

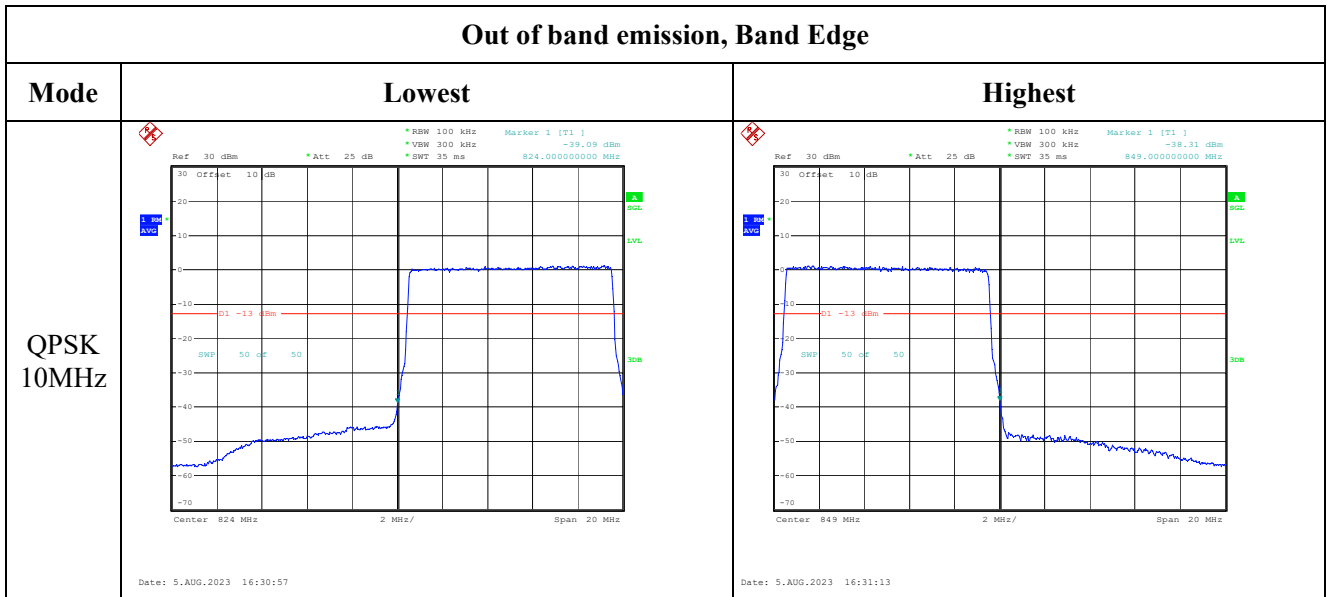
Spurious Emissions at Antenna Terminal

Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref: 30 dBm, Att: 25 dB, RBW: 100 kHz, VBW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: 513.06800000 MHz, -45.53 dBm</p> <p>Date: 5.AUG.2023 16:39:50</p>	<p>Ref: 10 dBm, Att: 30 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 55 ms, Marker 1 [T1]: 3.484000000 GHz, -37.61 dBm</p> <p>Date: 5.AUG.2023 16:40:00</p>
	Middle	<p>Ref: 30 dBm, Att: 25 dB, RBW: 100 kHz, VBW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: 941.90000000 MHz, -45.66 dBm</p> <p>Date: 5.AUG.2023 16:40:13</p>
Highest		<p>Ref: 30 dBm, Att: 25 dB, RBW: 100 kHz, VBW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: 101.78000000 MHz, -45.05 dBm</p> <p>Date: 5.AUG.2023 16:40:38</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz	<p>Ref 30 dBm Att 25 dB RBW 30 kHz Marker 1 [T1] -38.43 dBm VSM 100 kHz SWT 35 ms Center 824 MHz 300 kHz/ Span 3 MHz</p> <p>Date: 5.AUG.2023 16:23:50</p>	<p>Ref 30 dBm Att 25 dB RBW 30 kHz Marker 1 [T1] -41.15 dBm VSM 100 kHz SWT 35 ms Center 849 MHz 300 kHz/ Span 3 MHz</p> <p>Date: 5.AUG.2023 16:25:29</p>
QPSK 3MHz	<p>Ref 30 dBm Att 25 dB RBW 30 kHz Marker 1 [T1] -28.05 dBm VSM 100 kHz SWT 35 ms Center 824 MHz 600 kHz/ Span 6 MHz</p> <p>Date: 5.AUG.2023 16:29:58</p>	<p>Ref 30 dBm Att 25 dB RBW 30 kHz Marker 1 [T1] -29.14 dBm VSM 100 kHz SWT 35 ms Center 849 MHz 600 kHz/ Span 6 MHz</p> <p>Date: 5.AUG.2023 16:30:11</p>
QPSK 5MHz	<p>Ref 30 dBm Att 25 dB RBW 100 kHz Marker 1 [T1] -30.97 dBm VSM 500 kHz SWT 35 ms Center 824 MHz 1 MHz/ Span 10 MHz</p> <p>Date: 5.AUG.2023 16:30:26</p>	<p>Ref 30 dBm Att 25 dB RBW 100 kHz Marker 1 [T1] -30.68 dBm VSM 500 kHz SWT 35 ms Center 849 MHz 1 MHz/ Span 10 MHz</p> <p>Date: 5.AUG.2023 16:30:40</p>

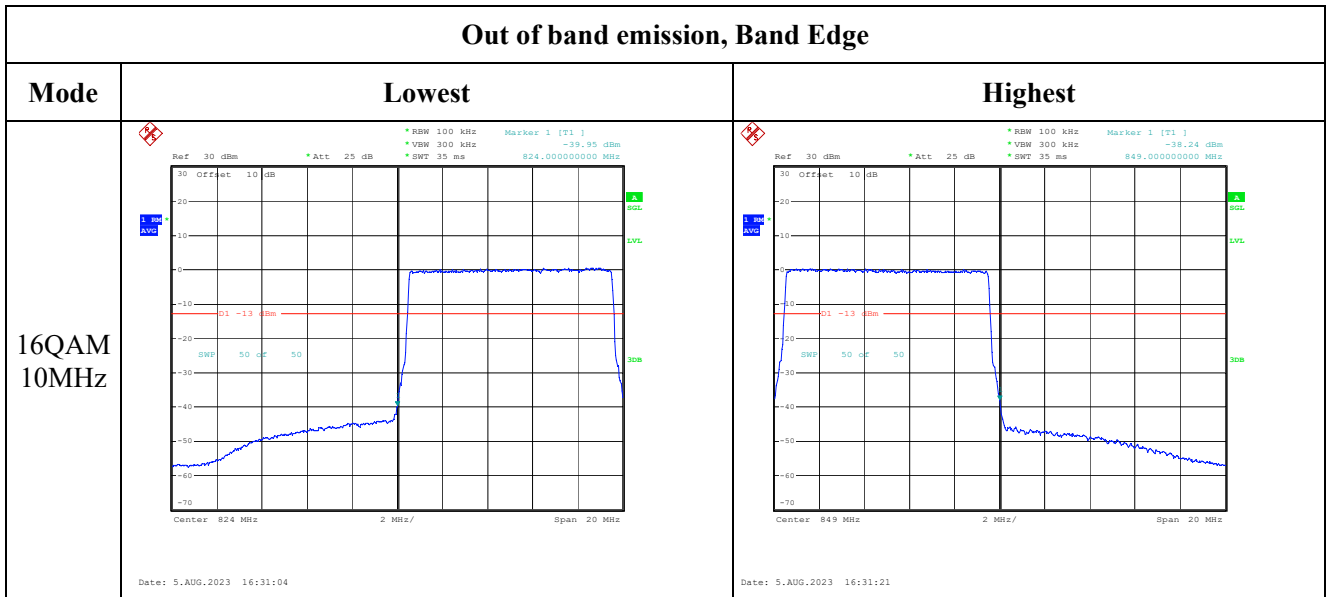
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz		
16QAM 3MHz		
16QAM 5MHz		

Out of band emission, Band Edge



4.9 Antenna Port Test Data and Results for LTE Band 7

Serial Number:	2A5B-5	Test Date:	2023/8/5
Test Site:	RF	Test Mode:	Transmitting
Tester:	Panda Sun	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2	Relative Humidity: (%)	46	ATM Pressure: (kPa)	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	200120	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
Minl-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	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

* 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	2502.5	2535	2567.5
10MHz	2505	2535	2565
15MHz	2507.5	2535	2562.5
20MHz	2510	2535	2560

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

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	17.87	17.35	17.32	17.69	33
	RB1#13	17.77	17.33	17.24		
	RB1#24	17.89	17.34	17.20		
	RB15#0	16.93	16.84	16.39		
	RB15#10	17.04	16.79	16.50		
	RB25#0	16.97	16.78	16.41		
5MHz 16QAM	RB1#0	16.95	16.26	16.06	17.40	33
	RB1#13	17.60	16.68	16.63		
	RB1#24	17.19	16.10	16.25		
	RB15#0	15.77	15.97	15.98		
	RB15#10	15.88	15.91	16.06		
	RB25#0	15.82	15.91	16.00		
10MHz QPSK	RB1#0	17.92	17.58	17.32	17.72	33
	RB1#25	17.91	17.57	17.26		
	RB1#49	17.87	17.48	17.28		
	RB25#0	16.36	16.31	16.07		
	RB25#25	16.85	16.43	16.36		
	RB50#0	16.63	16.39	16.23		
10MHz 16QAM	RB1#0	17.05	16.41	16.95	17.77	33
	RB1#25	17.59	16.53	17.18		
	RB1#49	17.97	16.68	17.55		
	RB25#0	15.65	16.16	16.02		
	RB25#25	16.14	16.27	16.29		
	RB50#0	15.90	16.15	16.13		
15MHz QPSK	RB1#0	17.94	17.50	17.29	17.74	33
	RB1#38	17.83	17.56	17.13		
	RB1#74	17.76	17.39	17.23		
	RB36#0	16.65	16.74	16.38		
	RB36#39	16.93	16.56	16.34		
	RB75#0	16.79	16.65	16.36		
15MHz 16QAM	RB1#0	16.94	16.85	16.90	17.19	33
	RB1#38	17.27	16.50	16.80		
	RB1#74	17.39	16.51	16.94		
	RB36#0	15.80	16.25	15.93		
	RB36#39	16.07	16.05	15.89		
	RB75#0	15.93	16.14	15.90		
20MHz QPSK	RB1#0	17.81	17.66	17.27	17.61	33

	RB1#50	17.79	17.71	17.30		
	RB1#99	17.72	17.62	17.27		
	RB50#0	16.79	16.82	16.39		
	RB50#50	16.93	16.55	16.32		
	RB100#0	16.86	16.68	16.35		
20MHz 16QAM	RB1#0	17.25	17.30	16.79	17.22	33
	RB1#50	17.19	16.30	16.37		
	RB1#99	17.42	16.79	16.82		
	RB50#0	15.93	16.59	16.17		
	RB50#50	16.06	16.28	16.07		
	RB100#0	15.99	16.42	16.12		

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	5.54	5.32	5.1	13
	RB100#0	5.64	5.64	5.64	13
20MHz 16QAM	RB1#0	6.15	7.05	6.06	13
	RB100#0	6.41	6.35	6.51	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	4.52	4.50	4.54	4.98	4.96	5.00
5MHz 16QAM	4.54	4.54	4.52	4.96	5.04	5.00
10MHz QPSK	8.96	8.96	9.00	9.72	9.84	9.76
10MHz 16QAM	9.00	8.96	8.96	9.80	9.76	9.76
15MHz QPSK	13.50	13.62	13.50	15.06	15.12	15.06
15MHz 16QAM	13.50	13.62	13.56	15.12	15.12	15.18
20MHz QPSK	18.08	18.00	18.00	19.52	19.76	19.60
20MHz 16QAM	18.00	18.00	18.00	19.60	19.68	19.76

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	2500.036	2500.00	2569.959	2570
	-20	3.85	2500.037	2500.00	2569.961	2570
	-10	3.85	2500.035	2500.00	2569.957	2570
	0	3.85	2500.037	2500.00	2569.958	2570
	10	3.85	2500.024	2500.00	2569.956	2570
	20	3.85	2500.033	2500.00	2569.955	2570
	30	3.85	2500.035	2500.00	2569.961	2570
	40	3.85	2500.038	2500.00	2569.955	2570
Frequency Stability vs. Voltage	50	3.85	2500.039	2500.00	2569.962	2570
	20	3.45	2500.038	2500.00	2569.954	2570
	20	4.4	2500.040	2500.00	2569.956	2570
					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	2500.037	2500.00	2569.962	2570
	-20	3.85	2500.034	2500.00	2569.954	2570
	-10	3.85	2500.034	2500.00	2569.956	2570
	0	3.85	2500.038	2500.00	2569.954	2570
	10	3.85	2500.035	2500.00	2569.957	2570
	20	3.85	2500.038	2500.00	2569.954	2570
	30	3.85	2500.037	2500.00	2569.956	2570
	40	3.85	2500.038	2500.00	2569.958	2570
Frequency Stability vs. Voltage	50	3.85	2500.035	2500.00	2569.954	2570
	20	3.45	2500.040	2500.00	2569.956	2570
	20	4.4	2500.032	2500.00	2569.958	2570
					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 style="font-size: small;">*RBW 100 kHz Delta 1 [T1] -1.41 dB *VBW 300 kHz *Att 25 dB SWT 5 ms Ref 30 dBm Offset 10.5 dB Center 4.980000000 MHz Marker 1 [T1] -1.41 dBm OBW 5.000000000 MHz Temp 1 [T1] 0.000000000 GHz Temp 2 [T1] 0.000000000 GHz Date: 5.AUG.2023 17:16:56</p>	<p style="font-size: small;">*RBW 100 kHz Delta 1 [T1] -1.17 dB *VBW 300 kHz *Att 25 dB SWT 5 ms Ref 30 dBm Offset 10.5 dB Center 4.960000000 MHz Marker 1 [T1] -1.17 dBm OBW 5.000000000 MHz Temp 1 [T1] 0.000000000 GHz Temp 2 [T1] 0.000000000 GHz Date: 5.AUG.2023 17:17:10</p>
Middle	<p style="font-size: small;">*RBW 100 kHz Delta 1 [T1] 0.75 dB *VBW 300 kHz *Att 25 dB SWT 5 ms Ref 30 dBm Offset 10.5 dB Center 4.960000000 MHz Marker 1 [T1] 0.75 dBm OBW 5.000000000 MHz Temp 1 [T1] 0.000000000 GHz Temp 2 [T1] 0.000000000 GHz Date: 5.AUG.2023 17:17:24</p>	<p style="font-size: small;">*RBW 100 kHz Delta 1 [T1] 0.12 dB *VBW 300 kHz *Att 25 dB SWT 5 ms Ref 30 dBm Offset 10.5 dB Center 5.040000000 MHz Marker 1 [T1] 0.12 dBm OBW 5.000000000 MHz Temp 1 [T1] 0.000000000 GHz Temp 2 [T1] 0.000000000 GHz Date: 5.AUG.2023 17:17:41</p>
Highest	<p style="font-size: small;">*RBW 100 kHz Delta 1 [T1] 0.30 dB *VBW 300 kHz *Att 25 dB SWT 5 ms Ref 30 dBm Offset 10.5 dB Center 5.000000000 MHz Marker 1 [T1] 0.30 dBm OBW 5.000000000 MHz Temp 1 [T1] 0.000000000 GHz Temp 2 [T1] 0.000000000 GHz Date: 5.AUG.2023 17:17:58</p>	<p style="font-size: small;">*RBW 100 kHz Delta 1 [T1] 0.06 dB *VBW 300 kHz *Att 25 dB SWT 5 ms Ref 30 dBm Offset 10.5 dB Center 5.000000000 MHz Marker 1 [T1] 0.06 dBm OBW 5.000000000 MHz Temp 1 [T1] 0.000000000 GHz Temp 2 [T1] 0.000000000 GHz Date: 5.AUG.2023 17:18:11</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSM 1 MHz SWT 2.5 ms 15.060000000 MHz OSW 15.000000000 MHz Marker 1 [T1] -16.38 dBm D1 16.4 dBm Temp 1 [T1 OSW] 2.499940000 GHz Temp 2 [T1 OSW] 2.500780000 GHz Temp 3 [T1 OSW] 2.514280000 GHz Center 2.5075 GHz 3 MHz/ Span 30 MHz Date: 5.AUG.2023 17:20:08</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSM 1 MHz SWT 2.5 ms 15.120000000 MHz OSW 15.000000000 MHz Marker 1 [T1] -16.77 dBm D1 16.11 dBm Temp 1 [T1 OSW] 2.499940000 GHz Temp 2 [T1 OSW] 2.500780000 GHz Temp 3 [T1 OSW] 2.514280000 GHz Center 2.5075 GHz 3 MHz/ Span 30 MHz Date: 5.AUG.2023 17:20:26</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSM 1 MHz SWT 2.5 ms 15.120000000 MHz OSW 15.000000000 MHz Marker 1 [T1] -16.88 dBm D1 16.9 dBm Temp 1 [T1 OSW] 2.528220000 GHz Temp 2 [T1 OSW] 2.528220000 GHz Temp 3 [T1 OSW] 2.541840000 GHz Center 2.535 GHz 3 MHz/ Span 30 MHz Date: 5.AUG.2023 17:20:44</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSM 1 MHz SWT 2.5 ms 15.120000000 MHz OSW 15.000000000 MHz Marker 1 [T1] -16.86 dBm D1 16.52 dBm Temp 1 [T1 OSW] 2.528220000 GHz Temp 2 [T1 OSW] 2.528220000 GHz Temp 3 [T1 OSW] 2.541840000 GHz Center 2.535 GHz 3 MHz/ Span 30 MHz Date: 5.AUG.2023 17:21:02</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSM 1 MHz SWT 2.5 ms 15.060000000 MHz OSW 15.000000000 MHz Marker 1 [T1] -16.86 dBm D1 16.7 dBm Temp 1 [T1 OSW] 2.555720000 GHz Temp 2 [T1 OSW] 2.555720000 GHz Temp 3 [T1 OSW] 2.569280000 GHz Center 2.5625 GHz 3 MHz/ Span 30 MHz Date: 5.AUG.2023 17:21:17</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSM 1 MHz SWT 2.5 ms 15.180000000 MHz OSW 15.000000000 MHz Marker 1 [T1] -16.76 dBm D1 15.01 dBm Temp 1 [T1 OSW] 2.554940000 GHz Temp 2 [T1 OSW] 2.555720000 GHz Temp 3 [T1 OSW] 2.569280000 GHz Center 2.5625 GHz 3 MHz/ Span 30 MHz Date: 5.AUG.2023 17:21:32</p>

Occupied Bandwidth

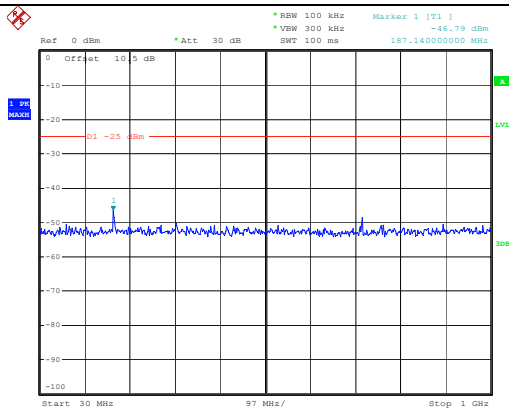
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Spurious Emissions at Antenna Terminal

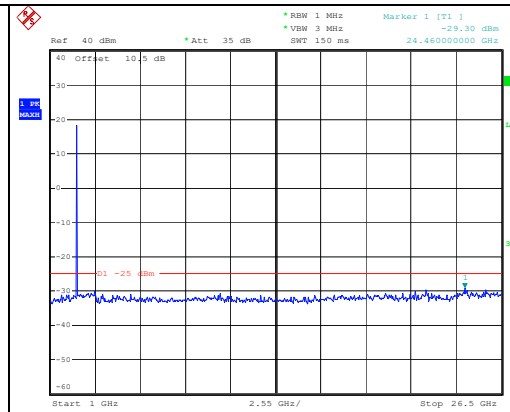
Channel

5MHz Bandwidth QPSK

Lowest

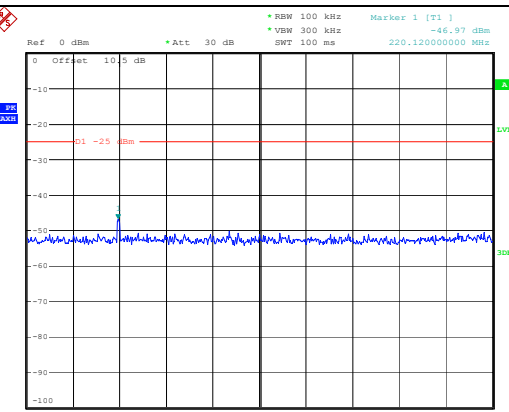


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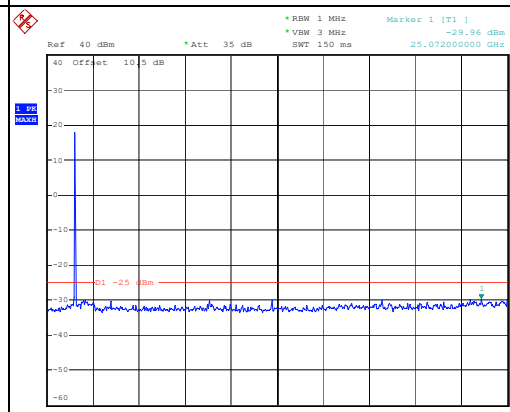


Date: 5.AUG.2023 18:18:25

Middle

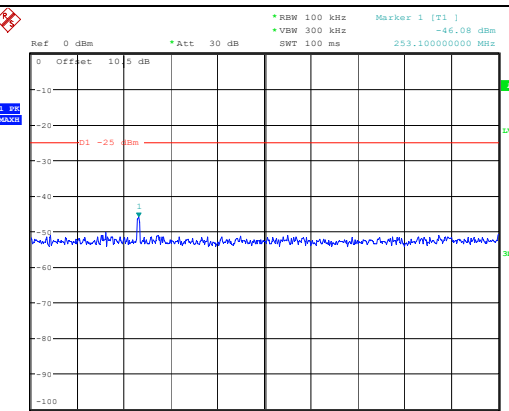


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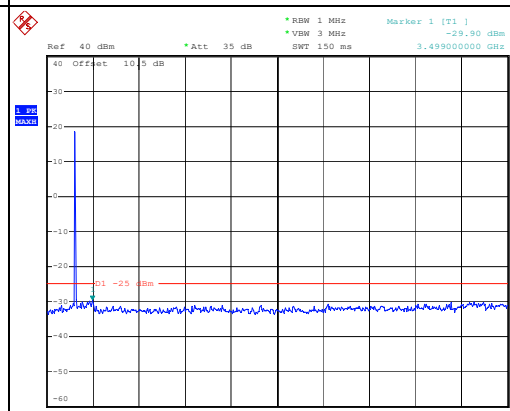


Date: 5.AUG.2023 18:18:47

Highest



Date: 5.AUG.2023 18:19:00



Date: 5.AUG.2023 18:19:10

Spurious Emissions at Antenna Terminal

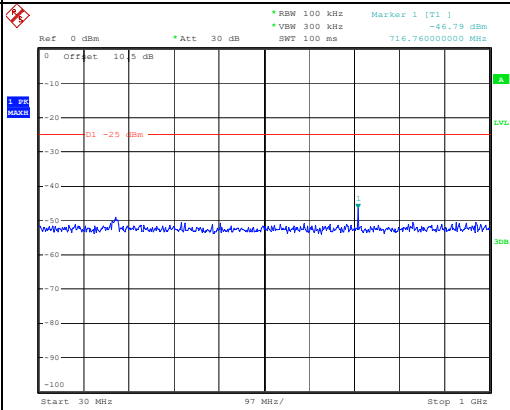
Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -48.30 dBm 714.82000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>Date: 5.AUG.2023 18:19:27</p>	<p>Ref 40 dBm *Att 35 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [T1] -29.60 dBm 3.295000000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>Date: 5.AUG.2023 18:19:37</p>
	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -47.73 dBm 220.120000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>Date: 5.AUG.2023 18:19:50</p>	<p>Ref 40 dBm *Att 35 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [T1] -29.35 dBm 26.194000000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>Date: 5.AUG.2023 18:20:00</p>
Highest	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -47.73 dBm 253.100000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>Date: 5.AUG.2023 18:20:16</p>	<p>Ref 40 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [T1] -29.58 dBm 24.864000000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>Date: 5.AUG.2023 18:20:26</p>

Spurious Emissions at Antenna Terminal

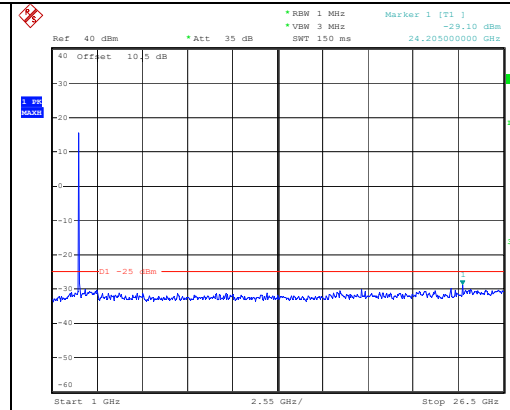
Channel

15MHz Bandwidth QPSK

Lowest

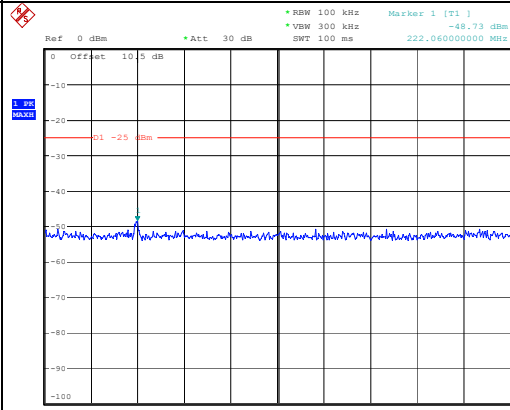


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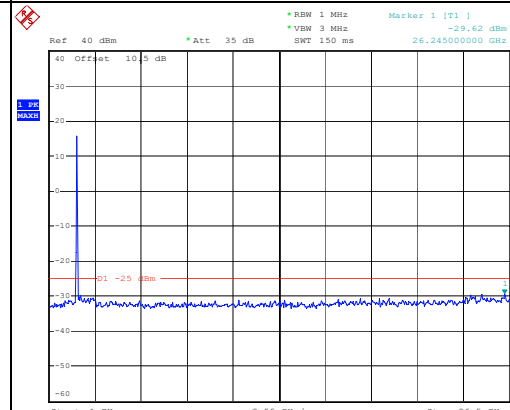


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Middle

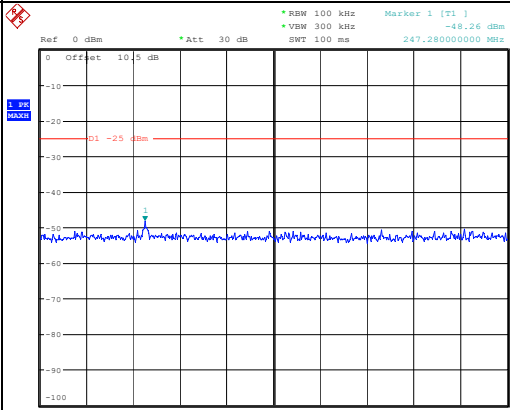


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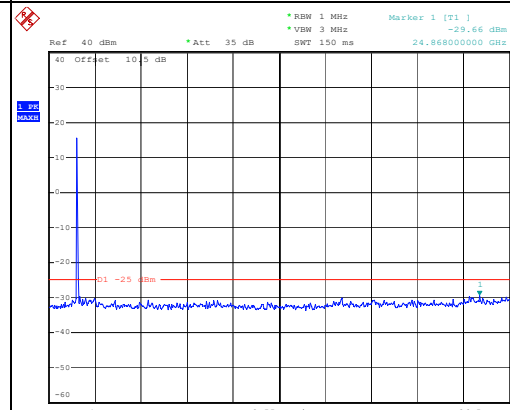


Date: 5.AUG.2023 18:21:17

Highest



Date: 5.AUG.2023 18:21:30



Date: 5.AUG.2023 18:21:40

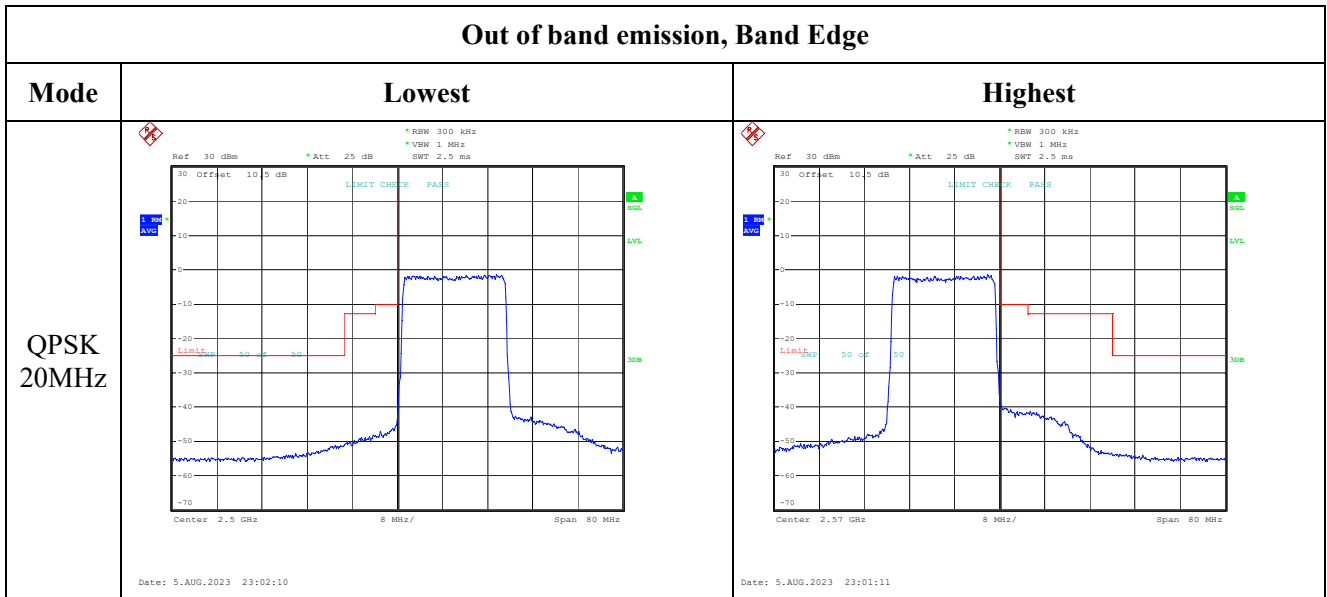
Spurious Emissions at Antenna Terminal

Channel	20MHz Bandwidth QPSK	
Lowest	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [F1] -50.13 dBm 199.08000000 MHz</p> <p>Date: 5.AUG.2023 18:21:55</p>	<p>Ref 40 dBm *Att 35 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [F1] -29.71 dBm 24.46000000 GHz</p> <p>Date: 5.AUG.2023 18:22:05</p>
Middle	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [F1] -50.13 dBm 220.12000000 MHz</p> <p>Date: 5.AUG.2023 18:22:18</p>	<p>Ref 40 dBm *Att 35 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [F1] -29.42 dBm 3.397000000 GHz</p> <p>Date: 5.AUG.2023 18:22:28</p>
Highest	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [F1] -43.45 dBm 705.12000000 MHz</p> <p>Date: 5.AUG.2023 18:22:44</p>	<p>Ref 40 dBm *Att 35 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [F1] -29.48 dBm 26.041000000 GHz</p> <p>Date: 5.AUG.2023 18:22:54</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz		
QPSK 10MHz		
QPSK 15MHz		

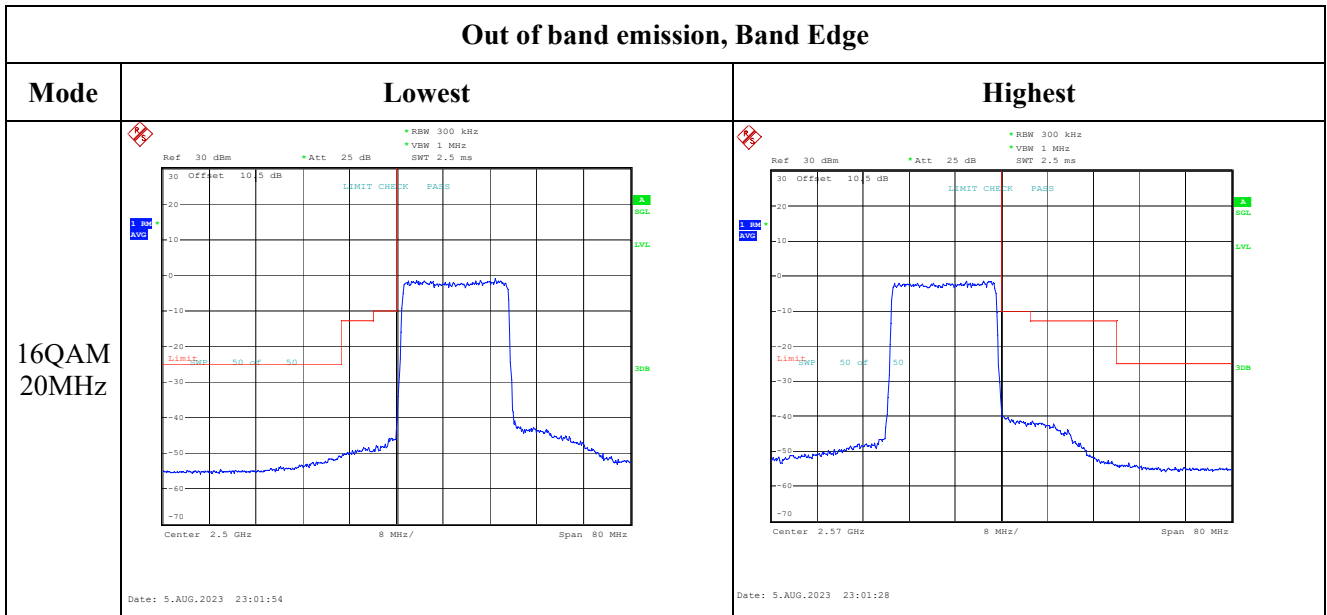
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 5MHz	<p>Date: 5.AUG.2023 22:53:11</p>	<p>Date: 5.AUG.2023 22:53:48</p>
16QAM 10MHz	<p>Date: 5.AUG.2023 22:57:05</p>	<p>Date: 5.AUG.2023 22:56:31</p>
16QAM 15MHz	<p>Date: 5.AUG.2023 22:59:20</p>	<p>Date: 5.AUG.2023 23:00:08</p>

Out of band emission, Band Edge



4.12 Antenna Port Test Data and Results for LTE Band 38

Serial Number:	2A5B-5	Test Date:	2023/8/5
Test Site:	RF	Test Mode:	Transmitting
Tester:	Panda Sun	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2	Relative Humidity: (%)	46	ATM Pressure: (kPa)	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	200120	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
Minl-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	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

* 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	20.31	20.22	20.27	20.15	33
	RB1#13	20.35	20.19	20.24		
	RB1#24	20.27	20.25	20.20		
	RB15#0	20.20	20.04	20.11		
	RB15#10	20.26	20.04	20.10		
	RB25#0	20.25	20.01	20.06		
5MHz 16QAM	RB1#0	19.26	19.55	19.51	19.45	33
	RB1#13	19.25	19.65	19.50		
	RB1#24	19.24	18.63	19.53		
	RB15#0	19.56	19.16	19.31		
	RB15#10	19.53	19.16	19.30		
	RB25#0	19.15	19.36	19.29		
10MHz QPSK	RB1#0	20.60	20.17	20.43	20.49	33
	RB1#25	20.67	20.15	20.31		
	RB1#49	20.69	20.21	20.35		
	RB25#0	20.25	20.13	20.14		
	RB25#25	20.27	20.10	20.03		
	RB50#0	20.26	20.09	20.06		
10MHz 16QAM	RB1#0	19.71	19.20	19.39	19.7	33
	RB1#25	19.81	19.25	19.42		
	RB1#49	19.90	19.30	19.37		
	RB25#0	19.48	19.61	19.02		
	RB25#25	19.61	19.70	19.09		
	RB50#0	19.42	19.12	19.25		
15MHz QPSK	RB1#0	20.60	20.10	20.38	20.45	33
	RB1#38	20.59	20.16	20.40		
	RB1#74	20.65	20.17	20.35		
	RB36#0	20.23	20.13	20.14		
	RB36#39	20.29	20.13	20.19		
	RB75#0	20.25	20.12	20.03		
15MHz 16QAM	RB1#0	19.72	19.27	19.45	19.64	33
	RB1#38	19.84	19.37	19.43		
	RB1#74	19.75	19.46	19.46		
	RB36#0	19.33	19.48	19.27		
	RB36#39	19.23	19.47	19.23		
	RB75#0	19.39	19.25	19.13		
20MHz QPSK	RB1#0	20.32	20.68	20.00	20.48	33

	RB1#50	20.31	20.60	20.03		
	RB1#99	20.31	20.56	20.08		
	RB50#0	20.31	20.12	20.10		
	RB50#50	20.31	20.06	19.97		
	RB100#0	20.28	20.06	20.07		
20MHz 16QAM	RB1#0	19.36	19.94	19.70	19.74	33
	RB1#50	19.33	19.72	19.79		
	RB1#99	19.25	19.69	19.69		
	RB50#0	19.48	19.27	19.34		
	RB50#50	19.50	19.33	19.24		
	RB100#0	19.28	19.19	19.34		

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	12.27	12.4	7.5	13
	RB100#0	7.44	7.5	7.44	13
20MHz 16QAM	RB1#0	12.75	12.11	12.46	13
	RB100#0	8.49	8.91	12.62	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	4.50	4.52	4.52	5.10	5.02	5.12
5MHz 16QAM	4.50	4.52	4.52	5.12	5.16	5.20
10MHz QPSK	9.00	9.00	9.00	9.76	9.76	9.72
10MHz 16QAM	8.96	9.00	9.00	9.72	10.16	9.68
15MHz QPSK	13.56	13.56	13.62	16.08	15.60	15.96
15MHz 16QAM	13.62	13.68	13.62	15.36	16.20	15.48
20MHz QPSK	18.00	18.08	18.00	20.72	19.92	20.00
20MHz 16QAM	18.00	18.00	18.00	20.72	19.68	19.68

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:	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	2570.047	2570.00	2619.965	2620
	-20	3.85	2570.048	2570.00	2619.962	2620
	-10	3.85	2570.048	2570.00	2619.965	2620
	0	3.85	2570.045	2570.00	2619.963	2620
	10	3.85	2570.043	2570.00	2619.961	2620
	20	3.85	2570.044	2570.00	2619.963	2620
	30	3.85	2570.043	2570.00	2619.963	2620
	40	3.85	2570.041	2570.00	2619.962	2620
Frequency Stability vs. Voltage	50	3.85	2570.045	2570.00	2619.962	2620
	20	3.45	2570.040	2570.00	2619.958	2620
	20	4.4	2570.043	2570.00	2619.960	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	2570.054	2570.00	2619.971	2620
	-20	3.85	2570.049	2570.00	2619.975	2620
	-10	3.85	2570.052	2570.00	2619.970	2620
	0	3.85	2570.050	2570.00	2619.971	2620
	10	3.85	2570.051	2570.00	2619.973	2620
	20	3.85	2570.052	2570.00	2619.973	2620
	30	3.85	2570.053	2570.00	2619.974	2620
	40	3.85	2570.049	2570.00	2619.977	2620
Frequency Stability vs. Voltage	50	3.85	2570.053	2570.00	2619.978	2620
	20	3.45	2570.052	2570.00	2619.977	2620
	20	4.4	2570.053	2570.00	2619.973	2620
					Result:	Pass

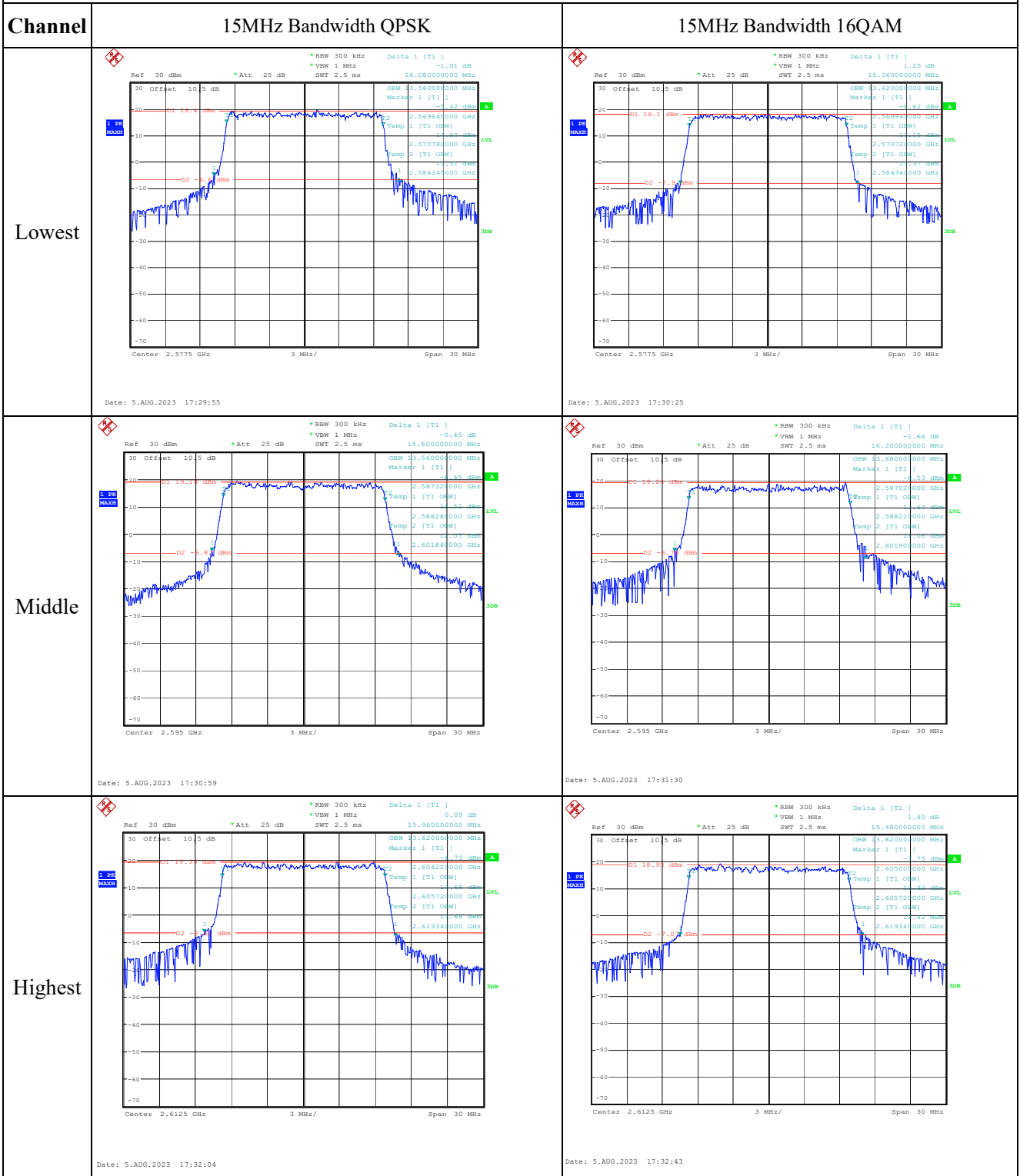
Test Plots(Note: The 10.5dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.33 dB *VBW 300 kHz *VSM 5.100000000 MHz SWT 5 ms Center 2.5725 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 17:24:28</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.22 dB *VBW 300 kHz *VSM 5.120000000 MHz SWT 5 ms Center 2.5725 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 17:25:00</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -1.64 dB *VBW 300 kHz *VSM 5.020000000 MHz SWT 5 ms Center 2.595 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 17:25:24</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.02 dB *VBW 300 kHz *VSM 5.160000000 MHz SWT 5 ms Center 2.595 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 17:25:59</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.08 dB *VBW 300 kHz *VSM 5.120000000 MHz SWT 5 ms Center 2.6175 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 17:26:32</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.24 dB *VBW 300 kHz *VSM 5.200000000 MHz SWT 5 ms Center 2.6175 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 17:27:08</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>Date: 5.AUG.2023 17:27:31</p>	<p>Date: 5.AUG.2023 17:27:54</p>
Middle	<p>Date: 5.AUG.2023 17:28:15</p>	<p>Date: 5.AUG.2023 17:28:38</p>
Highest	<p>Date: 5.AUG.2023 17:29:01</p>	<p>Date: 5.AUG.2023 17:29:18</p>

Occupied Bandwidth



Occupied Bandwidth

Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *VSW 1 MHz *SWT 2.5 ms *RBW 300 kHz Delta 1 [T1] 0.18 dB Center 2.58 GHz 4 MHz/ Span 40 MHz Date: 5.AUG.2023 17:33:25</p>	<p>Ref 30 dBm *Att 25 dB *VSW 1 MHz *SWT 2.5 ms *RBW 300 kHz Delta 1 [T1] -1.11 dB Center 2.58 GHz 4 MHz/ Span 40 MHz Date: 5.AUG.2023 17:34:05</p>
Middle	<p>Ref 30 dBm *Att 25 dB *VSW 1 MHz *SWT 2.5 ms *RBW 300 kHz Delta 1 [T1] -0.73 dB Center 2.595 GHz 4 MHz/ Span 40 MHz Date: 5.AUG.2023 17:34:42</p>	<p>Ref 30 dBm *Att 25 dB *VSW 1 MHz *SWT 2.5 ms *RBW 300 kHz Delta 1 [T1] -0.46 dB Center 2.595 GHz 4 MHz/ Span 40 MHz Date: 5.AUG.2023 17:35:06</p>
Highest	<p>Ref 30 dBm *Att 25 dB *VSW 1 MHz *SWT 2.5 ms *RBW 300 kHz Delta 1 [T1] -0.62 dB Center 2.61 GHz 4 MHz/ Span 40 MHz Date: 5.AUG.2023 17:35:34</p>	<p>Ref 30 dBm *Att 25 dB *VSW 1 MHz *SWT 2.5 ms *RBW 300 kHz Delta 1 [T1] 1.71 dB Center 2.61 GHz 4 MHz/ Span 40 MHz Date: 5.AUG.2023 17:36:10</p>

Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest	<p> *RBW 100 kHz Marker 1 [T1] -41.11 dBm *VBW 300 kHz *Att 30 dB 278.92000000 MHz *SWT 100 ms Ref 0 dBm Offset 10.5 dB Start 30 MHz 97 MHz/ Stop 1 GHz Date: 5.AUG.2023 18:23:39 </p>	<p> *RBW 1 MHz Marker 1 [T1] -28.92 dBm *VBW 3 MHz *Att 35 dB 3.193000000 GHz *SWT 150 ms Ref 40 dBm Offset 10.5 dB Start 1 GHz 2.55 GHz/ Stop 26.5 GHz Date: 5.AUG.2023 18:23:52 </p>
Middle	<p> *RBW 100 kHz Marker 1 [T1] -42.39 dBm *VBW 300 kHz *Att 30 dB 280.26000000 MHz *SWT 100 ms Ref 0 dBm Offset 10.5 dB Start 30 MHz 97 MHz/ Stop 1 GHz Date: 5.AUG.2023 18:24:08 </p>	<p> *RBW 1 MHz Marker 1 [T1] -29.36 dBm *VBW 3 MHz *Att 35 dB 25.480000000 GHz *SWT 150 ms Ref 40 dBm Offset 10.5 dB Start 1 GHz 2.55 GHz/ Stop 26.5 GHz Date: 5.AUG.2023 18:24:18 </p>
Highest	<p> *RBW 100 kHz Marker 1 [T1] -41.86 dBm *VBW 300 kHz *Att 30 dB 301.60000000 MHz *SWT 100 ms Ref 0 dBm Offset 10.5 dB Start 30 MHz 97 MHz/ Stop 1 GHz Date: 5.AUG.2023 18:24:34 </p>	<p> *RBW 1 MHz Marker 1 [T1] -30.01 dBm *VBW 3 MHz *Att 35 dB 26.245000000 GHz *SWT 150 ms Ref 40 dBm Offset 10.5 dB Start 1 GHz 2.55 GHz/ Stop 26.5 GHz Date: 5.AUG.2023 18:24:44 </p>

Spurious Emissions at Antenna Terminal

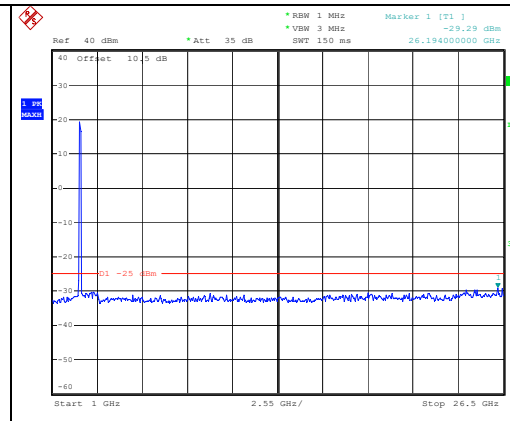
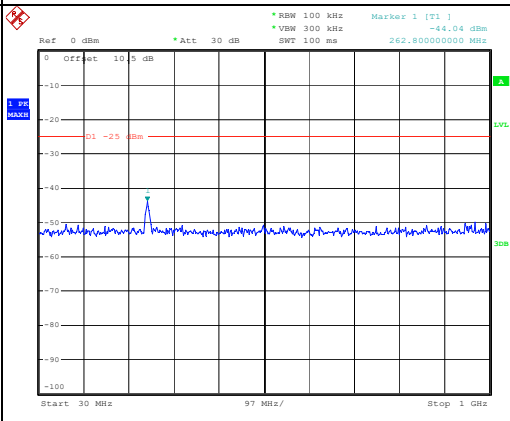
Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VBW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: -45.37 dBm, 262.899000000 MHz</p> <p>Date: 5.AUG.2023 18:25:00</p>	<p>Ref: 40 dBm, Att: 35 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 150 ms, Marker 1 [T1]: -29.94 dBm, 18.295000000 GHz</p> <p>Date: 5.AUG.2023 18:25:10</p>
Middle	<p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VBW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: -44.36 dBm, 278.320000000 MHz</p> <p>Date: 5.AUG.2023 18:25:26</p>	<p>Ref: 40 dBm, Att: 35 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 150 ms, Marker 1 [T1]: -29.71 dBm, 24.511000000 GHz</p> <p>Date: 5.AUG.2023 18:25:36</p>
Highest	<p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VBW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: -45.40 dBm, 299.660000000 MHz</p> <p>Date: 5.AUG.2023 18:25:49</p>	<p>Ref: 40 dBm, Att: 25 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 150 ms, Marker 1 [T1]: -29.50 dBm, 26.041000000 GHz</p> <p>Date: 5.AUG.2023 18:25:59</p>

Spurious Emissions at Antenna Terminal

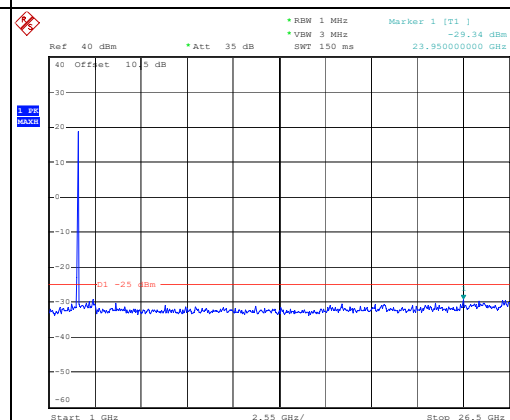
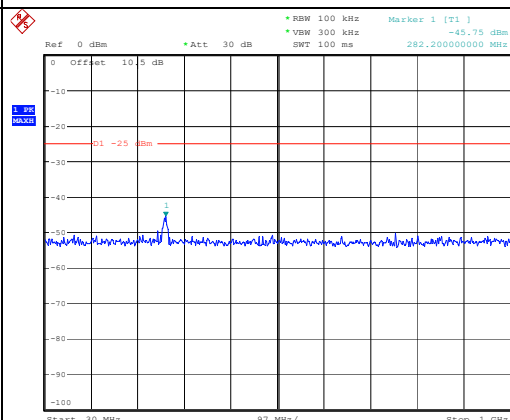
Channel

15MHz Bandwidth QPSK

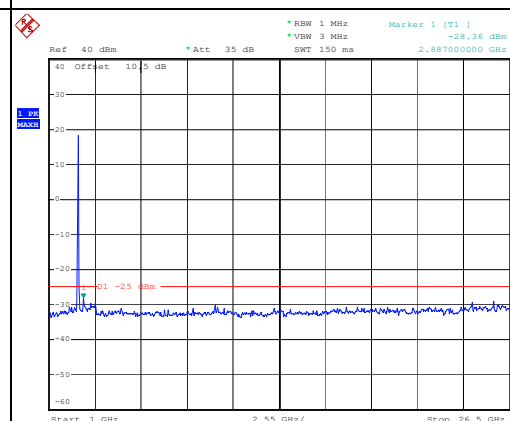
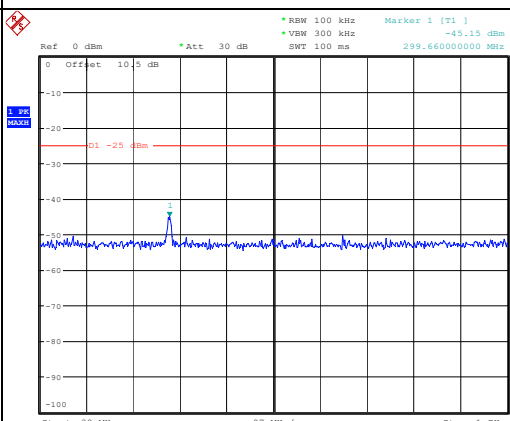
Lowest



Middle



Highest



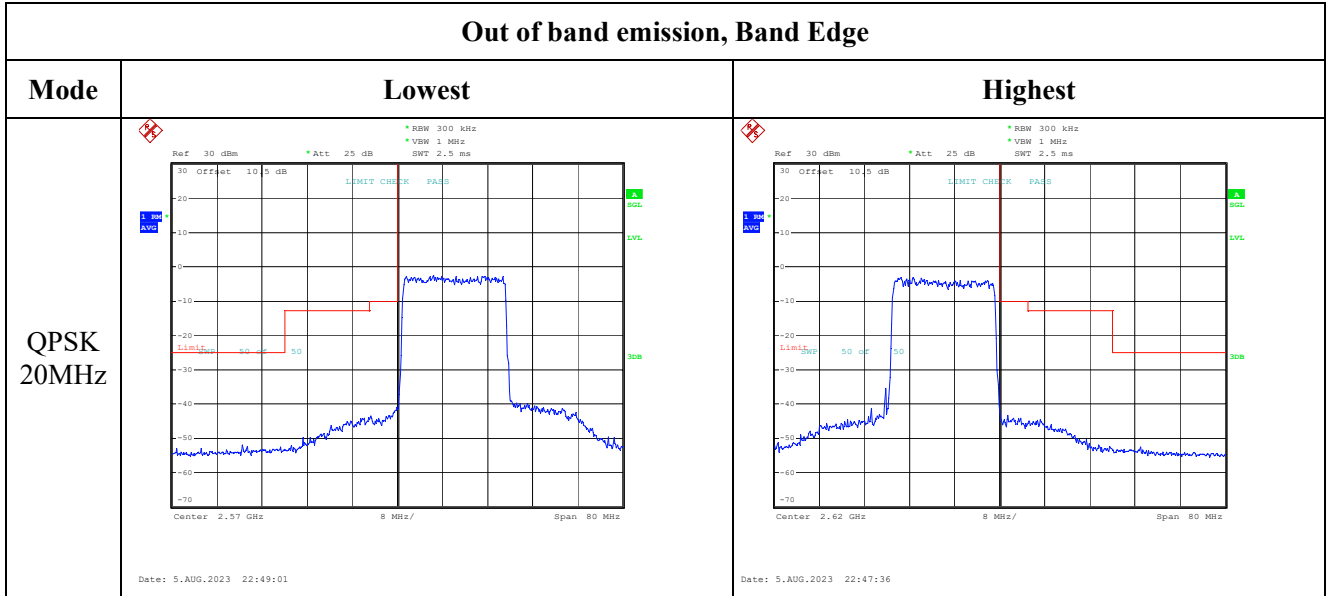
Spurious Emissions at Antenna Terminal

Channel	20MHz Bandwidth QPSK	
Lowest	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSM 300 kHz *Marker 1 [F1] -47.10 dBm SWT 100 ms 264.740000000 MHz</p> <p>Date: 5.AUG.2023 18:27:27</p>	<p>Ref 40 dBm *Att 35 dB *RBW 1 MHz *VSM 3 MHz *Marker 1 [F1] -29.62 dBm SWT 150 ms 26.194000000 GHz</p> <p>Date: 5.AUG.2023 18:27:37</p>
Middle	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSM 300 kHz *Marker 1 [F1] -47.41 dBm SWT 100 ms 280.260000000 MHz</p> <p>Date: 5.AUG.2023 18:27:50</p>	<p>Ref 40 dBm *Att 35 dB *RBW 1 MHz *VSM 3 MHz *Marker 1 [F1] -29.37 dBm SWT 150 ms 3.550000000 GHz</p> <p>Date: 5.AUG.2023 18:28:00</p>
Highest	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSM 300 kHz *Marker 1 [F1] -47.31 dBm SWT 100 ms 295.780000000 MHz</p> <p>Date: 5.AUG.2023 18:28:14</p>	<p>Ref 40 dBm *Att 35 dB *RBW 1 MHz *VSM 3 MHz *Marker 1 [F1] -30.13 dBm SWT 150 ms 24.760000000 GHz</p> <p>Date: 5.AUG.2023 18:28:24</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz	<p>Ref 30 dBm Att 25 dB RBW 100 kHz VBW 300 kHz SWT 10 ms</p> <p>Center 2.57 GHz 2 MHz/ Span 20 MHz</p> <p>Date: 5.AUG.2023 22:37:05</p>	<p>Ref 30 dBm Att 25 dB RBW 100 kHz VBW 300 kHz SWT 10 ms</p> <p>Center 2.62 GHz 2 MHz/ Span 20 MHz</p> <p>Date: 5.AUG.2023 22:39:32</p>
QPSK 10MHz	<p>Ref 30 dBm Att 25 dB RBW 100 kHz VBW 300 kHz SWT 15 ms</p> <p>Center 2.57 GHz 4 MHz/ Span 40 MHz</p> <p>Date: 5.AUG.2023 22:43:22</p>	<p>Ref 30 dBm Att 25 dB RBW 100 kHz VBW 300 kHz SWT 15 ms</p> <p>Center 2.62 GHz 4 MHz/ Span 40 MHz</p> <p>Date: 5.AUG.2023 22:40:55</p>
QPSK 15MHz	<p>Ref 30 dBm Att 25 dB RBW 300 kHz VBW 1 MHz SWT 2.5 ms</p> <p>Center 2.57 GHz 6 MHz/ Span 60 MHz</p> <p>Date: 5.AUG.2023 22:45:08</p>	<p>Ref 30 dBm Att 25 dB RBW 300 kHz VBW 1 MHz SWT 2.5 ms</p> <p>Center 2.62 GHz 6 MHz/ Span 60 MHz</p> <p>Date: 5.AUG.2023 22:46:49</p>

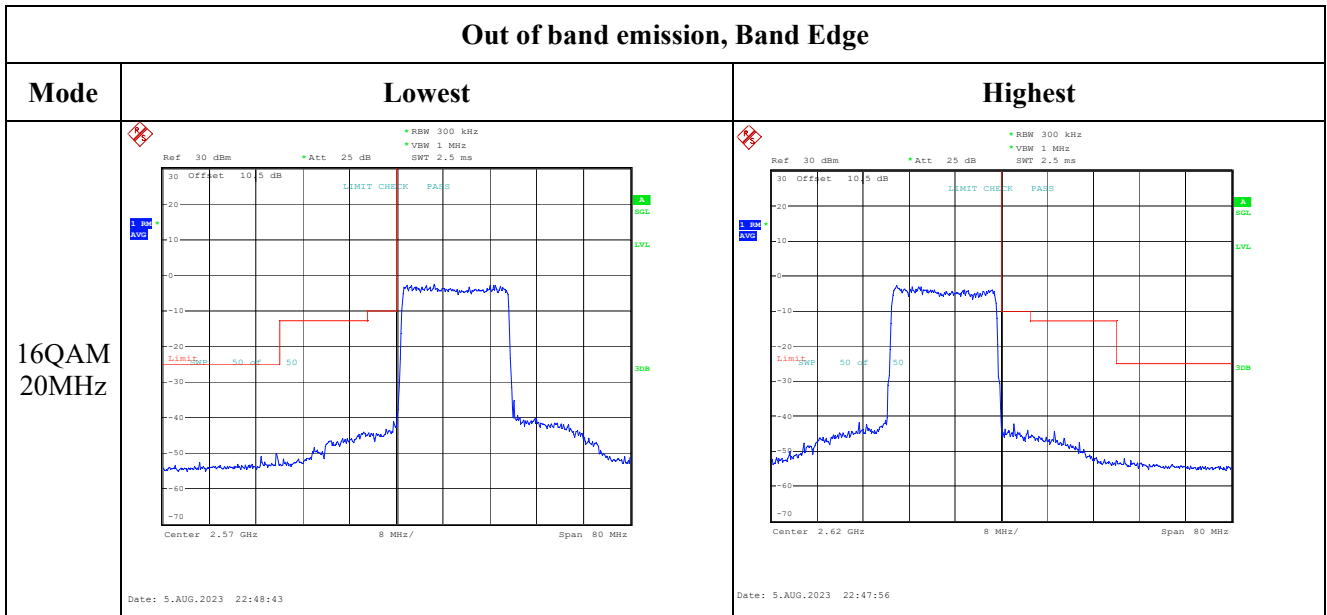
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 5MHz	<p>Date: 5.AUG.2023 22:37:36</p>	<p>Date: 5.AUG.2023 22:38:53</p>
16QAM 10MHz	<p>Date: 5.AUG.2023 22:43:03</p>	<p>Date: 5.AUG.2023 22:41:16</p>
16QAM 15MHz	<p>Date: 5.AUG.2023 22:45:28</p>	<p>Date: 5.AUG.2023 22:46:32</p>

Out of band emission, Band Edge



4.13 Antenna Port Test Data and Results for LTE Band 40

Serial Number:	2A5B-5	Test Date:	2023/8/5
Test Site:	RF	Test Mode:	Transmitting
Tester:	Panda Sun	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2	Relative Humidity: (%)	46	ATM Pressure: (kPa)	107
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200120	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
Minl-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	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

* 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	20.08	/	19.93	19.31	24
	RB1#13	20.11	/	19.85		
	RB1#24	20.11	/	19.90		
	RB15#0	20.07	/	19.95		
	RB15#10	19.98	/	19.96		
	RB25#0	20.07	/	20.01		
5MHz 16QAM	RB1#0	19.05	/	18.73	18.48	24
	RB1#13	19.06	/	18.96		
	RB1#24	19.28	/	18.83		
	RB15#0	19.07	/	19.25		
	RB15#10	19.15	/	19.20		
	RB25#0	19.16	/	18.94		
10MHz QPSK	RB1#0	/	20.24	/	19.44	24
	RB1#25	/	20.17	/		
	RB1#49	/	20.08	/		
	RB25#0	/	20.00	/		
	RB25#25	/	19.98	/		
	RB50#0	/	20.04	/		
10MHz 16QAM	RB1#0	/	19.41	/	18.61	24
	RB1#25	/	19.23	/		
	RB1#49	/	19.39	/		
	RB25#0	/	19.18	/		
	RB25#25	/	19.20	/		
	RB50#0	/	19.27	/		

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=Conducted Power(dBm) - Lc(dB) + Gt(dBi)

EIRP PSD=Conducted PSD(dBm/5MHz) - Lc(dB) + Gt(dBi)

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	19.97	/	19.82	19.24	24
	RB1#13	20.04	/	19.84		

	RB1#24	20.04	/	19.82		
	RB15#0	19.93	/	19.93		
	RB15#10	19.92	/	19.97		
	RB25#0	19.94	/	19.96		
5MHz 16QAM	RB1#0	19.01	/	18.95	18.42	24
	RB1#13	18.97	/	19.04		
	RB1#24	18.82	/	19.08		
	RB15#0	19.01	/	19.19		
	RB15#10	19.07	/	19.22		
	RB25#0	19.13	/	18.91		
10MHz QPSK	RB1#0	/	20.13	/	19.37	24
	RB1#25	/	20.08	/		
	RB1#49	/	20.17	/		
	RB25#0	/	19.86	/		
	RB25#25	/	19.91	/		
	RB50#0	/	19.93	/		
10MHz 16QAM	RB1#0	/	19.24	/	18.59	24
	RB1#25	/	19.23	/		
	RB1#49	/	19.39	/		
	RB25#0	/	19.18	/		
	RB25#25	/	19.14	/		
	RB50#0	/	19.14	/		
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 $EIRP = \text{Conducted Power(dBm)} - Lc(\text{dB}) + Gt(\text{dBi})$ $EIRP \text{ PSD} = \text{Conducted PSD(dBm/5MHz)} - Lc(\text{dB}) + Gt(\text{dBi})$						
					Result:	Pass

Duty Cycle

Operation Band	Modulation	Bandwidth	Ton (ms)	Ton+off (ms)	Duty Cycle (%)	Limit (%)
LTE Band 40 Lower	QPSK	5M	2.995	10.000	29.95	38
		10M	3.005	10.010	30.02	38
	16QAM	5M	3.000	10.005	29.99	38
		10M	3.000	10.005	29.99	38
LTE Band 40 Upper	QPSK	5M	3.005	10.010	30.02	38
		10M	3.005	10.010	30.02	38
	16QAM	5M	3.000	10.005	29.99	38
		10M	3.005	10.010	30.02	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	4.52	/	4.50	5.00	/	5.16
5MHz 16QAM	4.54	/	4.54	5.18	/	5.12
10MHz QPSK	/	9.00	/	/	9.84	/
10MHz 16QAM	/	8.96	/	/	9.76	/

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	4.52	/	4.52	4.98	/	5.14
5MHz 16QAM	4.54	/	4.52	5.20	/	5.14
10MHz QPSK	/	9.00	/	/	9.88	/
10MHz 16QAM	/	8.96	/	/	9.76	/

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	2305.013	2305.000	2314.986	2315.000
	-20	3.85	2305.009	2305.000	2314.986	2315.000
	-10	3.85	2305.008	2305.000	2314.990	2315.000
	0	3.85	2305.012	2305.000	2314.990	2315.000
	10	3.85	2305.009	2305.000	2314.988	2315.000
	20	3.85	2305.012	2305.000	2314.991	2315.000
	30	3.85	2305.011	2305.000	2314.990	2315.000
	40	3.85	2305.011	2305.000	2314.986	2315.000
Frequency Stability vs. Voltage	50	3.85	2305.007	2305.000	2314.987	2315.000
	20	3.45	2305.006	2305.000	2314.991	2315.000
	20	4.4	2305.007	2305.000	2314.990	2315.000
Result:					Pass	

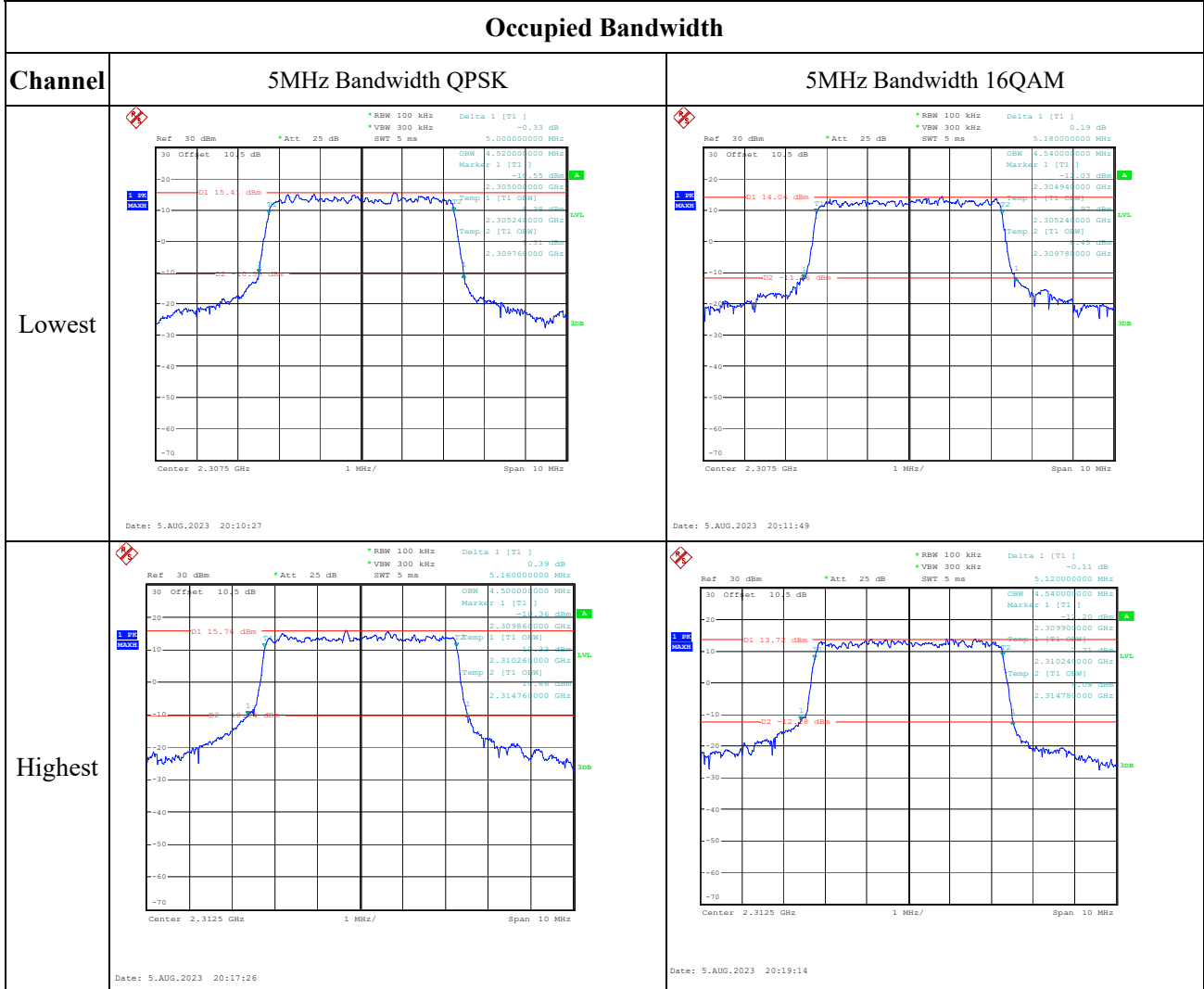
Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2305.013	2305.000	2314.992	2315.000
	-20	3.85	2305.013	2305.000	2314.992	2315.000
	-10	3.85	2305.009	2305.000	2314.988	2315.000
	0	3.85	2305.013	2305.000	2314.991	2315.000
	10	3.85	2305.012	2305.000	2314.988	2315.000
	20	3.85	2305.013	2305.000	2314.986	2315.000
	30	3.85	2305.015	2305.000	2314.989	2315.000
	40	3.85	2305.012	2305.000	2314.988	2315.000
Frequency Stability vs. Voltage	20	3.45	2305.009	2305.000	2314.989	2315.000
	20	4.4	2305.016	2305.000	2314.987	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	2350.010	2350.000	2359.985	2360.000
	-20	3.85	2350.011	2350.000	2359.984	2360.000
	-10	3.85	2350.015	2350.000	2359.987	2360.000
	0	3.85	2350.013	2350.000	2359.985	2360.000
	10	3.85	2350.016	2350.000	2359.989	2360.000
	20	3.85	2350.010	2350.000	2359.985	2360.000
	30	3.85	2350.012	2350.000	2359.987	2360.000
	40	3.85	2350.011	2350.000	2359.984	2360.000
Frequency Stability vs. Voltage	20	3.45	2350.013	2350.000	2359.986	2360.000
	20	4.4	2350.014	2350.000	2359.983	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	2350.012	2350.000	2359.987	2360.000
	-20	3.85	2350.013	2350.000	2359.980	2360.000
	-10	3.85	2350.014	2350.000	2359.981	2360.000
	0	3.85	2350.015	2350.000	2359.984	2360.000
	10	3.85	2350.011	2350.000	2359.980	2360.000
	20	3.85	2350.014	2350.000	2359.986	2360.000

	30	3.85	2350.016	2350.000	2359.987	2360.000
	40	3.85	2350.011	2350.000	2359.985	2360.000
	50	3.85	2350.013	2350.000	2359.983	2360.000
Frequency Stability vs. Voltage	20	3.45	2350.013	2350.000	2359.986	2360.000
	20	4.4	2350.010	2350.000	2359.986	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):
2305-2315 MHz:



Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Middle	<p> *RBW 100 kHz Delta 1 [T1] -0.08 dB *VBW 300 kHz *SWT 10 ms Ref 30 dBm Offset 10.5 dB Act 25 dB Center 2.31 GHz 2 MHz/ Span 20 MHz Date: 5.AUG.2023 20:20:30 </p>	<p> *RBW 100 kHz Delta 1 [T1] 0.39 dB *VBW 300 kHz *SWT 10 ms Ref 30 dBm Offset 10.5 dB Act 25 dB Center 2.31 GHz 2 MHz/ Span 20 MHz Date: 5.AUG.2023 20:21:01 </p>

2350-2360 MHz:

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Highest		

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Middle		

2305-2315 MHz:

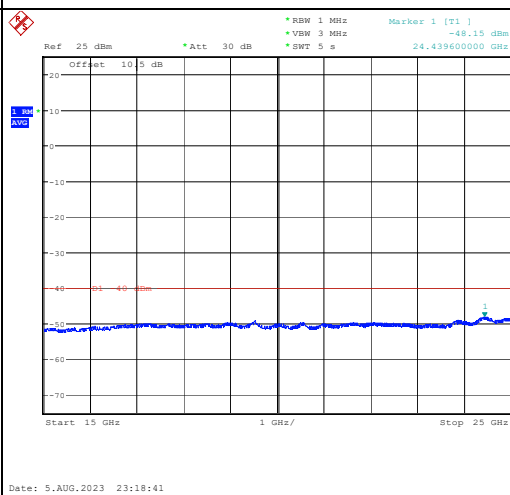
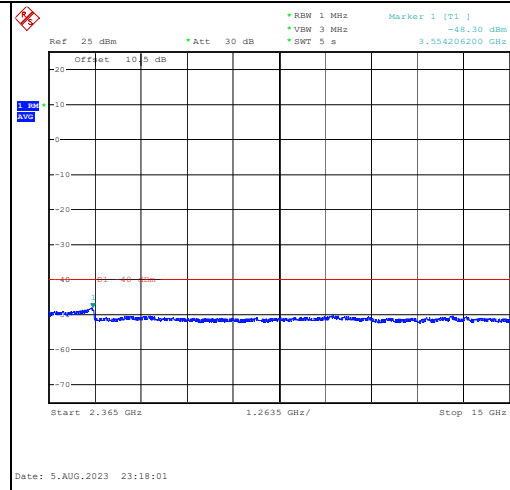
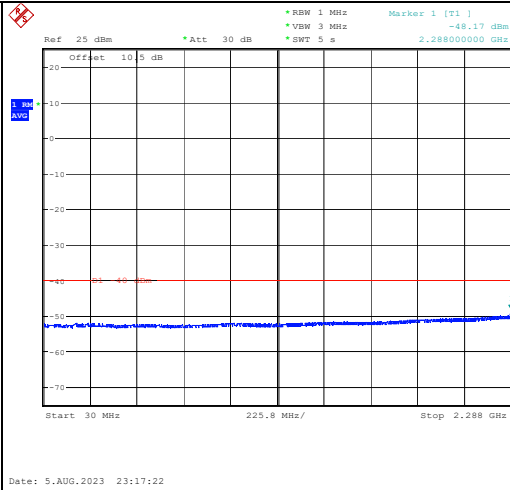
Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest		

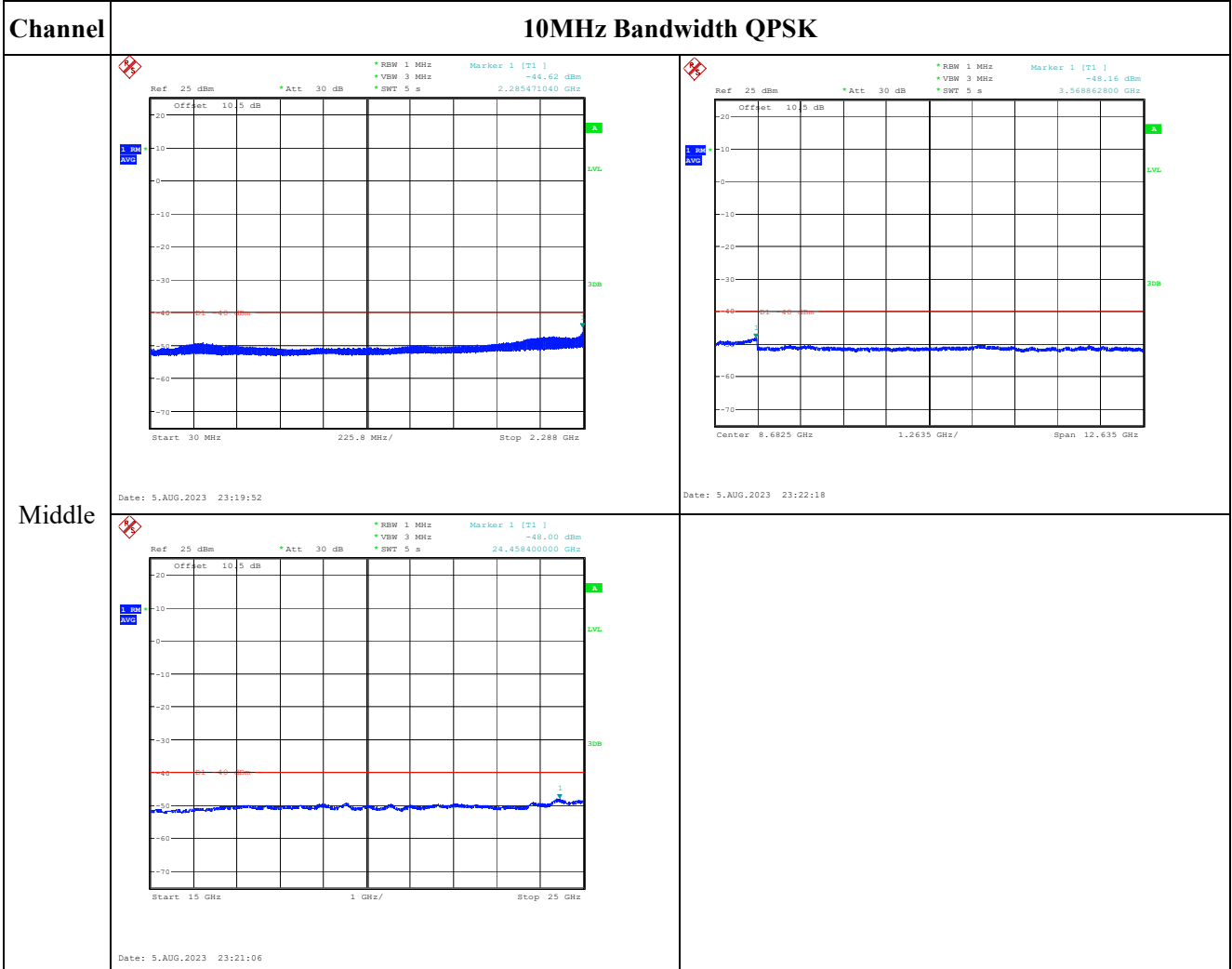
Spurious Emissions at Antenna Terminal

5MHz Bandwidth QPSK

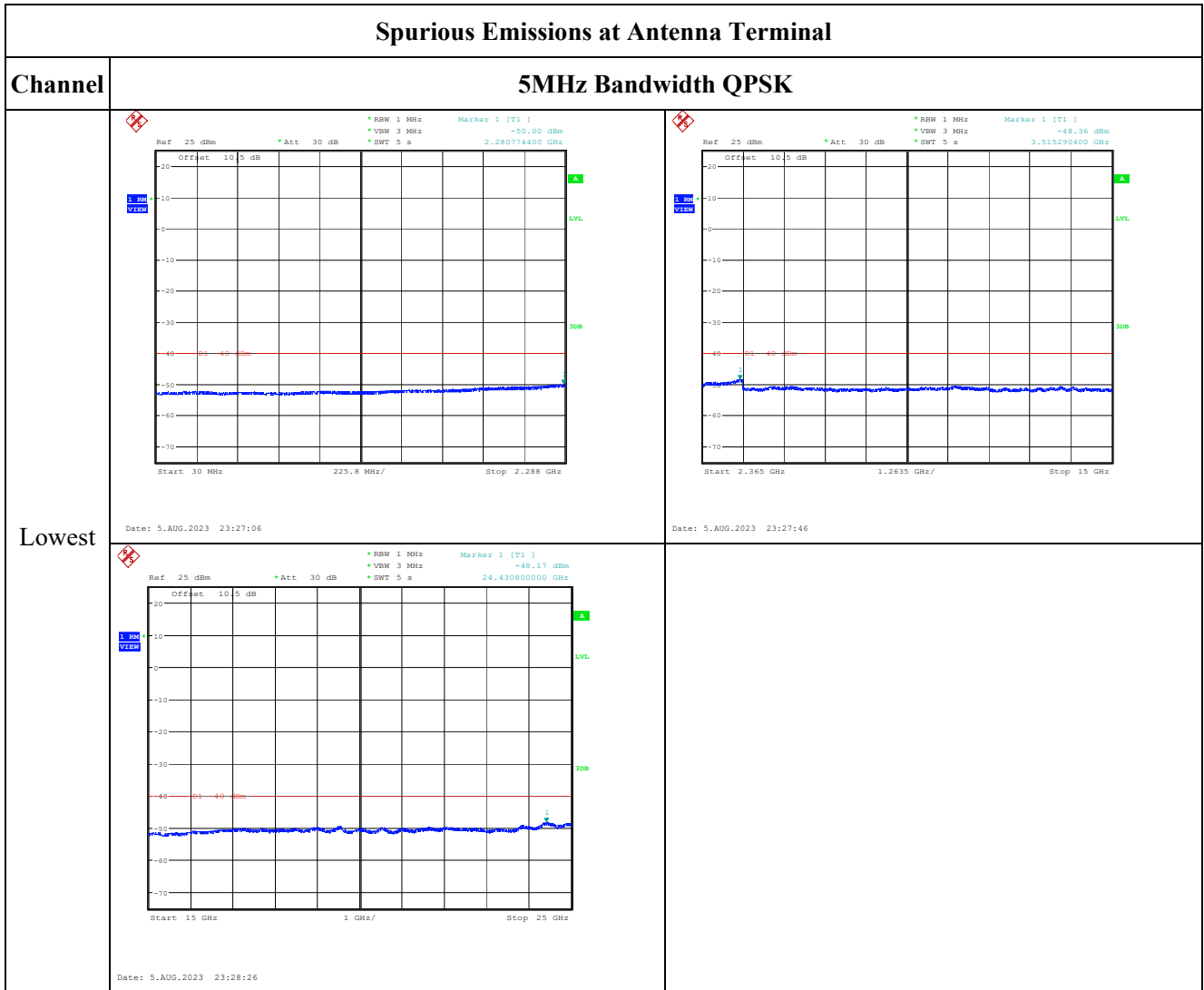
Highest



Spurious Emissions at Antenna Terminal



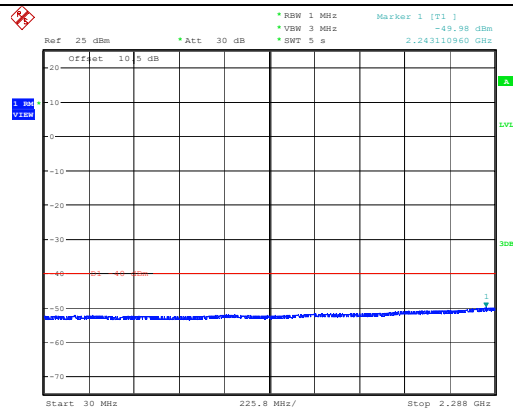
2350-2360 MHz:



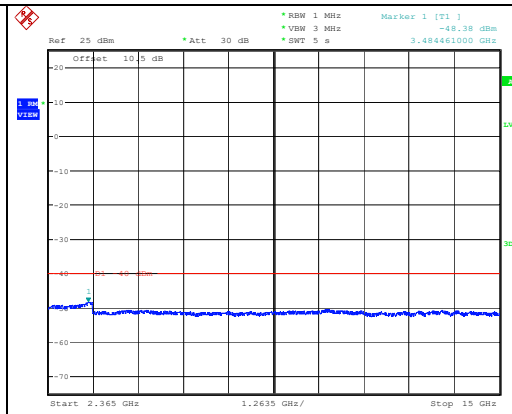
Spurious Emissions at Antenna Terminal

Channel

5MHz Bandwidth QPSK

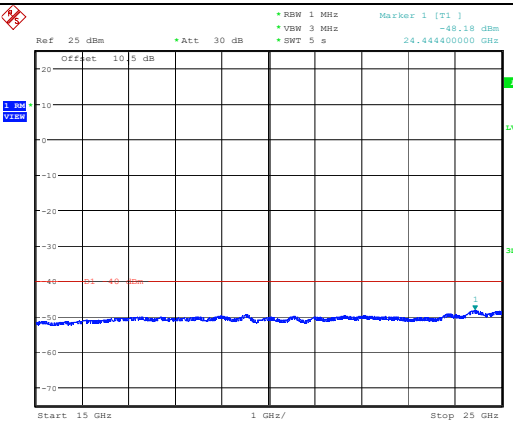


Date: 5.AUG.2023 23:34:52



Date: 5.AUG.2023 23:35:32

Highest

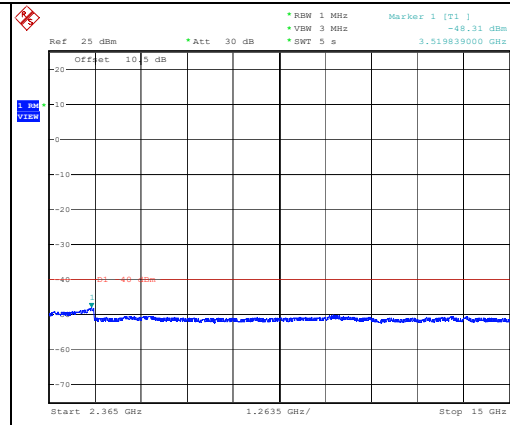
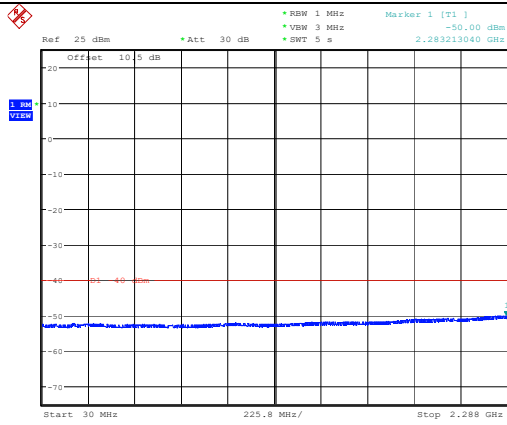


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Spurious Emissions at Antenna Terminal

Channel

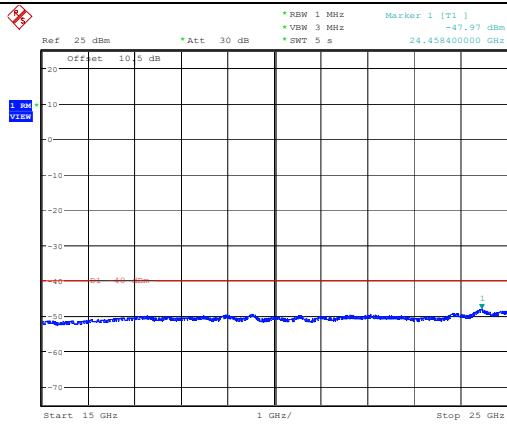
10MHz Bandwidth QPSK



Date: 5.AUG.2023 23:37:06

Date: 5.AUG.2023 23:37:46

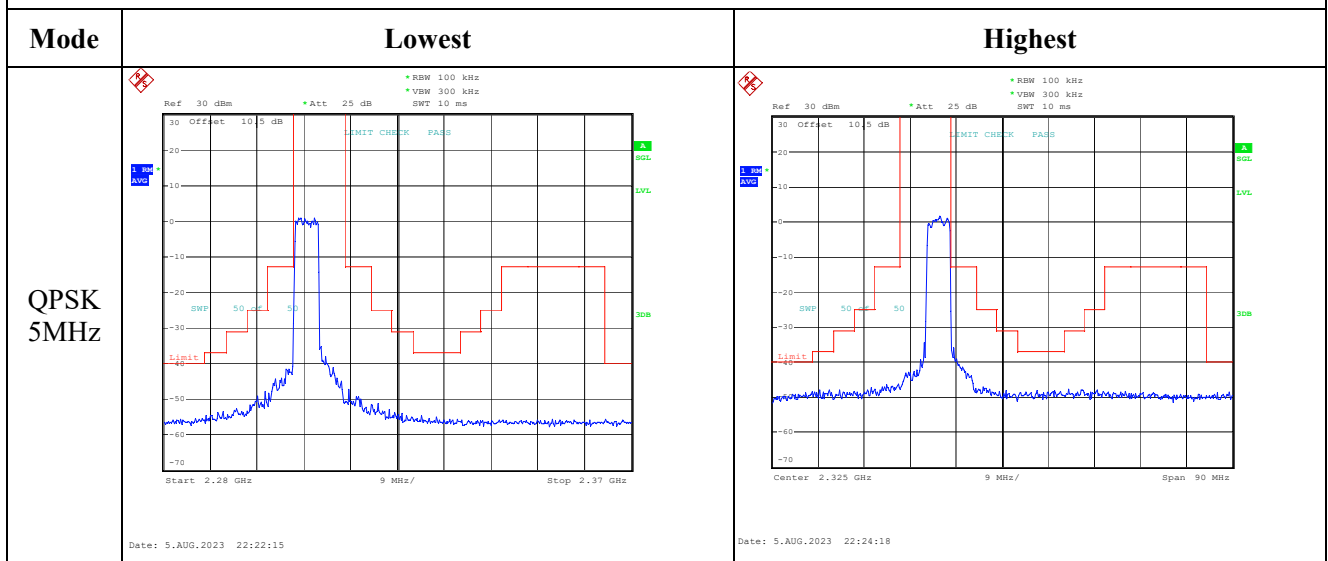
Middle



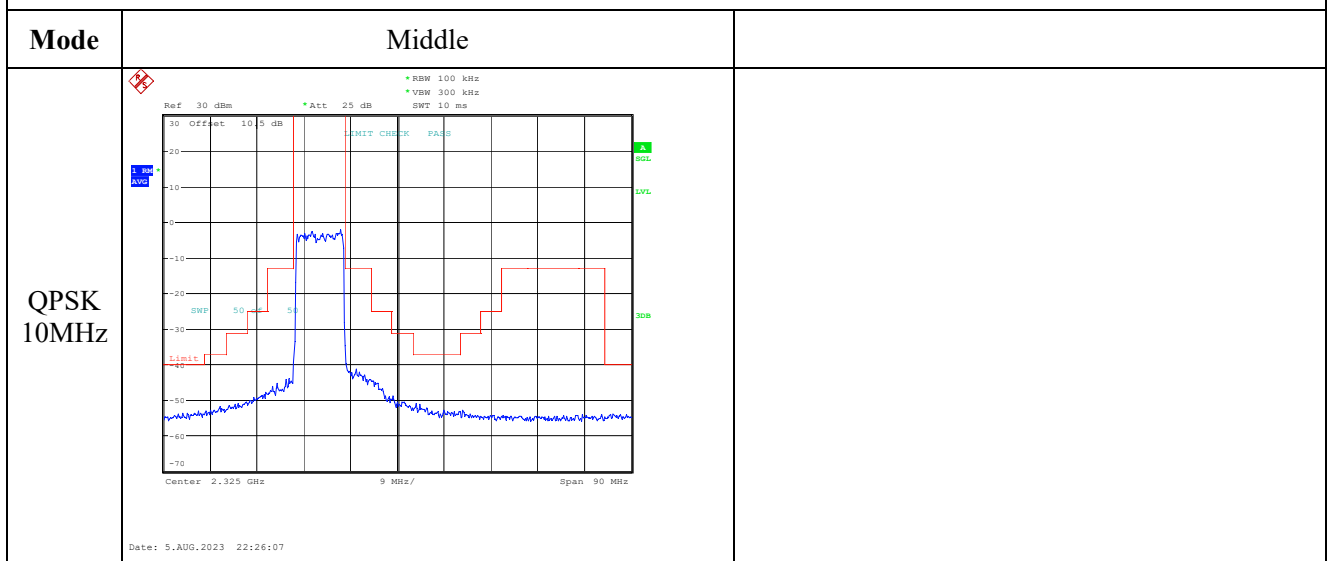
Date: 5.AUG.2023 23:38:26

2305-2315 MHz:

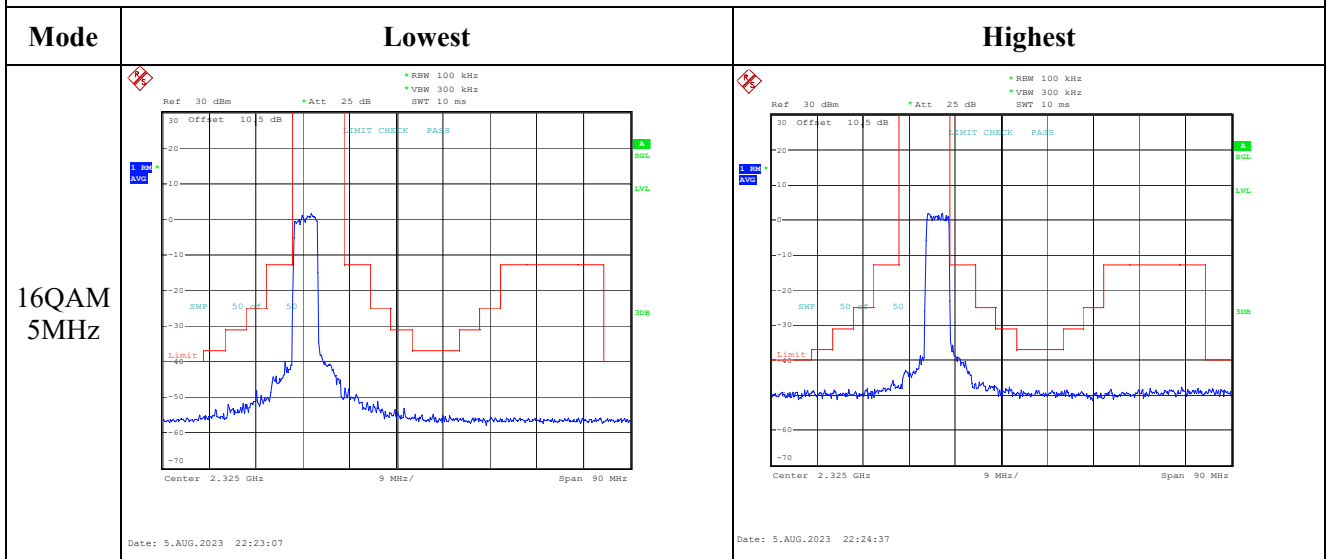
Out of band emission, Band Edge



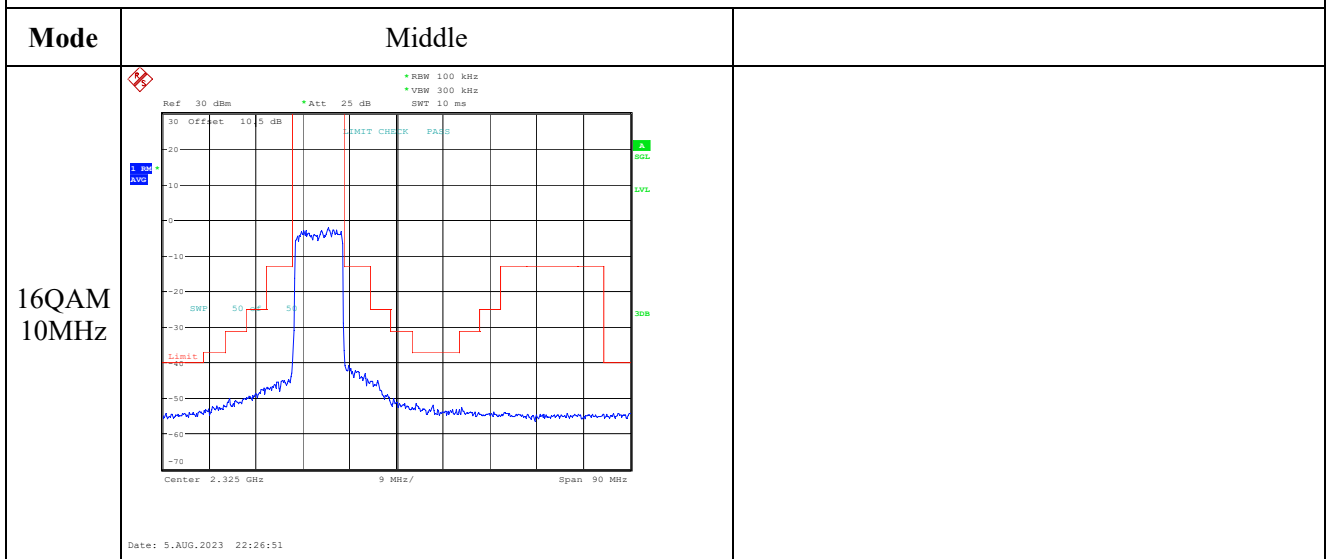
Out of band emission, Band Edge



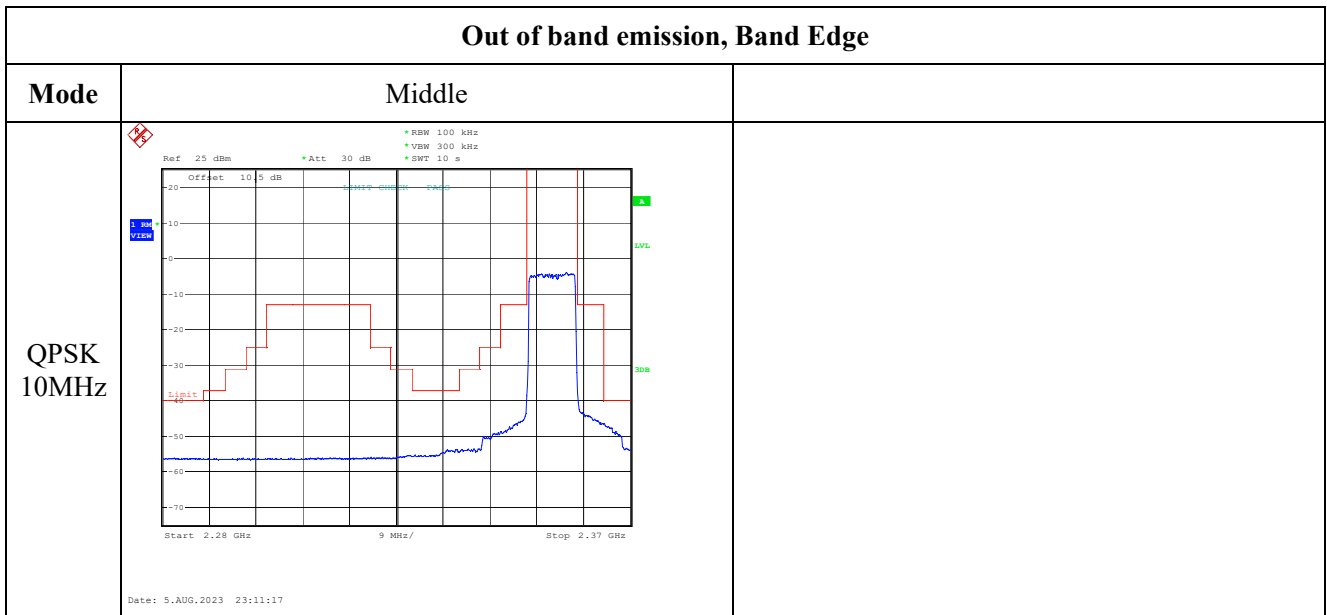
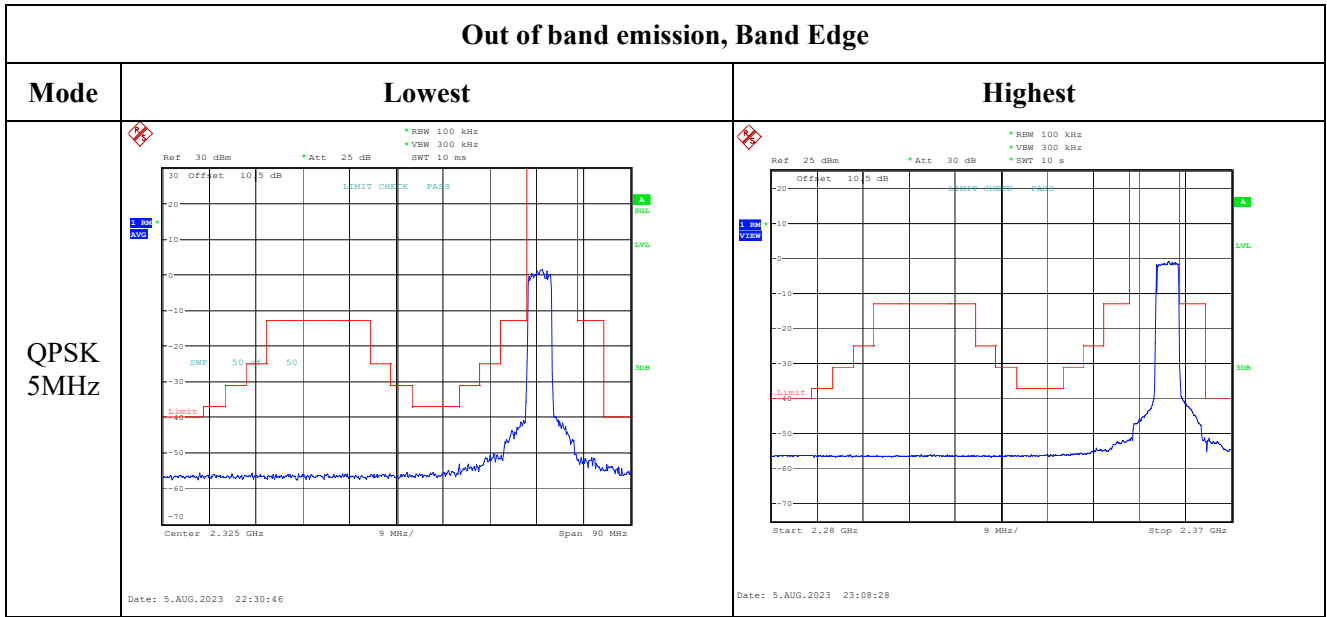
Out of band emission, Band Edge



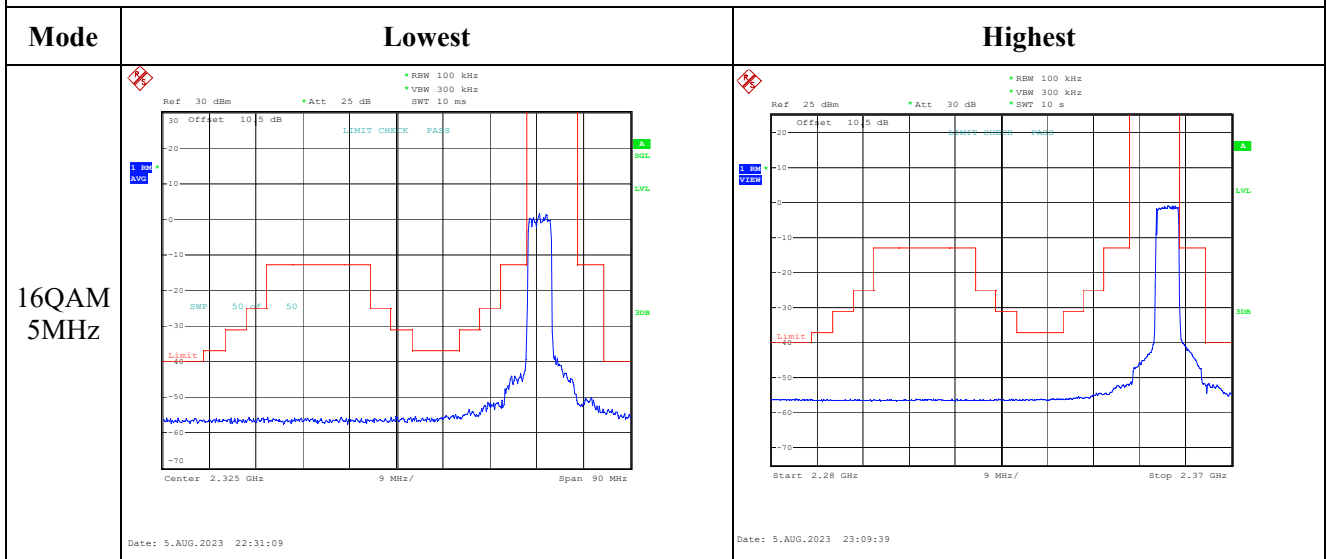
Out of band emission, Band Edge



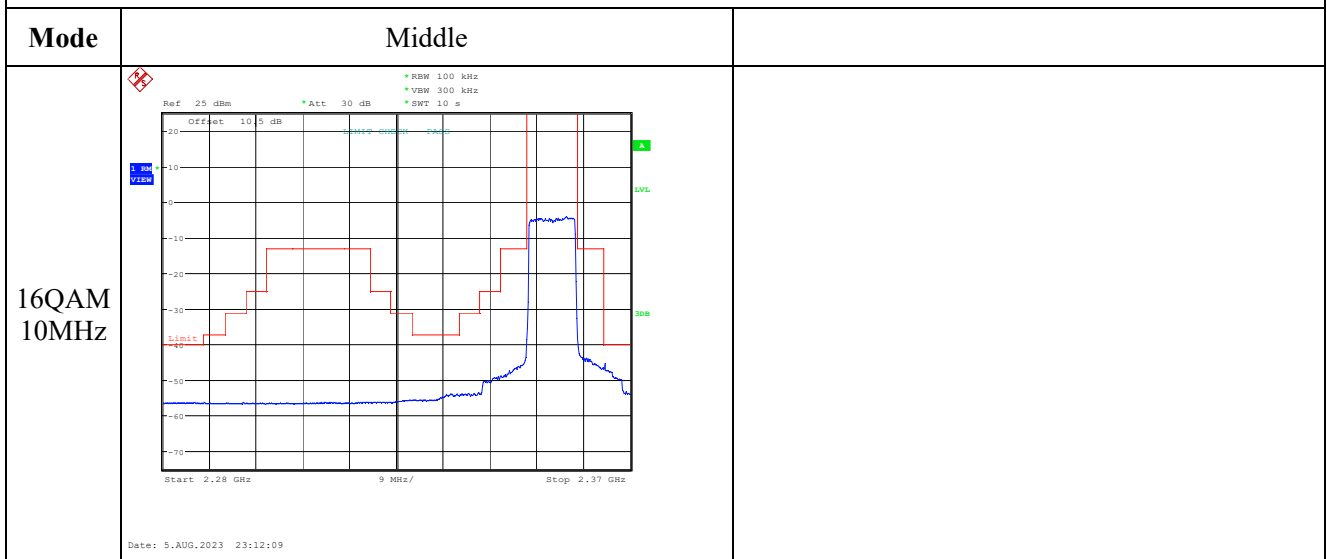
2350-2360 MHz:



Out of band emission, Band Edge



Out of band emission, Band Edge



2305-2315 MHz:

Duty cycle		
Mode	QPSK	16QAM
5MHz	<p>Ref 35 dBm *Att 30 dB RBW 10 MHz Delta 3 [F1] 2.50 dB *VSW 10 MHz SWT 40 ms 10.000000 ms Offset 10 dB Markers 1 [F1] 1.94 dBm Delta 2 1.17 dB 1.99 dB 01 7.12 dBm Center 2.3075 GHz 4 ms/</p> <p>Date: 5.AUG.2023 20:54:16</p>	<p>Ref 35 dBm *Att 30 dB RBW 10 MHz Delta 3 [F1] 1.38 dB *VSW 10 MHz SWT 40 ms 10.005000 ms Offset 10 dB Markers 1 [F1] 1.90 dBm Delta 2 1.10 dB 3.00 dB 01 7.90 dBm Center 2.3075 GHz 4 ms/</p> <p>Date: 5.AUG.2023 20:54:37</p>
10MHz	<p>Ref 35 dBm *Att 30 dB RBW 10 MHz Delta 3 [F1] 1.28 dB *VSW 10 MHz SWT 40 ms 10.010000 ms Offset 10 dB Markers 1 [F1] 1.90 dBm Delta 2 1.08 dB 3.00 dB 01 6.23 dBm Center 2.31 GHz 4 ms/</p> <p>Date: 5.AUG.2023 20:52:06</p>	<p>Ref 35 dBm *Att 30 dB RBW 10 MHz Delta 3 [F1] 0.47 dB *VSW 10 MHz SWT 40 ms 10.005000 ms Offset 10 dB Markers 1 [F1] 1.90 dBm Delta 2 1.08 dB 3.00 dB 01 6.18 dBm Center 2.31 GHz 4 ms/</p> <p>Date: 5.AUG.2023 20:53:14</p>

2350-2360 MHz:

Duty cycle		
Mode	QPSK	16QAM
5MHz		
10MHz		

4.14 Antenna Port Test Data and Results for LTE Band 41

Serial Number:	2A5B-5	Test Date:	2023/8/5
Test Site:	RF	Test Mode:	Transmitting
Tester:	Panda Sun	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2	Relative Humidity: (%)	52	ATM Pressure: (kPa)	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	200120	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
Minl-Circuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	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

* 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	20.67	20.14	20.65	20.52	33
	RB1#13	20.66	20.21	20.62		
	RB1#24	20.69	20.13	20.72		
	RB15#0	20.44	20.07	20.46		
	RB15#10	20.42	20.08	20.47		
	RB25#0	20.59	20.04	20.35		
5MHz 16QAM	RB1#0	20.02	18.95	19.77	19.87	33
	RB1#13	19.99	19.18	19.31		
	RB1#24	20.07	18.96	19.79		
	RB15#0	19.68	19.37	19.62		
	RB15#10	19.77	19.42	19.63		
	RB25#0	19.81	19.03	19.59		
10MHz QPSK	RB1#0	20.57	20.41	20.61	20.57	33
	RB1#25	20.57	20.36	20.65		
	RB1#49	20.5	20.45	20.77		
	RB25#0	20.49	20.17	20.46		
	RB25#25	20.5	20.15	20.39		
	RB50#0	20.54	20.14	20.45		
10MHz 16QAM	RB1#0	19.84	19.43	19.87	20.29	33
	RB1#25	20.49	19.4	19.88		
	RB1#49	20.47	19.49	20.03		
	RB25#0	19.77	19.15	19.61		
	RB25#25	19.7	19.14	19.67		
	RB50#0	19.63	19.27	19.66		
15MHz QPSK	RB1#0	20.50	20.30	20.45	20.39	33
	RB1#38	20.49	20.41	20.48		
	RB1#74	20.46	20.42	20.52		
	RB36#0	20.59	20.15	20.36		
	RB36#39	20.36	20.15	20.37		
	RB75#0	20.52	20.14	20.42		
15MHz 16QAM	RB1#0	19.51	19.64	19.20	19.6	33
	RB1#38	19.48	19.65	18.79		
	RB1#74	19.45	19.60	19.22		
	RB36#0	19.55	19.13	19.70		
	RB36#39	19.47	19.12	19.80		
	RB75#0	19.61	19.26	19.56		
20MHz QPSK	RB1#0	20.74	20.20	20.79	20.67	33

	RB1#50	20.66	20.19	20.83		
	RB1#99	20.56	20.07	20.87		
	RB50#0	20.49	20.09	20.38		
	RB50#50	20.41	20.18	20.42		
	RB100#0	20.49	20.19	20.45		
20MHz 16QAM	RB1#0	19.92	19.29	20.35	20.35	33
	RB1#50	19.90	19.12	20.52		
	RB1#99	19.84	19.16	20.55		
	RB50#0	19.71	19.38	19.57		
	RB50#50	19.74	19.33	19.57		
	RB100#0	19.61	19.17	19.50		
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	12.36	7.53	12.21	13	
	RB100#0	12.38	12.4	12.94	13	
20MHz 16QAM	RB1#0	12.17	12.58	12.95	13	
	RB100#0	10.26	10.48	12.59	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	4.52	4.54	4.50	5.00	5.08	5.16
5MHz 16QAM	4.54	4.52	4.52	5.14	5.20	5.16
10MHz QPSK	9.00	9.00	8.96	9.60	9.80	9.88
10MHz 16QAM	9.00	9.00	8.96	9.84	9.80	9.76
15MHz QPSK	13.56	13.62	13.56	15.54	15.72	16.32
15MHz 16QAM	13.62	13.56	13.62	16.68	15.42	15.24
20MHz QPSK	18.00	18.00	18.08	19.60	20.16	20.08
20MHz 16QAM	18.00	18.00	18.00	20.00	20.00	19.84
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	2535.024	2535.00	2654.952	2655
	-20	3.85	2535.022	2535.00	2654.955	2655
	-10	3.85	2535.022	2535.00	2654.950	2655
	0	3.85	2535.020	2535.00	2654.954	2655
	10	3.85	2535.022	2535.00	2654.953	2655
	20	3.85	2535.019	2535.00	2654.953	2655
	30	3.85	2535.022	2535.00	2654.951	2655
	40	3.85	2535.021	2535.00	2654.956	2655
	50	3.85	2535.024	2535.00	2654.956	2655
Frequency Stability vs. Voltage	20	3.45	2535.027	2535.00	2654.957	2655
	20	4.4	2535.022	2535.00	2654.952	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	2535.021	2535.00	2654.957	2655
	-20	3.85	2535.027	2535.00	2654.950	2655
	-10	3.85	2535.022	2535.00	2654.955	2655
	0	3.85	2535.024	2535.00	2654.955	2655
	10	3.85	2535.019	2535.00	2654.962	2655
	20	3.85	2535.022	2535.00	2654.951	2655
	30	3.85	2535.026	2535.00	2654.956	2655
	40	3.85	2535.023	2535.00	2654.952	2655
	50	3.85	2535.023	2535.00	2654.956	2655
Frequency Stability vs. Voltage	20	3.45	2535.021	2535.00	2654.956	2655
	20	4.4	2535.020	2535.00	2654.953	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>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.41 dB *VBW 300 kHz *VMW 300 kHz SWT 5 ms 5.090000000 MHz OSW 4.320000000 MHz Marker 1 [T1] 2.535000000 GHz Temp 1 [T1 OSW] -10.45 dBm Temp 2 [T1 OSW] 2.535240000 GHz Temp 2 [T1 OSW] -10.45 dBm Temp 2 [T1 OSW] 2.539760000 GHz Temp 2 [T1 OSW] -10.45 dBm Center 2.5375 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 15:17:14</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.96 dB *VBW 300 kHz *VMW 300 kHz SWT 5 ms 5.140000000 MHz OSW 4.240000000 MHz Marker 1 [T1] 2.534900000 GHz Temp 1 [T1 OSW] -10.74 dBm Temp 2 [T1 OSW] 2.535240000 GHz Temp 2 [T1 OSW] -10.74 dBm Temp 2 [T1 OSW] 2.539780000 GHz Temp 2 [T1 OSW] -10.74 dBm Center 2.5375 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 15:17:46</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.58 dB *VBW 300 kHz *VMW 300 kHz SWT 5 ms 5.080000000 MHz OSW 4.350000000 MHz Marker 1 [T1] 2.592400000 GHz Temp 1 [T1 OSW] -10.45 dBm Temp 2 [T1 OSW] 2.592740000 GHz Temp 2 [T1 OSW] -10.45 dBm Temp 2 [T1 OSW] 2.597280000 GHz Temp 2 [T1 OSW] -10.45 dBm Center 2.595 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 15:18:10</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.83 dB *VBW 300 kHz *VMW 300 kHz SWT 5 ms 5.200000000 MHz OSW 4.520000000 MHz Marker 1 [T1] 2.592300000 GHz Temp 1 [T1 OSW] -10.82 dBm Temp 2 [T1 OSW] 2.592740000 GHz Temp 2 [T1 OSW] -10.82 dBm Temp 2 [T1 OSW] 2.597260000 GHz Temp 2 [T1 OSW] -10.82 dBm Center 2.595 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 15:18:39</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.45 dB *VBW 300 kHz *VMW 300 kHz SWT 5 ms 5.160000000 MHz OSW 4.500000000 MHz Marker 1 [T1] 2.649800000 GHz Temp 1 [T1 OSW] -10.43 dBm Temp 2 [T1 OSW] 2.650260000 GHz Temp 2 [T1 OSW] -10.43 dBm Temp 2 [T1 OSW] 2.654760000 GHz Temp 2 [T1 OSW] -10.43 dBm Center 2.6525 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 15:19:06</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.98 dB *VBW 300 kHz *VMW 300 kHz SWT 5 ms 5.160000000 MHz OSW 4.520000000 MHz Marker 1 [T1] 2.649800000 GHz Temp 1 [T1 OSW] -10.84 dBm Temp 2 [T1 OSW] 2.650260000 GHz Temp 2 [T1 OSW] -10.84 dBm Temp 2 [T1 OSW] 2.654760000 GHz Temp 2 [T1 OSW] -10.84 dBm Center 2.6525 GHz 1 MHz/ Span 10 MHz Date: 5.AUG.2023 15:19:32</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RSW 100 kHz Delta 1 [T1] -0.48 dB *VSW 300 kHz *VSW 300 kHz SWT 10 ms 9.600000000 MHz OSW 9.600000000 MHz Marker 1 [T1] -1.82 dBm D1 16.32 dBm Temp 1 [T1 OSW] 2.535240000 GHz Temp 2 [T1 OSW] 2.535520000 GHz Temp 3 [T1 OSW] 2.544520000 GHz Center 2.54 GHz 2 MHz/ Span 20 MHz Date: 5.AUG.2023 15:20:36</p>	<p>Ref 30 dBm *Att 25 dB *RSW 100 kHz Delta 1 [T1] 0.50 dB *VSW 300 kHz *VSW 300 kHz SWT 10 ms 9.640000000 MHz OSW 9.640000000 MHz Marker 1 [T1] -1.20 dBm D1 14.95 dBm Temp 1 [T1 OSW] 2.535120000 GHz Temp 2 [T1 OSW] 2.535520000 GHz Temp 3 [T1 OSW] 2.544520000 GHz Center 2.54 GHz 2 MHz/ Span 20 MHz Date: 5.AUG.2023 15:20:53</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RSW 100 kHz Delta 1 [T1] -0.05 dB *VSW 300 kHz *VSW 300 kHz SWT 10 ms 9.800000000 MHz OSW 9.800000000 MHz Marker 1 [T1] -1.18 dBm D1 15.84 dBm Temp 1 [T1 OSW] 2.590120000 GHz Temp 2 [T1 OSW] 2.590520000 GHz Temp 3 [T1 OSW] 2.599520000 GHz Center 2.595 GHz 2 MHz/ Span 20 MHz Date: 5.AUG.2023 15:21:16</p>	<p>Ref 30 dBm *Att 25 dB *RSW 100 kHz Delta 1 [T1] 0.40 dB *VSW 300 kHz *VSW 300 kHz SWT 10 ms 9.800000000 MHz OSW 9.800000000 MHz Marker 1 [T1] -1.31 dBm D1 16.69 dBm Temp 1 [T1 OSW] 2.590120000 GHz Temp 2 [T1 OSW] 2.590520000 GHz Temp 3 [T1 OSW] 2.599520000 GHz Center 2.595 GHz 2 MHz/ Span 20 MHz Date: 5.AUG.2023 15:21:36</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RSW 100 kHz Delta 1 [T1] -0.33 dB *VSW 300 kHz *VSW 300 kHz SWT 10 ms 9.880000000 MHz OSW 9.880000000 MHz Marker 1 [T1] -1.28 dBm D1 16.39 dBm Temp 1 [T1 OSW] 2.645000000 GHz Temp 2 [T1 OSW] 2.645520000 GHz Temp 3 [T1 OSW] 2.654480000 GHz Center 2.65 GHz 2 MHz/ Span 20 MHz Date: 5.AUG.2023 15:21:57</p>	<p>Ref 30 dBm *Att 25 dB *RSW 100 kHz Delta 1 [T1] 0.44 dB *VSW 300 kHz *VSW 300 kHz SWT 10 ms 9.760000000 MHz OSW 9.860000000 MHz Marker 1 [T1] -1.05 dBm D1 16.44 dBm Temp 1 [T1 OSW] 2.645120000 GHz Temp 2 [T1 OSW] 2.645520000 GHz Temp 3 [T1 OSW] 2.654480000 GHz Center 2.65 GHz 2 MHz/ Span 20 MHz Date: 5.AUG.2023 15:22:13</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSW 1 MHz SWT 2.5 ms</p> <p>OSW 15.540000000 MHz MarkKf 1 [T1] -10.40 dBm</p> <p>Temp 1 [T1 OSW] 2.534820000 GHz</p> <p>Temp 2 [T1 OSW] 2.535720000 GHz</p> <p>Temp 3 [T1 OSW] 2.549280000 GHz</p> <p>Center 2.5425 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 5.AUG.2023 15:25:10</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSW 1 MHz SWT 2.5 ms</p> <p>OSW 16.680000000 MHz MarkKf 1 [T1] -10.88 dBm</p> <p>Temp 1 [T1 OSW] 2.534760000 GHz</p> <p>Temp 2 [T1 OSW] 2.535720000 GHz</p> <p>Temp 3 [T1 OSW] 2.549340000 GHz</p> <p>Center 2.5425 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 5.AUG.2023 15:25:47</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSW 1 MHz SWT 2.5 ms</p> <p>OSW 15.720000000 MHz MarkKf 1 [T1] -10.84 dBm</p> <p>Temp 1 [T1 OSW] 2.586960000 GHz</p> <p>Temp 2 [T1 OSW] 2.588220000 GHz</p> <p>Temp 3 [T1 OSW] 2.601840000 GHz</p> <p>Center 2.595 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 5.AUG.2023 15:26:27</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSW 1 MHz SWT 2.5 ms</p> <p>OSW 15.420000000 MHz MarkKf 1 [T1] -10.87 dBm</p> <p>Temp 1 [T1 OSW] 2.587500000 GHz</p> <p>Temp 2 [T1 OSW] 2.588220000 GHz</p> <p>Temp 3 [T1 OSW] 2.601780000 GHz</p> <p>Center 2.595 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 5.AUG.2023 15:26:54</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSW 1 MHz SWT 2.5 ms</p> <p>OSW 16.320000000 MHz MarkKf 1 [T1] -10.47 dBm</p> <p>Temp 1 [T1 OSW] 2.639460000 GHz</p> <p>Temp 2 [T1 OSW] 2.640720000 GHz</p> <p>Temp 3 [T1 OSW] 2.654280000 GHz</p> <p>Center 2.6475 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 5.AUG.2023 15:27:31</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VSW 1 MHz SWT 2.5 ms</p> <p>OSW 15.240000000 MHz MarkKf 1 [T1] -10.80 dBm</p> <p>Temp 1 [T1 OSW] 2.639880000 GHz</p> <p>Temp 2 [T1 OSW] 2.640720000 GHz</p> <p>Temp 3 [T1 OSW] 2.654340000 GHz</p> <p>Center 2.6475 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 5.AUG.2023 15:27:59</p>

Occupied Bandwidth

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

Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest	<p> * Ref 0 dBm * Att 30 dB * RBW 100 kHz * Marker 1 [T1] * VSW 300 kHz * VSW 300 kHz * VSW 300 kHz * VSW 300 kHz * SWT 100 ms * SWT 100 ms * SWT 100 ms * SWT 100 ms * -37.45 dBm 222.06000000 MHz </p>	<p> * Ref 30 dBm * Att 25 dB * RBW 1 MHz * Marker 1 [T1] * VSW 3 MHz * VSW 3 MHz * VSW 3 MHz * VSW 3 MHz * SWT 150 ms * SWT 150 ms * SWT 150 ms * SWT 150 ms * -39.23 dBm 26.194000000 GHz </p>
Middle	<p> * Ref 0 dBm * Att 30 dB * RBW 100 kHz * Marker 1 [T1] * VSW 300 kHz * VSW 300 kHz * VSW 300 kHz * VSW 300 kHz * SWT 100 ms * SWT 100 ms * SWT 100 ms * SWT 100 ms * -36.99 dBm 280.260000000 MHz </p>	<p> * Ref 30 dBm * Att 25 dB * RBW 1 MHz * Marker 1 [T1] * VSW 3 MHz * VSW 3 MHz * VSW 3 MHz * VSW 3 MHz * SWT 150 ms * SWT 150 ms * SWT 150 ms * SWT 150 ms * -39.36 dBm 3.2440000000 GHz </p>
Highest	<p> * Ref 0 dBm * Att 30 dB * RBW 100 kHz * Marker 1 [T1] * VSW 300 kHz * VSW 300 kHz * VSW 300 kHz * VSW 300 kHz * SWT 100 ms * SWT 100 ms * SWT 100 ms * SWT 100 ms * -35.12 dBm 338.460000000 MHz </p>	<p> * Ref 30 dBm * Att 25 dB * RBW 1 MHz * Marker 1 [T1] * VSW 3 MHz * VSW 3 MHz * VSW 3 MHz * VSW 3 MHz * SWT 150 ms * SWT 150 ms * SWT 150 ms * SWT 150 ms * -35.49 dBm 23.890000000 GHz </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]: -39.22 dBm, 227.88800000 MHz</p> <p>Date: 5.AUG.2023 15:51:25</p>	<p>Ref: 30 dBm, Att: 25 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms, Marker 1 [T1]: -39.85 dBm, 24.97000000 GHz</p> <p>Date: 5.AUG.2023 15:51:35</p>
Middle	<p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: -39.64 dBm, 284.14000000 MHz</p> <p>Date: 5.AUG.2023 15:51:48</p>	<p>Ref: 30 dBm, Att: 25 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms, Marker 1 [T1]: -39.88 dBm, 2.683000000 GHz</p> <p>Date: 5.AUG.2023 15:51:58</p>
Highest	<p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms, Marker 1 [T1]: -37.89 dBm, 332.64000000 MHz</p> <p>Date: 5.AUG.2023 15:52:11</p>	<p>Ref: 30 dBm, Att: 25 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms, Marker 1 [T1]: -39.63 dBm, 26.280000000 GHz</p> <p>Date: 5.AUG.2023 15:52:24</p>

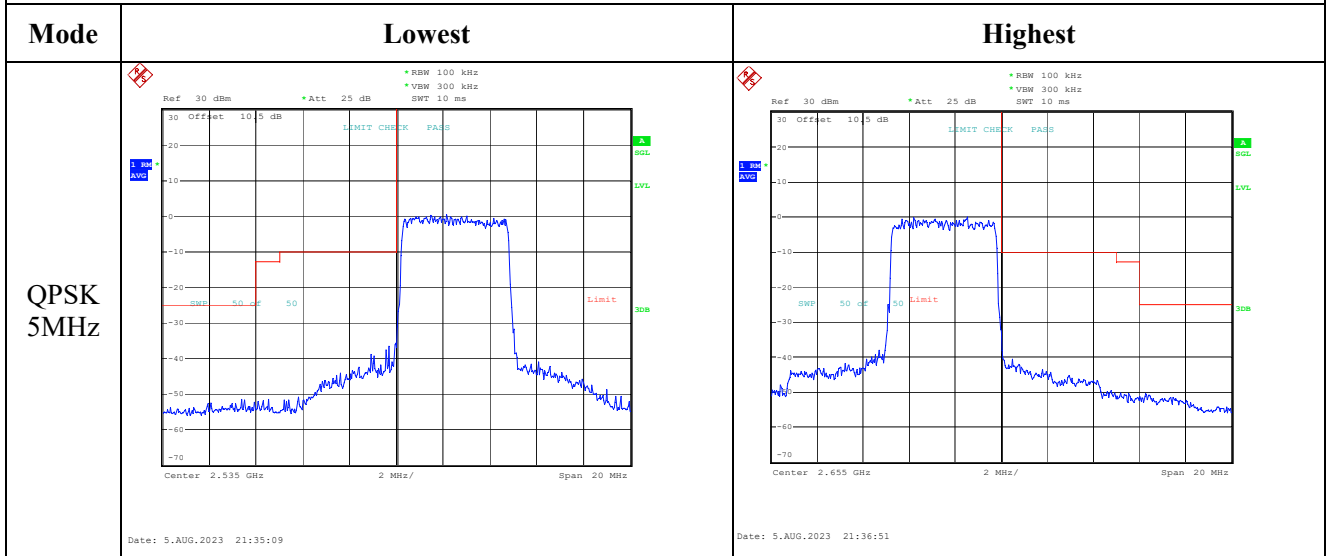
Spurious Emissions at Antenna Terminal

Channel	15MHz Bandwidth QPSK	
Lowest	<p>Ref 0 dBm Att 30 dB RBW 100 kHz Marker 1 [f1] -40.51 dBm VSW 300 kHz SWT 100 ms 229.820000000 MHz</p> <p>Date: 5.AUG.2023 15:53:27</p>	<p>Ref 30 dBm Att 25 dB RBW 1 MHz Marker 1 [f1] -39.61 dBm VSW 3 MHz SWT 150 ms 23.950000000 GHz</p> <p>Date: 5.AUG.2023 15:53:37</p>
Middle	<p>Ref 0 dBm Att 30 dB RBW 100 kHz Marker 1 [f1] -39.03 dBm VSW 300 kHz SWT 100 ms 282.200000000 MHz</p> <p>Date: 5.AUG.2023 15:53:51</p>	<p>Ref 30 dBm Att 25 dB RBW 1 MHz Marker 1 [f1] -39.92 dBm VSW 3 MHz SWT 150 ms 24.460000000 GHz</p> <p>Date: 5.AUG.2023 15:54:01</p>
Highest	<p>Ref 0 dBm Att 30 dB RBW 100 kHz Marker 1 [f1] -39.03 dBm VSW 300 kHz SWT 100 ms 332.640000000 MHz</p> <p>Date: 5.AUG.2023 15:54:14</p>	<p>Ref 30 dBm Att 25 dB RBW 1 MHz Marker 1 [f1] -39.94 dBm VSW 3 MHz SWT 150 ms 26.040000000 GHz</p> <p>Date: 5.AUG.2023 15:54:24</p>

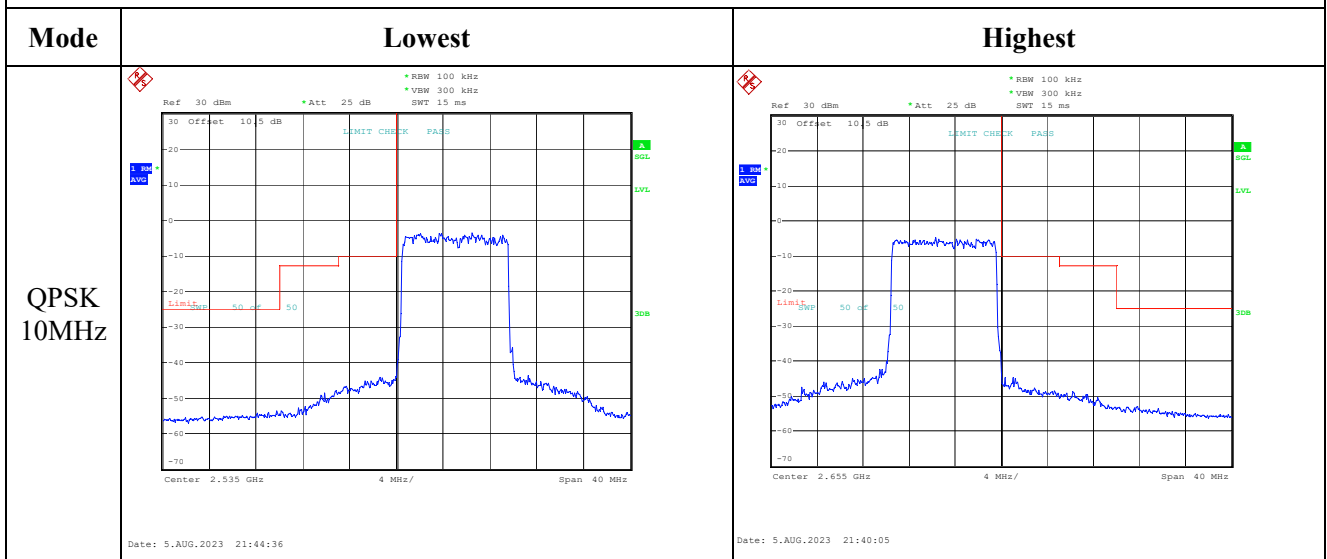
Spurious Emissions at Antenna Terminal

Channel	20MHz Bandwidth QPSK	
Lowest		
Middle		
Highest		

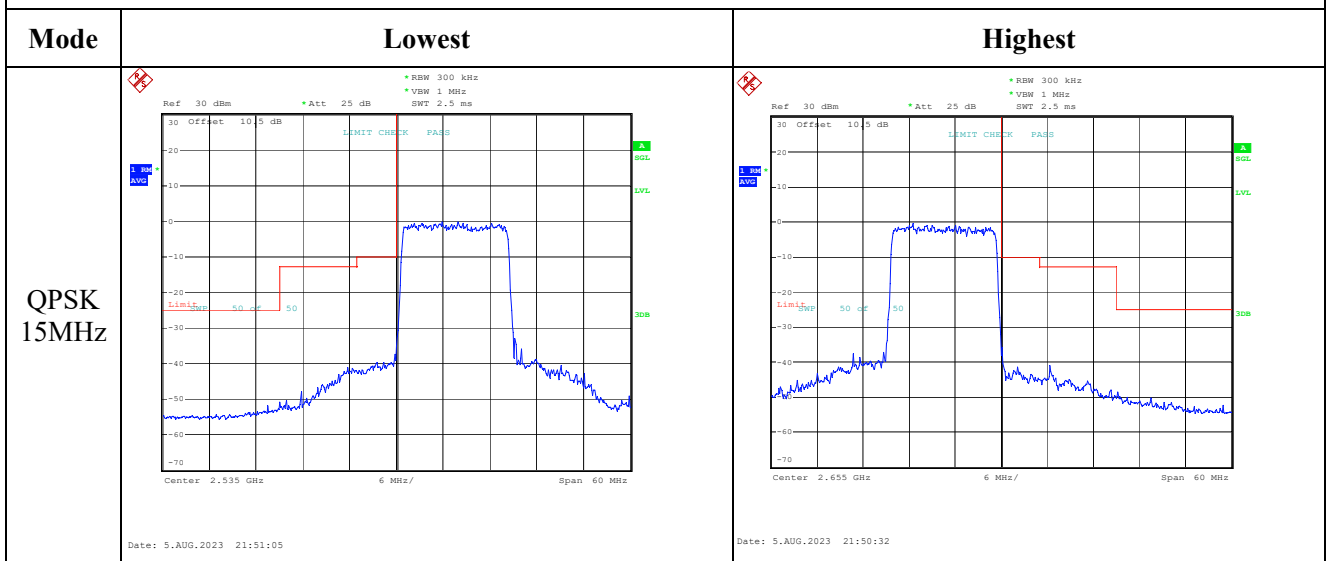
Out of band emission, Band Edge



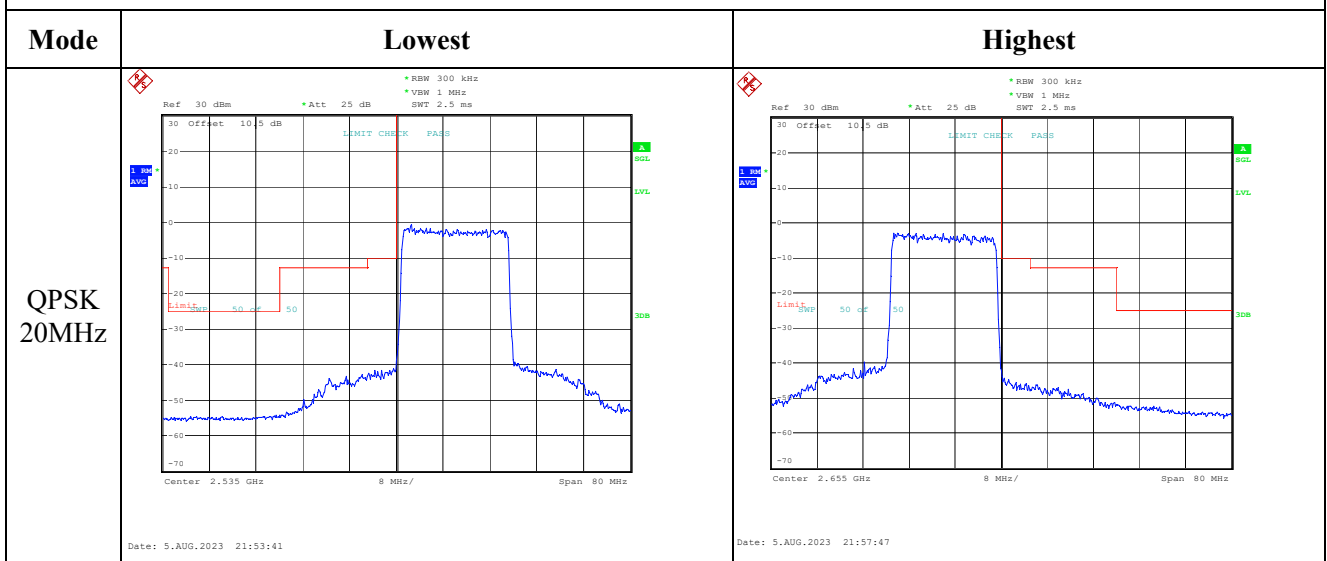
Out of band emission, Band Edge



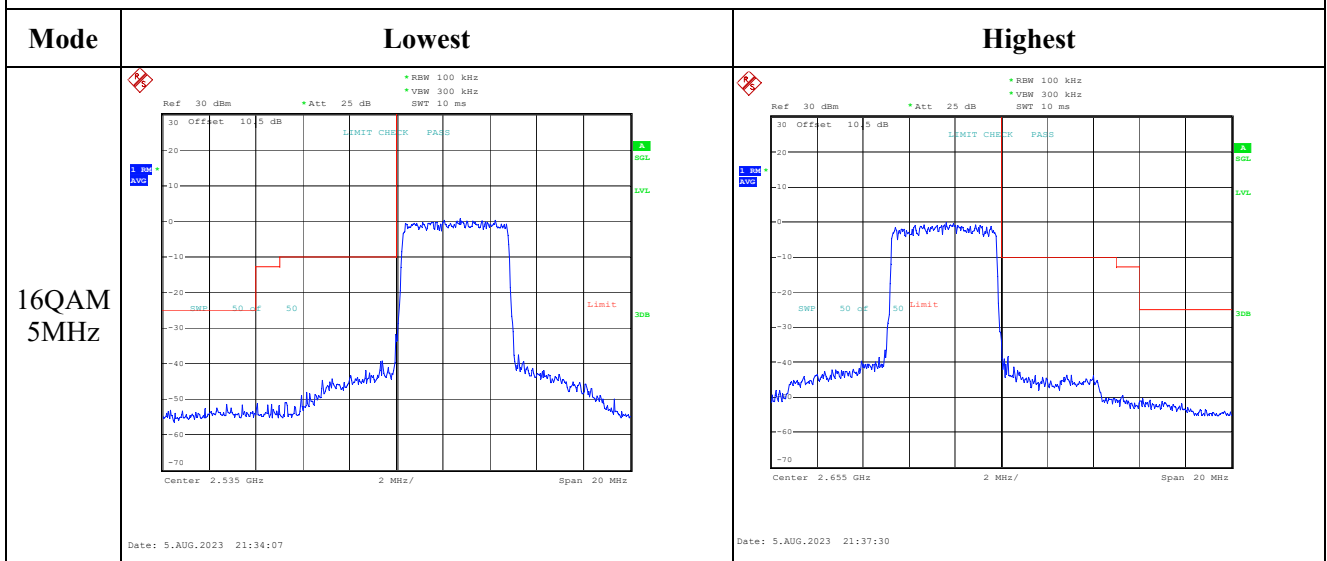
Out of band emission, Band Edge



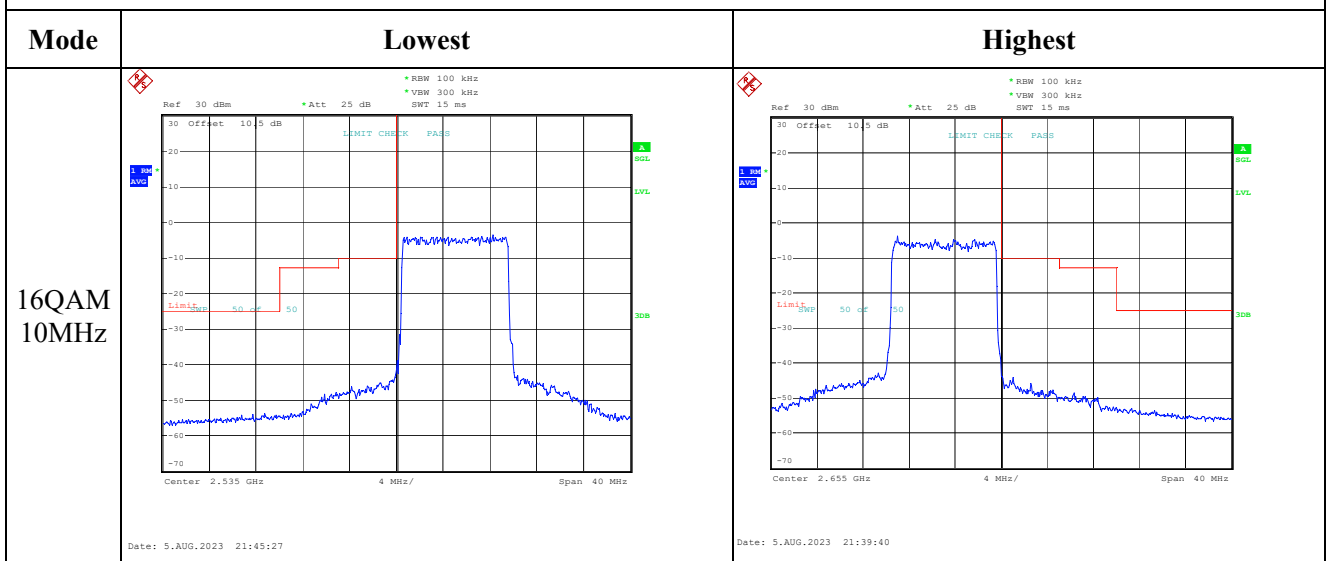
Out of band emission, Band Edge



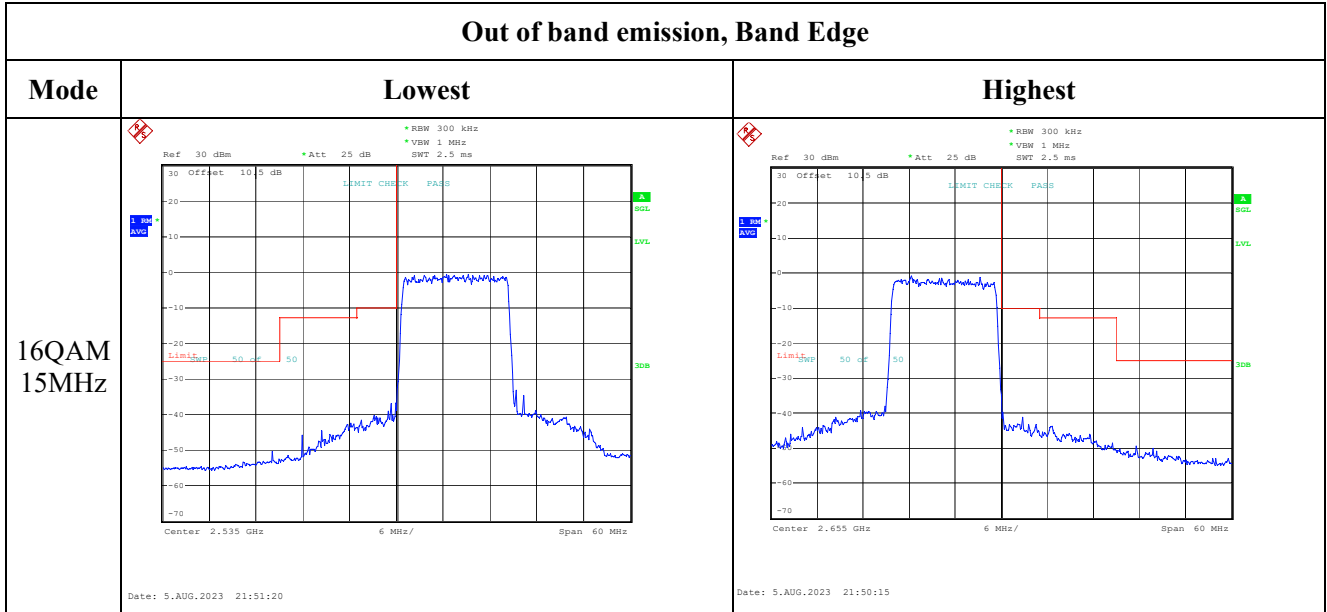
Out of band emission, Band Edge



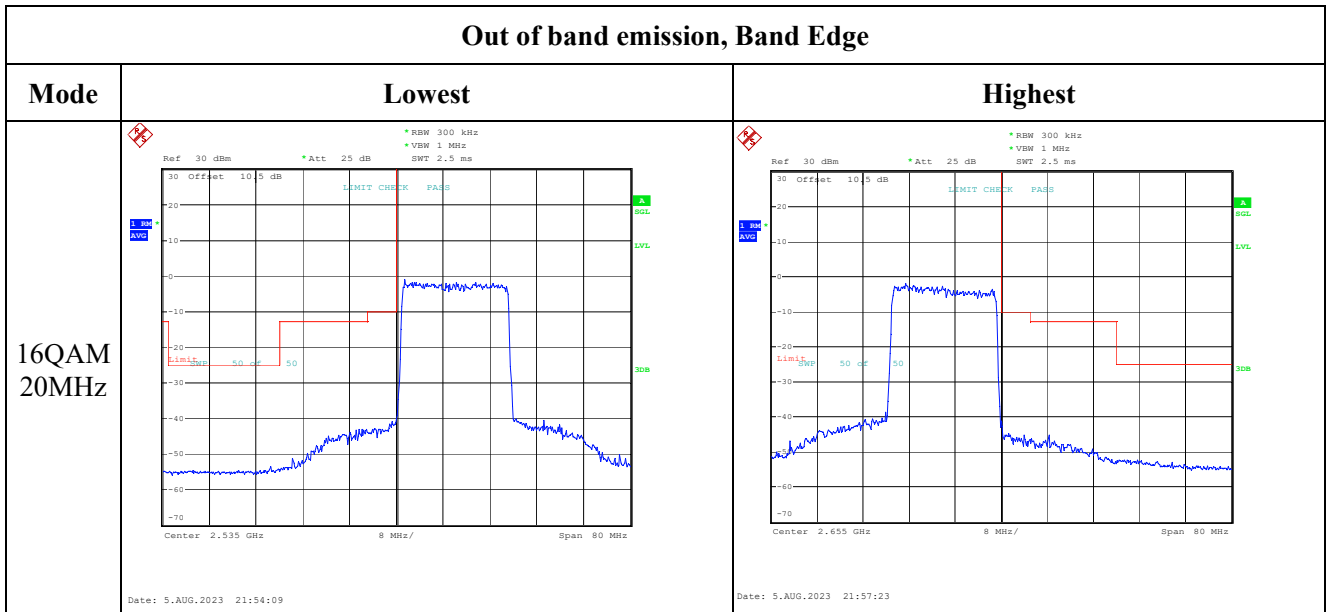
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.16 Radiated Spurious Emissions

Serial Number:	2A5B-1	Test Date:	2023/8/6
Test Site:	966-1, 966-2	Test Mode:	Transmitting
Tester:	Vic Du, Mack Huang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.3~25.9	Relative Humidity: (%)	54~58	ATM Pressure: (kPa)	99.6~99.9
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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	2022/9/16	2023/9/15
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.

Note: The device can be mounted in multiple orientations, test was performed with X, Y, Z Axis according to C63.26 figure 5, the worst orientation was photographed and it's data was recorded.

Cellular Band (30MHz-10GHz)

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 850 Frequency:824.2MHz								
59.73	H	36.72	-67.08	-10.42	0.14	-77.64	-13.00	64.64
211.52	V	41.58	-68.10	0.00	0.26	-68.36	-13.00	55.36
1648.400	H	44.23	-60.10	8.68	0.80	-52.22	-13.00	39.22
1648.400	V	42.37	-62.04	8.68	0.80	-54.16	-13.00	41.16
2472.600	H	35.32	-65.46	9.38	1.00	-57.08	-13.00	44.08
2472.600	V	36.93	-63.80	9.38	1.00	-55.42	-13.00	42.42
3296.800	H	35.27	-61.41	10.32	1.15	-52.24	-13.00	39.24
3296.800	V	34.78	-61.66	10.32	1.15	-52.49	-13.00	39.49
GSM 850 Frequency:836.6MHz								
59.68	H	36.54	-67.24	-10.45	0.14	-77.83	-13.00	64.83
211.25	V	41.21	-68.47	0.00	0.26	-68.73	-13.00	55.73
1673.200	H	42.50	-61.81	8.71	0.85	-53.95	-13.00	40.95
1673.200	V	38.60	-65.81	8.71	0.85	-57.95	-13.00	44.95
2509.800	H	41.47	-59.14	9.42	1.01	-50.73	-13.00	37.73
2509.800	V	39.07	-61.55	9.42	1.01	-53.14	-13.00	40.14
3346.400	H	34.55	-62.62	10.34	1.16	-53.44	-13.00	40.44
3346.400	V	33.97	-63.06	10.34	1.16	-53.88	-13.00	40.88
GSM 850 Frequency:848.8MHz								
59.75	H	36.44	-67.36	-10.42	0.14	-77.92	-13.00	64.92
211.95	V	41.28	-68.42	0.00	0.26	-68.68	-13.00	55.68
1697.600	H	44.54	-59.75	8.74	0.90	-51.91	-13.00	38.91
1697.600	V	42.00	-62.42	8.74	0.90	-54.58	-13.00	41.58
2546.400	H	43.78	-56.55	9.47	1.01	-48.09	-13.00	35.09
2546.400	V	42.65	-57.63	9.47	1.01	-49.17	-13.00	36.17
3395.200	H	33.80	-63.89	10.36	1.19	-54.72	-13.00	41.72
3395.200	V	33.87	-63.79	10.36	1.19	-54.62	-13.00	41.62

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								
59.11	H	36.47	-67.14	-10.71	0.14	-77.99	-13.00	64.99
211.47	V	41.59	-68.09	0.00	0.26	-68.35	-13.00	55.35
3700.400	H	33.99	-63.33	10.60	1.25	-53.98	-13.00	40.98
3700.400	V	37.73	-59.57	10.60	1.25	-50.22	-13.00	37.22
5550.600	H	35.63	-57.63	11.44	1.49	-47.68	-13.00	34.68
5550.600	V	34.21	-58.89	11.44	1.49	-48.94	-13.00	35.94
GSM 1900 Frequency:1880MHz								
59.61	H	36.84	-66.92	-10.48	0.14	-77.54	-13.00	64.54
211.58	V	41.55	-68.14	0.00	0.26	-68.40	-13.00	55.40
3760.000	H	34.21	-62.20	10.66	1.24	-52.78	-13.00	39.78
3760.000	V	38.03	-58.26	10.66	1.24	-48.84	-13.00	35.84
5640.000	H	33.84	-59.61	11.33	1.54	-49.82	-13.00	36.82
5640.000	V	34.58	-58.75	11.33	1.54	-48.96	-13.00	35.96
GSM 1900 Frequency:1909.8MHz								
58.99	H	36.48	-67.10	-10.76	0.14	-78.00	-13.00	65.00
211.48	V	41.58	-68.10	0.00	0.26	-68.36	-13.00	55.36
3819.600	H	34.54	-61.32	10.72	1.29	-51.89	-13.00	38.89
3819.600	V	36.41	-59.31	10.72	1.29	-49.88	-13.00	36.88
5729.400	H	34.63	-58.85	11.22	1.59	-49.22	-13.00	36.22
5729.400	V	34.15	-59.21	11.22	1.59	-49.58	-13.00	36.58

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								
59.02	H	36.71	-66.88	-10.75	0.14	-77.77	-13.00	64.77
211.74	V	41.68	-68.01	0.00	0.26	-68.27	-13.00	55.27
3704.800	H	34.59	-62.67	10.60	1.25	-53.32	-13.00	40.32
3704.800	V	36.95	-60.28	10.60	1.25	-50.93	-13.00	37.93
5557.200	H	52.18	-41.10	11.43	1.49	-31.16	-13.00	18.16
5557.200	V	48.82	-44.31	11.43	1.49	-34.37	-13.00	21.37
WCDMA Band II, Frequency:1880 MHz								
59.14	H	36.74	-66.88	-10.70	0.14	-77.72	-13.00	64.72
210.98	V	41.57	-68.10	0.00	0.26	-68.36	-13.00	55.36
3760.000	H	34.27	-62.14	10.66	1.24	-52.72	-13.00	39.72
3760.000	V	33.50	-62.79	10.66	1.24	-53.37	-13.00	40.37
5640.000	H	53.19	-40.26	11.33	1.54	-30.47	-13.00	17.47
5640.000	V	50.00	-43.33	11.33	1.54	-33.54	-13.00	20.54
WCDMA Band II, Frequency:1907.6MHz								
59.31	H	36.98	-66.69	-10.62	0.14	-77.45	-13.00	64.45
211.51	V	41.22	-68.46	0.00	0.26	-68.72	-13.00	55.72
3815.200	H	34.25	-61.60	10.72	1.29	-52.17	-13.00	39.17
3815.200	V	33.20	-62.49	10.72	1.29	-53.06	-13.00	40.06
5722.800	H	48.36	-45.13	11.23	1.58	-35.48	-13.00	22.48
5722.800	V	51.70	-41.65	11.23	1.58	-32.00	-13.00	19.00

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				
59.16	H	36.41	-67.22	-10.69	0.14	-78.05	-13.00	65.05
211.35	V	41.57	-68.11	0.00	0.26	-68.37	-13.00	55.37
3424.800	H	34.37	-63.40	10.37	1.17	-54.20	-13.00	41.20
3424.800	V	33.93	-63.81	10.37	1.17	-54.61	-13.00	41.61
5137.200	H	34.24	-59.38	11.28	1.46	-49.56	-13.00	36.56
5137.200	V	33.63	-59.87	11.28	1.46	-50.05	-13.00	37.05
Frequency:			1732.6	MHz				
59.24	H	36.22	-67.43	-10.65	0.14	-78.22	-13.00	65.22
211.68	V	41.83	-67.86	0.00	0.26	-68.12	-13.00	55.12
3465.200	H	33.62	-64.19	10.39	1.15	-54.95	-13.00	41.95
3465.200	V	33.24	-64.53	10.39	1.15	-55.29	-13.00	42.29
5197.800	H	32.99	-61.14	11.32	1.44	-51.26	-13.00	38.26
5197.800	V	34.93	-59.05	11.32	1.44	-49.17	-13.00	36.17
Frequency:			1752.6	MHz				
59.24	H	36.44	-67.21	-10.65	0.14	-78.00	-13.00	65.00
211.36	V	41.36	-68.32	0.00	0.26	-68.58	-13.00	55.58
3505.200	H	33.95	-63.88	10.41	1.18	-54.65	-13.00	41.65
3505.200	V	35.54	-62.23	10.41	1.18	-53.00	-13.00	40.00
5257.800	H	34.50	-59.23	11.35	1.47	-49.35	-13.00	36.35
5257.800	V	35.22	-58.29	11.35	1.47	-48.41	-13.00	35.41

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								
59.81	H	36.47	-67.35	-10.39	0.14	-77.88	-13.00	64.88
211.35	V	41.57	-68.11	0.00	0.26	-68.37	-13.00	55.37
1652.800	H	42.85	-61.48	8.68	0.81	-53.61	-13.00	40.61
1652.800	V	39.27	-65.14	8.68	0.81	-57.27	-13.00	44.27
2479.200	H	37.89	-62.87	9.39	1.01	-54.49	-13.00	41.49
2479.200	V	37.02	-63.71	9.39	1.01	-55.33	-13.00	42.33
WCDMA Band 5 Frequency:836.6MHz								
59.68	H	36.47	-67.31	-10.45	0.14	-77.90	-13.00	64.90
211.48	V	41.88	-67.80	0.00	0.26	-68.06	-13.00	55.06
1673.200	H	42.84	-61.47	8.71	0.85	-53.61	-13.00	40.61
1673.200	V	39.23	-65.18	8.71	0.85	-57.32	-13.00	44.32
2509.800	H	36.76	-63.85	9.42	1.01	-55.44	-13.00	42.44
2509.800	V	38.84	-61.78	9.42	1.01	-53.37	-13.00	40.37
WCDMA Band 5 Frequency:846.6MHz								
59.62	H	36.49	-67.28	-10.47	0.14	-77.89	-13.00	64.89
211.24	V	41.28	-68.40	0.00	0.26	-68.66	-13.00	55.66
1693.200	H	42.88	-61.42	8.73	0.89	-53.58	-13.00	40.58
1693.200	V	39.73	-64.69	8.73	0.89	-56.85	-13.00	43.85
2539.800	H	35.33	-65.05	9.46	1.01	-56.60	-13.00	43.60
2539.800	V	40.15	-60.19	9.46	1.01	-51.74	-13.00	38.74

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								
59.24	H	36.32	-67.33	-10.65	0.14	-78.12	-13.00	65.12
211.47	V	41.14	-68.54	0.00	0.26	-68.80	-13.00	55.80
3701.400	H	34.64	-62.67	10.60	1.25	-53.32	-13.00	40.32
3701.400	V	37.01	-60.28	10.60	1.25	-50.93	-13.00	37.93
5552.100	H	52.16	-41.11	11.44	1.49	-31.16	-13.00	18.16
5552.100	V	48.78	-44.32	11.44	1.49	-34.37	-13.00	21.37
QPSK, 1.4MHz, Frequency:1880 MHz								
59.65	H	36.28	-67.49	-10.46	0.14	-78.09	-13.00	65.09
211.83	V	41.25	-68.45	0.00	0.26	-68.71	-13.00	55.71
3760.000	H	34.27	-62.14	10.66	1.24	-52.72	-13.00	39.72
3760.000	V	33.50	-62.79	10.66	1.24	-53.37	-13.00	40.37
5640.000	H	53.19	-40.26	11.33	1.54	-30.47	-13.00	17.47
5640.000	V	50.00	-43.33	11.33	1.54	-33.54	-13.00	20.54
QPSK, 1.4MHz, Frequency:1909.3 MHz								
59.68	H	36.87	-66.91	-10.45	0.14	-77.50	-13.00	64.50
211.93	V	41.65	-68.05	0.00	0.26	-68.31	-13.00	55.31
3818.600	H	33.82	-62.04	10.72	1.29	-52.61	-13.00	39.61
3818.600	V	33.22	-62.49	10.72	1.29	-53.06	-13.00	40.06
5727.900	H	48.36	-45.12	11.23	1.59	-35.48	-13.00	22.48
5727.900	V	51.72	-41.64	11.23	1.59	-32.00	-13.00	19.00

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					
59.48	H	36.98	-66.74	-10.54	0.14	-77.42	-13.00	64.42
211.47	V	41.44	-68.24	0.00	0.26	-68.50	-13.00	55.50
3421.400	H	34.08	-63.68	10.37	1.17	-54.48	-13.00	41.48
3421.400	V	35.81	-61.92	10.37	1.17	-52.72	-13.00	39.72
5132.100	H	32.96	-60.61	11.28	1.47	-50.80	-13.00	37.80
5132.100	V	33.24	-60.22	11.28	1.47	-50.41	-13.00	37.41
1.4MHz QPSK, Frequency:			1732.5 MHz					
59.36	H	36.87	-66.82	-10.59	0.14	-77.55	-13.00	64.55
211.44	V	41.21	-68.47	0.00	0.26	-68.73	-13.00	55.73
3465.000	H	34.37	-63.44	10.39	1.15	-54.20	-13.00	41.20
3465.000	V	34.16	-63.61	10.39	1.15	-54.37	-13.00	41.37
5197.500	H	33.80	-60.33	11.32	1.44	-50.45	-13.00	37.45
5197.500	V	33.73	-60.25	11.32	1.44	-50.37	-13.00	37.37
1.4MHz QPSK, Frequency:			1754.3 MHz					
59.36	H	36.98	-66.71	-10.59	0.14	-77.44	-13.00	64.44
211.11	V	41.27	-68.40	0.00	0.26	-68.66	-13.00	55.66
3508.600	H	35.18	-62.64	10.41	1.19	-53.42	-13.00	40.42
3508.600	V	34.73	-63.03	10.41	1.19	-53.81	-13.00	40.81
5262.900	H	33.41	-60.29	11.36	1.47	-50.40	-13.00	37.40
5262.900	V	33.83	-59.64	11.36	1.47	-49.75	-13.00	36.75

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								
59.21	H	36.87	-66.77	-10.66	0.14	-77.57	-13.00	64.57
211.26	V	41.33	-68.35	0.00	0.26	-68.61	-13.00	55.61
1649.400	H	46.90	-57.43	8.68	0.80	-49.55	-13.00	36.55
1649.400	V	38.99	-65.42	8.68	0.80	-57.54	-13.00	44.54
2474.100	H	38.40	-62.38	9.38	1.00	-54.00	-13.00	41.00
2474.100	V	38.24	-62.49	9.38	1.00	-54.11	-13.00	41.11
3298.800	H	33.89	-62.79	10.32	1.15	-53.62	-13.00	40.62
3298.800	V	34.71	-61.73	10.32	1.15	-52.56	-13.00	39.56
QPSK, 1.4MHz, Frequency: 836.5 MHz								
59.34	H	36.74	-66.94	-10.60	0.14	-77.68	-13.00	64.68
211.27	V	41.28	-68.40	0.00	0.26	-68.66	-13.00	55.66
1673.000	H	49.28	-55.03	8.71	0.85	-47.17	-13.00	34.17
1673.000	V	39.37	-65.04	8.71	0.85	-57.18	-13.00	44.18
2509.500	H	38.07	-62.54	9.42	1.01	-54.13	-13.00	41.13
2509.500	V	38.13	-62.49	9.42	1.01	-54.08	-13.00	41.08
3346.000	H	34.95	-62.21	10.34	1.16	-53.03	-13.00	40.03
3346.000	V	33.10	-63.92	10.34	1.16	-54.74	-13.00	41.74
QPSK, 1.4MHz, Frequency: 848.3 MHz								
59.73	H	36.47	-67.33	-10.42	0.14	-77.89	-13.00	64.89
211.39	V	41.84	-67.84	0.00	0.26	-68.10	-13.00	55.10
1696.600	H	46.77	-57.52	8.74	0.89	-49.67	-13.00	36.67
1696.600	V	42.77	-61.65	8.74	0.89	-53.80	-13.00	40.80
2544.900	H	37.08	-63.26	9.47	1.01	-54.80	-13.00	41.80
2544.900	V	37.98	-62.32	9.47	1.01	-53.86	-13.00	40.86
3393.200	H	33.70	-63.97	10.36	1.19	-54.80	-13.00	41.80
3393.200	V	34.32	-63.31	10.36	1.19	-54.14	-13.00	41.14

LTE Band 7(30MHz-26.5GHz):

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: 2502.5 MHz								
59.21	H	36.74	-66.90	-10.66	0.14	-77.70	-25.00	52.70
211.48	V	41.14	-68.54	0.00	0.26	-68.80	-25.00	43.80
5005.000	H	34.27	-58.69	11.20	1.47	-48.96	-25.00	23.96
5005.000	V	35.34	-57.48	11.20	1.47	-47.75	-25.00	22.75
7507.500	H	36.41	-53.38	10.90	1.95	-44.43	-25.00	19.43
7507.500	V	37.83	-52.46	10.90	1.95	-43.51	-25.00	18.51
5MHz QPSK, Frequency: 2535 MHz								
59.35	H	36.69	-66.99	-10.60	0.14	-77.73	-25.00	52.73
211.68	V	41.17	-68.52	0.00	0.26	-68.78	-25.00	43.78
5070.000	H	34.69	-58.50	11.24	1.47	-48.73	-25.00	23.73
5070.000	V	35.20	-57.89	11.24	1.47	-48.12	-25.00	23.12
7605.000	H	36.71	-52.76	10.88	2.01	-43.89	-25.00	18.89
7605.000	V	37.10	-53.09	10.88	2.01	-44.22	-25.00	19.22
5MHz QPSK, Frequency: 2567.5 MHz								
59.36	H	36.66	-67.03	-10.59	0.14	-77.76	-25.00	52.76
211.41	V	41.11	-68.57	0.00	0.26	-68.83	-25.00	43.83
5135.000	H	34.58	-59.02	11.28	1.47	-49.21	-25.00	24.21
5135.000	V	34.71	-58.78	11.28	1.47	-48.97	-25.00	23.97
7702.500	H	35.66	-53.86	10.86	1.97	-44.97	-25.00	19.97
7702.500	V	36.24	-53.94	10.86	1.97	-45.05	-25.00	20.05

LTE Band 38 5MHz QPSK (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				
59.36	H	36.63	-67.06	-10.59	0.14	-77.79	-25.00	52.79
211.57	V	41.14	-68.55	0.00	0.26	-68.81	-25.00	43.81
5145.000	H	34.17	-59.51	11.29	1.44	-49.66	-25.00	24.66
5145.000	V	34.10	-59.47	11.29	1.44	-49.62	-25.00	24.62
7717.500	H	36.27	-53.24	10.86	1.99	-44.37	-25.00	19.37
7717.500	V	36.09	-54.04	10.86	1.99	-45.17	-25.00	20.17
5MHz QPSK, Frequency:			2595	MHz				
59.21	H	36.25	-67.39	-10.66	0.14	-78.19	-25.00	53.19
211.49	V	41.56	-68.12	0.00	0.26	-68.38	-25.00	43.38
5190.000	H	33.71	-60.36	11.31	1.44	-50.49	-25.00	25.49
5190.000	V	34.67	-59.25	11.31	1.44	-49.38	-25.00	24.38
7785.000	H	36.16	-53.33	10.84	1.99	-44.48	-25.00	19.48
7785.000	V	36.61	-53.31	10.84	1.99	-44.46	-25.00	19.46
5MHz QPSK, Frequency:			2617.5	MHz				
59.36	H	36.47	-67.22	-10.59	0.14	-77.95	-25.00	52.95
211.41	V	41.35	-68.33	0.00	0.26	-68.59	-25.00	43.59
5235.000	H	34.45	-59.45	11.34	1.46	-49.57	-25.00	24.57
5235.000	V	34.05	-59.66	11.34	1.46	-49.78	-25.00	24.78
7852.500	H	37.19	-52.00	10.83	2.03	-43.20	-25.00	18.20
7852.500	V	37.26	-52.32	10.83	2.03	-43.52	-25.00	18.52

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

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency: 2307.5 MHz								
59.36	H	36.47	-67.22	-10.59	0.14	-77.95	-40.00	37.95
211.42	V	41.28	-68.40	0.00	0.26	-68.66	-40.00	28.66
4615.000	H	35.36	-60.00	10.74	1.41	-50.67	-40.00	10.67
4615.000	V	36.20	-59.02	10.74	1.41	-49.69	-40.00	9.69
5MHz QPSK, Frequency: 2312.5 MHz								
59.29	H	36.54	-67.13	-10.63	0.14	-77.90	-40.00	37.90
211.48	V	41.18	-68.50	0.00	0.26	-68.76	-40.00	28.76
4625.000	H	35.41	-59.88	10.75	1.41	-50.54	-40.00	10.54
4625.000	V	34.66	-60.51	10.75	1.41	-51.17	-40.00	11.17

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

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency: 2352.5 MHz								
59.31	H	36.85	-66.82	-10.62	0.14	-77.58	-40.00	37.58
211.54	V	41.24	-68.45	0.00	0.26	-68.71	-40.00	28.71
4705.000	H	34.52	-60.26	10.85	1.41	-50.82	-40.00	10.82
4705.000	V	34.21	-60.59	10.85	1.41	-51.15	-40.00	11.15
5MHz QPSK, Frequency: 2357.5 MHz								
59.16	H	36.74	-66.89	-10.69	0.14	-77.72	-40.00	37.72
211.47	V	41.28	-68.40	0.00	0.26	-68.66	-40.00	28.66
4715.000	H	34.72	-59.99	10.86	1.41	-50.54	-40.00	10.54
4715.000	V	34.20	-60.51	10.86	1.41	-51.06	-40.00	11.06

LTE Band 41 (30MHz-26.55GHz):

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								
59.14	H	36.98	-66.64	-10.70	0.14	-77.48	-25.00	52.48
211.27	V	41.87	-67.81	0.00	0.26	-68.07	-25.00	43.07
5075.000	H	35.25	-57.96	11.25	1.48	-48.19	-25.00	23.19
5075.000	V	34.62	-58.49	11.25	1.48	-48.72	-25.00	23.72
QPSK, 5MHz, Frequency: 2595 MHz								
59.18	H	36.74	-66.89	-10.68	0.14	-77.71	-25.00	52.71
211.39	V	41.28	-68.40	0.00	0.26	-68.66	-25.00	43.66
5190.000	H	34.19	-59.88	11.31	1.44	-50.01	-25.00	25.01
5190.000	V	34.58	-59.34	11.31	1.44	-49.47	-25.00	24.47
QPSK, 5MHz, Frequency: 2652.5 MHz								
59.09	H	36.33	-67.28	-10.72	0.14	-78.14	-25.00	53.14
211.12	V	41.85	-67.82	0.00	0.26	-68.08	-25.00	43.08
5305.000	H	33.48	-59.96	11.38	1.46	-50.04	-25.00	25.04
5305.000	V	34.66	-58.52	11.38	1.46	-48.60	-25.00	23.60

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 CR230848333-EXP EUT EXTERNAL PHOTOGRAPHS and CR230848333-INP EUT INTERNAL PHOTOGRAPHS

6. TEST SETUP PHOTOGRAPHS

Please refer to the attachment CR230848333-00E-TSP TEST SETUP PHOTOGRAPHS.

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