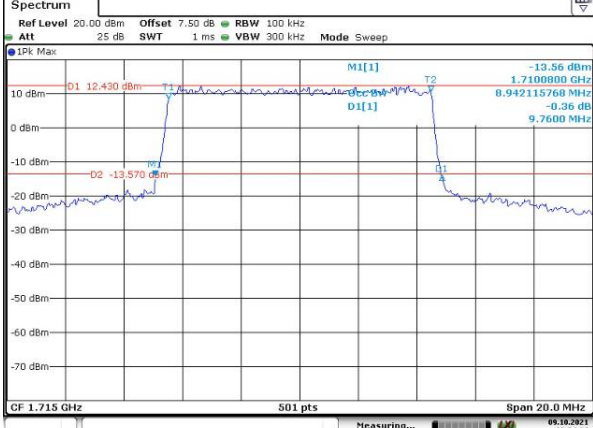
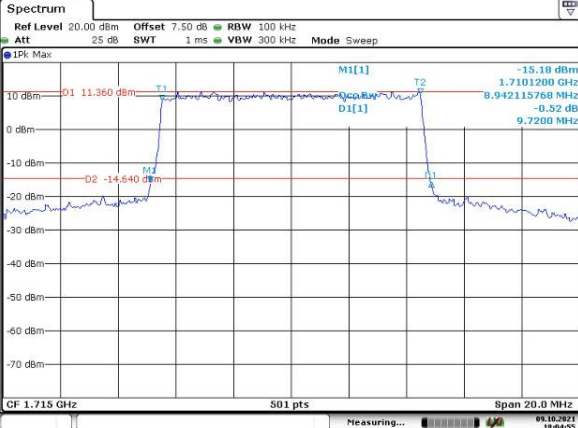
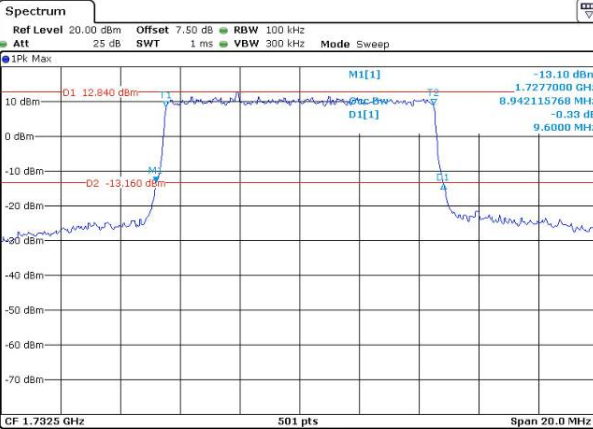
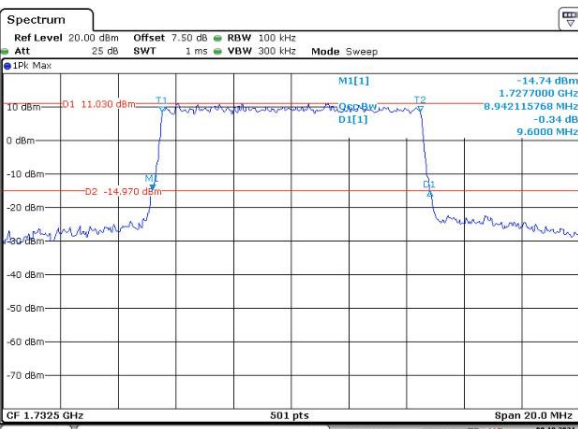
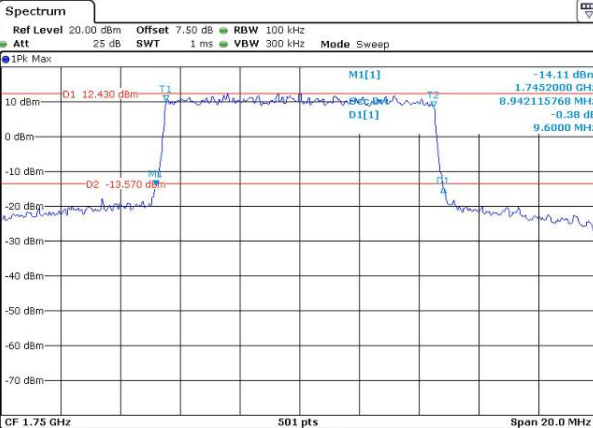
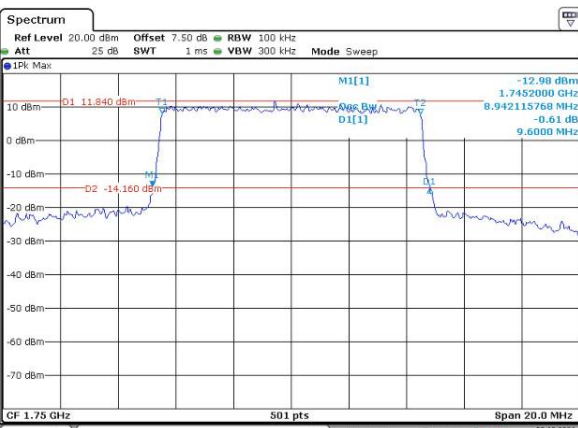


Occupied Bandwidth

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

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max D1 15.790 dBm M1[1] -10.52 dBm 1.7101200 GHz Occ Bw 13.473053892 MHz 0.38 dB D1[1] 14.8200 MHz CF 1.7175 GHz 501 pts Span 30.0 MHz Date: 9.OCT.2021 18:07:34</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max D1 14.830 dBm M1[1] -10.66 dBm 1.7101800 GHz Occ Bw 13.473053892 MHz 0.22 dB D1[1] 14.7000 MHz CF 1.7175 GHz 501 pts Span 30.0 MHz Date: 9.OCT.2021 18:08:00</p>
Middle	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max D1 15.350 dBm M1[1] -11.45 dBm 1.7251800 GHz Occ Bw 13.473053892 MHz 1.30 dB D1[1] 14.7600 MHz CF 1.7325 GHz 501 pts Span 30.0 MHz Date: 9.OCT.2021 18:08:25</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max D1 14.500 dBm M1[1] -12.43 dBm 1.7251200 GHz Occ Bw 13.473053892 MHz 0.91 dB D1[1] 14.7600 MHz CF 1.7325 GHz 501 pts Span 30.0 MHz Date: 9.OCT.2021 18:08:52</p>
Highest	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max D1 15.160 dBm M1[1] -10.63 dBm 1.7400000 GHz Occ Bw 13.532934132 MHz 0.38 dB D1[1] 14.8800 MHz CF 1.7475 GHz 501 pts Span 30.0 MHz Date: 9.OCT.2021 18:09:17</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep 1Pk Max D1 14.590 dBm M1[1] -11.05 dBm 1.7401200 GHz Occ Bw 13.532934132 MHz 1.40 dB D1[1] 15.7200 MHz CF 1.7475 GHz 501 pts Span 30.0 MHz Date: 9.OCT.2021 18:09:50</p>

Occupied Bandwidth

Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep</p> <p>1Pk Max</p> <p>D1 14.590 dBm</p> <p>M1[1] -10.52 dBm</p> <p>1.7104000 GHz</p> <p>17.964071856 MHz</p> <p>-1.51 dB</p> <p>19.2800 MHz</p> <p>D2 -11.410 dBm</p> <p>CF 1.72 GHz 501 pts Span 40.0 MHz</p> <p>Date: 9.OCT.2021 18:10:20</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep</p> <p>1Pk Max</p> <p>D1 13.380 dBm</p> <p>M1[1] -12.28 dBm</p> <p>1.7104000 GHz</p> <p>17.964071856 MHz</p> <p>-0.25 dB</p> <p>19.3600 MHz</p> <p>D2 -12.620 dBm</p> <p>CF 1.72 GHz 501 pts Span 40.0 MHz</p> <p>Date: 9.OCT.2021 18:10:49</p>
Middle	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep</p> <p>1Pk Max</p> <p>D1 14.710 dBm</p> <p>M1[1] -11.77 dBm</p> <p>1.7229000 GHz</p> <p>17.964071856 MHz</p> <p>-0.06 dB</p> <p>19.2800 MHz</p> <p>D2 -11.290 dBm</p> <p>CF 1.7325 GHz 501 pts Span 40.0 MHz</p> <p>Date: 9.OCT.2021 18:11:14</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep</p> <p>1Pk Max</p> <p>D1 13.290 dBm</p> <p>M1[1] -11.41 dBm</p> <p>1.7228000 GHz</p> <p>17.964071856 MHz</p> <p>-2.45 dB</p> <p>19.3600 MHz</p> <p>D2 -12.710 dBm</p> <p>CF 1.7325 GHz 501 pts Span 40.0 MHz</p> <p>Date: 9.OCT.2021 18:11:38</p>
Highest	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep</p> <p>1Pk Max</p> <p>D1 14.030 dBm</p> <p>M1[1] -11.91 dBm</p> <p>1.7352400 GHz</p> <p>18.043912176 MHz</p> <p>1.43 dB</p> <p>19.5200 MHz</p> <p>D2 -11.970 dBm</p> <p>CF 1.745 GHz 501 pts Span 40.0 MHz</p> <p>Date: 9.OCT.2021 18:12:06</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep</p> <p>1Pk Max</p> <p>D1 13.780 dBm</p> <p>M1[1] -12.51 dBm</p> <p>1.7354000 GHz</p> <p>17.964071856 MHz</p> <p>-0.81 dB</p> <p>19.3600 MHz</p> <p>D2 -12.220 dBm</p> <p>CF 1.745 GHz 501 pts Span 40.0 MHz</p> <p>Date: 9.OCT.2021 18:12:32</p>

### Spurious Emissions at Antenna Terminal

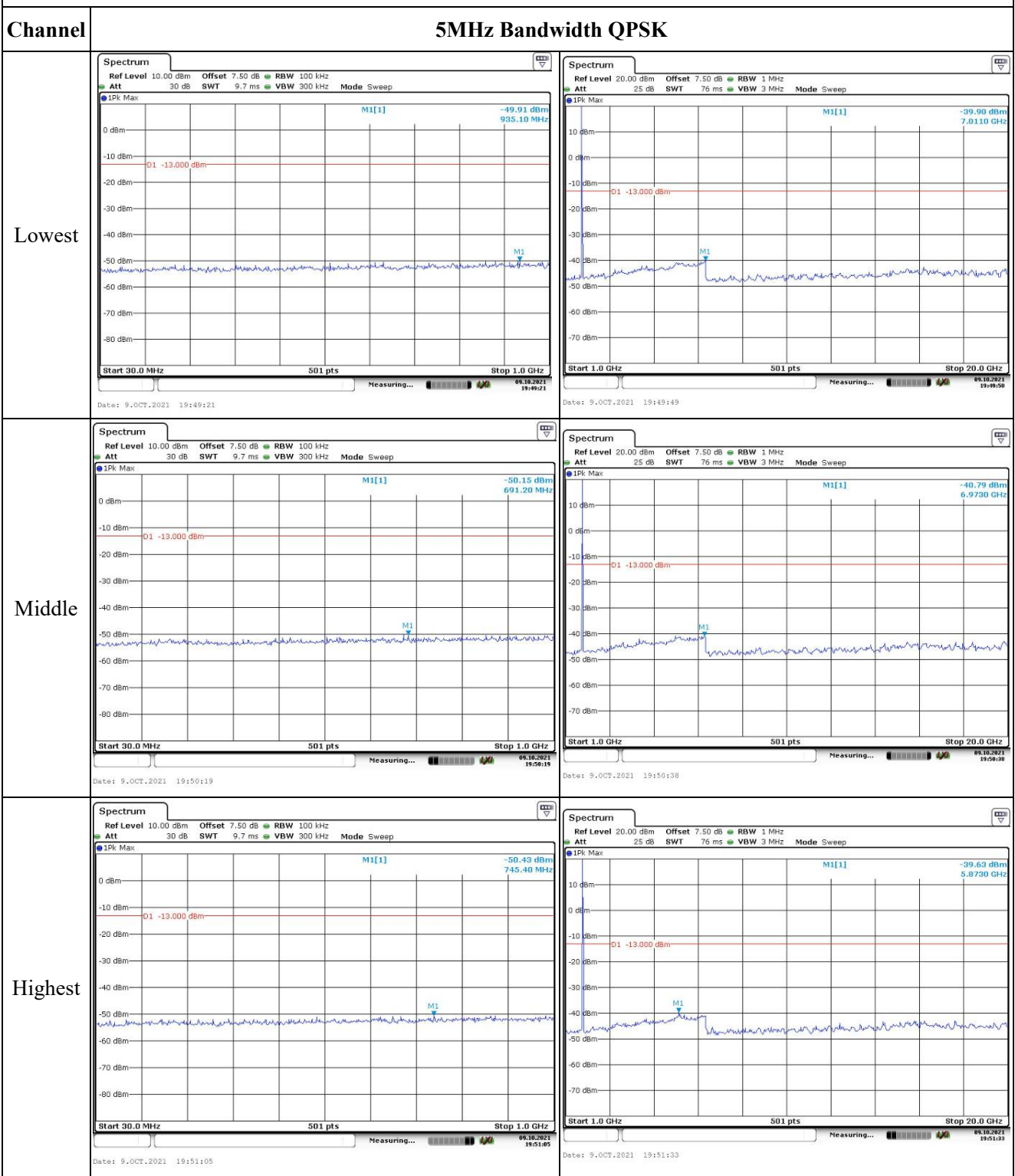
Channel	1.4MHz Bandwidth QPSK	
Lowest	<p>Ref Level 10.00 dBm Offset 7.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -50.45 dBm 820.90 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 9.OCT.2021 19:44:00</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 1 MHz Att 25 dB SWT 76 ms VBW 3 MHz Mode Sweep 1Pk Max M1[1] -40.66 dBm 5.8730 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 9.OCT.2021 19:44:23</p>
Middle	<p>Ref Level 10.00 dBm Offset 7.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -50.77 dBm 842.20 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 9.OCT.2021 19:44:43</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 1 MHz Att 25 dB SWT 76 ms VBW 3 MHz Mode Sweep 1Pk Max M1[1] -40.29 dBm 5.8350 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 9.OCT.2021 19:45:11</p>
Highest	<p>Ref Level 10.00 dBm Offset 7.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -50.12 dBm 970.00 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 9.OCT.2021 19:45:41</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 1 MHz Att 25 dB SWT 76 ms VBW 3 MHz Mode Sweep 1Pk Max M1[1] -40.01 dBm 6.9730 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 9.OCT.2021 19:46:06</p>

### Spurious Emissions at Antenna Terminal

Channel	3MHz Bandwidth QPSK	
Lowest	<p>Ref Level 10.00 dBm Offset 7.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -50.36 dBm 822.80 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 9.OCT.2021 19:46:36</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 1 MHz Att 25 dB SWT 76 ms VBW 3 MHz Mode Sweep 1Pk Max M1[1] -41.03 dBm 6.7460 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 9.OCT.2021 19:46:38</p>
Middle	<p>Ref Level 10.00 dBm Offset 7.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -50.07 dBm 830.60 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 9.OCT.2021 19:47:31</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 1 MHz Att 25 dB SWT 76 ms VBW 3 MHz Mode Sweep 1Pk Max M1[1] -40.25 dBm 6.8210 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 9.OCT.2021 19:48:00</p>
Highest	<p>Ref Level 10.00 dBm Offset 7.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep 1Pk Max M1[1] -50.07 dBm 749.30 MHz -13.000 dBm Start 30.0 MHz 501 pts Stop 1.0 GHz Date: 9.OCT.2021 19:48:29</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 1 MHz Att 25 dB SWT 76 ms VBW 3 MHz Mode Sweep 1Pk Max M1[1] -40.27 dBm 6.9730 GHz -13.000 dBm Start 1.0 GHz 501 pts Stop 20.0 GHz Date: 9.OCT.2021 19:48:52</p>



### Spurious Emissions at Antenna Terminal

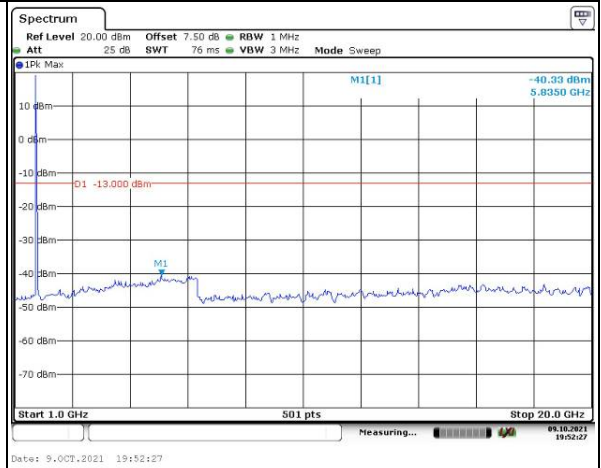
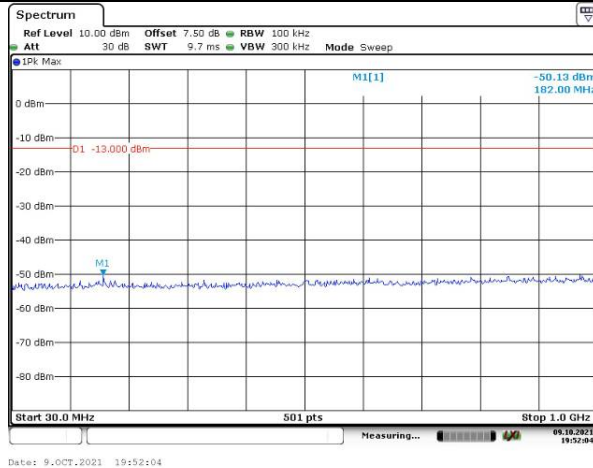


### Spurious Emissions at Antenna Terminal

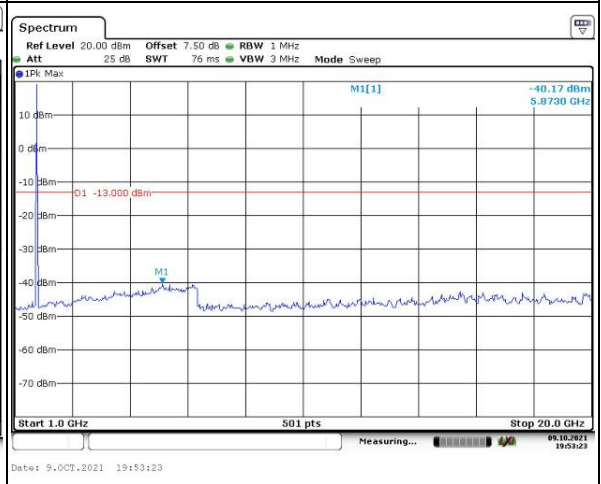
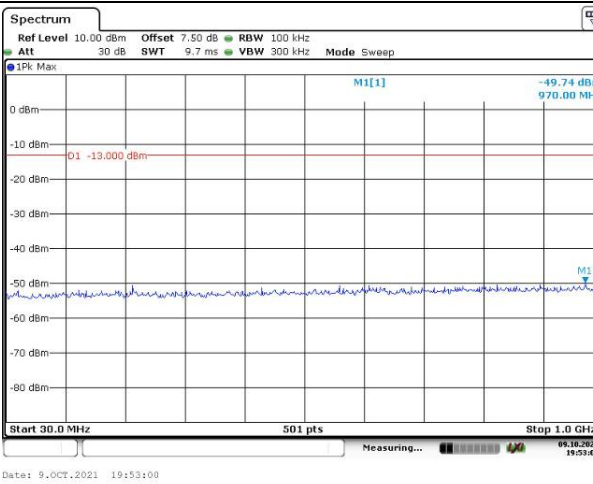
Channel

10MHz Bandwidth QPSK

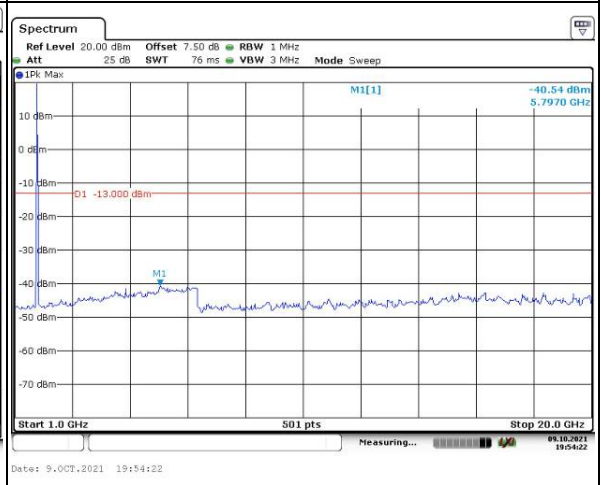
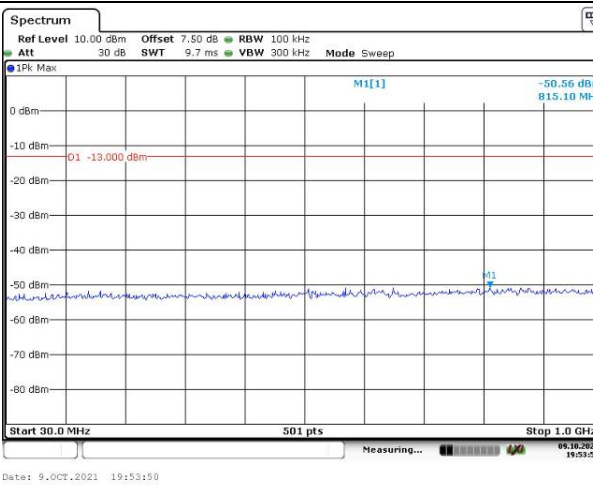
Lowest



Middle



Highest

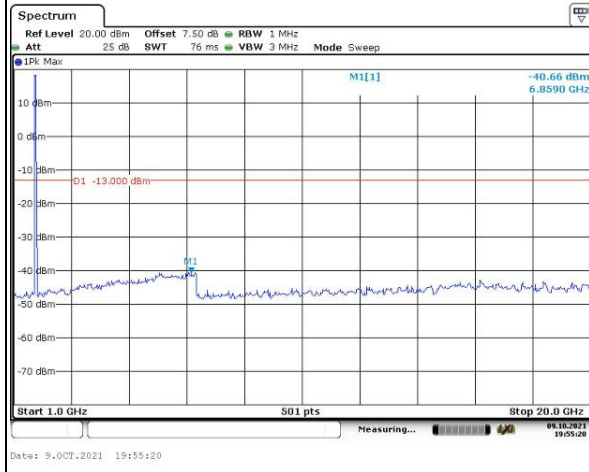
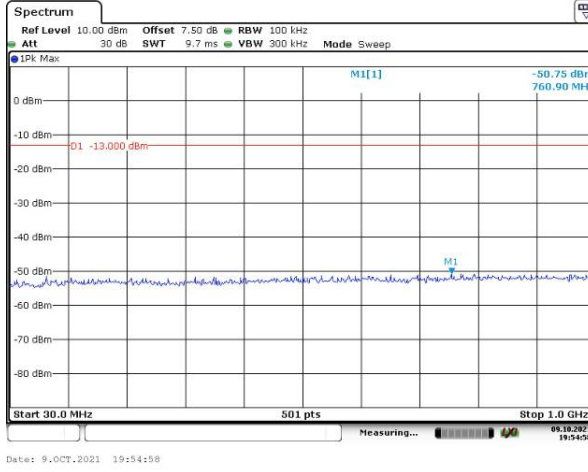


### Spurious Emissions at Antenna Terminal

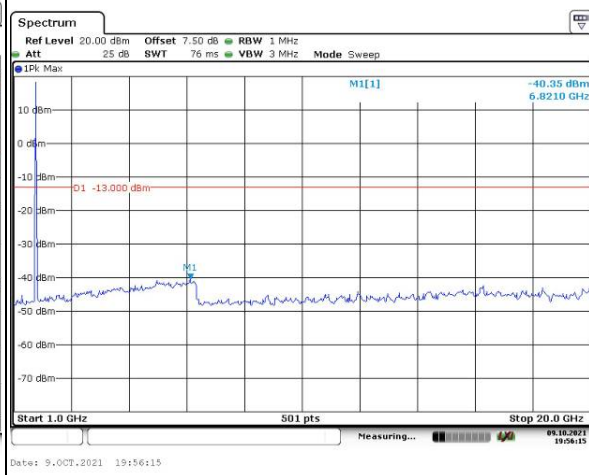
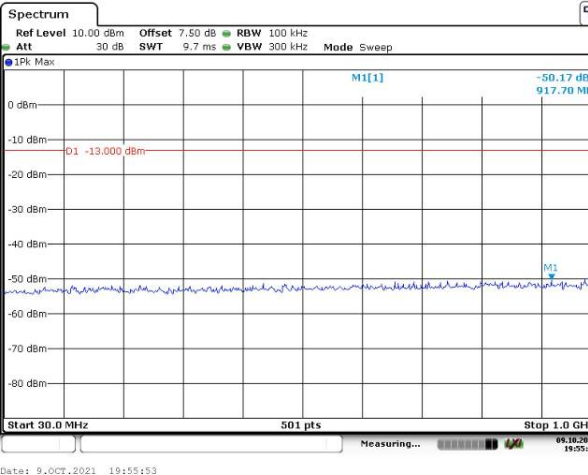
Channel

15MHz Bandwidth QPSK

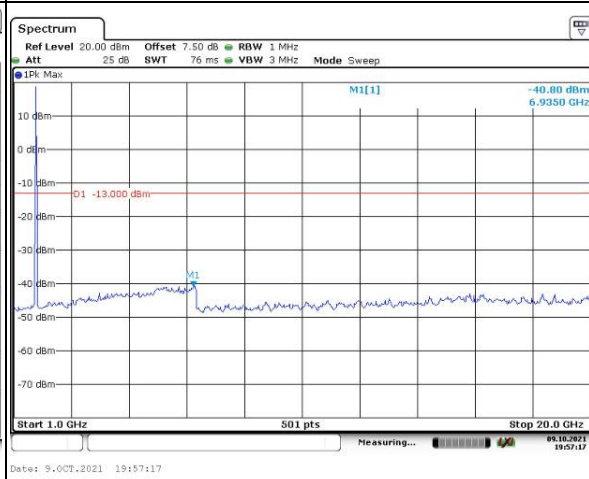
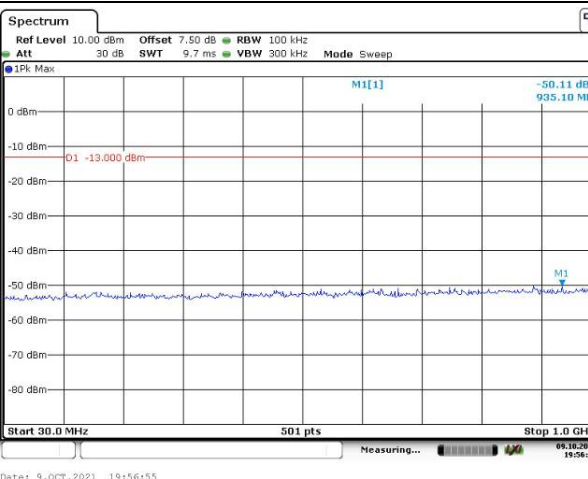
Lowest



Middle



Highest



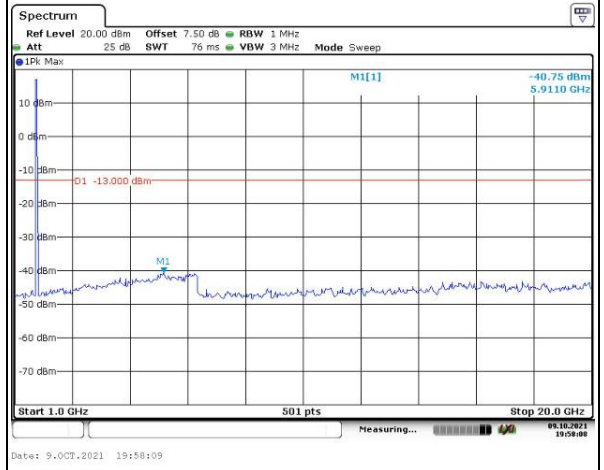
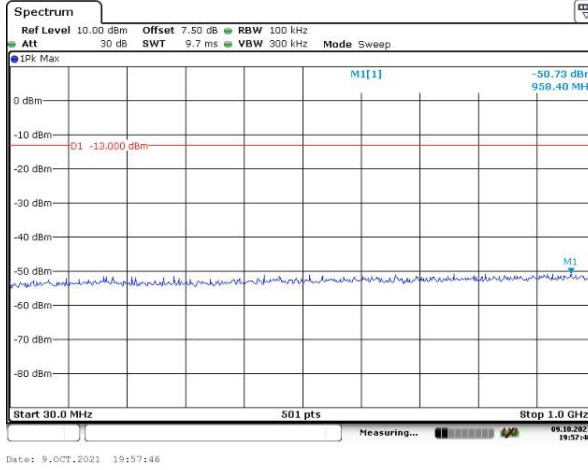


### Spurious Emissions at Antenna Terminal

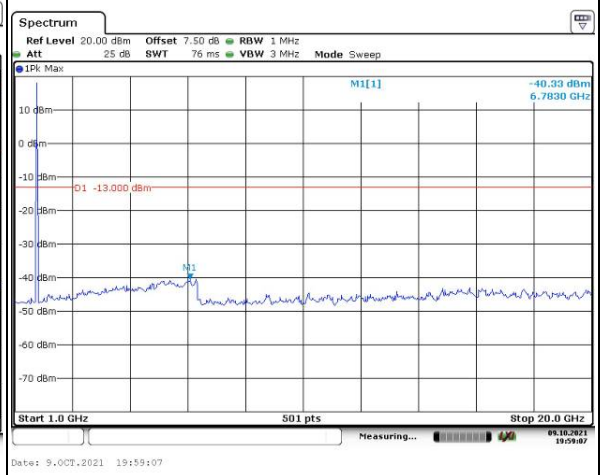
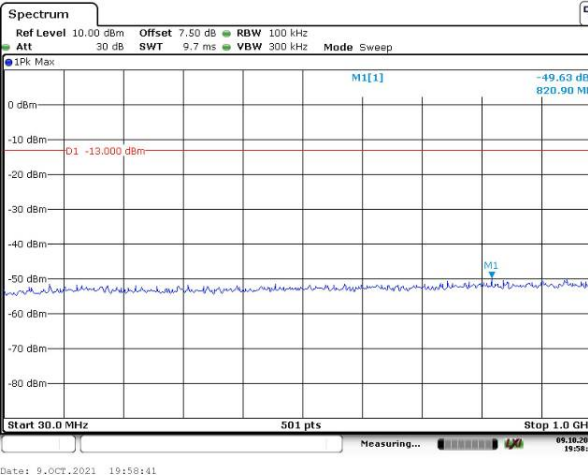
Channel

20MHz Bandwidth QPSK

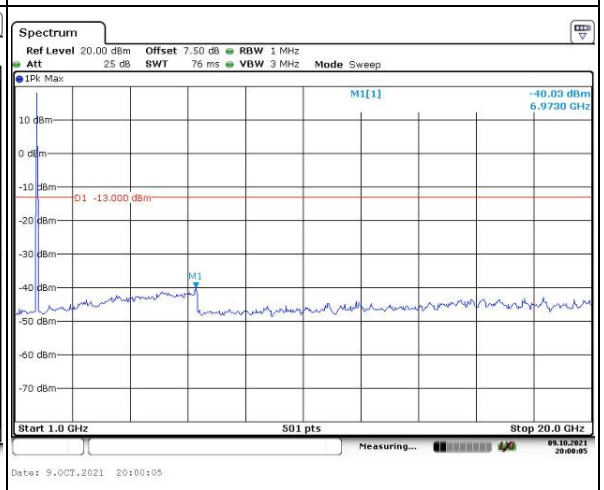
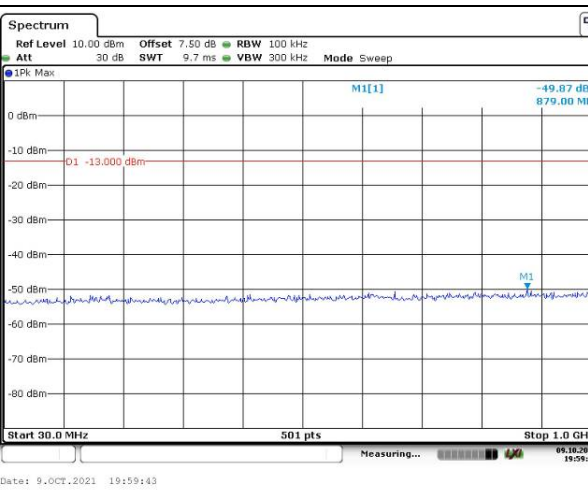
Lowest



Middle



Highest



Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz		
QPSK 3MHz		
QPSK 5MHz		

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 10MHz	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -18.05 dBm 1.7091220 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 20.0 MHz Date: 9.OCT.2021 16:49:59</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -18.02 dBm 1.7550800 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 20.0 MHz Date: 9.OCT.2021 16:50:54</p>
QPSK 15MHz	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 10 ms VBW 1 MHz Mode Sweep M1[1] -18.34 dBm 1.7095810 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 30.0 MHz Date: 9.OCT.2021 16:52:07</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 10 ms VBW 1 MHz Mode Sweep M1[1] -17.71 dBm 1.7554190 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 30.0 MHz Date: 9.OCT.2021 16:53:00</p>
QPSK 20MHz	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -18.65 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 40.0 MHz Date: 9.OCT.2021 16:54:02</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -17.13 dBm 1.7565970 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 40.0 MHz Date: 9.OCT.2021 16:55:00</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>Spectrum Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep 15m Max M1[1] -19.87 dBm 1.7084830 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 20.0 MHz Date: 9.OCT.2021 16:50:29</p>	<p>Spectrum Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep 15m Max M1[1] -19.87 dBm 1.7555990 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 20.0 MHz Date: 9.OCT.2021 16:51:25</p>
16QAM 15MHz	<p>Spectrum Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep 15m Max M1[1] -16.29 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 30.0 MHz Date: 9.OCT.2021 16:52:36</p>	<p>Spectrum Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep 15m Max M1[1] -16.16 dBm 1.7558980 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 30.0 MHz Date: 9.OCT.2021 16:53:33</p>
16QAM 20MHz	<p>Spectrum Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep 15m Max M1[1] -19.07 dBm 1.7100000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 40.0 MHz Date: 9.OCT.2021 16:54:32</p>	<p>Spectrum Ref Level 20.00 dBm Offset 7.50 dB RBW 300 kHz Att 25 dB SWT 1 ms VBW 1 MHz Mode Sweep 15m Max M1[1] -18.22 dBm 1.7554790 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 40.0 MHz Date: 9.OCT.2021 16:55:26</p>



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

Serial Number:	CR21090086-RF-S1	Test Date:	2021/10/18
Test Site:	RF	Test Mode:	Transmitting
Tester:	Thor Lei	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	26.7	Relative Humidity: (%)	59	ATM Pressure: (kPa)	101.6
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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

\* 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):	1.5	Antenna Gain (dBd):	-0.65	Cable Loss (dB):	0.2
Operation Voltage(V <sub>DC</sub> ):					
Lowest:	3.6	Normal:	3.8	Highest:	4.3

**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	23.95	24	23.99	23.37	38.45
	RB1#3	24.13	24.19	24.22		
	RB1#5	24.02	24	24.02		
	RB3#0	24	24.06	24.13		
	RB3#3	24.01	24.05	24.15		
	RB6#0	23.08	23.13	23.14		
1.4MHz 16QAM	RB1#0	22.92	23.08	22.98	22.45	38.45
	RB1#3	23.13	23.3	23.23		
	RB1#5	22.96	23.08	23.07		
	RB3#0	23.17	22.99	23.19		
	RB6#0	22.03	22.11	22.04		
3MHz QPSK	RB1#0	24	24	24.01	23.22	38.45
	RB1#8	24.07	24.06	24.05		
	RB1#14	23.99	24.02	24.02		
	RB6#0	22.96	23.01	23.04		
	RB6#9	23.01	23.04	23.02		
3MHz 16QAM	RB15#0	22.97	23.01	23.06	22.6	38.45
	RB1#0	23.45	23.09	23.01		
	RB1#8	23.44	23.14	23.07		
	RB1#14	23.38	23.09	23.06		
	RB6#0	21.98	21.98	21.94		
	RB6#9	22.02	22	22		
5MHz QPSK	RB15#0	21.99	21.94	22.1	23.25	38.45
	RB1#0	23.84	23.89	23.92		
	RB1#13	24.08	24.1	24.05		
	RB1#24	23.9	23.91	23.89		
	RB15#0	23.01	23.02	23.05		
	RB15#10	23	23	23.1		
RB25#0	22.95	22.98	23.03			

5MHz 16QAM	RB1#0	22.72	23.15	22.96	22.48	38.45
	RB1#13	22.91	23.33	23.15		
	RB1#24	22.73	23.1	22.97		
	RB15#0	22	21.97	22.05		
	RB15#10	21.98	21.97	22.09		
	RB25#0	21.98	21.96	22.02		
10MHz QPSK	RB1#0	23.92	23.94	23.96	23.33	38.45
	RB1#25	24.16	24.17	24.18		
	RB1#49	23.93	24	24.03		
	RB25#0	23.04	23.01	23.04		
	RB25#25	23.06	22.99	23.04		
	RB50#0	23.03	22.97	23.02		
10MHz 16QAM	RB1#0	23.37	23.09	22.92	22.78	38.45
	RB1#25	23.63	23.28	23.17		
	RB1#49	23.52	23.07	23.04		
	RB25#0	22.02	22.03	22.07		
	RB25#25	22.09	21.97	22.07		
	RB50#0	22	21.96	22.01		
					<b>Result:</b>	<b>Pass</b>

**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	3.83	5.13	3.3	13	
	RB50#0	4.93	4.67	4.58	13	
10MHz 16QAM	RB1#0	4.58	5.62	4.29	13	
	RB50#0	5.77	5.59	5.54	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	1.096	1.102	1.102	1.32	1.32	1.29
1.4MHz 16QAM	1.102	1.096	1.096	1.326	1.29	1.296
3MHz QPSK	2.683	2.683	2.683	2.88	2.868	2.88
3MHz 16QAM	2.683	2.683	2.683	2.868	2.868	2.88
5MHz QPSK	4.531	4.511	4.491	4.96	4.94	4.94
5MHz 16QAM	4.491	4.531	4.511	4.98	4.94	4.96
10MHz QPSK	8.942	8.942	8.942	9.76	9.56	9.6
10MHz 16QAM	8.942	8.942	8.981	9.52	9.6	9.64

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

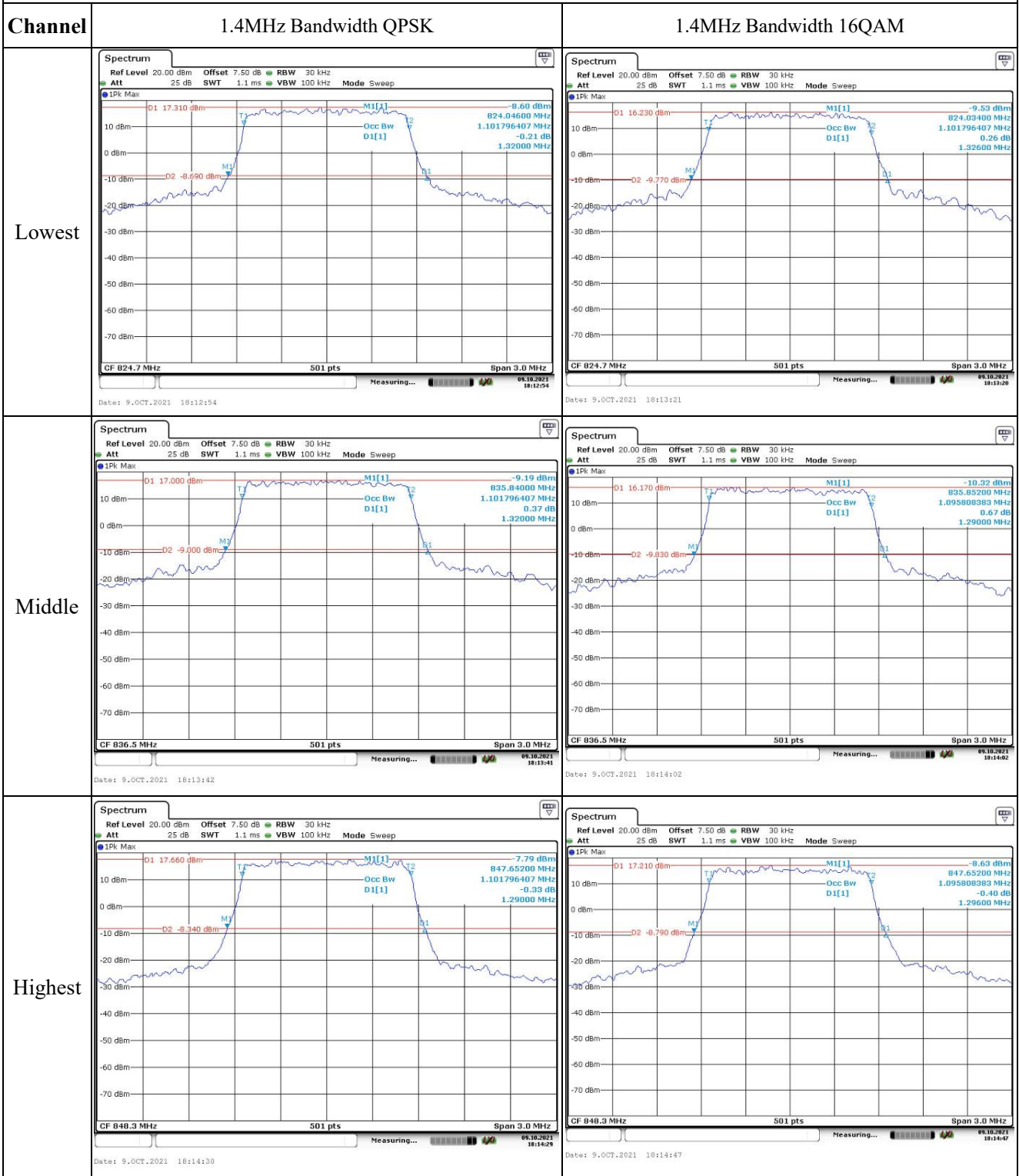
**FCC §2.1051, §22.917(a):Spurious Emissions at Antenna Terminal****Result:** Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**FCC §2.1051, §22.917(a):Out of band emission, Band Edge****Result:** Pass, Please refer to the test plots of Out of band emission, Band Edge.**FCC §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	-5.76	-0.01	2.5
	-20	3.8	-8.75	-0.01	2.5
	-10	3.8	-9.02	-0.01	2.5
	0	3.8	5.09	0.01	2.5
	10	3.8	-9.07	-0.01	2.5
	20	3.8	-8.41	-0.01	2.5
	30	3.8	-8.09	-0.01	2.5
	40	3.8	5.9	0.01	2.5
	50	3.8	9.38	0.01	2.5
Frequency Stability vs. Voltage	20	3.6	7.37	0.01	2.5
	20	4.3	-6.94	-0.01	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	-6.72	-0.01	2.5
	-20	3.8	-8.4	-0.01	2.5
	-10	3.8	9.51	0.01	2.5
	0	3.8	8.86	0.01	2.5
	10	3.8	6.6	0.01	2.5
	20	3.8	-6.28	-0.01	2.5
	30	3.8	-5.34	-0.01	2.5
	40	3.8	5.81	0.01	2.5
	50	3.8	-9.8	-0.01	2.5
Frequency Stability vs. Voltage	20	3.6	-9.94	-0.01	2.5
	20	4.3	9.76	0.01	2.5
<b>Result:</b>				<b>Pass</b>	

Test Plots:

Occupied Bandwidth





Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p><b>Spectrum</b>                      Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz                      Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      D1 16.570 dBm M1[1] -9.03 dBm 824.0200 MHz                      Occ Bw 4.530938124 MHz -1.15 dB                      D1[1] 4.9600 MHz                      CF 826.5 MHz 501 pts Span 10.0 MHz                      Date: 9.OCT.2021 18:17:34</p>	<p><b>Spectrum</b>                      Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz                      Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      D1 15.430 dBm M1[1] -11.36 dBm 824.0200 MHz                      Occ Bw 4.491017964 MHz -9.55 dB                      D1[1] 4.9800 MHz                      CF 826.5 MHz 501 pts Span 10.0 MHz                      Date: 9.OCT.2021 18:18:03</p>
Middle	<p><b>Spectrum</b>                      Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz                      Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      D1 16.390 dBm M1[1] -9.61 dBm 834.0400 MHz                      Occ Bw 4.510978044 MHz -1.11 dB                      D1[1] 4.9400 MHz                      CF 836.5 MHz 501 pts Span 10.0 MHz                      Date: 9.OCT.2021 18:18:34</p>	<p><b>Spectrum</b>                      Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz                      Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      D1 15.640 dBm M1[1] -9.61 dBm 834.0400 MHz                      Occ Bw 4.530938124 MHz -1.13 dB                      D1[1] 4.9400 MHz                      CF 836.5 MHz 501 pts Span 10.0 MHz                      Date: 9.OCT.2021 18:19:00</p>
Highest	<p><b>Spectrum</b>                      Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz                      Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      D1 16.890 dBm M1[1] -9.48 dBm 844.0400 MHz                      Occ Bw 4.491017964 MHz 0.37 dB                      D1[1] 4.9400 MHz                      CF 846.5 MHz 501 pts Span 10.0 MHz                      Date: 9.OCT.2021 18:19:25</p>	<p><b>Spectrum</b>                      Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz                      Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep                      1Pk Max                      D1 15.570 dBm M1[1] -10.77 dBm 844.0200 MHz                      Occ Bw 4.510978044 MHz 1.10 dB                      D1[1] 4.9600 MHz                      CF 846.5 MHz 501 pts Span 10.0 MHz                      Date: 9.OCT.2021 18:19:55</p>

Occupied Bandwidth

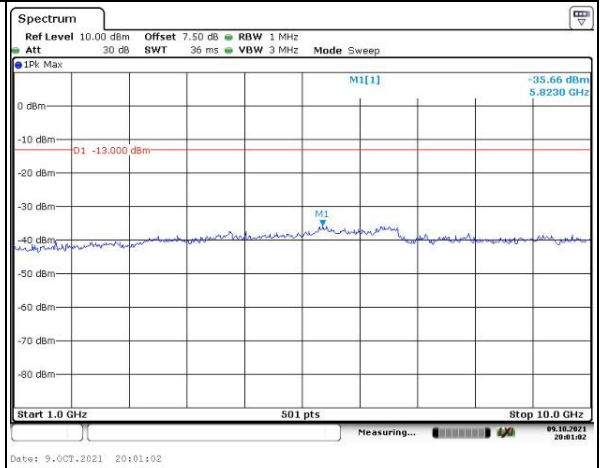
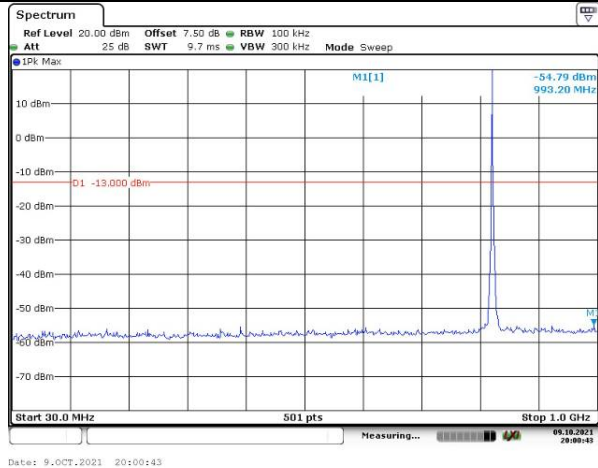
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max D1 14.180 dBm M1[1] -12.08 dBm D2 -11.820 dBm 824.0800 MHz 824.2400 MHz -0.70 dB 9.7600 MHz CF 829.0 MHz 501 pts Span 20.0 MHz Date: 9.OCT.2021 18:20:29</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max D1 14.900 dBm M1[1] -10.44 dBm D2 -11.100 dBm 824.2400 MHz 824.5200 MHz -0.73 dB 9.5200 MHz CF 829.0 MHz 501 pts Span 20.0 MHz Date: 9.OCT.2021 18:20:56</p>
Middle	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max D1 14.680 dBm M1[1] -11.51 dBm D2 -11.320 dBm 831.7000 MHz 831.9600 MHz 1.12 dB 9.5600 MHz CF 836.5 MHz 501 pts Span 20.0 MHz Date: 9.OCT.2021 18:21:28</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max D1 13.330 dBm M1[1] -13.92 dBm D2 -12.670 dBm 831.7000 MHz 831.9600 MHz 1.76 dB 9.6000 MHz CF 836.5 MHz 501 pts Span 20.0 MHz Date: 9.OCT.2021 18:22:02</p>
Highest	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max D1 14.380 dBm M1[1] -11.69 dBm D2 -11.620 dBm 839.2000 MHz 839.6000 MHz 0.67 dB 9.6000 MHz CF 844.0 MHz 501 pts Span 20.0 MHz Date: 9.OCT.2021 18:22:31</p>	<p>Ref Level 20.00 dBm Offset 7.50 dB RBW 100 kHz Att 25 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Pk Max D1 13.580 dBm M1[1] -12.63 dBm D2 -12.420 dBm 839.1600 MHz 839.5928 MHz 0.18 dB 9.6400 MHz CF 844.0 MHz 501 pts Span 20.0 MHz Date: 9.OCT.2021 18:23:02</p>

Spurious Emissions at Antenna Terminal

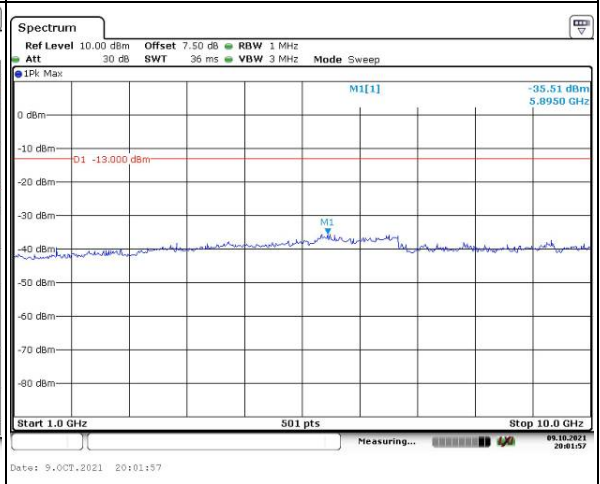
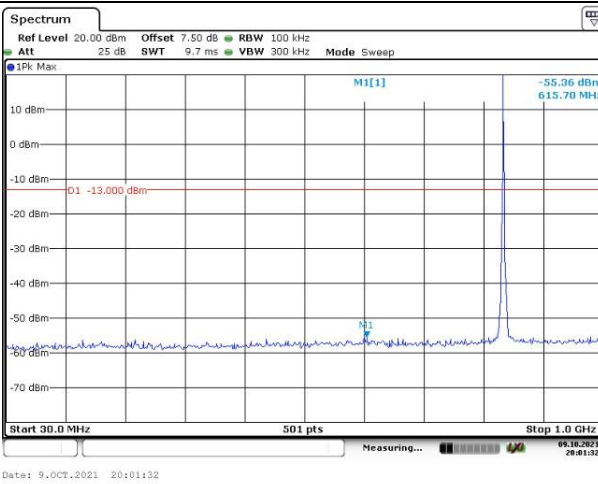
Channel

1.4MHz Bandwidth QPSK

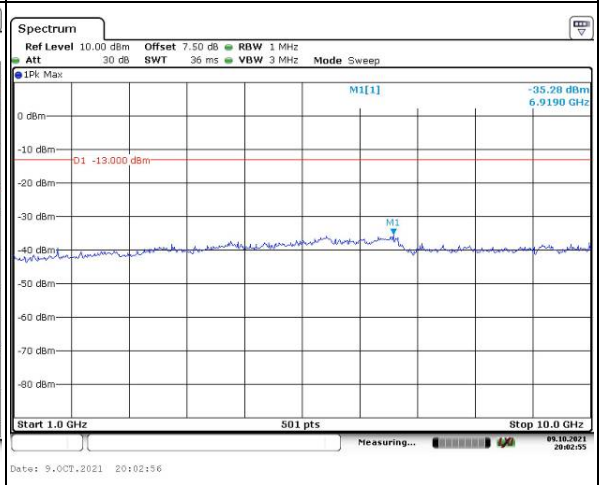
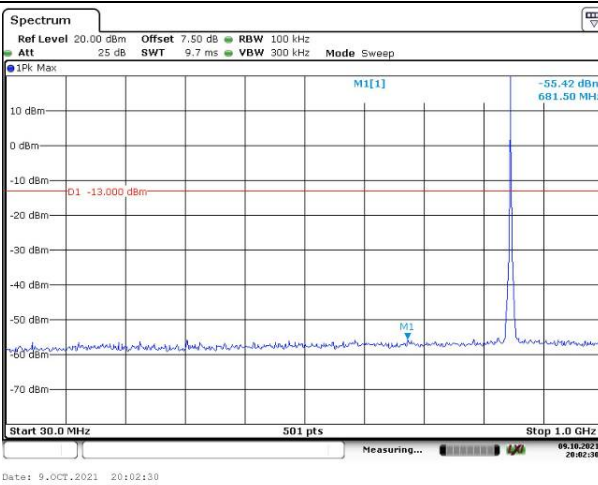
Lowest



Middle



Highest



### Spurious Emissions at Antenna Terminal

