

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 10MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:01:11</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:01:26</p>
QPSK 15MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:02:07</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:02:20</p>
QPSK 20MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:03:00</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:03:13</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:58:33</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:58:46</p>
16QAM 3MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:59:26</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:59:39</p>
16QAM 5MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:00:21</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:00:35</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 10MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:01:18</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:01:33</p>
16QAM 15MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:02:13</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:02:26</p>
16QAM 20MHz	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:03:06</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 3.NOV.2023 00:03:19</p>

4.8 Antenna Port Test Data and Results for LTE Band 5

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

Environmental Conditions:

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

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

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

Test Frequency for Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	824.7	836.5	848.3
3MHz	825.5	836.5	847.5
5MHz	826.5	836.5	846.5
10MHz	829	836.5	844

Test Data:**FCC§2.1046;§ 22.913 (a)****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		
1.4MHz QPSK	RB1#0	23.42	23.34	23.38	16.71	38.45
	RB1#3	23.56	23.52	23.50		
	RB1#5	23.38	23.36	23.36		
	RB3#0	23.44	23.43	23.51		
	RB3#3	23.48	23.35	23.45		
	RB6#0	22.47	22.41	22.42		
1.4MHz 16QAM	RB1#0	22.35	22.31	22.53	15.8	38.45
	RB1#3	22.54	22.50	22.65		
	RB1#5	22.39	22.32	22.48		
	RB3#0	22.49	22.57	22.48		
	RB3#3	22.50	22.53	22.45		
	RB6#0	21.41	21.45	21.50		
3MHz QPSK	RB1#0	23.46	23.44	23.43	16.61	38.45
	RB1#8	23.43	23.44	23.39		
	RB1#14	23.46	23.41	23.39		
	RB6#0	22.39	22.39	22.43		
	RB6#9	22.38	22.35	22.38		
	RB15#0	22.40	22.37	22.41		
3MHz 16QAM	RB1#0	22.56	22.41	23.01	16.16	38.45
	RB1#8	22.52	22.37	22.98		
	RB1#14	22.58	22.32	22.88		
	RB6#0	21.41	21.38	21.55		
	RB6#9	21.45	21.36	21.46		
	RB15#0	21.41	21.43	21.53		
5MHz QPSK	RB1#0	23.37	23.31	23.32	16.64	38.45
	RB1#13	23.49	23.45	23.47		
	RB1#24	23.39	23.34	23.33		
	RB15#0	22.49	22.38	22.53		
	RB15#10	22.45	22.41	22.45		
	RB25#0	22.44	22.38	22.48		
5MHz 16QAM	RB1#0	22.22	22.57	22.39	15.82	38.45
	RB1#13	22.35	22.67	22.55		
	RB1#24	22.28	22.58	22.42		
	RB15#0	21.53	21.41	21.59		
	RB15#10	21.48	21.43	21.50		
	RB25#0	21.52	21.40	21.55		
10MHz QPSK	RB1#0	23.48	23.41	23.42	16.78	38.45

	RB1#25	23.63	23.56	23.57		
	RB1#49	23.40	23.39	23.41		
	RB25#0	22.48	22.38	22.47		
	RB25#25	22.42	22.52	22.47		
	RB50#0	22.47	22.47	22.42		
10MHz 16QAM	RB1#0	22.42	22.87	22.51	16.21	38.45
	RB1#25	22.66	23.06	22.71		
	RB1#49	22.36	22.91	22.56		
	RB25#0	21.61	21.48	21.52		
	RB25#25	21.55	21.55	21.47		
	RB50#0	21.52	21.48	21.45		

Note: ERP= Conducted Power(dBm) - Lc(dB) + Gr(dBd)
Gr(dBd)=Gr(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	4.09	4.72	4.17	13
	RB50#0	5.01	4.93	5.13	13
10MHz 16QAM	RB1#0	5.01	5.68	4.96	13
	RB50#0	5.91	5.83	6.06	13
Result:					Pass

FCC §2.1049, §22.905: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	1.096	1.102	1.102	1.302	1.308	1.284
1.4MHz 16QAM	1.096	1.090	1.096	1.320	1.284	1.290
3MHz QPSK	2.683	2.683	2.683	2.892	2.880	2.868
3MHz 16QAM	2.683	2.683	2.683	2.868	2.952	2.880
5MHz QPSK	4.511	4.491	4.511	4.980	4.940	4.960
5MHz 16QAM	4.511	4.511	4.491	4.940	4.960	4.940
10MHz QPSK	8.942	8.942	8.942	9.600	9.680	9.520
10MHz 16QAM	8.942	8.942	8.942	9.520	9.600	9.560

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

FCC §2.1051, §22.917(a):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, §22.917(a): 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, §22.355: Frequency Stability

Test Modulation:	10 MHz QPSK		Test Channel:	836.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	5.26	0.006	2.5
	-20	3.85	-9.12	-0.011	2.5
	-10	3.85	8.7	0.010	2.5
	0	3.85	-5.04	-0.006	2.5
	10	3.85	-9.13	-0.011	2.5
	20	3.85	6.09	0.007	2.5
	30	3.85	9.37	0.011	2.5
	40	3.85	-9.54	-0.011	2.5
Frequency Stability vs. Voltage	20	3.35	5.45	0.007	2.5
	20	4.4	9.26	0.011	2.5
				Result:	Pass

Test Modulation:	10 MHz 16QAM		Test Channel:	836.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	-16.9	-0.020	2.5
	-20	3.85	6.49	0.008	2.5
	-10	3.85	5.68	0.007	2.5
	0	3.85	8.21	0.010	2.5
	10	3.85	-5.41	-0.006	2.5
	20	3.85	8.99	0.011	2.5
	30	3.85	-7.79	-0.009	2.5
	40	3.85	6.12	0.007	2.5
Frequency Stability vs. Voltage	20	3.35	9.85	0.012	2.5
	20	4.4	4.6	0.005	2.5
				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.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:55:59</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:56:17</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:56:32</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:56:56</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:57:14</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:57:35</p>

Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:58:22</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:58:42</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:59:07</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:59:28</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 14:59:49</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:00:10</p>

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:01:23</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:01:47</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:02:08</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:02:32</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:02:57</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:03:15</p>

Occupied Bandwidth

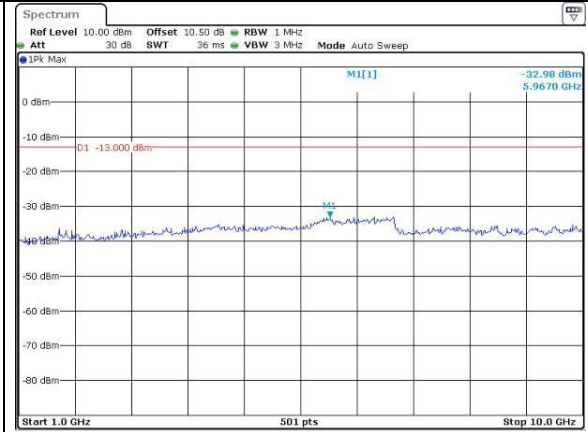
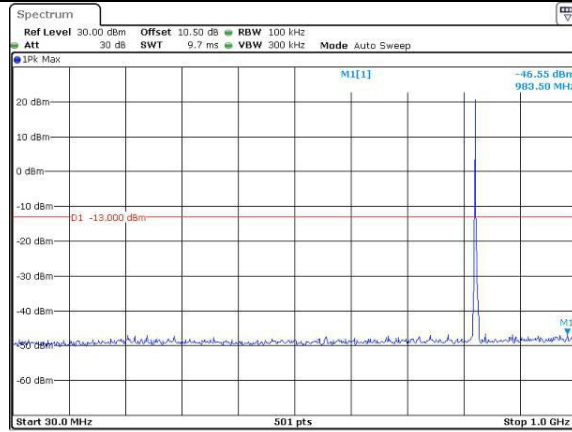
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Spurious Emissions at Antenna Terminal

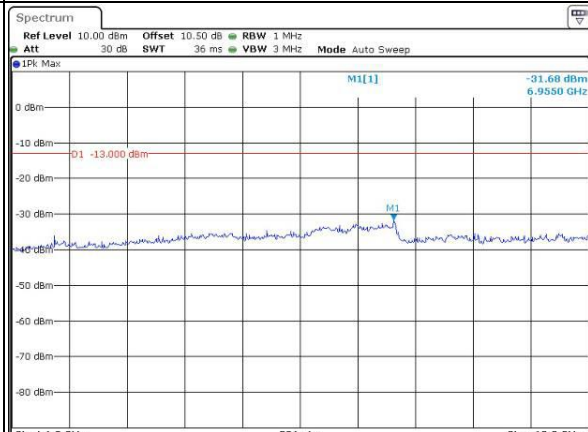
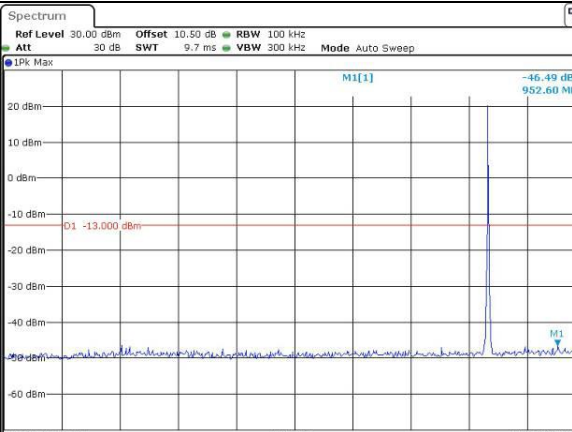
Channel

1.4MHz Bandwidth QPSK

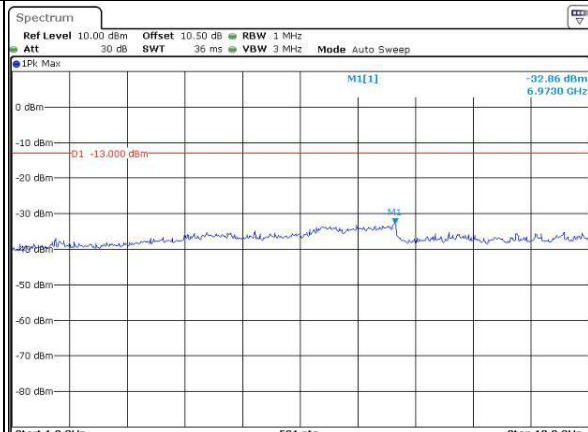
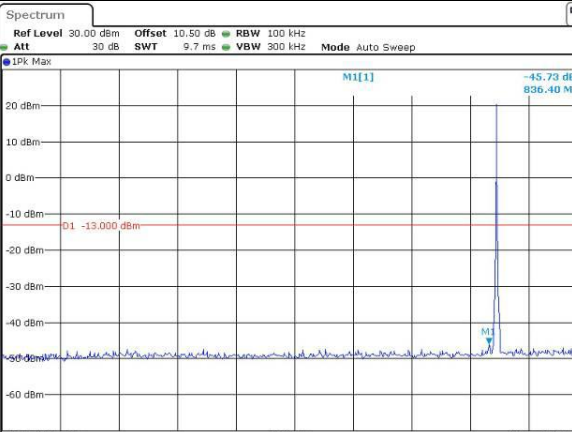
Lowest



Middle



Highest

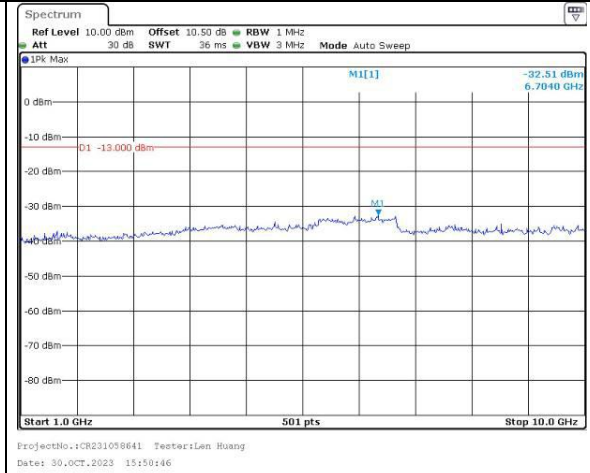
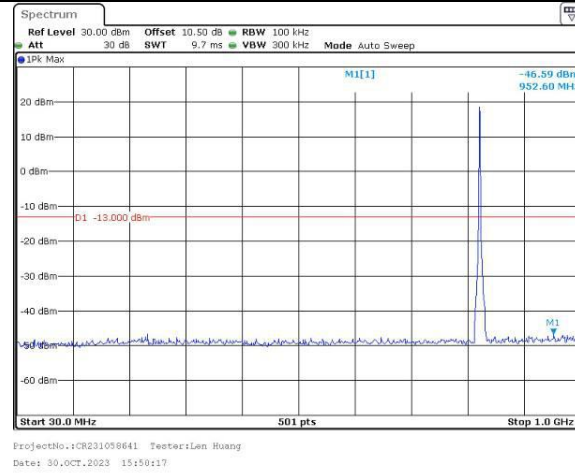


Spurious Emissions at Antenna Terminal

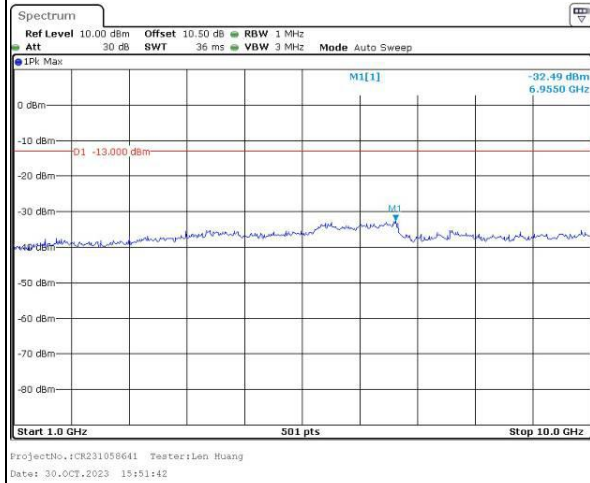
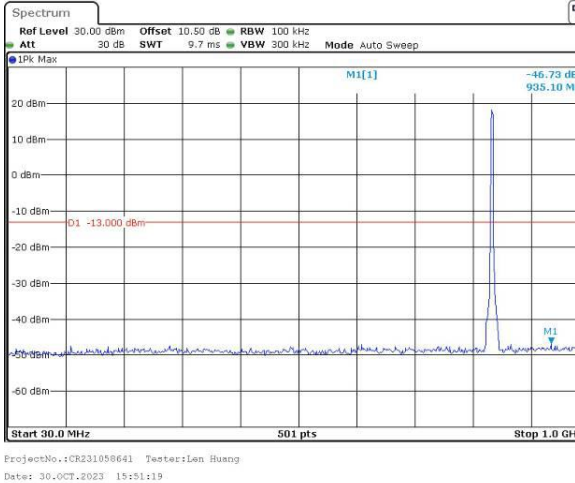
Channel

3MHz Bandwidth QPSK

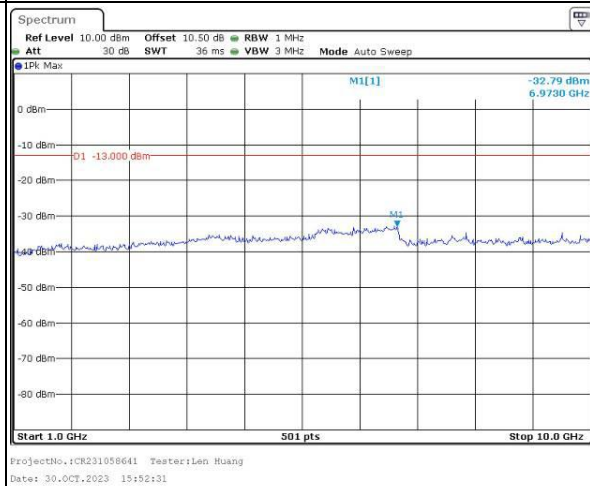
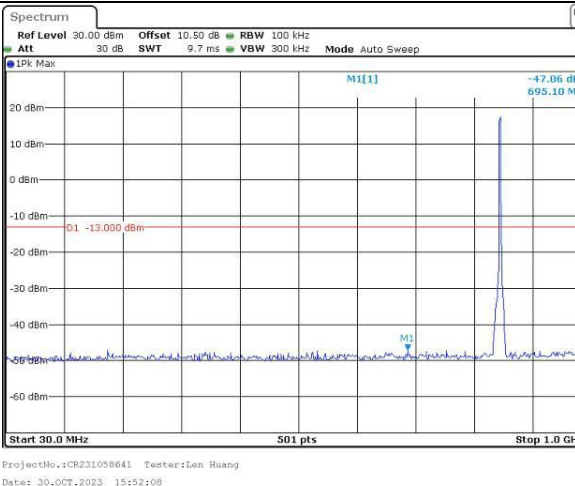
Lowest



Middle



Highest

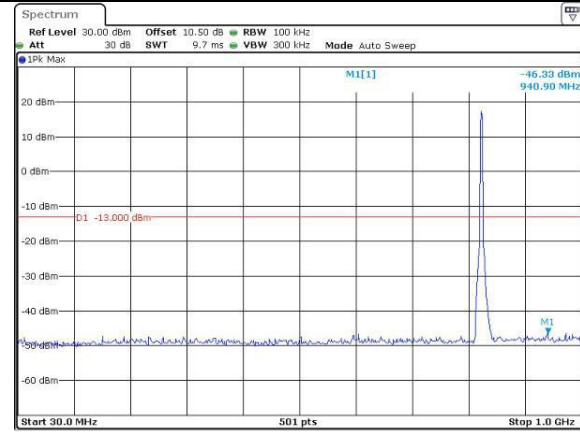


Spurious Emissions at Antenna Terminal

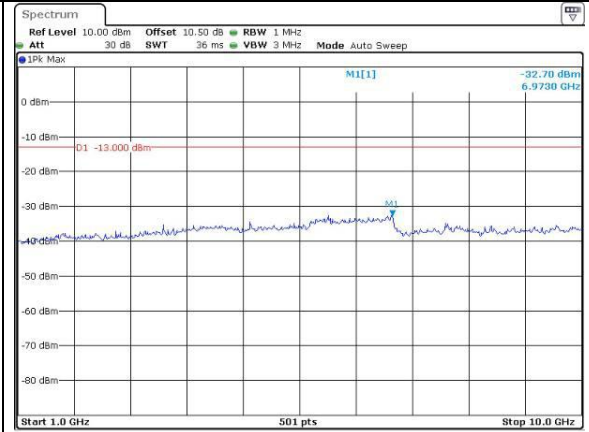
Channel

5MHz Bandwidth QPSK

Lowest

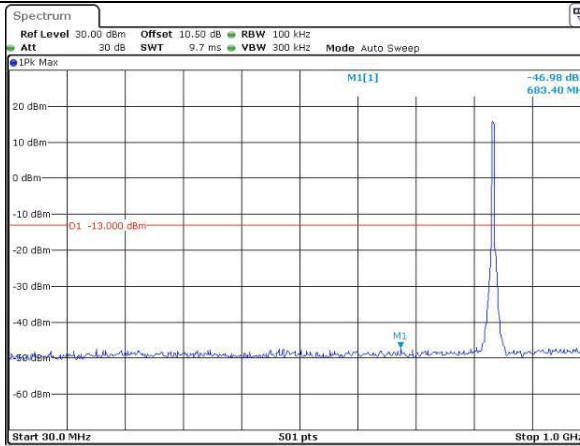


ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 15:53:46

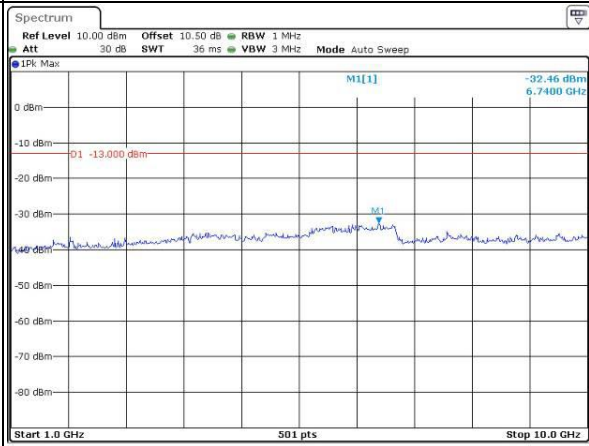


ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 15:54:16

Middle

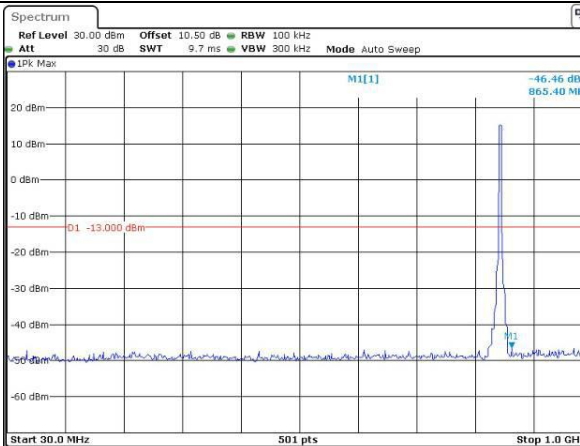


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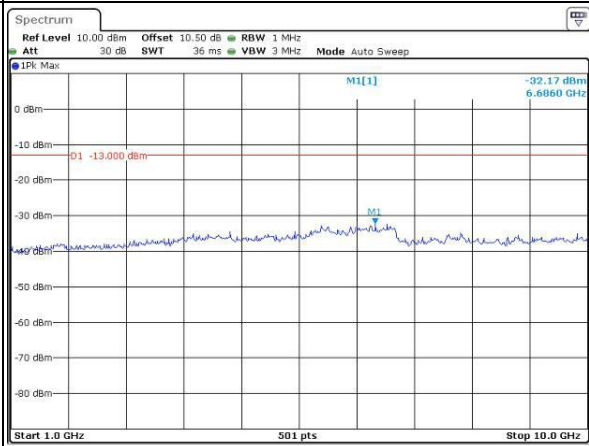


ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 15:55:08

Highest



ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 15:55:34



ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 15:56:01

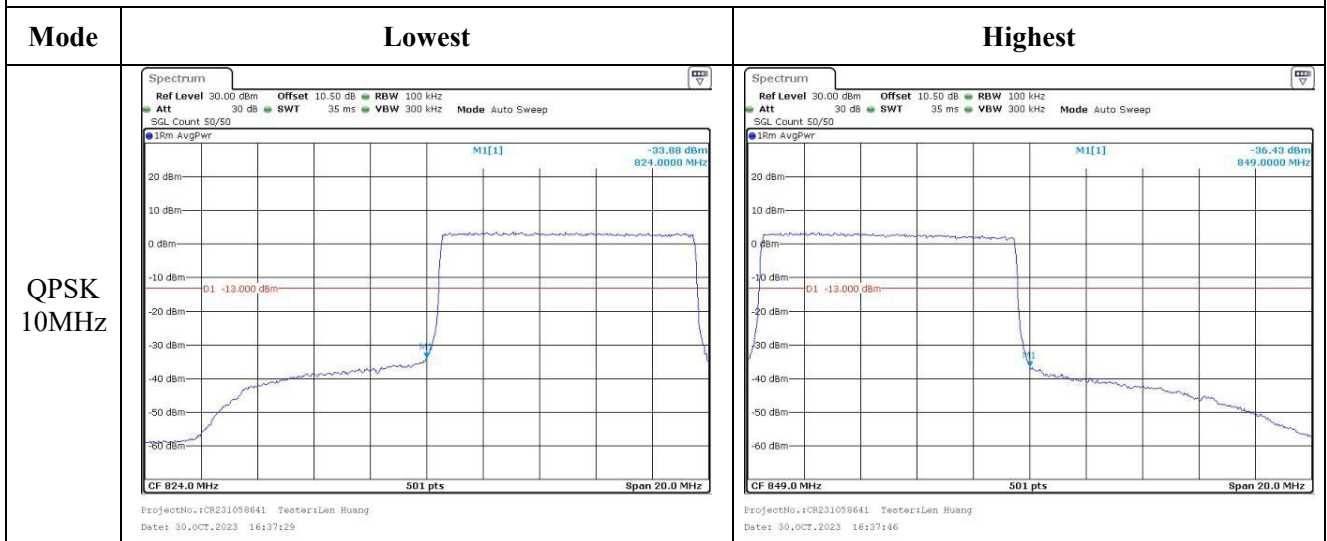
Spurious Emissions at Antenna Terminal

Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref Level 30.00 dBm Offset 10.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>IPk Max M1[1] -46.74 dBm 952.60 MHz</p> <p>D1 -13.000 dBm</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:57:05</p>	<p>Ref Level 10.00 dBm Offset 10.50 dB RBW 1 MHz Att 30 dB SWT 36 ms VBW 3 MHz Mode Auto Sweep</p> <p>IPk Max M1[1] -32.43 dBm 6.9110 GHz</p> <p>D1 -13.000 dBm</p> <p>Start 1.0 GHz 501 pts Stop 10.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:57:28</p>
Middle	<p>Ref Level 30.00 dBm Offset 10.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>IPk Max M1[1] -46.59 dBm 942.90 MHz</p> <p>D1 -13.000 dBm</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:58:01</p>	<p>Ref Level 10.00 dBm Offset 10.50 dB RBW 1 MHz Att 30 dB SWT 36 ms VBW 3 MHz Mode Auto Sweep</p> <p>IPk Max M1[1] -32.76 dBm 6.9910 GHz</p> <p>D1 -13.000 dBm</p> <p>Start 1.0 GHz 501 pts Stop 10.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:58:21</p>
Highest	<p>Ref Level 30.00 dBm Offset 10.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep</p> <p>IPk Max M1[1] -46.42 dBm 927.40 MHz</p> <p>D1 -13.000 dBm</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:58:47</p>	<p>Ref Level 10.00 dBm Offset 10.50 dB RBW 1 MHz Att 30 dB SWT 36 ms VBW 3 MHz Mode Auto Sweep</p> <p>IPk Max M1[1] -32.76 dBm 6.9910 GHz</p> <p>D1 -13.000 dBm</p> <p>Start 1.0 GHz 501 pts Stop 10.0 GHz</p> <p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:59:07</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:34:26</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:34:48</p>
QPSK 3MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:35:30</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:35:45</p>
QPSK 5MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:36:28</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:36:45</p>

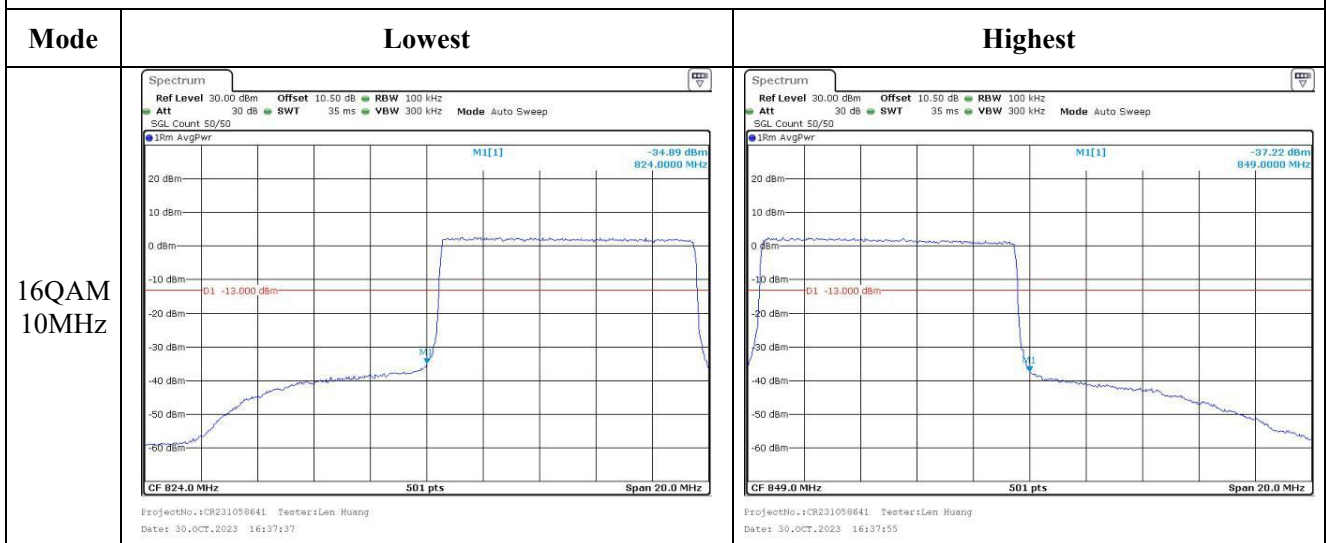
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:34:40</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:34:55</p>
16QAM 3MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:35:37</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:35:53</p>
16QAM 5MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:36:36</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:36:53</p>

Out of band emission, Band Edge



4.9 Antenna Port Test Data and Results for LTE Band 7

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

Environmental Conditions:

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

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

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

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
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	16.54	16.69	16.36	16.42	33
	RB1#13	16.68	16.82	16.51		
	RB1#24	16.60	16.64	16.40		
	RB15#0	15.66	15.81	15.45		
	RB15#10	15.73	15.75	15.43		
	RB25#0	15.68	15.77	15.46		
5MHz 16QAM	RB1#0	15.68	15.69	15.69	15.46	33
	RB1#13	15.83	15.77	15.86		
	RB1#24	15.71	15.59	15.70		
	RB15#0	14.71	14.87	14.45		
	RB15#10	14.80	14.80	14.42		
	RB25#0	14.74	14.85	14.45		
10MHz QPSK	RB1#0	16.65	16.79	16.41	16.48	33
	RB1#25	16.86	16.88	16.60		
	RB1#49	16.73	16.68	16.53		
	RB25#0	15.62	15.84	15.46		
	RB25#25	15.81	15.83	15.48		
	RB50#0	15.73	15.84	15.47		
10MHz 16QAM	RB1#0	15.69	16.57	15.62	16.17	33
	RB1#25	15.89	16.55	15.79		
	RB1#49	15.82	16.39	15.68		
	RB25#0	14.73	14.93	14.49		
	RB25#25	14.89	14.91	14.52		
	RB50#0	14.79	14.84	14.49		
15MHz QPSK	RB1#0	16.60	16.78	16.46	16.4	33
	RB1#38	16.75	16.80	16.51		
	RB1#74	16.73	16.58	16.46		
	RB36#0	15.64	15.90	15.48		
	RB36#39	15.79	15.78	15.44		
	RB75#0	15.72	15.86	15.48		
15MHz 16QAM	RB1#0	16.12	16.48	15.65	16.11	33
	RB1#38	16.26	16.51	15.65		
	RB1#74	16.19	16.32	15.62		
	RB36#0	14.68	14.86	14.55		
	RB36#39	14.80	14.80	14.48		
	RB75#0	14.73	14.88	14.47		
20MHz QPSK	RB1#0	16.10	16.63	16.41	16.59	33

	RB1#50	16.87	16.99	16.63		
	RB1#99	16.59	16.46	16.39		
	RB50#0	15.66	15.95	15.54		
	RB50#50	15.91	15.86	15.43		
	RB100#0	15.76	15.92	15.51		
20MHz 16QAM	RB1#0	16.08	16.03	15.63	16.16	33
	RB1#50	16.56	16.36	15.91		
	RB1#99	16.32	15.86	15.59		
	RB50#0	14.67	14.94	14.58		
	RB50#50	14.90	14.83	14.47		
	RB100#0	14.77	14.95	14.49		

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	5.91	6.00	5.54	13
	RB100#0	5.33	5.42	5.36	13
20MHz 16QAM	RB1#0	6.55	7.04	5.91	13
	RB100#0	6.14	6.17	6.14	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	4.500	4.520	4.920	4.940	4.940
5MHz 16QAM	4.520	4.500	4.500	4.980	4.900	4.960
10MHz QPSK	8.960	9.000	8.960	9.600	9.680	9.600
10MHz 16QAM	8.960	8.960	8.960	9.600	9.600	9.600
15MHz QPSK	13.500	13.560	13.500	14.880	14.880	14.760
15MHz 16QAM	13.500	13.560	13.500	14.700	14.760	14.640
20MHz QPSK	17.920	18.000	18.000	19.360	19.520	19.200
20MHz 16QAM	18.000	18.000	17.920	19.360	19.440	19.360

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	2500.786	2500.00	2569.925	2570
	-20	3.85	2500.838	2500.00	2569.937	2570
	-10	3.85	2500.891	2500.00	2569.900	2570
	0	3.85	2500.405	2500.00	2569.914	2570
	10	3.85	2500.707	2500.00	2569.943	2570
	20	3.85	2500.351	2500.00	2569.982	2570
	30	3.85	2500.264	2500.00	2569.943	2570
	40	3.85	2500.488	2500.00	2569.985	2570
Frequency Stability vs. Voltage	20	3.35	2500.278	2500.00	2569.939	2570
	20	4.4	2500.690	2500.00	2569.981	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	2500.197	2500.00	2569.925	2570
	-20	3.85	2500.250	2500.00	2569.961	2570
	-10	3.85	2500.303	2500.00	2569.911	2570
	0	3.85	2500.218	2500.00	2569.897	2570
	10	3.85	2500.195	2500.00	2569.972	2570
	20	3.85	2500.304	2500.00	2569.971	2570
	30	3.85	2500.195	2500.00	2569.952	2570
	40	3.85	2500.321	2500.00	2569.948	2570
Frequency Stability vs. Voltage	20	3.35	2500.168	2500.00	2569.934	2570
	20	4.4	2500.283	2500.00	2569.896	2570
					Result:	Pass

Test Plots(Note: The 11.5dB 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.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:26:47</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:27:04</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:27:18</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:27:34</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:27:52</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:28:08</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:28:49</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:29:02</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:29:19</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:29:36</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:29:53</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:30:10</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:30:50</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:31:03</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:31:18</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:31:34</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:31:49</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:32:05</p>

Occupied Bandwidth

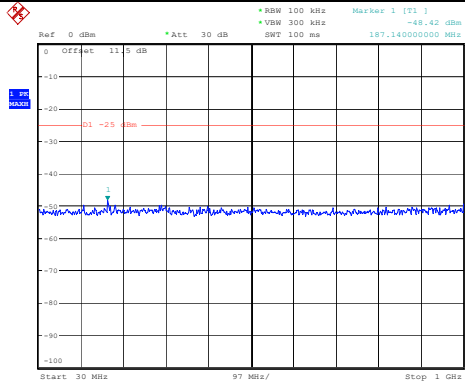
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:32:46</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:33:03</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:33:17</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:33:34</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:33:51</p>	<p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 23:34:08</p>

Spurious Emissions at Antenna Terminal

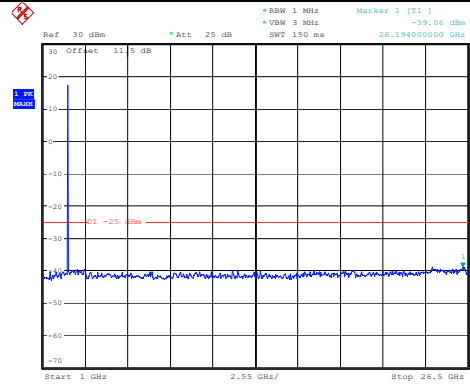
Channel

5MHz Bandwidth QPSK

Lowest

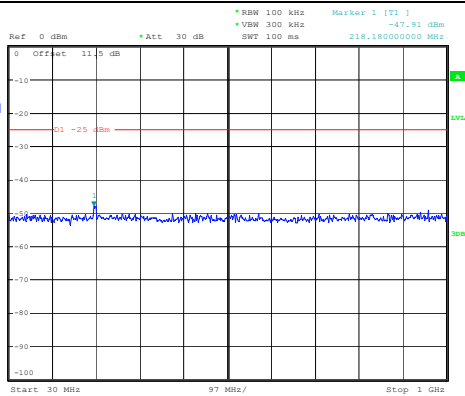


ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:38:31

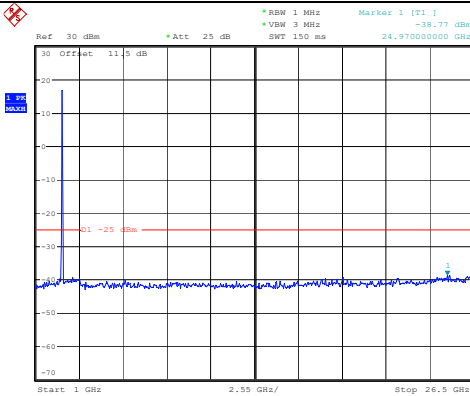


ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:38:41

Middle

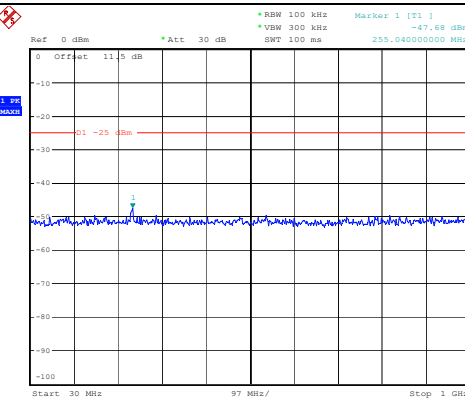


ProjectNo.:CR231058641 Tester:Ken Tang
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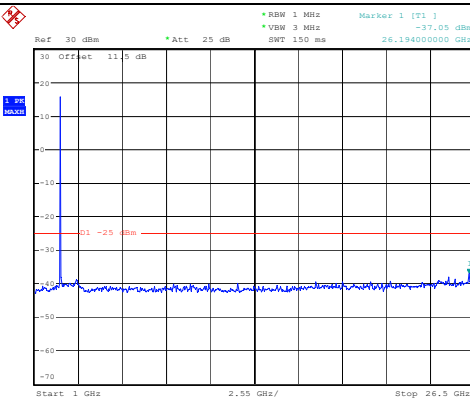


ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:39:08

Highest

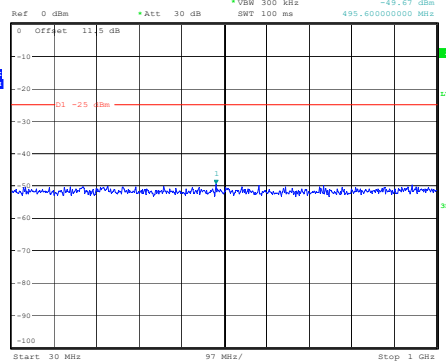
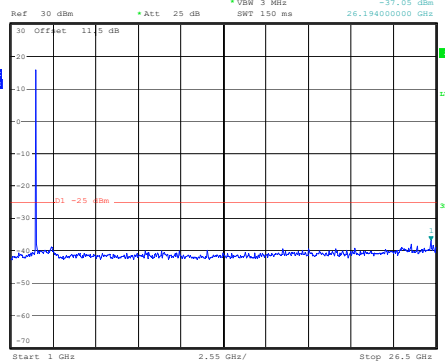
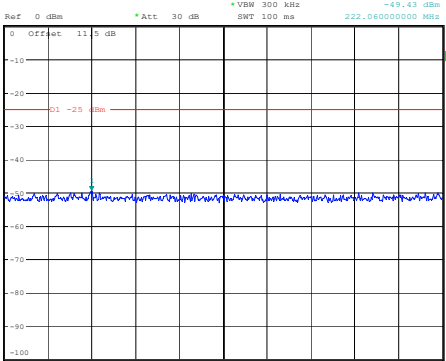
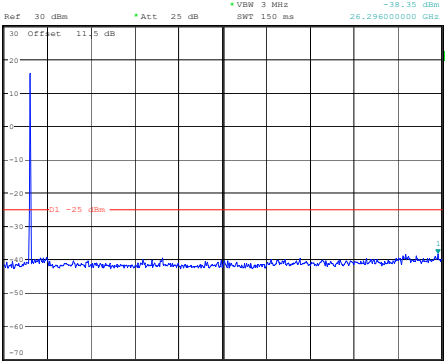
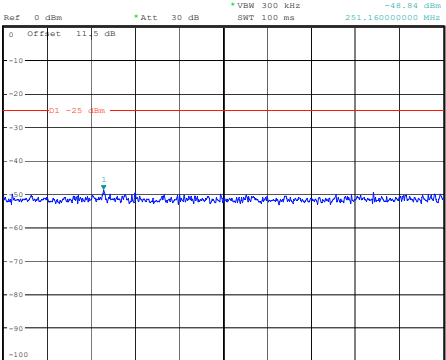
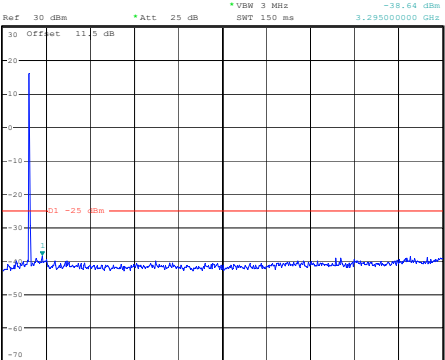


ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:39:24



ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:40:24

Spurious Emissions at Antenna Terminal

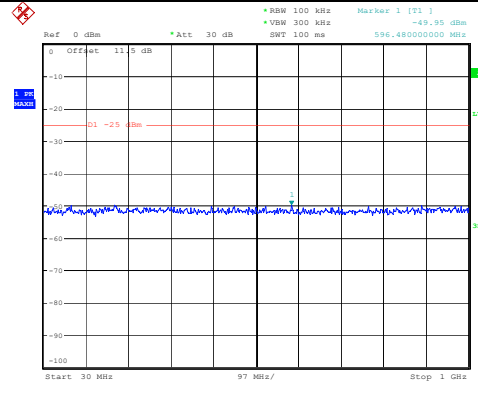
Channel	10MHz Bandwidth QPSK	
Lowest	 <p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -49.67 dBm 495.600000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:40:14</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [T1] -37.05 dBm 26.194000000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:40:24</p>
Middle	 <p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -49.43 dBm 222.060000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:40:41</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [T1] -38.35 dBm 26.296000000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:40:51</p>
Highest	 <p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *SWT 100 ms Marker 1 [T1] -48.84 dBm 251.160000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:41:08</p>	 <p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *SWT 150 ms Marker 1 [T1] -38.64 dBm 3.298000000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:41:19</p>

Spurious Emissions at Antenna Terminal

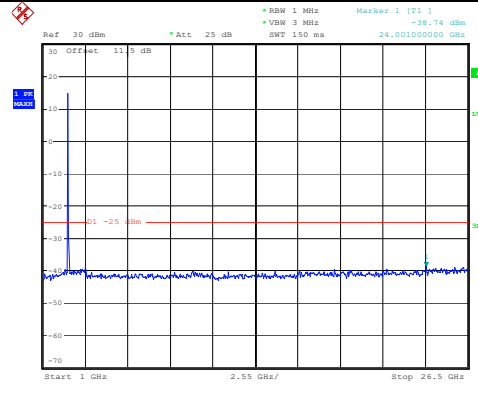
Channel

15MHz Bandwidth QPSK

Lowest

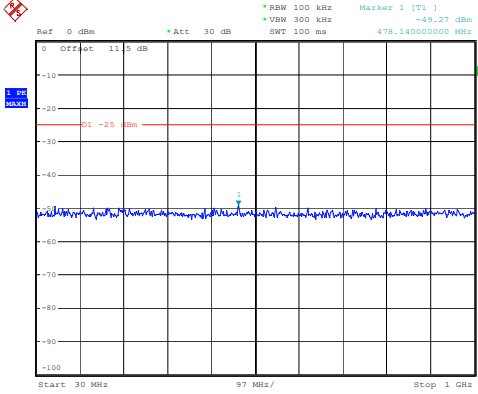


ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:42:04

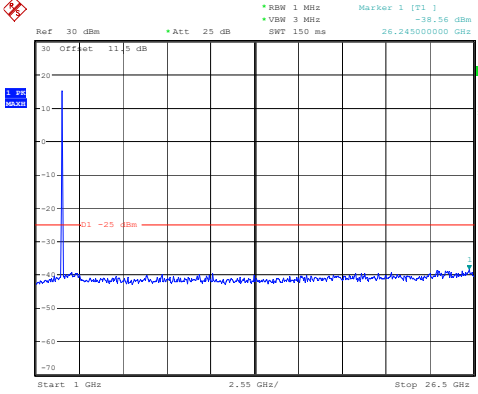


ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:42:14

Middle

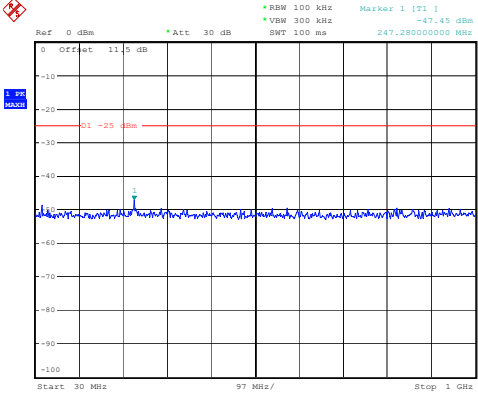


ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:42:29

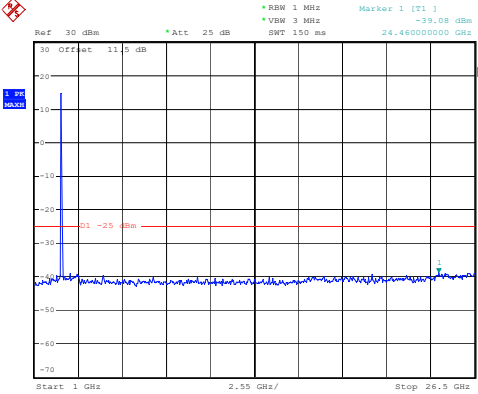


ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:42:39

Highest



ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:42:57



ProjectNo.:CR231058641 Tester:Ken Tang
Date: 2.NOV.2023 22:43:07

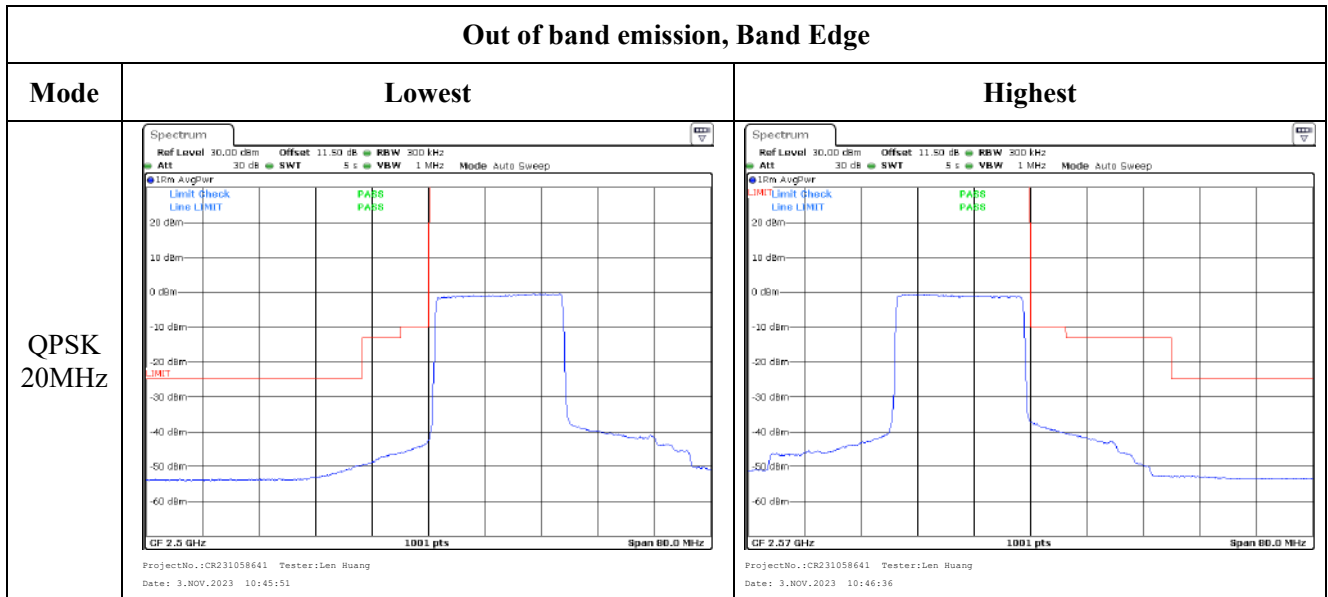
Spurious Emissions at Antenna Terminal

Channel	20MHz Bandwidth QPSK	
Lowest	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *Marker 1 [F1] -49.52 dBm *SWT 100 ms 117.30000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:43:49</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *Marker 1 [F1] -39.13 dBm *SWT 150 ms 26.24500000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:44:00</p>
Middle	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *Marker 1 [F1] -49.07 dBm *SWT 100 ms 373.38000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:44:15</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *Marker 1 [F1] -38.87 dBm *SWT 150 ms 24.56200000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:44:25</p>
Highest	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz *VSW 300 kHz *Marker 1 [F1] -48.24 dBm *SWT 100 ms 181.32000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:44:40</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz *VSW 3 MHz *Marker 1 [F1] -38.84 dBm *SWT 150 ms 24.71500000 GHz</p> <p>Start 1 GHz 2.55 GHz/ Stop 26.5 GHz</p> <p>ProjectNo.:CR231058641 Tester:Ken Tang Date: 2.NOV.2023 22:44:51</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:32:56</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:33:31</p>
QPSK 10MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:39:14</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:39:47</p>
QPSK 15MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:41:50</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:42:28</p>

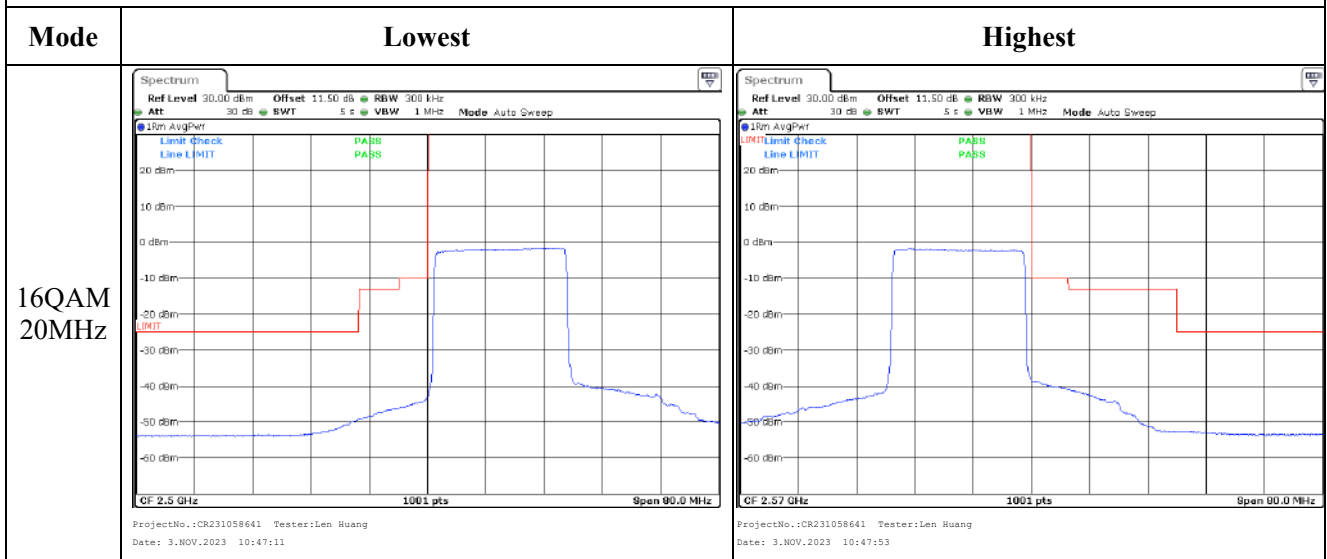
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 5MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:34:24</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:34:59</p>
16QAM 10MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:40:21</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:40:52</p>
16QAM 15MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:43:21</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 3.NOV.2023 10:43:56</p>

Out of band emission, Band Edge



4.10 Antenna Port Test Data and Results for LTE Band 12

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

Environmental Conditions:

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

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

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

Test Frequency for Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	699.7	707.5	715.3
3MHz	700.5	707.5	714.5
5MHz	701.5	707.5	713.5
10MHz	704	707.5	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		
1.4MHz QPSK	RB1#0	23.18	23.21	23.19	15.68	34.77
	RB1#3	23.37	23.41	23.43		
	RB1#5	23.21	23.21	23.24		
	RB3#0	23.27	23.32	23.27		
	RB3#3	23.30	23.29	23.2		
	RB6#0	22.25	22.31	22.29		
1.4MHz 16QAM	RB1#0	22.14	22.36	22.2	14.75	34.77
	RB1#3	22.35	22.45	22.32		
	RB1#5	22.2	22.34	22.18		
	RB3#0	22.35	22.28	22.31		
	RB3#3	22.5	22.29	22.21		
	RB6#0	21.2	21.32	21.19		
3MHz QPSK	RB1#0	23.24	23.30	23.23	15.55	34.77
	RB1#8	23.30	23.27	23.23		
	RB1#14	23.27	23.28	23.25		
	RB6#0	22.25	22.18	22.2		
	RB6#9	22.22	22.20	22.24		
	RB15#0	22.28	22.30	22.25		
3MHz 16QAM	RB1#0	22.39	22.32	23	15.04	34.77
	RB1#8	22.40	22.29	22.69		
	RB1#14	22.40	22.29	22.64		
	RB6#0	21.20	21.16	21.29		
	RB6#9	21.29	21.20	21.26		
	RB15#0	21.23	21.36	21.25		
5MHz QPSK	RB1#0	23.23	23.18	23.14	15.56	34.77
	RB1#13	23.29	23.31	23.24		
	RB1#24	23.2	23.21	23.22		
	RB15#0	22.26	22.24	22.24		
	RB15#10	22.35	22.28	22.2		
	RB25#0	22.25	22.26	22.22		
5MHz 16QAM	RB1#0	22.28	22.07	22.4	14.75	34.77
	RB1#13	22.37	22.21	22.50		
	RB1#24	22.23	22.12	22.38		
	RB15#0	21.30	21.4	21.23		
	RB15#10	21.36	21.29	21.22		
	RB25#0	21.28	21.33	21.21		

10MHz QPSK	RB1#0	23.30	23.28	23.28	15.72	34.77
	RB1#25	23.47	23	23.37		
	RB1#49	23.33	23.29	23.31		
	RB25#0	22.26	22.29	22.35		
	RB25#25	22.30	22.34	22.33		
	RB50#0	22.30	22.33	22.32		
10MHz 16QAM	RB1#0	22.29	22.83	22.42	15.25	34.77
	RB1#25	22.4	23.00	22.50		
	RB1#49	22.32	22.84	22.38		
	RB25#0	21.32	21.38	21.42		
	RB25#25	21.40	21	21.34		
	RB50#0	21.33	21.36	21.37		

Note: ERP= Conducted Power(dBm) - Lc(dB) + G_T(dBd)G_r(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	4.09	4.35	4.41	13
	RB50#0	5.01	5.04	4.96	13
10MHz 16QAM	RB1#0	4.99	5.30	5.16	13
	RB50#0	5.94	6.00	5.94	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	1.102	1.096	1.102	1.290	1.290	1.308
1.4MHz 16QAM	1.090	1.096	1.090	1.290	1.314	1.284
3MHz QPSK	2.683	2.683	2.683	2.868	2.880	2.880
3MHz 16QAM	2.683	2.683	2.683	2.880	2.868	2.880
5MHz QPSK	4.511	4.551	4.531	5.180	5.220	5.200
5MHz 16QAM	4.551	4.511	4.551	5.220	5.160	5.200
10MHz QPSK	8.942	8.982	8.942	9.880	9.960	9.840
10MHz 16QAM	8.942	8.942	8.942	9.800	9.800	9.840

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.
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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	0	699.027	699.00	715.973	716.00
	-20	0	699.004	699.00	715.997	716.00
	-10	0	699.006	699.00	715.980	716.00
	0	0	699.020	699.00	715.989	716.00
	10	0	699.022	699.00	715.980	716.00
	20	0	699.021	699.00	715.997	716.00
	30	0	699.015	699.00	715.983	716.00
	40	0	699.013	699.00	715.986	716.00
Frequency Stability vs. Voltage	20	0	699.007	699.00	715.979	716.00
	20	0	699.012	699.00	715.978	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	0	699.025	699.00	715.996	716.00
	-20	0	699.004	699.00	715.997	716.00
	-10	0	699.019	699.00	715.979	716.00
	0	0	699.022	699.00	715.992	716.00
	10	0	699.012	699.00	715.983	716.00
	20	0	699.011	699.00	715.977	716.00
	30	0	699.011	699.00	715.990	716.00
	40	0	699.016	699.00	715.983	716.00
Frequency Stability vs. Voltage	20	0	699.018	699.00	715.997	716.00
	20	0	699.021	699.00	715.972	716.00
					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.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:08:18</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:08:35</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:08:53</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:09:11</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:09:29</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:09:52</p>

Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:11:18</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:11:33</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:11:51</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:12:08</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:12:27</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:12:44</p>

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:13:51</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:16:34</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:16:56</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:17:16</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:17:35</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:17:59</p>

Occupied Bandwidth

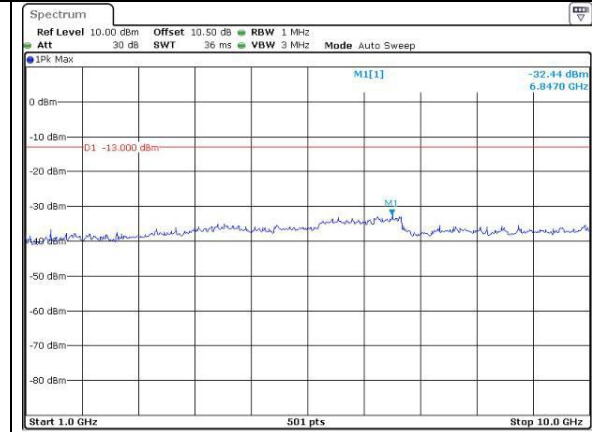
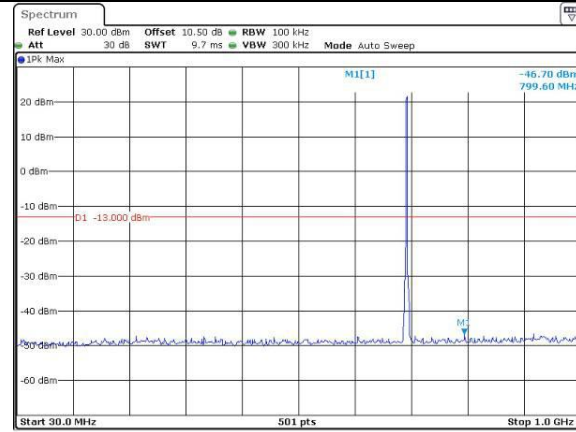
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:19:06</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:19:37</p>
Middle	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:20:04</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:20:35</p>
Highest	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:21:02</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 15:21:36</p>

Spurious Emissions at Antenna Terminal

Channel

1.4MHz Bandwidth QPSK

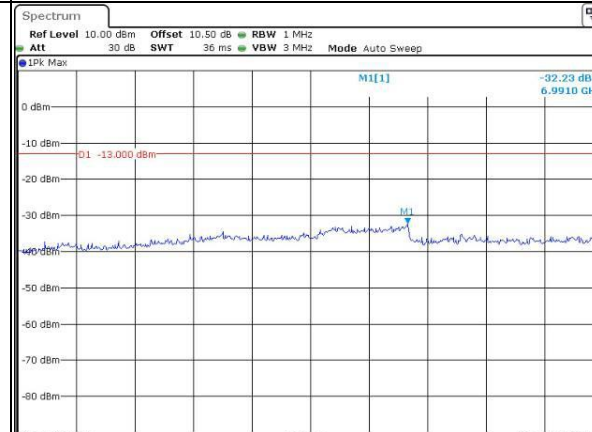
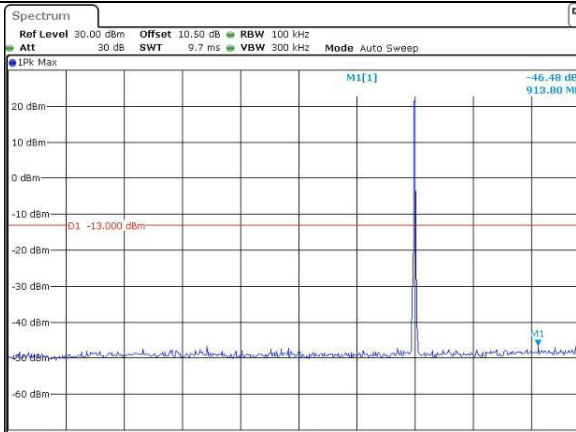
Lowest



ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:00:15

ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:00:35

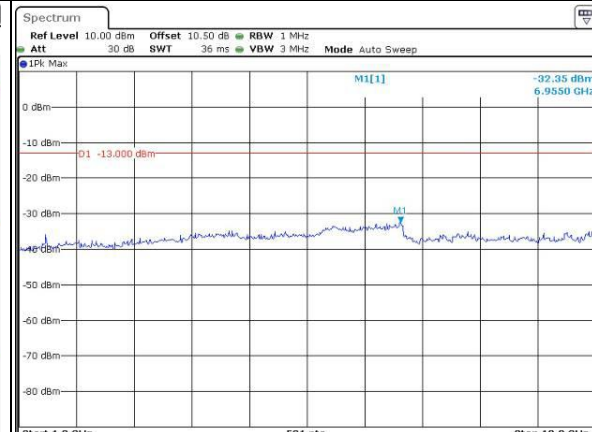
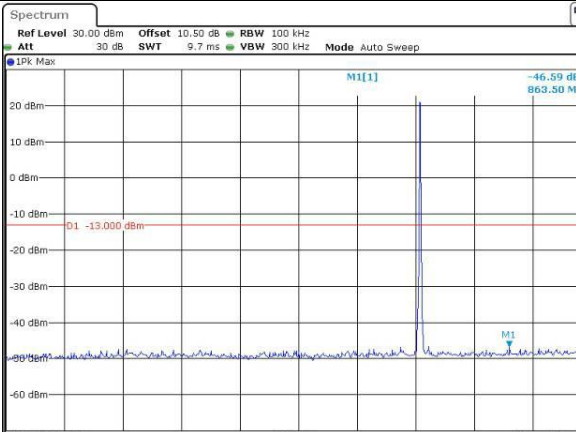
Middle



ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:01:01

ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:01:34

Highest



ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:02:00

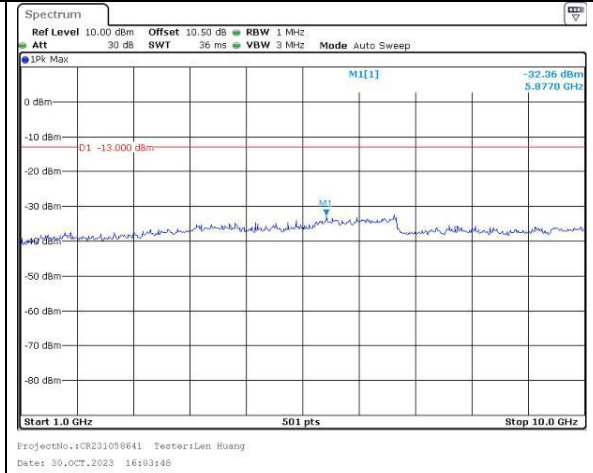
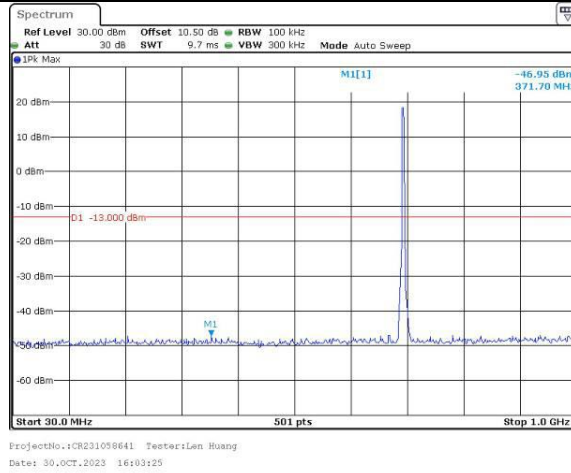
ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:02:30

Spurious Emissions at Antenna Terminal

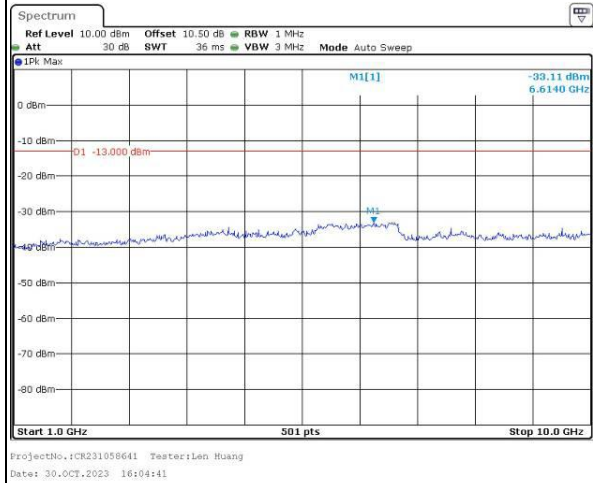
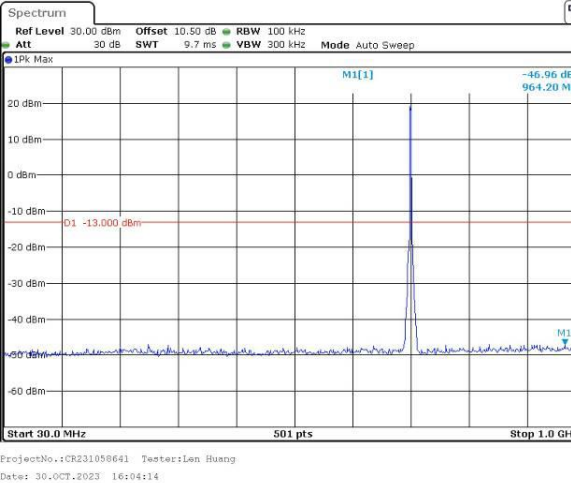
Channel

3MHz Bandwidth QPSK

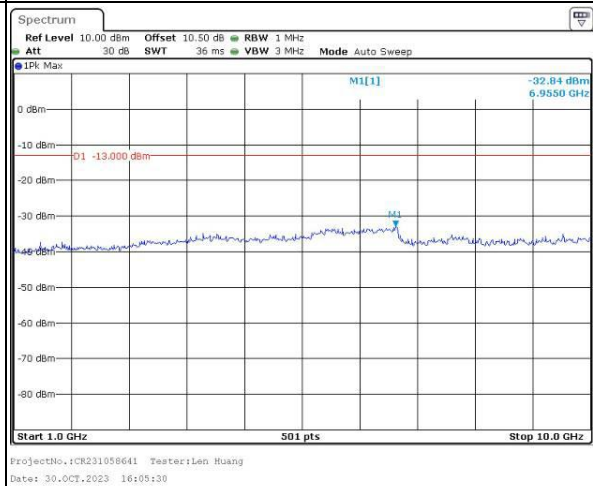
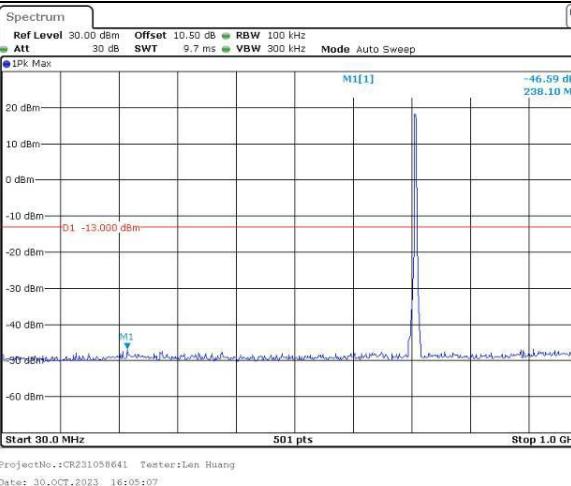
Lowest



Middle



Highest

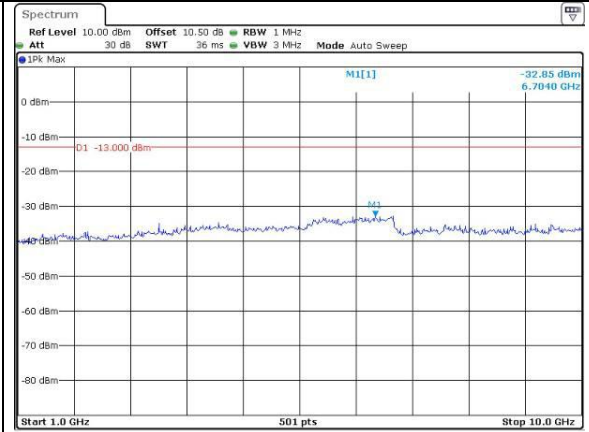
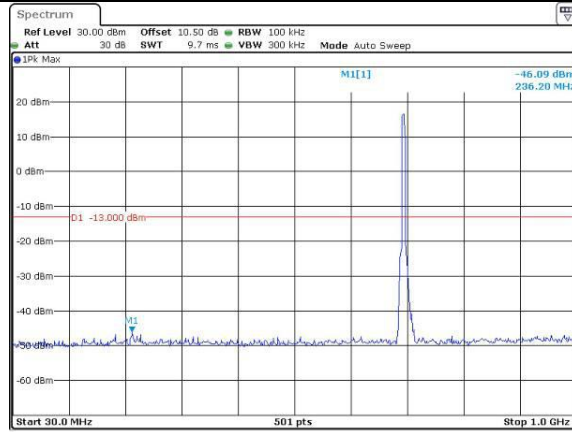


Spurious Emissions at Antenna Terminal

Channel

5MHz Bandwidth QPSK

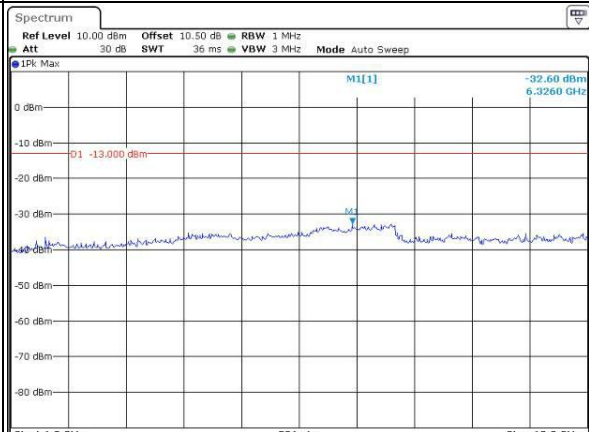
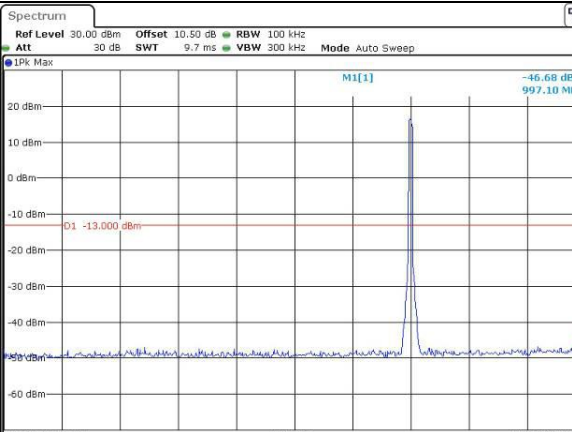
Lowest



ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:06:23

ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:06:49

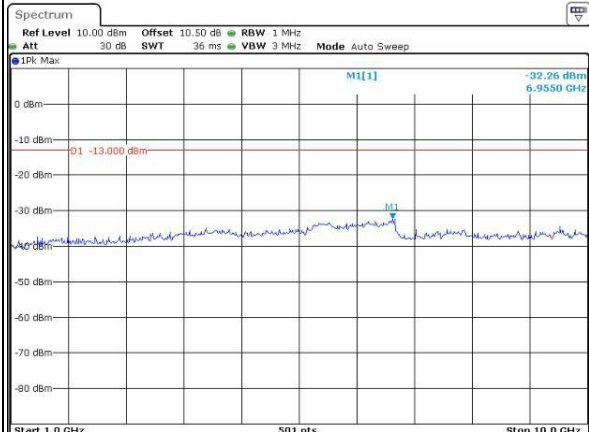
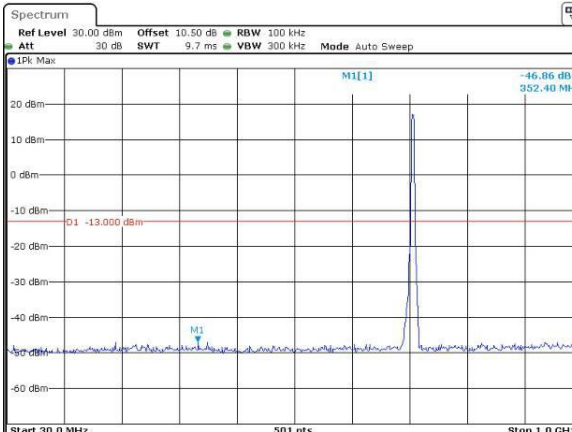
Middle



ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:07:22

ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:07:45

Highest



ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:08:14

ProjectNo.:CR231058641 Tester:Len Huang
Date: 30.OCT.2023 16:08:44

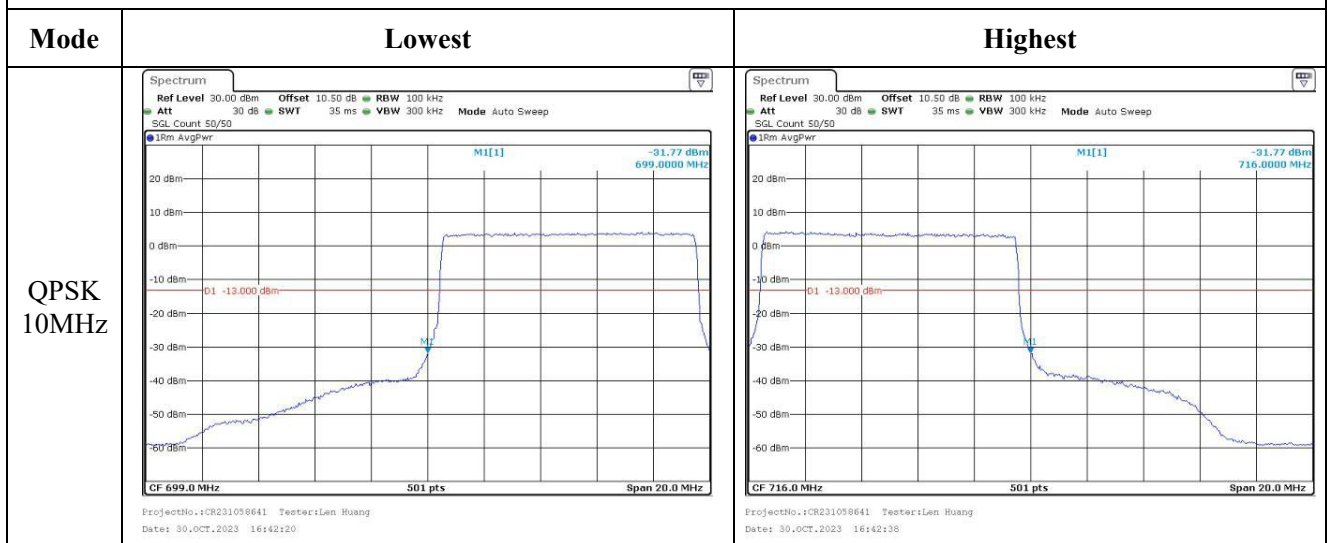
Spurious Emissions at Antenna Terminal

Channel	10MHz Bandwidth QPSK	
Lowest	<p> Spectrum Ref Level 30.00 dBm Offset 10.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep IPk Max M1[1] -46.56 dBm 993.20 MHz D1 -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:09:44 </p>	<p> Spectrum Ref Level 10.00 dBm Offset 10.50 dB RBW 1 MHz Att 30 dB SWT 36 ms VBW 3 MHz Mode Auto Sweep IPk Max M1[1] -31.62 dBm 6.9010 GHz D1 -13.000 dBm Start 1.0 GHz 501 pts Stop 10.0 GHz ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:10:10 </p>
Middle	<p> Spectrum Ref Level 30.00 dBm Offset 10.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep IPk Max M1[1] -45.87 dBm 970.00 MHz D1 -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:12:35 </p>	<p> Spectrum Ref Level 10.00 dBm Offset 10.50 dB RBW 1 MHz Att 30 dB SWT 36 ms VBW 3 MHz Mode Auto Sweep IPk Max M1[1] -32.62 dBm 5.9850 GHz D1 -13.000 dBm Start 1.0 GHz 501 pts Stop 10.0 GHz ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:12:59 </p>
Highest	<p> Spectrum Ref Level 30.00 dBm Offset 10.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep IPk Max M1[1] -47.03 dBm 288.90 MHz D1 -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:13:29 </p>	<p> Spectrum Ref Level 10.00 dBm Offset 10.50 dB RBW 1 MHz Att 30 dB SWT 36 ms VBW 3 MHz Mode Auto Sweep IPk Max M1[1] -33.04 dBm 6.8650 GHz D1 -13.000 dBm Start 1.0 GHz 501 pts Stop 10.0 GHz ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:13:55 </p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:39:23</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:39:39</p>
QPSK 3MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:40:20</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:40:36</p>
QPSK 5MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:41:19</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:41:35</p>

Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:39:31</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:39:46</p>
16QAM 3MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:40:28</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:40:43</p>
16QAM 5MHz	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:41:27</p>	<p>ProjectNo.:CR231058641 Tester:Len Huang Date: 30.OCT.2023 16:41:43</p>