

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 MI[1] -14.16 dBm 1.7101600 GHz Occ Bw 8.982035928 MHz D1[1] -0.37 dB 9.7200 MHz CF 1.715 GHz 501 pts Span 20.0 MHz Date: 27.NOV.2021 17:21:55</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 MI[1] -13.65 dBm 1.7101600 GHz Occ Bw 8.942115768 MHz D1[1] -0.30 dB 9.7200 MHz CF 1.715 GHz 501 pts Span 20.0 MHz Date: 27.NOV.2021 17:22:22</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 MI[1] -14.99 dBm 1.7275800 GHz Occ Bw 8.942115768 MHz D1[1] -0.68 dB 9.8000 MHz CF 1.7325 GHz 501 pts Span 20.0 MHz Date: 27.NOV.2021 17:22:55</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 MI[1] -15.83 dBm 1.7275400 GHz Occ Bw 8.942115768 MHz D1[1] -1.57 dB 9.8800 MHz CF 1.7325 GHz 501 pts Span 20.0 MHz Date: 27.NOV.2021 17:23:20</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 MI[1] -14.53 dBm 1.7451200 GHz Occ Bw 8.982035928 MHz D1[1] 1.31 dB 9.8000 MHz CF 1.75 GHz 501 pts Span 20.0 MHz Date: 27.NOV.2021 17:23:55</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 MI[1] -14.77 dBm 1.7451200 GHz Occ Bw 8.982035928 MHz D1[1] -1.21 dB 9.8400 MHz CF 1.75 GHz 501 pts Span 20.0 MHz Date: 27.NOV.2021 17:24:23</p>

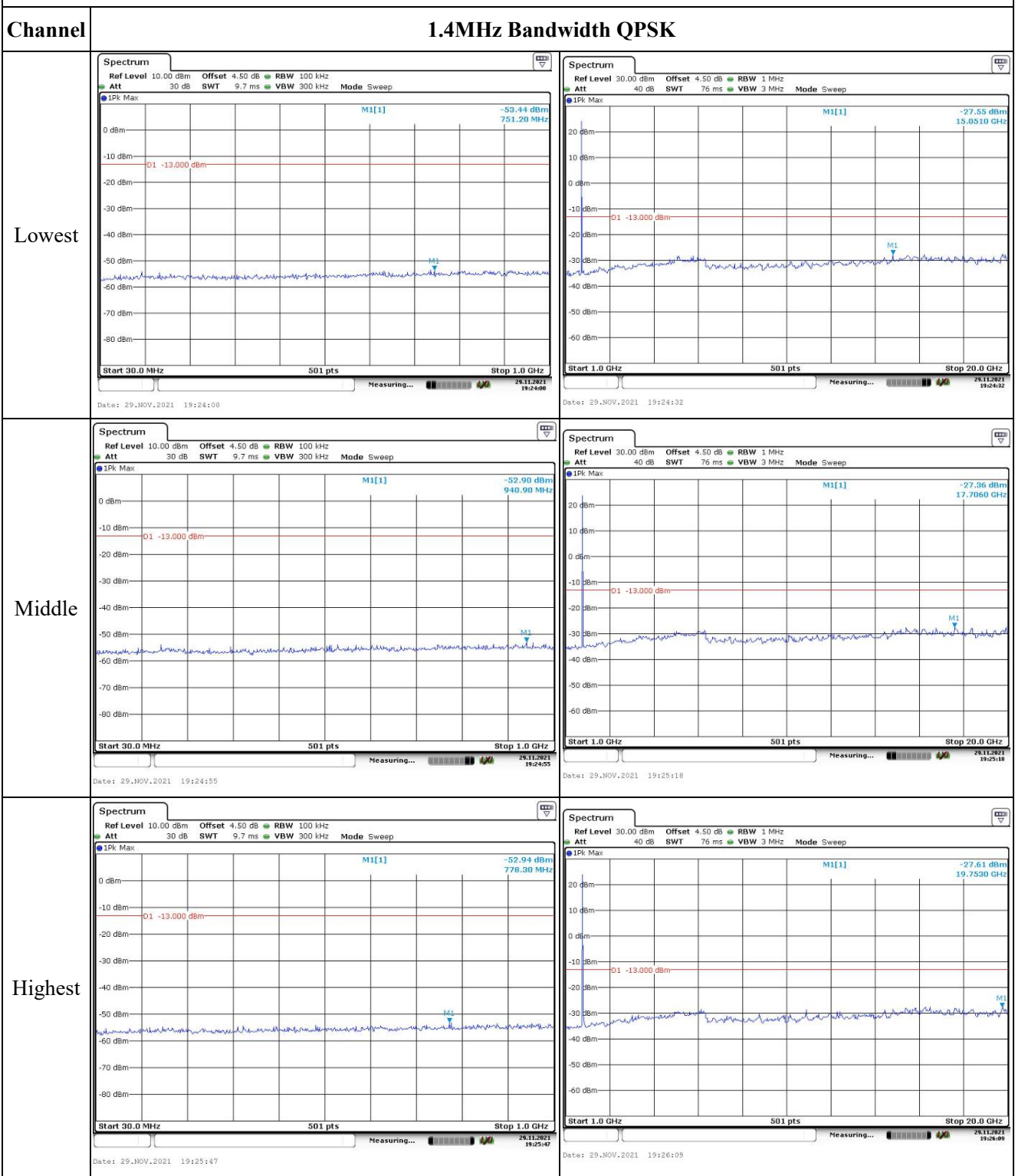
Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>15MHz Bandwidth QPSK</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</p> <p>1Pk Max</p> <p>M1[1] -10.89 dBm Occ Bw 1.7100600 GHz D1[1] 13.532934132 MHz -1.27 dB</p> <p>D1 14.240 dBm D2 -11.760 dBm</p> <p>CF 1.7175 GHz 501 pts Span 30.0 MHz</p> <p>Date: 27.NOV.2021 17:24:58</p>	<p>15MHz Bandwidth 16QAM</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</p> <p>1Pk Max</p> <p>M1[1] -12.77 dBm Occ Bw 1.7100600 GHz D1[1] 13.532934132 MHz 0.33 dB</p> <p>D1 13.550 dBm D2 -12.450 dBm</p> <p>CF 1.7175 GHz 501 pts Span 30.0 MHz</p> <p>Date: 27.NOV.2021 17:25:28</p>
Middle	<p>15MHz Bandwidth QPSK</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</p> <p>1Pk Max</p> <p>M1[1] -10.57 dBm Occ Bw 1.7250000 GHz D1[1] 13.473053892 MHz 0.32 dB</p> <p>D1 14.880 dBm D2 -11.120 dBm</p> <p>CF 1.7325 GHz 501 pts Span 30.0 MHz</p> <p>Date: 27.NOV.2021 17:25:57</p>	<p>15MHz Bandwidth 16QAM</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</p> <p>1Pk Max</p> <p>M1[1] -12.18 dBm Occ Bw 1.7248800 GHz D1[1] 13.592814371 MHz 0.58 dB</p> <p>D1 14.290 dBm D2 -11.710 dBm</p> <p>CF 1.7325 GHz 501 pts Span 30.0 MHz</p> <p>Date: 27.NOV.2021 17:26:27</p>
Highest	<p>15MHz Bandwidth QPSK</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</p> <p>1Pk Max</p> <p>M1[1] -10.77 dBm Occ Bw 1.7400000 GHz D1[1] 13.532934132 MHz -0.09 dB</p> <p>D1 14.660 dBm D2 -11.340 dBm</p> <p>CF 1.7475 GHz 501 pts Span 30.0 MHz</p> <p>Date: 27.NOV.2021 17:26:58</p>	<p>15MHz Bandwidth 16QAM</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</p> <p>1Pk Max</p> <p>M1[1] -10.66 dBm Occ Bw 1.7400000 GHz D1[1] 13.592814371 MHz -0.16 dB</p> <p>D1 14.680 dBm D2 -11.320 dBm</p> <p>CF 1.7475 GHz 501 pts Span 30.0 MHz</p> <p>Date: 27.NOV.2021 17:27:25</p>

Occupied Bandwidth

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

### Spurious Emissions at Antenna Terminal



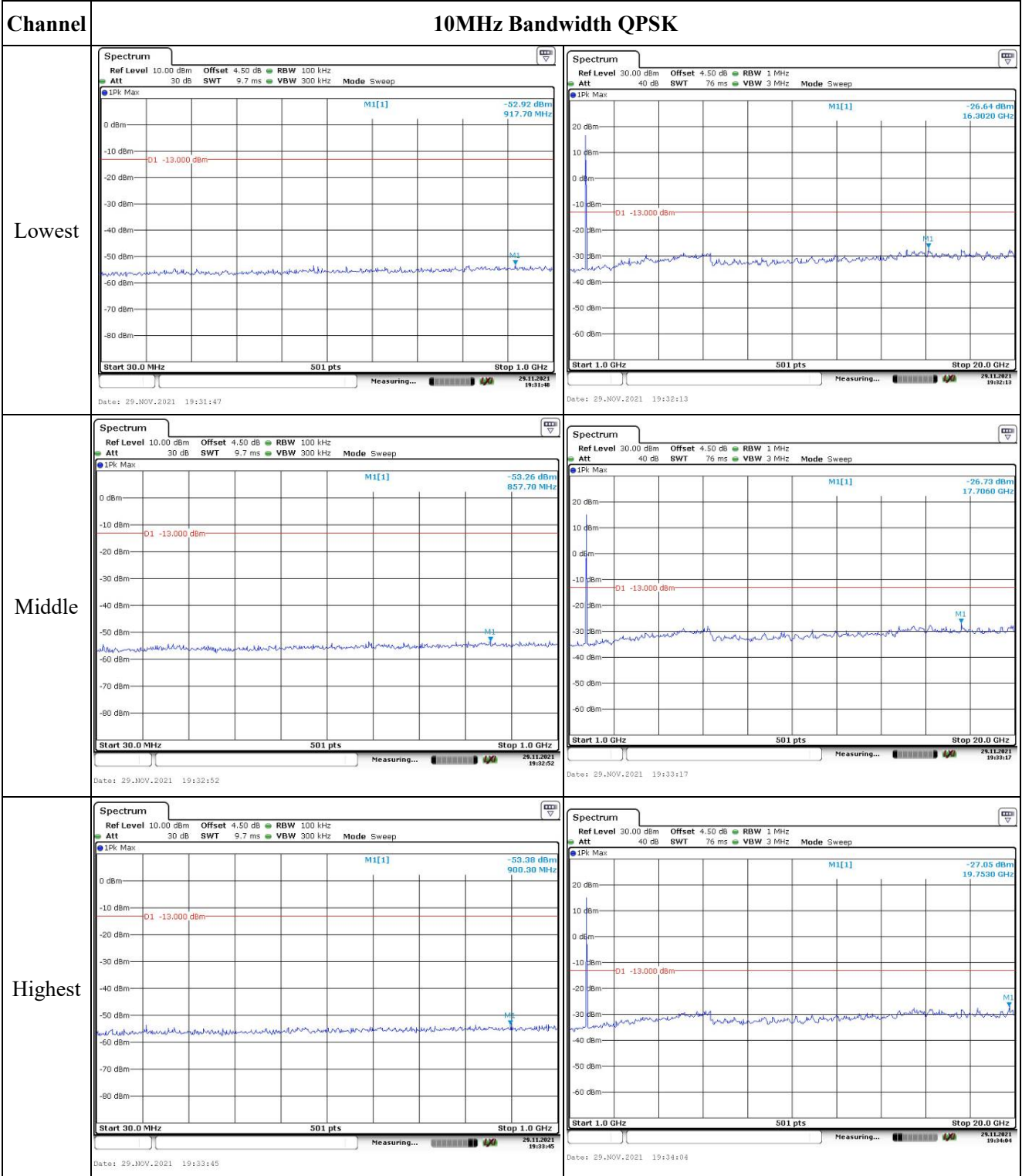
### Spurious Emissions at Antenna Terminal

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 1Pk Max M1[1] -59.26 dBm 997.10 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 29.NOV.2021 19:26:42</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 1Pk Max M1[1] -27.07 dBm 15.9230 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 29.NOV.2021 19:27:01</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 1Pk Max M1[1] -53.29 dBm 720.20 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 29.NOV.2021 19:27:27</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 1Pk Max M1[1] -27.22 dBm 16.3780 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 29.NOV.2021 19:27:50</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 1Pk Max M1[1] -53.50 dBm 993.20 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 29.NOV.2021 19:28:13</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 1Pk Max M1[1] -27.75 dBm 19.7530 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 29.NOV.2021 19:28:35</p>

### Spurious Emissions at Antenna Terminal

Channel	5MHz 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 1Pk Max M1[1] -59.55 dBm 900.30 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 29.NOV.2021 19:28:59</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 1Pk Max M1[1] -27.50 dBm 17.7440 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 29.NOV.2021 19:29:21</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 1Pk Max M1[1] -53.71 dBm 637.00 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 29.NOV.2021 19:29:54</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 1Pk Max M1[1] -27.39 dBm 17.7060 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 29.NOV.2021 19:30:16</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 1Pk Max M1[1] -52.93 dBm 971.90 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 29.NOV.2021 19:30:46</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 1Pk Max M1[1] -26.66 dBm 17.7060 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 29.NOV.2021 19:31:11</p>

Spurious Emissions at Antenna Terminal



Spurious Emissions at Antenna Terminal

Channel	15MHz 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 1Pk Max M1[1] -59.13 dBm 970.00 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 29.NOV.2021 19:34:39</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 1Pk Max M1[1] -26.98 dBm 15.9230 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 29.NOV.2021 19:35:07</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 1Pk Max M1[1] -53.36 dBm 536.30 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 29.NOV.2021 19:35:37</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 1Pk Max M1[1] -27.43 dBm 19.8670 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 29.NOV.2021 19:36:02</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 1Pk Max M1[1] -53.29 dBm 923.50 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 29.NOV.2021 19:36:38</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 1Pk Max M1[1] -26.79 dBm 17.7060 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 29.NOV.2021 19:37:06</p>

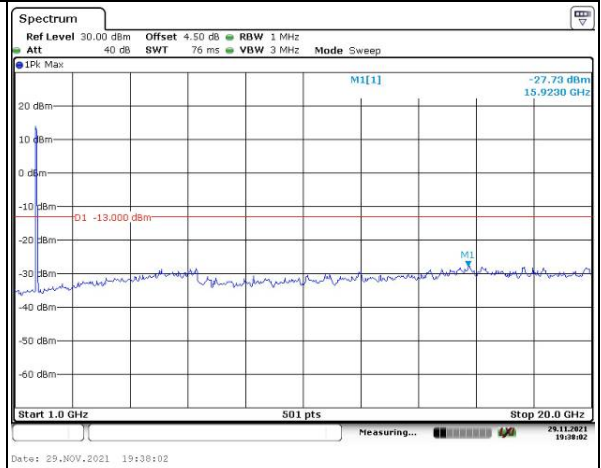
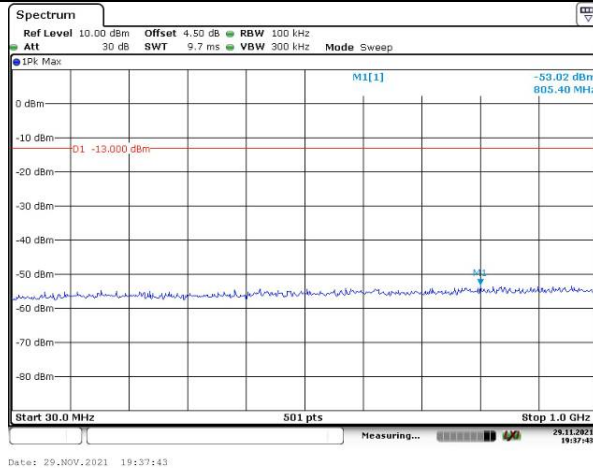


Spurious Emissions at Antenna Terminal

Channel

20MHz Bandwidth QPSK

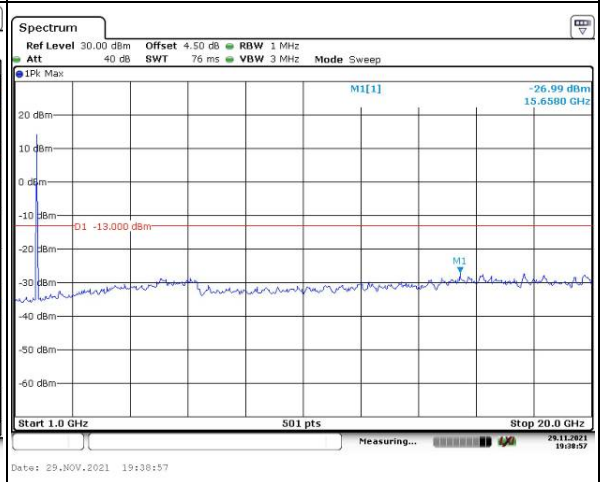
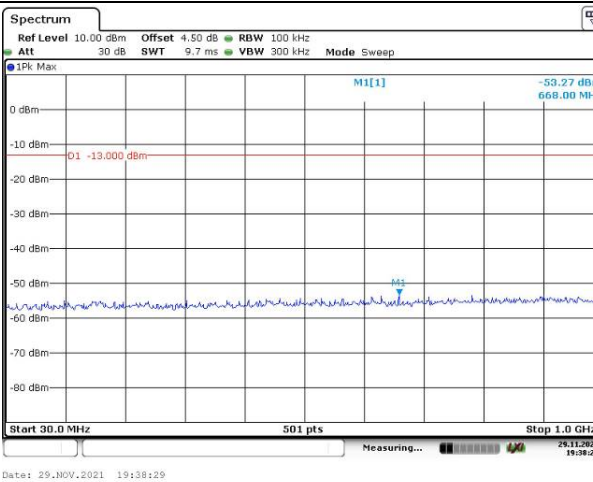
Lowest



Date: 29.NOV.2021 19:37:43

Date: 29.NOV.2021 19:38:02

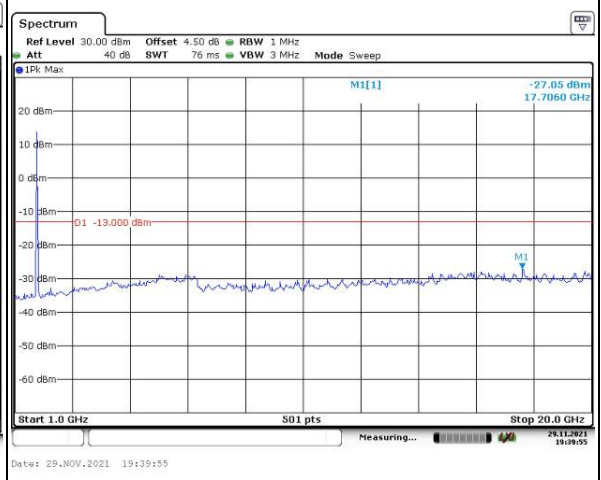
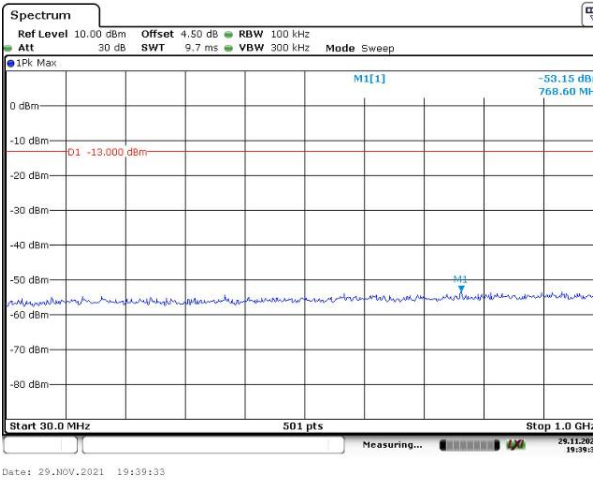
Middle



Date: 29.NOV.2021 19:38:29

Date: 29.NOV.2021 19:38:57

Highest



Date: 29.NOV.2021 19:39:33

Date: 29.NOV.2021 19:39:55

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Fm Max M1[1] -19.66 dBm 1.70977840 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 3.0 MHz Date: 27.NOV.2021 15:25:50</p>	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Fm Max M1[1] -24.75 dBm 1.75520360 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 3.0 MHz Date: 27.NOV.2021 15:26:37</p>
QPSK 3MHz	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Fm Max M1[1] -15.57 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 6.0 MHz Date: 27.NOV.2021 15:27:22</p>	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Fm Max M1[1] -19.56 dBm 1.7550000 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 6.0 MHz Date: 27.NOV.2021 15:28:07</p>
QPSK 5MHz	<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] -14.92 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 10.0 MHz Date: 27.NOV.2021 15:29:10</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] -13.16 dBm 1.7550000 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 10.0 MHz Date: 27.NOV.2021 15:30:07</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 10MHz	<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] -23.43 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 20.0 MHz Date: 27.NOV.2021 15:31:12</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] -20.62 dBm 1.7550000 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 20.0 MHz Date: 27.NOV.2021 15:32:08</p>
QPSK 15MHz	<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] -15.21 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 30.0 MHz Date: 27.NOV.2021 15:33:22</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] -14.00 dBm 1.7550160 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 30.0 MHz Date: 30.NOV.2021 19:45:52</p>
QPSK 20MHz	<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] -21.51 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 40.0 MHz Date: 27.NOV.2021 15:35:33</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] -17.50 dBm 1.7550000 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 40.0 MHz Date: 27.NOV.2021 15:36:24</p>

Out of band emission, Band Edge

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

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 10MHz	<p>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] -22.55 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 20.0 MHz Date: 27.NOV.2021 15:31:39</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 1Fm Max M1[1] -21.41 dBm 1.7550000 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 20.0 MHz Date: 27.NOV.2021 15:32:45</p>
16QAM 15MHz	<p>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] -17.16 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 30.0 MHz Date: 27.NOV.2021 15:33:52</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 1Fm Max M1[1] -15.30 dBm 1.7550160 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 30.0 MHz Date: 30.NOV.2021 19:46:33</p>
16QAM 20MHz	<p>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] -19.02 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 40.0 MHz Date: 27.NOV.2021 15:36:00</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 1Fm Max M1[1] -18.00 dBm 1.7550000 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 40.0 MHz Date: 27.NOV.2021 15:36:57</p>

**4.8 Antenna Port Test Data and Results for LTE Band 5**

Serial Number:	CR21110024-RF-S4	Test Date:	2021-11-27~2022-01-06
Test Site:	RF	Test Mode:	Transmitting
Tester:	Le Qiao	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	22.1~22.9	Relative Humidity: (%)	40~66	ATM Pressure: (kPa)	101.4~101.7
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	Spectrum Analyzer	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

\* 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 5▲:**

Antenna Gain (dBi):	3	Antenna Gain (dBd):	0.85	Cable Loss (dB):	0.1
Operation Voltage(V <sub>DC</sub> ):					
Lowest:	3.5	Normal:	3.8	Highest:	4.35

**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:**

<b>FCC§2.1046;§ 22.913 (a)</b>						
<b>RF Output Power:</b>						
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	23.38	23.36	23.53	24.36	38.45
	RB1#3	23.32	23.42	23.54		
	RB1#5	23.34	23.51	23.52		
	RB3#0	23.37	23.61	23.41		
	RB3#3	23.35	23.59	23.46		
	RB6#0	22.40	22.52	22.51		
1.4MHz 16QAM	RB1#0	22.77	23.12	21.99	23.89	38.45
	RB1#3	22.75	23.10	22.03		
	RB1#5	22.75	23.14	22.02		
	RB3#0	22.23	22.39	22.17		
	RB3#3	22.27	22.40	22.22		
	RB6#0	21.35	21.55	21.71		
3MHz QPSK	RB1#0	23.27	23.36	23.61	24.39	38.45
	RB1#8	23.20	23.43	23.58		
	RB1#14	23.26	23.45	23.64		
	RB6#0	22.39	22.48	22.50		
	RB6#9	22.50	22.48	22.45		
	RB15#0	22.18	22.48	22.37		
3MHz 16QAM	RB1#0	22.50	22.69	22.00	23.49	38.45
	RB1#8	22.43	22.72	21.94		
	RB1#14	22.64	22.74	22.07		
	RB6#0	21.47	21.66	21.50		
	RB6#9	21.50	21.65	21.64		
	RB15#0	21.38	21.55	21.41		
5MHz QPSK	RB1#0	23.29	23.55	23.35	24.46	38.45
	RB1#13	23.27	23.64	23.27		
	RB1#24	23.30	23.71	23.30		
	RB15#0	22.31	22.49	22.47		
	RB15#10	22.48	22.42	22.46		
	RB25#0	22.52	22.56	22.57		
5MHz 16QAM	RB1#0	21.77	22.40	22.50	23.26	38.45
	RB1#13	21.86	22.41	22.36		
	RB1#24	21.81	22.51	22.45		
	RB15#0	21.39	21.40	21.48		
	RB15#10	21.46	21.42	21.38		
	RB25#0	21.43	21.46	21.59		

10MHz QPSK	RB1#0	23.29	23.35	23.39	24.26	38.45
	RB1#25	23.33	23.47	23.40		
	RB1#49	23.45	23.51	23.41		
	RB25#0	22.47	22.57	22.45		
	RB25#25	22.41	22.39	22.52		
	RB50#0	22.37	22.58	22.33		
10MHz 16QAM	RB1#0	22.80	23.05	22.29	23.92	38.45
	RB1#25	22.78	23.13	22.20		
	RB1#49	22.79	23.17	22.31		
	RB25#0	21.36	21.57	21.67		
	RB25#25	21.46	21.61	21.60		
	RB50#0	21.47	21.48	21.47		

Note: ERP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBd)

**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	4.14	3.13	3.97	13
	RB50#0	4.20	4.35	4.38	13
10MHz 16QAM	RB1#0	4.93	4.17	4.61	13
	RB50#0	5.25	5.36	5.62	13
<b>Result:</b>					<b>Pass</b>

### 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	1.102	1.102	1.114	1.254	1.278	1.302
1.4MHz 16QAM	1.108	1.096	1.108	1.272	1.254	1.332
3MHz QPSK	2.707	2.695	2.695	3.000	3.012	2.940
3MHz 16QAM	2.695	2.695	2.695	3.024	3.012	2.952
5MHz QPSK	4.531	4.531	4.511	5.000	5.040	5.020
5MHz 16QAM	4.511	4.551	4.551	5.000	5.000	5.040
10MHz QPSK	8.981	8.942	8.942	9.880	9.840	9.720
10MHz 16QAM	8.942	8.981	8.942	9.800	9.840	9.840

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

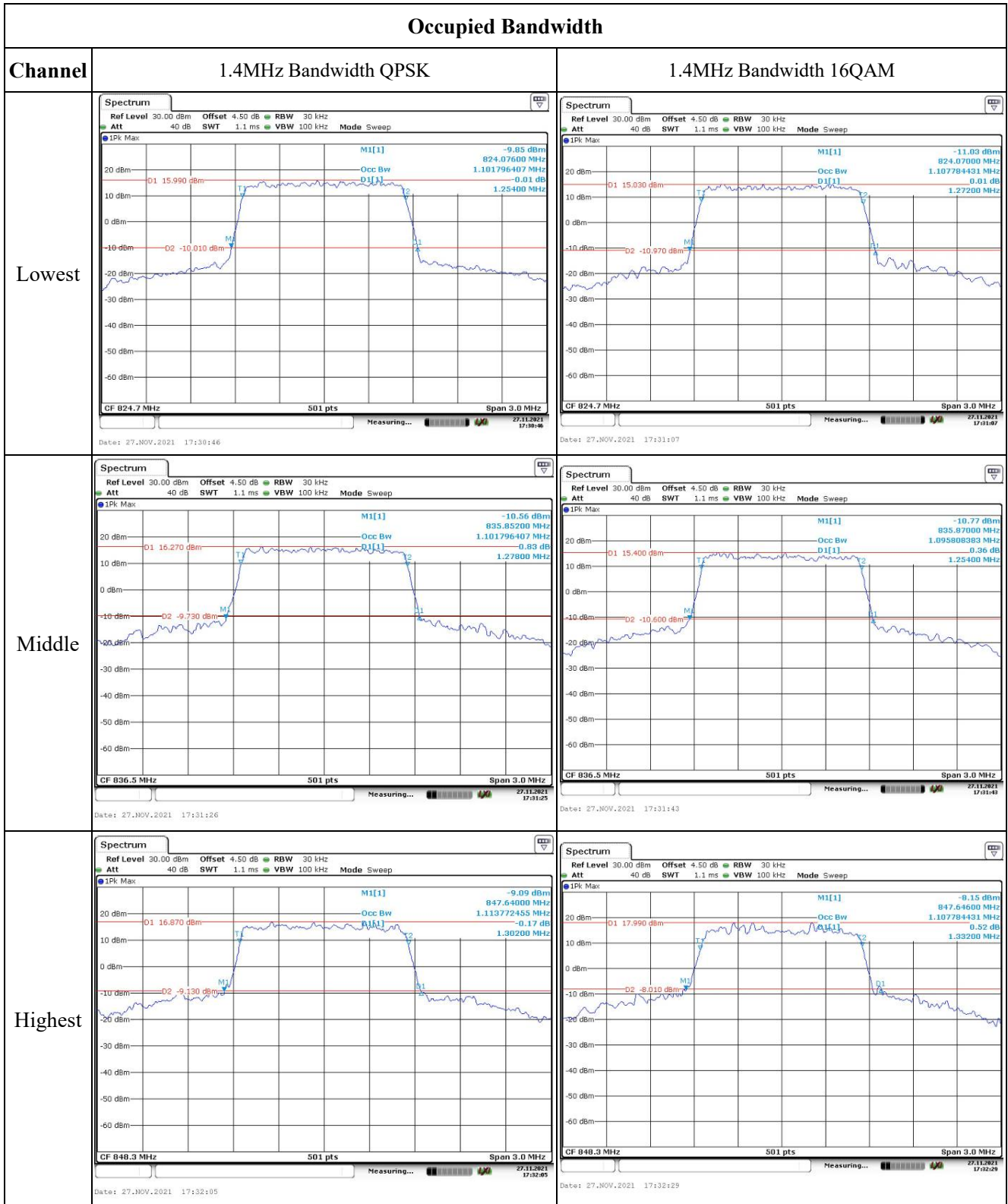


**FCC §2.1051, §22.917(a):Spurious Emissions at Antenna Terminal****Result:** Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**FCC §2.1051, §22.917(a):Out of band emission, Band Edge****Result:** Pass, Please refer to the test plots of Out of band emission, Band Edge.**FCC §2.1055, §22.355: Frequency Stability**

Test Mode:	10 MHz QPSK		Test Channel:	836.5	MHz
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.8	-10.47	-0.013	2.5
	-20	3.8	9.22	0.011	2.5
	-10	3.8	-8.73	-0.010	2.5
	0	3.8	-7.38	-0.009	2.5
	10	3.8	6.34	0.008	2.5
	20	3.8	-9.27	-0.011	2.5
	30	3.8	-8.46	-0.010	2.5
	40	3.8	7.44	0.009	2.5
	50	3.8	-7.38	-0.009	2.5
Frequency Stability vs. Voltage	20	3.5	-9.56	-0.011	2.5
	20	4.35	-5.53	-0.007	2.5
<b>Result:</b>				<b>Pass</b>	

Test Mode:	10 MHz 16QAM		Test Channel:	836.5	MHz
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.8	-46.01	-0.055	2.5
	-20	3.8	8.52	0.010	2.5
	-10	3.8	-9.15	-0.011	2.5
	0	3.8	6.27	0.007	2.5
	10	3.8	-5.58	-0.007	2.5
	20	3.8	-7.90	-0.009	2.5
	30	3.8	-8.31	-0.010	2.5
	40	3.8	7.90	0.009	2.5
	50	3.8	-6.20	-0.007	2.5
Frequency Stability vs. Voltage	20	3.5	8.42	0.010	2.5
	20	4.35	7.56	0.009	2.5
<b>Result:</b>				<b>Pass</b>	

Test Plots:



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] -11.53 dBm 824.0000 MHz Occ Bw 2.706586625 MHz D1[1] -0.25 dB 3.0000 MHz CF 825.5 MHz 501 pts Span 6.0 MHz Date: 27.NOV.2021 17:33:00</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] -14.52 dBm 823.9880 MHz Occ Bw 2.694610778 MHz D1[1] 0.96 dB 3.0240 MHz CF 825.5 MHz 501 pts Span 6.0 MHz Date: 27.NOV.2021 17:33:17</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] -12.34 dBm 834.9880 MHz Occ Bw 2.694610778 MHz D1[1] -0.16 dB 3.0120 MHz CF 836.5 MHz 501 pts Span 6.0 MHz Date: 27.NOV.2021 17:33:42</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] -14.30 dBm 834.9880 MHz Occ Bw 2.694610778 MHz D1[1] 0.48 dB 3.0120 MHz CF 836.5 MHz 501 pts Span 6.0 MHz Date: 27.NOV.2021 17:34:03</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] -8.49 dBm 846.0240 MHz Occ Bw 2.694610778 MHz D1[1] 0.67 dB 2.9400 MHz CF 847.5 MHz 501 pts Span 6.0 MHz Date: 27.NOV.2021 17:34:24</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] -8.02 dBm 846.0120 MHz Occ Bw 2.694610778 MHz D1[1] -1.16 dB 2.9520 MHz CF 847.5 MHz 501 pts Span 6.0 MHz Date: 27.NOV.2021 17:34:48</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] -10.45 dBm Occ Bw 824.0000 MHz D1[1] 4.530938124 MHz -16.000 dBm -10.000 dBm -0.87 dBm 5.0000 MHz CF 826.5 MHz 501 pts Span 10.0 MHz Date: 27.NOV.2021 17:35:23</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] -10.91 dBm Occ Bw 824.0200 MHz D1[1] 4.510978044 MHz -14.760 dBm -11.240 dBm -9.01 dBm 5.0000 MHz CF 826.5 MHz 501 pts Span 10.0 MHz Date: 27.NOV.2021 17:35:47</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] -10.85 dBm Occ Bw 833.9800 MHz D1[1] 4.530938124 MHz -15.550 dBm -10.450 dBm -0.08 dBm 5.0400 MHz CF 836.5 MHz 501 pts Span 10.0 MHz Date: 27.NOV.2021 17:36:17</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] -11.14 dBm Occ Bw 834.0000 MHz D1[1] 4.550898204 MHz -14.910 dBm -11.050 dBm -0.66 dBm 5.0000 MHz CF 836.5 MHz 501 pts Span 10.0 MHz Date: 27.NOV.2021 17:36:44</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] -8.83 dBm Occ Bw 843.9800 MHz D1[1] 4.510978044 MHz -16.510 dBm -9.490 dBm -0.86 dBm 5.0200 MHz CF 846.5 MHz 501 pts Span 10.0 MHz Date: 27.NOV.2021 17:37:09</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] -11.38 dBm Occ Bw 843.9600 MHz D1[1] 4.550898204 MHz -15.040 dBm -10.950 dBm -0.90 dBm 5.0400 MHz CF 846.5 MHz 501 pts Span 10.0 MHz Date: 27.NOV.2021 17:37:39</p>

Occupied Bandwidth

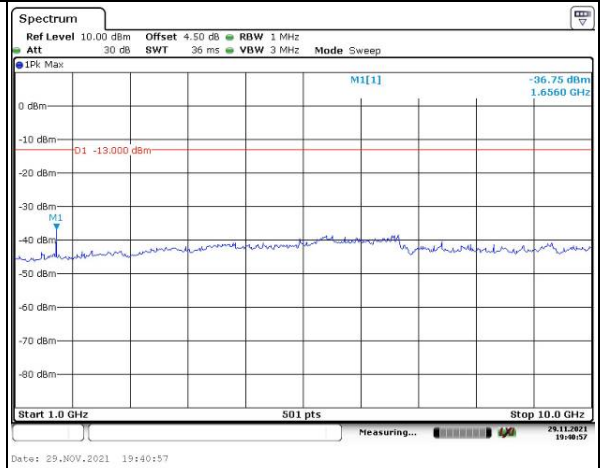
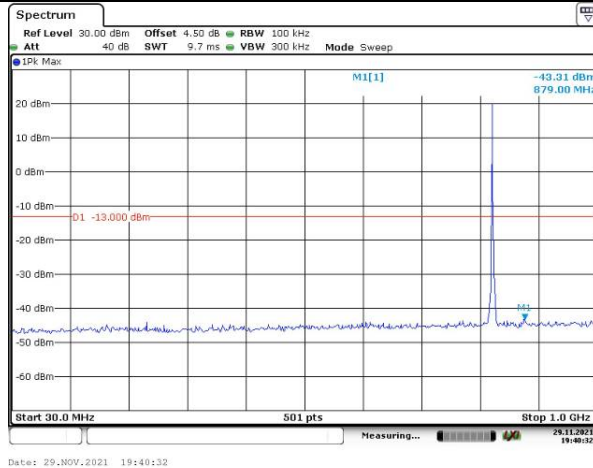
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Spurious Emissions at Antenna Terminal

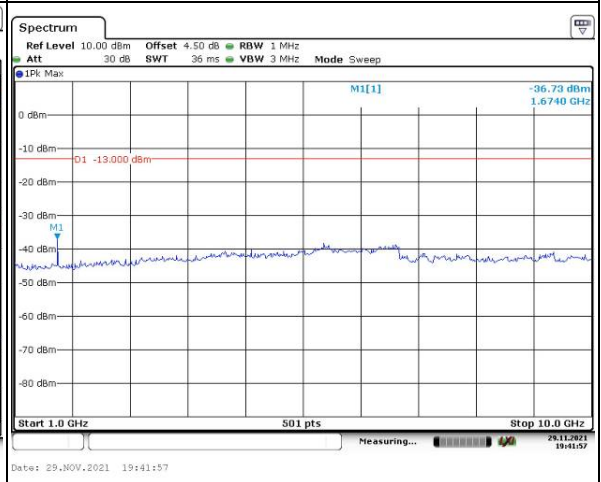
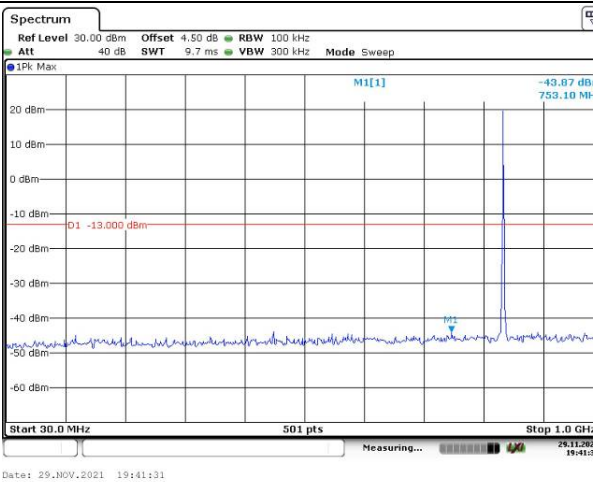
Channel

1.4MHz Bandwidth QPSK

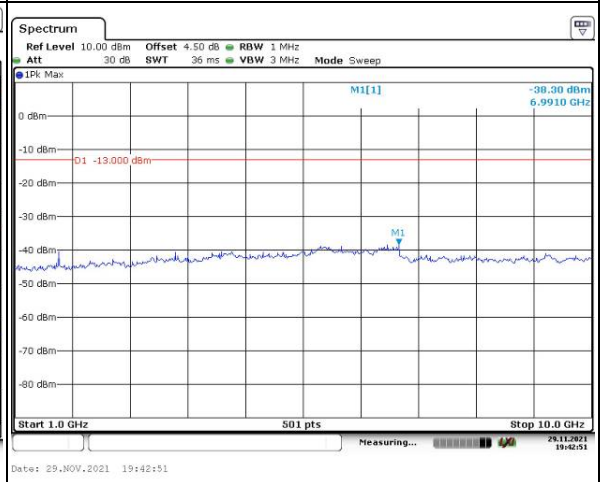
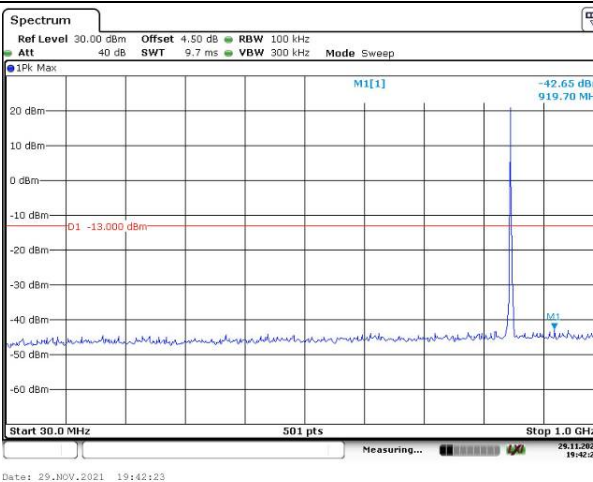
Lowest



Middle



Highest

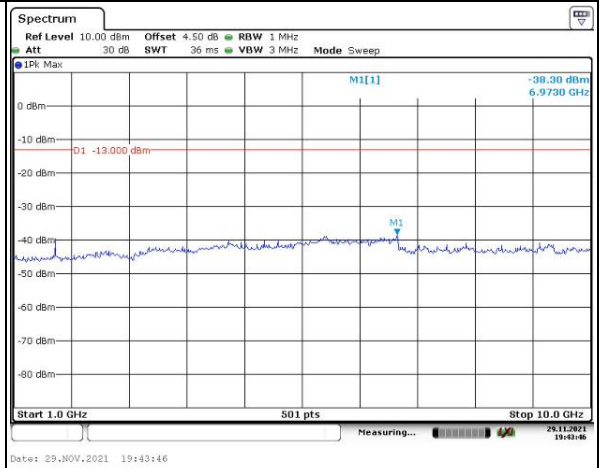
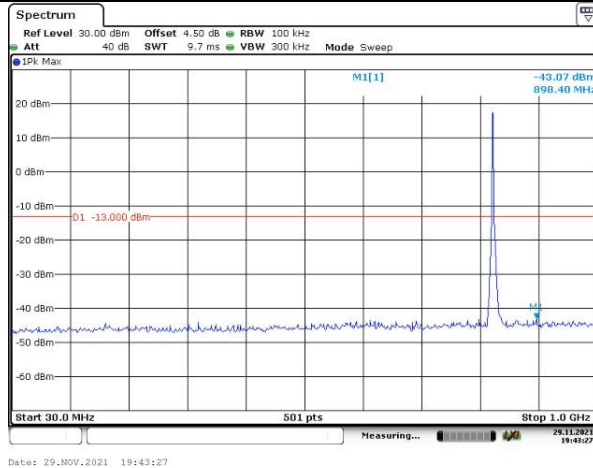


Spurious Emissions at Antenna Terminal

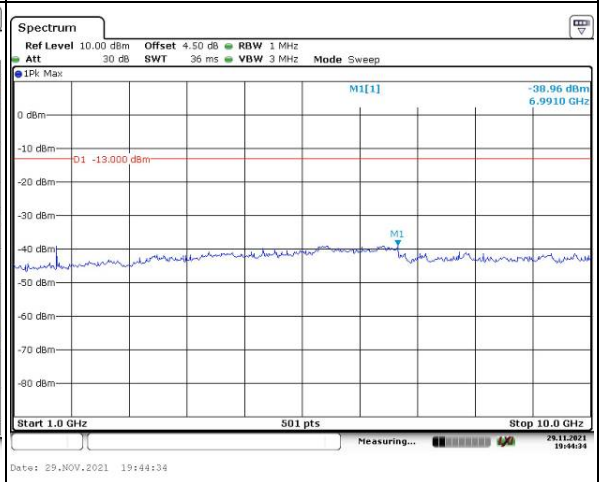
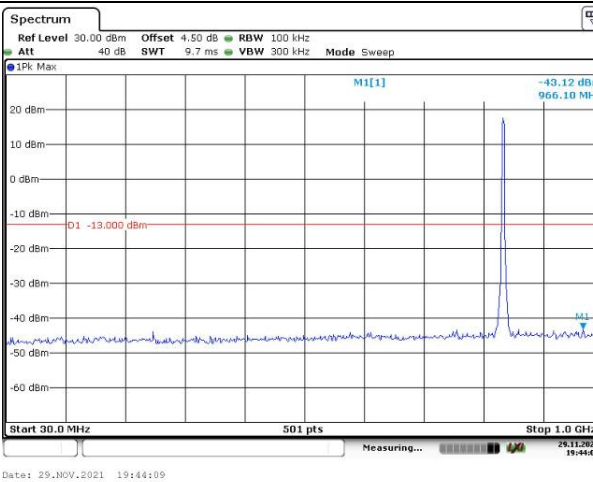
Channel

3MHz Bandwidth QPSK

Lowest



Middle



Highest

