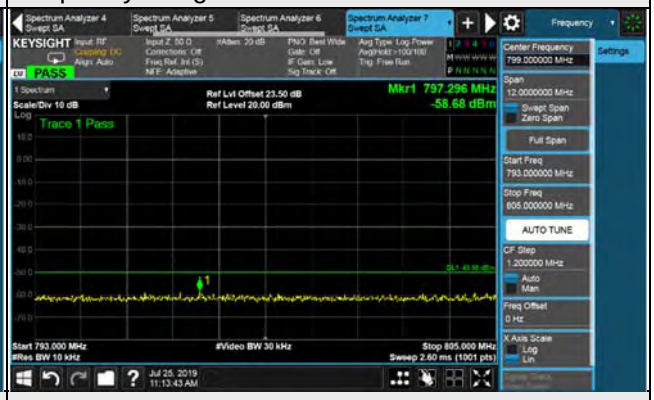
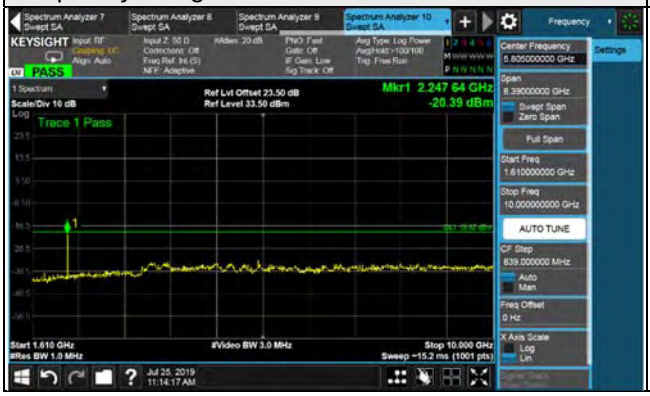
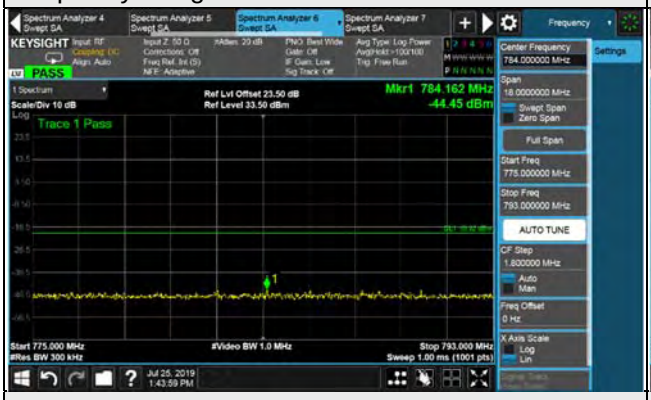
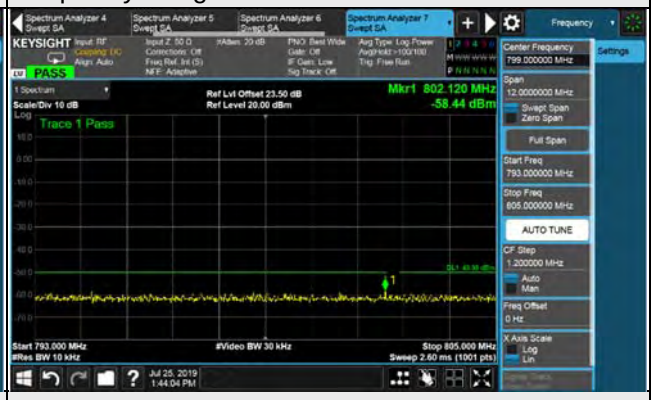
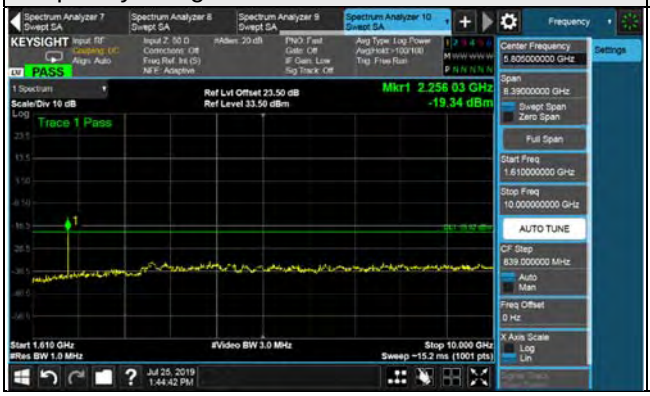
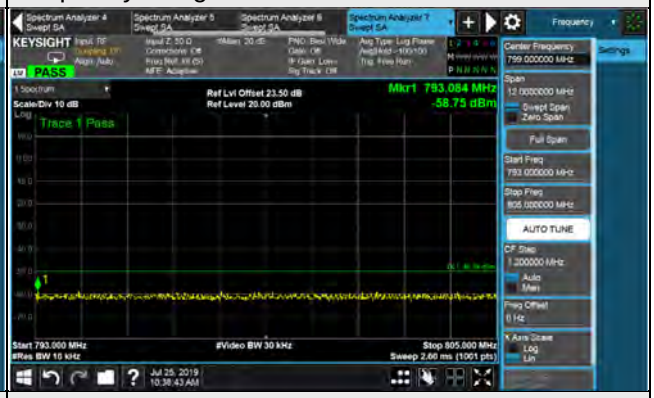
Channel Band width: 5MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

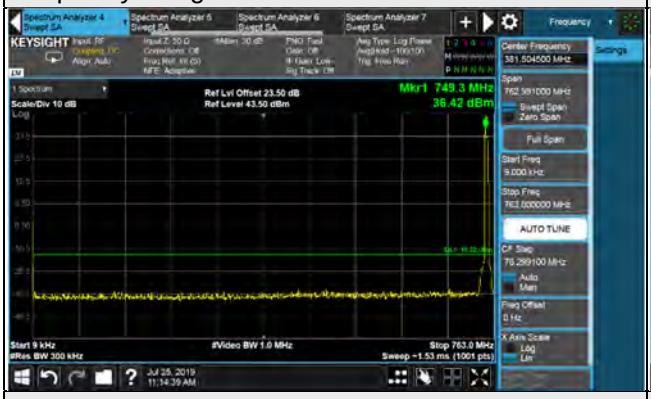
Channel Band width: 5MHz	
Channel 5255 (753.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

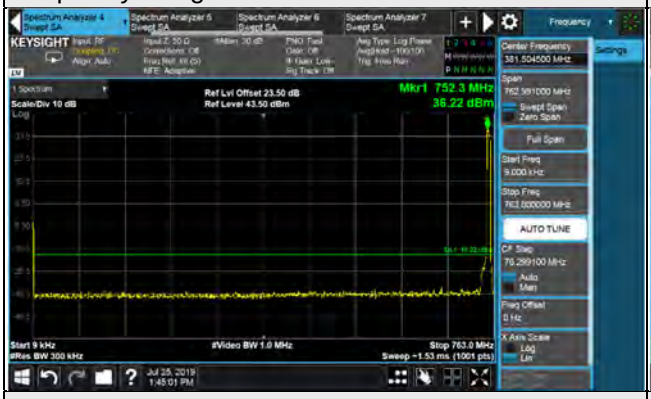
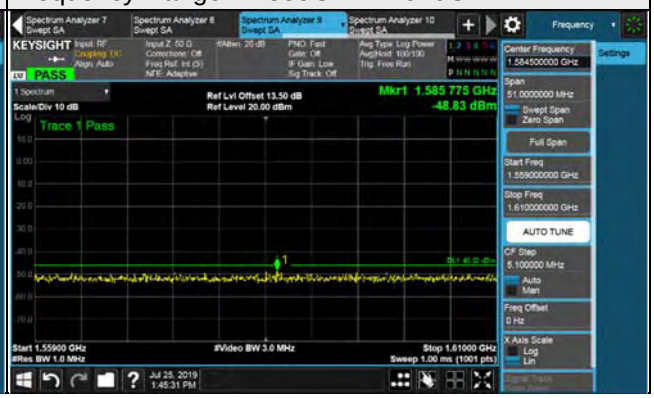
QPSK_IoT Signal at Bottom (Chain 2)

Channel Band width: 5MHz	
Channel 5205 (748.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

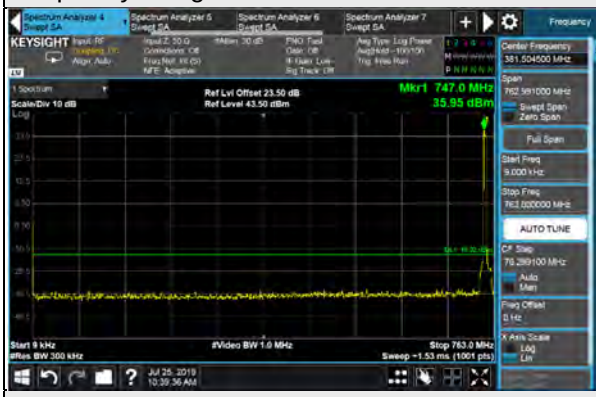
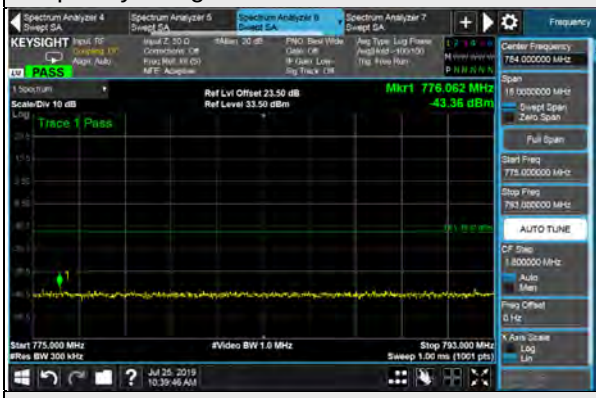
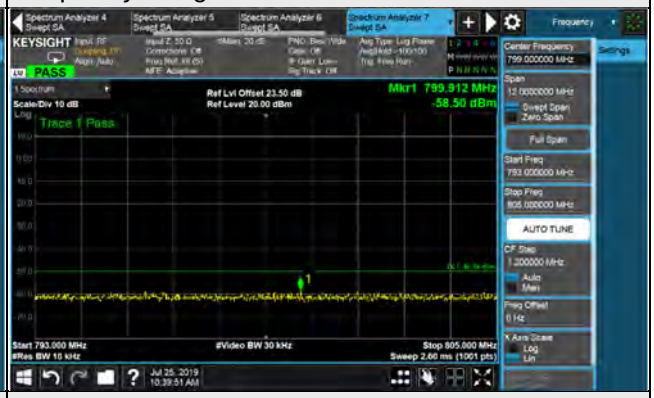
Channel Band width: 5MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

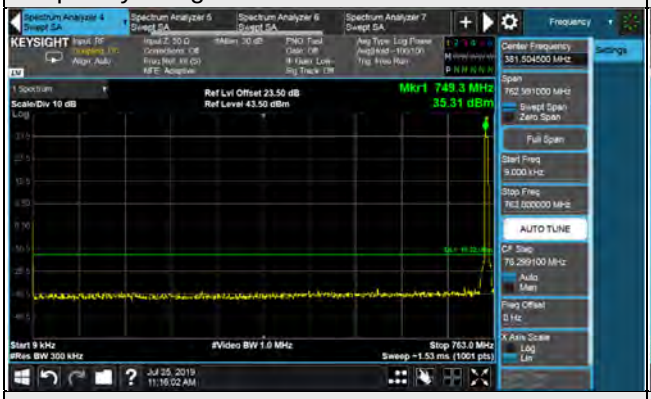
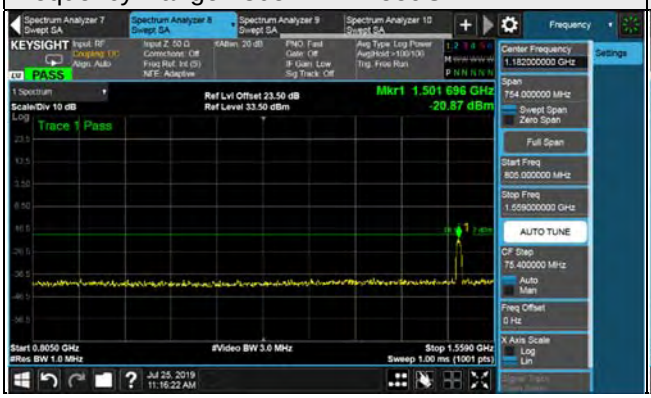
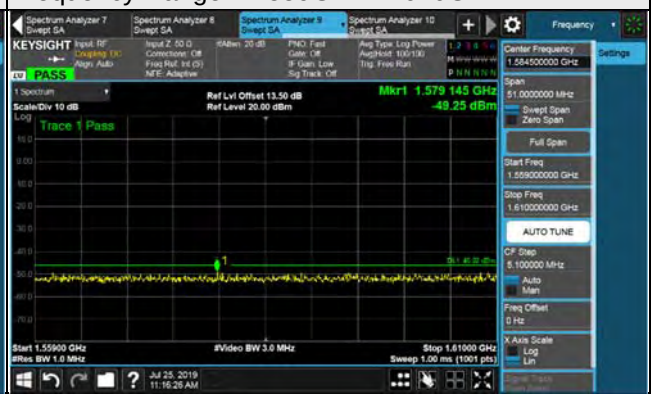
Channel Band width: 5MHz	
Channel 5255 (753.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

QPSK_IoT Signal at Bottom (Chain 3)

Channel Band width: 5MHz	
Channel 5205 (748.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

Channel Band width: 5MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

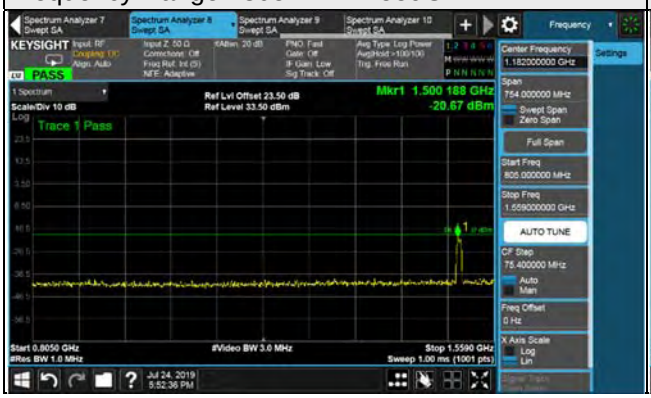
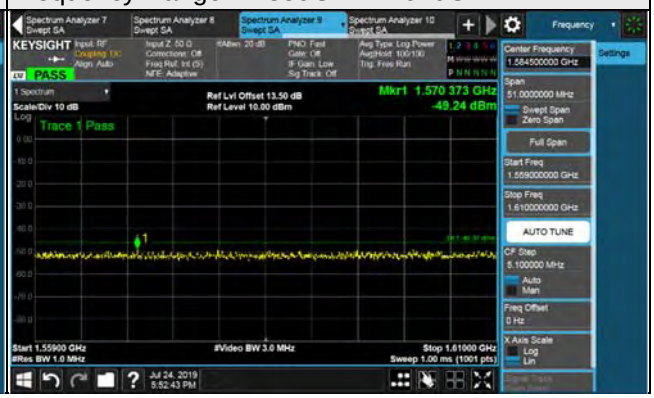
Channel Band width: 5MHz	
Channel 5255 (753.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

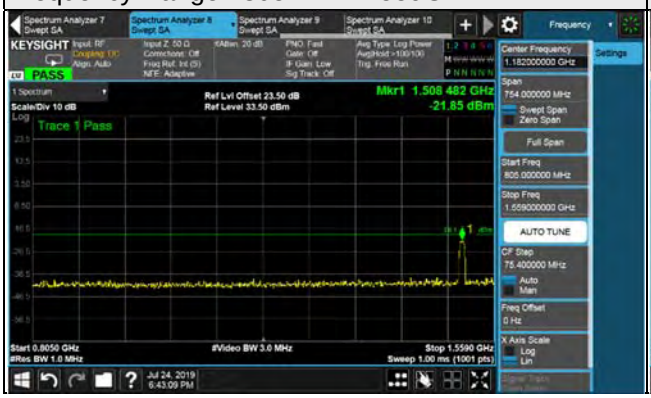
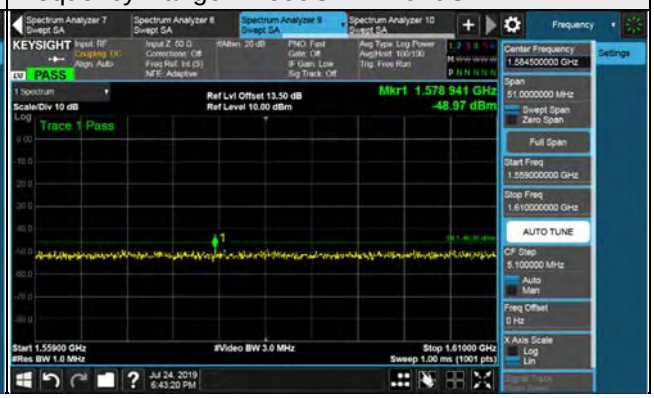
QPSK_IoT Signal at Top (Chain 0)

Channel Band width: 5MHz	
Channel 5205 (748.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

Channel Band width: 5MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

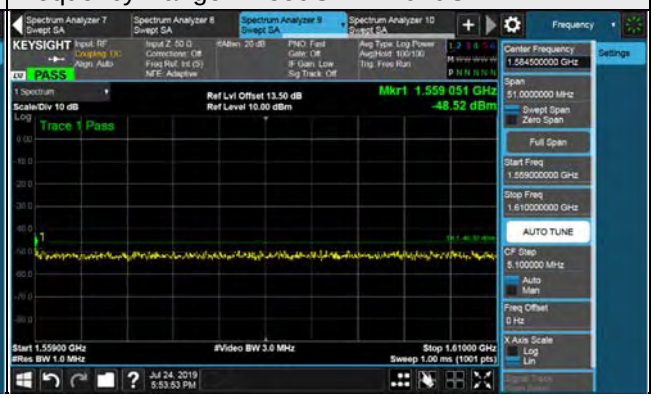
Channel Band width: 5MHz	
Channel 5255 (753.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

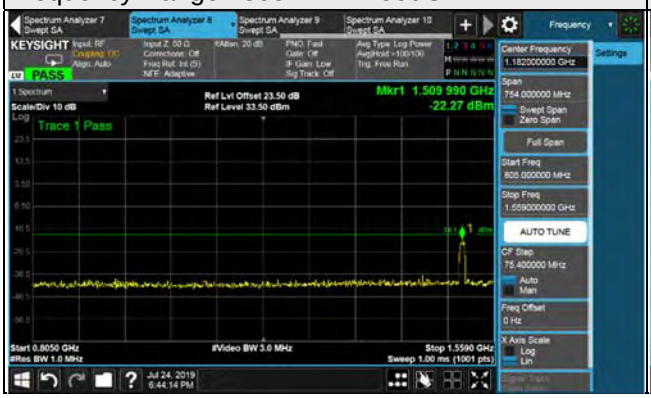
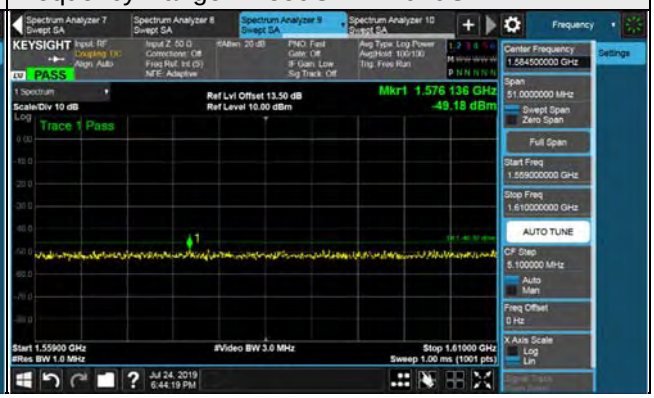
QPSK_IoT Signal at Top (Chain 1)

Channel Band width: 5MHz	
Channel 5205 (748.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

Channel Band width: 5MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

Channel Band width: 5MHz	
Channel 5255 (753.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

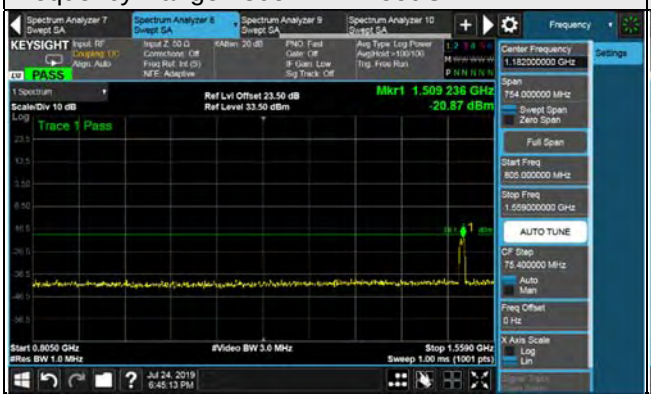
QPSK_IoT Signal at Top (Chain 2)

Channel Band width: 5MHz	
Channel 5205 (748.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

Channel Band width: 5MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

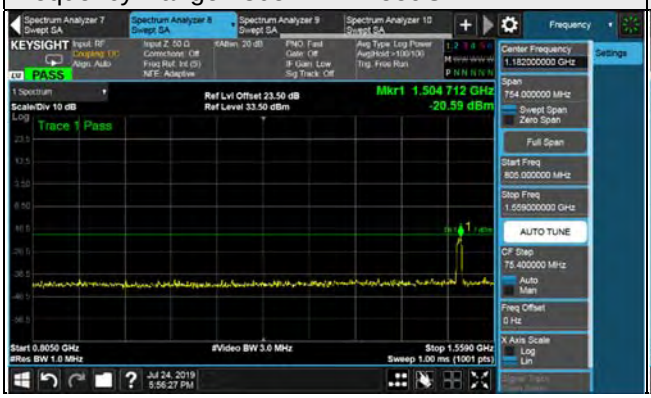
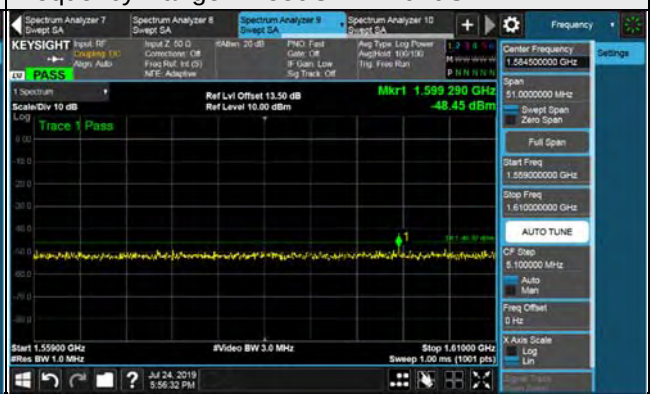
Channel Band width: 5MHz	
Channel 5255 (753.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

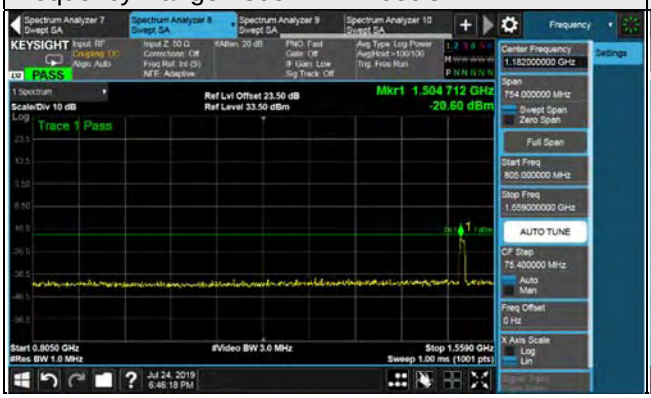
QPSK_IoT Signal at Top (Chain 3)

Channel Band width: 5MHz	
Channel 5205 (748.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

Channel Band width: 5MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

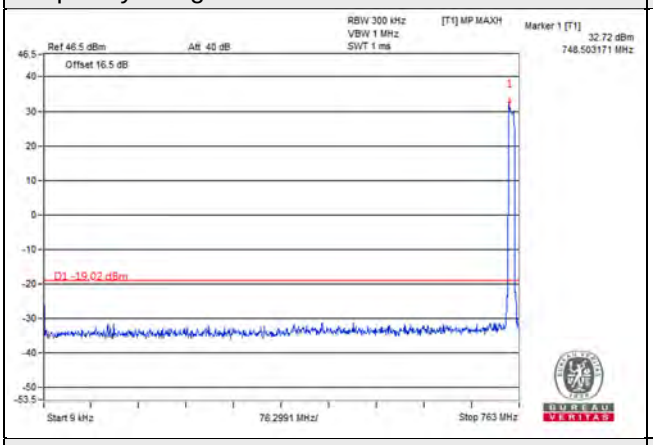
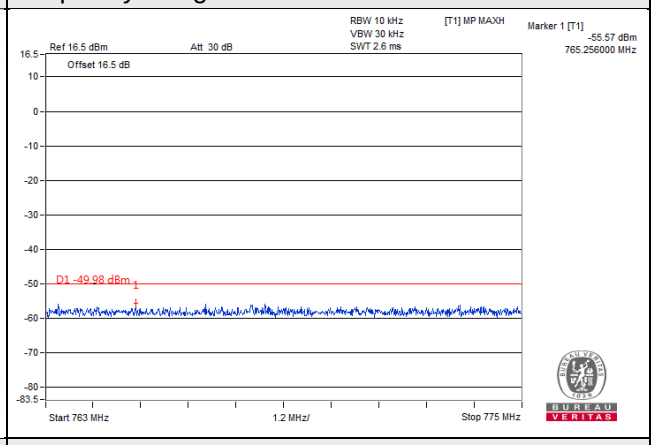
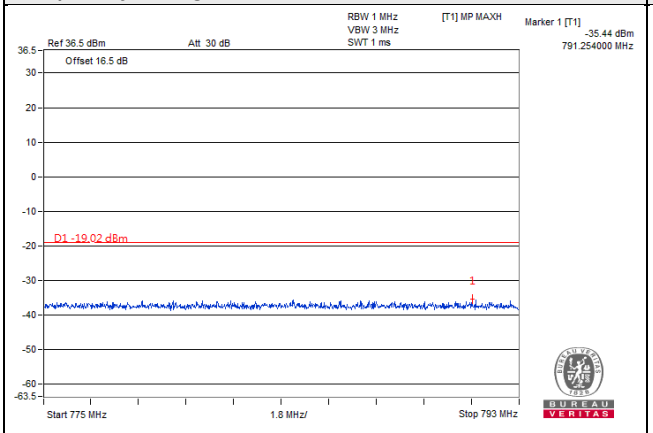
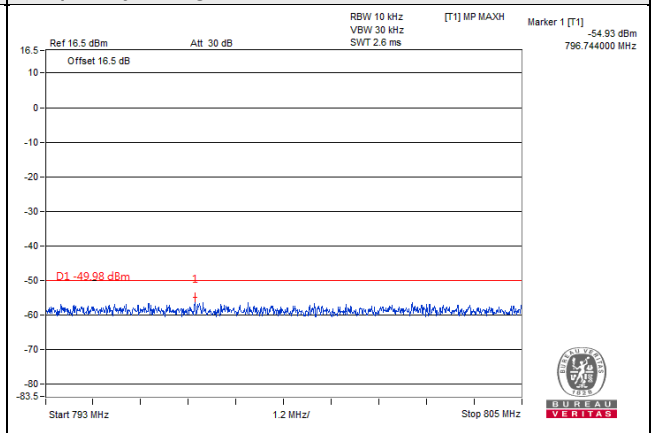
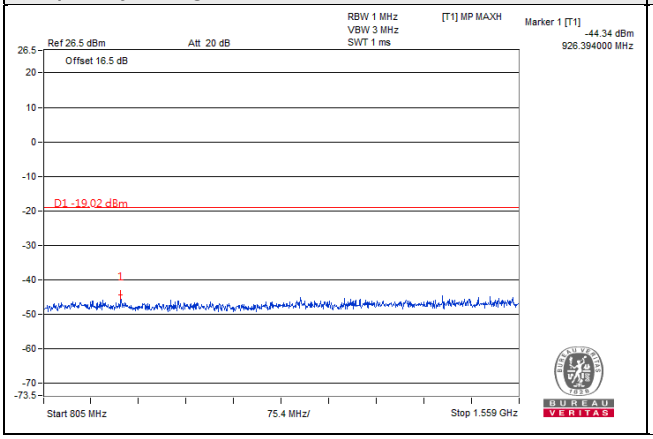
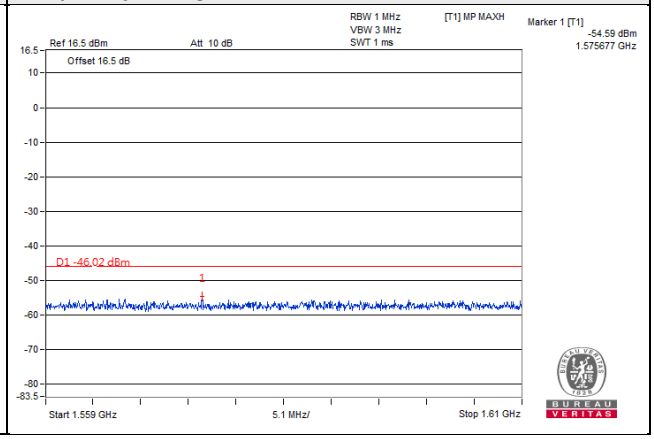
Frequency Range : 1.610GHz~10GHz	
	

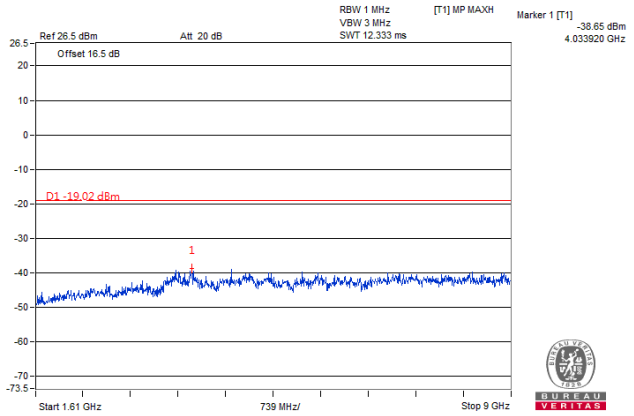
Channel Band width: 5MHz	
Channel 5255 (753.5MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~10GHz	
	

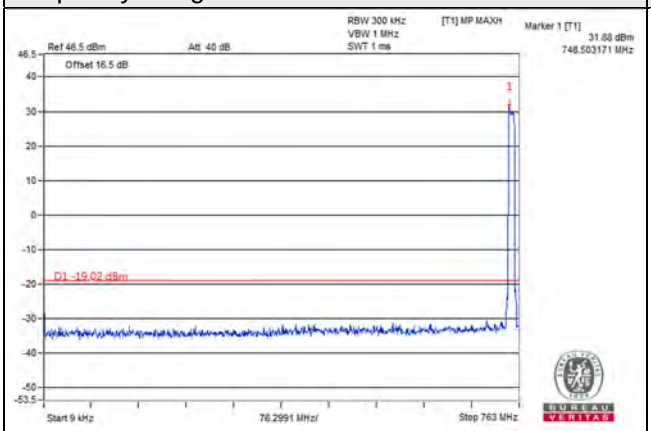
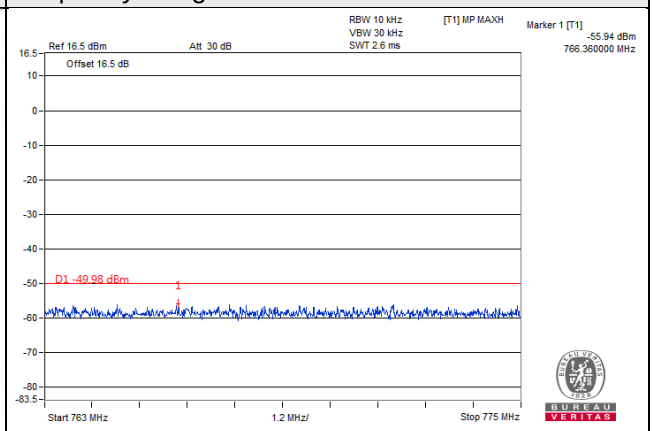
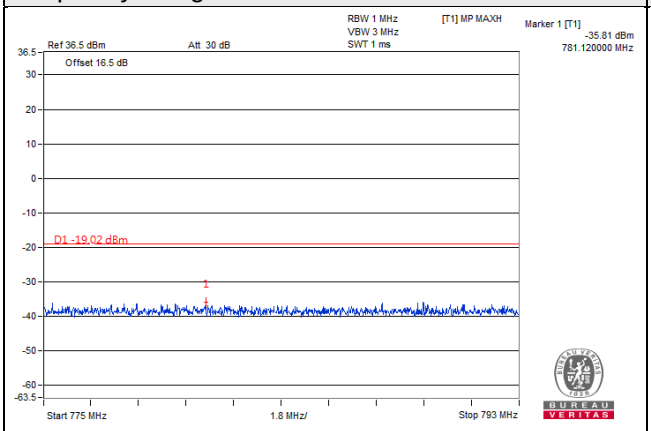
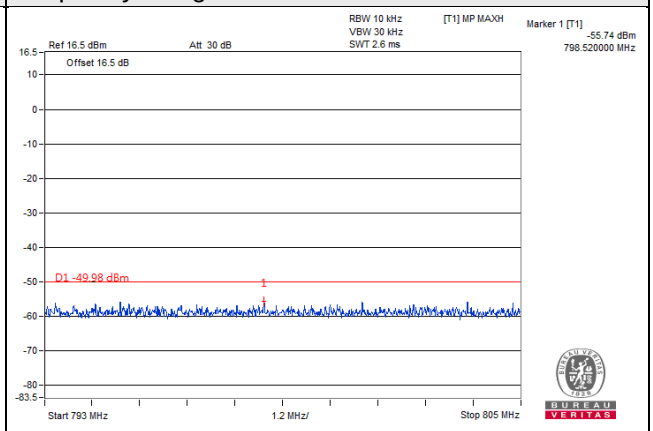
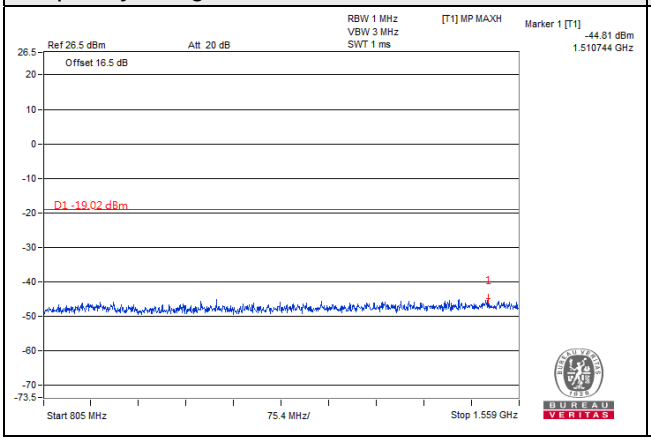
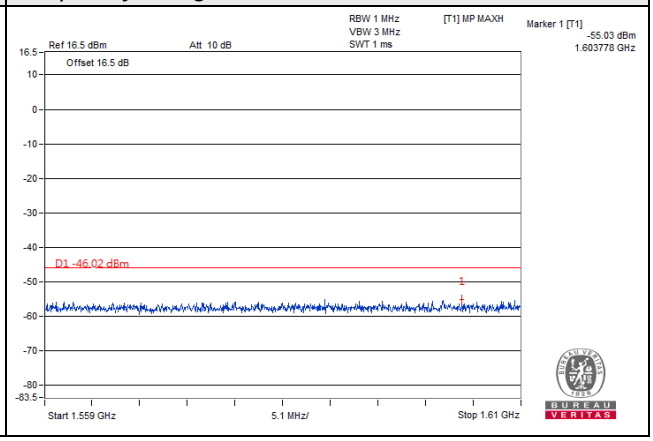
Channel Bandwidth: 10MHz

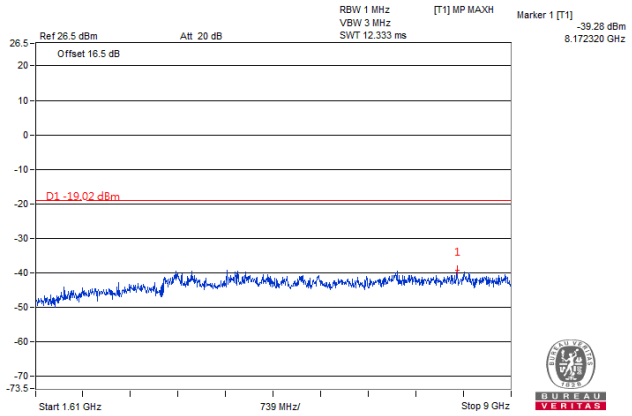
QPSK_IoT Signal at Bottom (Chain 0)

Channel Band width: 10MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

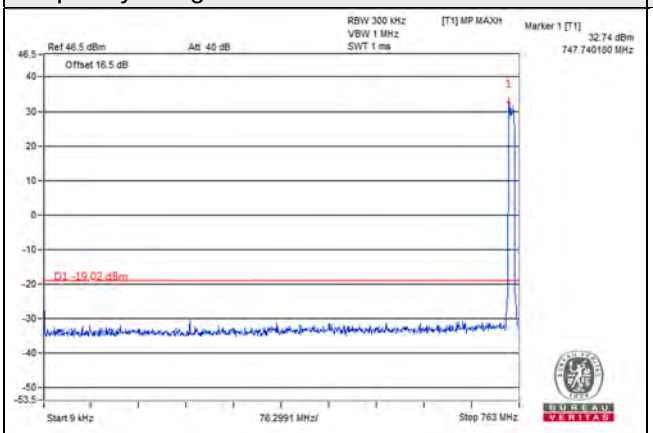
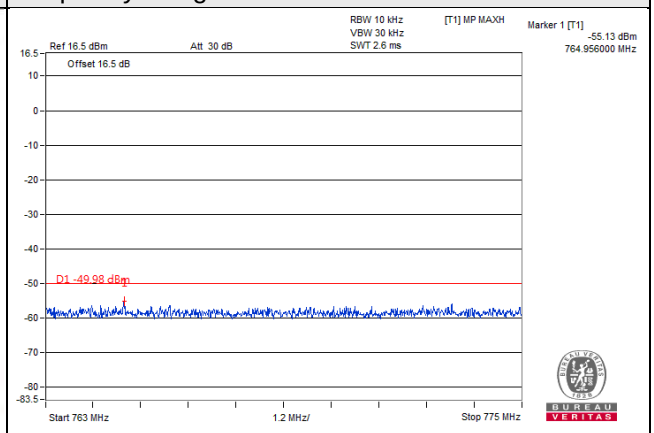
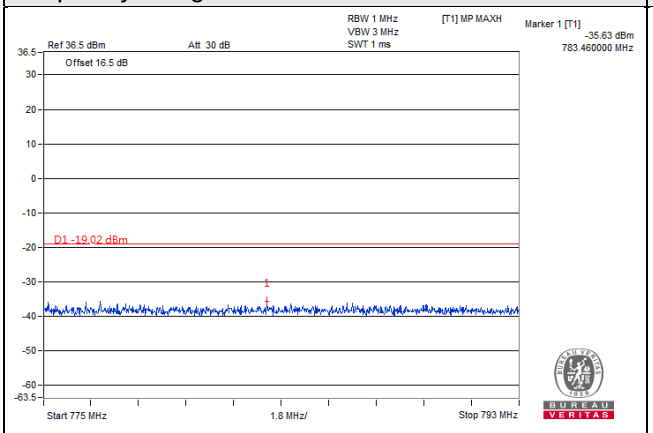
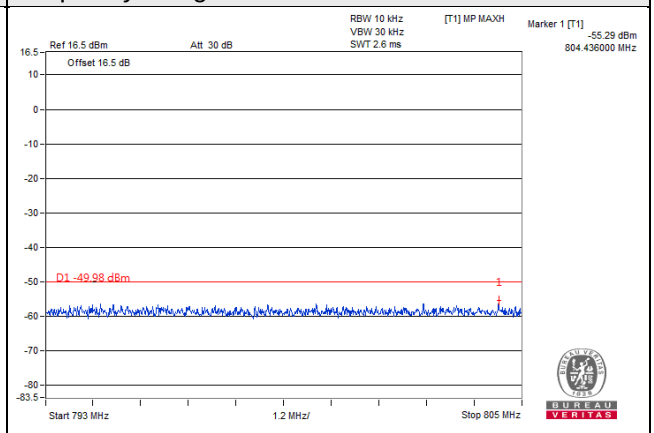
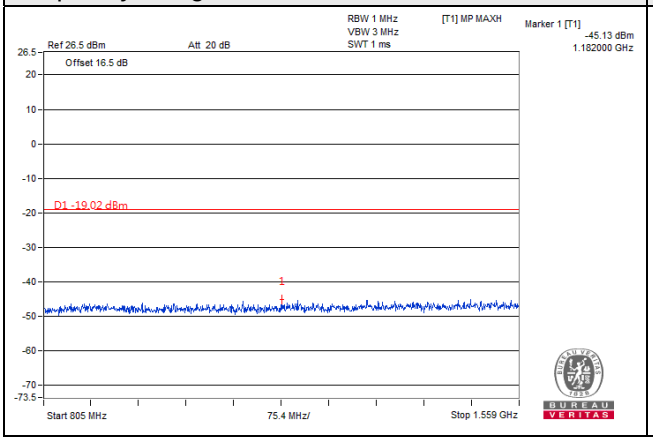
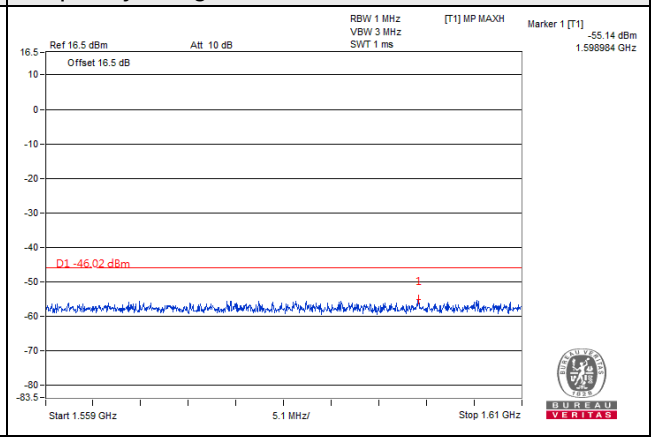
Frequency Range : 1.610GHz~9GHz	
	

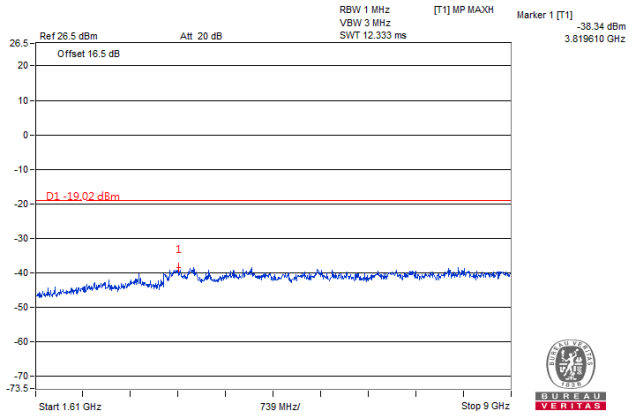
QPSK_IoT Signal at Bottom (Chain 1)

Channel Band width: 10MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

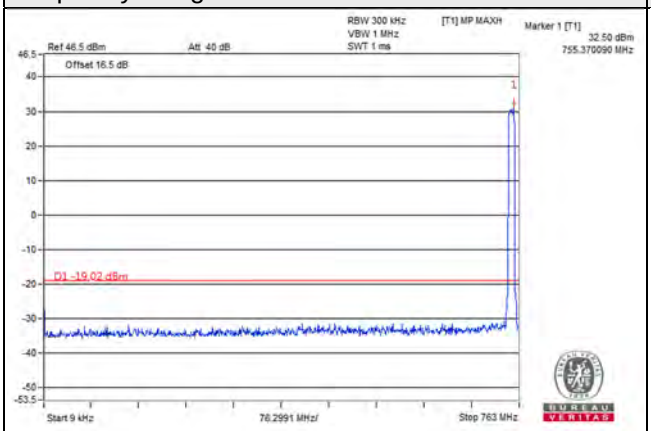
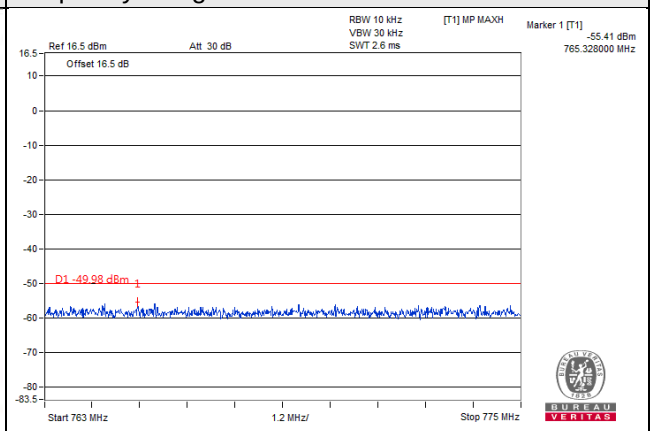
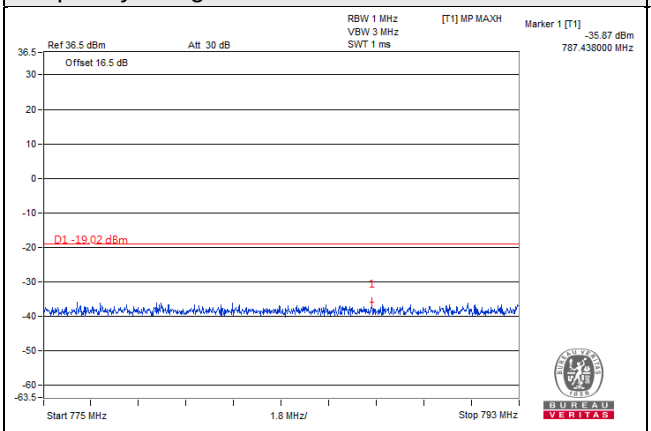
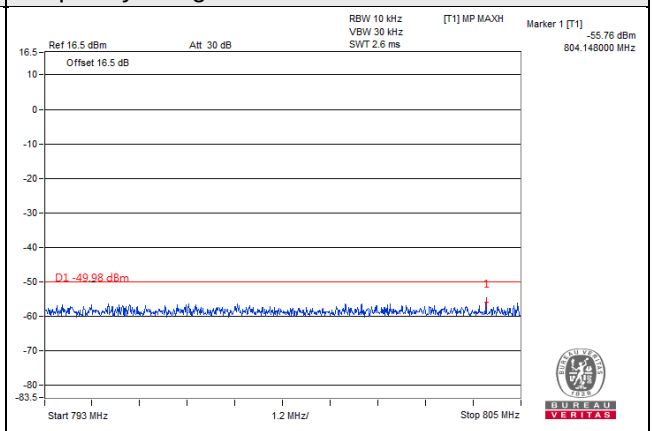
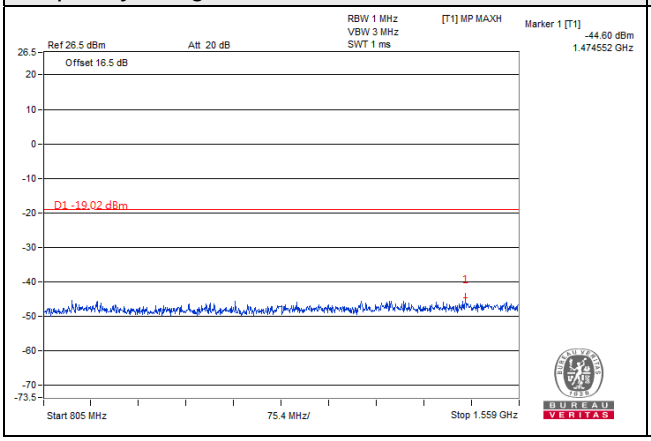
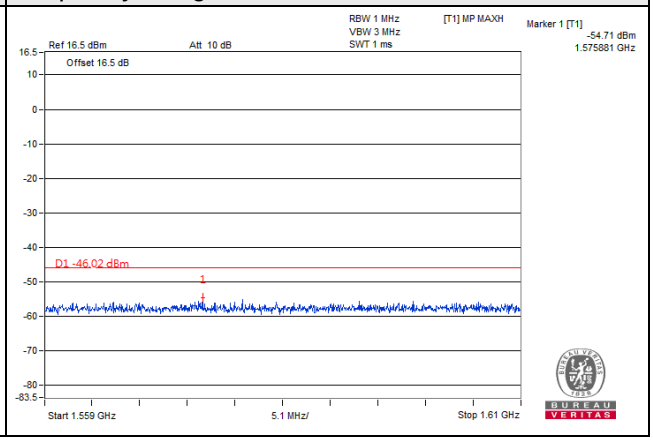
Frequency Range : 1.610GHz~9GHz	
	

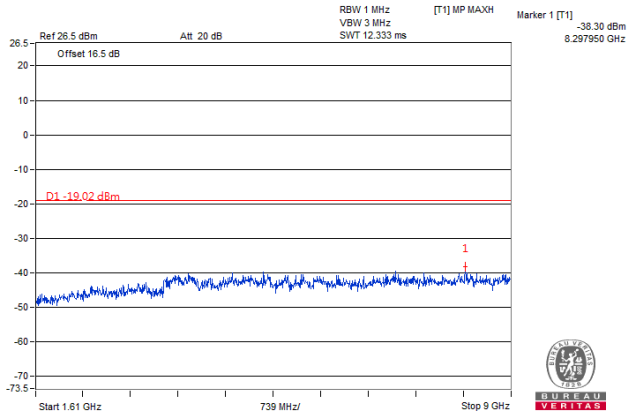
QPSK_IoT Signal at Bottom (Chain 2)

Channel Band width: 10MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

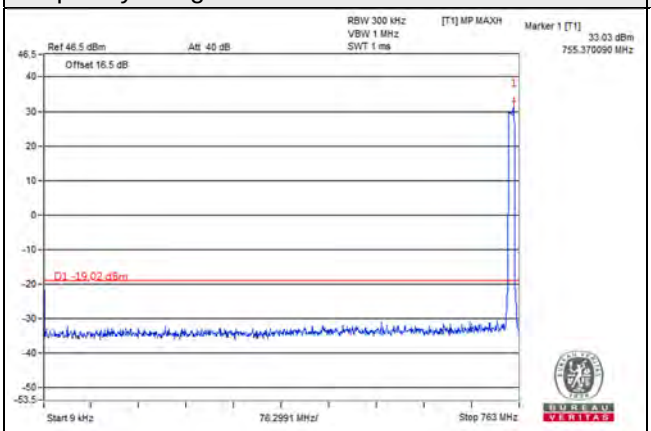
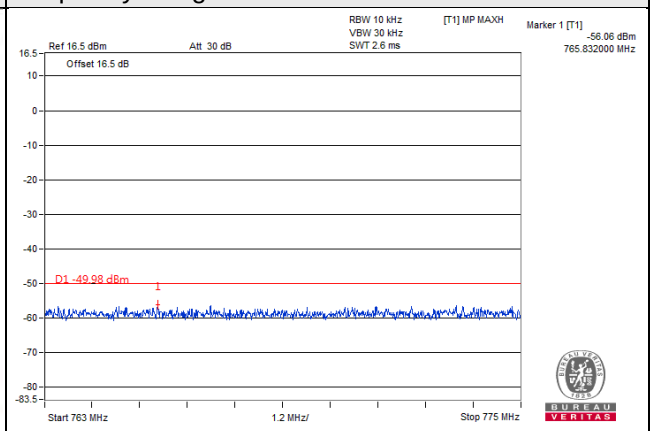
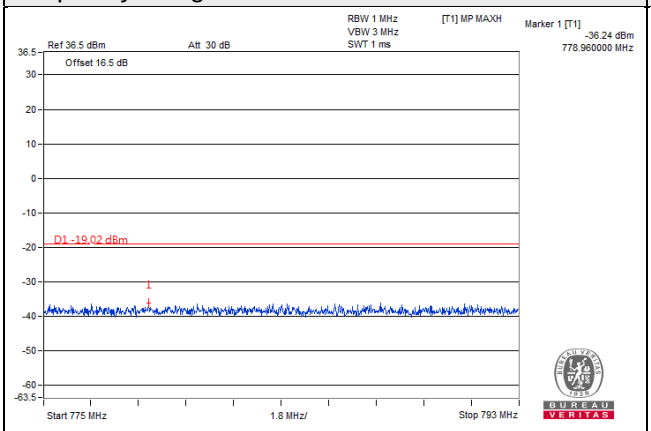
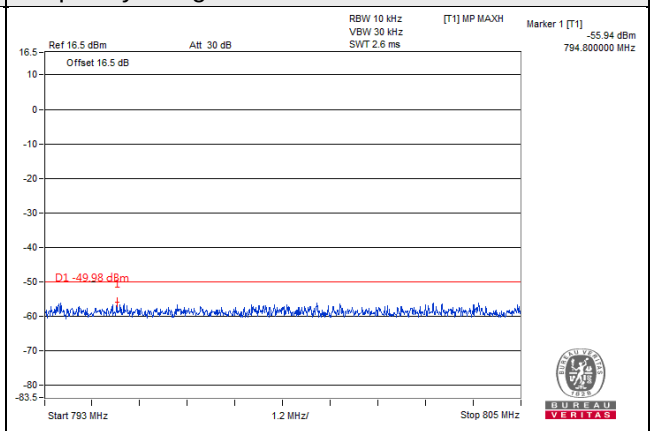
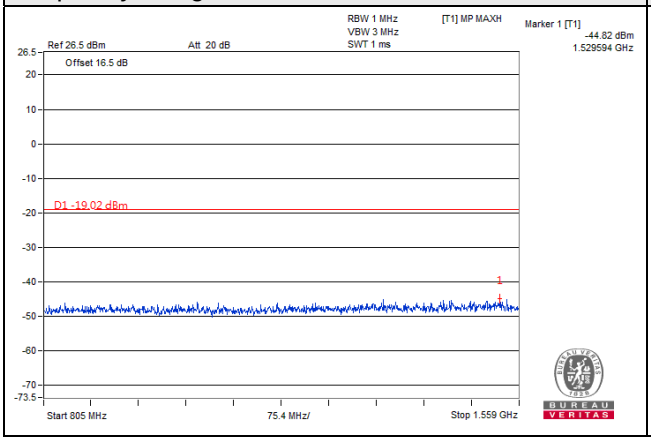
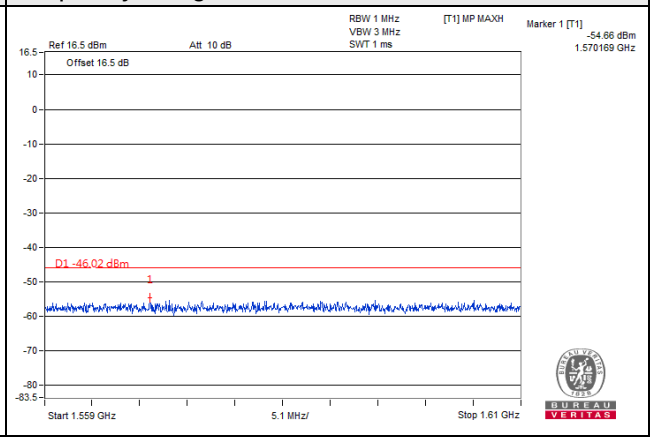
Frequency Range : 1.610GHz~9GHz	
	

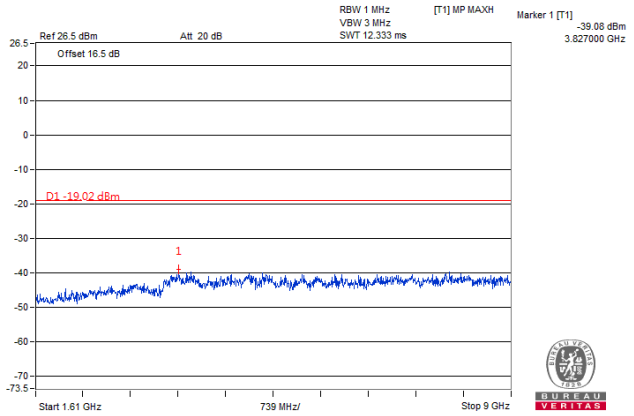
QPSK_IoT Signal at Bottom (Chain 3)

Channel Band width: 10MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

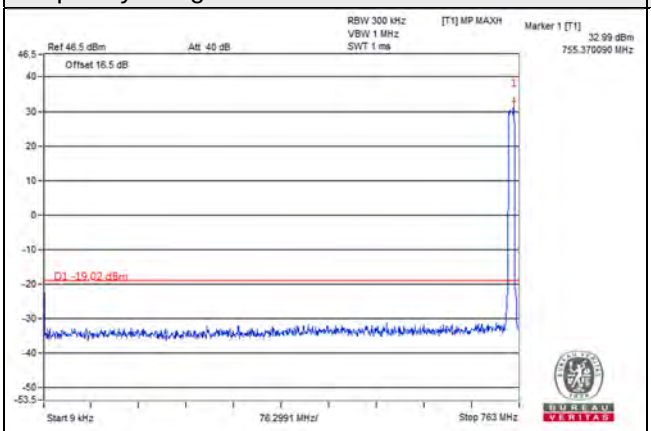
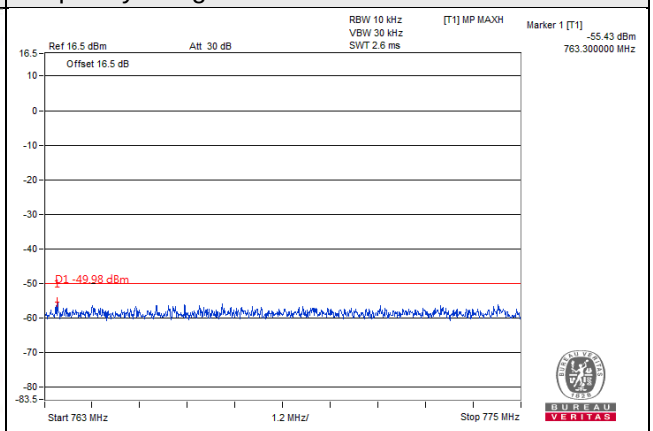
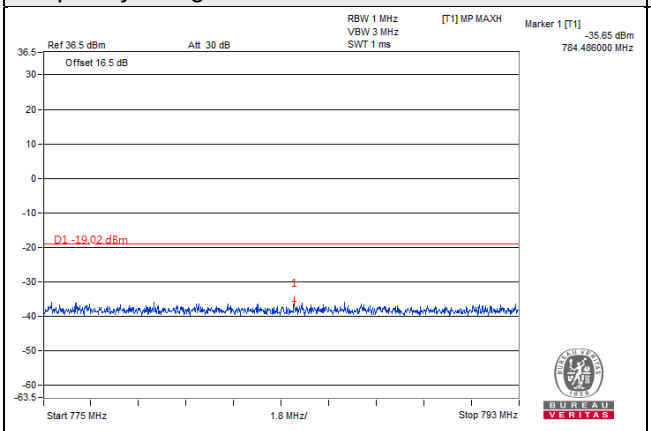
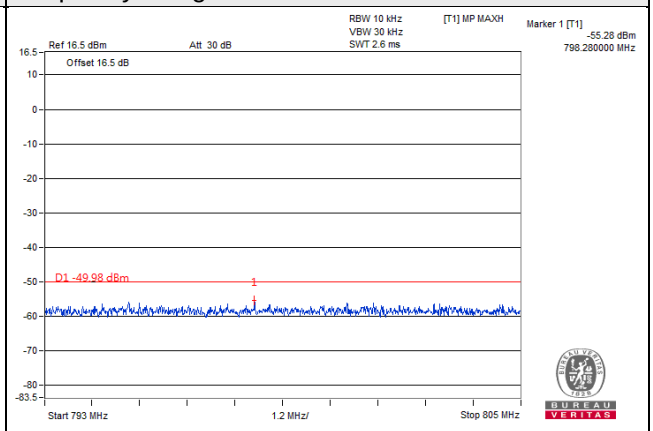
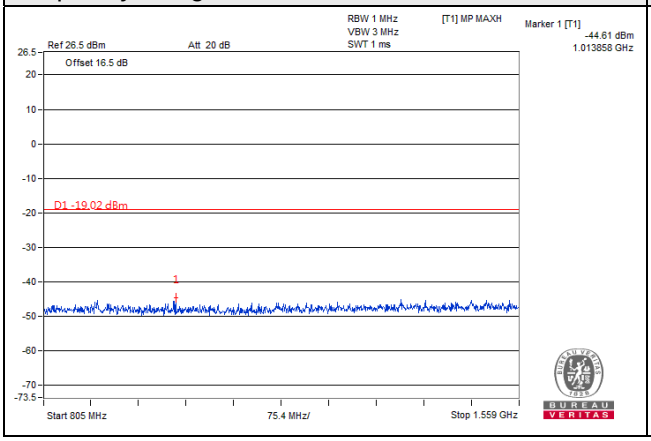
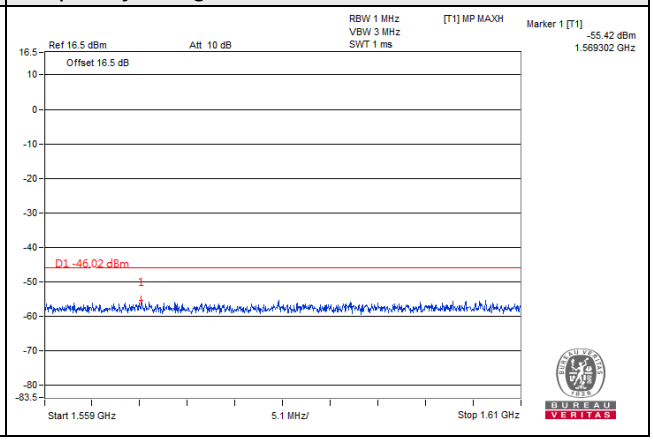
Frequency Range : 1.610GHz~9GHz	
	

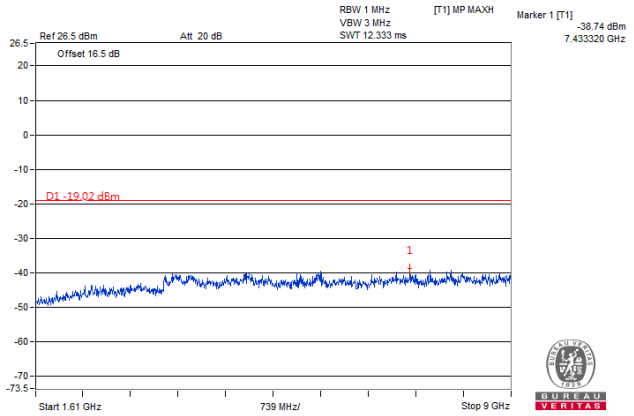
QPSK_IoT Signal at Top (Chain 0)

Channel Band width: 10MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

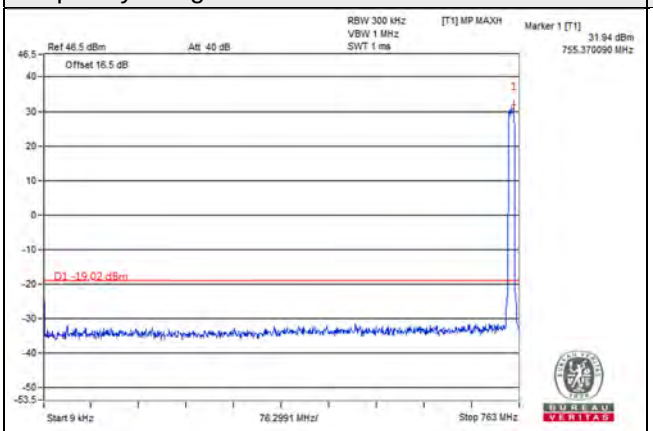
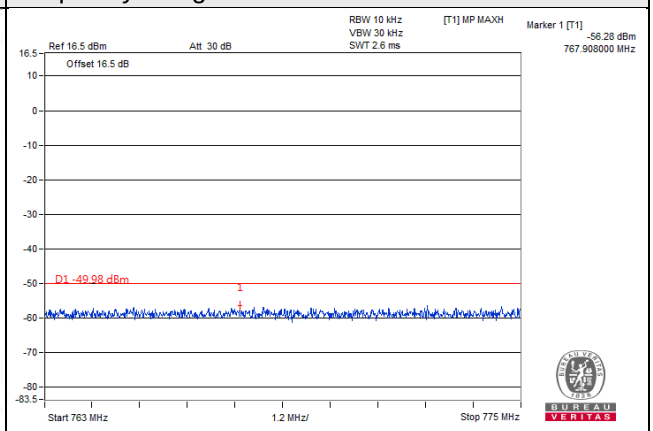
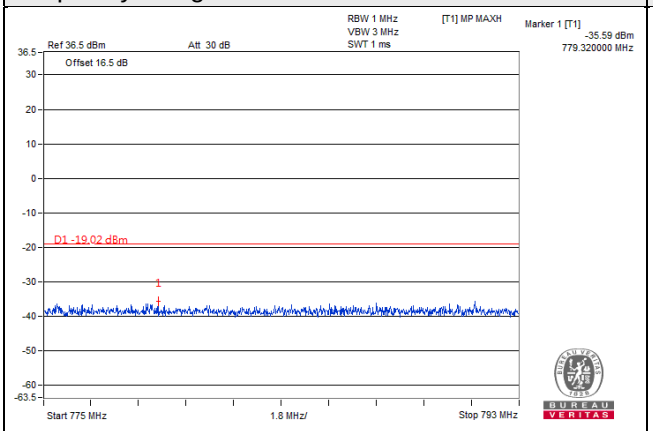
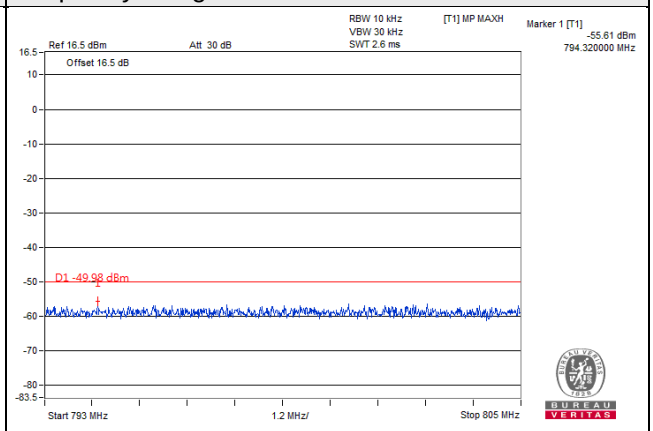
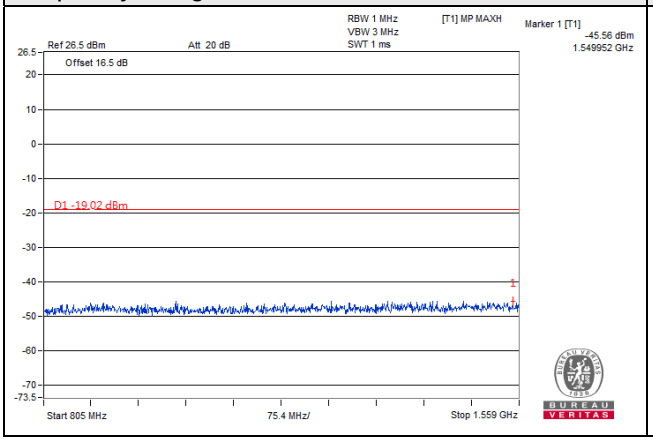
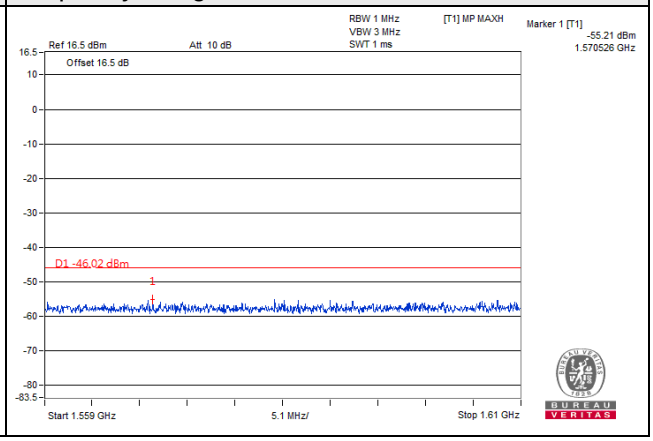
Frequency Range : 1.610GHz~9GHz	
	

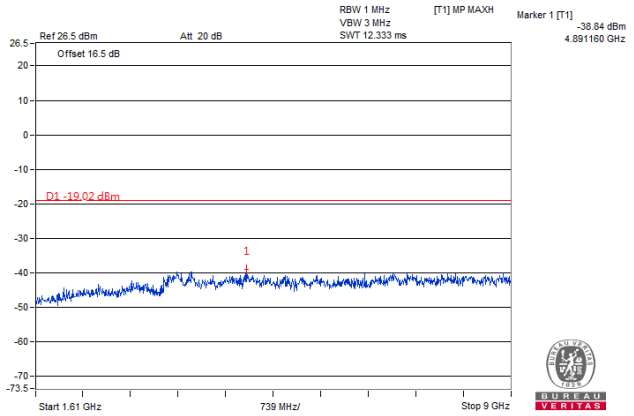
QPSK_IoT Signal at Top (Chain 1)

Channel Band width: 10MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

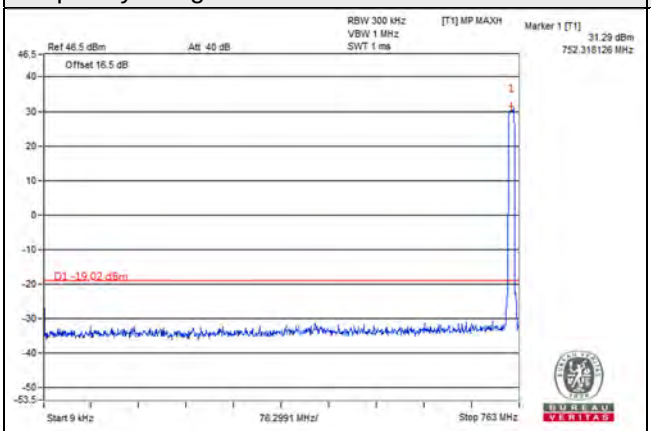
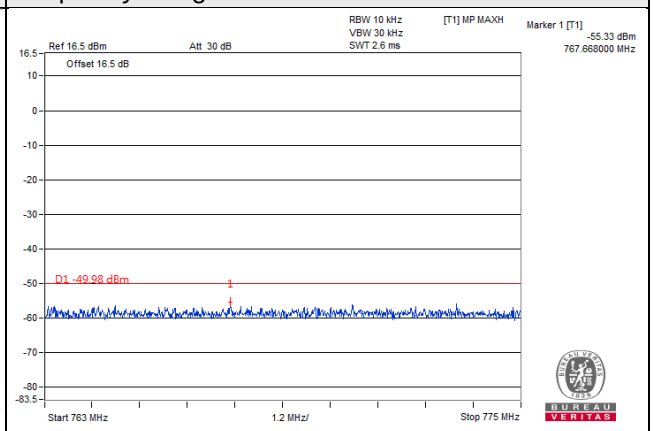
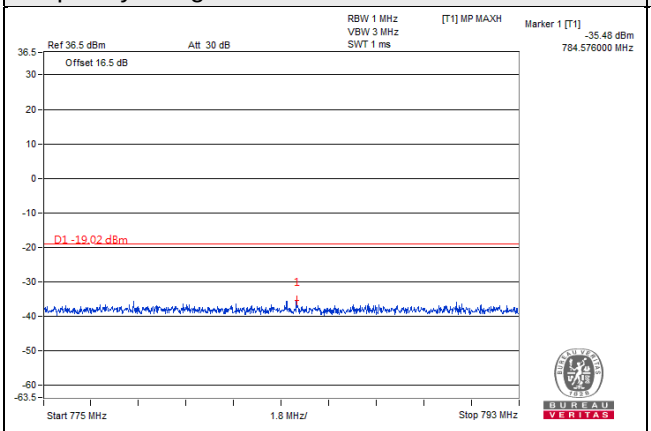
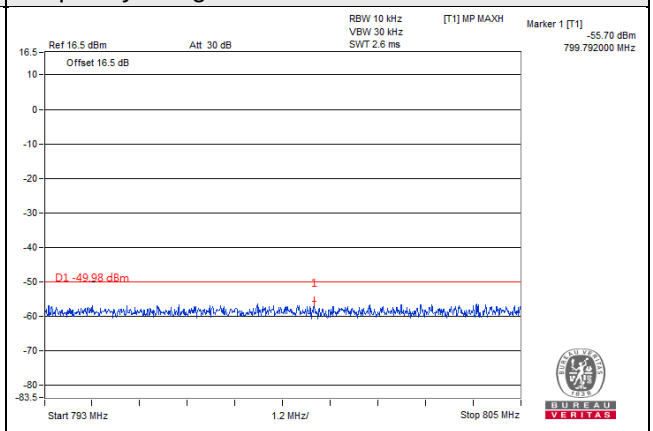
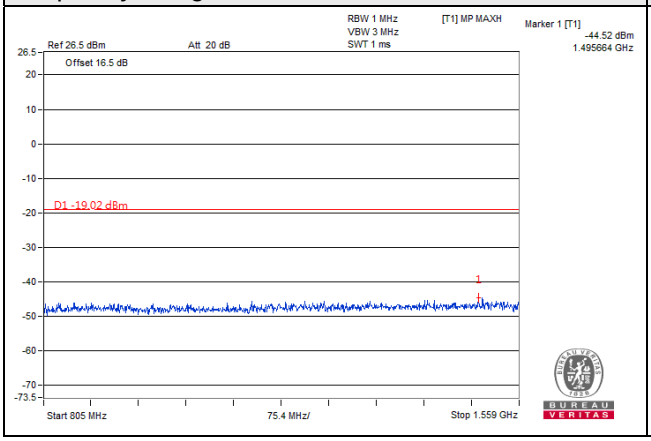
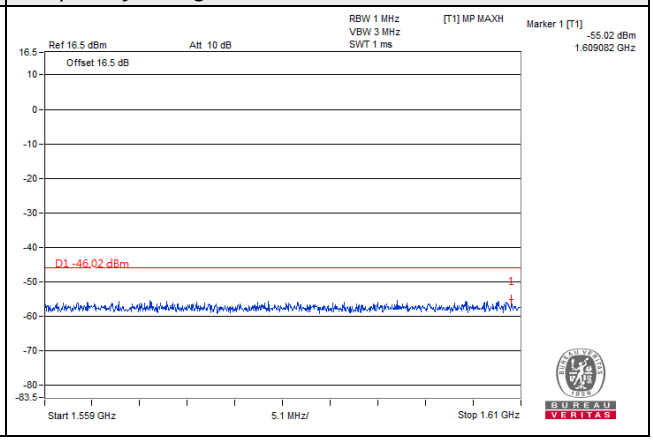
Frequency Range : 1.610GHz~9GHz	
	

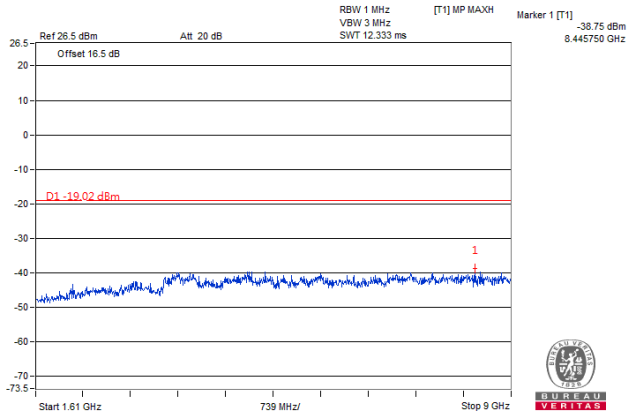
QPSK_IoT Signal at Top (Chain 2)

Channel Band width: 10MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~9GHz	
	

QPSK_IoT Signal at Top (Chain 3)

Channel Band width: 10MHz	
Channel 5230 (751.0MHz)	
Frequency Range : 9kHz~763MHz	Frequency Range : 763MHz~775MHz
	
Frequency Range : 775MHz~793MHz	Frequency Range : 793MHz~805MHz
	
Frequency Range : 805MHz~1.559GHz	Frequency Range : 1.559GHz~1.610GHz
	

Frequency Range : 1.610GHz~9GHz	
	

4.8 Radiated Emission Measurement

4.8.1 Limits of Radiated Emission Measurement

According to FCC 27.53(c), 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, the emission limit equal to -13dBm.

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 = Output power level of S.G – TX cable loss + Antenna gain of substitution antenna.

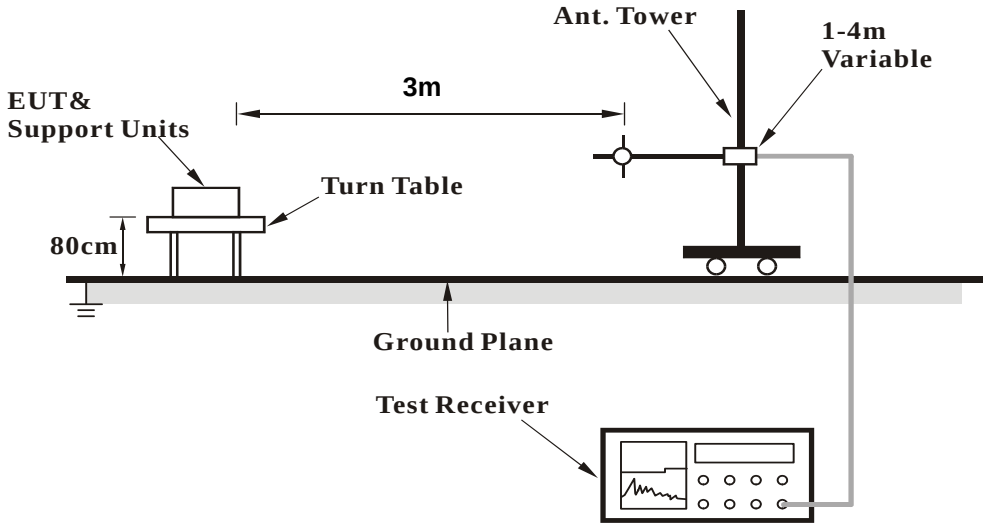
Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.8.3 Deviation from Test Standard

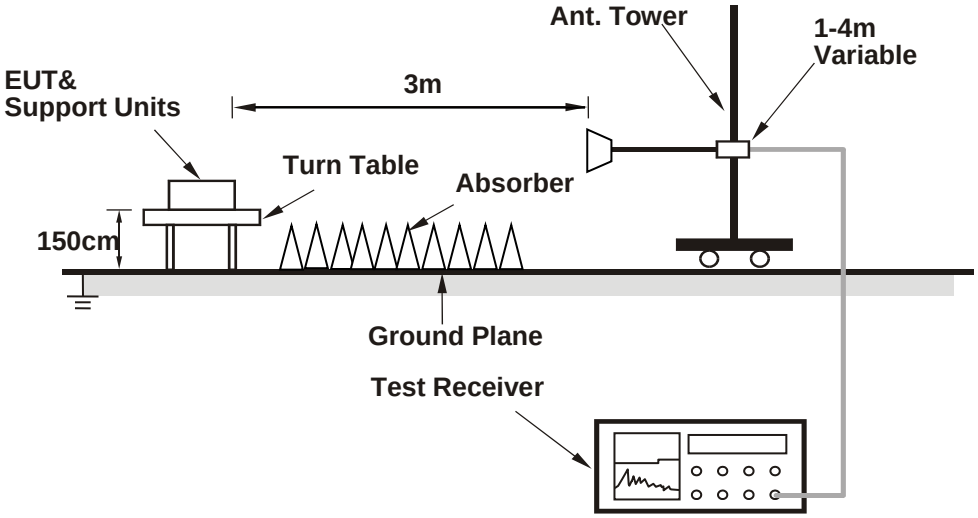
No deviation.

4.8.4 Test Setup

For Radiated Emission below or equal 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

NB-IOT Guard Band

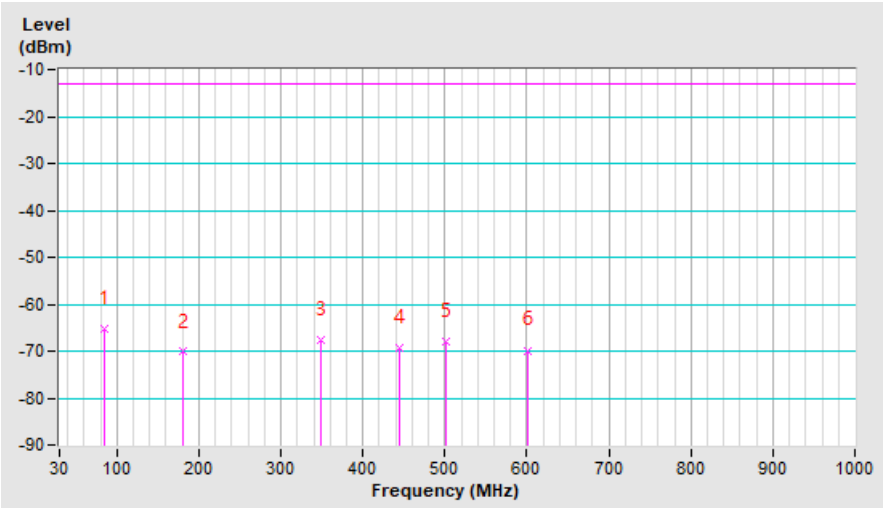
Below 1GHz

Channel Bandwidth: 10MHz

Mode	TX channel 5230 (751.0MHz)	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)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	84.32	-57.30	-65.80	0.40	-65.40	-13.00	-52.40
2	181.32	-59.90	-67.20	-3.00	-70.20	-13.00	-57.20
3	349.13	-62.20	-71.60	3.90	-67.70	-13.00	-54.70
4	444.19	-67.20	-72.90	3.50	-69.40	-13.00	-56.40
5	500.45	-65.50	-71.60	3.80	-67.80	-13.00	-54.80
6	601.33	-69.20	-73.60	3.80	-69.80	-13.00	-56.80

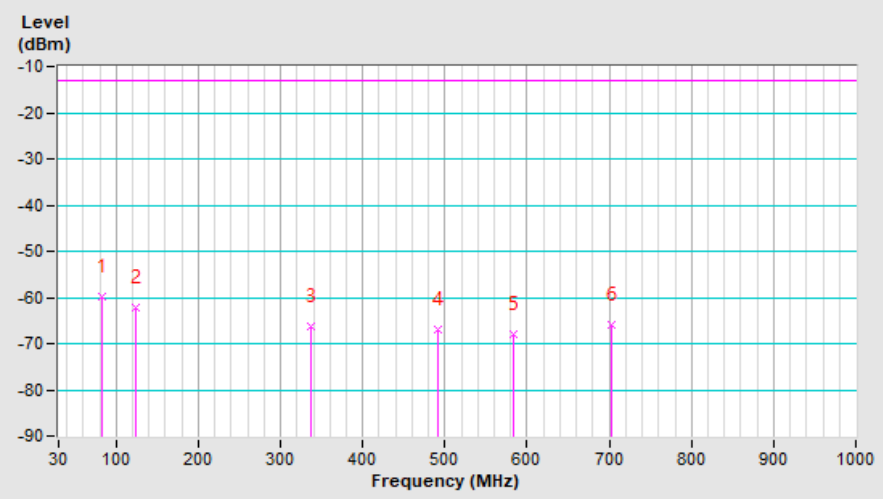
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 5230 (751.0MHz)	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)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	82.38	-53.10	-60.20	0.40	-59.80	-13.00	-46.80
2	124.09	-53.90	-59.20	-3.10	-62.30	-13.00	-49.30
3	337.49	-63.60	-70.20	4.00	-66.20	-13.00	-53.20
4	491.72	-64.50	-70.50	3.70	-66.80	-13.00	-53.80
5	583.87	-68.20	-71.70	3.80	-67.90	-13.00	-54.90
6	703.18	-69.70	-69.40	3.50	-65.90	-13.00	-52.90

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



Above 1GHz

QPSK_IoT Signal at Bottom

Channel Bandwidth: 10MHz

Mode	TX channel 5230 (751.0MHz)	Frequency Range	1GHz ~ 18GHz
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)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-62.20	-54.70	1.50	-53.20	-13.00	-40.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-62.10	-55.70	1.50	-54.20	-13.00	-41.20

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

QPSK_IoT Signal at Top

Channel Bandwidth: 10MHz

Mode	TX channel 5230 (751.0MHz)	Frequency Range	1GHz ~ 18GHz
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)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-60.70	-53.20	1.50	-51.70	-13.00	-38.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-62.50	-56.10	1.50	-54.60	-13.00	-41.60

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

NB-IOT In-Band

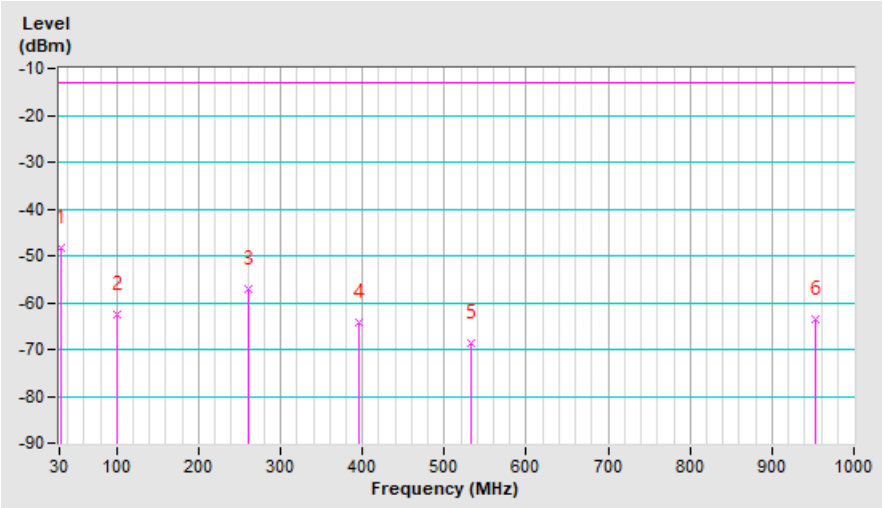
Below 1GHz

Channel Bandwidth: 5MHz

Mode	TX channel 5230 (751.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	31.94	-49.50	-30.00	-18.30	-48.30	-13.00	-35.30
2	100.81	-51.80	-60.80	-1.60	-62.40	-13.00	-49.40
3	259.89	-50.20	-55.60	-1.50	-57.10	-13.00	-44.10
4	396.66	-61.60	-67.70	3.30	-64.40	-13.00	-51.40
5	533.43	-67.00	-72.60	3.80	-68.80	-13.00	-55.80
6	952.47	-69.80	-67.30	3.80	-63.50	-13.00	-50.50

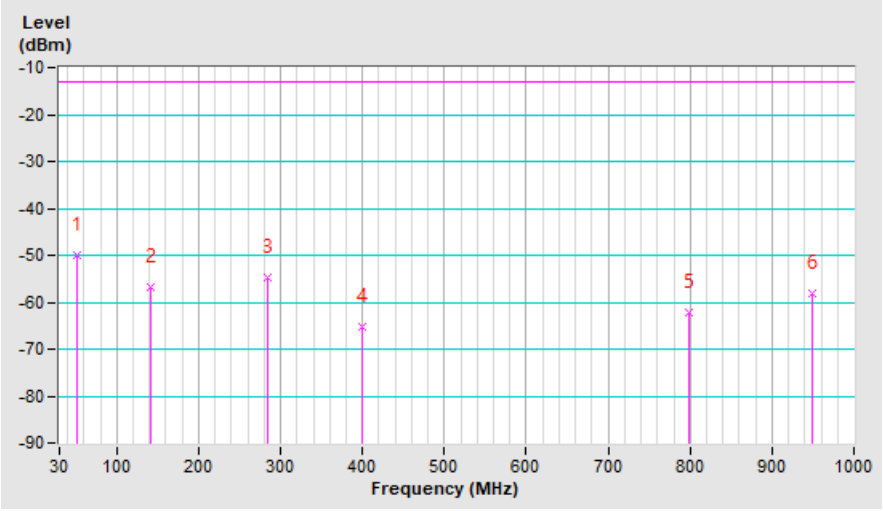
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 5230 (751.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	51.34	-40.50	-42.60	-7.30	-49.90	-13.00	-36.90
2	141.55	-52.20	-53.70	-3.00	-56.70	-13.00	-43.70
3	284.14	-55.20	-53.30	-1.60	-54.90	-13.00	-41.90
4	399.57	-62.20	-68.50	3.30	-65.20	-13.00	-52.20
5	799.21	-66.80	-66.20	3.90	-62.30	-13.00	-49.30
6	948.59	-65.20	-61.80	3.70	-58.10	-13.00	-45.10

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

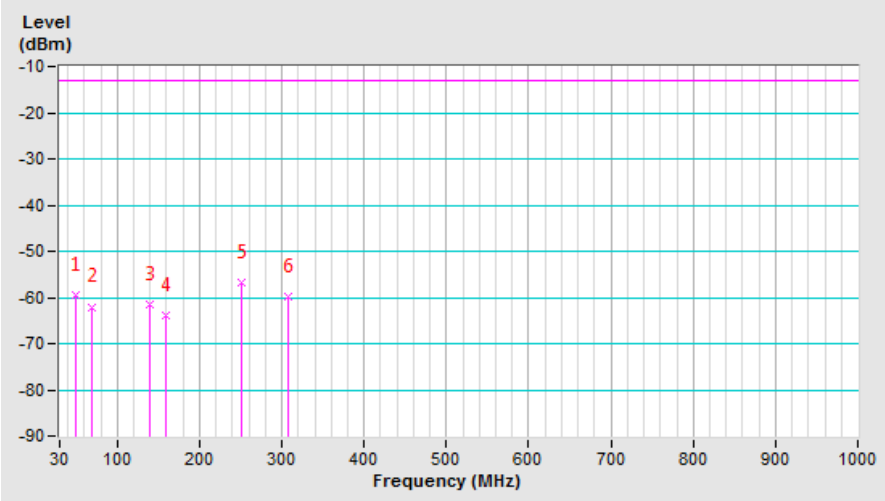


Channel Bandwidth: 10MHz

Mode	TX channel 5230 (751.0MHz)	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)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	50.37	-56.4	-51.5	-7.9	-59.4	-13.0	-46.4
2	68.80	-53.2	-61.2	-0.8	-62.0	-13.0	-49.0
3	139.61	-53.7	-58.5	-3.1	-61.6	-13.0	-48.6
4	159.98	-56.5	-61.0	-3.0	-64.0	-13.0	-51.0
5	250.19	-48.3	-55.5	-1.3	-56.8	-13.0	-43.8
6	307.42	-53.2	-63.6	3.9	-59.7	-13.0	-46.7

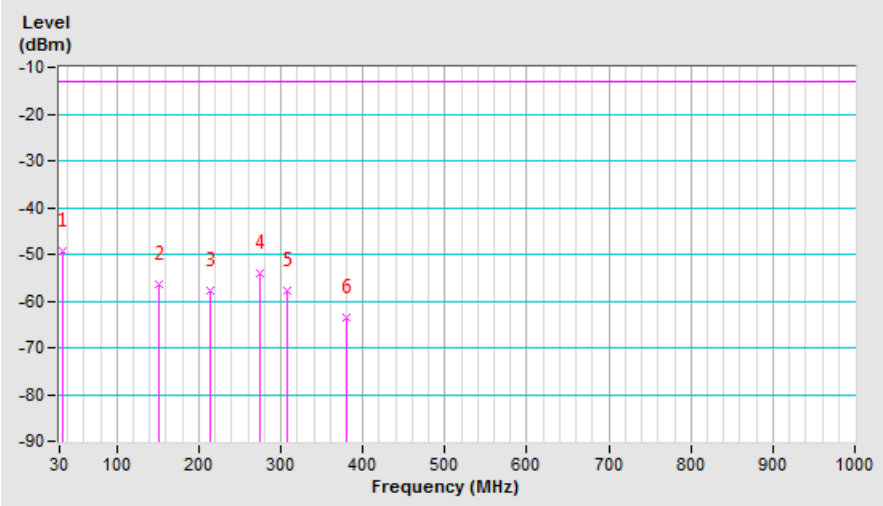
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 5230 (751.0MHz)	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)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	**33.88**	**-36.5**	**-32.2**	**-17.1**	**-49.3**	**-13.0**	**-36.3**
2	152.22	-52.5	-53.7	-2.8	-56.5	-13.0	-43.5
3	213.33	-52.1	-55.7	-2.0	-57.7	-13.0	-44.7
4	274.44	-54.6	-52.4	-1.6	-54.0	-13.0	-41.0
5	308.39	-55.9	-61.8	3.9	-57.9	-13.0	-44.9
6	379.20	-60.9	-67.1	3.6	-63.5	-13.0	-50.5

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



Above 1GHz

QPSK_IoT Signal at Bottom

Channel Bandwidth: 5MHz

Mode	TX channel 5205 (748.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1497.00	-62.20	-54.90	1.50	-53.40	-13.00	-40.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1497.00	-60.80	-54.50	1.50	-53.00	-13.00	-40.00

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

Mode	TX channel 5230 (751.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-62.00	-54.50	1.50	-53.00	-13.00	-40.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-60.60	-54.30	1.50	-52.80	-13.00	-39.80

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

Mode	TX channel 5255 (753.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1507.00	-62.50	-55.00	1.50	-53.50	-13.00	-40.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1507.00	-61.10	-54.70	1.50	-53.20	-13.00	-40.20

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

Channel Bandwidth: 10MHz

Mode	TX channel 5230 (751.0MHz)	Frequency Range	1GHz ~ 18GHz
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)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-63.0	-55.6	1.5	-54.1	-13.0	-41.1
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-61.6	-55.3	1.5	-53.8	-13.0	-40.8

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

QPSK_IoT Signal at Top

Channel Bandwidth: 5MHz

Mode	TX channel 5205 (748.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1497.00	-63.20	-55.90	1.50	-54.40	-13.00	-41.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1497.00	-61.90	-55.60	1.50	-54.10	-13.00	-41.10

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

Mode	TX channel 5230 (751.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-63.00	-55.50	1.50	-54.00	-13.00	-41.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-61.80	-55.40	1.50	-53.90	-13.00	-40.90

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

Mode	TX channel 5255 (753.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1507.00	-63.30	-55.90	1.50	-54.40	-13.00	-41.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1507.00	-62.10	-55.70	1.50	-54.20	-13.00	-41.20

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

Channel Bandwidth: 10MHz

Mode	TX channel 5230 (751.0MHz)	Frequency Range	1GHz ~ 18GHz
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)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-62.5	-55.1	1.5	-53.6	-13.0	-40.6
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1502.00	-62.0	-55.6	1.5	-54.1	-13.0	-41.1

Remarks:
1. ERP (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.

If you have any comments, please feel free to contact us at the following:

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Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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