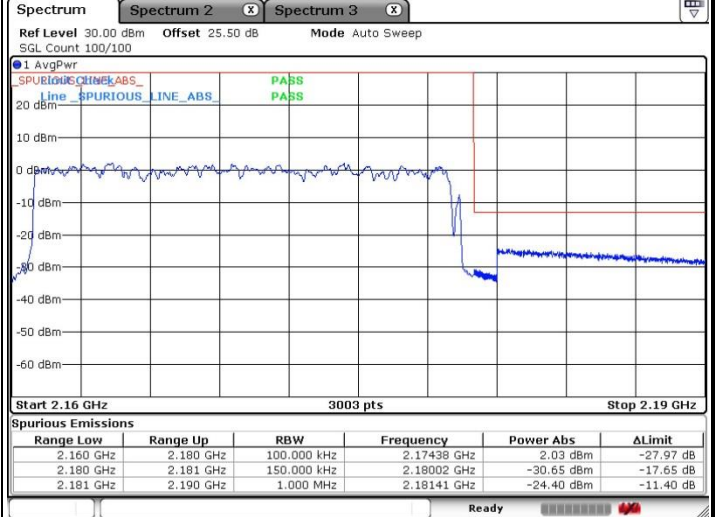
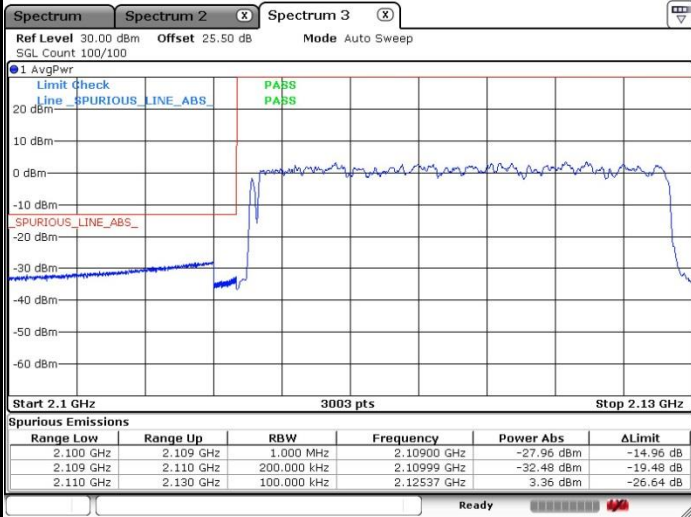




LTE Band 66 / 20MHz / QPSK

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

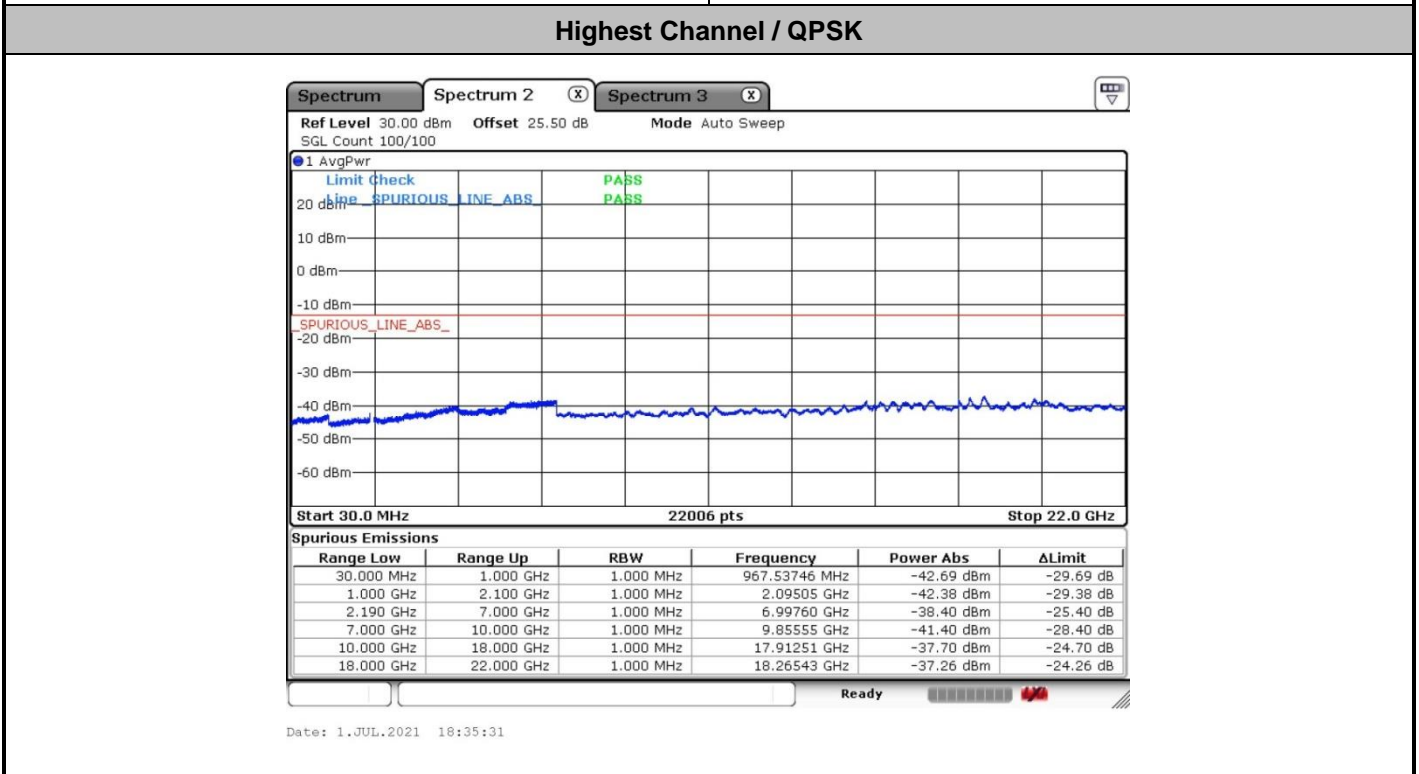
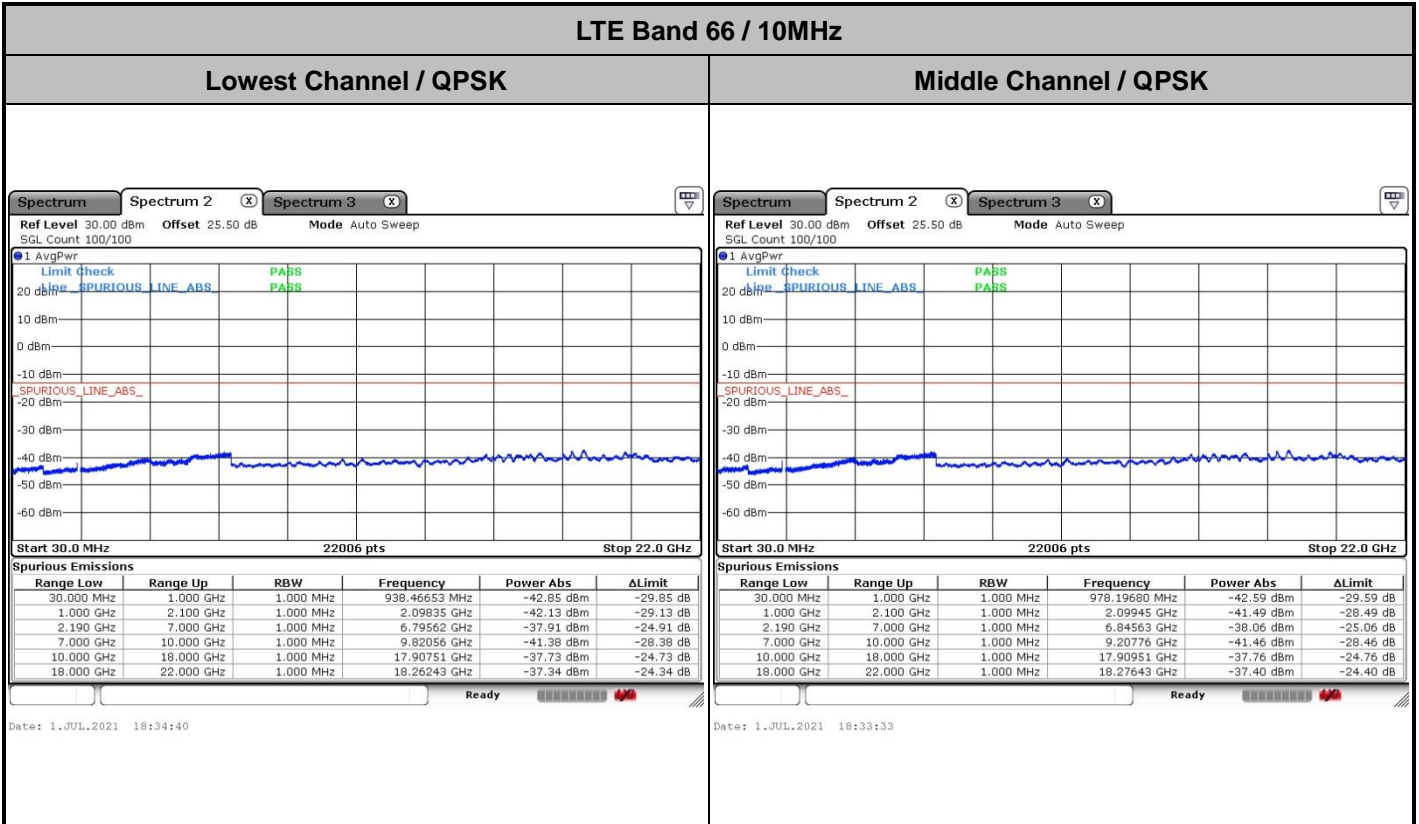


Date: 1.JUL.2021 19:17:14

Date: 1.JUL.2021 19:55:22



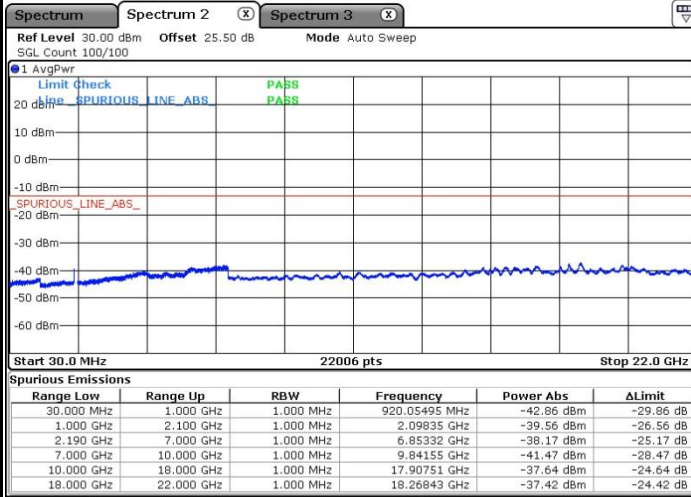
# Conducted Spurious Emission





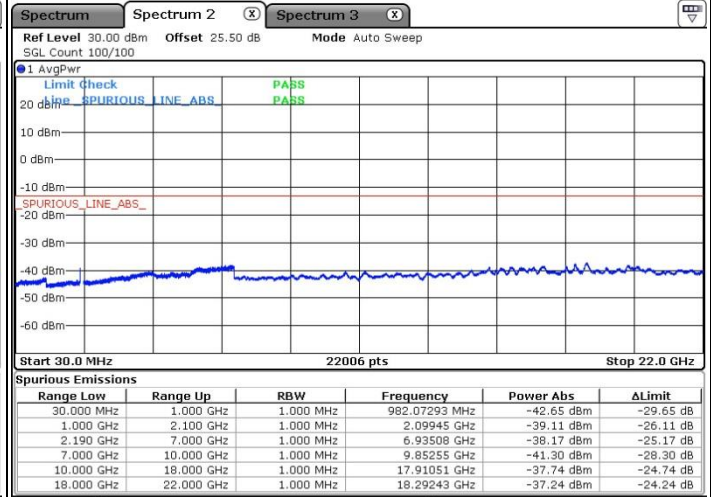
LTE Band 66 / 15MHz

Lowest Channel / QPSK



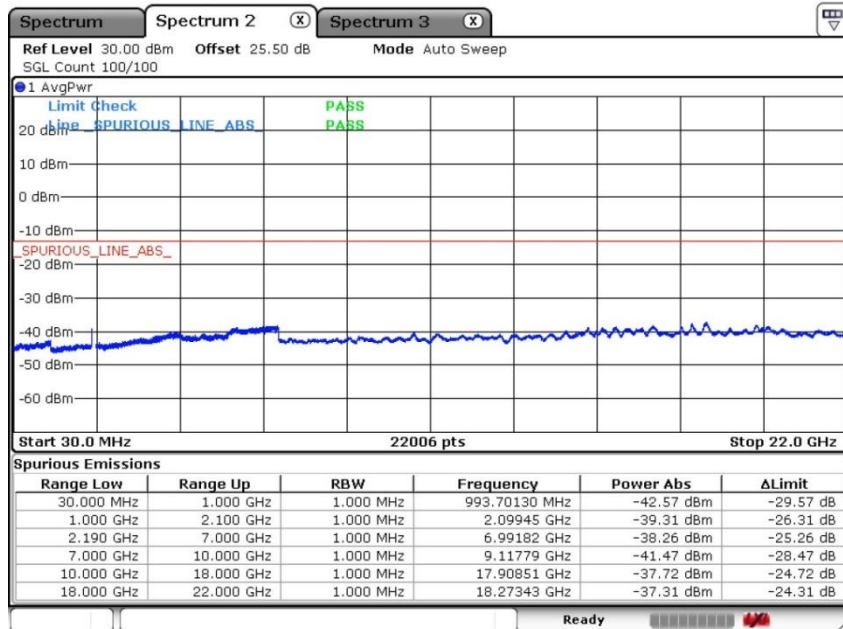
Date: 1.JUL.2021 18:52:42

Middle Channel / QPSK



Date: 1.JUL.2021 18:53:27

Highest Channel / QPSK



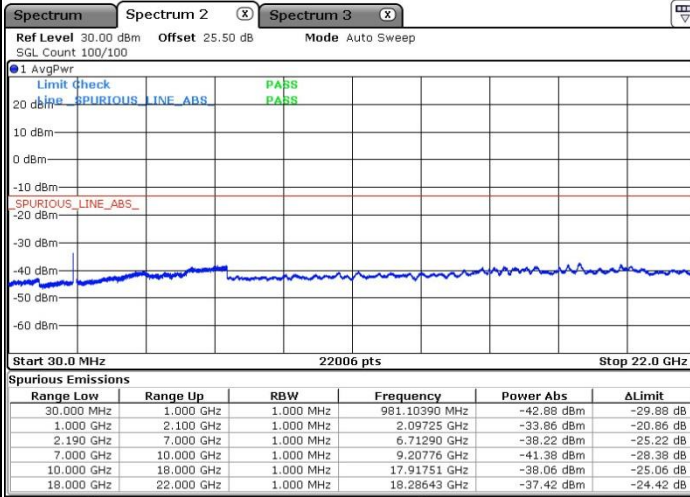
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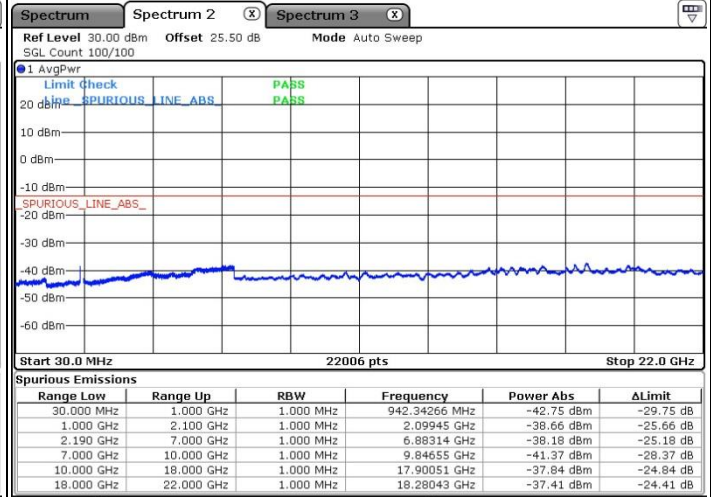
LTE Band 66 / 20MHz

Lowest Channel / QPSK

Middle Channel / QPSK

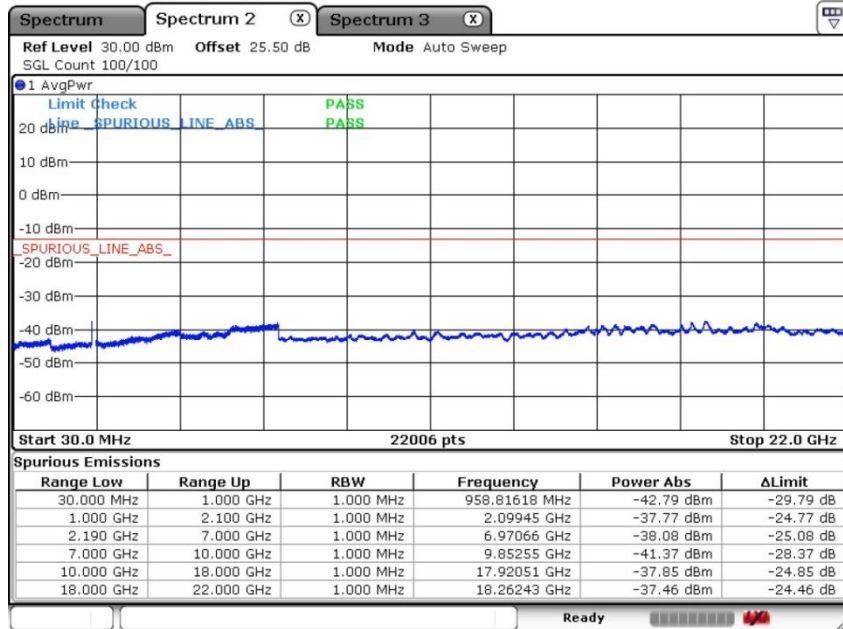


Date: 1.JUL.2021 19:49:19



Date: 1.JUL.2021 19:18:23

Highest Channel / QPSK



Date: 1.JUL.2021 19:19:38



### Frequency Stability

Test Conditions		LTE Band 66 BW 20M (QPSK)				Limit
Temperature (°C)	Voltage (Volt)	2120MHz		2170MHz		Note 2
		FL	FH	FL	FH	Result
50	Normal Voltage	2110.564	2129.03	2160.97	2179.436	PASS
40	Normal Voltage	2110.564	2129.03	2160.97	2179.436	
30	Normal Voltage	2110.564	2129.03	2160.97	2179.436	
20(Ref.)	Normal Voltage	2110.564	2129.03	2160.97	2179.436	
10	Normal Voltage	2110.564	2129.03	2160.97	2179.378	
0	Normal Voltage	2110.564	2129.03	2160.97	2179.436	
-10	Normal Voltage	2110.564	2129.03	2160.97	2179.436	
-20	Normal Voltage	2110.564	2129.03	2160.97	2179.436	
-30	Normal Voltage	2110.564	2129.03	2160.97	2179.436	
20	Maximum Voltage	2110.564	2129.03	2160.97	2179.378	
20	Normal Voltage	2110.564	2129.03	2160.912	2179.436	
20	Minimum Voltage	2110.564	2129.03	2160.97	2179.436	

**Note:**

1. Normal Voltage =120 V. ; Minimum Voltage =102 V. ; Maximum Voltage =138 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## Appendix B. Test Results of Radiated Test

### Radiated Spurious Emission

LTE:

LTE Band 2 / 20MHz / QPSK								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3921	-56.48	-13	-43.48	-68.74	2.64	14.90	H
	5880	-48.98	-13	-35.98	-60.84	2.94	14.80	H
	7836	-45.35	-13	-32.35	-55.12	3.39	13.16	H
	3921	-56.72	-13	-43.72	-68.98	2.64	14.90	V
	5880	-46.87	-13	-33.87	-58.73	2.94	14.80	V
	7836	-48.55	-13	-35.55	-58.32	3.39	13.16	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 66 / 20MHz / QPSK								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	4312	-49.28	-13	-36.28	-60.02	2.604	13.34	H
	6464	-58.18	-13	-45.18	-68.69	3.011	13.52	H
	8620	-50.62	-13	-37.62	-60.82	3.271	13.47	H
	10780	-56.70	-13	-43.70	-63.67	5.527	12.5	H
	12930	-54.92	-13	-41.92	-61.78	6.038	12.9	H
	15080	-57.62	-13	-44.62	-64.82	6.726	13.93	H
	17240	-53.80	-13	-40.80	-61.24	6.963	14.4	H
	4312	-45.31	-13	-32.31	-56.05	2.604	13.34	V
	6464	-55.11	-13	-42.11	-65.62	3.011	13.52	V
	8620	-44.24	-13	-31.24	-54.44	3.271	13.47	V
	10780	-53.56	-13	-40.56	-60.53	5.527	12.50	V
	12930	-53.39	-13	-40.39	-60.25	6.038	12.90	V
	15080	-56.72	-13	-43.72	-63.92	6.726	13.93	V
	17240	-52.78	-13	-39.78	-60.22	6.963	14.40	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



NB-IOT Category NB1:

NB-IOT Band 2 Low Location / 20MHz / QPSK								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3921	-56.72	-13	-43.72	-68.98	2.64	14.90	H
	5880	-47.96	-13	-34.96	-59.82	2.94	14.80	H
	7836	-46.96	-13	-33.96	-56.73	3.39	13.16	H
	3921	-56.55	-13	-43.55	-68.81	2.64	14.90	V
	5880	-49.50	-13	-36.50	-61.36	2.94	14.80	V
	7836	-49.88	-13	-36.88	-59.65	3.39	13.16	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

NB-IOT Band 2 Upper Location / 20MHz / QPSK								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3921	-57.10	-13	-44.10	-69.36	2.64	14.90	H
	5880	-49.15	-13	-36.15	-61.01	2.94	14.80	H
	7836	-44.87	-13	-31.87	-54.64	3.39	13.16	H
	3921	-56.37	-13	-43.37	-68.63	2.64	14.90	V
	5880	-48.07	-13	-35.07	-59.93	2.94	14.80	V
	7836	-47.48	-13	-34.48	-57.25	3.39	13.16	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



NB-IOT Band 66 Low Location / 20MHz / QPSK								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	4312	-49.23	-13	-36.23	-59.97	2.604	13.34	H
	6464	-59.80	-13	-46.80	-70.31	3.011	13.52	H
	8620	-49.20	-13	-36.20	-59.40	3.271	13.47	H
	10780	-56.60	-13	-43.60	-63.57	5.527	12.5	H
	12930	-54.45	-13	-41.45	-61.31	6.038	12.9	H
	15080	-57.49	-13	-44.49	-64.69	6.726	13.93	H
	17240	-54.67	-13	-41.67	-62.11	6.963	14.4	H
	4312	-46.64	-13	-33.64	-57.38	2.604	13.34	V
	6464	-55.04	-13	-42.04	-65.55	3.011	13.52	V
	8620	-43.40	-13	-30.40	-53.60	3.271	13.47	V
	10780	-54.99	-13	-41.99	-61.96	5.527	12.50	V
	12930	-53.81	-13	-40.81	-60.67	6.038	12.90	V
	15080	-56.43	-13	-43.43	-63.63	6.726	13.93	V
	17240	-50.97	-13	-37.97	-58.41	6.963	14.40	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

NB-IOT Band 66 Upper Location / 20MHz / QPSK								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	4312	-48.23	-13	-35.23	-58.97	2.604	13.34	H
	6464	-58.45	-13	-45.45	-68.96	3.011	13.52	H
	8620	-50.56	-13	-37.56	-60.76	3.271	13.47	H
	10780	-56.41	-13	-43.41	-63.38	5.527	12.50	H
	12930	-53.67	-13	-40.67	-60.53	6.038	12.90	H
	15080	-57.50	-13	-44.50	-64.70	6.726	13.93	H
	17240	-54.23	-13	-41.23	-61.67	6.963	14.40	H
	4312	-46.72	-13	-33.72	-57.46	2.604	13.34	V
	6464	-56.60	-13	-43.60	-67.11	3.011	13.52	V
	8620	-43.31	-13	-30.31	-53.51	3.271	13.47	V
	10780	-53.89	-13	-40.89	-60.86	5.527	12.50	V
	12930	-53.02	-13	-40.02	-59.88	6.038	12.90	V
	15080	-56.50	-13	-43.50	-63.70	6.726	13.93	V
	17240	-51.79	-13	-38.79	-59.23	6.963	14.40	V

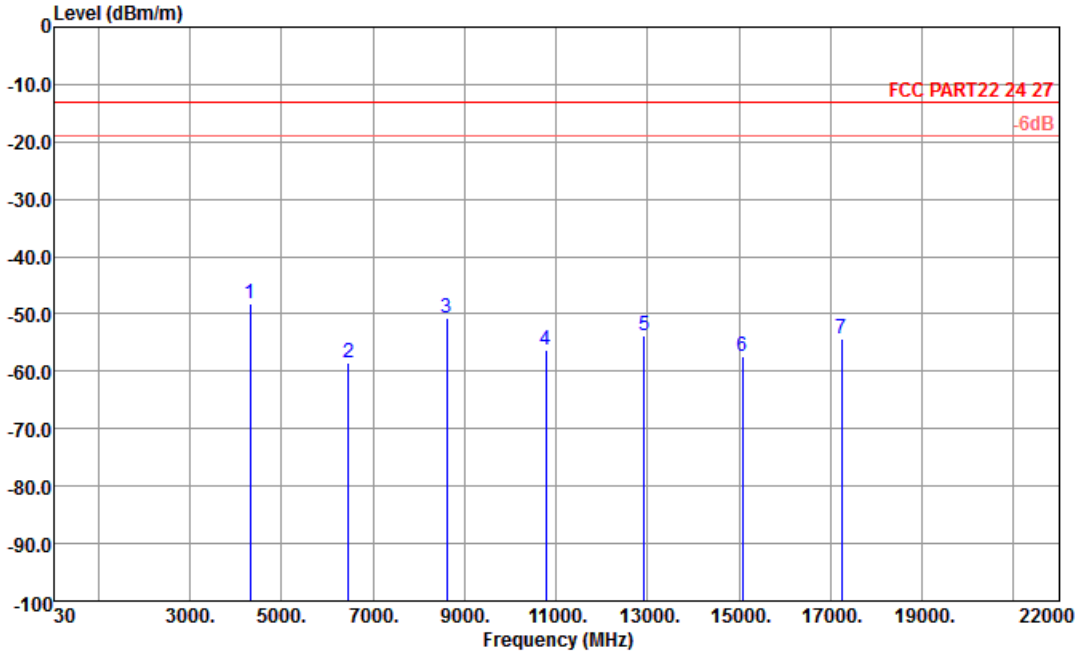
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.





Worst test plots

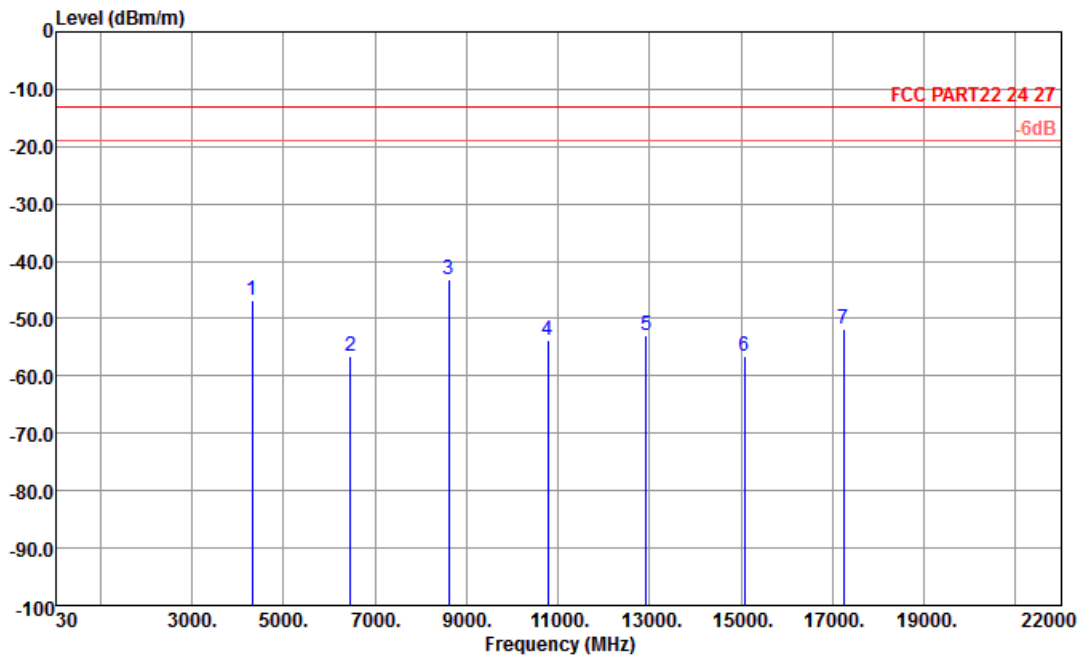
NB-IOT Band 66 Upper Location / 20MHz / QPSK for middle channel



Site : 03CH04-KS  
 Condition : FCC PART22 24 27 3m HF PART 22/24/27 HORIZONTAL  
 Project : (FG)151309

: B66 BW 20 QPSK+NB IOT B66 SCS15K QPSK

Over	Limit	Read	Pol/Phase			
Level	Line	Level				
dB	dBm/m	dBm				
1	4312.00	-48.23	-35.23	-13.00	-38.78	HORIZONTAL
2	6464.00	-58.45	-45.45	-13.00	-52.32	HORIZONTAL
3	8620.00	-50.56	-37.56	-13.00	-49.25	HORIZONTAL
4	10780.00	-56.41	-43.41	-13.00	-57.20	HORIZONTAL
5	12930.00	-53.67	-40.67	-13.00	-58.92	HORIZONTAL
6	15080.00	-57.50	-44.50	-13.00	-63.34	HORIZONTAL
7	17240.00	-54.23	-41.23	-13.00	-65.46	HORIZONTAL



Site : 03GH04-KS  
 Condition : FCC PART22 24 27 3m HF PART 22/24/27 VERTICAL  
 Project : (FG) 151309

: B66 BW 20 QPSK+NB IOT B66 SCS15K QPSK						
Freq	Level	Over	Limit	Read	Pol/Phase	
MHz	dBm/m	dB	dBm/m	dBm		
1	4312.00	-46.72	-33.72	-13.00	-37.56	VERTICAL
2	6464.00	-56.60	-43.60	-13.00	-50.47	VERTICAL
3	8620.00	-43.31	-30.31	-13.00	-41.93	VERTICAL
4	10780.00	-53.89	-40.89	-13.00	-54.54	VERTICAL
5	12930.00	-53.02	-40.02	-13.00	-57.75	VERTICAL
6	15080.00	-56.50	-43.50	-13.00	-62.37	VERTICAL
7	17240.00	-51.79	-38.79	-13.00	-62.57	VERTICAL