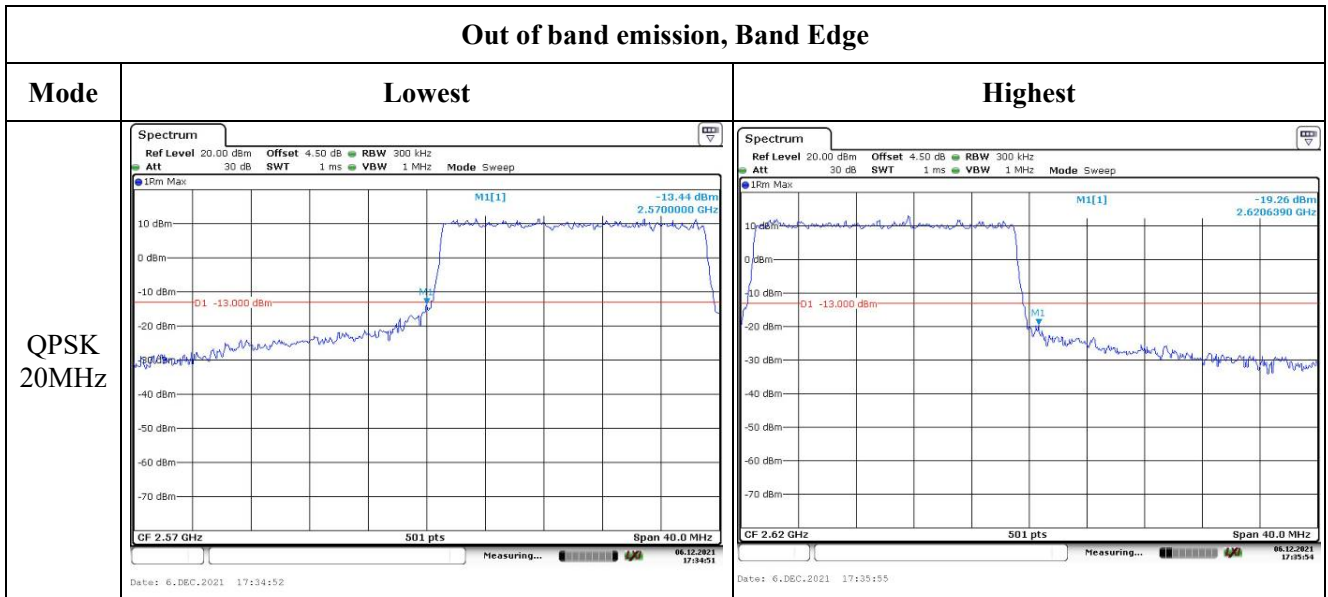


Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz	<p>Spectrum Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 20 ms VBW 300 kHz Mode Sweep 1Rm Max M1[1] -19.05 dBm 2.5700000 GHz D1 -13.000 dBm CF 2.57 GHz 501 pts Span 10.0 MHz Date: 6.DEC.2021 17:26:54</p>	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 38 μs VBW 300 kHz Mode Auto FFT 1Rm Max M1[1] -16.26 dBm 2.6200000 GHz D1 -13.000 dBm CF 2.62 GHz 501 pts Span 10.0 MHz Date: 29.DEC.2021 13:26:36</p>
QPSK 10MHz	<p>Spectrum Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Rm Max M1[1] -19.86 dBm 2.5698400 GHz D1 -13.000 dBm CF 2.57 GHz 501 pts Span 20.0 MHz Date: 6.DEC.2021 17:29:12</p>	<p>Spectrum Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep 1Rm Max M1[1] -21.15 dBm 2.6200000 GHz D1 -13.000 dBm CF 2.62 GHz 501 pts Span 20.0 MHz Date: 6.DEC.2021 17:30:18</p>
QPSK 15MHz	<p>Spectrum Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 76 μs VBW 1 MHz Mode Auto FFT 1Rm Max M1[1] -25.06 dBm 2.5699840 GHz D1 -13.000 dBm CF 2.57 GHz 501 pts Span 30.0 MHz Date: 29.DEC.2021 13:33:16</p>	<p>Spectrum Ref Level 20.00 dBm Offset 4.50 dB RBW 300 kHz Att 30 dB SWT 20 ms VBW 1 MHz Mode Sweep 1Rm Max M1[1] -20.37 dBm 2.6200000 GHz D1 -13.000 dBm CF 2.62 GHz 501 pts Span 30.0 MHz Date: 6.DEC.2021 17:33:21</p>

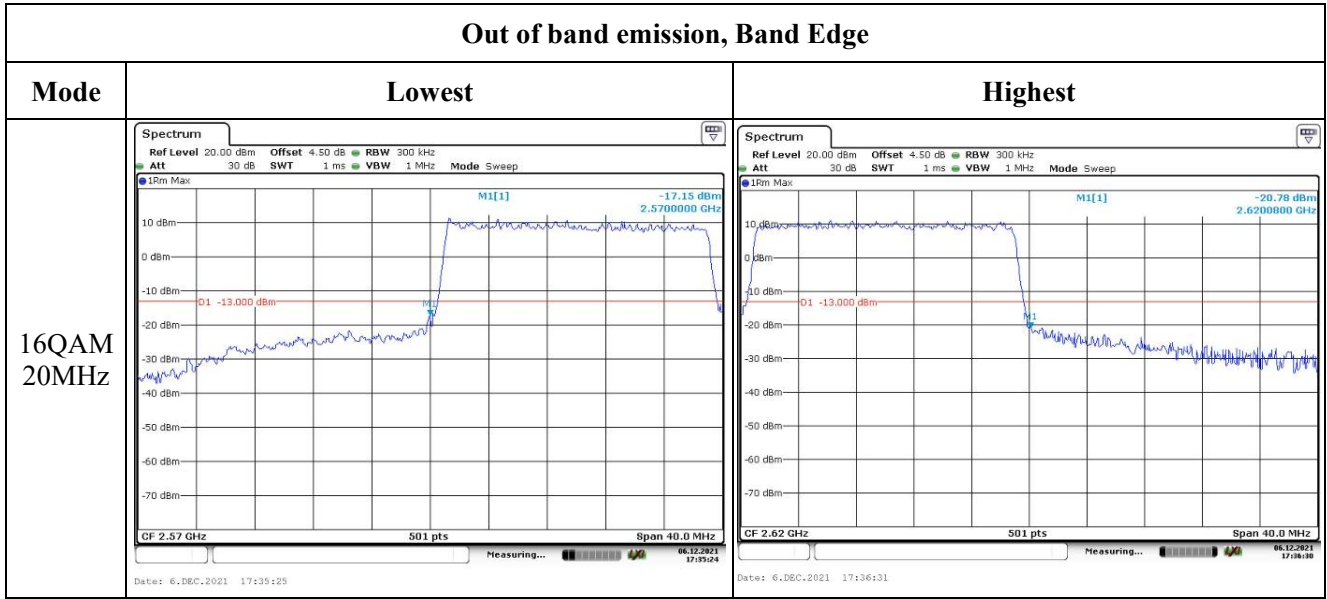
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 5MHz	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -14.89 dBm 2.5700000 GHz D1 -13.000 dBm CF 2.57 GHz 501 pts Span 10.0 MHz Date: 6.DEC.2021 17:27:17</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 38 μs VBW 300 kHz Mode Auto FFT M1[1] -18.17 dBm 2.6200000 GHz D1 -13.000 dBm CF 2.62 GHz 501 pts Span 10.0 MHz Date: 29.DEC.2021 13:26:53</p>
16QAM 10MHz	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -21.30 dBm 2.5700000 GHz D1 -13.000 dBm CF 2.57 GHz 501 pts Span 20.0 MHz Date: 6.DEC.2021 17:29:43</p>	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -18.85 dBm 2.6200000 GHz D1 -13.000 dBm CF 2.62 GHz 501 pts Span 20.0 MHz Date: 6.DEC.2021 17:30:52</p>
16QAM 15MHz	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 300 kHz Att 30 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -13.98 dBm 2.5698800 GHz D1 -13.000 dBm CF 2.57 GHz 501 pts Span 30.0 MHz Date: 6.DEC.2021 17:32:22</p>	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 300 kHz Att 30 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -15.23 dBm 2.6200000 GHz D1 -13.000 dBm CF 2.62 GHz 501 pts Span 30.0 MHz Date: 6.DEC.2021 17:33:51</p>

Out of band emission, Band Edge



**4.15 Antenna Port Test Data and Results for LTE Band 41:**

Serial Number:	CR21110036-RF-S1	Test Date:	2021/12/06~2021/12/29
Test Site:	RF	Test Mode:	Transmitting
Tester:	LE Qiao	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	18.4~21.3	Relative Humidity: (%)	32~48	ATM Pressure: (kPa)	101.6~101.8
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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
R&S	Universal Radio Communication Tester	CMU200	110 825	2021/7/22	2022/7/21
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 41▲:**

Antenna Gain (dBi):	1	Cable Loss (dB):	0
Operation Voltage(V <sub>DC</sub> ):			
Lowest:	3.5	Normal:	3.85
		Highest:	4.4

**Test Frequency For Each Mode:**

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2498.5	2593	2687.5
10MHz	2501	2593	2685
15MHz	2503.5	2593	2652.5
20MHz	2506	2593	2680

**Test Data:**

<b>FCC§2.1046;§ 27.50(h)(2)</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		
5MHz QPSK	RB1#0	23.19	21.95	22.29	24.19	33
	RB1#13	22.93	21.75	22.17		
	RB1#24	22.95	21.77	22.22		
	RB15#0	21.83	21.17	21.33		
	RB15#10	21.86	21.21	21.35		
	RB25#0	21.91	21.22	21.32		
5MHz 16QAM	RB1#0	21.47	21.16	21.49	22.72	33
	RB1#13	21.60	21.12	21.52		
	RB1#24	21.72	21.30	21.57		
	RB15#0	20.76	20.03	20.02		
	RB15#10	20.73	20.03	20.16		
	RB25#0	20.87	20.16	20.07		
10MHz QPSK	RB1#0	22.95	22.64	22.44	23.95	33
	RB1#25	22.95	22.77	22.54		
	RB1#49	22.89	22.64	22.29		
	RB25#0	22.05	21.29	21.48		
	RB25#25	21.90	21.19	21.44		
	RB50#0	21.95	21.30	21.50		
10MHz 16QAM	RB1#0	22.15	21.67	21.55	23.15	33
	RB1#25	21.77	21.74	21.47		
	RB1#49	21.65	21.63	21.01		
	RB25#0	20.97	20.40	20.62		
	RB25#25	20.80	20.26	20.49		
	RB50#0	20.93	20.31	20.49		
15MHz QPSK	RB1#0	23.01	22.53	22.42	24.03	33
	RB1#38	22.84	22.46	22.21		
	RB1#74	23.03	22.50	22.33		
	RB36#0	22.01	21.43	21.58		
	RB36#39	21.98	21.29	21.37		
	RB75#0	22.00	21.32	21.46		
15MHz 16QAM	RB1#0	22.01	21.55	21.72	23.01	33
	RB1#38	22.00	21.60	21.45		
	RB1#74	21.73	21.35	21.60		
	RB36#0	21.01	20.31	20.53		
	RB36#39	20.81	20.18	20.52		
	RB75#0	20.95	20.33	20.43		

20MHz QPSK	RB1#0	23.06	22.66	22.76	24.06	33
	RB1#50	22.87	22.71	22.64		
	RB1#99	22.87	22.47	22.62		
	RB50#0	22.13	21.43	21.59		
	RB50#50	22.04	21.35	21.48		
	RB100#0	22.01	21.46	21.61		
20MHz 16QAM	RB1#0	22.32	21.46	21.84	23.32	33
	RB1#50	22.09	21.20	22.00		
	RB1#99	22.10	21.13	21.72		
	RB50#0	21.13	20.56	20.72		
	RB50#50	21.02	20.44	20.55		
	RB100#0	20.98	20.41	20.52		

Note: EIRP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(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	5.65	6.09	5.19	13
	RB100#0	4.29	5.39	6.35	13
20MHz 16QAM	RB1#0	4.75	5.77	7.19	13
	RB100#0	4.75	6.96	6.26	13
<b>Result:</b>					<b>Pass</b>

### 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	4.511	4.531	4.511	4.980	5.040	5.220
5MHz 16QAM	4.531	4.511	4.511	5.020	5.000	5.020
10MHz QPSK	8.981	8.942	8.942	9.760	9.840	9.720
10MHz 16QAM	8.942	8.942	8.942	9.640	9.640	9.800
15MHz QPSK	13.593	13.473	13.533	15.900	15.060	16.680
15MHz 16QAM	13.533	13.593	13.593	15.720	15.960	15.240
20MHz QPSK	18.044	17.964	17.964	19.360	20.160	19.920
20MHz 16QAM	17.884	17.964	17.884	19.840	21.040	19.280

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

**FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal**

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

<b>Result:</b>	<b>Pass, Please refer to the test plots of Out of band emission, Band Edge.</b>
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**FCC §2.1055, §27.54: Frequency Stability**

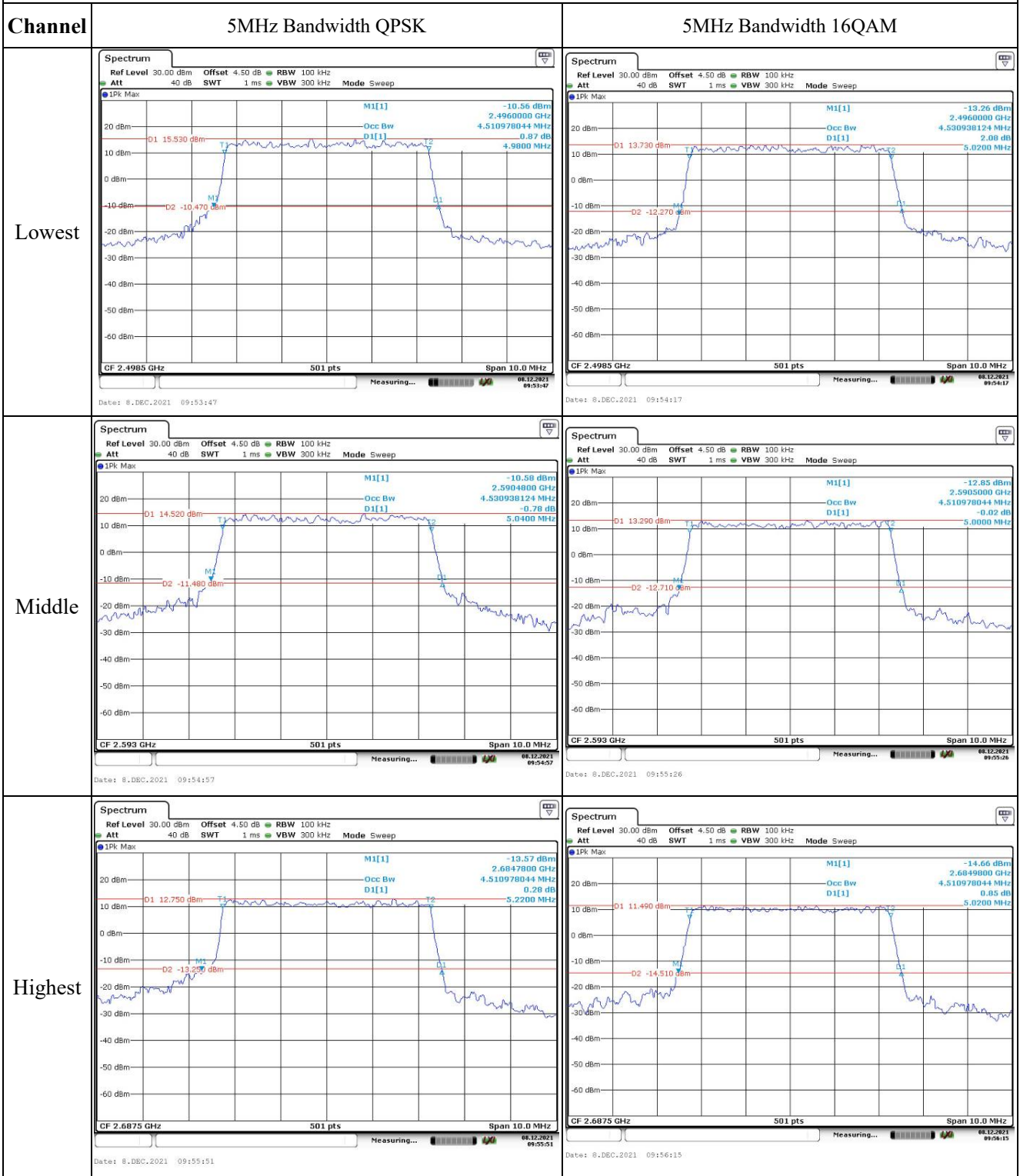
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2496.529	2496.00	2689.471	2690.00
	-20	3.85	2496.522	2496.00	2689.472	2690.00
	-10	3.85	2496.523	2496.00	2689.473	2690.00
	0	3.85	2496.524	2496.00	2689.474	2690.00
	10	3.85	2496.526	2496.00	2689.476	2690.00
	20	3.85	2496.529	2496.00	2689.471	2690.00
	30	3.85	2496.527	2496.00	2689.477	2690.00
	40	3.85	2496.528	2496.00	2689.478	2690.00
Frequency Stability vs. Voltage	20	3.5	2496.520	2496.00	2689.472	2690.00
	20	4.4	2496.529	2496.00	2689.471	2690.00
					<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	3.85	2496.529	2496.00	2689.476	2690.00
	-20	3.85	2496.523	2496.00	2689.471	2690.00
	-10	3.85	2496.529	2496.00	2689.477	2690.00
	0	3.85	2496.525	2496.00	2689.471	2690.00
	10	3.85	2496.527	2496.00	2689.473	2690.00
	20	3.85	2496.529	2496.00	2689.471	2690.00
	30	3.85	2496.528	2496.00	2689.471	2690.00
	40	3.85	2496.520	2496.00	2689.472	2690.00
Frequency Stability vs. Voltage	20	3.5	2496.522	2496.00	2689.479	2690.00
	20	4.4	2496.529	2496.00	2689.471	2690.00
					<b>Result:</b>	<b>Pass</b>



Test Plots:

Occupied Bandwidth



Occupied Bandwidth

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

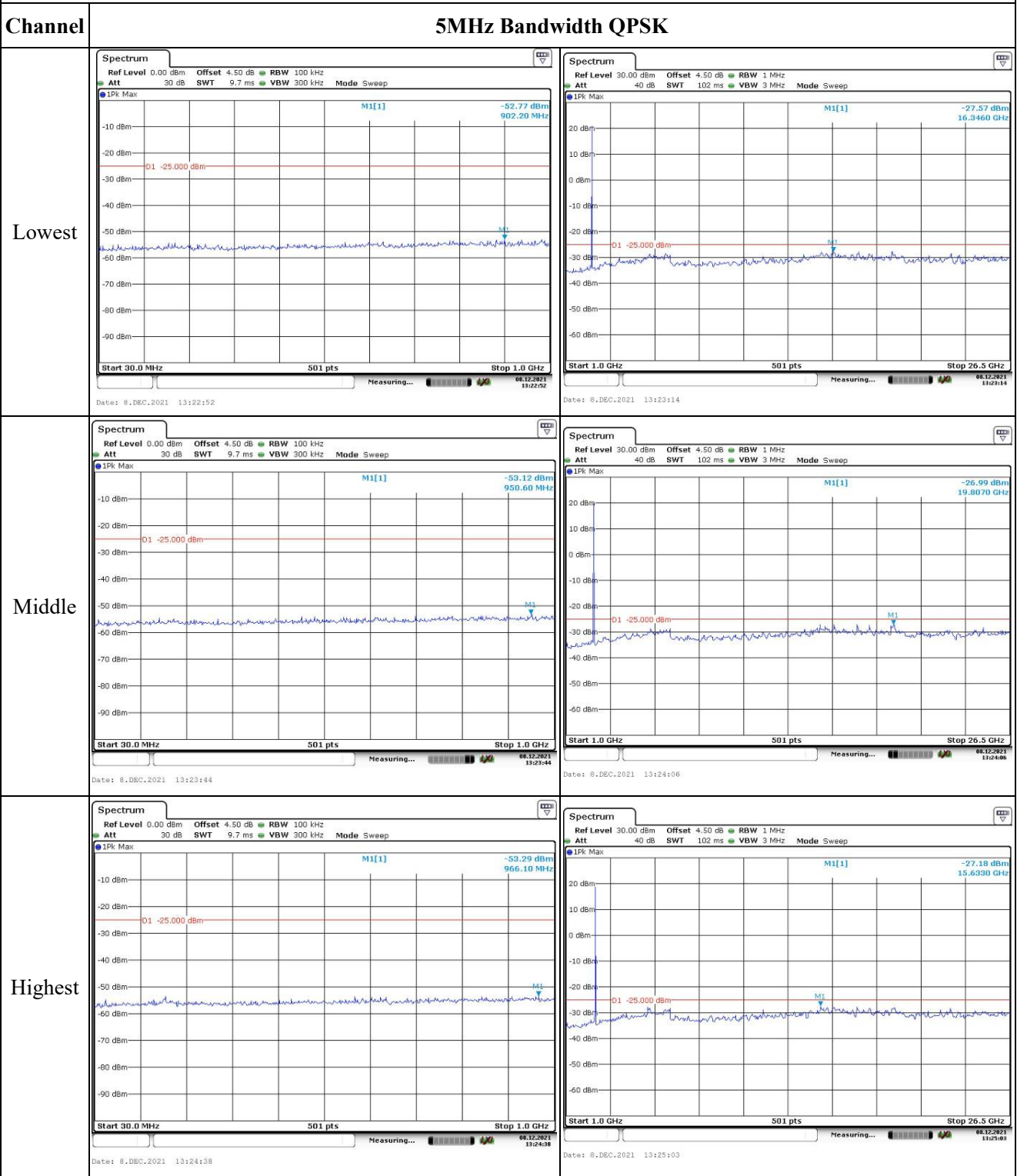
Occupied Bandwidth

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

Occupied Bandwidth

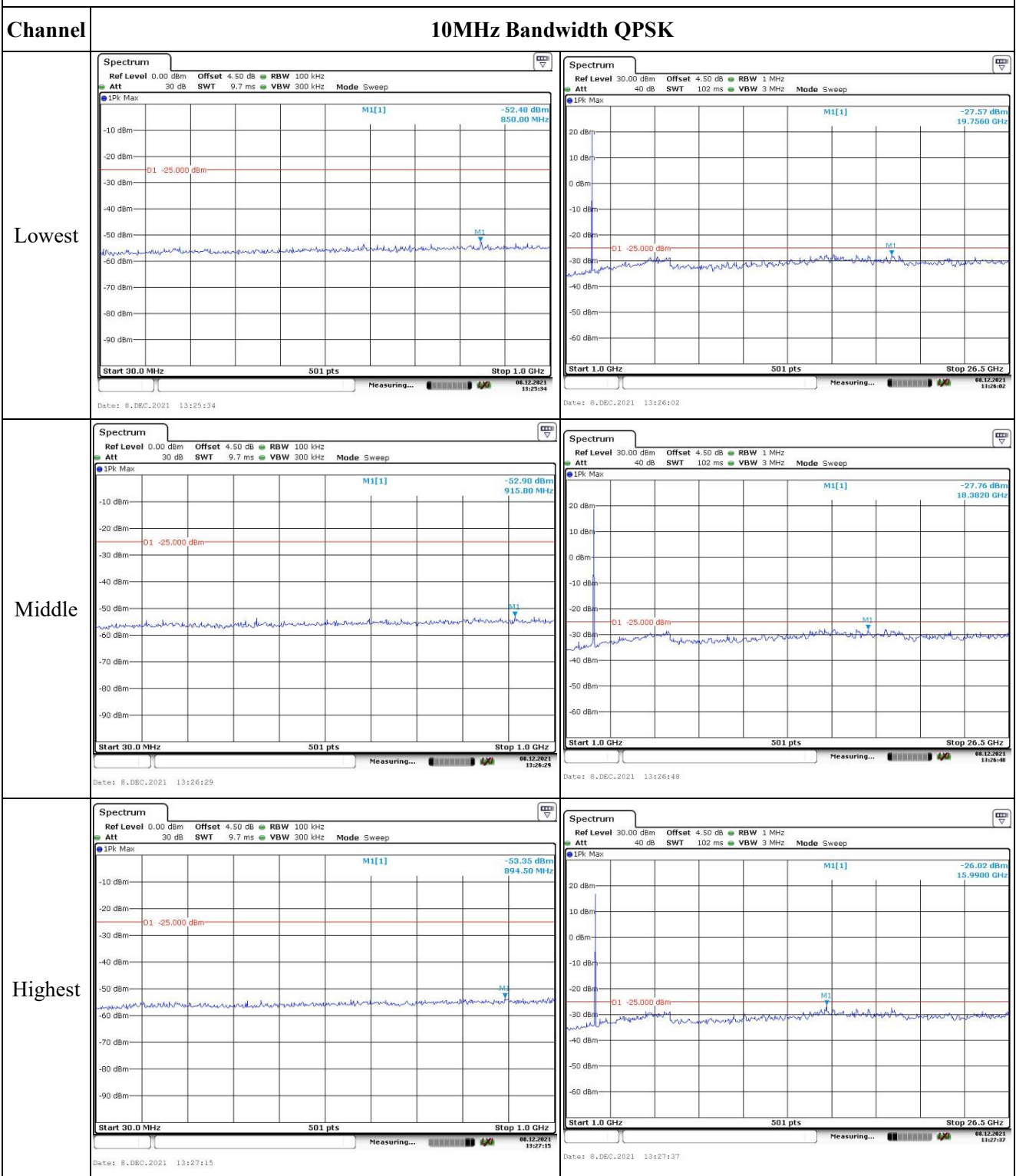
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 300 kHz                      Att 40 dB SWT 1 ms VBW 1 MHz Mode Sweep                      1Pk Max                      M1[1] -11.04 dBm                      Occ Bw 18.043912176 MHz                      D1[1] 0.14 dB                      D2 -11.230 dBm                      CF 2.506 GHz 501 pts Span 40.0 MHz                      Date: 8.DEC.2021 10:04:06</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] -13.44 dBm                      Occ Bw 17.884231537 MHz                      D1[1] 1.38 dB                      D2 -13.230 dBm                      CF 2.506 GHz 501 pts Span 40.0 MHz                      Date: 8.DEC.2021 10:04:39</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] -11.43 dBm                      Occ Bw 17.964071856 MHz                      D1[1] -0.89 dB                      D2 -11.530 dBm                      CF 2.593 GHz 501 pts Span 40.0 MHz                      Date: 8.DEC.2021 10:05:17</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] -12.64 dBm                      Occ Bw 17.964071856 MHz                      D1[1] -0.32 dB                      D2 -12.900 dBm                      CF 2.593 GHz 501 pts Span 40.0 MHz                      Date: 8.DEC.2021 10:05:59</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] -13.00 dBm                      Occ Bw 17.964071856 MHz                      D1[1] -0.51 dB                      D2 -12.790 dBm                      CF 2.668 GHz 501 pts Span 40.0 MHz                      Date: 8.DEC.2021 10:06:43</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] -12.06 dBm                      Occ Bw 17.884231537 MHz                      D1[1] -0.62 dB                      D2 -12.490 dBm                      CF 2.668 GHz 501 pts Span 40.0 MHz                      Date: 8.DEC.2021 10:07:15</p>

Spurious Emissions at Antenna Terminal





### Spurious Emissions at Antenna Terminal



### Spurious Emissions at Antenna Terminal

Channel	15MHz Bandwidth QPSK	
Lowest	<p><b>Spectrum</b>                      Ref Level 0.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep                      1Pk Max M1[1] -52.91 dBm 925.50 MHz                      -25.000 dBm                      Start 30.0 MHz 501 pts Stop 1.0 GHz                      Date: 8.DEC.2021 13:28:18</p>	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz                      Att 40 dB SWT 102 ms VBW 3 MHz Mode Sweep                      1Pk Max M1[1] -27.84 dBm 19.7560 GHz                      -25.000 dBm                      Start 1.0 GHz 501 pts Stop 26.5 GHz                      Date: 8.DEC.2021 13:28:41</p>
Middle	<p><b>Spectrum</b>                      Ref Level 0.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep                      1Pk Max M1[1] -53.04 dBm 942.90 MHz                      -25.000 dBm                      Start 30.0 MHz 501 pts Stop 1.0 GHz                      Date: 8.DEC.2021 13:29:10</p>	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz                      Att 40 dB SWT 102 ms VBW 3 MHz Mode Sweep                      1Pk Max M1[1] -27.19 dBm 15.6840 GHz                      -25.000 dBm                      Start 1.0 GHz 501 pts Stop 26.5 GHz                      Date: 8.DEC.2021 13:29:36</p>
Highest	<p><b>Spectrum</b>                      Ref Level 0.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep                      1Pk Max M1[1] -52.86 dBm 992.50 MHz                      -25.000 dBm                      Start 30.0 MHz 501 pts Stop 1.0 GHz                      Date: 8.DEC.2021 13:30:09</p>	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz                      Att 40 dB SWT 102 ms VBW 3 MHz Mode Sweep                      1Pk Max M1[1] -27.74 dBm 15.9390 GHz                      -25.000 dBm                      Start 1.0 GHz 501 pts Stop 26.5 GHz                      Date: 8.DEC.2021 13:30:34</p>

### Spurious Emissions at Antenna Terminal

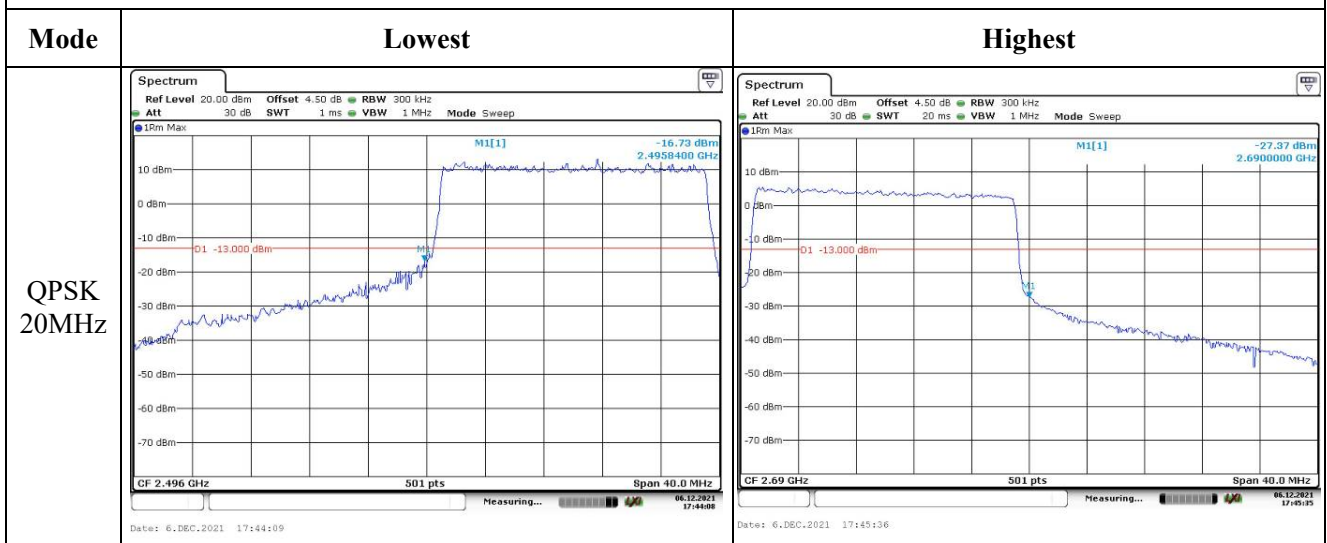
Channel	20MHz Bandwidth QPSK	
Lowest	<p><b>Spectrum</b>                      Ref Level 0.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep                      1Pk Max M1[1] -52.77 dBm 892.50 MHz                      -25.000 dBm                      Start 30.0 MHz 501 pts Stop 1.0 GHz                      Date: 8.DEC.2021 13:31:13</p>	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz                      Att 40 dB SWT 102 ms VBW 3 MHz Mode Sweep                      1Pk Max M1[1] -27.58 dBm 17.7200 GHz                      -25.000 dBm                      Start 1.0 GHz 501 pts Stop 26.5 GHz                      Date: 8.DEC.2021 13:31:35</p>
Middle	<p><b>Spectrum</b>                      Ref Level 0.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep                      1Pk Max M1[1] -53.31 dBm 799.60 MHz                      -25.000 dBm                      Start 30.0 MHz 501 pts Stop 1.0 GHz                      Date: 8.DEC.2021 13:32:04</p>	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz                      Att 40 dB SWT 102 ms VBW 3 MHz Mode Sweep                      1Pk Max M1[1] -27.83 dBm 16.3460 GHz                      -25.000 dBm                      Start 1.0 GHz 501 pts Stop 26.5 GHz                      Date: 8.DEC.2021 13:32:26</p>
Highest	<p><b>Spectrum</b>                      Ref Level 0.00 dBm Offset 4.50 dB RBW 100 kHz                      Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Sweep                      1Pk Max M1[1] -53.75 dBm 772.50 MHz                      -25.000 dBm                      Start 30.0 MHz 501 pts Stop 1.0 GHz                      Date: 8.DEC.2021 13:33:05</p>	<p><b>Spectrum</b>                      Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz                      Att 40 dB SWT 102 ms VBW 3 MHz Mode Sweep                      1Pk Max M1[1] -27.44 dBm 16.4480 GHz                      -25.000 dBm                      Start 1.0 GHz 501 pts Stop 26.5 GHz                      Date: 8.DEC.2021 13:33:30</p>



Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 76 <math>\mu</math>s VBW 300 kHz Mode Auto FFT M1[1] -19.43 dBm 2.4959950 GHz D1 -13.000 dBm CF 2.496 GHz 501 pts Span 10.0 MHz Date: 29.DEC.2021 13:37:19</p>	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 20 ms VBW 300 kHz Mode Sweep M1[1] -20.25 dBm 2.6900000 GHz D1 -13.000 dBm CF 2.69 GHz 501 pts Span 10.0 MHz Date: 6.DEC.2021 17:38:32</p>
QPSK 10MHz	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -18.02 dBm 2.4960000 GHz D1 -13.000 dBm CF 2.496 GHz 501 pts Span 20.0 MHz Date: 6.DEC.2021 17:39:33</p>	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -20.70 dBm 2.6900000 GHz D1 -13.000 dBm CF 2.69 GHz 501 pts Span 20.0 MHz Date: 6.DEC.2021 17:40:31</p>
QPSK 15MHz	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 300 kHz Att 30 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -17.38 dBm 2.4958200 GHz D1 -13.000 dBm CF 2.496 GHz 501 pts Span 30.0 MHz Date: 6.DEC.2021 17:41:32</p>	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 300 kHz Att 30 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -16.01 dBm 2.6900000 GHz D1 -13.000 dBm CF 2.69 GHz 501 pts Span 30.0 MHz Date: 6.DEC.2021 17:42:54</p>

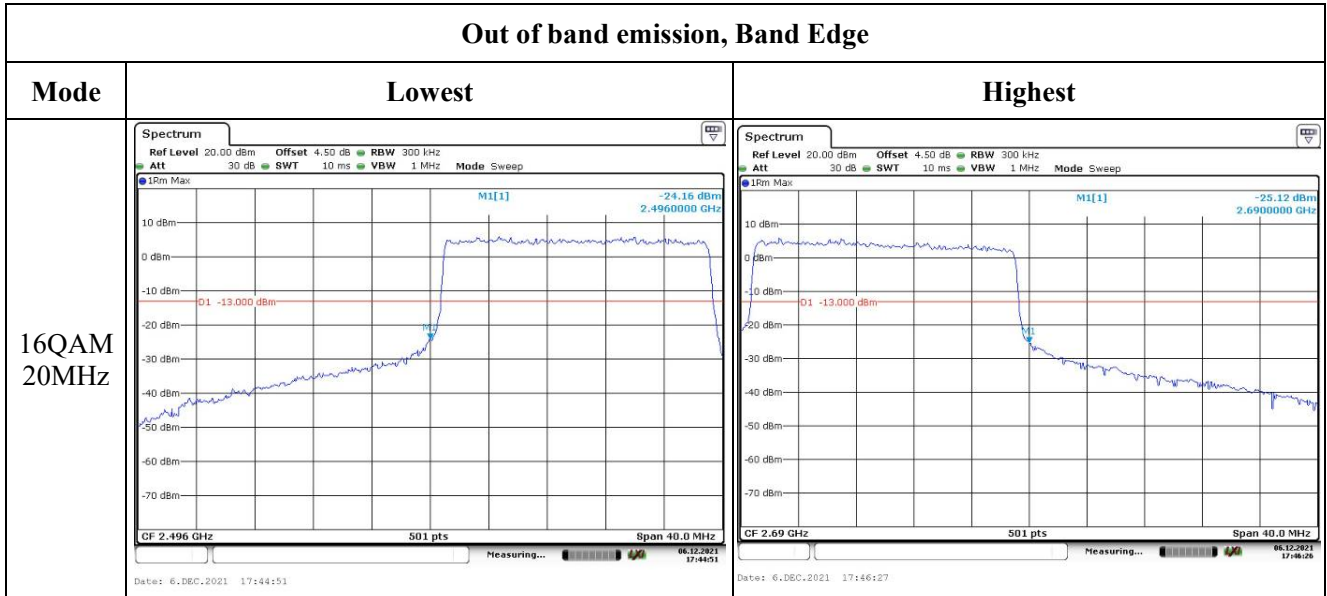
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 5MHz	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -14.68 dBm 2.4960000 GHz D1 -13.000 dBm CF 2.496 GHz 501 pts Span 10.0 MHz Date: 6.DEC.2021 17:37:49</p>	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -15.10 dBm 2.6900000 GHz D1 -13.000 dBm CF 2.69 GHz 501 pts Span 10.0 MHz Date: 6.DEC.2021 17:38:58</p>
16QAM 10MHz	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -22.95 dBm 2.4960000 GHz D1 -13.000 dBm CF 2.496 GHz 501 pts Span 20.0 MHz Date: 6.DEC.2021 17:39:51</p>	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 1 ms VBW 300 kHz Mode Sweep M1[1] -23.53 dBm 2.6900000 GHz D1 -13.000 dBm CF 2.69 GHz 501 pts Span 20.0 MHz Date: 6.DEC.2021 17:41:02</p>
16QAM 15MHz	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 300 kHz Att 40 dB SWT 76 μs VBW 1 MHz Mode Auto FFT M1[1] -24.49 dBm 2.4959840 GHz D1 -13.000 dBm CF 2.496 GHz 501 pts Span 30.0 MHz Date: 29.DEC.2021 13:38:41</p>	<p>Ref Level 20.00 dBm Offset 4.50 dB RBW 300 kHz Att 30 dB SWT 1 ms VBW 1 MHz Mode Sweep M1[1] -15.13 dBm 2.6900600 GHz D1 -13.000 dBm CF 2.69 GHz 501 pts Span 30.0 MHz Date: 6.DEC.2021 17:43:26</p>

Out of band emission, Band Edge



**4.16 Spurious Emissions**

Serial Number:	CR21110036-RF-S1	Test Date:	2021-12-06~2021-12-28
Test Site:	966-2, 966-1	Test Mode:	Transmitting
Tester:	Great Qiao,	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	18.9~19.1	Relative Humidity: (%)	43~57	ATM Pressure: (kPa)	102.1
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2020-10-19	2023-10-18
R&S	EMI Test Receiver	ESR3	102724	2021-07-22	2022-07-21
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2021-07-18	2022-07-17
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2021-07-18	2022-07-17
Sonoma	Amplifier	310N	186165	2021-07-18	2022-07-17
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2021-07-25	2022-07-24
Agilent	Signal Generator	E8247C	MY43321350	2021-04-25	2022-04-24
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020-10-13	2023-10-12
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021-02-05	2024-02-04
R&S	Spectrum Analyzer	FSV40	101591	2021-07-22	2022-07-21
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2021-08-08	2022-08-07
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2021-08-08	2022-08-07
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2021-08-08	2022-08-07
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2021-11-10	2022-11-09
AH	Preamplifier	PAM-1840VH	190	2020-11-20	2021-11-19
AH	Double Ridge Guide Horn Antenna	SAS-571	1396	2021-10-18	2023-10-17
PASTERNAK	Horn Antenna	PE9852/2F-20	112001	2021-02-05	2024-02-04

MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2021-07-25	2022-07-24
Mini Circuits	High Pass Filter	VHF-6010+	31119	2021-08-08	2022-08-07
Mini Circuits	High Pass Filter	VHF-3100+	31251	2021-08-08	2022-08-07

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

**Test Data:**

Please refer to the below table and plots.

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

**Test Data:****Cellular Band (PART 22H)****30 MHz-10 GHz:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 850 Frequency:824.2MHz								
1648.40	H	59.40	-44.94	8.68	0.80	-37.06	-13.00	24.06
1648.40	V	50.08	-54.33	8.68	0.80	-46.45	-13.00	33.45
2472.60	H	42.97	-57.81	9.38	1.00	-49.43	-13.00	36.43
2472.60	V	46.02	-54.71	9.38	1.00	-46.33	-13.00	33.33
3296.80	H	38.81	-57.87	10.32	1.15	-48.70	-13.00	35.70
3296.80	V	42.46	-53.99	10.32	1.15	-44.82	-13.00	31.82
564.00	H	20.37	-54.20	0.00	0.46	-54.66	-13.00	41.66
587.00	V	19.57	-52.14	0.00	0.47	-52.61	-13.00	39.61
GSM 850 Frequency:836.6MHz								
1673.20	H	61.71	-42.60	8.71	0.85	-34.74	-13.00	21.74
1673.20	V	56.80	-47.61	8.71	0.85	-39.75	-13.00	26.75
2509.80	H	43.26	-57.35	9.42	1.01	-48.94	-13.00	35.94
2509.80	V	45.43	-55.19	9.42	1.01	-46.78	-13.00	33.78
3346.40	H	40.92	-56.25	10.34	1.16	-47.07	-13.00	34.07
3346.40	V	43.97	-53.06	10.34	1.16	-43.88	-13.00	30.88
723.00	H	20.15	-52.71	0.00	0.50	-53.21	-13.00	40.21
714.00	V	20.36	-49.25	0.00	0.50	-49.75	-13.00	36.75
GSM 850 Frequency:848.8MHz								
1697.60	H	70.34	-33.95	8.74	0.90	-26.11	-13.00	13.11
1697.60	V	63.23	-41.19	8.74	0.90	-33.35	-13.00	20.35
2546.40	H	50.88	-49.45	9.47	1.01	-40.99	-13.00	27.99
2546.40	V	48.80	-51.48	9.47	1.01	-43.02	-13.00	30.02
3395.20	H	43.07	-54.62	10.36	1.19	-45.45	-13.00	32.45
3395.20	V	45.53	-52.13	10.36	1.19	-42.96	-13.00	29.96
347.00	H	19.87	-58.81	0.00	0.37	-59.18	-13.00	46.18
369.00	V	20.58	-55.59	0.00	0.37	-55.96	-13.00	42.96

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band 5 Frequency:826.4 MHz								
1652.80	H	37.51	-66.82	8.68	0.81	-58.95	-13.00	45.95
1652.80	V	38.75	-65.66	8.68	0.81	-57.79	-13.00	44.79
2479.20	H	37.30	-63.46	9.39	1.01	-55.08	-13.00	42.08
2479.20	V	37.29	-63.44	9.39	1.01	-55.06	-13.00	42.06
3305.60	H	36.92	-59.81	10.32	1.15	-50.64	-13.00	37.64
3305.60	V	36.70	-59.80	10.32	1.15	-50.63	-13.00	37.63
890.00	H	34.52	-65.08	0.00	0.64	-65.72	-13.00	52.72
64.00	V	39.52	-65.13	-8.18	0.14	-73.45	-13.00	60.45
WCDMA Band 5 Frequency:836.6MHz								
1673.20	H	38.41	-65.90	8.71	0.85	-58.04	-13.00	45.04
1673.20	V	39.30	-65.11	8.71	0.85	-57.25	-13.00	44.25
2509.80	H	37.37	-63.24	9.42	1.01	-54.83	-13.00	41.83
2509.80	V	37.24	-63.38	9.42	1.01	-54.97	-13.00	41.97
3346.40	H	36.34	-60.83	10.34	1.16	-51.65	-13.00	38.65
3346.40	V	36.48	-60.55	10.34	1.16	-51.37	-13.00	38.37
900.00	H	56.65	-42.65	0.00	0.63	-43.28	-13.00	30.28
64.00	V	38.94	-65.71	-8.18	0.14	-74.03	-13.00	61.03
WCDMA Band 5 Frequency:846.6MHz								
1693.20	H	38.43	-65.87	8.73	0.89	-58.03	-13.00	45.03
1693.20	V	39.06	-65.36	8.73	0.89	-57.52	-13.00	44.52
2539.80	H	37.42	-62.96	9.46	1.01	-54.51	-13.00	41.51
2539.80	V	37.25	-63.09	9.46	1.01	-54.64	-13.00	41.64
3386.40	H	36.81	-60.78	10.35	1.18	-51.61	-13.00	38.61
3386.40	V	36.27	-61.27	10.35	1.18	-52.10	-13.00	39.10
774.00	H	27.89	-75.03	0.00	0.55	-75.58	-13.00	62.58
65.00	V	35.68	-68.63	-7.65	0.14	-76.42	-13.00	63.42



**PCS Band (PART 24E)****30 MHz-20 GHz:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 1900 Frequency:1850.2MHz								
3700.40	H	49.50	-47.82	10.60	1.25	-38.47	-13.00	25.47
3700.40	V	49.58	-47.72	10.60	1.25	-38.37	-13.00	25.37
5550.60	H	39.99	-53.27	11.44	1.49	-43.32	-13.00	30.32
5550.60	V	38.14	-54.96	11.44	1.49	-45.01	-13.00	32.01
463.00	H	28.79	-78.94	0.00	0.42	-79.36	-13.00	66.36
64.00	V	37.95	-66.70	-8.18	0.14	-75.02	-13.00	62.02
GSM 1900 Frequency:1880MHz								
3760.00	H	47.74	-48.67	10.66	1.24	-39.25	-13.00	26.25
3760.00	V	47.40	-48.89	10.66	1.24	-39.47	-13.00	26.47
5640.00	H	36.78	-56.67	11.33	1.54	-46.88	-13.00	33.88
5640.00	V	38.38	-54.95	11.33	1.54	-45.16	-13.00	32.16
569.00	H	29.55	-75.90	0.00	0.46	-76.36	-13.00	63.36
64.52	V	37.58	-66.89	-7.90	0.14	-74.93	-13.00	61.93
GSM 1900 Frequency:1909.8MHz								
3819.60	H	47.81	-48.05	10.72	1.29	-38.62	-13.00	25.62
3819.60	V	46.66	-49.06	10.72	1.29	-39.63	-13.00	26.63
5729.40	H	37.29	-56.19	11.22	1.59	-46.56	-13.00	33.56
5729.40	V	39.62	-53.74	11.22	1.59	-44.11	-13.00	31.11
873.00	H	29.54	-70.58	0.00	0.59	-71.17	-13.00	58.17
59.00	V	51.36	-54.17	-10.76	0.14	-65.07	-13.00	52.07

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band II, Frequency:1852.4 MHz								
3704.80	H	45.39	-51.87	10.60	1.25	-42.52	-13.00	29.52
3704.80	V	45.81	-51.42	10.60	1.25	-42.07	-13.00	29.07
5557.20	H	49.12	-44.16	11.43	1.49	-34.22	-13.00	21.22
5557.20	V	41.81	-51.32	11.43	1.49	-41.38	-13.00	28.38
331.00	H	30.43	-79.82	0.00	0.34	-80.16	-13.00	67.16
64.00	V	37.58	-67.07	-8.18	0.14	-75.39	-13.00	62.39
WCDMA Band II, Frequency:1880 MHz								
3760.00	H	45.54	-50.87	10.66	1.24	-41.45	-13.00	28.45
3760.00	V	46.38	-49.91	10.66	1.24	-40.49	-13.00	27.49
5640.00	H	47.22	-46.23	11.33	1.54	-36.44	-13.00	23.44
5640.00	V	41.80	-51.53	11.33	1.54	-41.74	-13.00	28.74
524.00	H	30.23	-76.14	0.00	0.42	-76.56	-13.00	63.56
64.00	V	36.85	-67.80	-8.18	0.14	-76.12	-13.00	63.12
WCDMA Band II, Frequency:1907.6MHz								
3815.20	H	45.53	-50.32	10.72	1.29	-40.89	-13.00	27.89
3815.20	V	46.27	-49.42	10.72	1.29	-39.99	-13.00	26.99
5722.80	H	48.71	-44.78	11.23	1.58	-35.13	-13.00	22.13
5722.80	V	41.90	-51.45	11.23	1.58	-41.80	-13.00	28.80
407.00	H	29.35	-79.70	0.00	0.41	-80.11	-13.00	67.11
31.00	V	39.54	-41.38	-25.84	0.10	-67.32	-13.00	54.32

## AWS Band (PART 27)

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band IV, Frequency:1712.4 MHz								
3424.80	H	41.16	-56.61	10.37	1.17	-47.41	-13.00	34.41
3424.80	V	42.64	-55.10	10.37	1.17	-45.90	-13.00	32.90
5137.20	H	40.17	-53.45	11.28	1.46	-43.63	-13.00	30.63
5137.20	V	36.18	-57.32	11.28	1.46	-47.50	-13.00	34.50
245.00	H	29.96	-82.04	0.00	0.30	-82.34	-13.00	69.34
30.00	V	39.56	-40.36	-26.30	0.10	-66.76	-13.00	53.76
WCDMA Band IV, Frequency:1732.6 MHz								
3465.20	H	40.12	-57.69	10.39	1.15	-48.45	-13.00	35.45
3465.20	V	40.95	-56.82	10.39	1.15	-47.58	-13.00	34.58
5197.80	H	37.63	-56.50	11.32	1.44	-46.62	-13.00	33.62
5197.80	V	37.14	-56.84	11.32	1.44	-46.96	-13.00	33.96
811.00	H	29.24	-72.76	0.00	0.56	-73.32	-13.00	60.32
30.00	V	39.33	-40.59	-26.30	0.10	-66.99	-13.00	53.99
WCDMA Band IV, Frequency:1752.6MHz								
3505.20	H	40.95	-56.88	10.41	1.18	-47.65	-13.00	34.65
3505.20	V	41.24	-56.53	10.41	1.18	-47.30	-13.00	34.30
5257.80	H	38.57	-55.16	11.35	1.47	-45.28	-13.00	32.28
5257.80	V	37.05	-56.46	11.35	1.47	-46.58	-13.00	33.58
529.00	H	29.97	-76.30	0.00	0.44	-76.74	-13.00	63.74
31.00	V	38.45	-42.47	-25.84	0.10	-68.41	-13.00	55.41

**LTE Band 2 (30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 1850.7 MHz								
3701.40	H	56.98	-40.33	10.60	1.25	-30.98	-13.00	17.98
3701.40	V	51.86	-45.43	10.60	1.25	-36.08	-13.00	23.08
5552.10	H	41.52	-51.75	11.44	1.49	-41.80	-13.00	28.80
5552.10	V	39.89	-53.21	11.44	1.49	-43.26	-13.00	30.26
236.00	H	35.31	-76.87	0.00	0.29	-77.16	-13.00	64.16
64.00	V	36.49	-68.16	-8.18	0.14	-76.48	-13.00	63.48
QPSK, Frequency: 1880 MHz								
3760.00	H	55.87	-40.54	10.66	1.24	-31.12	-13.00	18.12
3760.00	V	50.36	-45.93	10.66	1.24	-36.51	-13.00	23.51
5640.00	H	41.69	-51.76	11.33	1.54	-41.97	-13.00	28.97
5640.00	V	39.92	-53.41	11.33	1.54	-43.62	-13.00	30.62
828.00	H	32.56	-68.92	0.00	0.61	-69.53	-13.00	56.53
475.00	V	38.97	-64.61	0.00	0.42	-65.03	-13.00	52.03
QPSK, Frequency: 1909.3 MHz								
3818.60	H	53.98	-41.88	10.72	1.29	-32.45	-13.00	19.45
3818.60	V	53.69	-42.02	10.72	1.29	-32.59	-13.00	19.59
5727.90	H	42.69	-50.79	11.23	1.59	-41.15	-13.00	28.15
5727.90	V	40.77	-52.59	11.23	1.59	-42.95	-13.00	29.95
746.00	H	30.64	-72.92	0.00	0.55	-73.47	-13.00	60.47
42.00	V	36.52	-55.89	-23.76	0.12	-79.77	-13.00	66.77

**LTE Band 4 (30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 1710.7 MHz								
3421.40	H	54.97	-42.79	10.37	1.17	-33.59	-13.00	20.59
3421.40	V	54.23	-43.50	10.37	1.17	-34.30	-13.00	21.30
5132.10	H	41.85	-51.72	11.28	1.47	-41.91	-13.00	28.91
5132.10	V	42.15	-51.31	11.28	1.47	-41.50	-13.00	28.50
624.00	H	30.64	-74.12	0.00	0.48	-74.60	-13.00	61.60
64.00	V	35.84	-68.81	-8.18	0.14	-77.13	-13.00	64.13
QPSK, Frequency: 1732.5 MHz								
3465.00	H	56.63	-41.18	10.39	1.15	-31.94	-13.00	18.94
3465.00	V	55.89	-41.88	10.39	1.15	-32.64	-13.00	19.64
5197.50	H	44.95	-49.18	11.32	1.44	-39.30	-13.00	26.30
5197.50	V	44.49	-49.49	11.32	1.44	-39.61	-13.00	26.61
676.00	H	30.03	-74.63	0.00	0.50	-75.13	-13.00	62.13
65.00	V	38.24	-66.07	-7.65	0.14	-73.86	-13.00	60.86
QPSK, Frequency: 1754.3 MHz								
3505.20	H	54.69	-43.14	10.41	1.18	-33.91	-13.00	20.91
3505.20	V	53.69	-44.08	10.41	1.18	-34.85	-13.00	21.85
5257.80	H	41.83	-51.90	11.35	1.47	-42.02	-13.00	29.02
5257.80	V	43.48	-50.03	11.35	1.47	-40.15	-13.00	27.15
643.00	H	30.35	-74.37	0.00	0.52	-74.89	-13.00	61.89
42.00	V	36.35	-56.06	-23.76	0.12	-79.94	-13.00	66.94

**LTE Band 5(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 824.7 MHz								
1649.40	H	44.40	-59.93	8.68	0.80	-52.05	-13.00	39.05
1649.40	V	39.56	-64.85	8.68	0.80	-56.97	-13.00	43.97
2474.10	H	40.06	-60.72	9.38	1.00	-52.34	-13.00	39.34
2474.10	V	44.27	-56.46	9.38	1.00	-48.08	-13.00	35.08
3298.80	H	45.07	-51.61	10.32	1.15	-42.44	-13.00	29.44
3298.80	V	48.48	-47.96	10.32	1.15	-38.79	-13.00	25.79
870.00	H	23.15	-46.38	0.00	0.58	-46.96	-13.00	33.96
869.00	V	24.35	-42.28	0.00	0.58	-42.86	-13.00	29.86
QPSK, Frequency: 836.5 MHz								
1673.00	H	43.26	-61.05	8.71	0.85	-53.19	-13.00	40.19
1673.00	V	42.46	-61.95	8.71	0.85	-54.09	-13.00	41.09
2509.50	H	39.36	-61.25	9.42	1.01	-52.84	-13.00	39.84
2509.50	V	47.18	-53.44	9.42	1.01	-45.03	-13.00	32.03
3346.00	H	42.49	-54.67	10.34	1.16	-45.49	-13.00	32.49
3346.00	V	45.65	-51.37	10.34	1.16	-42.19	-13.00	29.19
724.00	H	22.58	-50.26	0.00	0.51	-50.77	-13.00	37.77
882.00	V	24.35	-42.07	0.00	0.59	-42.66	-13.00	29.66
QPSK, Frequency: 848.3 MHz								
1696.60	H	44.73	-59.56	8.74	0.89	-51.71	-13.00	38.71
1696.60	V	41.92	-62.50	8.74	0.89	-54.65	-13.00	41.65
2544.90	H	39.95	-60.39	9.47	1.01	-51.93	-13.00	38.93
2544.90	V	46.80	-53.50	9.47	1.01	-45.04	-13.00	32.04
3393.20	H	44.79	-52.88	10.36	1.19	-43.71	-13.00	30.71
3393.20	V	47.95	-49.68	10.36	1.19	-40.51	-13.00	27.51
893.00	H	23.35	-45.60	0.00	0.65	-46.25	-13.00	33.25
893.00	V	25.62	-40.62	0.00	0.65	-41.27	-13.00	28.27

**LTE Band 7(30MHz-26.5GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 2502.5 MHz								
5005.00	H	49.15	-43.81	11.20	1.47	-34.08	-25.00	9.08
5005.00	V	39.24	-53.58	11.20	1.47	-43.85	-25.00	18.85
7507.50	H	40.35	-49.44	10.90	1.95	-40.49	-25.00	15.49
7507.50	V	36.73	-53.56	10.90	1.95	-44.61	-25.00	19.61
621.00	H	29.35	-75.42	0.00	0.49	-75.91	-25.00	50.91
41.00	V	37.86	-53.26	-25.08	0.12	-78.46	-25.00	53.46
QPSK, Frequency: 2535 MHz								
5070.00	H	48.11	-45.08	11.24	1.47	-35.31	-25.00	10.31
5070.00	V	38.52	-54.57	11.24	1.47	-44.80	-25.00	19.80
7605.00	H	39.46	-50.01	10.88	2.01	-41.14	-25.00	16.14
7605.00	V	35.99	-54.20	10.88	2.01	-45.33	-25.00	20.33
62.00	H	29.87	-73.99	-9.24	0.14	-83.37	-25.00	58.37
85.00	V	40.13	-68.83	0.00	0.17	-69.00	-25.00	44.00
QPSK, Frequency: 2567.5 MHz								
5135.00	H	47.18	-46.42	11.28	1.47	-36.61	-25.00	11.61
5135.00	V	38.24	-55.25	11.28	1.47	-45.44	-25.00	20.44
7702.50	H	41.29	-48.23	10.86	1.97	-39.34	-25.00	14.34
7702.50	V	38.37	-51.81	10.86	1.97	-42.92	-25.00	17.92
494.00	H	28.57	-78.43	0.00	0.45	-78.88	-25.00	53.88
42.00	V	37.89	-54.52	-23.76	0.12	-78.40	-25.00	53.40

**LTE Band 12(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 699.7 MHz								
1399.40	H	42.58	-61.12	8.22	0.71	-53.61	-13.00	40.61
1399.40	V	45.62	-58.13	8.22	0.71	-50.62	-13.00	37.62
2099.10	H	47.18	-54.70	9.16	0.91	-46.45	-13.00	33.45
2099.10	V	50.96	-50.87	9.16	0.91	-42.62	-13.00	29.62
2798.80	H	44.24	-55.69	9.88	1.04	-46.85	-13.00	33.85
2798.80	V	40.78	-59.02	9.88	1.04	-50.18	-13.00	37.18
730.00	H	22.33	-50.38	0.00	0.53	-50.91	-13.00	37.91
728.00	V	21.36	-47.95	0.00	0.52	-48.47	-13.00	35.47
QPSK, Frequency:707.5 MHz								
1415.00	H	45.24	-58.43	8.26	0.72	-50.89	-13.00	37.89
1415.00	V	46.78	-56.94	8.26	0.72	-49.40	-13.00	36.40
2122.50	H	52.66	-49.33	9.17	0.92	-41.08	-13.00	28.08
2122.50	V	57.84	-44.13	9.17	0.92	-35.88	-13.00	22.88
2830.00	H	54.00	-45.80	9.93	1.06	-36.93	-13.00	23.93
2830.00	V	49.17	-50.56	9.93	1.06	-41.69	-13.00	28.69
736.00	H	23.18	-49.41	0.00	0.54	-49.95	-13.00	36.95
737.00	V	22.86	-46.25	0.00	0.54	-46.79	-13.00	33.79
QPSK, Frequency: 715.3 MHz								
1430.60	H	46.89	-56.74	8.31	0.73	-49.16	-13.00	36.16
1430.60	V	45.31	-58.38	8.31	0.73	-50.80	-13.00	37.80
2145.90	H	52.77	-49.33	9.19	0.93	-41.07	-13.00	28.07
2145.90	V	56.71	-45.40	9.19	0.93	-37.14	-13.00	24.14
2861.20	H	52.04	-47.61	9.98	1.07	-38.70	-13.00	25.70
2861.20	V	47.51	-52.16	9.98	1.07	-43.25	-13.00	30.25
745.00	H	22.36	-50.05	0.00	0.55	-50.60	-13.00	37.60
744.00	V	22.53	-46.43	0.00	0.55	-46.98	-13.00	33.98



**LTE Band 13(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 779.5 MHz								
1559.00	H	45.35	-58.64	8.57	0.80	-50.87	-40.00	10.87
1559.00	V	44.30	-59.75	8.57	0.80	-51.98	-40.00	11.98
2338.50	H	42.62	-58.97	9.30	0.97	-50.64	-13.00	37.64
2338.50	V	46.63	-54.73	9.30	0.97	-46.40	-13.00	33.40
3118.00	H	41.67	-55.82	10.25	1.13	-46.70	-13.00	33.70
3118.00	V	41.99	-55.36	10.25	1.13	-46.24	-13.00	33.24
750.00	H	22.52	-49.79	0.00	0.54	-50.33	-13.00	37.33
749.00	V	23.37	-45.48	0.00	0.54	-46.02	-13.00	33.02
QPSK, Frequency: 784.5 MHz								
1569.00	H	43.88	-60.20	8.58	0.81	-52.43	-40.00	12.43
1569.00	V	41.01	-63.12	8.58	0.81	-55.35	-40.00	15.35
2353.50	H	41.23	-60.22	9.31	0.97	-51.88	-13.00	38.88
2353.50	V	43.47	-57.75	9.31	0.97	-49.41	-13.00	36.41
3138.00	H	41.04	-56.36	10.26	1.14	-47.24	-13.00	34.24
3138.00	V	41.87	-55.36	10.26	1.14	-46.24	-13.00	33.24
755.00	H	22.80	-49.41	0.00	0.52	-49.93	-13.00	36.93
755.00	V	24.60	-44.12	0.00	0.52	-44.64	-13.00	31.64

**LTE Band 17(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 706.5 MHz								
1413.00	H	43.31	-60.36	8.26	0.72	-52.82	-13.00	39.82
1413.00	V	47.00	-56.72	8.26	0.72	-49.18	-13.00	36.18
2119.50	H	48.87	-53.10	9.17	0.92	-44.85	-13.00	31.85
2119.50	V	51.73	-50.22	9.17	0.92	-41.97	-13.00	28.97
2826.00	H	49.51	-50.30	9.92	1.06	-41.44	-13.00	28.44
2826.00	V	44.59	-55.15	9.92	1.06	-46.29	-13.00	33.29
737.00	H	22.54	-50.03	0.00	0.54	-50.57	-13.00	37.57
734.00	V	22.87	-46.31	0.00	0.54	-46.85	-13.00	33.85
QPSK, Frequency: 710 MHz								
1420.00	H	43.20	-60.46	8.28	0.73	-52.91	-13.00	39.91
1420.00	V	44.20	-59.51	8.28	0.73	-51.96	-13.00	38.96
2130.00	H	45.65	-56.37	9.18	0.92	-48.11	-13.00	35.11
2130.00	V	51.07	-50.94	9.18	0.92	-42.68	-13.00	29.68
2840.00	H	47.92	-51.83	9.94	1.06	-42.95	-13.00	29.95
2840.00	V	43.74	-55.97	9.94	1.06	-47.09	-13.00	34.09
739.00	H	23.61	-48.92	0.00	0.55	-49.47	-13.00	36.47
890.00	V	26.31	-39.98	0.00	0.64	-40.62	-13.00	27.62
QPSK, Frequency: 713.5 MHz								
1427.00	H	44.16	-59.48	8.30	0.73	-51.91	-13.00	38.91
1427.00	V	46.95	-56.74	8.30	0.73	-49.17	-13.00	36.17
2140.50	H	50.27	-51.80	9.18	0.93	-43.55	-13.00	30.55
2140.50	V	51.36	-50.72	9.18	0.93	-42.47	-13.00	29.47
2854.00	H	49.50	-50.19	9.97	1.07	-41.29	-13.00	28.29
2854.00	V	44.92	-54.76	9.97	1.07	-45.86	-13.00	32.86
703.00	H	36.75	-36.51	0.00	0.55	-37.06	-13.00	24.06
743.00	V	22.54	-46.44	0.00	0.55	-46.99	-13.00	33.99

**LTE Band 26(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 814.7 MHz								
1629.40	H	43.65	-60.70	8.66	0.81	-52.85	-13.00	39.85
1629.40	V	42.64	-61.77	8.66	0.81	-53.92	-13.00	40.92
2444.10	H	43.51	-57.38	9.37	1.00	-49.01	-13.00	36.01
2444.10	V	48.57	-52.18	9.37	1.00	-43.81	-13.00	30.81
3258.80	H	44.96	-51.90	10.30	1.17	-42.77	-13.00	29.77
3258.80	V	47.28	-49.33	10.30	1.17	-40.20	-13.00	27.20
868.00	H	21.22	-48.36	0.00	0.58	-48.94	-13.00	35.94
729.00	V	21.86	-47.43	0.00	0.53	-47.96	-13.00	34.96
QPSK, Frequency:831.5 MHz								
1663.00	H	42.66	-61.66	8.70	0.83	-53.79	-13.00	40.79
1663.00	V	40.20	-64.21	8.70	0.83	-56.34	-13.00	43.34
2494.50	H	42.63	-58.07	9.40	1.01	-49.68	-13.00	36.68
2494.50	V	46.58	-54.13	9.40	1.01	-45.74	-13.00	32.74
3326.00	H	43.57	-53.38	10.33	1.16	-44.21	-13.00	31.21
3326.00	V	47.02	-49.75	10.33	1.16	-40.58	-13.00	27.58
676.00	H	21.54	-51.91	0.00	0.50	-52.41	-13.00	39.41
849.00	V	20.05	-46.90	0.00	0.57	-47.47	-13.00	34.47
QPSK, Frequency: 848.3 MHz								
1696.60	H	44.36	-59.93	8.74	0.89	-52.08	-13.00	39.08
1696.60	V	44.15	-60.27	8.74	0.89	-52.42	-13.00	39.42
2544.90	H	43.67	-56.67	9.47	1.01	-48.21	-13.00	35.21
2544.90	V	50.40	-49.90	9.47	1.01	-41.44	-13.00	28.44
3393.20	H	45.38	-52.29	10.36	1.19	-43.12	-13.00	30.12
3393.20	V	47.34	-50.29	10.36	1.19	-41.12	-13.00	28.12
890.00	H	31.53	-37.49	0.00	0.64	-38.13	-13.00	25.13
828.97	V	29.24	-38.03	0.00	0.62	-38.65	-13.00	25.65

**LTE Band 38(30MHz-26.5GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 2572.5 MHz								
5145.00	H	46.61	-47.07	11.29	1.44	-37.22	-25.00	12.22
5145.00	V	38.94	-54.63	11.29	1.44	-44.78	-25.00	19.78
7717.50	H	40.19	-49.32	10.86	1.99	-40.45	-25.00	15.45
7717.50	V	36.18	-53.95	10.86	1.99	-45.08	-25.00	20.08
458.00	H	29.35	-78.50	0.00	0.41	-78.91	-25.00	53.91
65.00	V	37.52	-66.79	-7.65	0.14	-74.58	-25.00	49.58
QPSK, Frequency: 2595 MHz								
5190.00	H	45.37	-48.70	11.31	1.44	-38.83	-25.00	13.83
5190.00	V	39.88	-54.04	11.31	1.44	-44.17	-25.00	19.17
7785.00	H	42.28	-47.21	10.84	1.99	-38.36	-25.00	13.36
7785.00	V	38.25	-51.67	10.84	1.99	-42.82	-25.00	17.82
347.00	H	30.15	-79.86	0.00	0.37	-80.23	-25.00	55.23
42.00	V	36.95	-55.46	-23.76	0.12	-79.34	-25.00	54.34
QPSK, Frequency: 2617.5 MHz								
5235.00	H	42.13	-51.77	11.34	1.46	-41.89	-25.00	16.89
5235.00	V	38.39	-55.32	11.34	1.46	-45.44	-25.00	20.44
7852.50	H	40.68	-48.51	10.83	2.03	-39.71	-25.00	14.71
7852.50	V	37.76	-51.82	10.83	2.03	-43.02	-25.00	18.02
479.00	H	29.65	-77.70	0.00	0.41	-78.11	-25.00	53.11
65.00	V	37.69	-66.62	-7.65	0.14	-74.41	-25.00	49.41

**LTE Band 41(30MHz-26.5GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 2498.5 MHz								
4997.00	H	45.92	-47.02	11.20	1.48	-37.30	-25.00	12.30
4997.00	V	39.38	-53.42	11.20	1.48	-43.70	-25.00	18.70
7495.50	H	39.38	-50.41	10.90	1.94	-41.45	-25.00	16.45
7495.50	V	35.41	-54.88	10.90	1.94	-45.92	-25.00	20.92
336.00	H	29.46	-80.72	0.00	0.35	-81.07	-25.00	56.07
42.00	V	38.47	-53.94	-23.76	0.12	-77.82	-25.00	52.82
QPSK, Frequency: 2593 MHz								
5186.00	H	47.18	-46.85	11.31	1.44	-36.98	-25.00	11.98
5186.00	V	42.88	-51.01	11.31	1.44	-41.14	-25.00	16.14
7779.00	H	41.70	-47.79	10.84	1.99	-38.94	-25.00	13.94
7779.00	V	37.56	-52.38	10.84	1.99	-43.53	-25.00	18.53
547.00	H	29.87	-76.03	0.00	0.47	-76.50	-25.00	51.50
65.00	V	37.64	-66.67	-7.65	0.14	-74.46	-25.00	49.46
QPSK, Frequency: 2687.5 MHz								
5375.00	H	46.32	-47.19	11.43	1.49	-37.25	-25.00	12.25
5375.00	V	41.50	-52.00	11.43	1.49	-42.06	-25.00	17.06
8062.50	H	40.26	-47.96	10.81	2.12	-39.27	-25.00	14.27
8062.50	V	36.87	-51.85	10.81	2.12	-43.16	-25.00	18.16
589.00	H	30.36	-74.68	0.00	0.48	-75.16	-25.00	50.16
64.00	V	38.46	-66.19	-8.18	0.14	-74.51	-25.00	49.51

## Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level

**\*\*\*\*\* END OF REPORT \*\*\*\*\***