

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -16.50 dBm Occ Bw 1.8501200 GHz D1[1] 0.982035929 MHz D1[1] 1.67 dB CF 1.855 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:16:06</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -13.60 dBm Occ Bw 1.8501600 GHz D1[1] 8.982035928 MHz D1[1] -0.85 dB D2 -14.090 dBm CF 1.855 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:16:34</p>
Middle	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -16.04 dBm Occ Bw 1.8751200 GHz D1[1] 8.942115768 MHz D1[1] 0.88 dB D2 -15.540 dBm CF 1.88 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:17:00</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -16.90 dBm Occ Bw 1.8750400 GHz D1[1] 8.942115768 MHz D1[1] 0.58 dB D2 -16.870 dBm CF 1.88 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:17:34</p>
Highest	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -15.34 dBm Occ Bw 1.9001600 GHz D1[1] 8.942115768 MHz D1[1] -0.66 dB D2 -16.270 dBm CF 1.905 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:18:06</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -17.07 dBm Occ Bw 1.9001200 GHz D1[1] 8.942115768 MHz D1[1] 0.68 dB D2 -17.390 dBm CF 1.905 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:18:36</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Occupied Bandwidth

Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -13.43 dBm Occ Bw 1.8502400 GHz D1[1] 17.964071856 MHz D2 -13.030 dBm</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -14.54 dBm Occ Bw 1.8501600 GHz D1[1] 18.043912176 MHz D2 -13.800 dBm</p>
Middle	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -13.17 dBm Occ Bw 1.8702400 GHz D1[1] 17.964071856 MHz D2 -13.290 dBm</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -13.29 dBm Occ Bw 1.8700800 GHz D1[1] 18.043912176 MHz D2 -14.410 dBm</p>
Highest	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -12.64 dBm Occ Bw 1.8902400 GHz D1[1] 17.964071856 MHz D2 -13.670 dBm</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -14.36 dBm Occ Bw 1.8902400 GHz D1[1] 17.964071856 MHz D2 -14.600 dBm</p>

Spurious Emissions at Antenna Terminal

Channel	1.4MHz Bandwidth QPSK	
Lowest	<p>Ref Level 10.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep</p> <p>1Pk Max M1[1] -52.80 dBm 927.40 MHz</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>Date: 24.NOV.2021 21:15:06</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz Att 40 dB SWT 76 ms VBW 3 MHz Mode Sweep</p> <p>1Pk Max M1[1] -27.01 dBm 16.4160 GHz</p> <p>Start 1.0 GHz 501 pts Stop 20.0 GHz</p> <p>Date: 24.NOV.2021 21:15:31</p>
Middle	<p>Ref Level 10.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep</p> <p>1Pk Max M1[1] -53.13 dBm 867.40 MHz</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>Date: 24.NOV.2021 21:16:08</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz Att 40 dB SWT 76 ms VBW 3 MHz Mode Sweep</p> <p>1Pk Max M1[1] -27.79 dBm 19.7160 GHz</p> <p>Start 1.0 GHz 501 pts Stop 20.0 GHz</p> <p>Date: 24.NOV.2021 21:16:33</p>
Highest	<p>Ref Level 10.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep</p> <p>1Pk Max M1[1] -53.06 dBm 999.00 MHz</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>Date: 24.NOV.2021 21:17:02</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz Att 40 dB SWT 76 ms VBW 3 MHz Mode Sweep</p> <p>1Pk Max M1[1] -27.41 dBm 16.8710 GHz</p> <p>Start 1.0 GHz 501 pts Stop 20.0 GHz</p> <p>Date: 24.NOV.2021 21:17:31</p>

Spurious Emissions at Antenna Terminal

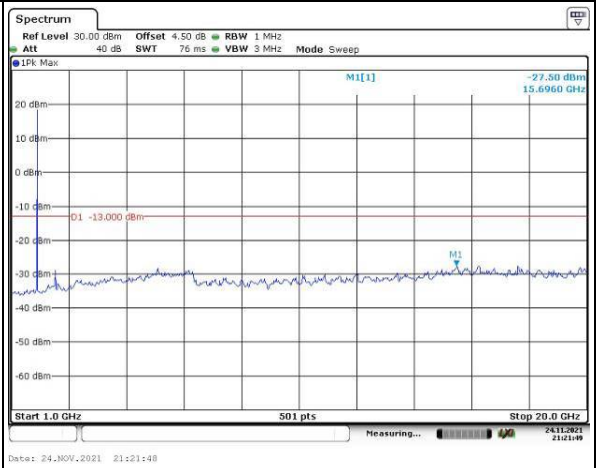
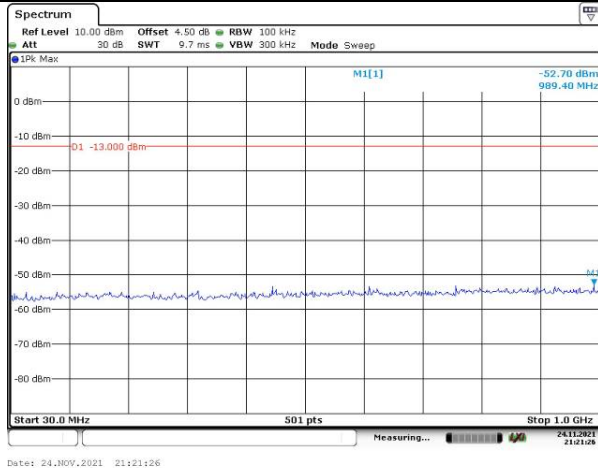
Channel	3MHz Bandwidth QPSK	
Lowest	<p>Ref Level 10.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep</p> <p>1Pk Max M1[1] -53.47 dBm 935.10 MHz</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>Date: 24.NOV.2021 21:18:35</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz Att 40 dB SWT 76 ms VBW 3 MHz Mode Sweep</p> <p>1Pk Max M1[1] -27.17 dBm 17.7440 GHz</p> <p>Start 1.0 GHz 501 pts Stop 20.0 GHz</p> <p>Date: 24.NOV.2021 21:19:00</p>
Middle	<p>Ref Level 10.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep</p> <p>1Pk Max M1[1] -53.06 dBm 743.50 MHz</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>Date: 24.NOV.2021 21:19:30</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz Att 40 dB SWT 76 ms VBW 3 MHz Mode Sweep</p> <p>1Pk Max M1[1] -27.40 dBm 15.9610 GHz</p> <p>Start 1.0 GHz 501 pts Stop 20.0 GHz</p> <p>Date: 24.NOV.2021 21:19:52</p>
Highest	<p>Ref Level 10.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep</p> <p>1Pk Max M1[1] -53.26 dBm 813.20 MHz</p> <p>Start 30.0 MHz 501 pts Stop 1.0 GHz</p> <p>Date: 24.NOV.2021 21:20:25</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz Att 40 dB SWT 76 ms VBW 3 MHz Mode Sweep</p> <p>1Pk Max M1[1] -27.11 dBm 6.9730 GHz</p> <p>Start 1.0 GHz 501 pts Stop 20.0 GHz</p> <p>Date: 24.NOV.2021 21:20:53</p>

Spurious Emissions at Antenna Terminal

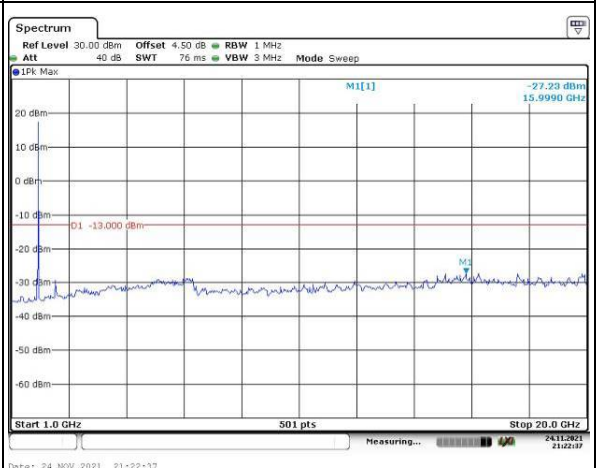
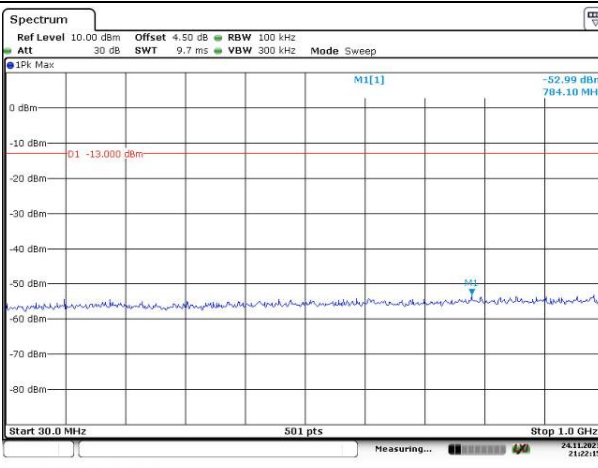
Channel

5MHz Bandwidth QPSK

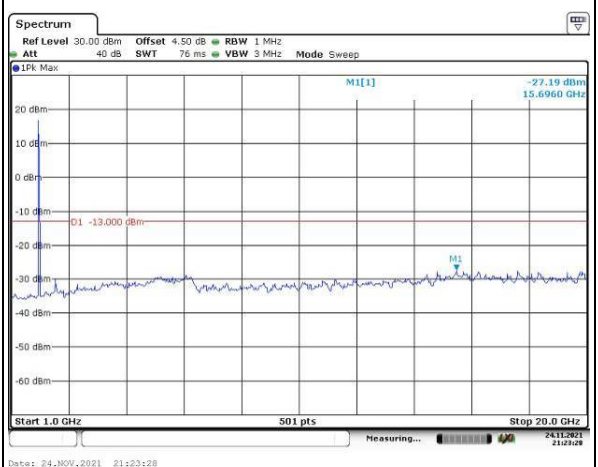
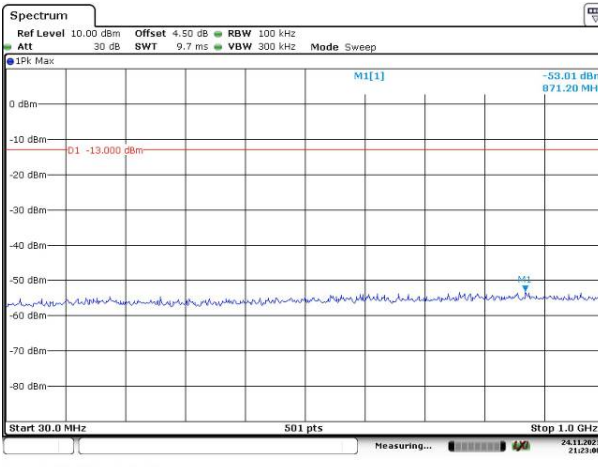
Lowest



Middle



Highest

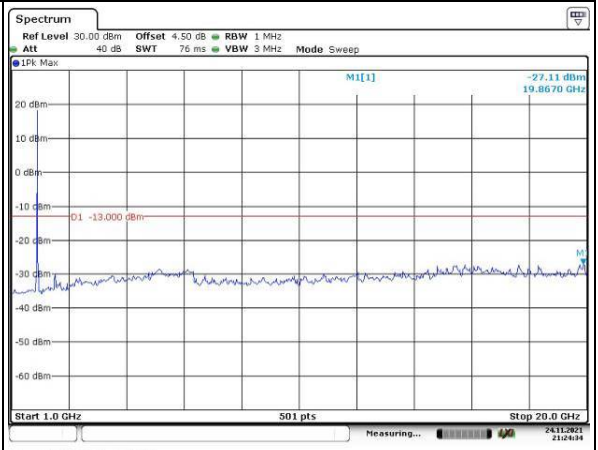
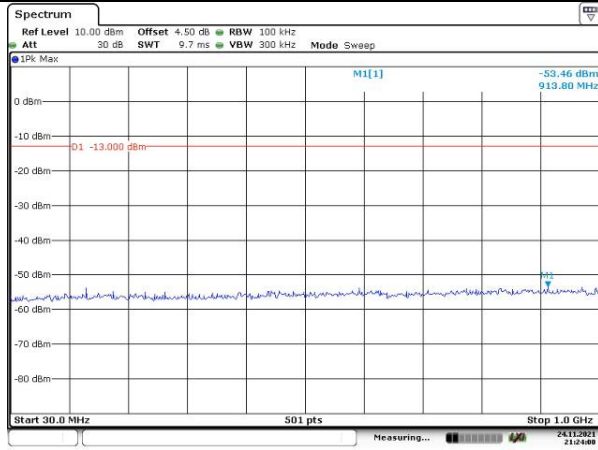


### Spurious Emissions at Antenna Terminal

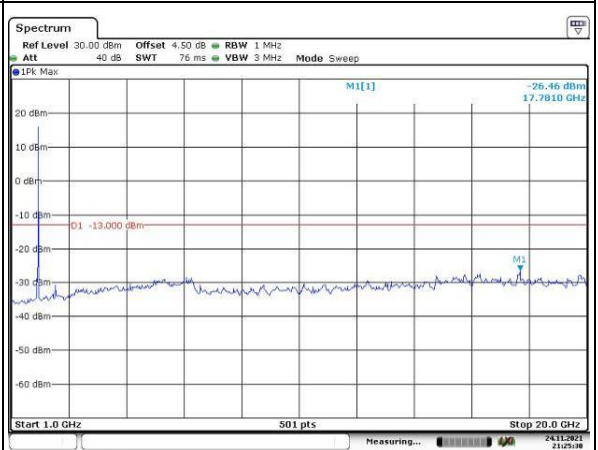
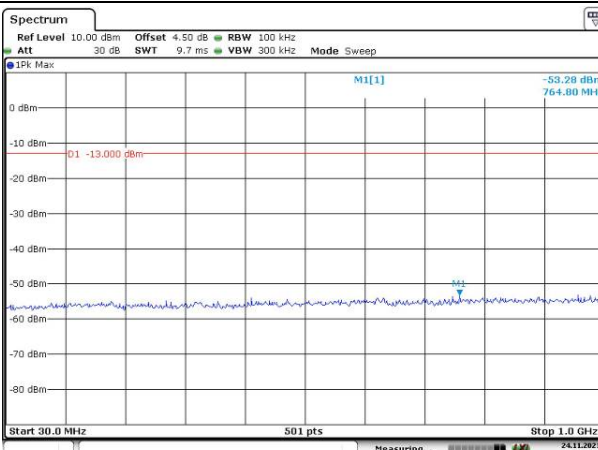
Channel

10MHz Bandwidth QPSK

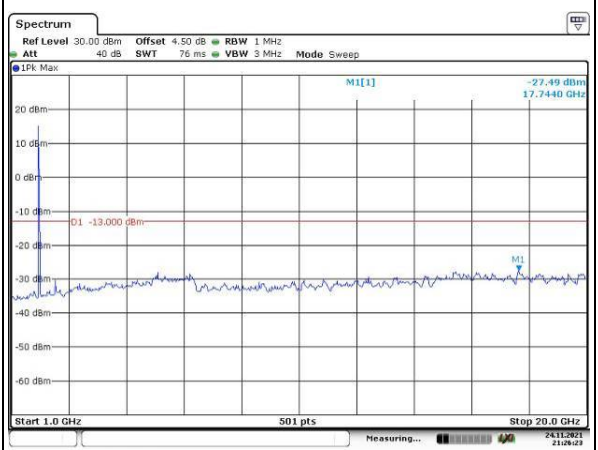
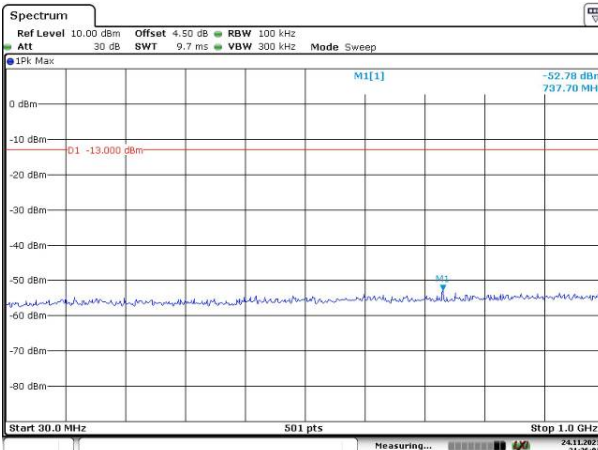
Lowest



Middle



Highest

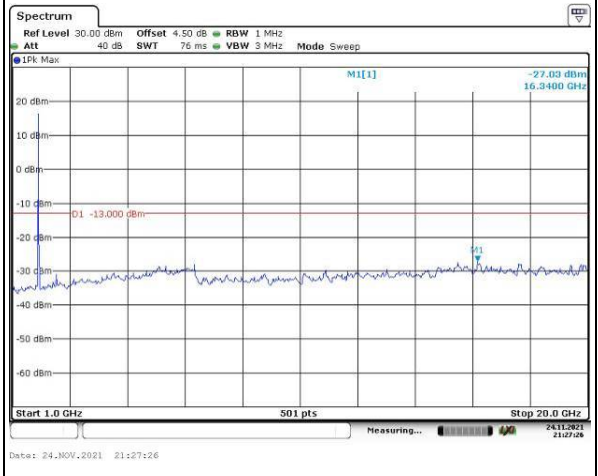
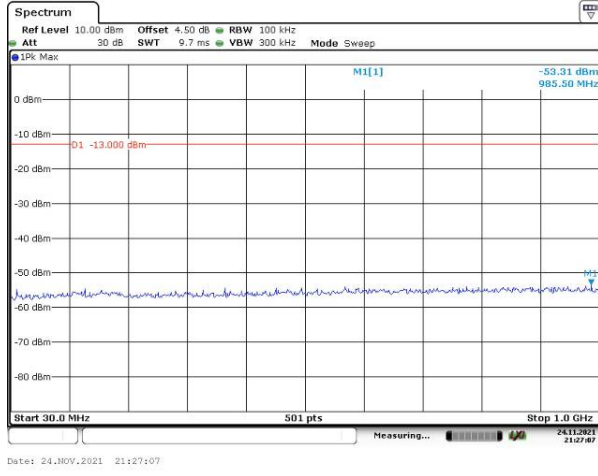


Spurious Emissions at Antenna Terminal

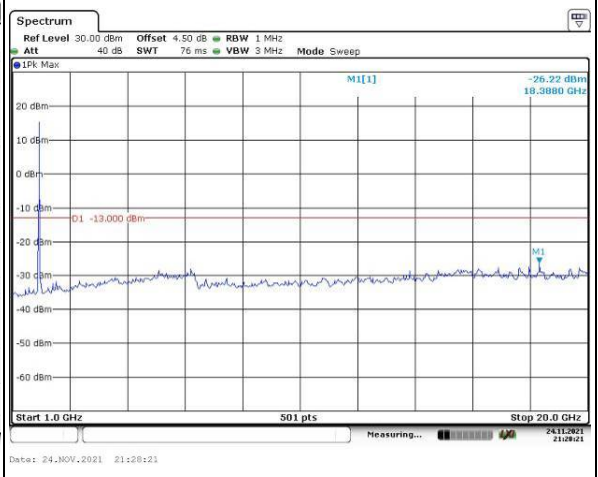
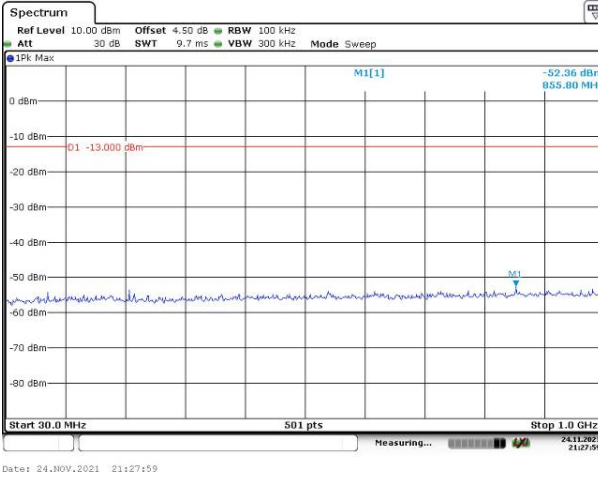
Channel

15MHz Bandwidth QPSK

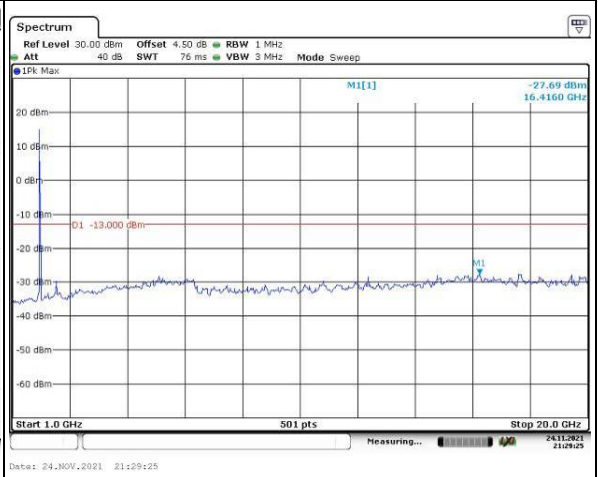
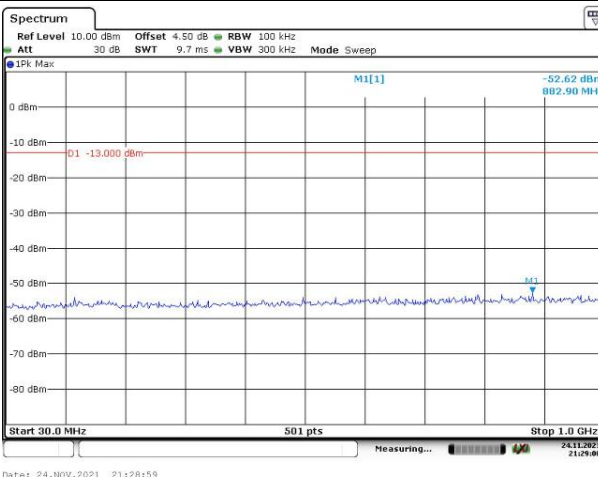
Lowest



Middle



Highest



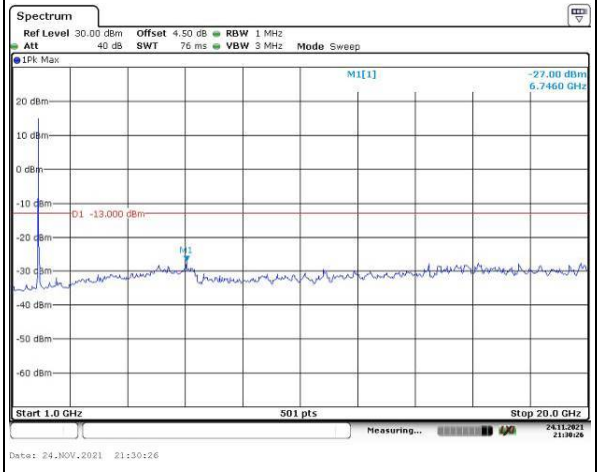
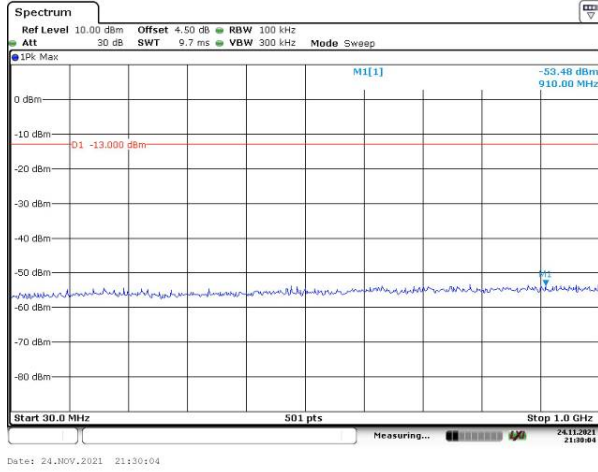


**Spurious Emissions at Antenna Terminal**

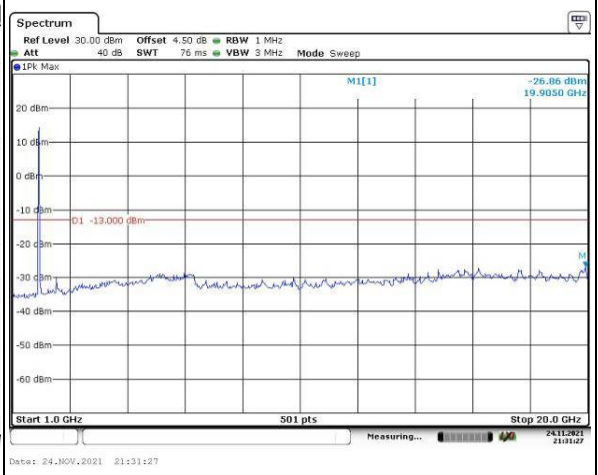
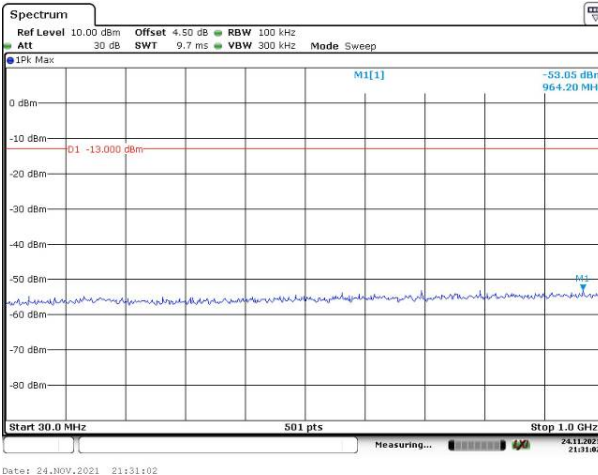
**Channel**

**20MHz Bandwidth QPSK**

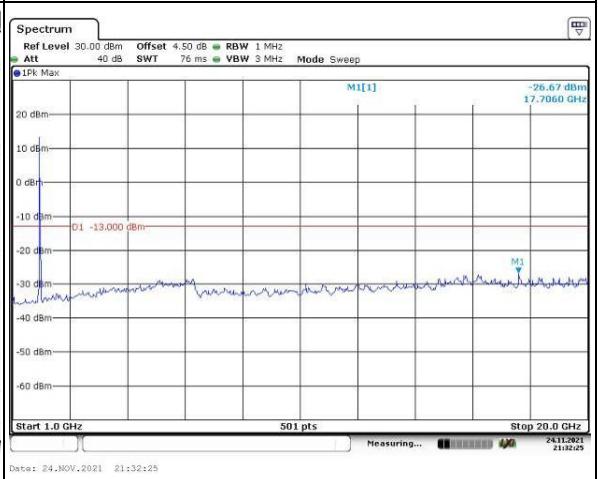
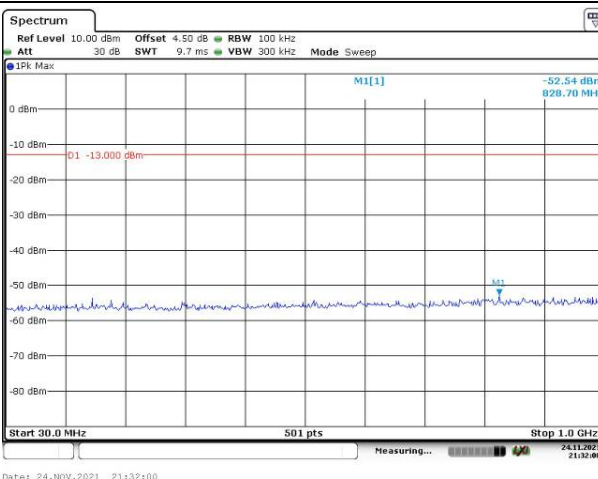
**Lowest**



**Middle**



**Highest**



Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>M1[1] -23.04 dBm 1.85000000 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.85 GHz 501 pts Span 3.0 MHz</p> <p>Date: 23.NOV.2021 21:26:31</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>M1[1] -23.90 dBm 1.91001800 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.91 GHz 501 pts Span 3.0 MHz</p> <p>Date: 23.NOV.2021 21:27:12</p>
QPSK 3MHz	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>M1[1] -14.99 dBm 1.85000000 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.85 GHz 501 pts Span 6.0 MHz</p> <p>Date: 23.NOV.2021 21:29:45</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>M1[1] -17.64 dBm 1.91000000 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.91 GHz 501 pts Span 6.0 MHz</p> <p>Date: 23.NOV.2021 21:30:23</p>
QPSK 5MHz	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep</p> <p>M1[1] -13.31 dBm 1.85000000 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.85 GHz 501 pts Span 10.0 MHz</p> <p>Date: 23.NOV.2021 21:32:11</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep</p> <p>M1[1] -16.72 dBm 1.91000000 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.91 GHz 501 pts Span 10.0 MHz</p> <p>Date: 23.NOV.2021 21:33:14</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 10MHz	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Fm Max M1[1] -21.72 dBm 1.8500000 GHz D1 -13.000 dBm CF 1.85 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 21:34:21</p>	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Fm Max M1[1] -23.60 dBm 1.9100400 GHz D1 -13.000 dBm CF 1.91 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 21:35:26</p>
QPSK 15MHz	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Fm Max M1[1] -13.75 dBm 1.8500000 GHz D1 -13.000 dBm CF 1.85 GHz 501 pts Span 30.0 MHz Date: 23.NOV.2021 21:36:33</p>	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Fm Max M1[1] -13.79 dBm 1.9100000 GHz D1 -13.000 dBm CF 1.91 GHz 501 pts Span 30.0 MHz Date: 23.NOV.2021 21:37:27</p>
QPSK 20MHz	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Fm Max M1[1] -21.14 dBm 1.8500000 GHz D1 -13.000 dBm CF 1.85 GHz 501 pts Span 40.0 MHz Date: 23.NOV.2021 21:38:30</p>	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Fm Max M1[1] -18.65 dBm 1.9100000 GHz D1 -13.000 dBm CF 1.91 GHz 501 pts Span 40.0 MHz Date: 23.NOV.2021 21:39:30</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>1Rm Max M1[1] -22.83 dBm 1.8500000 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.85 GHz 501 pts Span 3.0 MHz</p> <p>Date: 23.NOV.2021 21:26:51</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>1Rm Max M1[1] -22.42 dBm 1.91004190 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.91 GHz 501 pts Span 3.0 MHz</p> <p>Date: 23.NOV.2021 21:27:35</p>
16QAM 3MHz	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>1Rm Max M1[1] -15.97 dBm 1.8500000 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.85 GHz 501 pts Span 6.0 MHz</p> <p>Date: 23.NOV.2021 21:30:02</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>1Rm Max M1[1] -17.30 dBm 1.9100000 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.91 GHz 501 pts Span 6.0 MHz</p> <p>Date: 23.NOV.2021 21:30:46</p>
16QAM 5MHz	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep</p> <p>1Rm Max M1[1] -13.60 dBm 1.8500000 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.85 GHz 501 pts Span 10.0 MHz</p> <p>Date: 23.NOV.2021 21:32:41</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep</p> <p>1Rm Max M1[1] -15.51 dBm 1.9100000 GHz</p> <p>D1 -13.000 dBm</p> <p>CF 1.91 GHz 501 pts Span 10.0 MHz</p> <p>Date: 23.NOV.2021 21:33:50</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 10MHz		
16QAM 15MHz		
16QAM 20MHz		

**4.6 Antenna Port Test Data and Results for LTE Band 4:**

Serial Number:	CR21110014-RF-S1	Test Date:	2021/11/23~2021/11/24
Test Site:	RF	Test Mode:	Transmitting
Tester:	LE Qiao	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	21.2~22.1	Relative Humidity: (%)	36~41	ATM Pressure: (kPa)	101.7
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2021/7/22	2022/7/21
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2021/7/22	2022/7/21
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021/7/22	2022/7/22
UNI-T	Multimeter	UT39A+	C210582554	2021/9/30	2022/9/30
E-Microwave	Two-way Splitter	ODP-1-6	OE0120176	Each Time	N/A
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D09	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).

**EUT Information@ LTE Band 4▲:**

Antenna Gain (dBi):	1	Cable Loss (dB):	0
Operation Voltage(V <sub>DC</sub> ):			
Lowest:	3.5	Normal:	3.7
		Highest:	4.2

**Test Frequency For Each Mode:**

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	1710.7	1732.5	1754.3
3MHz	1711.5	1732.5	1753.5
5MHz	1712.5	1732.5	1752.5
10MHz	1715	1732.5	1750
15MHz	1717.5	1732.5	1747.5
20MHz	1720	1732.5	1745

**Test Data:**

<b>FCC§2.1046;§ 27.50(d)(4)</b>						
<b>RF Output Power:</b>						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	21.40	21.13	21.19	22.45	30
	RB1#3	21.41	21.19	21.19		
	RB1#5	21.36	21.13	21.14		
	RB3#0	21.45	21.28	21.16		
	RB3#3	21.45	21.27	21.10		
	RB6#0	20.32	20.26	20.06		
1.4MHz 16QAM	RB1#0	21.07	20.01	21.09	22.13	30
	RB1#3	21.13	20.11	21.05		
	RB1#5	21.10	20.10	21.07		
	RB3#0	20.53	20.35	20.27		
	RB3#3	20.54	20.27	20.26		
	RB6#0	19.73	19.57	19.17		
3MHz QPSK	RB1#0	21.30	21.14	21.32	22.32	30
	RB1#8	21.31	21.11	21.28		
	RB1#14	21.24	21.06	21.30		
	RB6#0	20.39	20.29	20.09		
	RB6#9	20.33	20.28	20.06		
	RB15#0	20.34	20.12	20.11		
3MHz 16QAM	RB1#0	20.84	20.98	20.24	21.98	30
	RB1#8	20.78	20.93	20.20		
	RB1#14	20.70	20.87	20.20		
	RB6#0	19.42	19.46	19.55		
	RB6#9	19.38	19.45	19.46		
	RB15#0	19.52	19.35	19.30		
5MHz QPSK	RB1#0	21.39	21.27	20.95	22.39	30
	RB1#13	21.31	21.29	21.01		
	RB1#24	21.28	21.25	20.94		
	RB15#0	20.31	20.11	20.12		
	RB15#10	20.35	20.18	20.08		
	RB25#0	20.21	20.08	20.07		
5MHz 16QAM	RB1#0	19.62	20.43	19.70	21.44	30
	RB1#13	19.56	20.41	19.68		
	RB1#24	19.57	20.44	19.71		
	RB15#0	19.56	19.26	19.22		
	RB15#10	19.53	19.25	19.22		
	RB25#0	19.57	19.40	19.09		
10MHz QPSK	RB1#0	21.30	21.23	21.25	22.3	30

	RB1#25	21.18	21.13	21.18		
	RB1#49	21.15	21.12	21.26		
	RB25#0	20.35	20.23	20.12		
	RB25#25	20.24	20.18	20.04		
	RB50#0	20.29	20.17	20.09		
10MHz 16QAM	RB1#0	20.61	20.41	19.70	21.61	30
	RB1#25	20.57	20.43	19.75		
	RB1#49	20.47	20.33	19.69		
	RB25#0	19.46	19.40	19.27		
	RB25#25	19.44	19.41	19.35		
	RB50#0	19.50	19.46	19.27		
15MHz QPSK	RB1#0	21.28	21.24	21.26	22.28	30
	RB1#38	21.19	21.11	21.21		
	RB1#74	21.12	21.12	21.24		
	RB36#0	20.33	20.24	20.07		
	RB36#39	20.25	20.08	20.14		
	RB75#0	20.21	20.19	20.16		
15MHz 16QAM	RB1#0	20.60	20.37	20.53	21.6	30
	RB1#38	20.49	20.43	20.55		
	RB1#74	20.54	20.34	20.49		
	RB36#0	19.53	19.39	19.28		
	RB36#39	19.44	19.34	19.18		
	RB75#0	19.48	19.37	19.26		
20MHz QPSK	RB1#0	21.53	21.16	21.15	22.53	30
	RB1#50	21.30	21.09	21.13		
	RB1#99	21.39	21.02	21.23		
	RB50#0	20.28	20.29	20.20		
	RB50#50	20.23	20.15	20.17		
	RB100#0	20.30	20.11	20.08		
20MHz 16QAM	RB1#0	20.33	20.65	20.72	21.75	30
	RB1#50	20.28	20.59	20.68		
	RB1#99	20.35	20.53	20.75		
	RB50#0	19.53	19.41	19.22		
	RB50#50	19.48	19.37	19.21		
	RB100#0	19.40	19.33	19.30		
Note: EIRP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBi)						
					<b>Result:</b>	<b>Pass</b>



<b>Peak-to-average Ratio(PAR)</b>					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	5.19	3.86	3.71	13
	RB100#0	5.19	4.35	4.99	13
20MHz 16QAM	RB1#0	5.97	5.19	4.20	13
	RB100#0	6.14	5.36	5.77	13
				<b>Result:</b>	<b>Pass</b>

<b>FCC §2.1049, §27.53:Occupied Bandwidth</b>						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.102	1.102	1.102	1.254	1.248	1.260
1.4MHz 16QAM	1.108	1.102	1.102	1.266	1.254	1.260
3MHz QPSK	2.707	2.695	2.695	3.000	2.988	3.024
3MHz 16QAM	2.695	2.683	2.683	3.012	3.012	3.036
5MHz QPSK	4.531	4.511	4.511	5.000	5.000	5.000
5MHz 16QAM	4.511	4.531	4.551	4.980	5.020	5.020
10MHz QPSK	8.981	8.942	8.981	9.760	9.760	9.800
10MHz 16QAM	8.981	8.981	8.942	9.720	9.840	9.800
15MHz QPSK	13.533	13.533	13.533	15.060	15.000	15.060
15MHz 16QAM	13.533	13.533	13.593	15.060	15.060	15.180
20MHz QPSK	18.044	17.964	17.964	19.760	19.600	19.760
20MHz 16QAM	17.964	18.044	18.044	19.760	19.840	20.000

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

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

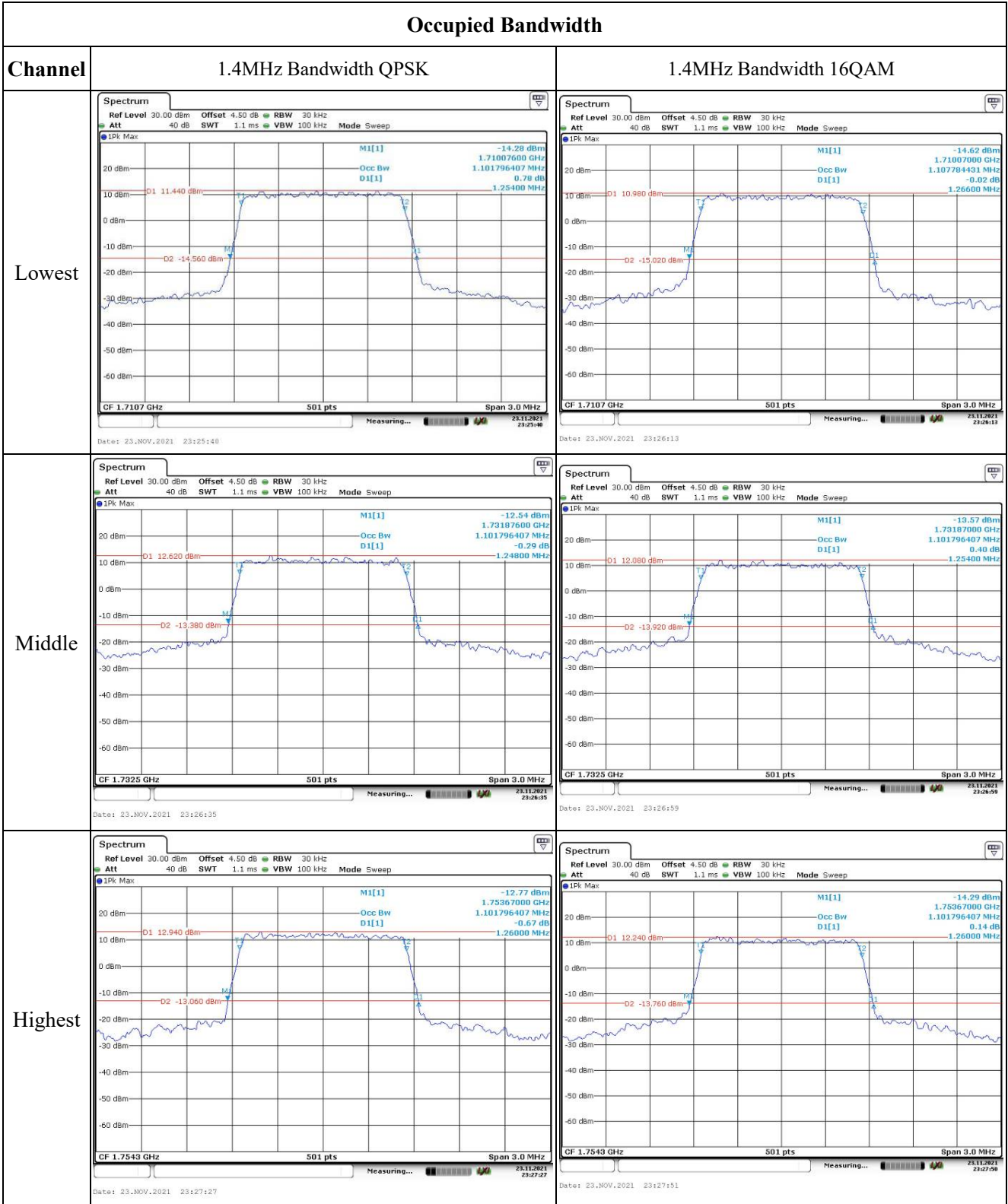
<b>FCC §2.1051, § 27.53:Out of band emission, Band Edge</b>	
<b>Result:</b>	<b>Pass, Please refer to the test plots of Out of band emission, Band Edge.</b>

FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	1710.528	1710.00	1754.473	1755
	-20	3.7	1710.527	1710.00	1754.472	1755
	-10	3.7	1710.526	1710.00	1754.474	1755
	0	3.7	1710.526	1710.00	1754.474	1755
	10	3.7	1710.522	1710.00	1754.473	1755
	20	3.7	1710.529	1710.00	1754.471	1755
	30	3.7	1710.532	1710.00	1754.476	1755
	40	3.7	1710.533	1710.00	1754.478	1755
Frequency Stability vs. Voltage	20	3.5	1710.522	1710.00	1754.474	1755
	20	4.2	1710.523	1710.00	1754.471	1755
					<b>Result:</b>	<b>Pass</b>

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	1710.526	1710.00	1754.511	1755
	-20	3.7	1710.522	1710.00	1754.513	1755
	-10	3.7	1710.525	1710.00	1754.515	1755
	0	3.7	1710.528	1710.00	1754.517	1755
	10	3.7	1710.524	1710.00	1754.518	1755
	20	3.7	1710.529	1710.00	1754.511	1755
	30	3.7	1710.526	1710.00	1754.519	1755
	40	3.7	1710.525	1710.00	1754.510	1755
Frequency Stability vs. Voltage	20	3.5	1710.525	1710.00	1754.516	1755
	20	4.2	1710.529	1710.00	1754.518	1755
					<b>Result:</b>	<b>Pass</b>

Test Plots:

Occupied Bandwidth



Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Pk Max M1[1] -16.13 dBm Occ Bw 1.710000 GHz D1[1] 2.706306626 MHz -0.65 dB 3.0000 MHz CF 1.7115 GHz 501 pts Span 6.0 MHz Date: 23.NOV.2021 23:28:22</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Pk Max M1[1] -17.96 dBm Occ Bw 1.710000 GHz D1[1] 2.694610778 MHz 0.85 dB 3.0120 MHz CF 1.7115 GHz 501 pts Span 6.0 MHz Date: 23.NOV.2021 23:28:46</p>
Middle	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Pk Max M1[1] -15.80 dBm Occ Bw 1.7310120 GHz D1[1] 2.694610778 MHz -1.02 dB 2.9880 MHz CF 1.7325 GHz 501 pts Span 6.0 MHz Date: 23.NOV.2021 23:29:13</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Pk Max M1[1] -17.99 dBm Occ Bw 1.7309880 GHz D1[1] 2.682634731 MHz 0.64 dB 3.0120 MHz CF 1.7325 GHz 501 pts Span 6.0 MHz Date: 23.NOV.2021 23:29:37</p>
Highest	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Pk Max M1[1] -16.91 dBm Occ Bw 1.7519880 GHz D1[1] 2.694610778 MHz -0.06 dB 3.0240 MHz CF 1.7535 GHz 501 pts Span 6.0 MHz Date: 23.NOV.2021 23:29:58</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Pk Max M1[1] -16.05 dBm Occ Bw 1.7519880 GHz D1[1] 2.682634731 MHz -0.39 dB 3.0360 MHz CF 1.7535 GHz 501 pts Span 6.0 MHz Date: 23.NOV.2021 23:30:22</p>

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>                     Spectrum                      Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      M1[1] -15.10 dBm                      Occ Bw 4.53098124 MHz                      D1[1] 0.51 dB                      5.0000 MHz                      CF 1.7125 GHz 501 pts Span 10.0 MHz                      Date: 23.NOV.2021 23:30:54                 </p>	<p>                     Spectrum                      Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      M1[1] -13.83 dBm                      Occ Bw 4.510978044 MHz                      D1[1] -1.58 dB                      4.9800 MHz                      CF 1.7125 GHz 501 pts Span 10.0 MHz                      Date: 23.NOV.2021 23:31:21                 </p>
Middle	<p>                     Spectrum                      Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      M1[1] -14.92 dBm                      Occ Bw 4.510978044 MHz                      D1[1] 1.49 dB                      5.0000 MHz                      CF 1.7325 GHz 501 pts Span 10.0 MHz                      Date: 23.NOV.2021 23:31:51                 </p>	<p>                     Spectrum                      Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      M1[1] -15.24 dBm                      Occ Bw 4.53098124 MHz                      D1[1] -0.53 dB                      5.0200 MHz                      CF 1.7325 GHz 501 pts Span 10.0 MHz                      Date: 23.NOV.2021 23:32:24                 </p>
Highest	<p>                     Spectrum                      Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      M1[1] -13.33 dBm                      Occ Bw 4.510978044 MHz                      D1[1] 0.45 dB                      5.0000 MHz                      CF 1.7525 GHz 501 pts Span 10.0 MHz                      Date: 23.NOV.2021 23:33:01                 </p>	<p>                     Spectrum                      Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      M1[1] -14.01 dBm                      Occ Bw 4.55098204 MHz                      D1[1] -0.04 dB                      5.0200 MHz                      CF 1.7525 GHz 501 pts Span 10.0 MHz                      Date: 23.NOV.2021 23:33:31                 </p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -16.99 dBm Occ Bw 8.982035928 MHz D1[1] 1.07 dB 9.7600 MHz D2 -16.760 dBm CF 1.715 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:34:01</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -15.61 dBm Occ Bw 8.982035928 MHz D1[1] -0.13 dB 9.7200 MHz D2 -16.280 dBm CF 1.715 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:34:32</p>
Middle	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -16.29 dBm Occ Bw 8.942115768 MHz D1[1] -0.15 dB 9.7600 MHz D2 -17.060 dBm CF 1.7325 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:34:58</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -18.24 dBm Occ Bw 8.982035928 MHz D1[1] 0.81 dB 9.8400 MHz D2 -17.530 dBm CF 1.7325 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:35:29</p>
Highest	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -16.42 dBm Occ Bw 8.982035928 MHz D1[1] 0.32 dB 9.8000 MHz D2 -16.250 dBm CF 1.75 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:35:54</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -15.96 dBm Occ Bw 8.942115768 MHz D1[1] 0.81 dB 9.8000 MHz D2 -16.710 dBm CF 1.75 GHz 501 pts Span 20.0 MHz Date: 23.NOV.2021 23:36:19</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz                      Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep                      1Pk Max                      M1[1] -13.92 dBm                      Occ Bw 15.0600 MHz                      D1[1] 12.800 dBm                      D2 -13.200 dBm                      CF 1.7175 GHz 501 pts Span 30.0 MHz                      Date: 23.NOV.2021 23:36:50</p>	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz                      Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep                      1Pk Max                      M1[1] -15.01 dBm                      Occ Bw 15.0600 MHz                      D1[1] 11.290 dBm                      D2 -14.710 dBm                      CF 1.7175 GHz 501 pts Span 30.0 MHz                      Date: 23.NOV.2021 23:37:17</p>
Middle	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz                      Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep                      1Pk Max                      M1[1] -12.74 dBm                      Occ Bw 15.0000 MHz                      D1[1] 12.320 dBm                      D2 -13.680 dBm                      CF 1.7325 GHz 501 pts Span 30.0 MHz                      Date: 23.NOV.2021 23:41:03</p>	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz                      Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep                      1Pk Max                      M1[1] -13.98 dBm                      Occ Bw 15.0600 MHz                      D1[1] 11.740 dBm                      D2 -14.260 dBm                      CF 1.7325 GHz 501 pts Span 30.0 MHz                      Date: 23.NOV.2021 23:41:30</p>
Highest	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz                      Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep                      1Pk Max                      M1[1] -12.66 dBm                      Occ Bw 15.0600 MHz                      D1[1] 12.700 dBm                      D2 -13.300 dBm                      CF 1.7475 GHz 501 pts Span 30.0 MHz                      Date: 23.NOV.2021 23:41:58</p>	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz                      Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep                      1Pk Max                      M1[1] -14.18 dBm                      Occ Bw 15.1800 MHz                      D1[1] 11.980 dBm                      D2 -14.020 dBm                      CF 1.7475 GHz 501 pts Span 30.0 MHz                      Date: 23.NOV.2021 23:42:25</p>

Occupied Bandwidth

Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max -13.88 dBm M1[1] 1.7102400 GHz Occ Bw 10.043912176 MHz D1[1] -1.41 dB D2 -14.310 dBm CF 1.72 GHz 501 pts Span 40.0 MHz Date: 23.NOV.2021 23:44:08</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max -15.93 dBm M1[1] 1.7102400 GHz Occ Bw 17.964071856 MHz D1[1] 0.30 dB D2 -15.370 dBm CF 1.72 GHz 501 pts Span 40.0 MHz Date: 23.NOV.2021 23:44:35</p>
Middle	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max -14.99 dBm M1[1] 1.7227400 GHz Occ Bw 17.964071856 MHz D1[1] 0.41 dB D2 -14.470 dBm CF 1.7325 GHz 501 pts Span 40.0 MHz Date: 23.NOV.2021 23:44:59</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max -15.04 dBm M1[1] 1.7228000 GHz Occ Bw 18.043912176 MHz D1[1] -1.18 dB D2 -15.730 dBm CF 1.7325 GHz 501 pts Span 40.0 MHz Date: 23.NOV.2021 23:45:29</p>
Highest	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max -13.66 dBm M1[1] 1.7351600 GHz Occ Bw 17.964071856 MHz D1[1] -0.35 dB D2 -13.500 dBm CF 1.745 GHz 501 pts Span 40.0 MHz Date: 23.NOV.2021 23:45:57</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max -15.65 dBm M1[1] 1.7350000 GHz Occ Bw 18.043912176 MHz D1[1] 0.25 dB D2 -14.990 dBm CF 1.745 GHz 501 pts Span 40.0 MHz Date: 23.NOV.2021 23:46:27</p>