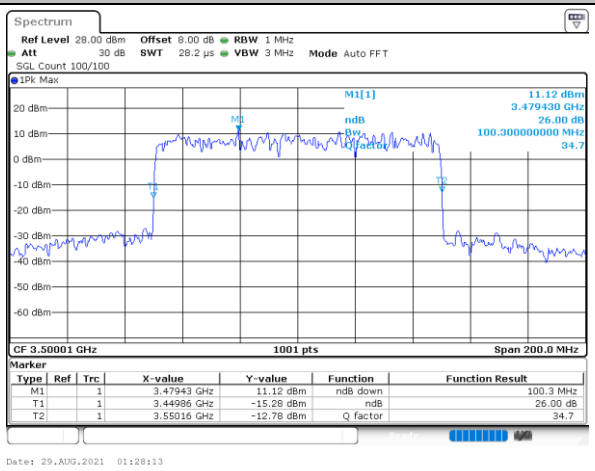
FR1 UL-MIMO n77 / 100MHz / CP-OFDM (Port 2)

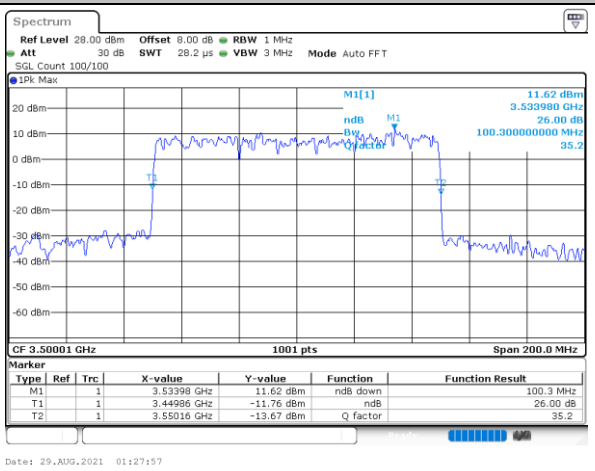
QPSK

Middle Channel



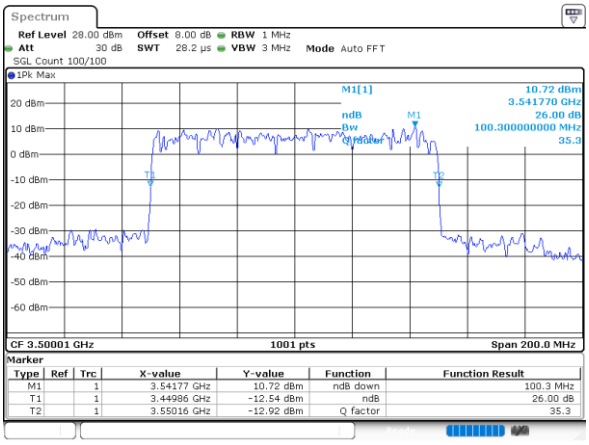
16QAM

Middle Channel



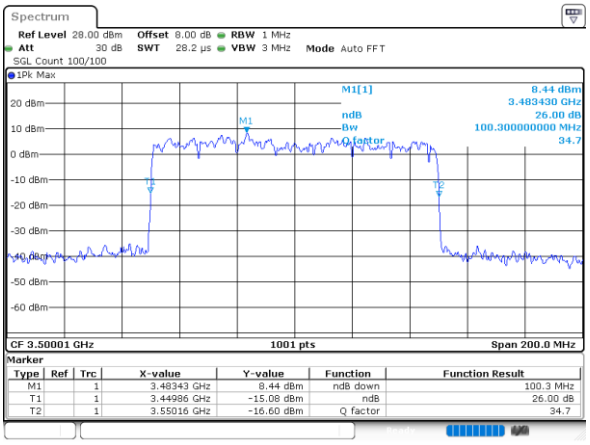
64QAM

Middle Channel



256QAM

Middle Channel



Occupied Bandwidth

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	Port 1				Port 2			
BW	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	8.57	8.59	8.57	8.57	8.57	8.57	8.59	8.59

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	Port 1				Port 2			
BW	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	13.55	13.61	13.61	13.58	13.37	13.58	13.58	13.61

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	Port 1				Port 2			
BW	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	18.18	18.22	18.22	18.22	18.34	18.18	18.22	18.30

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	Port 1				Port 2			
BW	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	37.96	38.20	37.96	38.36	38.04	38.12	37.88	38.04

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	Port 1				Port 2			
BW	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	47.15	47.85	47.65	47.65	47.65	46.95	47.75	47.55

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	Port 1				Port 2			
BW	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	57.90	58.02	58.14	58.14	58.02	57.90	57.78	58.38

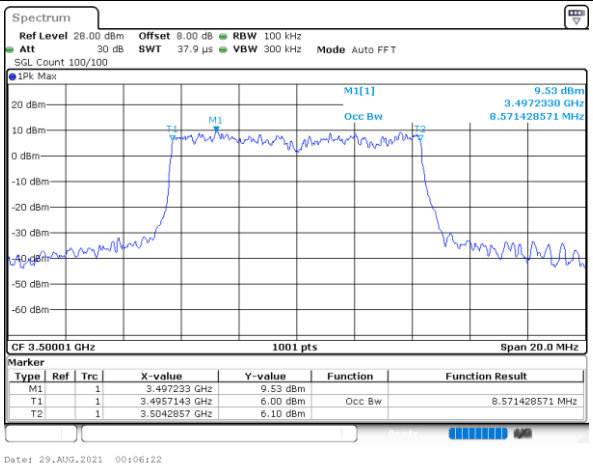
Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	Port 1				Port 2			
BW	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	77.36	77.52	77.36	77.52	77.52	77.68	77.20	77.20

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	Port 1				Port 2			
BW	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	97.10	97.30	97.50	97.50	97.10	97.10	96.70	96.90

FR1 UL-MIMO n77 / 10MHz / CP-OFDM (Port 1)

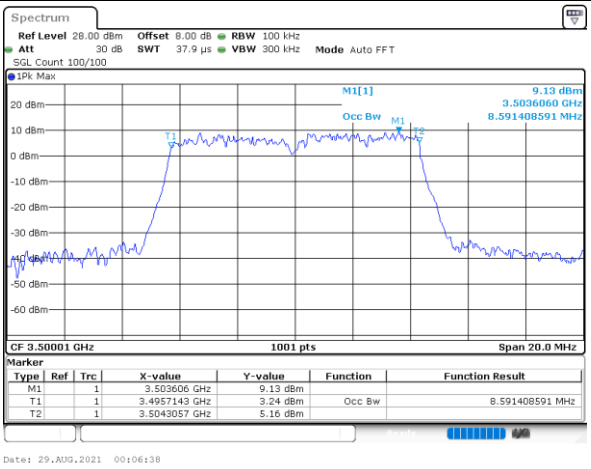
QPSK

Middle Channel



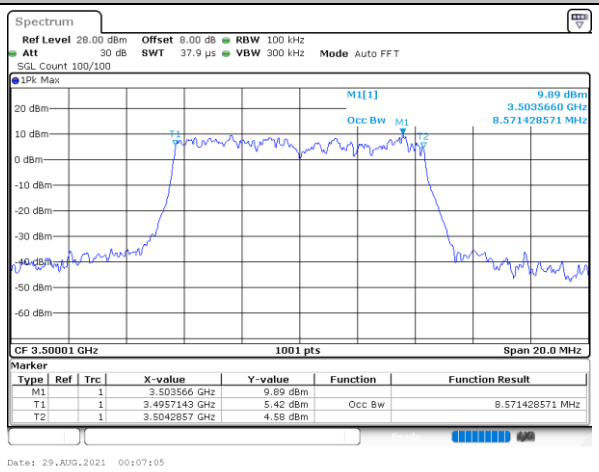
16QAM

Middle Channel



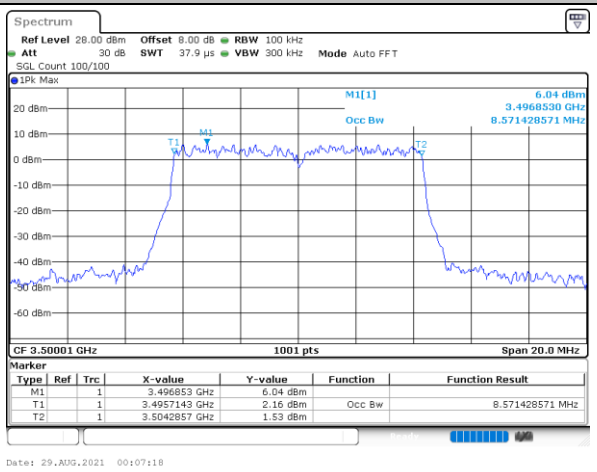
64QAM

Middle Channel



256QAM

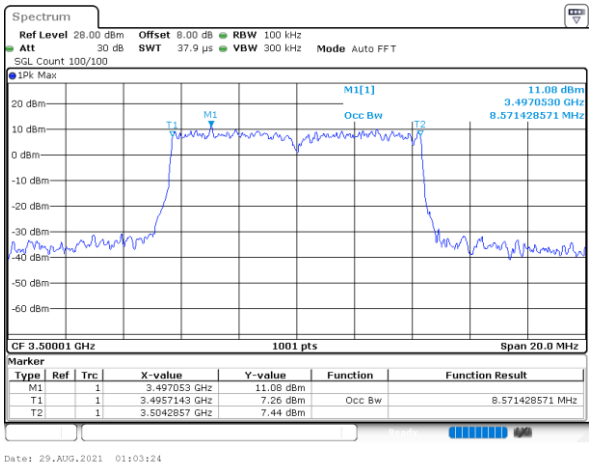
Middle Channel



FR1 UL-MIMO n77 / 10MHz / CP-OFDM (Port 2)

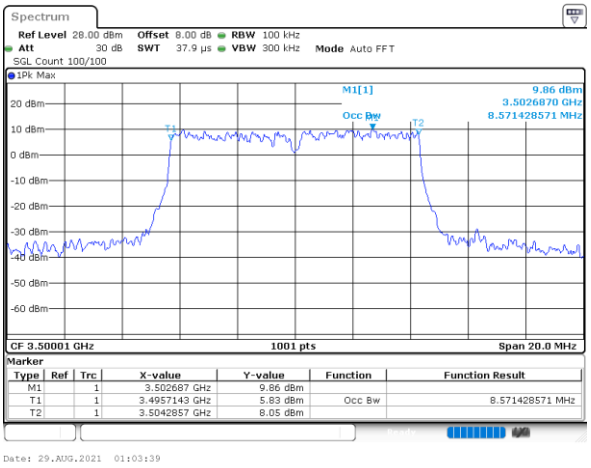
QPSK

Middle Channel



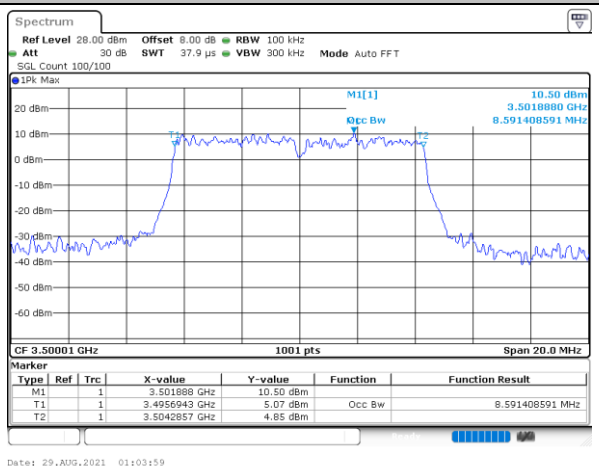
16QAM

Middle Channel



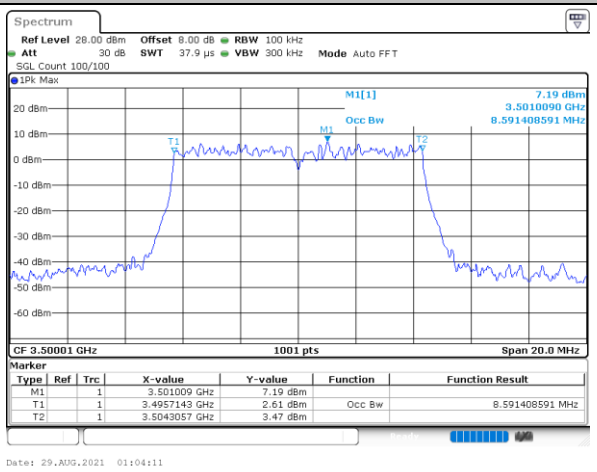
64QAM

Middle Channel



256QAM

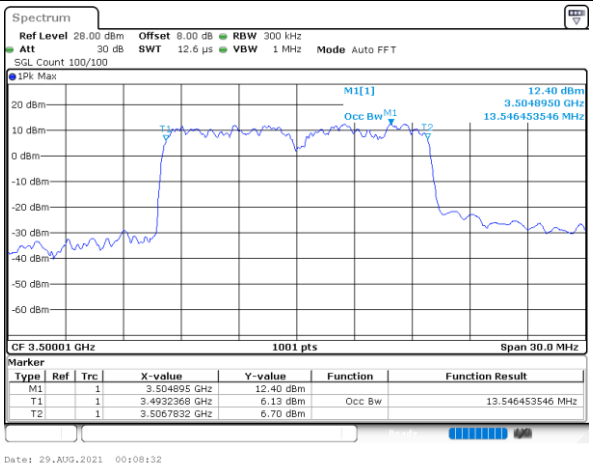
Middle Channel



FR1 UL-MIMO n77 / 15MHz / CP-OFDM (Port 1)

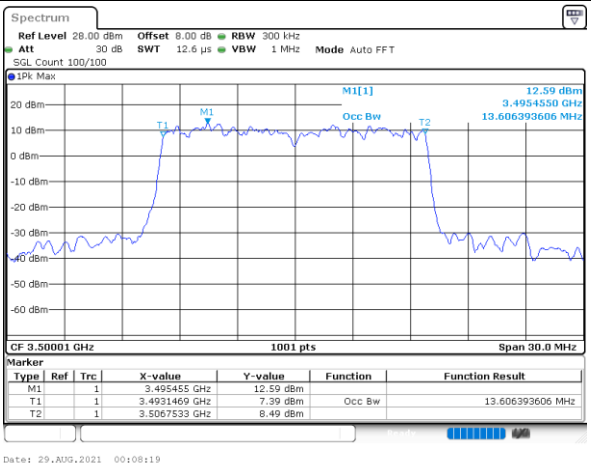
QPSK

Middle Channel



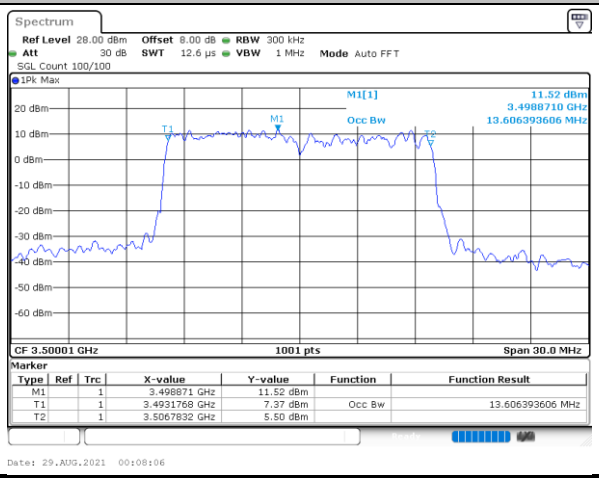
16QAM

Middle Channel



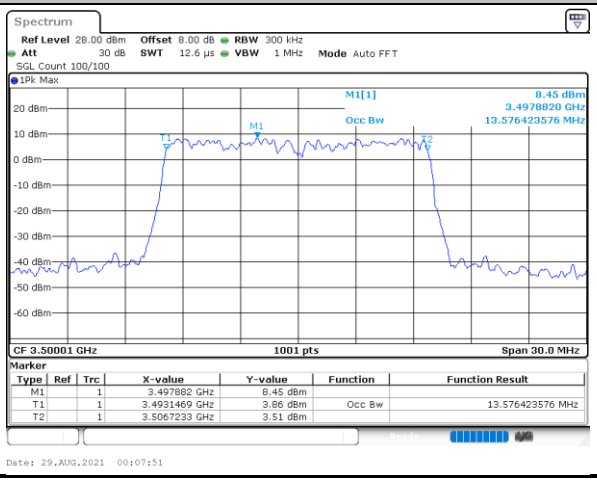
64QAM

Middle Channel



256QAM

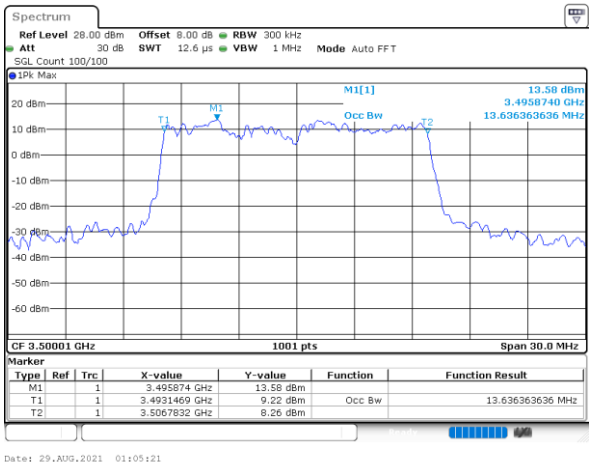
Middle Channel



FR1 UL-MIMO n77 / 15MHz / CP-OFDM (Port 2)

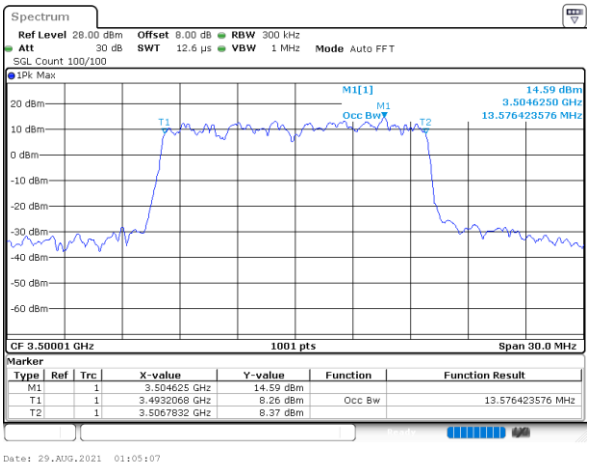
QPSK

Middle Channel



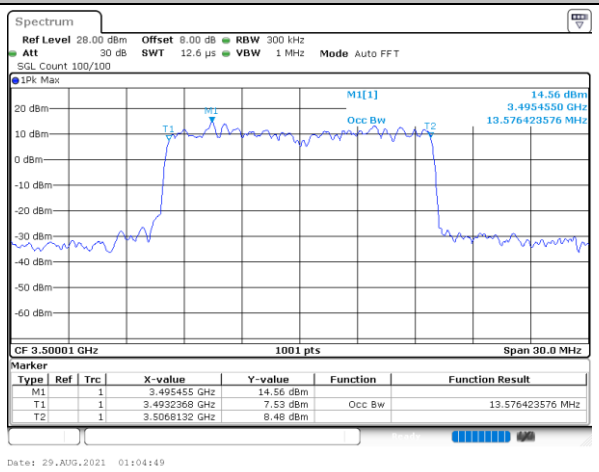
16QAM

Middle Channel



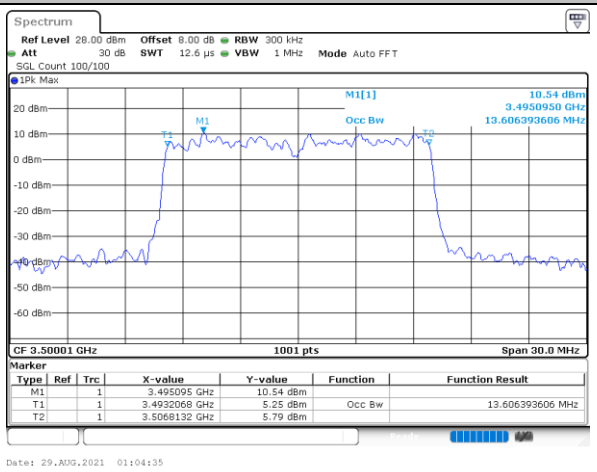
64QAM

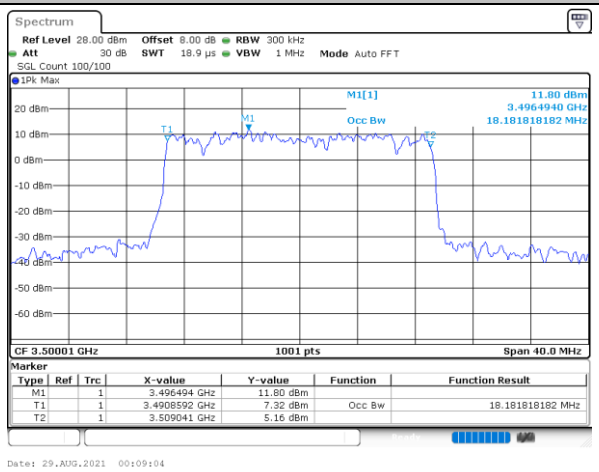
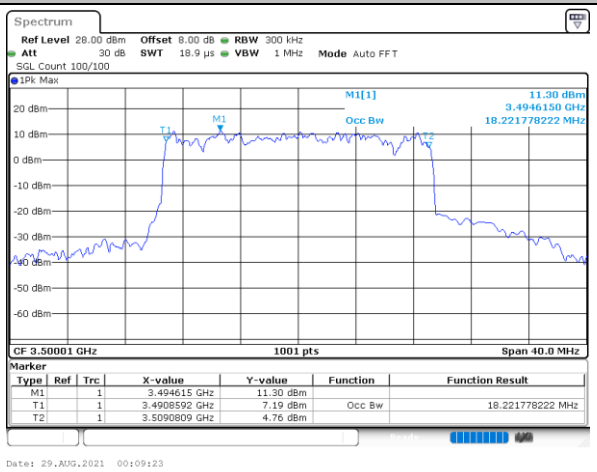
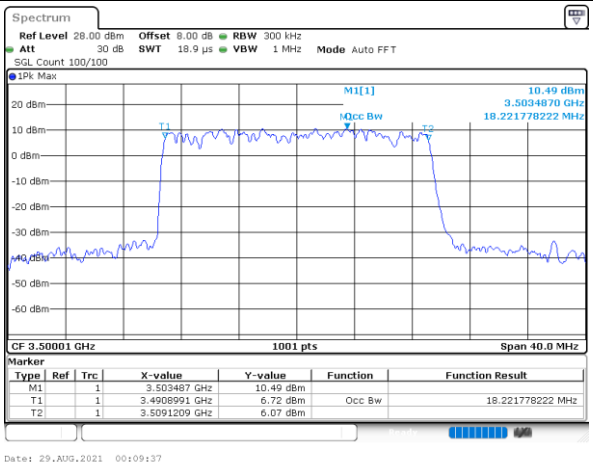
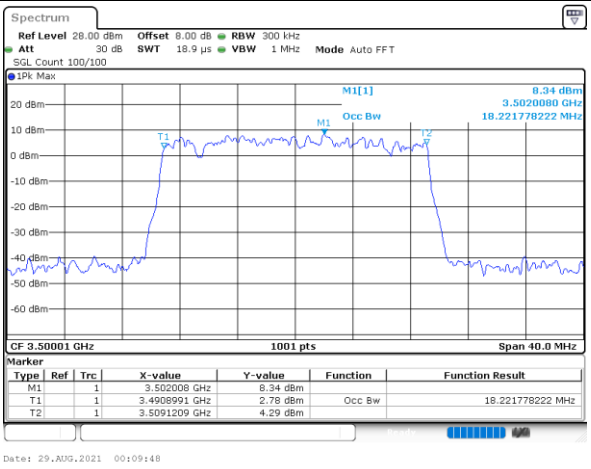
Middle Channel



256QAM

Middle Channel

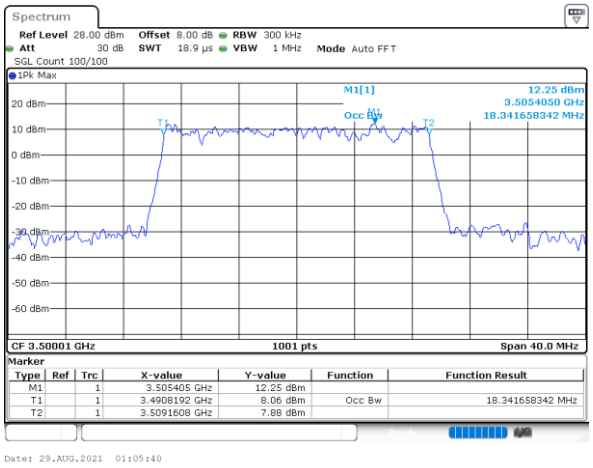


FR1 UL-MIMO n77 / 20MHz / CP-OFDM (Port 1)	
QPSK	**16QAM**
Middle Channel	**Middle Channel**
	
64QAM	**256QAM**
Middle Channel	**Middle Channel**
	

FR1 UL-MIMO n77 / 20MHz / CP-OFDM (Port 2)

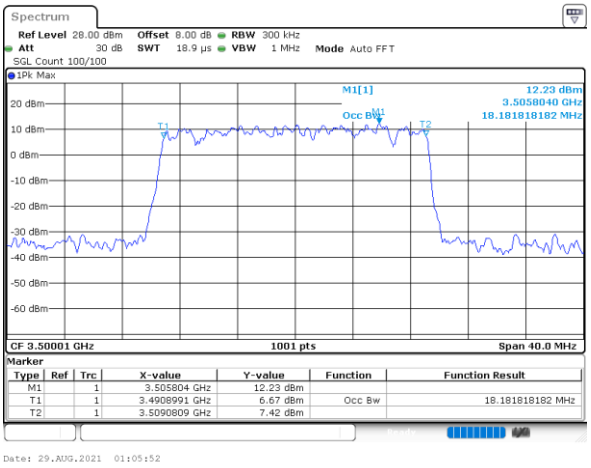
QPSK

Middle Channel



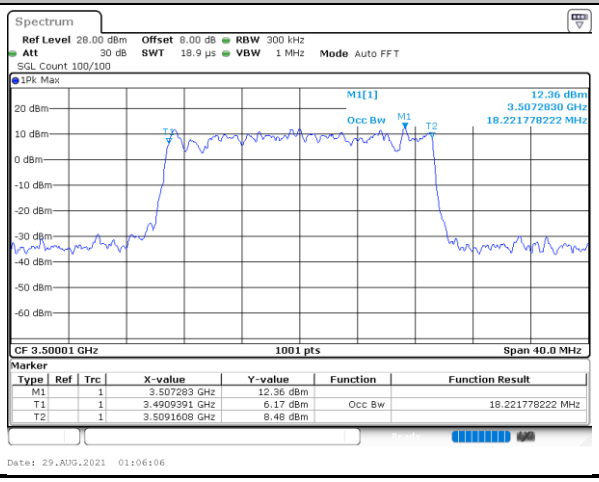
16QAM

Middle Channel



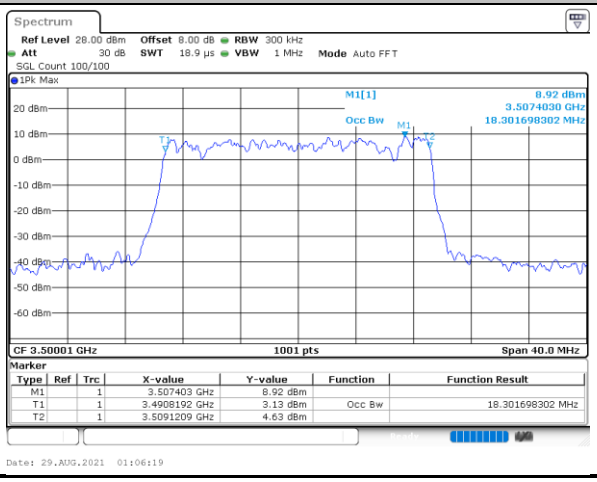
64QAM

Middle Channel



256QAM

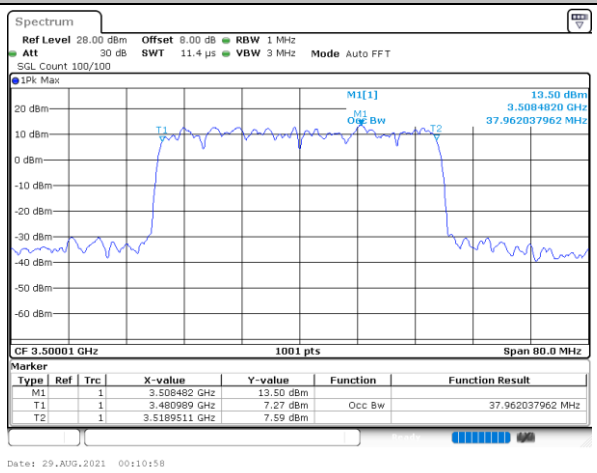
Middle Channel



FR1 UL-MIMO n77 / 40MHz / CP-OFDM (Port 1)

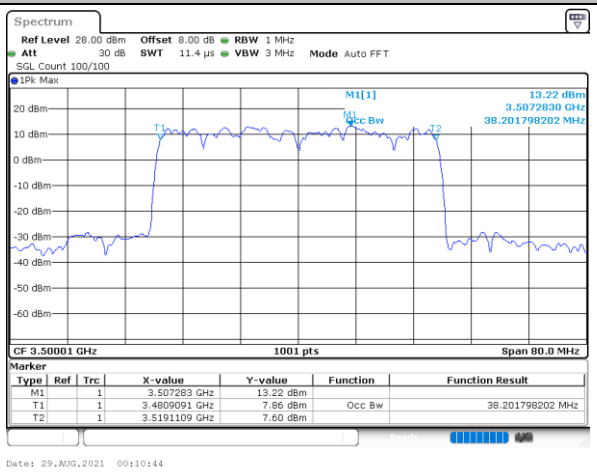
QPSK

Middle Channel



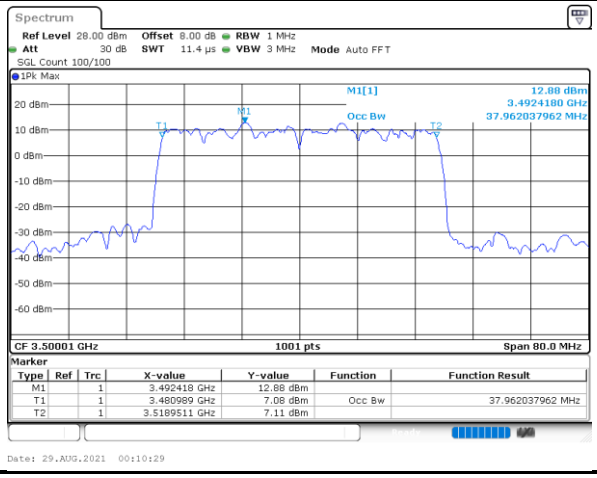
16QAM

Middle Channel



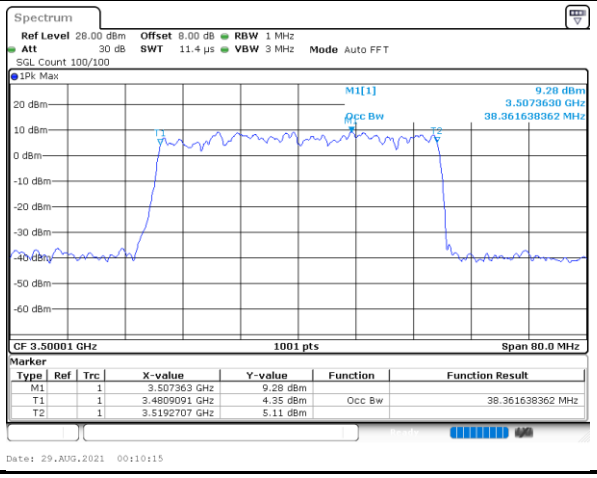
64QAM

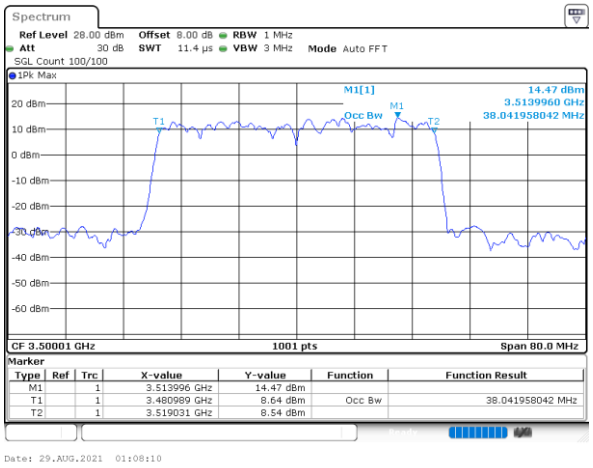
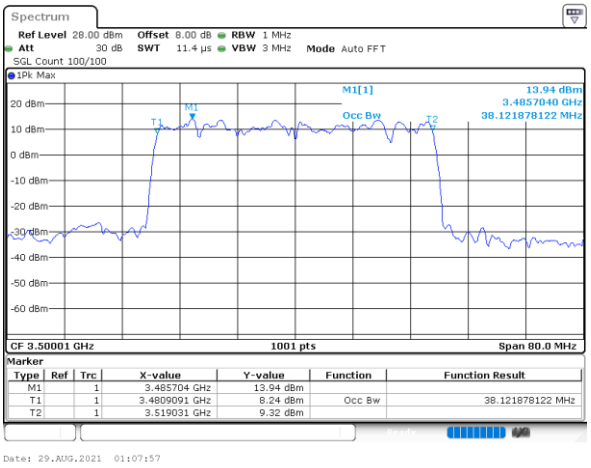
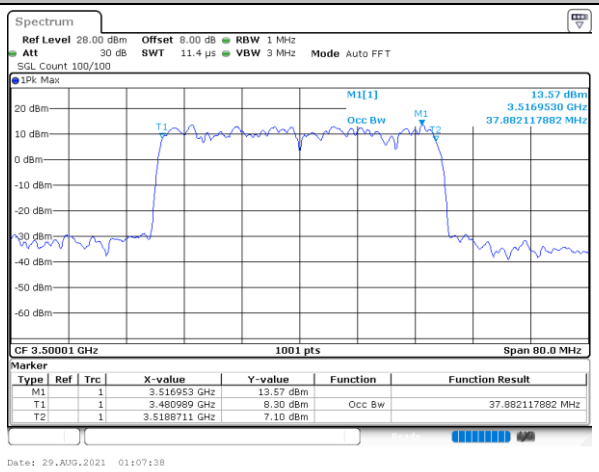
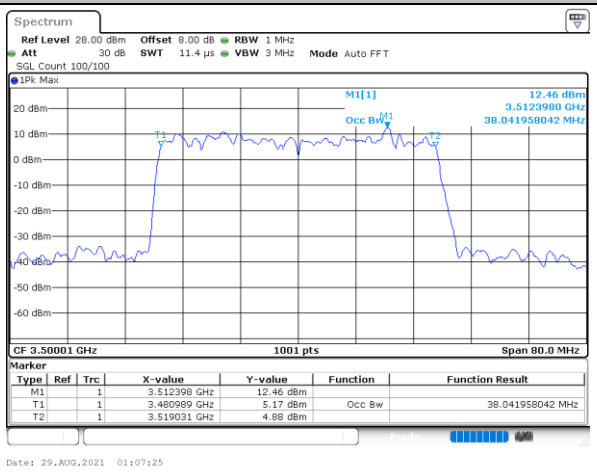
Middle Channel



256QAM

Middle Channel

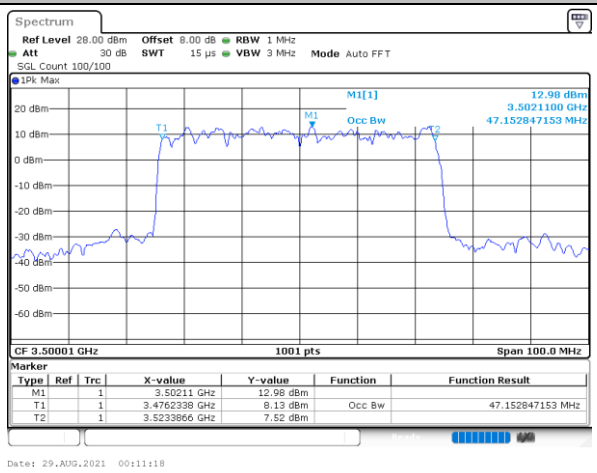


FR1 UL-MIMO n77 / 40MHz / CP-OFDM (Port 2)	
QPSK	**16QAM**
Middle Channel	**Middle Channel**
	
64QAM	**256QAM**
Middle Channel	**Middle Channel**
	

FR1 UL-MIMO n77 / 50MHz / CP-OFDM (Port 1)

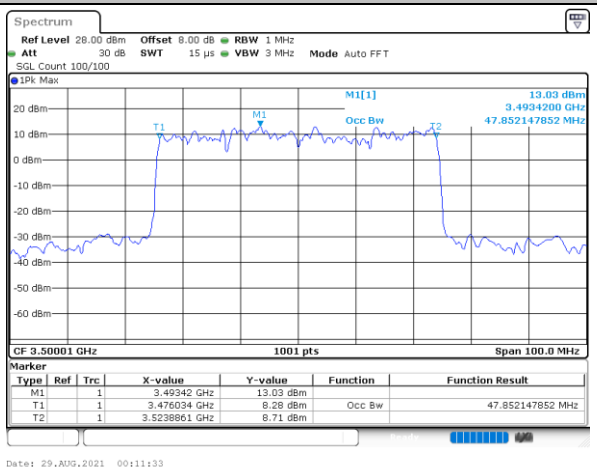
QPSK

Middle Channel



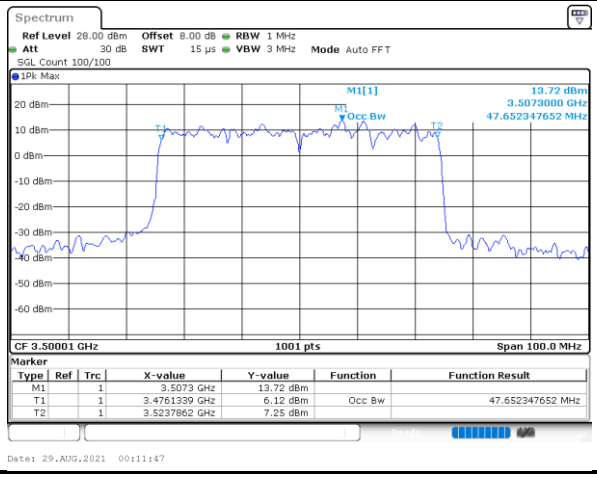
16QAM

Middle Channel



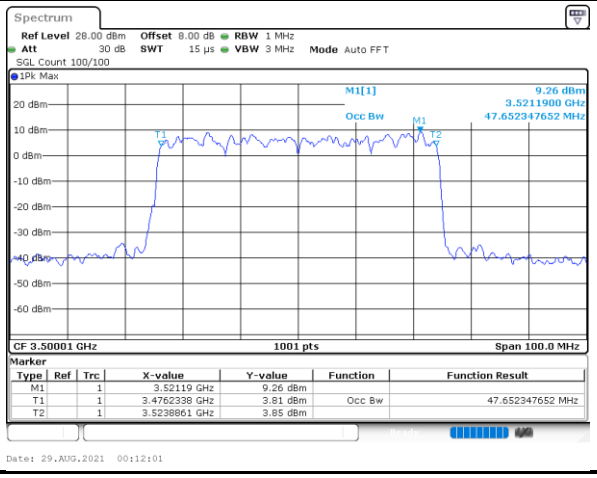
64QAM

Middle Channel



256QAM

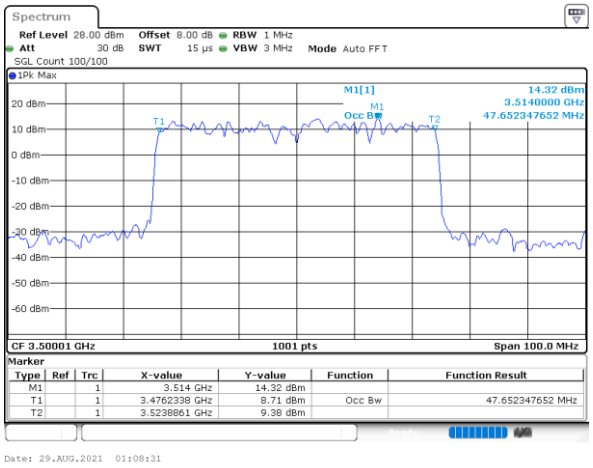
Middle Channel



FR1 UL-MIMO n77 / 50MHz / CP-OFDM (Port 2)

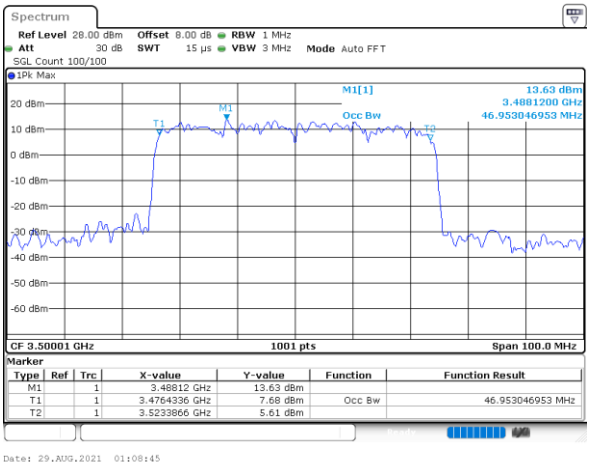
QPSK

Middle Channel



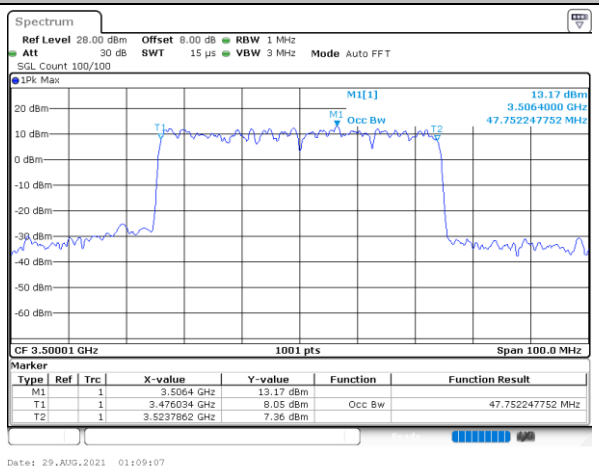
16QAM

Middle Channel



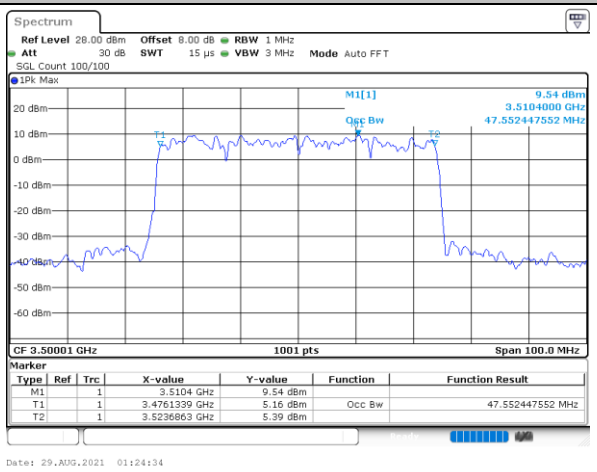
64QAM

Middle Channel



256QAM

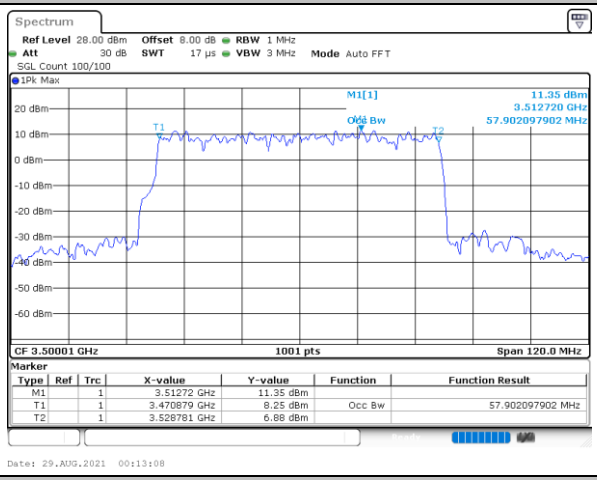
Middle Channel



FR1 UL-MIMO n77 / 60MHz / CP-OFDM (Port 1)

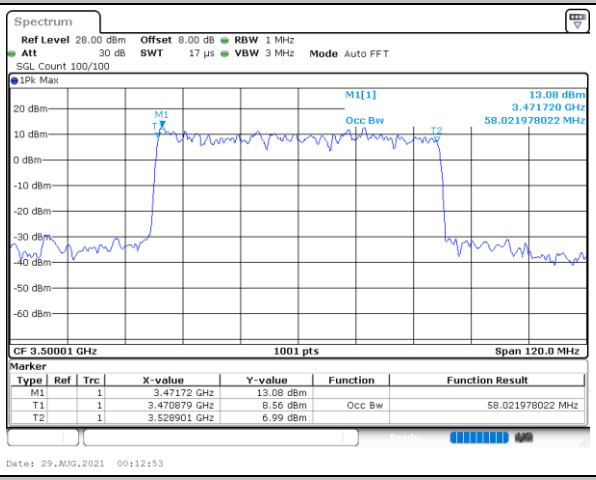
QPSK

Middle Channel



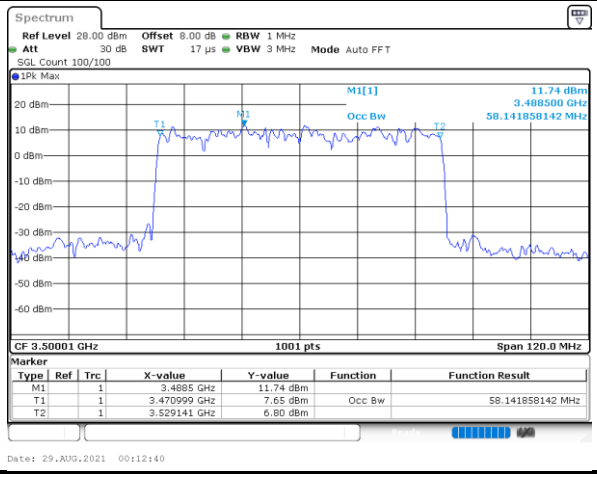
16QAM

Middle Channel



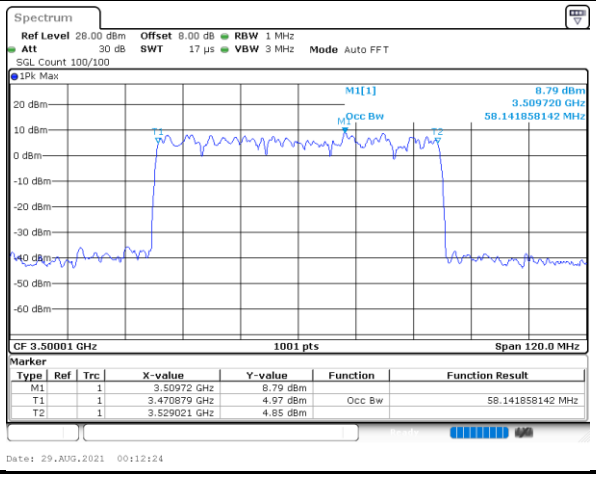
64QAM

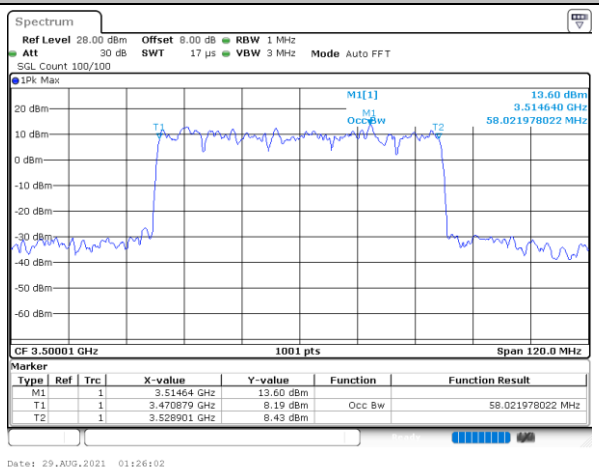
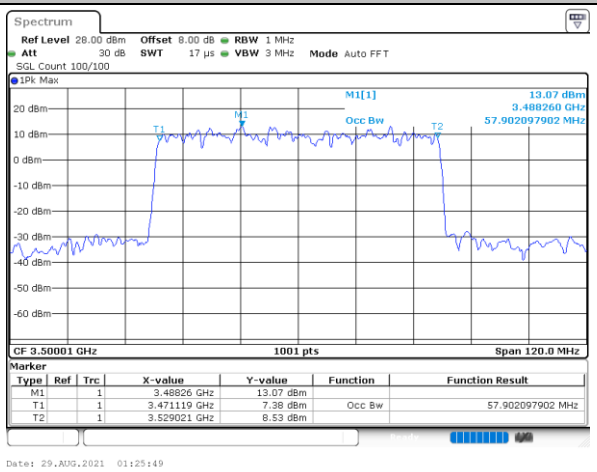
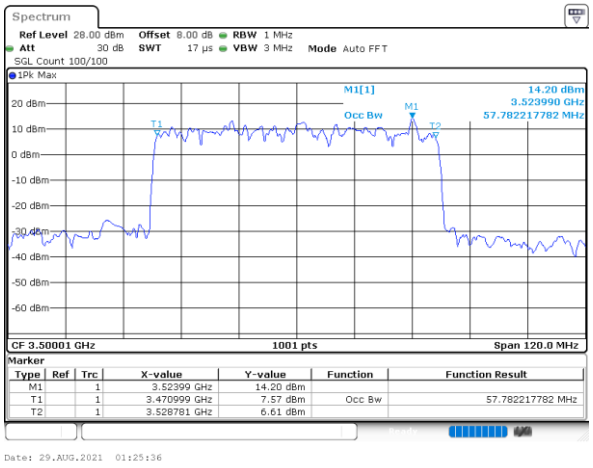
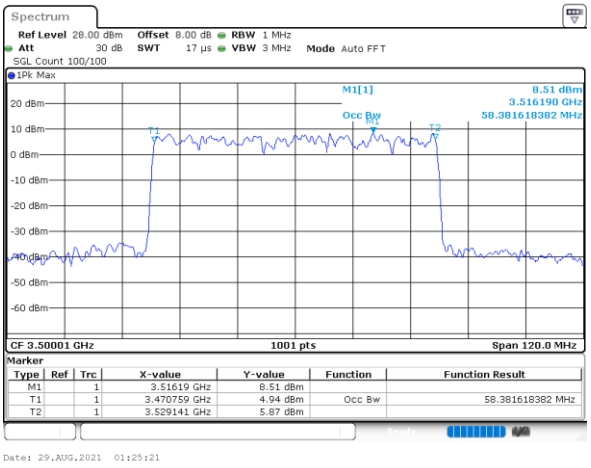
Middle Channel

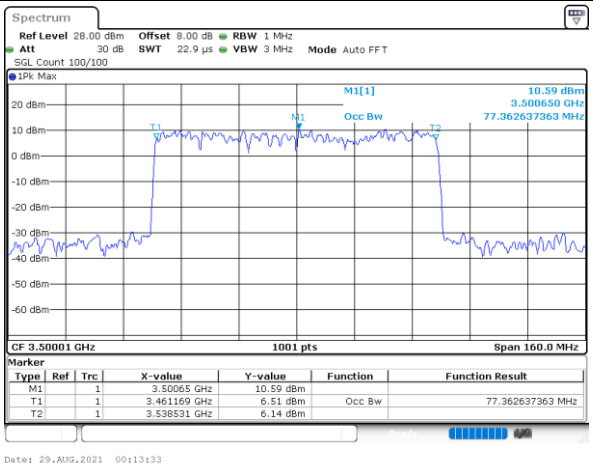
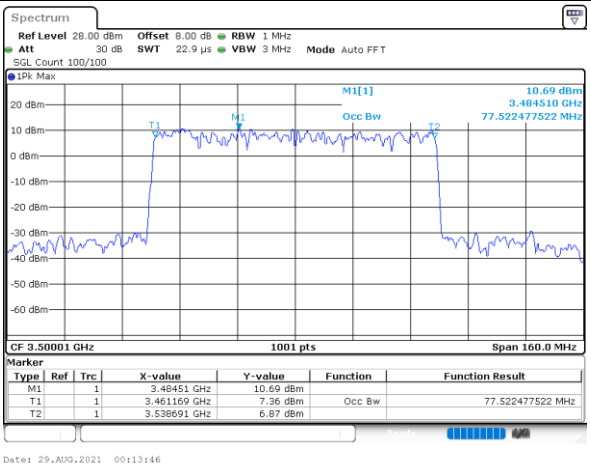
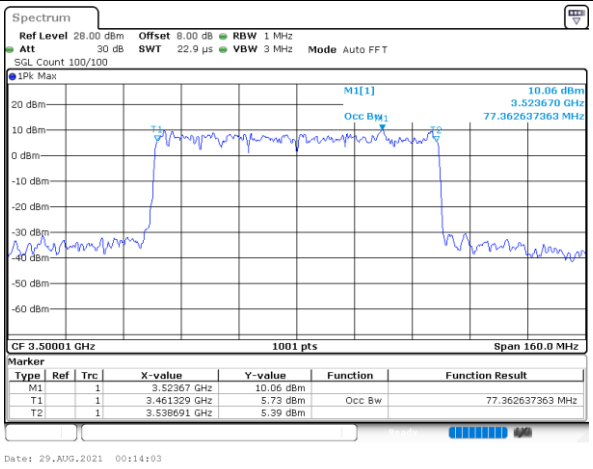
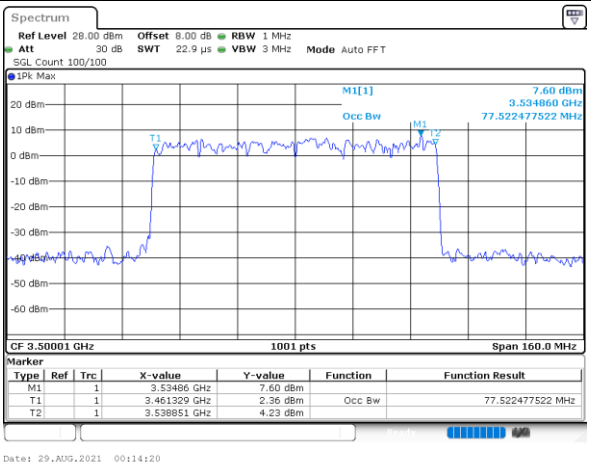


256QAM

Middle Channel



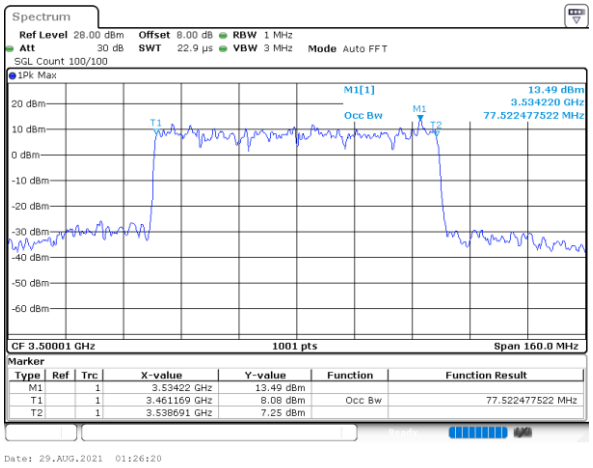
FR1 UL-MIMO n77 / 60MHz / CP-OFDM (Port 2)	
QPSK	**16QAM**
Middle Channel	**Middle Channel**
	
64QAM	**256QAM**
Middle Channel	**Middle Channel**
	

FR1 UL-MIMO n77 / 80MHz / CP-OFDM (Port 1)	
QPSK	**16QAM**
Middle Channel	**Middle Channel**
	
64QAM	**256QAM**
Middle Channel	**Middle Channel**
	

FR1 UL-MIMO n77 / 80MHz / CP-OFDM (Port 2)

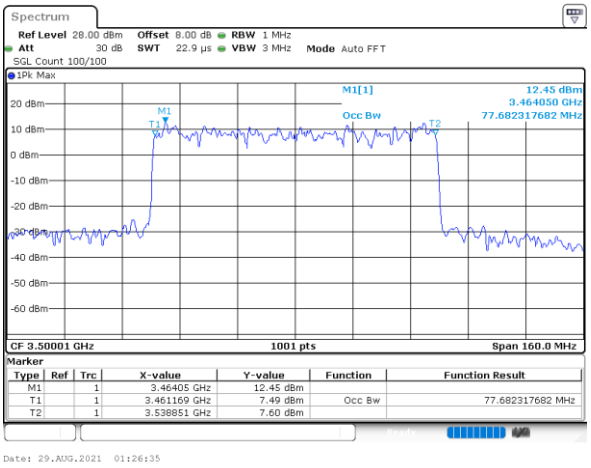
QPSK

Middle Channel



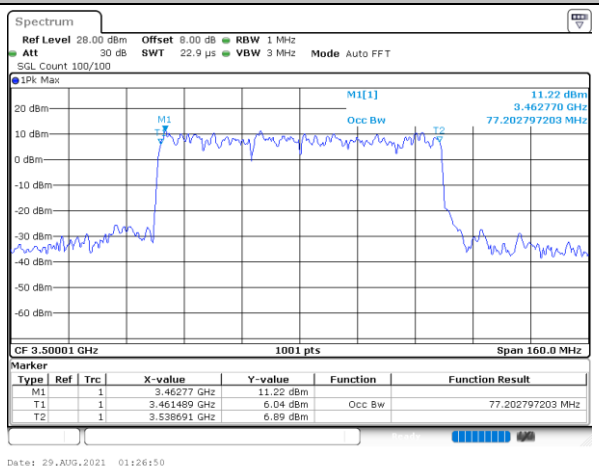
16QAM

Middle Channel



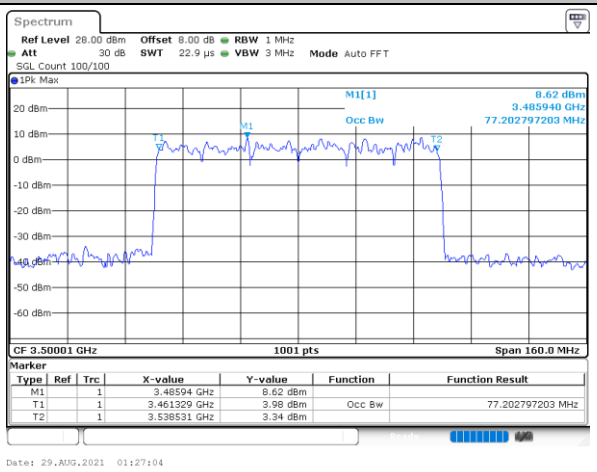
64QAM

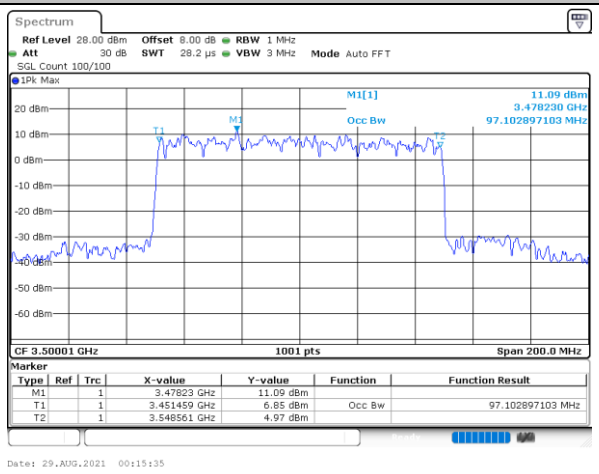
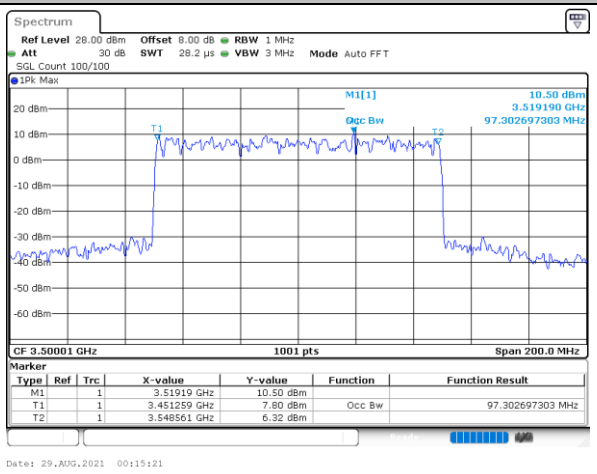
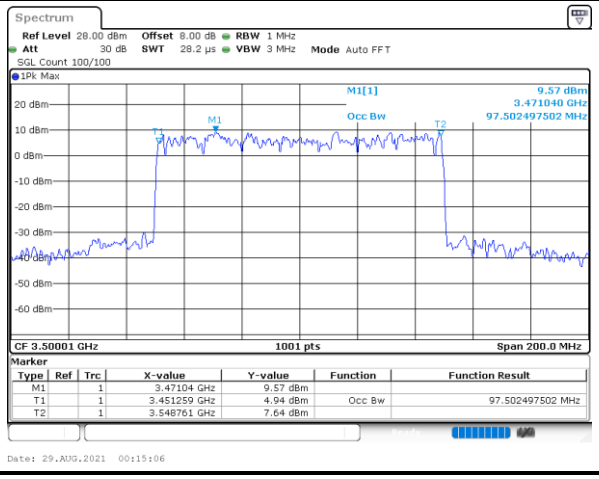
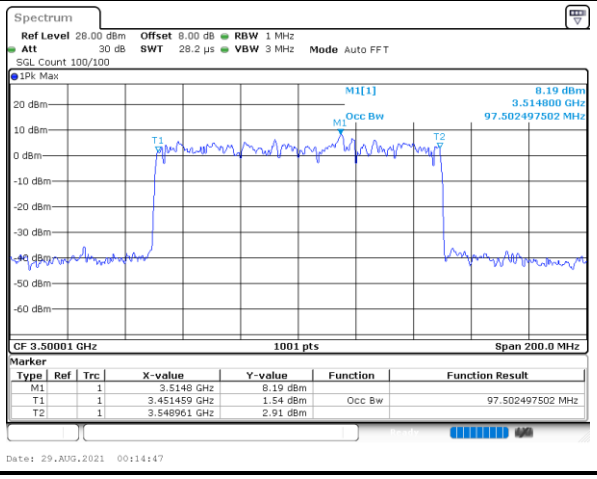
Middle Channel

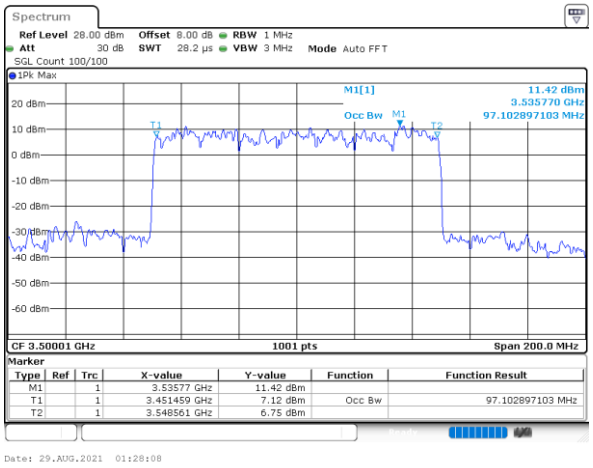
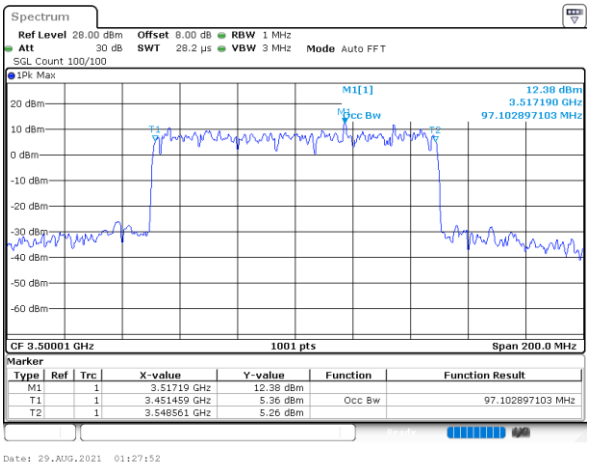
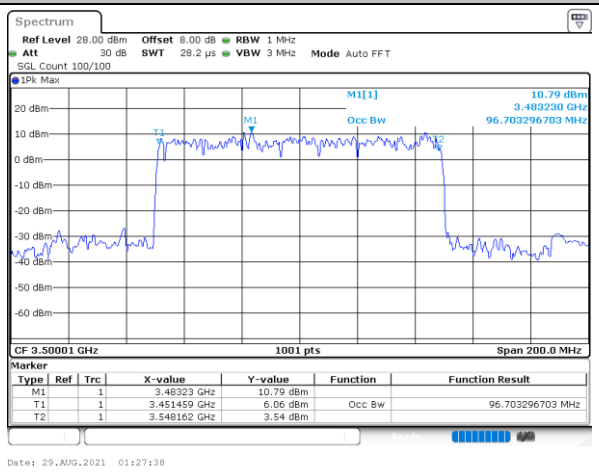
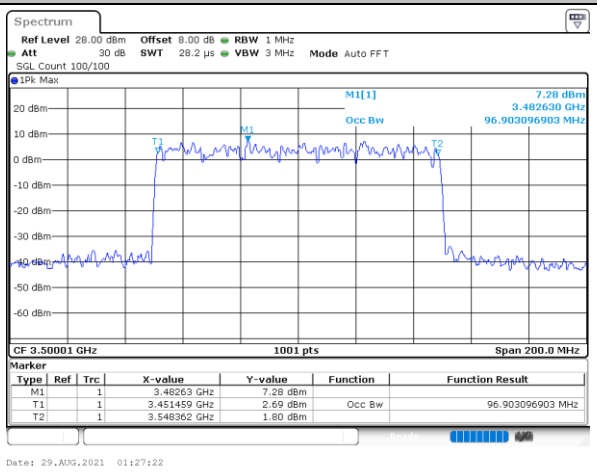


256QAM

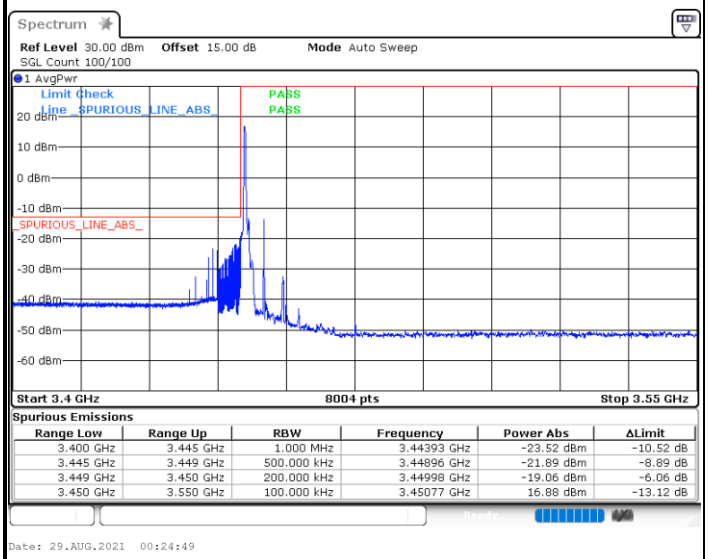
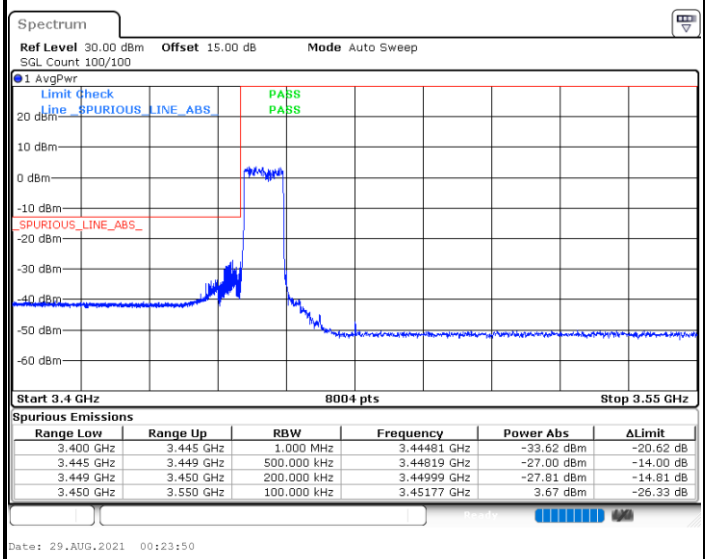
Middle Channel

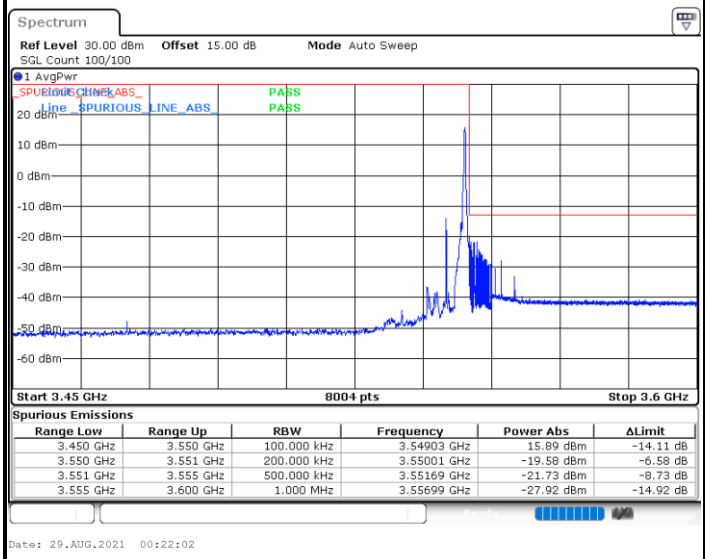
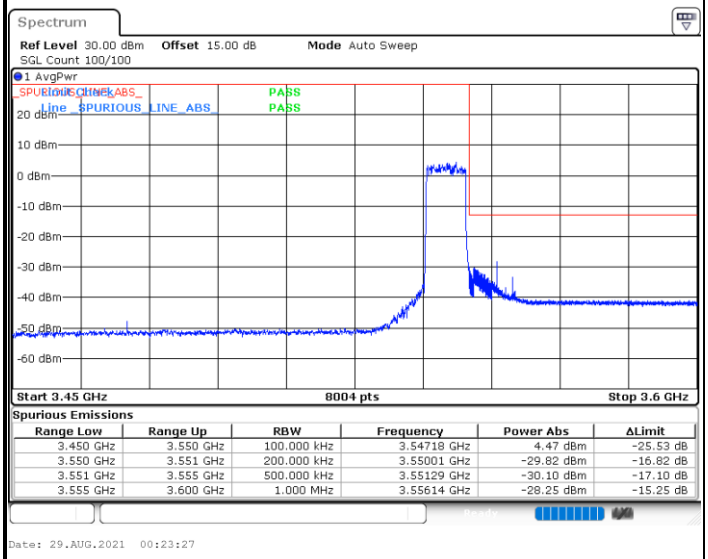


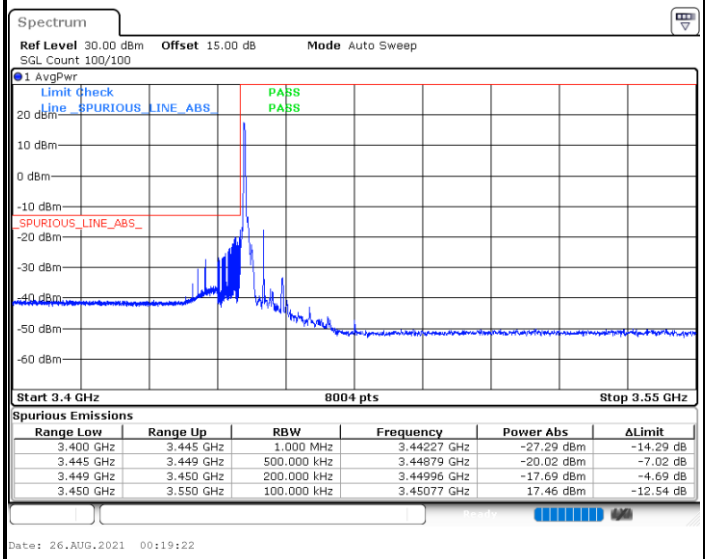
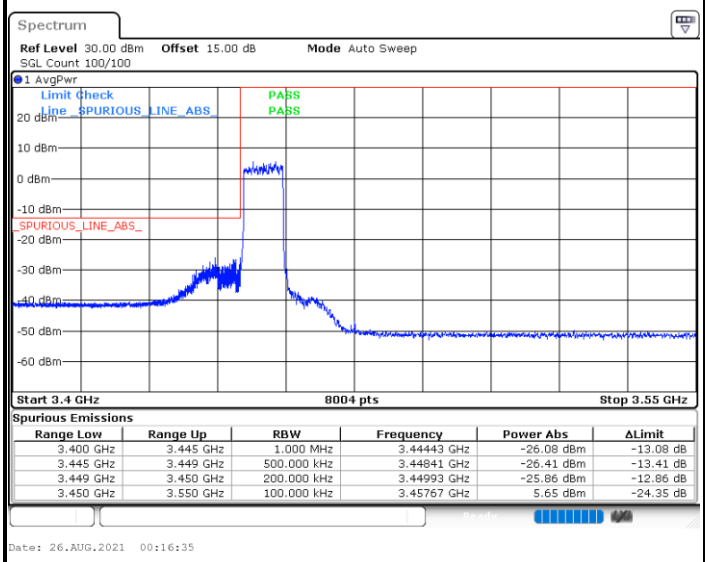
FR1 UL-MIMO n77 / 100MHz / CP-OFDM (Port 1)	
QPSK	**16QAM**
Middle Channel	**Middle Channel**
	
64QAM	**256QAM**
Middle Channel	**Middle Channel**
	

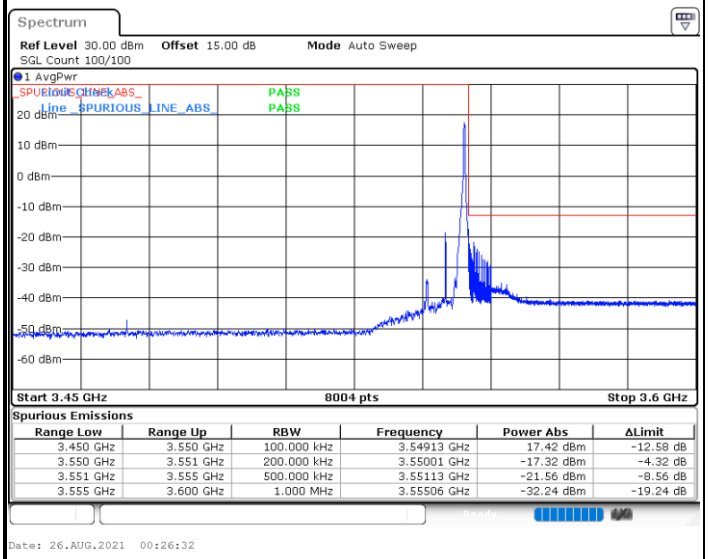
FR1 UL-MIMO n77 / 100MHz / CP-OFDM (Port 2)	
QPSK	**16QAM**
Middle Channel	**Middle Channel**
	
64QAM	**256QAM**
Middle Channel	**Middle Channel**
	

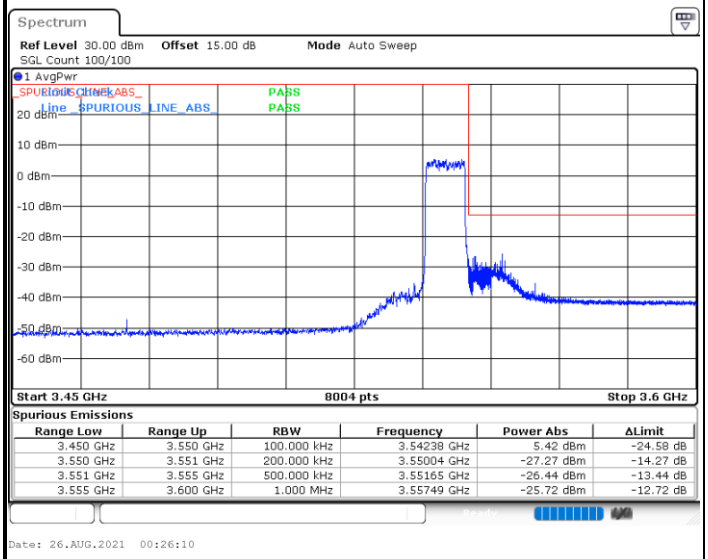
Conducted Band Edge

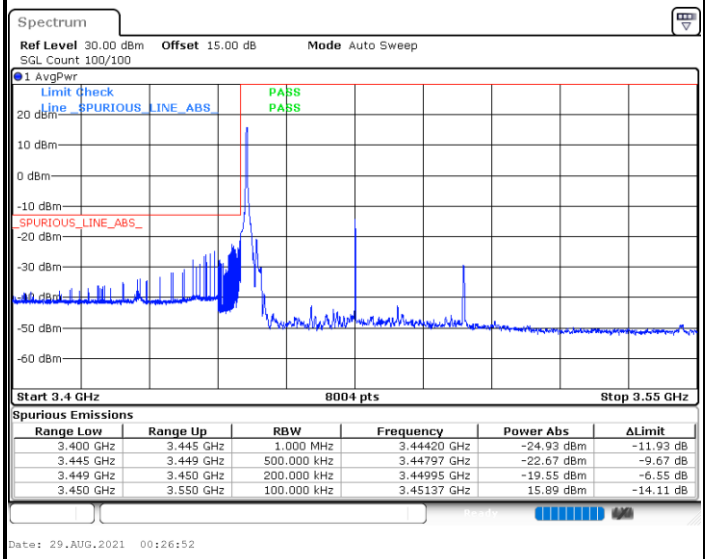
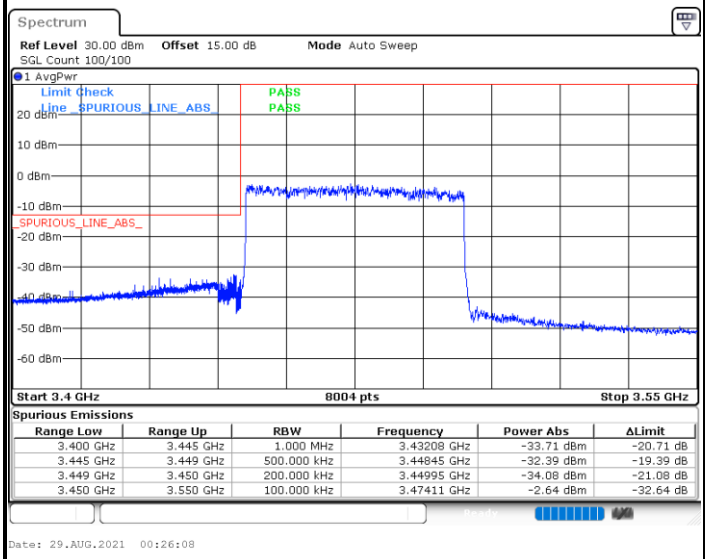
FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (Port 1)	
Lowest Band Edge / 1 RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.400 GHz / 3.445 GHz / 1.000 MHz / 3.44393 GHz / -23.52 dBm / -10.52 dB 3.445 GHz / 3.449 GHz / 500.000 kHz / 3.44896 GHz / -21.89 dBm / -8.89 dB 3.449 GHz / 3.450 GHz / 200.000 kHz / 3.44998 GHz / -19.06 dBm / -6.06 dB 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.45077 GHz / 16.88 dBm / -13.12 dB Date: 29.AUG.2021 00:24:49	/
Lowest Band Edge / Full RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.400 GHz / 3.445 GHz / 1.000 MHz / 3.44481 GHz / -33.62 dBm / -20.62 dB 3.445 GHz / 3.449 GHz / 500.000 kHz / 3.44819 GHz / -27.00 dBm / -14.00 dB 3.449 GHz / 3.450 GHz / 200.000 kHz / 3.44999 GHz / -27.81 dBm / -14.81 dB 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.45177 GHz / 3.67 dBm / -26.33 dB Date: 29.AUG.2021 00:23:50	/

FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (Port 1)	
Highest Band Edge / 1 RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.54903 GHz / 15.89 dBm / -14.11 dB 3.550 GHz / 3.551 GHz / 200.000 kHz / 3.55001 GHz / -19.58 dBm / -6.58 dB 3.551 GHz / 3.555 GHz / 500.000 kHz / 3.55169 GHz / -21.73 dBm / -8.73 dB 3.555 GHz / 3.600 GHz / 1.000 MHz / 3.55699 GHz / -27.92 dBm / -14.92 dB Date: 29.AUG.2021 00:22:02	/
Highest Band Edge / Full RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.54718 GHz / 4.47 dBm / -25.53 dB 3.550 GHz / 3.551 GHz / 200.000 kHz / 3.55001 GHz / -29.82 dBm / -16.82 dB 3.551 GHz / 3.555 GHz / 500.000 kHz / 3.55129 GHz / -30.10 dBm / -17.10 dB 3.555 GHz / 3.600 GHz / 1.000 MHz / 3.55614 GHz / -28.25 dBm / -15.25 dB Date: 29.AUG.2021 00:23:27	/

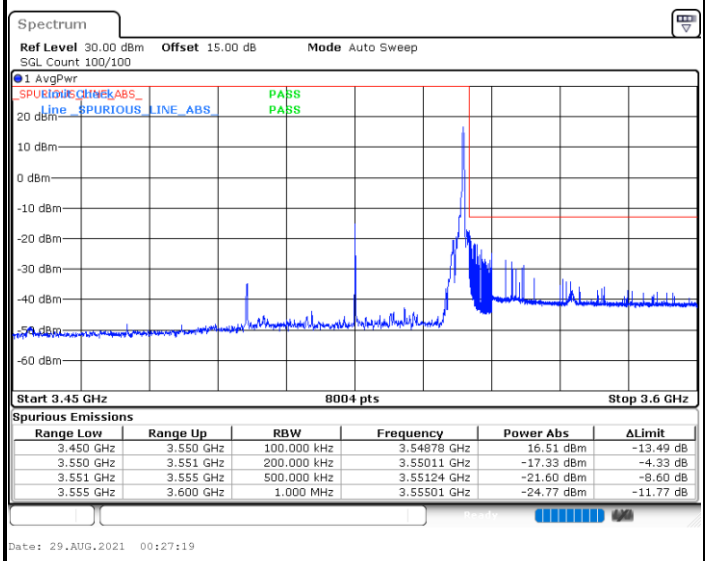
FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (Port 2)	
Lowest Band Edge / 1 RB	**Channel Power < -13dBm Pass**
	/
Lowest Band Edge / Full RB	**Channel Power < -13dBm Pass**
	/

FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (Port 2)	
Highest Band Edge / 1 RB	**Channel Power < -13dBm Pass**
	/

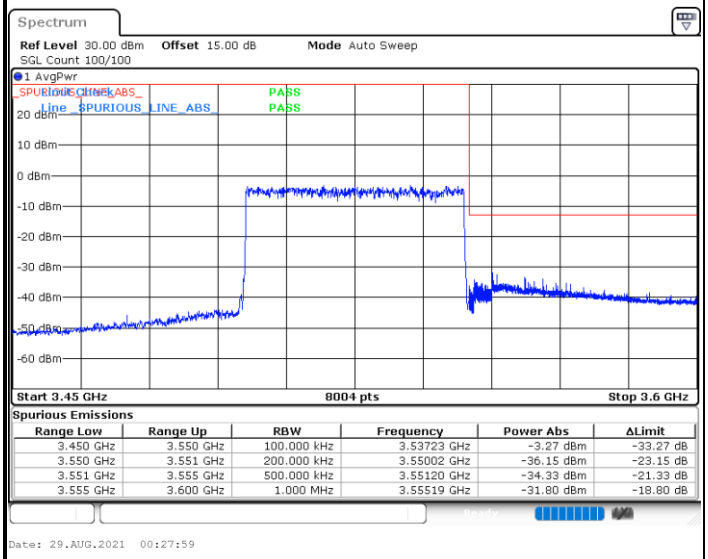
Highest Band Edge / Full RB	Channel Power < -13dBm Pass
	/

FR1 UL-MIMO n77 / 50MHz / CP-OFDM QPSK (Port 1)	
Lowest Band Edge / 1 RB	**Channel Power < -13dBm Pass**
	/
Lowest Band Edge / Full RB	**Channel Power < -13dBm Pass**
	/

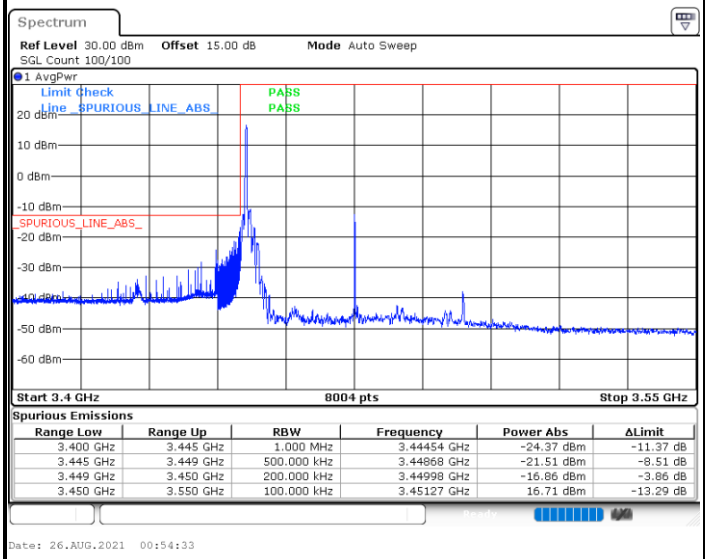
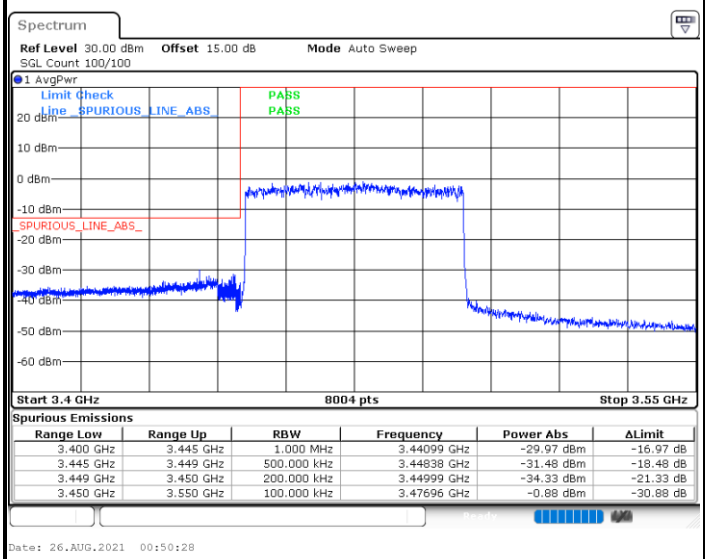
FR1 UL-MIMO n77 / 50MHz / CP-OFDM QPSK (Port 1)	
Highest Band Edge / 1 RB	**Channel Power < -13dBm Pass**

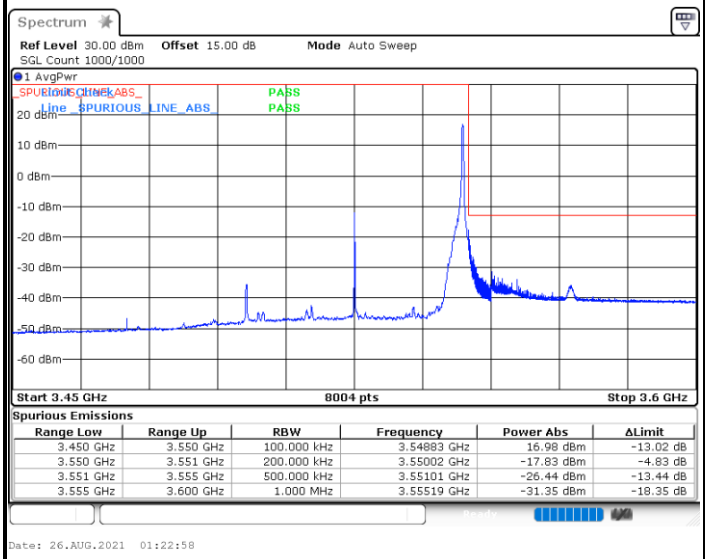
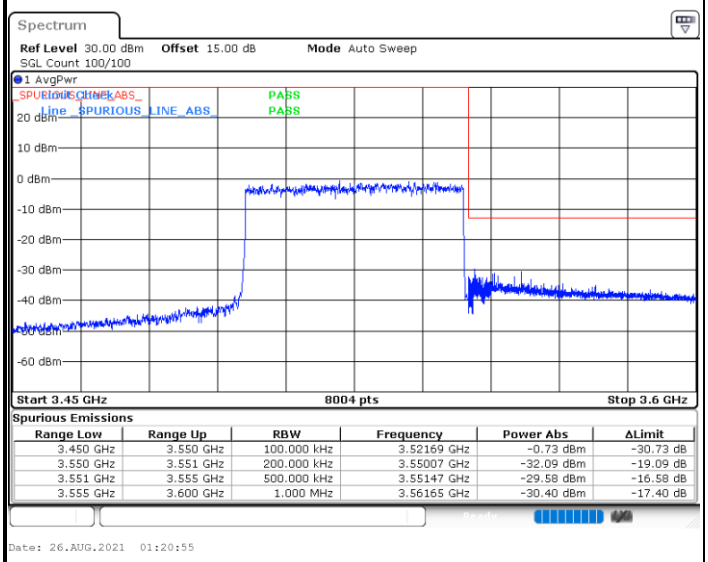


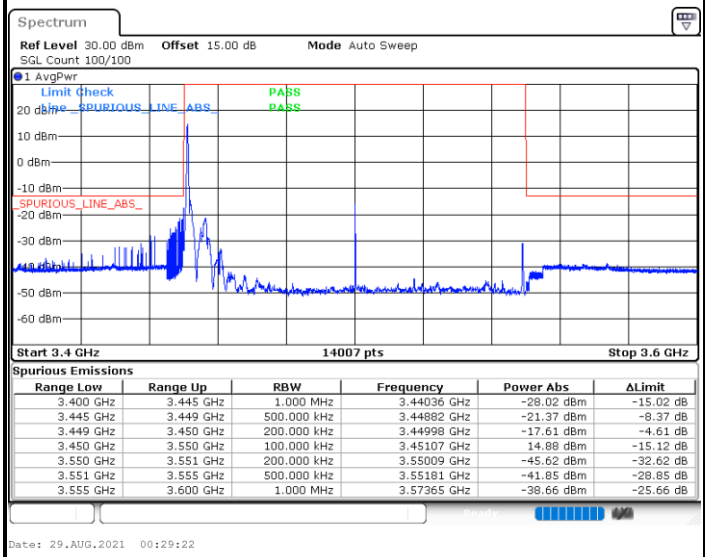
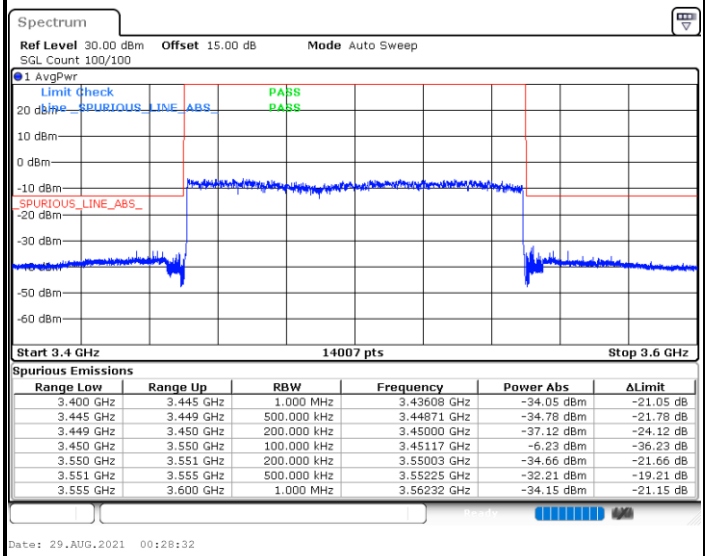
Highest Band Edge / Full RB	**Channel Power < -13dBm Pass**

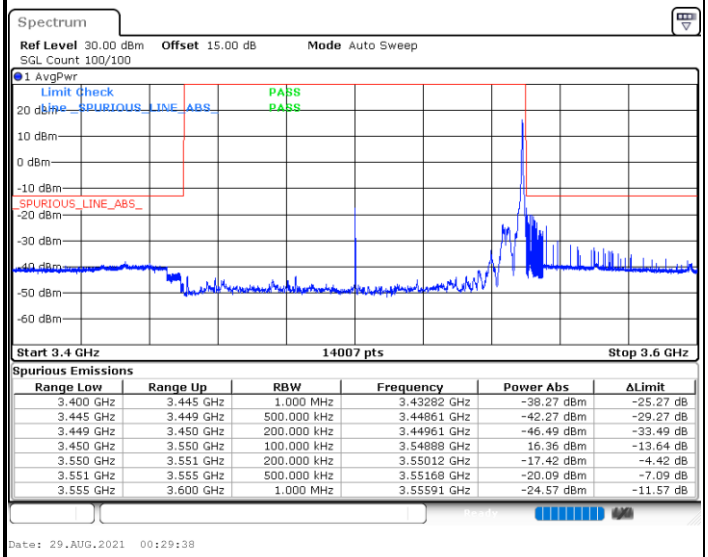


/

FR1 UL-MIMO n77 / 50MHz / CP-OFDM QPSK (Port 2)	
Middle Band Edge / 1 RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.400 GHz / 3.445 GHz / 1.000 MHz / 3.44454 GHz / -24.37 dBm / -11.37 dB 3.445 GHz / 3.449 GHz / 500.000 kHz / 3.44868 GHz / -21.51 dBm / -8.51 dB 3.449 GHz / 3.450 GHz / 200.000 kHz / 3.44998 GHz / -16.86 dBm / -3.86 dB 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.45127 GHz / 16.71 dBm / -13.29 dB Date: 26.AUG.2021 00:54:33	/
Middle Band Edge / Full RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.400 GHz / 3.445 GHz / 1.000 MHz / 3.44099 GHz / -29.97 dBm / -16.97 dB 3.445 GHz / 3.449 GHz / 500.000 kHz / 3.44838 GHz / -31.48 dBm / -18.48 dB 3.449 GHz / 3.450 GHz / 200.000 kHz / 3.44999 GHz / -34.33 dBm / -21.33 dB 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.47696 GHz / -0.88 dBm / -30.88 dB Date: 26.AUG.2021 00:50:28	/

FR1 UL-MIMO n77 / 50MHz / CP-OFDM QPSK (Port 2)	
Middle Band Edge / 1 RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.54883 GHz / 16.98 dBm / -13.02 dB 3.550 GHz / 3.551 GHz / 200.000 kHz / 3.55002 GHz / -17.83 dBm / -4.83 dB 3.551 GHz / 3.555 GHz / 500.000 kHz / 3.55101 GHz / -26.44 dBm / -13.44 dB 3.555 GHz / 3.600 GHz / 1.000 MHz / 3.55519 GHz / -31.35 dBm / -18.35 dB Date: 26.AUG.2021 01:22:58	/
Highest Band Edge / Full RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.52169 GHz / -0.73 dBm / -30.73 dB 3.550 GHz / 3.551 GHz / 200.000 kHz / 3.55007 GHz / -32.09 dBm / -19.09 dB 3.551 GHz / 3.555 GHz / 500.000 kHz / 3.55147 GHz / -29.58 dBm / -16.58 dB 3.555 GHz / 3.600 GHz / 1.000 MHz / 3.56165 GHz / -30.40 dBm / -17.40 dB Date: 26.AUG.2021 01:20:55	/

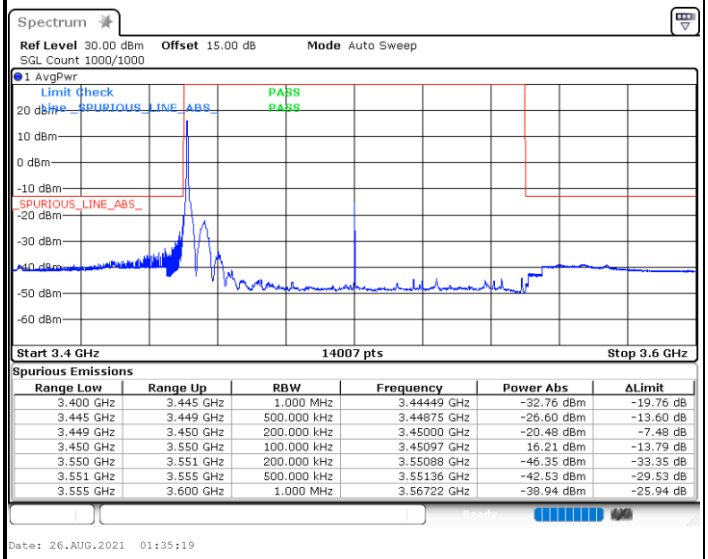
FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (Port 1)	
Middle Band Edge / 1 RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.400 GHz / 3.445 GHz / 1.000 MHz / 3.44036 GHz / -28.02 dBm / -15.02 dB 3.445 GHz / 3.449 GHz / 500.000 kHz / 3.44882 GHz / -21.37 dBm / -8.37 dB 3.449 GHz / 3.450 GHz / 200.000 kHz / 3.44998 GHz / -17.61 dBm / -4.61 dB 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.45107 GHz / 14.88 dBm / -15.12 dB 3.550 GHz / 3.551 GHz / 200.000 kHz / 3.55009 GHz / -45.62 dBm / -32.62 dB 3.551 GHz / 3.555 GHz / 500.000 kHz / 3.55181 GHz / -41.85 dBm / -28.85 dB 3.555 GHz / 3.600 GHz / 1.000 MHz / 3.57365 GHz / -38.66 dBm / -25.66 dB Date: 29.AUG.2021 00:29:22	/
Middle Band Edge / Full RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.400 GHz / 3.445 GHz / 1.000 MHz / 3.43608 GHz / -34.05 dBm / -21.05 dB 3.445 GHz / 3.449 GHz / 500.000 kHz / 3.44871 GHz / -34.78 dBm / -21.78 dB 3.449 GHz / 3.450 GHz / 200.000 kHz / 3.45000 GHz / -37.12 dBm / -24.12 dB 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.45117 GHz / -6.23 dBm / -36.23 dB 3.550 GHz / 3.551 GHz / 200.000 kHz / 3.55003 GHz / -34.66 dBm / -21.66 dB 3.551 GHz / 3.555 GHz / 500.000 kHz / 3.55225 GHz / -32.21 dBm / -19.21 dB 3.555 GHz / 3.600 GHz / 1.000 MHz / 3.56232 GHz / -34.15 dBm / -21.15 dB Date: 29.AUG.2021 00:28:32	/

FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (Port 1)	
Middle Band Edge / 1 RB	**Channel Power < -13dBm Pass**
	/

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.400 GHz	3.445 GHz	1.000 MHz	3.43282 GHz	-38.27 dBm	-25.27 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44861 GHz	-42.27 dBm	-29.27 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.44961 GHz	-46.49 dBm	-33.49 dB
3.450 GHz	3.550 GHz	100.000 kHz	3.54888 GHz	16.36 dBm	-13.64 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55012 GHz	-17.42 dBm	-4.42 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55168 GHz	-20.09 dBm	-7.09 dB
3.555 GHz	3.600 GHz	1.000 MHz	3.55591 GHz	-24.57 dBm	-11.57 dB

FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (Port 2)	
Middle Band Edge / 1 RB	**Channel Power < -13dBm Pass**



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.400 GHz	3.445 GHz	1.000 MHz	3.44449 GHz	-32.76 dBm	-19.76 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44875 GHz	-26.60 dBm	-13.60 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.45000 GHz	-20.48 dBm	-7.48 dB
3.450 GHz	3.550 GHz	100.000 kHz	3.45097 GHz	16.21 dBm	-13.79 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55088 GHz	-46.35 dBm	-33.35 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55136 GHz	-42.53 dBm	-29.53 dB
3.555 GHz	3.600 GHz	1.000 MHz	3.56722 GHz	-38.94 dBm	-25.94 dB

Date: 26.AUG.2021 01:35:19

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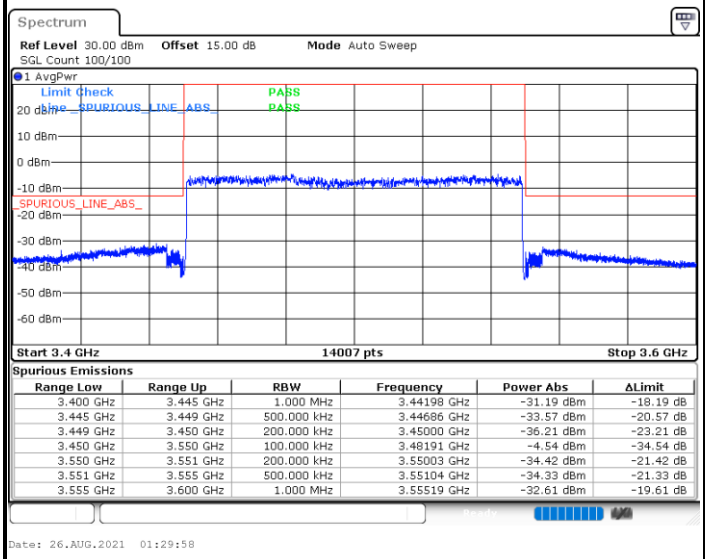
Middle Band Edge / Full RB	Channel Power < -13dBm Pass

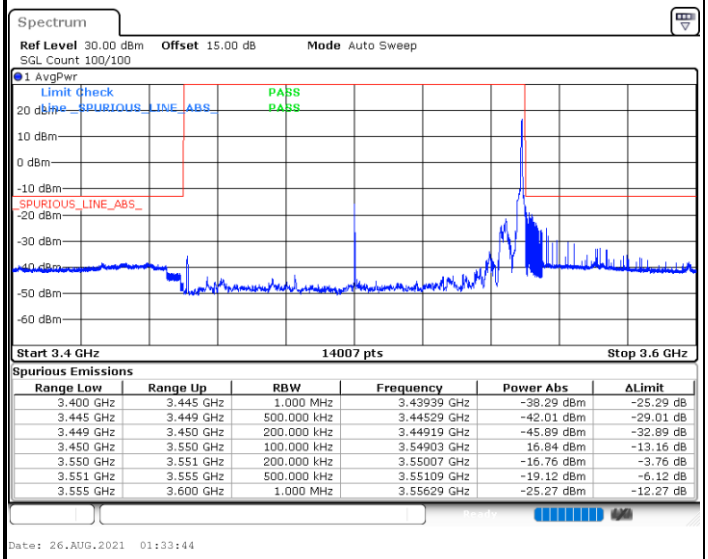


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.400 GHz	3.445 GHz	1.000 MHz	3.44198 GHz	-31.19 dBm	-18.19 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44686 GHz	-33.57 dBm	-20.57 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.45000 GHz	-36.21 dBm	-23.21 dB
3.450 GHz	3.550 GHz	100.000 kHz	3.48191 GHz	-4.54 dBm	-34.54 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55003 GHz	-34.42 dBm	-21.42 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55104 GHz	-34.33 dBm	-21.33 dB
3.555 GHz	3.600 GHz	1.000 MHz	3.55519 GHz	-32.61 dBm	-19.61 dB

Date: 26.AUG.2021 01:29:58

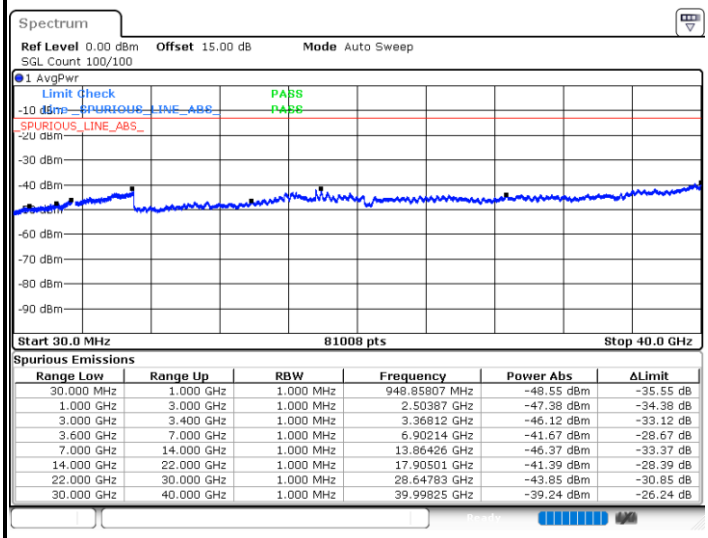
/

FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (Port 2)	
Middle Band Edge / 1 RB	**Channel Power < -13dBm Pass**
 Spurious Emissions Range Low / Range Up / RBW / Frequency / Power Abs / ΔLimit 3.400 GHz / 3.445 GHz / 1.000 MHz / 3.43939 GHz / -38.29 dBm / -25.29 dB 3.445 GHz / 3.449 GHz / 500.000 kHz / 3.44529 GHz / -42.01 dBm / -29.01 dB 3.449 GHz / 3.450 GHz / 200.000 kHz / 3.44919 GHz / -45.89 dBm / -32.89 dB 3.450 GHz / 3.550 GHz / 100.000 kHz / 3.54903 GHz / 16.84 dBm / -13.16 dB 3.550 GHz / 3.551 GHz / 200.000 kHz / 3.55007 GHz / -16.76 dBm / -3.76 dB 3.551 GHz / 3.555 GHz / 500.000 kHz / 3.55109 GHz / -19.12 dBm / -6.12 dB 3.555 GHz / 3.600 GHz / 1.000 MHz / 3.55629 GHz / -25.27 dBm / -12.27 dB	/

Conducted Spurious Emission

FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (Port 1)

Lowest Channel / 1RB

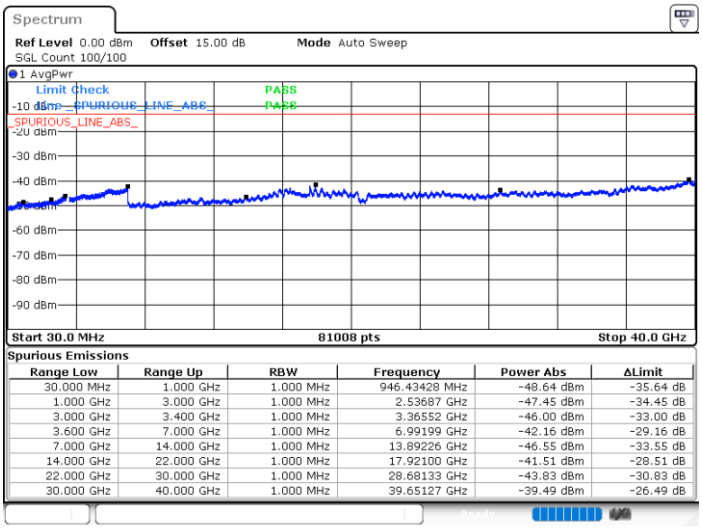


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	948.85807 MHz	-48.55 dBm	-35.55 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.50387 GHz	-47.38 dBm	-34.38 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.36812 GHz	-46.12 dBm	-33.12 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.90214 GHz	-41.67 dBm	-28.67 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.86426 GHz	-46.37 dBm	-33.37 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.90501 GHz	-41.39 dBm	-28.39 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.64783 GHz	-43.85 dBm	-30.85 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.99825 GHz	-39.24 dBm	-26.24 dB

Date: 27.SEP.2021 16:01:38

Middle Channel / 1RB

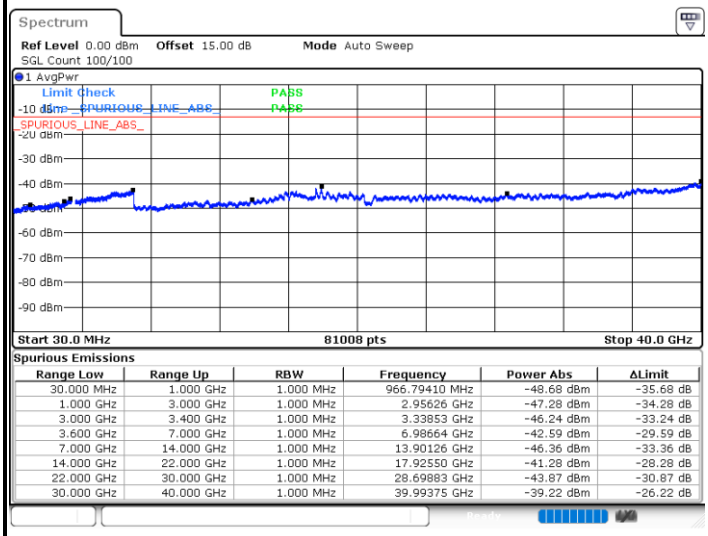


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	946.43428 MHz	-48.64 dBm	-35.64 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.53687 GHz	-47.45 dBm	-34.45 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.36552 GHz	-46.00 dBm	-33.00 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.99199 GHz	-42.16 dBm	-29.16 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.89226 GHz	-46.55 dBm	-33.55 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.92100 GHz	-41.51 dBm	-28.51 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.68133 GHz	-43.83 dBm	-30.83 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.65127 GHz	-39.49 dBm	-26.49 dB

Date: 27.SEP.2021 16:11:45

Highest Channel / 1RB



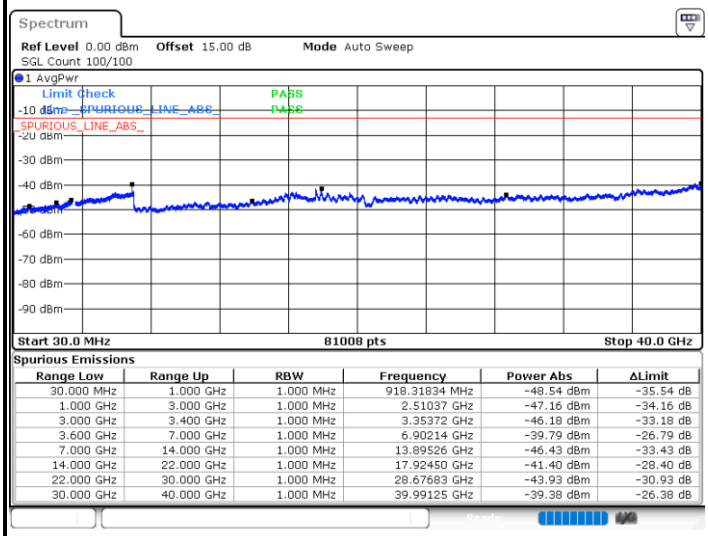
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	966.79410 MHz	-48.68 dBm	-35.68 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.95626 GHz	-47.28 dBm	-34.28 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.33853 GHz	-46.24 dBm	-33.24 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.98664 GHz	-42.59 dBm	-29.59 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.90126 GHz	-46.36 dBm	-33.36 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.92550 GHz	-41.28 dBm	-28.28 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.69883 GHz	-43.87 dBm	-30.87 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.99375 GHz	-39.22 dBm	-26.22 dB

Date: 27.SEP.2021 16:13:08

FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (Port 2)

Lowest Channel / 1RB

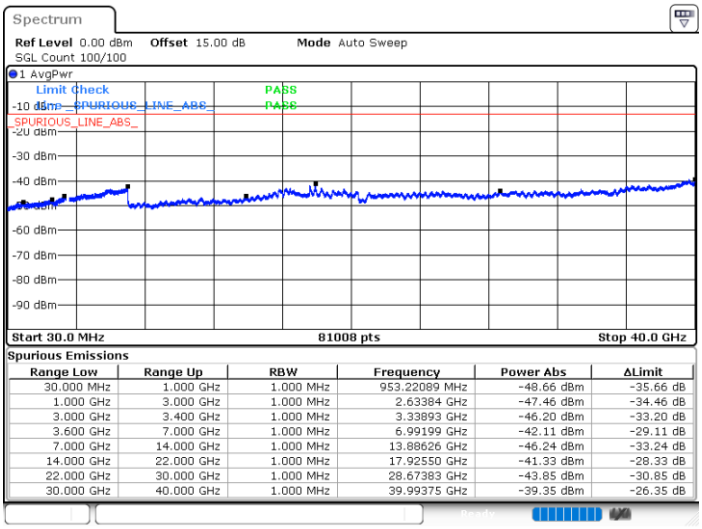


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	918.31834 MHz	-48.54 dBm	-35.54 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.51037 GHz	-47.16 dBm	-34.16 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.35372 GHz	-46.18 dBm	-33.18 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.90214 GHz	-39.79 dBm	-26.79 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.89526 GHz	-46.43 dBm	-33.43 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.92450 GHz	-41.40 dBm	-28.40 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.67683 GHz	-43.93 dBm	-30.93 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.99125 GHz	-39.38 dBm	-26.38 dB

Date: 27.SEP.2021 16:02:45

Middle Channel / 1RB

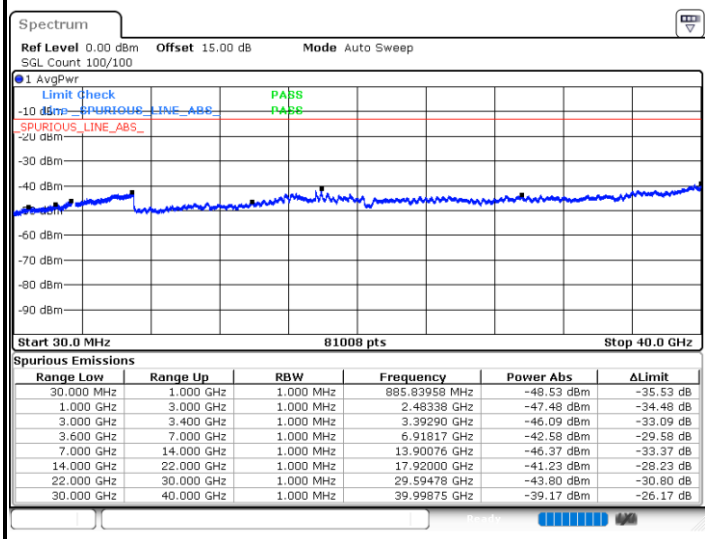


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	953.22089 MHz	-48.66 dBm	-35.66 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.63384 GHz	-47.46 dBm	-34.46 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.33893 GHz	-46.20 dBm	-33.20 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.99199 GHz	-42.11 dBm	-29.11 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.88626 GHz	-46.24 dBm	-33.24 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.92550 GHz	-41.33 dBm	-28.33 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.67383 GHz	-43.85 dBm	-30.85 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.99375 GHz	-39.35 dBm	-26.35 dB

Date: 27.SEP.2021 16:10:39

Highest Channel / 1RB



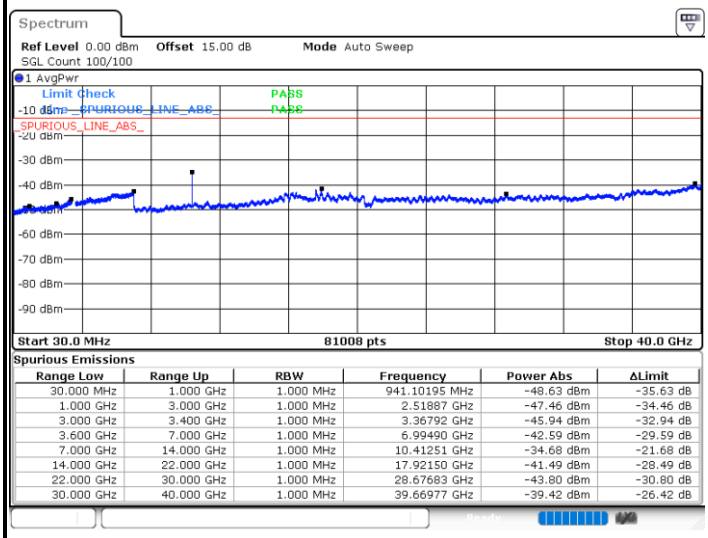
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	885.83958 MHz	-48.53 dBm	-35.53 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.48338 GHz	-47.48 dBm	-34.48 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.39290 GHz	-46.09 dBm	-33.09 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.91817 GHz	-42.58 dBm	-29.58 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.90076 GHz	-46.37 dBm	-33.37 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.92000 GHz	-41.23 dBm	-28.23 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.59478 GHz	-43.80 dBm	-30.80 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.99875 GHz	-39.17 dBm	-26.17 dB

Date: 27.SEP.2021 16:14:16

FR1 UL-MIMO n77 / 50MHz / CP-OFDM QPSK (Port 1)

Lowest Channel / 1RB

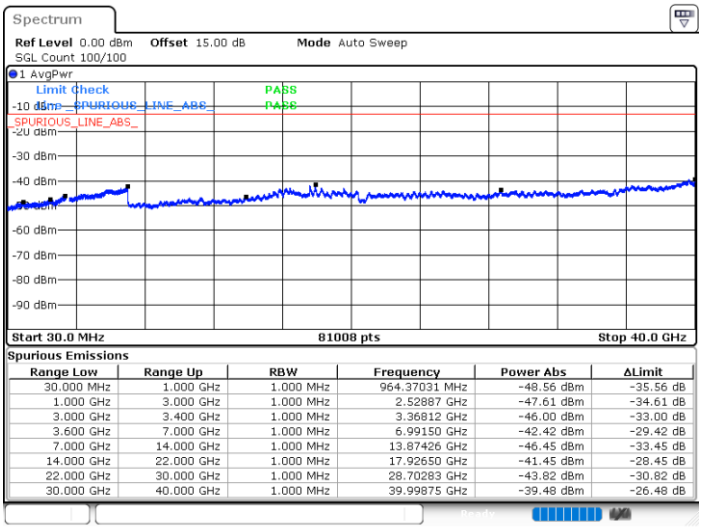


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	941.10195 MHz	-48.63 dBm	-35.63 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.51887 GHz	-47.46 dBm	-34.46 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.36792 GHz	-45.94 dBm	-32.94 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.99490 GHz	-42.59 dBm	-29.59 dB
7.000 GHz	14.000 GHz	1.000 MHz	10.41251 GHz	-34.68 dBm	-21.68 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.92150 GHz	-41.49 dBm	-28.49 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.67683 GHz	-43.80 dBm	-30.80 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.66977 GHz	-39.42 dBm	-26.42 dB

Date: 27.SEP.2021 16:17:12

Middle Channel / 1RB

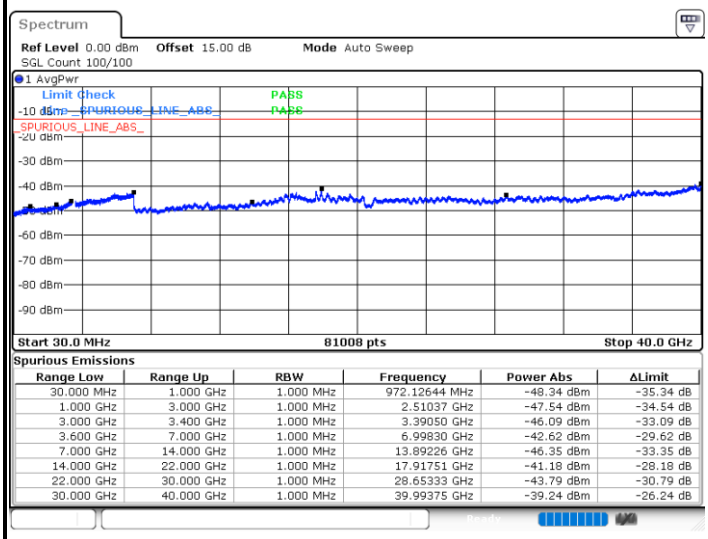


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	964.37031 MHz	-48.56 dBm	-35.56 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.52887 GHz	-47.61 dBm	-34.61 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.36812 GHz	-46.00 dBm	-33.00 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.99150 GHz	-42.42 dBm	-29.42 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.87426 GHz	-46.45 dBm	-33.45 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.92650 GHz	-41.45 dBm	-28.45 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.70283 GHz	-43.82 dBm	-30.82 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.99875 GHz	-39.48 dBm	-26.48 dB

Date: 27.SEP.2021 16:21:47

Highest Channel / 1RB



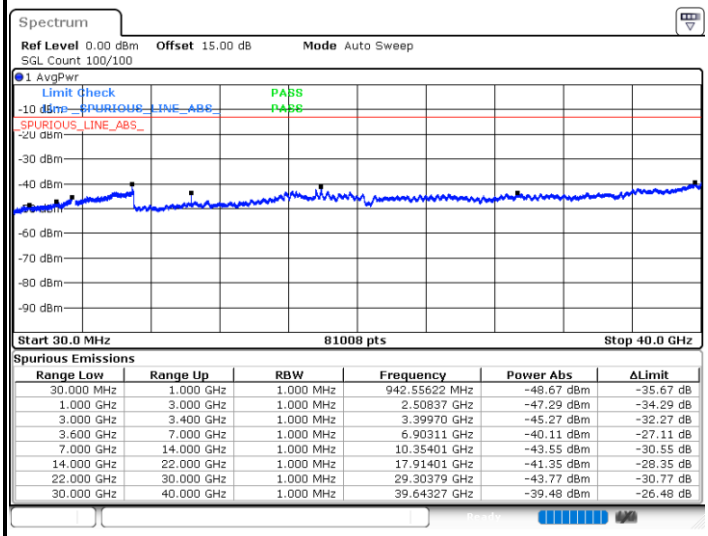
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	972.12644 MHz	-48.34 dBm	-35.34 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.51037 GHz	-47.54 dBm	-34.54 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.39050 GHz	-46.09 dBm	-33.09 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.99830 GHz	-42.62 dBm	-29.62 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.89226 GHz	-46.35 dBm	-33.35 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.91751 GHz	-41.18 dBm	-28.18 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.65333 GHz	-43.79 dBm	-30.79 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.99375 GHz	-39.24 dBm	-26.24 dB

Date: 27.SEP.2021 16:23:04

FR1 UL-MIMO n77 / 50MHz / CP-OFDM QPSK (Port 2)

Lowest Channel / 1RB

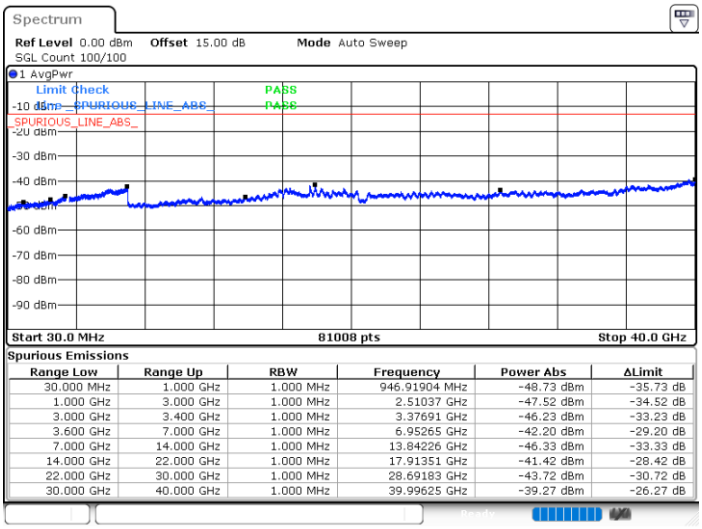


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	942.55622 MHz	-48.67 dBm	-35.67 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.50837 GHz	-47.29 dBm	-34.29 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.39970 GHz	-45.27 dBm	-32.27 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.90311 GHz	-40.11 dBm	-27.11 dB
7.000 GHz	14.000 GHz	1.000 MHz	10.35401 GHz	-43.55 dBm	-30.55 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.91401 GHz	-41.35 dBm	-28.35 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.30379 GHz	-43.77 dBm	-30.77 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.64327 GHz	-39.48 dBm	-26.48 dB

Date: 27.SEP.2021 16:19:19

Middle Channel / 1RB

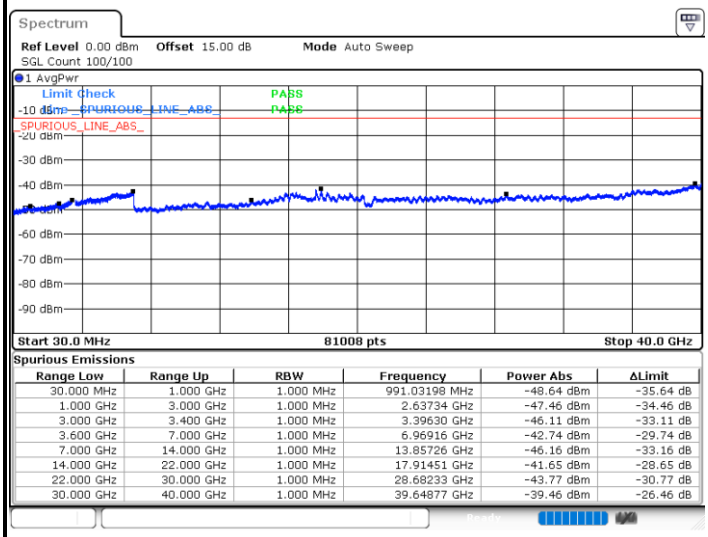


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	946.91904 MHz	-48.73 dBm	-35.73 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.51037 GHz	-47.52 dBm	-34.52 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.37691 GHz	-46.23 dBm	-33.23 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.95265 GHz	-42.20 dBm	-29.20 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.84226 GHz	-46.33 dBm	-33.33 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.91351 GHz	-41.42 dBm	-28.42 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.69183 GHz	-43.72 dBm	-30.72 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.99625 GHz	-39.27 dBm	-26.27 dB

Date: 27.SEP.2021 16:20:35

Highest Channel / 1RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	991.03198 MHz	-48.64 dBm	-35.64 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.63734 GHz	-47.46 dBm	-34.46 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.39630 GHz	-46.11 dBm	-33.11 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.96916 GHz	-42.74 dBm	-29.74 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.85726 GHz	-46.16 dBm	-33.16 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.91451 GHz	-41.65 dBm	-28.65 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.68233 GHz	-43.77 dBm	-30.77 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.64877 GHz	-39.46 dBm	-26.46 dB

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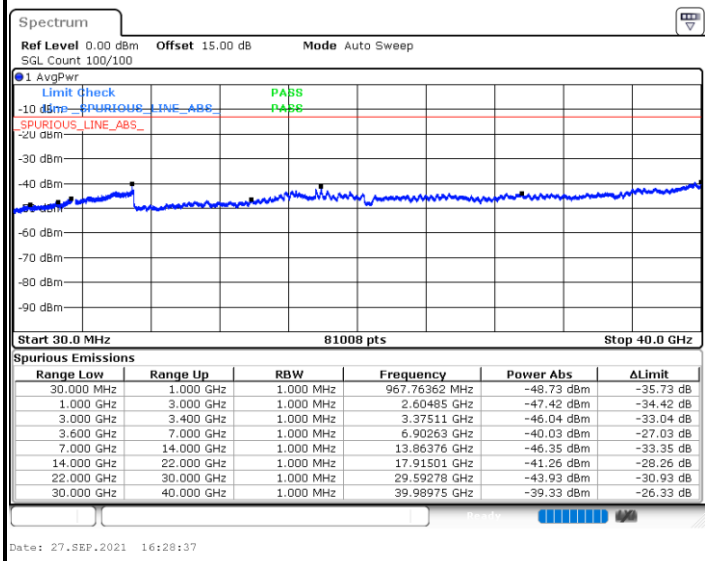
FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (Port 1)

Middle Channel / 1RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	967.76362 MHz	-48.73 dBm	-35.73 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.60485 GHz	-47.42 dBm	-34.42 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.37511 GHz	-46.04 dBm	-33.04 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.90263 GHz	-40.03 dBm	-27.03 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.86376 GHz	-46.35 dBm	-33.35 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.91501 GHz	-41.26 dBm	-28.26 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.59278 GHz	-43.93 dBm	-30.93 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.98975 GHz	-39.33 dBm	-26.33 dB

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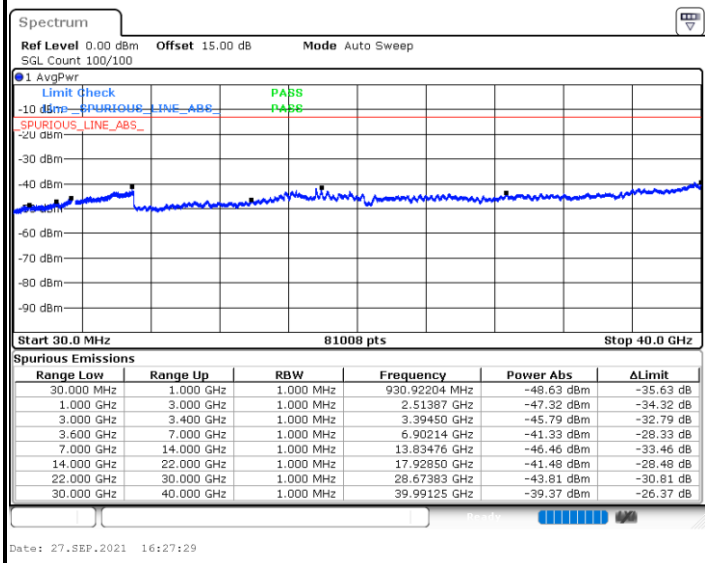
FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (Port 2)

Middle Channel / 1RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	930.92204 MHz	-48.63 dBm	-35.63 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.51387 GHz	-47.32 dBm	-34.32 dB
3.000 GHz	3.400 GHz	1.000 MHz	3.39450 GHz	-45.79 dBm	-32.79 dB
3.600 GHz	7.000 GHz	1.000 MHz	6.90214 GHz	-41.33 dBm	-28.33 dB
7.000 GHz	14.000 GHz	1.000 MHz	13.83476 GHz	-46.46 dBm	-33.46 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.92850 GHz	-41.48 dBm	-28.48 dB
22.000 GHz	30.000 GHz	1.000 MHz	28.67383 GHz	-43.81 dBm	-30.81 dB
30.000 GHz	40.000 GHz	1.000 MHz	39.99125 GHz	-39.37 dBm	-26.37 dB

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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	0.0010	PASS
40	Normal Voltage	0.0021	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0018	
0	Normal Voltage	0.0025	
-10	Normal Voltage	0.0003	
-20	Normal Voltage	0.0008	
-30	Normal Voltage	0.0012	
20	Maximum Voltage	0.0009	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0004	

Note:

1. Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.14 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

Software Version: 21.02.091501

FR1 N78 (15kHz)

Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00334	**PASS**	NV
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00356	**PASS**	LV
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00213	**PASS**	HV
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00218	**PASS**	-30℃
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00624	**PASS**	-20℃
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00128	**PASS**	-10℃
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00665	**PASS**	0℃
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00153	**PASS**	10℃
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00341	**PASS**	20℃
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00548	**PASS**	30℃
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00887	**PASS**	40℃
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	-0.00134	**PASS**	50℃

Peak to Average Radio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
78	15	20	630667	3460.005	DFT-s-OFDM PI/2 BPSK	100@0	5.2	13	**PASS**
78	15	20	630667	3460.005	DFT-s-OFDM PI/2 BPSK	1@0	4.16	13	**PASS**
78	15	20	630667	3460.005	DFT-s-OFDM QPSK	100@0	6.5	13	**PASS**
78	15	20	630667	3460.005	DFT-s-OFDM QPSK	1@0	6.04	13	**PASS**
78	15	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	100@0	5.97	13	**PASS**
78	15	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@0	4.33	13	**PASS**
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	100@0	7.2	13	**PASS**
78	15	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	6.06	13	**PASS**
78	15	20	636000	3540.0	DFT-s-OFDM PI/2 BPSK	100@0	5.56	13	**PASS**
78	15	20	636000	3540.0	DFT-s-OFDM PI/2 BPSK	1@0	4.72	13	**PASS**
78	15	20	636000	3540.0	DFT-s-OFDM QPSK	100@0	6.34	13	**PASS**
78	15	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	5.7	13	**PASS**