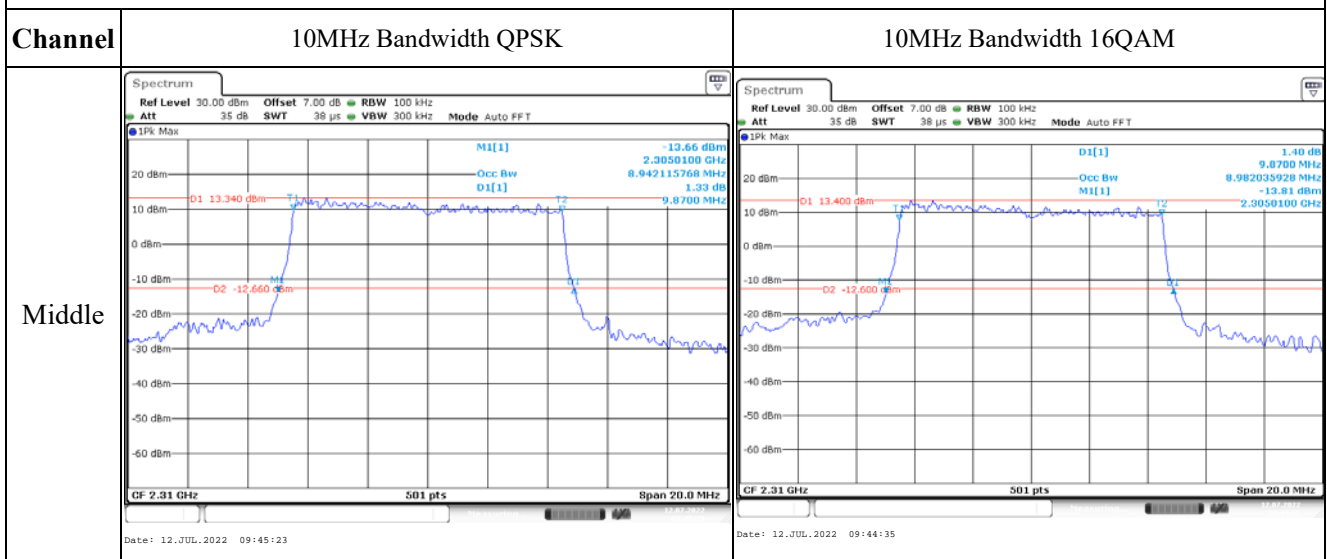
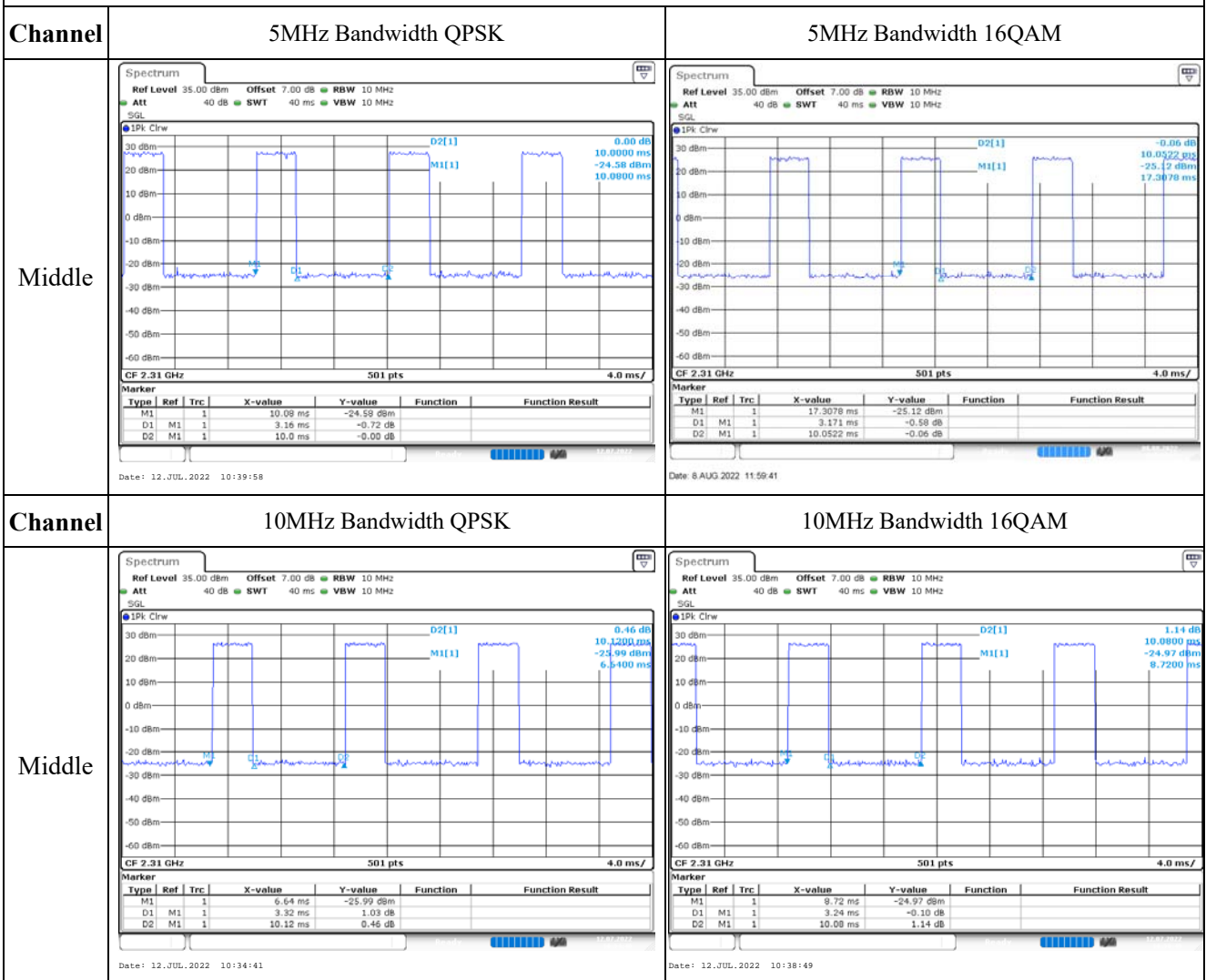


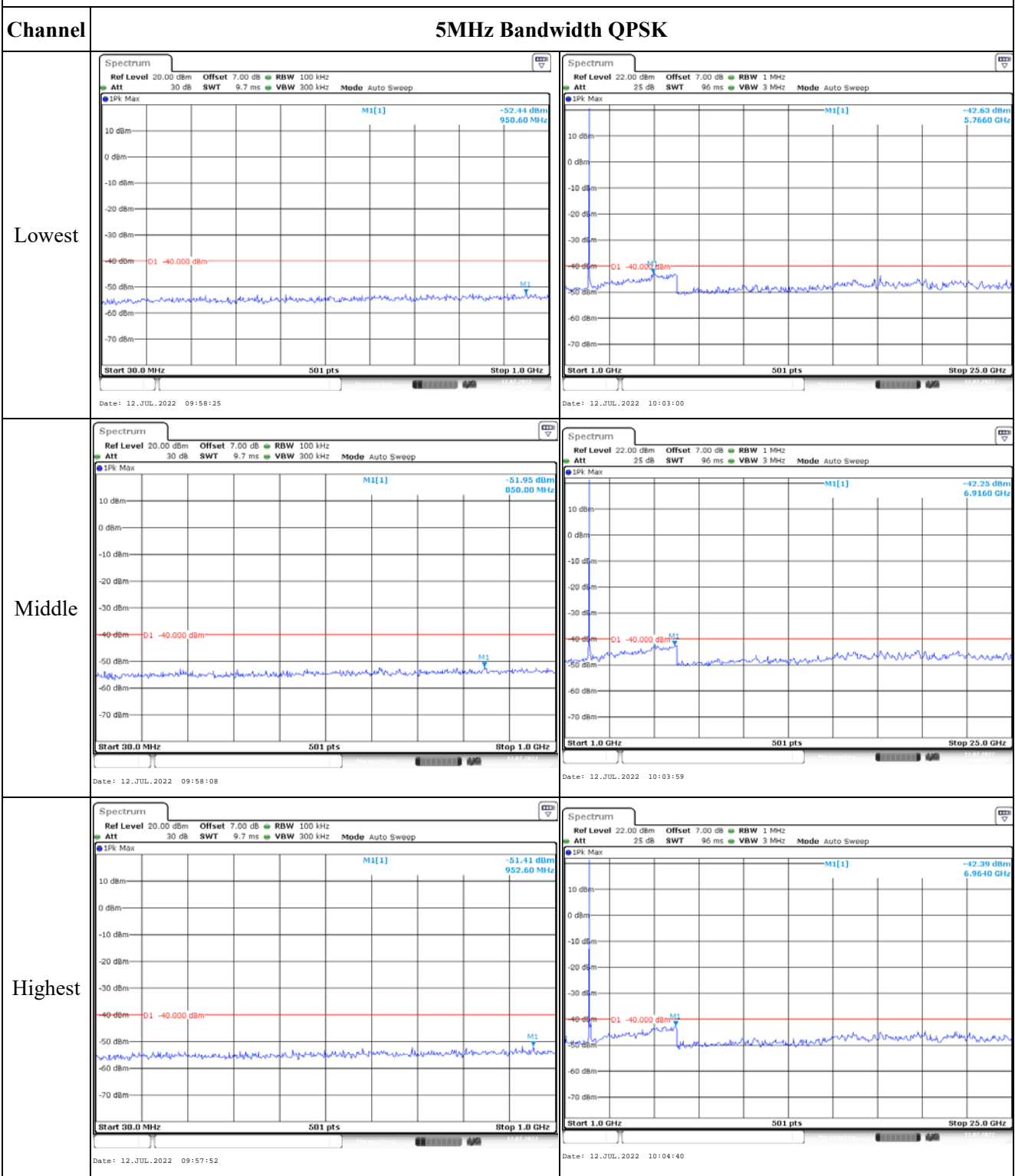
Occupied Bandwidth



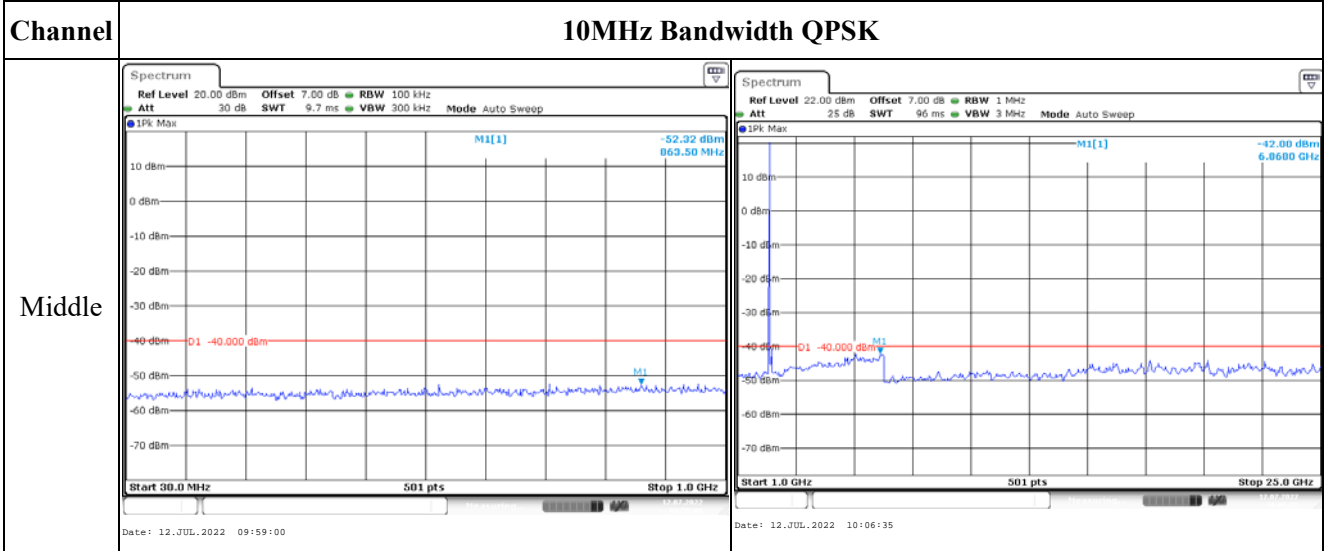
Duty Cycle



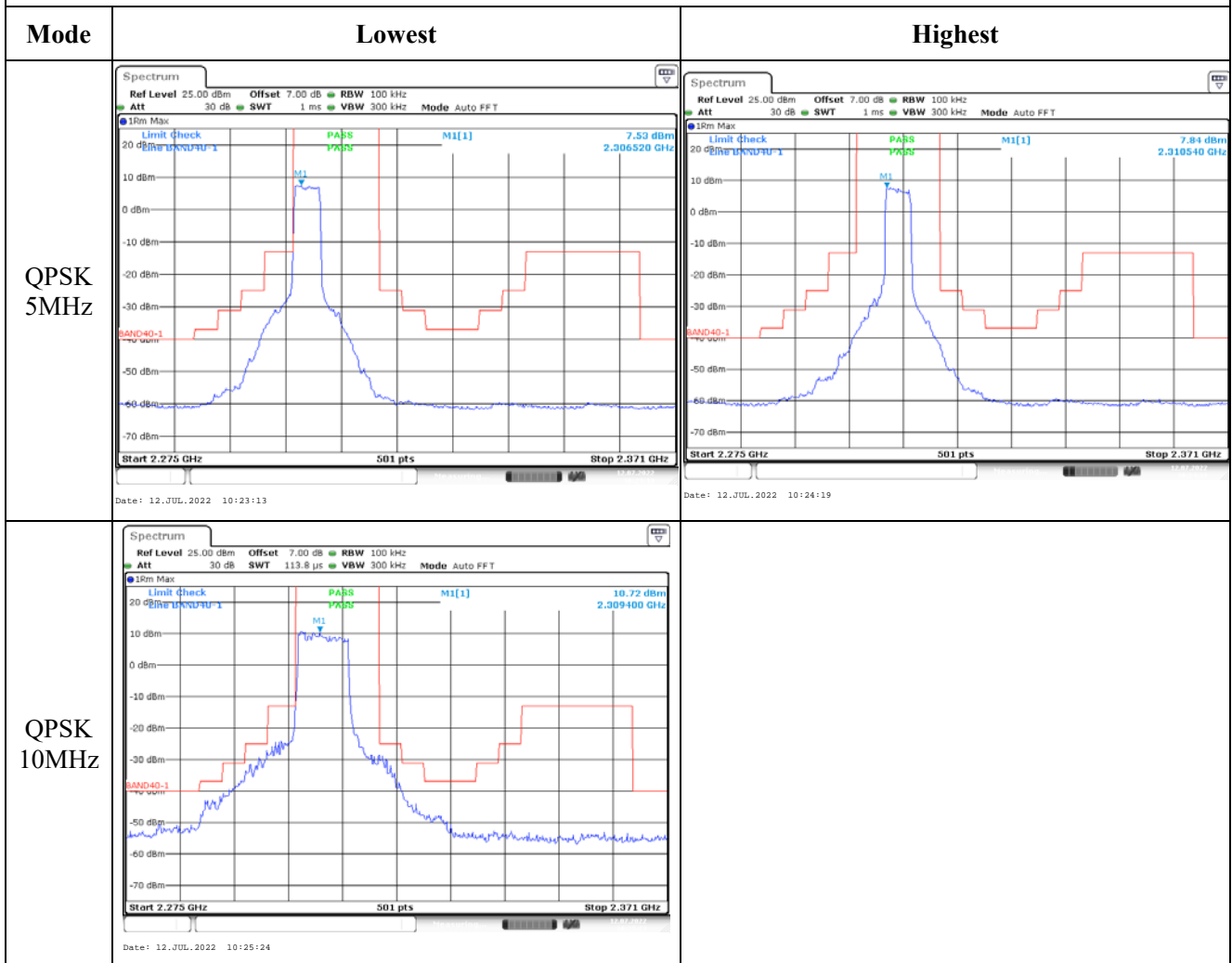
Spurious Emissions at Antenna Terminal



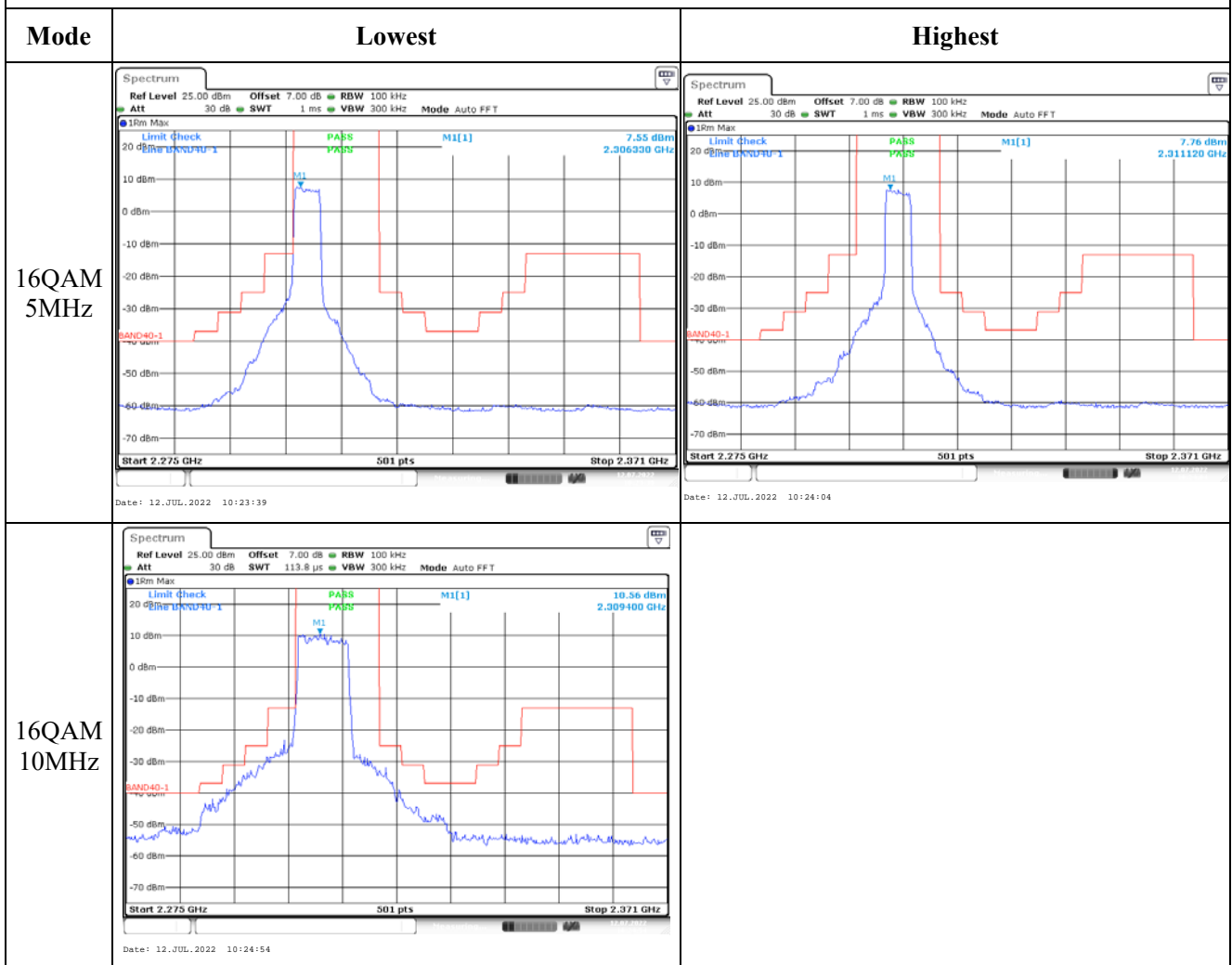
Spurious Emissions at Antenna Terminal



Out of band emission, Band Edge



Out of band emission, Band Edge



4.15 Antenna Port Test Data and Results for LTE Band 40 upper

Serial Number:	CR220050079-RF-S1	Test Date:	2022/7/12~2022/8/8
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ted Min	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25~26.2	Relative Humidity: (%)	56~60	ATM Pressure: (kPa)	100.2~100.4
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2021-10-10	2022-10-09
R&S	Wideband Radio Communication Tester	CMW500	149218	2021-07-21	2022-07-20
R&S	Wideband Radio Communication Tester	CMW500	149218	2022-07-15	2023-07-14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-04-06	2023-04-05
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
E-Microwave	Two-way Splitter	ODP-1-6	OE0120176	Each time	N/A
HuiXunDa	DC Block	SMA-JK 18G	DCB181108042	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100003	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 40▲:

Antenna Gain (dBi):	0.2	Path Loss L _C (dB):	0
Operation Voltage(V _{DC}):			
Lowest:	3.42	Normal:	3.8
		Highest:	4.18

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2352.5	2355	2357.5
10MHz	/	2355	/

Test Data:**FCC§2.1046;§ 27.50(h)(2)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP(dBm)	EIRP Limit(dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	21.93	22.02	22.08	22.37	24
	RB1#13	22.07	22.06	22.13		
	RB1#24	22.04	22.08	22.17		
	RB15#0	21.9	21.92	21.99		
	RB15#10	21.85	21.95	22.04		
	RB25#0	21.55	21.54	21.61		
5MHz 16QAM	RB1#0	21.57	21.67	21.63	22.03	24
	RB1#13	21.63	21.71	21.83		
	RB1#24	21.59	21.64	21.81		
	RB15#0	21.43	21.53	21.75		
	RB15#10	21.53	21.68	21.75		
	RB25#0	21.11	21.22	21.23		
10MHz QPSK	RB1#0	/	21.94	/	22.33	24
	RB1#25	/	22.13	/		
	RB1#49	/	22.05	/		
	RB25#0	/	21.91	/		
	RB25#25	/	21.86	/		
	RB50#0	/	21.41	/		
10MHz 16QAM	RB1#0	/	21.73	/	22.1	24
	RB1#25	/	21.84	/		
	RB1#49	/	21.9	/		
	RB25#0	/	21.83	/		
	RB25#25	/	21.76	/		
	RB50#0	/	21.31	/		
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	
10MHz QPSK	RB1#0	/	3.21	/	13
	RB50#0	/	5.15	/	13
10MHz 16QAM	RB1#0	/	4.02	/	13
	RB50#0	/	6.18	/	13
Result:					Pass

Duty Cycle					
Test Modulation	Test Bandwidth	Ton (ms)	Total (ms)	Duty Cycle (%)	Limit (%)
QPSK	5M	3.24	10.08	32.14	38
	10M	3.24	10.04	32.27	38
16QAM	5M	3.25	10.05	32.34	38
	10M	3.24	10.08	32.14	38
Result:					Pass

FCC §2.1049, §27.53:Occupied Bandwidth						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.491	4.511	4.491	5.07	4.925	5.03
5MHz 16QAM	4.491	4.511	4.491	5.07	4.925	5.05
10MHz QPSK	\	8.982	\	\	9.94	\
10MHz 16QAM	\	8.982	\	\	9.98	\

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

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

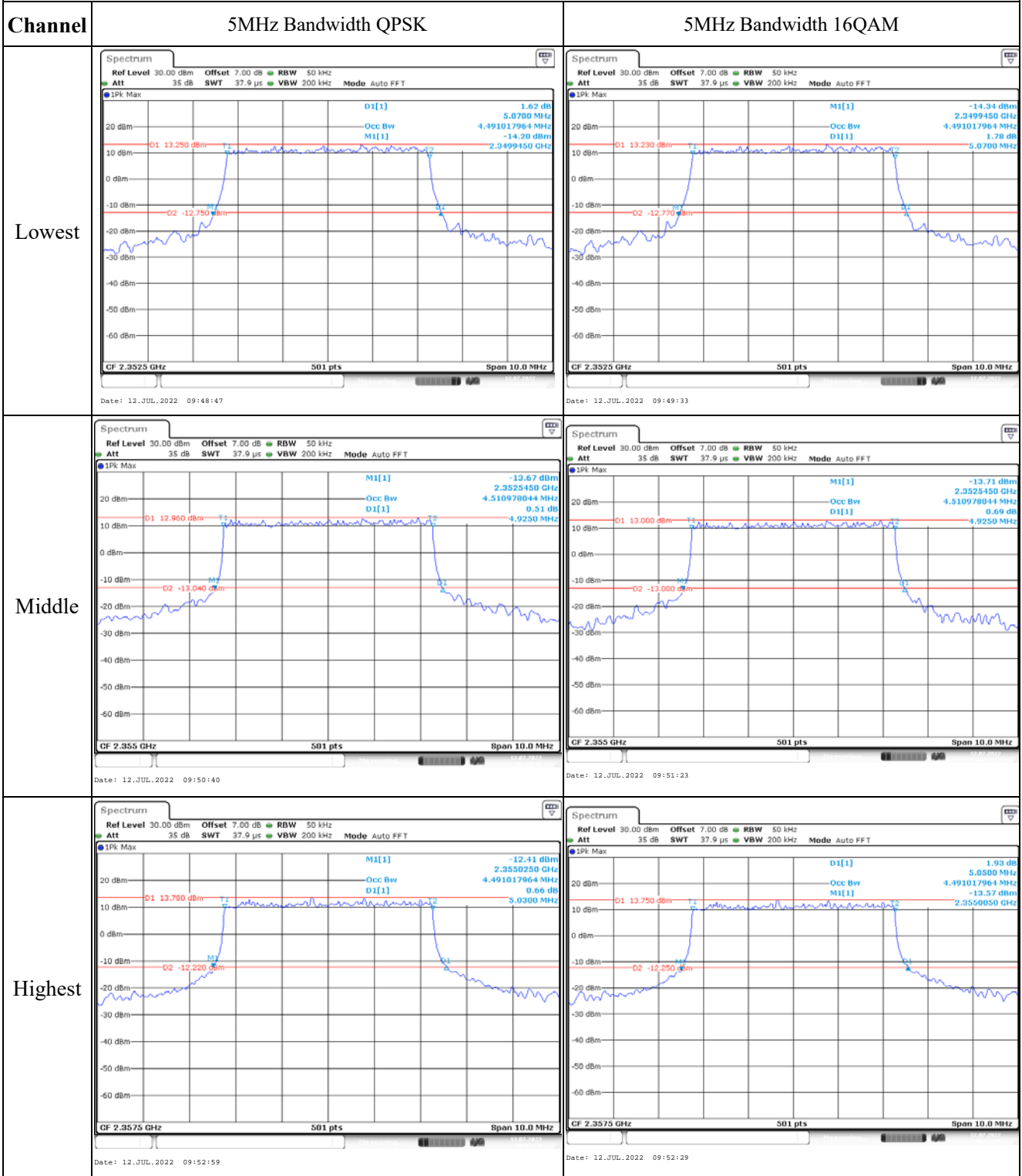
FCC §2.1051, § 27.53:Out of band emission, Band Edge	
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.

FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2350.158	2350.00	2359.885	2360
	-20	3.8	2350.145	2350.00	2359.785	2360
	-10	3.8	2350.113	2350.00	2359.737	2360
	0	3.8	2350.089	2350.00	2359.786	2360
	10	3.8	2350.061	2350.00	2359.777	2360
	20	3.8	2350.092	2350.00	2359.835	2360
	30	3.8	2350.080	2350.00	2359.858	2360
	40	3.8	2350.038	2350.00	2359.849	2360
	50	3.8	2350.034	2350.00	2359.907	2360
Frequency Stability vs. Voltage	20	3.42	2350.065	2350.00	2359.807	2360
	20	4.18	2350.108	2350.00	2359.893	2360
Result:					Pass	

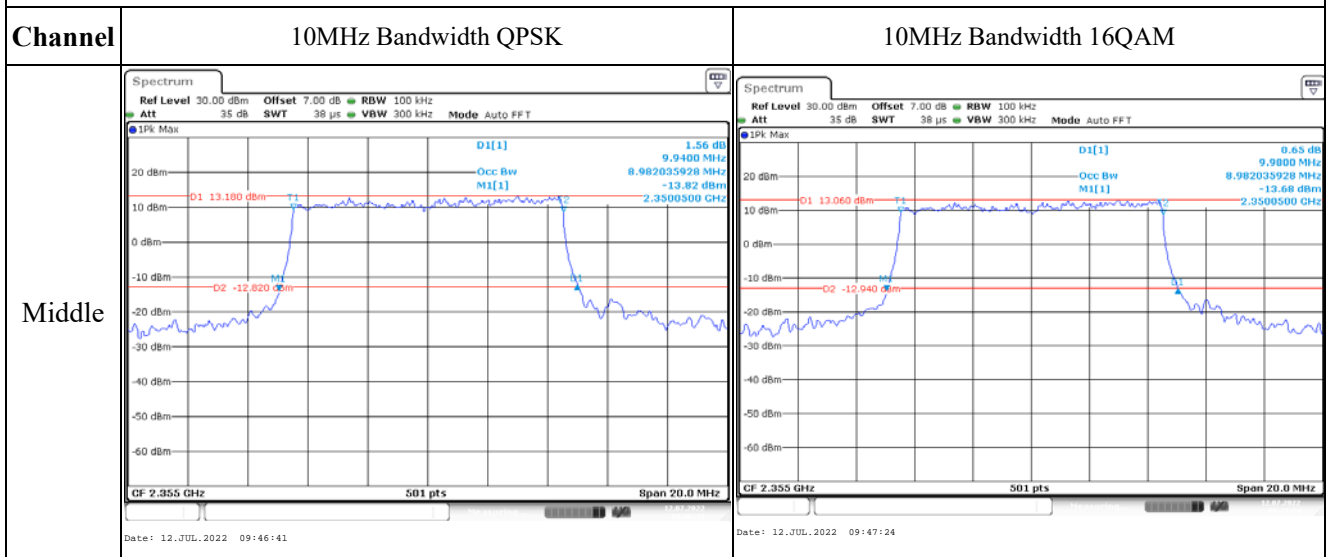
Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge, Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2350.083	2350.00	2359.726	2360
	-20	3.8	2350.176	2350.00	2359.800	2360
	-10	3.8	2350.086	2350.00	2359.653	2360
	0	3.8	2350.073	2350.00	2359.657	2360
	10	3.8	2350.181	2350.00	2359.709	2360
	20	3.8	2350.107	2350.00	2359.764	2360
	30	3.8	2350.088	2350.00	2359.840	2360
	40	3.8	2350.143	2350.00	2359.680	2360
Frequency Stability vs. Voltage	50	3.8	2350.041	2350.00	2359.655	2360
	20	3.42	2350.195	2350.00	2359.760	2360
	20	4.18	2350.110	2350.00	2359.715	2360
					Result:	Pass

Test Plots:

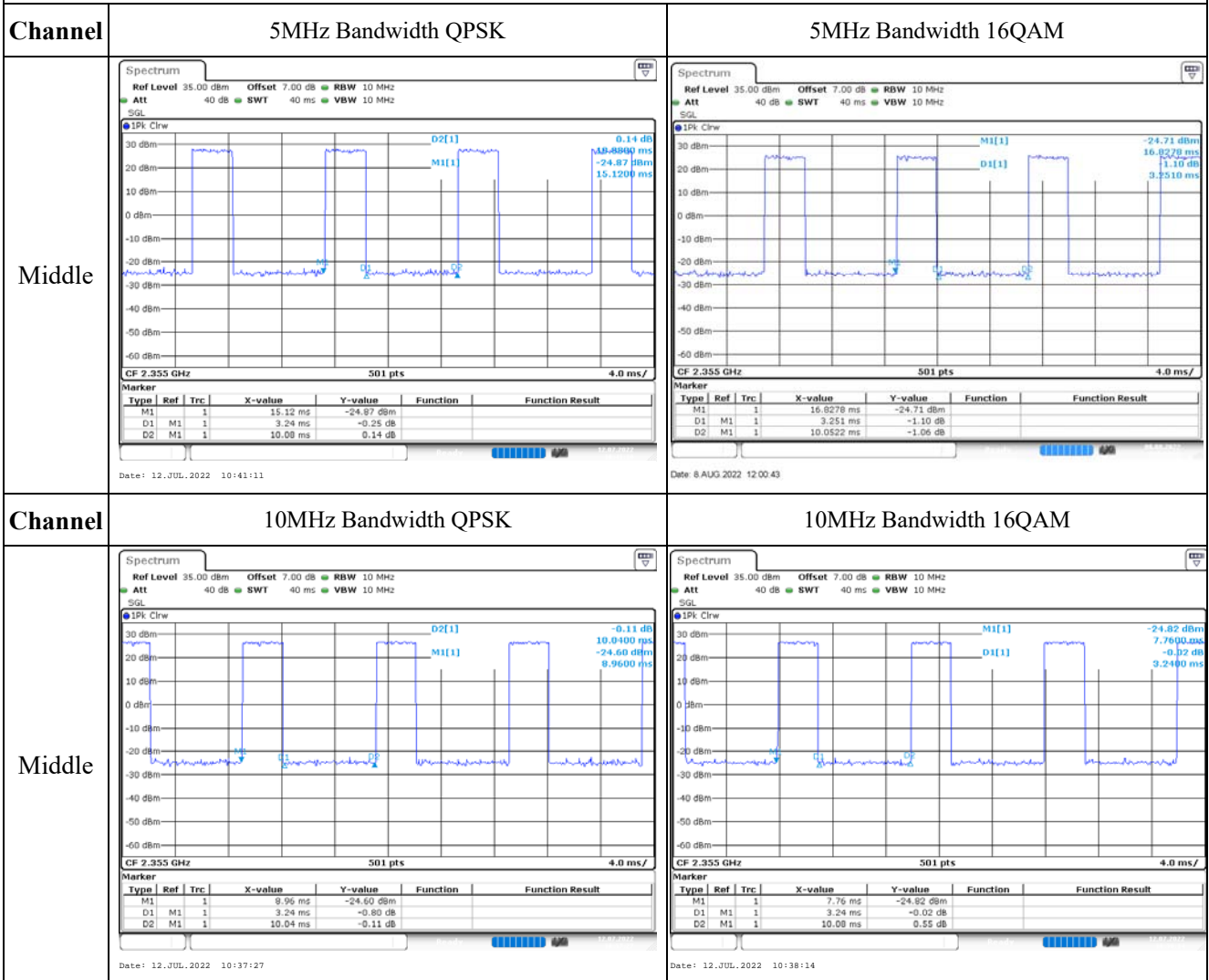
Occupied Bandwidth



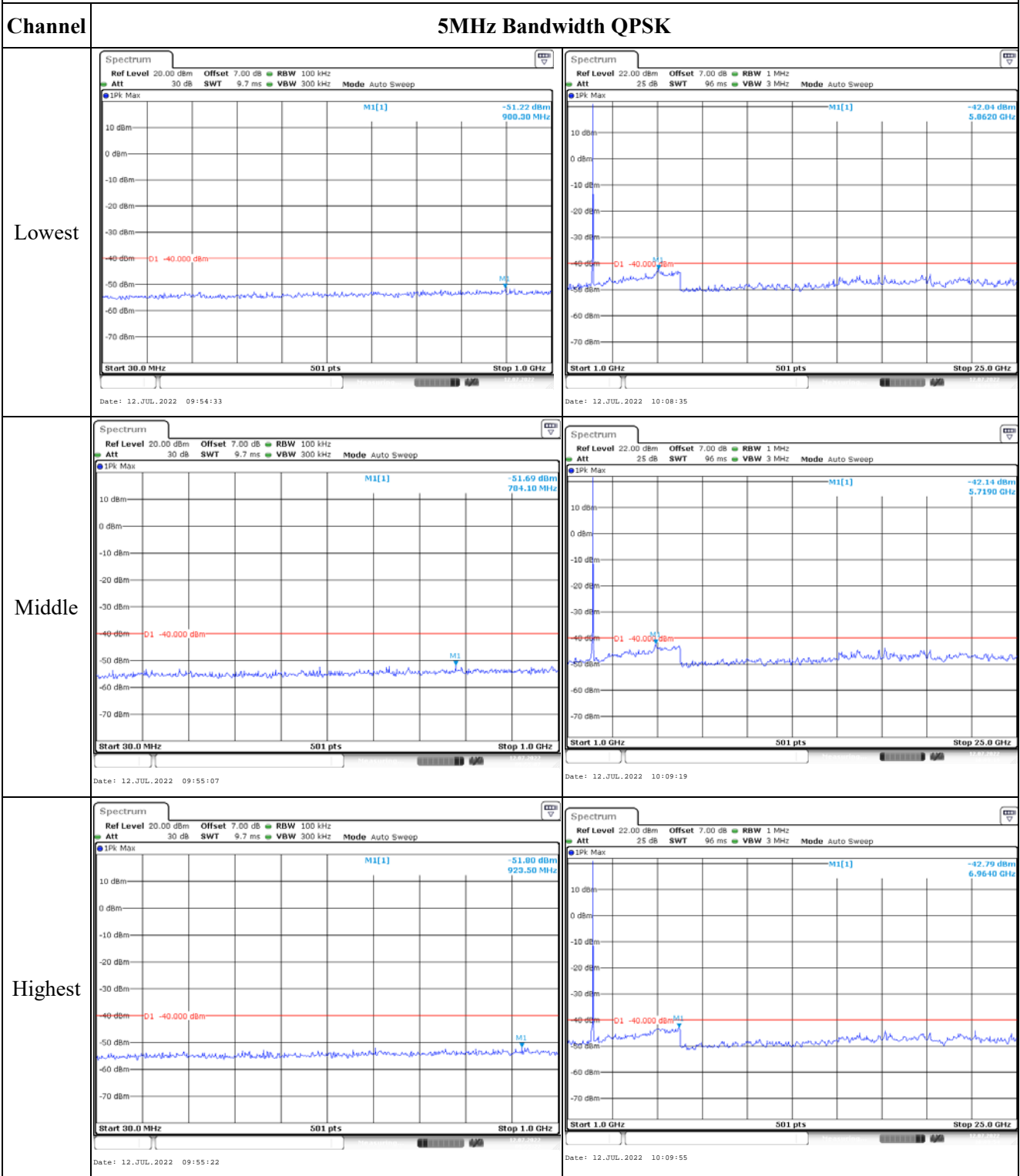
Occupied Bandwidth



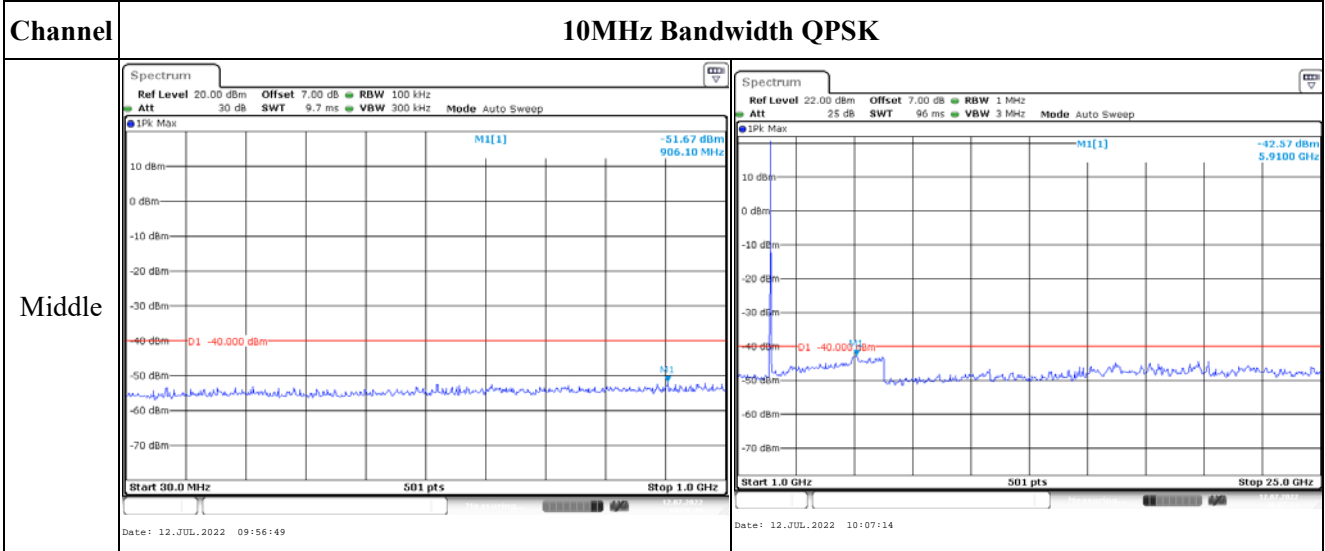
Duty Cycle



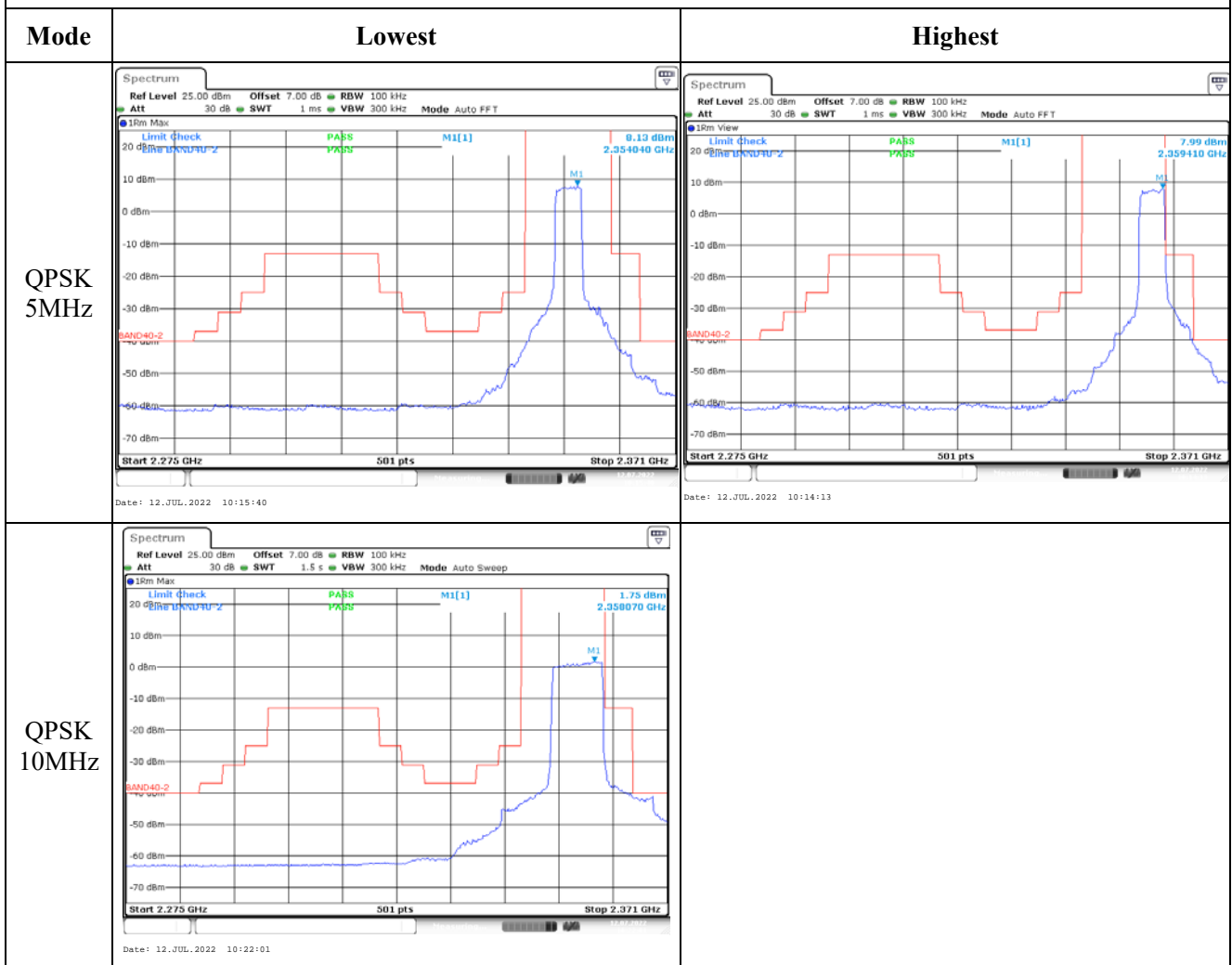
Spurious Emissions at Antenna Terminal



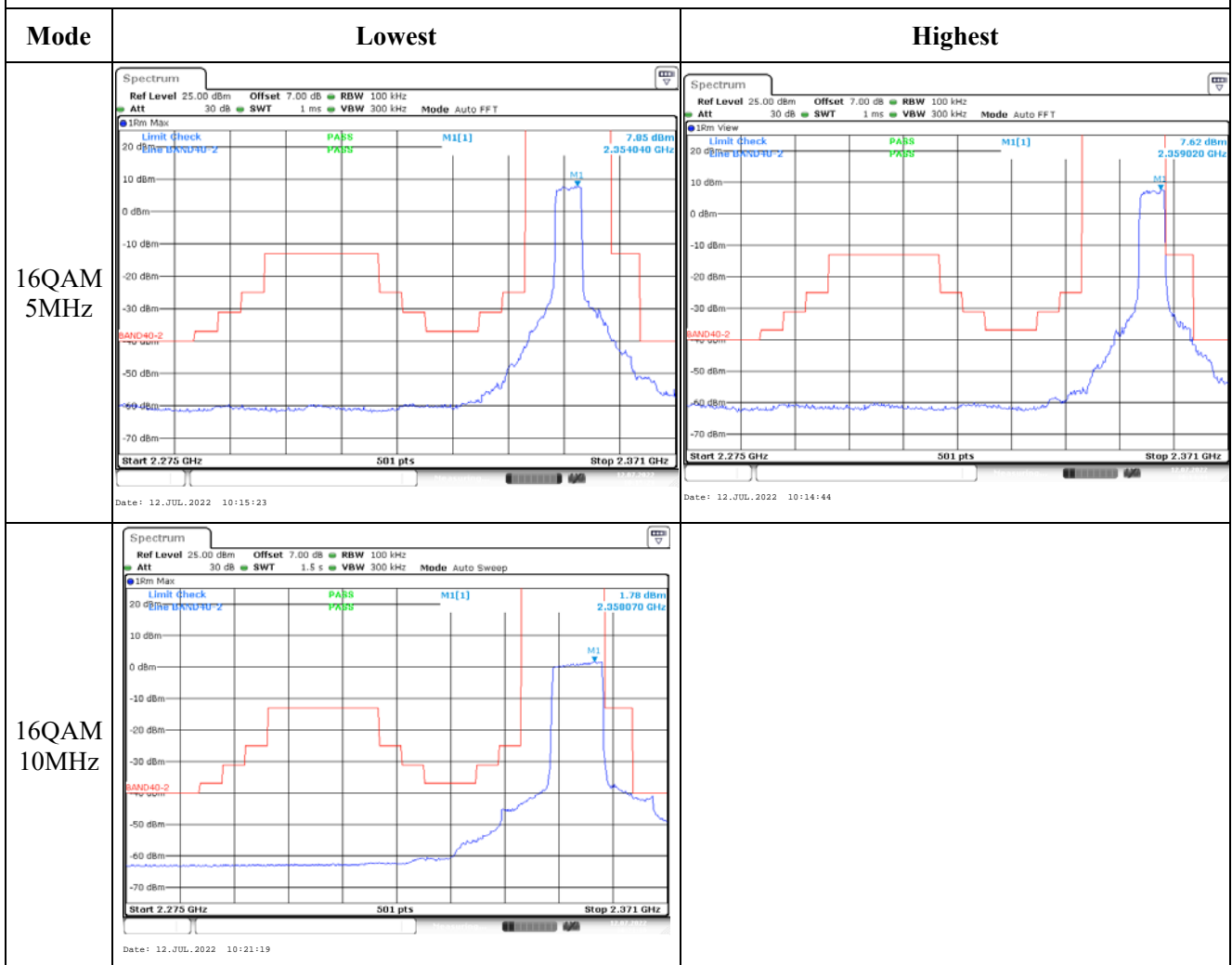
Spurious Emissions at Antenna Terminal



Out of band emission, Band Edge



Out of band emission, Band Edge



4.16 Antenna Port Test Data and Results for LTE Band 41

Serial Number:	CR220050079-RF-S1	Test Date:	2022/7/7~2022/7/11
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ted Min	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	24.6~25.3	Relative Humidity: (%)	49~55	ATM Pressure: (kPa)	100.0~100.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2021-10-10	2022-10-09
R&S	Wideband Radio Communication Tester	CMW500	149218	2021-07-21	2022-07-20
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-04-06	2023-04-05
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
E-Microwave	Two-way Splitter	ODP-1-6	OE0120176	Each time	N/A
HuiXunDa	DC Block	SMA-JK 18G	DCB181108042	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100003	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):	0.72	Path Loss L_c (dB):	0
Operation Voltage(V_{DC}):			
Lowest:	3.42	Normal:	3.8
		Highest:	4.18

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2557.5	2605	2652.5
10MHz	2560	2605	2650
15MHz	2562.5	2605	2647.5
20MHz	2565	2605	2645

Test Data:**FCC§2.1046;§ 27.50(h)(2)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	21.84	21.88	22.01	22.88	33
	RB1#13	21.89	21.98	22.12		
	RB1#24	21.94	21.98	22.16		
	RB15#0	21.81	21.85	21.99		
	RB15#10	21.76	21.81	21.97		
	RB25#0	21.35	21.39	21.58		
5MHz 16QAM	RB1#0	21.37	21.42	21.59	22.54	33
	RB1#13	21.53	21.64	21.69		
	RB1#24	21.59	21.71	21.82		
	RB15#0	21.42	21.51	21.63		
	RB15#10	21.47	21.56	21.66		
	RB25#0	21.13	21.21	21.23		
10MHz QPSK	RB1#0	21.97	22.02	21.95	23	33
	RB1#25	22.05	22.16	22.09		
	RB1#49	22.08	22.28	22.13		
	RB25#0	21.92	22.16	22.04		
	RB25#25	21.89	22.11	22		
	RB50#0	21.46	21.51	21.63		
10MHz 16QAM	RB1#0	21.51	21.55	21.61	22.65	33
	RB1#25	21.7	21.78	21.86		
	RB1#49	21.66	21.81	21.93		
	RB25#0	21.53	21.74	21.85		
	RB25#25	21.51	21.64	21.69		
	RB50#0	21.18	21.21	21.31		
15MHz QPSK	RB1#0	21.82	22.11	22	23.02	33
	RB1#38	21.89	22.18	22.08		
	RB1#74	22	22.3	22.07		
	RB36#0	22	22.21	21.93		
	RB36#39	21.96	22.28	22.03		
	RB75#0	21.63	21.86	21.71		
15MHz 16QAM	RB1#0	21.64	21.93	21.7	22.87	33
	RB1#38	21.97	22.11	22.01		
	RB1#74	22.01	22.15	22.06		
	RB36#0	21.83	21.98	21.84		
	RB36#39	21.85	21.97	21.82		
	RB75#0	21.39	21.52	21.44		

20MHz QPSK	RB1#0	22.01	22.09	21.77	23.03	33
	RB1#50	22.11	22.11	21.83		
	RB1#99	22.17	22.31	22.01		
	RB50#0	21.94	22.09	21.83		
	RB50#50	21.86	22.01	21.71		
	RB100#0	21.5	21.62	21.35		
20MHz 16QAM	RB1#0	21.56	21.71	21.43	22.83	33
	RB1#50	22.07	22.11	21.88		
	RB1#99	22.04	22.06	21.85		
	RB50#0	21.86	21.87	21.47		
	RB50#50	21.82	21.85	21.51		
	RB100#0	21.39	21.43	21.18		

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	3.32	3.21	3.39	13
	RB100#0	5.28	5.29	5.15	13
20MHz 16QAM	RB1#0	4.18	4.17	4.17	13
	RB100#0	6.21	6.02	6.18	13
Result:					Pass

FCC §2.1049, §27.53:Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.511	4.511	4.511	5.26	5.02	5.04
5MHz 16QAM	4.491	4.511	4.491	5.04	5.08	4.98
10MHz QPSK	8.982	8.942	8.942	9.64	9.64	9.64
10MHz 16QAM	8.942	8.942	8.942	9.52	9.52	9.68
15MHz QPSK	13.473	13.533	13.473	14.94	14.76	14.88
15MHz 16QAM	13.473	13.533	13.533	15.9	15	15.6
20MHz QPSK	17.964	17.884	17.884	19.28	19.76	19.36
20MHz 16QAM	17.964	17.884	17.884	19.28	20.08	19.68

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

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

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

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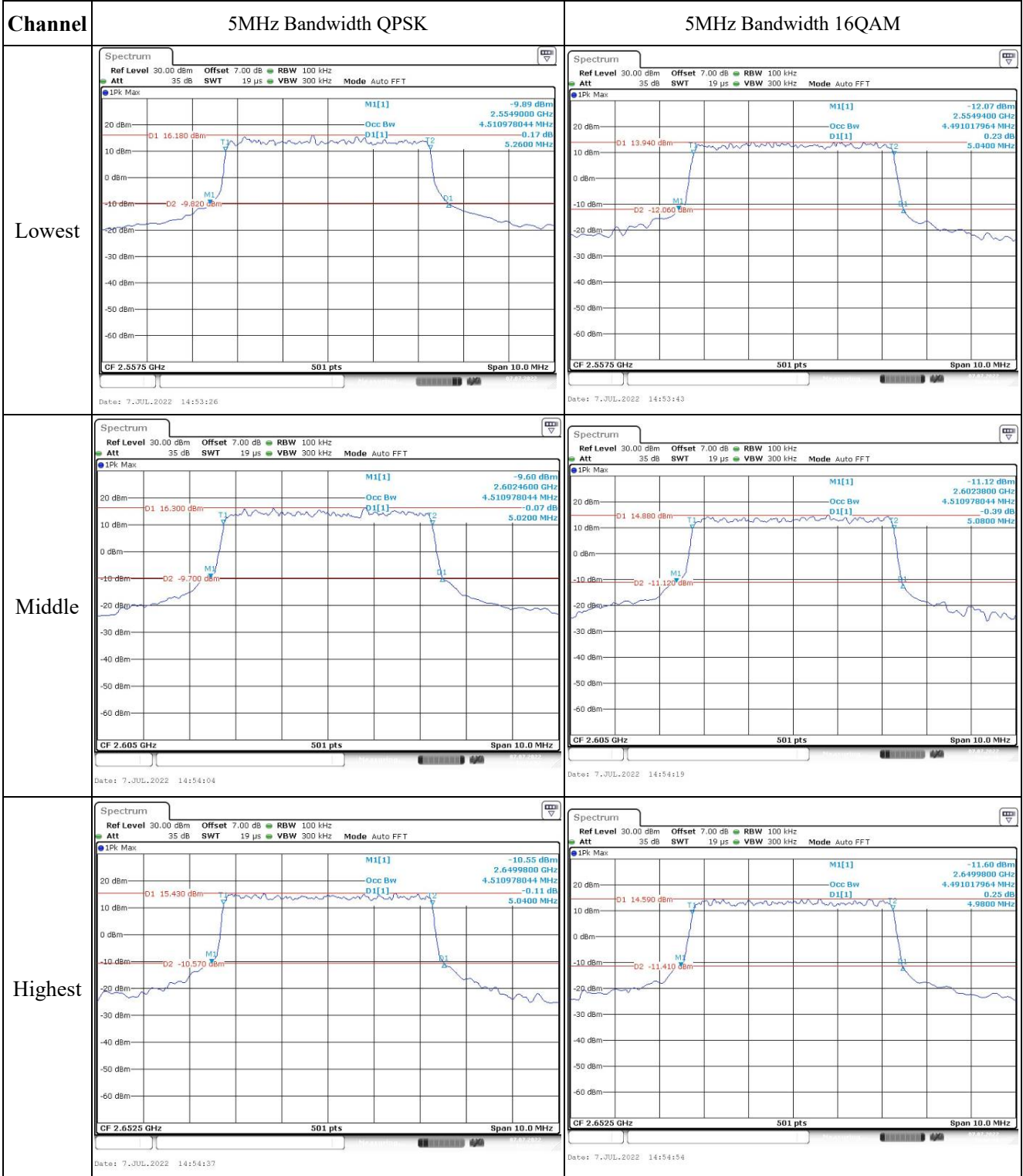
FCC §2.1055, §27.54: Frequency Stability

Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2555.250	2555.00	2654.770	2655
	-20	3.8	2555.368	2555.00	2654.800	2655
	-10	3.8	2555.263	2555.00	2654.846	2655
	0	3.8	2555.210	2555.00	2654.776	2655
	10	3.8	2555.293	2555.00	2654.702	2655
	20	3.8	2555.307	2555.00	2654.758	2655
	30	3.8	2555.203	2555.00	2654.805	2655
	40	3.8	2555.346	2555.00	2654.807	2655
Frequency Stability vs. Voltage	50	3.8	2555.249	2555.00	2654.832	2655
	20	3.42	2555.324	2555.00	2654.824	2655
	20	4.18	2555.221	2555.00	2654.701	2655
Result:					Pass	

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2555.246	2555.00	2654.760	2655
	-20	3.8	2555.362	2555.00	2654.833	2655
	-10	3.8	2555.252	2555.00	2654.878	2655
	0	3.8	2555.207	2555.00	2654.766	2655
	10	3.8	2555.203	2555.00	2654.731	2655
	20	3.8	2555.258	2555.00	2654.818	2655
	30	3.8	2555.241	2555.00	2654.837	2655
	40	3.8	2555.314	2555.00	2654.809	2655
Frequency Stability vs. Voltage	50	3.8	2555.275	2555.00	2654.888	2655
	20	3.42	2555.181	2555.00	2654.715	2655
	20	4.18	2555.353	2555.00	2654.804	2655
Result:					Pass	

Test Plots:

Occupied Bandwidth



Occupied Bandwidth

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

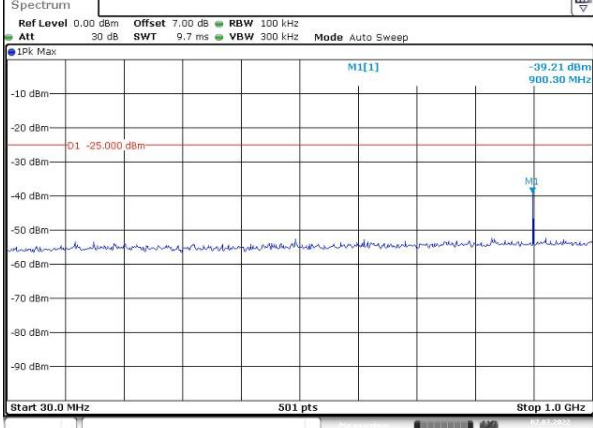
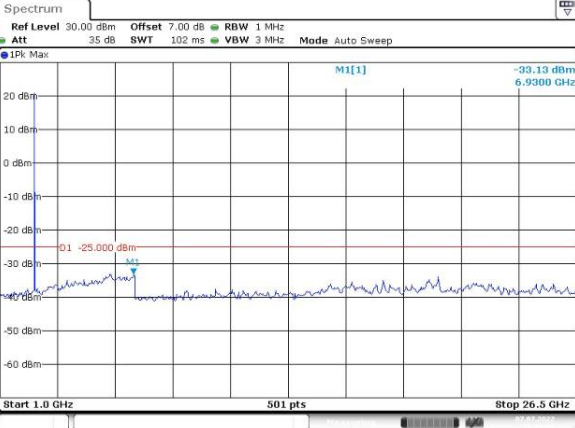
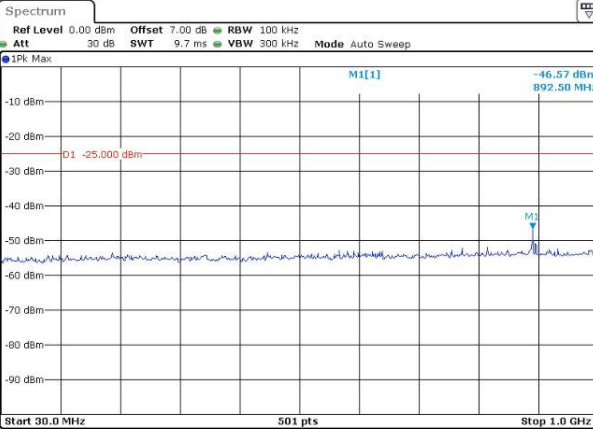
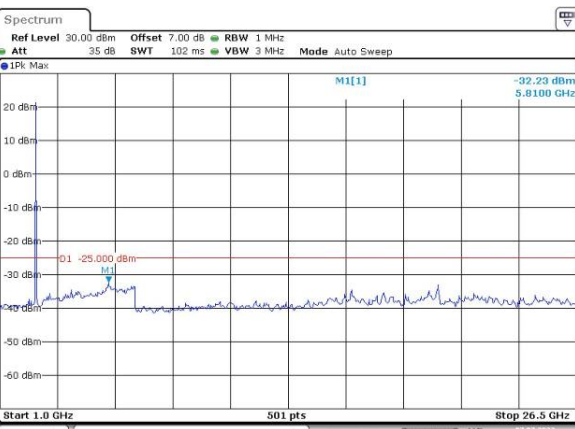
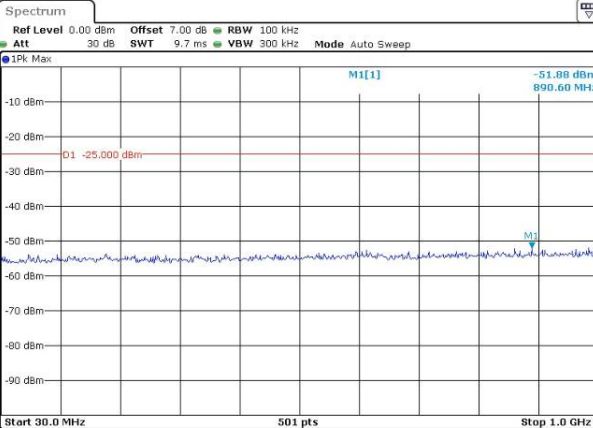
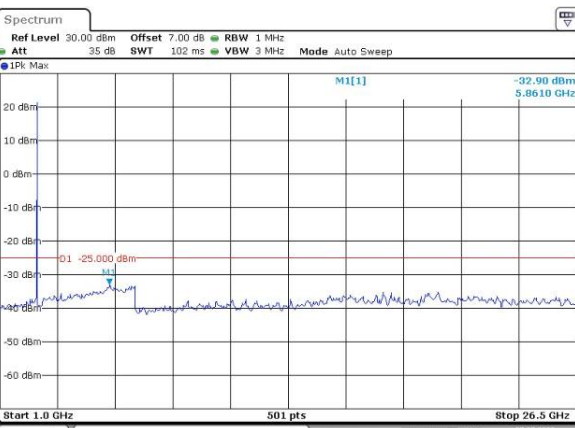
Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 35 dB SWT 12.7 μs VBW 1 MHz Mode Auto FFT</p> <p>M1[1] -10.55 dBm Occ Bw 2.5551800 GHz D1[1] 13.473053892 MHz -0.06 dB 14.9400 MHz</p> <p>CF 2.5625 GHz 501 pts Span 30.0 MHz</p> <p>Date: 7.JUL.2022 14:57:31</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 35 dB SWT 12.7 μs VBW 1 MHz Mode Auto FFT</p> <p>M1[1] -11.35 dBm Occ Bw 2.5551800 GHz D1[1] 13.473053892 MHz -0.30 dB 15.9000 MHz</p> <p>CF 2.5625 GHz 501 pts Span 30.0 MHz</p> <p>Date: 7.JUL.2022 14:57:57</p>
Middle	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 35 dB SWT 12.7 μs VBW 1 MHz Mode Auto FFT</p> <p>M1[1] -10.23 dBm Occ Bw 2.5977400 GHz D1[1] 13.532934132 MHz -0.04 dB 14.7600 MHz</p> <p>CF 2.605 GHz 501 pts Span 30.0 MHz</p> <p>Date: 7.JUL.2022 14:58:17</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 35 dB SWT 12.7 μs VBW 1 MHz Mode Auto FFT</p> <p>M1[1] -11.75 dBm Occ Bw 2.5974400 GHz D1[1] 13.532934132 MHz -0.53 dB 15.0000 MHz</p> <p>CF 2.605 GHz 501 pts Span 30.0 MHz</p> <p>Date: 7.JUL.2022 14:58:40</p>
Highest	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 35 dB SWT 12.7 μs VBW 1 MHz Mode Auto FFT</p> <p>M1[1] -10.32 dBm Occ Bw 2.6400600 GHz D1[1] 13.473053892 MHz -0.30 dB 14.8800 MHz</p> <p>CF 2.6475 GHz 501 pts Span 30.0 MHz</p> <p>Date: 7.JUL.2022 14:59:03</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 35 dB SWT 12.7 μs VBW 1 MHz Mode Auto FFT</p> <p>M1[1] -11.05 dBm Occ Bw 2.6402400 GHz D1[1] 13.532934132 MHz -0.62 dB 15.6000 MHz</p> <p>CF 2.6475 GHz 501 pts Span 30.0 MHz</p> <p>Date: 7.JUL.2022 14:59:29</p>

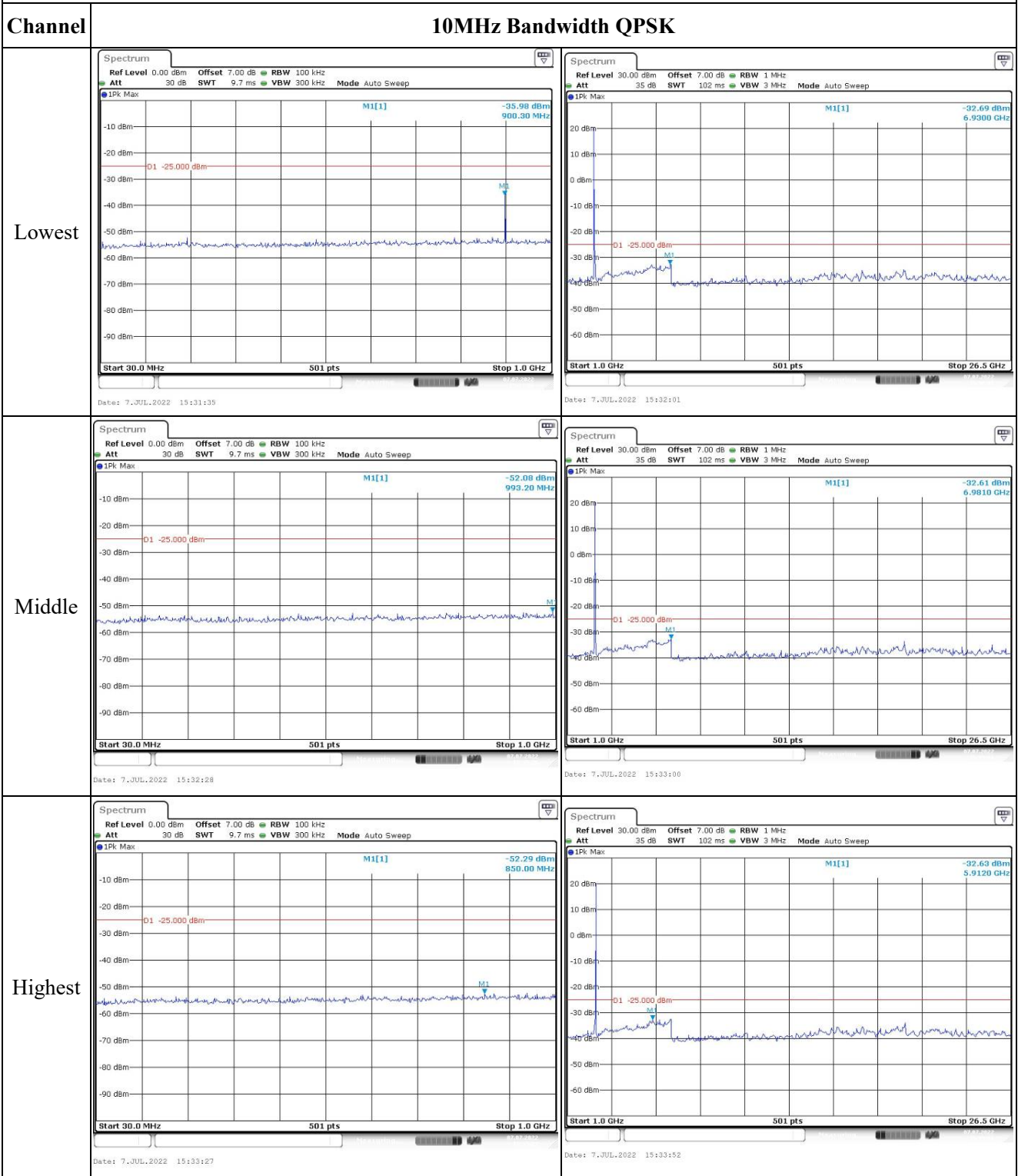
Occupied Bandwidth

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

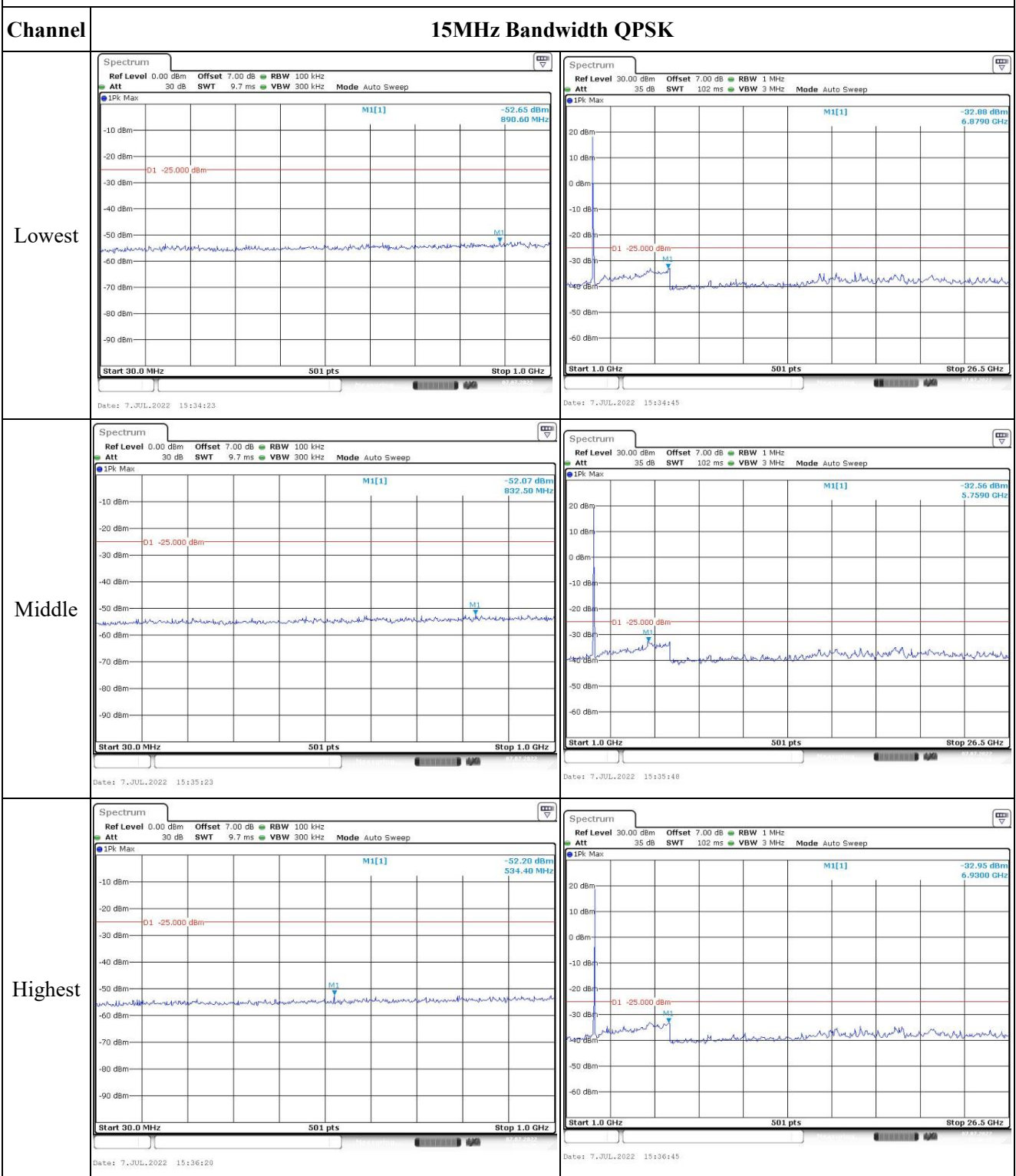
Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest	 <p>Spectrum plot showing spurious emissions for the lowest channel. The plot covers the frequency range from 30.0 MHz to 1.0 GHz. The y-axis represents power in dBm, ranging from -90 to -10. A significant peak is observed at 900.30 MHz with a power level of -39.21 dBm. A reference level is set at -25.000 dBm. The plot includes parameters: Ref Level 0.00 dBm, Offset 7.00 dB, RBW 100 kHz, Att 30 dB, SWT 9.7 ms, VBW 300 kHz, Mode Auto Sweep. The date is 7.JUL.2022 15:28:39.</p>	 <p>Spectrum plot showing spurious emissions for the lowest channel in the 1.0 GHz to 26.5 GHz range. A peak is observed at 6.9300 GHz with a power level of -33.13 dBm. The reference level is -25.000 dBm. Parameters: Ref Level 30.00 dBm, Offset 7.00 dB, RBW 1 MHz, Att 35 dB, SWT 102 ms, VBW 3 MHz, Mode Auto Sweep. The date is 7.JUL.2022 15:29:04.</p>
Middle	 <p>Spectrum plot showing spurious emissions for the middle channel. The plot covers the frequency range from 30.0 MHz to 1.0 GHz. A peak is observed at 892.50 MHz with a power level of -46.57 dBm. The reference level is -25.000 dBm. Parameters: Ref Level 0.00 dBm, Offset 7.00 dB, RBW 100 kHz, Att 30 dB, SWT 9.7 ms, VBW 300 kHz, Mode Auto Sweep. The date is 7.JUL.2022 15:29:40.</p>	 <p>Spectrum plot showing spurious emissions for the middle channel in the 1.0 GHz to 26.5 GHz range. A peak is observed at 5.8100 GHz with a power level of -32.23 dBm. The reference level is -25.000 dBm. Parameters: Ref Level 30.00 dBm, Offset 7.00 dB, RBW 1 MHz, Att 35 dB, SWT 102 ms, VBW 3 MHz, Mode Auto Sweep. The date is 7.JUL.2022 15:30:02.</p>
Highest	 <p>Spectrum plot showing spurious emissions for the highest channel. The plot covers the frequency range from 30.0 MHz to 1.0 GHz. A peak is observed at 890.60 MHz with a power level of -51.89 dBm. The reference level is -25.000 dBm. Parameters: Ref Level 0.00 dBm, Offset 7.00 dB, RBW 100 kHz, Att 30 dB, SWT 9.7 ms, VBW 300 kHz, Mode Auto Sweep. The date is 7.JUL.2022 15:30:37.</p>	 <p>Spectrum plot showing spurious emissions for the highest channel in the 1.0 GHz to 26.5 GHz range. A peak is observed at 5.8610 GHz with a power level of -32.90 dBm. The reference level is -25.000 dBm. Parameters: Ref Level 30.00 dBm, Offset 7.00 dB, RBW 1 MHz, Att 35 dB, SWT 102 ms, VBW 3 MHz, Mode Auto Sweep. The date is 7.JUL.2022 15:31:00.</p>

Spurious Emissions at Antenna Terminal



Spurious Emissions at Antenna Terminal

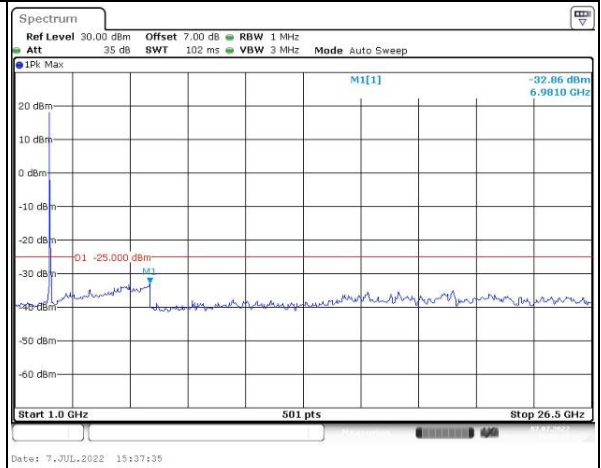
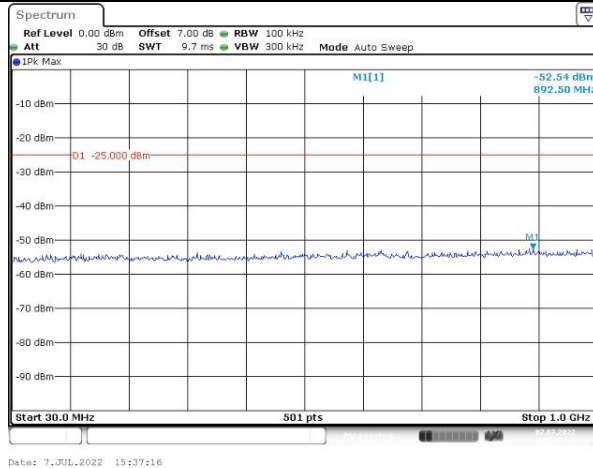


Spurious Emissions at Antenna Terminal

Channel

20MHz Bandwidth QPSK

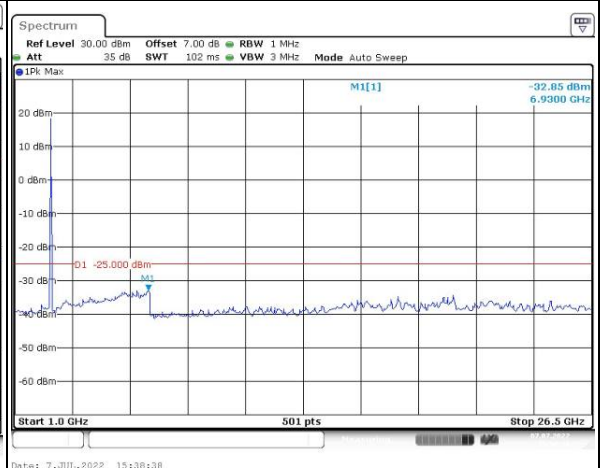
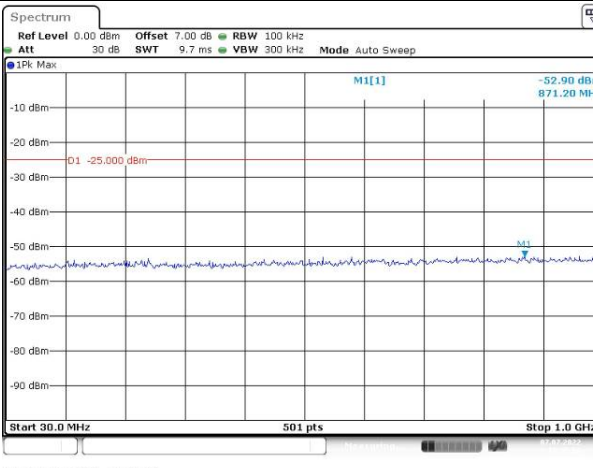
Lowest



Date: 7.JUL.2022 15:37:16

Date: 7.JUL.2022 15:37:35

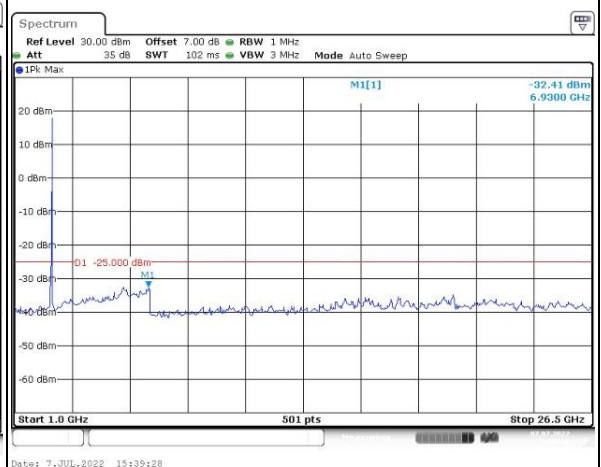
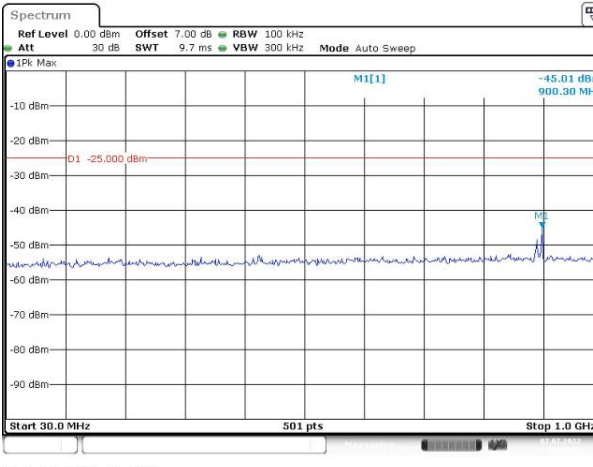
Middle



Date: 7.JUL.2022 15:38:09

Date: 7.JUL.2022 15:38:38

Highest



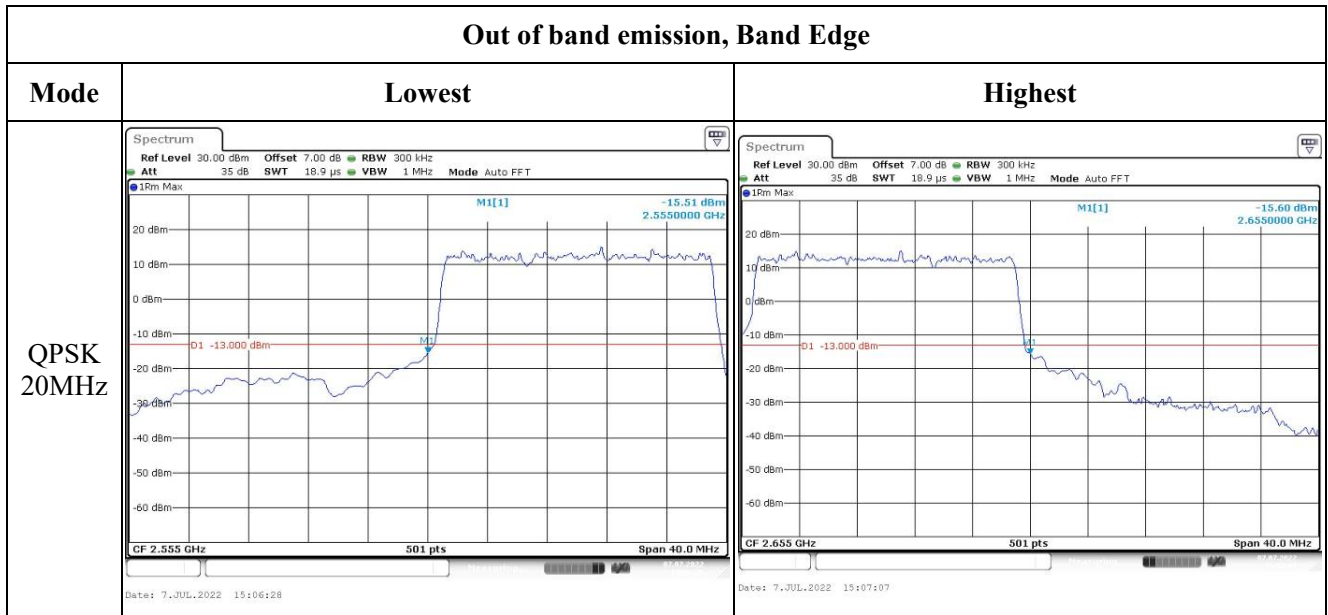
Date: 7.JUL.2022 15:39:09

Date: 7.JUL.2022 15:39:28

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 50 kHz Att 35 dB SWT 37.9 μs VBW 200 kHz Mode Auto FFT</p> <p>M1[1] -13.44 dBm 2.5550000 GHz</p> <p>CF 2.555 GHz 501 pts Span 10.0 MHz</p> <p>Date: 11.JUL.2022 19:46:24</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 50 kHz Att 35 dB SWT 37.9 μs VBW 200 kHz Mode Auto FFT</p> <p>M1[1] -14.29 dBm 2.6550000 GHz</p> <p>CF 2.655 GHz 501 pts Span 10.0 MHz</p> <p>Date: 11.JUL.2022 19:47:18</p>
QPSK 10MHz	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 35 dB SWT 38 μs VBW 300 kHz Mode Auto FFT</p> <p>M1[1] -21.40 dBm 2.5546810 GHz</p> <p>CF 2.555 GHz 501 pts Span 20.0 MHz</p> <p>Date: 7.JUL.2022 15:03:33</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 35 dB SWT 38 μs VBW 300 kHz Mode Auto FFT</p> <p>M1[1] -18.94 dBm 2.6551200 GHz</p> <p>CF 2.655 GHz 501 pts Span 20.0 MHz</p> <p>Date: 7.JUL.2022 15:04:18</p>
QPSK 15MHz	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 35 dB SWT 12.7 μs VBW 1 MHz Mode Auto FFT</p> <p>M1[1] -14.52 dBm 2.5546410 GHz</p> <p>CF 2.555 GHz 501 pts Span 30.0 MHz</p> <p>Date: 7.JUL.2022 15:05:01</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 35 dB SWT 12.7 μs VBW 1 MHz Mode Auto FFT</p> <p>M1[1] -13.74 dBm 2.6552990 GHz</p> <p>CF 2.655 GHz 501 pts Span 30.0 MHz</p> <p>Date: 7.JUL.2022 15:05:43</p>

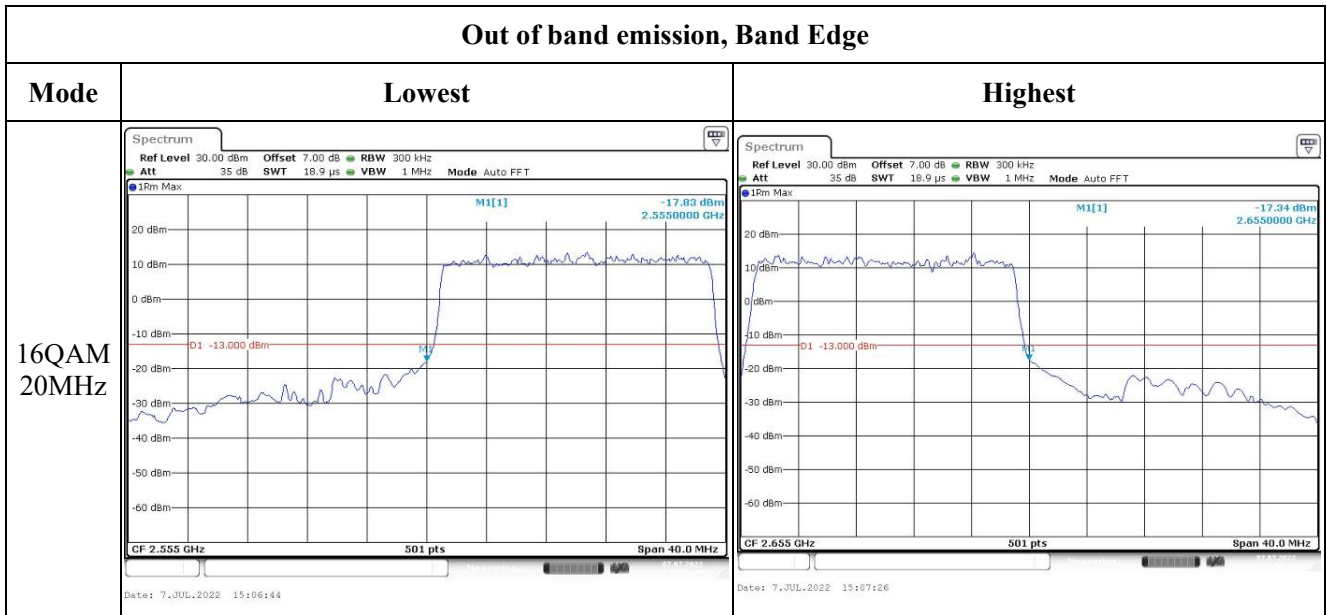
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 5MHz		
16QAM 10MHz		
16QAM 15MHz		

Out of band emission, Band Edge



4.17 Antenna Port Test Data and Results for LTE Band 66

Serial Number:	CR220050079-RF-S1	Test Date:	2022/7/7~2022/7/11
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ted Min	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	24.6~25.3	Relative Humidity: (%)	49~55	ATM Pressure: (kPa)	100.0~100.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2021-10-10	2022-10-09
R&S	Wideband Radio Communication Tester	CMW500	149218	2021-07-21	2022-07-20
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-04-06	2023-04-05
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
E-Microwave	Two-way Splitter	ODP-1-6	OE0120176	Each time	N/A
HuiXunDa	DC Block	SMA-JK 18G	DCB181108042	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100003	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 66▲:

Antenna Gain (dBi):	-1.15	Path Loss L_c (dB):	0
Operation Voltage(V_{DC}):			
Lowest:	3.42	Normal:	3.8
		Highest:	4.18

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	1710.7	1745	1779.3
3MHz	1711.5	1745	1778.5
5MHz	1712.5	1745	1777.5
10MHz	1715	1745	1775
15MHz	1717.5	1745	1772.5

20MHz	1720	1745	1770
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Test Data:

FCC§2.1046;§ 27.50(d)(4)						
RF Output Power:						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	22.12	21.79	21.81	21.09	30
	RB1#3	22.15	21.79	21.84		
	RB1#5	22.24	21.8	21.93		
	RB3#0	22.07	21.71	21.76		
	RB3#3	22.2	21.77	21.83		
	RB6#0	21.73	21.35	21.39		
1.4MHz 16QAM	RB1#0	21.81	21.56	21.56	20.9	30
	RB1#3	22.05	21.65	21.58		
	RB1#5	22.03	21.71	21.64		
	RB3#0	21.88	21.68	21.5		
	RB3#3	21.89	21.72	21.65		
	RB6#0	21.53	21.35	21.3		
3MHz QPSK	RB1#0	22.02	22.01	22.01	21.03	30
	RB1#8	22.16	22.15	22.05		
	RB1#14	22.18	22.13	22.17		
	RB6#0	22.05	22.04	21.98		
	RB6#9	21.99	21.96	21.93		
	RB15#0	21.67	21.69	21.67		
3MHz 16QAM	RB1#0	21.71	21.67	21.63	20.9	30
	RB1#8	22.01	21.91	21.86		
	RB1#14	22.05	22.01	21.96		
	RB6#0	21.86	21.87	21.82		
	RB6#9	21.84	21.83	21.91		
	RB15#0	21.51	21.42	21.59		
5MHz QPSK	RB1#0	22.1	21.94	22.1	21.11	30
	RB1#13	22.2	22.16	22.14		
	RB1#24	22.26	22.19	22.18		
	RB15#0	22.03	21.93	22.02		
	RB15#10	21.98	21.95	22.01		
	RB25#0	21.61	21.54	21.63		
5MHz 16QAM	RB1#0	21.67	21.52	21.58	20.9	30
	RB1#13	21.86	21.89	21.87		
	RB1#24	21.99	22.03	22.05		
	RB15#0	21.87	21.86	21.91		
	RB15#10	21.86	21.91	21.93		
	RB25#0	21.39	21.45	21.55		

10MHz QPSK	RB1#0	22.04	21.96	22.01	21.06	30
	RB1#25	22.07	22	22.09		
	RB1#49	22.17	22.15	22.21		
	RB25#0	22	22.03	22.07		
	RB25#25	22.04	22.12	22.06		
	RB50#0	21.62	21.64	21.75		
10MHz 16QAM	RB1#0	21.81	21.98	21.93	20.98	30
	RB1#25	21.86	22.11	22.06		
	RB1#49	21.89	22.13	22.11		
	RB25#0	21.84	22.06	22.05		
	RB25#25	21.91	22.07	22.04		
	RB50#0	21.43	21.46	21.39		
15MHz QPSK	RB1#0	22.02	21.98	22.03	21.11	30
	RB1#38	22.12	22.06	22.13		
	RB1#74	22.16	22.11	22.26		
	RB36#0	21.84	21.93	21.98		
	RB36#39	21.91	21.92	21.96		
	RB75#0	21.45	21.43	21.46		
15MHz 16QAM	RB1#0	21.49	21.51	21.52	20.88	30
	RB1#38	21.79	21.82	21.81		
	RB1#74	21.95	21.99	22.03		
	RB36#0	21.67	21.81	21.85		
	RB36#39	21.82	21.84	21.91		
	RB75#0	21.33	21.44	21.49		
20MHz QPSK	RB1#0	22.03	22.16	22.11	21.18	30
	RB1#50	22.13	22.28	22.24		
	RB1#99	22.16	22.33	22.21		
	RB50#0	21.96	22.1	21.98		
	RB50#50	22.04	21.98	21.96		
	RB100#0	21.59	21.51	21.42		
20MHz 16QAM	RB1#0	21.61	21.62	21.53	20.96	30
	RB1#50	21.91	21.96	21.91		
	RB1#99	22.03	22.11	22.01		
	RB50#0	21.86	21.91	21.85		
	RB50#50	21.83	21.86	21.81		
	RB100#0	21.36	21.39	21.35		
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	3.16	3.07	3.25	13
	RB100#0	5.25	5.17	5.27	13
20MHz 16QAM	RB1#0	4.15	4.05	4.09	13
	RB100#0	6.23	6.09	6.14	13
Result:					Pass

FCC §2.1049, §27.53:Occupied Bandwidth						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.102	1.096	1.096	1.29	1.29	1.308
1.4MHz 16QAM	1.09	1.096	1.09	1.302	1.326	1.284
3MHz QPSK	2.683	2.683	2.683	2.88	2.88	2.88
3MHz 16QAM	2.683	2.683	2.683	2.892	2.88	2.868
5MHz QPSK	4.551	4.511	4.511	5.24	5.22	5.2
5MHz 16QAM	4.511	4.551	4.551	5.14	5.24	5.24
10MHz QPSK	8.982	8.942	8.982	10	9.88	10
10MHz 16QAM	8.942	8.982	8.982	9.8	9.92	9.92
15MHz QPSK	13.593	13.473	13.533	15.42	15.12	15.3
15MHz 16QAM	13.533	13.533	13.593	15.12	15.12	15.18
20MHz QPSK	18.044	17.964	18.044	19.52	19.68	19.92
20MHz 16QAM	17.964	18.044	18.044	19.84	19.76	19.6

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

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

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

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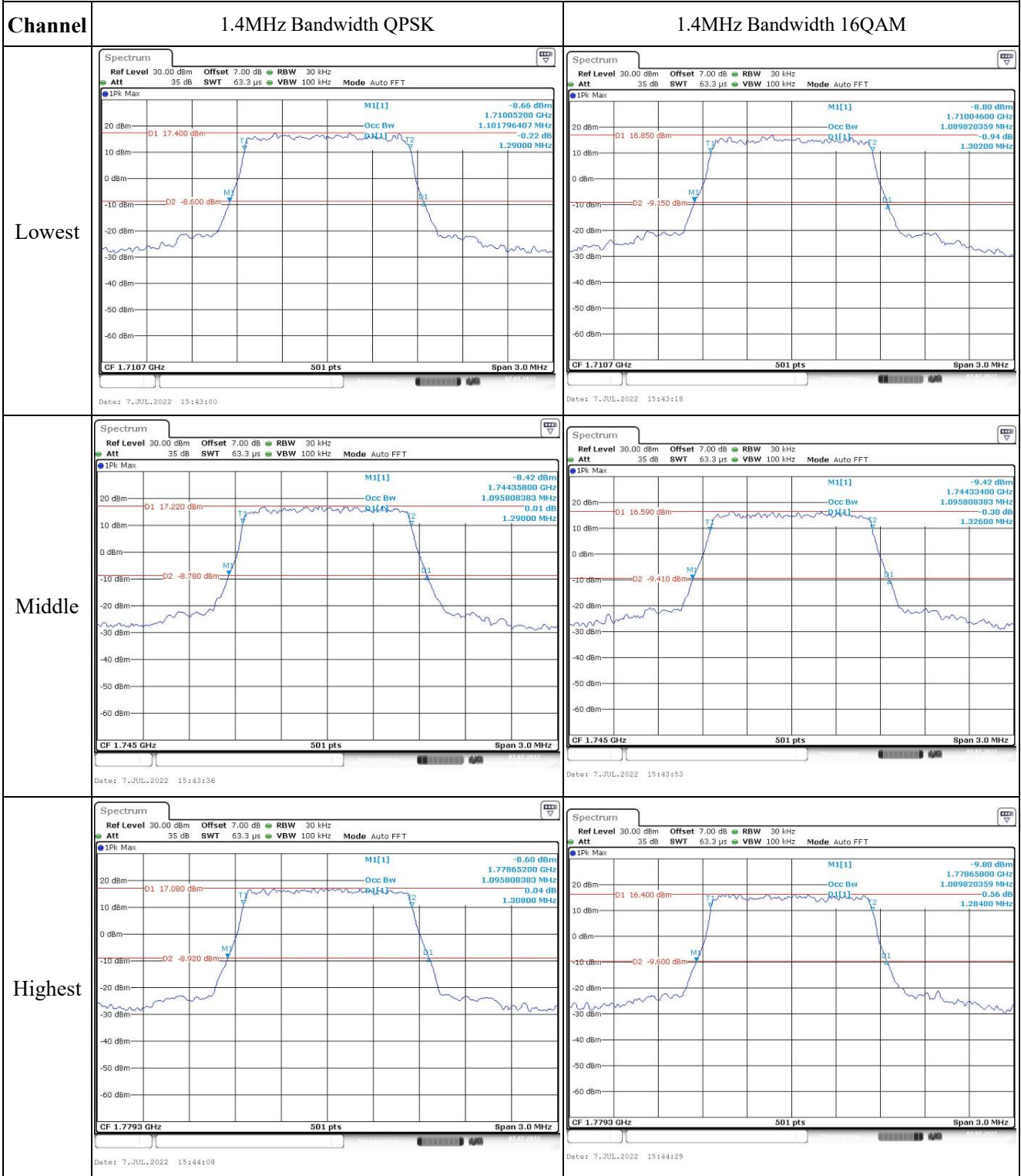
FCC §2.1055, §27.54: Frequency Stability

Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	1710.066	1710.00	1779.868	1780
	-20	3.8	1710.204	1710.00	1779.851	1780
	-10	3.8	1710.212	1710.00	1779.758	1780
	0	3.8	1710.115	1710.00	1779.900	1780
	10	3.8	1710.142	1710.00	1779.767	1780
	20	3.8	1710.239	1710.00	1779.833	1780
	30	3.8	1710.111	1710.00	1779.936	1780
	40	3.8	1710.124	1710.00	1779.822	1780
	50	3.8	1710.230	1710.00	1779.790	1780
Frequency Stability vs. Voltage	20	3.42	1710.232	1710.00	1779.776	1780
	20	4.18	1710.209	1710.00	1779.803	1780
					Result:	Pass

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	1710.271	1710.00	1779.226	1780
	-20	3.8	1710.176	1710.00	1779.255	1780
	-10	3.8	1710.183	1710.00	1779.157	1780
	0	3.8	1710.255	1710.00	1779.103	1780
	10	3.8	1710.196	1710.00	1779.168	1780
	20	3.8	1710.124	1710.00	1779.157	1780
	30	3.8	1710.193	1710.00	1779.124	1780
	40	3.8	1710.223	1710.00	1779.127	1780
	50	3.8	1710.145	1710.00	1779.173	1780
Frequency Stability vs. Voltage	20	3.42	1710.146	1710.00	1779.134	1780
	20	4.18	1710.308	1710.00	1779.085	1780
					Result:	Pass

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>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 35 dB SWT 19 μs VBW 300 kHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -9.22 dBm 1.7098800 GHz Occ Bw 4.55089204 MHz -0.02 dB 5.2400 MHz</p> <p>D1 16.880 dBm D2 -9.120 dBm</p> <p>CF 1.7125 GHz 501 pts Span 10.0 MHz</p> <p>Date: 7.JUL.2022 15:46:37</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 35 dB SWT 19 μs VBW 300 kHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -6.09 dBm 1.7099200 GHz Occ Bw 4.510978044 MHz -0.98 dB 5.1400 MHz</p> <p>D1 16.630 dBm D2 -9.370 dBm</p> <p>CF 1.7125 GHz 501 pts Span 10.0 MHz</p> <p>Date: 7.JUL.2022 15:46:55</p>
Middle	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 35 dB SWT 19 μs VBW 300 kHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -9.04 dBm 1.7424000 GHz Occ Bw 4.510978044 MHz -0.58 dB 5.2200 MHz</p> <p>D1 16.630 dBm D2 -9.370 dBm</p> <p>CF 1.745 GHz 501 pts Span 10.0 MHz</p> <p>Date: 7.JUL.2022 15:47:16</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 35 dB SWT 19 μs VBW 300 kHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -9.91 dBm 1.7424000 GHz Occ Bw 4.550898204 MHz -0.66 dB 5.2400 MHz</p> <p>D1 15.770 dBm D2 -10.220 dBm</p> <p>CF 1.745 GHz 501 pts Span 10.0 MHz</p> <p>Date: 7.JUL.2022 15:47:37</p>
Highest	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 35 dB SWT 19 μs VBW 300 kHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -8.64 dBm 1.7749000 GHz Occ Bw 4.510978044 MHz 0.64 dB 5.2000 MHz</p> <p>D1 17.670 dBm D2 -8.330 dBm</p> <p>CF 1.7775 GHz 501 pts Span 10.0 MHz</p> <p>Date: 7.JUL.2022 15:47:58</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 35 dB SWT 19 μs VBW 300 kHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -9.96 dBm 1.7748000 GHz Occ Bw 4.550898204 MHz -0.28 dB 5.2400 MHz</p> <p>D1 16.010 dBm D2 -9.990 dBm</p> <p>CF 1.7775 GHz 501 pts Span 10.0 MHz</p> <p>Date: 7.JUL.2022 15:48:16</p>