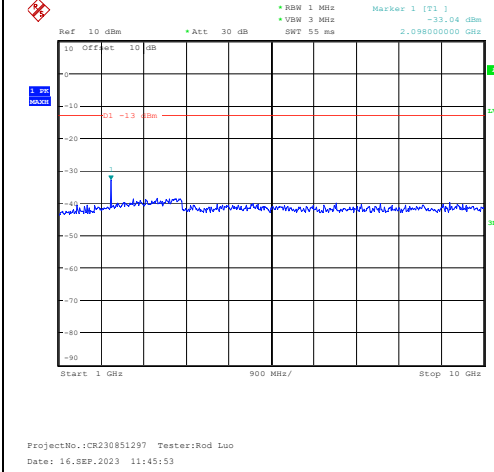
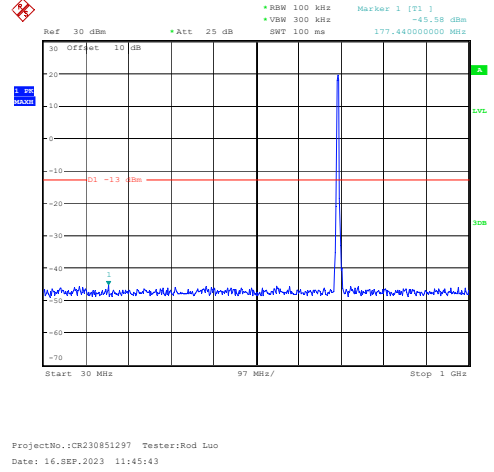


Spurious Emissions at Antenna Terminal

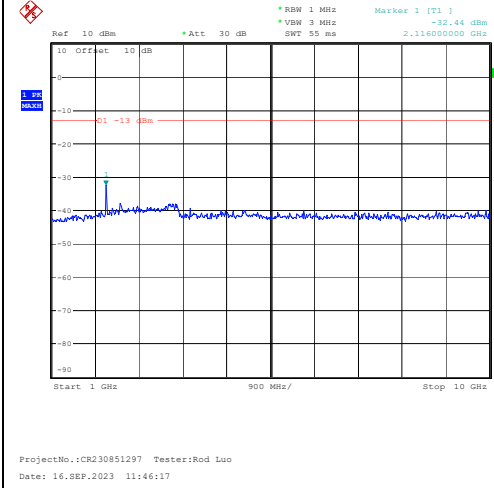
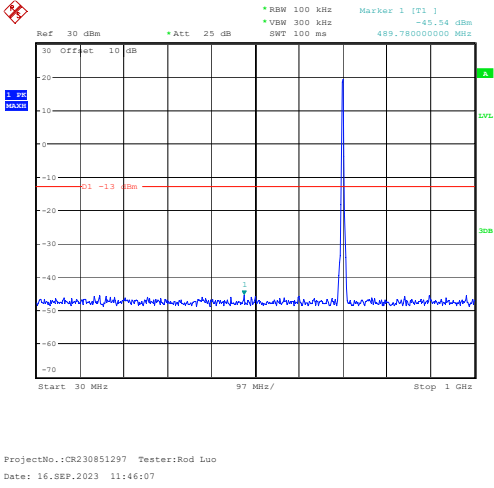
Channel

3MHz Bandwidth QPSK

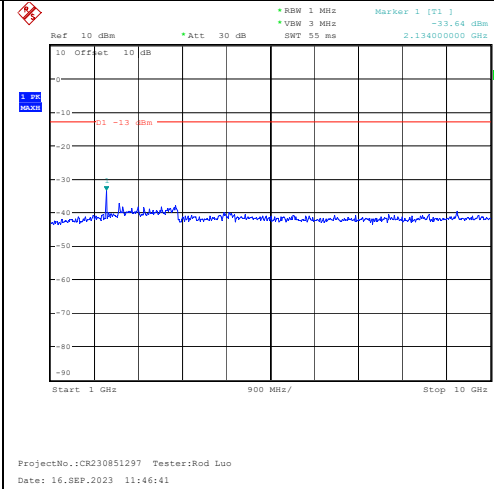
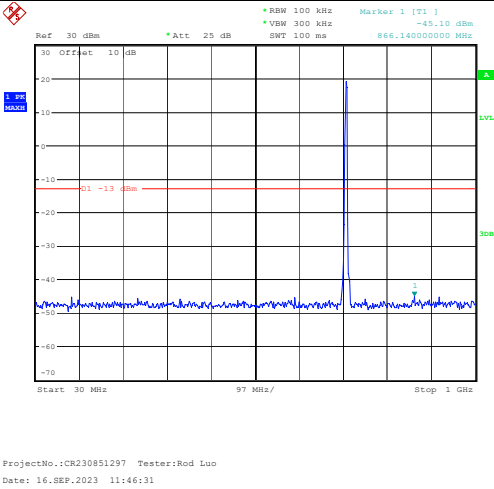
Lowest



Middle



Highest

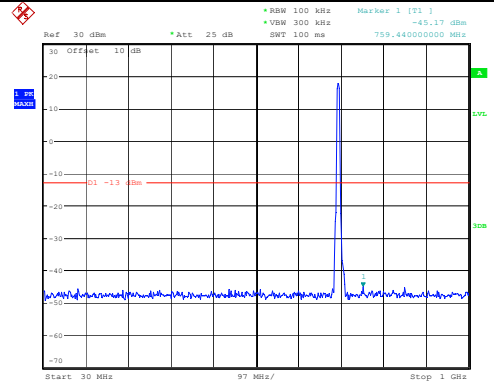


Spurious Emissions at Antenna Terminal

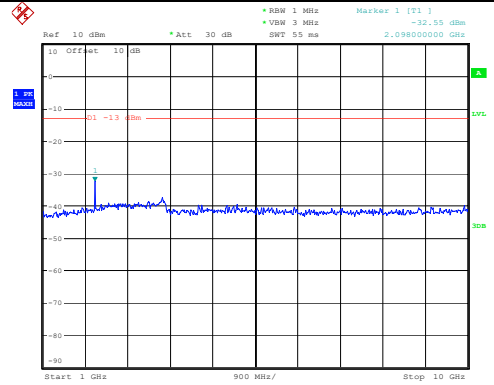
Channel

5MHz Bandwidth QPSK

Lowest

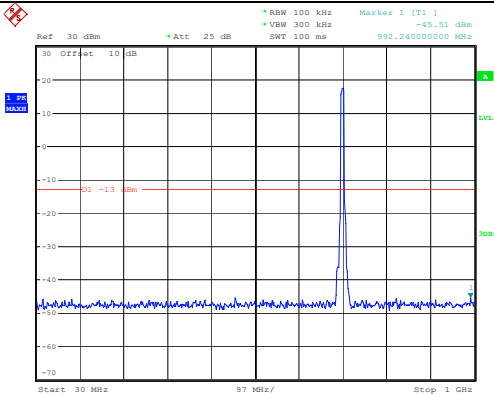


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:47:23

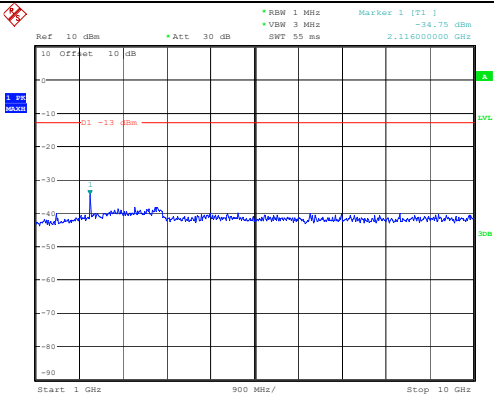


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:47:33

Middle

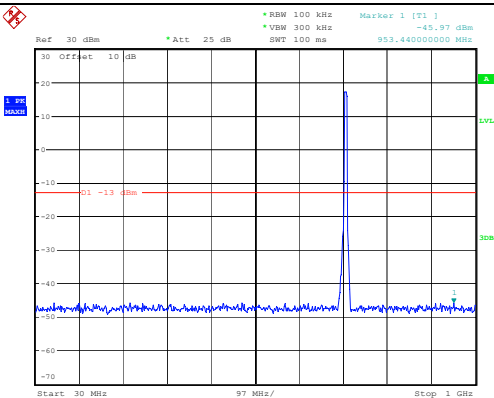


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Date: 16.SEP.2023 11:48:03

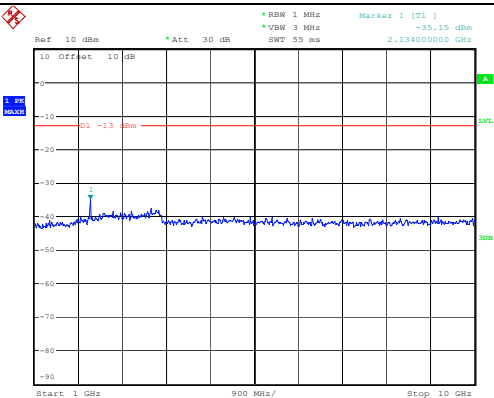


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:48:13

Highest



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:48:27



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:48:38

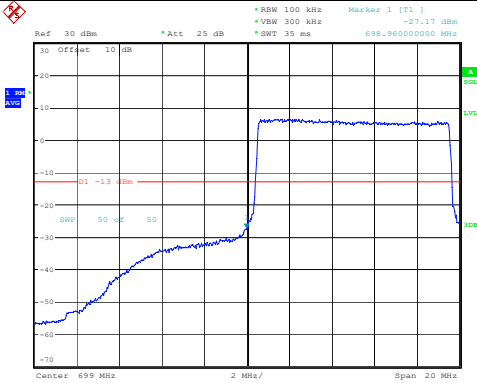
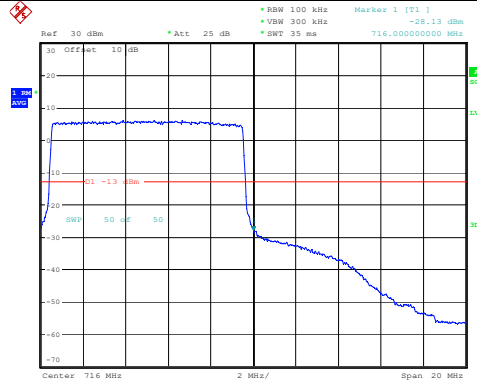
Spurious Emissions at Antenna Terminal

Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -44.84 dBm 757.500000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:49:22</p>	<p>Ref 10 dBm *Att 30 dB *RBW 1 MHz *VSW 3 MHz *SWT 55 ms Marker 1 [T1] -34.37 dBm 2.098000000 GHz</p> <p>Start 1 GHz 900 MHz/ Stop 10 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:49:32</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -45.46 dBm 811.820000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:49:47</p>	<p>Ref 10 dBm *Att 30 dB *RBW 1 MHz *VSW 3 MHz *SWT 55 ms Marker 1 [T1] -34.31 dBm 2.116000000 GHz</p> <p>Start 1 GHz 900 MHz/ Stop 10 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:49:57</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -44.95 dBm 37.760000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:50:15</p>	<p>Ref 10 dBm *Att 30 dB *RBW 1 MHz *VSW 3 MHz *SWT 55 ms Marker 1 [T1] -34.39 dBm 2.116000000 GHz</p> <p>Start 1 GHz 900 MHz/ Stop 10 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:50:26</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:26:31</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:26:46</p>
QPSK 3MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:27:28</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:27:44</p>
QPSK 5MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:28:28</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:28:45</p>

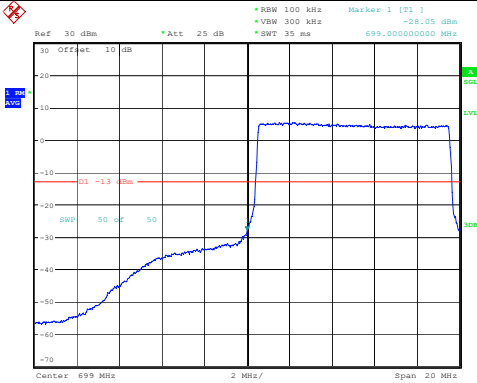
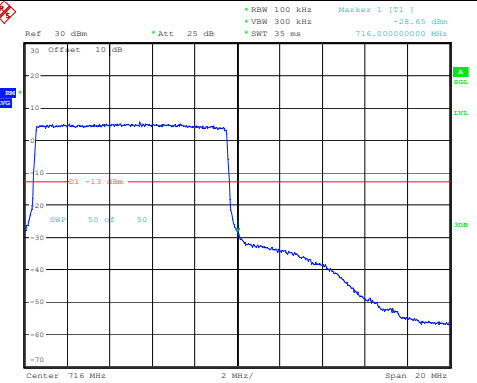
Out of band emission, Band Edge

Mode	Lowest	Highest
<p>QPSK 10MHz</p>	 <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:29:32</p>	 <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:30:07</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:26:38</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:26:53</p>
16QAM 3MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:27:36</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:27:51</p>
16QAM 5MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:28:36</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:28:53</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 10MHz	 <p>Ref: 30 dBm *Att: 25 dB *RBW: 100 kHz *VBW: 300 kHz *SWT: 35 ms Marker 1 [T1]: -28.95 dBm 699.00000000 MHz</p> <p>Center: 699 MHz 2 MHz/ Span: 20 MHz</p> <p>ProjectNo.: CR230851297 Tester: Rod Luo Date: 16.SEP.2023 11:29:42</p>	 <p>Ref: 30 dBm *Att: 25 dB *RBW: 100 kHz *VBW: 300 kHz *SWT: 35 ms Marker 1 [T1]: -28.65 dBm 716.00000000 MHz</p> <p>Center: 716 MHz 2 MHz/ Span: 20 MHz</p> <p>ProjectNo.: CR230851297 Tester: Rod Luo Date: 16.SEP.2023 11:30:15</p>

4.11 Antenna Port Test Data and Results for LTE Band 17

Serial Number:	2AS5-5	Test Date:	2023/9/16
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	28	Relative Humidity: (%)	55	ATM Pressure: (kPa)	100.1
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Mini-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency for Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	706.5	710	713.5
10MHz	709	710	711

Test Data:**FCC§2.1046;§ 27.50(c) (10)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	22.83	22.69	22.61	14.72	34.77
	RB1#13	22.87	22.77	22.7		
	RB1#24	22.71	22.61	22.62		
	RB15#0	21.9	21.72	21.79		
	RB15#10	21.8	21.76	21.6		
	RB25#0	21.82	21.71	21.64		
5MHz 16QAM	RB1#0	22.07	21.74	21.53	13.98	34.77
	RB1#13	22.13	21.81	21.62		
	RB1#24	21.96	21.7	21.5		
	RB15#0	20.87	20.74	20.8		
	RB15#10	20.79	20.76	20.61		
	RB25#0	20.81	20.74	20.68		
10MHz QPSK	RB1#0	23.31	22.82	22.83	15.21	34.77
	RB1#25	23.36	22.89	22.89		
	RB1#49	22.8	22.7	22.73		
	RB25#0	21.79	21.74	21.7		
	RB25#25	21.79	21.65	21.59		
	RB50#0	21.79	21.69	21.65		
10MHz 16QAM	RB1#0	22.39	21.93	21.79	14.24	34.77
	RB1#25	22.35	21.96	21.85		
	RB1#49	22.23	21.78	21.69		
	RB25#0	20.84	20.75	20.78		
	RB25#25	20.81	20.67	20.68		
	RB50#0	20.8	20.71	20.67		

Note: ERP= Conducted Power(dBm) - Lc(dB) + G_T(dBd)G_T(dBd)=G_T(dBi)-2.15

Result:**Pass****Peak-to-average Ratio(PAR)**

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
10MHz QPSK	RB1#0	5	4.55	4.97	13
	RB50#0	5.42	5.42	5.42	13
10MHz 16QAM	RB1#0	6.06	5.19	5.87	13
	RB50#0	6.28	6.25	6.25	13
				Result:	Pass

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	4.520	4.520	4.560	5.220	5.180	5.220
5MHz 16QAM	4.560	4.540	4.520	5.200	5.240	5.140
10MHz QPSK	8.960	8.960	8.960	9.920	10.000	9.760
10MHz 16QAM	8.960	8.960	8.960	9.800	9.680	9.920

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.
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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.
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FCC §2.1055, §27.54: Frequency Stability

Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	704.161	704.00	715.713	716.00
	-20	3.85	704.278	704.00	715.842	716.00
	-10	3.85	704.215	704.00	715.886	716.00
	0	3.85	704.246	704.00	715.722	716.00
	10	3.85	704.109	704.00	715.738	716.00
	20	3.85	704.166	704.00	715.859	716.00
	30	3.85	704.204	704.00	715.708	716.00
	40	3.85	704.293	704.00	715.709	716.00
Frequency Stability vs. Voltage	20	3.45	704.261	704.00	715.808	716.00
	20	4.4	704.106	704.00	715.780	716.00
					Result:	Pass

Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	704.211	704.00	715.858	716.00
	-20	3.85	704.282	704.00	715.711	716.00
	-10	3.85	704.254	704.00	715.795	716.00
	0	3.85	704.218	704.00	715.795	716.00
	10	3.85	704.162	704.00	715.843	716.00
	20	3.85	704.191	704.00	715.843	716.00
	30	3.85	704.168	704.00	715.724	716.00
	40	3.85	704.119	704.00	715.802	716.00
	50	3.85	704.221	704.00	715.709	716.00
Frequency Stability vs. Voltage	20	3.45	704.189	704.00	715.824	716.00
	20	4.4	704.179	704.00	715.843	716.00
					Result:	Pass

Test Plots (Note: The 10 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):

Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:05:27</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:05:49</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:06:11</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:06:29</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:06:54</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:07:12</p>

Occupied Bandwidth

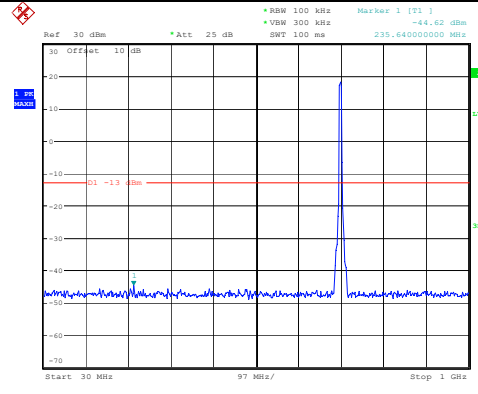
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:08:14</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:08:33</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:08:53</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:09:11</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:09:28</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:09:47</p>

Spurious Emissions at Antenna Terminal

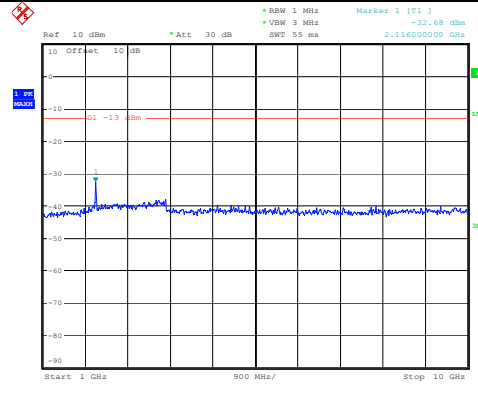
Channel

5MHz Bandwidth QPSK

Lowest

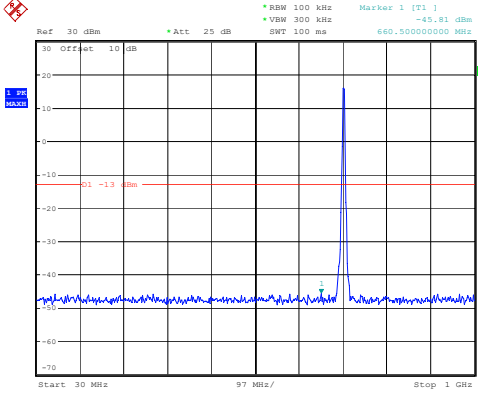


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:51:20

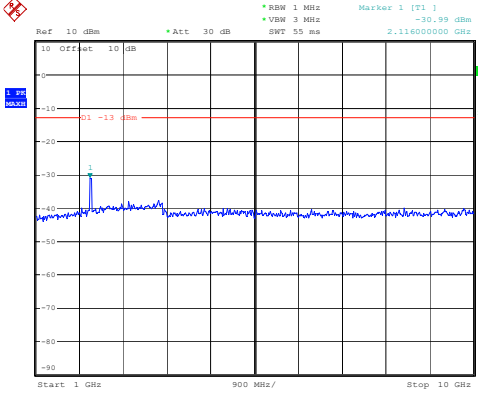


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:51:30

Middle

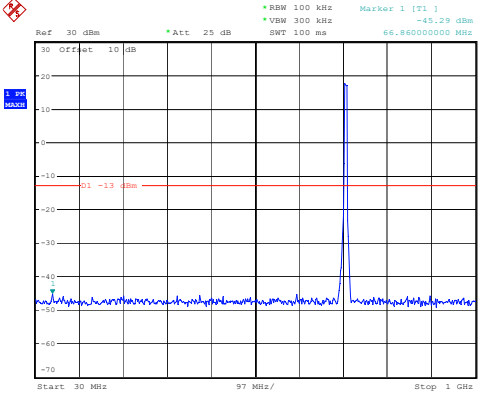


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:51:44

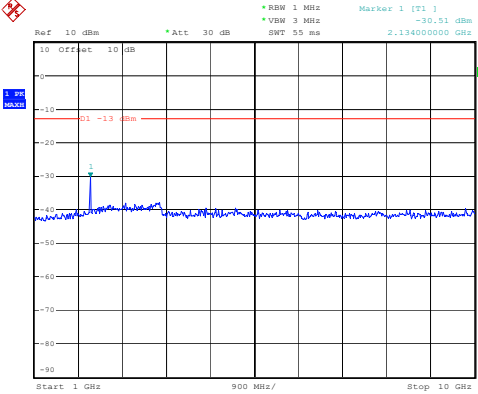


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:51:54

Highest



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:52:09



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 11:52:22

Spurious Emissions at Antenna Terminal

Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [F1] -44.84 dBm 759.44000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:53:04</p>	<p>Ref 10 dBm *Att 30 dB *RBW 1 MHz *VSW 3 MHz *SWT 55 ms Marker 1 [F1] -33.46 dBm 2.116000000 GHz</p> <p>Start 1 GHz 900 MHz/ Stop 10 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:53:14</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [F1] -45.52 dBm 687.660000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:53:29</p>	<p>Ref 10 dBm *Att 30 dB *RBW 1 MHz *VSW 3 MHz *SWT 55 ms Marker 1 [F1] -33.46 dBm 2.116000000 GHz</p> <p>Start 1 GHz 900 MHz/ Stop 10 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:53:40</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [F1] -45.51 dBm 92.080000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:53:58</p>	<p>Ref 10 dBm *Att 30 dB *RBW 1 MHz *VSW 3 MHz *SWT 55 ms Marker 1 [F1] -33.86 dBm 2.114000000 GHz</p> <p>Start 1 GHz 900 MHz/ Stop 10 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:54:08</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:31:02</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:31:19</p>
QPSK 10MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:32:12</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:32:32</p>
16QAM 5MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:31:10</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:31:27</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 10MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:32:22</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 11:32:40</p>

4.12 Antenna Port Test Data and Results for LTE Band 38

Serial Number:	2AS5-5	Test Date:	2023/9/16~2023/9/18
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.9-28	Relative Humidity: (%)	55-60	ATM Pressure: (kPa)	100.1~100.2
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Minl-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2572.5	2595	2617.5
10MHz	2575	2595	2615
15MHz	2577.5	2595	2612.5
20MHz	2580	2595	2610

Test Data:**FCC§2.1046;§ 27.50(h)(2)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	22.14	21.6	22.27	19.76	33
	RB1#13	22.21	21.74	22.46		
	RB1#24	22.05	21.62	22.41		
	RB15#0	21.1	20.65	21.3		
	RB15#10	21.04	20.66	21.42		
	RB25#0	21.03	20.62	21.34		
5MHz 16QAM	RB1#0	21.19	20.53	21.25	18.76	33
	RB1#13	21.24	20.63	21.46		
	RB1#24	21.12	20.52	21.4		
	RB15#0	20.03	19.56	20.31		
	RB15#10	19.99	19.52	20.38		
	RB25#0	19.93	19.58	20.36		
10MHz QPSK	RB1#0	22.2	21.85	22.13	19.91	33
	RB1#25	22.32	22.04	22.61		
	RB1#49	21.98	21.83	22.49		
	RB25#0	21.1	20.73	21.29		
	RB25#25	20.98	20.71	21.49		
	RB50#0	20.99	20.71	21.33		
10MHz 16QAM	RB1#0	20.97	20.74	21.28	19.03	33
	RB1#25	21.16	21	21.73		
	RB1#49	20.8	20.84	21.64		
	RB25#0	20.06	19.68	20.21		
	RB25#25	19.94	19.68	20.42		
	RB50#0	19.91	19.66	20.28		
15MHz QPSK	RB1#0	22.14	21.74	21.88	19.70	33
	RB1#38	22.09	21.71	22.28		
	RB1#74	21.84	21.69	22.4		
	RB36#0	21.22	20.82	21.12		
	RB36#39	21.01	20.83	21.44		
	RB75#0	21.13	20.88	21.27		
15MHz 16QAM	RB1#0	21.21	20.8	20.78	18.59	33
	RB1#38	21.1	20.81	21.16		
	RB1#74	20.93	20.83	21.29		
	RB36#0	20.08	19.71	20		
	RB36#39	19.94	19.68	20.34		
	RB75#0	20.03	19.68	20.22		

20MHz QPSK	RB1#0	21.98	21.65	21.53	19.64	33
	RB1#50	22.23	21.96	22.34		
	RB1#99	21.62	21.67	22.24		
	RB50#0	20.93	20.68	20.93		
	RB50#50	20.74	20.67	21.31		
	RB100#0	20.84	20.72	21.13		
20MHz 16QAM	RB1#0	21.06	20.56	20.46	18.62	33
	RB1#50	21.32	20.91	21.29		
	RB1#99	20.73	20.67	21.16		
	RB50#0	19.87	19.61	19.87		
	RB50#50	19.66	19.59	20.31		
	RB100#0	19.78	19.63	20.06		

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

Result: **Pass**

Peak-to-average Ratio(PAR)

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	7.91	7.94	8.41	13
	RB100#0	8.55	8.67	8.78	13
20MHz 16QAM	RB1#0	8.87	8.7	9.22	13
	RB100#0	9.42	9.54	9.62	13
Result:					Pass

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	4.960	5.000	5.000
5MHz 16QAM	4.500	4.500	4.500	5.100	4.920	4.960
10MHz QPSK	8.960	8.960	8.920	9.720	9.560	9.640
10MHz 16QAM	8.960	9.000	8.960	9.480	10.160	9.600
15MHz QPSK	13.500	13.500	13.560	15.120	14.940	15.300
15MHz 16QAM	13.560	13.620	13.500	15.300	16.260	16.200
20MHz QPSK	18.000	18.000	18.000	20.000	19.520	19.440
20MHz 16QAM	18.000	18.000	18.000	19.440	19.520	19.840

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.
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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 _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2570.268	2570.00	2619.841	2620
	-20	3.85	2570.291	2570.00	2619.804	2620
	-10	3.85	2570.274	2570.00	2619.893	2620
	0	3.85	2570.275	2570.00	2619.779	2620
	10	3.85	2570.134	2570.00	2619.823	2620
	20	3.85	2570.155	2570.00	2619.749	2620
	30	3.85	2570.232	2570.00	2619.707	2620
	40	3.85	2570.112	2570.00	2619.838	2620
Frequency Stability vs. Voltage	20	3.45	2570.228	2570.00	2619.765	2620
	20	4.4	2570.157	2570.00	2619.892	2620
					Result:	Pass

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge, Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2570.251	2570.00	2619.846	2620
	-20	3.85	2570.134	2570.00	2619.900	2620
	-10	3.85	2570.225	2570.00	2619.875	2620
	0	3.85	2570.296	2570.00	2619.737	2620
	10	3.85	2570.145	2570.00	2619.745	2620
	20	3.85	2570.280	2570.00	2619.796	2620
	30	3.85	2570.240	2570.00	2619.748	2620
	40	3.85	2570.186	2570.00	2619.730	2620
Frequency Stability vs. Voltage	20	3.45	2570.163	2570.00	2619.752	2620
	20	4.4	2570.256	2570.00	2619.749	2620
					Result:	Pass

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

Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:19:43</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:20:01</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:20:26</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:20:44</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:21:06</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:21:27</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:22:34</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:22:53</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:23:12</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:23:37</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:23:57</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:24:19</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:25:35</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:25:59</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:26:21</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:26:52</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:27:23</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:27:48</p>

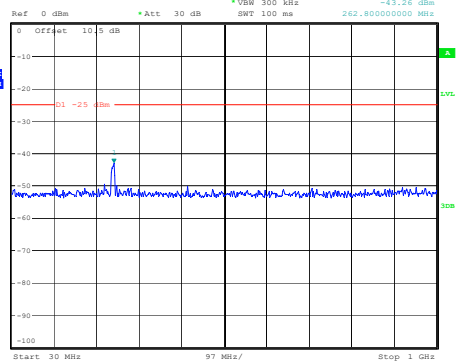
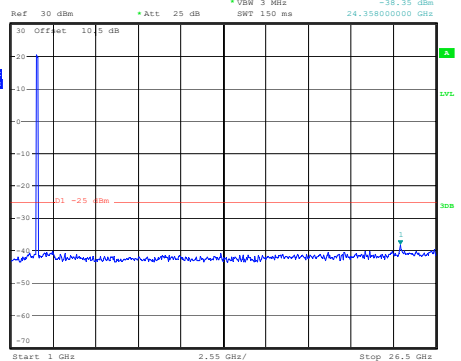
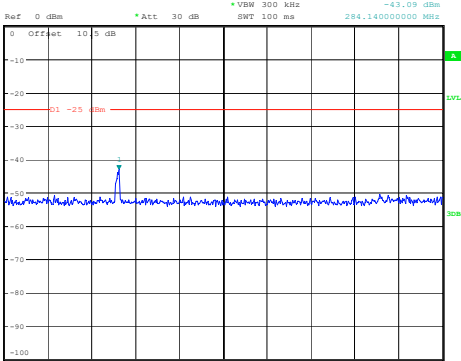
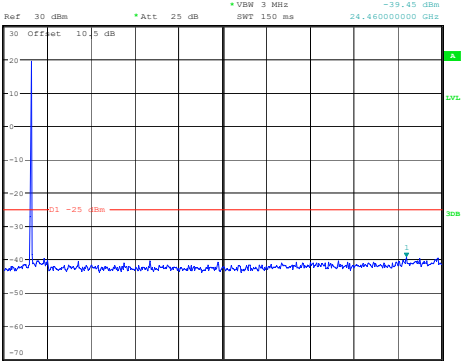
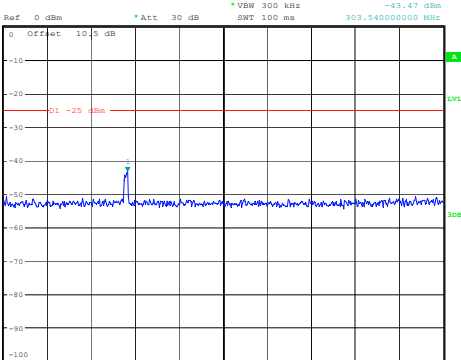
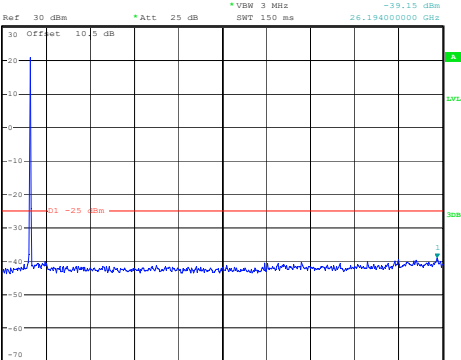
Occupied Bandwidth

Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:28:36</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:28:58</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:29:24</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:29:49</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:30:17</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:30:39</p>

Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:19:26</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:19:37</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:19:54</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:20:04</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:20:19</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:20:29</p>

Spurious Emissions at Antenna Terminal

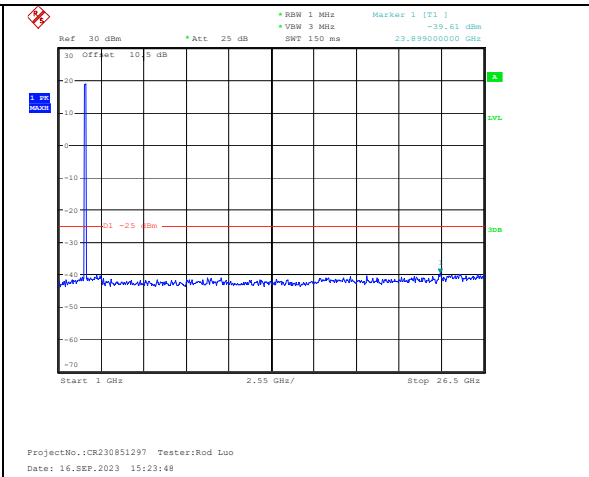
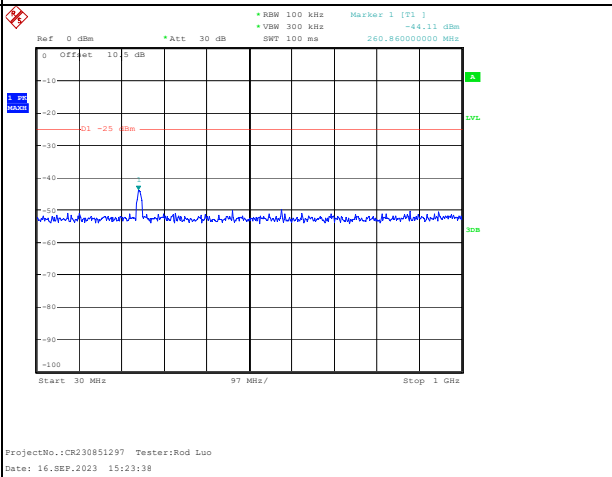
Channel	10MHz Bandwidth QPSK	
Lowest	 <p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: 242.80000000 MHz, -43.26 dBm</p> <p>Start: 30 MHz, Stop: 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:21:29</p>	 <p>Ref: 30 dBm, Att: 25 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms, Marker 1 [T1]: 24.35800000 GHz, -38.25 dBm</p> <p>Start: 1 GHz, Stop: 26.5 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:21:40</p>
Middle	 <p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: 284.14000000 MHz, -43.09 dBm</p> <p>Start: 30 MHz, Stop: 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:21:54</p>	 <p>Ref: 30 dBm, Att: 25 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms, Marker 1 [T1]: 24.46000000 GHz, -39.45 dBm</p> <p>Start: 1 GHz, Stop: 26.5 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:22:05</p>
Highest	 <p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: 303.54000000 MHz, -42.47 dBm</p> <p>Start: 30 MHz, Stop: 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:22:20</p>	 <p>Ref: 30 dBm, Att: 25 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms, Marker 1 [T1]: 26.19400000 GHz, -39.15 dBm</p> <p>Start: 1 GHz, Stop: 26.5 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:22:30</p>

Spurious Emissions at Antenna Terminal

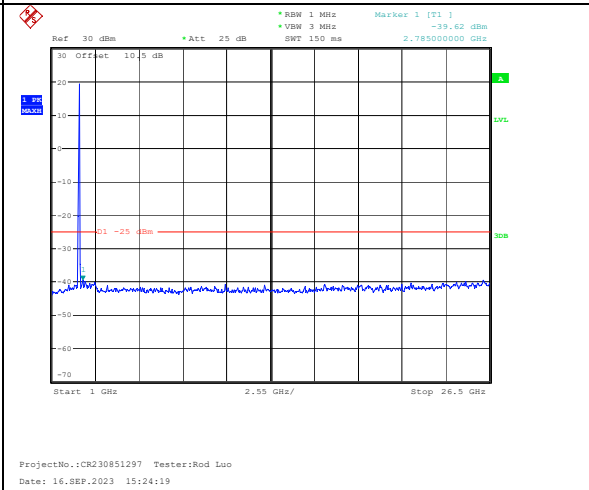
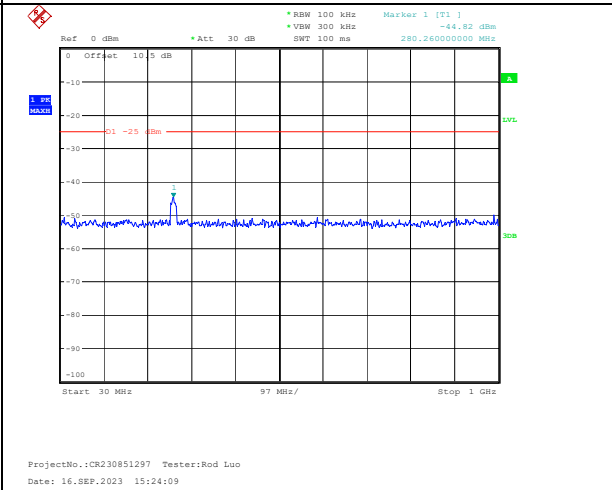
Channel

15MHz Bandwidth QPSK

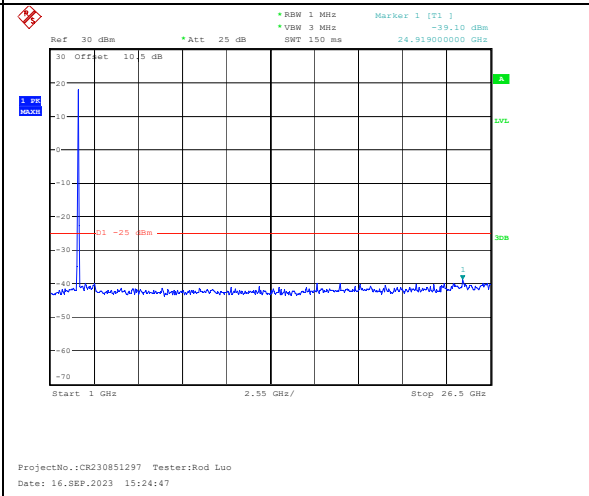
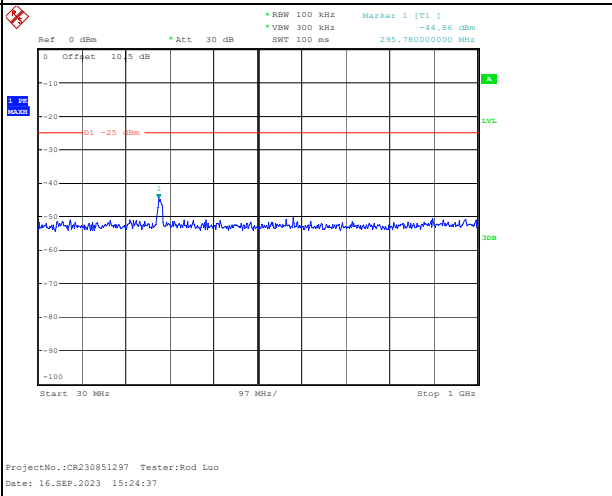
Lowest



Middle



Highest



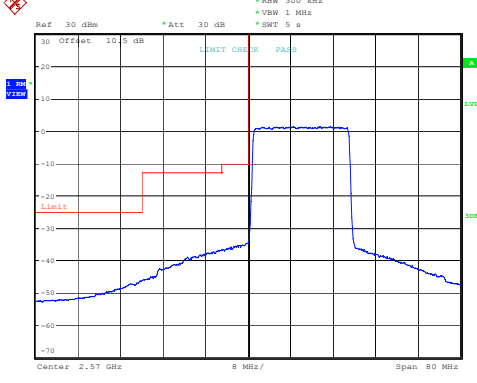
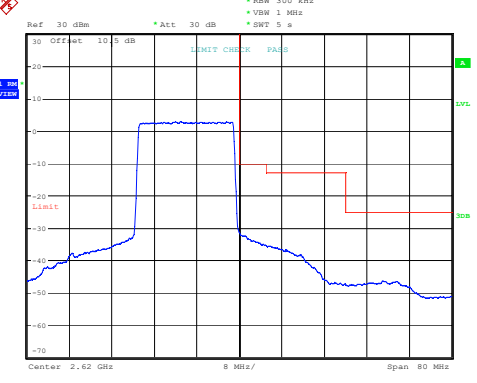
Spurious Emissions at Antenna Terminal

Channel	20MHz Bandwidth QPSK	
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:25:34</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:25:44</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:26:05</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:26:15</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:26:33</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:26:43</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz	<p>Ref 30 dBm *Att 30 dB *RBW 100 kHz *VBW 300 kHz *SWT 5 s</p> <p>Center 2.57 GHz 2 MHz/ Span 20 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:40:38</p>	<p>Ref 30 dBm *Att 30 dB *RBW 100 kHz *VBW 300 kHz *SWT 5 s</p> <p>Center 2.62 GHz 2 MHz/ Span 20 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:45:09</p>
QPSK 10MHz	<p>Ref 30 dBm *Att 30 dB *RBW 100 kHz *VBW 300 kHz *SWT 5 s</p> <p>Center 2.57 GHz 4 MHz/ Span 40 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:49:49</p>	<p>Ref 30 dBm *Att 30 dB *RBW 100 kHz *VBW 300 kHz *SWT 5 s</p> <p>Center 2.62 GHz 4 MHz/ Span 40 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:51:57</p>
QPSK 15MHz	<p>Ref 30 dBm *Att 30 dB *RBW 300 kHz *VBW 1 MHz *SWT 5 s</p> <p>Center 2.57 GHz 6 MHz/ Span 60 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:54:11</p>	<p>Ref 30 dBm *Att 30 dB *RBW 300 kHz *VBW 1 MHz *SWT 5 s</p> <p>Center 2.62 GHz 6 MHz/ Span 60 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:56:50</p>

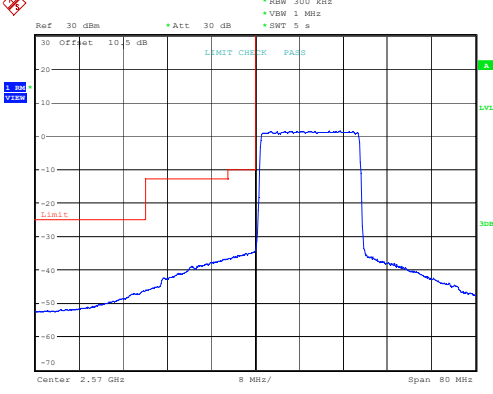
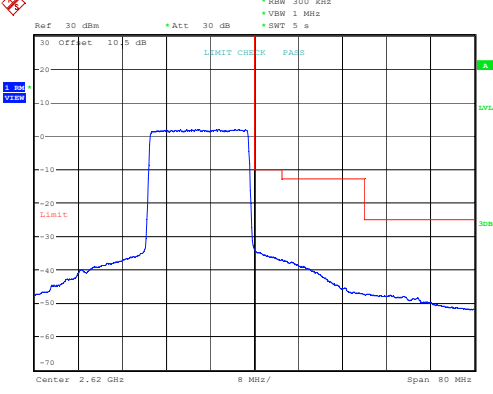
Out of band emission, Band Edge

Mode	Lowest	Highest
<p>QPSK 20MHz</p>	 <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:58:58</p>	 <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 12:01:08</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 5MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:41:41</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:47:14</p>
16QAM 10MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:50:49</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:52:50</p>
16QAM 15MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:55:11</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:57:37</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
<p>16QAM 20MHz</p>	 <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 11:59:50</p>	 <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 12:01:58</p>

4.13 Antenna Port Test Data and Results for LTE Band 40

Serial Number:	2AS5-5	Test Date:	2023/9/16~2023/9/22
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	24.5-28	Relative Humidity: (%)	55-65	ATM Pressure: (kPa)	100.1~101
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Minl-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency for Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2307.5	/	2312.5
10MHz	/	2310	/
5MHz	2352.5	/	2357.5
10MHz	/	2355	/

Test Data:

(Note:Uplink Downlink configuration 3 was tested)

FCC§2.1046;§ 27.50(a)(3)						
LTE Band 40 Lower:						
RF Output Power:						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	23.12	/	23.01	20.50	24
	RB1#13	23.2	/	23.08		
	RB1#24	23.03	/	22.9		
	RB15#0	22.14	/	22.06		
	RB15#10	22.11	/	21.99		
	RB25#0	22.11	/	22.02		
5MHz 16QAM	RB1#0	22.16	/	21.99	19.53	24
	RB1#13	22.23	/	22.07		
	RB1#24	22.04	/	21.93		
	RB15#0	21.2	/	21.02		
	RB15#10	21.19	/	21.01		
	RB25#0	21.21	/	21.1		
10MHz QPSK	RB1#0	/	23.22	/	20.71	24
	RB1#25	/	23.41	/		
	RB1#49	/	23.02	/		
	RB25#0	/	22.15	/		
	RB25#25	/	22.11	/		
	RB50#0	/	22.13	/		
10MHz 16QAM	RB1#0	/	22.09	/	19.60	24
	RB1#25	/	22.3	/		
	RB1#49	/	21.94	/		
	RB25#0	/	21.25	/		
	RB25#25	/	21.21	/		
	RB50#0	/	21.17	/		

LTE Band 40 Upper:						
RF Output Power:						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	22.92	/	22.93	20.37	24
	RB1#13	23.01	/	23.07		
	RB1#24	22.92	/	22.96		
	RB15#0	21.98	/	21.97		
	RB15#10	21.97	/	22.04		
	RB25#0	21.99	/	21.96		
5MHz 16QAM	RB1#0	22	/	21.91	19.38	24
	RB1#13	22.08	/	22.04		
	RB1#24	21.95	/	21.99		
	RB15#0	21.06	/	20.97		
	RB15#10	21.05	/	21		
	RB25#0	21.1	/	21.06		
10MHz QPSK	RB1#0	/	23.04	/	20.61	24
	RB1#25	/	23.31	/		
	RB1#49	/	23.03	/		
	RB25#0	/	22.02	/		
	RB25#25	/	22.02	/		
	RB50#0	/	22	/		
10MHz 16QAM	RB1#0	/	21.92	/	19.48	24
	RB1#25	/	22.18	/		
	RB1#49	/	21.93	/		
	RB25#0	/	21.13	/		
	RB25#25	/	21.12	/		
	RB50#0	/	21.09	/		
Note: For 5MHz mode, the channel power is equal to the test result in dBm/5MHz. For 10MHz mode, the channel power is sum of 10MHz bandwidth, the result is less than 24dBm, so in any 5MHz bandwidth, it's will not exceed limit $EIRP = \text{Conducted Power(dBm)} - Lc(dB) + Gt(dBi)$ $EIRP \text{ PSD} = \text{Conducted PSD(dBm/5MHz)} - Lc(dB) + Gt(dBi)$						

Duty Cycle

Operation Band	Modulation	Bandwidth	Ton (ms)	Ton+off (ms)	Duty Cycle (%)	Limit (%)
LTE Band 40 Lower	QPSK	5M	3	10.005	29.99	38
		10M	3	10.01	29.97	38
	16QAM	5M	3	10.01	29.97	38
		10M	2.995	10.005	29.94	38
LTE Band 40 Upper	QPSK	5M	3	10.005	29.99	38
		10M	3.005	10.01	30.02	38
	16QAM	5M	2.995	10.005	29.94	38
		10M	3	10.005	29.99	38
					Result:	Pass

FCC §2.1049, §27.53:Occupied Bandwidth						
LTE Band 40 Lower:						
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	4.520	/	4.520	5.060	/	5.180
5MHz 16QAM	4.520	/	4.540	5.160	/	5.360
10MHz QPSK	/	8.960	/	/	9.840	/
10MHz 16QAM	/	8.960	/	/	9.680	/
LTE Band 40 Upper:						
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	4.540	/	4.540	5.100	/	5.240
5MHz 16QAM	4.500	/	4.540	5.340	/	5.280
10MHz QPSK	/	9.000	/	/	9.960	/
10MHz 16QAM	/	8.960	/	/	9.760	/
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**LTE Band 40 Lower:**

Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2305.298	2305.000	2314.844	2315.000
	-20	3.85	2305.201	2305.000	2314.851	2315.000
	-10	3.85	2305.126	2305.000	2314.855	2315.000
	0	3.85	2305.101	2305.000	2314.890	2315.000
	10	3.85	2305.113	2305.000	2314.774	2315.000
	20	3.85	2305.272	2305.000	2314.894	2315.000
	30	3.85	2305.142	2305.000	2314.804	2315.000
	40	3.85	2305.191	2305.000	2314.748	2315.000
Frequency Stability vs. Voltage	20	3.45	2305.147	2305.000	2314.788	2315.000
	20	4.4	2305.238	2305.000	2314.884	2315.000
					Result:	Pass

Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2305.136	2305.000	2314.724	2315.000
	-20	3.85	2305.152	2305.000	2314.700	2315.000
	-10	3.85	2305.130	2305.000	2314.768	2315.000
	0	3.85	2305.188	2305.000	2314.861	2315.000
	10	3.85	2305.210	2305.000	2314.772	2315.000
	20	3.85	2305.162	2305.000	2314.752	2315.000
	30	3.85	2305.300	2305.000	2314.833	2315.000
	40	3.85	2305.188	2305.000	2314.802	2315.000
Frequency Stability vs. Voltage	20	3.45	2305.216	2305.000	2314.894	2315.000
	20	4.4	2305.146	2305.000	2314.801	2315.000
					Result:	Pass

LTE Band 40 Upper:						
Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2350.170	2350.000	2359.847	2360.000
	-20	3.85	2350.158	2350.000	2359.794	2360.000
	-10	3.85	2350.109	2350.000	2359.715	2360.000
	0	3.85	2350.221	2350.000	2359.795	2360.000
	10	3.85	2350.288	2350.000	2359.707	2360.000
	20	3.85	2350.266	2350.000	2359.880	2360.000
	30	3.85	2350.105	2350.000	2359.715	2360.000
	40	3.85	2350.203	2350.000	2359.897	2360.000
Frequency Stability vs. Voltage	20	3.45	2350.152	2350.000	2359.808	2360.000
	20	4.4	2350.248	2350.000	2359.713	2360.000
					Result:	Pass

Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2350.100	2350.000	2359.783	2360.000
	-20	3.85	2350.169	2350.000	2359.887	2360.000
	-10	3.85	2350.151	2350.000	2359.880	2360.000
	0	3.85	2350.131	2350.000	2359.848	2360.000
	10	3.85	2350.215	2350.000	2359.857	2360.000
	20	3.85	2350.126	2350.000	2359.737	2360.000
	30	3.85	2350.126	2350.000	2359.852	2360.000
	40	3.85	2350.237	2350.000	2359.898	2360.000
Frequency Stability vs. Voltage	20	3.45	2350.288	2350.000	2359.795	2360.000
	20	4.4	2350.180	2350.000	2359.856	2360.000
					Result:	Pass

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):
LTE Band 40 Lower:

Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:37:17</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:37:41</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:38:46</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:39:11</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:39:35</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:39:57</p>

LTE Band 40 Upper:

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:43:06</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:43:30</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:44:41</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:45:05</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.09 dB *VMW 300 kHz *SWT 10 ms 9.960000000 MHz OBS 9.960000000 MHz Marker 1 [T1] 1 -12.8 dBm 2.350040000 GHz Temp 1 [T1] 0.000000000 GHz 2.350520000 GHz Temp 2 [T1] 0.000000000 GHz 2.359520000 GHz Center 2.355 GHz 2 MHz/ Span 20 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:45:36</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.22 dB *VMW 300 kHz *SWT 10 ms 9.760000000 MHz OBS 9.760000000 MHz Marker 1 [T1] 1 -11.6 dBm 2.350120000 GHz Temp 1 [T1] 0.000000000 GHz 2.350520000 GHz Temp 2 [T1] 0.000000000 GHz 2.359480000 GHz Center 2.355 GHz 2 MHz/ Span 20 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:45:57</p>

LTE Band 40 Lower:

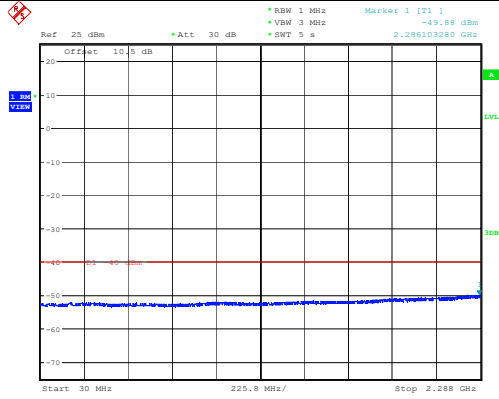
Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:29:25</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:30:38</p>
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:31:18</p>	

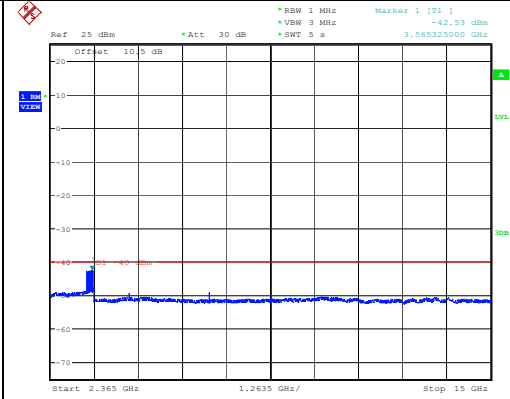
Spurious Emissions at Antenna Terminal

5MHz Bandwidth QPSK

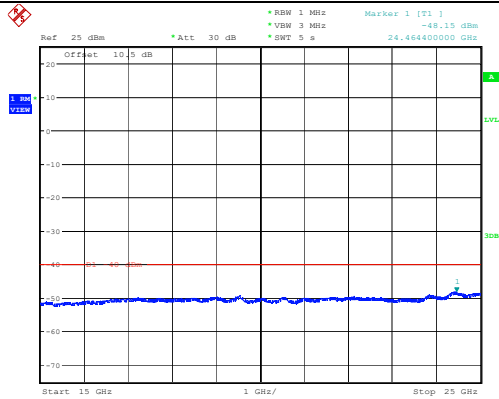
Highest



ProjectNo.:CR230851297 Tester:Rod Luo
 Date: 18.SEP.2023 13:34:31

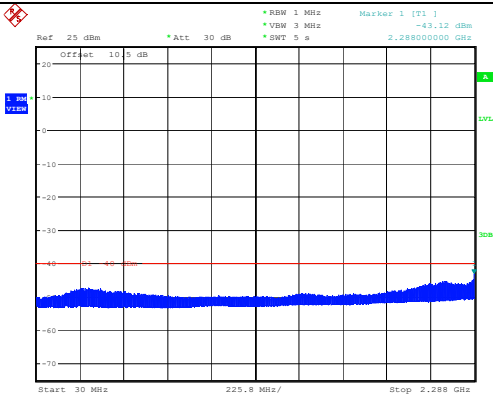
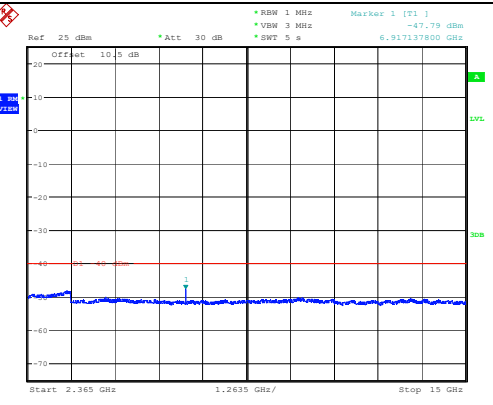
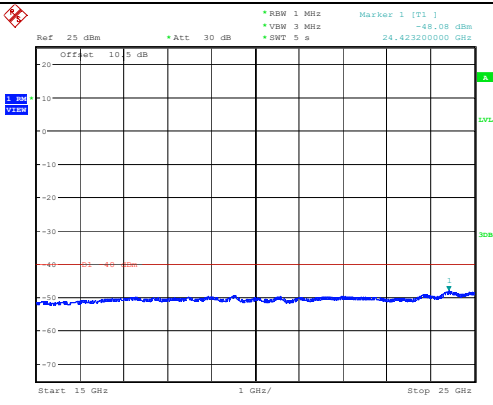


ProjectNo.:CR230851297 Tester:Rod Luo
 Date: 18.SEP.2023 13:35:11



ProjectNo.:CR230851297 Tester:Rod Luo
 Date: 18.SEP.2023 13:35:51

Spurious Emissions at Antenna Terminal

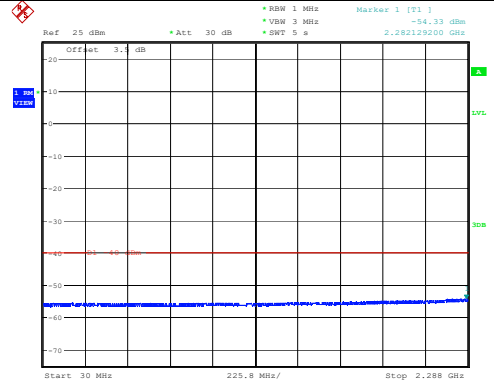
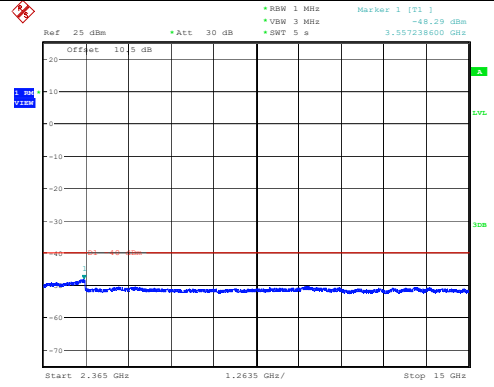
Channel	10MHz Bandwidth QPSK	
Middle	 <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:37:13</p>	 <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:37:53</p>
	 <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:38:33</p>	

LTE Band 40 Upper:

Spurious Emissions at Antenna Terminal

Channel

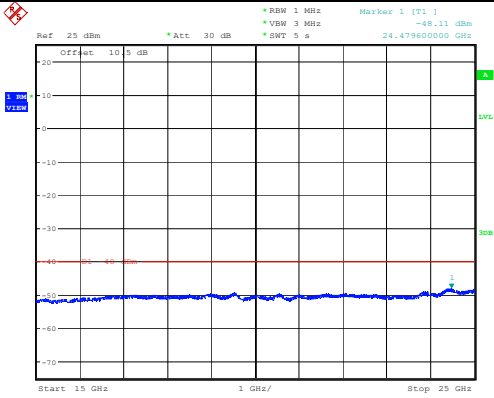
5MHz Bandwidth QPSK



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 22.SEP.2023 10:22:43

ProjectNo.:CR230851297 Tester:Rod Luo
Date: 22.SEP.2023 10:25:07

Lowest



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 18.SEP.2023 13:40:16

Spurious Emissions at Antenna Terminal

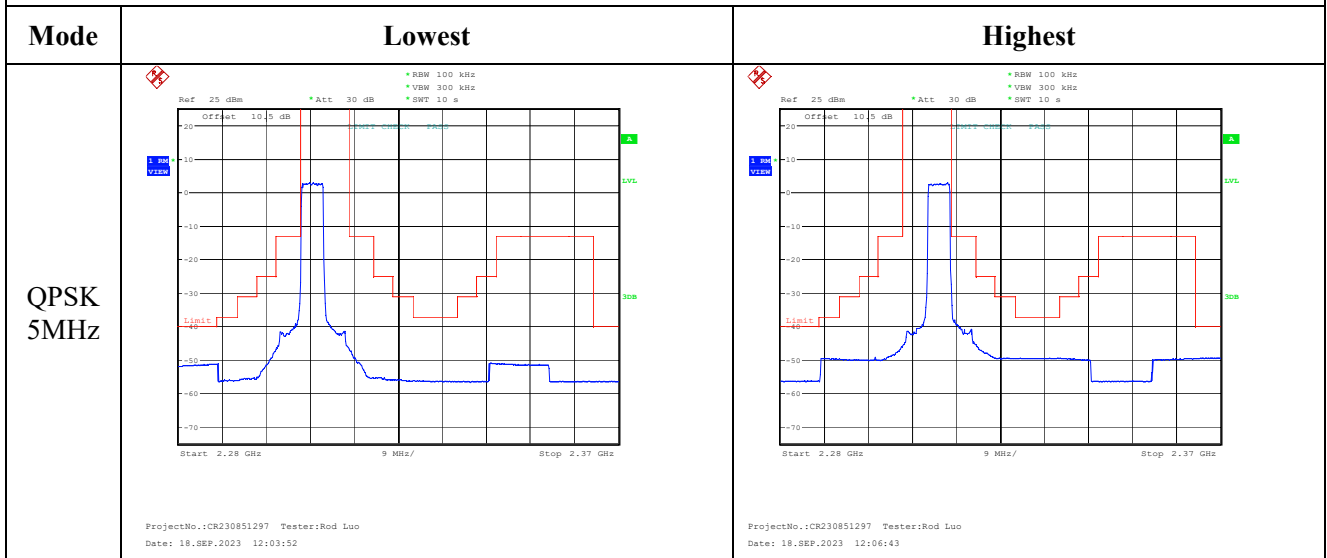
Channel	5MHz Bandwidth QPSK	
	<p>Ref 25 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz *SWT 5 s Marker 1 [T1] -44.38 dBm 41.741600000 MHz</p> <p>Offset 10.5 dB</p> <p>Center 1.159 GHz 225.8 MHz/ Span 2.258 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:52:21</p>	<p>Ref 25 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz *SWT 5 s Marker 1 [T1] -47.80 dBm 2.371570200 GHz</p> <p>Offset 10.5 dB</p> <p>Start 2.365 GHz 1.2635 GHz/ Stop 15 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:43:24</p>
Highest	<p>Ref 25 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz *SWT 5 s Marker 1 [T1] -48.09 dBm 24.460800000 GHz</p> <p>Offset 10.5 dB</p> <p>Start 15 GHz 1 GHz/ Stop 25 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:43:52</p>	

Spurious Emissions at Antenna Terminal

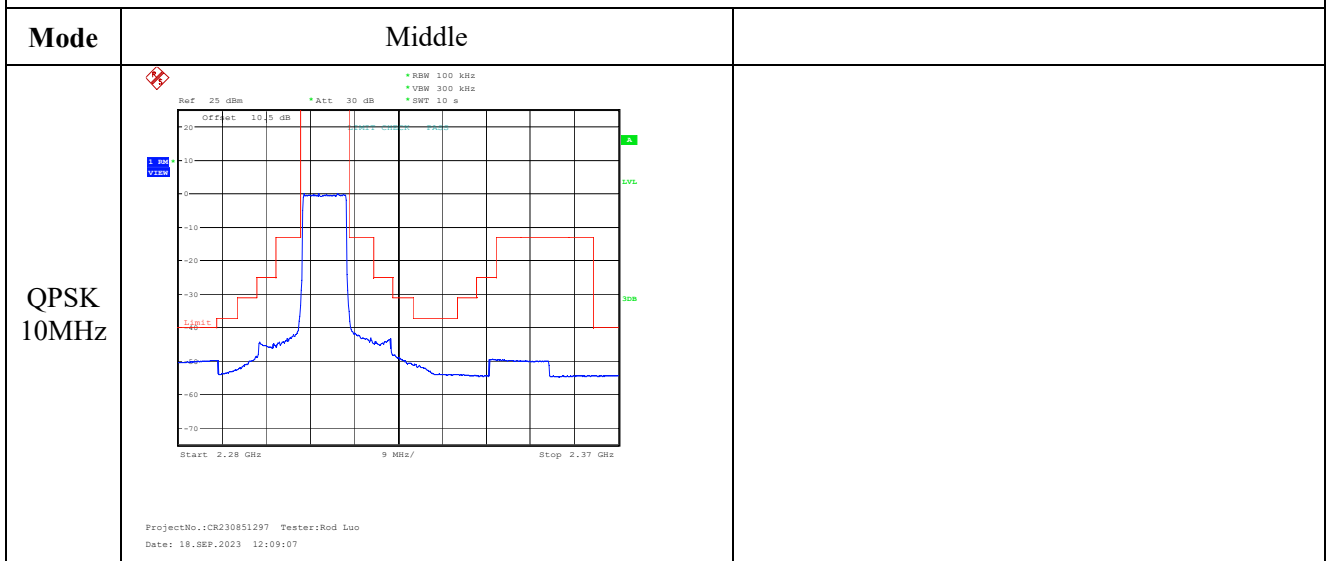
Channel	10MHz Bandwidth QPSK	
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:53:55</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:56:26</p>
	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 13:49:26</p>	

LTE Band 40 Lower:

Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge

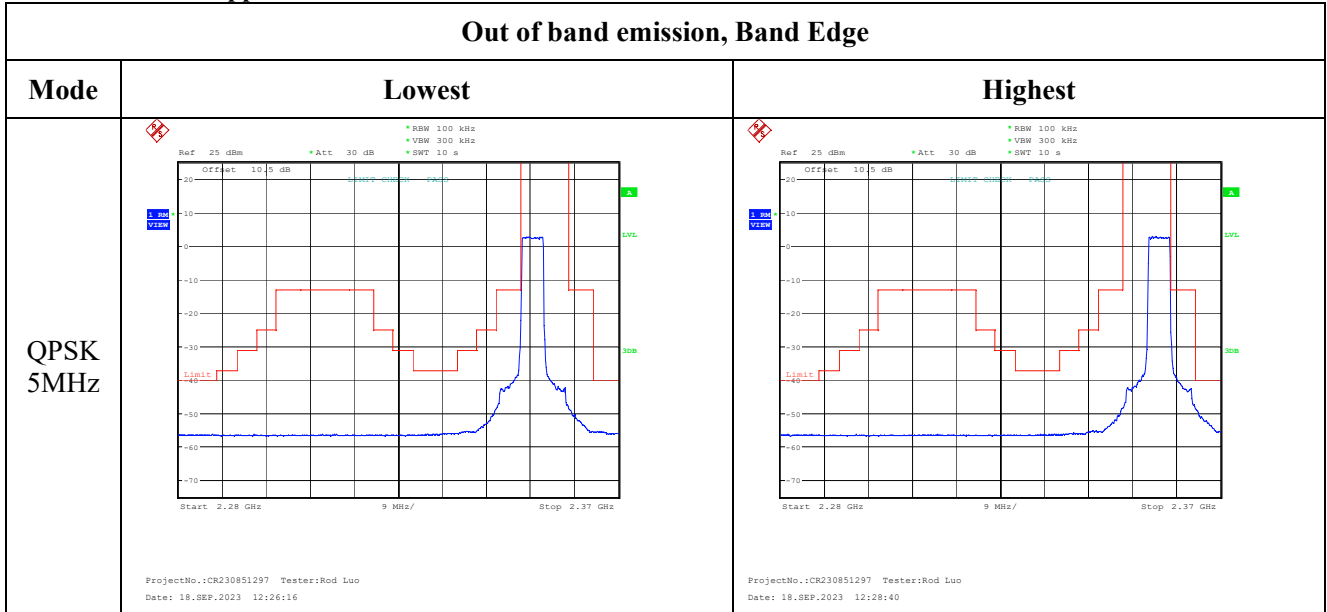
Mode	Lowest	Highest
16QAM 5MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 12:05:01</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 12:07:54</p>

Out of band emission, Band Edge

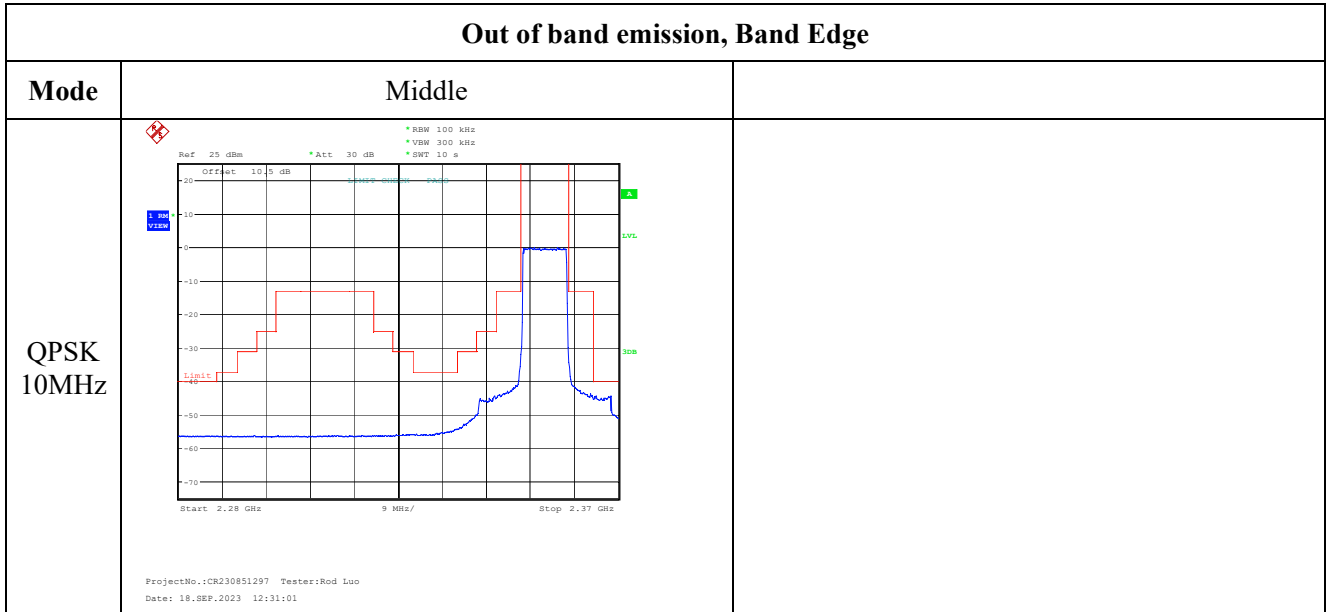
Mode	Middle	
16QAM 10MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 12:10:19</p>	

LTE Band 40 Upper:

Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge

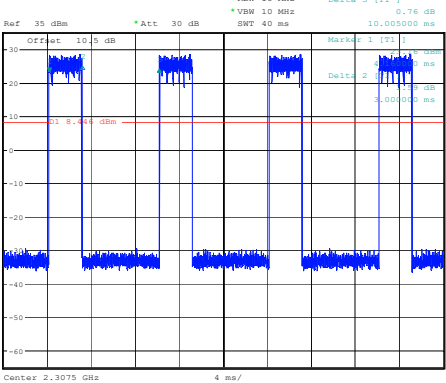
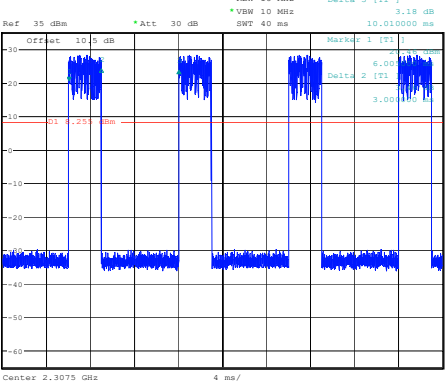
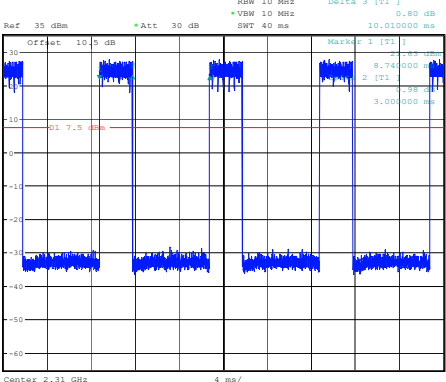
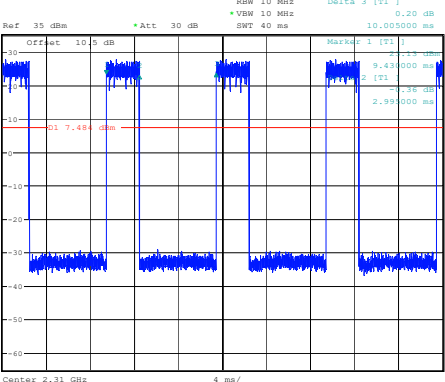
Mode	Lowest	Highest
16QAM 5MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 12:27:22</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 12:36:53</p>

Out of band emission, Band Edge

Mode	Middle	
16QAM 10MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 12:31:58</p>	

LTE Band 40 Lower:

Duty Cycle

Mode	QPSK	16QAM
5MHz	 <p>Ref: 35 dBm *Act: 30 dB RBW: 10 MHz Delta 3 [T1]: 0.76 dB *VBW: 10 MHz SWT: 40 ms 10.000000 ms Offset: 10.5 dB Marker 1 [T1]: 2.3075000 GHz Delta 2 [T1]: 3.000000 ms Center: 2.3075 GHz 4 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 14:02:29</p>	 <p>Ref: 35 dBm *Act: 30 dB RBW: 10 MHz Delta 3 [T1]: 3.18 dB *VBW: 10 MHz SWT: 40 ms 10.000000 ms Offset: 10.5 dB Marker 1 [T1]: 2.3075000 GHz Delta 2 [T1]: 6.000000 ms Delta 1 [T1]: 3.000000 ms Center: 2.3075 GHz 4 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 14:02:10</p>
10MHz	 <p>Ref: 35 dBm *Act: 30 dB RBW: 10 MHz Delta 3 [T1]: 0.80 dB *VBW: 10 MHz SWT: 40 ms 10.000000 ms Offset: 10.5 dB Marker 1 [T1]: 2.3100000 GHz Delta 2 [T1]: 8.740000 ms Delta 1 [T1]: 3.000000 ms Center: 2.31 GHz 4 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 14:03:51</p>	 <p>Ref: 35 dBm *Act: 30 dB RBW: 10 MHz Delta 3 [T1]: 0.20 dB *VBW: 10 MHz SWT: 40 ms 10.000000 ms Offset: 10.5 dB Marker 1 [T1]: 2.3100000 GHz Delta 2 [T1]: 9.430000 ms Delta 1 [T1]: 2.990000 ms Center: 2.31 GHz 4 MHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 14:03:25</p>

LTE Band 40 Upper:

Duty Cycle

Mode	QPSK	16QAM
5MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 14:04:44</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 14:04:25</p>
10MHz	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 14:05:20</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 18.SEP.2023 14:05:05</p>

4.14 Antenna Port Test Data and Results for LTE Band 41

Serial Number:	2AS5-5	Test Date:	2023/9/15~2023/9/18
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.9~26.2	Relative Humidity: (%)	54~60	ATM Pressure: (kPa)	100.2~100.8
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Minl-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency for Each Mode:

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

Test Data:

FCC§2.1046;§ 27.50(h)(2)						
RF Output Power:						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	22.01	22.76	22.84	20.27	33
	RB1#13	22.18	22.86	22.97		
	RB1#24	22.05	22.75	22.88		
	RB15#0	21.06	21.77	21.87		
	RB15#10	21.13	21.76	21.88		
	RB25#0	21.09	21.78	21.91		
5MHz 16QAM	RB1#0	21.02	21.7	22.02	19.47	33
	RB1#13	21.12	21.8	22.17		
	RB1#24	21.03	21.69	22.07		
	RB15#0	20.05	20.74	20.89		
	RB15#10	20.09	20.72	20.92		
	RB25#0	20.14	20.75	20.87		
10MHz QPSK	RB1#0	22.19	22.85	22.9	20.48	33
	RB1#25	22.49	23.08	23.18		
	RB1#49	22.2	22.83	22.96		
	RB25#0	21.08	21.85	21.91		
	RB25#25	21.2	21.8	22.01		
	RB50#0	21.11	21.84	21.91		
10MHz 16QAM	RB1#0	21.23	21.94	21.72	19.49	33
	RB1#25	21.5	22.19	22.05		
	RB1#49	21.22	21.95	21.85		
	RB25#0	20.15	20.79	20.92		
	RB25#25	20.26	20.74	20.94		
	RB50#0	20.18	20.8	20.91		
15MHz QPSK	RB1#0	22.15	22.79	22.83	20.25	33
	RB1#38	22.27	22.87	22.95		
	RB1#74	22.24	22.8	22.9		
	RB36#0	21.2	22	21.95		
	RB36#39	21.37	21.95	22.02		
	RB75#0	21.27	22	22.02		
15MHz 16QAM	RB1#0	21.29	21.9	21.74	19.26	33
	RB1#38	21.44	21.96	21.86		
	RB1#74	21.35	21.91	21.84		
	RB36#0	20.25	20.83	20.86		
	RB36#39	20.39	20.82	20.94		
	RB75#0	20.26	20.82	20.95		

20MHz QPSK	RB1#0	22	22.71	22.6	20.43	33
	RB1#50	22.49	23.13	23.05		
	RB1#99	22.18	22.72	22.62		
	RB50#0	21.03	21.83	21.66		
	RB50#50	21.28	21.88	21.77		
	RB100#0	21.21	21.89	21.72		
20MHz 16QAM	RB1#0	20.97	21.61	21.82	19.56	33
	RB1#50	21.45	22.08	22.26		
	RB1#99	21.11	21.29	21.84		
	RB50#0	20.04	20.58	20.68		
	RB50#50	20.25	20.68	20.76		
	RB100#0	20.21	20.69	20.72		
Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(dBi)						
					Result:	Pass

Peak-to-average Ratio(PAR)						
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)	
		Lowest Channel	Middle Channel	Highest Channel		
20MHz QPSK	RB1#0	8.38	7.65	8.35	13	
	RB100#0	8.75	8.52	8.72	13	
20MHz 16QAM	RB1#0	9.13	8.61	9.25	13	
	RB100#0	9.59	9.36	9.57	13	
					Result:	Pass

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	4.520	4.500	4.500	4.960	5.100	5.000
5MHz 16QAM	4.500	4.500	4.500	4.940	4.960	5.240
10MHz QPSK	9.000	8.960	9.000	9.640	9.640	10.000
10MHz 16QAM	9.000	9.000	9.000	9.480	10.120	9.480
15MHz QPSK	13.560	13.500	13.560	15.180	15.120	15.120
15MHz 16QAM	13.560	13.560	13.620	14.820	16.920	16.020
20MHz QPSK	17.920	18.000	18.000	19.520	19.440	19.760
20MHz 16QAM	18.000	18.000	18.000	19.360	19.360	19.440
Note: The test plots please refer to the Plots of Occupied Bandwidth						

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

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

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 _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2535.222	2535.00	2654.773	2655
	-20	3.85	2535.286	2535.00	2654.882	2655
	-10	3.85	2535.288	2535.00	2654.864	2655
	0	3.85	2535.245	2535.00	2654.755	2655
	10	3.85	2535.300	2535.00	2654.866	2655
	20	3.85	2535.123	2535.00	2654.896	2655
	30	3.85	2535.114	2535.00	2654.900	2655
	40	3.85	2535.268	2535.00	2654.710	2655
	50	3.85	2535.118	2535.00	2654.768	2655
Frequency Stability vs. Voltage	20	3.45	2535.176	2535.00	2654.761	2655
	20	4.4	2535.156	2535.00	2654.831	2655
					Result:	Pass

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge, Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2535.284	2535.00	2654.840	2655
	-20	3.85	2535.230	2535.00	2654.799	2655
	-10	3.85	2535.224	2535.00	2654.707	2655
	0	3.85	2535.278	2535.00	2654.779	2655
	10	3.85	2535.261	2535.00	2654.756	2655
	20	3.85	2535.133	2535.00	2654.753	2655
	30	3.85	2535.149	2535.00	2654.777	2655
	40	3.85	2535.176	2535.00	2654.739	2655
	50	3.85	2535.102	2535.00	2654.728	2655
Frequency Stability vs. Voltage	20	3.45	2535.245	2535.00	2654.877	2655
	20	4.4	2535.192	2535.00	2654.853	2655
					Result:	Pass

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):

Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:19:57</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:20:12</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:21:24</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:21:45</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:22:04</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:22:22</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:22:48</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:23:09</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:23:29</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:23:50</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:24:10</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:24:32</p>

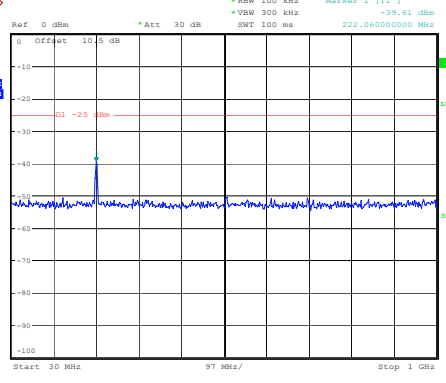
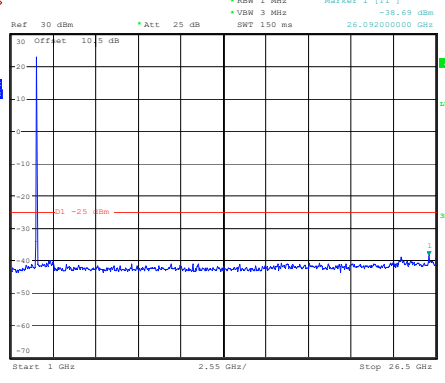
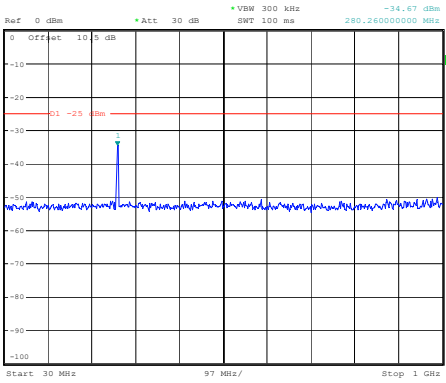
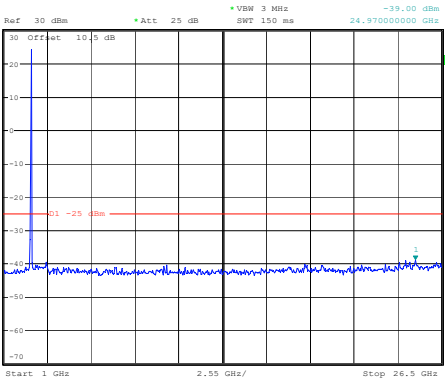
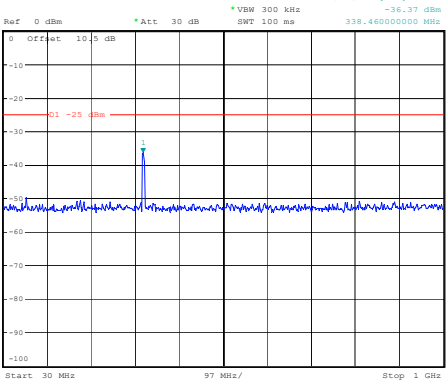
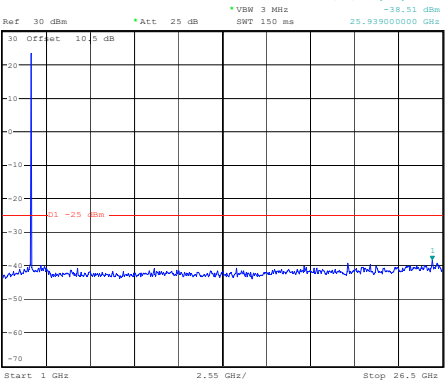
Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:24:55</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:25:17</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:25:42</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:26:16</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:26:41</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:27:02</p>

Occupied Bandwidth

Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:27:35</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:27:56</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:28:25</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:28:47</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:29:09</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 09:29:31</p>

Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest	 <p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *Marker 1 [F1] -29.61 dBm *SWT 100 ms 222.06000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:18:57</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *Marker 1 [F1] -38.69 dBm *SWT 150 ms 26.09200000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:19:08</p>
Middle	 <p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *Marker 1 [F1] -34.67 dBm *SWT 100 ms 280.26000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:19:22</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *Marker 1 [F1] -39.00 dBm *SWT 150 ms 24.97000000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:19:32</p>
Highest	 <p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *Marker 1 [F1] -36.37 dBm *SWT 100 ms 338.46000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:19:46</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *Marker 1 [F1] -38.51 dBm *SWT 150 ms 25.93900000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:19:57</p>

Spurious Emissions at Antenna Terminal

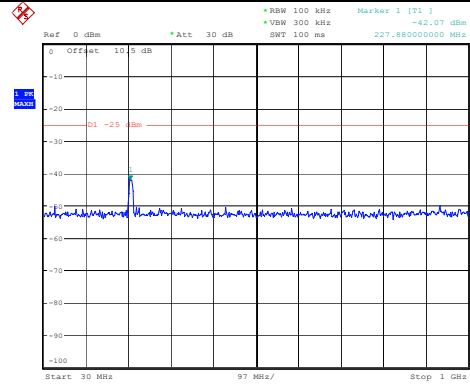
Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref 0 dBm *Att. 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -41.09 dBm 225.94000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:20:16</p>	<p>Ref 30 dBm *Att. 25 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [T1] -40.13 dBm 24.56200000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:20:26</p>
Middle	<p>Ref 0 dBm *Att. 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -37.96 dBm 278.32000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:20:41</p>	<p>Ref 30 dBm *Att. 25 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [T1] -38.83 dBm 24.97000000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:20:51</p>
Highest	<p>Ref 0 dBm *Att. 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -39.57 dBm 336.52000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:21:06</p>	<p>Ref 30 dBm *Att. 25 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [T1] -39.94 dBm 3.24400000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 15.SEP.2023 17:21:16</p>

Spurious Emissions at Antenna Terminal

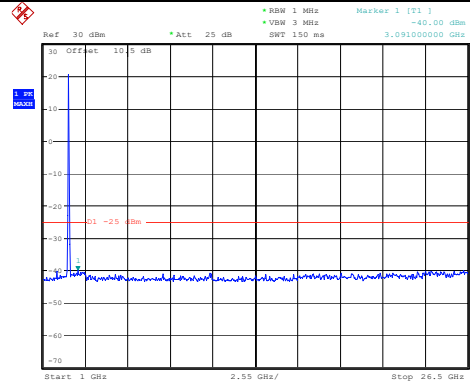
Channel

15MHz Bandwidth QPSK

Lowest

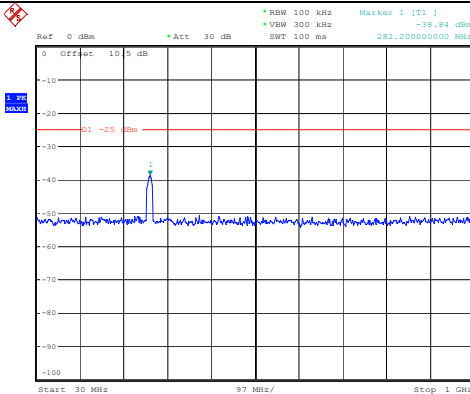


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 15.SEP.2023 17:21:39

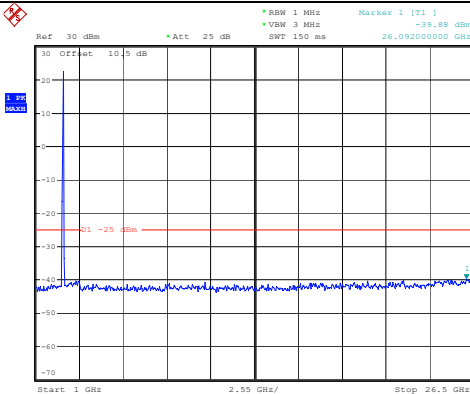


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 15.SEP.2023 17:21:49

Middle

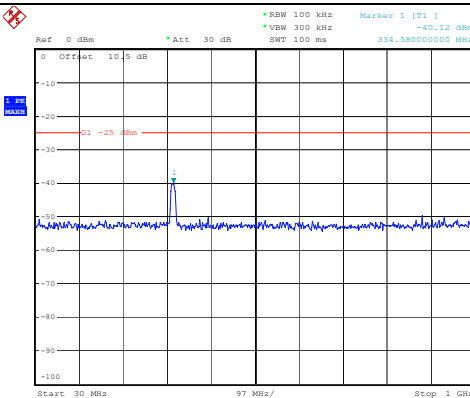


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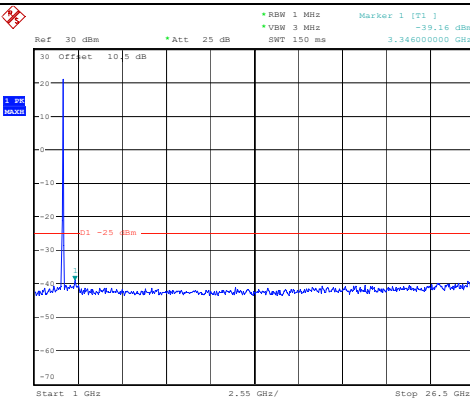


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 15.SEP.2023 17:22:19

Highest



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 15.SEP.2023 17:22:37



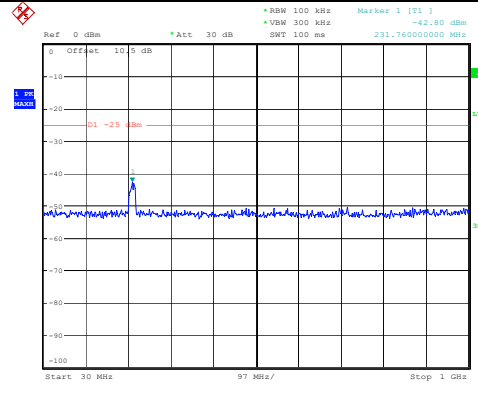
ProjectNo.:CR230851297 Tester:Rod Luo
Date: 15.SEP.2023 17:22:47

Spurious Emissions at Antenna Terminal

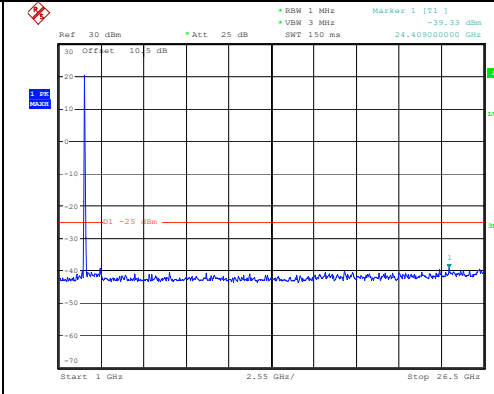
Channel

20MHz Bandwidth QPSK

Lowest

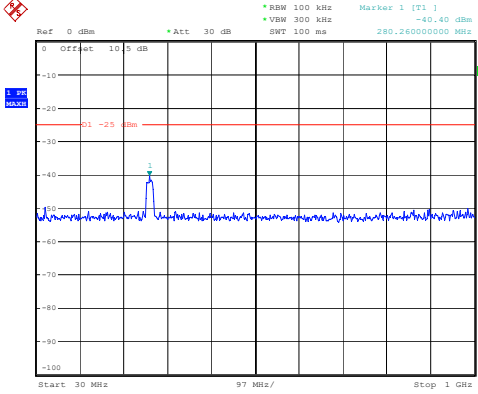


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Date: 15.SEP.2023 17:23:15

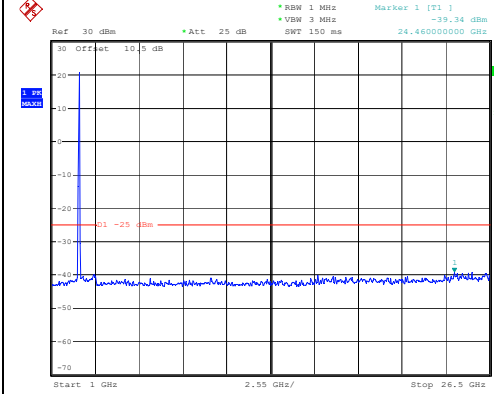


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 15.SEP.2023 17:23:25

Middle

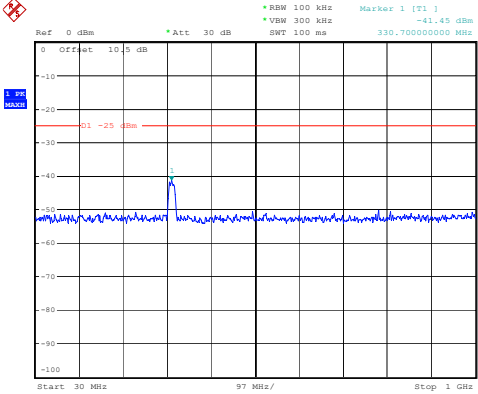


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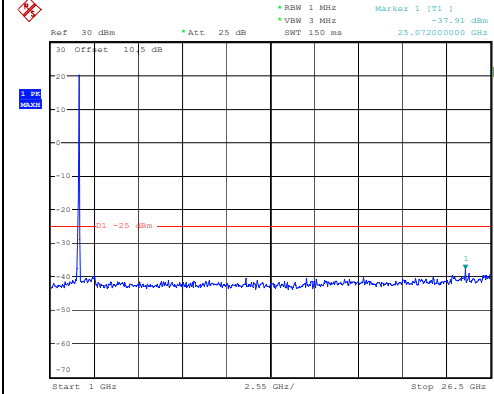


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 15.SEP.2023 17:23:53

Highest

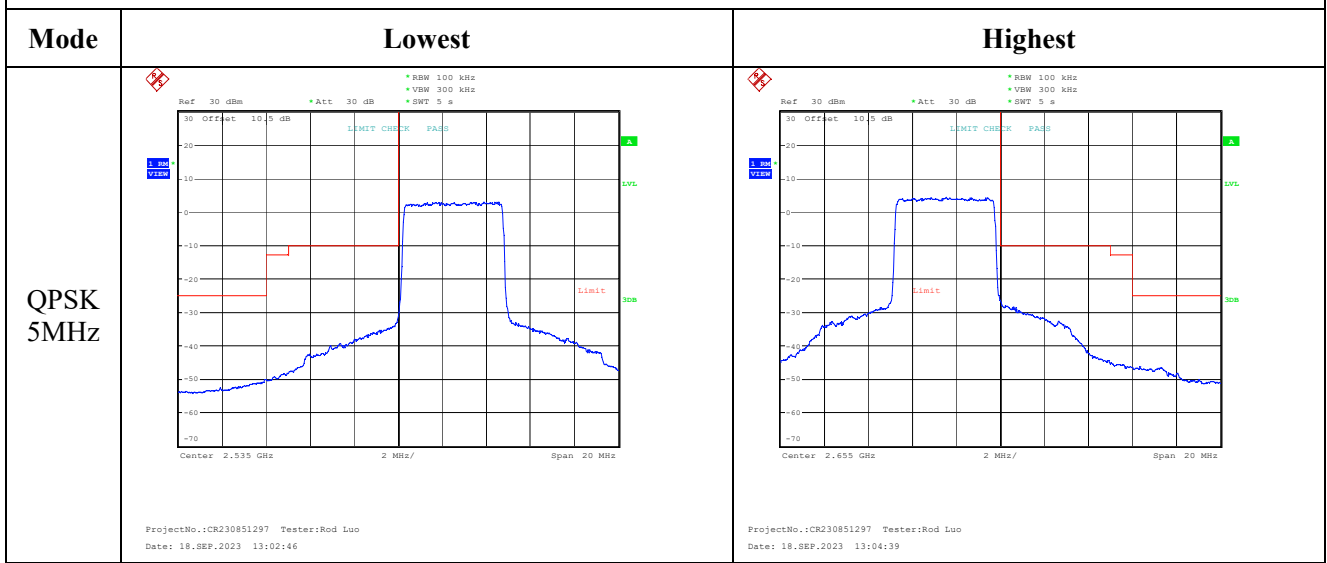


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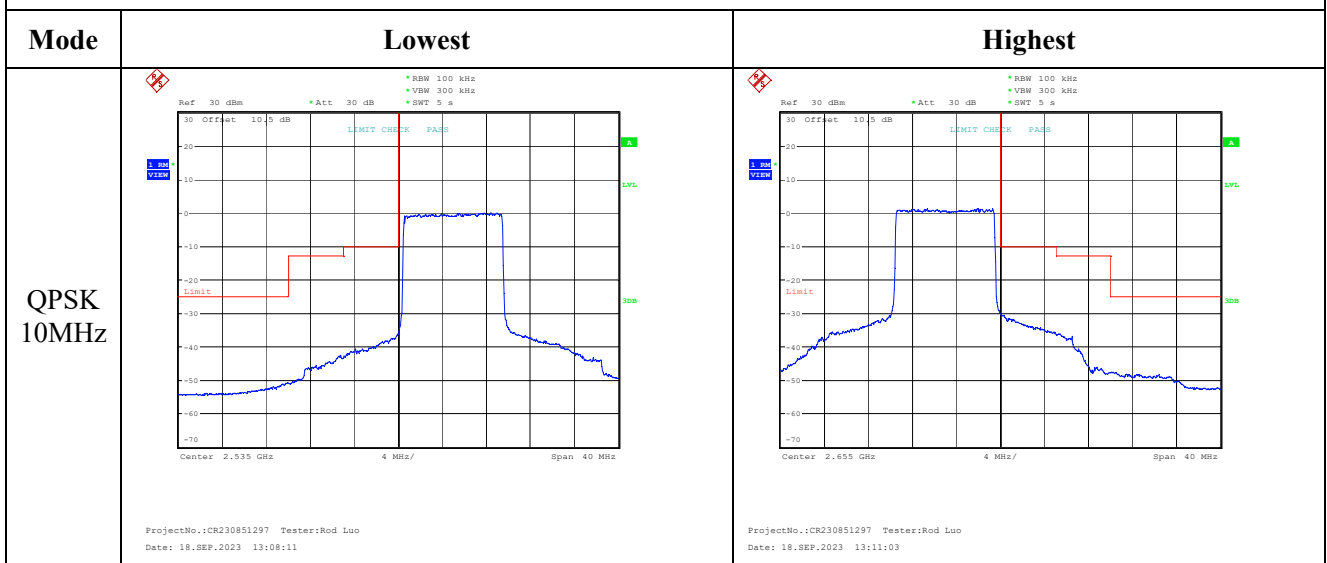


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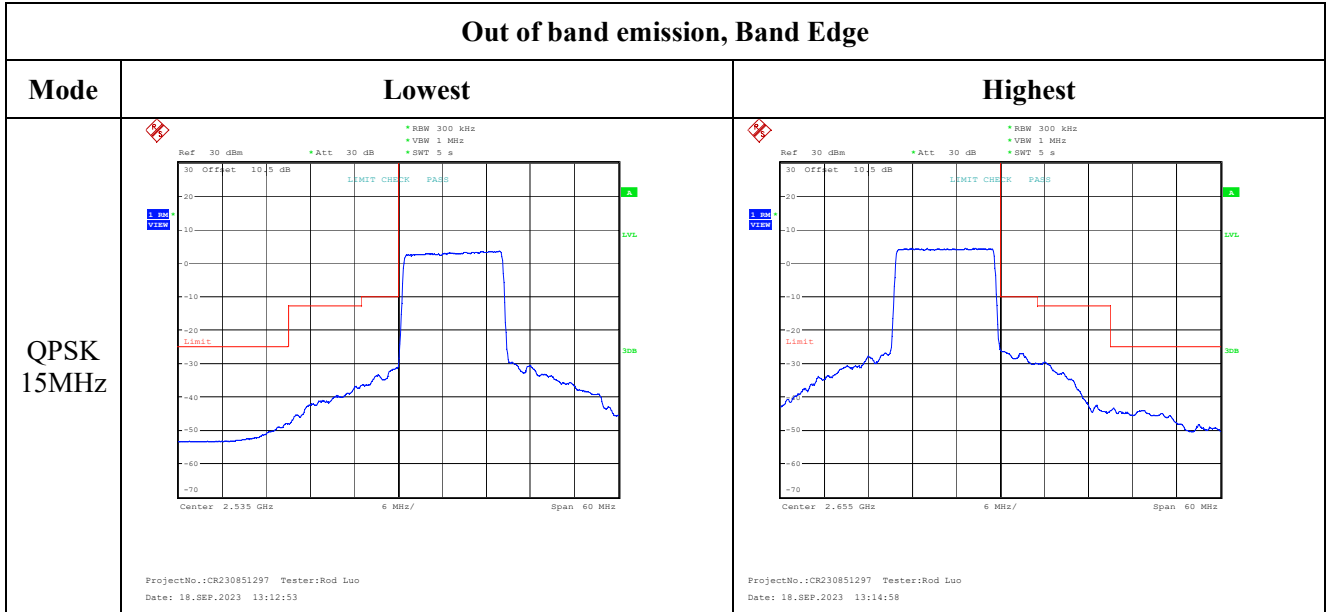
Out of band emission, Band Edge



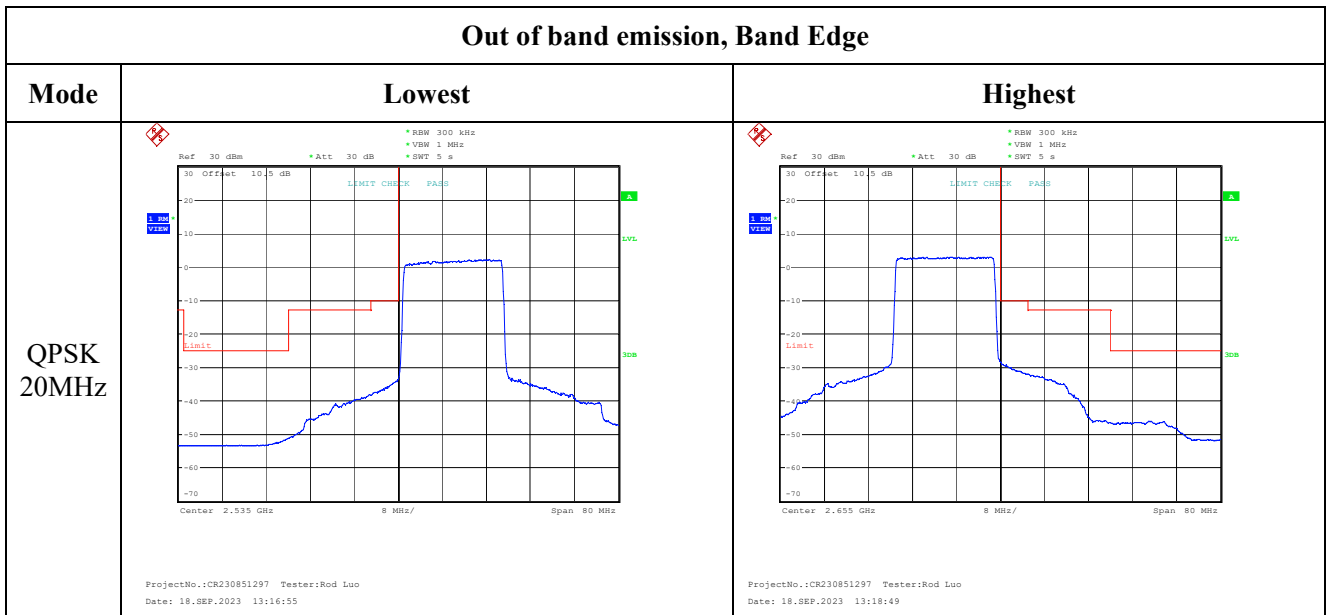
Out of band emission, Band Edge



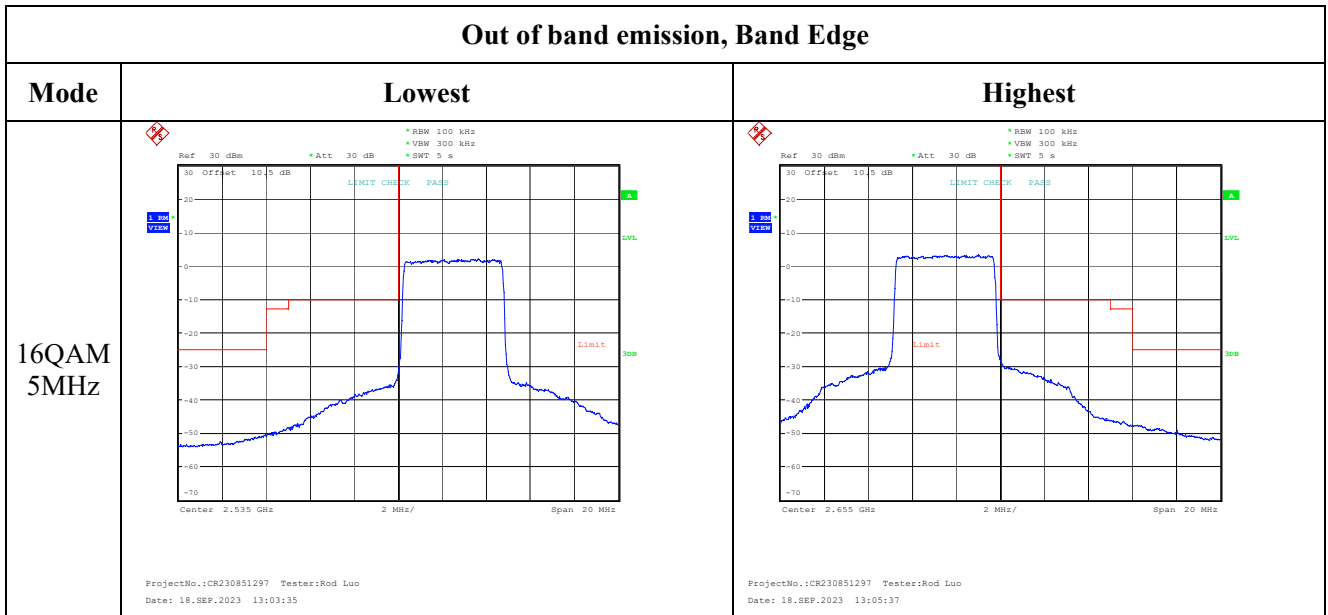
Out of band emission, Band Edge



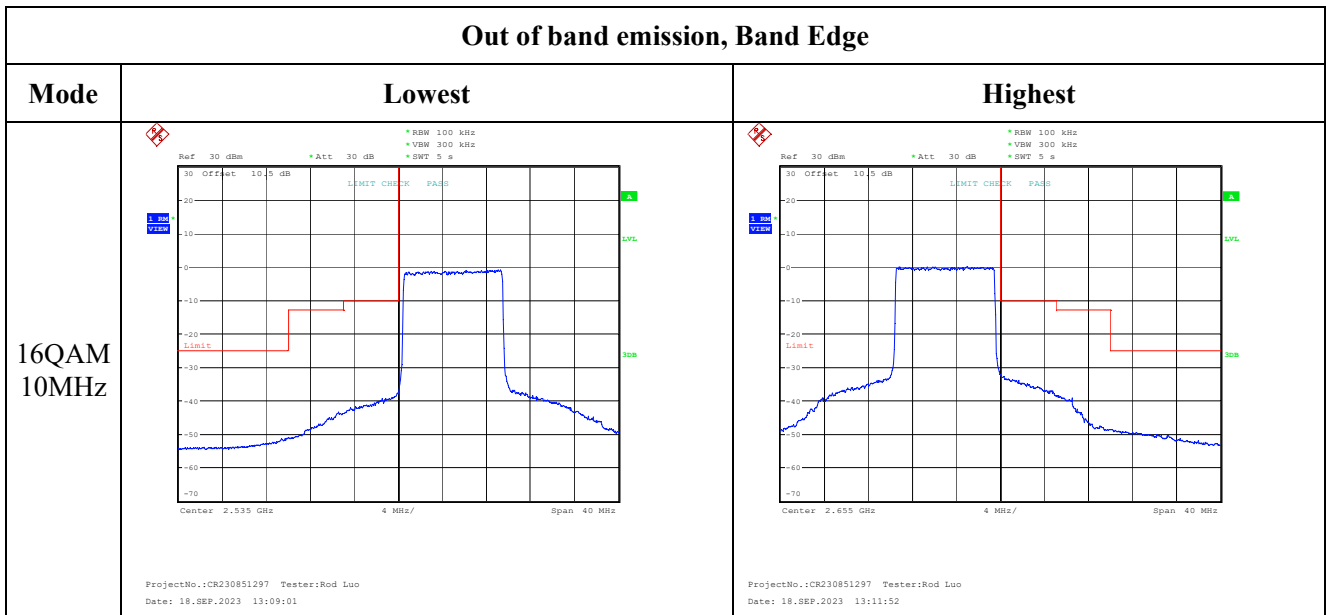
Out of band emission, Band Edge



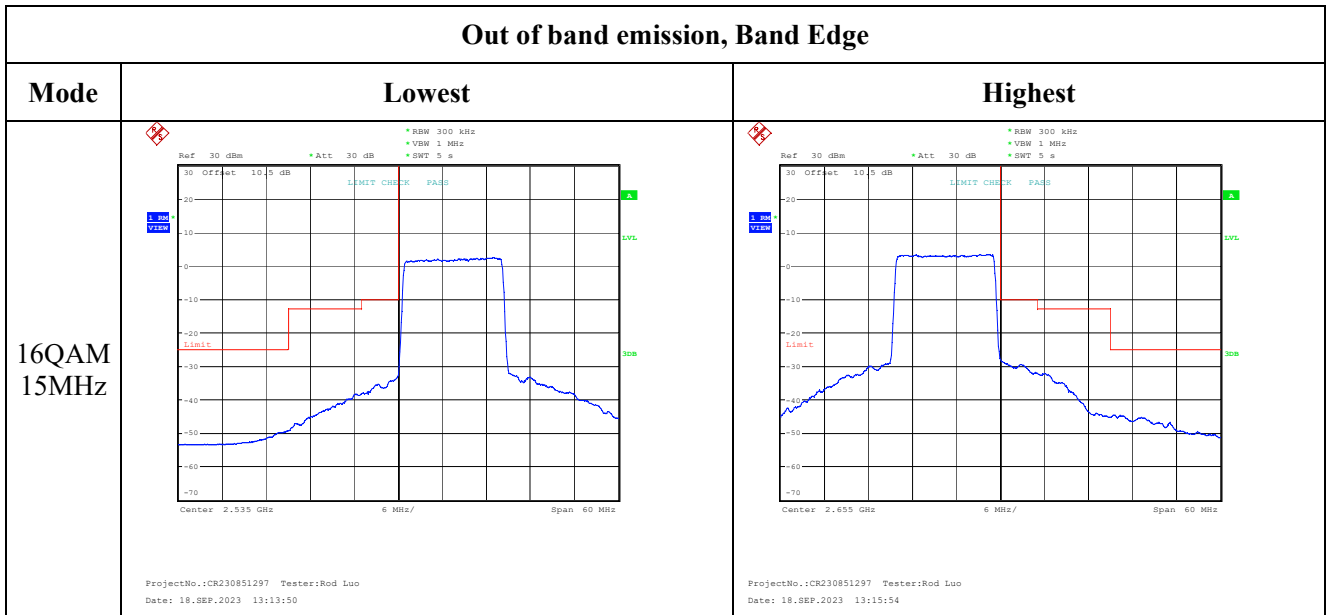
Out of band emission, Band Edge



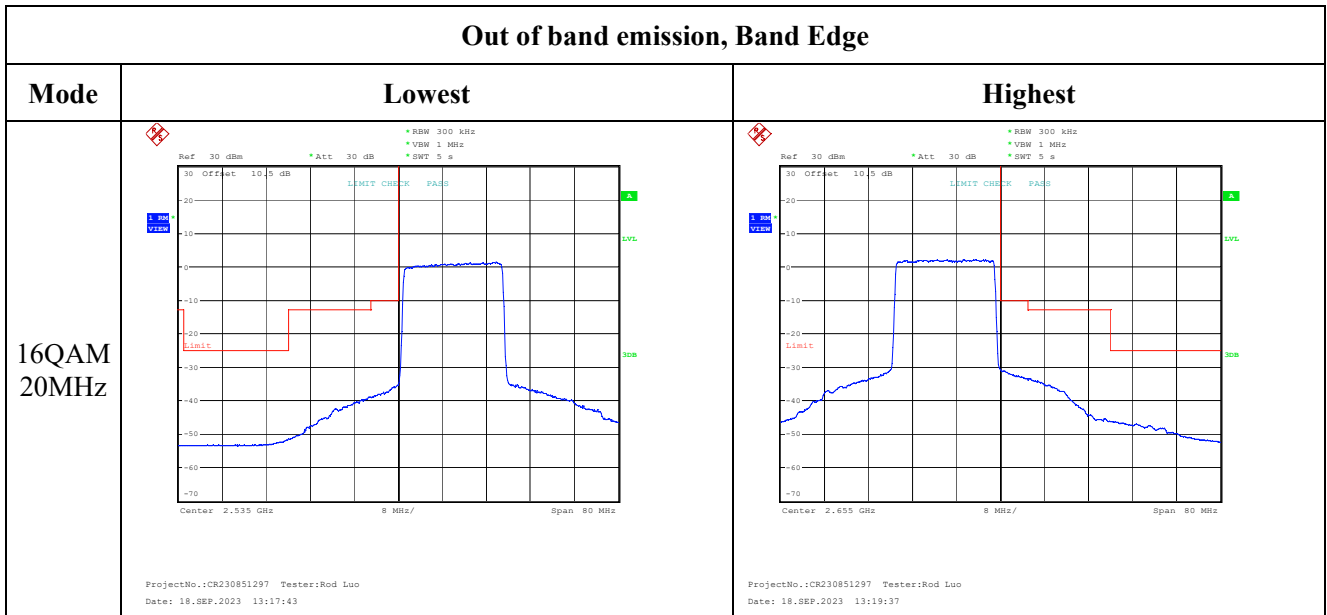
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.15 Antenna Port Test Data and Results for LTE Band 66

Serial Number:	2AS5-5	Test Date:	2023/9/16
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	28	Relative Humidity: (%)	55	ATM Pressure: (kPa)	100.1
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Minl-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
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	23.83	23.65	23.66	21.69	30
	RB1#3	23.99	23.85	23.82		
	RB1#5	23.78	23.62	23.66		
	RB3#0	23.86	23.62	23.66		
	RB3#3	23.84	23.68	23.68		
	RB6#0	22.56	22.65	22.73		
1.4MHz 16QAM	RB1#0	22.87	22.55	22.55	20.80	30
	RB1#3	23.1	22.74	22.73		
	RB1#5	22.73	22.58	22.56		
	RB3#0	22.56	22.68	22.74		
	RB3#3	22.33	22.63	22.76		
	RB6#0	21.41	21.57	21.67		
3MHz QPSK	RB1#0	23.89	23.68	23.77	21.59	30
	RB1#8	23.86	23.67	23.73		
	RB1#14	23.65	23.66	23.71		
	RB6#0	22.29	22.65	22.77		
	RB6#9	22.31	22.66	22.72		
	RB15#0	22.34	22.64	22.71		
3MHz 16QAM	RB1#0	22.37	23.13	22.76	20.83	30
	RB1#8	22.35	23.09	22.78		
	RB1#14	22.25	23.07	22.77		
	RB6#0	21.26	21.67	21.67		
	RB6#9	21.23	21.66	21.69		
	RB15#0	21.37	21.67	21.62		
5MHz QPSK	RB1#0	23.75	23.57	23.65	21.54	30
	RB1#13	23.84	23.7	23.76		
	RB1#24	23.68	23.58	23.61		
	RB15#0	22.36	22.63	22.72		
	RB15#10	22.37	22.67	22.69		
	RB25#0	22.3	22.61	22.67		
5MHz 16QAM	RB1#0	22.13	22.82	22.63	20.64	30
	RB1#13	22.22	22.94	22.77		
	RB1#24	22.07	22.81	22.6		
	RB15#0	21.39	21.63	21.73		
	RB15#10	21.37	21.63	21.69		
	RB25#0	21.37	21.6	21.68		

10MHz QPSK	RB1#0	23.9	23.75	23.66	21.6	30
	RB1#25	23.89	23.86	23.89		
	RB1#49	23.86	23.71	23.76		
	RB25#0	22.46	22.71	22.7		
	RB25#25	22.32	22.65	22.69		
	RB50#0	22.36	22.69	22.69		
10MHz 16QAM	RB1#0	22.48	22.7	23.1	20.97	30
	RB1#25	22.5	22.77	23.27		
	RB1#49	22.54	22.62	23.11		
	RB25#0	21.34	21.77	21.76		
	RB25#25	21.35	21.75	21.74		
	RB50#0	21.34	21.71	21.69		
15MHz QPSK	RB1#0	23.8	23.65	23.59	21.51	30
	RB1#38	23.72	23.74	23.81		
	RB1#74	23.41	23.56	23.73		
	RB36#0	22.4	22.8	22.8		
	RB36#39	22.53	22.77	22.88		
	RB75#0	22.44	22.78	22.83		
15MHz 16QAM	RB1#0	22.76	22.75	22.83	20.75	30
	RB1#38	22.85	22.81	23.05		
	RB1#74	22.96	22.63	22.91		
	RB36#0	21.34	21.73	21.64		
	RB36#39	21.46	21.68	21.75		
	RB75#0	21.45	21.74	21.73		
20MHz QPSK	RB1#0	23.58	23.47	23.32	21.75	30
	RB1#50	24.05	23.88	23.78		
	RB1#99	23.39	23.41	23.5		
	RB50#0	22.29	22.66	22.61		
	RB50#50	22.5	22.65	22.63		
	RB100#0	22.37	22.67	22.64		
20MHz 16QAM	RB1#0	22.37	22.61	22.81	20.98	30
	RB1#50	22.82	22.98	23.28		
	RB1#99	22.68	22.52	22.94		
	RB50#0	21.27	21.66	21.6		
	RB50#50	21.45	21.58	21.61		
	RB100#0	21.4	21.62	21.58		
Note: EIRP=Conducted Power(dBm) - Lc(dB) + G _T (dBi)						
					Result:	Pass

Peak-to-average Ratio(PAR)					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	4.14	4.32	3.97	13
	RB100#0	4.84	4.58	4.55	13
20MHz 16QAM	RB1#0	4.93	5.33	4.64	13
	RB100#0	5.77	5.51	5.54	13
Result:					Pass

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
1.4MHz QPSK	1.110	1.104	1.104	1.314	1.314	1.332
1.4MHz 16QAM	1.098	1.104	1.098	1.296	1.320	1.296
3MHz QPSK	2.688	2.688	2.700	2.880	2.868	2.892
3MHz 16QAM	2.688	2.676	2.688	2.868	2.880	2.880
5MHz QPSK	4.540	4.540	4.540	5.220	5.200	5.200
5MHz 16QAM	4.540	4.560	4.540	5.240	5.180	5.200
10MHz QPSK	8.960	9.000	9.000	9.840	9.920	10.040
10MHz 16QAM	9.000	8.960	8.960	9.800	9.960	9.640
15MHz QPSK	13.620	13.620	13.500	15.360	15.240	15.180
15MHz 16QAM	13.620	13.620	13.560	15.060	15.120	15.120
20MHz QPSK	18.000	18.000	18.000	19.760	19.600	19.600
20MHz 16QAM	18.000	18.000	18.000	19.680	19.840	19.680

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 _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	1710.180	1710.00	1779.868	1780
	-20	3.85	1710.146	1710.00	1779.752	1780
	-10	3.85	1710.199	1710.00	1779.778	1780
	0	3.85	1710.300	1710.00	1779.726	1780
	10	3.85	1710.236	1710.00	1779.723	1780
	20	3.85	1710.263	1710.00	1779.793	1780
	30	3.85	1710.123	1710.00	1779.826	1780
	40	3.85	1710.221	1710.00	1779.812	1780
	50	3.85	1710.290	1710.00	1779.716	1780
Frequency Stability vs. Voltage	20	3.45	1710.162	1710.00	1779.829	1780
	20	4.4	1710.296	1710.00	1779.806	1780
					Result:	Pass

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	1710.179	1710.00	1779.762	1780
	-20	3.85	1710.179	1710.00	1779.709	1780
	-10	3.85	1710.106	1710.00	1779.756	1780
	0	3.85	1710.172	1710.00	1779.830	1780
	10	3.85	1710.286	1710.00	1779.763	1780
	20	3.85	1710.170	1710.00	1779.774	1780
	30	3.85	1710.198	1710.00	1779.869	1780
	40	3.85	1710.124	1710.00	1779.743	1780
	50	3.85	1710.241	1710.00	1779.813	1780
Frequency Stability vs. Voltage	20	3.45	1710.151	1710.00	1779.828	1780
	20	4.4	1710.199	1710.00	1779.885	1780
					Result:	Pass

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):

Occupied Bandwidth		
Channel	1.4MHz Bandwidth QPSK	1.4MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:31:09</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:31:26</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:31:44</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:32:02</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:32:20</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:32:35</p>

Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:33:19</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:33:33</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:33:48</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:34:03</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:34:21</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:34:39</p>

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:35:28</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:35:50</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:36:27</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:36:48</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:37:13</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:37:34</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:38:18</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:38:37</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:38:54</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:39:12</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:39:52</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:39:51</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:40:42</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:41:07</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:41:29</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:41:54</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:42:16</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:42:43</p>

Occupied Bandwidth

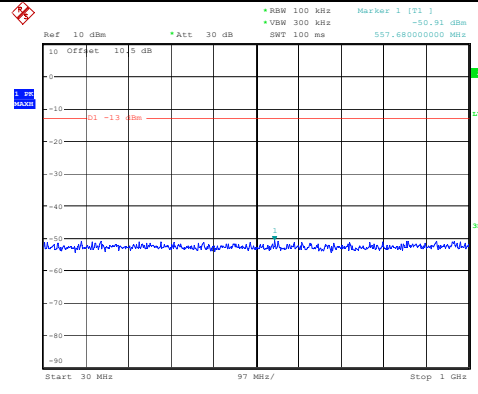
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:43:33</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:43:55</p>
Middle	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:44:18</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:44:46</p>
Highest	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:45:09</p>	<p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 14:45:30</p>

Spurious Emissions at Antenna Terminal

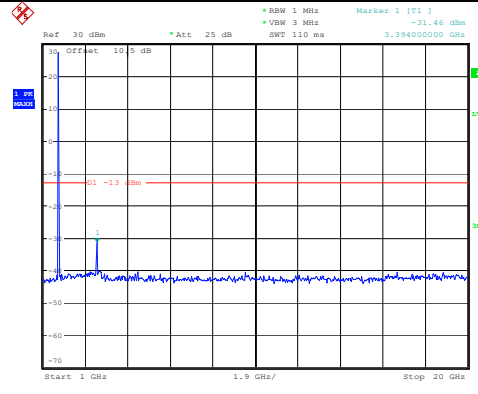
Channel

1.4MHz Bandwidth QPSK

Lowest

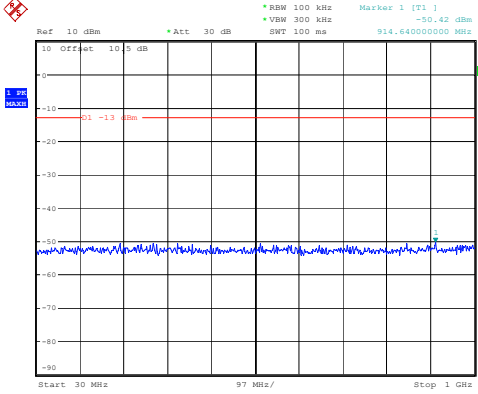


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:27:09

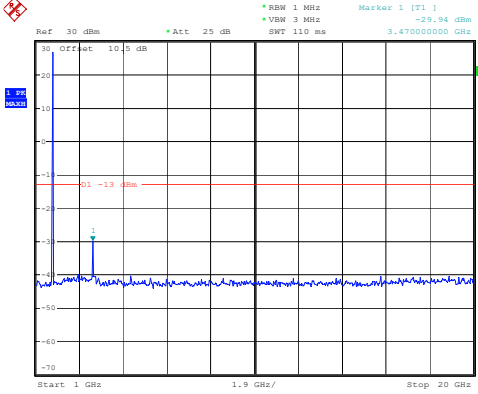


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:27:19

Middle

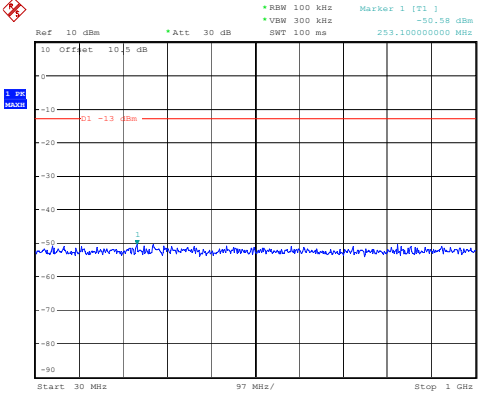


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:27:32

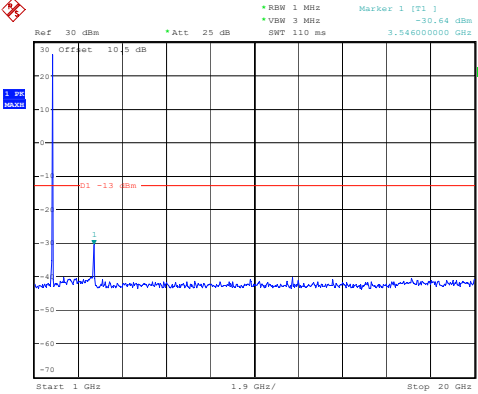


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:27:43

Highest



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:27:59



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:28:10

Spurious Emissions at Antenna Terminal

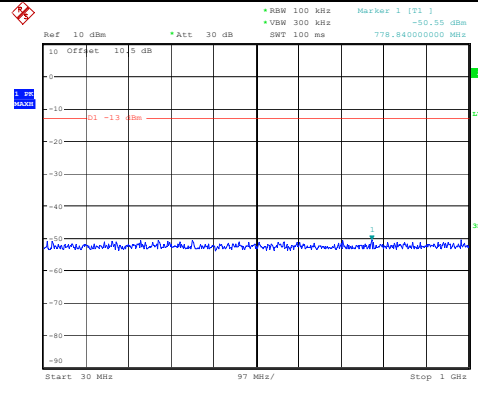
Channel	3MHz Bandwidth QPSK	
Lowest	<p>Ref 10 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] *VSW 300 kHz -50.46 dBm SWT 100 ms 307.42000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:28:49</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] *VSW 3 MHz -34.61 dBm SWT 110 ms 3.39400000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:29:00</p>
	Middle	<p>Ref 10 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] *VSW 300 kHz -50.27 dBm SWT 100 ms 260.86000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:29:13</p>
Highest		<p>Ref 10 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] *VSW 300 kHz -50.20 dBm SWT 100 ms 586.78000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:29:38</p>

Spurious Emissions at Antenna Terminal

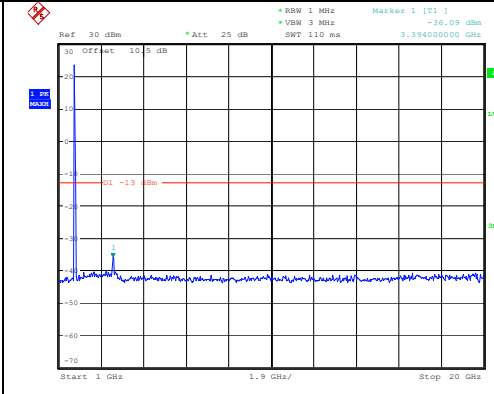
Channel

5MHz Bandwidth QPSK

Lowest

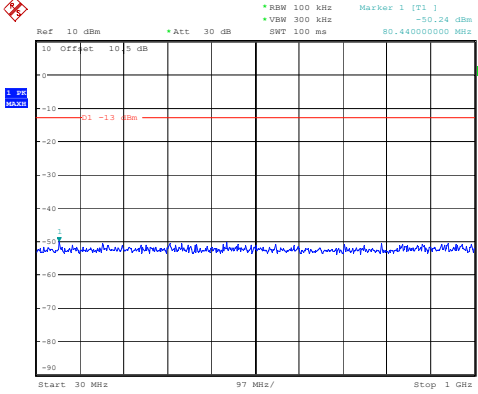


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:30:40

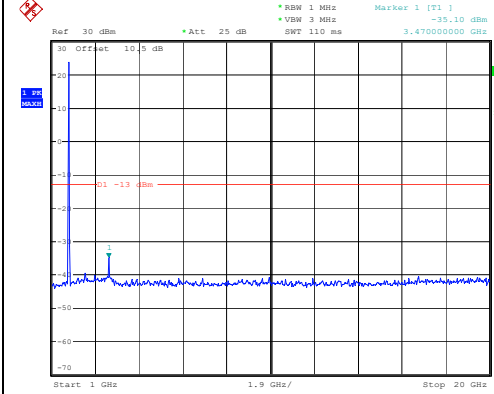


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:30:50

Middle

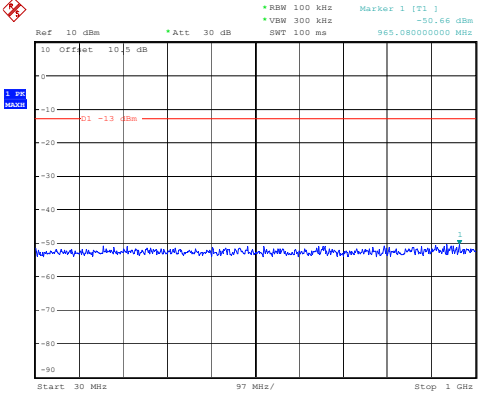


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:31:07

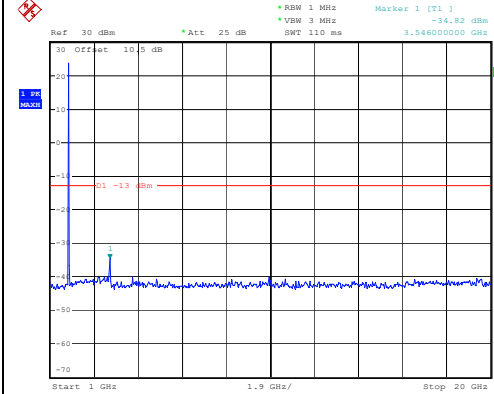


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:31:17

Highest



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:31:32



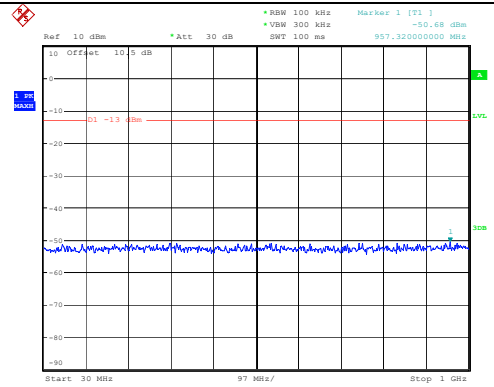
ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:31:42

Spurious Emissions at Antenna Terminal

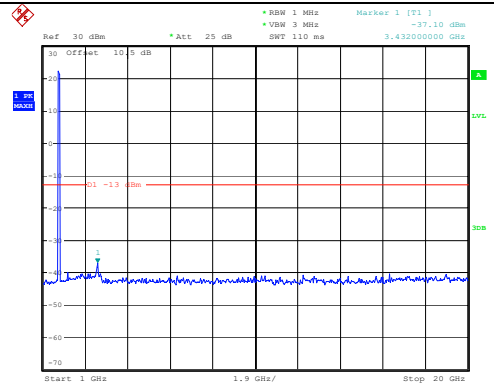
Channel

10MHz Bandwidth QPSK

Lowest

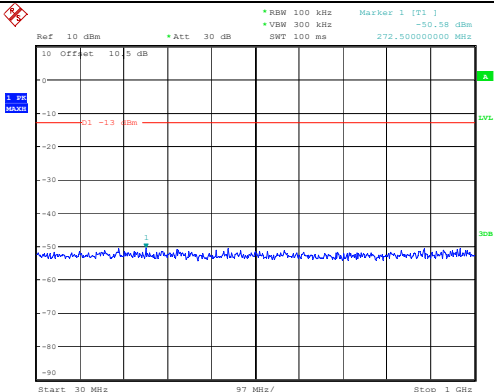


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:32:25

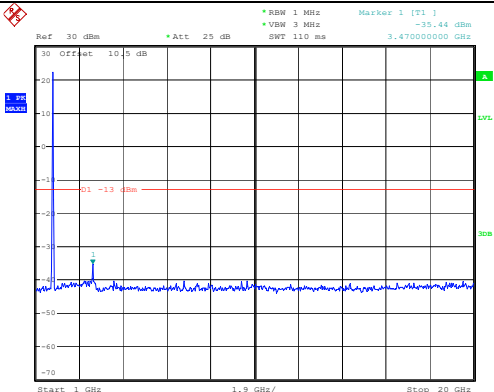


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:32:35

Middle

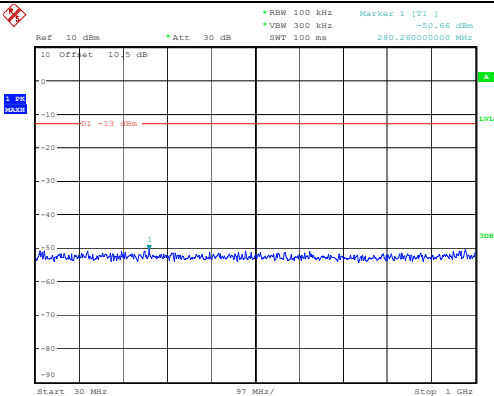


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:32:50

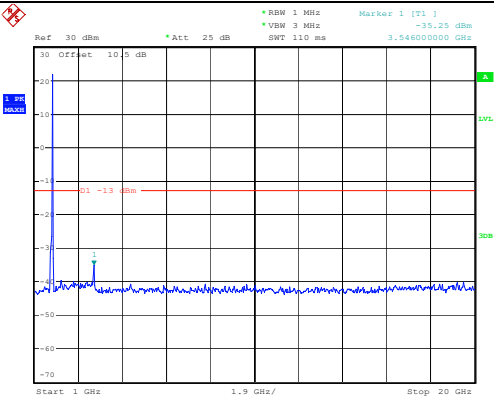


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:33:00

Highest



ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:33:15



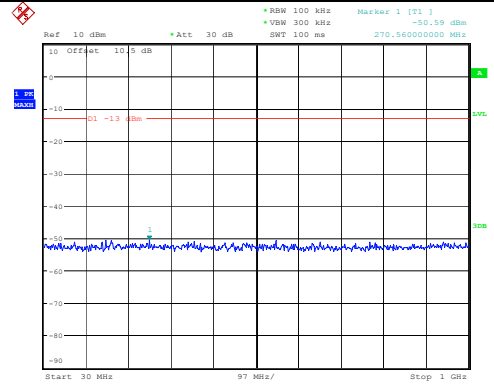
ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:33:25

Spurious Emissions at Antenna Terminal

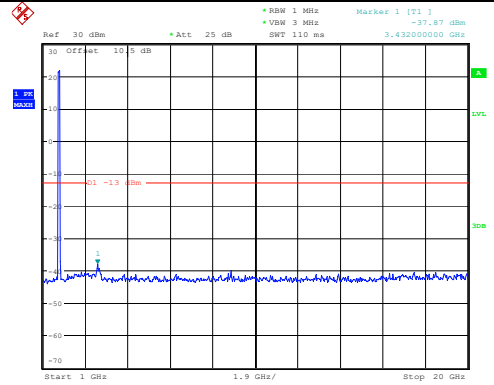
Channel

15MHz Bandwidth QPSK

Lowest

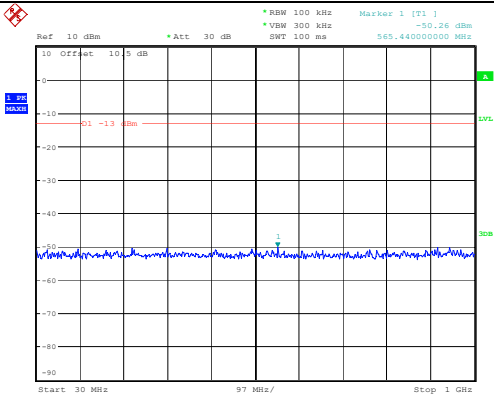


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:34:09

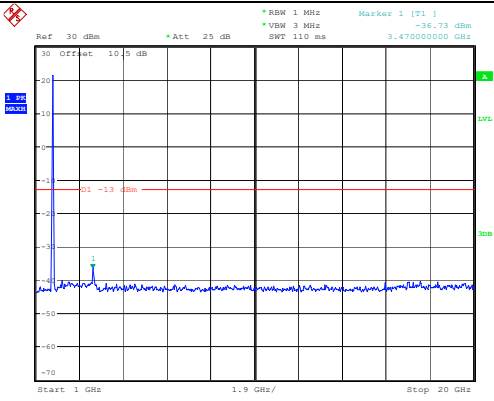


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:34:20

Middle

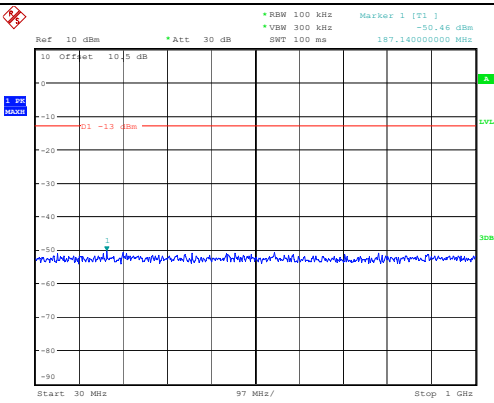


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:34:10

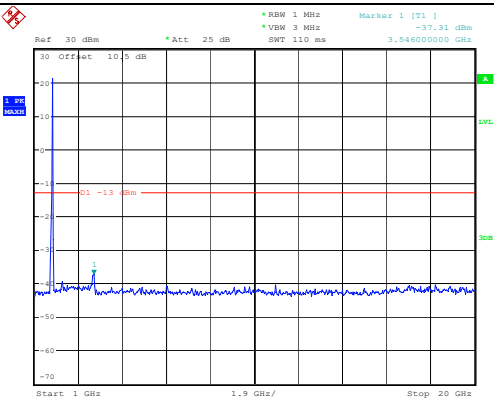


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:34:11

Highest

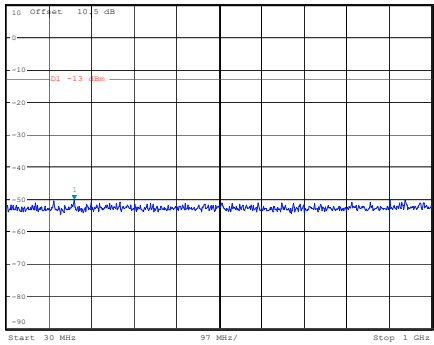
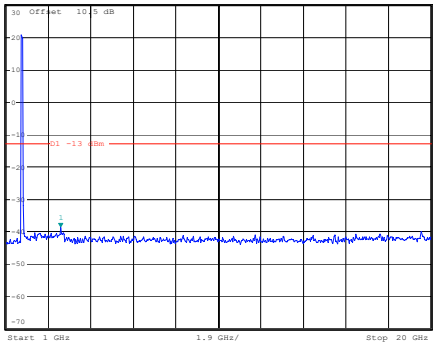
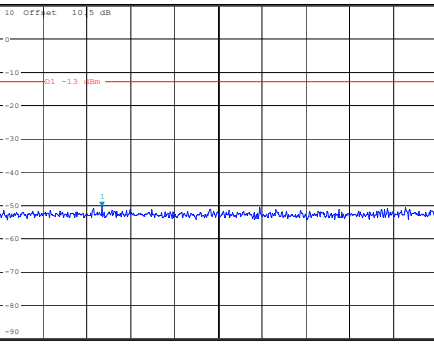
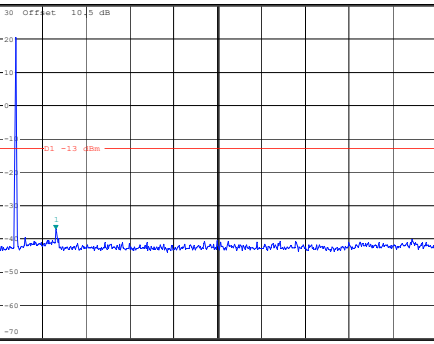
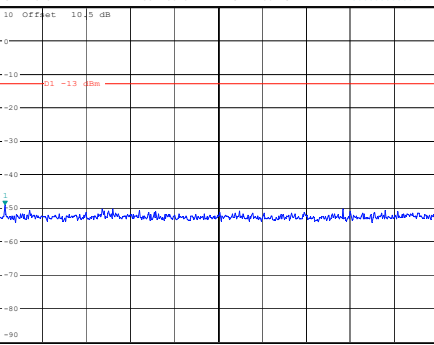
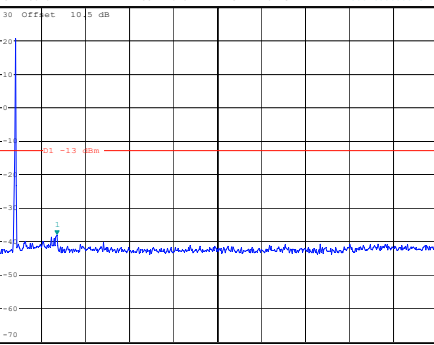


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:35:08

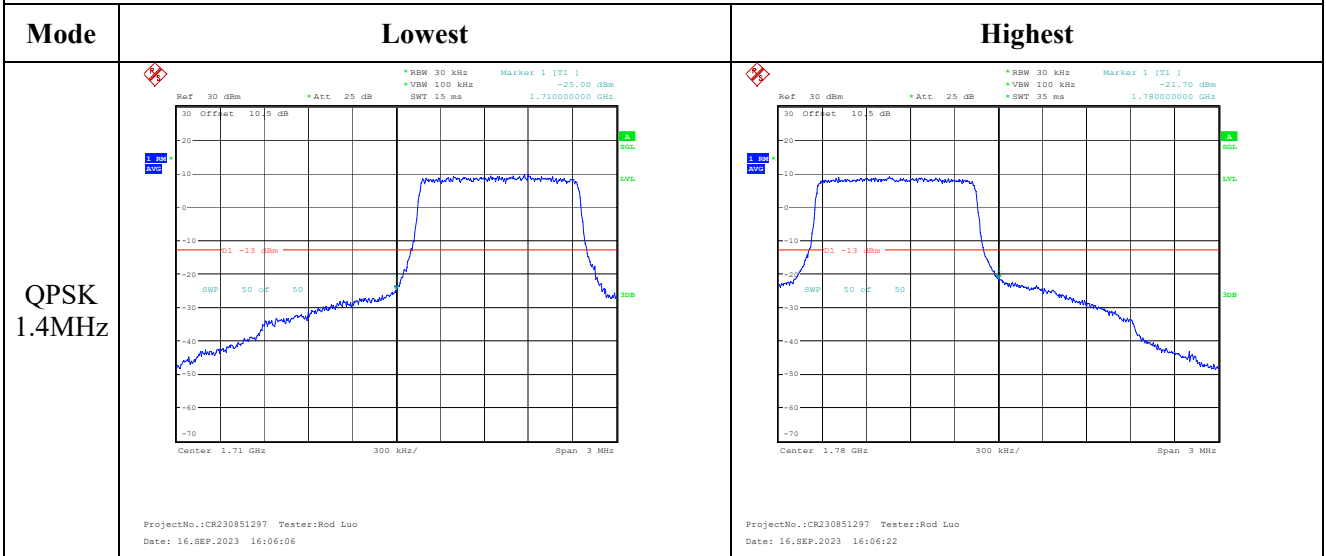


ProjectNo.:CR230851297 Tester:Rod Luo
Date: 16.SEP.2023 15:35:18

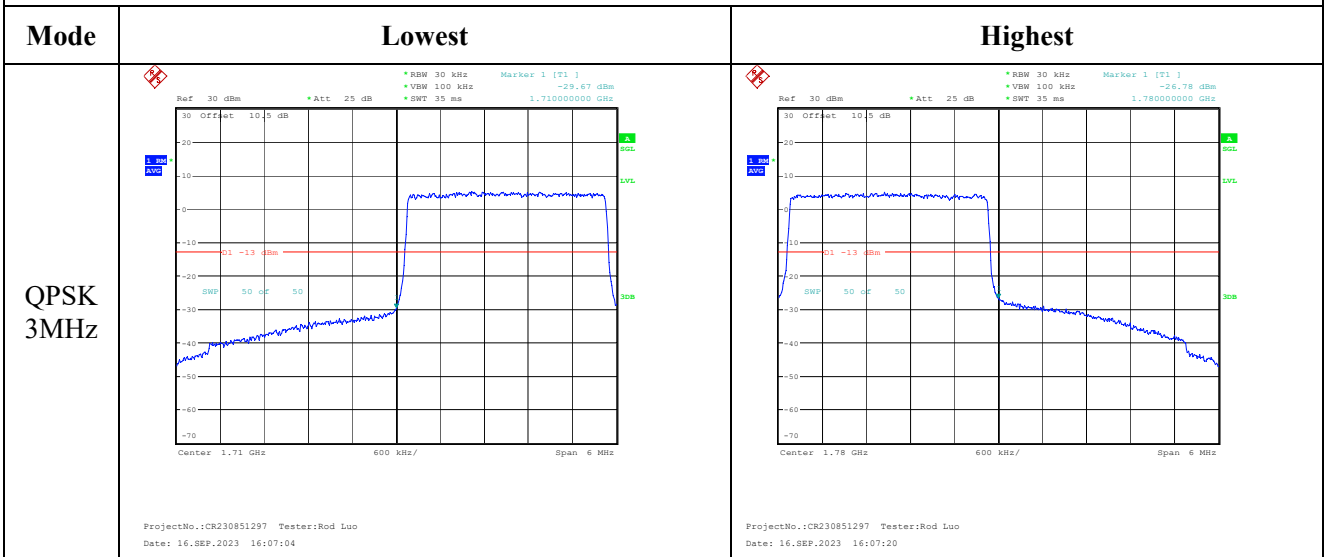
Spurious Emissions at Antenna Terminal

Channel	20MHz Bandwidth QPSK	
Lowest	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms *Marker 1 [F1] -50.11 dBm 183.26000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:36:11</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 3 MHz *VSW 3 MHz *SWT 110 ms *Marker 1 [F1] -38.73 dBm 3.432000000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:36:21</p>
Middle	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms *Marker 1 [F1] -50.48 dBm 256.98000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:36:40</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 3 MHz *VSW 3 MHz *SWT 110 ms *Marker 1 [F1] -37.28 dBm 3.470000000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:36:50</p>
Highest	 <p>Ref 10 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms *Marker 1 [F1] -49.35 dBm 43.58000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:37:08</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 3 MHz *VSW 3 MHz *SWT 110 ms *Marker 1 [F1] -38.12 dBm 3.546000000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>ProjectNo.:CR230851297 Tester:Rod Luo Date: 16.SEP.2023 15:37:18</p>

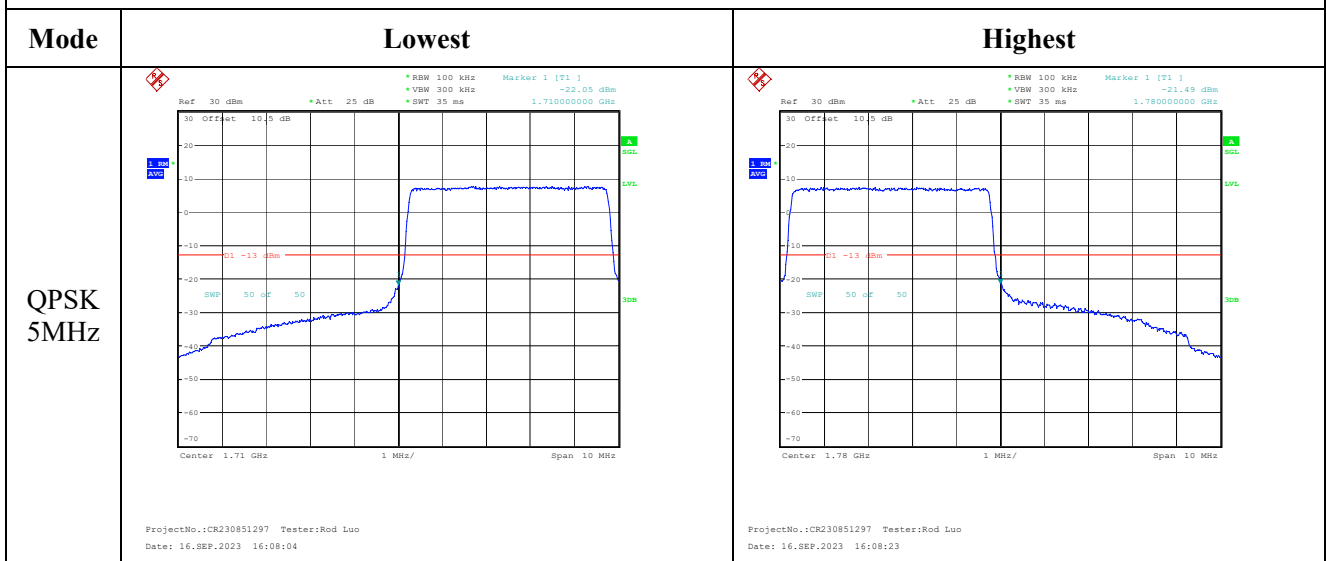
Out of band emission, Band Edge



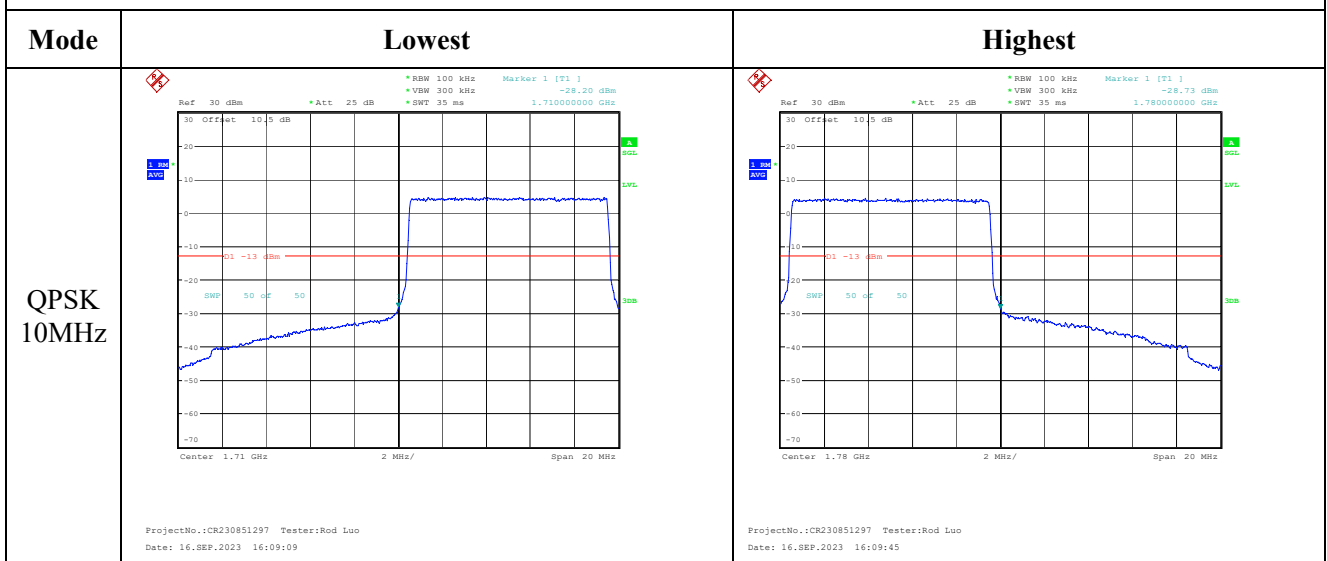
Out of band emission, Band Edge



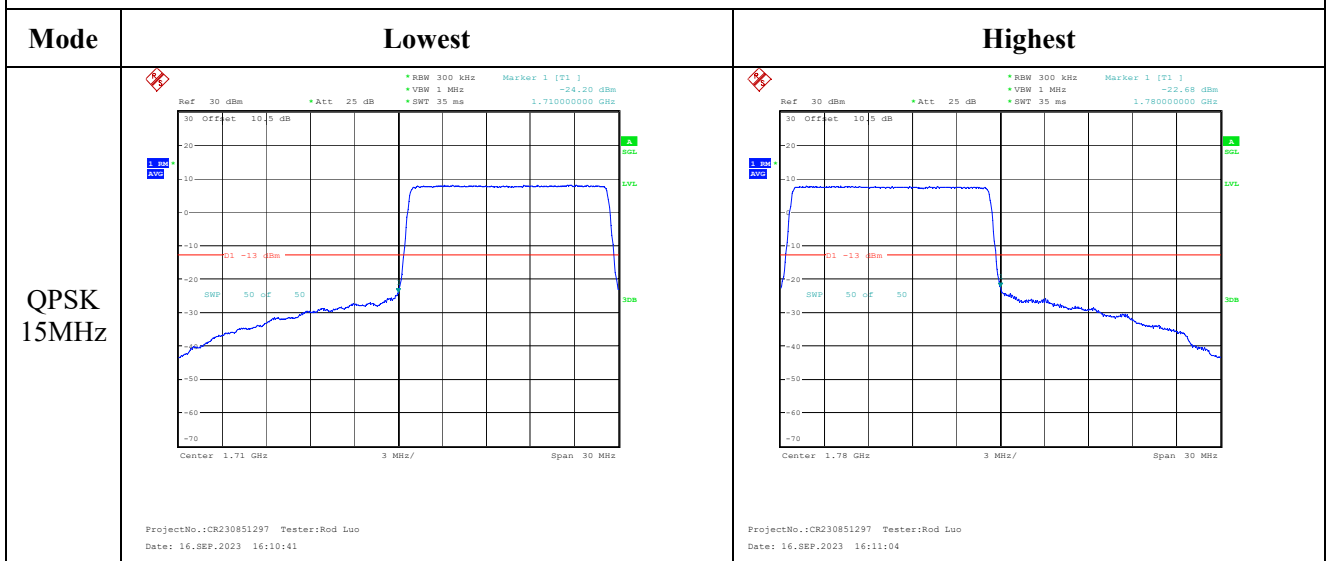
Out of band emission, Band Edge



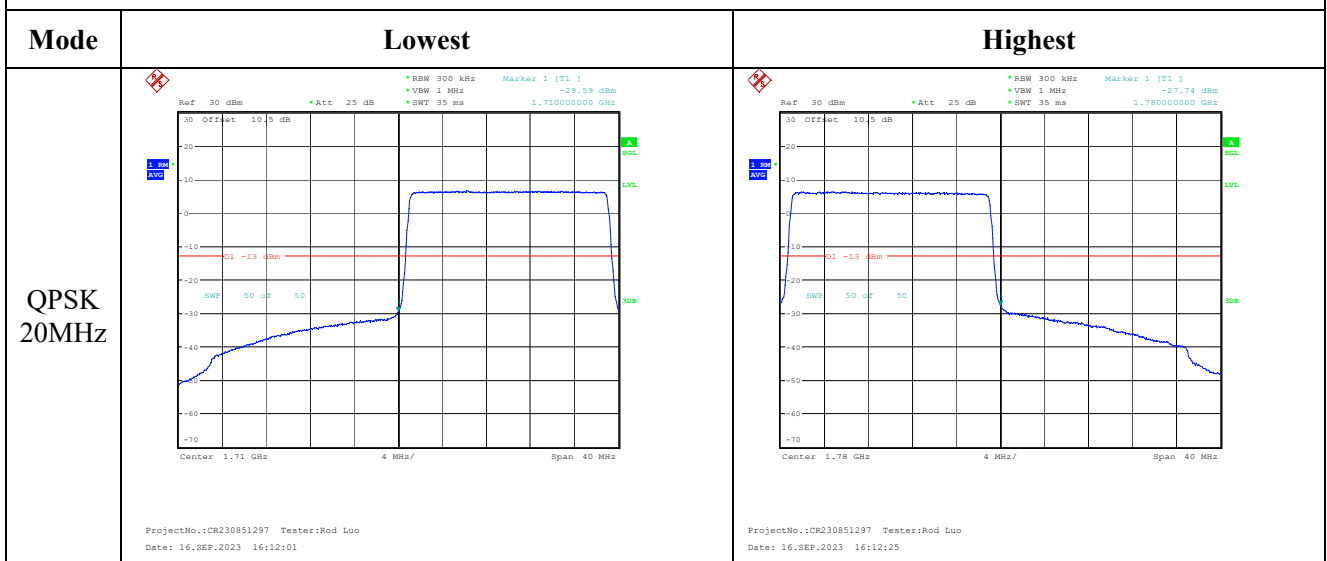
Out of band emission, Band Edge



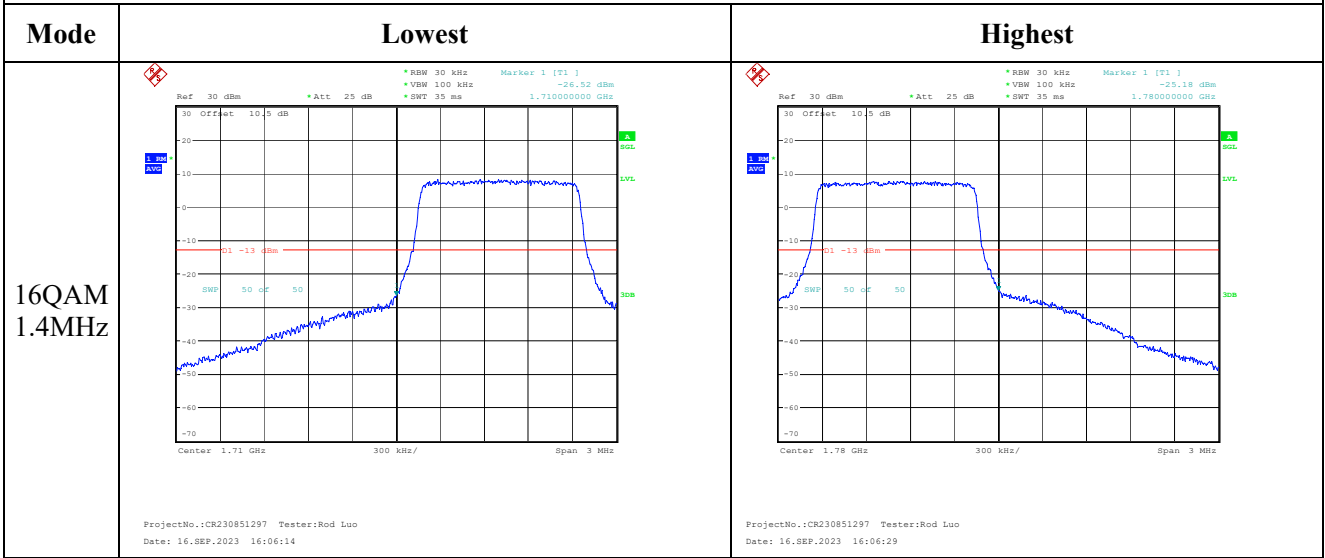
Out of band emission, Band Edge



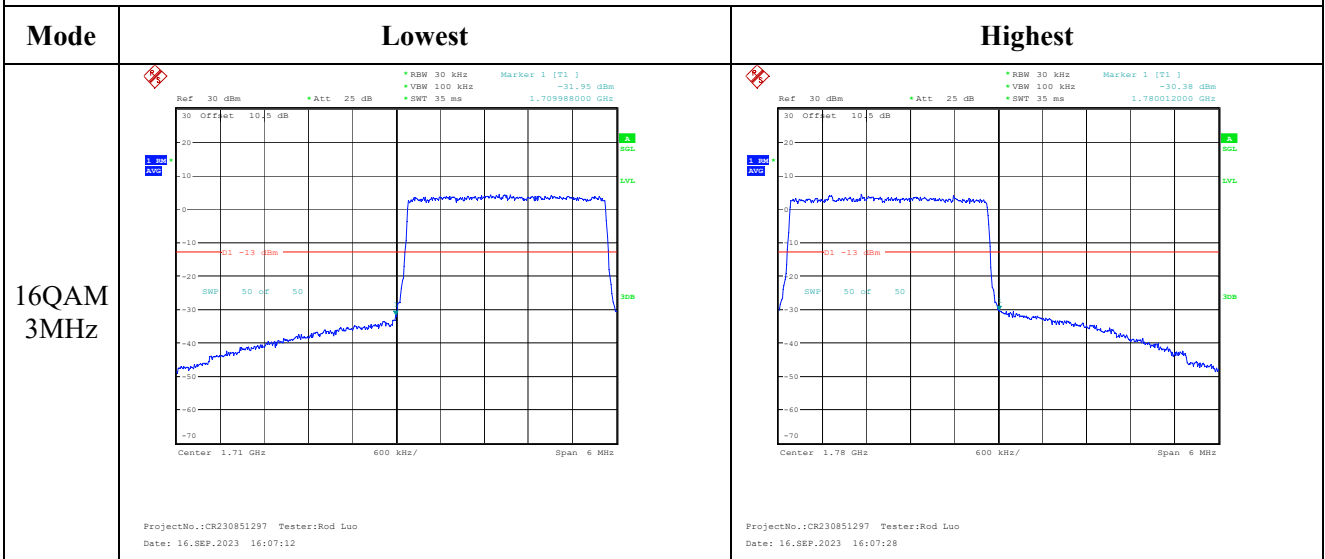
Out of band emission, Band Edge



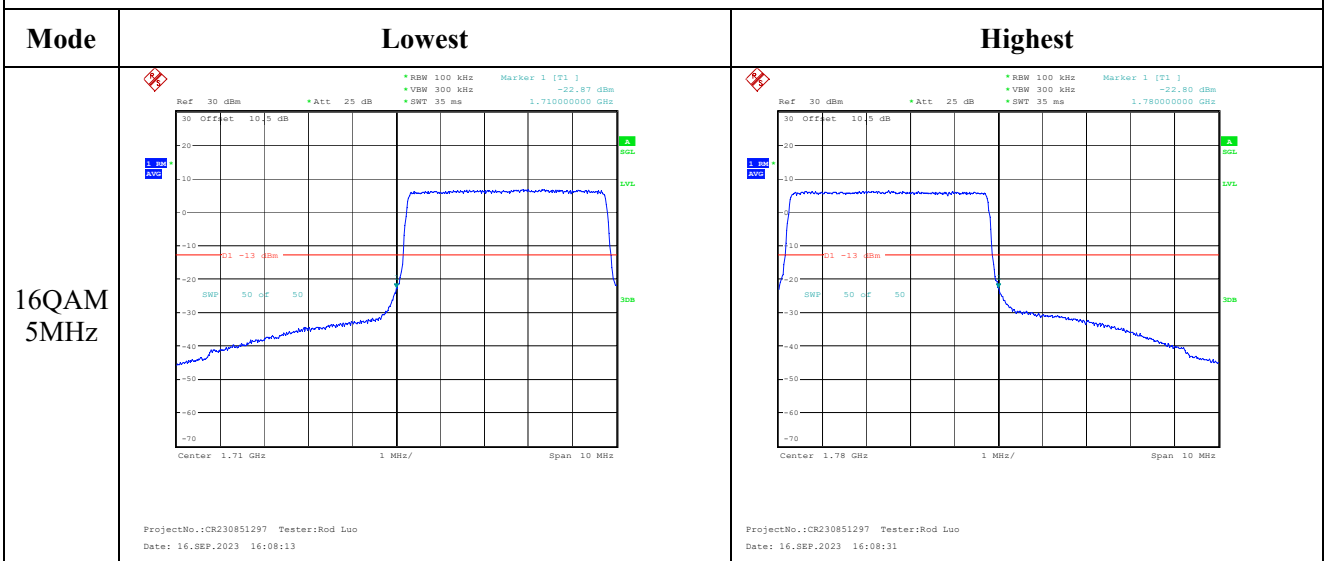
Out of band emission, Band Edge



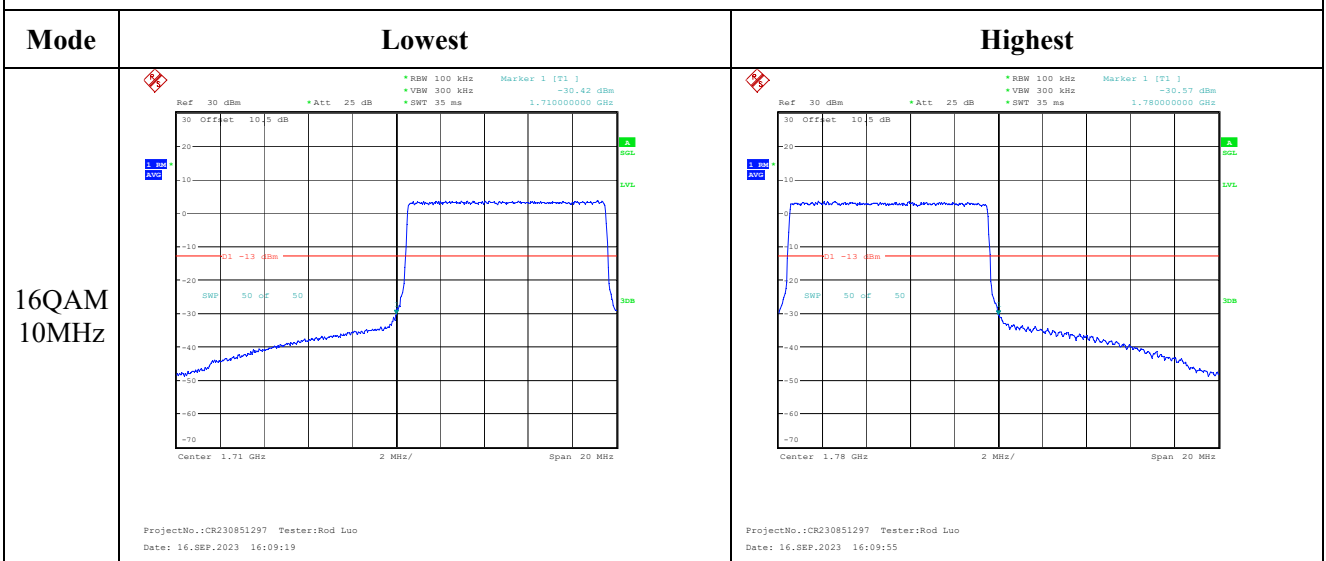
Out of band emission, Band Edge



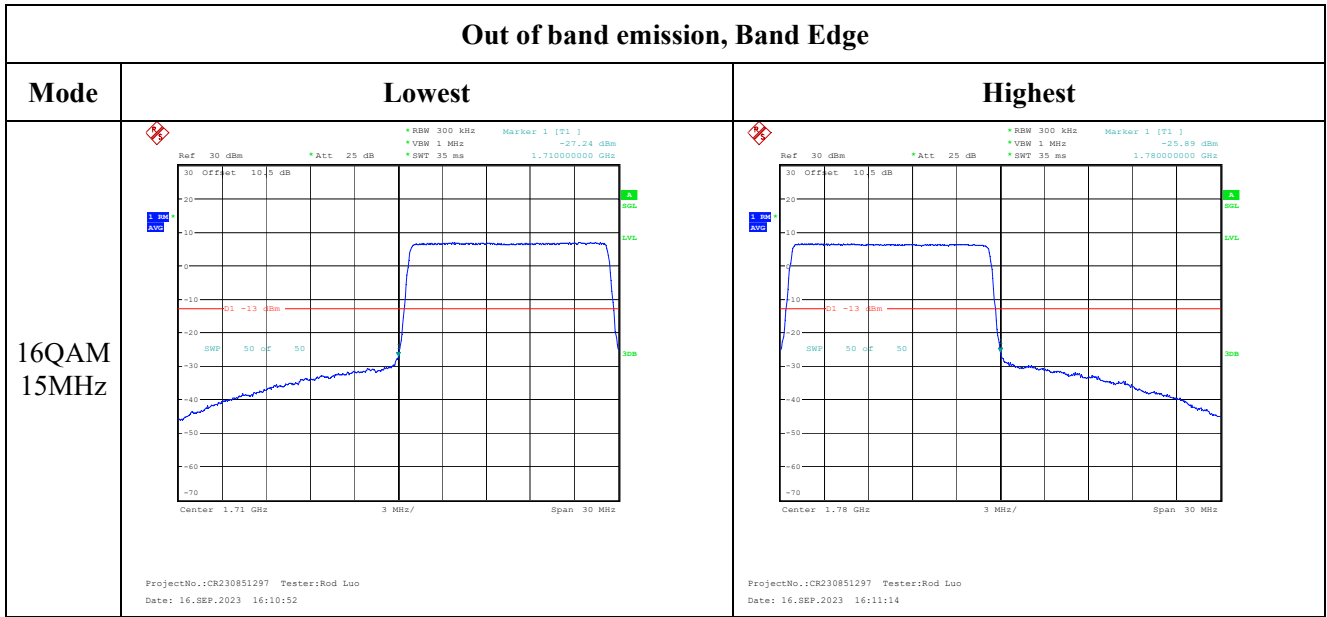
Out of band emission, Band Edge



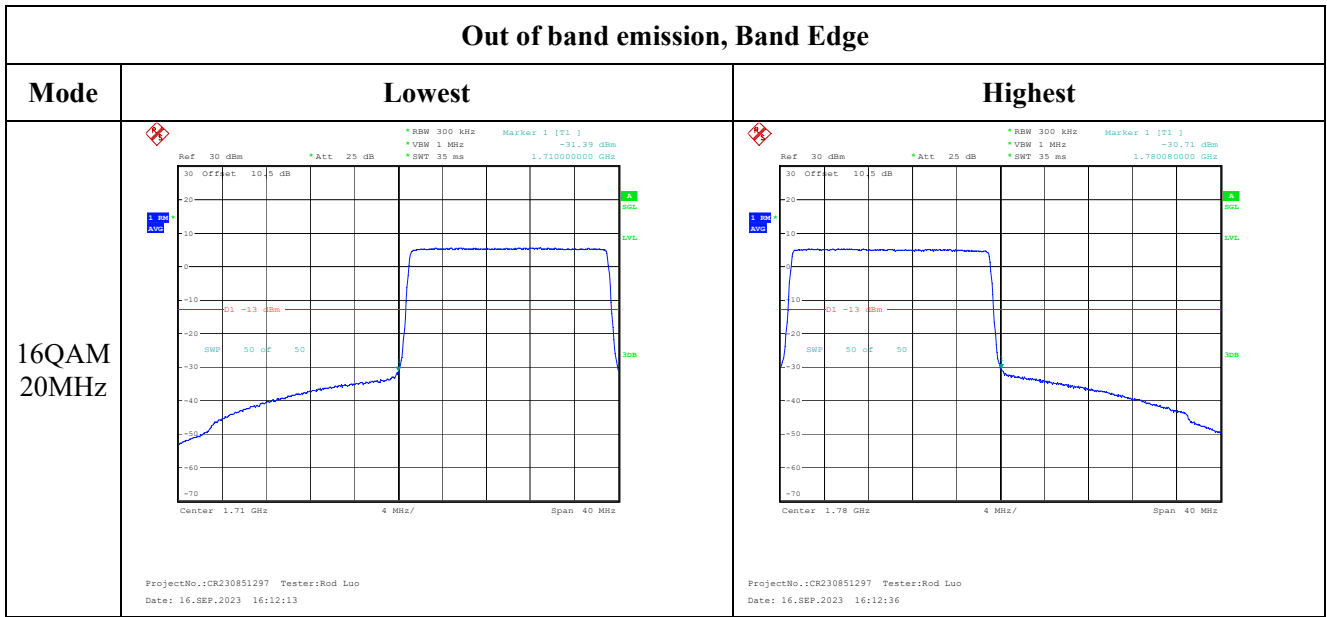
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.16 Radiated Spurious Emissions

Serial Number:	2AS5-1	Test Date:	2023/9/15~2023/9/16
Test Site:	966-1, 966-2	Test Mode:	Transmitting
Tester:	Carl Xue, Mack Huang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.6~25.8	Relative Humidity: (%)	60~64	ATM Pressure: (kPa)	100~100.2
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2020/10/19	2023/10/18
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	2022/7/16	2024/7/15
Agilent	Signal Generator	E8247C	MY43321352	2022/11/18	2023/11/17
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020/10/13	2023/10/12
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2023/8/6	2024/8/5
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2023/8/6	2024/8/5
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2022/11/9	2023/11/8
AH	Double Ridge Guide Horn Antenna	SAS-571	1396	2021/10/18	2024/10/17
MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2022/7/16	2024/7/15
Agilent	Signal Generator	E8247C	MY43321352	2022/11/18	2023/11/17
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9852/2F-20	112001	2021/2/5	2024/2/4
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2023/9/15	2024/9/14
PASTERNAK	Horn Antenna	PE9850/2F-20	072001	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9850/2F-20	072002	2021/2/5	2024/2/4
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/8/6	2024/8/5

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

Test Data:

Please refer to the below table and plots.

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

Cellular Band (30MHz-10GHz)

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ 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								
726.78	H	20.60	-52.18	0.00	0.52	-52.70	-13.00	39.70
701.76	V	20.72	-49.16	0.00	0.55	-49.71	-13.00	36.71
1648.400	H	38.36	-65.97	8.68	0.80	-58.09	-13.00	45.09
1648.400	V	37.63	-66.78	8.68	0.80	-58.90	-13.00	45.90
2472.600	H	45.55	-55.23	9.38	1.00	-46.85	-13.00	33.85
2472.600	V	40.57	-60.16	9.38	1.00	-51.78	-13.00	38.78
3296.800	H	36.24	-60.44	10.32	1.15	-51.27	-13.00	38.27
3296.800	V	35.08	-61.36	10.32	1.15	-52.19	-13.00	39.19
GSM 850 Frequency:836.6MHz								
689.57	H	20.81	-52.57	0.00	0.54	-53.11	-13.00	40.11
620.78	V	20.88	-50.47	0.00	0.49	-50.96	-13.00	37.96
1673.200	H	41.48	-62.83	8.71	0.85	-54.97	-13.00	41.97
1673.200	V	38.44	-65.97	8.71	0.85	-58.11	-13.00	45.11
2509.800	H	45.45	-55.16	9.42	1.01	-46.75	-13.00	33.75
2509.800	V	39.92	-60.70	9.42	1.01	-52.29	-13.00	39.29
3346.400	H	36.02	-61.15	10.34	1.16	-51.97	-13.00	38.97
3346.400	V	35.01	-62.02	10.34	1.16	-52.84	-13.00	39.84
GSM 850 Frequency:848.8MHz								
566.74	H	20.94	-53.58	0.00	0.46	-54.04	-13.00	41.04
721.70	V	20.85	-48.60	0.00	0.50	-49.10	-13.00	36.10
1697.600	H	44.25	-60.04	8.74	0.90	-52.20	-13.00	39.20
1697.600	V	41.05	-63.37	8.74	0.90	-55.53	-13.00	42.53
2546.400	H	45.59	-54.74	9.47	1.01	-46.28	-13.00	33.28
2546.400	V	39.68	-60.60	9.47	1.01	-52.14	-13.00	39.14
3395.200	H	36.34	-61.35	10.36	1.19	-52.18	-13.00	39.18
3395.200	V	35.54	-62.12	10.36	1.19	-52.95	-13.00	39.95

PCS Band (30MHz-20GHz)

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ 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								
299.31	H	34.06	-76.68	0.00	0.34	-77.02	-13.00	64.02
47.15	V	37.06	-61.36	-17.69	0.12	-79.17	-13.00	66.17
3700.400	H	40.96	-56.36	10.60	1.25	-47.01	-13.00	34.01
3700.400	V	40.10	-57.20	10.60	1.25	-47.85	-13.00	34.85
5550.600	H	39.85	-53.41	11.44	1.49	-43.46	-13.00	30.46
5550.600	V	40.68	-52.42	11.44	1.49	-42.47	-13.00	29.47
GSM 1900 Frequency:1880MHz								
243.42	H	34.15	-77.88	0.00	0.30	-78.18	-13.00	65.18
45.05	V	37.24	-59.11	-19.75	0.12	-78.98	-13.00	65.98
3760.000	H	36.85	-59.56	10.66	1.24	-50.14	-13.00	37.14
3760.000	V	37.41	-58.88	10.66	1.24	-49.46	-13.00	36.46
5640.000	H	40.20	-53.25	11.33	1.54	-43.46	-13.00	30.46
5640.000	V	43.77	-49.56	11.33	1.54	-39.77	-13.00	26.77
GSM 1900 Frequency:1909.8MHz								
217.64	H	33.87	-78.67	0.00	0.27	-78.94	-13.00	65.94
45.69	V	36.86	-60.12	-19.12	0.12	-79.36	-13.00	66.36
3819.600	H	37.01	-58.85	10.72	1.29	-49.42	-13.00	36.42
3819.600	V	35.74	-59.98	10.72	1.29	-50.55	-13.00	37.55
5729.400	H	45.87	-47.61	11.22	1.59	-37.98	-13.00	24.98
5729.400	V	45.88	-47.48	11.22	1.59	-37.85	-13.00	24.85

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								
72.44	H	33.93	-71.31	-3.78	0.15	-75.24	-13.00	62.24
44.74	V	37.32	-58.64	-20.14	0.12	-78.90	-13.00	65.90
3704.800	H	35.46	-61.80	10.60	1.25	-52.45	-13.00	39.45
3704.800	V	36.28	-60.95	10.60	1.25	-51.60	-13.00	38.60
5557.200	H	36.33	-56.95	11.43	1.49	-47.01	-13.00	34.01
5557.200	V	35.78	-57.35	11.43	1.49	-47.41	-13.00	34.41
WCDMA Band II, Frequency:1880 MHz								
76.51	H	33.84	-73.85	-1.75	0.16	-75.76	-13.00	62.76
45.21	V	37.15	-59.36	-19.59	0.12	-79.07	-13.00	66.07
3760.000	H	36.01	-60.40	10.66	1.24	-50.98	-13.00	37.98
3760.000	V	35.44	-60.85	10.66	1.24	-51.43	-13.00	38.43
5640.000	H	36.23	-57.22	11.33	1.54	-47.43	-13.00	34.43
5640.000	V	38.18	-55.15	11.33	1.54	-45.36	-13.00	32.36
WCDMA Band II, Frequency:1907.6MHz								
230.65	H	33.64	-78.64	0.00	0.29	-78.93	-13.00	65.93
44.58	V	37.44	-58.32	-20.35	0.12	-78.79	-13.00	65.79
3815.200	H	36.98	-58.87	10.72	1.29	-49.44	-13.00	36.44
3815.200	V	36.44	-59.25	10.72	1.29	-49.82	-13.00	36.82
5722.800	H	37.90	-55.59	11.23	1.58	-45.94	-13.00	32.94
5722.800	V	40.36	-52.99	11.23	1.58	-43.34	-13.00	30.34

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				
213.54	H	34.05	-78.57	0.00	0.27	-78.84	-13.00	65.84
46.83	V	36.73	-61.37	-18.01	0.12	-79.50	-13.00	66.50
3424.800	H	35.11	-62.66	10.37	1.17	-53.46	-13.00	40.46
3424.800	V	34.85	-62.89	10.37	1.17	-53.69	-13.00	40.69
5137.200	H	36.20	-57.42	11.28	1.46	-47.60	-13.00	34.60
5137.200	V	35.02	-58.48	11.28	1.46	-48.66	-13.00	35.66
Frequency:			1732.6	MHz				
74.39	H	34.47	-71.94	-2.81	0.16	-74.91	-13.00	61.91
45.85	V	37.05	-60.09	-18.97	0.12	-79.18	-13.00	66.18
3465.200	H	35.55	-62.26	10.39	1.15	-53.02	-13.00	40.02
3465.200	V	36.10	-61.67	10.39	1.15	-52.43	-13.00	39.43
5197.800	H	36.23	-57.90	11.32	1.44	-48.02	-13.00	35.02
5197.800	V	35.74	-58.24	11.32	1.44	-48.36	-13.00	35.36
Frequency:			1752.6	MHz				
224.58	H	33.73	-78.67	0.00	0.28	-78.95	-13.00	65.95
46.17	V	36.90	-60.55	-18.65	0.12	-79.32	-13.00	66.32
3505.200	H	35.44	-62.39	10.41	1.18	-53.16	-13.00	40.16
3505.200	V	35.02	-62.75	10.41	1.18	-53.52	-13.00	40.52
5257.800	H	34.78	-58.95	11.35	1.47	-49.07	-13.00	36.07
5257.800	V	36.23	-57.28	11.35	1.47	-47.40	-13.00	34.40

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								
691.64	H	21.01	-52.36	0.00	0.54	-52.90	-13.00	39.90
714.16	V	21.15	-48.46	0.00	0.50	-48.96	-13.00	35.96
1652.800	H	36.41	-67.92	8.68	0.81	-60.05	-13.00	47.05
1652.800	V	35.28	-69.13	8.68	0.81	-61.26	-13.00	48.26
2479.200	H	37.41	-63.35	9.39	1.01	-54.97	-13.00	41.97
2479.200	V	36.01	-64.72	9.39	1.01	-56.34	-13.00	43.34
3305.600	H	35.66	-61.07	10.32	1.15	-51.90	-13.00	38.90
3305.600	V	36.32	-60.18	10.32	1.15	-51.01	-13.00	38.01
WCDMA Band 5 Frequency:836.6MHz								
723.87	H	20.91	-51.93	0.00	0.51	-52.44	-13.00	39.44
724.23	V	20.94	-48.45	0.00	0.51	-48.96	-13.00	35.96
1673.200	H	35.85	-68.46	8.71	0.85	-60.60	-13.00	47.60
1673.200	V	36.60	-67.81	8.71	0.85	-59.95	-13.00	46.95
2509.800	H	36.32	-64.29	9.42	1.01	-55.88	-13.00	42.88
2509.800	V	36.23	-64.39	9.42	1.01	-55.98	-13.00	42.98
3346.400	H	35.11	-62.06	10.34	1.16	-52.88	-13.00	39.88
3346.400	V	34.23	-62.80	10.34	1.16	-53.62	-13.00	40.62
WCDMA Band 5 Frequency:846.6MHz								
704.10	H	20.86	-52.38	0.00	0.55	-52.93	-13.00	39.93
711.60	V	21.05	-48.62	0.00	0.51	-49.13	-13.00	36.13
1693.200	H	35.23	-69.07	8.73	0.89	-61.23	-13.00	48.23
1693.200	V	35.99	-68.43	8.73	0.89	-60.59	-13.00	47.59
2539.800	H	38.55	-61.83	9.46	1.01	-53.38	-13.00	40.38
2539.800	V	36.49	-63.85	9.46	1.01	-55.40	-13.00	42.40
3386.400	H	35.01	-62.58	10.35	1.18	-53.41	-13.00	40.41
3386.400	V	34.89	-62.65	10.35	1.18	-53.48	-13.00	40.48

LTE Bands: (The Worst modulation and bandwidth was below)

LTE Band 2(30MHz-20GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ 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								
74.91	H	33.83	-72.90	-2.55	0.16	-75.61	-13.00	62.61
45.37	V	36.85	-59.81	-19.44	0.12	-79.37	-13.00	66.37
3701.400	H	35.11	-62.20	10.60	1.25	-52.85	-13.00	39.85
3701.400	V	36.55	-60.74	10.60	1.25	-51.39	-13.00	38.39
5552.100	H	36.85	-56.42	11.44	1.49	-46.47	-13.00	33.47
5552.100	V	41.15	-51.95	11.44	1.49	-42.00	-13.00	29.00
QPSK, 1.4MHz, Frequency:1880 MHz								
75.57	H	34.25	-72.87	-2.22	0.16	-75.25	-13.00	62.25
46.50	V	36.83	-60.95	-18.33	0.12	-79.40	-13.00	66.40
3760.000	H	35.77	-60.64	10.66	1.24	-51.22	-13.00	38.22
3760.000	V	36.02	-60.27	10.66	1.24	-50.85	-13.00	37.85
5640.000	H	38.47	-54.98	11.33	1.54	-45.19	-13.00	32.19
5640.000	V	40.12	-53.21	11.33	1.54	-43.42	-13.00	30.42
QPSK, 1.4MHz, Frequency:1909.3 MHz								
239.20	H	33.71	-78.40	0.00	0.29	-78.69	-13.00	65.69
45.05	V	37.16	-59.19	-19.75	0.12	-79.06	-13.00	66.06
3818.600	H	44.45	-51.41	10.72	1.29	-41.98	-13.00	28.98
3818.600	V	44.32	-51.39	10.72	1.29	-41.96	-13.00	28.96
5727.900	H	41.57	-51.91	11.23	1.59	-42.27	-13.00	29.27
5727.900	V	40.98	-52.38	11.23	1.59	-42.74	-13.00	29.74

LTE Band 4(30MHz-20GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ 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				
74.13	H	34.14	-72.12	-2.94	0.16	-75.22	-13.00	62.22
44.58	V	36.99	-58.77	-20.35	0.12	-79.24	-13.00	66.24
3421.400	H	35.85	-61.91	10.37	1.17	-52.71	-13.00	39.71
3421.400	V	36.03	-61.70	10.37	1.17	-52.50	-13.00	39.50
5132.100	H	37.62	-55.95	11.28	1.47	-46.14	-13.00	33.14
5132.100	V	38.22	-55.24	11.28	1.47	-45.43	-13.00	32.43
1.4MHz QPSK, Frequency:			1732.5	MHz				
73.48	H	33.75	-72.12	-3.26	0.16	-75.54	-13.00	62.54
45.21	V	37.32	-59.19	-19.59	0.12	-78.90	-13.00	65.90
3465.000	H	35.74	-62.07	10.39	1.15	-52.83	-13.00	39.83
3465.000	V	36.02	-61.75	10.39	1.15	-52.51	-13.00	39.51
5197.500	H	35.56	-58.57	11.32	1.44	-48.69	-13.00	35.69
5197.500	V	35.33	-58.65	11.32	1.44	-48.77	-13.00	35.77
1.4MHz QPSK, Frequency:			1754.3	MHz				
76.36	H	33.85	-73.75	-1.82	0.16	-75.73	-13.00	62.73
46.66	V	37.20	-60.74	-18.17	0.12	-79.03	-13.00	66.03
3508.600	H	35.66	-62.16	10.41	1.19	-52.94	-13.00	39.94
3508.600	V	36.41	-61.35	10.41	1.19	-52.13	-13.00	39.13
5262.900	H	35.85	-57.85	11.36	1.47	-47.96	-13.00	34.96
5262.900	V	37.10	-56.37	11.36	1.47	-46.48	-13.00	33.48

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								
728.96	H	21.16	-51.58	0.00	0.53	-52.11	-13.00	39.11
701.99	V	20.87	-49.01	0.00	0.55	-49.56	-13.00	36.56
1649.400	H	40.17	-64.16	8.68	0.80	-56.28	-13.00	43.28
1649.400	V	37.72	-66.69	8.68	0.80	-58.81	-13.00	45.81
2474.100	H	45.60	-55.18	9.38	1.00	-46.80	-13.00	33.80
2474.100	V	37.85	-62.88	9.38	1.00	-54.50	-13.00	41.50
3298.800	H	35.56	-61.12	10.32	1.15	-51.95	-13.00	38.95
3298.800	V	34.45	-61.99	10.32	1.15	-52.82	-13.00	39.82
QPSK, 1.4MHz, Frequency: 836.5 MHz								
708.81	H	21.09	-52.05	0.00	0.53	-52.58	-13.00	39.58
706.92	V	20.93	-48.84	0.00	0.54	-49.38	-13.00	36.38
1673.000	H	39.05	-65.26	8.71	0.85	-57.40	-13.00	44.40
1673.000	V	35.11	-69.30	8.71	0.85	-61.44	-13.00	48.44
2509.500	H	47.36	-53.25	9.42	1.01	-44.84	-13.00	31.84
2509.500	V	39.78	-60.84	9.42	1.01	-52.43	-13.00	39.43
3346.000	H	35.42	-61.74	10.34	1.16	-52.56	-13.00	39.56
3346.000	V	34.89	-62.13	10.34	1.16	-52.95	-13.00	39.95
QPSK, 1.4MHz, Frequency: 848.3 MHz								
679.63	H	21.11	-52.32	0.00	0.52	-52.84	-13.00	39.84
716.90	V	21.26	-48.29	0.00	0.50	-48.79	-13.00	35.79
1696.600	H	36.20	-68.09	8.74	0.89	-60.24	-13.00	47.24
1696.600	V	36.44	-67.98	8.74	0.89	-60.13	-13.00	47.13
2544.900	H	40.92	-59.42	9.47	1.01	-50.96	-13.00	37.96
2544.900	V	35.20	-65.10	9.47	1.01	-56.64	-13.00	43.64
3393.200	H	34.69	-62.98	10.36	1.19	-53.81	-13.00	40.81
3393.200	V	34.78	-62.85	10.36	1.19	-53.68	-13.00	40.68

LTE Band 7(30MHz-26.5GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency: 2502.5 MHz								
239.70	H	33.73	-78.37	0.00	0.29	-78.66	-25.00	53.66
45.15	V	37.18	-59.27	-19.65	0.12	-79.04	-25.00	54.04
5005.000	H	35.38	-57.58	11.20	1.47	-47.85	-25.00	22.85
5005.000	V	35.10	-57.72	11.20	1.47	-47.99	-25.00	22.99
7507.500	H	36.08	-53.71	10.90	1.95	-44.76	-25.00	19.76
7507.500	V	35.62	-54.67	10.90	1.95	-45.72	-25.00	20.72
5MHz QPSK, Frequency: 2535 MHz								
217.31	H	33.86	-78.69	0.00	0.27	-78.96	-25.00	53.96
44.53	V	36.97	-58.72	-20.42	0.12	-79.26	-25.00	54.26
5070.000	H	35.44	-57.75	11.24	1.47	-47.98	-25.00	22.98
5070.000	V	36.01	-57.08	11.24	1.47	-47.31	-25.00	22.31
7605.000	H	34.85	-54.62	10.88	2.01	-45.75	-25.00	20.75
7605.000	V	35.32	-54.87	10.88	2.01	-46.00	-25.00	21.00
5MHz QPSK, Frequency: 2567.5 MHz								
252.16	H	34.10	-77.75	0.00	0.30	-78.05	-25.00	53.05
45.00	V	36.83	-59.47	-19.80	0.12	-79.39	-25.00	54.39
5135.000	H	38.41	-55.19	11.28	1.47	-45.38	-25.00	20.38
5135.000	V	39.13	-54.36	11.28	1.47	-44.55	-25.00	19.55
7702.500	H	36.01	-53.51	10.86	1.97	-44.62	-25.00	19.62
7702.500	V	35.78	-54.40	10.86	1.97	-45.51	-25.00	20.51

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				
252.16	H	34.10	-77.75	0.00	0.30	-78.05	-25.00	53.05
45.00	V	36.83	-59.47	-19.80	0.12	-79.39	-25.00	54.39
1399.400	H	34.77	-68.93	8.22	0.71	-61.42	-13.00	48.42
1399.400	V	35.26	-68.49	8.22	0.71	-60.98	-13.00	47.98
2099.100	H	36.01	-65.87	9.16	0.91	-57.62	-13.00	44.62
2099.100	V	35.85	-65.98	9.16	0.91	-57.73	-13.00	44.73
2798.800	H	35.31	-64.62	9.88	1.04	-55.78	-13.00	42.78
2798.800	V	34.59	-65.21	9.88	1.04	-56.37	-13.00	43.37
1.4MHz QPSK, Frequency:			707.5	MHz				
517.57	H	20.60	-54.88	0.00	0.42	-55.30	-13.00	42.30
566.92	V	20.71	-50.97	0.00	0.46	-51.43	-13.00	38.43
1415.000	H	35.77	-67.90	8.26	0.72	-60.36	-13.00	47.36
1415.000	V	34.67	-69.05	8.26	0.72	-61.51	-13.00	48.51
2122.500	H	35.08	-66.91	9.17	0.92	-58.66	-13.00	45.66
2122.500	V	35.01	-66.96	9.17	0.92	-58.71	-13.00	45.71
2830.000	H	34.69	-65.11	9.93	1.06	-56.24	-13.00	43.24
2830.000	V	34.78	-64.95	9.93	1.06	-56.08	-13.00	43.08
1.4MHz QPSK, Frequency:			715.3	MHz				
499.75	H	20.64	-55.20	0.00	0.45	-55.65	-13.00	42.65
523.04	V	20.69	-50.92	0.00	0.42	-51.34	-13.00	38.34
1430.600	H	35.78	-67.85	8.31	0.73	-60.27	-13.00	47.27
1430.600	V	35.20	-68.49	8.31	0.73	-60.91	-13.00	47.91
2145.900	H	36.01	-66.09	9.19	0.93	-57.83	-13.00	44.83
2145.900	V	34.55	-67.56	9.19	0.93	-59.30	-13.00	46.30
2861.200	H	34.96	-64.69	9.98	1.07	-55.78	-13.00	42.78
2861.200	V	35.24	-64.43	9.98	1.07	-55.52	-13.00	42.52

LTE Band 17(30MHz-10GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ V)	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				
365.89	H	20.74	-57.65	0.00	0.37	-58.02	-13.00	45.02
448.32	V	20.79	-52.84	0.00	0.43	-53.27	-13.00	40.27
1413.000	H	36.58	-67.09	8.26	0.72	-59.55	-13.00	46.55
1413.000	V	37.11	-66.61	8.26	0.72	-59.07	-13.00	46.07
2119.500	H	35.45	-66.52	9.17	0.92	-58.27	-13.00	45.27
2119.500	V	34.62	-67.33	9.17	0.92	-59.08	-13.00	46.08
2826.000	H	35.11	-64.70	9.92	1.06	-55.84	-13.00	42.84
2826.000	V	34.85	-64.89	9.92	1.06	-56.03	-13.00	43.03
5MHz QPSK, Frequency:			710	MHz				
541.68	H	20.66	-54.35	0.00	0.46	-54.81	-13.00	41.81
494.53	V	20.61	-51.19	0.00	0.45	-51.64	-13.00	38.64
1420.000	H	39.93	-63.73	8.28	0.73	-56.18	-13.00	43.18
1420.000	V	39.82	-63.89	8.28	0.73	-56.34	-13.00	43.34
2130.000	H	35.23	-66.79	9.18	0.92	-58.53	-13.00	45.53
2130.000	V	34.68	-67.33	9.18	0.92	-59.07	-13.00	46.07
2840.000	H	34.69	-65.06	9.94	1.06	-56.18	-13.00	43.18
2840.000	V	35.22	-64.49	9.94	1.06	-55.61	-13.00	42.61
5MHz QPSK, Frequency:			713.5	MHz				
585.08	H	20.80	-53.35	0.00	0.46	-53.81	-13.00	40.81
553.19	V	2.67	-68.99	0.00	0.48	-69.47	-13.00	56.47
1427.000	H	39.16	-64.48	8.30	0.73	-56.91	-13.00	43.91
1427.000	V	37.89	-65.80	8.30	0.73	-58.23	-13.00	45.23
2140.500	H	35.54	-66.53	9.18	0.93	-58.28	-13.00	45.28
2140.500	V	35.44	-66.64	9.18	0.93	-58.39	-13.00	45.39
2854.000	H	34.31	-65.38	9.97	1.07	-56.48	-13.00	43.48
2854.000	V	35.08	-64.60	9.97	1.07	-55.70	-13.00	42.70

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				
214.54	H	33.81	-78.79	0.00	0.27	-79.06	-25.00	54.06
46.60	V	37.25	-60.63	-18.23	0.12	-78.98	-25.00	53.98
5145.000	H	35.22	-58.46	11.29	1.44	-48.61	-25.00	23.61
5145.000	V	34.68	-58.89	11.29	1.44	-49.04	-25.00	24.04
7717.500	H	34.32	-55.19	10.86	1.99	-46.32	-25.00	21.32
7717.500	V	35.09	-55.04	10.86	1.99	-46.17	-25.00	21.17
5MHz QPSK, Frequency:			2595	MHz				
241.64	H	33.63	-78.44	0.00	0.29	-78.73	-25.00	53.73
45.79	V	37.06	-60.02	-19.03	0.12	-79.17	-25.00	54.17
5190.000	H	34.72	-59.35	11.31	1.44	-49.48	-25.00	24.48
5190.000	V	35.85	-58.07	11.31	1.44	-48.20	-25.00	23.20
7785.000	H	35.23	-54.26	10.84	1.99	-45.41	-25.00	20.41
7785.000	V	35.06	-54.86	10.84	1.99	-46.01	-25.00	21.01
5MHz QPSK, Frequency:			2617.5	MHz				
226.08	H	33.88	-78.49	0.00	0.28	-78.77	-25.00	53.77
45.15	V	36.95	-59.50	-19.65	0.12	-79.27	-25.00	54.27
5235.000	H	35.35	-58.55	11.34	1.46	-48.67	-25.00	23.67
5235.000	V	34.96	-58.75	11.34	1.46	-48.87	-25.00	23.87
7852.500	H	36.01	-53.18	10.83	2.03	-44.38	-25.00	19.38
7852.500	V	35.78	-53.80	10.83	2.03	-45.00	-25.00	20.00

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

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ 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								
72.33	H	33.77	-71.41	-3.84	0.15	-75.40	-40.00	35.40
46.66	V	37.13	-60.81	-18.17	0.12	-79.10	-40.00	39.10
4615.000	H	35.74	-59.62	10.74	1.41	-50.29	-40.00	10.29
4615.000	V	35.23	-59.99	10.74	1.41	-50.66	-40.00	10.66
6922.500	H	36.07	-54.95	11.22	1.88	-45.61	-40.00	5.61
6922.500	V	35.26	-55.63	11.22	1.88	-46.29	-40.00	6.29
5MHz QPSK, Frequency: 2312.5 MHz								
239.20	H	33.71	-78.40	0.00	0.29	-78.69	-40.00	38.69
44.74	V	36.86	-59.10	-20.14	0.12	-79.36	-40.00	39.36
4625.000	H	35.94	-59.35	10.75	1.41	-50.01	-40.00	10.01
4625.000	V	35.14	-60.03	10.75	1.41	-50.69	-40.00	10.69
6937.500	H	36.23	-54.75	11.21	1.90	-45.44	-40.00	5.44
6937.500	V	35.55	-55.29	11.21	1.90	-45.98	-40.00	5.98

LTE Band 40 Upper(30MHz-20GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ 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								
72.40	H	33.83	-71.39	-3.80	0.15	-75.34	-40.00	35.34
44.58	V	36.72	-59.04	-20.35	0.12	-79.51	-40.00	39.51
4705.000	H	35.63	-59.15	10.85	1.41	-49.71	-40.00	9.71
4705.000	V	36.11	-58.69	10.85	1.41	-49.25	-40.00	9.25
7057.500	H	35.78	-54.23	11.17	1.92	-44.98	-40.00	4.98
7057.500	V	35.96	-53.94	11.17	1.92	-44.69	-40.00	4.69
5MHz QPSK, Frequency: 2357.5 MHz								
76.34	H	33.91	-73.67	-1.83	0.16	-75.66	-40.00	35.66
45.05	V	36.82	-59.53	-19.75	0.12	-79.40	-40.00	39.40
4715.000	H	35.94	-58.77	10.86	1.41	-49.32	-40.00	9.32
4715.000	V	36.23	-58.48	10.86	1.41	-49.03	-40.00	9.03
7072.500	H	35.11	-54.69	11.16	1.91	-45.44	-40.00	5.44
7072.500	V	35.08	-54.63	11.16	1.91	-45.38	-40.00	5.38

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: 2537.5 MHz								
242.52	H	34.03	-78.02	0.00	0.30	-78.32	-25.00	53.32
44.52	V	36.77	-58.91	-20.43	0.12	-79.46	-25.00	54.46
5075.000	H	36.45	-56.76	11.25	1.48	-46.99	-25.00	21.99
5075.000	V	35.78	-57.33	11.25	1.48	-47.56	-25.00	22.56
7612.500	H	35.36	-54.12	10.88	2.02	-45.26	-25.00	20.26
7612.500	V	35.41	-54.78	10.88	2.02	-45.92	-25.00	20.92
QPSK, 5MHz, Frequency:2595 MHz								
214.54	H	33.93	-78.67	0.00	0.27	-78.94	-25.00	53.94
46.60	V	36.92	-60.96	-18.23	0.12	-79.31	-25.00	54.31
5190.000	H	37.01	-57.06	11.31	1.44	-47.19	-25.00	22.19
5190.000	V	35.69	-58.23	11.31	1.44	-48.36	-25.00	23.36
7785.000	H	36.22	-53.27	10.84	1.99	-44.42	-25.00	19.42
7785.000	V	35.08	-54.84	10.84	1.99	-45.99	-25.00	20.99
QPSK, 5MHz, Frequency: 2652.5 MHz								
250.29	H	33.76	-78.13	0.00	0.30	-78.43	-25.00	53.43
44.99	V	36.90	-59.39	-19.81	0.12	-79.32	-25.00	54.32
5305.000	H	36.41	-57.03	11.38	1.46	-47.11	-25.00	22.11
5305.000	V	35.85	-57.33	11.38	1.46	-47.41	-25.00	22.41
7957.500	H	35.66	-52.76	10.81	2.09	-44.04	-25.00	19.04
7957.500	V	36.01	-52.86	10.81	2.09	-44.14	-25.00	19.14

LTE Band 66(30MHz-20GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 1.4MHz, Frequency: 1710.7 MHz								
241.67	H	33.85	-78.21	0.00	0.29	-78.50	-13.00	65.50
46.66	V	36.82	-61.12	-18.17	0.12	-79.41	-13.00	66.41
3421.400	H	35.41	-62.35	10.37	1.17	-53.15	-13.00	40.15
3421.400	V	35.85	-61.88	10.37	1.17	-52.68	-13.00	39.68
5132.100	H	37.83	-55.74	11.28	1.47	-45.93	-13.00	32.93
5132.100	V	38.66	-54.80	11.28	1.47	-44.99	-13.00	31.99
QPSK, 1.4MHz, Frequency:1745 MHz								
72.30	H	33.81	-71.35	-3.85	0.15	-75.35	-13.00	62.35
45.05	V	36.72	-59.63	-19.75	0.12	-79.50	-13.00	66.50
3490.000	H	36.01	-61.83	10.40	1.17	-52.60	-13.00	39.60
3490.000	V	35.85	-61.93	10.40	1.17	-52.70	-13.00	39.70
5235.000	H	35.43	-58.47	11.34	1.46	-48.59	-13.00	35.59
5235.000	V	36.23	-57.48	11.34	1.46	-47.60	-13.00	34.60
QPSK, 1.4MHz, Frequency: 1779.3 MHz								
74.25	H	33.73	-72.60	-2.88	0.16	-75.64	-13.00	62.64
44.58	V	36.97	-58.79	-20.35	0.12	-79.26	-13.00	66.26
3558.600	H	35.46	-62.21	10.46	1.22	-52.97	-13.00	39.97
3558.600	V	36.11	-61.46	10.46	1.22	-52.22	-13.00	39.22
5337.900	H	35.89	-57.58	11.40	1.47	-47.65	-13.00	34.65
5337.900	V	35.37	-57.96	11.40	1.47	-48.03	-13.00	35.03

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 CR230851297-EXP EUT EXTERNAL PHOTOGRAPHS and CR230851297-INP EUT INTERNAL PHOTOGRAPHS

6. TEST SETUP PHOTOGRAPHS

Please refer to the attachment CR230851297-00E-TSP TEST SETUP PHOTOGRAPHS.

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