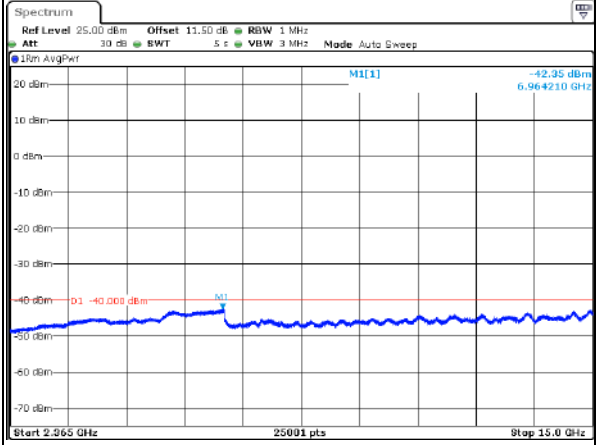
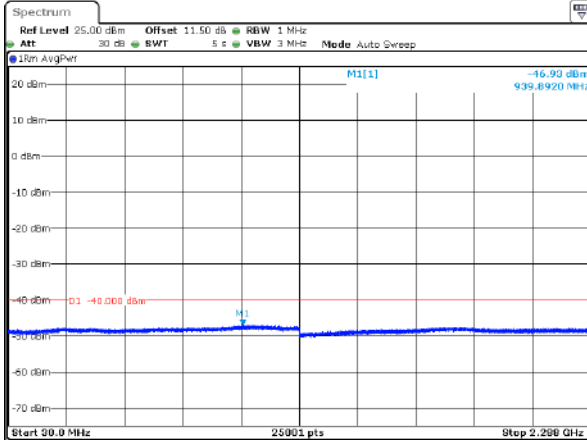


### Spurious Emissions at Antenna Terminal

Channel

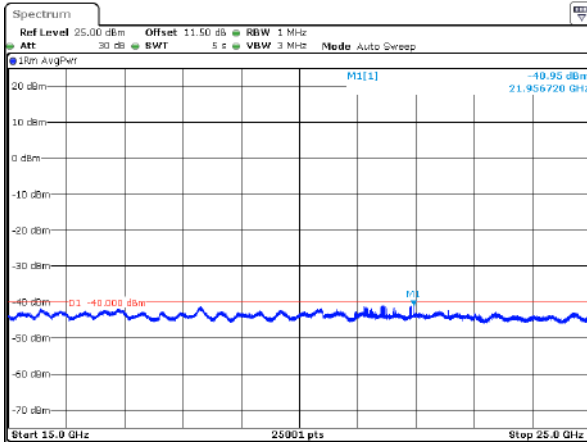
5MHz Bandwidth QPSK

Middle



ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 10:00:54

ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 10:01:15



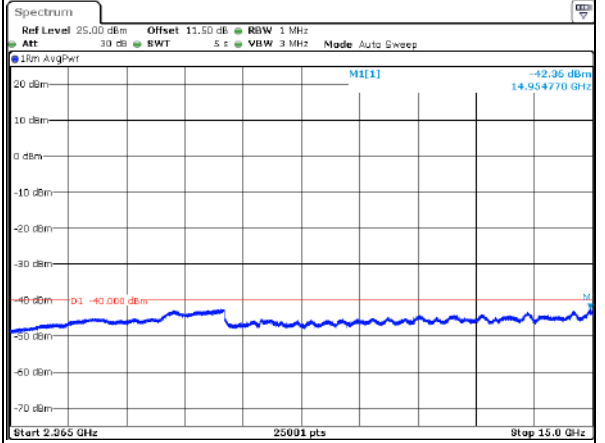
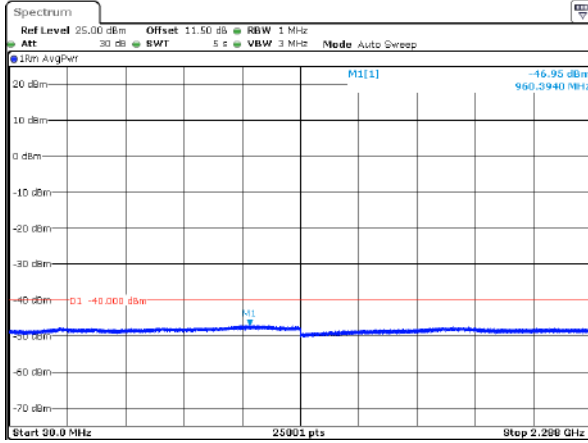
ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 10:01:37

Spurious Emissions at Antenna Terminal

Channel

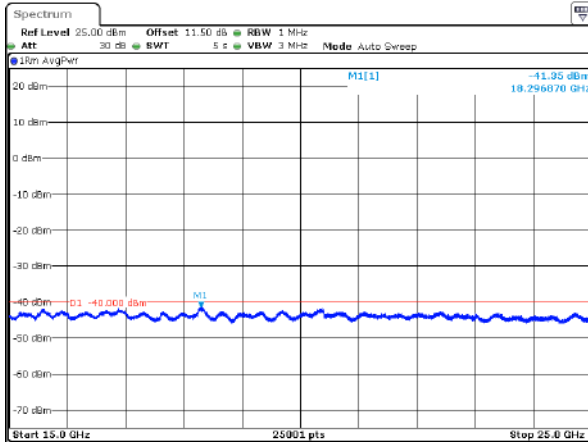
5MHz Bandwidth QPSK

Highest



ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 10:02:31

ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 10:02:52



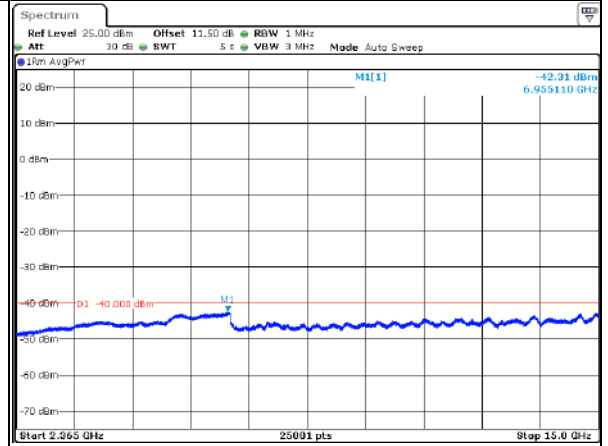
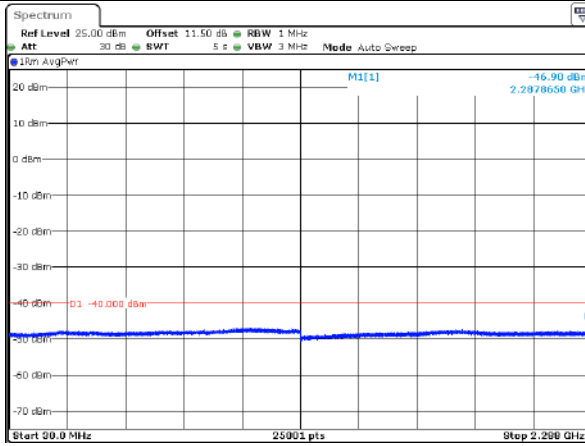
ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 10:03:14

### Spurious Emissions at Antenna Terminal

Channel

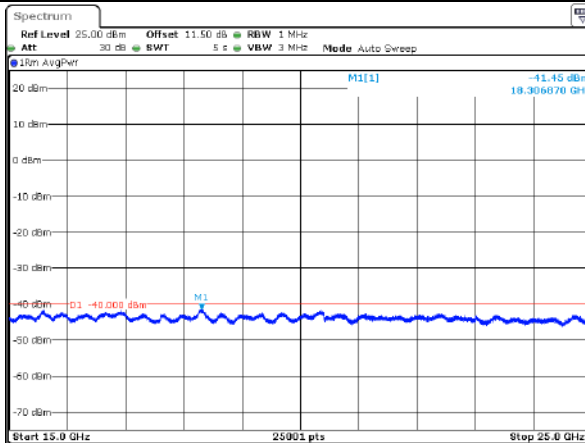
10MHz Bandwidth QPSK

Middle



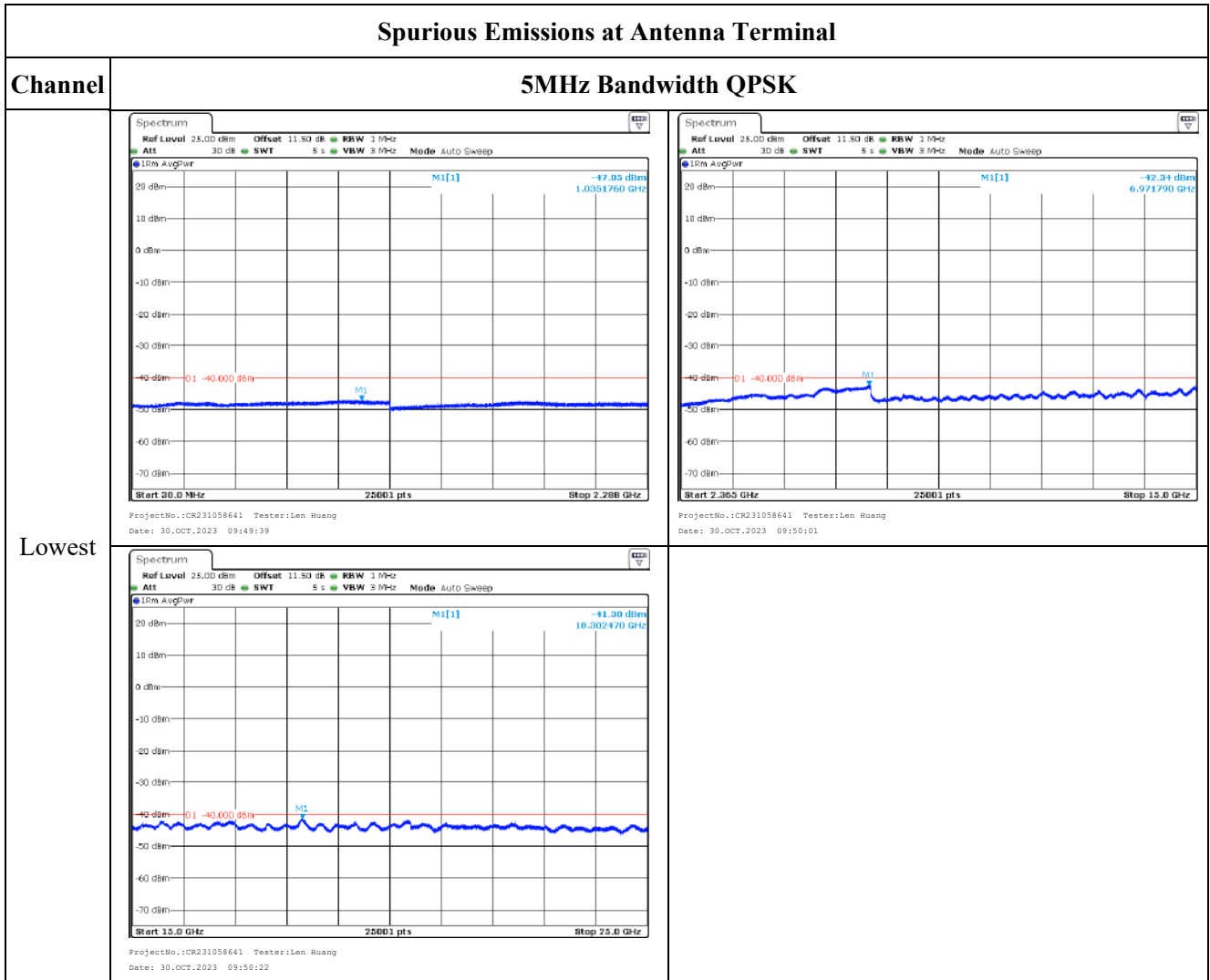
ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 10:04:00

ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 10:04:22



ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 10:04:44

2350-2360 MHz:

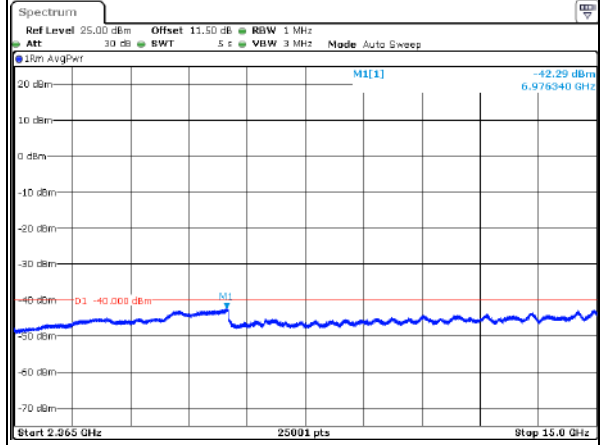
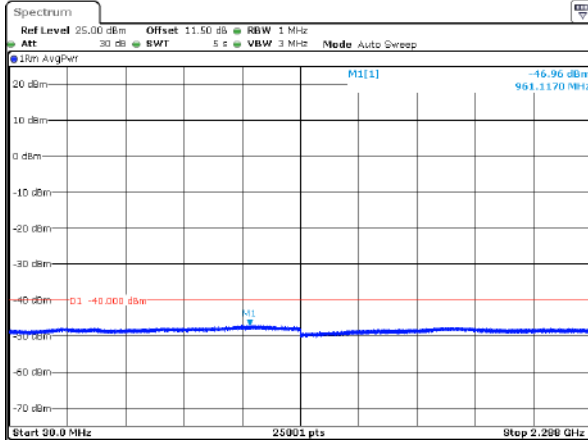


Spurious Emissions at Antenna Terminal

Channel

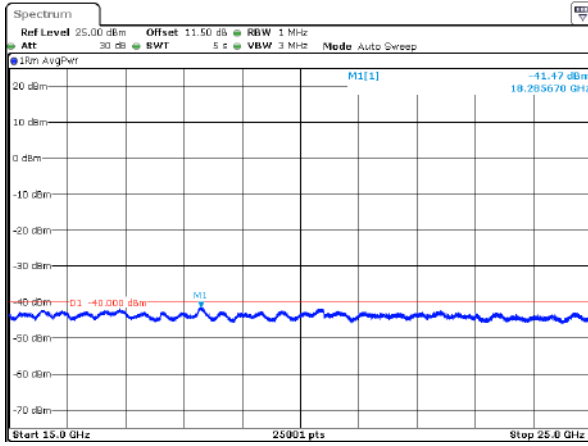
5MHz Bandwidth QPSK

Middle



ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 09:53:52

ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 09:54:14



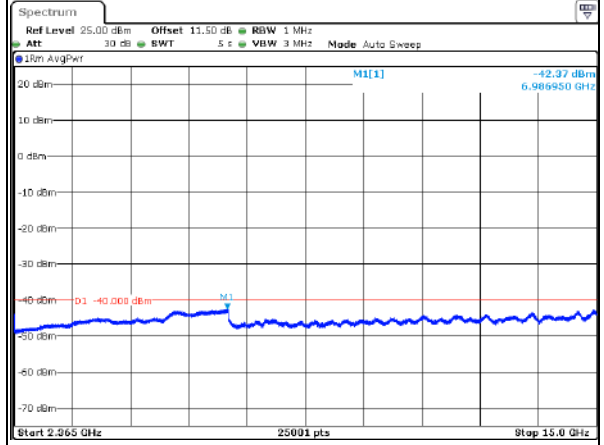
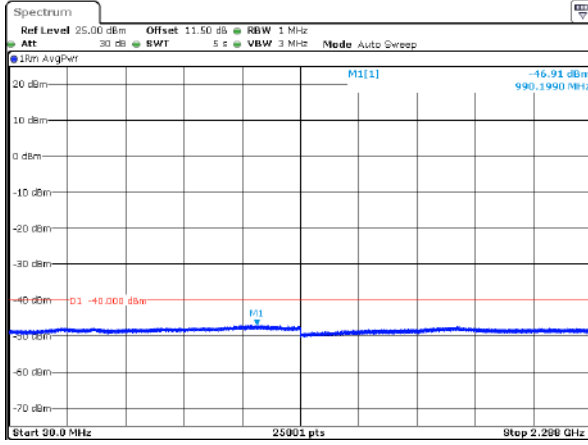
ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 09:54:35

### Spurious Emissions at Antenna Terminal

Channel

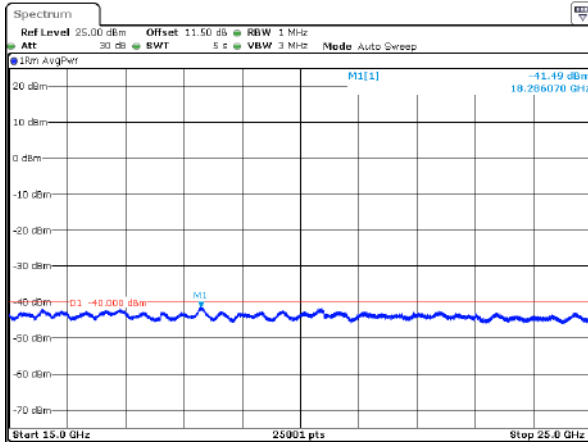
5MHz Bandwidth QPSK

Highest



ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 09:56:03

ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 09:56:25

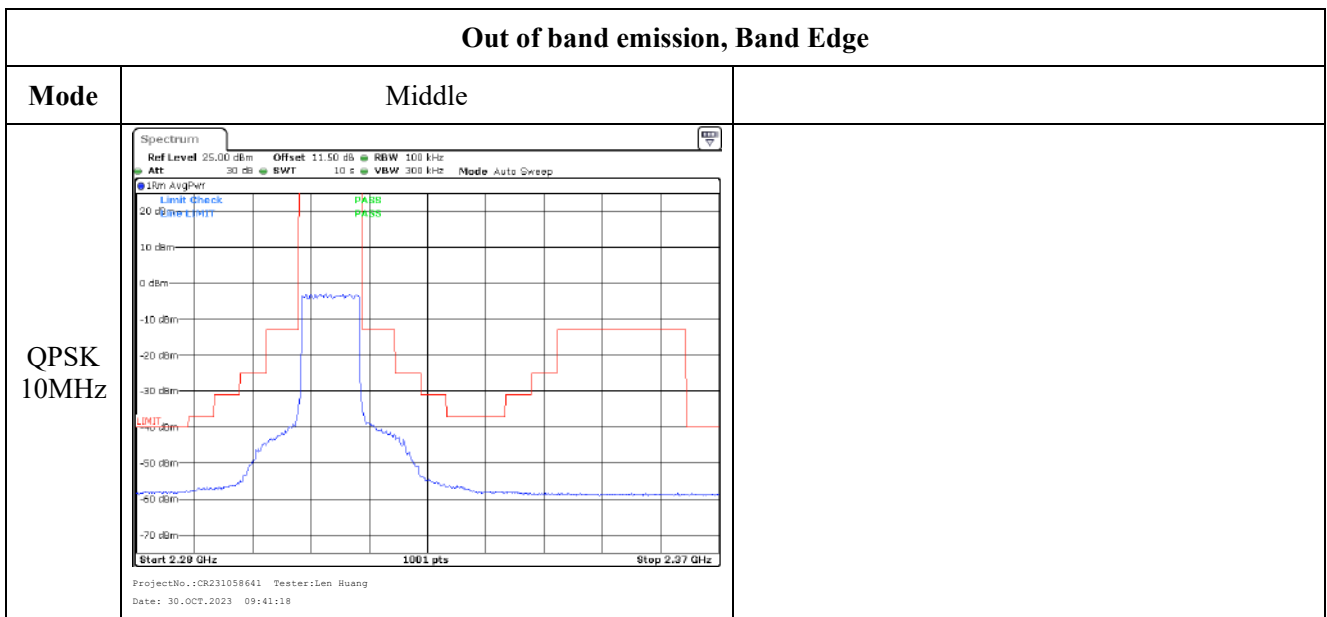
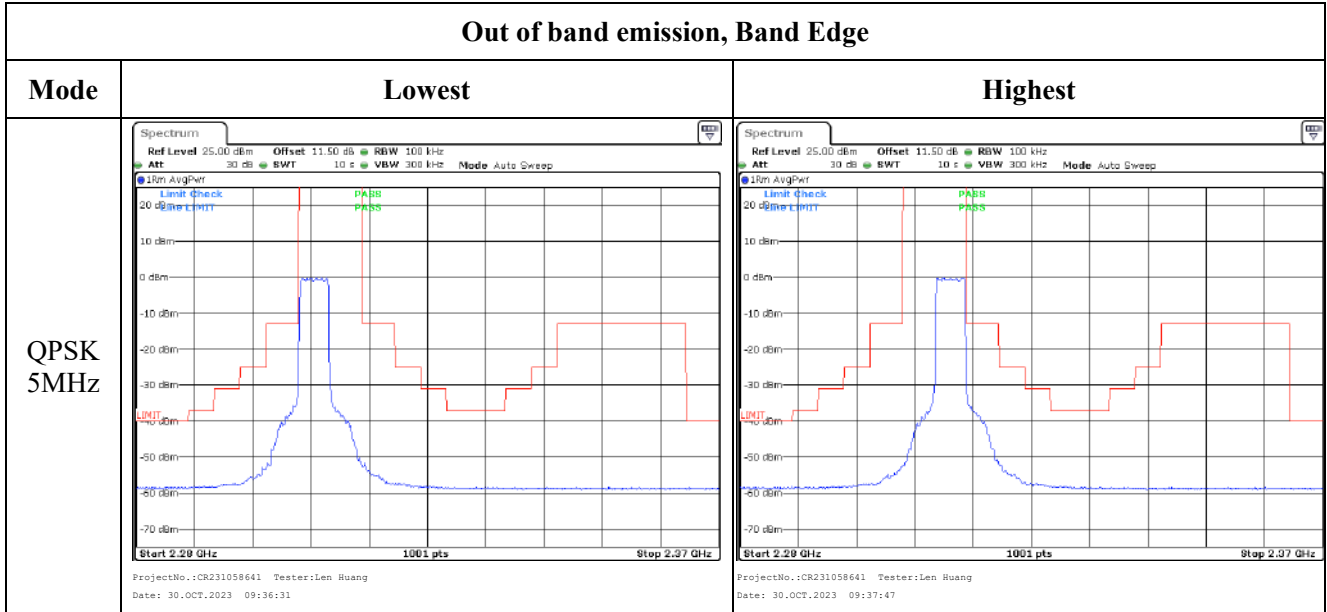


ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 09:56:46

Spurious Emissions at Antenna Terminal

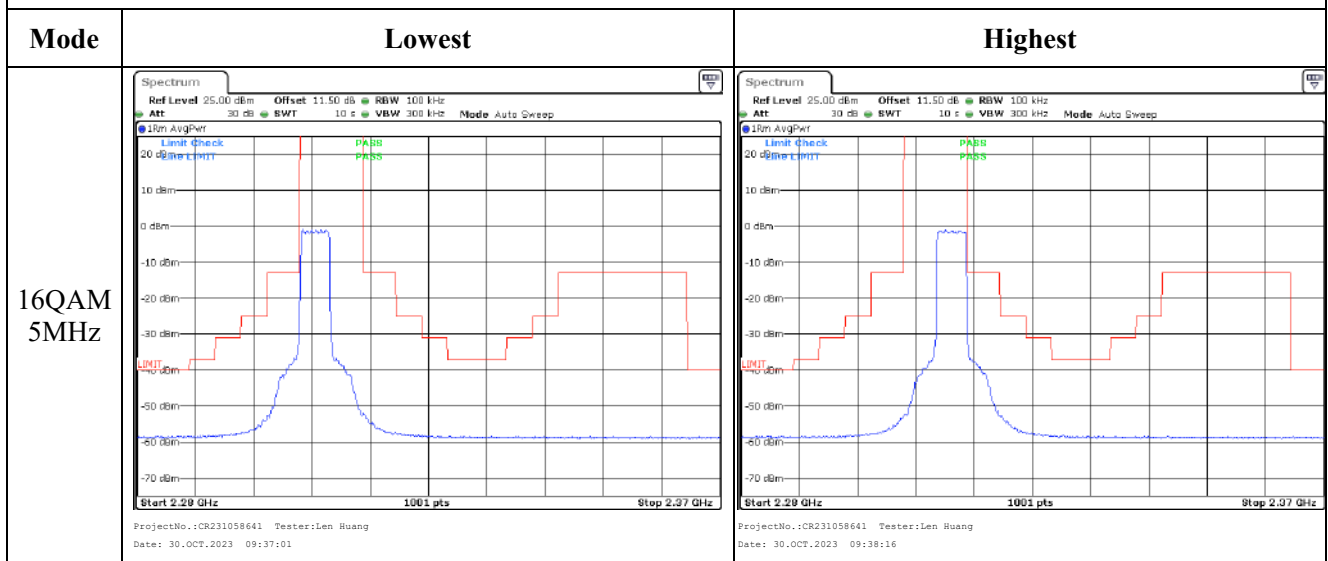
Channel	10MHz Bandwidth QPSK	
Middle	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 09:57:34</p>	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 09:57:55</p>
	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 09:58:17</p>	

2305-2315 MHz:

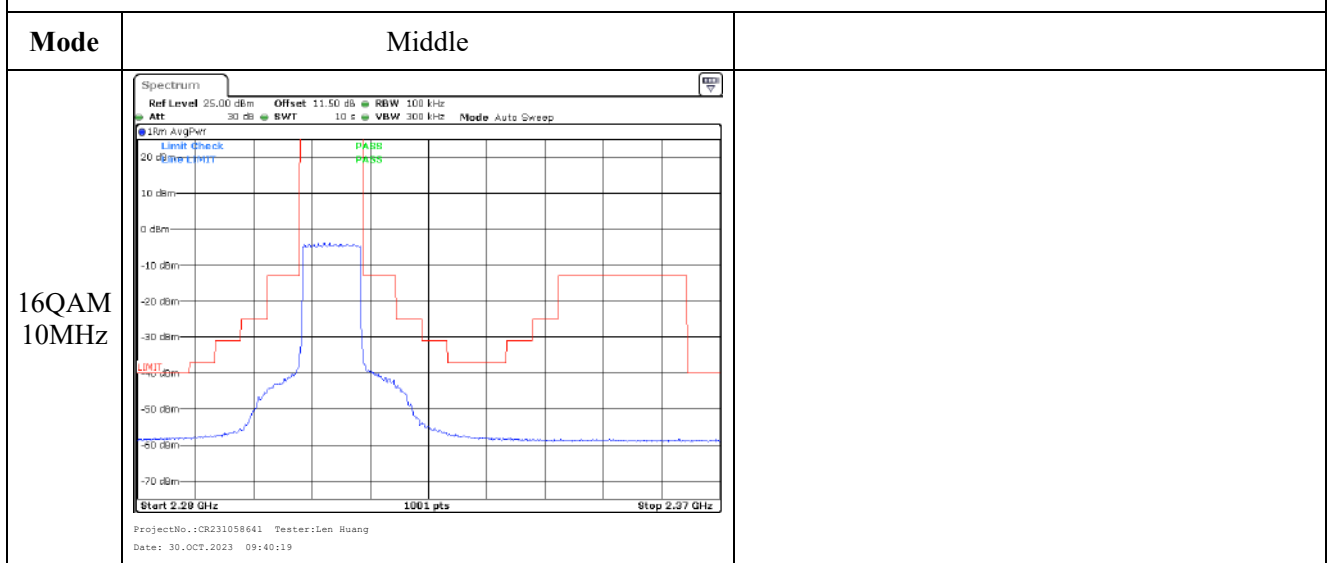




Out of band emission, Band Edge

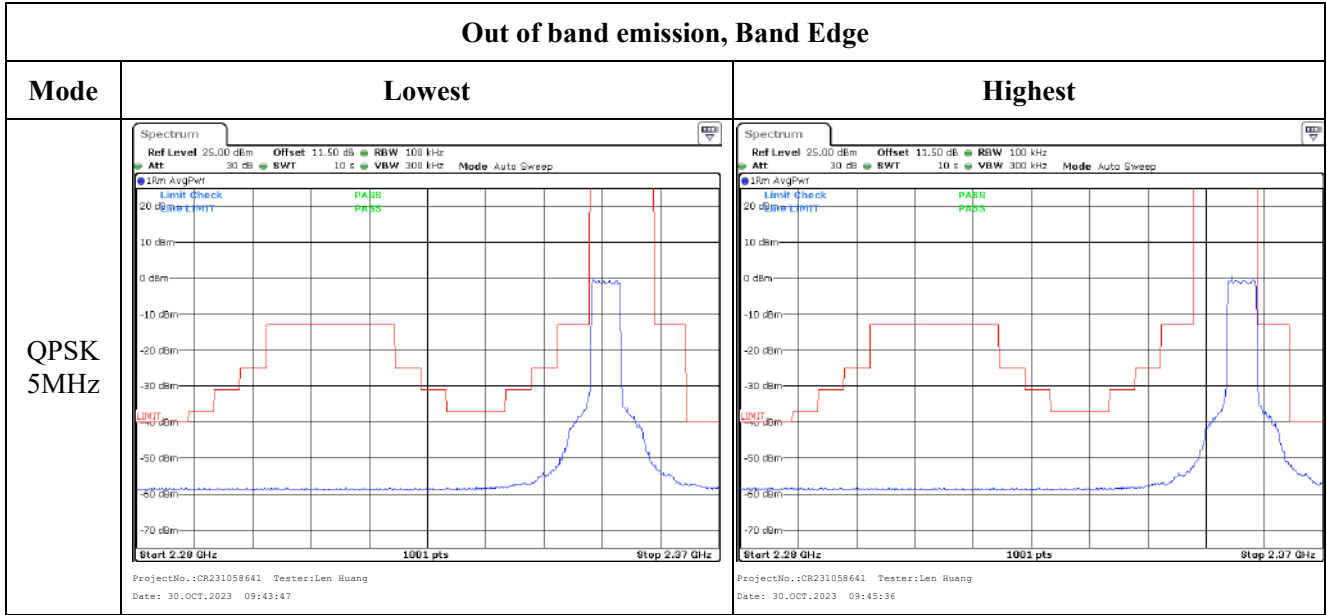


Out of band emission, Band Edge

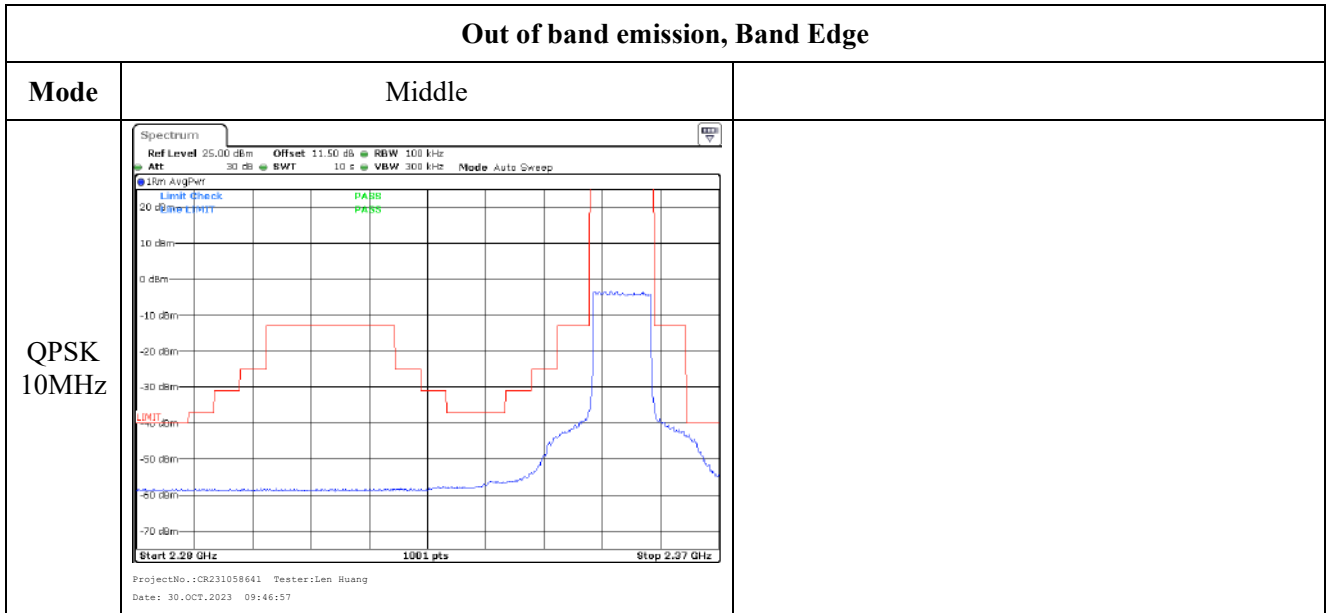


2350-2360 MHz:

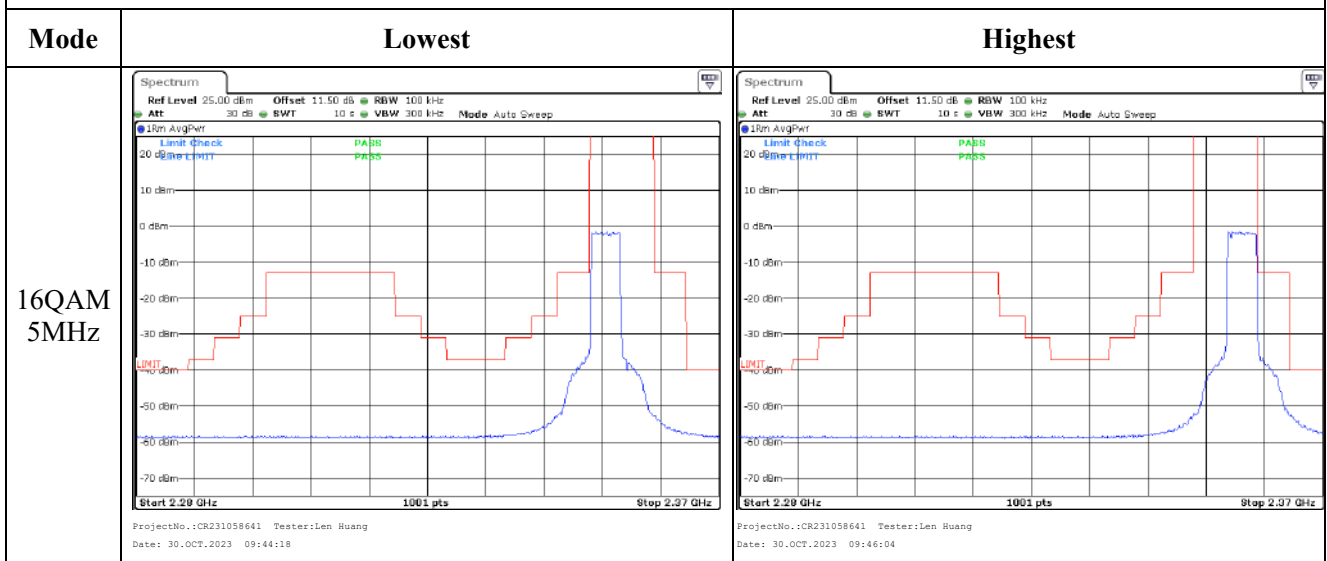
**Out of band emission, Band Edge**



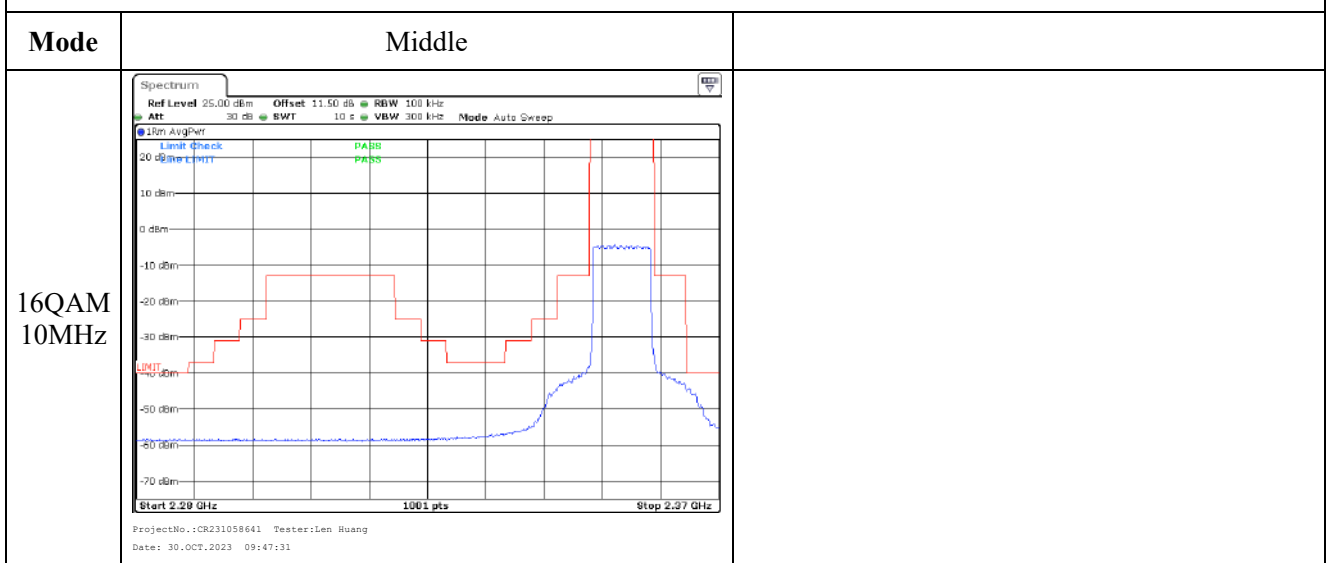
**Out of band emission, Band Edge**



Out of band emission, Band Edge

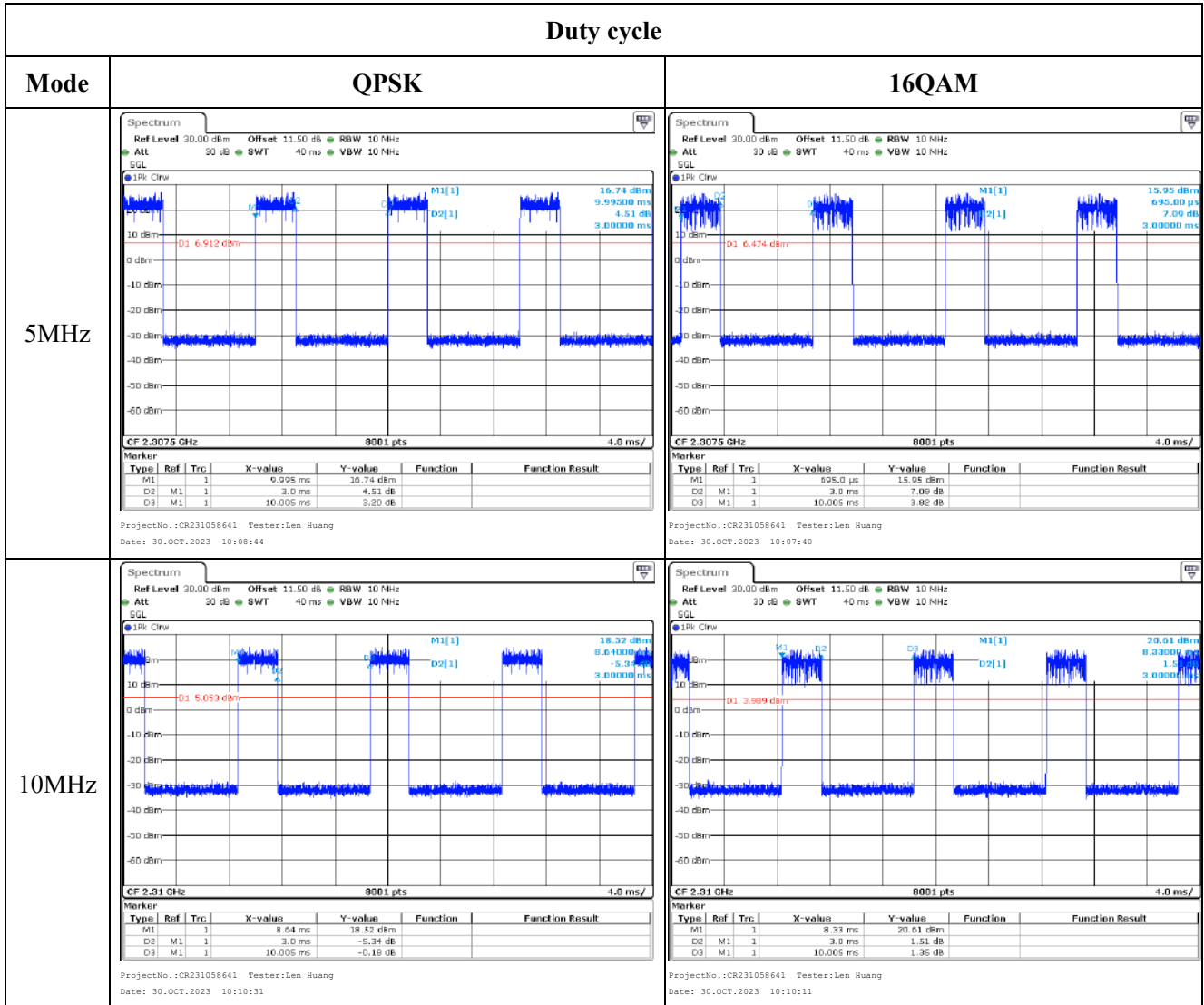


Out of band emission, Band Edge

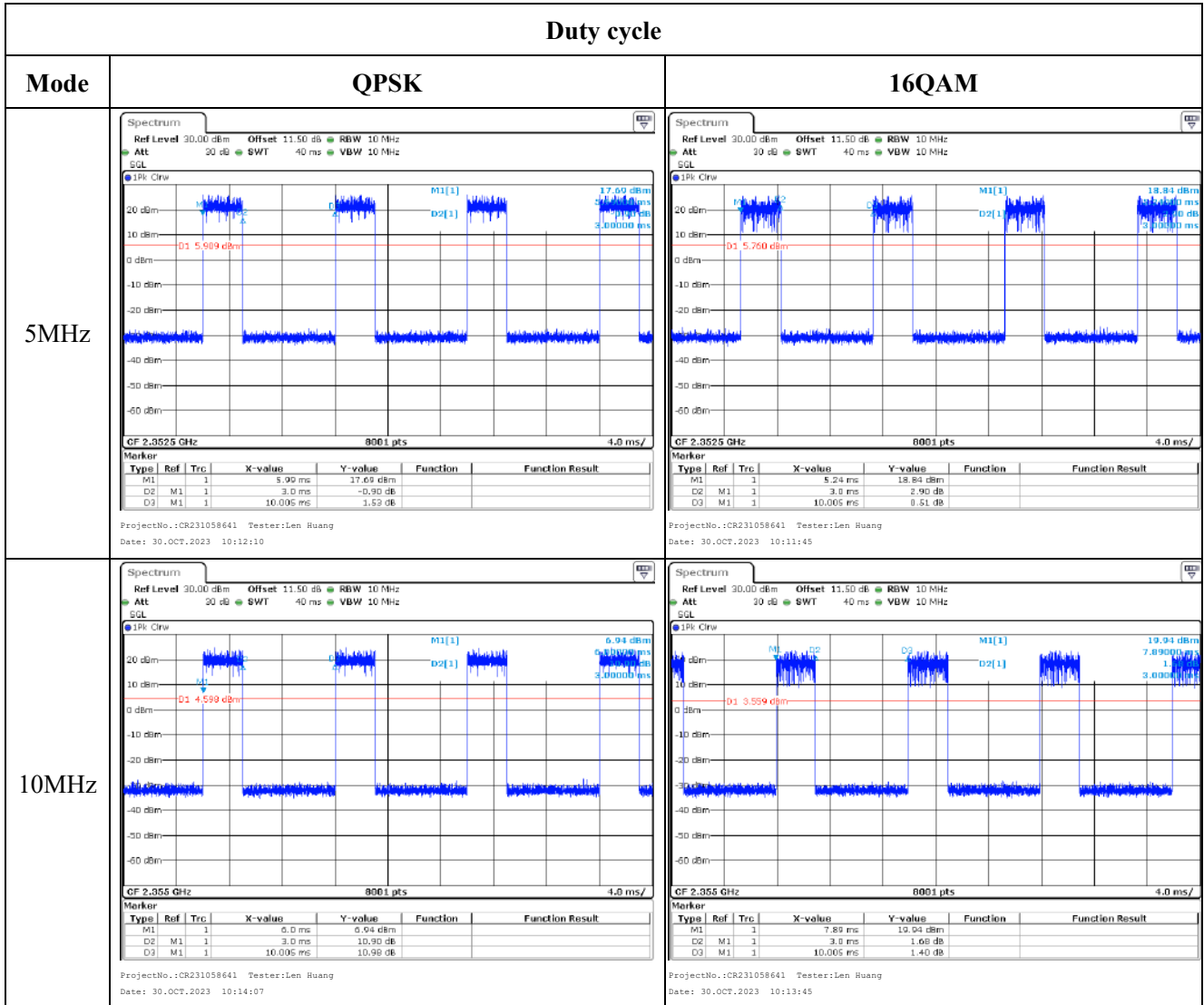


2305-2315 MHz:

Duty cycle



2350-2360 MHz:



**4.15 Antenna Port Test Data and Results for LTE Band 41**

Serial Number:	2C02-2	Test Date:	2023/10/29-2023/11/3
Test Site:	RF	Test Mode:	Transmitting
Tester:	Len Huang, Ken Tang	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	24.5-26.6	Relative Humidity: (%)	45-62	ATM Pressure: (kPa)	101-101.1
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Minl-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2023/9/28	2024/9/27
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Frequency for Each Mode:**

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2537.5	2595	2652.5
10MHz	2540	2595	2650
15MHz	2542.5	2595	2647.5
20MHz	2545	2595	2645

**Test Data:**

FCC§2.1046;§ 27.50(h)(2)						
RF Output Power:						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	17.1	17.13	16.98	16.87	33
	RB1#13	17.16	17.27	17.16		
	RB1#24	17	17.17	17.06		
	RB15#0	16.16	16.2	16.12		
	RB15#10	16.14	16.23	16.13		
	RB25#0	16.14	16.27	16.12		
5MHz 16QAM	RB1#0	16.25	16.44	16.02	16.2	33
	RB1#13	16.32	16.6	16.21		
	RB1#24	16.16	16.48	16.1		
	RB15#0	15.21	15.3	15.11		
	RB15#10	15.2	15.31	15.09		
	RB25#0	15.23	15.25	15.17		
10MHz QPSK	RB1#0	17.3	17.3	17	17.16	33
	RB1#25	17.47	17.56	17.36		
	RB1#49	17.07	17.3	17.22		
	RB25#0	16.22	16.28	16.04		
	RB25#25	16.18	16.35	16.14		
	RB50#0	16.18	16.31	16.11		
10MHz 16QAM	RB1#0	16.48	16.57	16.04	16.45	33
	RB1#25	16.63	16.85	16.34		
	RB1#49	16.37	16.64	16.18		
	RB25#0	15.28	15.27	15.08		
	RB25#25	15.2	15.39	15.19		
	RB50#0	15.26	15.31	15.1		
15MHz QPSK	RB1#0	17.25	17.11	16.89	16.92	33
	RB1#38	17.1	17.32	17.08		
	RB1#74	16.89	17.23	17.12		
	RB36#0	16.16	16.24	15.93		
	RB36#39	16	16.32	16.06		
	RB75#0	16.06	16.32	16.02		
15MHz 16QAM	RB1#0	16.46	16.42	15.89	16.24	33
	RB1#38	16.42	16.64	16.08		
	RB1#74	16.16	16.55	16.1		
	RB36#0	15.21	15.21	14.89		
	RB36#39	15.07	15.31	15.02		
	RB75#0	15.07	15.28	15.01		
20MHz QPSK	RB1#0	16.98	17	16.7	17.23	33

	RB1#50	17.24	17.63	17.2		
	RB1#99	16.64	17.2	16.92		
	RB50#0	16.15	16.26	15.95		
	RB50#50	16	16.35	16.12		
	RB100#0	16.08	16.27	16.03		
20MHz 16QAM	RB1#0	16.07	16.25	15.9	16.51	33
	RB1#50	16.31	16.91	16.35		
	RB1#99	15.8	16.5	16.11		
	RB50#0	15.21	15.27	14.94		
	RB50#50	15.1	15.37	15.14		
	RB100#0	15.1	15.34	15.03		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(dBi)

**Result:**

**Pass**

### Peak-to-average Ratio(PAR)

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	9.80	10.00	9.39	13
	RB100#0	9.48	9.48	9.36	13
20MHz 16QAM	RB1#0	10.55	10.43	10.09	13
	RB100#0	10.23	10.20	10.14	13
<b>Result:</b>					<b>Pass</b>

### FCC §2.1049, §27.53:Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.511	4.511	4.511	4.980	4.900	5.100
5MHz 16QAM	4.491	4.511	4.511	4.920	5.140	4.980
10MHz QPSK	8.942	8.942	8.942	9.680	9.800	9.560
10MHz 16QAM	8.942	8.942	8.942	9.600	9.480	9.520
15MHz QPSK	13.413	13.533	13.533	14.640	14.580	14.700
15MHz 16QAM	13.533	13.533	13.533	14.940	14.760	14.760
20MHz QPSK	17.964	17.884	17.964	19.760	19.200	19.040
20MHz 16QAM	17.884	17.964	17.964	19.200	19.360	19.440

Note: The test plots please refer to the Plots of Occupied Bandwidth

### FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal

**Result:**

Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.

### FCC §2.1051, § 27.53:Out of band emission, Band Edge

**Result:**

Pass, Please refer to the test plots of Out of band emission, Band Edge.



<b>FCC §2.1055, §27.54: Frequency Stability</b>						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2535.231	2535.00	2654.912	2655
	-20	3.85	2535.285	2535.00	2654.934	2655
	-10	3.85	2535.231	2535.00	2654.962	2655
	0	3.85	2535.197	2535.00	2654.949	2655
	10	3.85	2535.115	2535.00	2654.926	2655
	20	3.85	2535.247	2535.00	2654.933	2655
	30	3.85	2535.121	2535.00	2654.916	2655
	40	3.85	2535.273	2535.00	2654.919	2655
	50	3.85	2535.125	2535.00	2654.992	2655
Frequency Stability vs. Voltage	20	3.35	2535.116	2535.00	2654.957	2655
	20	4.4	2535.190	2535.00	2654.944	2655
					<b>Result:</b>	<b>Pass</b>

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2535.235	2535.00	2654.918	2655
	-20	3.85	2535.256	2535.00	2654.925	2655
	-10	3.85	2535.237	2535.00	2654.906	2655
	0	3.85	2535.198	2535.00	2654.959	2655
	10	3.85	2535.114	2535.00	2654.961	2655
	20	3.85	2535.147	2535.00	2654.960	2655
	30	3.85	2535.223	2535.00	2654.952	2655
	40	3.85	2535.165	2535.00	2654.927	2655
	50	3.85	2535.109	2535.00	2654.945	2655
Frequency Stability vs. Voltage	20	3.35	2535.134	2535.00	2654.960	2655
	20	4.4	2535.185	2535.00	2654.963	2655
					<b>Result:</b>	<b>Pass</b>

**Test Plots** (Note: The 11.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):

<b>Occupied Bandwidth</b>		
<b>Channel</b>	<b>5MHz Bandwidth QPSK</b>	<b>5MHz Bandwidth 16QAM</b>
<b>Lowest</b>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:19:25</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:19:43</p>
<b>Middle</b>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:20:05</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:20:29</p>
<b>Highest</b>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:20:54</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:21:15</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:22:11</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:22:38</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:23:09</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:23:36</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:24:07</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:24:31</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:25:32</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:25:58</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:26:31</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:27:01</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:27:31</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:27:57</p>

Occupied Bandwidth

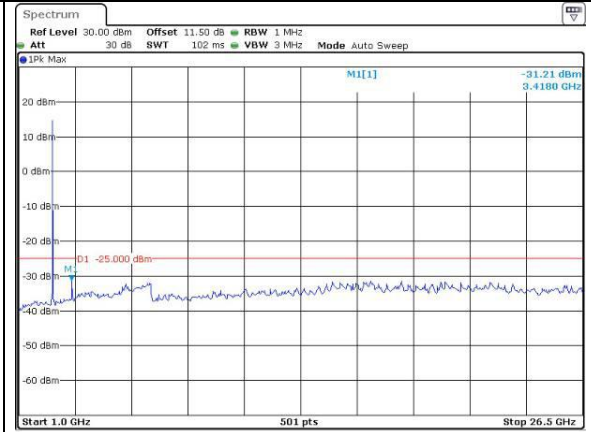
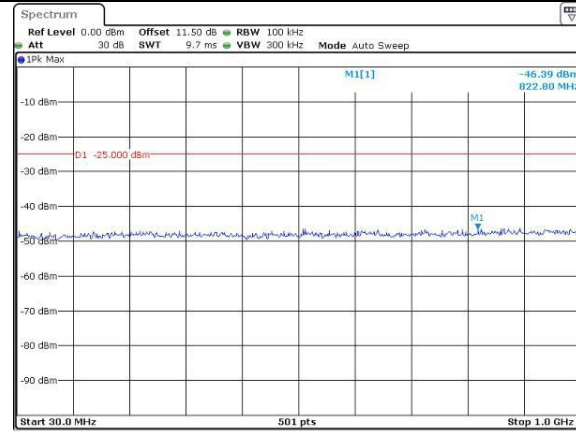
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:29:58</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:29:36</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:30:16</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:30:48</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:31:21</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:31:51</p>

Spurious Emissions at Antenna Terminal

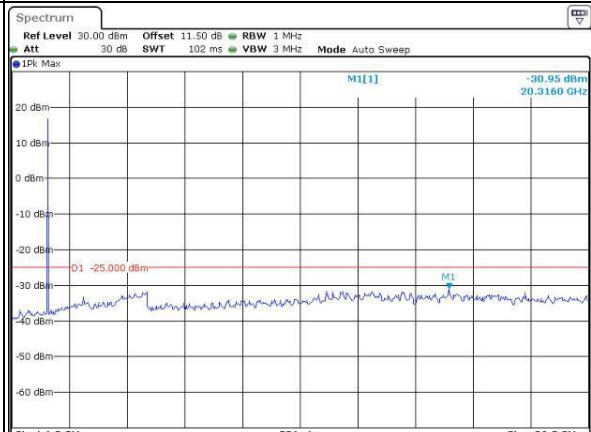
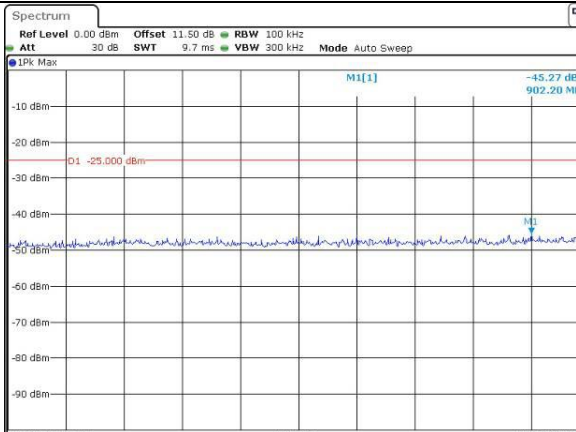
Channel

5MHz Bandwidth QPSK

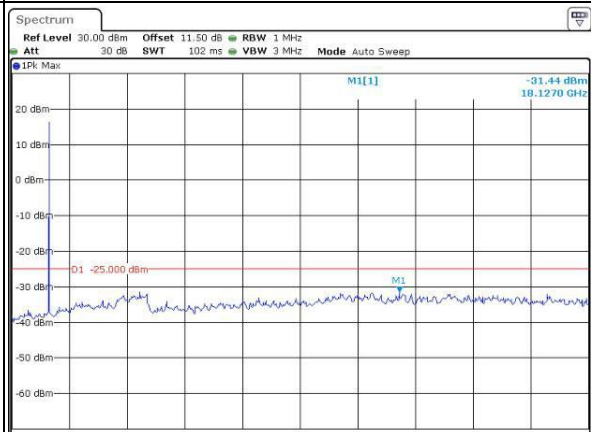
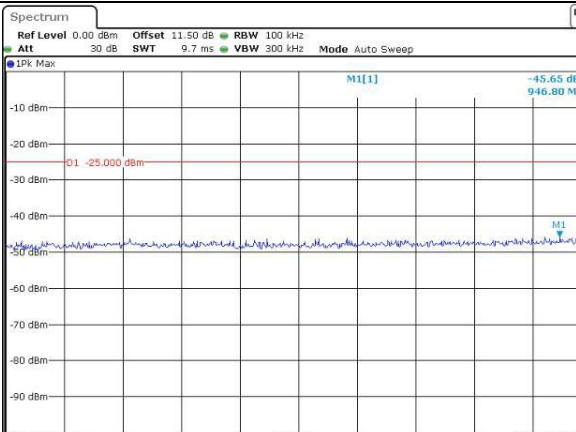
Lowest



Middle



Highest



Spurious Emissions at Antenna Terminal

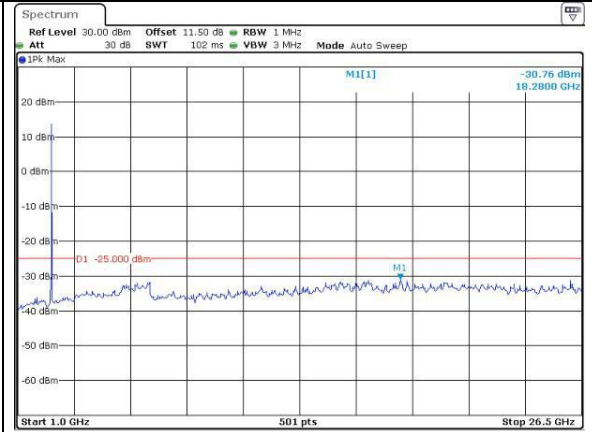
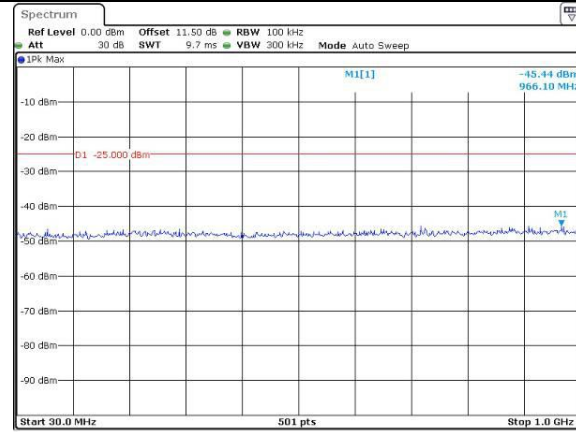
Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref Level 0.00 dBm Offset 11.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>M1[1] -45.91 dBm 979.70 MHz</p> <p>D1 -25.000 dBm</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:39:47</p>	<p>Ref Level 30.00 dBm Offset 11.50 dB RBW 1 MHz Att 30 dB SWT 102 ms VBW 3 MHz Mode Auto Sweep</p> <p>M1[1] -31.07 dBm 16.9060 GHz</p> <p>D1 -25.000 dBm</p> <p>Start 1.0 GHz 501 pts Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:40:07</p>
Middle	<p>Ref Level 0.00 dBm Offset 11.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>M1[1] -44.79 dBm 917.70 MHz</p> <p>D1 -25.000 dBm</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:40:52</p>	<p>Ref Level 30.00 dBm Offset 11.50 dB RBW 1 MHz Att 30 dB SWT 102 ms VBW 3 MHz Mode Auto Sweep</p> <p>M1[1] -31.01 dBm 19.9600 GHz</p> <p>D1 -25.000 dBm</p> <p>Start 1.0 GHz 501 pts Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:41:15</p>
Highest	<p>Ref Level 0.00 dBm Offset 11.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>M1[1] -45.95 dBm 869.30 MHz</p> <p>D1 -25.000 dBm</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:41:42</p>	<p>Ref Level 30.00 dBm Offset 11.50 dB RBW 1 MHz Att 30 dB SWT 102 ms VBW 3 MHz Mode Auto Sweep</p> <p>M1[1] -31.34 dBm 20.0610 GHz</p> <p>D1 -25.000 dBm</p> <p>Start 1.0 GHz 501 pts Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:42:05</p>

Spurious Emissions at Antenna Terminal

Channel

15MHz Bandwidth QPSK

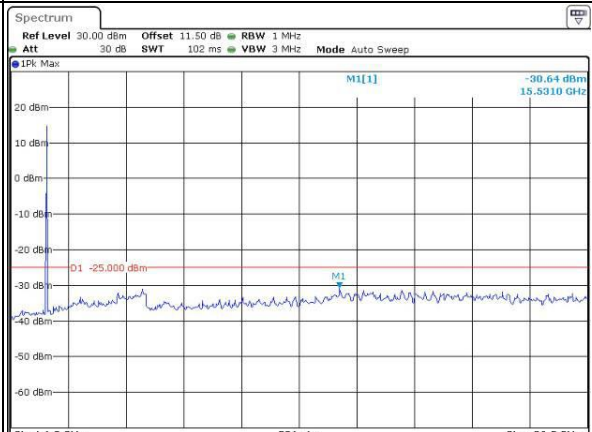
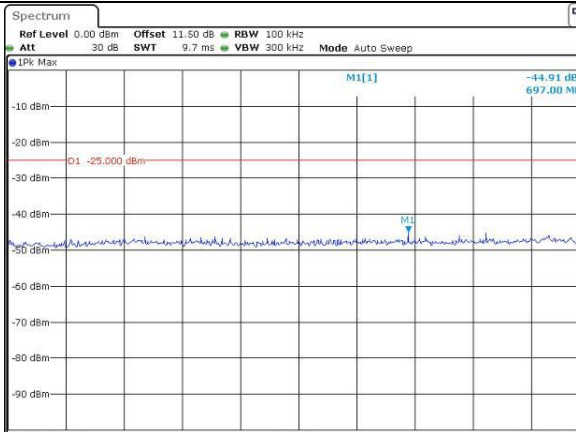
Lowest



ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 11:43:03

ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 11:43:29

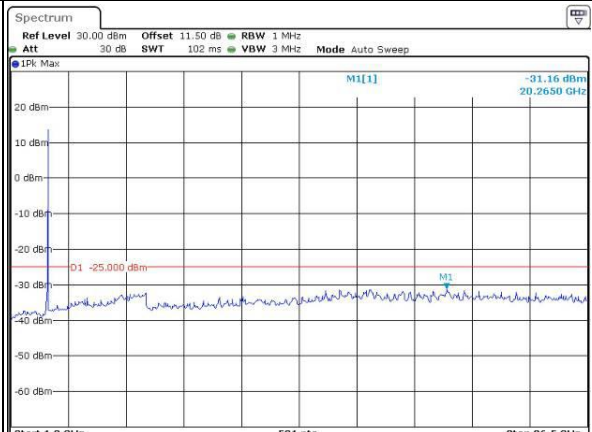
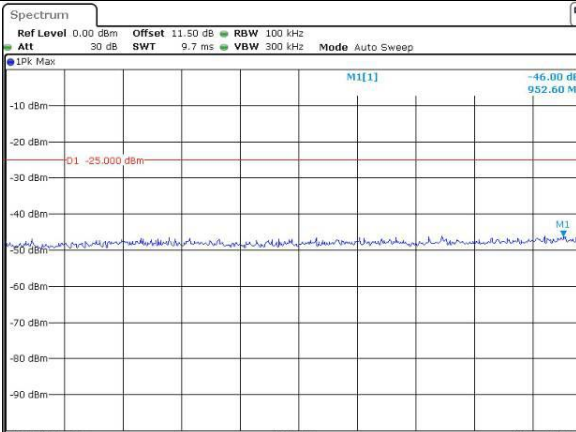
Middle



ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 11:44:03

ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 11:44:32

Highest



ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 11:45:00

ProjectNo.:CR231058641 Tester:Len Huang  
Date: 30.OCT.2023 11:45:23



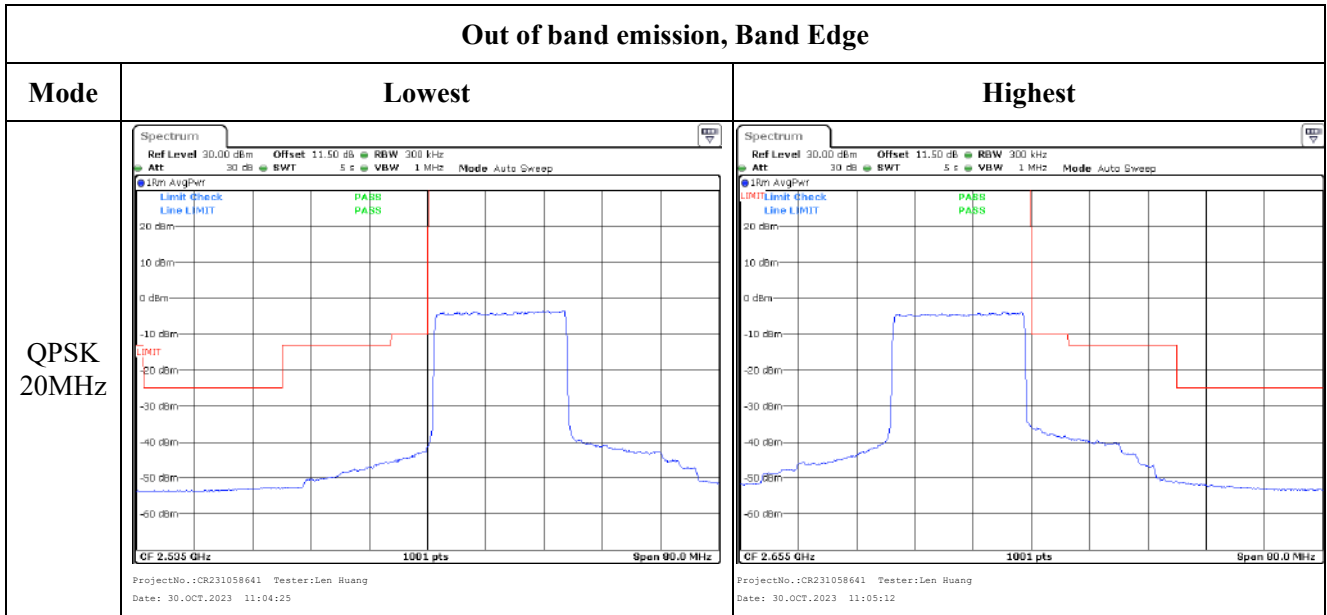
Spurious Emissions at Antenna Terminal

Channel	20MHz Bandwidth QPSK	
Lowest	<p>Ref Level 0.00 dBm Offset 11.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>1Pk Max MI[1] -45.49 dBm 807.40 MHz</p> <p>D1 -25.000 dBm</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:46:29</p>	<p>Ref Level 30.00 dBm Offset 11.50 dB RBW 1 MHz Att 30 dB SWT 102 ms VBW 3 MHz Mode Auto Sweep</p> <p>1Pk Max MI[1] -31.04 dBm 23.0130 GHz</p> <p>D1 -25.000 dBm</p> <p>Start 1.0 GHz 501 pts Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:46:55</p>
Middle	<p>Ref Level 0.00 dBm Offset 11.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>1Pk Max MI[1] -45.41 dBm 844.10 MHz</p> <p>D1 -25.000 dBm</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:47:29</p>	<p>Ref Level 30.00 dBm Offset 11.50 dB RBW 1 MHz Att 30 dB SWT 102 ms VBW 3 MHz Mode Auto Sweep</p> <p>1Pk Max MI[1] -29.58 dBm 22.1990 GHz</p> <p>D1 -25.000 dBm</p> <p>Start 1.0 GHz 501 pts Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:47:52</p>
Highest	<p>Ref Level 0.00 dBm Offset 11.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>1Pk Max MI[1] -45.28 dBm 848.00 MHz</p> <p>D1 -25.000 dBm</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:48:27</p>	<p>Ref Level 30.00 dBm Offset 11.50 dB RBW 1 MHz Att 30 dB SWT 102 ms VBW 3 MHz Mode Auto Sweep</p> <p>1Pk Max MI[1] -30.84 dBm 18.2800 GHz</p> <p>D1 -25.000 dBm</p> <p>Start 1.0 GHz 501 pts Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 11:48:56</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 10:53:34</p>	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 10:55:00</p>
QPSK 10MHz	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 10:57:35</p>	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 10:58:22</p>
QPSK 15MHz	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 11:01:10</p>	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 11:01:56</p>

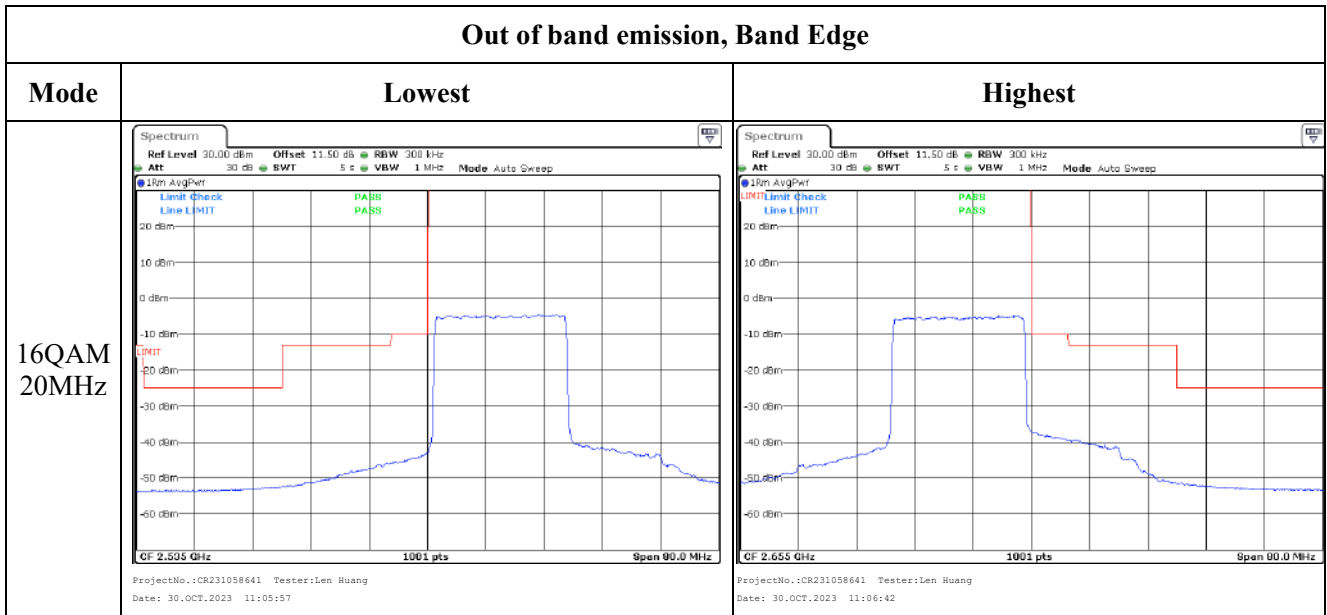
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 5MHz	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 10:55:48</p>	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 10:56:34</p>
16QAM 10MHz	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 10:59:10</p>	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 10:59:54</p>
16QAM 15MHz	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 11:02:43</p>	<p>ProjectNo.:CR231058641 Tester:Len Ruang Date: 30.OCT.2023 11:03:27</p>

Out of band emission, Band Edge



**4.16 Antenna Port Test Data and Results for LTE Band 66**

Serial Number:	2C02-2	Test Date:	2023/10/29-2023/11/3
Test Site:	RF	Test Mode:	Transmitting
Tester:	Len Huang, Ken Tang	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	24.5-26.6	Relative Humidity: (%)	45-62	ATM Pressure: (kPa)	101-101.1
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Minl-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2023/9/28	2024/9/27
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30

\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Frequency for Each Mode:**

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	1710.7	1745	1779.3
3MHz	1711.5	1745	1778.5
5MHz	1712.5	1745	1777.5
10MHz	1715	1745	1775
15MHz	1717.5	1745	1772.5
20MHz	1720	1745	1770

<b>Test Data:</b>						
<b>FCC§2.1046;§ 27.50(d)(4)</b>						
<b>RF Output Power:</b>						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	17.4	17.71	17.46	16.71	30
	RB1#3	17.62	17.91	17.64		
	RB1#5	17.4	17.71	17.47		
	RB3#0	17.52	17.73	17.55		
	RB3#3	17.6	17.82	17.54		
	RB6#0	16.53	16.85	16.52		
1.4MHz 16QAM	RB1#0	16.47	16.74	16.56	15.78	30
	RB1#3	16.64	16.92	16.77		
	RB1#5	16.50	16.75	16.57		
	RB3#0	16.59	16.98	16.44		
	RB3#3	16.63	16.95	16.55		
	RB6#0	15.47	15.81	15.54		
3MHz QPSK	RB1#0	17.52	17.74	17.54	16.54	30
	RB1#8	17.51	17.73	17.51		
	RB1#14	17.52	17.67	17.53		
	RB6#0	16.48	16.72	16.48		
	RB6#9	16.49	16.75	16.48		
	RB15#0	16.48	16.74	16.50		
3MHz 16QAM	RB1#0	16.53	17	16.63	16.12	30
	RB1#8	16.54	17.30	16.61		
	RB1#14	16.5	17.29	16.64		
	RB6#0	15.43	15.79	15.47		
	RB6#9	15.44	15.79	15.51		
	RB15#0	15.54	15.78	15.4		
5MHz QPSK	RB1#0	17.44	17.64	17.46	16.59	30
	RB1#13	17.60	17.79	17.56		
	RB1#24	17	17.65	17.45		
	RB15#0	16.51	16.80	16.6		
	RB15#10	16.54	16.8	16.52		
	RB25#0	16.50	16.75	16.52		
5MHz 16QAM	RB1#0	16.73	16.74	16.35	15.70	30
	RB1#13	16.90	16.88	16.46		
	RB1#24	16.8	16.74	16.31		
	RB15#0	15.5	15.79	15.57		
	RB15#10	15.49	15.78	15.5		
	RB25#0	15.5	15.82	15.51		
10MHz QPSK	RB1#0	17.49	17.75	17.55	16.68	30

	RB1#25	17.72	17.88	17.64		
	RB1#49	17.6	17.74	17.48		
	RB25#0	16.45	16.74	16.53		
	RB25#25	16.53	16.75	16.51		
	RB50#0	16.50	16.77	16.54		
10MHz 16QAM	RB1#0	16.47	16.85	16.50	15.84	30
	RB1#25	16.71	17.0	16.65		
	RB1#49	16.57	16.82	16.50		
	RB25#0	15.53	15.76	15.6		
	RB25#25	15.57	15.78	15.6		
15MHz QPSK	RB50#0	15.49	15.8	15.51		
	RB1#0	17.43	17.71	17.52	16.57	30
	RB1#38	17.61	17.77	17.57		
	RB1#74	17.58	17.67	17.45		
	RB36#0	16.52	16.77	16.60		
RB36#39	16.65	16.82	16.51			
15MHz 16QAM	RB75#0	16.6	16.77	16.56		
	RB1#0	16.87	16.81	16.93	15.84	30
	RB1#38	17.04	16.93	16.96		
	RB1#74	17.00	16.77	16.82		
	RB36#0	15.48	15.77	15.6		
RB36#39	15.62	15.80	15.49			
20MHz QPSK	RB75#0	15.55	15.80	15.50		
	RB1#0	17.27	17.49	17.41	16.71	30
	RB1#50	17.73	17.91	17.73		
	RB1#99	17.5	17.48	17.31		
	RB50#0	16.53	16.77	16.62		
RB50#50	16.65	16.76	16.50			
20MHz 16QAM	RB100#0	16.58	16.79	16.57		
	RB1#0	16.48	17.04	16.68	16.28	30
	RB1#50	17.0	17.48	17.02		
	RB1#99	16.8	17.02	16.60		
	RB50#0	15.49	15.75	15.59		
RB50#50	15.63	15.79	15.5			
	RB100#0	15.58	15.78	15.57		
Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(dBi)						
					<b>Result:</b>	<b>Pass</b>



<b>Peak-to-average Ratio(PAR)</b>					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	5.65	5.33	5.57	13
	RB100#0	5.28	5.19	5.22	13
20MHz 16QAM	RB1#0	6.29	5.74	8.49	13
	RB100#0	6.09	6.00	8.46	13
<b>Result:</b>					<b>Pass</b>

<b>FCC §2.1049, §27.53:Occupied Bandwidth</b>						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.098	1.104	1.098	1.296	1.320	1.314
1.4MHz 16QAM	1.092	1.104	1.092	1.308	1.320	1.284
3MHz QPSK	2.688	2.688	2.688	2.892	2.868	2.880
3MHz 16QAM	2.688	2.676	2.688	2.892	2.904	2.880
5MHz QPSK	4.520	4.540	4.540	5.180	5.180	5.200
5MHz 16QAM	4.540	4.540	4.540	5.220	5.200	5.220
10MHz QPSK	8.960	8.942	9.000	9.800	9.855	9.960
10MHz 16QAM	8.960	8.960	8.960	9.920	9.960	9.720
15MHz QPSK	13.560	13.533	13.560	15.120	15.324	15.240
15MHz 16QAM	13.560	13.533	13.560	15.060	15.085	15.180
20MHz QPSK	18.000	17.964	18.000	19.600	19.516	19.600
20MHz 16QAM	18.000	17.964	18.080	19.840	19.596	19.760

Note: The test plots please refer to the Plots of Occupied Bandwidth

<b>FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal</b>	
<b>Result:</b>	<b>Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.</b>

<b>FCC §2.1051, § 27.53:Out of band emission, Band Edge</b>	
<b>Result:</b>	<b>Pass, Please refer to the test plots of Out of band emission, Band Edge.</b>

FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	0	1710.014	1710.00	1779.995	1780
	-20	0	1710.012	1710.00	1779.994	1780
	-10	0	1710.018	1710.00	1779.991	1780
	0	0	1710.024	1710.00	1779.999	1780
	10	0	1710.017	1710.00	1779.992	1780
	20	0	1710.010	1710.00	1779.986	1780
	30	0	1710.003	1710.00	1779.973	1780
	40	0	1710.019	1710.00	1779.011	1780
	50	0	1710.014	1710.00	1779.969	1780
Frequency Stability vs. Voltage	20	0	1710.007	1710.00	1779.985	1780
	20	0	1710.025	1710.00	1779.980	1780
					<b>Result:</b>	<b>Pass</b>

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	0	1710.013	1710.00	1779.990	1780
	-20	0	1710.999	1710.00	1779.970	1780
	-10	0	1710.011	1710.00	1779.987	1780
	0	0	1710.021	1710.00	1779.996	1780
	10	0	1710.020	1710.00	1779.996	1780
	20	0	1710.999	1710.00	1779.983	1780
	30	0	1710.023	1710.00	1779.988	1780
	40	0	1710.008	1710.00	1779.988	1780
	50	0	1710.021	1710.00	1779.992	1780
Frequency Stability vs. Voltage	20	0	1710.026	1710.00	1779.991	1780
	20	0	1710.111	1710.00	1779.370	1780
					<b>Result:</b>	<b>Pass</b>

**Test Plots** (Note: The 11.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):

<b>Occupied Bandwidth</b>		
<b>Channel</b>	<b>1.4MHz Bandwidth QPSK</b>	<b>1.4MHz Bandwidth 16QAM</b>
<b>Lowest</b>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:35:02</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:35:15</p>
<b>Middle</b>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:35:32</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:35:46</p>
<b>Highest</b>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:36:03</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:36:16</p>

Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:36:57</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:37:13</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:37:30</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:37:44</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:38:01</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:38:17</p>

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:39:02</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:39:18</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:39:35</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:39:49</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:40:06</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:40:23</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:41:07</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:41:24</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Ken Huang Date: 3.NOV.2023 10:08:52</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:42:04</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:42:21</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:42:38</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:43:19</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:43:33</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:11:23</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:12:57</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:44:46</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:45:03</p>

Occupied Bandwidth

Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:45:47</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:46:01</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:15:05</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:18:45</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:46:49</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:47:06</p>

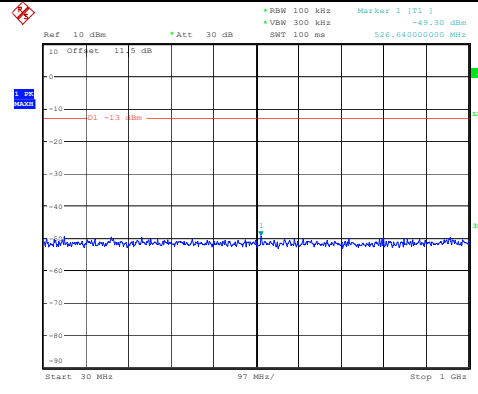


Spurious Emissions at Antenna Terminal

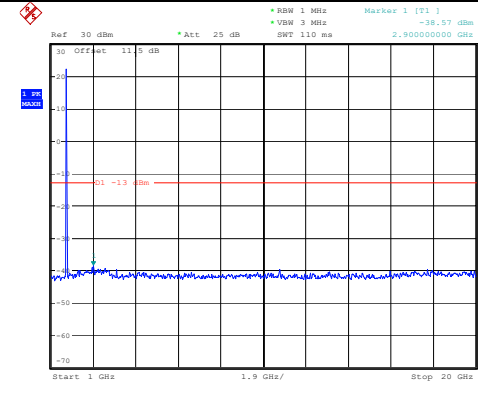
Channel

1.4MHz Bandwidth QPSK

Lowest

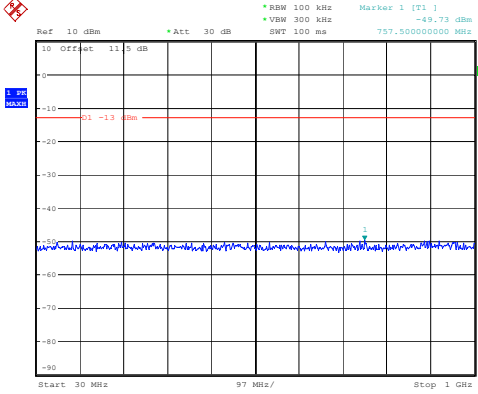


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:49:24

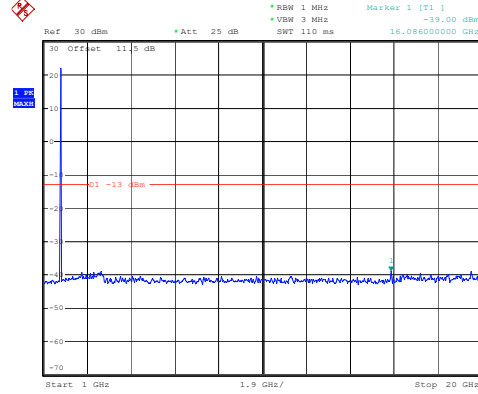


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:49:34

Middle

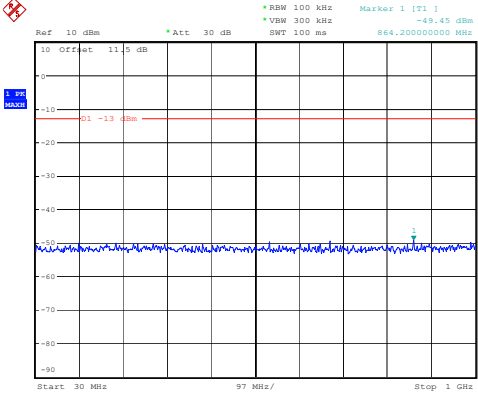


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:49:47

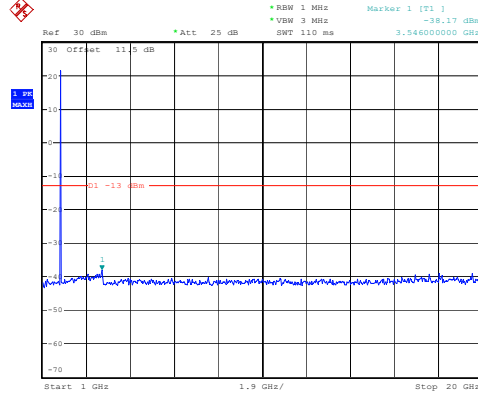


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:49:57

Highest

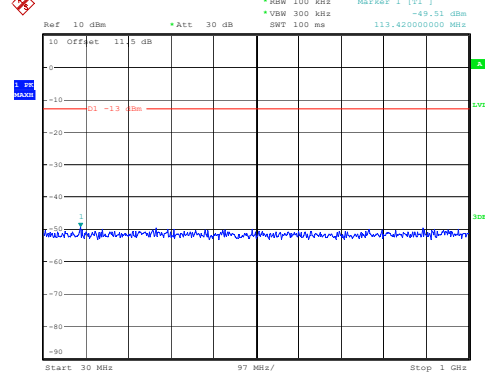
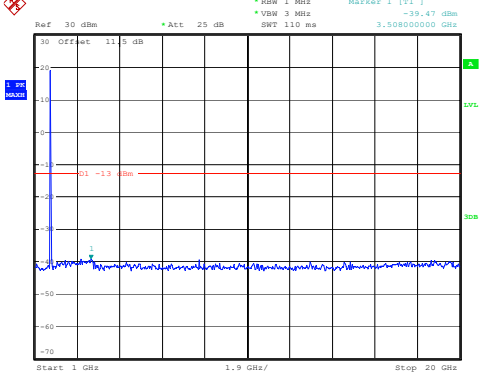
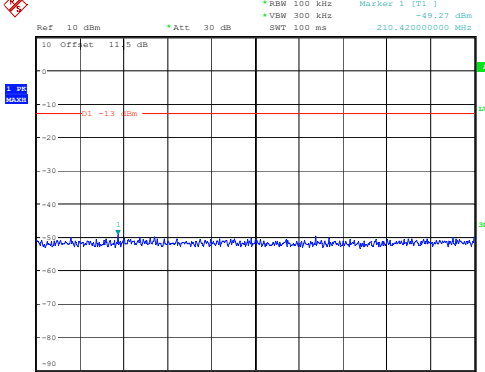
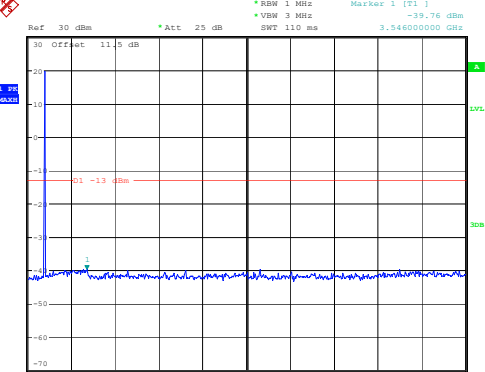
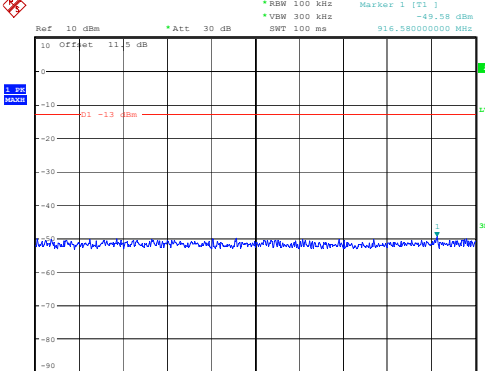
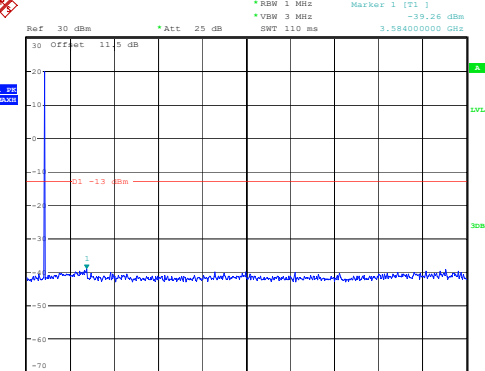


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:50:10

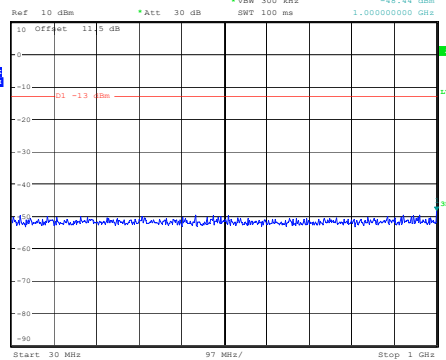
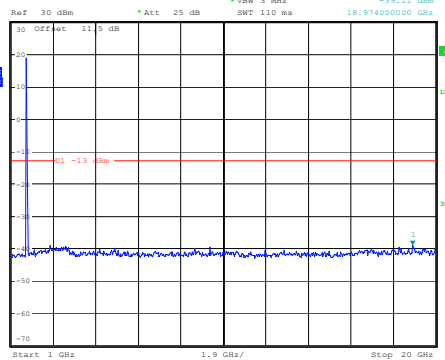
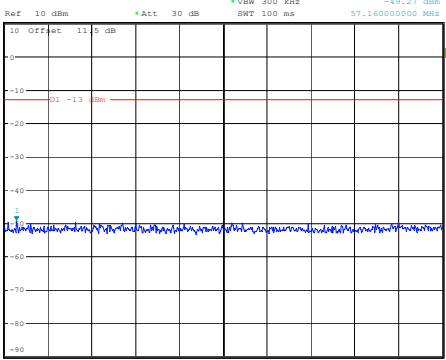
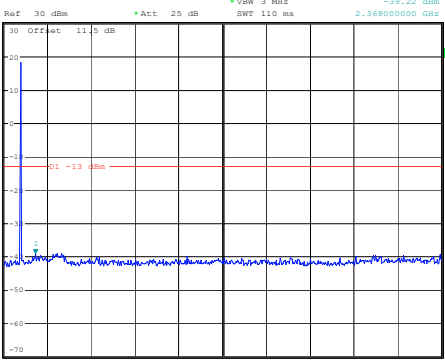
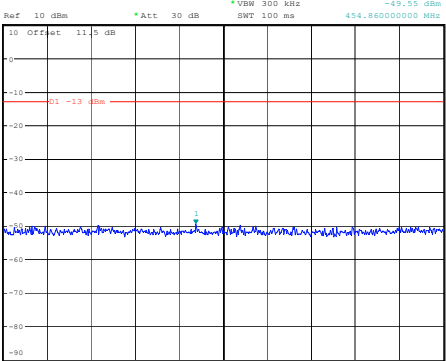
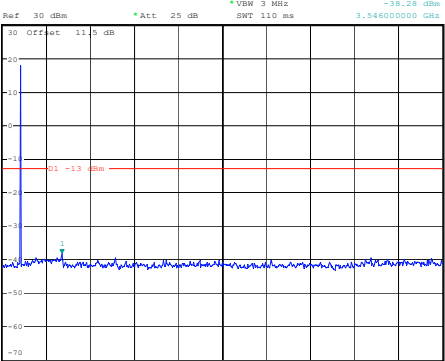


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:50:21

Spurious Emissions at Antenna Terminal

Channel	3MHz Bandwidth QPSK	
Lowest	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] -49.51 dBm *VSW 300 kHz SWT 100 ms 113.42000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:51:00</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] -39.47 dBm *VSW 3 MHz SWT 110 ms 3.50800000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:51:10</p>
Middle	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] -49.27 dBm *VSW 300 kHz SWT 100 ms 216.42000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:51:23</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] -39.76 dBm *VSW 3 MHz SWT 110 ms 3.54600000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:51:34</p>
Highest	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] -49.59 dBm *VSW 300 kHz SWT 100 ms 916.58000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:51:47</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] -39.26 dBm *VSW 3 MHz SWT 110 ms 3.58400000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:51:57</p>

Spurious Emissions at Antenna Terminal

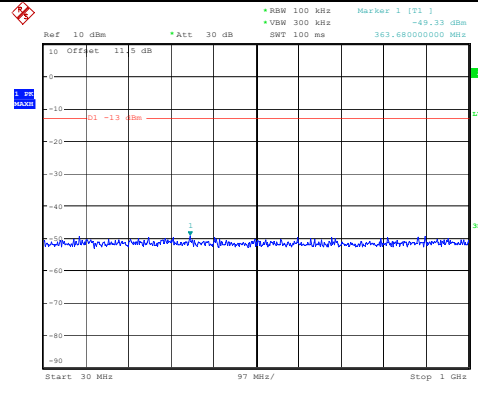
Channel	5MHz Bandwidth QPSK	
Lowest	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *Marker 1 [F1] -49.44 dBm            *SWT 100 ms 1.00000000 GHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang            Date: 2.NOV.2023 22:52:38</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *Marker 1 [F1] -39.11 dBm            *SWT 110 ms 18.97400000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang            Date: 2.NOV.2023 22:52:48</p>
Middle	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *Marker 1 [F1] -49.27 dBm            *SWT 100 ms 57.16000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang            Date: 2.NOV.2023 22:53:01</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *Marker 1 [F1] -39.22 dBm            *SWT 110 ms 2.34800000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang            Date: 2.NOV.2023 22:53:11</p>
Highest	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *Marker 1 [F1] -49.55 dBm            *SWT 100 ms 454.86000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang            Date: 2.NOV.2023 22:53:25</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *Marker 1 [F1] -38.28 dBm            *SWT 110 ms 3.54600000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang            Date: 2.NOV.2023 22:53:35</p>

Spurious Emissions at Antenna Terminal

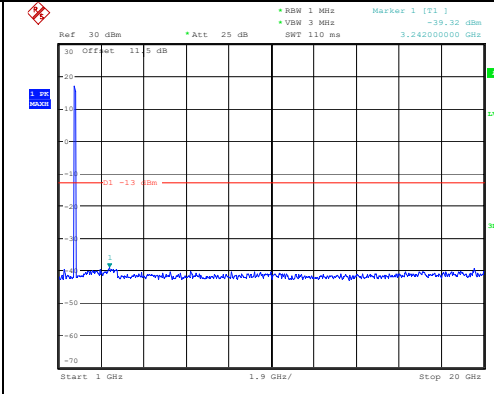
Channel

10MHz Bandwidth QPSK

Lowest

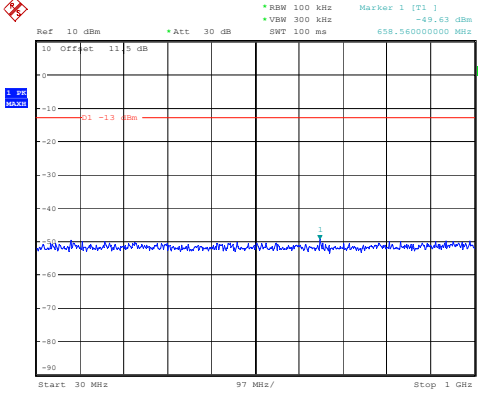


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:54:19

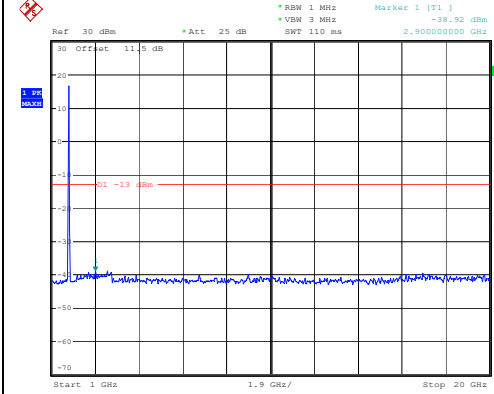


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:54:29

Middle

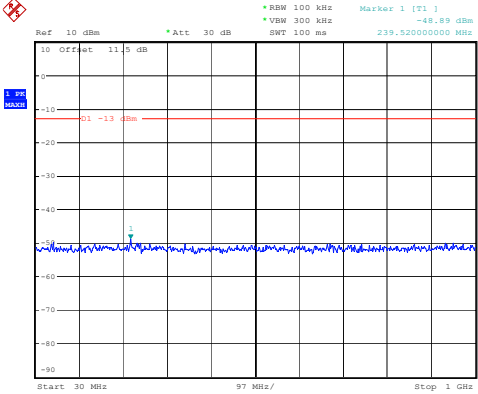


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:54:43

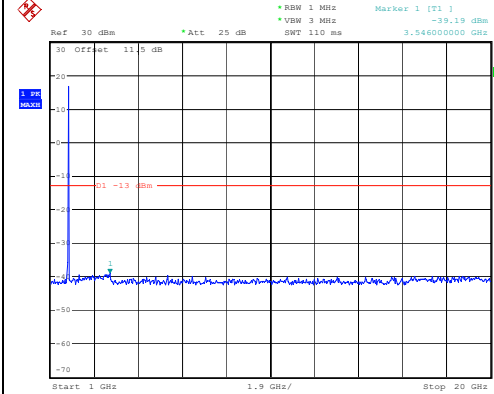


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:54:53

Highest



ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:55:07



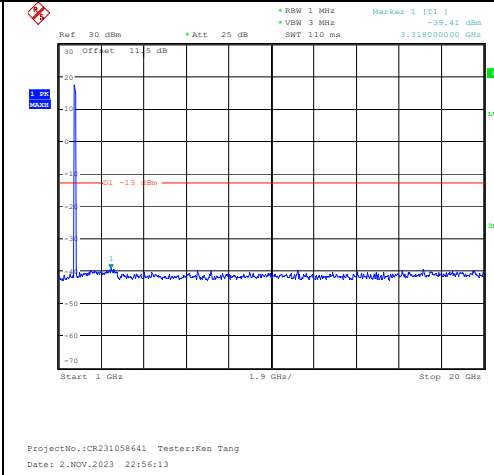
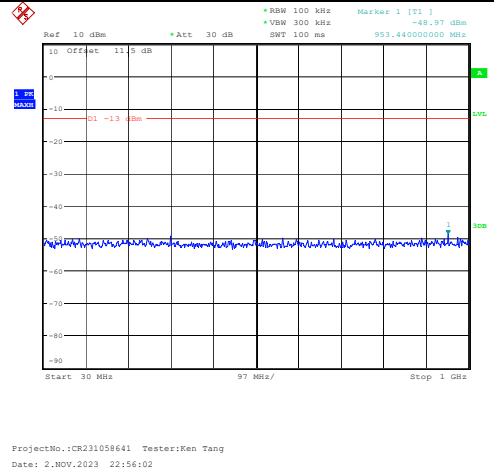
ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:55:20

Spurious Emissions at Antenna Terminal

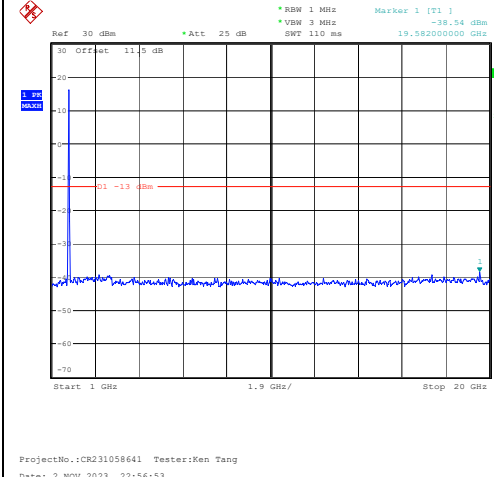
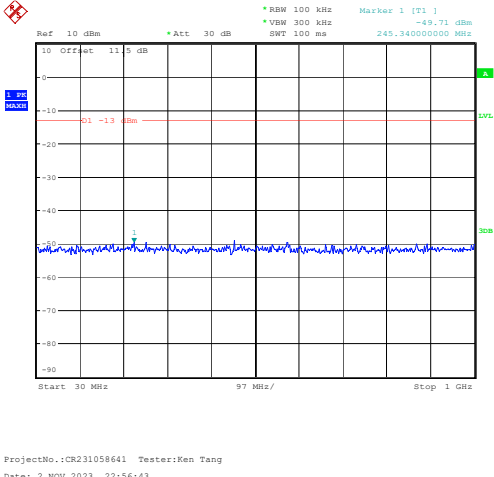
Channel

15MHz Bandwidth QPSK

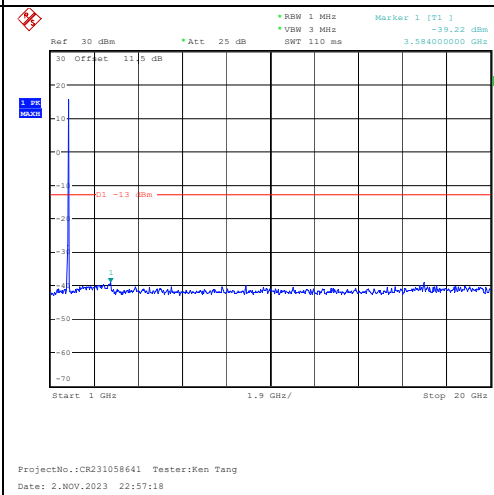
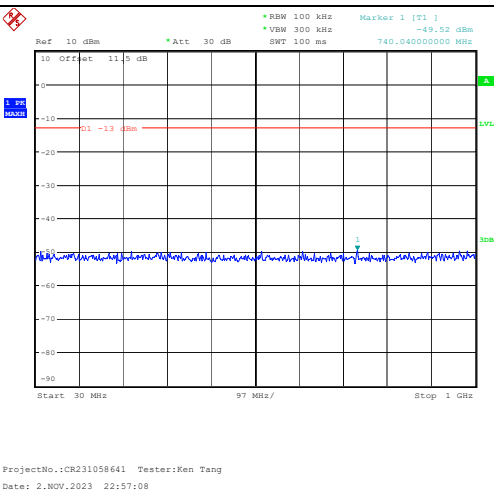
Lowest



Middle



Highest

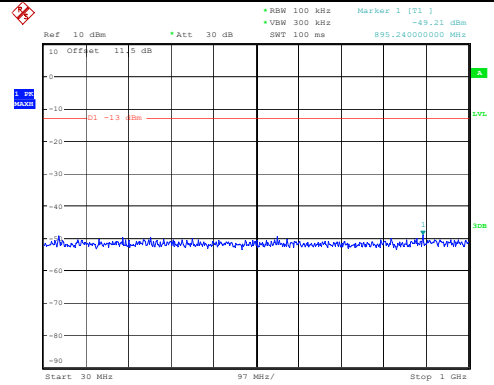


Spurious Emissions at Antenna Terminal

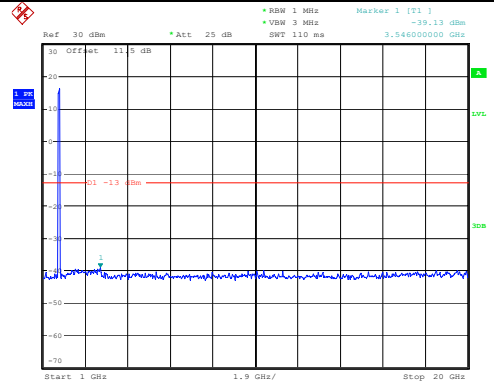
Channel

20MHz Bandwidth QPSK

Lowest

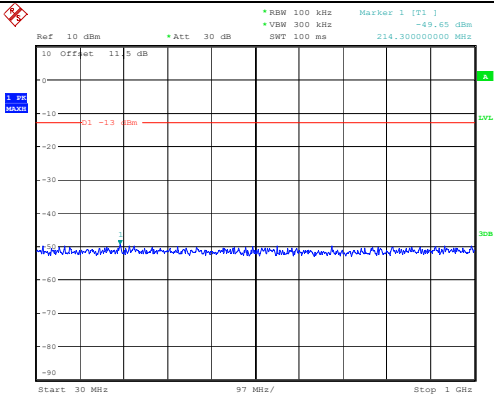


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:58:00

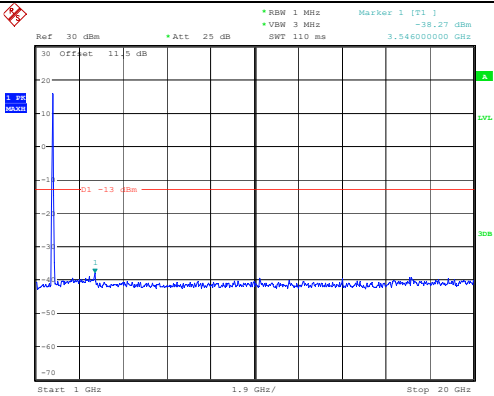


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:58:10

Middle

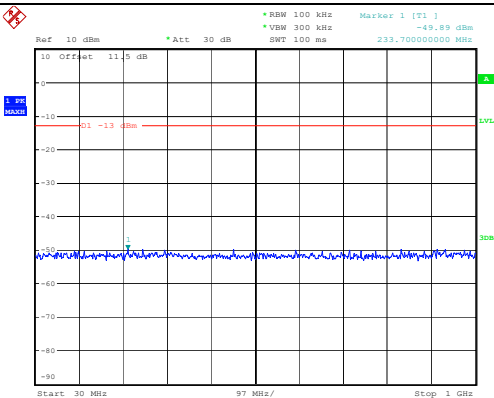


ProjectNo.:CR231058641 Tester:Ken Tang  
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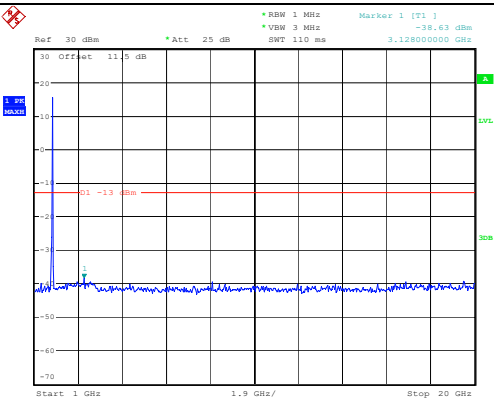


ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:58:42

Highest



ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:58:57



ProjectNo.:CR231058641 Tester:Ken Tang  
Date: 2.NOV.2023 22:59:07

Out of band emission, Band Edge

Mode	Lowest	Highest
<p>QPSK 1.4MHz</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:09:21</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:09:35</p>
<p>QPSK 3MHz</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:10:15</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:10:29</p>
<p>QPSK 5MHz</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:11:09</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:11:24</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
<p>QPSK 10MHz</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:12:06</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:12:22</p>
<p>QPSK 15MHz</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:13:11</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:13:24</p>
<p>QPSK 20MHz</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:14:04</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:14:17</p>



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:09:28</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:09:41</p>
16QAM 3MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:10:22</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:10:35</p>
16QAM 5MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:11:16</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:11:31</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 10MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:12:13</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:12:29</p>
16QAM 15MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:13:16</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:13:30</p>
16QAM 20MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:14:10</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:14:23</p>

**4.17 Radiated Spurious Emissions**

Serial Number:	2C02-1	Test Date:	2023/10/15~2023/11/4
Test Site:	966-2, 966-1	Test Mode:	Transmitting
Tester:	Carl Xue, Mack Huang	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	25.3~26.5	Relative Humidity: (%)	58~62	ATM Pressure: (kPa)	100.8~100.9
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
<b>Below 1GHz</b>					
Sunol Sciences	Antenna	JB6	A082520-6	2023/9/18	2026/9/17
R&S	EMI Test Receiver	ESR3	102724	2023/3/31	2024/3/30
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2023/7/16	2024/7/15
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2023/7/16	2024/7/15
Sonoma	Amplifier	310N	186165	2023/7/16	2024/7/15
EMCO	Adjustable Dipole Antenna	3121C	9109-756	N/A	N/A
MICRO-COAX	Coaxial Cable	UFA210B-0-0720- 300300	99G1448	2023/7/16	2024/7/15
Agilent	Signal Generator	E8247C	MY43321352	2022/11/18	2023/11/17
<b>Above 1GHz</b>					
AH	Double Ridge Guide	SAS-571	1394	2023/2/22	2026/2/21
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200- 70U300	217423-008	2023/8/6	2024/8/5
MICRO-COAX	Coaxial Cable	UFA210A-1-2362- 300300	235780-001	2023/8/6	2024/8/5
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2022/11/9	2023/11/8
AH	Double Ridge Guide Horn Antenna	SAS-571	1396	2021/10/18	2024/10/17
MICRO-COAX	Coaxial Cable	UFA210B-0-0720- 300300	99G1448	2023/7/16	2024/7/15
Agilent	Signal Generator	E8247C	MY43321352	2022/11/18	2023/11/17
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9852/2F-20	112001	2021/2/5	2024/2/4
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2023/9/15	2024/9/14
PASTERNAK	Horn Antenna	PE9850/2F-20	072001	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9850/2F-20	072002	2021/2/5	2024/2/4
MICRO-COAX	Coaxial Cable	UFB142A-1-2362- 200200	235772-001	2023/8/6	2024/8/5

**\* Statement of Traceability:** China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data:**

Please refer to the below table and plots.

After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

**Cellular Band (30MHz-10GHz)**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 850 Frequency:824.2MHz								
714.17	H	21.15	-51.88	0.00	0.50	-52.38	-13.00	39.38
726.96	V	20.65	-48.68	0.00	0.52	-49.20	-13.00	36.20
1648.400	H	53.72	-50.61	8.68	0.80	-42.73	-13.00	29.73
1648.400	V	52.87	-51.54	8.68	0.80	-43.66	-13.00	30.66
2472.600	H	64.21	-36.57	9.38	1.00	-28.19	-13.00	15.19
2472.600	V	63.48	-37.25	9.38	1.00	-28.87	-13.00	15.87
3296.800	H	46.75	-49.93	10.32	1.15	-40.76	-13.00	27.76
3296.800	V	46.96	-49.48	10.32	1.15	-40.31	-13.00	27.31
GSM 850 Frequency:836.6MHz								
706.70	H	20.87	-52.31	0.00	0.54	-52.85	-13.00	39.85
701.97	V	20.76	-49.12	0.00	0.55	-49.67	-13.00	36.67
1673.200	H	54.24	-50.07	8.71	0.85	-42.21	-13.00	29.21
1673.200	V	53.69	-50.72	8.71	0.85	-42.86	-13.00	29.86
2509.800	H	61.16	-39.45	9.42	1.01	-31.04	-13.00	18.04
2509.800	V	60.38	-40.24	9.42	1.01	-31.83	-13.00	18.83
3346.400	H	46.51	-50.66	10.34	1.16	-41.48	-13.00	28.48
3346.400	V	46.83	-50.20	10.34	1.16	-41.02	-13.00	28.02
GSM 850 Frequency:848.8MHz								
701.77	H	21.10	-52.18	0.00	0.55	-52.73	-13.00	39.73
654.47	V	20.89	-49.85	0.00	0.52	-50.37	-13.00	37.37
1697.600	H	55.25	-49.04	8.74	0.90	-41.20	-13.00	28.20
1697.600	V	54.36	-50.06	8.74	0.90	-42.22	-13.00	29.22
2546.400	H	59.19	-41.14	9.47	1.01	-32.68	-13.00	19.68
2546.400	V	58.24	-42.04	9.47	1.01	-33.58	-13.00	20.58
3395.200	H	48.03	-49.66	10.36	1.19	-40.49	-13.00	27.49
3395.200	V	48.48	-49.18	10.36	1.19	-40.01	-13.00	27.01

**PCS Band (30MHz-20GHz)**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 1900 Frequency:1850.2MHz								
75.71	H	35.72	-71.49	-2.15	0.16	-73.80	-13.00	60.80
74.65	V	40.94	-64.45	-2.68	0.16	-67.29	-13.00	54.29
3700.400	H	55.83	-41.49	10.60	1.25	-32.14	-13.00	19.14
3700.400	V	55.49	-41.81	10.60	1.25	-32.46	-13.00	19.46
5550.600	H	46.15	-47.11	11.44	1.49	-37.16	-13.00	24.16
5550.600	V	45.36	-47.74	11.44	1.49	-37.79	-13.00	24.79
GSM 1900 Frequency:1880MHz								
161.47	H	35.21	-76.46	0.00	0.24	-76.70	-13.00	63.70
71.33	V	41.58	-61.82	-4.34	0.15	-66.31	-13.00	53.31
3760.000	H	55.14	-41.27	10.66	1.24	-31.85	-13.00	18.85
3760.000	V	54.35	-41.94	10.66	1.24	-32.52	-13.00	19.52
5640.000	H	50.56	-42.89	11.33	1.54	-33.10	-13.00	20.10
5640.000	V	59.72	-33.61	11.33	1.54	-23.82	-13.00	10.82
GSM 1900 Frequency:1909.8MHz								
78.74	H	35.81	-73.21	-0.63	0.16	-74.00	-13.00	61.00
72.34	V	41.30	-62.71	-3.83	0.15	-66.69	-13.00	53.69
3819.600	H	55.89	-39.97	10.72	1.29	-30.54	-13.00	17.54
3819.600	V	56.64	-39.08	10.72	1.29	-29.65	-13.00	16.65
5729.400	H	54.78	-38.70	11.22	1.59	-29.07	-13.00	16.07
5729.400	V	54.05	-39.31	11.22	1.59	-29.68	-13.00	16.68

**WCDMA Band 2(30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band II, Frequency:1852.4 MHz								
89.01	H	35.52	-77.19	0.00	0.18	-77.37	-13.00	64.37
76.50	V	41.55	-64.94	-1.75	0.16	-66.85	-13.00	53.85
3704.800	H	48.89	-48.37	10.60	1.25	-39.02	-13.00	26.02
3704.800	V	48.25	-48.98	10.60	1.25	-39.63	-13.00	26.63
5557.200	H	54.93	-38.35	11.43	1.49	-28.41	-13.00	15.41
5557.200	V	53.46	-39.67	11.43	1.49	-29.73	-13.00	16.73
WCDMA Band II, Frequency:1880 MHz								
77.37	H	34.90	-73.30	-1.32	0.16	-74.78	-13.00	61.78
71.83	V	42.03	-61.67	-4.09	0.15	-65.91	-13.00	52.91
3760.000	H	49.05	-47.36	10.66	1.24	-37.94	-13.00	24.94
3760.000	V	48.48	-47.81	10.66	1.24	-38.39	-13.00	25.39
5640.000	H	55.04	-38.41	11.33	1.54	-28.62	-13.00	15.62
5640.000	V	54.27	-39.06	11.33	1.54	-29.27	-13.00	16.27
WCDMA Band II, Frequency:1907.6MHz								
84.75	H	35.28	-76.04	0.00	0.17	-76.21	-13.00	63.21
77.04	V	41.70	-65.11	-1.48	0.16	-66.75	-13.00	53.75
3815.200	H	49.39	-46.46	10.72	1.29	-37.03	-13.00	24.03
3815.200	V	48.87	-46.82	10.72	1.29	-37.39	-13.00	24.39
5722.800	H	57.25	-36.24	11.23	1.58	-26.59	-13.00	13.59
5722.800	V	56.62	-36.73	11.23	1.58	-27.08	-13.00	14.08

**WCDMA Band 4(30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency:			1712.4	MHz				
73.67	H	35.23	-70.75	-3.17	0.16	-74.08	-13.00	61.08
77.58	V	41.57	-65.57	-1.21	0.16	-66.94	-13.00	53.94
3424.800	H	47.98	-49.79	10.37	1.17	-40.59	-13.00	27.59
3424.800	V	47.73	-50.01	10.37	1.17	-40.81	-13.00	27.81
5137.200	H	47.25	-46.37	11.28	1.46	-36.55	-13.00	23.55
5137.200	V	47.36	-46.14	11.28	1.46	-36.32	-13.00	23.32
Frequency:			1732.6	MHz				
146.38	H	35.43	-76.65	0.00	0.22	-76.87	-13.00	63.87
72.59	V	41.45	-62.71	-3.71	0.16	-66.58	-13.00	53.58
3465.200	H	48.52	-49.29	10.39	1.15	-40.05	-13.00	27.05
3465.200	V	48.01	-49.76	10.39	1.15	-40.52	-13.00	27.52
5197.800	H	47.57	-46.56	11.32	1.44	-36.68	-13.00	23.68
5197.800	V	47.74	-46.24	11.32	1.44	-36.36	-13.00	23.36
Frequency:			1752.6	MHz				
158.66	H	35.18	-76.47	0.00	0.23	-76.70	-13.00	63.70
74.39	V	41.67	-63.56	-2.81	0.16	-66.53	-13.00	53.53
3505.200	H	48.96	-48.87	10.41	1.18	-39.64	-13.00	26.64
3505.200	V	48.58	-49.19	10.41	1.18	-39.96	-13.00	26.96
5257.800	H	47.89	-45.84	11.35	1.47	-35.96	-13.00	22.96
5257.800	V	48.13	-45.38	11.35	1.47	-35.50	-13.00	22.50

**WCDMA Band 5(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band 5 Frequency:826.4 MHz								
665.85	H	20.90	-52.60	0.00	0.50	-53.10	-13.00	40.10
721.90	V	20.84	-48.60	0.00	0.50	-49.10	-13.00	36.10
1652.800	H	48.19	-56.14	8.68	0.81	-48.27	-13.00	35.27
1652.800	V	48.87	-55.54	8.68	0.81	-47.67	-13.00	34.67
2479.200	H	47.45	-53.31	9.39	1.01	-44.93	-13.00	31.93
2479.200	V	47.21	-53.52	9.39	1.01	-45.14	-13.00	32.14
3305.600	H	46.54	-50.19	10.32	1.15	-41.02	-13.00	28.02
3305.600	V	46.96	-49.54	10.32	1.15	-40.37	-13.00	27.37
WCDMA Band 5 Frequency:836.6MHz								
465.79	H	21.17	-55.36	0.00	0.42	-55.78	-13.00	42.78
576.92	V	21.12	-50.58	0.00	0.46	-51.04	-13.00	38.04
1673.200	H	48.58	-55.73	8.71	0.85	-47.87	-13.00	34.87
1673.200	V	49.01	-55.40	8.71	0.85	-47.54	-13.00	34.54
2509.800	H	47.86	-52.75	9.42	1.01	-44.34	-13.00	31.34
2509.800	V	47.64	-52.98	9.42	1.01	-44.57	-13.00	31.57
3346.400	H	46.79	-50.38	10.34	1.16	-41.20	-13.00	28.20
3346.400	V	47.02	-50.01	10.34	1.16	-40.83	-13.00	27.83
WCDMA Band 5 Frequency:846.6MHz								
711.67	H	20.85	-52.23	0.00	0.51	-52.74	-13.00	39.74
636.38	V	20.83	-50.24	0.00	0.52	-50.76	-13.00	37.76
1693.200	H	48.99	-55.31	8.73	0.89	-47.47	-13.00	34.47
1693.200	V	49.68	-54.74	8.73	0.89	-46.90	-13.00	33.90
2539.800	H	48.25	-52.13	9.46	1.01	-43.68	-13.00	30.68
2539.800	V	47.87	-52.47	9.46	1.01	-44.02	-13.00	31.02
3386.400	H	47.16	-50.43	10.35	1.18	-41.26	-13.00	28.26
3386.400	V	47.54	-50.00	10.35	1.18	-40.83	-13.00	27.83



**LTE Bands:**

(The Worst modulation and bandwidth was below)

**LTE Band 2(30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 1.4MHz, Frequency:1850.7 MHz								
162.61	H	35.68	-76.04	0.00	0.24	-76.28	-13.00	63.28
77.05	V	41.64	-65.18	-1.48	0.16	-66.82	-13.00	53.82
3701.400	H	50.69	-46.62	10.60	1.25	-37.27	-13.00	24.27
3701.400	V	49.84	-47.45	10.60	1.25	-38.10	-13.00	25.10
5552.100	H	55.01	-38.26	11.44	1.49	-28.31	-13.00	15.31
5552.100	V	54.37	-38.73	11.44	1.49	-28.78	-13.00	15.78
QPSK, 1.4MHz, Frequency:1880 MHz								
152.66	H	35.91	-75.95	0.00	0.23	-76.18	-13.00	63.18
72.08	V	41.94	-61.91	-3.96	0.15	-66.02	-13.00	53.02
3760.000	H	51.86	-44.55	10.66	1.24	-35.13	-13.00	22.13
3760.000	V	50.97	-45.32	10.66	1.24	-35.90	-13.00	22.90
5640.000	H	54.16	-39.29	11.33	1.54	-29.50	-13.00	16.50
5640.000	V	53.23	-40.10	11.33	1.54	-30.31	-13.00	17.31
QPSK, 1.4MHz, Frequency:1909.3 MHz								
160.22	H	35.16	-76.45	0.00	0.23	-76.68	-13.00	63.68
72.84	V	41.88	-62.43	-3.58	0.16	-66.17	-13.00	53.17
3818.600	H	50.72	-45.14	10.72	1.29	-35.71	-13.00	22.71
3818.600	V	49.97	-45.74	10.72	1.29	-36.31	-13.00	23.31
5727.900	H	58.28	-35.20	11.23	1.59	-25.56	-13.00	12.56
5727.900	V	57.89	-35.47	11.23	1.59	-25.83	-13.00	12.83

**LTE Band 4(30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
1.4MHz QPSK, Frequency:			1710.7	MHz				
153.21	H	35.41	-76.43	0.00	0.23	-76.66	-13.00	63.66
77.58	V	41.78	-65.36	-1.21	0.16	-66.73	-13.00	53.73
3421.400	H	47.93	-49.83	10.37	1.17	-40.63	-13.00	27.63
3421.400	V	48.48	-49.25	10.37	1.17	-40.05	-13.00	27.05
5132.100	H	51.05	-42.52	11.28	1.47	-32.71	-13.00	19.71
5132.100	V	52.06	-41.40	11.28	1.47	-31.59	-13.00	18.59
1.4MHz QPSK, Frequency:			1732.5	MHz				
158.67	H	34.54	-77.11	0.00	0.23	-77.34	-13.00	64.34
75.70	V	41.90	-64.11	-2.15	0.16	-66.42	-13.00	53.42
3465.000	H	47.45	-50.36	10.39	1.15	-41.12	-13.00	28.12
3465.000	V	48.14	-49.63	10.39	1.15	-40.39	-13.00	27.39
5197.500	H	51.63	-42.50	11.32	1.44	-32.62	-13.00	19.62
5197.500	V	52.52	-41.46	11.32	1.44	-31.58	-13.00	18.58
1.4MHz QPSK, Frequency:			1754.3	MHz				
75.44	H	35.52	-71.52	-2.28	0.16	-73.96	-13.00	60.96
73.87	V	42.07	-62.85	-3.07	0.16	-66.08	-13.00	53.08
3508.600	H	48.23	-49.59	10.41	1.19	-40.37	-13.00	27.37
3508.600	V	48.78	-48.98	10.41	1.19	-39.76	-13.00	26.76
5262.900	H	53.12	-40.58	11.36	1.47	-30.69	-13.00	17.69
5262.900	V	53.91	-39.56	11.36	1.47	-29.67	-13.00	16.67

**LTE Band 5(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 1.4MHz, Frequency: 824.7 MHz								
716.60	H	21.04	-51.94	0.00	0.50	-52.44	-13.00	39.44
704.36	V	20.82	-49.00	0.00	0.55	-49.55	-13.00	36.55
1649.400	H	48.15	-56.18	8.68	0.80	-48.30	-13.00	35.30
1649.400	V	47.86	-56.55	8.68	0.80	-48.67	-13.00	35.67
2474.100	H	54.24	-46.54	9.38	1.00	-38.16	-13.00	25.16
2474.100	V	53.39	-47.34	9.38	1.00	-38.96	-13.00	25.96
3298.800	H	47.48	-49.20	10.32	1.15	-40.03	-13.00	27.03
3298.800	V	47.87	-48.57	10.32	1.15	-39.40	-13.00	26.40
QPSK, 1.4MHz, Frequency: 836.5 MHz								
647.38	H	20.92	-52.68	0.00	0.52	-53.20	-13.00	40.20
729.47	V	20.79	-48.49	0.00	0.53	-49.02	-13.00	36.02
1673.000	H	47.74	-56.57	8.71	0.85	-48.71	-13.00	35.71
1673.000	V	47.41	-57.00	8.71	0.85	-49.14	-13.00	36.14
2509.500	H	53.68	-46.93	9.42	1.01	-38.52	-13.00	25.52
2509.500	V	52.87	-47.75	9.42	1.01	-39.34	-13.00	26.34
3346.000	H	47.13	-50.03	10.34	1.16	-40.85	-13.00	27.85
3346.000	V	47.39	-49.63	10.34	1.16	-40.45	-13.00	27.45
QPSK, 1.4MHz, Frequency: 848.3 MHz								
709.11	H	20.65	-52.49	0.00	0.53	-53.02	-13.00	40.02
654.41	V	20.72	-50.03	0.00	0.52	-50.55	-13.00	37.55
1696.600	H	50.09	-54.20	8.74	0.89	-46.35	-13.00	33.35
1696.600	V	49.37	-55.05	8.74	0.89	-47.20	-13.00	34.20
2544.900	H	53.78	-46.56	9.47	1.01	-38.10	-13.00	25.10
2544.900	V	52.94	-47.36	9.47	1.01	-38.90	-13.00	25.90
3393.200	H	47.15	-50.52	10.36	1.19	-41.35	-13.00	28.35
3393.200	V	47.46	-50.17	10.36	1.19	-41.00	-13.00	28.00

**LTE Band 7(30MHz-26.5GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency: 2502.5 MHz								
75.97	H	34.99	-72.37	-2.02	0.16	-74.55	-25.00	49.55
71.33	V	41.32	-62.08	-4.34	0.15	-66.57	-25.00	41.57
5005.000	H	48.12	-44.84	11.20	1.47	-35.11	-25.00	10.11
5005.000	V	47.85	-44.97	11.20	1.47	-35.24	-25.00	10.24
7507.500	H	47.69	-42.10	10.90	1.95	-33.15	-25.00	8.15
7507.500	V	46.94	-43.35	10.90	1.95	-34.40	-25.00	9.40
5MHz QPSK, Frequency: 2535 MHz								
160.90	H	35.45	-76.19	0.00	0.24	-76.43	-25.00	51.43
72.59	V	41.99	-62.17	-3.71	0.16	-66.04	-25.00	41.04
5070.000	H	47.96	-45.23	11.24	1.47	-35.46	-25.00	10.46
5070.000	V	47.68	-45.41	11.24	1.47	-35.64	-25.00	10.64
7605.000	H	47.25	-42.22	10.88	2.01	-33.35	-25.00	8.35
7605.000	V	46.57	-43.62	10.88	2.01	-34.75	-25.00	9.75
5MHz QPSK, Frequency: 2567.5 MHz								
155.91	H	35.64	-76.10	0.00	0.23	-76.33	-25.00	51.33
73.35	V	41.63	-62.98	-3.33	0.16	-66.47	-25.00	41.47
5135.000	H	50.64	-42.96	11.28	1.47	-33.15	-25.00	8.15
5135.000	V	50.15	-43.34	11.28	1.47	-33.53	-25.00	8.53
7702.500	H	47.41	-42.11	10.86	1.97	-33.22	-25.00	8.22
7702.500	V	46.52	-43.66	10.86	1.97	-34.77	-25.00	9.77

**LTE Band 12:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
1.4MHz QPSK, Frequency: 699.7 MHz								
618.56	H	20.67	-53.09	0.00	0.49	-53.58	-13.00	40.58
524.81	V	20.54	-51.08	0.00	0.42	-51.50	-13.00	38.50
1399.400	H	48.62	-55.08	8.22	0.71	-47.57	-13.00	34.57
1399.400	V	48.03	-55.72	8.22	0.71	-48.21	-13.00	35.21
2099.100	H	54.55	-47.33	9.16	0.91	-39.08	-13.00	26.08
2099.100	V	53.78	-48.05	9.16	0.91	-39.80	-13.00	26.80
2798.800	H	49.36	-50.57	9.88	1.04	-41.73	-13.00	28.73
2798.800	V	50.17	-49.63	9.88	1.04	-40.79	-13.00	27.79
1.4MHz QPSK, Frequency: 707.5 MHz								
552.97	H	2.53	-72.26	0.00	0.48	-72.74	-13.00	59.74
448.27	V	20.48	-53.15	0.00	0.43	-53.58	-13.00	40.58
1415.000	H	48.93	-54.74	8.26	0.72	-47.20	-13.00	34.20
1415.000	V	48.38	-55.34	8.26	0.72	-47.80	-13.00	34.80
2122.500	H	57.52	-44.47	9.17	0.92	-36.22	-13.00	23.22
2122.500	V	56.75	-45.22	9.17	0.92	-36.97	-13.00	23.97
2830.000	H	48.86	-50.94	9.93	1.06	-42.07	-13.00	29.07
2830.000	V	49.44	-50.29	9.93	1.06	-41.42	-13.00	28.42
1.4MHz QPSK, Frequency: 715.3 MHz								
501.30	H	20.61	-55.19	0.00	0.45	-55.64	-13.00	42.64
605.87	V	20.63	-50.99	0.00	0.49	-51.48	-13.00	38.48
1430.600	H	48.18	-55.45	8.31	0.73	-47.87	-13.00	34.87
1430.600	V	47.69	-56.00	8.31	0.73	-48.42	-13.00	35.42
2145.900	H	55.44	-46.66	9.19	0.93	-38.40	-13.00	25.40
2145.900	V	54.57	-47.54	9.19	0.93	-39.28	-13.00	26.28
2861.200	H	48.06	-51.59	9.98	1.07	-42.68	-13.00	29.68
2861.200	V	48.52	-51.15	9.98	1.07	-42.24	-13.00	29.24

**LTE Band 13:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency: 779.5 MHz								
649.64	H	20.64	-52.95	0.00	0.52	-53.47	-13.00	40.47
272.57	V	20.56	-58.28	0.00	0.32	-58.60	-13.00	45.60
1559.000	H	47.54	-56.45	8.57	0.80	-48.68	-40.00	8.68
1559.000	V	47.09	-56.96	8.57	0.80	-49.19	-40.00	9.19
2338.500	H	50.18	-51.41	9.30	0.97	-43.08	-13.00	30.08
2338.500	V	49.45	-51.91	9.30	0.97	-43.58	-13.00	30.58
3118.000	H	46.96	-50.53	10.25	1.13	-41.41	-13.00	28.41
3118.000	V	46.63	-50.72	10.25	1.13	-41.60	-13.00	28.60
5MHz QPSK, Frequency: 784.5 MHz								
570.51	H	20.73	-53.71	0.00	0.46	-54.17	-13.00	41.17
665.92	V	20.69	-49.85	0.00	0.50	-50.35	-13.00	37.35
1569.000	H	47.13	-56.95	8.58	0.81	-49.18	-40.00	9.18
1569.000	V	46.78	-57.35	8.58	0.81	-49.58	-40.00	9.58
2353.500	H	50.64	-50.81	9.31	0.97	-42.47	-13.00	29.47
2353.500	V	49.85	-51.37	9.31	0.97	-43.03	-13.00	30.03
3138.000	H	46.57	-50.83	10.26	1.14	-41.71	-13.00	28.71
3138.000	V	46.32	-50.91	10.26	1.14	-41.79	-13.00	28.79

**LTE Band 17:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency:			706.5	MHz				
478.87	H	20.47	-55.79	0.00	0.41	-56.20	-13.00	43.20
451.81	V	20.54	-52.95	0.00	0.43	-53.38	-13.00	40.38
1413.000	H	47.25	-56.42	8.26	0.72	-48.88	-13.00	35.88
1413.000	V	46.96	-56.76	8.26	0.72	-49.22	-13.00	36.22
2119.500	H	55.78	-46.19	9.17	0.92	-37.94	-13.00	24.94
2119.500	V	54.89	-47.06	9.17	0.92	-38.81	-13.00	25.81
2826.000	H	49.01	-50.80	9.92	1.06	-41.94	-13.00	28.94
2826.000	V	49.67	-50.07	9.92	1.06	-41.21	-13.00	28.21
5MHz QPSK, Frequency:			710	MHz				
356.78	H	20.63	-57.90	0.00	0.36	-58.26	-13.00	45.26
555.23	V	20.67	-50.99	0.00	0.49	-51.48	-13.00	38.48
1420.000	H	46.87	-56.79	8.28	0.73	-49.24	-13.00	36.24
1420.000	V	46.64	-57.07	8.28	0.73	-49.52	-13.00	36.52
2130.000	H	56.98	-45.04	9.18	0.92	-36.78	-13.00	23.78
2130.000	V	56.15	-45.86	9.18	0.92	-37.60	-13.00	24.60
2840.000	H	49.42	-50.33	9.94	1.06	-41.45	-13.00	28.45
2840.000	V	50.19	-49.52	9.94	1.06	-40.64	-13.00	27.64
5MHz QPSK, Frequency:			713.5	MHz				
520.84	H	20.57	-54.85	0.00	0.41	-55.26	-13.00	42.26
492.71	V	20.52	-51.35	0.00	0.45	-51.80	-13.00	38.80
1427.000	H	48.36	-55.28	8.30	0.73	-47.71	-13.00	34.71
1427.000	V	47.87	-55.82	8.30	0.73	-48.25	-13.00	35.25
2140.500	H	57.69	-44.38	9.18	0.93	-36.13	-13.00	23.13
2140.500	V	56.72	-45.36	9.18	0.93	-37.11	-13.00	24.11
2854.000	H	49.94	-49.75	9.97	1.07	-40.85	-13.00	27.85
2854.000	V	50.63	-49.05	9.97	1.07	-40.15	-13.00	27.15

**LTE Band 38 (30MHz-26.5GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency: 2572.5 MHz								
73.61	H	35.29	-70.66	-3.20	0.16	-74.02	-25.00	49.02
77.31	V	41.98	-64.99	-1.35	0.16	-66.50	-25.00	41.50
5145.000	H	50.19	-43.49	11.29	1.44	-33.64	-25.00	8.64
5145.000	V	49.61	-43.96	11.29	1.44	-34.11	-25.00	9.11
7717.500	H	48.57	-40.94	10.86	1.99	-32.07	-25.00	7.07
7717.500	V	48.08	-42.05	10.86	1.99	-33.18	-25.00	8.18
5MHz QPSK, Frequency: 2595 MHz								
75.18	H	35.38	-71.51	-2.41	0.16	-74.08	-25.00	49.08
77.05	V	41.80	-65.02	-1.48	0.16	-66.66	-25.00	41.66
5190.000	H	50.54	-43.53	11.31	1.44	-33.66	-25.00	8.66
5190.000	V	49.87	-44.05	11.31	1.44	-34.18	-25.00	9.18
7785.000	H	48.12	-41.37	10.84	1.99	-32.52	-25.00	7.52
7785.000	V	47.75	-42.17	10.84	1.99	-33.32	-25.00	8.32
5MHz QPSK, Frequency: 2617.5 MHz								
101.61	H	35.62	-76.73	0.00	0.19	-76.92	-25.00	51.92
71.83	V	41.55	-62.15	-4.09	0.15	-66.39	-25.00	41.39
5235.000	H	51.86	-42.04	11.34	1.46	-32.16	-25.00	7.16
5235.000	V	51.15	-42.56	11.34	1.46	-32.68	-25.00	7.68
7852.500	H	49.24	-39.95	10.83	2.03	-31.15	-25.00	6.15
7852.500	V	48.68	-40.90	10.83	2.03	-32.10	-25.00	7.10



**LTE Band 40 Lower (30MHz-25GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency: 2307.5 MHz								
153.74	H	35.53	-76.29	0.00	0.23	-76.52	-40.00	36.52
66.73	V	41.59	-62.13	-6.73	0.15	-69.01	-40.00	29.01
4615.000	H	37.92	-57.44	10.74	1.41	-48.11	-40.00	8.11
4615.000	V	38.45	-56.77	10.74	1.41	-47.44	-40.00	7.44
6922.500	H	35.87	-55.15	11.22	1.88	-45.81	-40.00	5.81
6922.500	V	35.36	-55.53	11.22	1.88	-46.19	-40.00	6.19
5MHz QPSK, Frequency: 2312.5 MHz								
150.27	H	35.10	-76.84	0.00	0.22	-77.06	-40.00	37.06
72.84	V	41.94	-62.37	-3.58	0.16	-66.11	-40.00	26.11
4625.000	H	38.68	-56.61	10.75	1.41	-47.27	-40.00	7.27
4625.000	V	39.27	-55.90	10.75	1.41	-46.56	-40.00	6.56
6937.500	H	36.35	-54.63	11.21	1.90	-45.32	-40.00	5.32
6937.500	V	35.84	-55.00	11.21	1.90	-45.69	-40.00	5.69

**LTE Band 40 Upper (30MHz-25GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency: 2352.5 MHz								
159.22	H	35.48	-76.15	0.00	0.23	-76.38	-40.00	36.38
72.08	V	41.85	-62.00	-3.96	0.15	-66.11	-40.00	26.11
4705.000	H	37.54	-57.24	10.85	1.41	-47.80	-40.00	7.80
4705.000	V	37.99	-56.81	10.85	1.41	-47.37	-40.00	7.37
7057.500	H	35.08	-54.93	11.17	1.92	-45.68	-40.00	5.68
7057.500	V	34.86	-55.04	11.17	1.92	-45.79	-40.00	5.79
5MHz QPSK, Frequency: 2357.5 MHz								
74.71	H	35.07	-71.54	-2.65	0.16	-74.35	-40.00	34.35
77.31	V	41.91	-65.06	-1.35	0.16	-66.57	-40.00	26.57
4715.000	H	38.43	-56.28	10.86	1.41	-46.83	-40.00	6.83
4715.000	V	38.91	-55.80	10.86	1.41	-46.35	-40.00	6.35
7072.500	H	35.68	-54.12	11.16	1.91	-44.87	-40.00	4.87
7072.500	V	35.32	-54.39	11.16	1.91	-45.14	-40.00	5.14

**LTE Band 41 (30MHz-26.55GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 5MHz, Frequency: 2537.5 MHz								
76.56	H	35.17	-72.55	-1.72	0.16	-74.43	-25.00	49.43
73.10	V	41.89	-62.57	-3.45	0.16	-66.18	-25.00	41.18
4997.000	H	40.68	-52.26	11.20	1.48	-42.54	-25.00	17.54
4997.000	V	40.07	-52.73	11.20	1.48	-43.01	-25.00	18.01
7495.500	H	38.39	-51.40	10.90	1.94	-42.44	-25.00	17.44
7495.500	V	37.94	-52.35	10.90	1.94	-43.39	-25.00	18.39
QPSK, 5MHz, Frequency: 2595 MHz								
159.22	H	35.41	-76.22	0.00	0.23	-76.45	-25.00	51.45
76.50	V	41.66	-64.83	-1.75	0.16	-66.74	-25.00	41.74
5186.000	H	41.06	-52.97	11.31	1.44	-43.10	-25.00	18.10
5186.000	V	40.35	-53.54	11.31	1.44	-43.67	-25.00	18.67
7779.000	H	38.18	-51.31	10.84	1.99	-42.46	-25.00	17.46
7779.000	V	37.67	-52.27	10.84	1.99	-43.42	-25.00	18.42
QPSK, 5MHz, Frequency: 2652.5 MHz								
84.70	H	35.57	-75.74	0.00	0.17	-75.91	-25.00	50.91
77.58	V	41.51	-65.63	-1.21	0.16	-67.00	-25.00	42.00
5375.000	H	42.22	-51.29	11.43	1.49	-41.35	-25.00	16.35
5375.000	V	41.45	-52.05	11.43	1.49	-42.11	-25.00	17.11
8062.500	H	39.54	-48.68	10.81	2.12	-39.99	-25.00	14.99
8062.500	V	39.13	-49.59	10.81	2.12	-40.90	-25.00	15.90

**LTE Band 66(30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
1.4MHz QPSK, Frequency:			1710.7	MHz				
89.89	H	35.20	-77.79	0.00	0.18	-77.97	-13.00	64.97
72.33	V	41.71	-62.29	-3.84	0.15	-66.28	-13.00	53.28
3421.400	H	48.53	-49.23	10.37	1.17	-40.03	-13.00	27.03
3421.400	V	48.96	-48.77	10.37	1.17	-39.57	-13.00	26.57
5132.100	H	50.45	-43.12	11.28	1.47	-33.31	-13.00	20.31
5132.100	V	51.39	-42.07	11.28	1.47	-32.26	-13.00	19.26
1.4MHz QPSK, Frequency:			1745	MHz				
77.60	H	35.29	-73.05	-1.20	0.16	-74.41	-13.00	61.41
76.78	V	41.69	-64.97	-1.61	0.16	-66.74	-13.00	53.74
3490.000	H	47.79	-50.05	10.40	1.17	-40.82	-13.00	27.82
3490.000	V	48.05	-49.73	10.40	1.17	-40.50	-13.00	27.50
5235.000	H	52.24	-41.66	11.34	1.46	-31.78	-13.00	18.78
5235.000	V	53.13	-40.58	11.34	1.46	-30.70	-13.00	17.70
1.4MHz QPSK, Frequency:			1779.3	MHz				
72.85	H	35.50	-69.99	-3.58	0.16	-73.73	-13.00	60.73
72.59	V	41.74	-62.42	-3.71	0.16	-66.29	-13.00	53.29
3558.600	H	48.22	-49.45	10.46	1.22	-40.21	-13.00	27.21
3558.600	V	48.68	-48.89	10.46	1.22	-39.65	-13.00	26.65
5337.900	H	55.47	-38.00	11.40	1.47	-28.07	-13.00	15.07
5337.900	V	56.15	-37.18	11.40	1.47	-27.25	-13.00	14.25

## Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level

## **5. EUT PHOTOGRAPHS**

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Please refer to the attachment CR231058641-EXP EUT EXTERNAL PHOTOGRAPHS and CR231058641-INP EUT INTERNAL PHOTOGRAPHS

## **6. TEST SETUP PHOTOGRAPHS**

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Please refer to the attachment CR231058641-00E-TSP TEST SETUP PHOTOGRAPHS.

**==== END OF REPORT =====**