

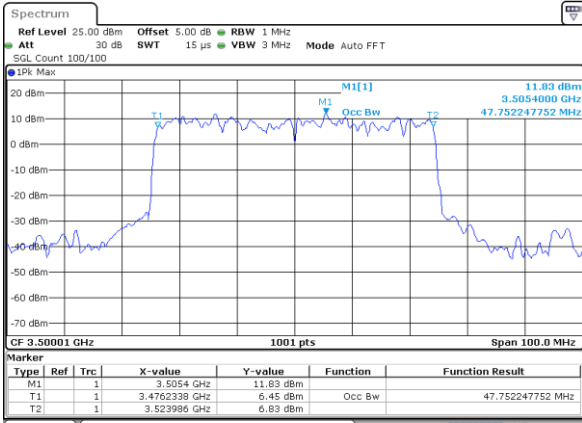
FR1 UL-MIMO n77 / 50MHz / CP-OFDM (ANT3)

QPSK

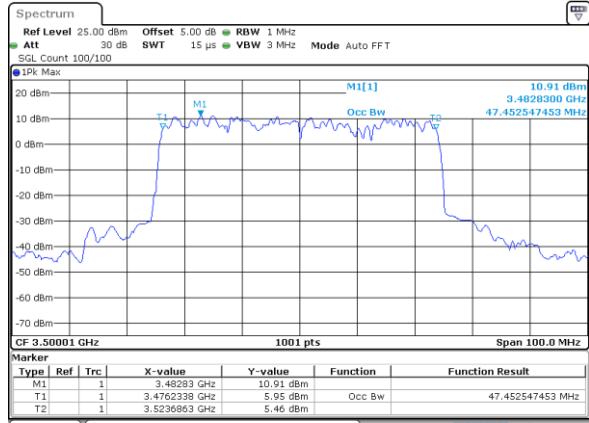
16QAM

Middle Channel

Middle Channel



Date: 28 JUN 2021 15:55:09



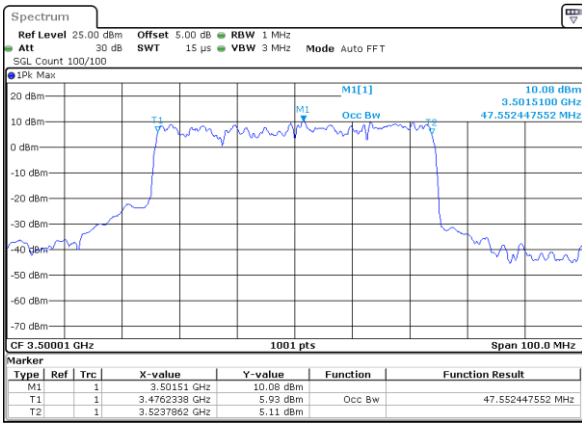
Date: 28 JUN 2021 15:54:45

64QAM

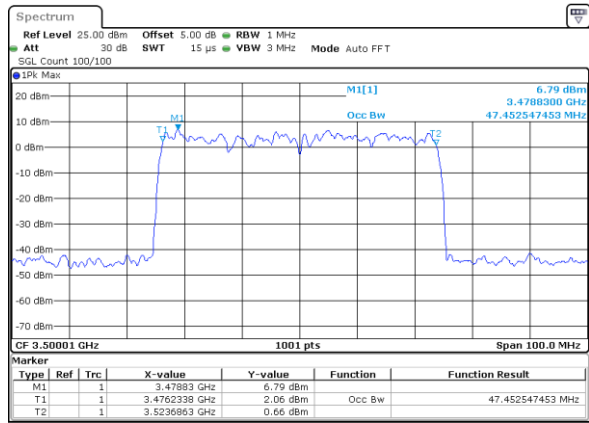
256QAM

Middle Channel

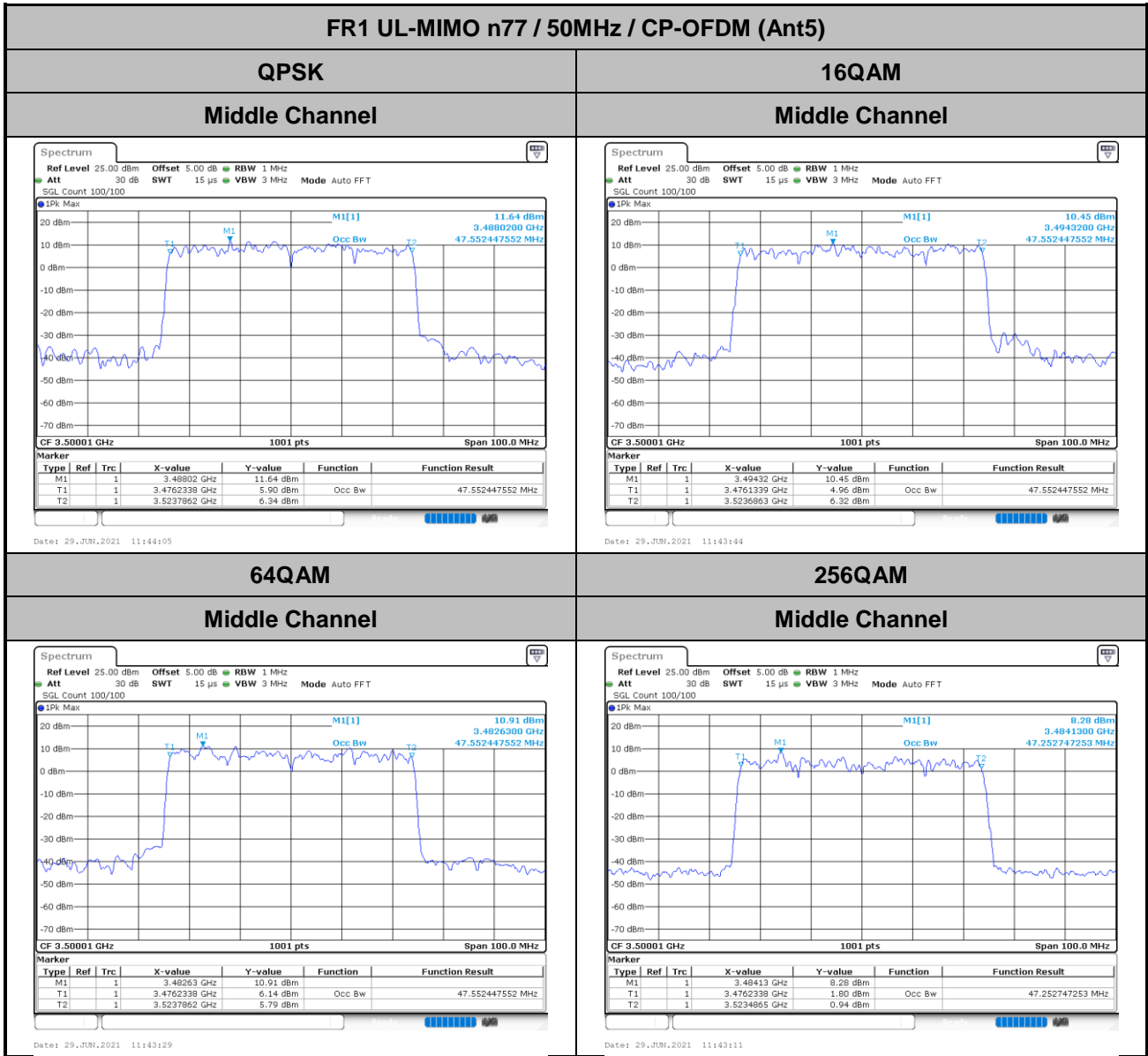
Middle Channel

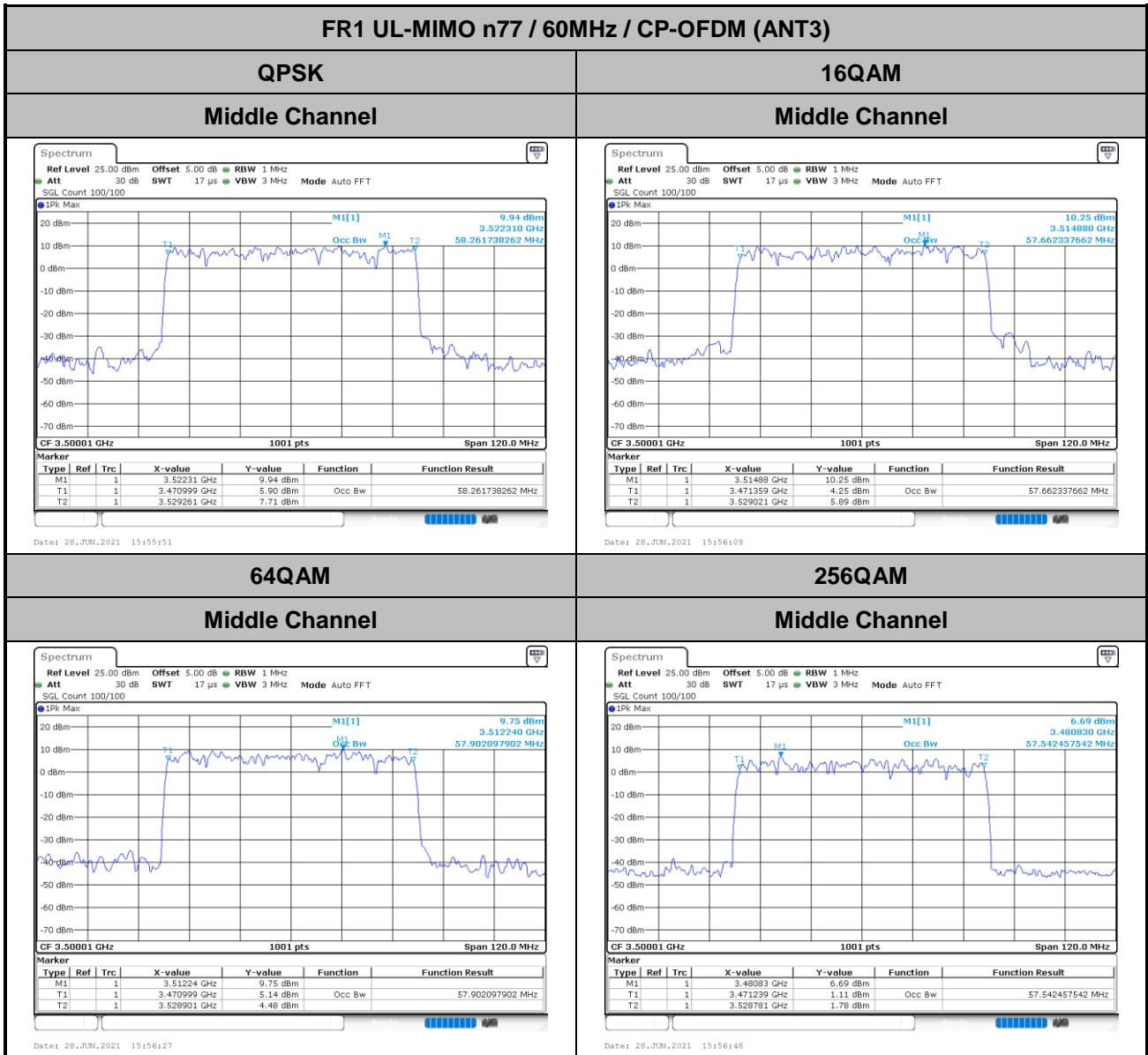


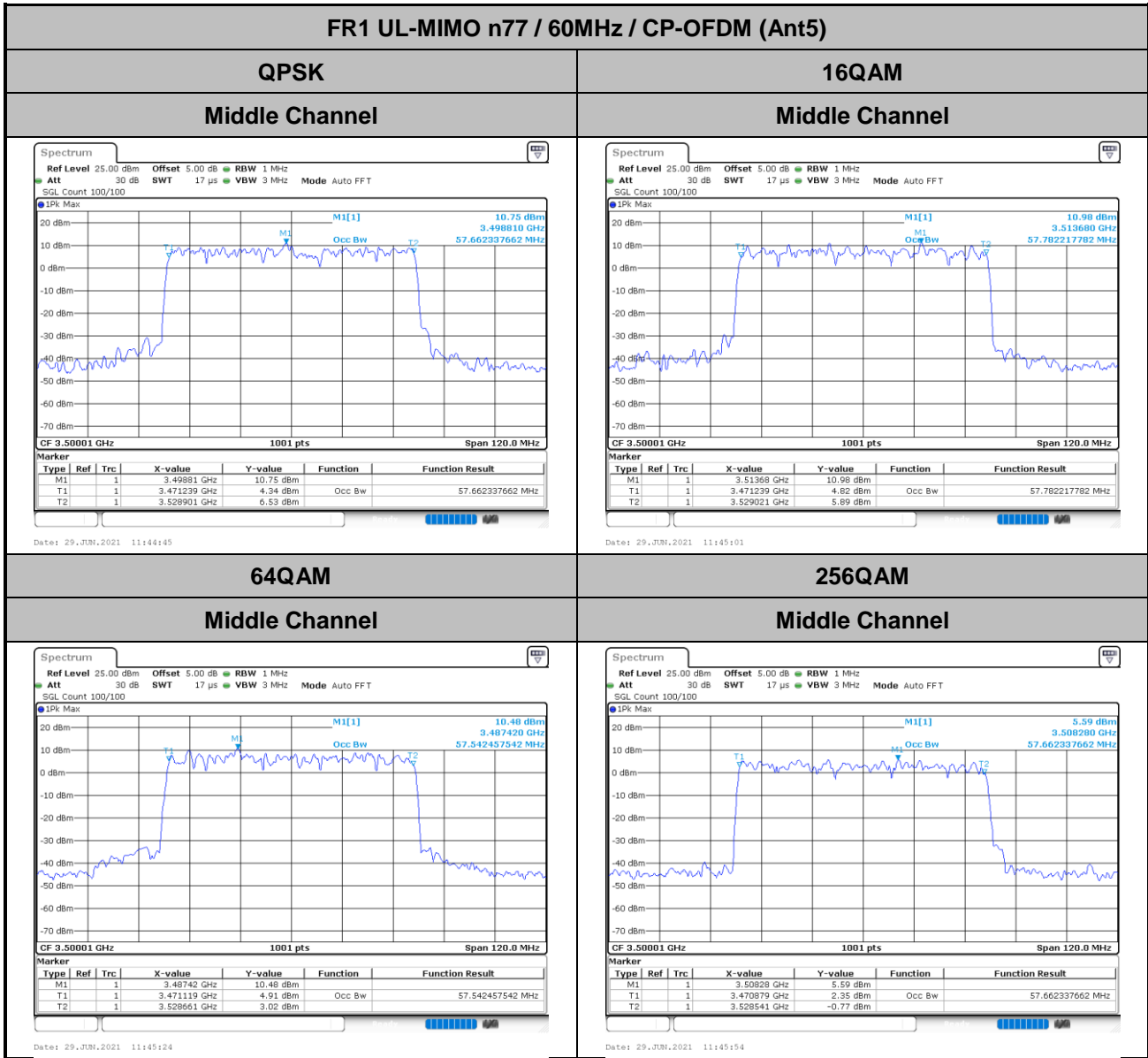
Date: 28 JUN 2021 15:54:25

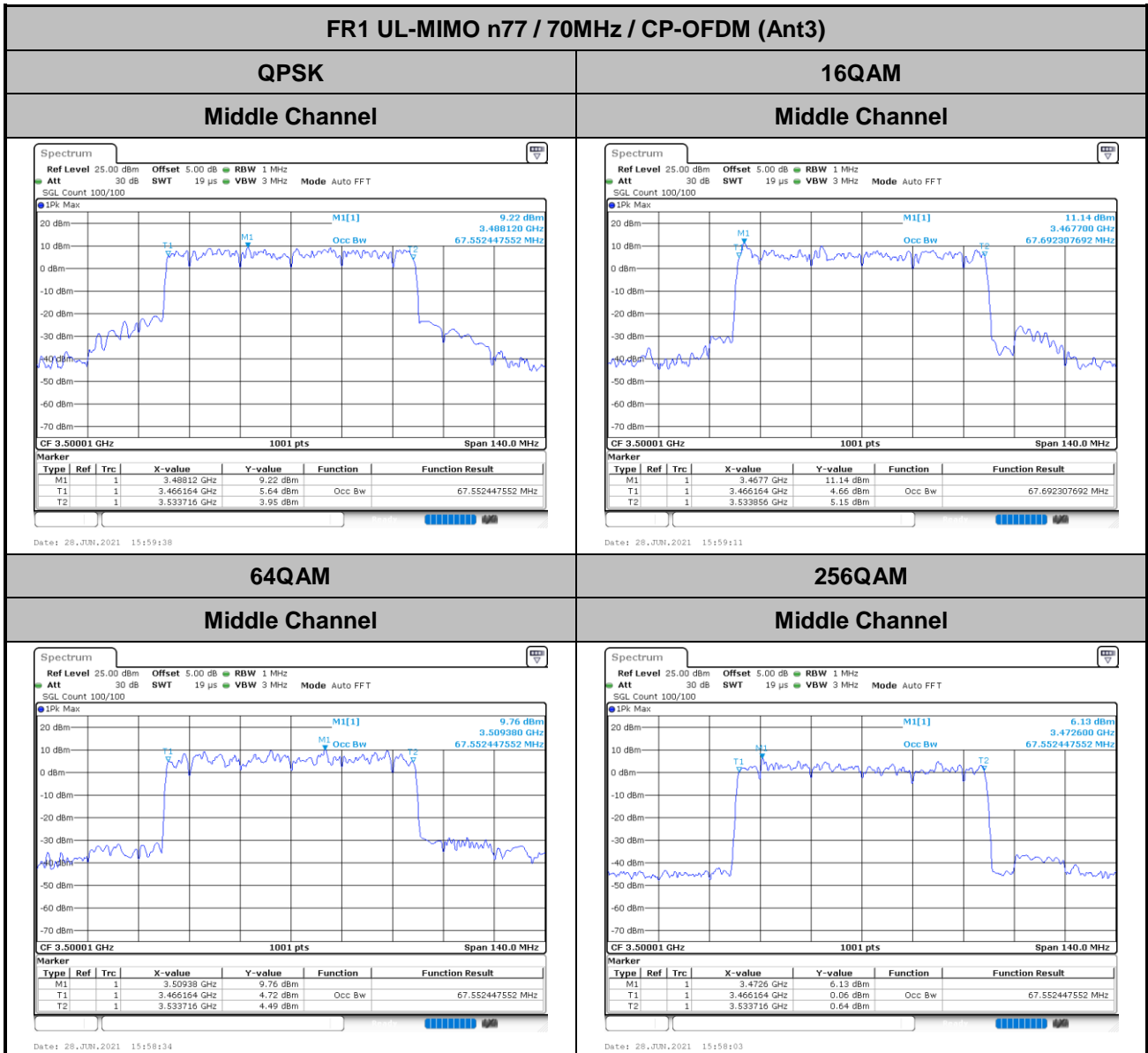


Date: 28 JUN 2021 15:30:57











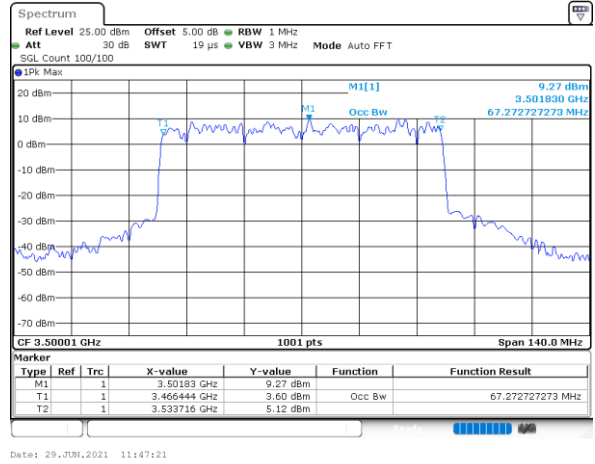
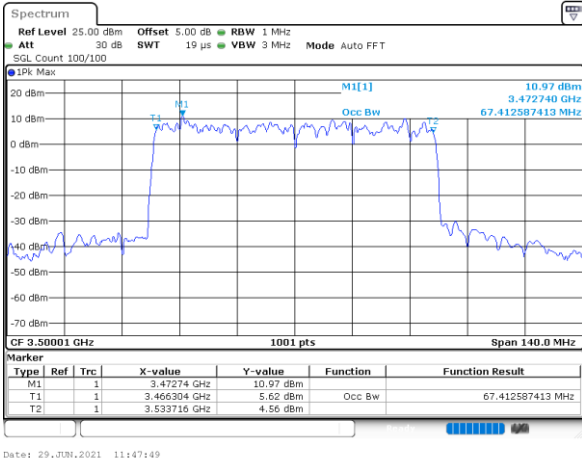
FR1 UL-MIMO n77 / 70MHz / CP-OFDM (Ant5)

QPSK

16QAM

Middle Channel

Middle Channel



Date: 29 JUN 2021 11:47:49

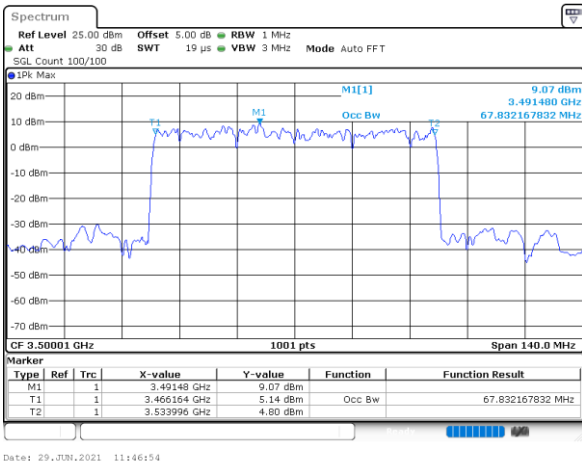
Date: 29 JUN 2021 11:47:21

64QAM

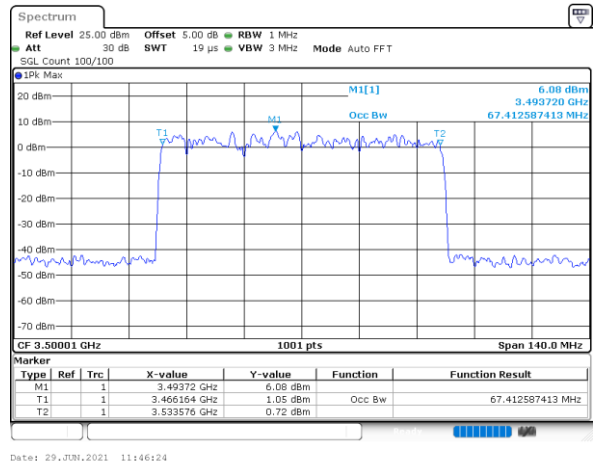
256QAM

Middle Channel

Middle Channel



Date: 29 JUN 2021 11:46:54



Date: 29 JUN 2021 11:46:24



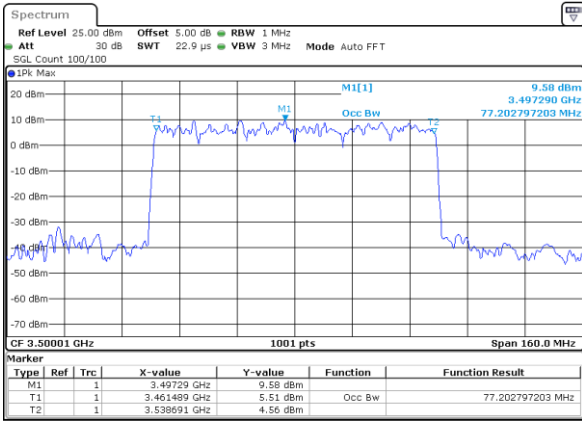
FR1 UL-MIMO n77 / 80MHz / CP-OFDM (ANT3)

QPSK

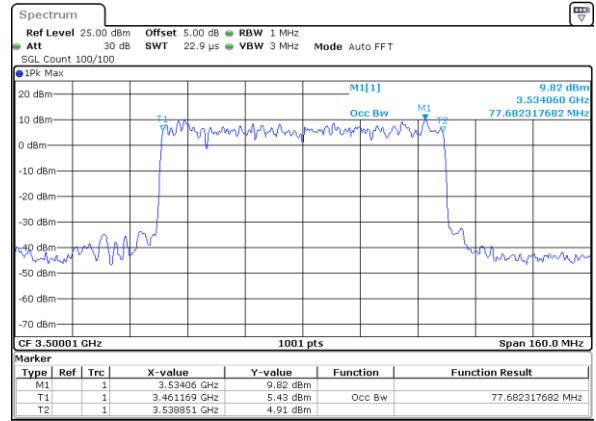
16QAM

Middle Channel

Middle Channel



Date: 28 JUN 2021 16:00:53



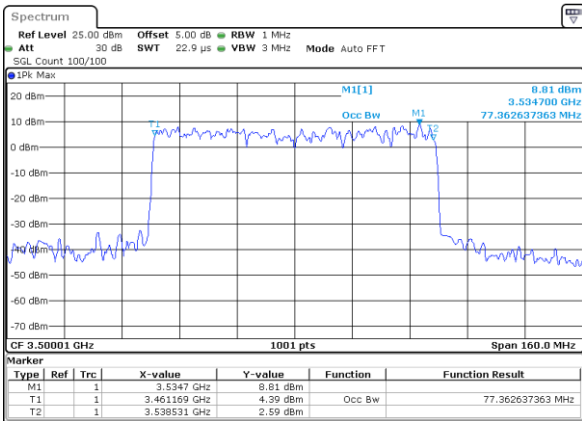
Date: 28 JUN 2021 16:01:11

64QAM

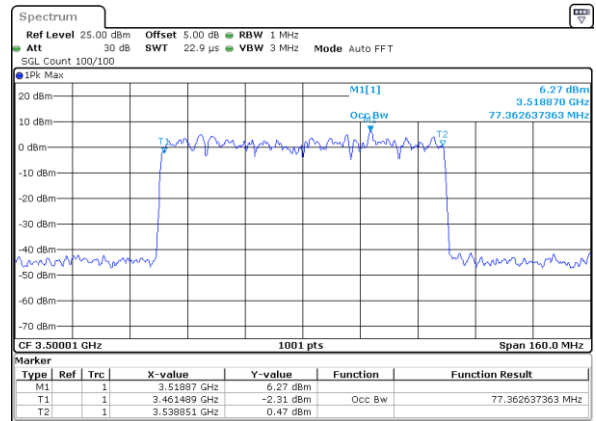
256QAM

Middle Channel

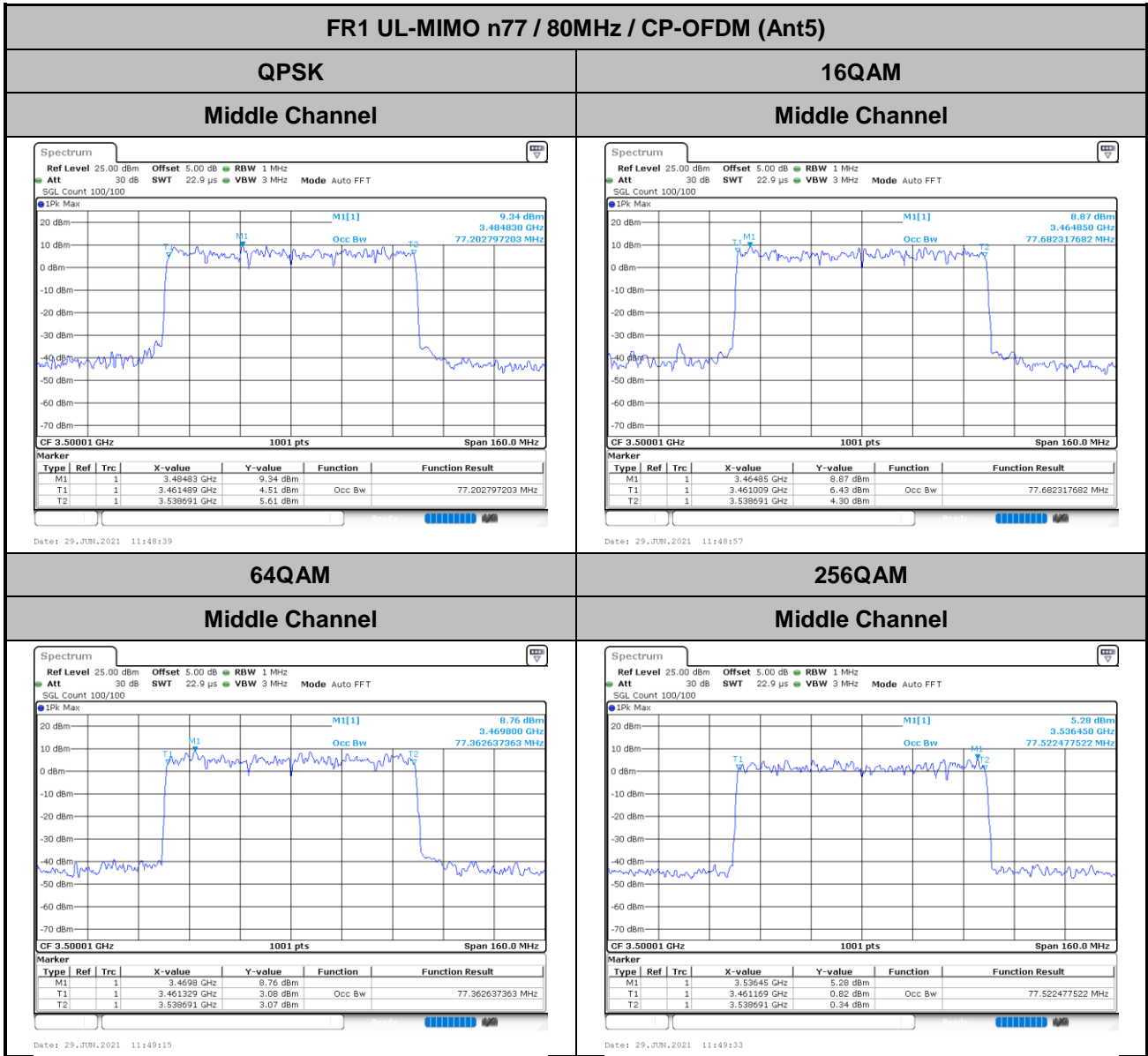
Middle Channel

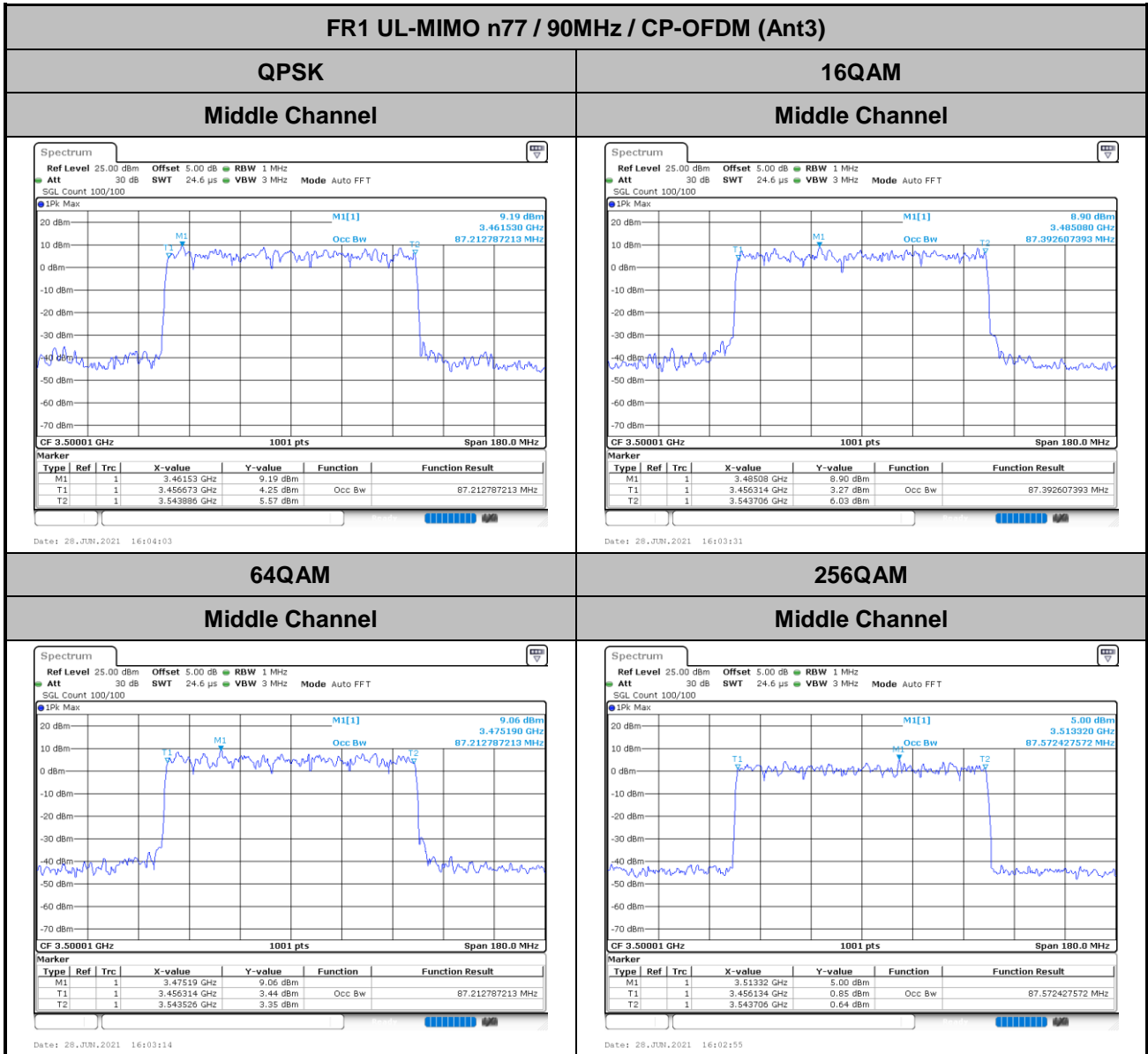


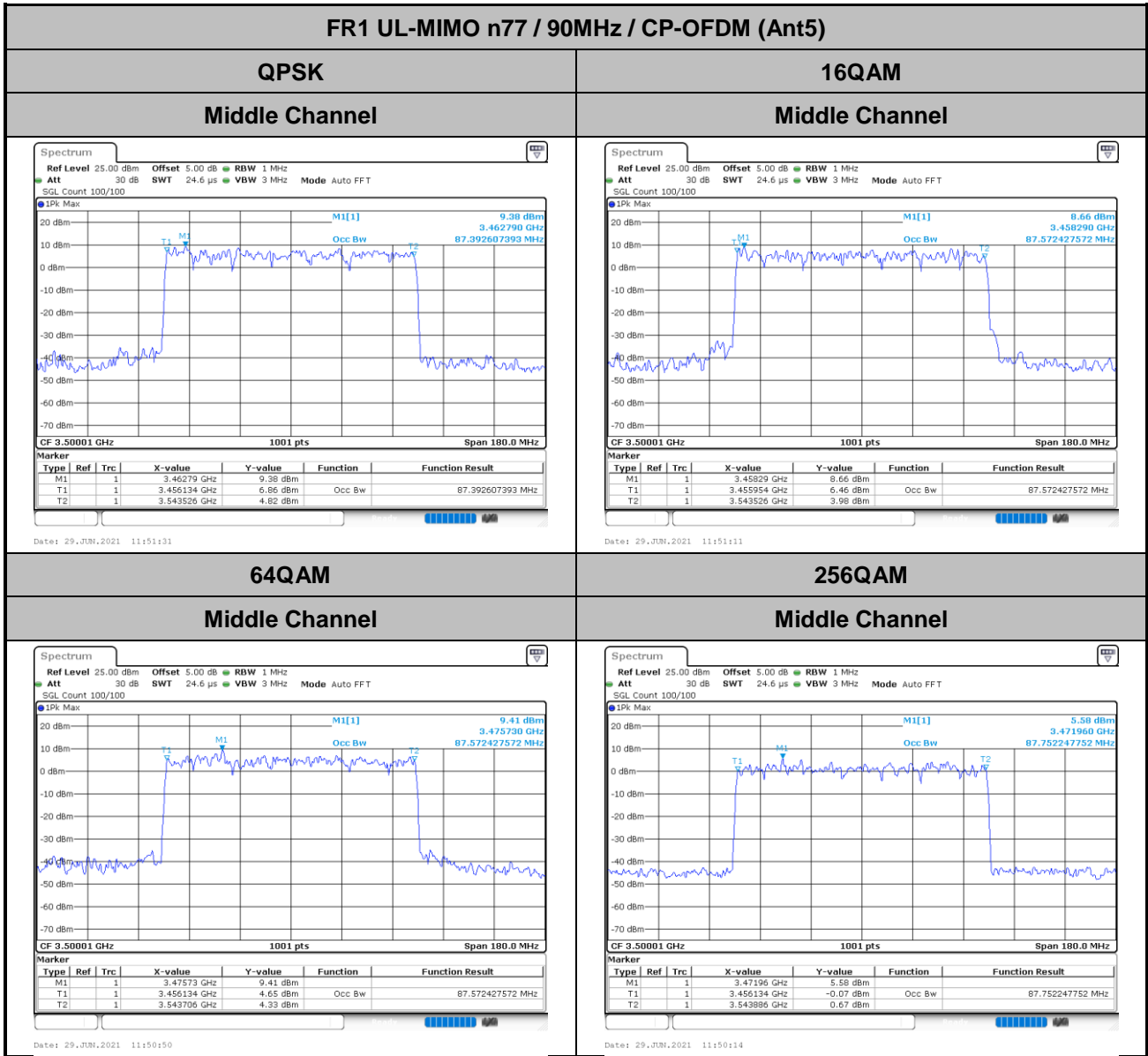
Date: 28 JUN 2021 16:01:31

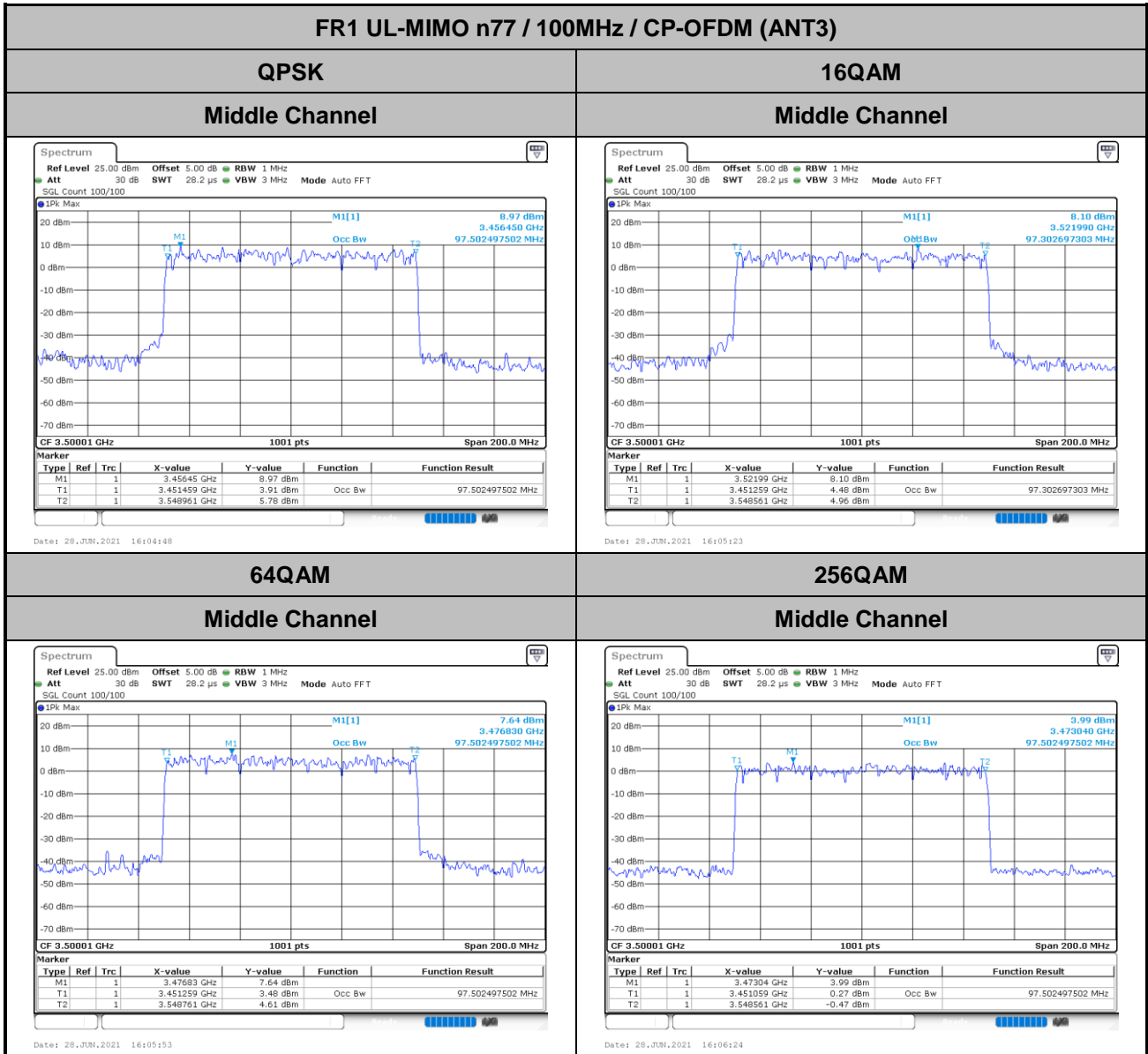


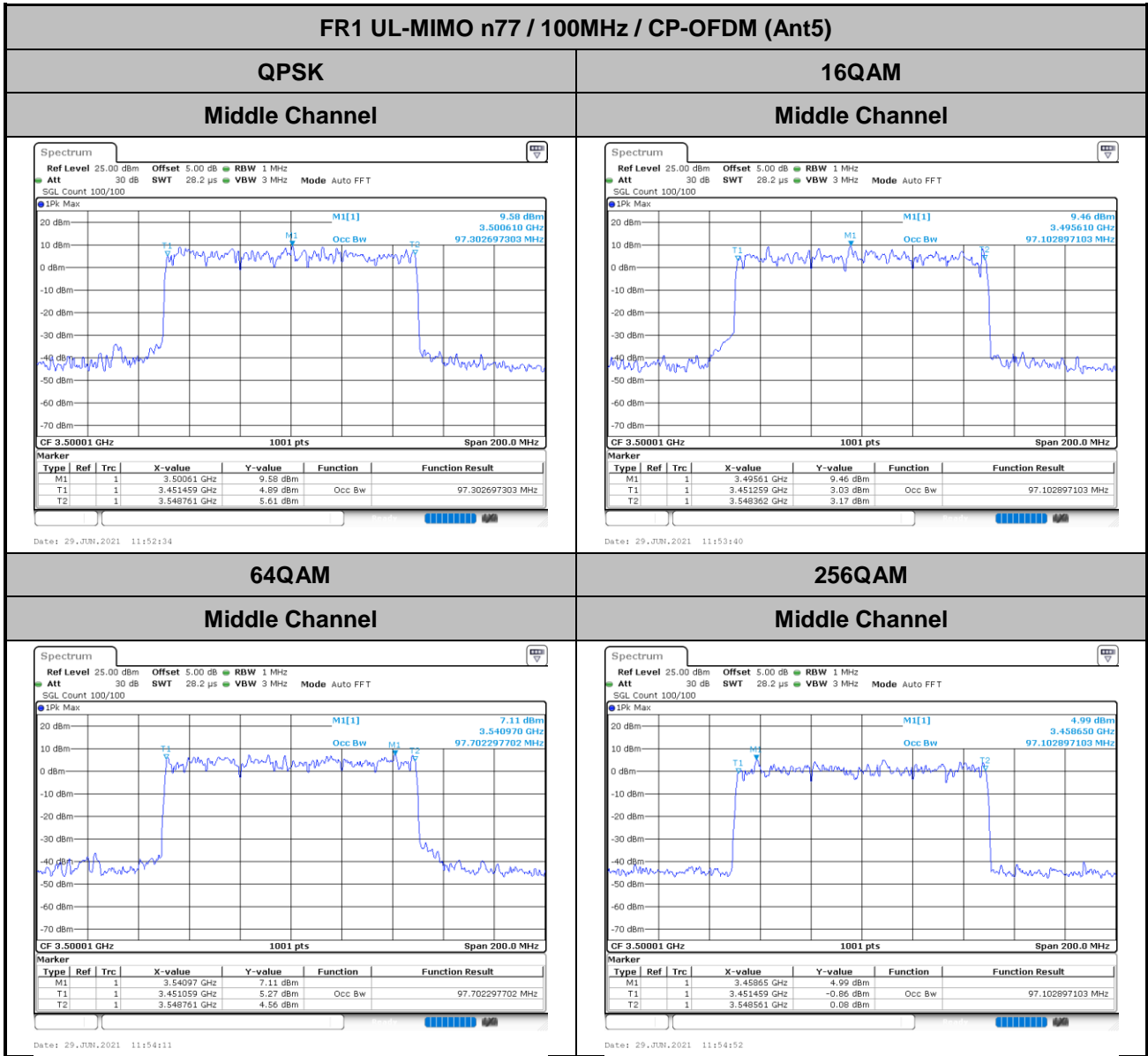
Date: 28 JUN 2021 16:02:22





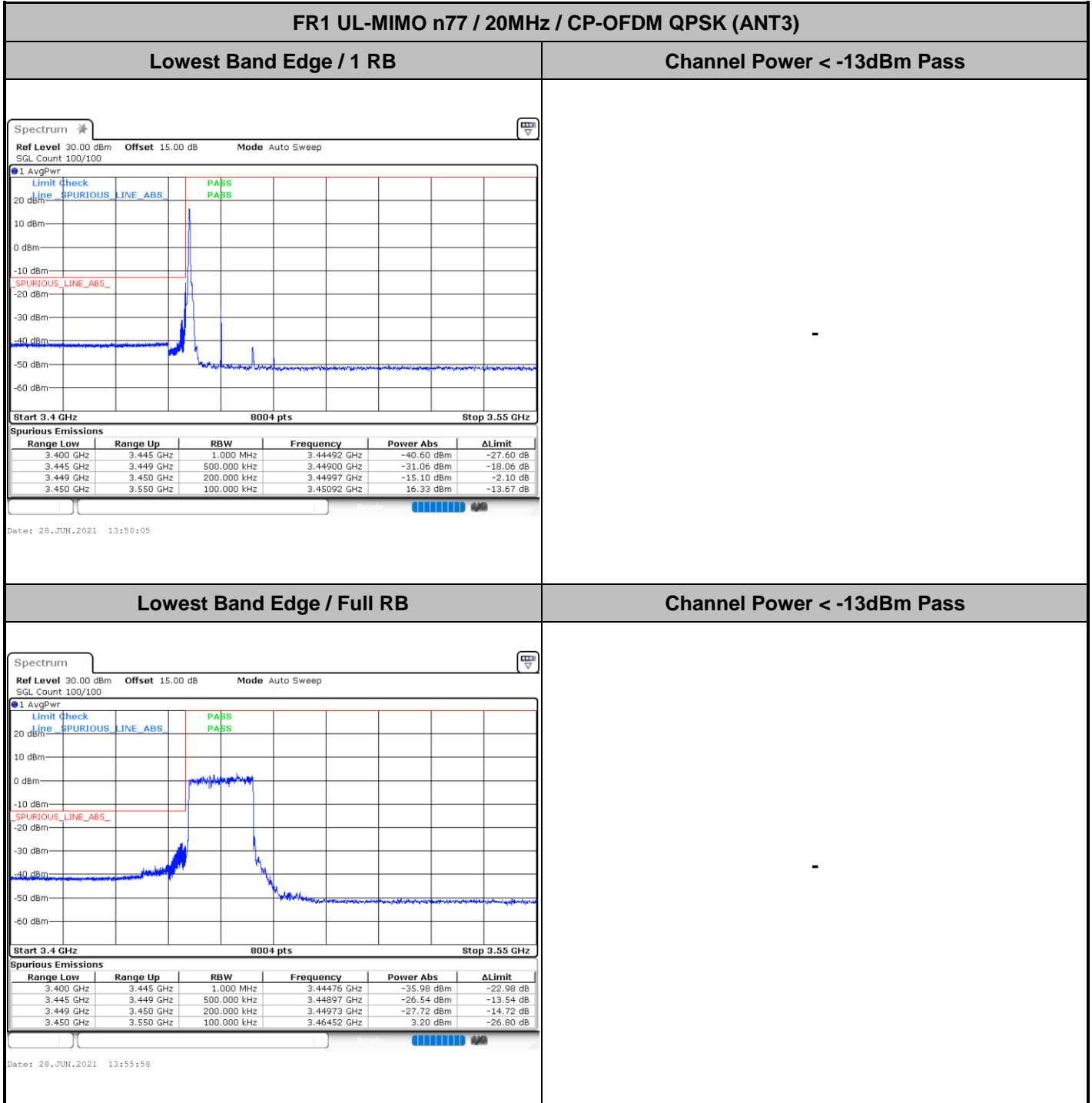








Conducted Band Edge

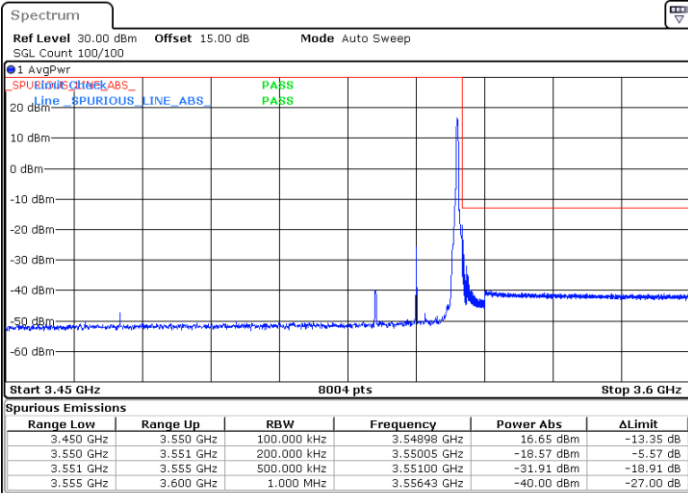




FR1 UL-MIMO n77 / 20MHz / CP-OFDM QPSK (ANT3)

Highest Band Edge / 1 RB

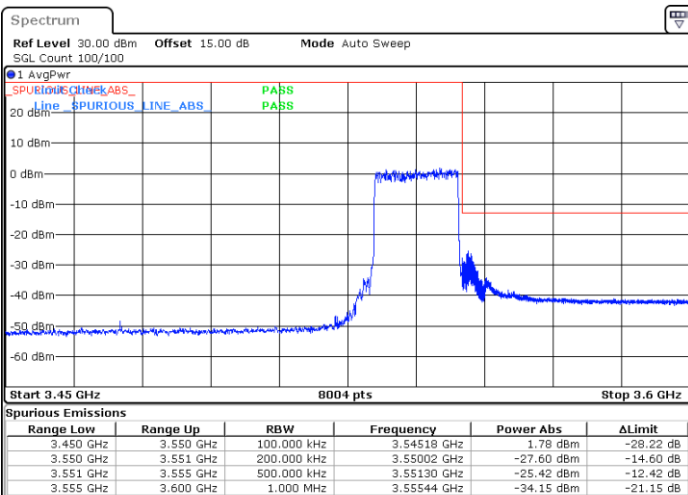
Channel Power < -13dBm Pass



Date: 28.JUN.2021 14:07:15

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



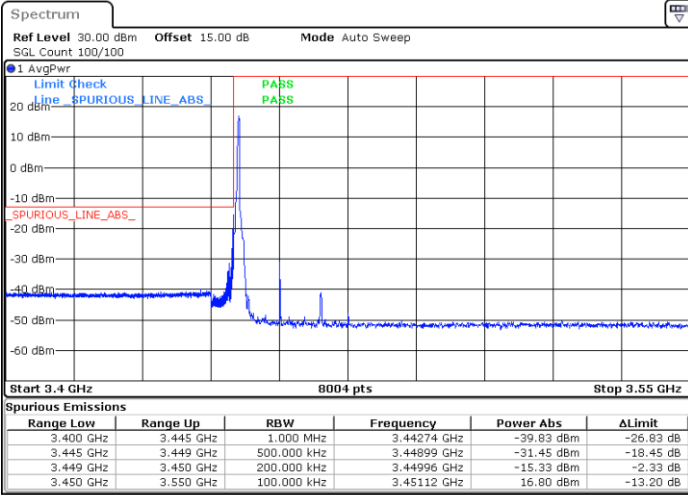
Date: 28.JUN.2021 14:09:08



FR1 UL-MIMO n77 / 20MHz / CP-OFDM QPSK (Ant5)

Lowest Band Edge / 1 RB

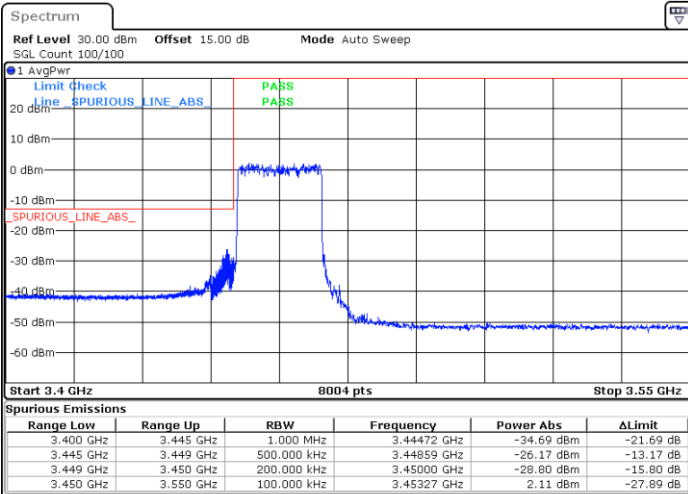
Channel Power < -13dBm Pass



Date: 29 JUN 2021 10:40:33

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



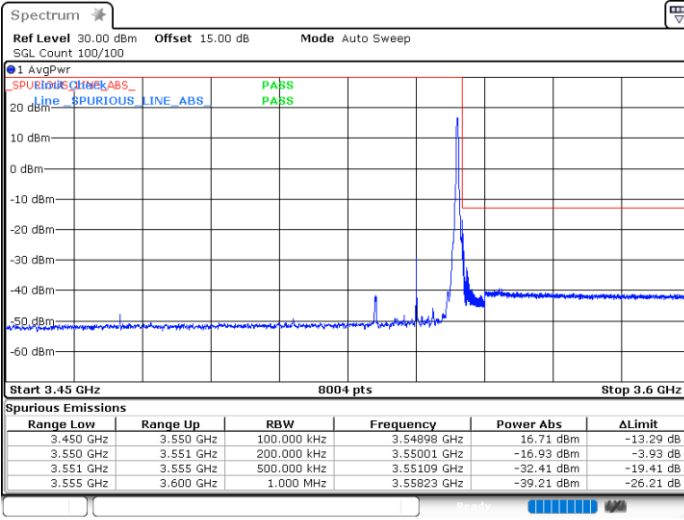
Date: 29 JUN 2021 10:44:42



FR1 UL-MIMO n77 / 20MHz / CP-OFDM QPSK (Ant5)

Highest Band Edge / 1 RB

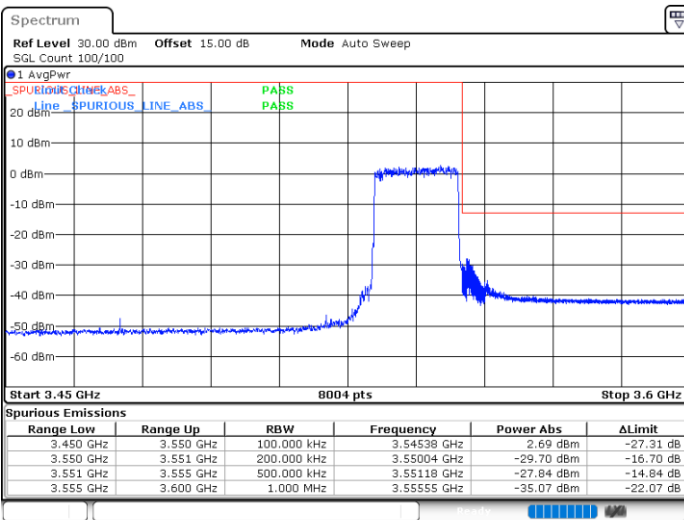
Channel Power < -13dBm Pass



Date: 29 JUN 2021 10:57:14

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



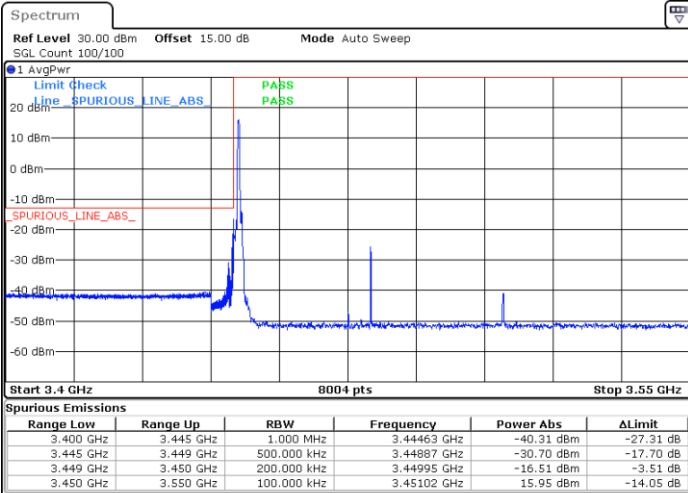
Date: 29 JUN 2021 10:46:48



FR1 UL-MIMO n77 / 60MHz / CP-OFDM QPSK (ANT3)

Lowest Band Edge / 1 RB

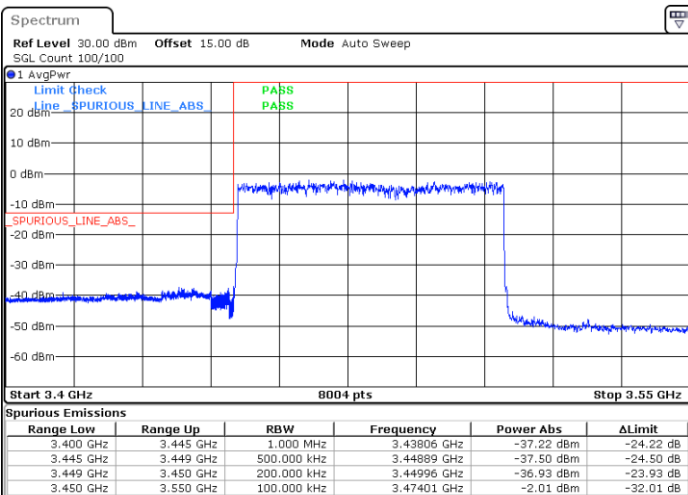
Channel Power < -13dBm Pass



Date: 28 JUN 2021 14:11:30

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



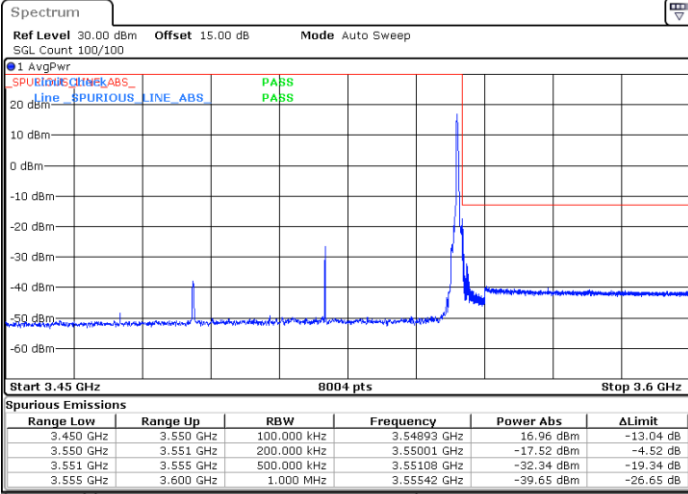
Date: 28 JUN 2021 14:17:32



FR1 UL-MIMO n77 / 60MHz / CP-OFDM QPSK (ANT3)

Highest Band Edge / 1 RB

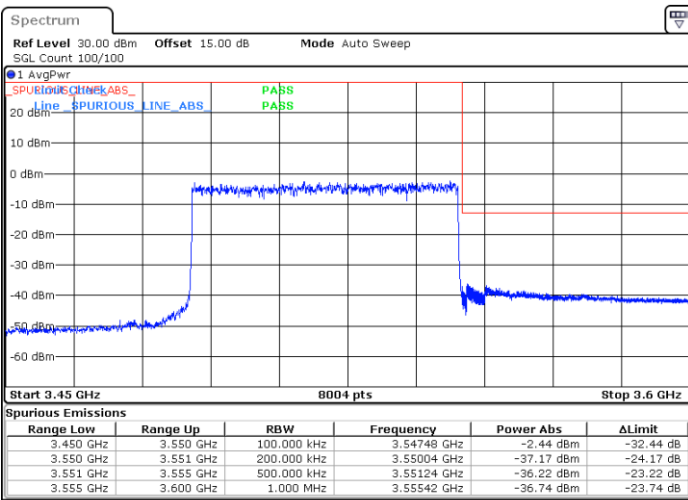
Channel Power < -13dBm Pass



Date: 28 JUN 2021 14:19:18

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



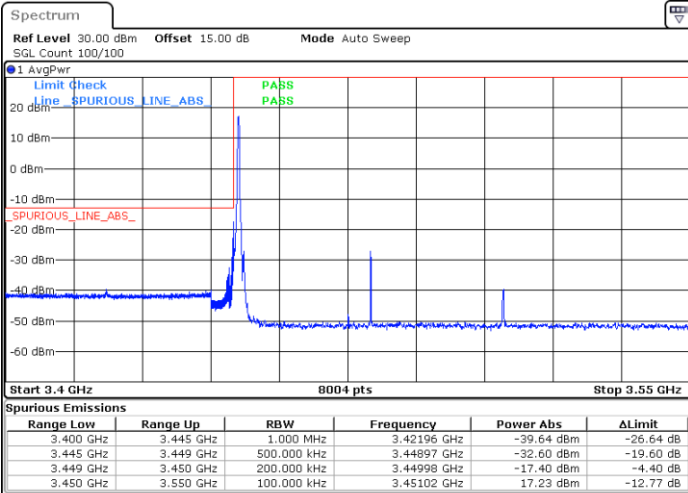
Date: 28 JUN 2021 14:18:44



FR1 UL-MIMO n77 / 60MHz / CP-OFDM QPSK (Ant5)

Lowest Band Edge / 1 RB

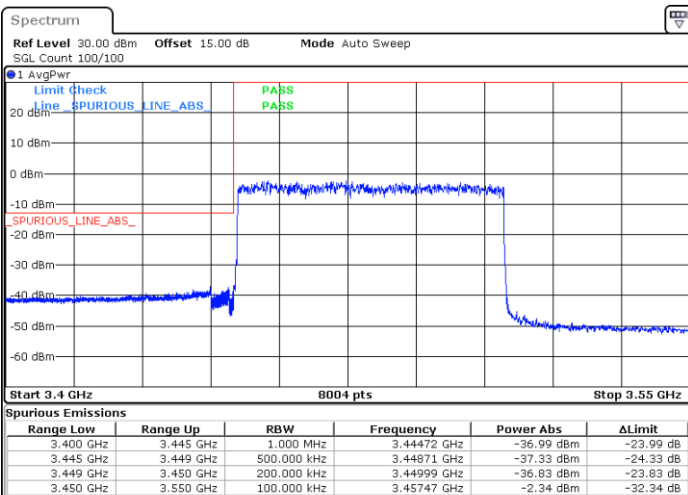
Channel Power < -13dBm Pass



Date: 29.JUN.2021 11:17:00

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



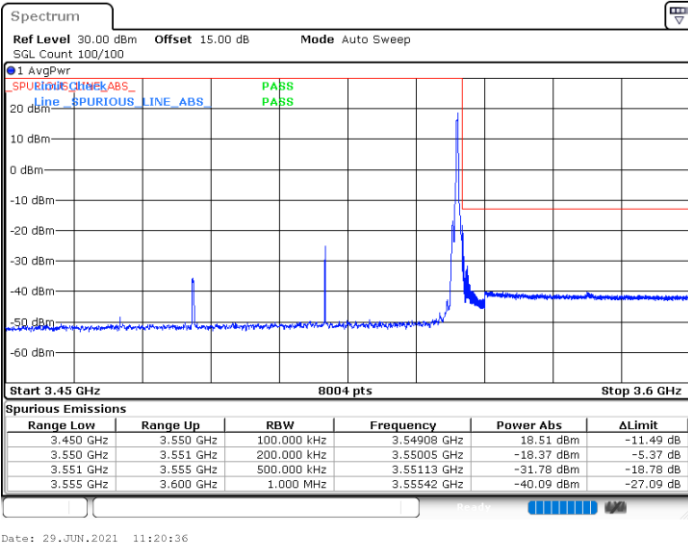
Date: 29.JUN.2021 11:19:14



FR1 UL-MIMO n77 / 60MHz / CP-OFDM QPSK (Ant5)

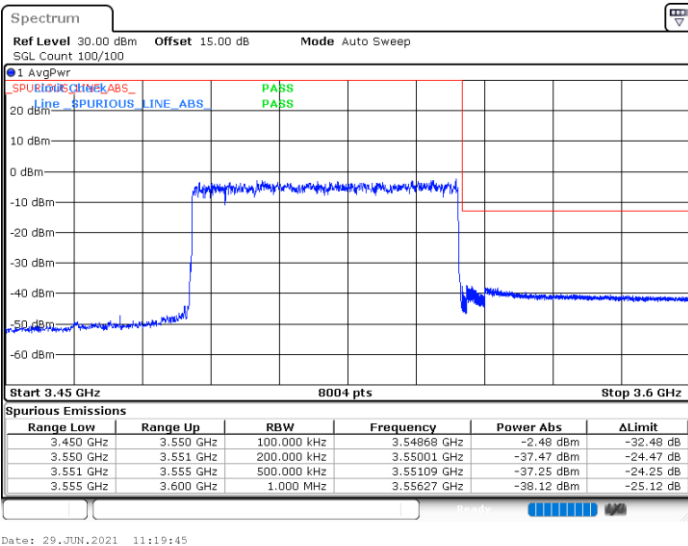
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



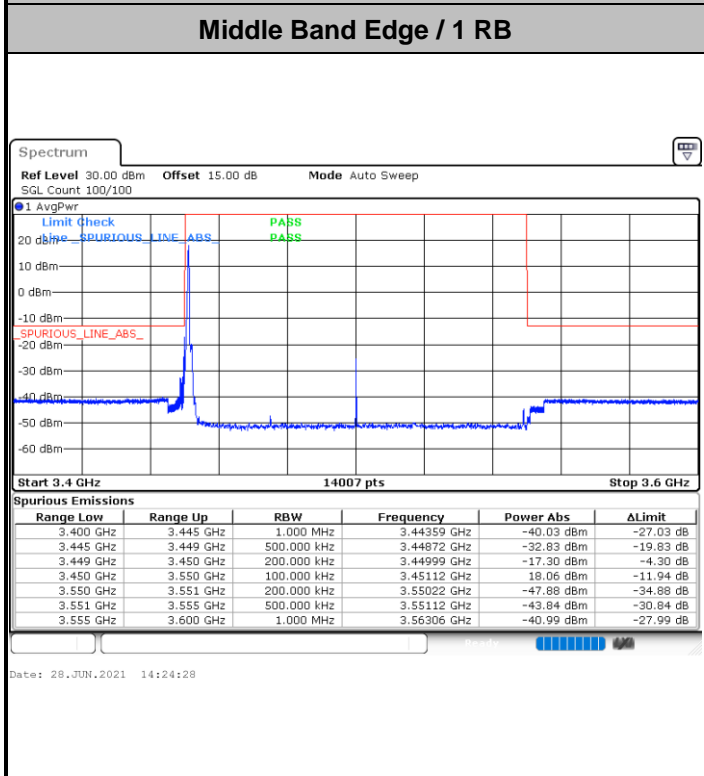
Highest Band Edge / Full RB

Channel Power < -13dBm Pass

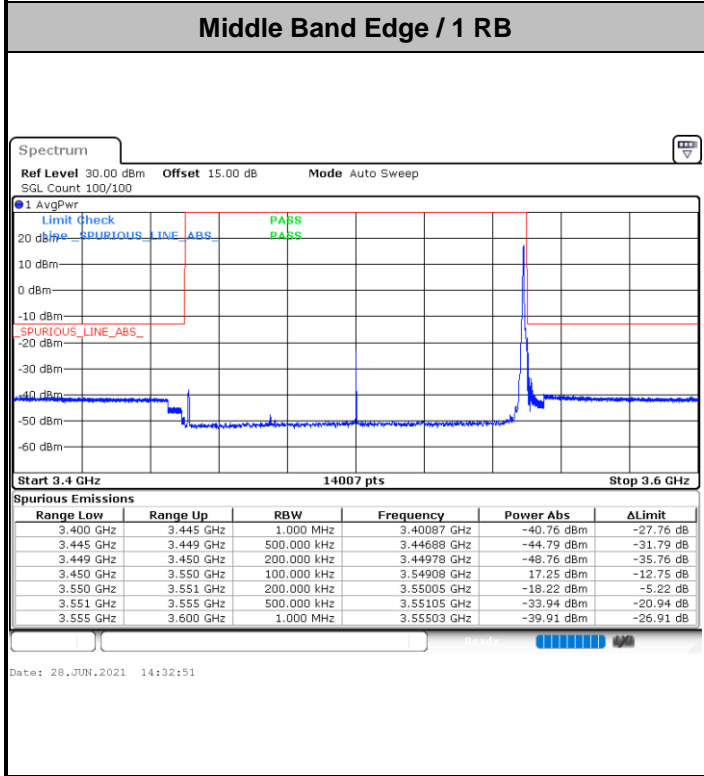




FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (ANT3)



Channel Power < -13dBm Pass



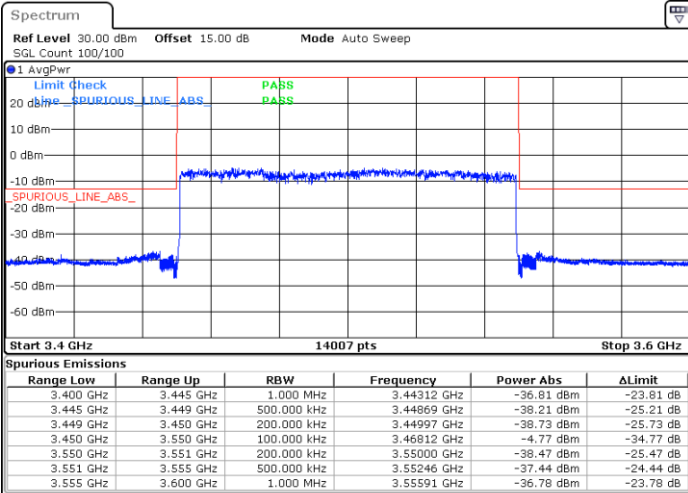
Channel Power < -13dBm Pass



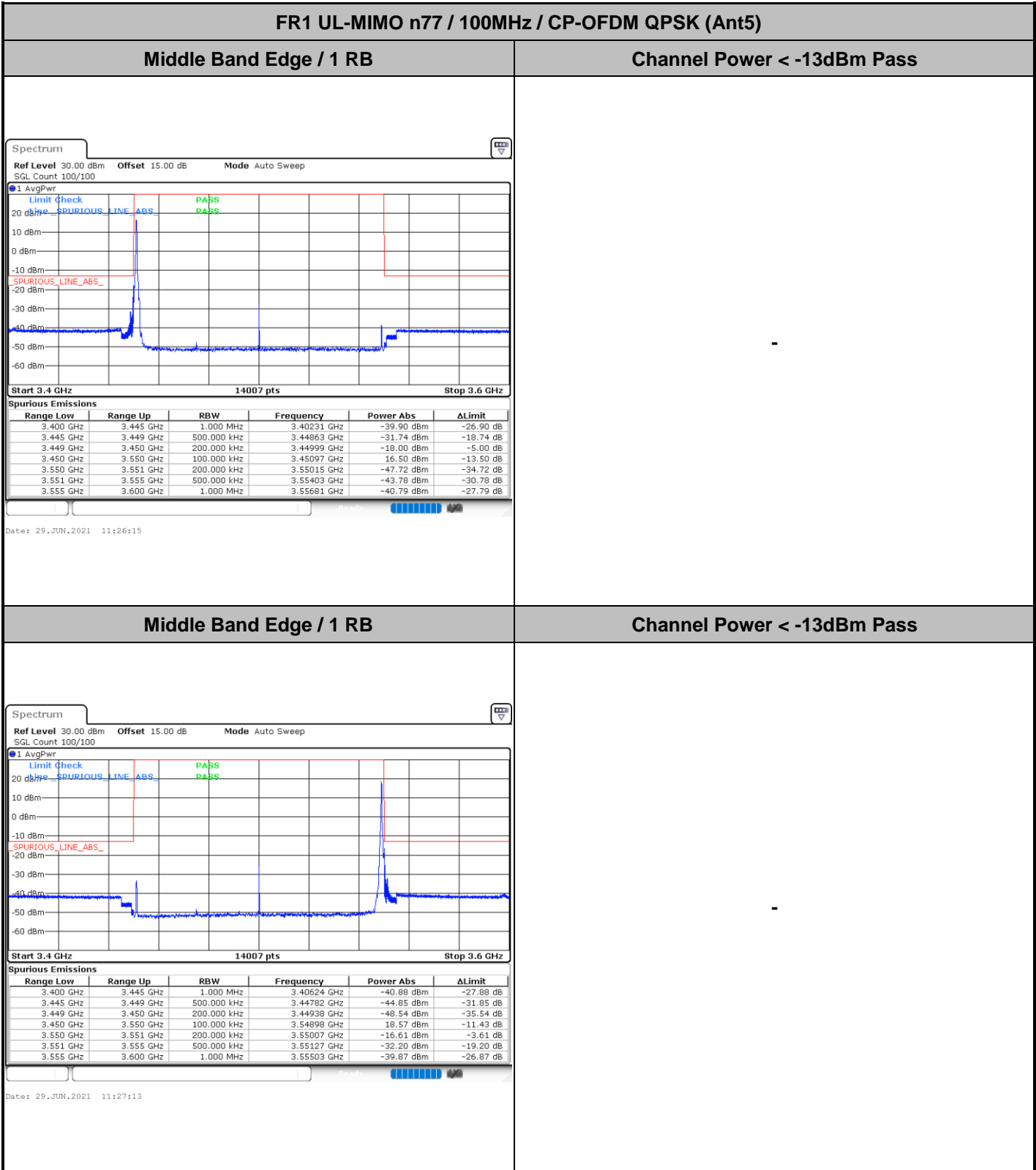
FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (ANT3)

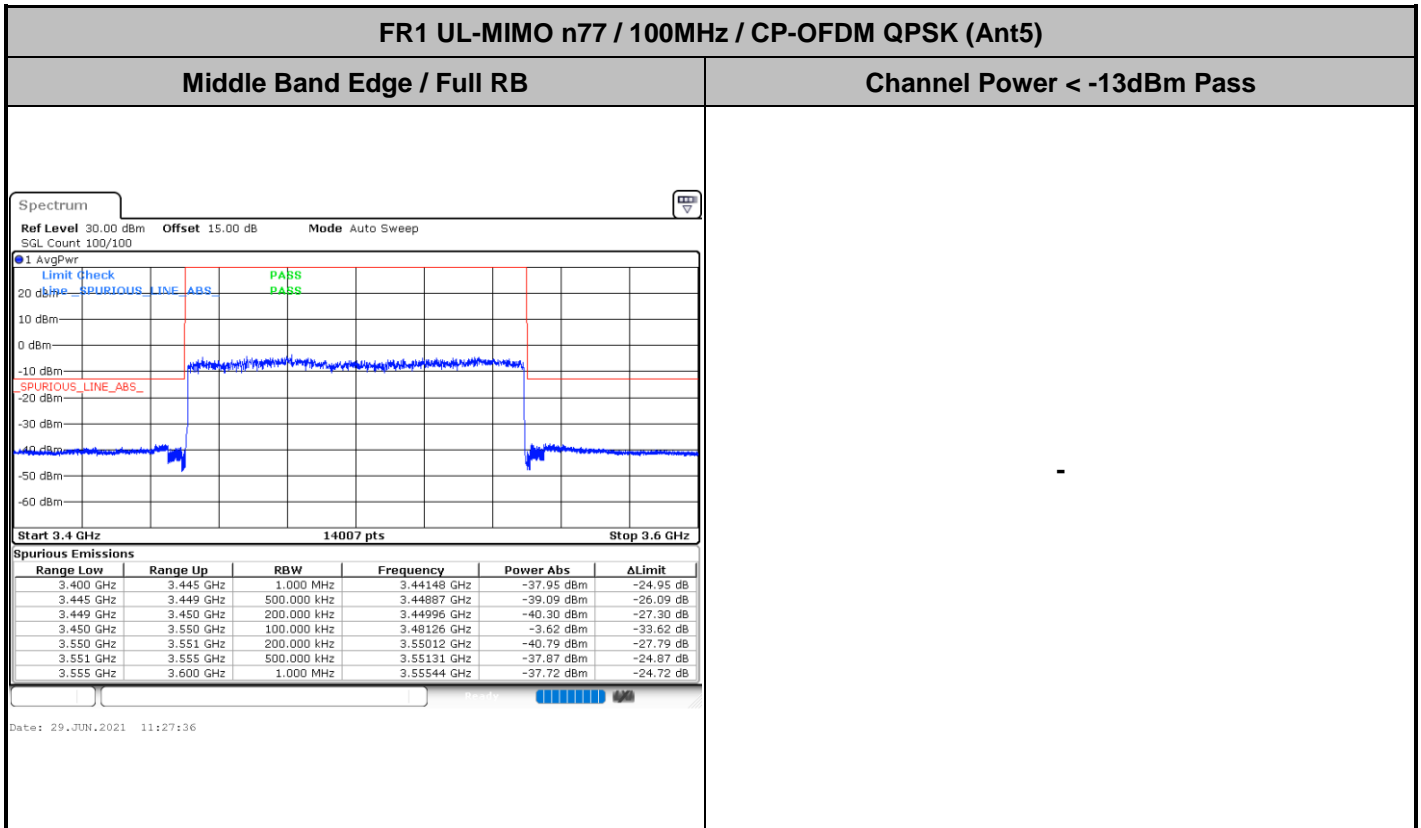
Middle Band Edge / Full RB

Channel Power < -13dBm Pass



Date: 28 JUN 2021 14:34:27





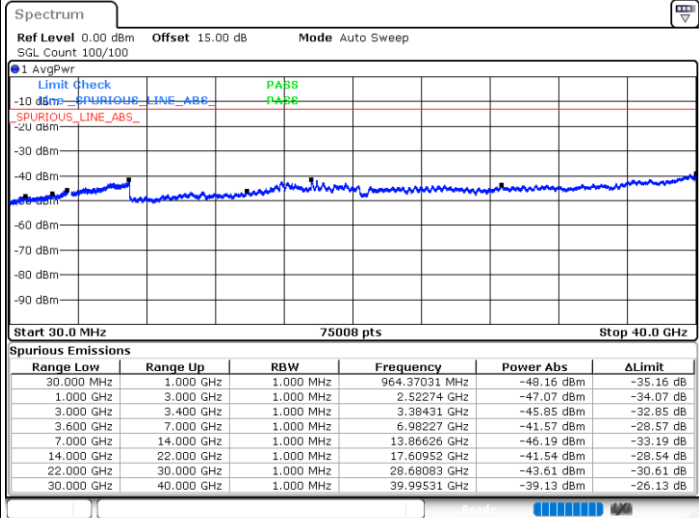
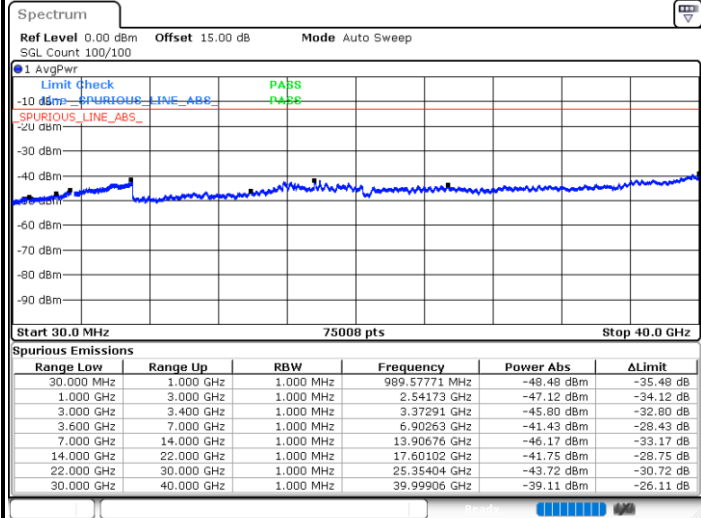


Conducted Spurious Emission

FR1 UL-MIMO n77 / 20MHz / CP-OFDM QPSK (ANT3)

Lowest Channel / 1RB

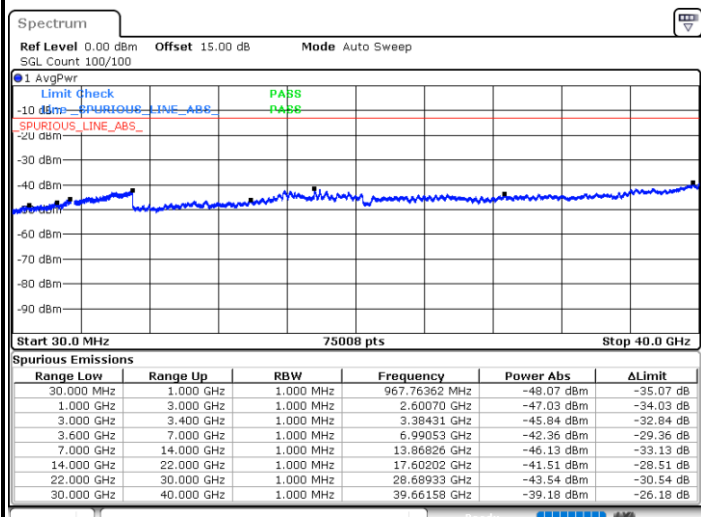
Middle Channel / 1RB



Date: 28 JUN.2021 13:52:57

Date: 28 JUN.2021 13:59:40

Highest Channel / 1RB



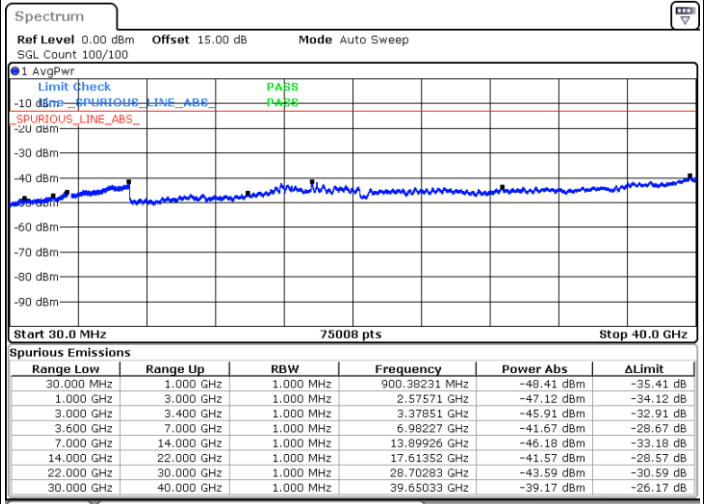
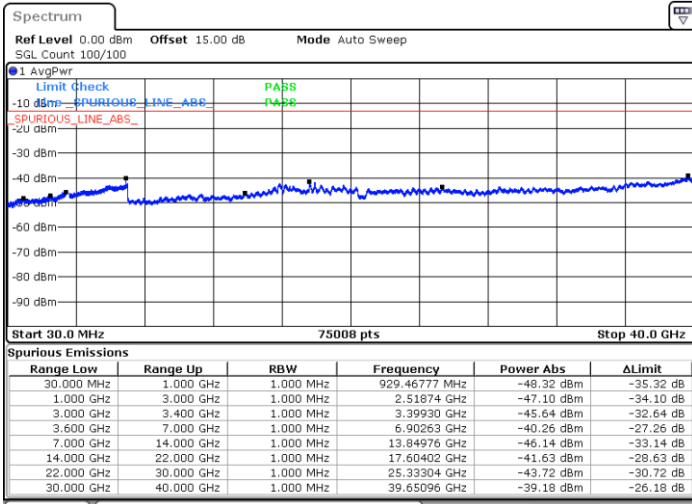
Date: 28 JUN.2021 14:05:22



FR1 UL-MIMO n77 / 20MHz / CP-OFDM QPSK (Ant5)

Lowest Channel / 1RB

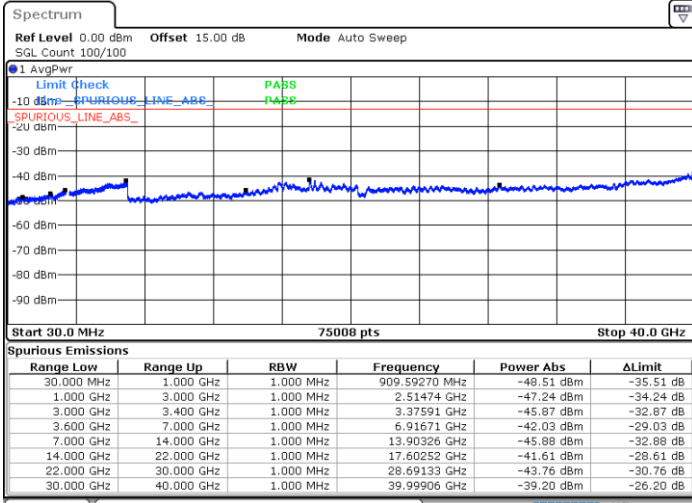
Middle Channel / 1RB



Date: 29.JUN.2021 10:42:15

Date: 29.JUN.2021 11:12:12

Highest Channel / 1RB



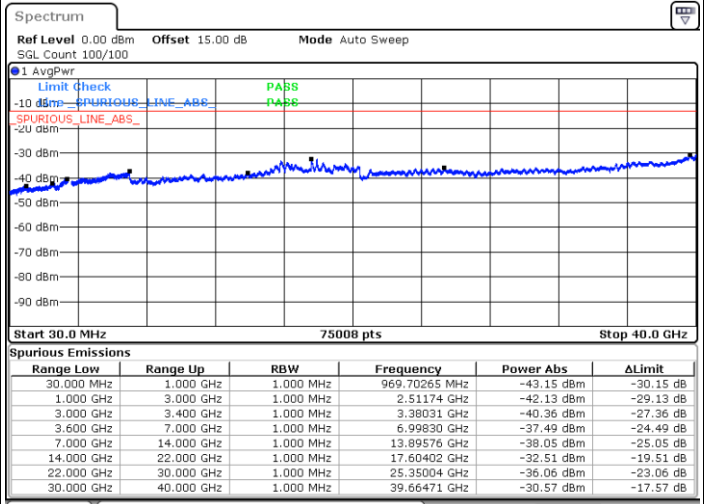
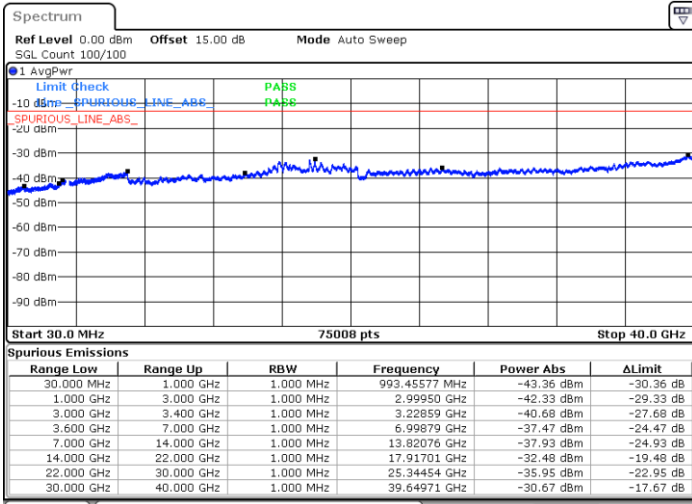
Date: 29.JUN.2021 11:07:39



FR1 UL-MIMO n77 / 60MHz / CP-OFDM QPSK (ANT3)

Lowest Channel / 1RB

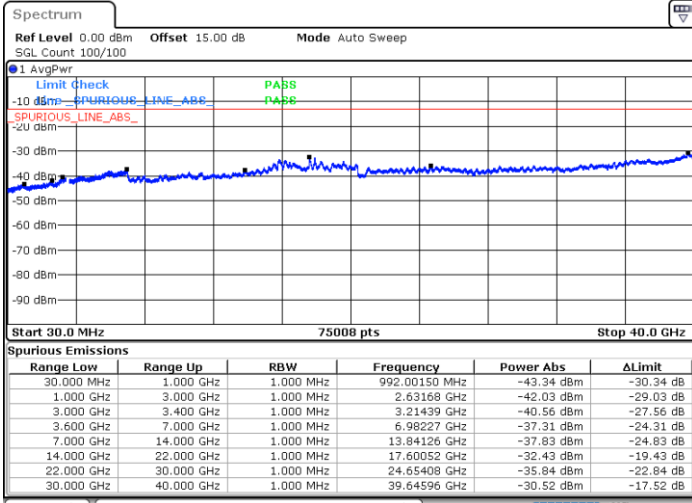
Middle Channel / 1RB



Date: 28.JUN.2021 14:12:35

Date: 28.JUN.2021 14:16:44

Highest Channel / 1RB



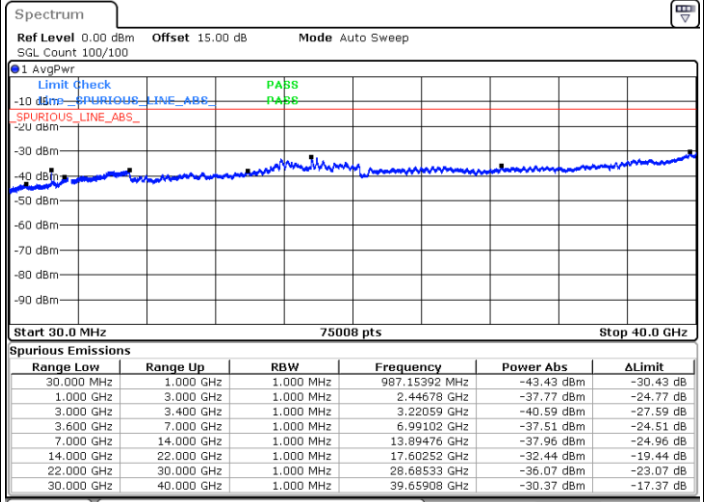
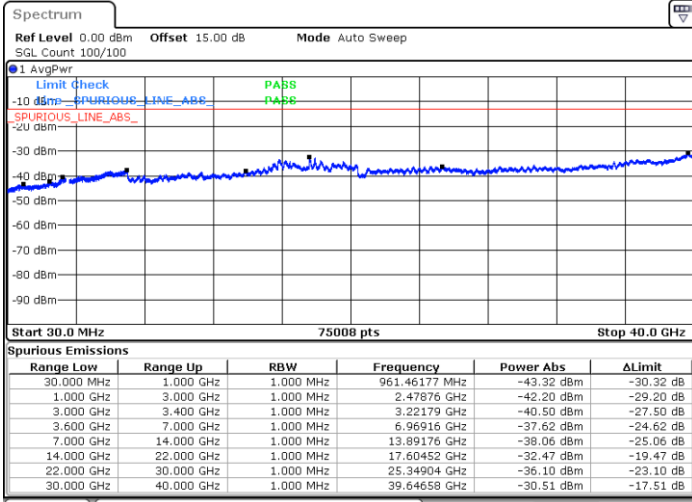
Date: 28.JUN.2021 14:22:17



FR1 UL-MIMO n77 / 60MHz / CP-OFDM QPSK (Ant5)

Lowest Channel / 1RB

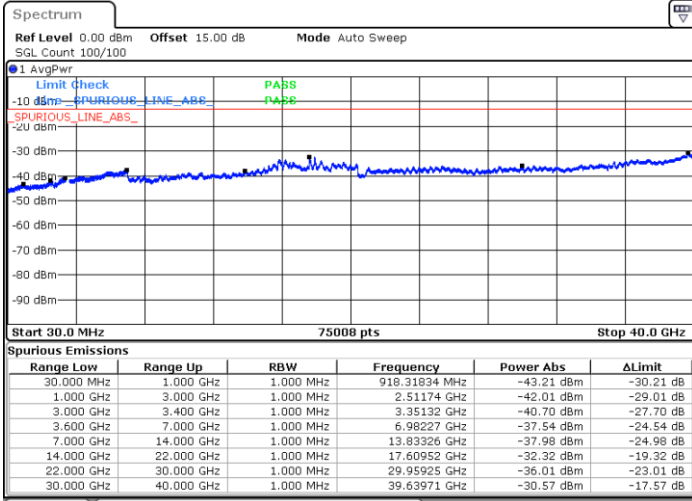
Middle Channel / 1RB



Date: 29.JUN.2021 11:18:03

Date: 29.JUN.2021 11:13:44

Highest Channel / 1RB

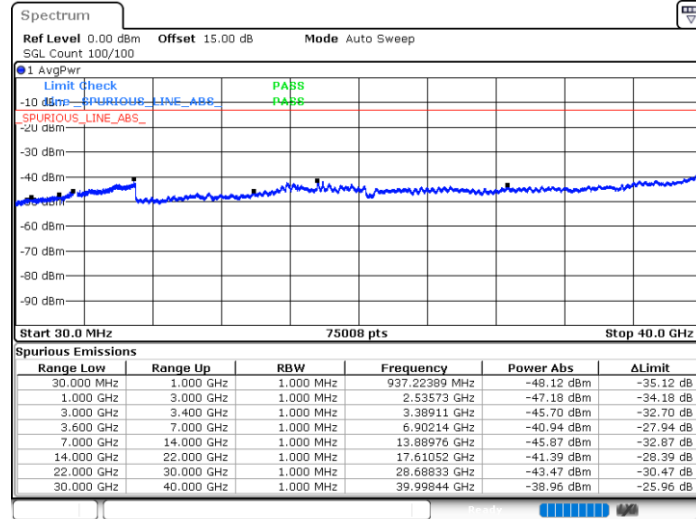


Date: 29.JUN.2021 11:21:43



FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (ANT3)

Middle Channel / 1RB

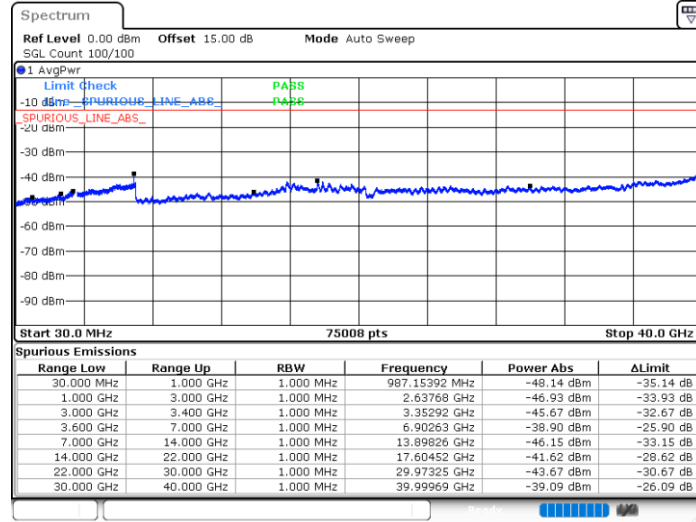


Date: 28 JUN 2021 14:25:32



FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (Ant5)

Middle Channel / 1RB



Date: 29 JUN 2021 11:26:00

Frequency Stability

Test Conditions		NR UL-MIMO n77 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0028	PASS
40	Normal Voltage	0.0034	
30	Normal Voltage	0.0081	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0102	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0034	
-20	Normal Voltage	0.0004	
-30	Normal Voltage	0.0001	
20	Maximum Voltage	0.0014	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0085	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

SA n77 / 100MHz / DFTs OFDM-QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n77 Middle	7582.90	-54.57	-13	-41.57	-79.10	-60.13	7.16	12.72	H
	11374.35	-47.27	-13	-34.27	-78.98	-50.57	8.33	11.63	H
	15165.80	-46.12	-13	-33.12	-81.19	-47.72	10.50	12.10	H
	7582.90	-54.41	-13	-41.41	-78.9	-59.97	7.16	12.72	V
	11374.35	-48.00	-13	-35.00	-79.44	-51.30	8.33	11.63	V
	15165.80	-46.93	-13	-33.93	-81.35	-48.53	10.50	12.10	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

SA n77 / 100MHz / DFTs OFDM-QPSK / UL MIMO									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n77 Middle	7582.90	-54.40	-13	-41.40	-78.93	-59.96	7.16	12.72	H
	11374.35	-47.11	-13	-34.11	-78.82	-50.41	8.33	11.63	H
	15165.80	-43.73	-13	-30.73	-78.80	-45.33	10.50	12.10	H
	7582.90	-54.40	-13	-41.40	-78.89	-59.96	7.16	12.72	V
	11374.35	-47.65	-13	-34.65	-79.09	-50.95	8.33	11.63	V
	15165.80	-44.19	-13	-31.19	-78.61	-45.79	10.50	12.10	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

EN-DC_66A_n77A / LTE 10MHz + NR 100MHz / DFTs OFDM-QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n77 Middle	7582.90	-54.41	-13	-41.41	-78.94	-57.71	8.30	11.60	H
	11374.35	-47.47	-13	-34.47	-79.18	-48.99	10.48	12.00	H
	15165.80	-44.55	-13	-31.55	-79.62	-46.25	11.80	13.50	H
	7582.90	-54.55	-13	-41.55	-79.04	-57.85	8.30	11.60	V
	11374.35	-47.24	-13	-34.24	-78.68	-48.76	10.48	12.00	V
	15165.80	-44.65	-13	-31.65	-79.07	-46.35	11.80	13.50	V
LTE Band66 Middle	3472.00	-61.26	-13	-48.26	-76.64	-68.11	5.65	12.50	H
	5208.00	-60.03	-13	-47.03	-79.36	-65.70	7.13	12.80	H
	6944.00	-55.16	-13	-42.16	-79.09	-58.56	8.40	11.80	H
	3472.00	-61.32	-13	-48.32	-76.72	-68.17	5.65	12.50	V
	5208.00	-59.36	-13	-46.36	-78.94	-65.03	7.13	12.80	V
	6944.00	-54.84	-13	-41.84	-79.24	-58.24	8.40	11.80	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Appendix D. Reference Report

Please refer to Sporton report number FG151701-01H which is issued separately.