

**Test Data:**

<b>FCC§2.1046;§ 27.50(h)(2)</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		
5MHz QPSK	RB1#0	23.04	23.01	22.23	20.14	33
	RB1#13	22.93	22.92	22.26		
	RB1#24	22.9	22.86	22.24		
	RB15#0	21.80	21.92	21.43		
	RB15#10	21.78	21.63	21.36		
	RB25#0	21.81	22	21.40		
5MHz 16QAM	RB1#0	22.1	21.69	21.29	19.30	33
	RB1#13	22.20	21.70	21.29		
	RB1#24	22.1	21.7	21.27		
	RB15#0	20.84	20.59	20.19		
	RB15#10	20.89	20.61	20.19		
	RB25#0	20.74	20.67	20.23		
10MHz QPSK	RB1#0	22.72	22.72	22.21	19.89	33
	RB1#25	22.77	22.77	22.25		
	RB1#49	22.79	22.73	22.14		
	RB25#0	21.73	21.67	21.18		
	RB25#25	21.70	21.71	21.14		
	RB50#0	21.81	21.72	21.18		
10MHz 16QAM	RB1#0	21.67	21.83	21.40	18.96	33
	RB1#25	21.70	21.86	21.44		
	RB1#49	21.71	21.79	21.40		
	RB25#0	20.75	20.61	20.17		
	RB25#25	20.8	20.63	20.12		
	RB50#0	20.76	20.63	20.13		
15MHz QPSK	RB1#0	22.61	23.0	22.52	20.10	33
	RB1#38	22.68	23.00	22.41		
	RB1#74	22.72	22.93	22.47		
	RB36#0	21.62	21.99	21.47		
	RB36#39	21.71	22.0	21.41		
	RB75#0	21.71	22.0	21.49		
15MHz 16QAM	RB1#0	22.31	21.98	21.7	19.48	33
	RB1#38	22.36	21.95	21.68		
	RB1#74	22.38	21.88	21.66		
	RB36#0	21.13	20.90	20.54		
	RB36#39	21.08	20.90	20.43		
	RB75#0	21.10	21.0	20.49		
20MHz QPSK	RB1#0	23.13	23.12	22.50	<b>20.26</b>	33

	RB1#50	23.12	23.09	22.44		
	RB1#99	23.16	23.00	22.44		
	RB50#0	22.18	22.07	21.60		
	RB50#50	22.25	22.07	21.44		
	RB100#0	22.17	22.02	21.53		
20MHz 16QAM	RB1#0	22.14	22.45	21.62	<b>19.55</b>	33
	RB1#50	22.15	22.38	21.51		
	RB1#99	22.14	22.31	21.53		
	RB50#0	21.18	21.05	20.56		
	RB50#50	21.3	21.05	20.39		
	RB100#0	21.16	21.02	20.5		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + G<sub>T</sub>(dBi)

### 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	6.58	6.93	7.94	13
	RB100#0	6.70	6.70	7.5	13
20MHz 16QAM	RB1#0	7.94	7.71	9	13
	RB100#0	7.57	7.57	8.46	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	4.500	4.540	4.500	5.000	4.900	5.100
5MHz 16QAM	4.520	4.500	4.500	5.240	5.000	5.100
10MHz QPSK	8.960	9.000	8.960	9.520	10.000	9.640
10MHz 16QAM	8.960	9.000	8.960	9.640	10.000	9.560
15MHz QPSK	13.500	13.560	13.500	15.800	15.180	15.100
15MHz 16QAM	13.620	13.500	13.500	14.940	15.500	15.200
20MHz QPSK	18.000	18.000	17.920	20.000	19.000	19.600
20MHz 16QAM	18.000	18.000	18.000	19.000	19.000	19.000

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

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

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

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

<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	3.91	2496.111	2496.00	2689.947	2690
	-20	3.91	2496.044	2496.00	2689.901	2690
	-10	3.91	2496.096	2496.00	2689.860	2690
	0	3.91	2496.191	2496.00	2689.717	2690
	10	3.91	2496.162	2496.00	2689.946	2690
	20	3.91	2496.048	2496.00	2689.793	2690
	30	3.91	2496.248	2496.00	2689.847	2690
	40	3.91	2496.078	2496.00	2689.857	2690
	50	3.91	2496.224	2496.00	2689.983	2690
Frequency Stability vs. Voltage	20	3.45	2496.241	2496.00	2689.902	2690
	20	4.5	2496.241	2496.00	2689.932	2690
					<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	3.91	2496.195	2496.00	2689.809	2690
	-20	3.91	2496.026	2496.00	2689.857	2690
	-10	3.91	2496.025	2496.00	2689.755	2690
	0	3.91	2496.218	2496.00	2689.889	2690
	10	3.91	2496.119	2496.00	2689.792	2690
	20	3.91	2496.045	2496.00	2689.838	2690
	30	3.91	2496.182	2496.00	2689.828	2690
	40	3.91	2496.002	2496.00	2689.707	2690
	50	3.91	2496.180	2496.00	2689.702	2690
Frequency Stability vs. Voltage	20	3.45	2496.101	2496.00	2689.713	2690
	20	4.5	2496.086	2496.00	2689.889	2690
					<b>Result:</b>	<b>Pass</b>

**Test Plots:** (Note: The 11 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.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:44:40</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:45:03</p>
<b>Middle</b>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:45:26</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:45:43</p>
<b>Highest</b>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:46:06</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:46:29</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:47:32</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:47:55</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:48:12</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:48:28</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:48:52</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:49:08</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:50:12</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:50:34</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:50:55</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:51:14</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:51:38</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:52:01</p>

Occupied Bandwidth

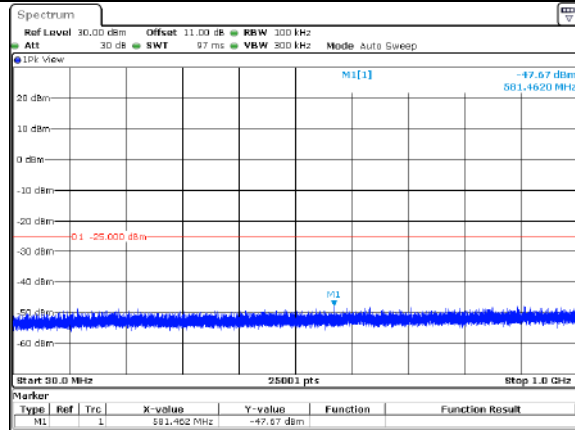
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:53:08</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:53:31</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:53:51</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:54:11</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:54:31</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:54:51</p>

### Spurious Emissions at Antenna Terminal

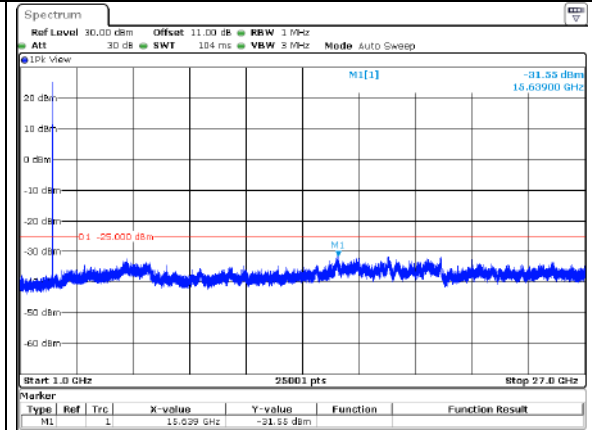
Channel

5MHz Bandwidth QPSK

Lowest

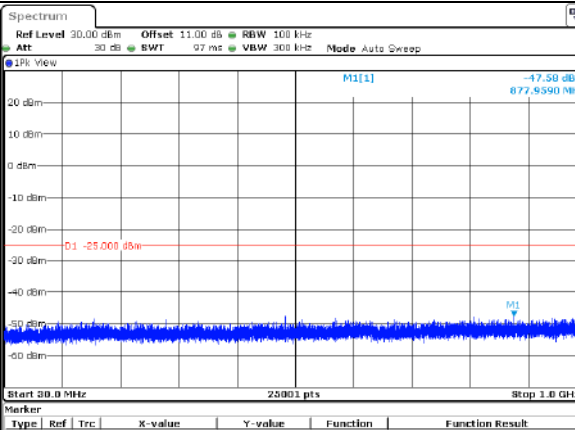


ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:09:22

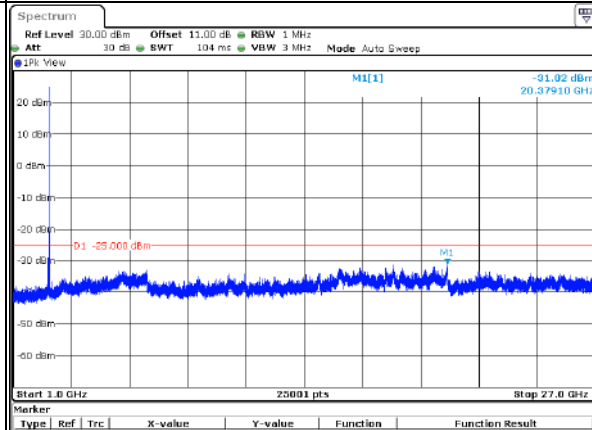


ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:09:54

Middle

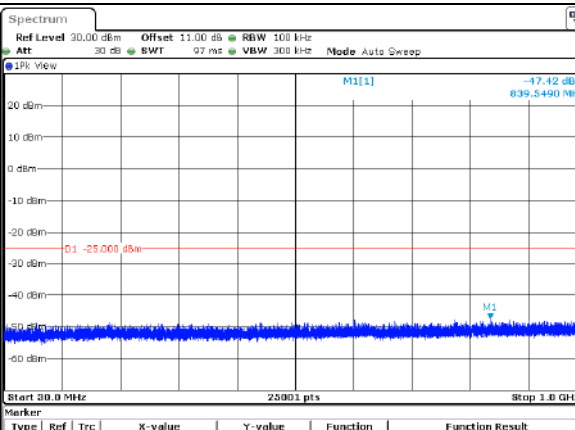


ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:10:23

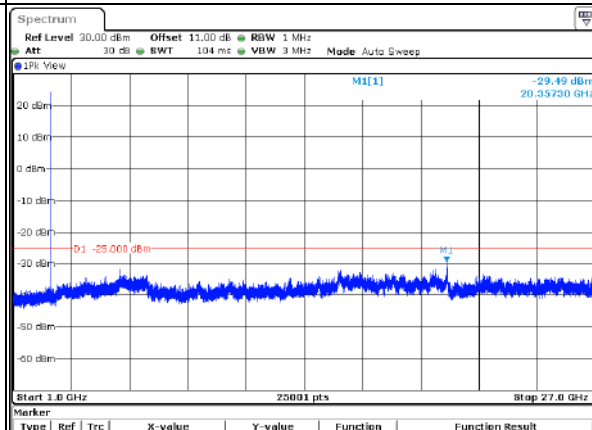


ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:10:54

Highest



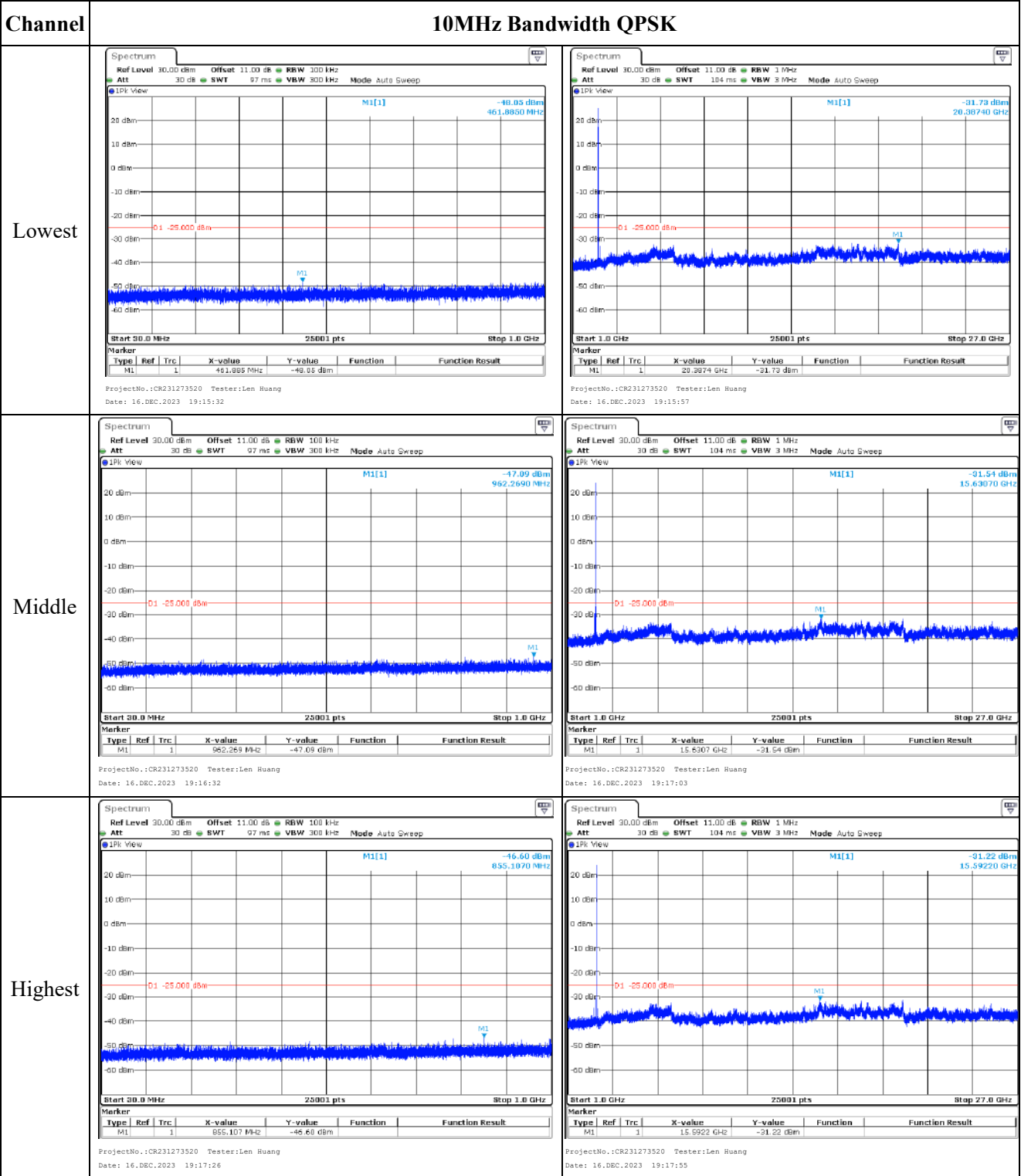
ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:11:44



ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:12:13



### Spurious Emissions at Antenna Terminal

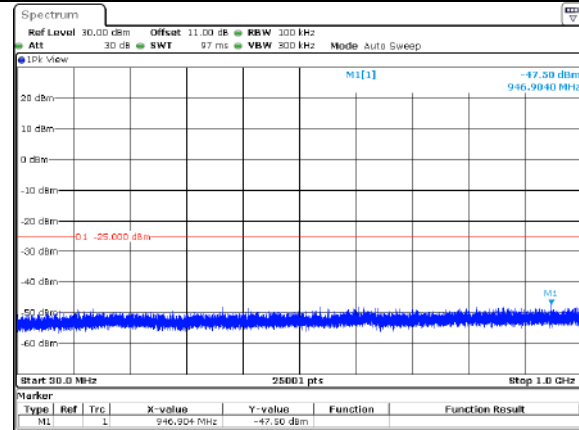


Spurious Emissions at Antenna Terminal

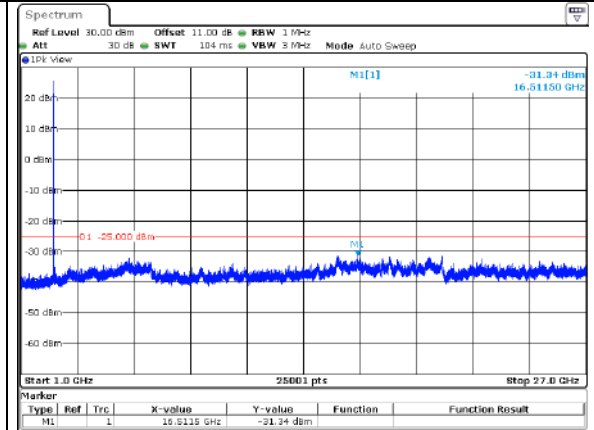
Channel

15MHz Bandwidth QPSK

Lowest

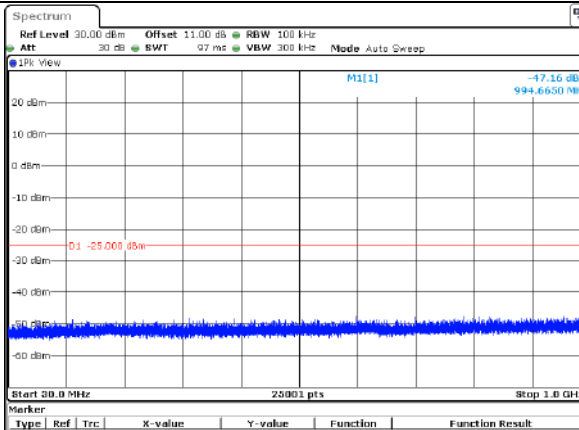


ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:18:55

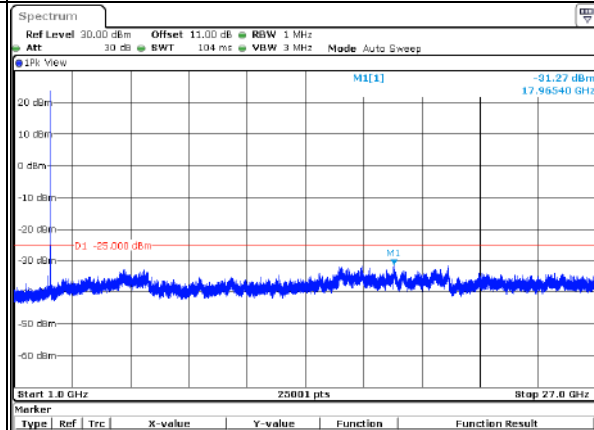


ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:22:05

Middle

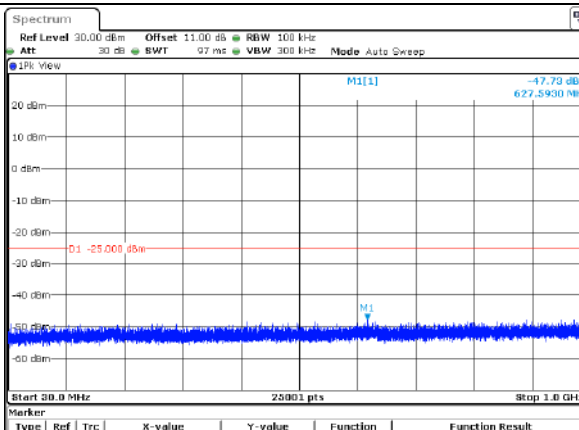


ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:22:50

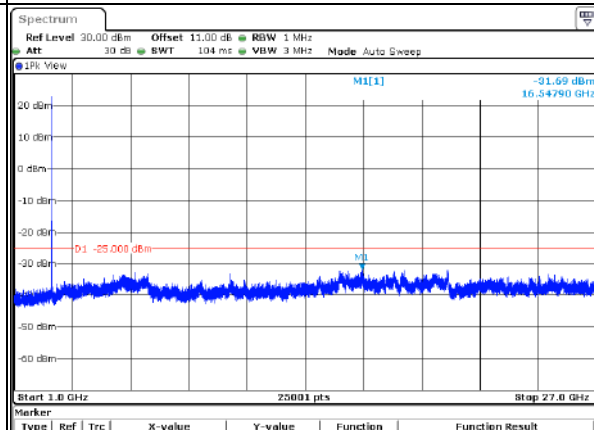


ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:23:17

Highest



ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:23:56



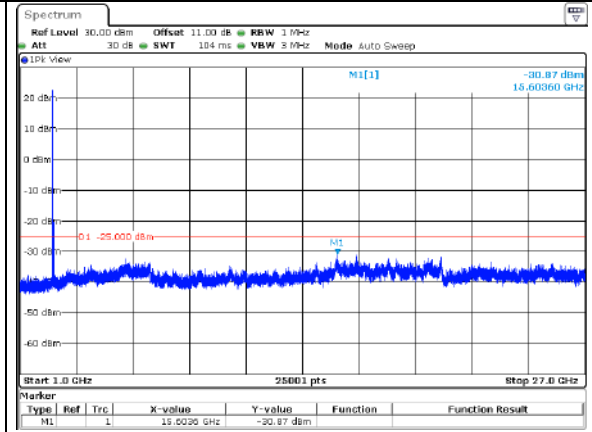
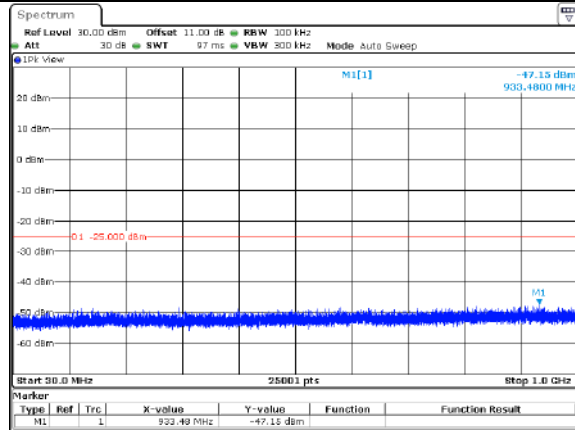
ProjectNo.:CR231273520 Tester:Len Huang  
Date: 16.DEC.2023 19:24:26

### Spurious Emissions at Antenna Terminal

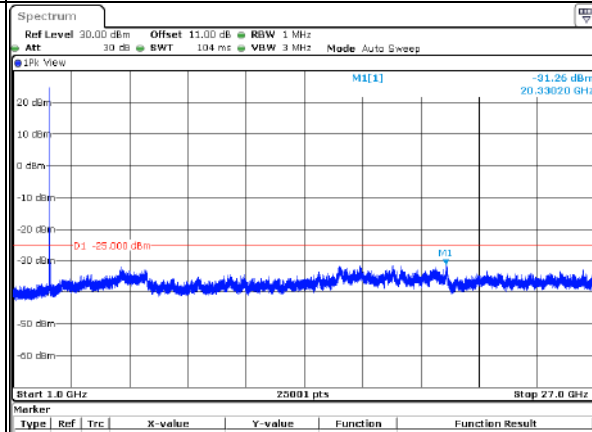
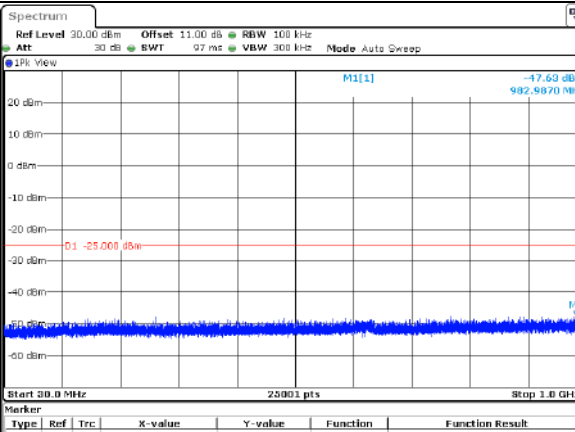
Channel

20MHz Bandwidth QPSK

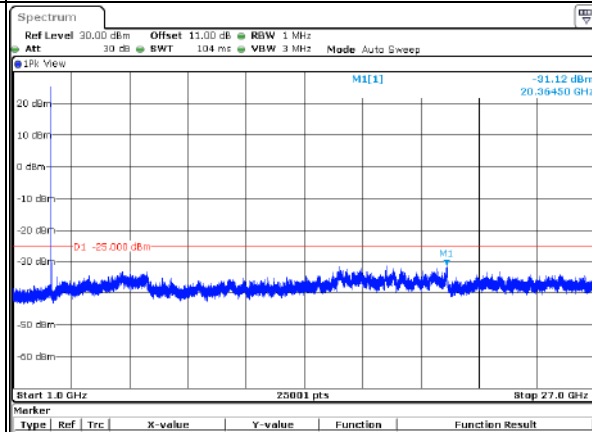
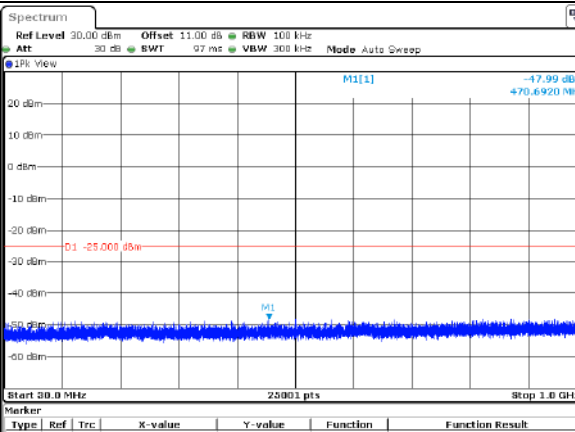
Lowest



Middle



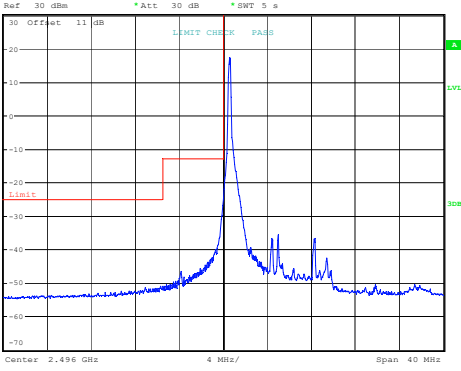
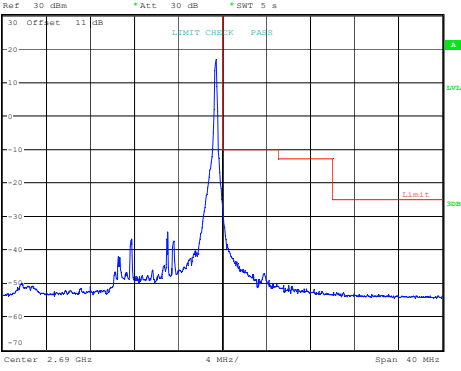
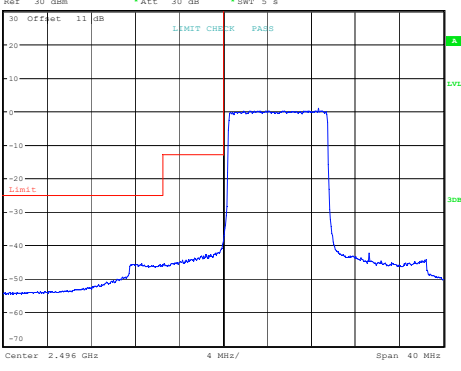
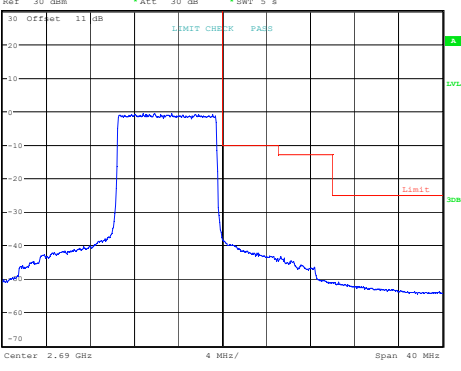
Highest



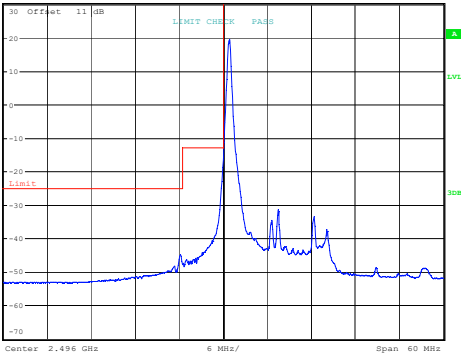
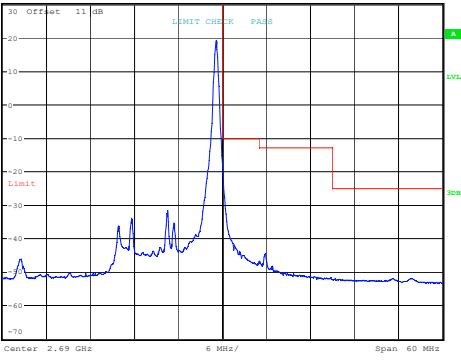
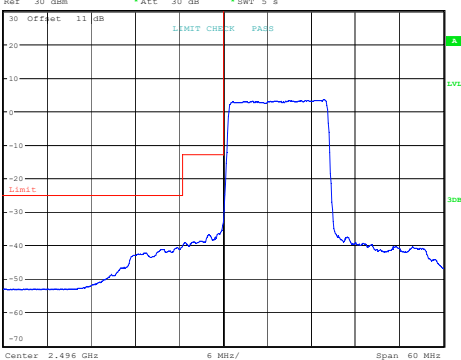
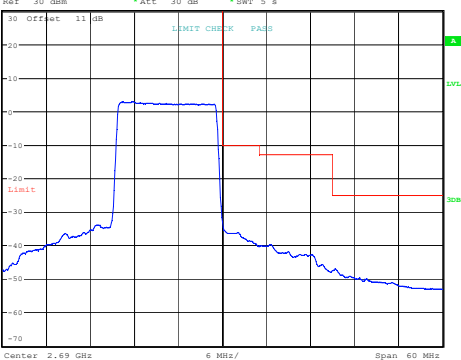
Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:23:43</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:24:30</p>
QPSK 5MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 12:41:19</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 12:43:10</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
QPSK 10MHz	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:26:46</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:27:26</p>
	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 12:51:23</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 12:52:11</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
QPSK 15MHz	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:34:35</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:35:19</p>
	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:18:31</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:19:17</p>

Out of band emission, Band Edge

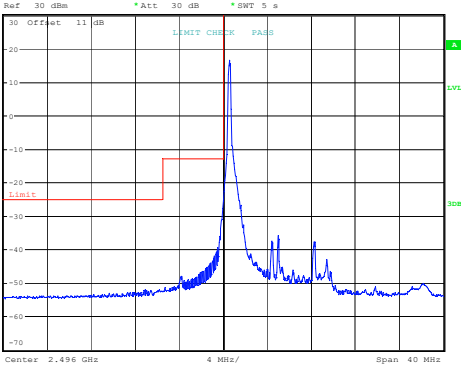
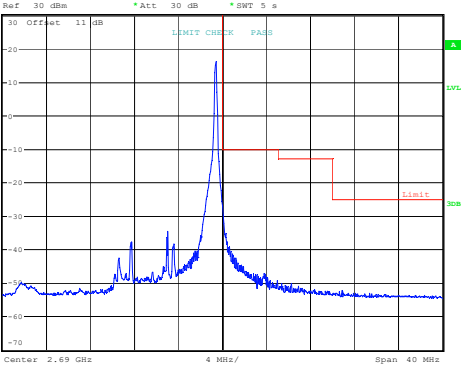
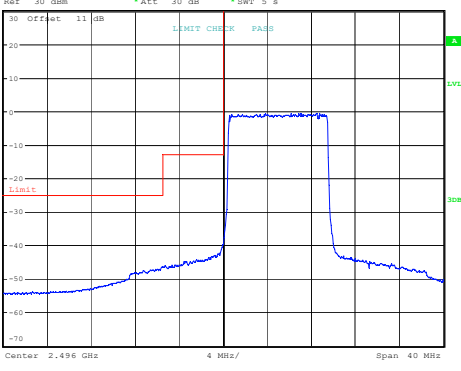
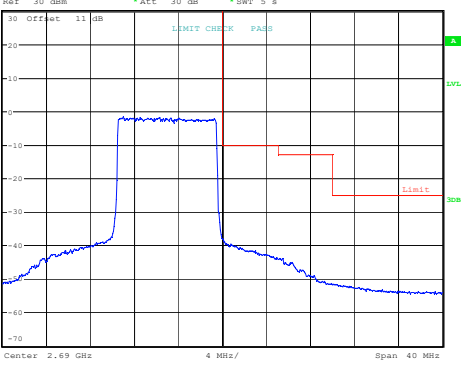
Mode	Lowest/1RB0	Highest/1RBmax
QPSK 20MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:37:41</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:39:33</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:14:44</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:15:30</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 5MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:25:13</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:25:54</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 12:44:29</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 12:45:14</p>



Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 10MHz	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:31:04</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:31:55</p>
	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 12:52:57</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 12:53:45</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 15MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:35:59</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:36:51</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:20:02</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:20:46</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 20MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:40:32</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:41:29</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:17:05</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 13:17:39</p>

**4.15 Antenna Port Test Data and Results for LTE Band 42**

Serial Number:	2EXR-1	Test Date:	2023/12/15-2024/03/01
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo, Len Huang	Test Result:	<b>Pass</b>

**Environmental Conditions:**

Temperature: (°C)	25.2-27.5	Relative Humidity: (%)	49-55	ATM Pressure: (kPa)	101-101.7
----------------------	-----------	---------------------------	-------	------------------------	-----------

**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200120	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211002	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	FSV40-N	102259	2023/4/18	2024/4/17

\* 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	3452.5	3500	3547.5
10MHz	3455	3500	3545
15MHz	3457.5	3500	3542.5
20MHz	3460	3500	3540

**Test Data:**

<b>FCC§2.1046;§ 27.50(h)(2)</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		
5MHz QPSK	RB1#0	15.05	14.9	14.64	9.25	30
	RB1#13	14.94	14.81	14.52		
	RB1#24	15.01	14.89	14.58		
	RB15#0	14.18	14.01	13.83		
	RB15#10	14.15	13.98	13.78		
	RB25#0	14.16	13.97	13.82		
5MHz 16QAM	RB1#0	14.46	14.1	13.96	8.66	30
	RB1#13	14.43	14.05	13.91		
	RB1#24	14.44	14.04	13.92		
	RB15#0	13.2	12.93	12.82		
	RB15#10	13.17	12.91	12.79		
	RB25#0	13.17	13.03	12.85		
10MHz QPSK	RB1#0	15.05	14.88	14.71	9.25	30
	RB1#25	14.96	14.88	14.66		
	RB1#49	15	14.92	14.6		
	RB25#0	14.2	14.01	13.86		
	RB25#25	14.14	14.03	13.79		
	RB50#0	14.16	14.02	13.85		
10MHz 16QAM	RB1#0	14.15	14.16	14.14	8.37	30
	RB1#25	14.12	14.17	14.08		
	RB1#49	14.09	14.14	14.09		
	RB25#0	13.24	13.05	12.86		
	RB25#25	13.2	13.07	12.86		
	RB50#0	13.16	13.05	12.82		
15MHz QPSK	RB1#0	15.06	14.91	14.7	9.26	30
	RB1#38	14.91	14.81	14.57		
	RB1#74	14.96	14.87	14.6		
	RB36#0	14.17	14.03	13.88		
	RB36#39	14.15	14.04	13.84		
	RB75#0	14.19	14.06	13.86		
15MHz 16QAM	RB1#0	14.2	14.28	14.14	8.55	30
	RB1#38	14.15	14.28	14.08		
	RB1#74	14.15	14.35	14.1		
	RB36#0	13.14	13.06	12.85		
	RB36#39	13.11	13.1	12.83		
	RB75#0	13.15	13.04	12.78		
20MHz QPSK	RB1#0	15.1	15.08	14.86	9.30	30
	RB1#50	14.94	14.95	14.59		

20MHz 16QAM	RB1#99	14.97	15.04	14.65	8.61	30
	RB50#0	14.22	14.09	13.99		
	RB50#50	14.18	14.09	13.84		
	RB100#0	14.22	14.09	13.92		
	RB1#0	14.28	14.41	14.09		
	RB1#50	14.13	14.36	13.96		
20MHz 16QAM	RB1#99	14.2	14.39	14.03	8.61	30
	RB50#0	13.26	13.09	12.95		
	RB50#50	13.25	13.09	12.88		
	RB100#0	13.16	13.07	12.92		

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

### 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	5.100	5.020	4.940
5MHz 16QAM	4.511	4.511	4.491	5.020	5.080	5.000
10MHz QPSK	8.942	8.942	8.942	9.600	9.640	9.560
10MHz 16QAM	8.942	8.942	8.942	9.560	9.640	9.480
15MHz QPSK	13.473	13.473	13.533	14.760	15.540	15.000
15MHz 16QAM	13.473	13.533	13.533	14.940	14.640	14.700
20MHz QPSK	17.884	17.884	17.964	19.120	19.200	19.040
20MHz 16QAM	17.884	17.884	17.884	19.200	19.200	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.

### 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	3.91	3450.00970	3450.00000	3549.77790	3550.00000
	-20	3.91	3450.16350	3450.00000	3549.78130	3550.00000
	-10	3.91	3450.03190	3450.00000	3549.74660	3550.00000
	0	3.91	3450.07910	3450.00000	3549.81260	3550.00000
	10	3.91	3450.02510	3450.00000	3549.88130	3550.00000
	20	3.91	3450.12610	3450.00000	3549.19435	3550.00000

Frequency Stability vs. Voltage	30	3.91	3450.21840	3450.00000	3549.91470	3550.00000
	40	3.91	3450.17390	3450.00000	3549.84830	3550.00000
	50	3.91	3450.18110	3450.00000	3549.86230	3550.00000
	20	3.45	3450.15610	3450.00000	3549.75930	3550.00000
	20	4.5	3450.10820	3450.00000	3549.79420	3550.00000
<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	3.91	3450.01010	3450.00000	3549.93920	3550.00000
	-20	3.91	3450.25090	3450.00000	3549.86230	3550.00000
	-10	3.91	3450.11300	3450.00000	3549.81070	3550.00000
	0	3.91	3450.19540	3450.00000	3549.72570	3550.00000
	10	3.91	3450.29940	3450.00000	3549.84340	3550.00000
	20	3.91	3450.24710	3450.00000	3549.91680	3550.00000
	30	3.91	3450.02430	3450.00000	3549.73410	3550.00000
	40	3.91	3450.29710	3450.00000	3549.83020	3550.00000
	50	3.91	3450.27190	3450.00000	3549.74120	3550.00000
Frequency Stability vs. Voltage	20	3.45	3450.09020	3450.00000	3549.85930	3550.00000
	20	4.5	3450.12060	3450.00000	3549.85550	3550.00000
<b>Result:</b>					<b>Pass</b>	

**Test Plots:** (Note: The 10.5 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.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:24:16</p>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:25:19</p>
<b>Middle</b>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:25:40</p>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:26:00</p>
<b>Highest</b>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:26:21</p>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:26:41</p>



Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:27:05</p>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:27:28</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:27:52</p>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:28:15</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:28:33</p>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:28:53</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:29:34</p>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:29:57</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:30:18</p>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:30:44</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:31:08</p>	<p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:31:34</p>

Occupied Bandwidth

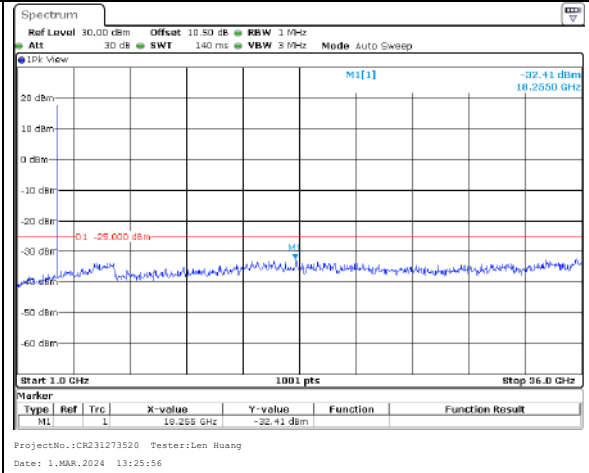
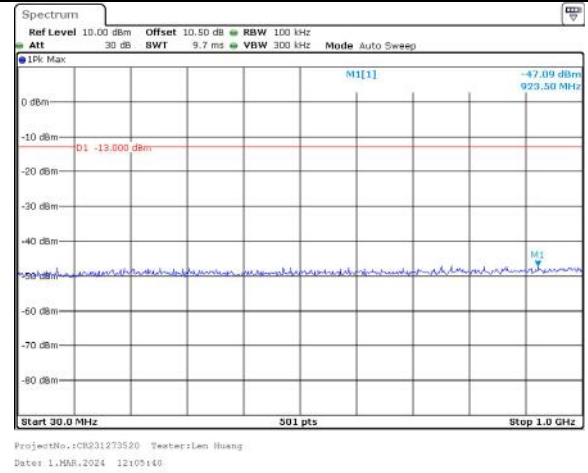
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

### Spurious Emissions at Antenna Terminal

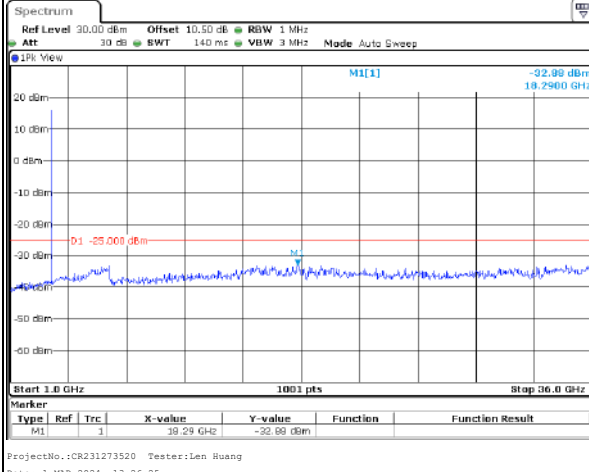
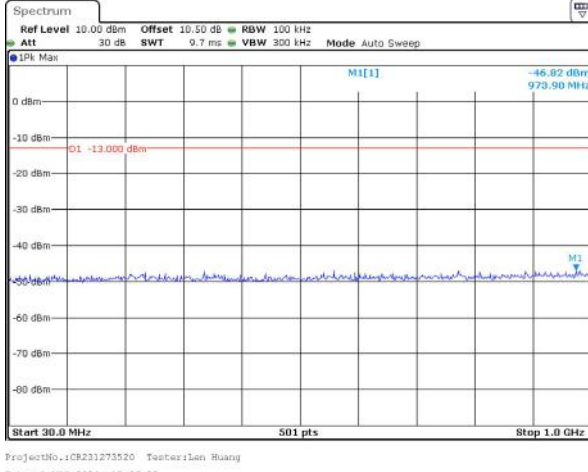
Channel

5MHz Bandwidth QPSK

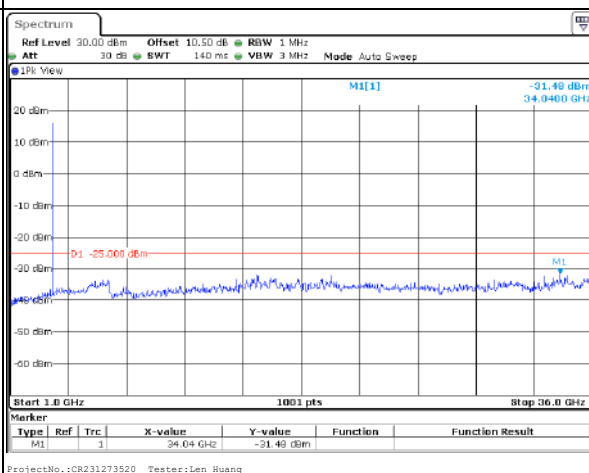
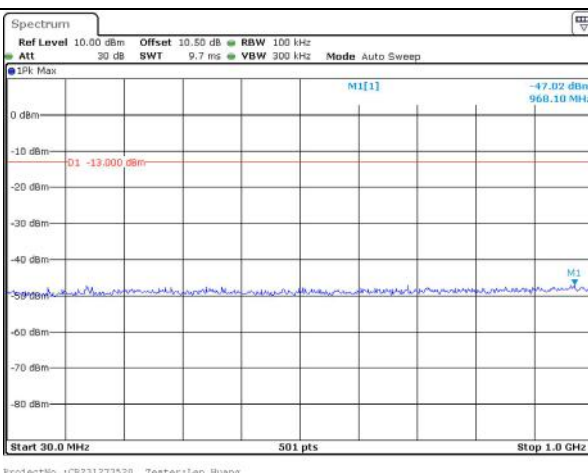
Lowest



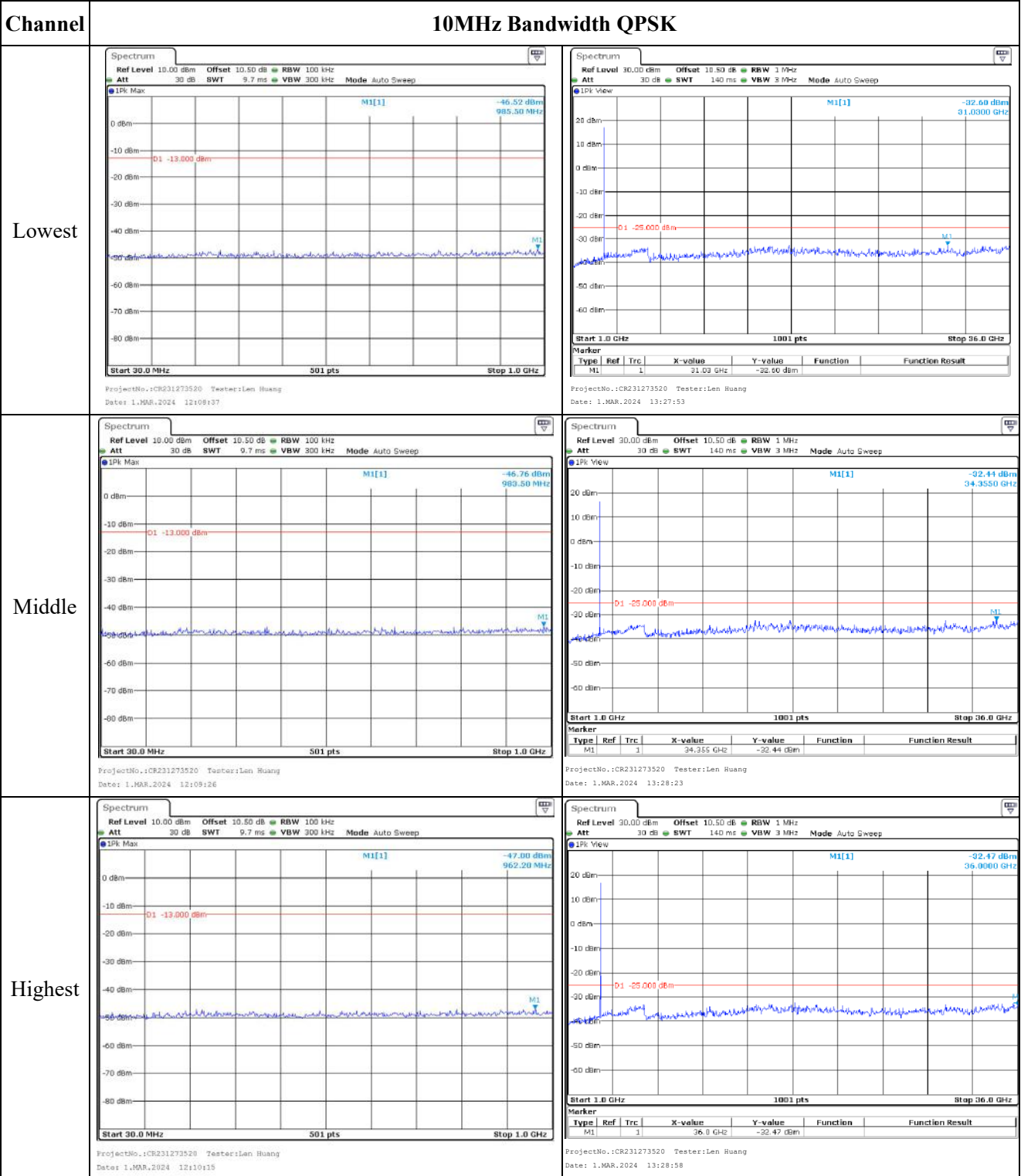
Middle



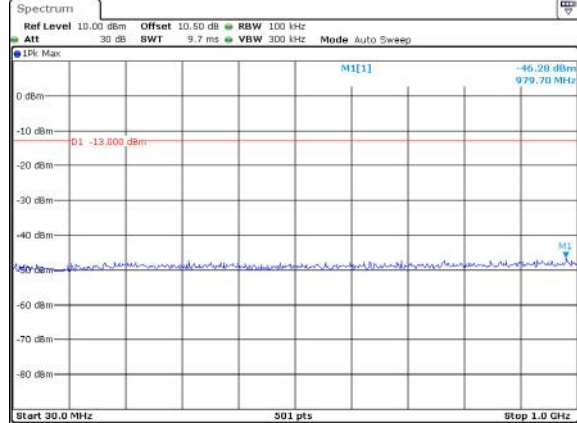
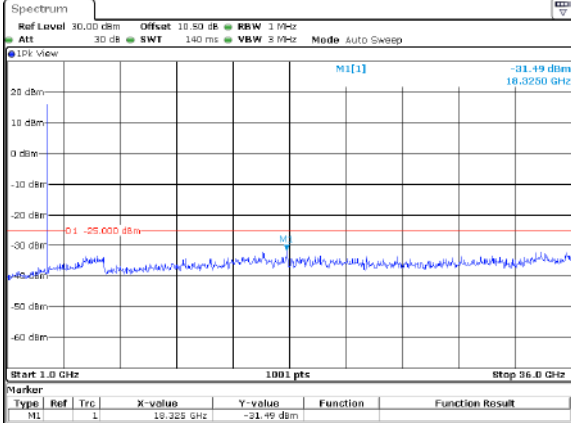
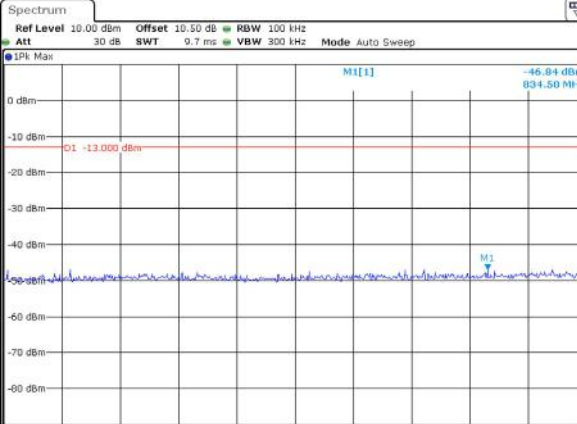
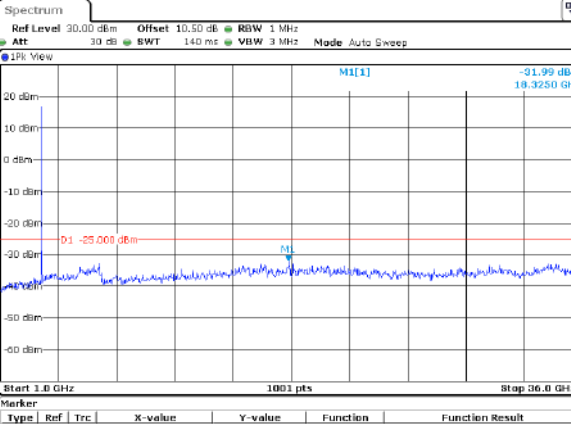
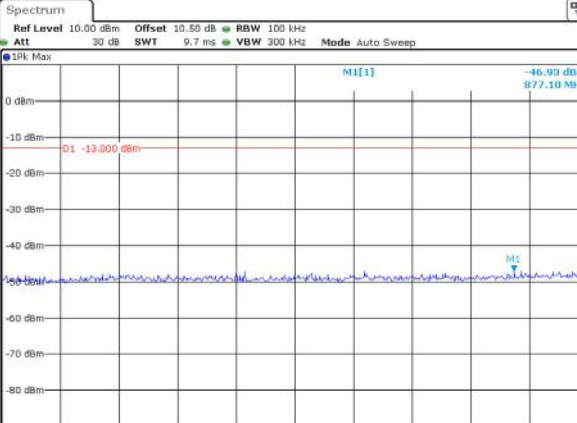
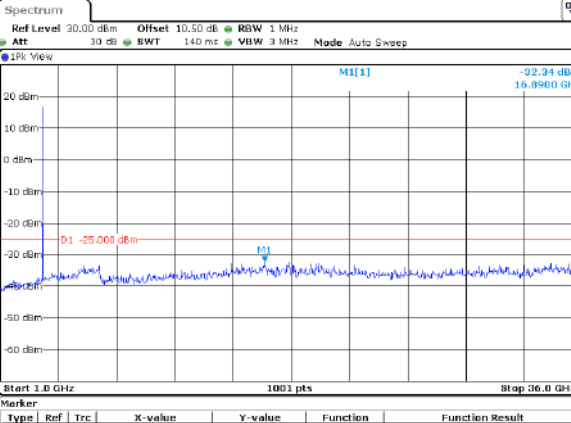
Highest



### Spurious Emissions at Antenna Terminal



Spurious Emissions at Antenna Terminal

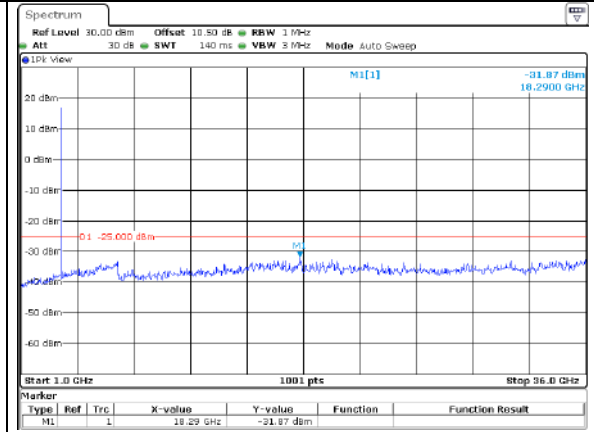
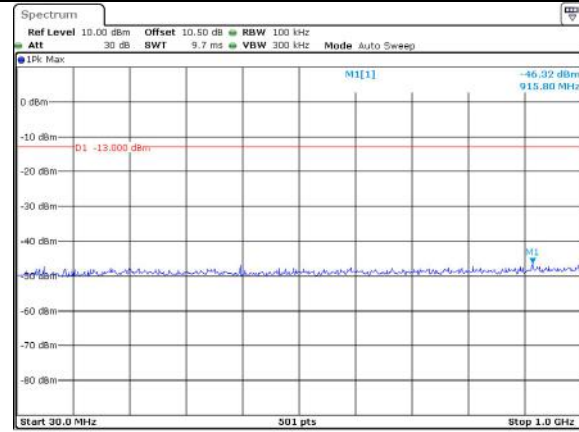
Channel	15MHz Bandwidth QPSK																	
Lowest	 <p>Ref Level 10.00 dBm Offset 10.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>IPk Max M1[1] -46.28 dBm 979.70 MHz</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:11:19</p>	 <p>Ref Level 30.00 dBm Offset 10.50 dB RBW 1 MHz Att 30 dB SWT 140 ms VBW 3 MHz Mode Auto Sweep</p> <p>IPk View M1[1] -31.49 dBm 18.3250 GHz</p> <p>Start 1.0 GHz 1001 pts Stop 36.0 GHz</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td></td> <td>18.325 GHz</td> <td>-31.49 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 13:29:37</p>	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			18.325 GHz	-31.49 dBm		
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result											
M1	1			18.325 GHz	-31.49 dBm													
Middle	 <p>Ref Level 10.00 dBm Offset 10.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>IPk Max M1[1] -46.84 dBm 834.50 MHz</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:12:05</p>	 <p>Ref Level 30.00 dBm Offset 10.50 dB RBW 1 MHz Att 30 dB SWT 140 ms VBW 3 MHz Mode Auto Sweep</p> <p>IPk View M1[1] -31.99 dBm 18.3250 GHz</p> <p>Start 1.0 GHz 1001 pts Stop 36.0 GHz</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td></td> <td>18.325 GHz</td> <td>-31.99 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 13:30:06</p>	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			18.325 GHz	-31.99 dBm		
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result											
M1	1			18.325 GHz	-31.99 dBm													
Highest	 <p>Ref Level 10.00 dBm Offset 10.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>IPk Max M1[1] -46.93 dBm 877.10 MHz</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 12:12:57</p>	 <p>Ref Level 30.00 dBm Offset 10.50 dB RBW 1 MHz Att 30 dB SWT 140 ms VBW 3 MHz Mode Auto Sweep</p> <p>IPk View M1[1] -32.34 dBm 18.8900 GHz</p> <p>Start 1.0 GHz 1001 pts Stop 36.0 GHz</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td></td> <td>18.89 GHz</td> <td>-32.34 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>ProjectNo.:CR231273520 Tester:Len Huang Date: 1.MAR.2024 13:30:42</p>	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			18.89 GHz	-32.34 dBm		
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result											
M1	1			18.89 GHz	-32.34 dBm													

Spurious Emissions at Antenna Terminal

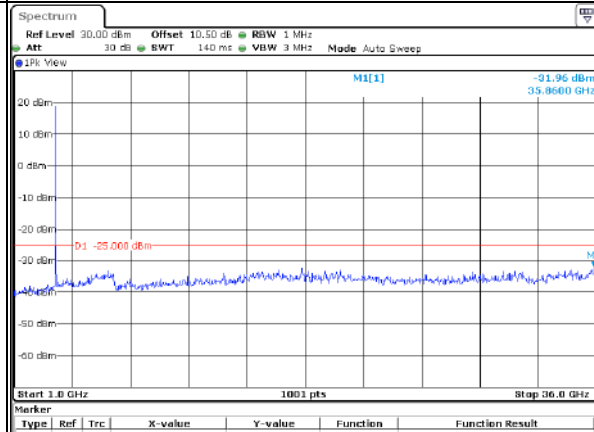
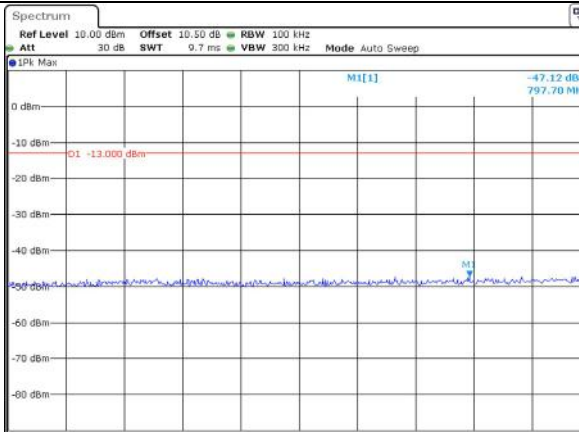
Channel

20MHz Bandwidth QPSK

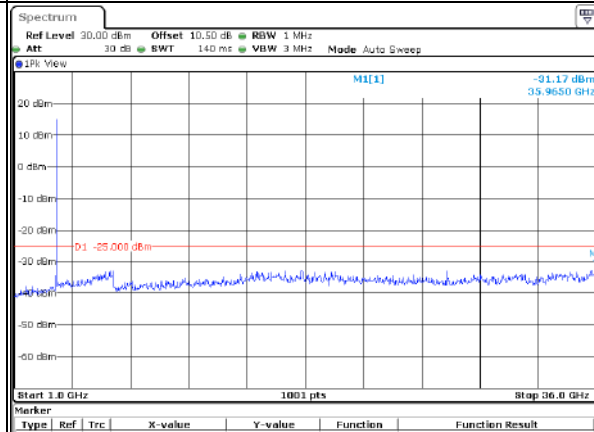
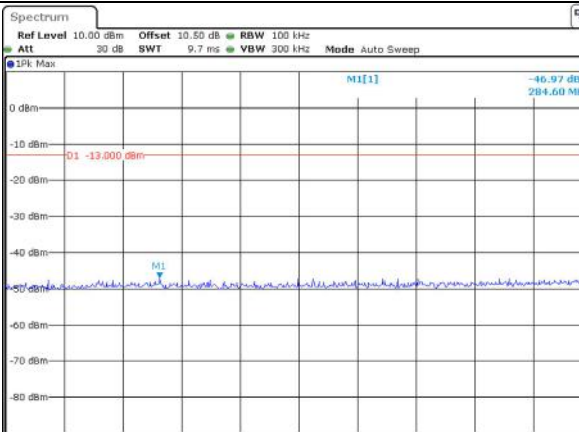
Lowest



Middle



Highest



Out of band emission, Band Edge

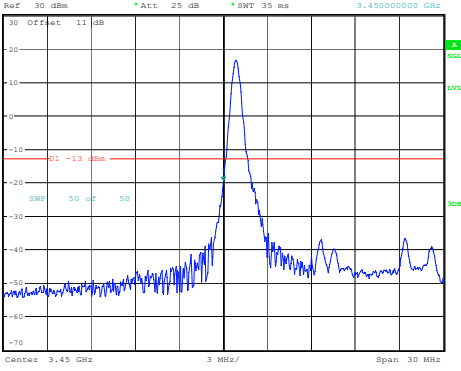
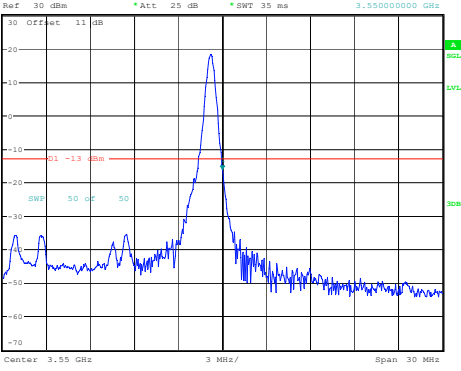
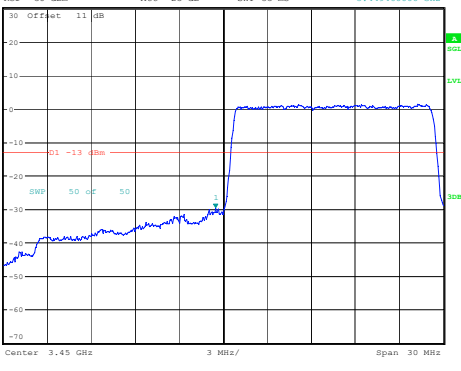
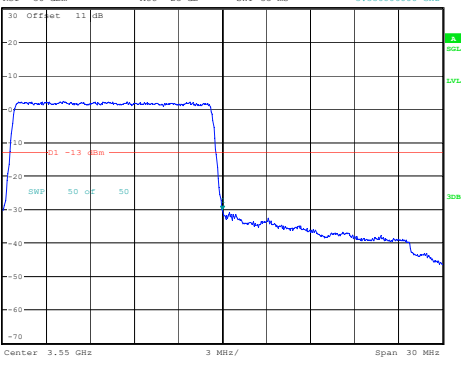
Mode	Lowest/1RB0	Highest/1RBmax
QPSK 5MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:32:02</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:33:27</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:24:35</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:25:23</p>



Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
<p>QPSK 10MHz</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:34:13</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:34:46</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:26:17</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:27:13</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
<p>QPSK 15MHz</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:35:52</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:36:20</p>
	<p>Lowest/Full RB</p>  <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:27:38</p>	<p>Highest/Full RB</p>  <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:27:55</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
QPSK 20MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:37:08</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:37:36</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:28:20</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:28:37</p>

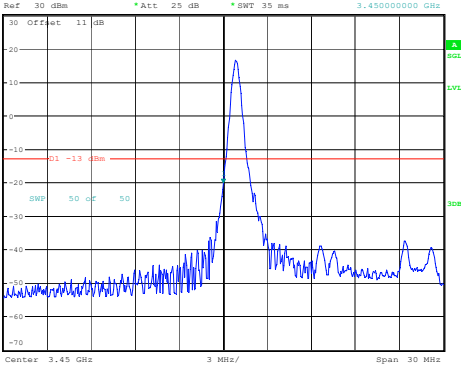
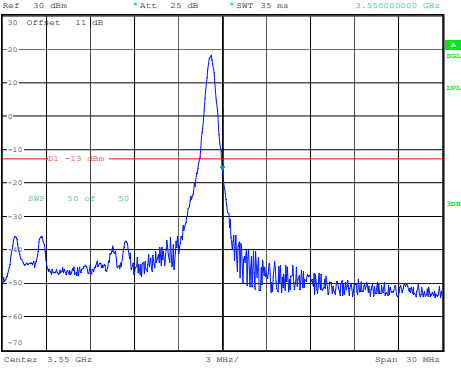
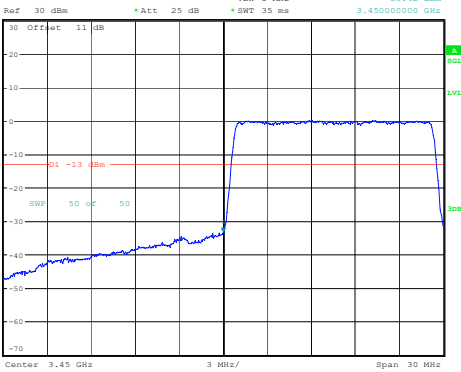
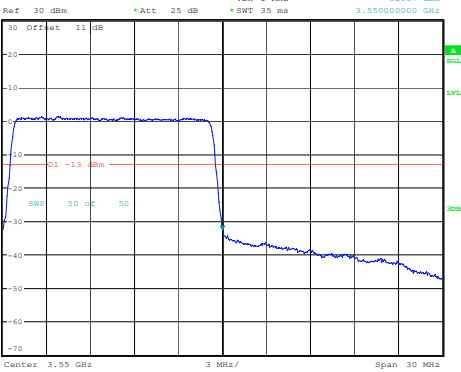
Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 5MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:33:07</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:33:50</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:25:15</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:25:31</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 10MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:34:29</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:35:30</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:26:25</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:27:21</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 15MHz	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:36:07</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:36:37</p>
	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:27:46</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:28:03</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 20MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:37:21</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:38:10</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:28:28</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 20.DEC.2023 09:28:45</p>

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

Serial Number:	2EXR-1	Test Date:	2023/12/15-2024/03/02
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo, Len Huang	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	25.2-25.7	Relative Humidity: (%)	49-53	ATM Pressure: (kPa)	101
----------------------	-----------	---------------------------	-------	------------------------	-----

**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200120	2023/4/18	2024/4/17
R&S	Spectrum Analyzer	FSV40-N	102259	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211002	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)
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



**Test Data:**

FCC§2.1046;§ 27.50(d)(4)						
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		
1.4MHz QPSK	RB1#0	23.03	22.7	22.35	17.41	30
	RB1#3	23.03	22.64	22.35		
	RB1#5	23.03	22.68	22.36		
	RB3#0	23.1	22.73	22.44		
	RB3#3	23.11	22.7	22.44		
	RB6#0	22.09	21.72	21.46		
1.4MHz 16QAM	RB1#0	22.10	21.74	21.6	16.42	30
	RB1#3	22.10	21.76	21.58		
	RB1#5	22.10	21.75	21.58		
	RB3#0	22.12	21.86	21.41		
	RB3#3	22.1	22	21.41		
	RB6#0	20.99	20.71	20.48		
3MHz QPSK	RB1#0	23.04	22.8	22.38	17.34	30
	RB1#8	23.01	22.7	22.37		
	RB1#14	23.03	22.68	22.3		
	RB6#0	22.13	21.75	21.51		
	RB6#9	22.05	21.71	21.50		
	RB15#0	22.08	21.69	21.48		
3MHz 16QAM	RB1#0	22.14	22.24	21.62	16.54	30
	RB1#8	22.12	22.20	21.57		
	RB1#14	22.13	22.15	21.54		
	RB6#0	21.04	20.86	20.52		
	RB6#9	21.01	20.7	20.51		
	RB15#0	21.09	20.77	20.39		
5MHz QPSK	RB1#0	23.11	22.81	22.63	17.41	30
	RB1#13	23.09	22.75	22.66		
	RB1#24	23.07	22.72	22.64		
	RB15#0	22.07	21.75	21.48		
	RB15#10	22.06	21.68	21.5		
	RB25#0	22.0	21.70	21.42		
5MHz 16QAM	RB1#0	22.42	21.82	21.36	16.72	30
	RB1#13	22.39	21.75	21.35		
	RB1#24	22.35	21.72	21.35		
	RB15#0	21.04	20.78	20.50		
	RB15#10	21.00	20.67	20.46		
	RB25#0	21.0	20.69	20.5		
10MHz QPSK	RB1#0	23.09	22.76	22.46	17.39	30

	RB1#25	23.03	22.68	22.5		
	RB1#49	23.06	22.61	22.45		
	RB25#0	22.04	21.75	21.44		
	RB25#25	22.04	21.69	21.43		
	RB50#0	22.10	21.7	21.46		
10MHz 16QAM	RB1#0	22.26	21.8	22.01	16.56	30
	RB1#25	22.20	21.72	21.95		
	RB1#49	22.19	21.62	21.90		
	RB25#0	21.08	20.81	20.50		
	RB25#25	21.05	20.77	20.48		
	RB50#0	21.06	20.72	20.45		
15MHz QPSK	RB1#0	23.06	22.76	22.45	17.36	30
	RB1#38	23.01	22.64	22.43		
	RB1#74	22.9	22.51	22.44		
	RB36#0	22.01	21.79	21.51		
	RB36#39	21.9	21.62	21.42		
	RB75#0	22.06	21.7	21.5		
15MHz 16QAM	RB1#0	22.23	22.20	22.03	16.53	30
	RB1#38	22.19	22.12	22.01		
	RB1#74	22.07	22.00	21.90		
	RB36#0	21.09	20.77	20.47		
	RB36#39	21.0	20.63	20.42		
	RB75#0	21.07	20.69	20.5		
20MHz QPSK	RB1#0	23.11	22.86	22.52	17.41	30
	RB1#50	23.11	22.68	22.44		
	RB1#99	22.94	22.51	22.33		
	RB50#0	22.13	21.79	21.52		
	RB50#50	21.91	21.72	21.47		
	RB100#0	22.03	21.72	21.48		
20MHz 16QAM	RB1#0	22.36	22.48	21.85	16.78	30
	RB1#50	22.33	22.35	21.75		
	RB1#99	22.11	22.19	21.66		
	RB50#0	21.09	20.77	20.50		
	RB50#50	20.89	20.69	20.43		
	RB100#0	21.00	20.70	20.47		
Note: EIRP=Conducted Power(dBm) - Lc(dB) + G <sub>T</sub> (dBi)						

<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	2.43	2.14	2.06	13
	RB100#0	2.17	2.06	2.06	13
20MHz 16QAM	RB1#0	3.25	2.99	2.8	13
	RB100#0	2.96	2.78	2.78	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	1.092	1.104	1.104	1.308	1.332	1.284
1.4MHz 16QAM	1.104	1.098	1.098	1.326	1.290	1.302
3MHz QPSK	2.700	2.700	2.700	2.900	2.900	2.900
3MHz 16QAM	2.687	2.700	2.687	2.904	2.900	2.916
5MHz QPSK	4.500	4.520	4.500	5.000	4.980	4.900
5MHz 16QAM	4.520	4.500	4.520	4.980	5.000	5.040
10MHz QPSK	8.960	8.960	8.960	9.640	9.720	9.600
10MHz 16QAM	8.960	8.960	8.960	9.680	9.560	9.600
15MHz QPSK	13.500	13.500	13.560	14.800	15.000	15.000
15MHz 16QAM	13.500	13.500	13.500	14.800	14.800	14.900
20MHz QPSK	18.000	18.000	18.000	19.000	20.000	19.000
20MHz 16QAM	18.000	18.000	18.000	19.000	20.000	19.000

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>

<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	3.91	1710.168	1710.00	1779.818	1780
	-20	3.91	1710.234	1710.00	1779.745	1780
	-10	3.91	1710.080	1710.00	1779.975	1780
	0	3.91	1710.241	1710.00	1779.949	1780
	10	3.91	1710.040	1710.00	1779.965	1780
	20	3.91	1710.095	1710.00	1779.908	1780
	30	3.91	1710.210	1710.00	1779.826	1780
	40	3.91	1710.252	1710.00	1779.935	1780
	50	3.91	1710.186	1710.00	1779.707	1780
Frequency Stability vs. Voltage	20	3.45	1710.037	1710.00	1779.899	1780
	20	4.5	1710.218	1710.00	1779.967	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	3.91	1710.077	1710.00	1779.716	1780
	-20	3.91	1710.049	1710.00	1779.981	1780
	-10	3.91	1710.144	1710.00	1779.788	1780
	0	3.91	1710.292	1710.00	1779.920	1780
	10	3.91	1710.148	1710.00	1779.795	1780
	20	3.91	1710.247	1710.00	1779.726	1780
	30	3.91	1710.268	1710.00	1779.867	1780
	40	3.91	1710.190	1710.00	1779.931	1780
	50	3.91	1710.273	1710.00	1779.774	1780
Frequency Stability vs. Voltage	20	3.45	1710.278	1710.00	1779.796	1780
	20	4.5	1710.122	1710.00	1779.902	1780
					<b>Result:</b>	<b>Pass</b>

**Test Plot:** (Note: The 10.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):

Occupied Bandwidth		
Channel	1.4MHz Bandwidth QPSK	1.4MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:55:21</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:55:38</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:55:55</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:56:11</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:56:25</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:56:45</p>

Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:57:25</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:57:38</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:57:52</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:58:09</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:58:26</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:58:42</p>

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:59:26</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 10:59:43</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:00:00</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:00:16</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:05:53</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:06:13</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:07:05</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:07:22</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:09:27</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:09:44</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:10:01</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:10:17</p>



Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:11:09</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:11:26</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:11:43</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:12:00</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:12:17</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:12:34</p>

Occupied Bandwidth

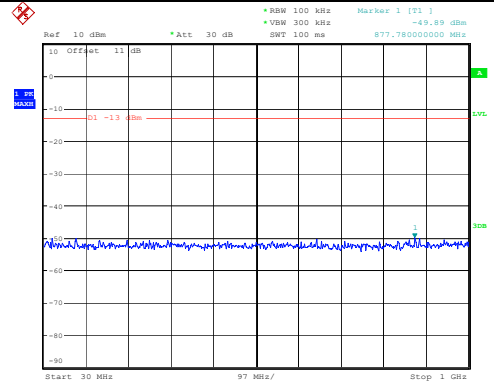
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:13:26</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:13:40</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:13:57</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:14:14</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:14:33</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 18.DEC.2023 11:14:50</p>

Spurious Emissions at Antenna Terminal

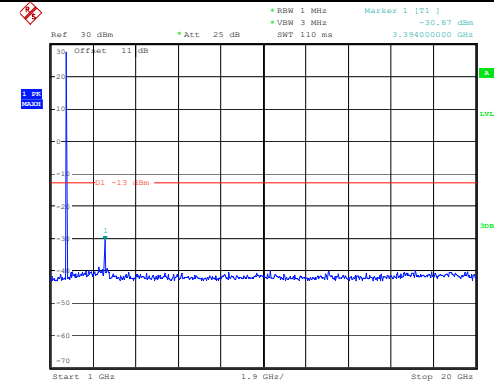
Channel

1.4MHz Bandwidth QPSK

Lowest

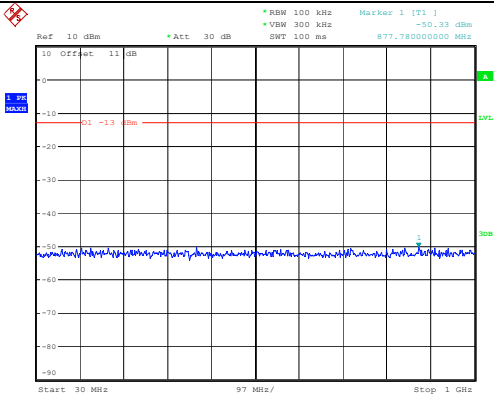


ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:34:03

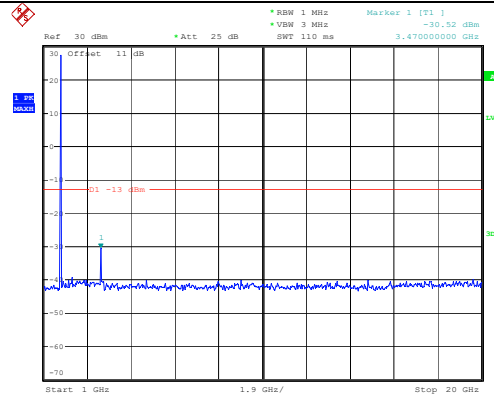


ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:34:14

Middle

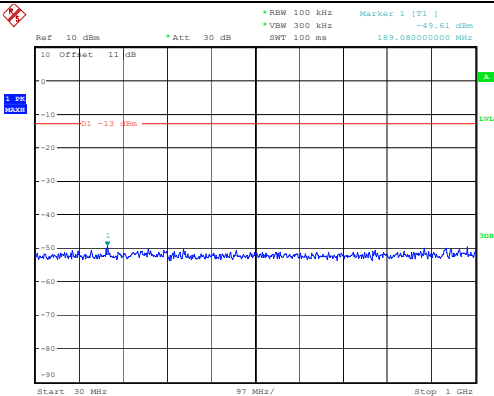


ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:34:26

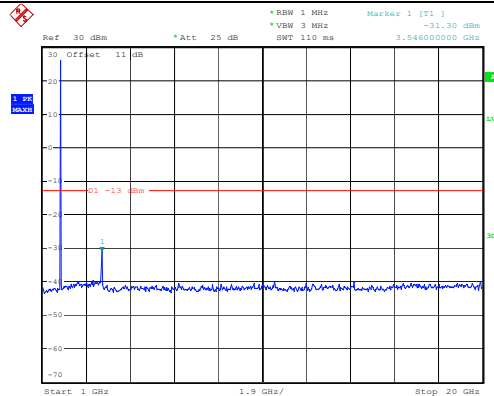


ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:34:37

Highest



ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:34:49

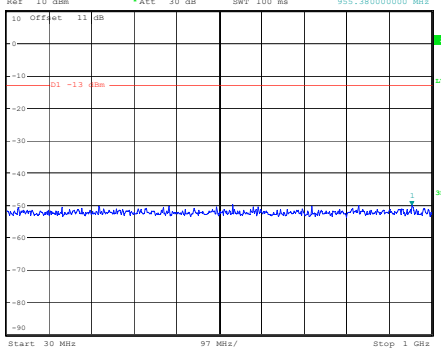
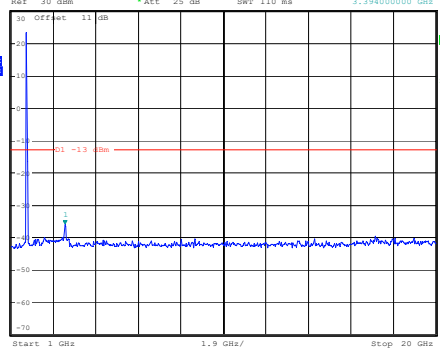
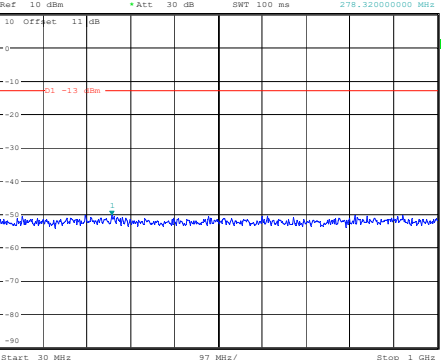
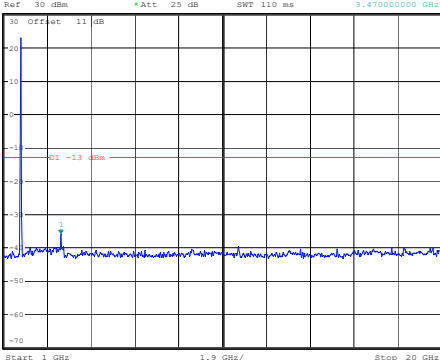
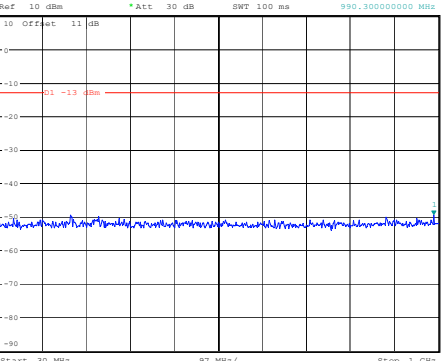
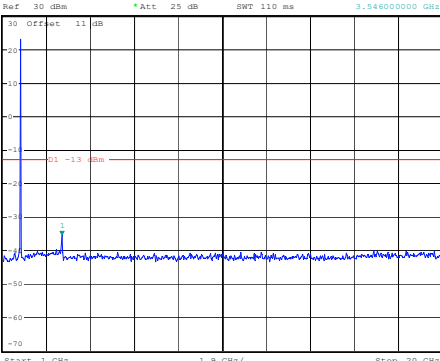


ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:35:00

Spurious Emissions at Antenna Terminal

Channel	3MHz Bandwidth QPSK	
Lowest	<p>Ref 10 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] -49.39 dBm *VSW 300 kHz *SWT 100 ms 831.22000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:43:47</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] -34.63 dBm *VSW 3 MHz *SWT 110 ms 3.39400000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:43:57</p>
Middle	<p>Ref 10 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] -49.68 dBm *VSW 300 kHz *SWT 100 ms 928.22000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:44:13</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] -33.53 dBm *VSW 3 MHz *SWT 110 ms 3.47000000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:44:24</p>
Highest	<p>Ref 10 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] -49.79 dBm *VSW 300 kHz *SWT 100 ms 710.94000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:44:39</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] -34.39 dBm *VSW 3 MHz *SWT 110 ms 3.54600000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:44:50</p>

Spurious Emissions at Antenna Terminal

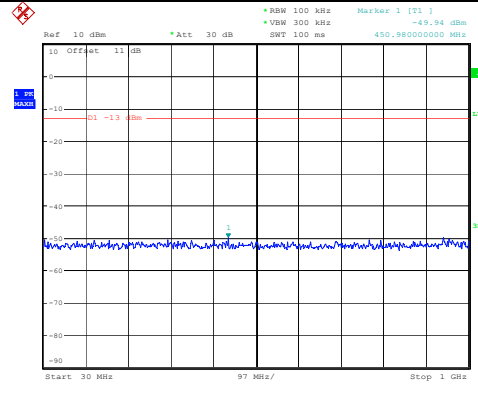
Channel	5MHz Bandwidth QPSK	
Lowest	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [F1] -50.24 dBm 955.38000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:45:38</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *SWT 110 ms Marker 1 [F1] -36.01 dBm 3.394000000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:45:49</p>
Middle	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [F1] -50.30 dBm 278.320000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:46:01</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *SWT 110 ms Marker 1 [F1] -36.05 dBm 3.470000000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:46:11</p>
Highest	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [F1] -49.49 dBm 990.300000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:46:24</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *SWT 110 ms Marker 1 [F1] -35.72 dBm 3.546000000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:46:34</p>

Spurious Emissions at Antenna Terminal

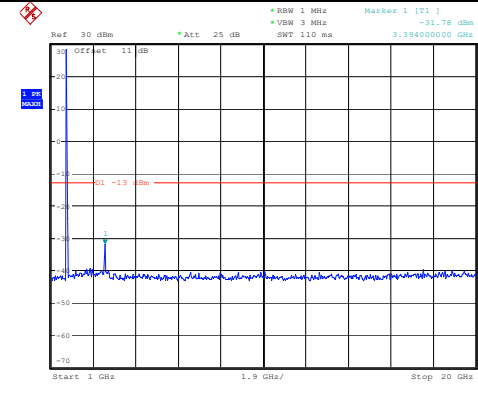
Channel

10MHz Bandwidth QPSK

Lowest

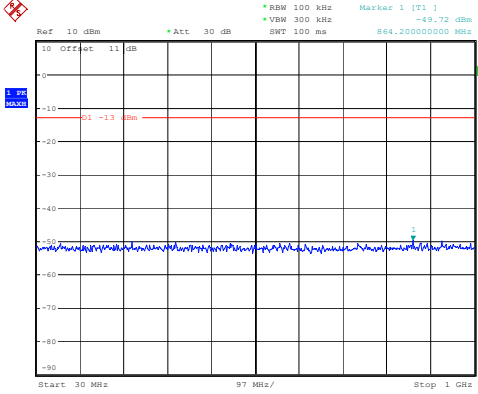


ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:50:08

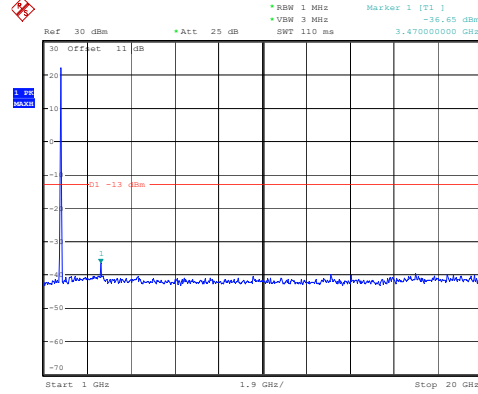


ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:50:18

Middle

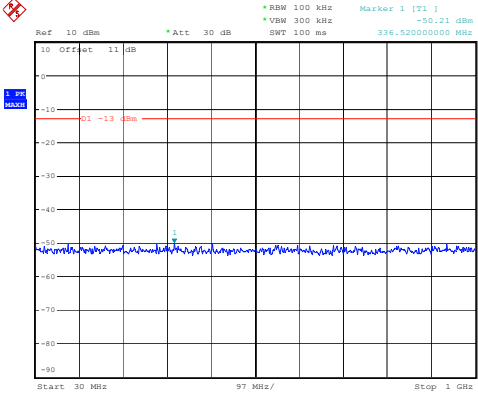


ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:50:34

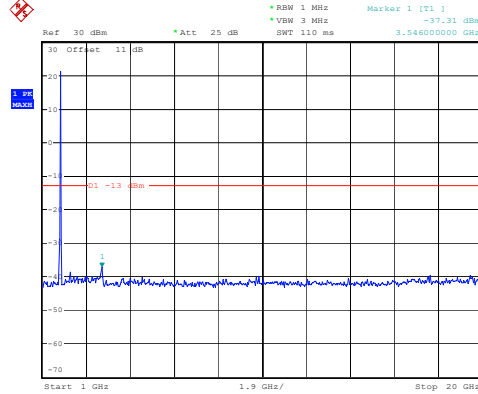


ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:50:44

Highest



ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:50:57



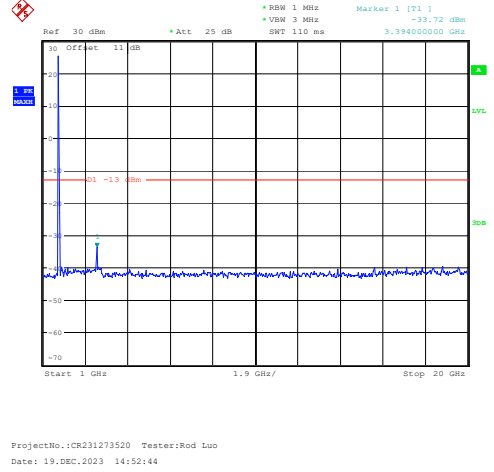
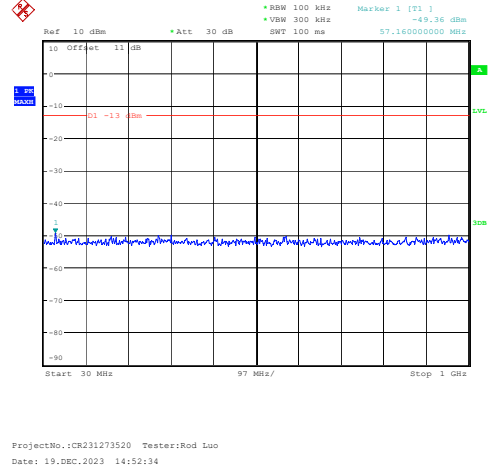
ProjectNo.:CR231273520 Tester:Rod Luo  
Date: 19.DEC.2023 14:51:07

**Spurious Emissions at Antenna Terminal**

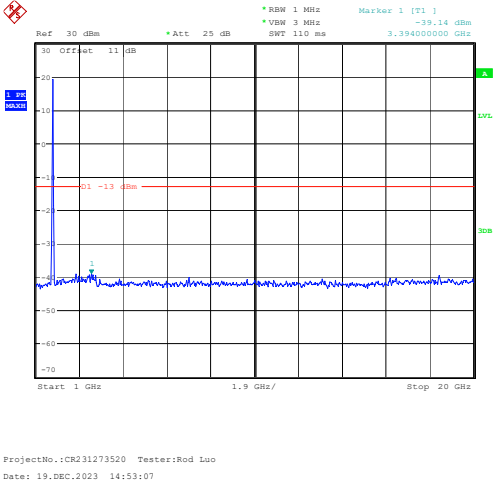
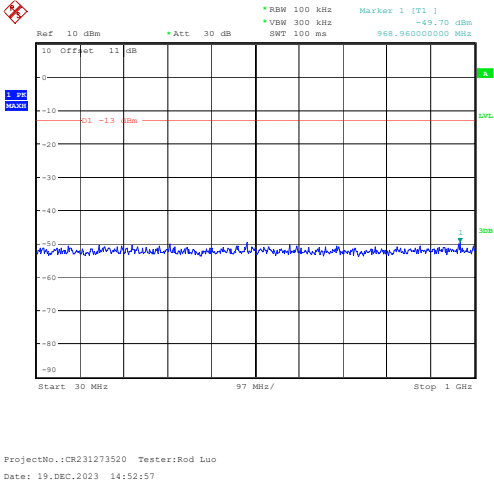
**Channel**

**15MHz Bandwidth QPSK**

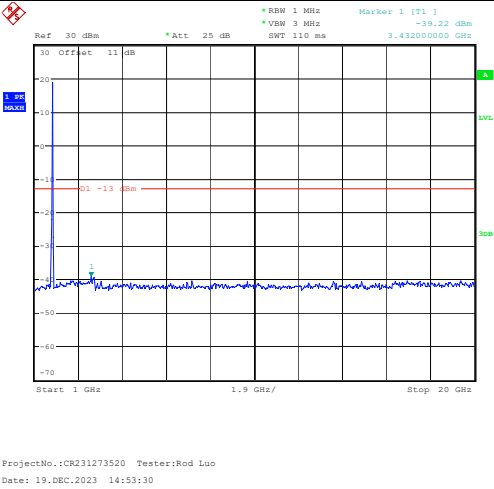
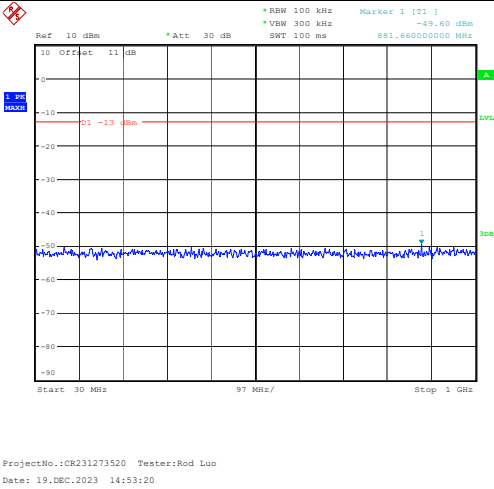
Lowest



Middle



Highest



Spurious Emissions at Antenna Terminal

Channel	20MHz Bandwidth QPSK	
Lowest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:54:37</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:54:47</p>
Middle	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:55:03</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:55:14</p>
Highest	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:55:27</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:55:37</p>



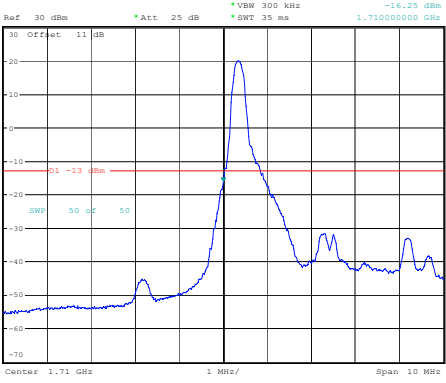
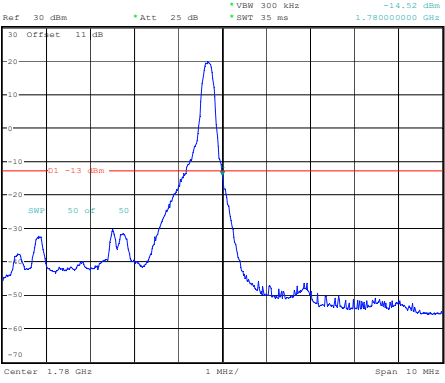
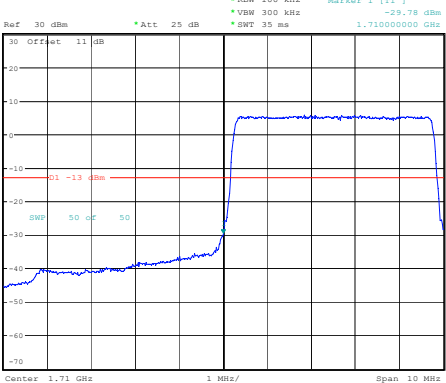
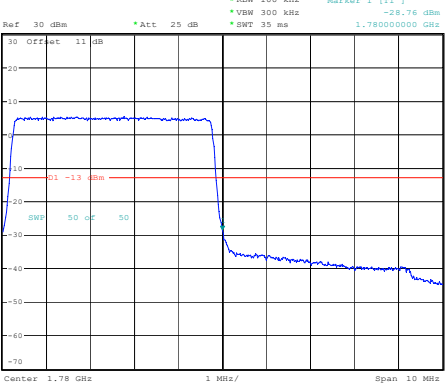
Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
QPSK 1.4MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:09:43</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:10:49</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:58:51</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:59:05</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
QPSK 3MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:12:09</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:13:07</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:59:50</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:00:04</p>

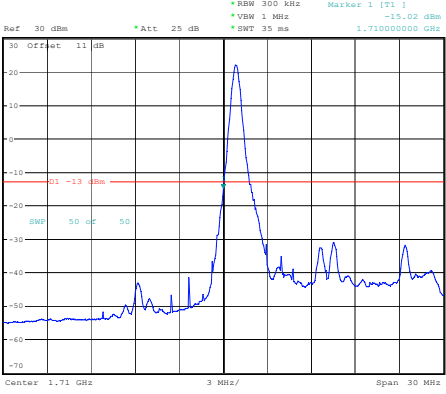
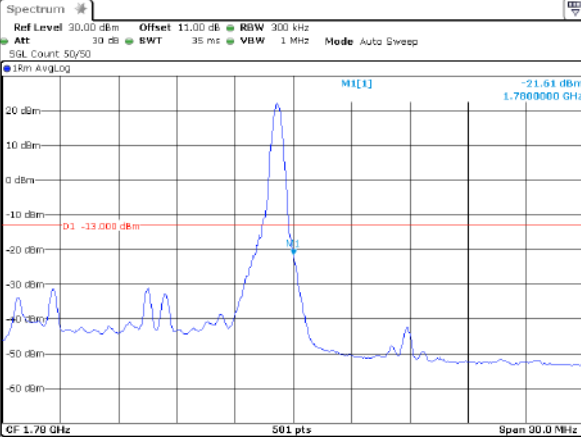
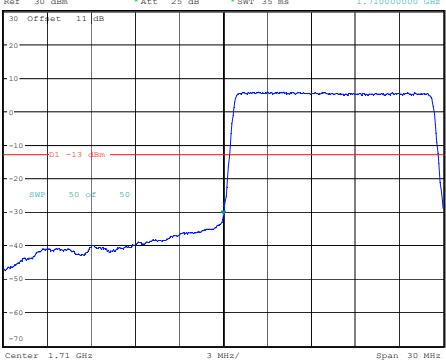
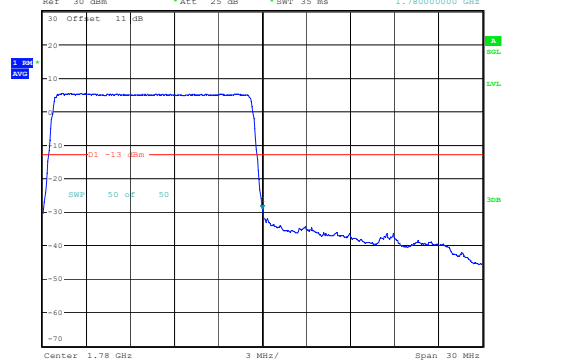
Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
QPSK 5MHz	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:17:52</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:18:43</p>
	Lowest/Full RB	Highest/Full RB
	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:00:49</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:01:04</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
QPSK 10MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:19:39</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:20:18</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:01:48</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:02:04</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
<p>QPSK 15MHz</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:21:17</p>	 <p>ProjectNo.:CR231273520 Tester:Len Huang Date: 2.MAR.2024 13:50:49</p>
	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:03:23</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:05:38</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
QPSK 20MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:22:52</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:23:46</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:06:28</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:06:41</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 1.4MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:10:17</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:11:05</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:58:58</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:59:12</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 3MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:12:30</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:16:56</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 14:59:56</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:00:10</p>



Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 5MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:18:20</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:19:00</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:00:56</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:01:11</p>

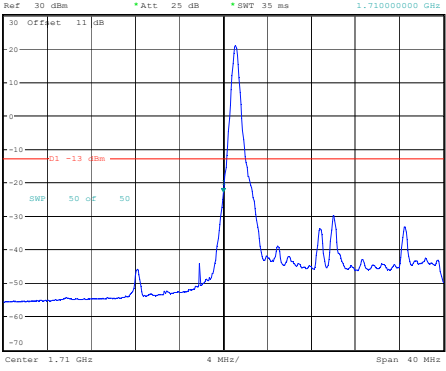
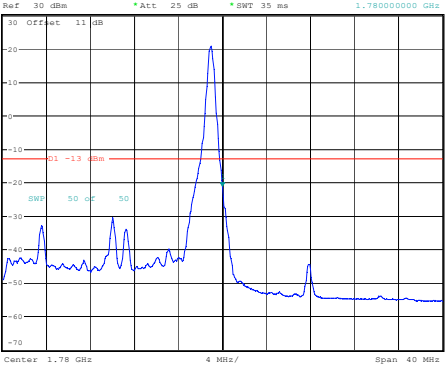
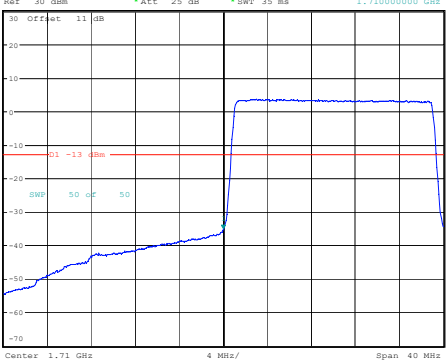
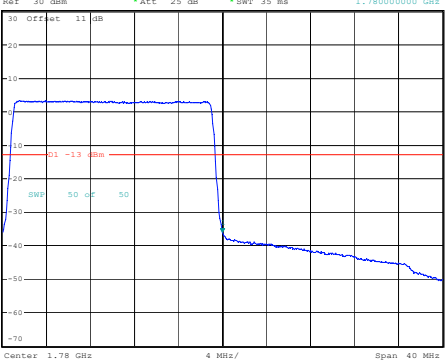
Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 10MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:19:56</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:20:41</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:01:55</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:02:11</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 15MHz	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:21:36</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:22:11</p>
	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:03:29</p>	<p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:05:44</p>

Out of band emission, Band Edge

Mode	Lowest/1RB0	Highest/1RBmax
16QAM 20MHz	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:23:30</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:24:03</p>
	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:06:34</p>	 <p>ProjectNo.:CR231273520 Tester:Rod Luo Date: 19.DEC.2023 15:06:47</p>

**4.17 Radiated Spurious Emissions**

Serial Number:	2EXR-4	Test Date:	2023/12/30-2024/1/1
Test Site:	966-2, 966-1	Test Mode:	Transmitting
Tester:	Carl Xue, Coco Tian	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	24.6-26.4	Relative Humidity: (%)	42-66	ATM Pressure: (kPa)	101.3-101.4
----------------------	-----------	---------------------------	-------	---------------------------	-------------

**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	2023/11/17	2024/11/16
<b>Above 1GHz</b>					
AH	Double Ridge Guide Horn Antenna	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	2023/11/8	2024/11/7
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	2023/11/17	2024/11/16
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 (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 850 Frequency:824.2MHz								
589.21	H	20.81	-53.26	0.00	0.48	-53.74	-13.00	40.74
687.36	V	20.79	-49.36	0.00	0.53	-49.89	-13.00	36.89
1648.400	H	47.65	-56.68	8.68	0.80	-48.80	-13.00	35.80
1648.400	V	46.03	-58.38	8.68	0.80	-50.50	-13.00	37.50
2472.600	H	51.80	-48.98	9.38	1.00	-40.60	-13.00	27.60
2472.600	V	51.15	-49.58	9.38	1.00	-41.20	-13.00	28.20
3296.800	H	36.81	-59.87	10.32	1.15	-50.70	-13.00	37.70
3296.800	V	37.37	-59.07	10.32	1.15	-49.90	-13.00	36.90
GSM 850 Frequency:836.6MHz								
559.05	H	20.87	-53.80	0.00	0.47	-54.27	-13.00	41.27
716.87	V	20.75	-48.80	0.00	0.50	-49.30	-13.00	36.30
1673.200	H	48.75	-55.56	8.71	0.85	-47.70	-13.00	34.70
1673.200	V	47.45	-56.96	8.71	0.85	-49.10	-13.00	36.10
2509.800	H	52.70	-47.91	9.42	1.01	-39.50	-13.00	26.50
2509.800	V	52.01	-48.61	9.42	1.01	-40.20	-13.00	27.20
3346.400	H	36.79	-60.38	10.34	1.16	-51.20	-13.00	38.20
3346.400	V	37.55	-59.48	10.34	1.16	-50.30	-13.00	37.30
GSM 850 Frequency:848.8MHz								
680.22	H	20.78	-52.65	0.00	0.52	-53.17	-13.00	40.17
719.16	V	20.83	-48.67	0.00	0.49	-49.16	-13.00	36.16
1697.600	H	48.75	-55.54	8.74	0.90	-47.70	-13.00	34.70
1697.600	V	49.08	-55.34	8.74	0.90	-47.50	-13.00	34.50
2546.400	H	51.77	-48.56	9.47	1.01	-40.10	-13.00	27.10
2546.400	V	51.12	-49.16	9.47	1.01	-40.70	-13.00	27.70
3395.200	H	37.82	-59.87	10.36	1.19	-50.70	-13.00	37.70
3395.200	V	38.79	-58.87	10.36	1.19	-49.70	-13.00	36.70

**PCS Band (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)			
GSM 1900 Frequency:1850.2MHz								
99.52	H	52.24	-60.16	0.00	0.19	-60.35	-13.00	47.35
305.68	V	45.44	-63.22	0.00	0.34	-63.56	-13.00	50.56
3700.400	H	50.17	-47.15	10.60	1.25	-37.80	-13.00	24.80
3700.400	V	49.35	-47.95	10.60	1.25	-38.60	-13.00	25.60
5550.600	H	46.81	-46.45	11.44	1.49	-36.50	-13.00	23.50
5550.600	V	45.95	-47.15	11.44	1.49	-37.20	-13.00	24.20
GSM 1900 Frequency:1880MHz								
95.43	H	51.75	-60.92	0.00	0.19	-61.11	-13.00	48.11
314.36	V	44.70	-63.74	0.00	0.34	-64.08	-13.00	51.08
3760.000	H	51.59	-44.82	10.66	1.24	-35.40	-13.00	22.40
3760.000	V	50.77	-45.52	10.66	1.24	-36.10	-13.00	23.10
5640.000	H	49.16	-44.29	11.33	1.54	-34.50	-13.00	21.50
5640.000	V	48.14	-45.19	11.33	1.54	-35.40	-13.00	22.40
GSM 1900 Frequency:1909.8MHz								
96.78	H	52.03	-60.55	0.00	0.19	-60.74	-13.00	47.74
284.99	V	44.86	-64.60	0.00	0.32	-64.92	-13.00	51.92
3819.600	H	53.63	-42.23	10.72	1.29	-32.80	-13.00	19.80
3819.600	V	52.49	-43.23	10.72	1.29	-33.80	-13.00	20.80
5729.400	H	51.45	-42.03	11.22	1.59	-32.40	-13.00	19.40
5729.400	V	50.33	-43.03	11.22	1.59	-33.40	-13.00	20.40

**WCDMA 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)			
WCDMA Band II, Frequency:1852.4 MHz								
94.10	H	52.05	-60.71	0.00	0.18	-60.89	-13.00	47.89
300.38	V	44.63	-64.17	0.00	0.34	-64.51	-13.00	51.51
3704.800	H	37.51	-59.75	10.60	1.25	-50.40	-13.00	37.40
3704.800	V	37.38	-59.85	10.60	1.25	-50.50	-13.00	37.50
5557.200	H	36.54	-56.74	11.43	1.49	-46.80	-13.00	33.80
5557.200	V	36.09	-57.04	11.43	1.49	-47.10	-13.00	34.10
WCDMA Band II, Frequency:1880 MHz								
99.87	H	52.14	-60.24	0.00	0.19	-60.43	-13.00	47.43
297.21	V	44.70	-64.23	0.00	0.33	-64.56	-13.00	51.56
3760.000	H	37.49	-58.92	10.66	1.24	-49.50	-13.00	36.50
3760.000	V	36.47	-59.82	10.66	1.24	-50.40	-13.00	37.40
5640.000	H	36.76	-56.69	11.33	1.54	-46.90	-13.00	33.90
5640.000	V	36.64	-56.69	11.33	1.54	-46.90	-13.00	33.90
WCDMA Band II, Frequency:1907.6MHz								
97.18	H	51.91	-60.65	0.00	0.19	-60.84	-13.00	47.84
94.09	V	45.41	-62.98	0.00	0.18	-63.16	-13.00	50.16
3815.200	H	37.72	-58.13	10.72	1.29	-48.70	-13.00	35.70
3815.200	V	36.06	-59.63	10.72	1.29	-50.20	-13.00	37.20
5722.800	H	37.74	-55.75	11.23	1.58	-46.10	-13.00	33.10
5722.800	V	37.00	-56.35	11.23	1.58	-46.70	-13.00	33.70



**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				
94.76	H	51.64	-61.08	0.00	0.19	-61.27	-13.00	48.27
290.01	V	45.23	-64.01	0.00	0.33	-64.34	-13.00	51.34
3424.800	H	37.67	-60.10	10.37	1.17	-50.90	-13.00	37.90
3424.800	V	37.64	-60.10	10.37	1.17	-50.90	-13.00	37.90
5137.200	H	35.40	-58.22	11.28	1.46	-48.40	-13.00	35.40
5137.200	V	35.98	-57.52	11.28	1.46	-47.70	-13.00	34.70
Frequency:			1732.6	MHz				
93.11	H	52.21	-60.61	0.00	0.18	-60.79	-13.00	47.79
303.54	V	44.96	-63.76	0.00	0.34	-64.10	-13.00	51.10
3465.200	H	37.97	-59.84	10.39	1.15	-50.60	-13.00	37.60
3465.200	V	37.63	-60.14	10.39	1.15	-50.90	-13.00	37.90
5197.800	H	36.95	-57.18	11.32	1.44	-47.30	-13.00	34.30
5197.800	V	37.00	-56.98	11.32	1.44	-47.10	-13.00	34.10
Frequency:			1752.6	MHz				
97.45	H	52.17	-60.37	0.00	0.19	-60.56	-13.00	47.56
97.15	V	44.63	-63.06	0.00	0.19	-63.25	-13.00	50.25
3505.200	H	37.60	-60.23	10.41	1.18	-51.00	-13.00	38.00
3505.200	V	37.74	-60.03	10.41	1.18	-50.80	-13.00	37.80
5257.800	H	35.35	-58.38	11.35	1.47	-48.50	-13.00	35.50
5257.800	V	35.43	-58.08	11.35	1.47	-48.20	-13.00	35.20

**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								
603.59	H	20.68	-53.16	0.00	0.50	-53.66	-13.00	40.66
701.74	V	20.98	-48.90	0.00	0.55	-49.45	-13.00	36.45
1652.800	H	49.46	-54.87	8.68	0.81	-47.00	-13.00	34.00
1652.800	V	47.64	-56.77	8.68	0.81	-48.90	-13.00	35.90
2479.200	H	47.38	-53.38	9.39	1.01	-45.00	-13.00	32.00
2479.200	V	46.05	-54.68	9.39	1.01	-46.30	-13.00	33.30
3305.600	H	35.56	-61.17	10.32	1.15	-52.00	-13.00	39.00
3305.600	V	35.43	-61.07	10.32	1.15	-51.90	-13.00	38.90
WCDMA Band 5 Frequency:836.6MHz								
706.58	H	20.74	-52.45	0.00	0.54	-52.99	-13.00	39.99
663.70	V	20.94	-49.64	0.00	0.50	-50.14	-13.00	37.14
1673.200	H	53.55	-50.76	8.71	0.85	-42.90	-13.00	29.90
1673.200	V	51.75	-52.66	8.71	0.85	-44.80	-13.00	31.80
2509.800	H	47.90	-52.71	9.42	1.01	-44.30	-13.00	31.30
2509.800	V	46.71	-53.91	9.42	1.01	-45.50	-13.00	32.50
3346.400	H	35.79	-61.38	10.34	1.16	-52.20	-13.00	39.20
3346.400	V	36.15	-60.88	10.34	1.16	-51.70	-13.00	38.70
WCDMA Band 5 Frequency:846.6MHz								
721.59	H	20.83	-52.05	0.00	0.50	-52.55	-13.00	39.55
697.91	V	20.77	-49.19	0.00	0.55	-49.74	-13.00	36.74
1693.200	H	47.96	-56.34	8.73	0.89	-48.50	-13.00	35.50
1693.200	V	45.88	-58.54	8.73	0.89	-50.70	-13.00	37.70
2539.800	H	45.23	-55.15	9.46	1.01	-46.70	-13.00	33.70
2539.800	V	44.89	-55.45	9.46	1.01	-47.00	-13.00	34.00
3386.400	H	36.82	-60.77	10.35	1.18	-51.60	-13.00	38.60
3386.400	V	36.57	-60.97	10.35	1.18	-51.80	-13.00	38.80

**LTE Bands:**

(The Worst modulation and bandwidth was below)

**LTE 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)			
QPSK, 1.4MHz, Frequency:1850.7 MHz								
95.42	H	52.56	-60.11	0.00	0.19	-60.30	-13.00	47.30
318.43	V	44.89	-63.44	0.00	0.34	-63.78	-13.00	50.78
3701.400	H	43.46	-53.85	10.60	1.25	-44.50	-13.00	31.50
3701.400	V	42.94	-54.35	10.60	1.25	-45.00	-13.00	32.00
5552.100	H	42.12	-51.15	11.44	1.49	-41.20	-13.00	28.20
5552.100	V	41.05	-52.05	11.44	1.49	-42.10	-13.00	29.10
QPSK, 1.4MHz, Frequency:1880 MHz								
96.09	H	52.93	-59.70	0.00	0.19	-59.89	-13.00	46.89
298.26	V	44.32	-64.57	0.00	0.34	-64.91	-13.00	51.91
3760.000	H	43.69	-52.72	10.66	1.24	-43.30	-13.00	30.30
3760.000	V	42.97	-53.32	10.66	1.24	-43.90	-13.00	30.90
5640.000	H	43.26	-50.19	11.33	1.54	-40.40	-13.00	27.40
5640.000	V	41.64	-51.69	11.33	1.54	-41.90	-13.00	28.90
QPSK, 1.4MHz, Frequency:1909.3 MHz								
93.11	H	52.42	-60.40	0.00	0.18	-60.58	-13.00	47.58
301.40	V	44.39	-64.38	0.00	0.34	-64.72	-13.00	51.72
3818.600	H	44.63	-51.23	10.72	1.29	-41.80	-13.00	28.80
3818.600	V	43.68	-52.03	10.72	1.29	-42.60	-13.00	29.60
5727.900	H	45.14	-48.34	11.23	1.59	-38.70	-13.00	25.70
5727.900	V	43.62	-49.74	11.23	1.59	-40.10	-13.00	27.10

**LTE Band 4 (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					
98.83	H	52.65	-59.80	0.00	0.19	-59.99	-13.00	46.99
312.17	V	45.29	-63.20	0.00	0.34	-63.54	-13.00	50.54
3421.400	H	42.86	-54.90	10.37	1.17	-45.70	-13.00	32.70
3421.400	V	43.93	-53.80	10.37	1.17	-44.60	-13.00	31.60
5132.100	H	41.56	-52.01	11.28	1.47	-42.20	-13.00	29.20
5132.100	V	41.25	-52.21	11.28	1.47	-42.40	-13.00	29.40
1.4MHz QPSK, Frequency:			1732.5 MHz					
93.44	H	51.85	-60.95	0.00	0.18	-61.13	-13.00	48.13
293.10	V	44.93	-64.18	0.00	0.33	-64.51	-13.00	51.51
3465.000	H	43.67	-54.14	10.39	1.15	-44.90	-13.00	31.90
3465.000	V	44.63	-53.14	10.39	1.15	-43.90	-13.00	30.90
5197.500	H	42.65	-51.48	11.32	1.44	-41.60	-13.00	28.60
5197.500	V	42.20	-51.78	11.32	1.44	-41.90	-13.00	28.90
1.4MHz QPSK, Frequency:			1754.3 MHz					
97.79	H	52.60	-59.92	0.00	0.19	-60.11	-13.00	47.11
304.61	V	44.80	-63.89	0.00	0.34	-64.23	-13.00	51.23
3508.600	H	44.30	-53.52	10.41	1.19	-44.30	-13.00	31.30
3508.600	V	45.44	-52.32	10.41	1.19	-43.10	-13.00	30.10
5262.900	H	43.31	-50.39	11.36	1.47	-40.50	-13.00	27.50
5262.900	V	42.58	-50.89	11.36	1.47	-41.00	-13.00	28.00

**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								
711.69	H	20.85	-52.23	0.00	0.51	-52.74	-13.00	39.74
729.35	V	21.06	-48.22	0.00	0.53	-48.75	-13.00	35.75
1649.400	H	50.55	-53.78	8.68	0.80	-45.90	-13.00	32.90
1649.400	V	49.23	-55.18	8.68	0.80	-47.30	-13.00	34.30
2474.100	H	52.30	-48.48	9.38	1.00	-40.10	-13.00	27.10
2474.100	V	53.15	-47.58	9.38	1.00	-39.20	-13.00	26.20
3298.800	H	37.51	-59.17	10.32	1.15	-50.00	-13.00	37.00
3298.800	V	36.87	-59.57	10.32	1.15	-50.40	-13.00	37.40
QPSK, 1.4MHz, Frequency: 836.5 MHz								
716.95	H	20.80	-52.18	0.00	0.50	-52.68	-13.00	39.68
714.18	V	20.85	-48.76	0.00	0.50	-49.26	-13.00	36.26
1673.000	H	51.85	-52.46	8.71	0.85	-44.60	-13.00	31.60
1673.000	V	50.15	-54.26	8.71	0.85	-46.40	-13.00	33.40
2509.500	H	52.70	-47.91	9.42	1.01	-39.50	-13.00	26.50
2509.500	V	53.81	-46.81	9.42	1.01	-38.40	-13.00	25.40
3346.000	H	38.38	-58.78	10.34	1.16	-49.60	-13.00	36.60
3346.000	V	38.14	-58.88	10.34	1.16	-49.70	-13.00	36.70
QPSK, 1.4MHz, Frequency: 848.3 MHz								
665.86	H	20.78	-52.72	0.00	0.50	-53.22	-13.00	40.22
689.63	V	20.74	-49.37	0.00	0.54	-49.91	-13.00	36.91
1696.600	H	52.64	-51.65	8.74	0.89	-43.80	-13.00	30.80
1696.600	V	51.07	-53.35	8.74	0.89	-45.50	-13.00	32.50
2544.900	H	53.18	-47.16	9.47	1.01	-38.70	-13.00	25.70
2544.900	V	54.44	-45.86	9.47	1.01	-37.40	-13.00	24.40
3393.200	H	39.50	-58.17	10.36	1.19	-49.00	-13.00	36.00
3393.200	V	39.06	-58.57	10.36	1.19	-49.40	-13.00	36.40

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

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: 2502.5 MHz								
95.42	H	51.84	-60.83	0.00	0.19	-61.02	-25.00	36.02
306.73	V	44.69	-63.95	0.00	0.34	-64.29	-25.00	39.29
5005.000	H	35.63	-57.33	11.20	1.47	-47.60	-25.00	22.60
5005.000	V	36.69	-56.13	11.20	1.47	-46.40	-25.00	21.40
7507.500	H	40.54	-49.25	10.90	1.95	-40.30	-25.00	15.30
7507.500	V	40.14	-50.15	10.90	1.95	-41.20	-25.00	16.20
5MHz QPSK, Frequency: 2535 MHz								
95.09	H	52.26	-60.43	0.00	0.19	-60.62	-25.00	35.62
300.35	V	44.62	-64.18	0.00	0.34	-64.52	-25.00	39.52
5070.000	H	36.42	-56.77	11.24	1.47	-47.00	-25.00	22.00
5070.000	V	37.32	-55.77	11.24	1.47	-46.00	-25.00	21.00
7605.000	H	40.80	-48.67	10.88	2.01	-39.80	-25.00	14.80
7605.000	V	40.42	-49.77	10.88	2.01	-40.90	-25.00	15.90
5MHz QPSK, Frequency: 2567.5 MHz								
97.40	H	52.04	-60.50	0.00	0.19	-60.69	-25.00	35.69
93.11	V	45.01	-63.60	0.00	0.18	-63.78	-25.00	38.78
5135.000	H	37.29	-56.31	11.28	1.47	-46.50	-25.00	21.50
5135.000	V	38.48	-55.01	11.28	1.47	-45.20	-25.00	20.20
7702.500	H	41.63	-47.89	10.86	1.97	-39.00	-25.00	14.00
7702.500	V	41.29	-48.89	10.86	1.97	-40.00	-25.00	15.00

**LTE Band 12(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)			
1.4MHz QPSK, Frequency:			699.7	MHz				
499.61	H	20.56	-55.28	0.00	0.45	-55.73	-13.00	42.73
584.88	V	20.60	-51.11	0.00	0.46	-51.57	-13.00	38.57
1399.400	H	42.49	-61.21	8.22	0.71	-53.70	-13.00	40.70
1399.400	V	42.44	-61.31	8.22	0.71	-53.80	-13.00	40.80
2099.100	H	52.33	-49.55	9.16	0.91	-41.30	-13.00	28.30
2099.100	V	50.78	-51.05	9.16	0.91	-42.80	-13.00	29.80
2798.800	H	40.09	-59.84	9.88	1.04	-51.00	-13.00	38.00
2798.800	V	39.66	-60.14	9.88	1.04	-51.30	-13.00	38.30
1.4MHz QPSK, Frequency:			707.5	MHz				
441.94	H	20.63	-56.38	0.00	0.42	-56.80	-13.00	43.80
528.38	V	20.57	-51.05	0.00	0.44	-51.49	-13.00	38.49
1415.000	H	43.03	-60.64	8.26	0.72	-53.10	-13.00	40.10
1415.000	V	42.78	-60.94	8.26	0.72	-53.40	-13.00	40.40
2122.500	H	53.14	-48.85	9.17	0.92	-40.60	-13.00	27.60
2122.500	V	51.82	-50.15	9.17	0.92	-41.90	-13.00	28.90
2830.000	H	40.23	-59.57	9.93	1.06	-50.70	-13.00	37.70
2830.000	V	39.86	-59.87	9.93	1.06	-51.00	-13.00	38.00
1.4MHz QPSK, Frequency:			715.3	MHz				
589.03	H	20.66	-53.42	0.00	0.48	-53.90	-13.00	40.90
428.21	V	20.52	-53.91	0.00	0.40	-54.31	-13.00	41.31
1430.600	H	43.85	-59.78	8.31	0.73	-52.20	-13.00	39.20
1430.600	V	43.81	-59.88	8.31	0.73	-52.30	-13.00	39.30
2145.900	H	54.44	-47.66	9.19	0.93	-39.40	-13.00	26.40
2145.900	V	52.95	-49.16	9.19	0.93	-40.90	-13.00	27.90
2861.200	H	41.24	-58.41	9.98	1.07	-49.50	-13.00	36.50
2861.200	V	40.76	-58.91	9.98	1.07	-50.00	-13.00	37.00

**LTE Band 17(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)			
5MHz QPSK, Frequency:			706.5 MHz					
429.86	H	20.61	-56.65	0.00	0.40	-57.05	-13.00	44.05
492.66	V	20.57	-51.30	0.00	0.45	-51.75	-13.00	38.75
1413.000	H	42.23	-61.44	8.26	0.72	-53.90	-13.00	40.90
1413.000	V	42.28	-61.44	8.26	0.72	-53.90	-13.00	40.90
2119.500	H	54.42	-47.55	9.17	0.92	-39.30	-13.00	26.30
2119.500	V	53.00	-48.95	9.17	0.92	-40.70	-13.00	27.70
2826.000	H	41.45	-58.36	9.92	1.06	-49.50	-13.00	36.50
2826.000	V	40.78	-58.96	9.92	1.06	-50.10	-13.00	37.10
5MHz QPSK, Frequency:			710 MHz					
578.95	H	20.52	-53.75	0.00	0.46	-54.21	-13.00	41.21
543.43	V	20.62	-51.03	0.00	0.47	-51.50	-13.00	38.50
1420.000	H	42.41	-61.25	8.28	0.73	-53.70	-13.00	40.70
1420.000	V	42.36	-61.35	8.28	0.73	-53.80	-13.00	40.80
2130.000	H	55.26	-46.76	9.18	0.92	-38.50	-13.00	25.50
2130.000	V	53.85	-48.16	9.18	0.92	-39.90	-13.00	26.90
2840.000	H	41.87	-57.88	9.94	1.06	-49.00	-13.00	36.00
2840.000	V	41.23	-58.48	9.94	1.06	-49.60	-13.00	36.60
5MHz QPSK, Frequency:			713.5 MHz					
515.74	H	20.60	-54.92	0.00	0.44	-55.36	-13.00	42.36
441.96	V	20.54	-53.34	0.00	0.42	-53.76	-13.00	40.76
1427.000	H	43.07	-60.57	8.30	0.73	-53.00	-13.00	40.00
1427.000	V	43.12	-60.57	8.30	0.73	-53.00	-13.00	40.00
2140.500	H	55.92	-46.15	9.18	0.93	-37.90	-13.00	24.90
2140.500	V	54.73	-47.35	9.18	0.93	-39.10	-13.00	26.10
2854.000	H	42.69	-57.00	9.97	1.07	-48.10	-13.00	35.10
2854.000	V	42.08	-57.60	9.97	1.07	-48.70	-13.00	35.70



**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								
97.12	H	52.55	-60.01	0.00	0.19	-60.20	-25.00	35.20
304.61	V	44.73	-63.96	0.00	0.34	-64.30	-25.00	39.30
5145.000	H	37.13	-56.55	11.29	1.44	-46.70	-25.00	21.70
5145.000	V	38.32	-55.25	11.29	1.44	-45.40	-25.00	20.40
7717.500	H	40.24	-49.27	10.86	1.99	-40.40	-25.00	15.40
7717.500	V	40.06	-50.07	10.86	1.99	-41.20	-25.00	16.20
5MHz QPSK, Frequency: 2595 MHz								
98.83	H	51.89	-60.56	0.00	0.19	-60.75	-25.00	35.75
292.07	V	44.56	-64.59	0.00	0.33	-64.92	-25.00	39.92
5190.000	H	38.00	-56.07	11.31	1.44	-46.20	-25.00	21.20
5190.000	V	38.85	-55.07	11.31	1.44	-45.20	-25.00	20.20
7785.000	H	40.74	-48.75	10.84	1.99	-39.90	-25.00	14.90
7785.000	V	40.17	-49.75	10.84	1.99	-40.90	-25.00	15.90
5MHz QPSK, Frequency: 2617.5 MHz								
94.43	H	51.87	-60.87	0.00	0.18	-61.05	-25.00	36.05
297.23	V	44.68	-64.25	0.00	0.33	-64.58	-25.00	39.58
5235.000	H	38.52	-55.38	11.34	1.46	-45.50	-25.00	20.50
5235.000	V	39.43	-54.28	11.34	1.46	-44.40	-25.00	19.40
7852.500	H	41.39	-47.80	10.83	2.03	-39.00	-25.00	14.00
7852.500	V	40.68	-48.90	10.83	2.03	-40.10	-25.00	15.10

**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								
96.77	H	52.23	-60.35	0.00	0.19	-60.54	-40.00	20.54
95.42	V	44.76	-63.32	0.00	0.19	-63.51	-40.00	23.51
4615.000	H	38.23	-57.13	10.74	1.41	-47.80	-40.00	7.80
4615.000	V	37.89	-57.33	10.74	1.41	-48.00	-40.00	8.00
6922.500	H	37.38	-53.64	11.22	1.88	-44.30	-40.00	4.30
6922.500	V	36.95	-53.94	11.22	1.88	-44.60	-40.00	4.60
5MHz QPSK, Frequency: 2312.5 MHz								
99.87	H	52.05	-60.33	0.00	0.19	-60.52	-40.00	20.52
93.44	V	44.94	-63.60	0.00	0.18	-63.78	-40.00	23.78
4625.000	H	39.05	-56.24	10.75	1.41	-46.90	-40.00	6.90
4625.000	V	38.53	-56.64	10.75	1.41	-47.30	-40.00	7.30
6937.500	H	37.87	-53.11	11.21	1.90	-43.80	-40.00	3.80
6937.500	V	37.33	-53.51	11.21	1.90	-44.20	-40.00	4.20

**LTE Band 40 Upper (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: 2352.5 MHz								
94.76	H	51.84	-60.88	0.00	0.19	-61.07	-40.00	21.07
301.42	V	44.85	-63.92	0.00	0.34	-64.26	-40.00	24.26
4705.000	H	37.94	-56.84	10.85	1.41	-47.40	-40.00	7.40
4705.000	V	37.86	-56.94	10.85	1.41	-47.50	-40.00	7.50
7057.500	H	36.86	-53.15	11.17	1.92	-43.90	-40.00	3.90
7057.500	V	36.35	-53.55	11.17	1.92	-44.30	-40.00	4.30
5MHz QPSK, Frequency: 2357.5 MHz								
94.76	H	51.84	-60.88	0.00	0.19	-61.07	-40.00	21.07
301.42	V	44.85	-63.92	0.00	0.34	-64.26	-40.00	24.26
4715.000	H	38.96	-55.75	10.86	1.41	-46.30	-40.00	6.30
4715.000	V	38.86	-55.85	10.86	1.41	-46.40	-40.00	6.40
7072.500	H	37.35	-52.45	11.16	1.91	-43.20	-40.00	3.20
7072.500	V	36.86	-52.85	11.16	1.91	-43.60	-40.00	3.60

**LTE Band 41(30MHz-27GHz):**

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, 5MHz, Frequency: 2498.5 MHz								
96.43	H	51.71	-60.90	0.00	0.19	-61.09	-25.00	36.09
305.68	V	44.53	-64.13	0.00	0.34	-64.47	-25.00	39.47
4997.000	H	36.64	-56.30	11.20	1.48	-46.58	-25.00	21.58
4997.000	V	37.94	-54.86	11.20	1.48	-45.14	-25.00	20.14
7495.500	H	40.92	-48.87	10.90	1.94	-39.91	-25.00	14.91
7495.500	V	41.03	-49.26	10.90	1.94	-40.30	-25.00	15.30
QPSK, 5MHz, Frequency: 2593MHz								
99.52	H	51.84	-60.56	0.00	0.19	-60.75	-25.00	35.75
302.48	V	44.60	-64.15	0.00	0.34	-64.49	-25.00	39.49
5186.000	H	38.30	-55.73	11.31	1.44	-45.86	-25.00	20.86
5186.000	V	39.15	-54.74	11.31	1.44	-44.87	-25.00	19.87
7779.000	H	41.54	-47.95	10.84	1.99	-39.10	-25.00	14.10
7779.000	V	42.17	-47.77	10.84	1.99	-38.92	-25.00	13.92
QPSK, 5MHz, Frequency: 2687.5MHz								
100.93	H	51.65	-60.71	0.00	0.19	-60.90	-25.00	35.90
309.99	V	44.74	-63.81	0.00	0.34	-64.15	-25.00	39.15
5375.000	H	38.62	-54.89	11.43	1.49	-44.95	-25.00	19.95
5375.000	V	39.16	-54.34	11.43	1.49	-44.40	-25.00	19.40
8062.500	H	41.30	-46.92	10.81	2.12	-38.23	-25.00	13.23
8062.500	V	42.05	-46.67	10.81	2.12	-37.98	-25.00	12.98

**LTE Band 42(30MHz-36GHz):**

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, 5MHz, Frequency: 3452.5 MHz								
99.34	H	51.79	-60.62	0.00	0.19	-60.81	-13.00	47.81
311.08	V	44.76	-63.76	0.00	0.34	-64.10	-13.00	51.10
6905.000	H	37.13	-53.95	11.22	1.87	-44.6	-13.00	31.60
6905.000	V	36.69	-54.25	11.22	1.87	-44.9	-13.00	31.90
QPSK, 5MHz, Frequency: 3500MHz								
96.10	H	52.07	-60.56	0.00	0.19	-60.75	-13.00	47.75
281.03	V	44.68	-64.95	0.00	0.32	-65.27	-13.00	52.27
7000.000	H	37.59	-53.21	11.20	1.89	-43.9	-13.00	30.90
7000.000	V	37.14	-53.51	11.20	1.89	-44.2	-13.00	31.20
QPSK, 5MHz, Frequency: 3547.5 MHz								
93.77	H	51.88	-60.90	0.00	0.18	-61.08	-13.00	48.08
300.37	V	44.53	-64.27	0.00	0.34	-64.61	-13.00	51.61
7095.000	H	37.14	-52.35	11.14	1.89	-43.1	-13.00	30.10
7095.000	V	36.67	-52.75	11.14	1.89	-43.5	-13.00	30.50

**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				
98.48	H	51.73	-60.74	0.00	0.19	-60.93	-13.00	47.93
305.68	V	44.71	-63.95	0.00	0.34	-64.29	-13.00	51.29
3421.400	H	37.13	-60.63	10.37	1.17	-51.43	-13.00	38.43
3421.400	V	36.49	-61.24	10.37	1.17	-52.04	-13.00	39.04
5132.100	H	36.04	-57.53	11.28	1.47	-47.72	-13.00	34.72
5132.100	V	35.95	-57.51	11.28	1.47	-47.70	-13.00	34.70
1.4MHz QPSK, Frequency:			1745	MHz				
97.45	H	51.94	-60.60	0.00	0.19	-60.79	-13.00	47.79
301.42	V	45.14	-63.63	0.00	0.34	-63.97	-13.00	50.97
3490.000	H	37.69	-60.15	10.40	1.17	-50.92	-13.00	37.92
3490.000	V	38.74	-59.04	10.40	1.17	-49.81	-13.00	36.81
5235.000	H	36.86	-57.04	11.34	1.46	-47.16	-13.00	34.16
5235.000	V	36.65	-57.06	11.34	1.46	-47.18	-13.00	34.18
1.4MHz QPSK, Frequency:			1779.3	MHz				
95.09	H	52.27	-60.42	0.00	0.19	-60.61	-13.00	47.61
97.15	V	44.94	-62.75	0.00	0.19	-62.94	-13.00	49.94
3558.600	H	37.84	-59.83	10.46	1.22	-50.59	-13.00	37.59
3558.600	V	38.87	-58.70	10.46	1.22	-49.46	-13.00	36.46
5337.900	H	38.00	-55.47	11.40	1.47	-45.54	-13.00	32.54
5337.900	V	37.44	-55.89	11.40	1.47	-45.96	-13.00	32.96

## 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**

---

Please refer to the attachment CR231273520-EXP EUT EXTERNAL PHOTOGRAPHS and CR231273520-INP EUT INTERNAL PHOTOGRAPHS

## **6. TEST SETUP PHOTOGRAPHS**

---

Please refer to the attachment CR231273520-00E-TSP TEST SETUP PHOTOGRAPHS.

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