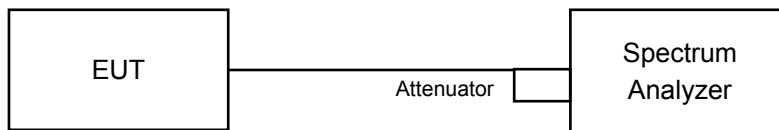


## 4.5 Band Edge Measurement

### 4.5.1 Limits of Band Edge Measurement

According to FCC 27.53(h) for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log (P)$  dB.

### 4.5.2 Test Setup

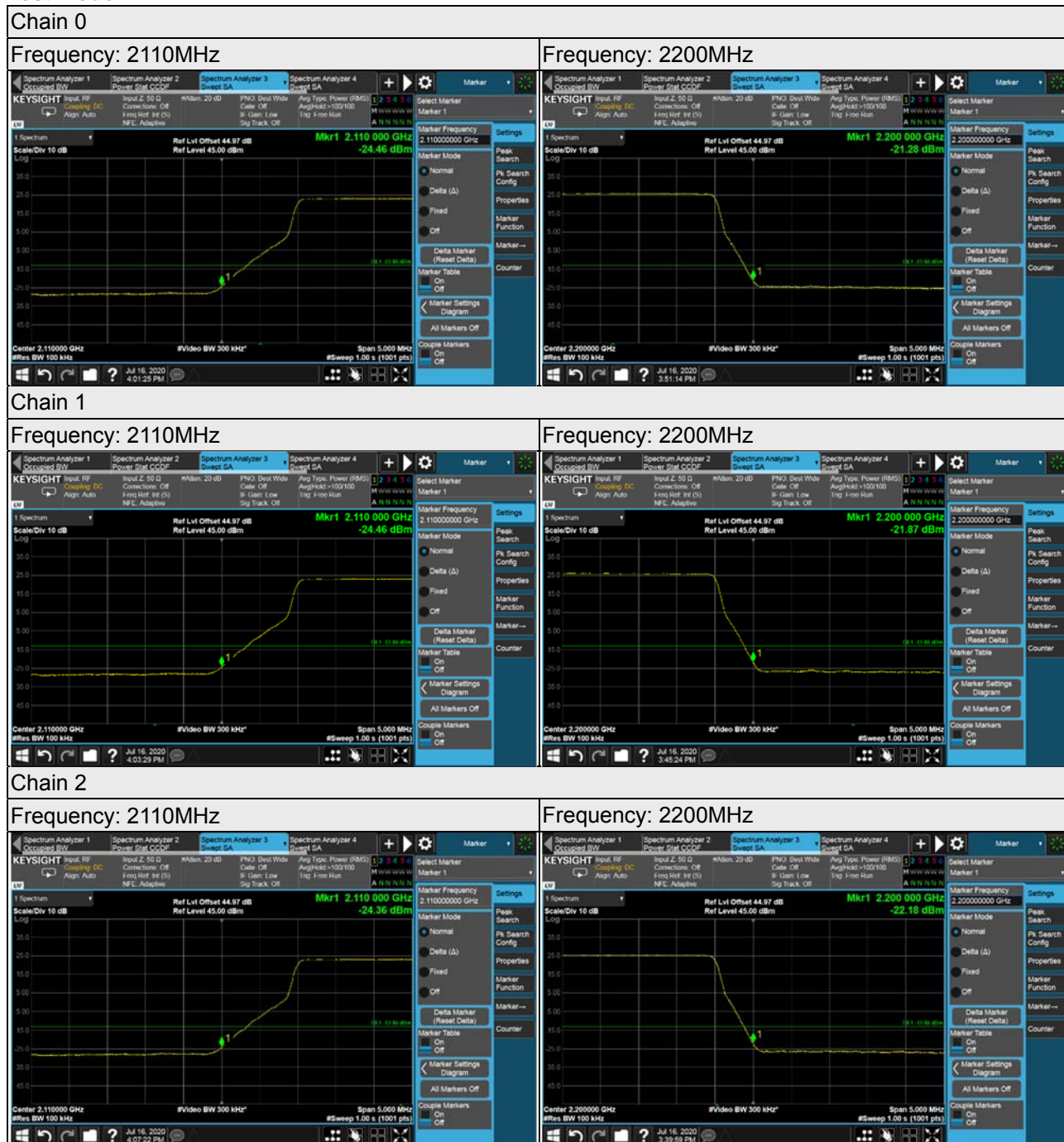


### 4.5.3 Test Procedures

- The EUT was set up for the rated peak power. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels: low, middle and high operational frequency range.
- RBW 700kHz Reduce to 100kHz, then  
 $\text{RBW offset} = 10 \log(700\text{kHz}/100\text{kHz}) = 8.45$   
 $\text{offset} = 30.5(\text{Cable loss}) + 6.02(4\text{TX directional}) + 8.45(\text{RBW offset}) = 44.97 \text{ dBm}$
- Record the max trace plot into the test report.

## 4.5.4 Test Results

### Test Mode A

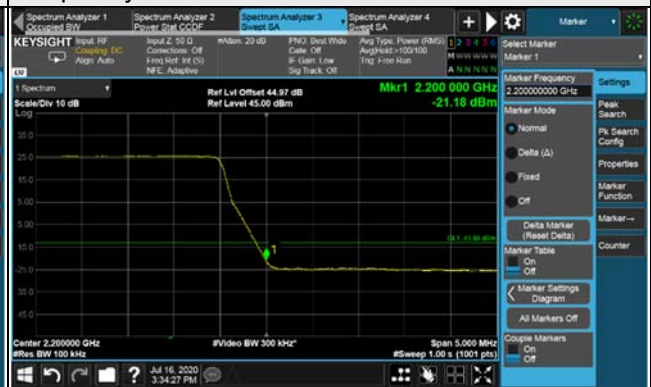


Chain 3

Frequency: 2110MHz



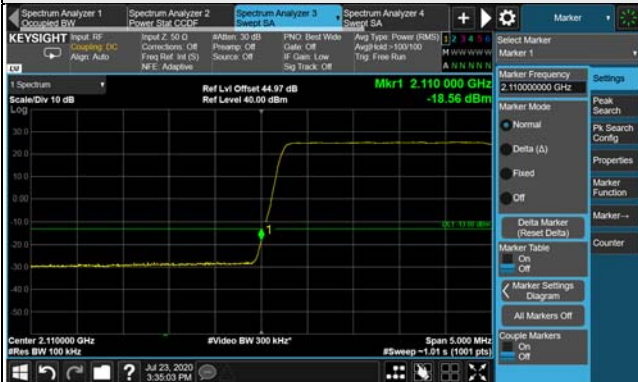
Frequency: 2200MHz



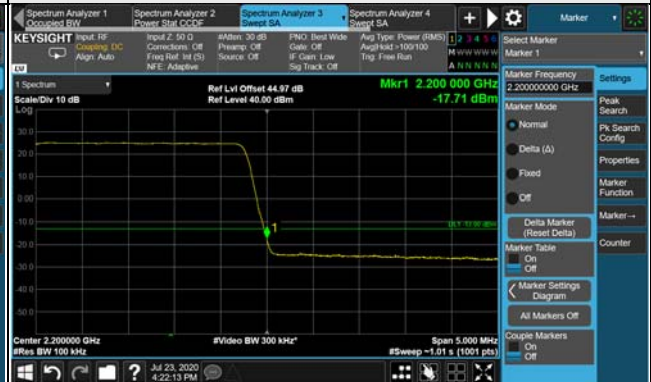
## Test Mode B

### Chain 0

Frequency: 2110MHz

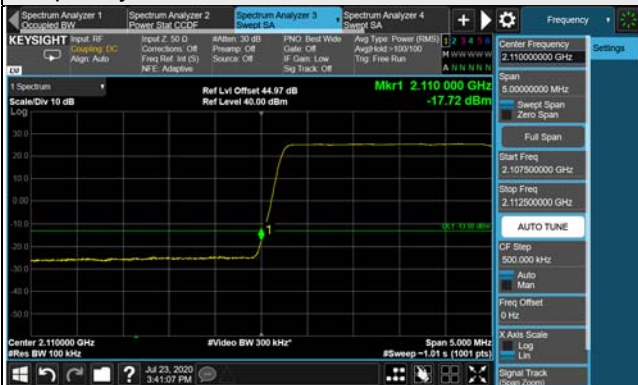


Frequency: 2200MHz



### Chain 1

Frequency: 2110MHz

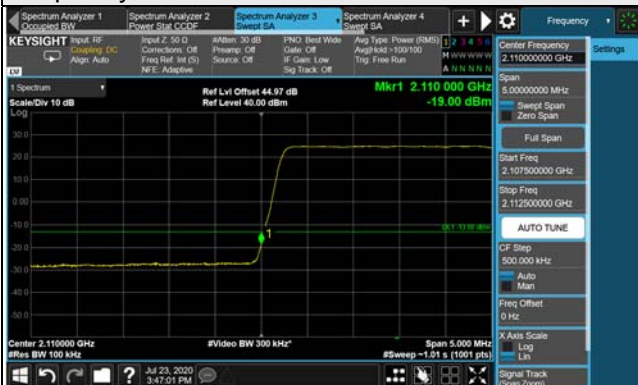


Frequency: 2200MHz

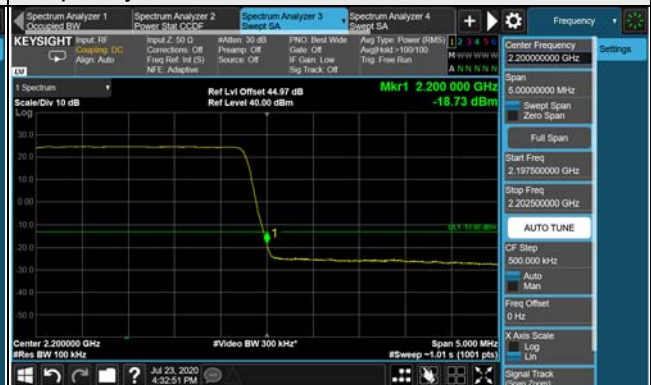


### Chain 2

Frequency: 2110MHz



Frequency: 2200MHz



### Chain 3

Frequency: 2110MHz



Frequency: 2200MHz





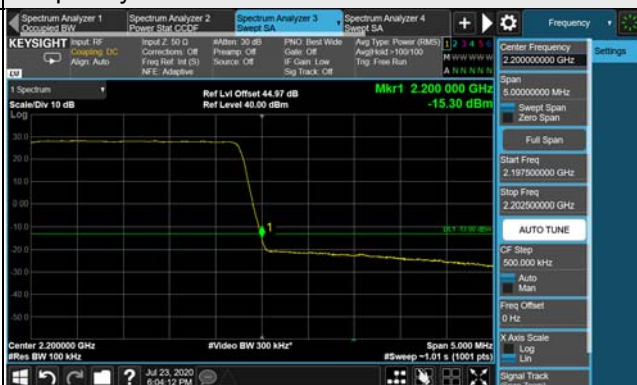
### Test Mode C

#### Chain 0

Frequency: 2110MHz



Frequency: 2200MHz

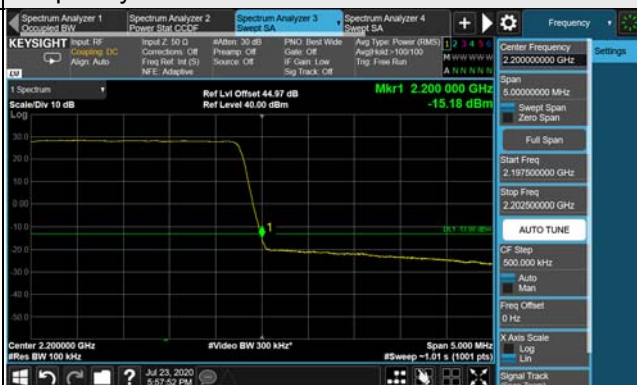


#### Chain 1

Frequency: 2110MHz

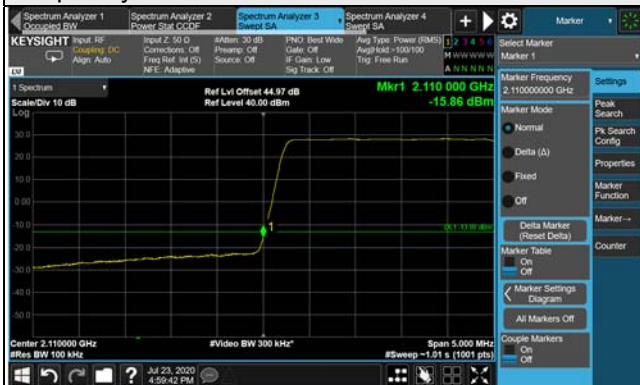


Frequency: 2200MHz



#### Chain 2

Frequency: 2110MHz



Frequency: 2200MHz



Chain 3

Frequency: 2110MHz



Frequency: 2200MHz

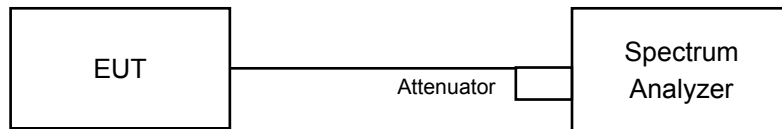


## 4.6 Peak to Average Ratio

### 4.6.1 Limits of Peak to Average Ratio Measurement

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

### 4.6.2 Test Setup



### 4.6.3 Test Procedures

- a. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
- b. Set the number of counts to a value that stabilizes the measured CCDF curve;
- c. Record the maximum PAPR level associated with a probability of 0.1%.



#### 4.6.4 Test Results

##### Test Mode A

##### Chain 0

Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.34	7.35	7.34	7.33
2155.0	7.27	7.27	7.27	7.28
2165.0	7.45	7.45	7.46	7.44

##### Chain 1

Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.34	7.34	7.35	7.34
2155.0	7.21	7.21	7.21	7.20
2165.0	7.47	7.48	7.47	7.47

##### Chain 2

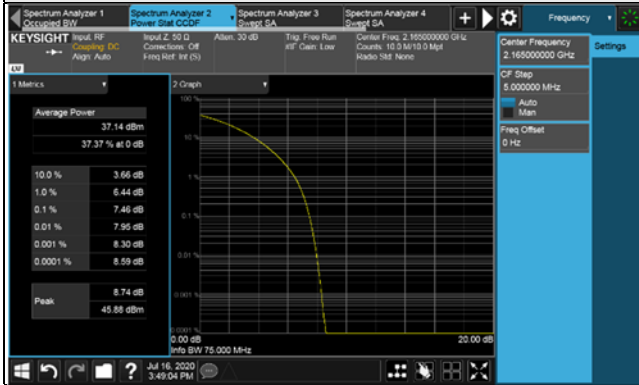
Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.35	7.35	7.35	7.34
2155.0	7.23	7.23	7.23	7.23
2165.0	7.48	7.48	7.48	7.47

##### Chain 3

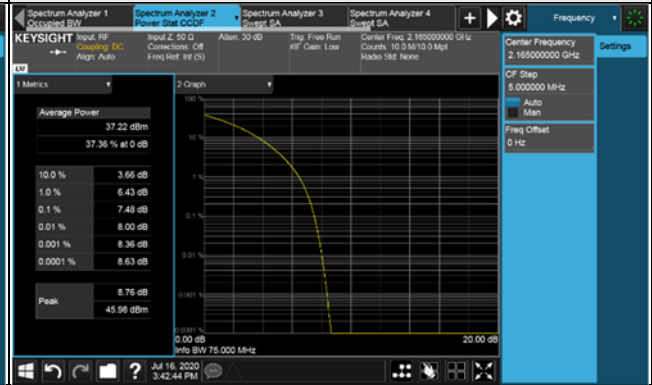
Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.34	7.34	7.35	7.34
2155.0	7.23	7.23	7.23	7.24
2165.0	7.48	7.48	7.48	7.49

**Peak To Average Ratio**  
**Spectrum Plot of Worst Value**

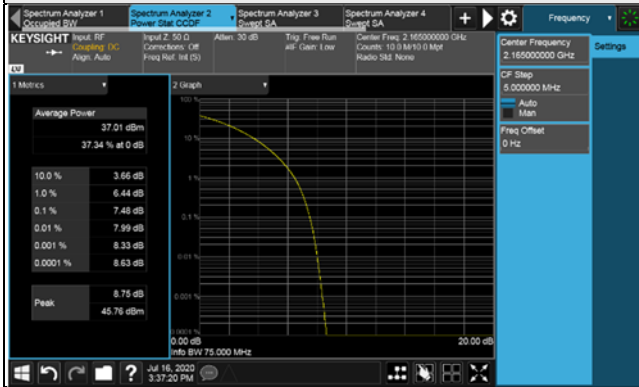
**Chain 0 / 64QAM**



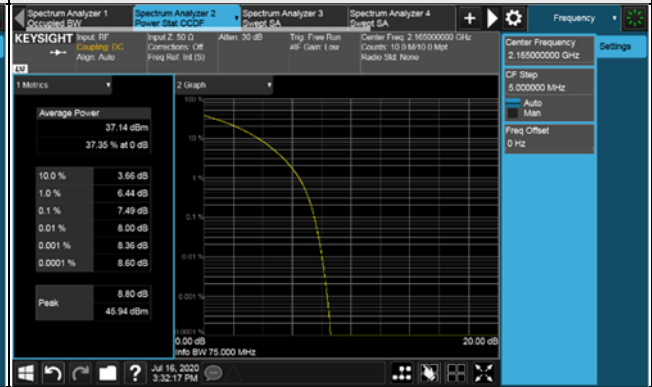
**Chain 1 / 16QAM**



**Chain 2 / 64QAM**



**Chain 3 / 256QAM**



## Test Mode B

### Chain 0

Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.72	7.72	7.72	7.72
2155.0	7.75	7.74	7.74	7.73
2165.0	7.78	7.77	7.77	7.78

### Chain 1

Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.68	7.68	7.68	7.68
2155.0	7.71	7.71	7.72	7.71
2165.0	7.73	7.72	7.73	7.72

### Chain 2

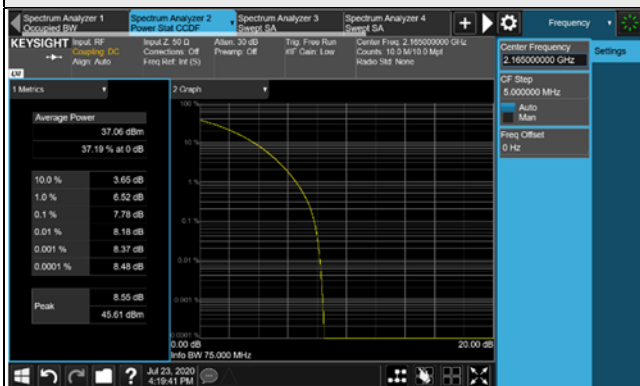
Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.71	7.70	7.71	7.70
2155.0	7.70	7.70	7.69	7.70
2165.0	7.73	7.74	7.73	7.73

### Chain 3

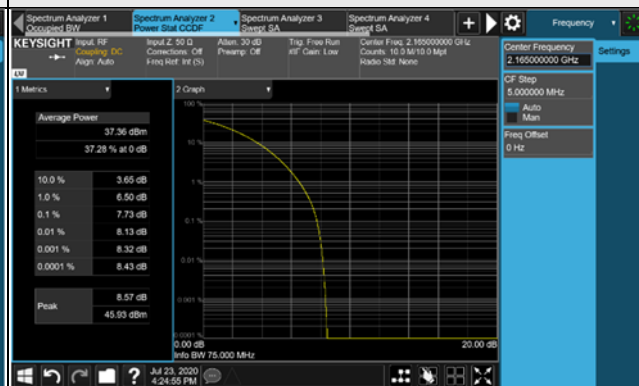
Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.70	7.69	7.70	7.71
2155.0	7.69	7.70	7.70	7.70
2165.0	7.73	7.73	7.73	7.73

**Peak To Average Ratio  
Spectrum Plot of Worst Value**

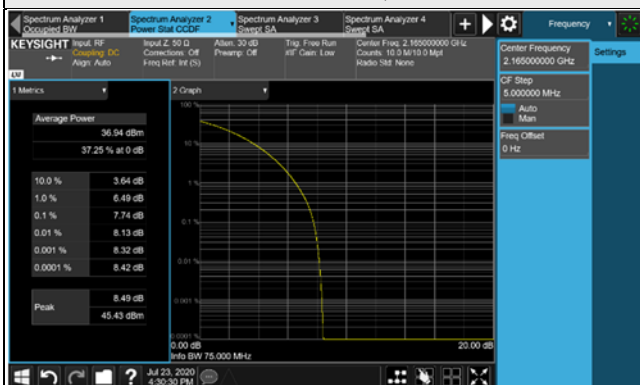
**Chain 0 / QPSK**



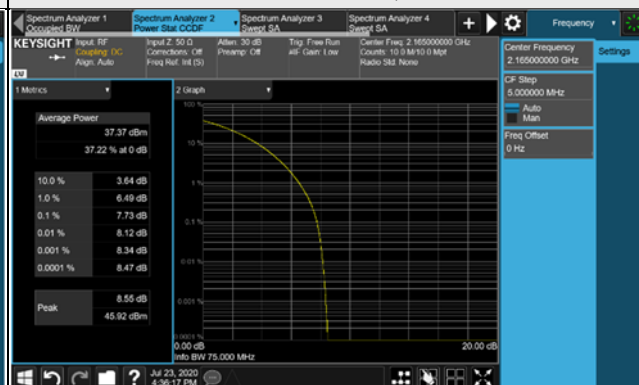
**Chain 1 / QPSK**



**Chain 2 / 16QAM**



**Chain 3 / 256QAM**



### Test Mode C

#### Chain 0

Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.66	7.66	7.65	7.65
2155.0	7.64	7.65	7.65	7.65
2165.0	7.73	7.73	7.73	7.73

#### Chain 1

Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.63	7.63	7.64	7.63
2155.0	7.65	7.65	7.65	7.64
2165.0	7.68	7.73	7.69	7.70

#### Chain 2

Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.65	7.66	7.66	7.66
2155.0	7.62	7.61	7.61	7.62
2165.0	7.68	7.68	7.68	7.69

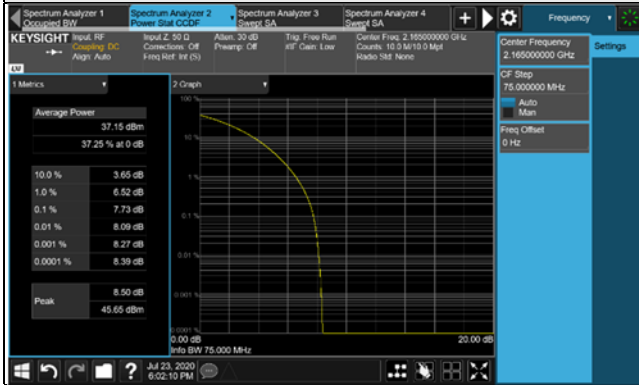
#### Chain 3

Freq. (MHz)	Peak To Average Ratio (dB)			
	QPSK	16QAM	64QAM	256QAM
2145.0	7.64	7.64	7.65	7.64
2155.0	7.64	7.63	7.64	7.62
2165.0	7.70	7.70	7.69	7.70

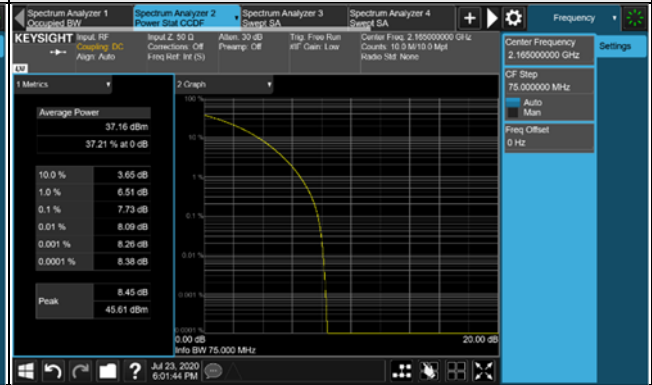


**Peak To Average Ratio  
Spectrum Plot of Worst Value**

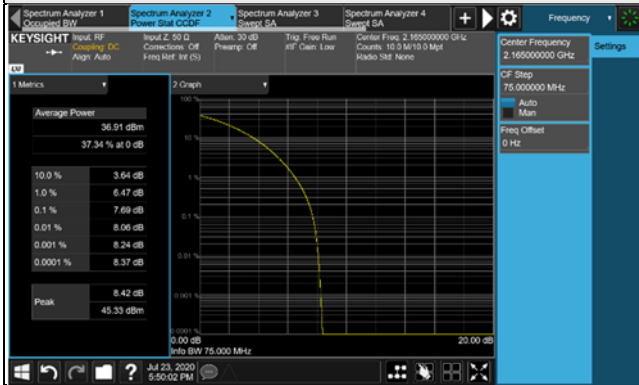
**Chain 0 / 256QAM**



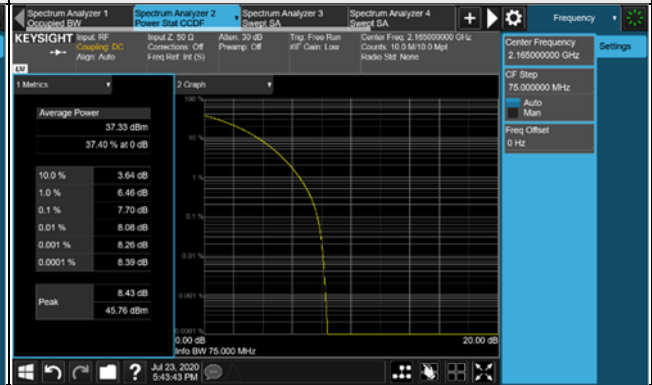
**Chain 1 / 16QAM**



**Chain 2 / 256QAM**



**Chain 3 / 256QAM**

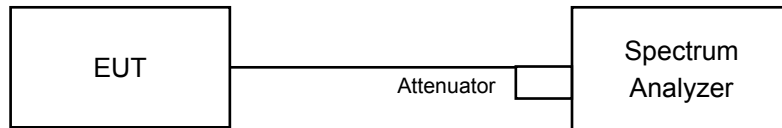


## 4.7 Conducted Spurious Emissions

### 4.7.1 Limits of Conducted Spurious Emissions Measurement

In the FCC 27.53(h)(1), On any frequency outside a licensee's frequency block, The power of any emission shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB.

### 4.7.2 Test Setup



### 4.7.3 Test Procedure

- All measurements were done at 3 channels: low, middle and high operational frequency range.
- When the spectrum scanned from 9kHz to 26.5GHz, it shall be connected to the attenuator with the carried frequency.
- $\text{offset} = 30.5(\text{Cable loss}) + 6.02(4\text{TX directional}) = 36.52 \text{ dBm}$

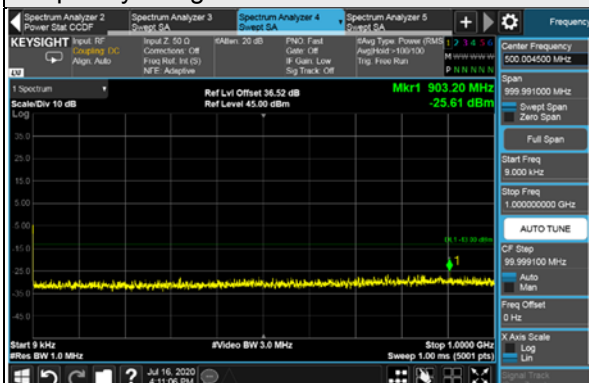
## 4.7.4 Test Results

### Test Mode A

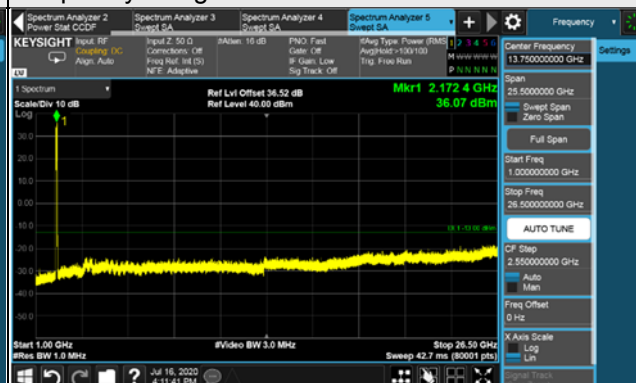
Channel Band width: 70MHz, Chain 0

2145.0MHz

Frequency Range : 9kHz~1GHz

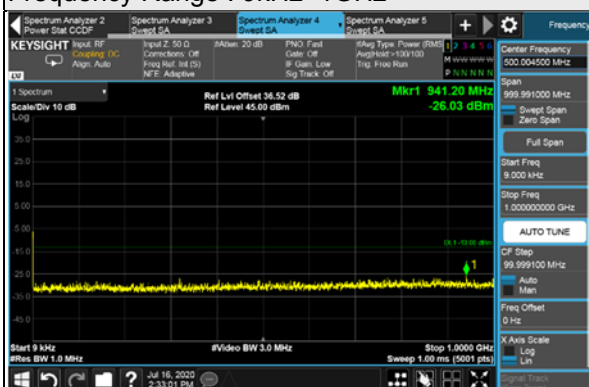


Frequency Range : 1GHz~26.5GHz

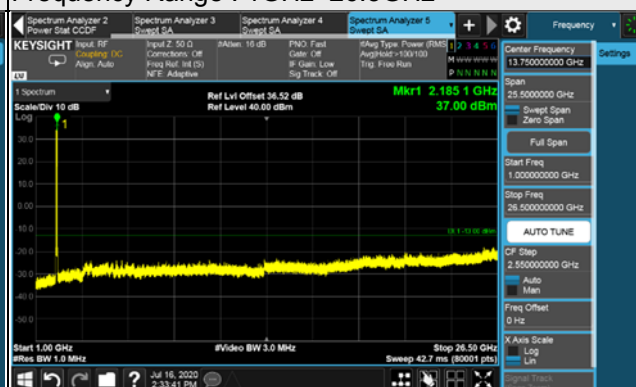


2155.0MHz

Frequency Range : 9kHz~1GHz

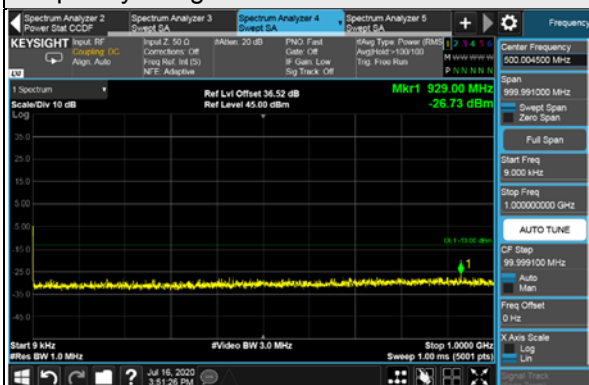


Frequency Range : 1GHz~26.5GHz

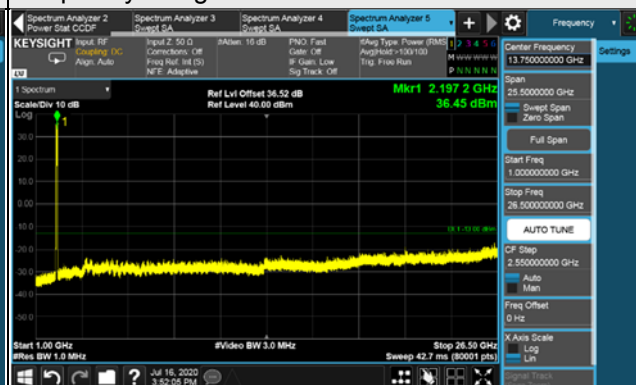


2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz

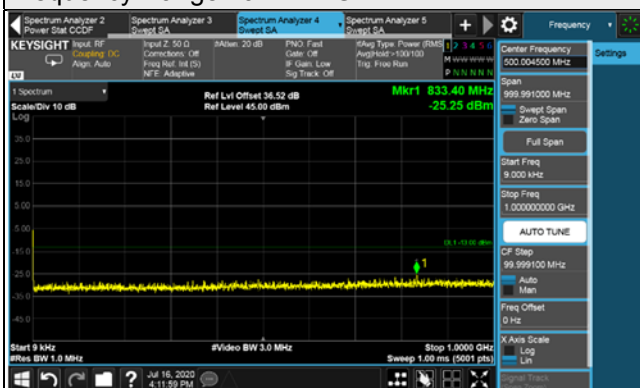


\*The 9kHz signal over the limit is from Spectrum.

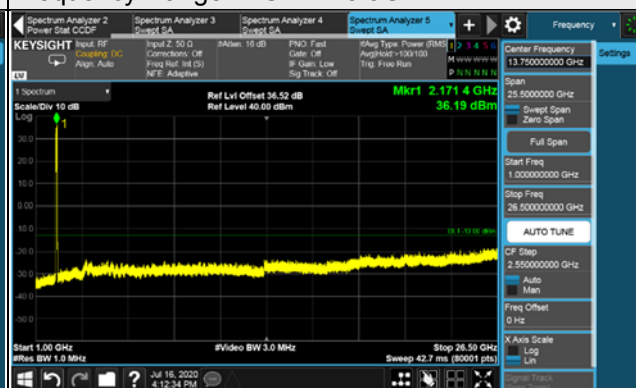
Channel Band width: 70MHz, Chain 1

2145.0MHz

Frequency Range : 9kHz~1GHz

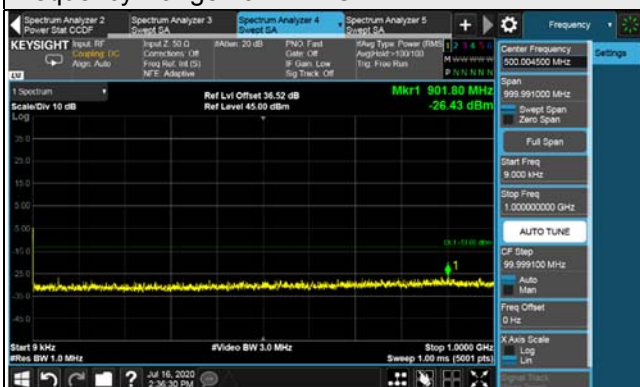


Frequency Range : 1GHz~26.5GHz



2155.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz

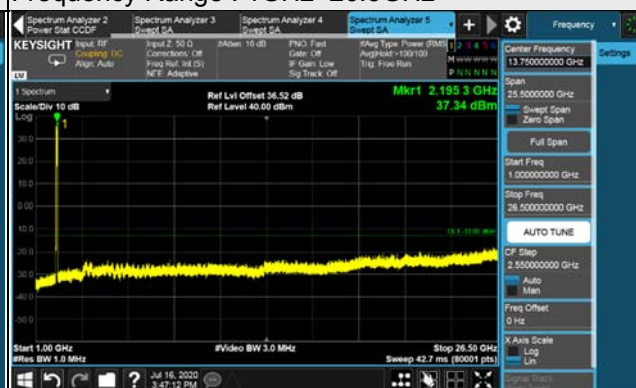


2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz

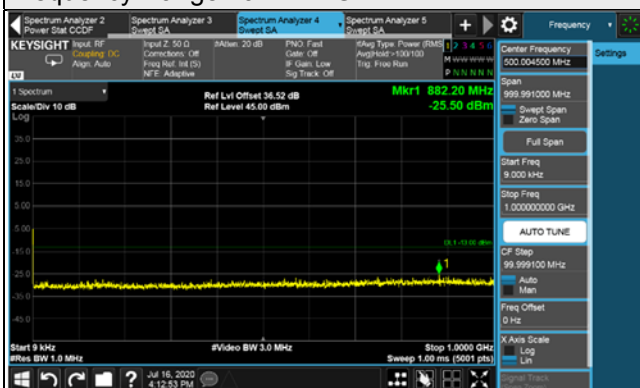


\*The 9kHz signal over the limit is from Spectrum.

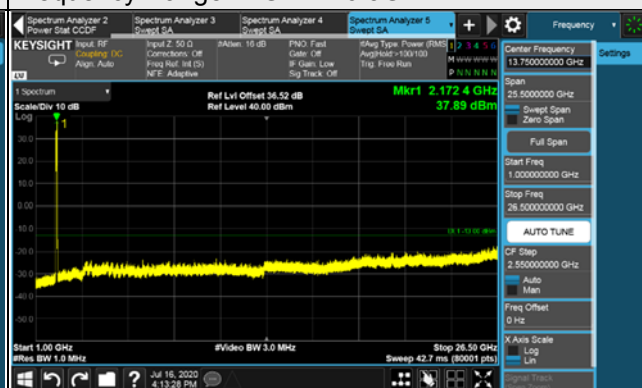
Channel Band width: 70MHz, Chain 2

2145.0MHz

Frequency Range : 9kHz~1GHz

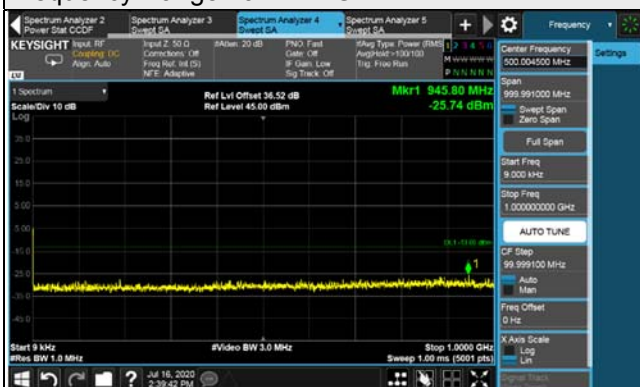


Frequency Range : 1GHz~26.5GHz

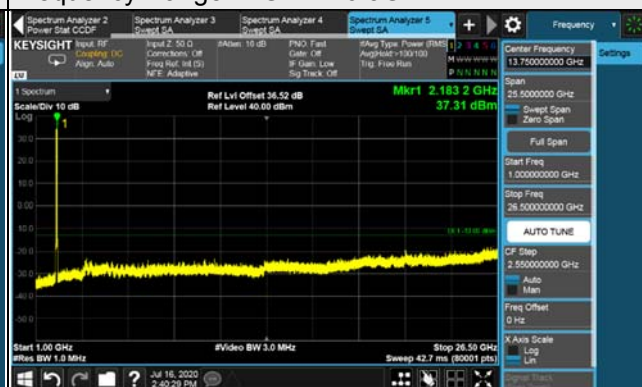


2155.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz



2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz



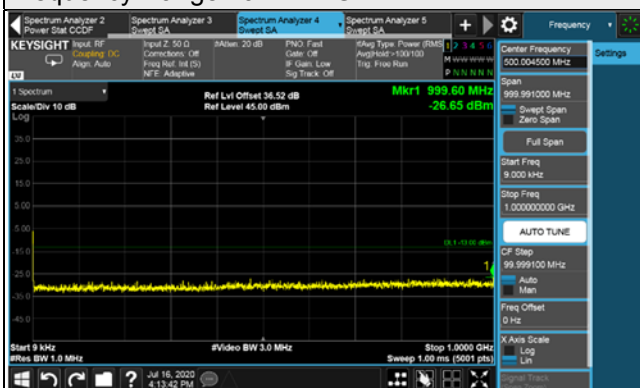
\*The 9kHz signal over the limit is from Spectrum.



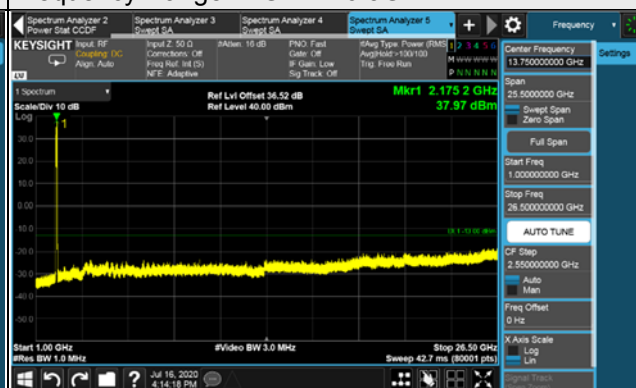
Channel Band width: 70MHz, Chain 3

2145.0MHz

Frequency Range : 9kHz~1GHz

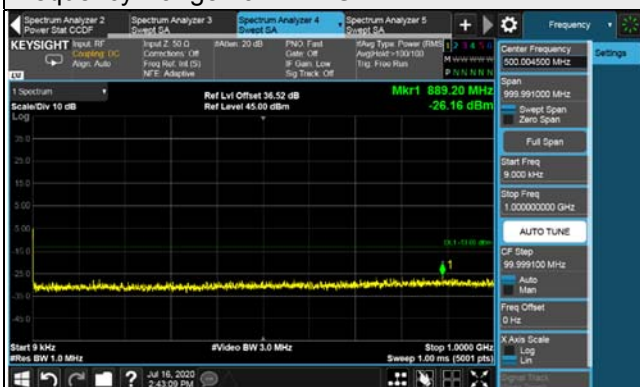


Frequency Range : 1GHz~26.5GHz



2155.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz

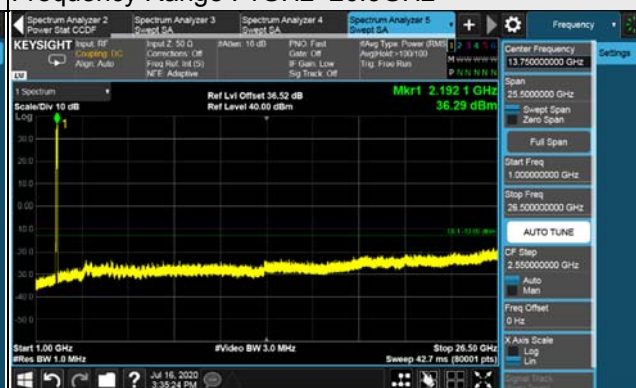


2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz



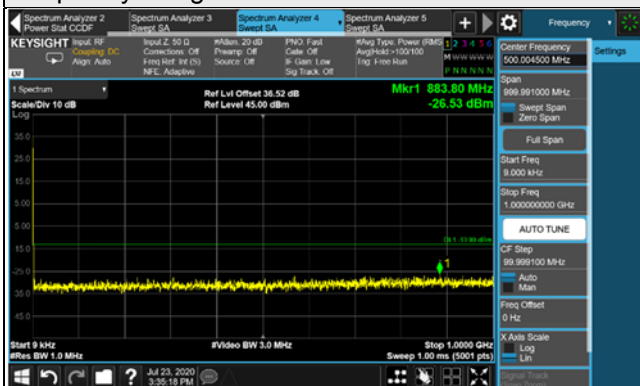
\*The 9kHz signal over the limit is from Spectrum.

### Test Mode B

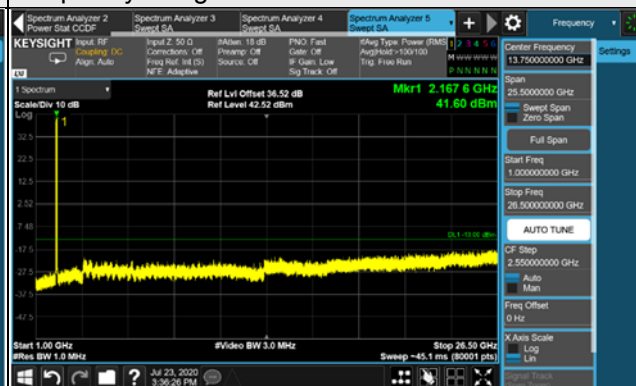
Channel Band width: 70MHz, Chain 0

2145.0MHz

Frequency Range : 9kHz~1GHz

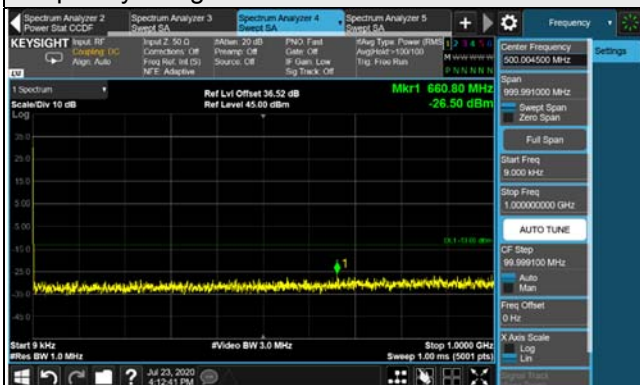


Frequency Range : 1GHz~26.5GHz

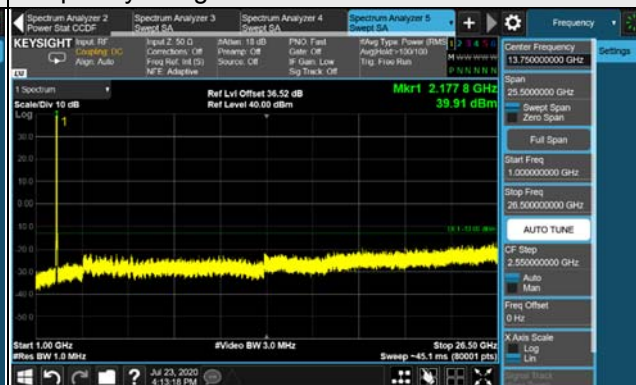


2155.0MHz

Frequency Range : 9kHz~1GHz

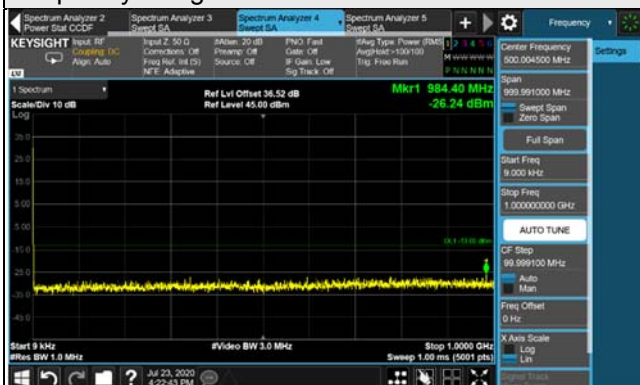


Frequency Range : 1GHz~26.5GHz

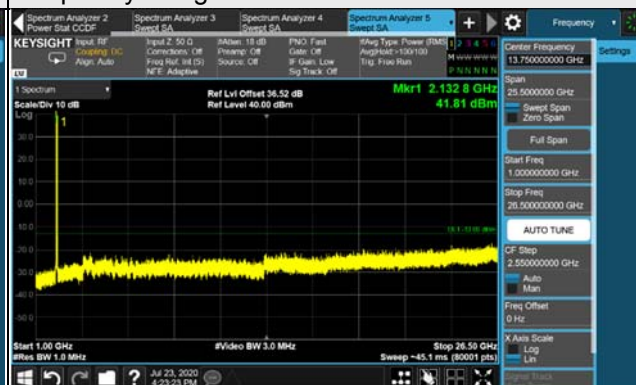


2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz

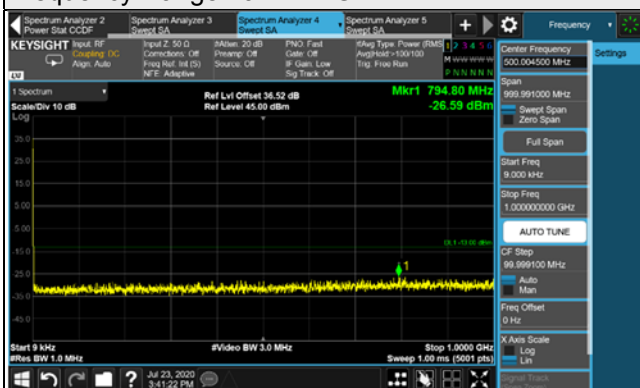


\*The 9kHz signal over the limit is from Spectrum.

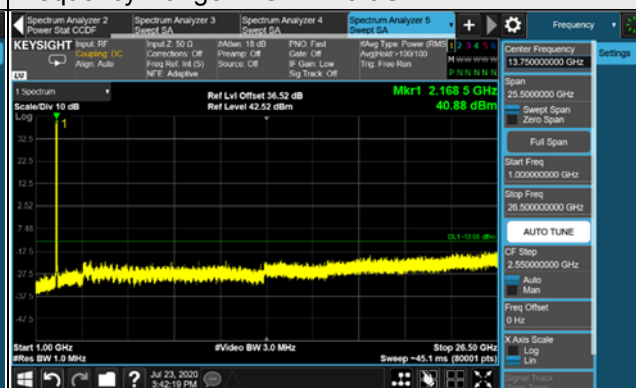
Channel Band width: 70MHz, Chain 1

2145.0MHz

Frequency Range : 9kHz~1GHz

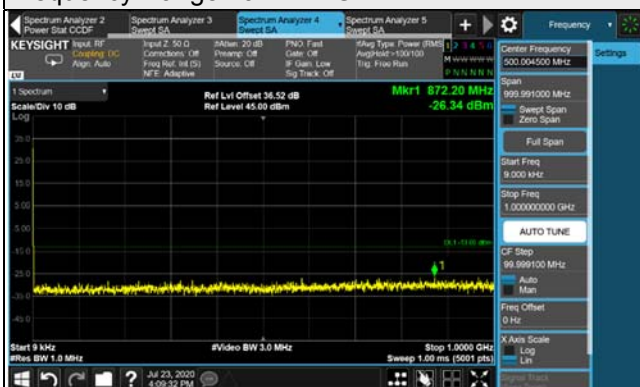


Frequency Range : 1GHz~26.5GHz

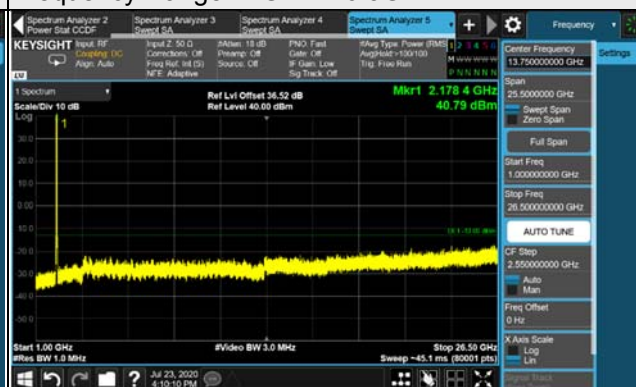


2155.0MHz

Frequency Range : 9kHz~1GHz

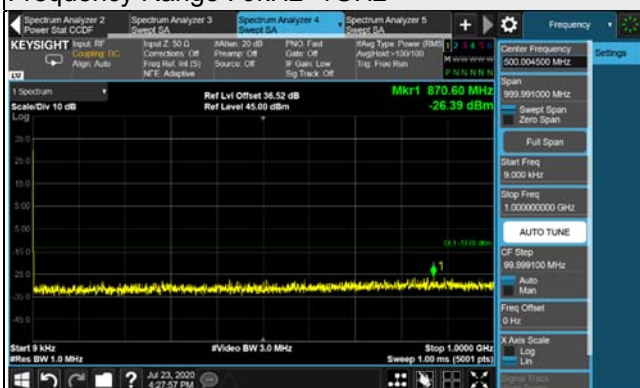


Frequency Range : 1GHz~26.5GHz



2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz



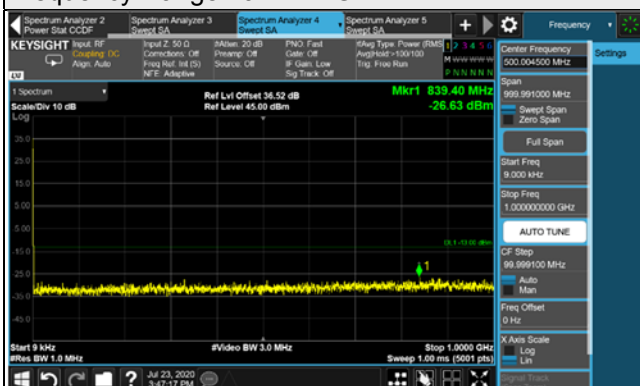
\*The 9kHz signal over the limit is from Spectrum.



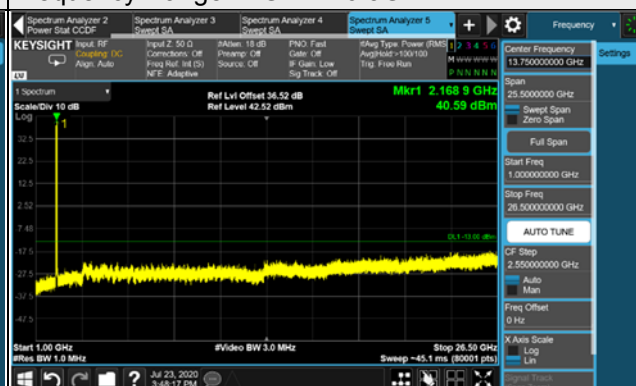
Channel Band width: 70MHz, Chain 2

2145.0MHz

Frequency Range : 9kHz~1GHz

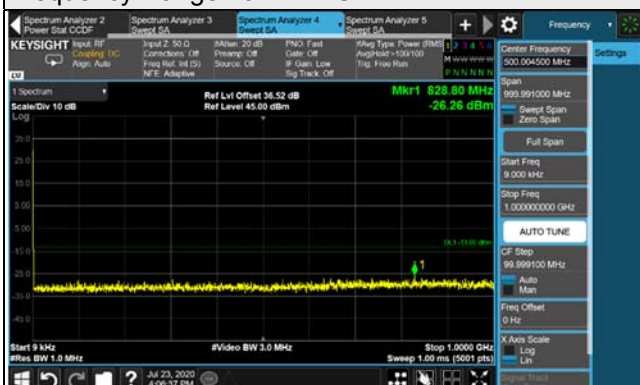


Frequency Range : 1GHz~26.5GHz

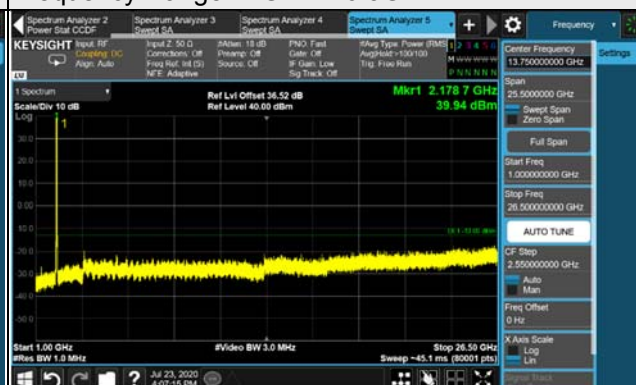


2155.0MHz

Frequency Range : 9kHz~1GHz

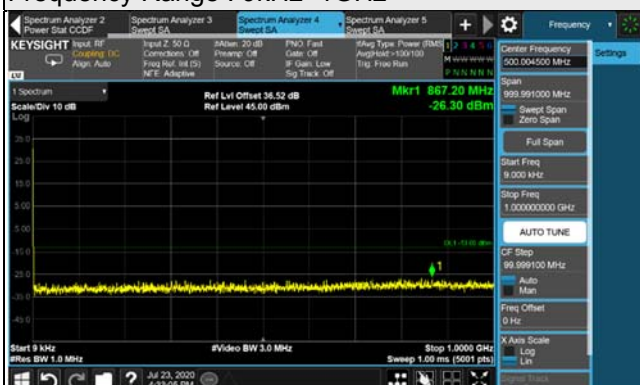


Frequency Range : 1GHz~26.5GHz

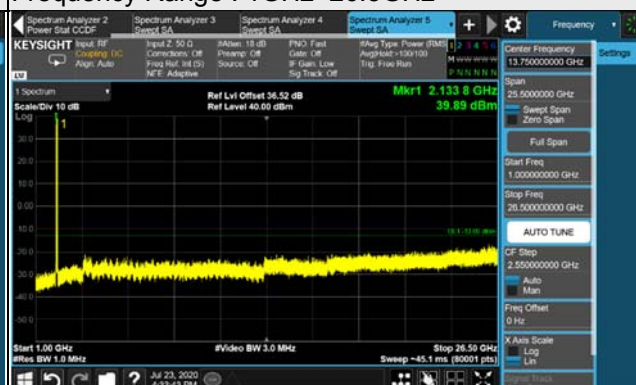


2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz

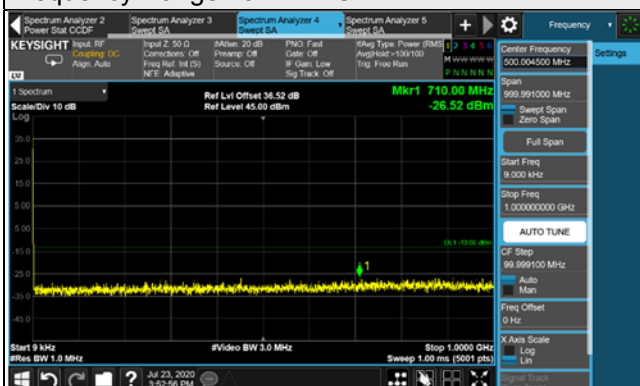


\*The 9kHz signal over the limit is from Spectrum.

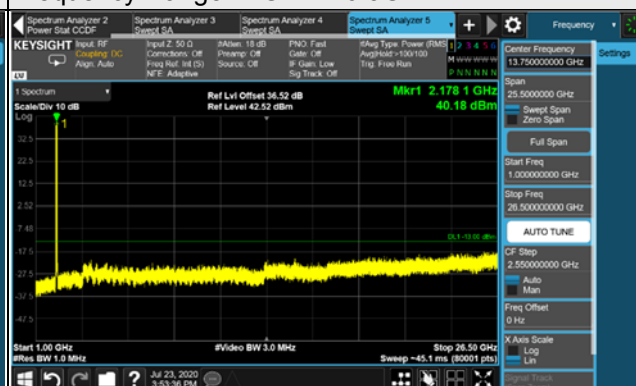
Channel Band width: 70MHz, Chain 3

2145.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz

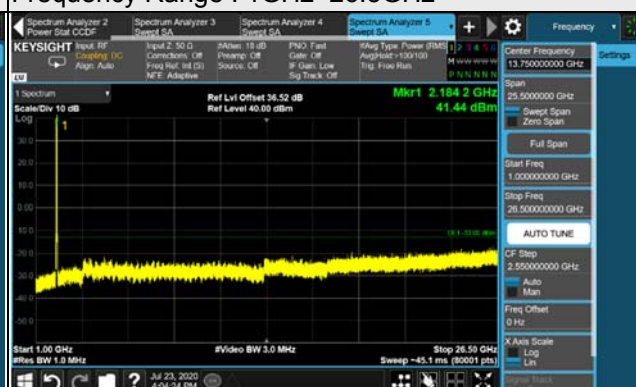


2155.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz

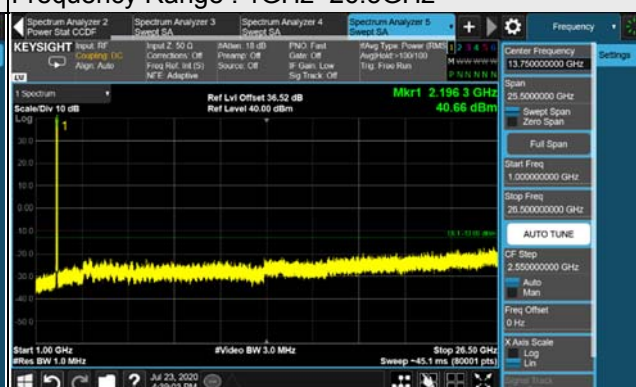


2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz



\*The 9kHz signal over the limit is from Spectrum.

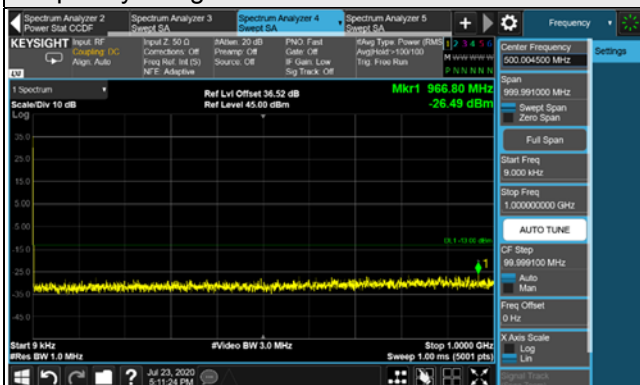


### Test Mode C

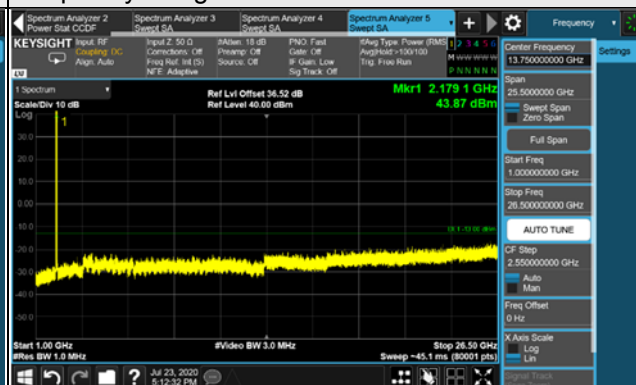
Channel Band width: 70MHz, Chain 0

2145.0MHz

Frequency Range : 9kHz~1GHz

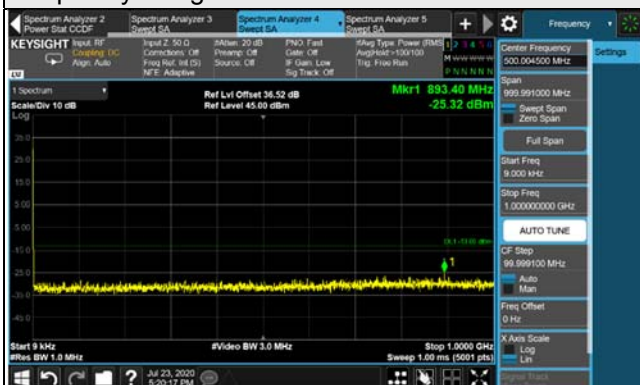


Frequency Range : 1GHz~26.5GHz

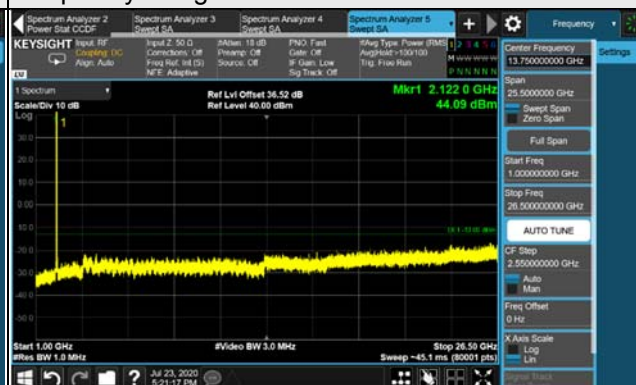


2155.0MHz

Frequency Range : 9kHz~1GHz

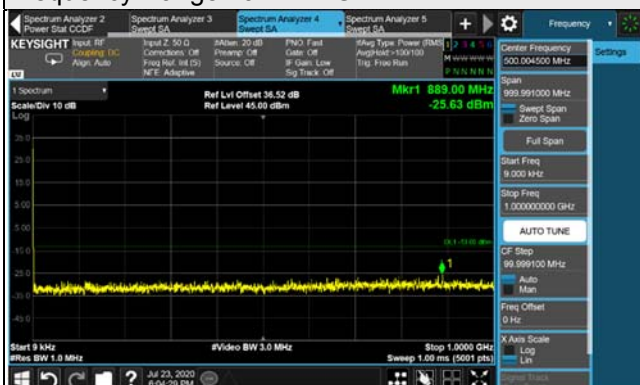


Frequency Range : 1GHz~26.5GHz

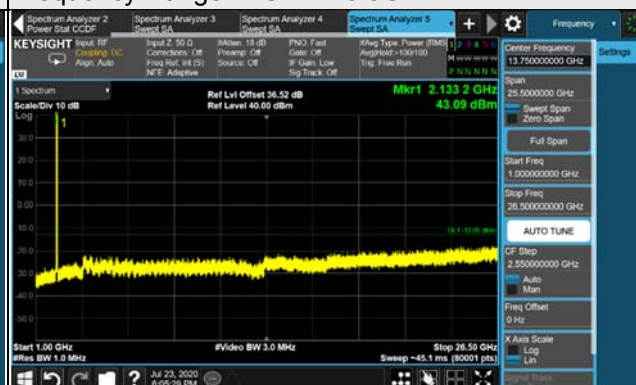


2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz

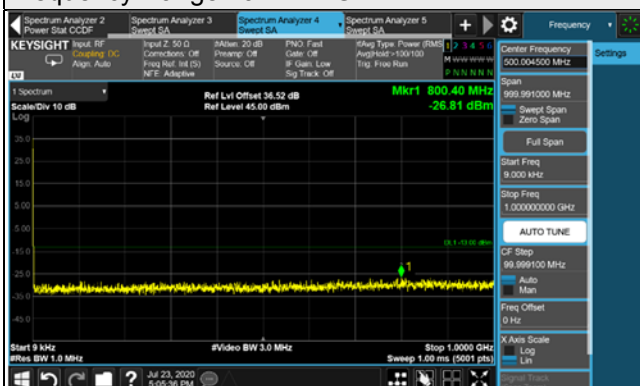


\*The 9kHz signal over the limit is from Spectrum.

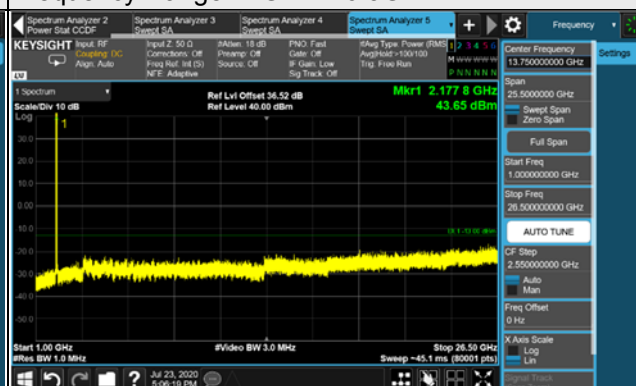
Channel Band width: 70MHz, Chain 1

2145.0MHz

Frequency Range : 9kHz~1GHz

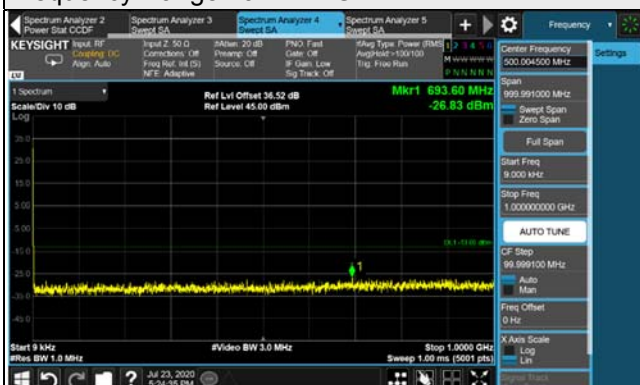


Frequency Range : 1GHz~26.5GHz



2155.0MHz

Frequency Range : 9kHz~1GHz

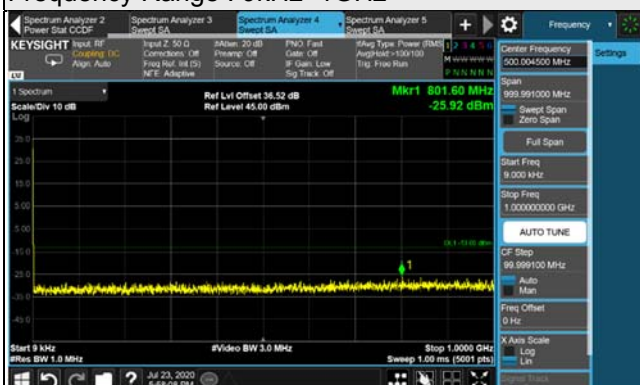


Frequency Range : 1GHz~26.5GHz



2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz

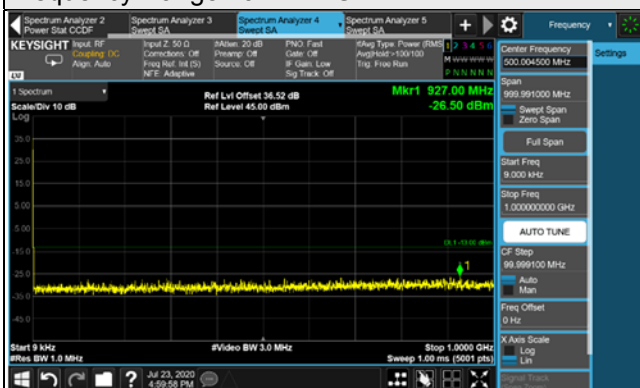


\*The 9kHz signal over the limit is from Spectrum.

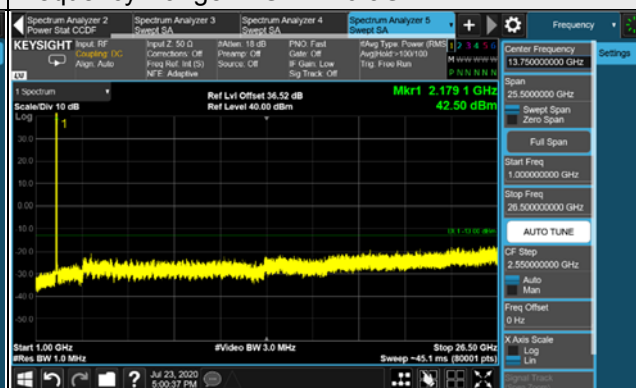
Channel Band width: 70MHz, Chain 2

2145.0MHz

Frequency Range : 9kHz~1GHz

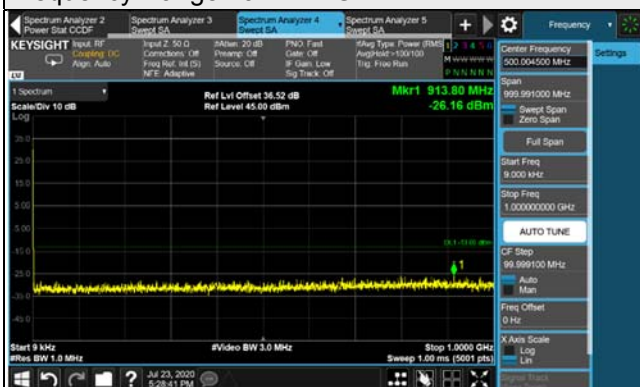


Frequency Range : 1GHz~26.5GHz

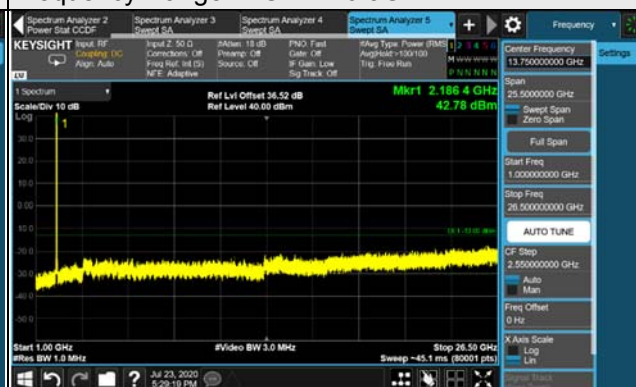


2155.0MHz

Frequency Range : 9kHz~1GHz

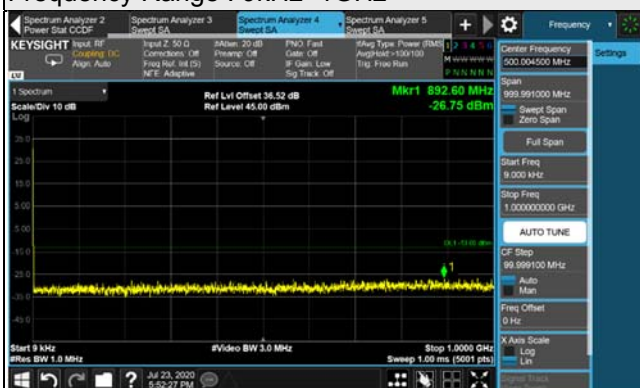


Frequency Range : 1GHz~26.5GHz



2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz



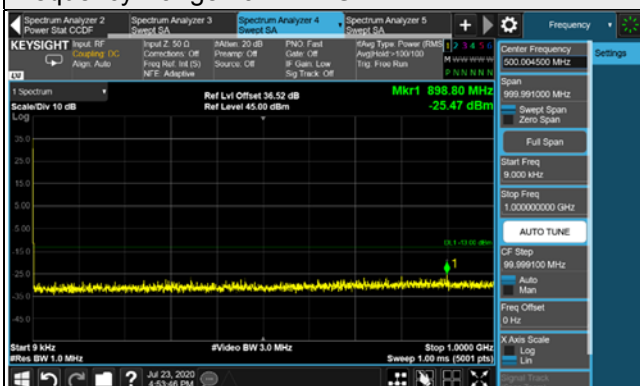
\*The 9kHz signal over the limit is from Spectrum.



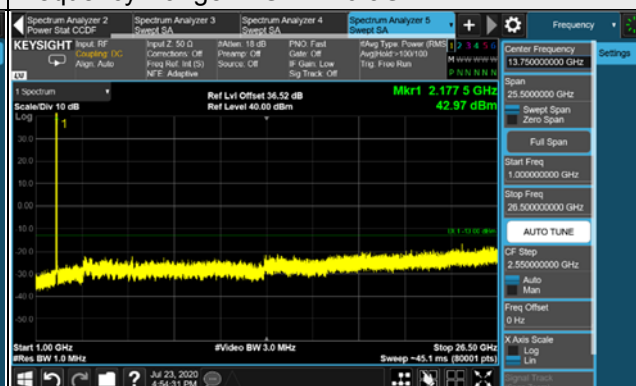
Channel Band width: 70MHz, Chain 3

2145.0MHz

Frequency Range : 9kHz~1GHz

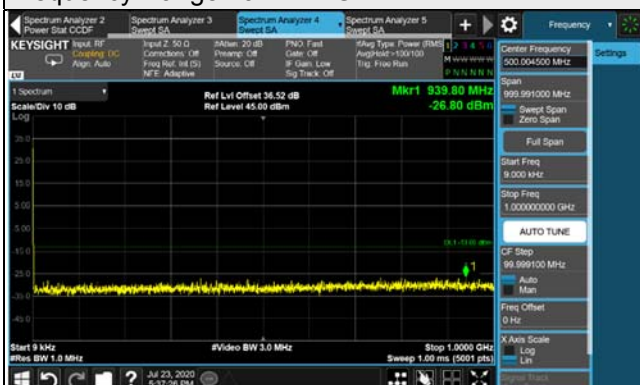


Frequency Range : 1GHz~26.5GHz

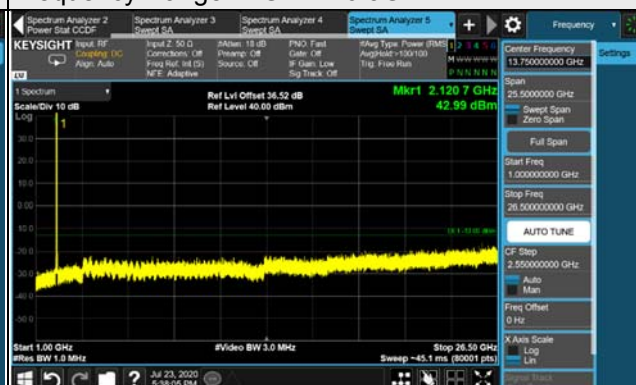


2155.0MHz

Frequency Range : 9kHz~1GHz

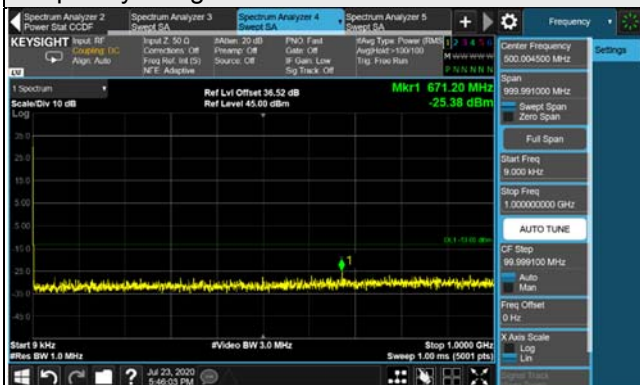


Frequency Range : 1GHz~26.5GHz

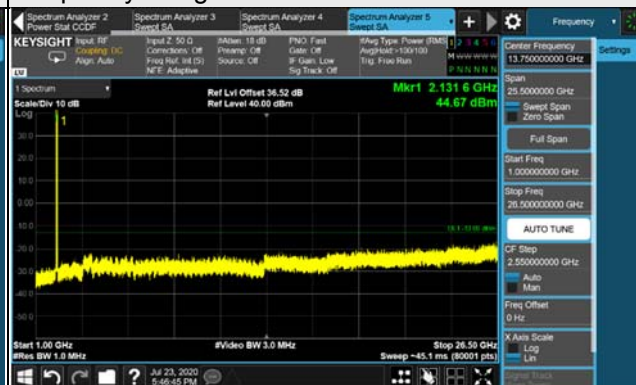


2165.0MHz

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~26.5GHz



\*The 9kHz signal over the limit is from Spectrum.

## 4.8 Radiated Emission Measurement

### 4.8.1 Limits of Radiated Emission Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB. The limit of emission is equal to -13 dBm.

### 4.8.2 Test Procedure

- a. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high channel of operational frequency range.)
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- c. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step b. Record the power level of S.G
- d.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution antenna}$ .

**Note:** The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

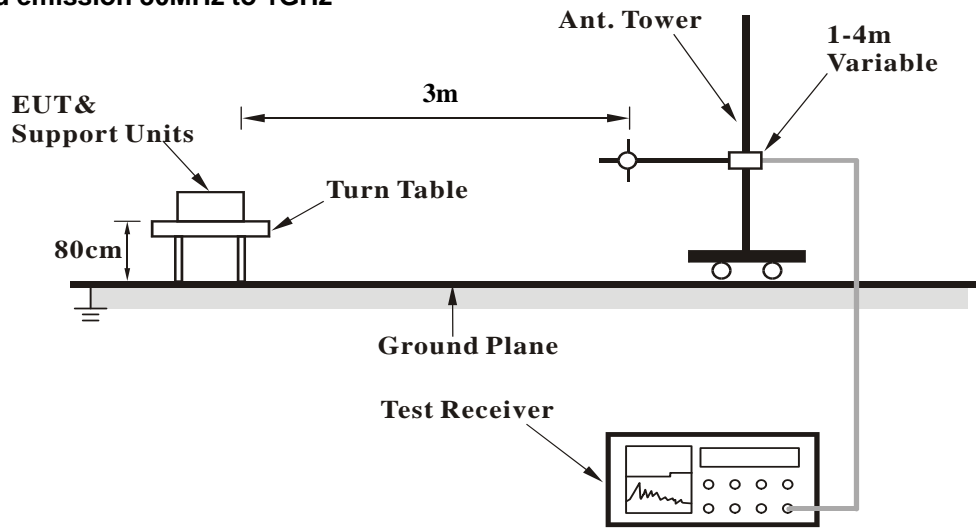
### 4.8.3 Deviation from Test Standard

No deviation.

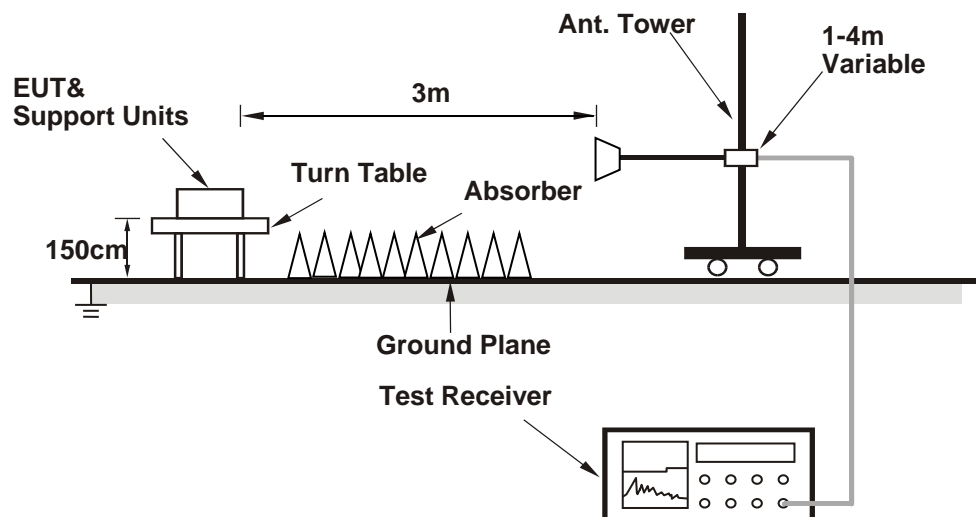


#### 4.8.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.8.5 Test Results

Below 1GHz

#### Test Mode A

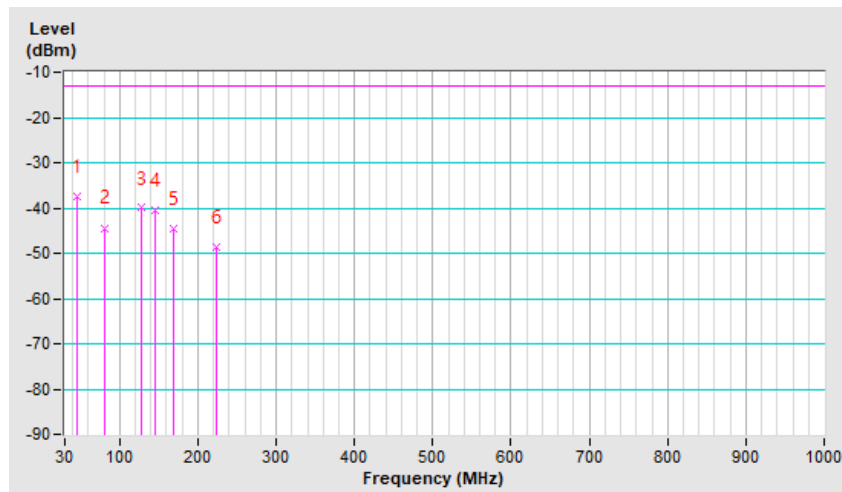
LTE Band 66, Channel Bandwidth: 70MHz

Mode	TX channel 2145.0MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	45.52	-38.1	-26.9	-10.4	-37.3	-13.0	-24.3
2	80.44	-39.5	-44.9	0.5	-44.4	-13.0	-31.4
3	127.00	-33.5	-36.7	-3.3	-40.0	-13.0	-27.0
4	145.43	-35.5	-37.3	-3.1	-40.4	-13.0	-27.4
5	169.68	-37.7	-41.7	-2.8	-44.5	-13.0	-31.5
6	223.03	-40.7	-46.8	-2.0	-48.8	-13.0	-35.8

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

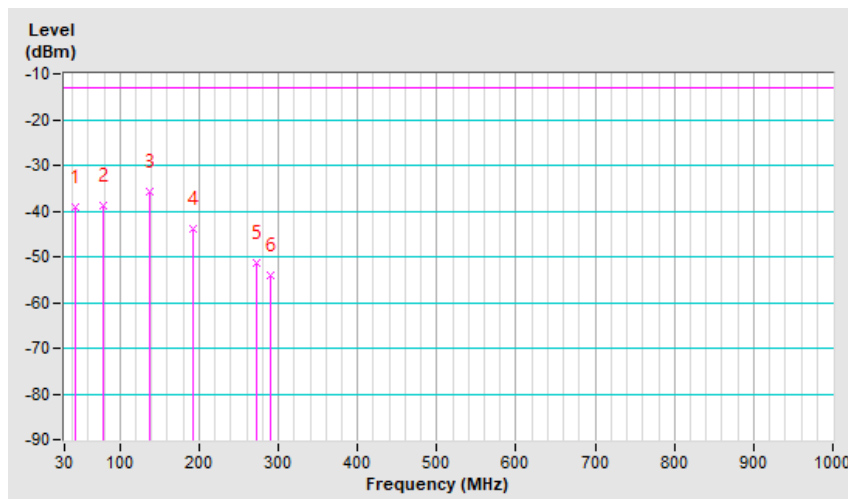


Mode	TX channel 2145.0MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	43.58	-30.8	-28.0	-11.3	-39.3	-13.0	-26.3
2	78.50	-33.5	-39.3	0.6	-38.7	-13.0	-25.7
3	137.67	-32.6	-32.6	-3.2	-35.8	-13.0	-22.8
4	192.96	-42.3	-41.2	-2.6	-43.8	-13.0	-30.8
5	273.47	-53.8	-49.6	-1.6	-51.2	-13.0	-38.2
6	289.96	-55.1	-52.3	-1.7	-54.0	-13.0	-41.0

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



**Test Mode B**

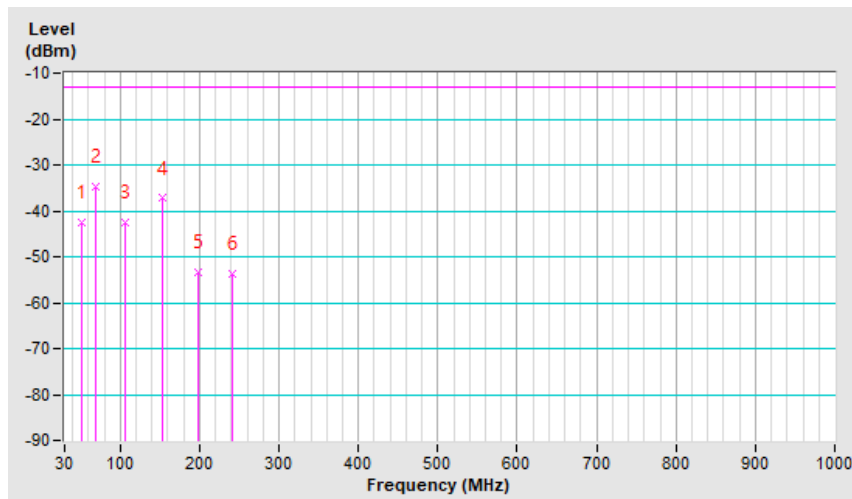
LTE Band 66, Channel Bandwidth: 70MHz

Mode	TX channel 2145.0MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	51.34	-41.2	-35.1	-7.3	-42.4	-13.0	-29.4
2	69.77	-28.2	-34.0	-0.6	-34.6	-13.0	-21.6
3	105.66	-34.3	-40.2	-2.2	-42.4	-13.0	-29.4
4	154.16	-33.0	-34.4	-2.9	-37.3	-13.0	-24.3
5	197.81	-45.0	-51.0	-2.4	-53.4	-13.0	-40.4
6	241.46	-46.7	-52.2	-1.4	-53.6	-13.0	-40.6

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

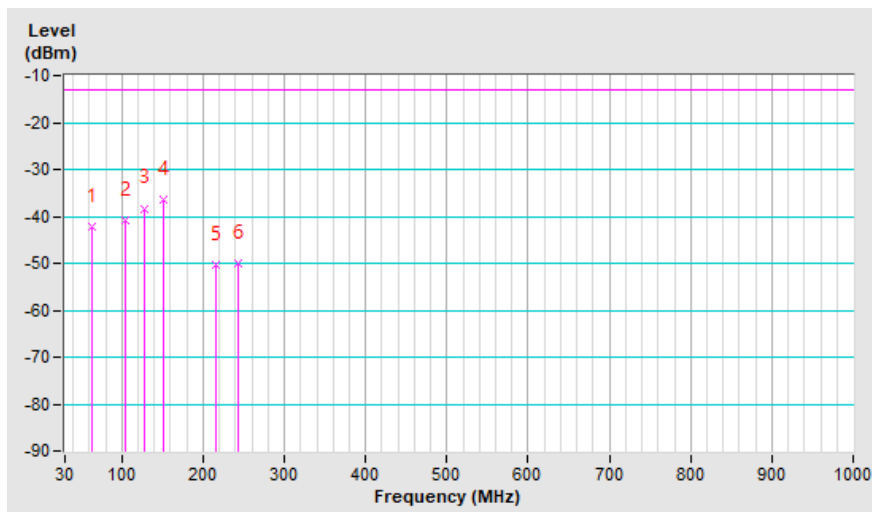


Mode	TX channel 2145.0MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	63.95	-35.7	-40.3	-2.0	-42.3	-13.0	-29.3
2	104.69	-32.4	-38.9	-2.1	-41.0	-13.0	-28.0
3	127.97	-32.8	-35.1	-3.2	-38.3	-13.0	-25.3
4	152.22	-34.7	-33.8	-2.8	-36.6	-13.0	-23.6
5	215.27	-46.5	-48.2	-2.0	-50.2	-13.0	-37.2
6	243.40	-48.6	-48.6	-1.4	-50.0	-13.0	-37.0

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).





**Test Mode C**

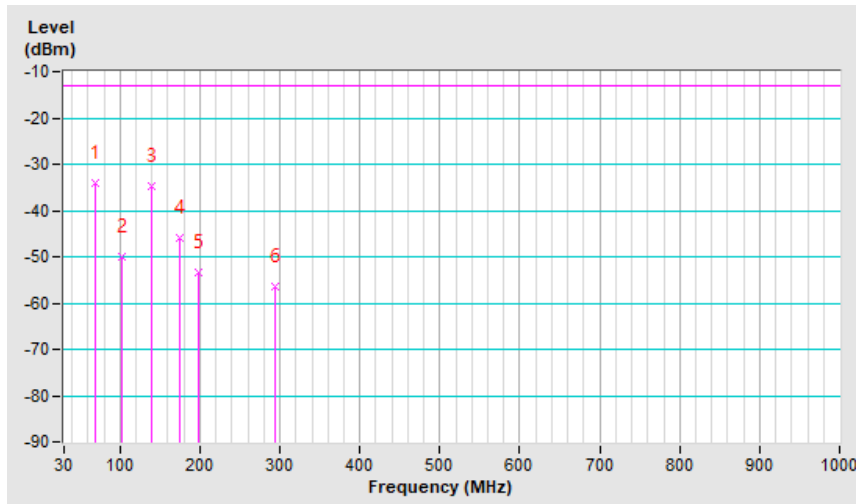
LTE Band 66, Channel Bandwidth: 70MHz

Mode	TX channel 2145.0MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	68.80	-27.4	-33.2	-0.8	-34.0	-13.0	-21.0
2	101.78	-41.7	-48.4	-1.6	-50.0	-13.0	-37.0
3	139.61	-28.8	-31.5	-3.1	-34.6	-13.0	-21.6
4	175.50	-38.2	-43.0	-2.8	-45.8	-13.0	-32.8
5	198.78	-45.0	-51.0	-2.4	-53.4	-13.0	-40.4
6	293.84	-53.1	-54.5	-1.8	-56.3	-13.0	-43.3

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

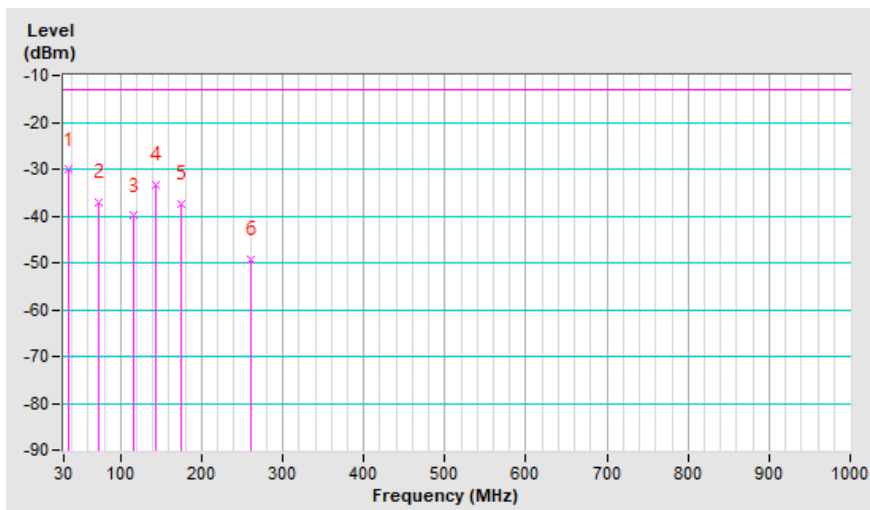


Mode	TX channel 2145.0MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	36.79	-20.7	-15.0	-15.2	-30.2	-13.0	-17.2
2	73.65	-31.6	-37.3	0.1	-37.2	-13.0	-24.2
3	115.36	-32.7	-37.1	-2.9	-40.0	-13.0	-27.0
4	142.52	-31.1	-30.2	-3.1	-33.3	-13.0	-20.3
5	175.50	-33.7	-34.6	-2.8	-37.4	-13.0	-24.4
6	259.89	-50.2	-47.8	-1.5	-49.3	-13.0	-36.3

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Above 1GHz

**Test Mode A**

LTE Band 66, Channel Bandwidth: 70MHz

Mode	TX channel 2145.0MHz	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4290.00	-64.5	-55.5	1.1	-54.4	-13.0	-41.4

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4290.00	-64.2	-54.8	1.1	-53.7	-13.0	-40.7

Mode	TX channel 2155.0MHz	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4310.00	-64.2	-54.9	1.0	-53.9	-13.0	-40.9

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4310.00	-64.3	-54.9	1.0	-53.9	-13.0	-40.9

Mode	TX channel 2165.0MHz	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4330.00	-64.7	-55.2	1.0	-54.2	-13.0	-41.2

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4330.00	-65.0	-55.6	1.0	-54.6	-13.0	-41.6

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

### Test Mode B

LTE Band 66, Channel Bandwidth: 70MHz

Mode	TX channel 2145.0MHz	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4290.00	-64.5	-55.5	1.1	-54.4	-13.0	-41.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4290.00	-63.7	-54.3	1.1	-53.2	-13.0	-40.2

Mode	TX channel 2155.0MHz	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4310.00	-65.0	-55.7	1.0	-54.7	-13.0	-41.7
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4310.00	-63.7	-54.3	1.0	-53.3	-13.0	-40.3

Mode	TX channel 2165.0MHz	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4330.00	-65.0	-55.5	1.0	-54.5	-13.0	-41.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4330.00	-63.7	-54.3	1.0	-53.3	-13.0	-40.3

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

### Test Mode C

LTE Band 66, Channel Bandwidth: 70MHz

Mode	TX channel 2145.0MHz	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4290.00	-64.8	-55.8	1.1	-54.7	-13.0	-41.7
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4290.00	-63.6	-54.2	1.1	-53.1	-13.0	-40.1

Mode	TX channel 2155.0MHz	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4310.00	-65.5	-56.2	1.0	-55.2	-13.0	-42.2
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4310.00	-63.3	-53.9	1.0	-52.9	-13.0	-39.9

Mode	TX channel 2165.0MHz	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4330.00	-64.9	-55.4	1.0	-54.4	-13.0	-41.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4330.00	-64.2	-54.8	1.0	-53.8	-13.0	-40.8

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

## Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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