QAM	12	7	17.81	0.060	17.83	0.061	17.71	0.059
5	64QAM	12	13	17.82	0.061	17.85	0.061	17.86	0.061
5	64QAM	25	0	17.90	0.062	17.94	0.062	17.81	0.060



LTE Band 26									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				26705		26740		26775	
Frequency (MHz)				815.5		819.0		822.5	
				dbm	W	dbm	W	dbm	W
3	QPSK	1	0	19.72	0.094	19.72	0.094	19.70	0.093
3	QPSK	1	8	19.62	0.092	19.67	0.093	19.64	0.092
3	QPSK	1	14	19.74	0.094	19.71	0.094	19.68	0.093
3	QPSK	8	0	18.80	0.076	18.78	0.076	18.77	0.075
3	QPSK	8	4	19.13	0.082	18.82	0.076	18.62	0.073
3	QPSK	8	7	18.84	0.077	18.78	0.076	18.81	0.076
3	QPSK	15	0	18.80	0.076	18.85	0.077	18.85	0.077
3	16QAM	1	0	18.81	0.076	18.94	0.078	19.00	0.079
3	16QAM	1	8	18.94	0.078	18.95	0.079	18.94	0.078
3	16QAM	1	14	19.00	0.079	19.07	0.081	18.96	0.079
3	16QAM	8	0	17.87	0.061	17.81	0.060	17.78	0.060
3	16QAM	8	4	18.17	0.066	17.92	0.062	17.82	0.061
3	16QAM	8	7	17.87	0.061	17.86	0.061	17.80	0.060
3	16QAM	15	0	17.90	0.062	17.80	0.060	17.84	0.061
3	64QAM	1	0	17.84	0.061	17.85	0.061	18.15	0.065
3	64QAM	1	8	17.95	0.062	18.01	0.063	18.01	0.063
3	64QAM	1	14	17.83	0.061	17.91	0.062	17.94	0.062
3	64QAM	8	0	17.93	0.062	17.76	0.060	17.71	0.059
3	64QAM	8	4	17.90	0.062	17.90	0.062	17.77	0.060
3	64QAM	8	7	17.74	0.059	17.96	0.063	17.90	0.062
3	64QAM	15	0	17.91	0.062	17.87	0.061	17.72	0.059



LTE Band 26									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				26697		26740		26783	
Frequency (MHz)				814.7		819.0		823.3	
				dbm	W	dbm	W	dbm	W
1.4	QPSK	1	0	19.58	0.091	19.57	0.091	19.64	0.092
1.4	QPSK	1	3	19.50	0.089	19.65	0.092	19.53	0.090
1.4	QPSK	1	5	19.78	0.095	19.61	0.091	19.68	0.093
1.4	QPSK	3	0	18.83	0.076	19.14	0.082	19.24	0.084
1.4	QPSK	3	1	18.90	0.078	19.06	0.081	19.22	0.084
1.4	QPSK	3	3	18.86	0.077	19.23	0.084	18.90	0.078
1.4	QPSK	6	0	18.88	0.077	18.80	0.076	18.77	0.075
1.4	16QAM	1	0	18.88	0.077	18.61	0.073	18.95	0.079
1.4	16QAM	1	3	18.97	0.079	18.78	0.076	18.94	0.078
1.4	16QAM	1	5	18.87	0.077	18.96	0.079	18.98	0.079
1.4	16QAM	3	0	18.84	0.077	18.87	0.077	18.76	0.075
1.4	16QAM	3	1	18.96	0.079	18.93	0.078	18.73	0.075
1.4	16QAM	3	3	18.80	0.076	18.91	0.078	18.84	0.077
1.4	16QAM	6	0	17.93	0.062	17.82	0.061	17.84	0.061
1.4	64QAM	1	0	17.95	0.062	18.06	0.064	18.01	0.063
1.4	64QAM	1	3	17.94	0.062	17.91	0.062	17.85	0.061
1.4	64QAM	1	5	17.95	0.062	17.91	0.062	17.91	0.062
1.4	64QAM	3	0	17.83	0.061	17.80	0.060	17.75	0.060
1.4	64QAM	3	1	17.81	0.060	17.94	0.062	17.81	0.060
1.4	64QAM	3	3	17.72	0.059	17.88	0.061	17.78	0.060
1.4	64QAM	6	0	17.73	0.059	17.76	0.060	17.66	0.058



Bottom Antenna

LTE Band 18							
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.
Channel				/	23925		/
Frequency (MHz)				/	822.5		/
				/	dbm	W	/
15	QPSK	1	0	/	22.16	0.164	/
15	QPSK	1	37	/	22.42	0.175	/
15	QPSK	1	74	/	22.40	0.174	/
15	QPSK	36	0	/	21.43	0.139	/
15	QPSK	36	20	/	21.65	0.146	/
15	QPSK	36	39	/	21.59	0.144	/
15	QPSK	75	0	/	21.54	0.143	/
15	16QAM	1	0	/	21.33	0.136	/
15	16QAM	1	37	/	21.65	0.146	/
15	16QAM	1	74	/	21.72	0.149	/
15	16QAM	36	0	/	20.22	0.105	/
15	16QAM	36	20	/	20.61	0.115	/
15	16QAM	36	39	/	20.71	0.118	/
15	16QAM	75	0	/	20.87	0.122	/
15	64QAM	1	0	/	21.30	0.135	/
15	64QAM	1	25	/	21.72	0.149	/
15	64QAM	1	49	/	21.37	0.137	/
15	64QAM	25	0	/	20.25	0.106	/
15	64QAM	25	12	/	20.63	0.116	/
15	64QAM	25	25	/	20.70	0.117	/
15	64QAM	50	0	/	20.61	0.115	/





LTE Band 18									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				23900		23925		23950	
Frequency (MHz)				820		822.5		2615	
				dbm	W	dbm	W	dbm	W
10	QPSK	1	0	21.96	0.157	21.94	0.156	22.20	0.166
10	QPSK	1	25	22.37	0.173	22.27	0.169	22.41	0.174
10	QPSK	1	49	22.26	0.168	22.39	0.173	22.36	0.172
10	QPSK	25	0	21.06	0.128	21.39	0.138	21.44	0.139
10	QPSK	25	12	21.34	0.136	21.39	0.138	21.32	0.136
10	QPSK	25	25	21.52	0.142	21.42	0.139	21.27	0.134
10	QPSK	50	0	21.53	0.142	21.38	0.137	21.33	0.136
10	16QAM	1	0	21.52	0.142	21.53	0.142	21.52	0.142
10	16QAM	1	25	21.50	0.141	21.72	0.149	21.97	0.157
10	16QAM	1	49	21.84	0.153	21.48	0.141	21.88	0.154
10	16QAM	25	0	20.10	0.102	20.33	0.108	20.39	0.109
10	16QAM	25	12	20.30	0.107	20.44	0.111	20.51	0.112
10	16QAM	25	25	20.33	0.108	20.54	0.113	20.35	0.108
10	16QAM	50	0	20.39	0.109	20.45	0.111	20.33	0.108
10	64QAM	1	0	21.35	0.136	21.26	0.134	21.27	0.134
10	64QAM	1	25	21.33	0.136	21.72	0.149	21.74	0.149
10	64QAM	1	49	21.74	0.149	21.40	0.138	21.72	0.149
10	64QAM	25	0	20.18	0.104	20.51	0.112	20.38	0.109
10	64QAM	25	12	20.15	0.104	20.38	0.109	20.49	0.112
10	64QAM	25	25	20.39	0.109	20.37	0.109	20.44	0.111
10	64QAM	50	0	20.26	0.106	20.44	0.111	20.13	0.103



LTE Band 18									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				23875		23925		23975	
Frequency (MHz)				817.5		822.5		827.5	
				dbm	W	dbm	W	dbm	W
5	QPSK	1	0	22.09	0.162	22.26	0.168	22.34	0.171
5	QPSK	1	12	22.36	0.172	22.35	0.172	22.35	0.172
5	QPSK	1	24	22.15	0.164	22.37	0.173	22.37	0.173
5	QPSK	12	0	21.21	0.132	21.13	0.130	21.46	0.140
5	QPSK	12	7	21.36	0.137	21.53	0.142	21.47	0.140
5	QPSK	12	13	21.63	0.146	21.37	0.137	21.35	0.136
5	QPSK	25	0	21.34	0.136	21.25	0.133	21.26	0.134
5	16QAM	1	0	21.77	0.150	21.41	0.138	21.85	0.153
5	16QAM	1	12	21.42	0.139	21.85	0.153	21.63	0.146
5	16QAM	1	24	21.81	0.152	21.80	0.151	21.48	0.141
5	16QAM	12	0	20.30	0.107	20.28	0.107	20.43	0.110
5	16QAM	12	7	20.35	0.108	20.55	0.114	20.65	0.116
5	16QAM	12	13	20.56	0.114	20.47	0.111	20.55	0.114
5	16QAM	25	0	20.56	0.114	20.41	0.110	20.62	0.115
5	64QAM	1	0	21.39	0.138	21.16	0.131	21.43	0.139
5	64QAM	1	12	21.38	0.137	21.50	0.141	21.40	0.138
5	64QAM	1	24	21.37	0.137	21.34	0.136	21.49	0.141
5	64QAM	12	0	20.30	0.107	20.30	0.107	20.39	0.109
5	64QAM	12	7	20.48	0.112	20.55	0.114	20.56	0.114
5	64QAM	12	13	20.17	0.104	20.47	0.111	20.49	0.112
5	64QAM	25	0	20.39	0.109	20.38	0.109	20.52	0.113



LTE Band 26							
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.
Channel				/	26740		/
Frequency (MHz)				/	819.0		/
				/	dbm	W	/
10	QPSK	1	0	/	23.39	0.218	/
10	QPSK	1	25	/	23.33	0.215	/
10	QPSK	1	49	/	23.25	0.211	/
10	QPSK	25	0	/	22.49	0.177	/
10	QPSK	25	12	/	22.46	0.176	/
10	QPSK	25	25	/	22.54	0.179	/
10	QPSK	50	0	/	22.43	0.175	/
10	16QAM	1	0	/	22.72	0.187	/
10	16QAM	1	25	/	22.64	0.184	/
10	16QAM	1	49	/	22.81	0.191	/
10	16QAM	25	0	/	21.55	0.143	/
10	16QAM	25	12	/	21.41	0.138	/
10	16QAM	25	25	/	21.44	0.139	/
10	16QAM	50	0	/	21.46	0.140	/
10	64QAM	1	0	/	22.77	0.189	/
10	64QAM	1	25	/	22.58	0.181	/
10	64QAM	1	49	/	22.70	0.186	/
10	64QAM	25	0	/	21.51	0.142	/
10	64QAM	25	12	/	21.46	0.140	/
10	64QAM	25	25	/	21.50	0.141	/
10	64QAM	50	0	/	21.48	0.141	/



LTE Band 26									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				26715		26740		26765	
Frequency (MHz)				816.5		819.0		821.5	
				dbm	W	dbm	W	dbm	W
5	QPSK	1	0	23.44	0.221	23.47	0.222	23.24	0.211
5	QPSK	1	12	23.24	0.211	23.41	0.219	23.18	0.208
5	QPSK	1	24	23.24	0.211	23.33	0.215	23.06	0.202
5	QPSK	12	0	22.44	0.175	22.57	0.181	22.34	0.171
5	QPSK	12	7	22.38	0.173	22.54	0.179	22.38	0.173
5	QPSK	12	13	22.44	0.175	22.62	0.183	22.24	0.167
5	QPSK	25	0	22.36	0.172	22.51	0.178	22.33	0.171
5	16QAM	1	0	22.65	0.184	22.80	0.191	22.68	0.185
5	16QAM	1	12	22.64	0.184	22.72	0.187	22.46	0.176
5	16QAM	1	24	22.60	0.182	22.89	0.195	22.74	0.188
5	16QAM	12	0	21.41	0.138	21.63	0.146	21.34	0.136
5	16QAM	12	7	21.45	0.140	21.49	0.141	21.42	0.139
5	16QAM	12	13	21.44	0.139	21.52	0.142	21.42	0.139
5	16QAM	25	0	21.48	0.141	21.54	0.143	21.29	0.135
5	64QAM	1	0	22.62	0.183	22.85	0.193	22.71	0.187
5	64QAM	1	12	22.70	0.186	22.66	0.185	22.41	0.174
5	64QAM	1	24	22.44	0.175	22.78	0.190	22.55	0.180
5	64QAM	12	0	21.39	0.138	21.59	0.144	21.31	0.135
5	64QAM	12	7	21.45	0.140	21.54	0.143	21.35	0.136
5	64QAM	12	13	21.38	0.137	21.58	0.144	21.36	0.137
5	64QAM	25	0	21.43	0.139	21.56	0.143	21.31	0.135



LTE Band 26									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				26705		26740		26775	
Frequency (MHz)				815.5		819.0		822.5	
				dbm	W	dbm	W	dbm	W
3	QPSK	1	0	23.36	0.217	23.39	0.218	23.16	0.207
3	QPSK	1	8	23.16	0.207	23.33	0.215	23.10	0.204
3	QPSK	1	14	23.16	0.207	23.25	0.211	22.98	0.199
3	QPSK	8	0	22.36	0.172	22.49	0.177	22.26	0.168
3	QPSK	8	4	22.30	0.170	22.46	0.176	22.30	0.170
3	QPSK	8	7	22.36	0.172	22.54	0.179	22.16	0.164
3	QPSK	15	0	22.28	0.169	22.43	0.175	22.25	0.168
3	16QAM	1	0	22.57	0.181	22.72	0.187	22.60	0.182
3	16QAM	1	8	22.56	0.180	22.64	0.184	22.38	0.173
3	16QAM	1	14	22.52	0.179	22.81	0.191	22.66	0.185
3	16QAM	8	0	21.33	0.136	21.55	0.143	21.26	0.134
3	16QAM	8	4	21.37	0.137	21.41	0.138	21.34	0.136
3	16QAM	8	7	21.36	0.137	21.44	0.139	21.34	0.136
3	16QAM	15	0	21.40	0.138	21.46	0.140	21.21	0.132
3	64QAM	1	0	22.54	0.179	22.77	0.189	22.63	0.183
3	64QAM	1	8	22.62	0.183	22.58	0.181	22.33	0.171
3	64QAM	1	14	22.36	0.172	22.70	0.186	22.57	0.181
3	64QAM	8	0	21.31	0.135	21.51	0.142	21.23	0.133
3	64QAM	8	4	21.37	0.137	21.46	0.140	21.27	0.134
3	64QAM	8	7	21.30	0.135	21.50	0.141	21.28	0.134
3	64QAM	15	0	21.35	0.136	21.48	0.141	21.23	0.133



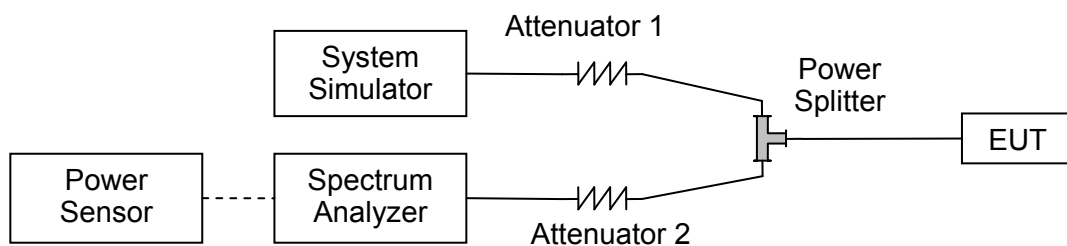
LTE Band 26									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				26697		26740		26783	
Frequency (MHz)				814.7		819.0		823.3	
				dbm	W	dbm	W	dbm	W
1.4	QPSK	1	0	23.44	0.221	23.35	0.216	23.29	0.213
1.4	QPSK	1	3	23.24	0.211	23.29	0.213	23.23	0.210
1.4	QPSK	1	5	23.24	0.211	23.21	0.209	23.11	0.205
1.4	QPSK	3	0	22.44	0.175	22.45	0.176	22.39	0.173
1.4	QPSK	3	1	22.38	0.173	22.42	0.175	22.43	0.175
1.4	QPSK	3	3	22.44	0.175	22.50	0.178	22.29	0.169
1.4	QPSK	6	0	22.36	0.172	22.39	0.173	22.38	0.173
1.4	16QAM	1	0	22.65	0.184	22.68	0.185	22.73	0.187
1.4	16QAM	1	3	22.64	0.184	22.60	0.182	22.51	0.178
1.4	16QAM	1	5	22.60	0.182	22.77	0.189	22.79	0.190
1.4	16QAM	3	0	21.41	0.138	21.51	0.142	21.39	0.138
1.4	16QAM	3	1	21.45	0.140	21.37	0.137	21.47	0.140
1.4	16QAM	3	3	21.44	0.139	21.40	0.138	21.47	0.140
1.4	16QAM	6	0	21.48	0.141	21.42	0.139	21.34	0.136
1.4	64QAM	1	0	22.62	0.183	22.73	0.187	22.76	0.189
1.4	64QAM	1	3	22.70	0.186	22.54	0.179	22.36	0.172
1.4	64QAM	1	5	22.44	0.175	22.66	0.185	22.30	0.170
1.4	64QAM	3	0	21.39	0.138	21.47	0.140	21.36	0.137
1.4	64QAM	3	1	21.45	0.140	21.42	0.139	21.40	0.138
1.4	64QAM	3	3	21.38	0.137	21.46	0.140	21.41	0.138
1.4	64QAM	6	0	21.43	0.139	21.44	0.139	21.36	0.137

## 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 18				
BW(MHz)	ChannelLevel	Modulation	99% BW(MHz)	26dB BW(MHz)
5	Low	QPSK	4.51	5.01
	Low	16QAM	4.50	4.95
	Low	64QAM	4.50	4.96
	Mid	QPSK	4.50	4.99
	Mid	16QAM	4.51	4.94
	Mid	64QAM	4.50	4.95
	High	QPSK	4.50	5.00
	High	16QAM	4.50	4.96
	High	64QAM	4.49	4.95
10	Low	QPSK	8.99	9.82
	Low	16QAM	8.96	9.77
	Low	64QAM	8.95	9.79
	Mid	QPSK	8.99	9.82
	Mid	16QAM	8.96	9.74
	Mid	64QAM	8.97	9.75
	High	QPSK	8.99	9.79
	High	16QAM	8.95	9.71
	High	64QAM	8.97	9.74
15	Mid	QPSK	13.45	14.49
	Mid	16QAM	13.47	14.65
	Mid	64QAM	13.47	14.78

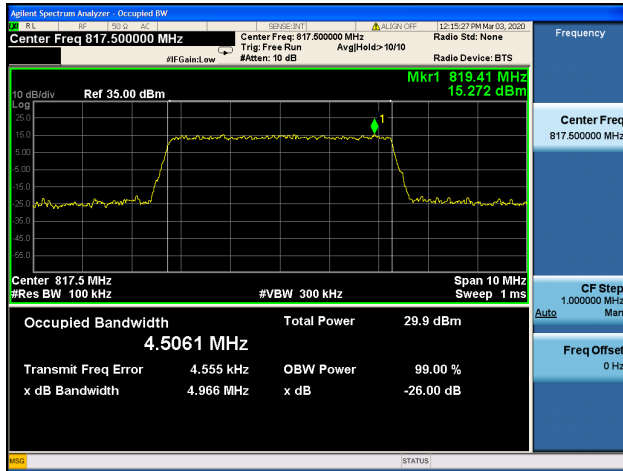




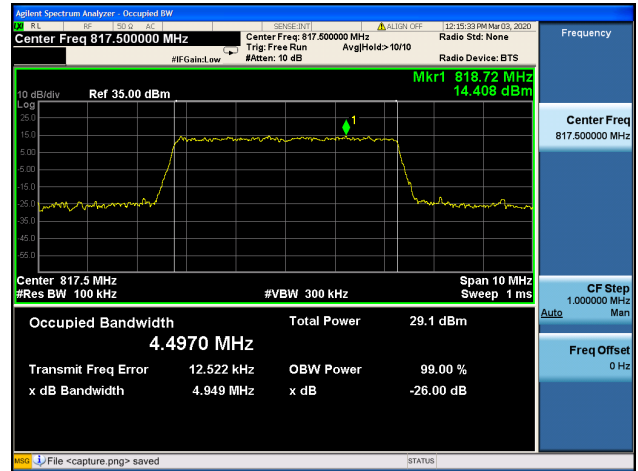
LTE Band 26				
BW(MHz)	ChannelLevel	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.09	1.24
	Low	16QAM	1.09	1.23
	Low	64QAM	1.09	1.24
	Mid	QPSK	1.09	1.23
	Mid	16QAM	1.09	1.24
	Mid	64QAM	1.09	1.24
	High	QPSK	1.09	1.23
	High	16QAM	1.09	1.23
	High	64QAM	1.09	1.24
3	Low	QPSK	2.69	2.99
	Low	16QAM	2.70	3.00
	Low	64QAM	2.71	3.00
	Mid	QPSK	2.70	2.97
	Mid	16QAM	2.70	3.01
	Mid	64QAM	2.70	3.00
	High	QPSK	2.69	2.98
	High	16QAM	2.70	3.01
	High	64QAM	2.70	2.99
5	Low	QPSK	4.49	5.00
	Low	16QAM	4.49	4.98
	Low	64QAM	4.48	4.93
	Mid	QPSK	4.49	4.92
	Mid	16QAM	4.49	4.95
	Mid	64QAM	4.49	4.94
	High	QPSK	4.49	4.98
	High	16QAM	4.49	4.97
	High	64QAM	4.48	4.95
10	Mid	QPSK	8.99	9.78
	Mid	16QAM	8.95	9.71
	Mid	64QAM	8.98	9.77



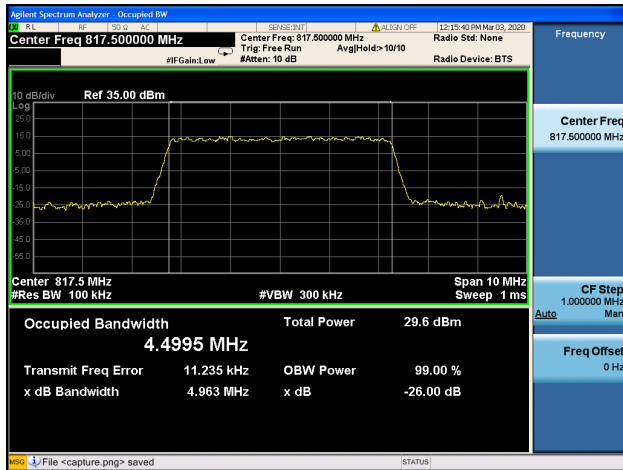
**Band18 / 5MHz / Low CH / QPSK**



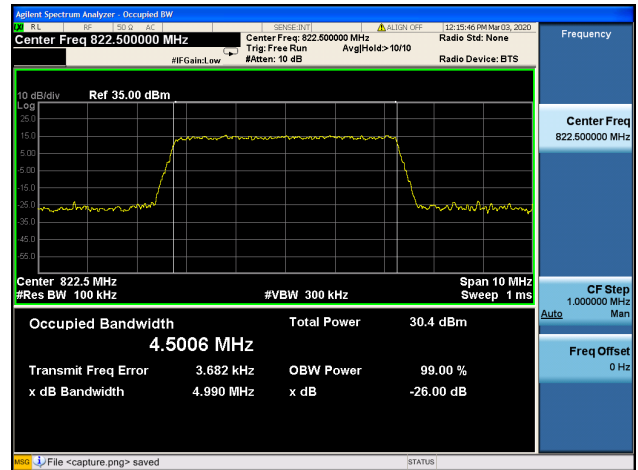
**Band18 / 5MHz / Low CH / 16QAM**



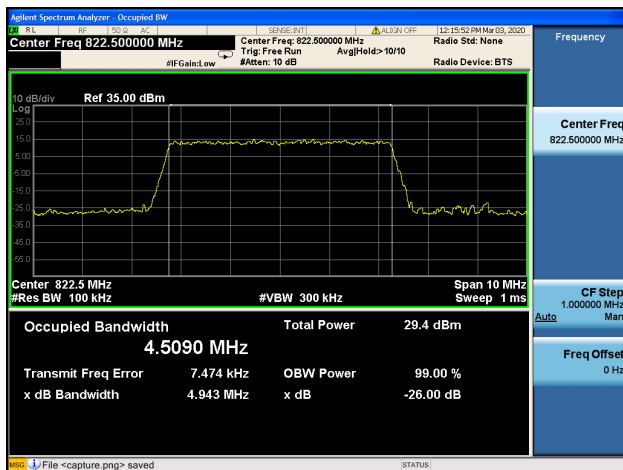
**Band18 / 5MHz / Low CH / 64QAM**



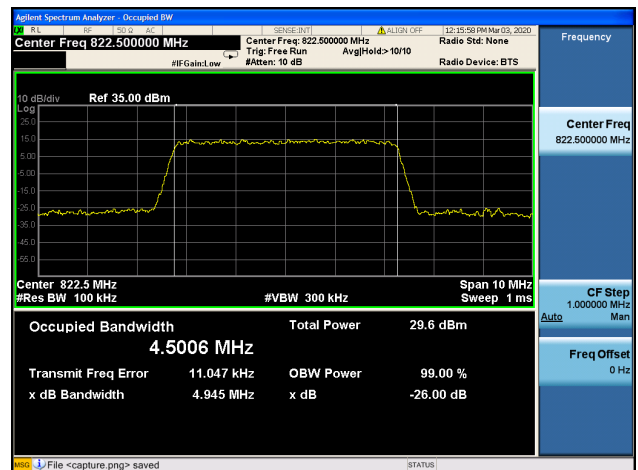
**Band18 / 5MHz / Mid CH / QPSK**



**Band18 / 5MHz / Mid CH / 16QAM**

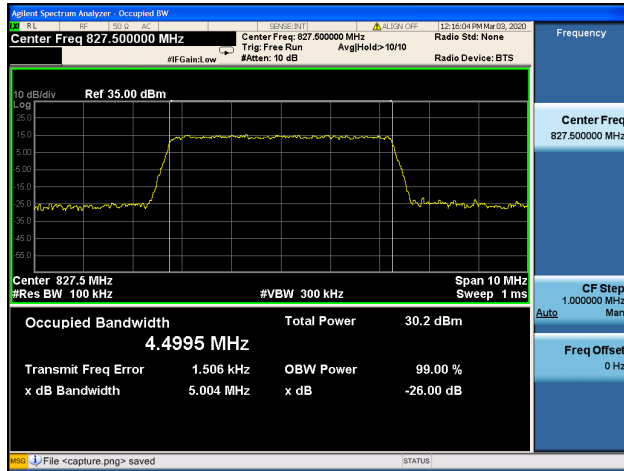


**Band18 / 5MHz / Mid CH / 64QAM**

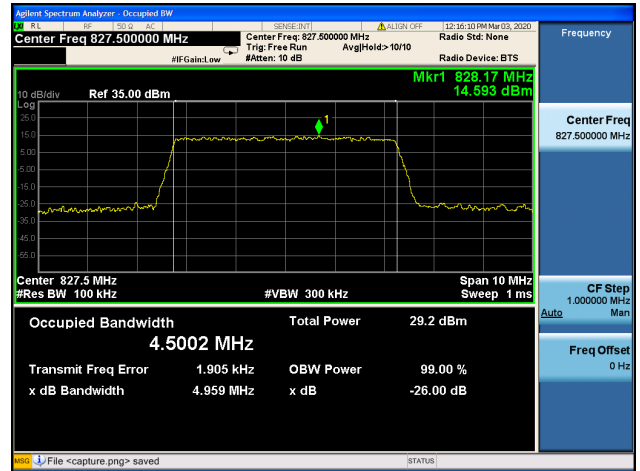




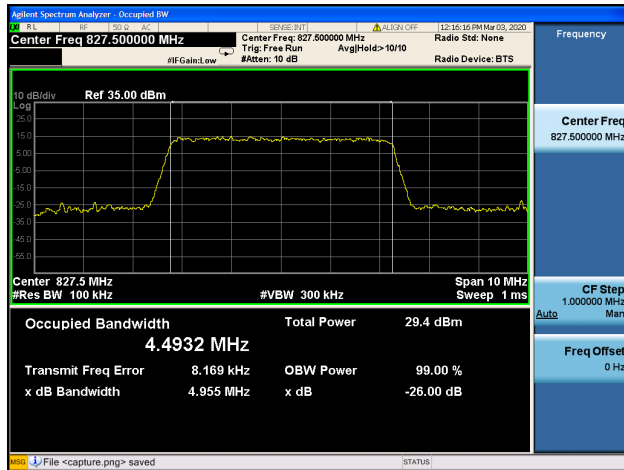
**Band18 / 5MHz / High CH / QPSK**



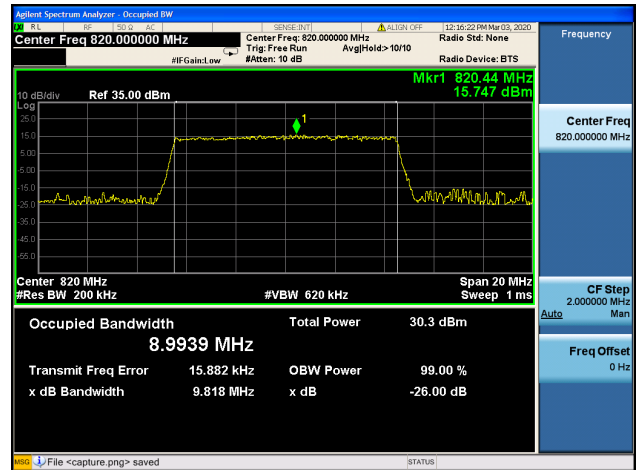
**Band18 / 5MHz / High CH / 16QAM**



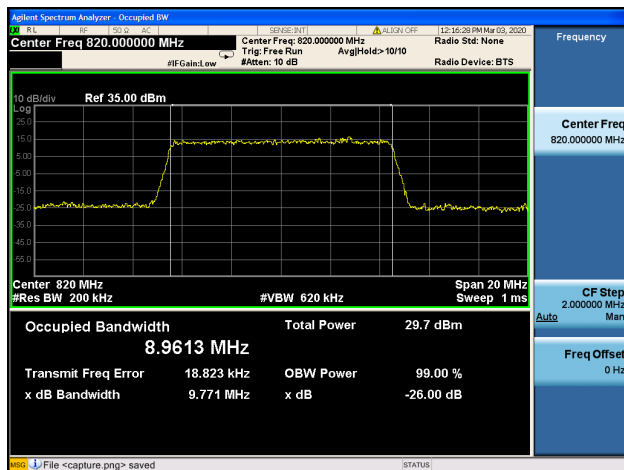
**Band18 / 5MHz / High CH / 64QAM**



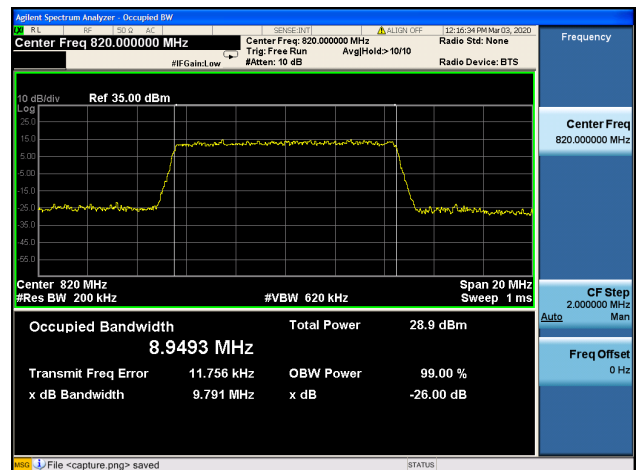
**Band18 / 10MHz / Low CH / QPSK**



**Band18 / 10MHz / Low CH / 16QAM**

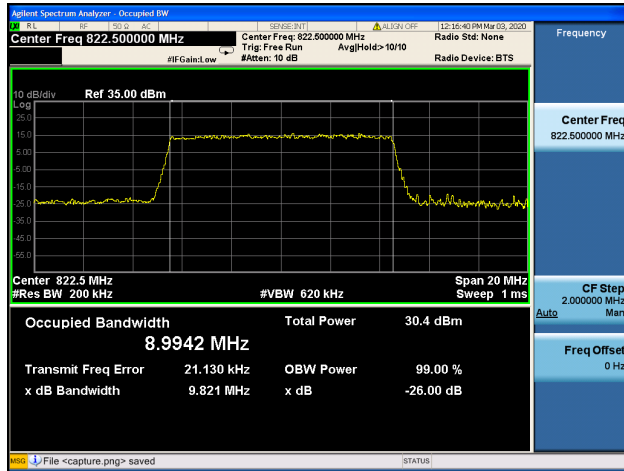


**Band18 / 10MHz / Low CH / 64QAM**

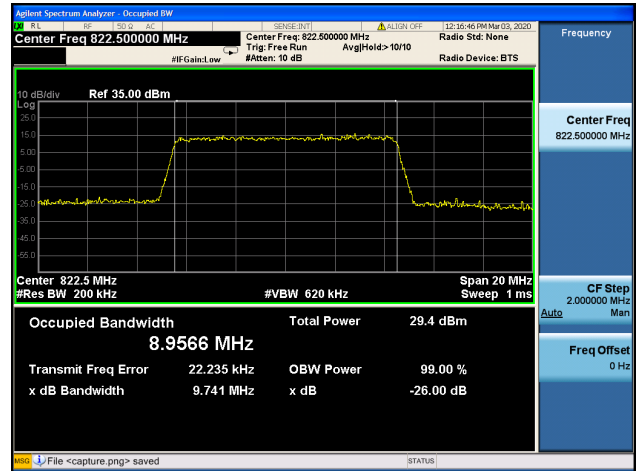




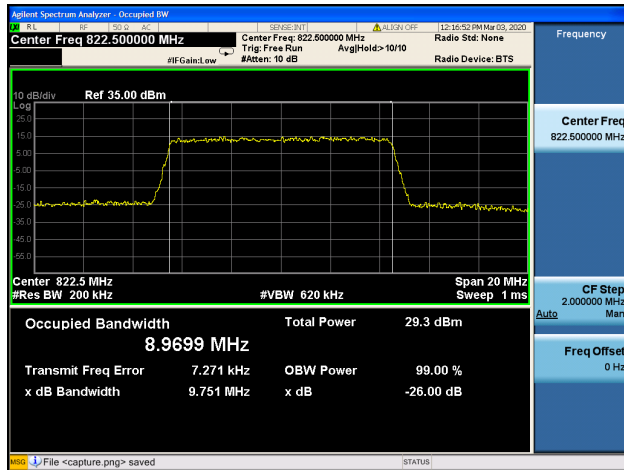
**Band18 / 10MHz / Mid CH / QPSK**



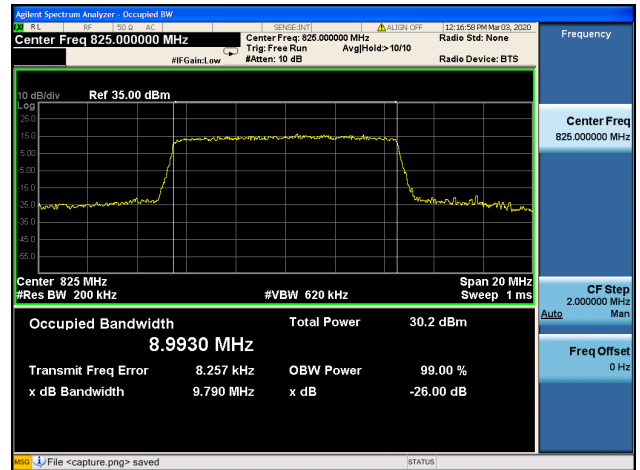
**Band18 / 10MHz / Mid CH / 16QAM**



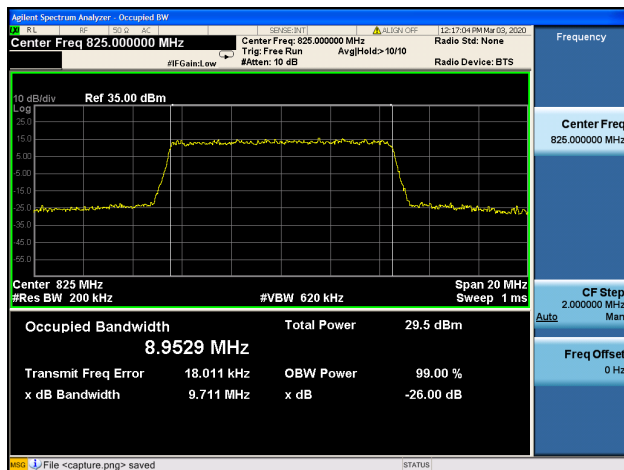
**Band18 / 10MHz / Mid CH / 64QAM**



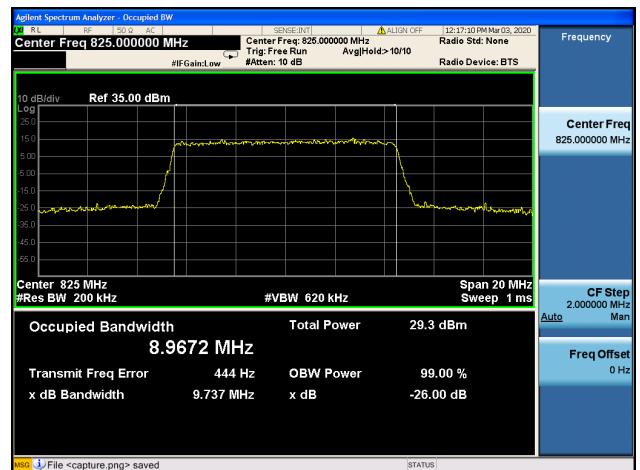
**Band18 / 10MHz / High CH / QPSK**

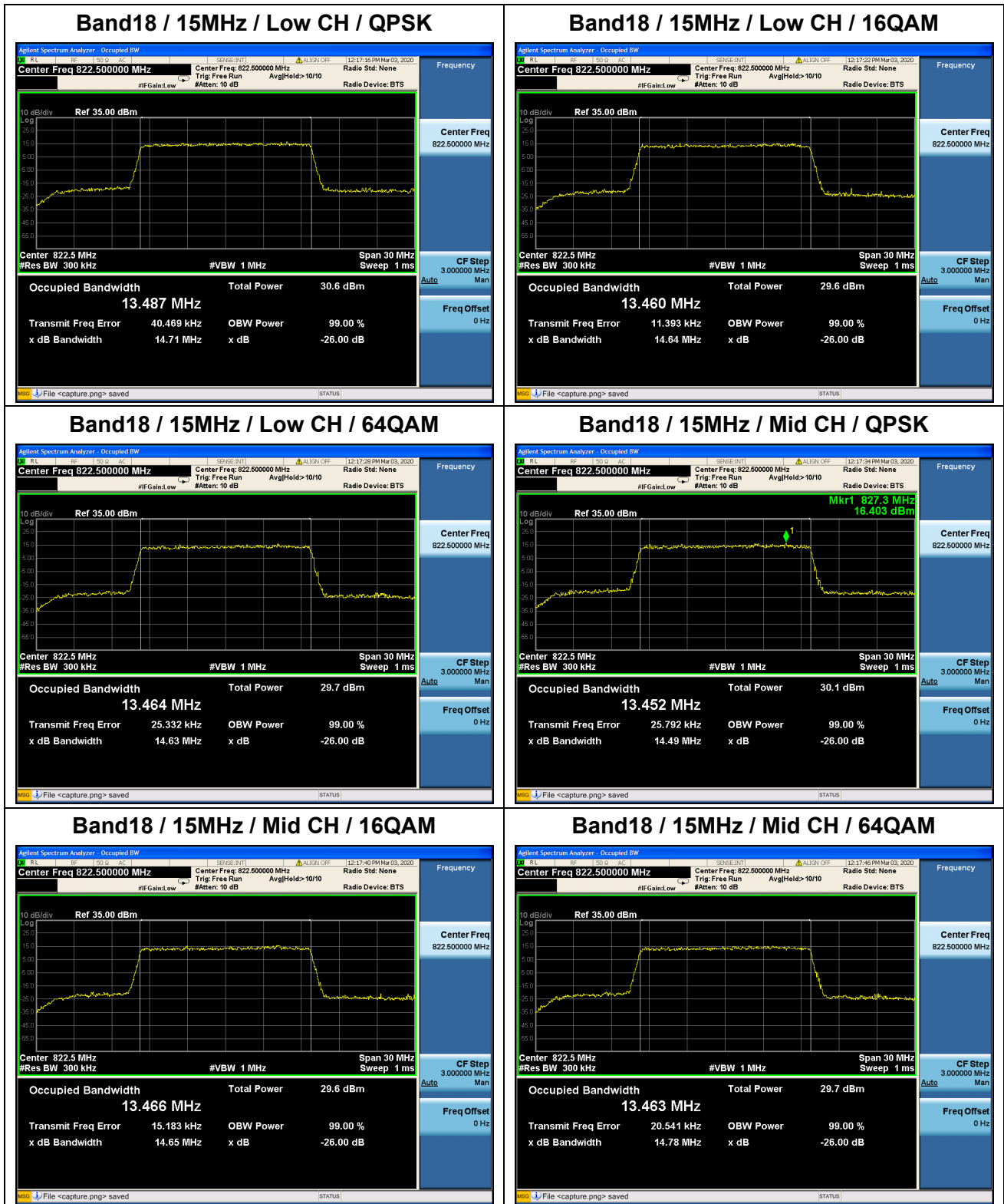


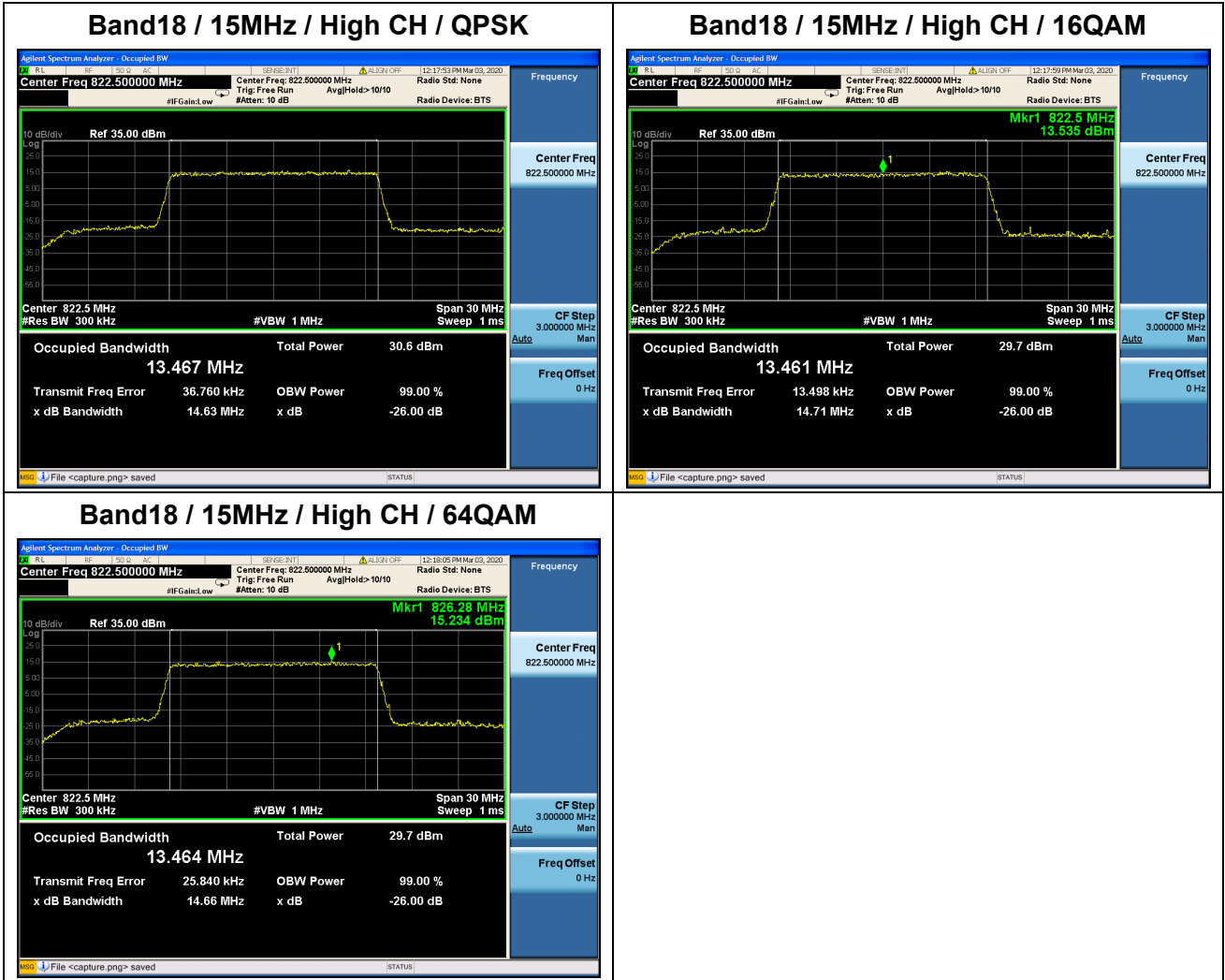
**Band18 / 10MHz / High CH / 16QAM**



**Band18 / 10MHz / High CH / 64QAM**



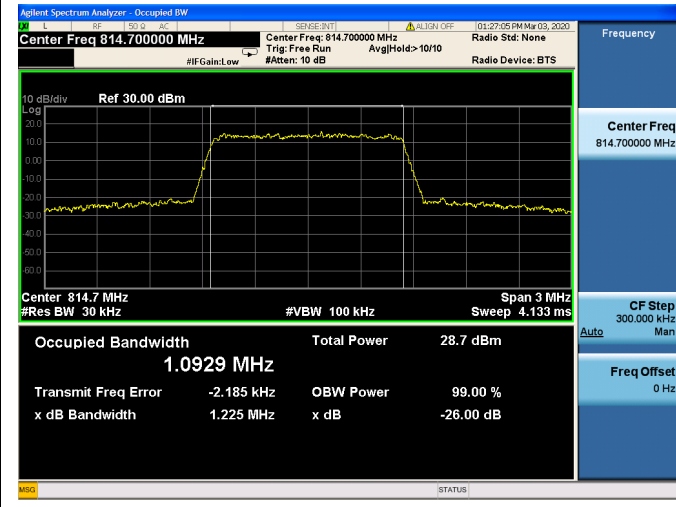




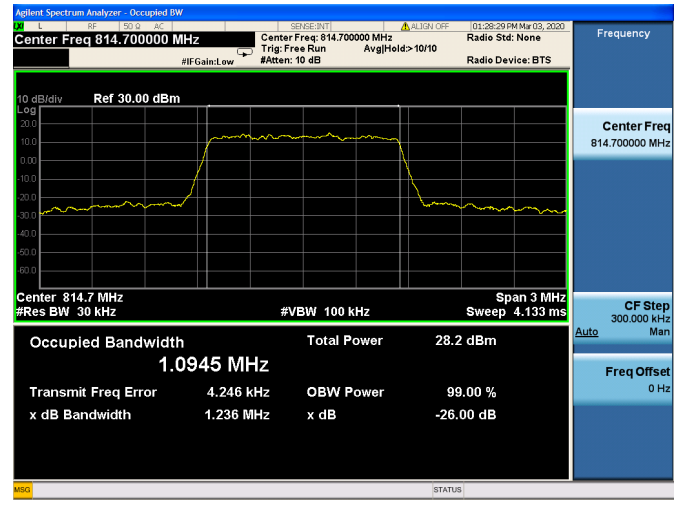


LTE Band 26 99% & 26dB Bandwidth

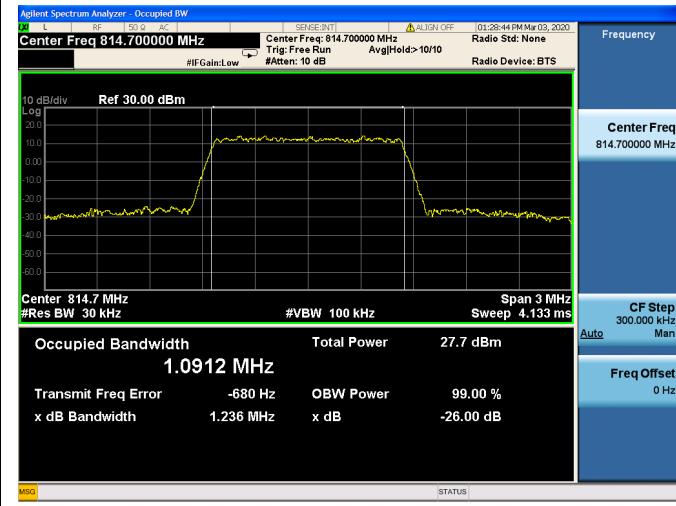
1.4MHz / QPSK / Low CH



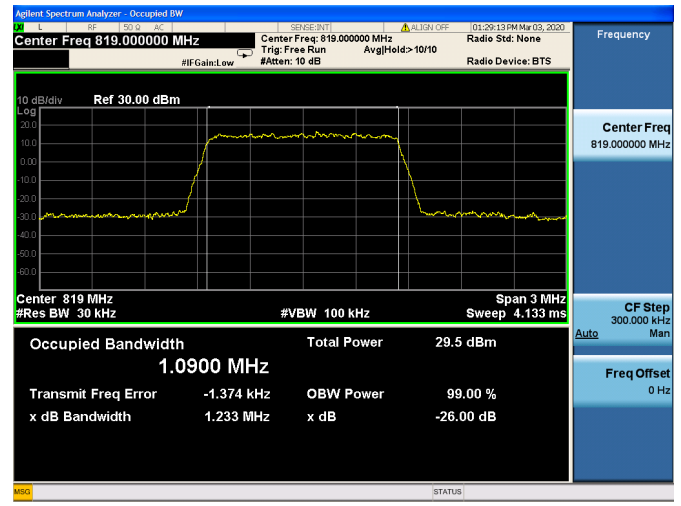
1.4MHz /16QAM / Low CH



1.4MHz / 64QAM / Low CH



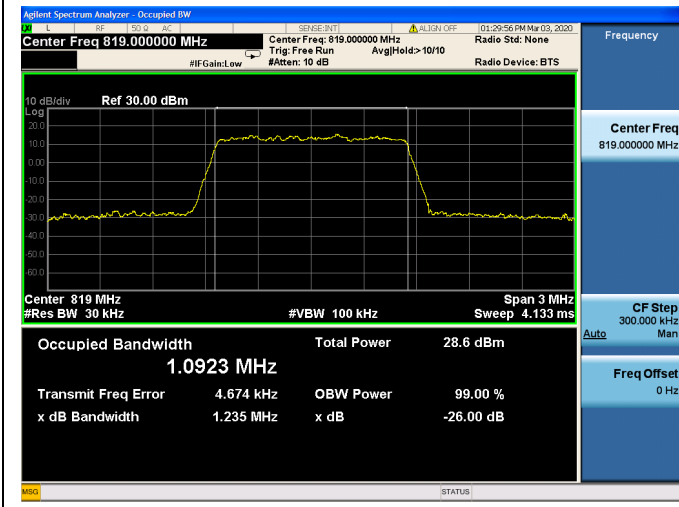
1.4MHz /QPSK / Mid CH



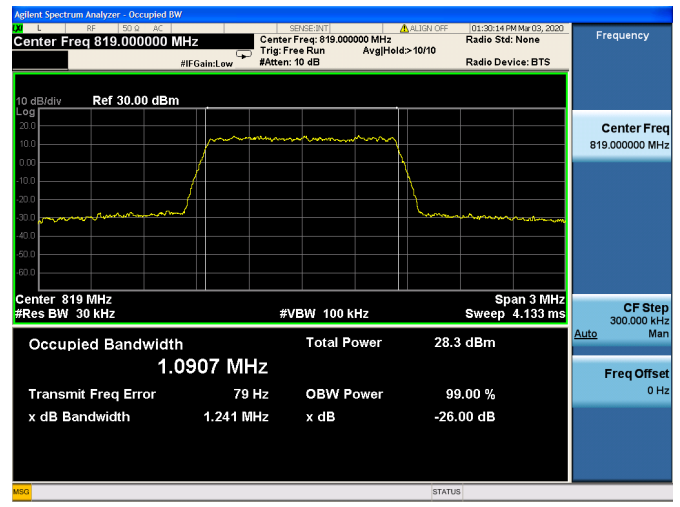




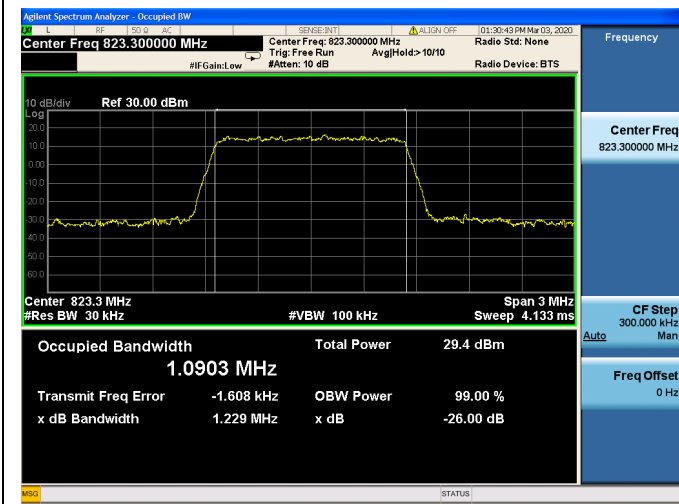
**1.4MHz / 16QAM / Mid CH**



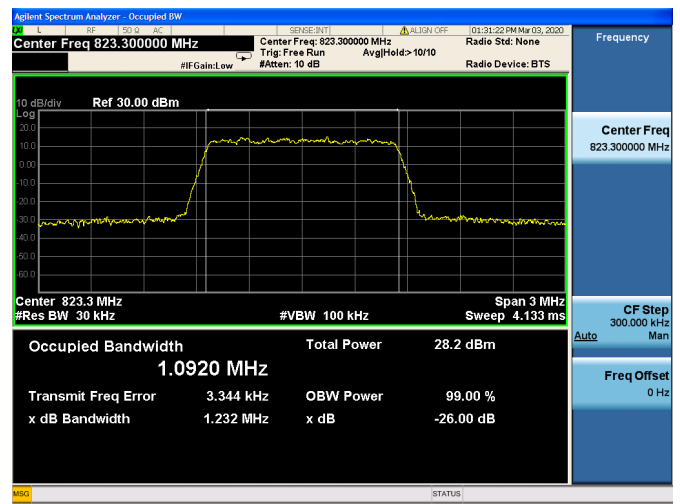
**1.4MHz / 64QAM / Mid CH**



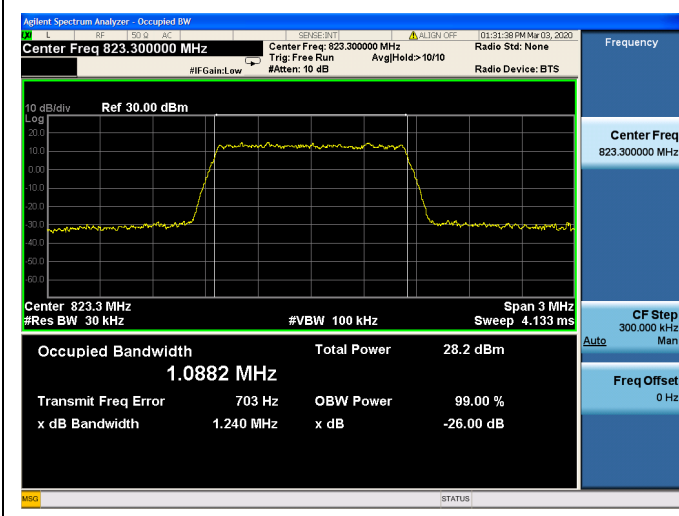
**1.4MHz / QPSK / High CH**



**1.4MHz / 16QAM / High CH**



**1.4MHz / 64QAM / High CH**

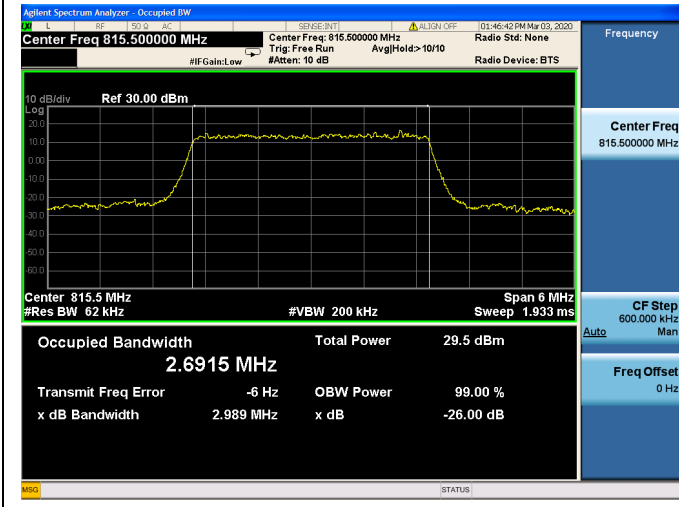




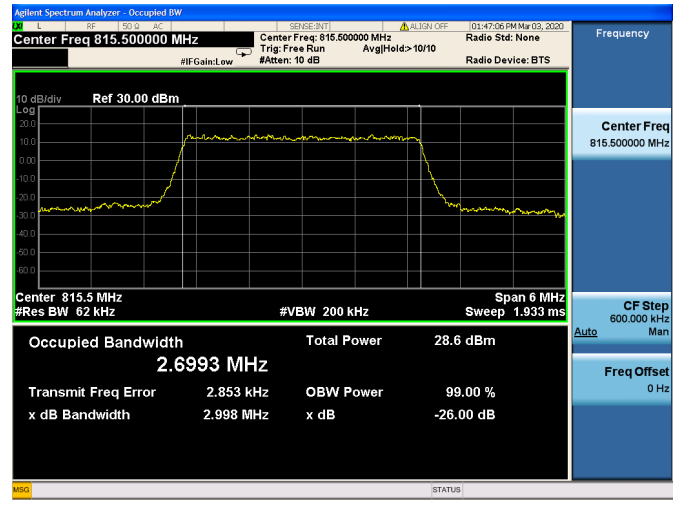


LTE Band 26 99% & 26dB Bandwidth

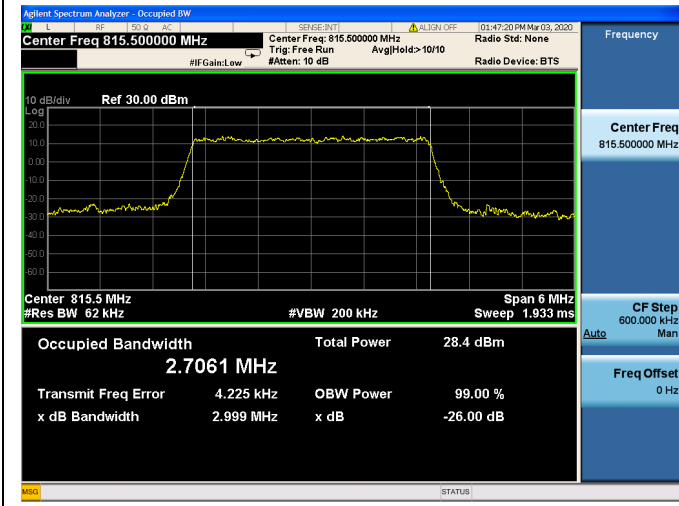
3MHz / QPSK / Low CH



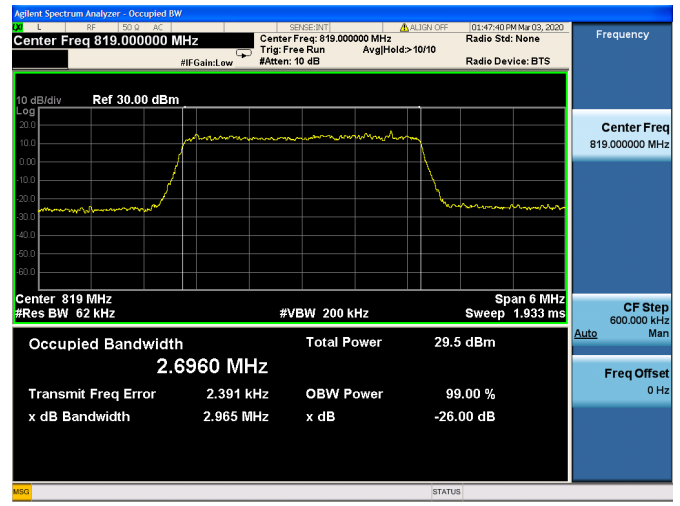
3MHz / 16QAM / Low CH

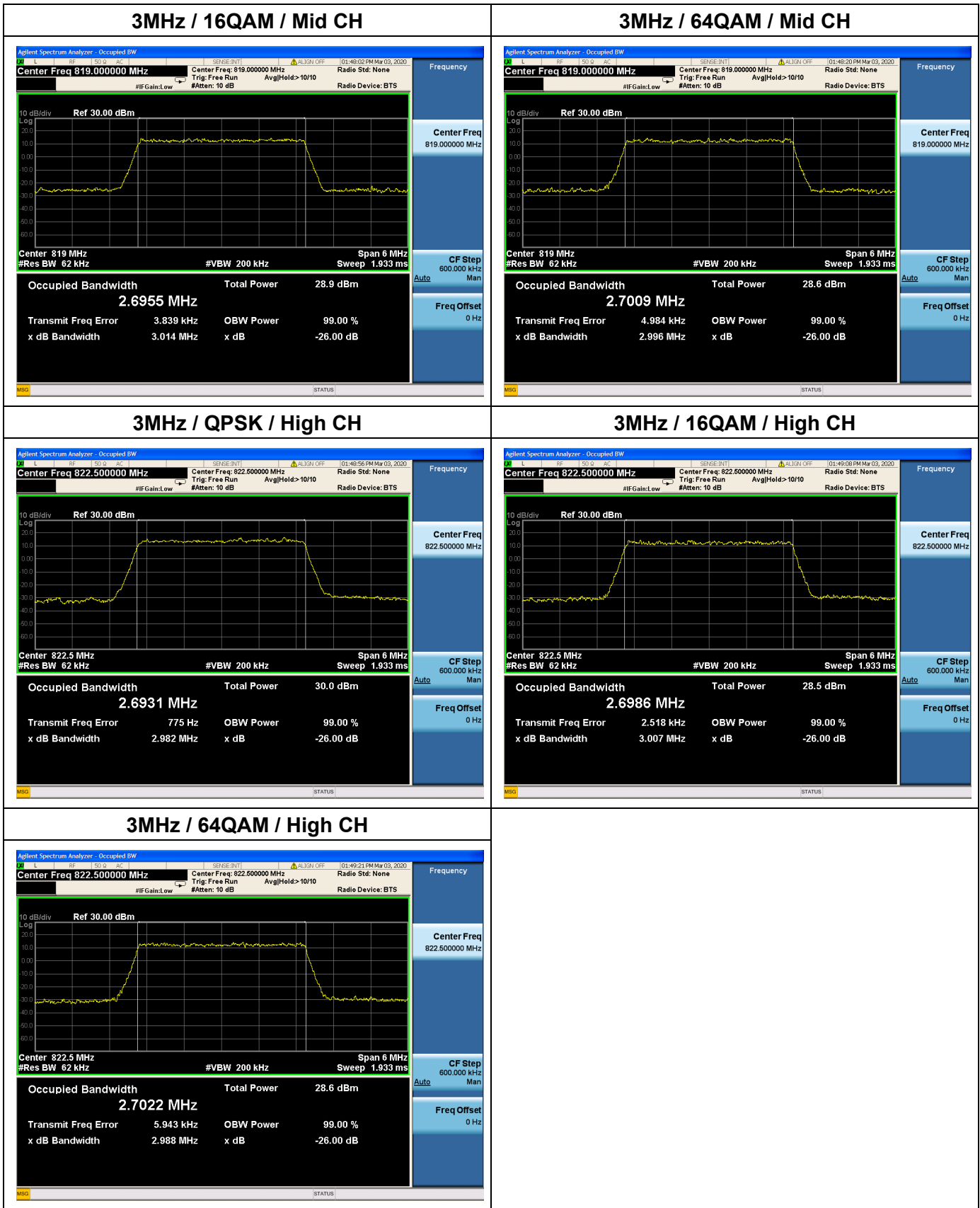


3MHz / 64QAM / Low CH



3MHz / QPSK / Mid CH

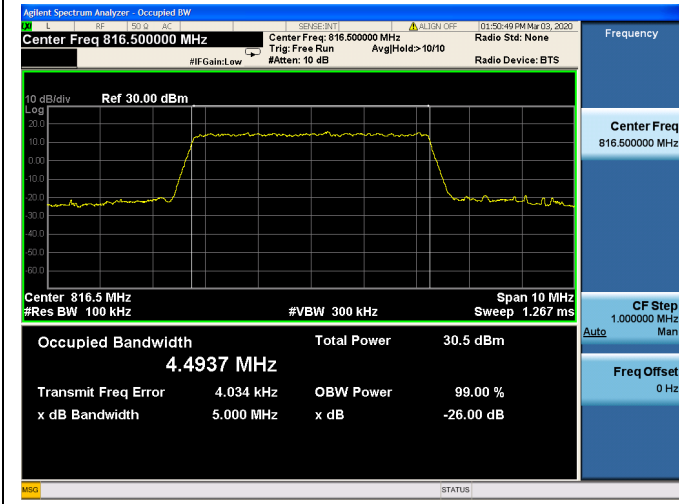




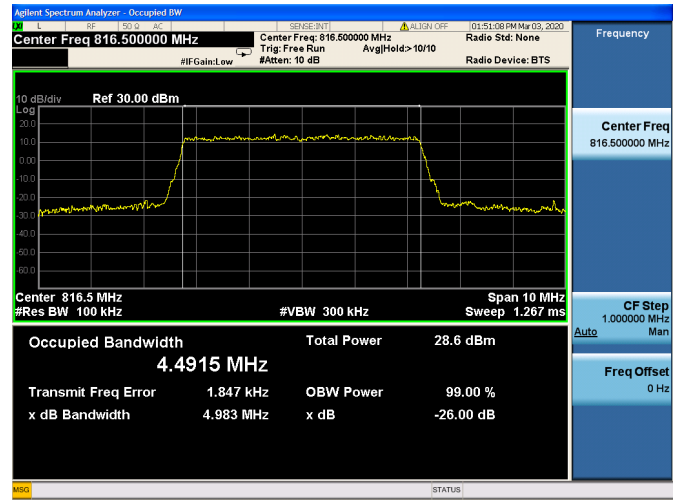


LTE Band 26 99% & 26dB Bandwidth

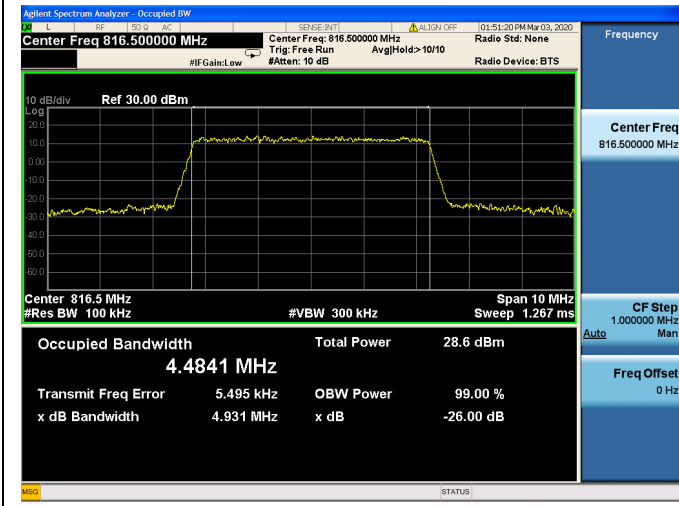
5MHz / QPSK / Low CH



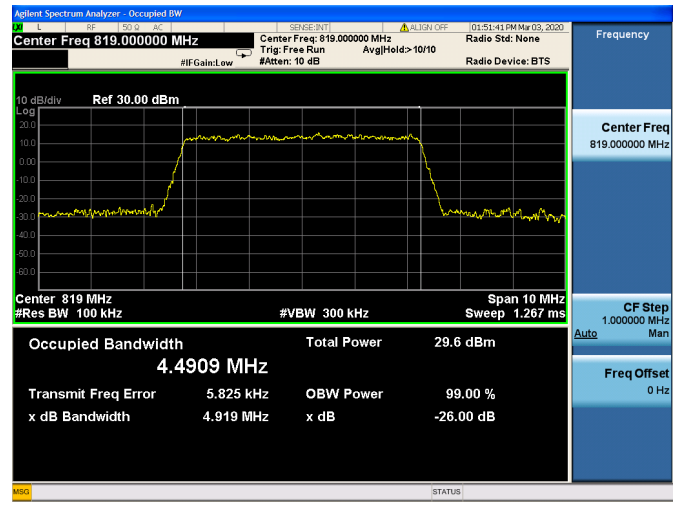
5MHz / 16QAM / Low CH

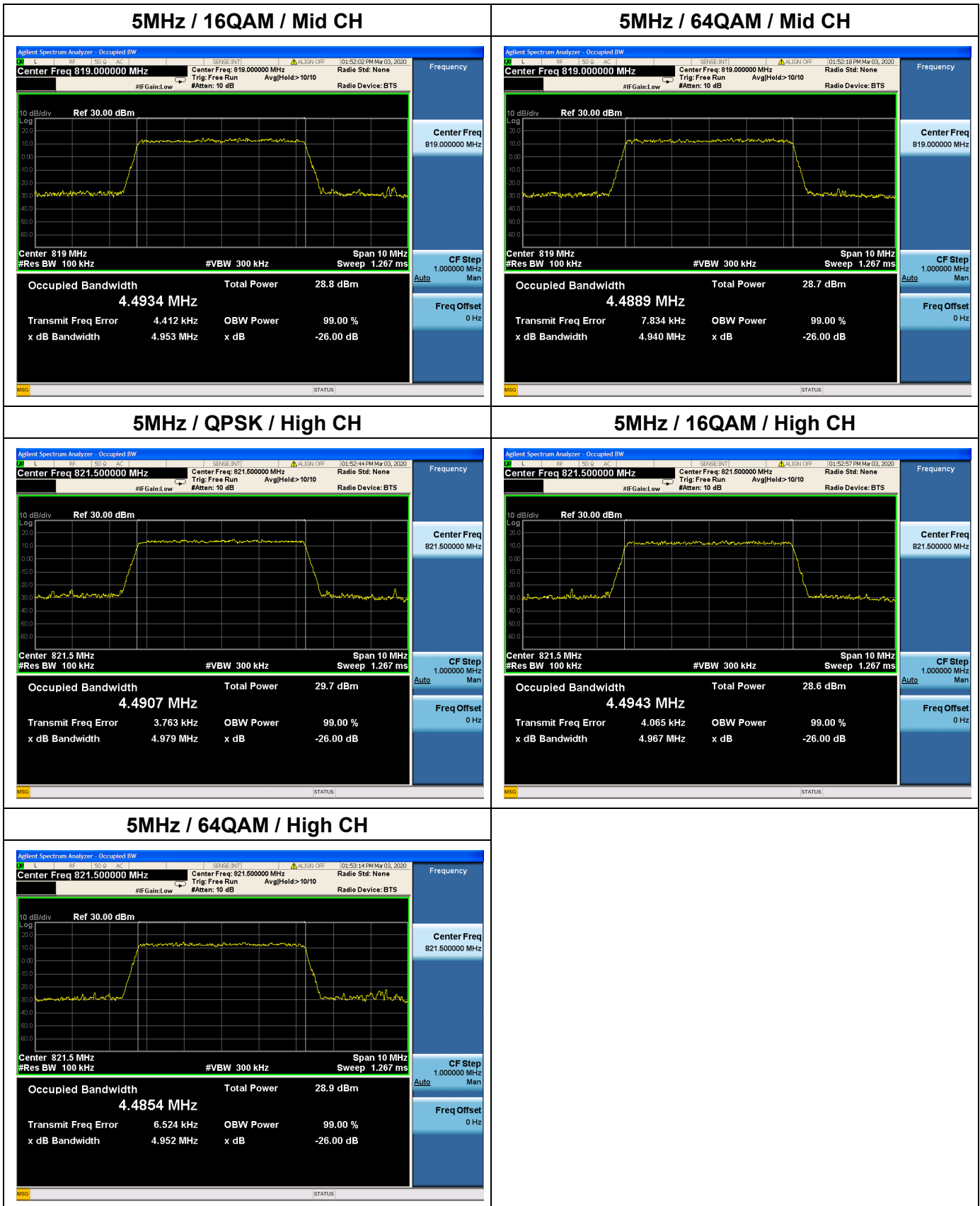


5MHz / 64QAM / Low CH



5MHz / QPSK / Mid CH

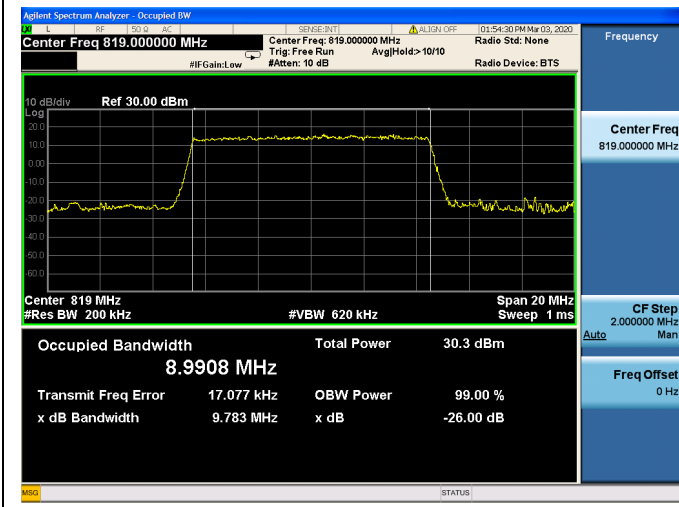




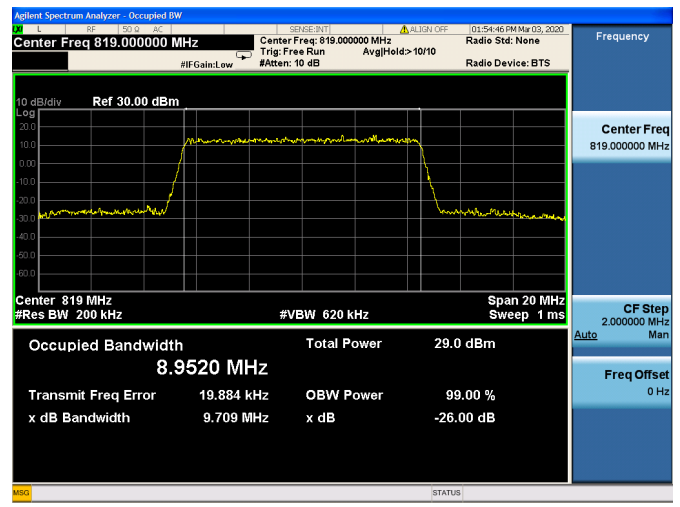


LTE Band 26 99% & 26dB Bandwidth

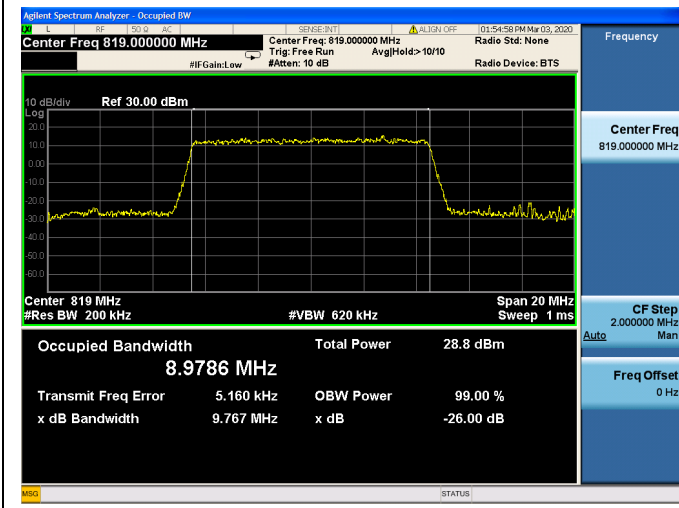
10MHz /QPSK / Mid CH



10MHz / 16QAM / Mid CH



10MHz / 64QAM / Mid CH



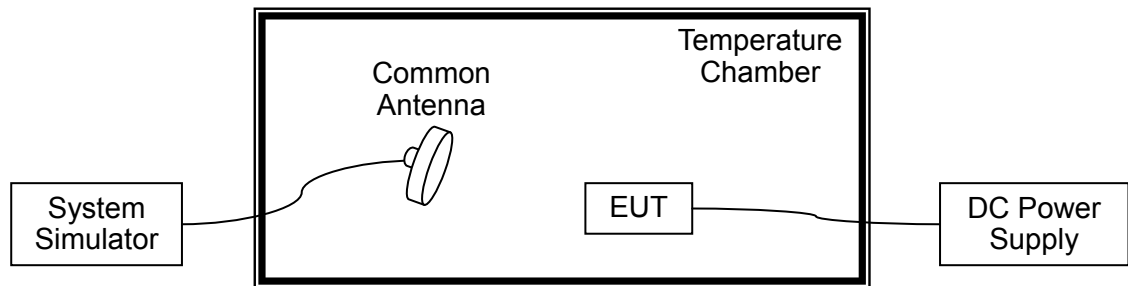
## 2.3. Frequency Stability

### 2.3.1. Requirement

According to FCC section 2.1055 & 90.213, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from  $-10^{\circ}\text{C}$  to  $+45^{\circ}\text{C}$  at intervals of not more than  $10^{\circ}\text{C}$ .
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

### 2.3.2. Test Description



The EUT which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.

### 2.3.3. Test procedure

KDB 971168 D01v03 Section 9.0 and ANSI/TIA-603-E-2016.

### 2.3.4. Test Result

The nominal, highest and lowest extreme voltages are separately 3.87VDC, 4.45VDC and 3.3VDC, which are specified by the applicant; the normal temperature here used is  $20^{\circ}\text{C}$ .



LTE Band 18, QPSK, Channel 23925, Frequency 822.5MHz Limit =Within Authorized Band					
Voltage(%)	Power(VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
100	3.87	+20(Ref)	33	0.014	PASS
100		-10	64	0.028	
100		0	55	0.024	
100		+10	29	0.013	
100		+20	55	0.024	
100		+30	-65	-0.028	
100		+40	-73	-0.032	
115	4.45	+20	55	0.024	
85	3.30	+20	33	0.014	

LTE Band 26, QPSK, Channel 26740, Frequency 819.0MHz Limit =Within Authorized Band					
Voltage(%)	Power(VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
100	3.87	+20(Ref)	21	0.025	PASS
100		-10	-32	-0.038	
100		0	-15	-0.018	
100		+10	-36	-0.043	
100		+20	-28	-0.034	
100		+30	-36	-0.043	
100		+40	65	0.078	
115	4.45	+20	53	0.064	
85	3.30	+20	21	0.025	

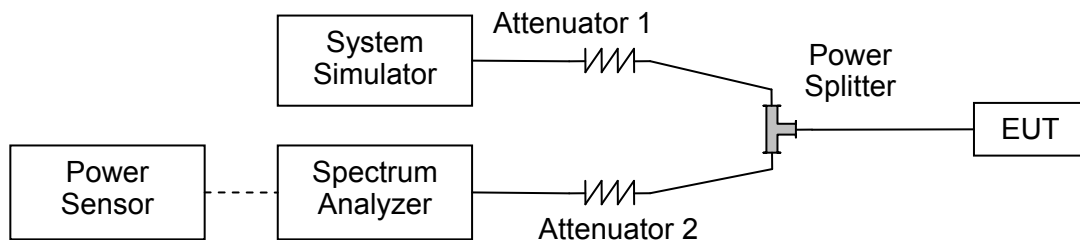
## 2.4. Peak to Average Ratio

### 2.4.1. Requirement

According to FCC section 24.232(d), the peak to average ratio (PAR) of the transmission may not exceed 13dB.

### 2.4.2. Test Description

#### A. Test Set:



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.

### 2.4.3. Test procedure

KDB 971168 D01v03 Section 5.7 and ANSI/TIA-603-E-2016.

### 2.4.4. Test Result

Record the maximum PAPR level associated with a probability of 0.1%.

Note: PART 90 sections are none of the result

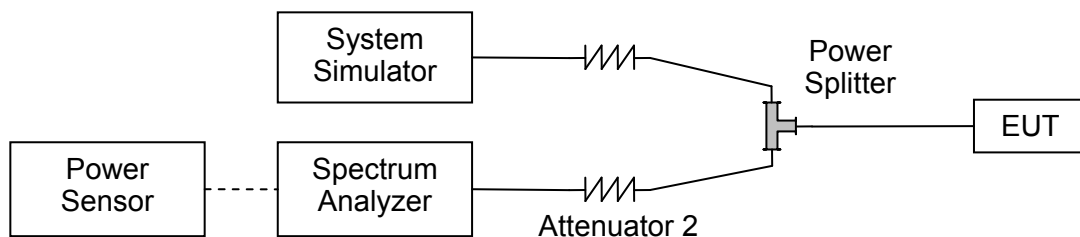


## 2.5. Conducted Spurious Emissions

### 2.5.1. Requirement

According to FCC section 2.1051, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43+10*\log(P)$ dB. This calculated to be -13dBm.

### 2.5.2. Test Description

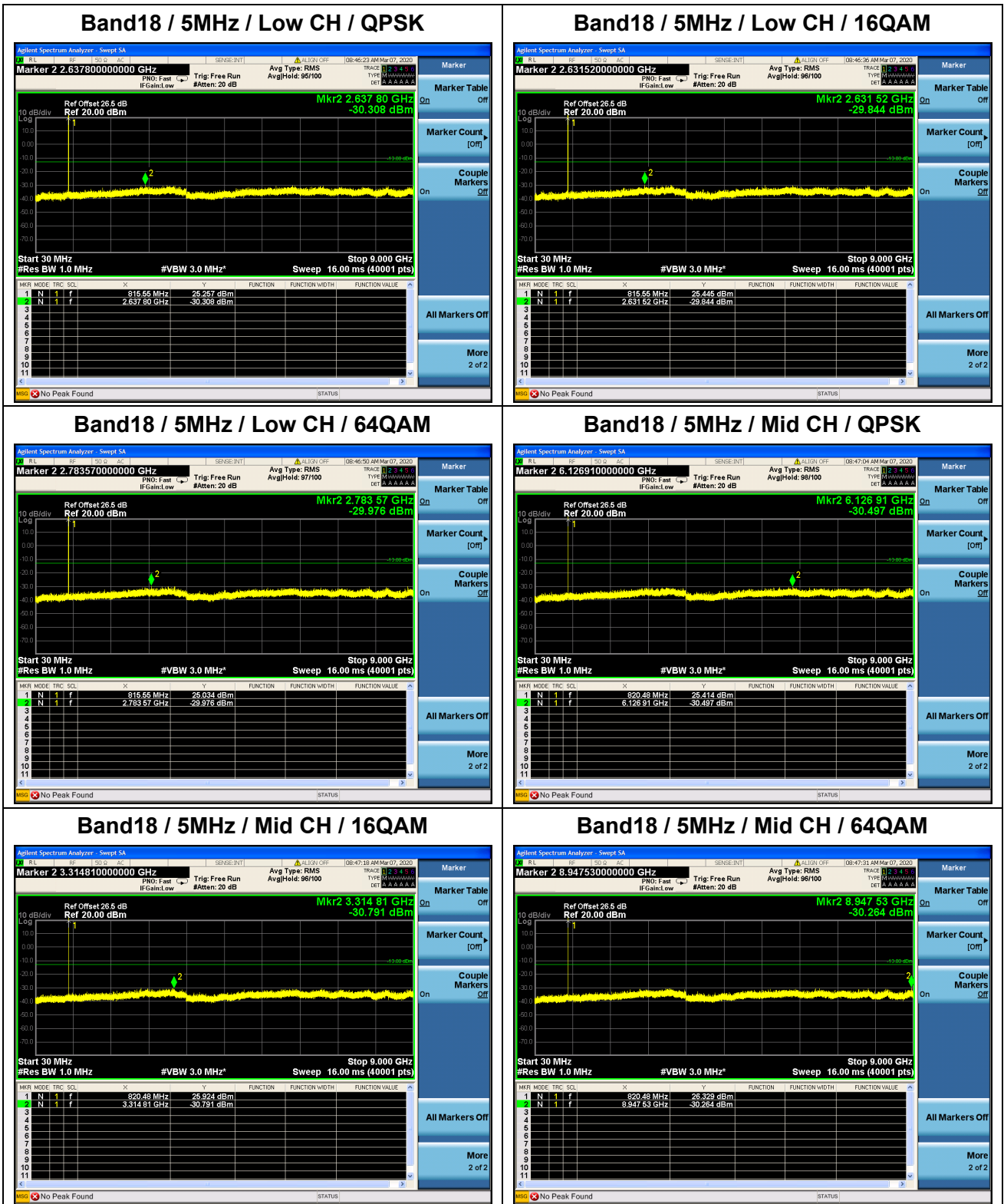


The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

### 2.5.3. Test procedure

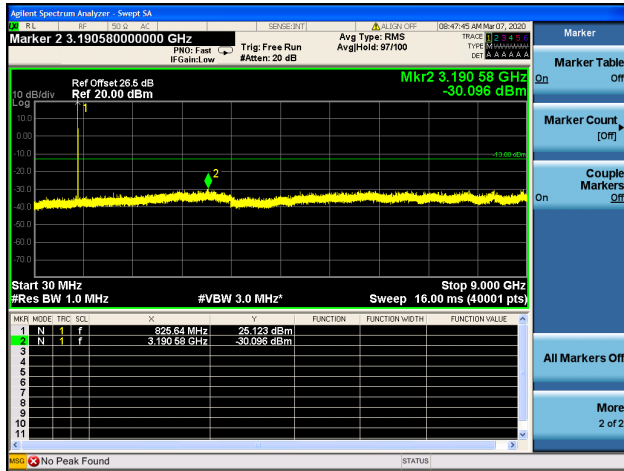
KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

### 2.5.4. Test Result

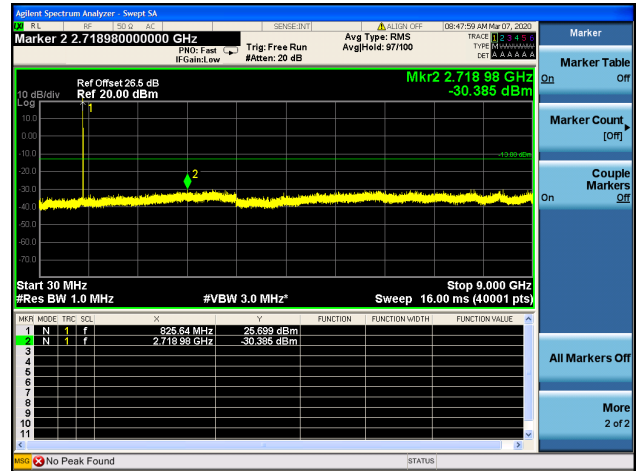




**Band18 / 5MHz / High CH / QPSK**



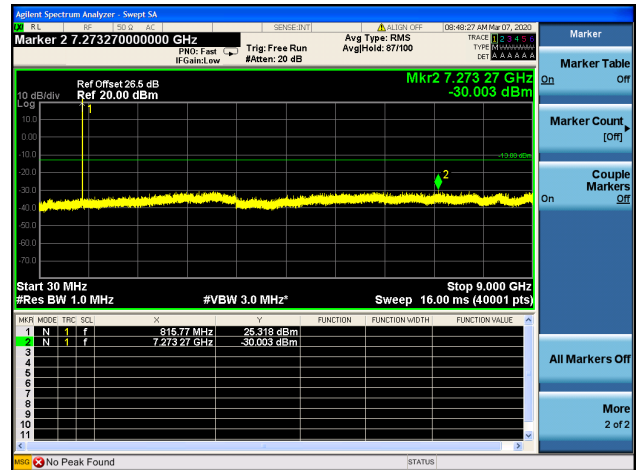
**Band18 / 5MHz / High CH / 16QAM**



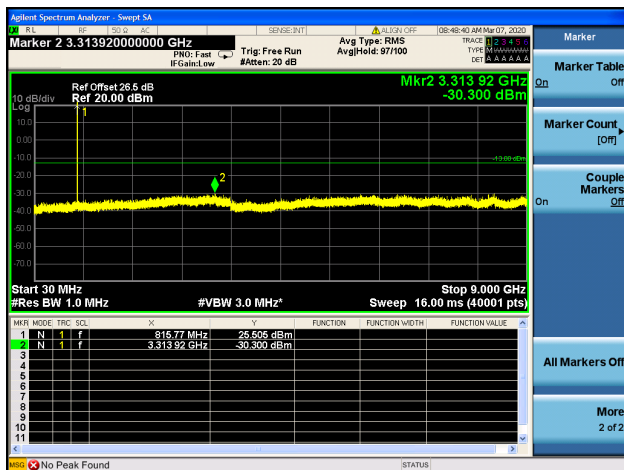
**Band18 / 5MHz / High CH / 64QAM**



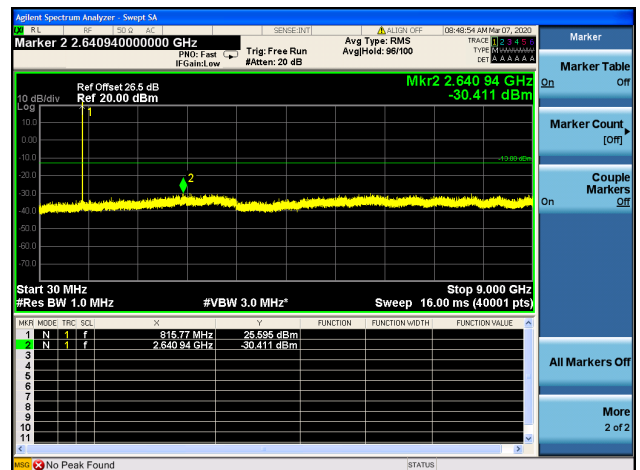
**Band18 / 10MHz / Low CH / QPSK**

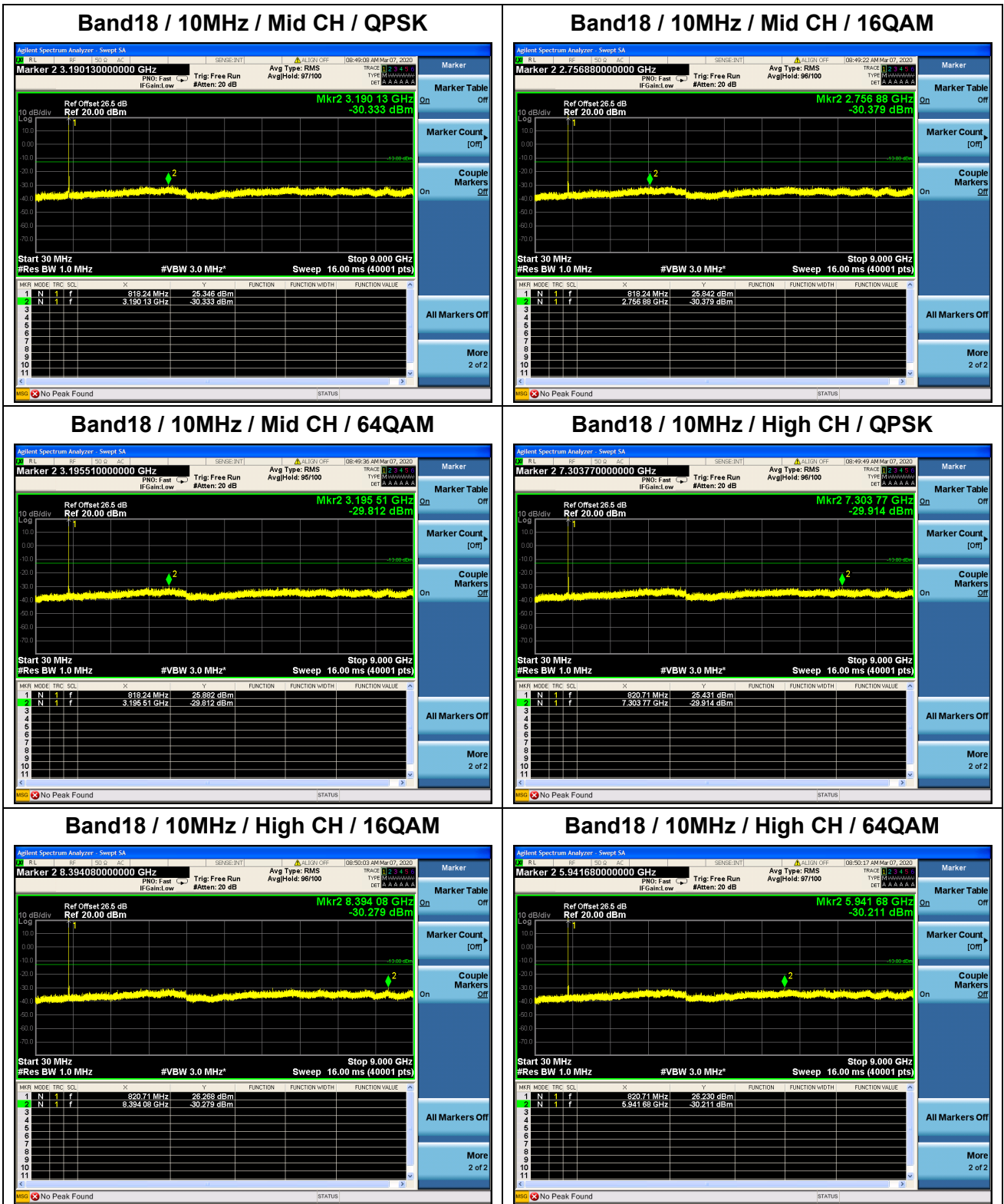


**Band18 / 10MHz / Low CH / 16QAM**



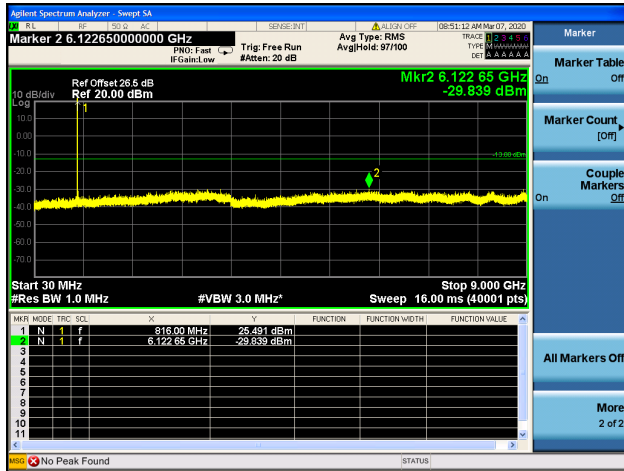
**Band18 / 10MHz / Low CH / 64QAM**



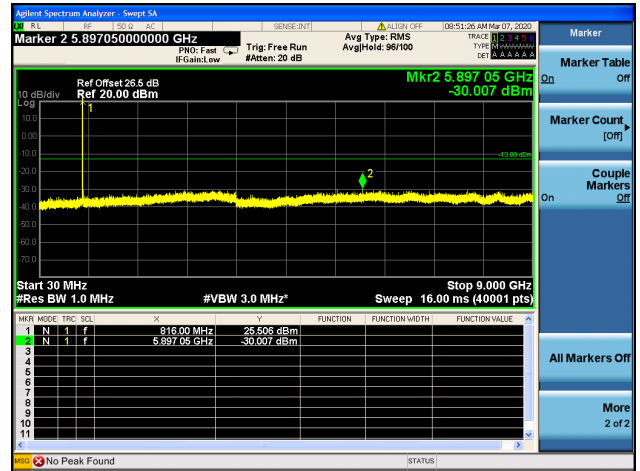




**Band18 / 15MHz / Mid CH / QPSK**



**Band18 / 15MHz / Mid CH / 16QAM**



**Band18 / 15MHz / Mid CH / 64QAM**

