



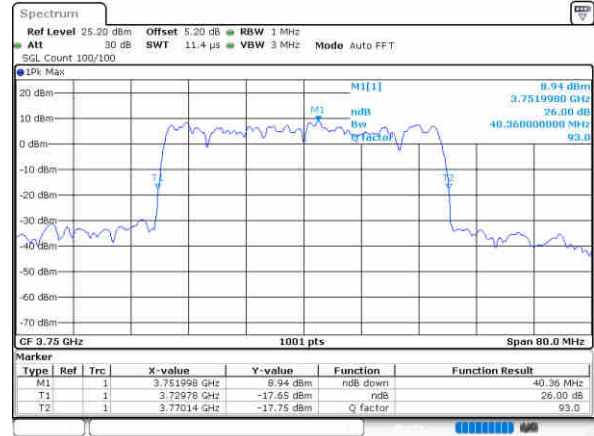
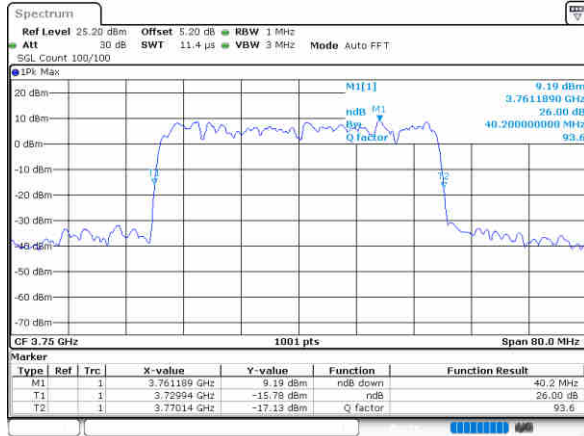
FR1 UL-MIMO n78 / 40MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel

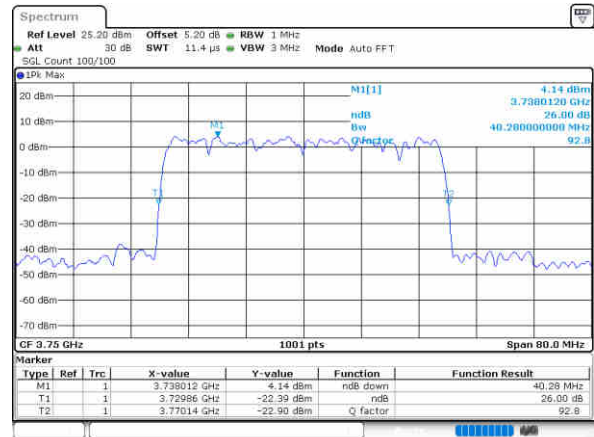


64QAM

256QAM

Middle Channel

Middle Channel





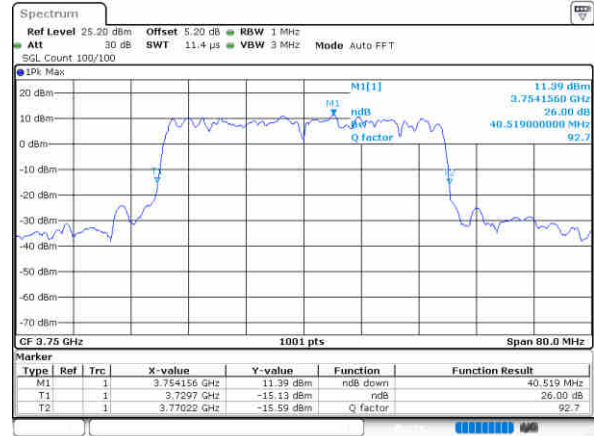
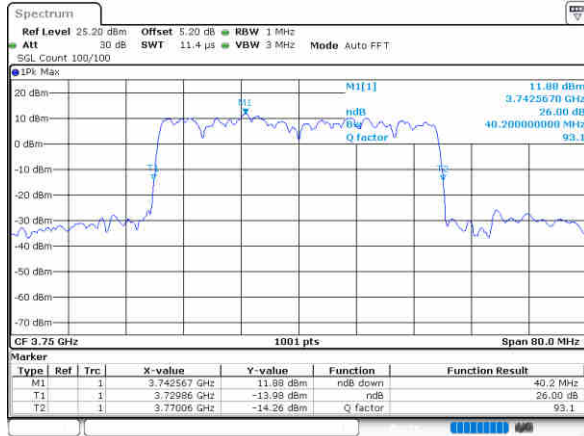
FR1 UL-MIMO n78 / 40MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel

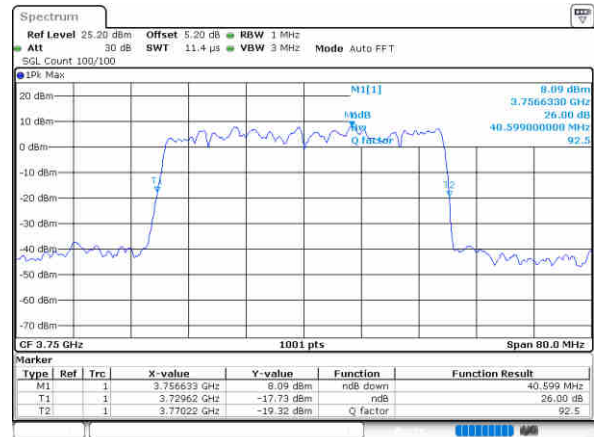
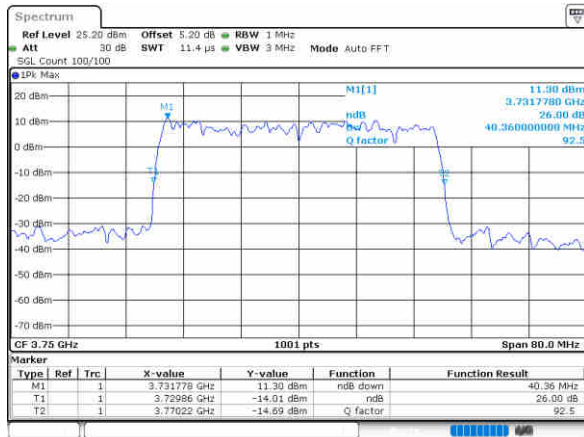


64QAM

256QAM

Middle Channel

Middle Channel

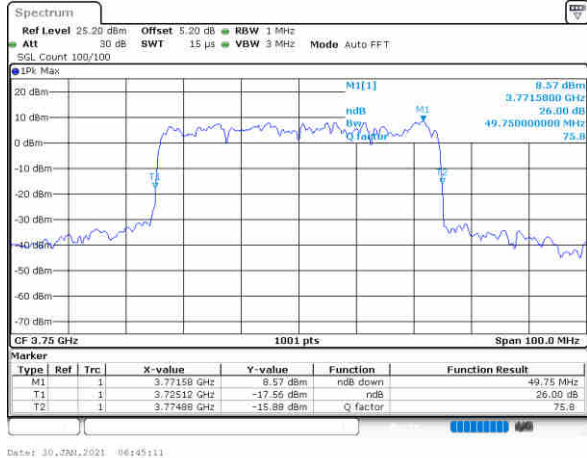




FR1 UL-MIMO n78 / 50MHz / CP-OFDM (M2)

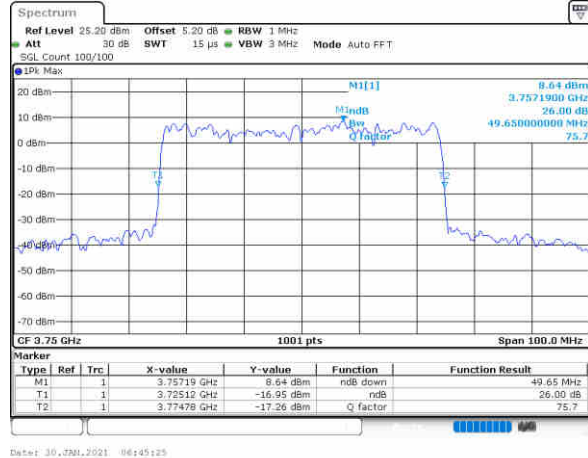
QPSK

Middle Channel



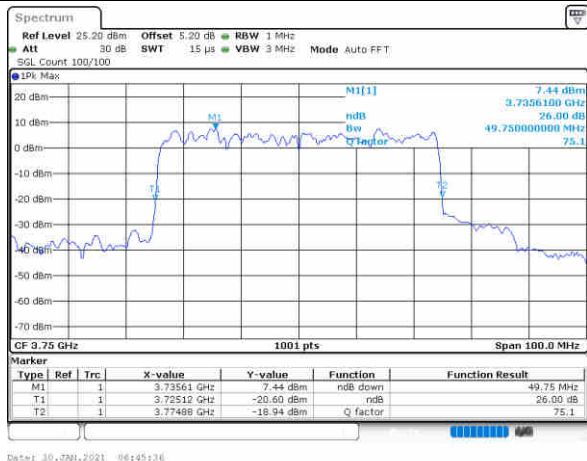
16QAM

Middle Channel



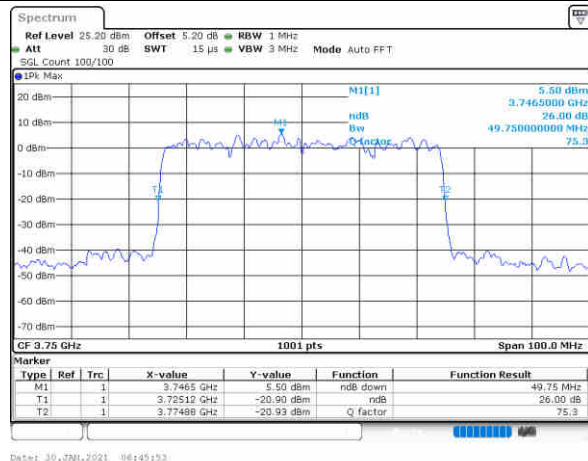
64QAM

Middle Channel



256QAM

Middle Channel





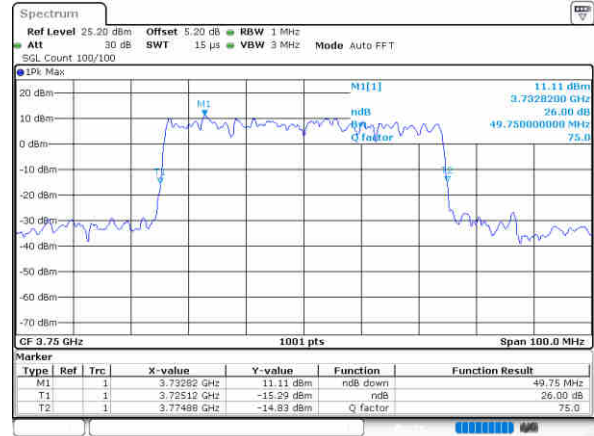
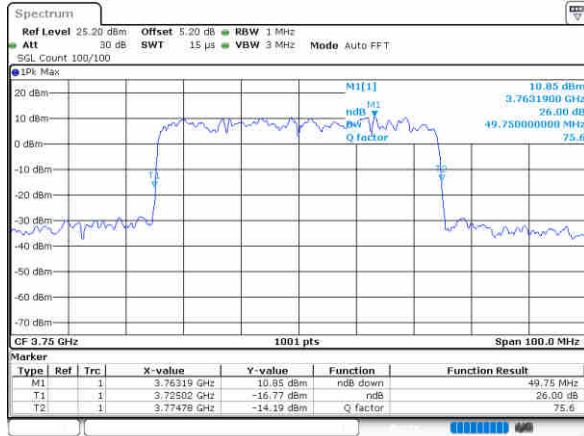
FR1 UL-MIMO n78 / 50MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel

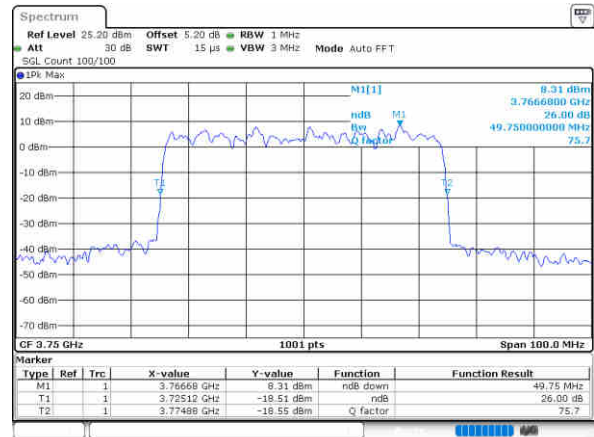
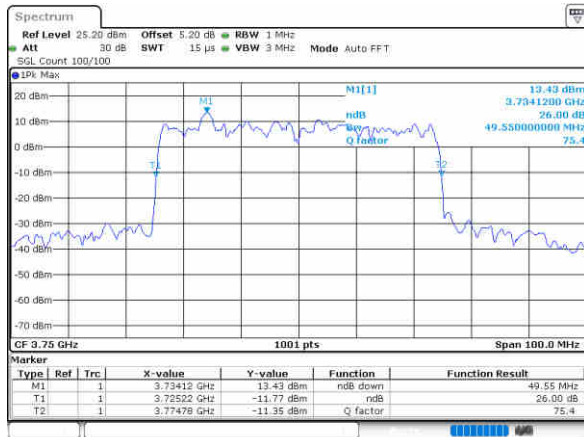


64QAM

256QAM

Middle Channel

Middle Channel

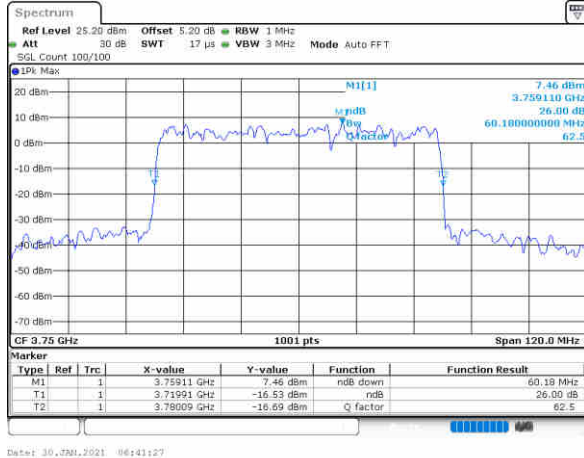




FR1 UL-MIMO n78 / 60MHz / CP-OFDM (M2)

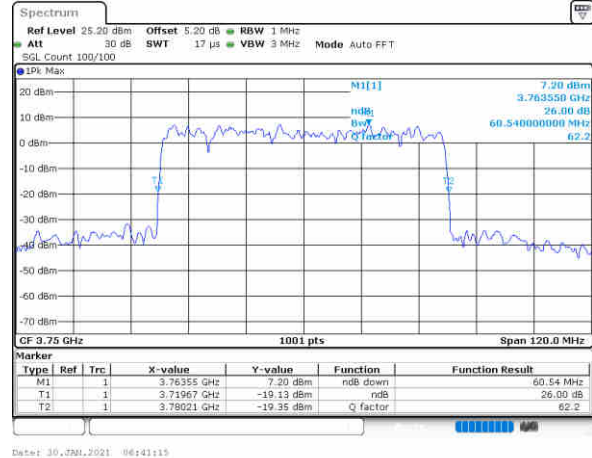
QPSK

Middle Channel



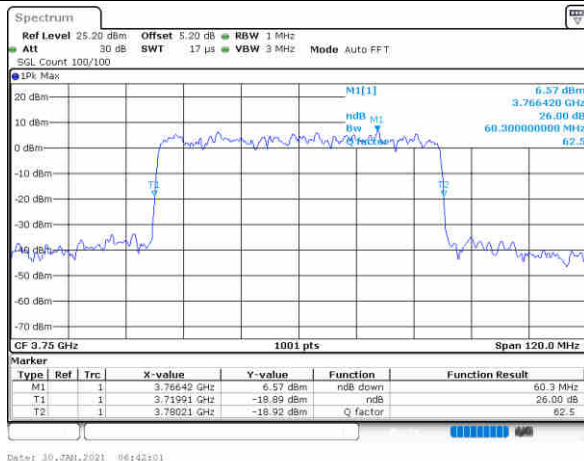
16QAM

Middle Channel



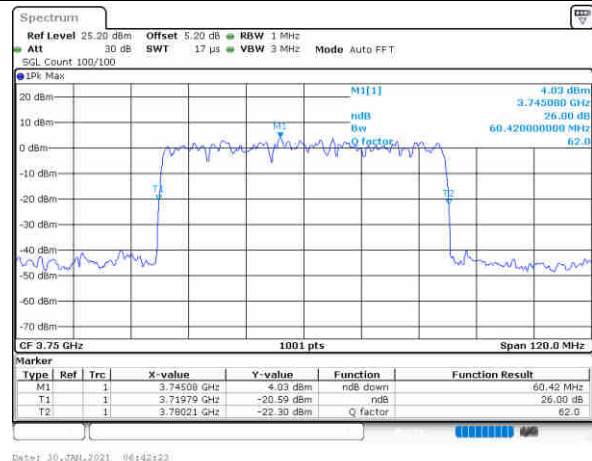
64QAM

Middle Channel



256QAM

Middle Channel

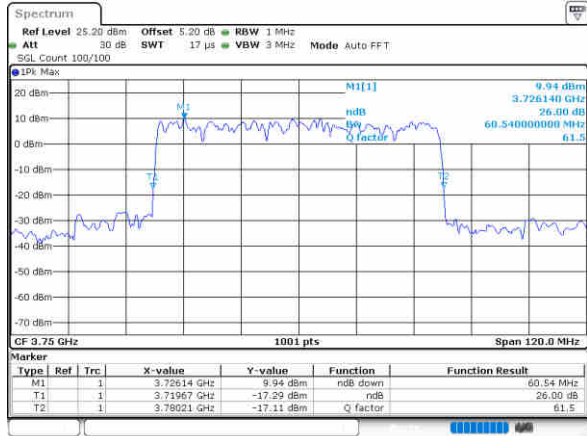




FR1 UL-MIMO n78 / 60MHz / CP-OFDM (M)

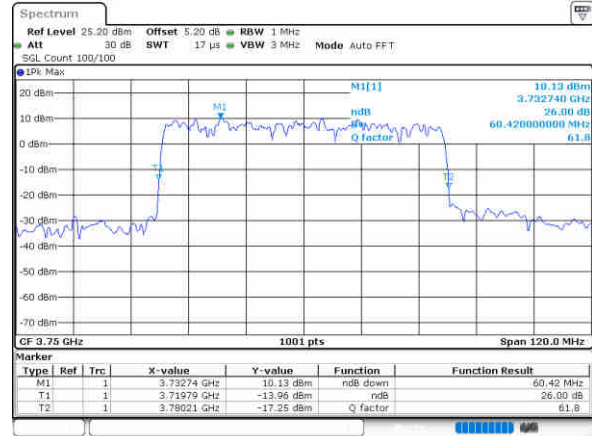
QPSK

Middle Channel



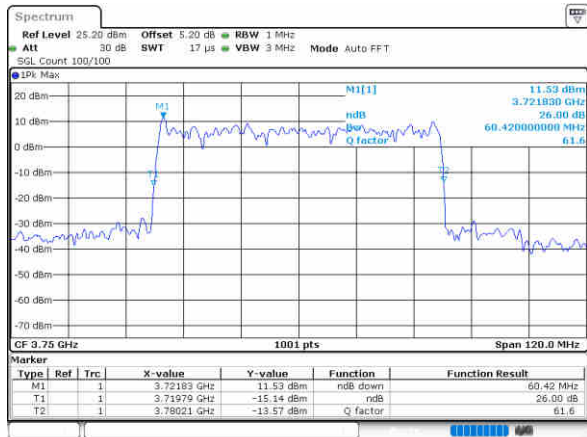
16QAM

Middle Channel



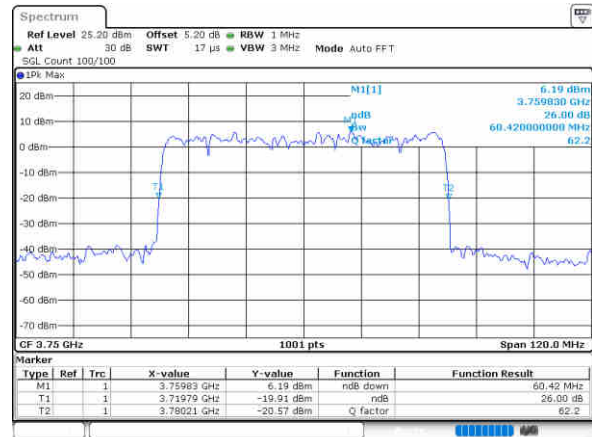
64QAM

Middle Channel



256QAM

Middle Channel

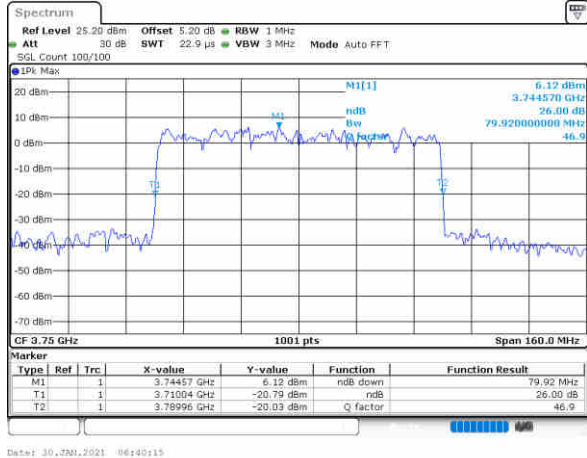




FR1 UL-MIMO n78 / 80MHz / CP-OFDM (M2)

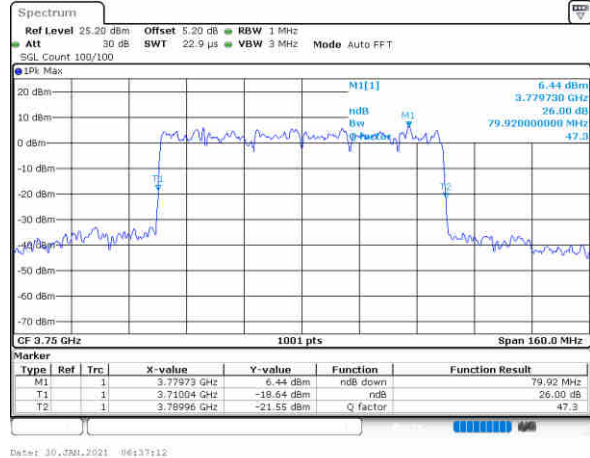
QPSK

Middle Channel



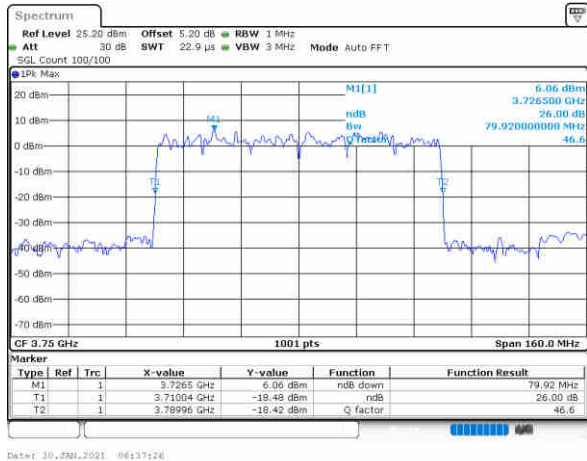
16QAM

Middle Channel



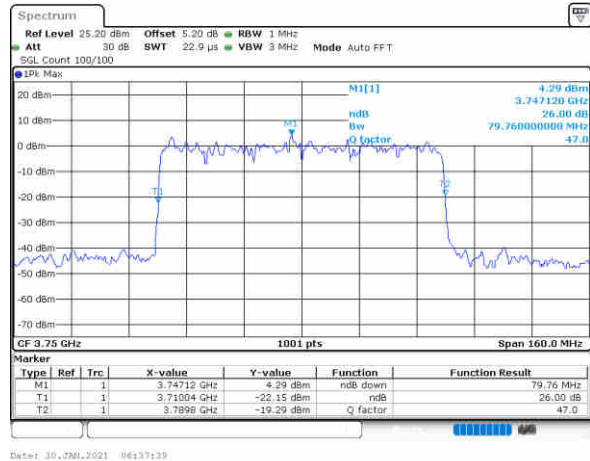
64QAM

Middle Channel



256QAM

Middle Channel





FR1 UL-MIMO n78 / 80MHz / CP-OFDM (M)

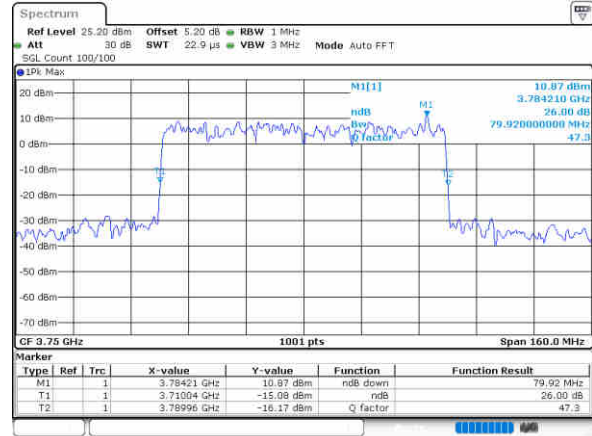
QPSK

Middle Channel



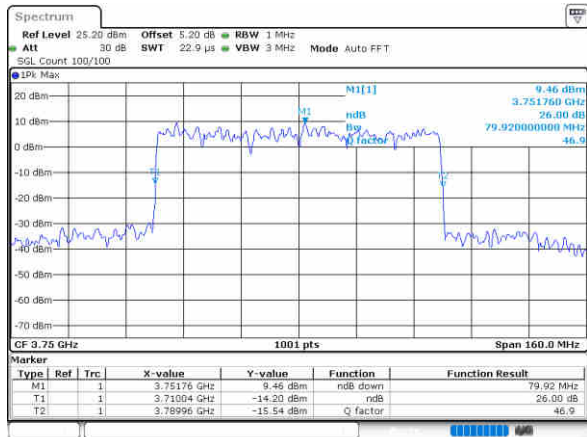
16QAM

Middle Channel



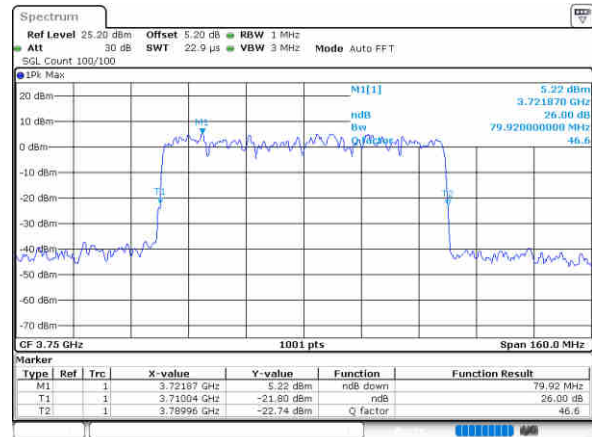
64QAM

Middle Channel



256QAM

Middle Channel

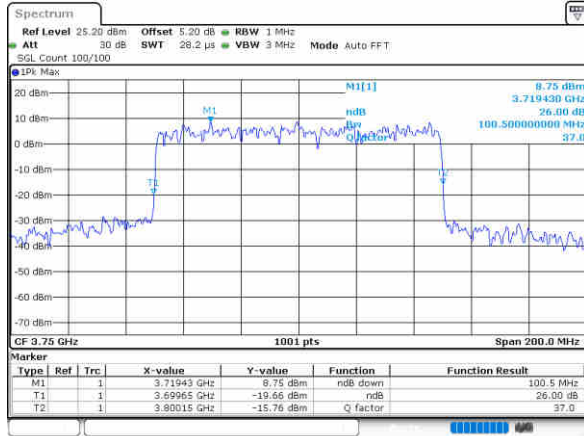




FR1 UL-MIMO n78 / 100MHz / CP-OFDM (M2)

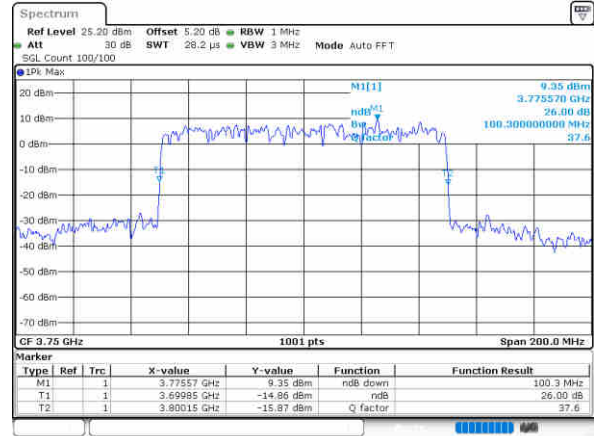
QPSK

Middle Channel



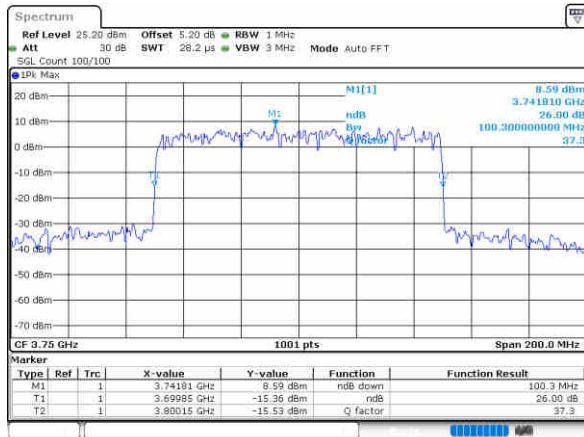
16QAM

Middle Channel



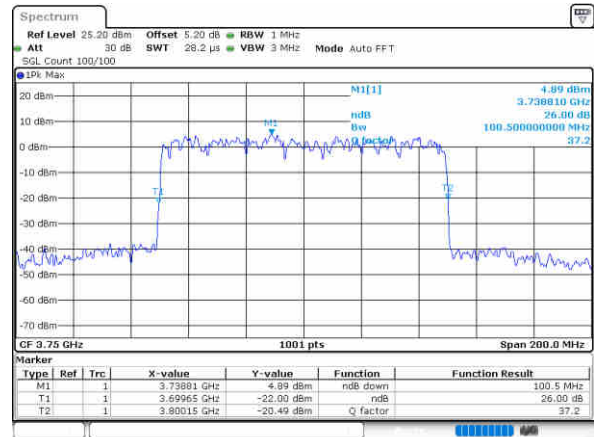
64QAM

Middle Channel



256QAM

Middle Channel





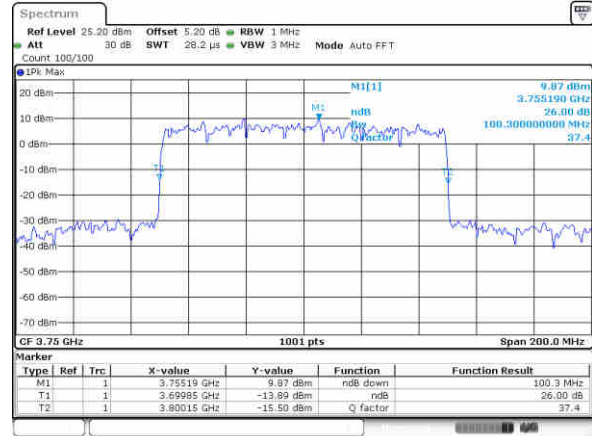
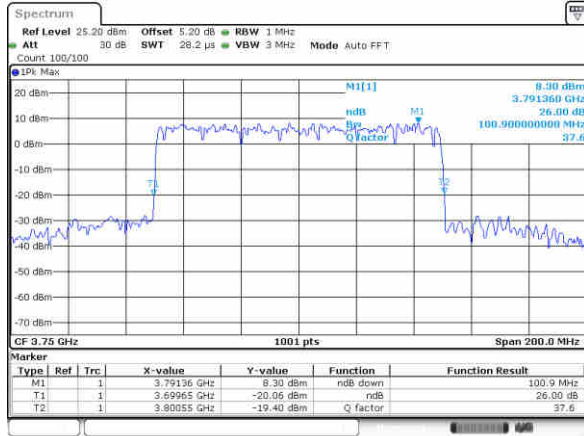
FR1 UL-MIMO n78 / 100MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel

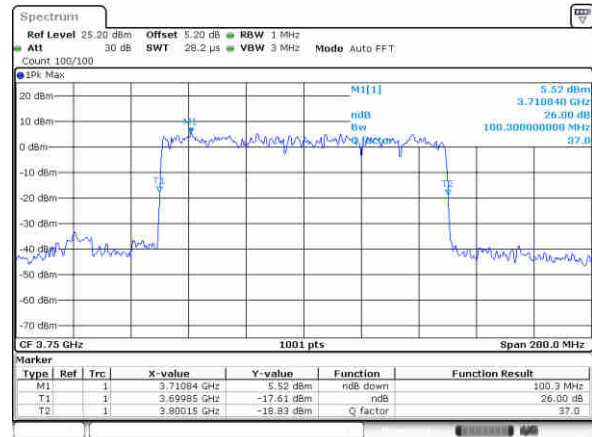


64QAM

256QAM

Middle Channel

Middle Channel



**Occupied Bandwidth**

Mode	FR1 UL-MIMO n78 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	8.57	8.57	8.57	8.57	8.53	8.59	8.59	8.55

Mode	FR1 UL-MIMO n78 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	13.55	13.58	13.61	13.64	13.58	13.52	13.61	13.64

Mode	FR1 UL-MIMO n78 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	18.22	18.14	18.30	18.22	18.26	18.30	18.46	18.34

Mode	FR1 UL-MIMO n78 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	37.88	37.96	37.96	38.12	38.12	38.04	38.04	38.04

Mode	FR1 UL-MIMO n78 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	47.15	47.45	47.55	47.25	47.95	47.65	47.55	47.05

Mode	FR1 UL-MIMO n78 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	57.54	57.66	57.78	57.66	57.90	57.54	57.78	57.78



Mode	FR1 UL-MIMO n78 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	77.52	77.04	77.52	77.52	77.52	77.52	77.68	77.52

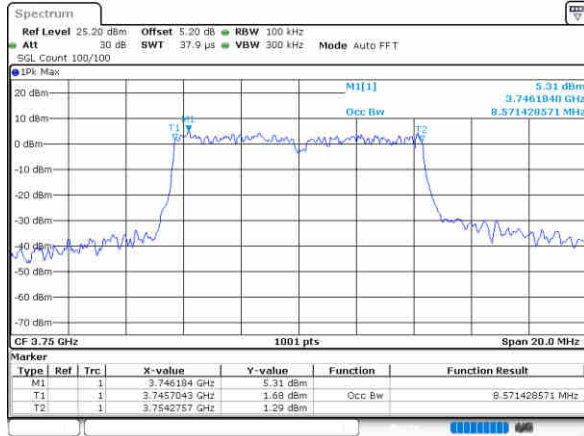
Mode	FR1 UL-MIMO n78 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	97.10	97.30	96.90	96.90	97.50	96.70	97.30	97.30



FR1 UL-MIMO n78 / 10MHz / CP-OFDM (M2)

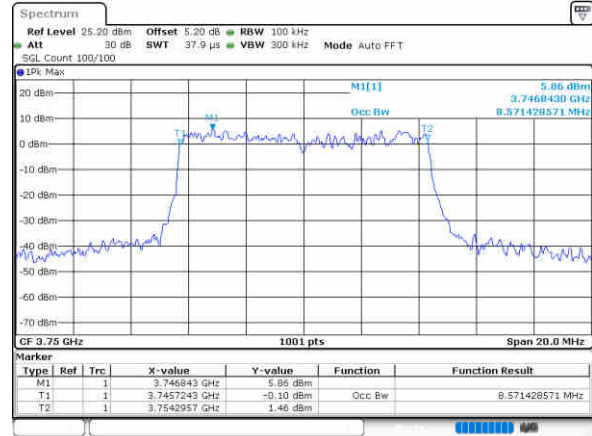
QPSK

Middle Channel



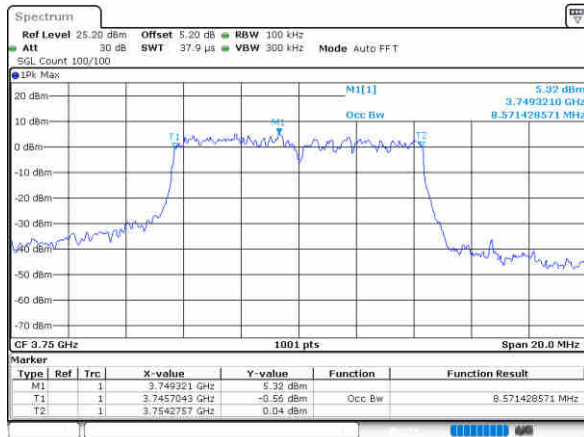
16QAM

Middle Channel



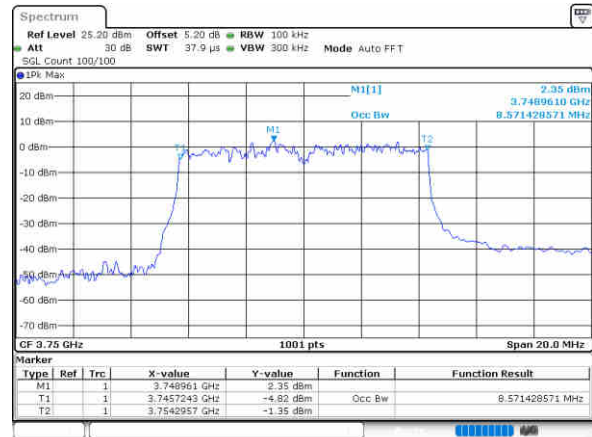
64QAM

Middle Channel



256QAM

Middle Channel

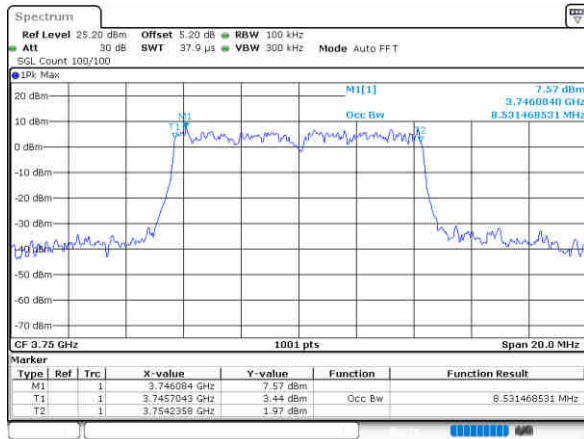




FR1 UL-MIMO n78 / 10MHz / CP-OFDM (M)

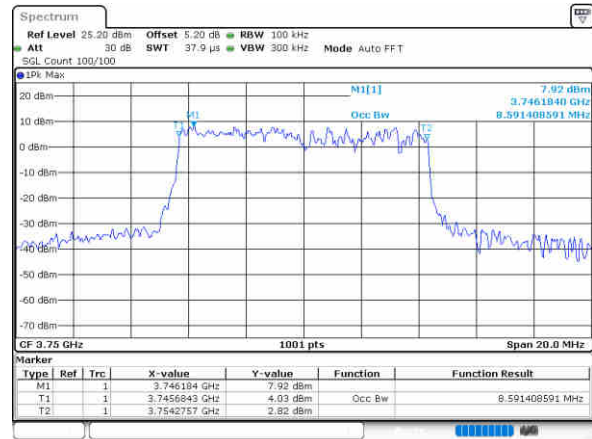
QPSK

Middle Channel



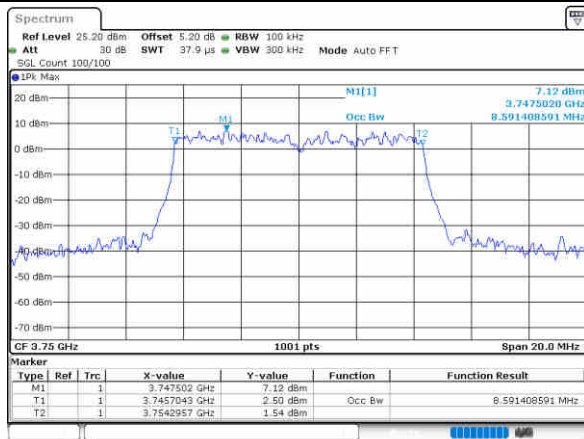
16QAM

Middle Channel



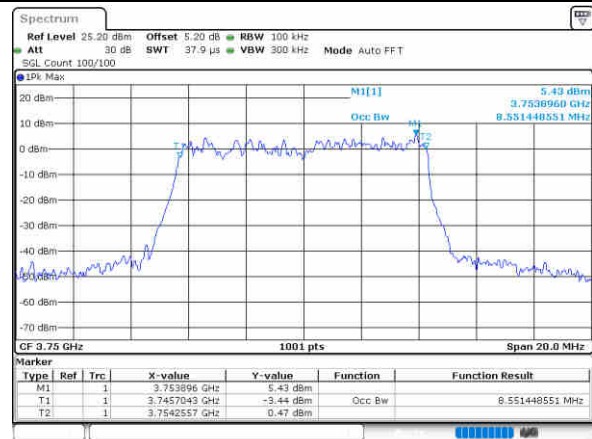
64QAM

Middle Channel



256QAM

Middle Channel

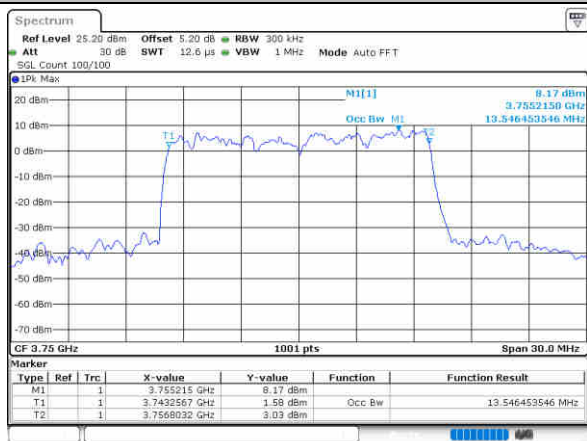




FR1 UL-MIMO n78 / 15MHz / CP-OFDM (M2)

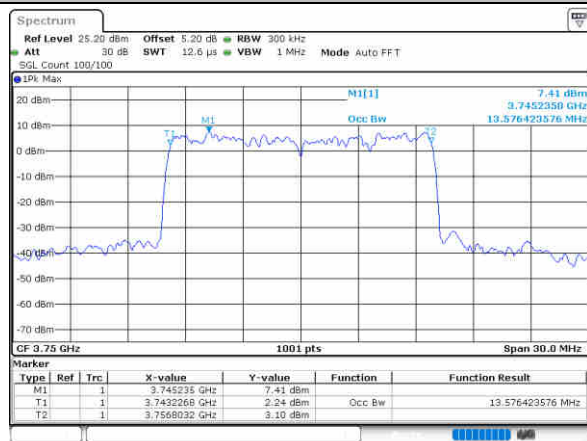
QPSK

Middle Channel



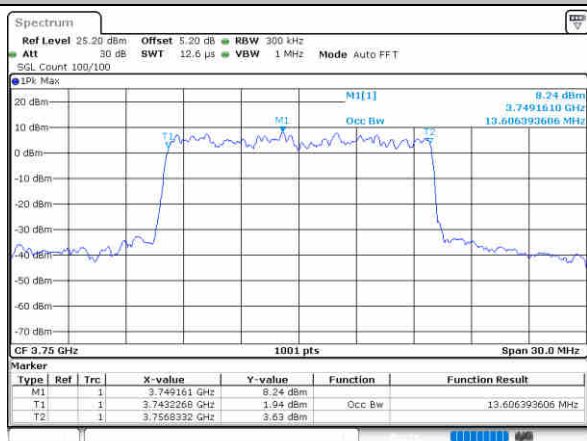
16QAM

Middle Channel



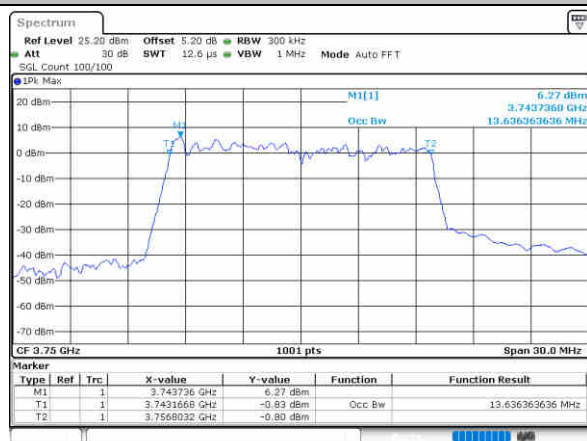
64QAM

Middle Channel



256QAM

Middle Channel





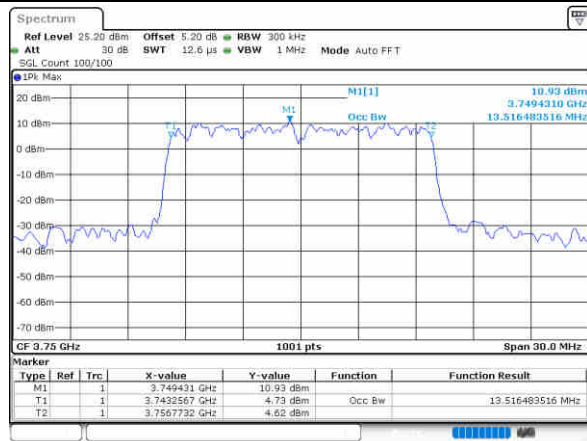
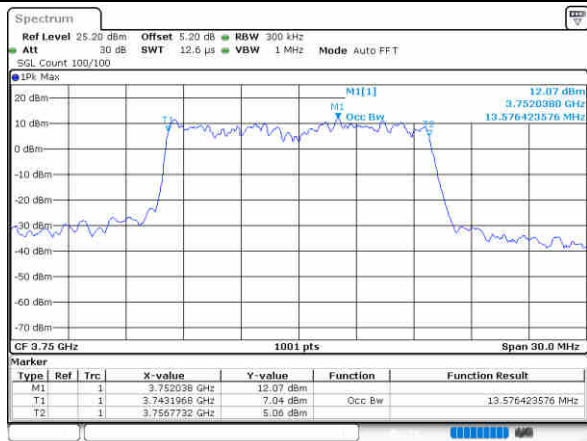
FR1 UL-MIMO n78 / 15MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel

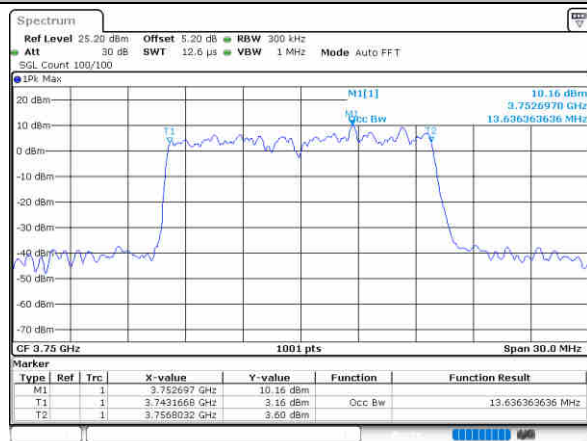
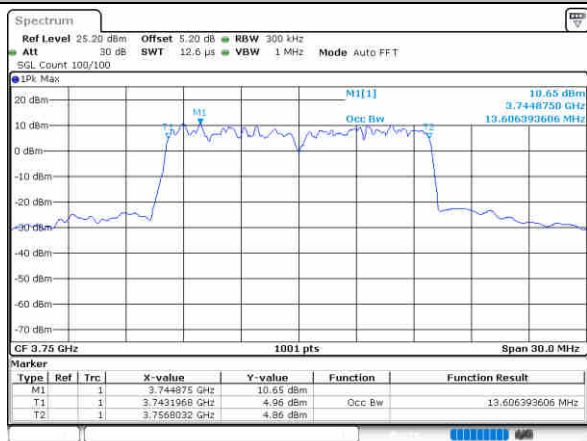


64QAM

256QAM

Middle Channel

Middle Channel

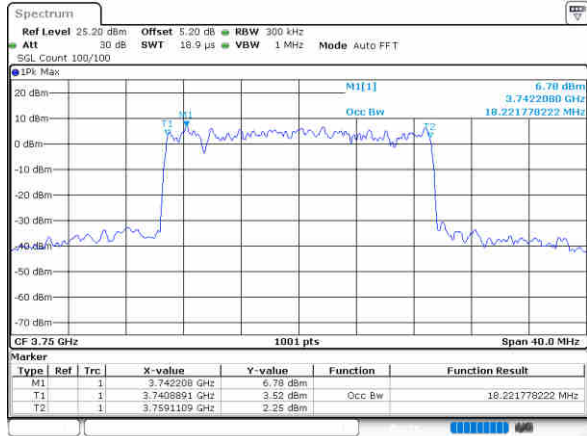




FR1 UL-MIMO n78 / 20MHz / CP-OFDM (M2)

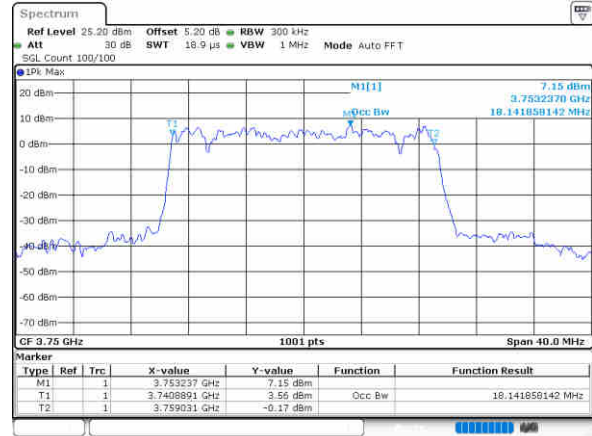
QPSK

Middle Channel



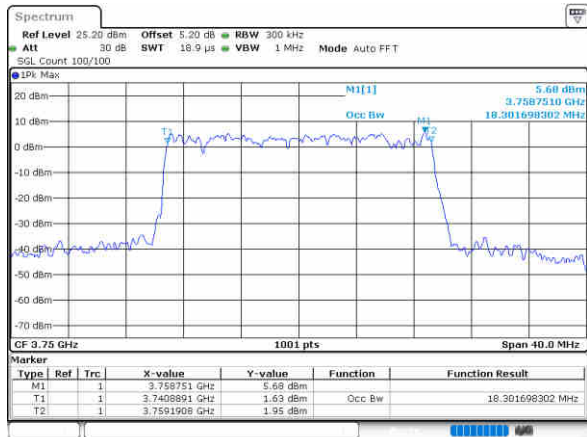
16QAM

Middle Channel



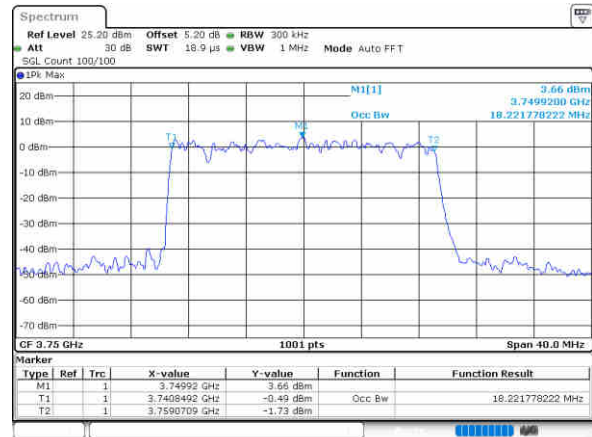
64QAM

Middle Channel



256QAM

Middle Channel

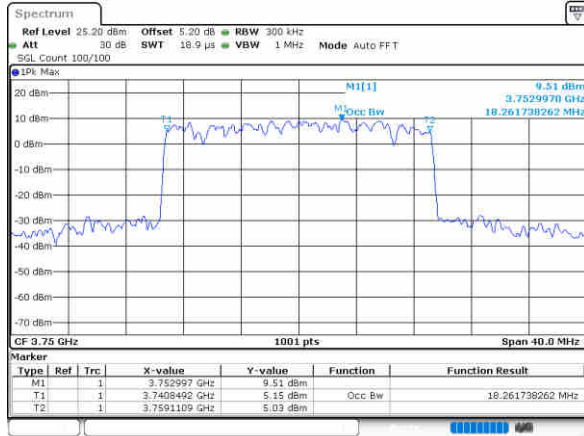




FR1 UL-MIMO n78 / 20MHz / CP-OFDM (M)

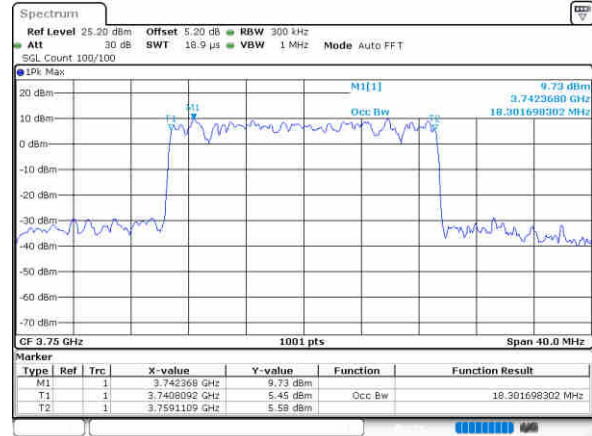
QPSK

Middle Channel



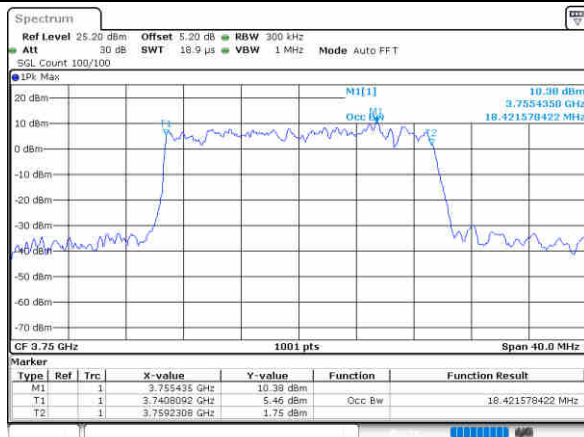
16QAM

Middle Channel



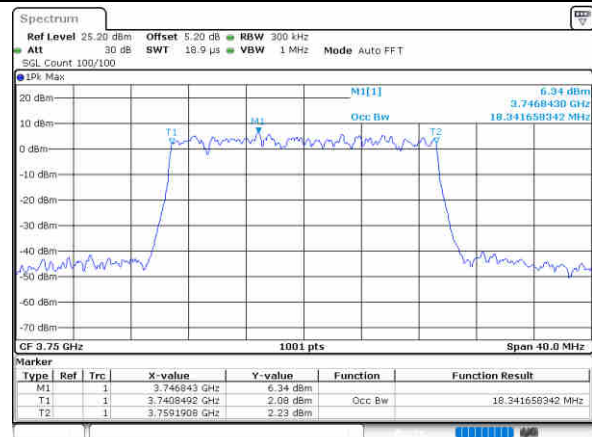
64QAM

Middle Channel



256QAM

Middle Channel

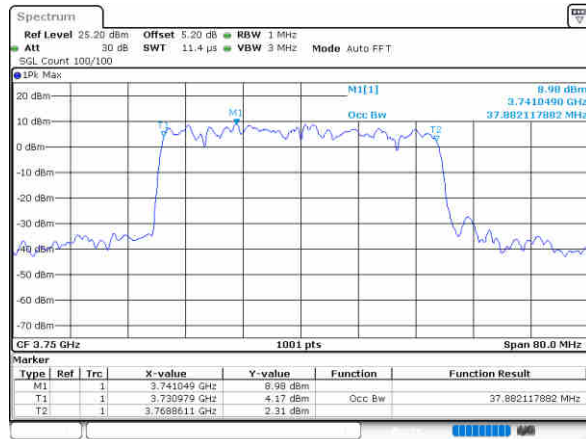




FR1 UL-MIMO n78 / 40MHz / CP-OFDM (M2)

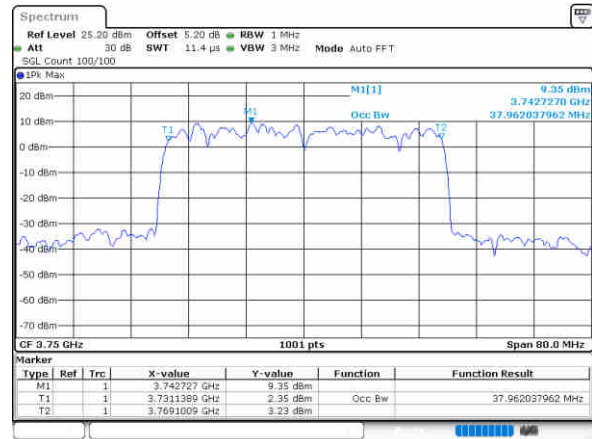
QPSK

Middle Channel



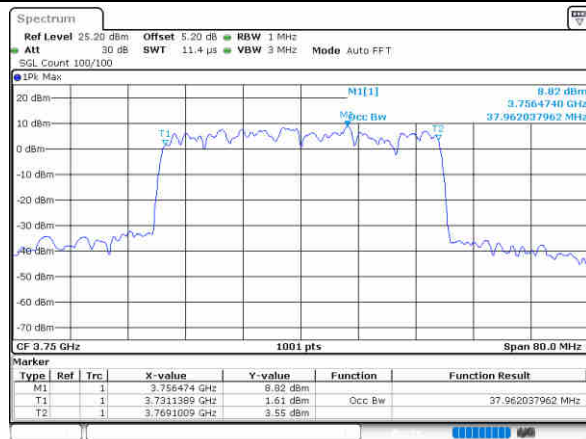
16QAM

Middle Channel



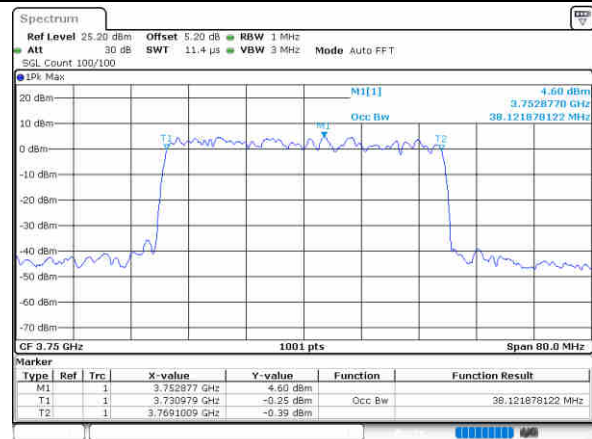
64QAM

Middle Channel



256QAM

Middle Channel

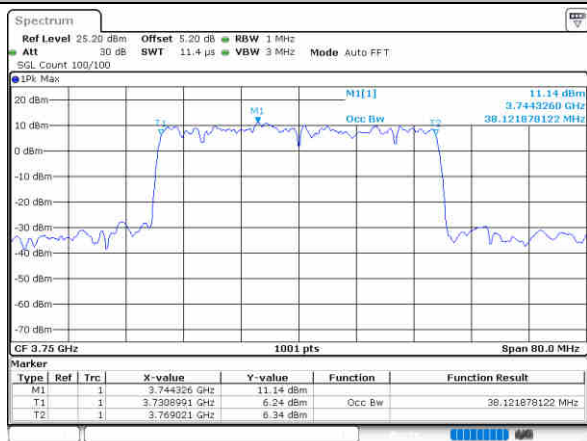




FR1 UL-MIMO n78 / 40MHz / CP-OFDM (M)

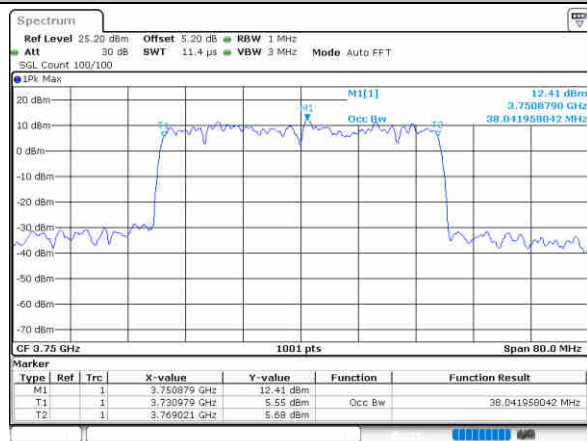
QPSK

Middle Channel



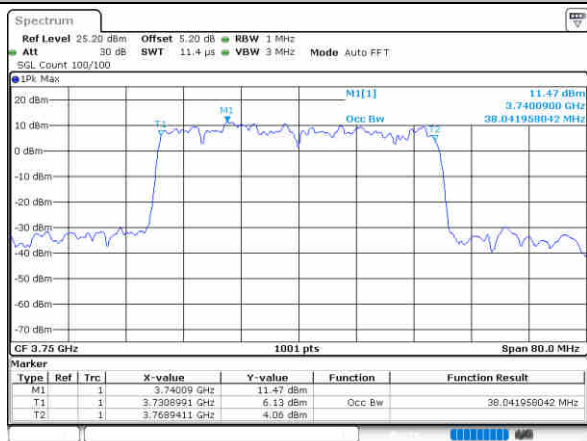
16QAM

Middle Channel



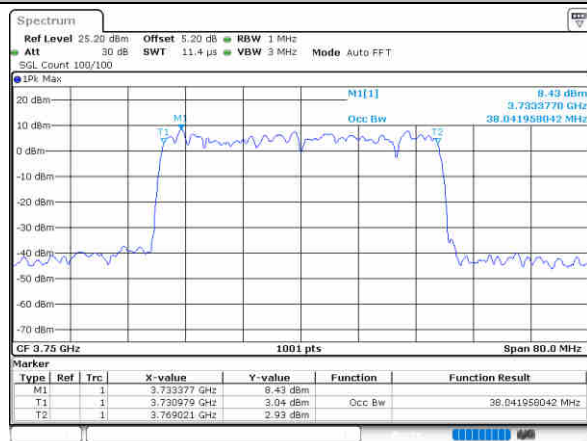
64QAM

Middle Channel



256QAM

Middle Channel

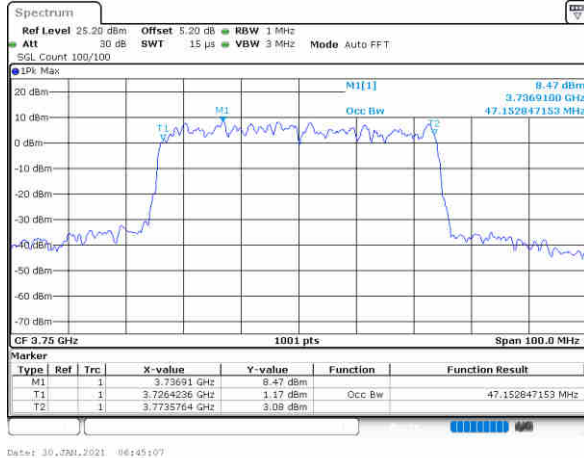




FR1 UL-MIMO n78 / 50MHz / CP-OFDM (M2)

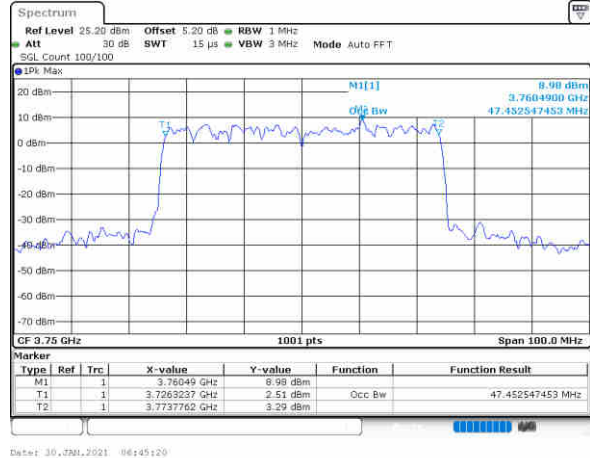
QPSK

Middle Channel



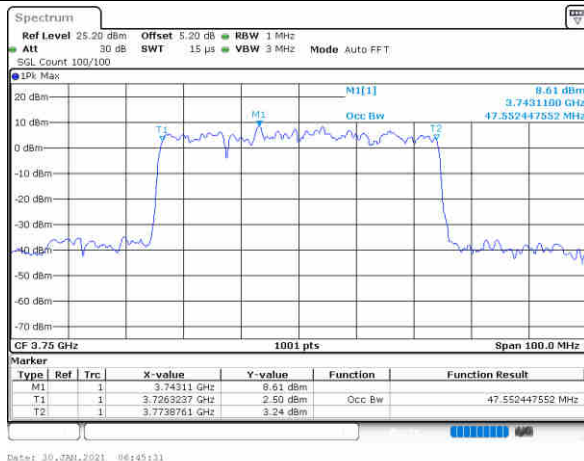
16QAM

Middle Channel



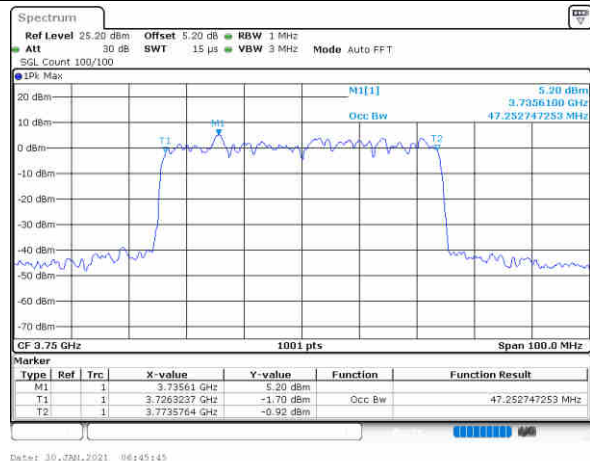
64QAM

Middle Channel



256QAM

Middle Channel





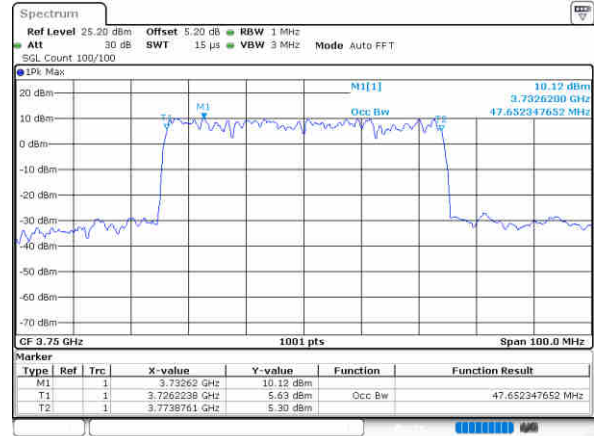
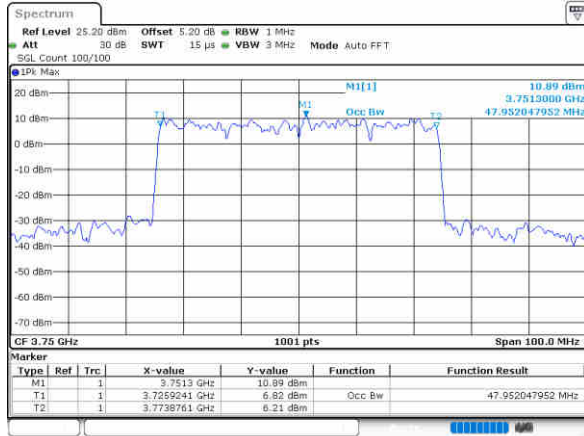
FR1 UL-MIMO n78 / 50MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel

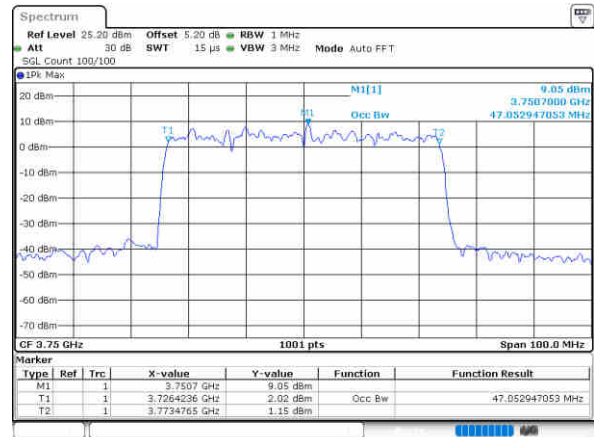
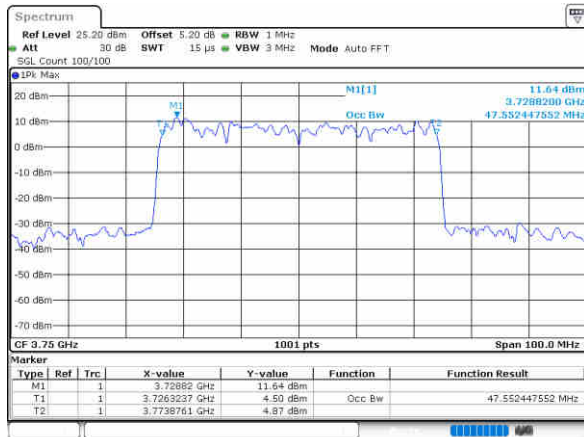


64QAM

256QAM

Middle Channel

Middle Channel

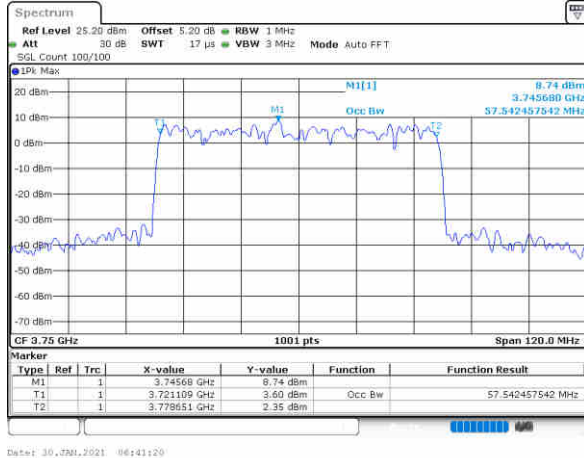




FR1 UL-MIMO n78 / 60MHz / CP-OFDM (M2)

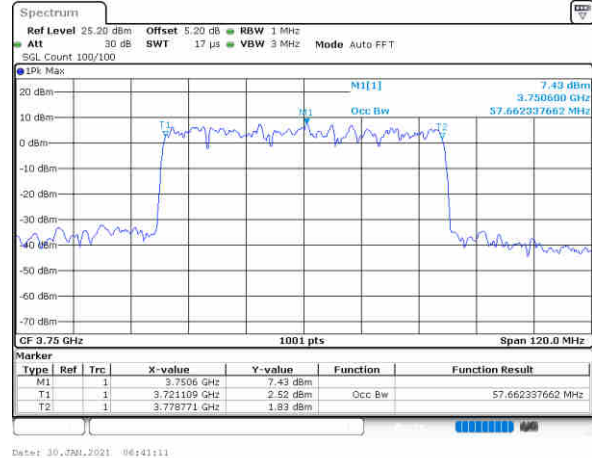
QPSK

Middle Channel



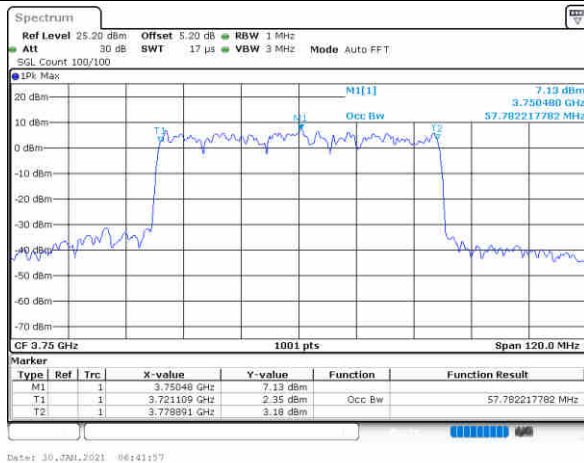
16QAM

Middle Channel



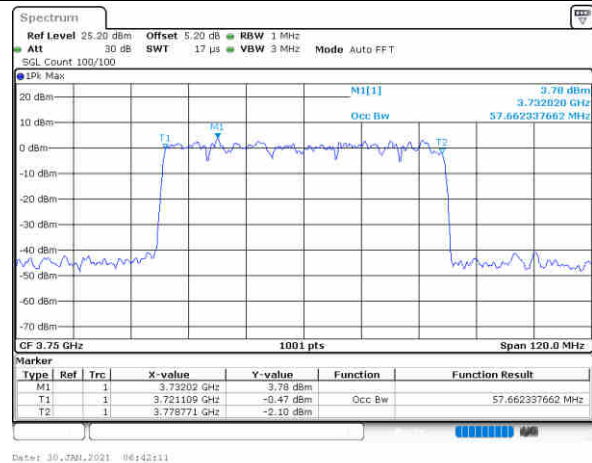
64QAM

Middle Channel



256QAM

Middle Channel

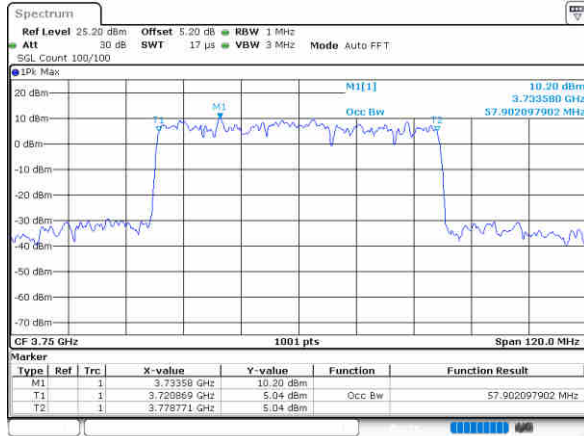




FR1 UL-MIMO n78 / 60MHz / CP-OFDM (M)

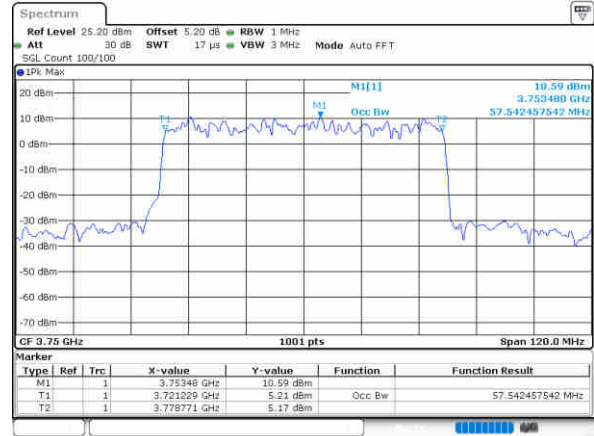
QPSK

Middle Channel



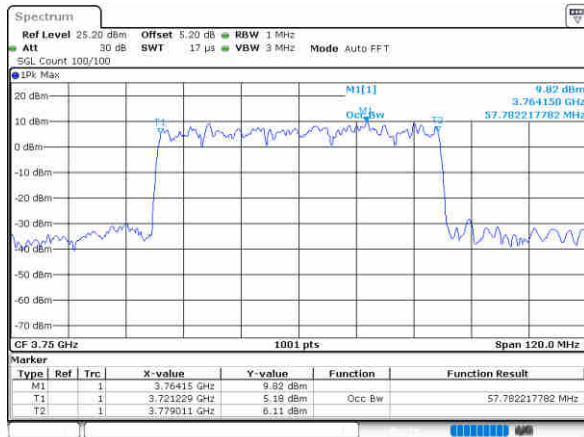
16QAM

Middle Channel



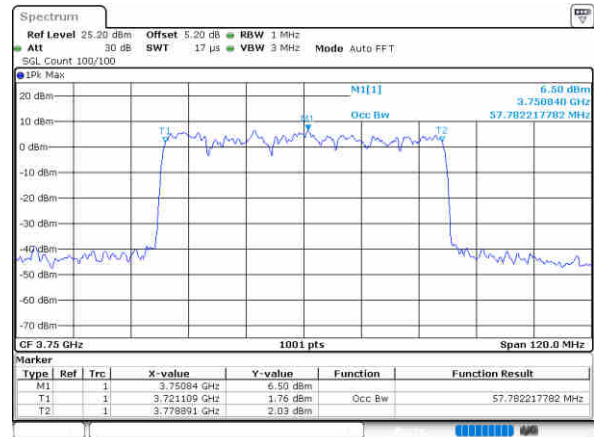
64QAM

Middle Channel



256QAM

Middle Channel

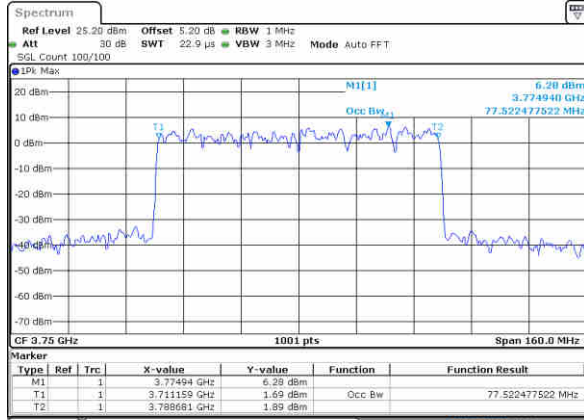




FR1 UL-MIMO n78 / 80MHz / CP-OFDM (M2)

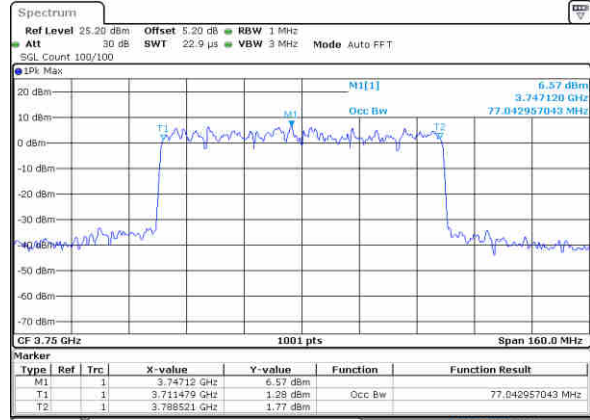
QPSK

Middle Channel



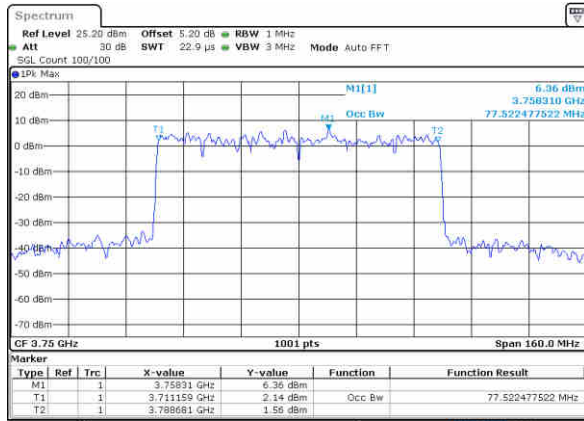
16QAM

Middle Channel



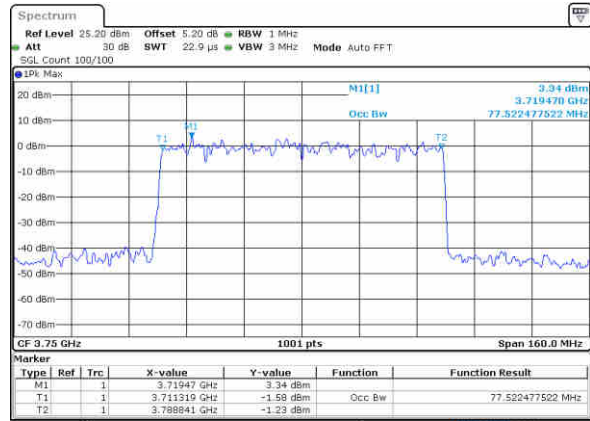
64QAM

Middle Channel



256QAM

Middle Channel





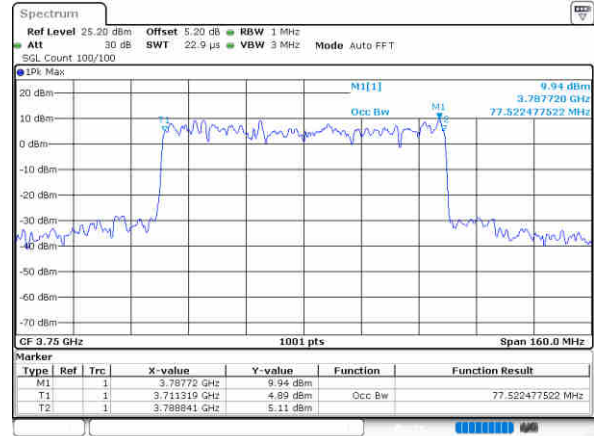
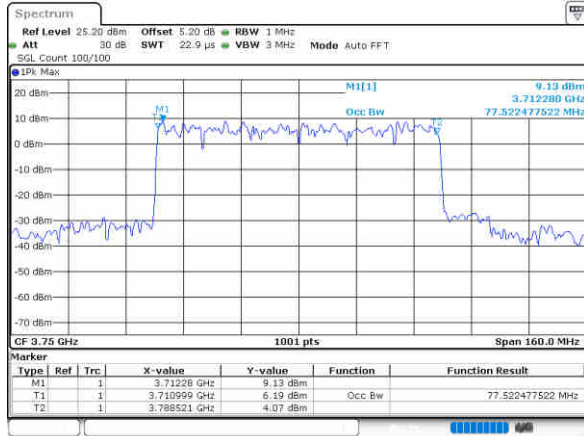
FR1 UL-MIMO n78 / 80MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel

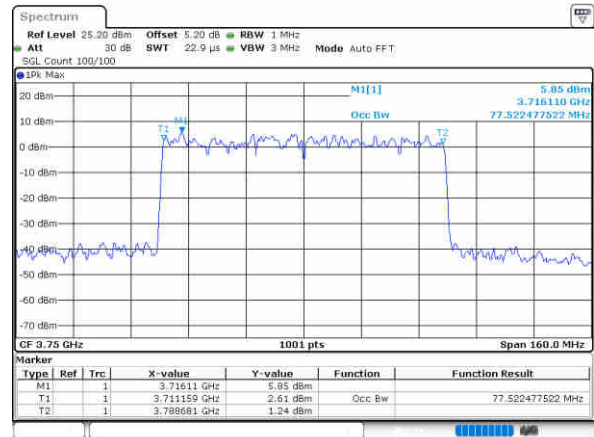
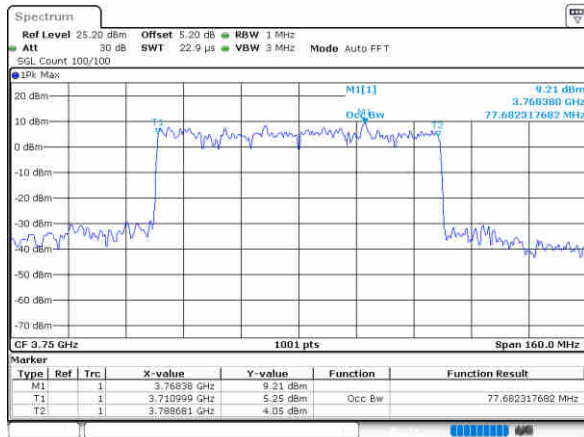


64QAM

256QAM

Middle Channel

Middle Channel

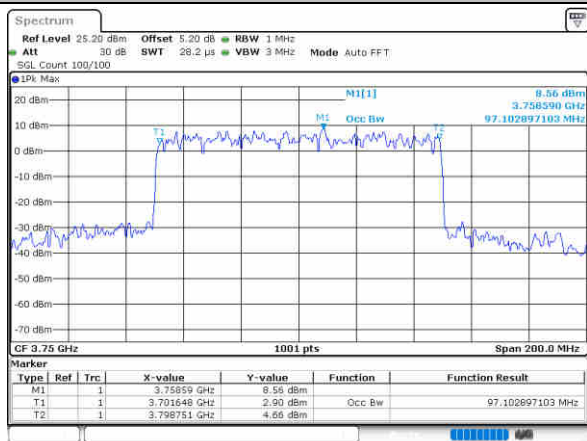




FR1 UL-MIMO n78 / 100MHz / CP-OFDM (M2)

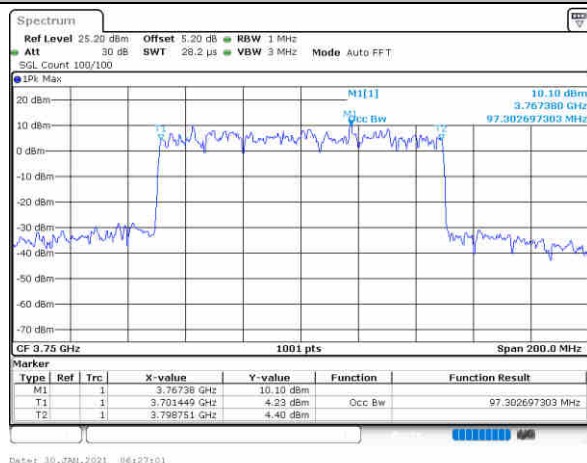
QPSK

Middle Channel



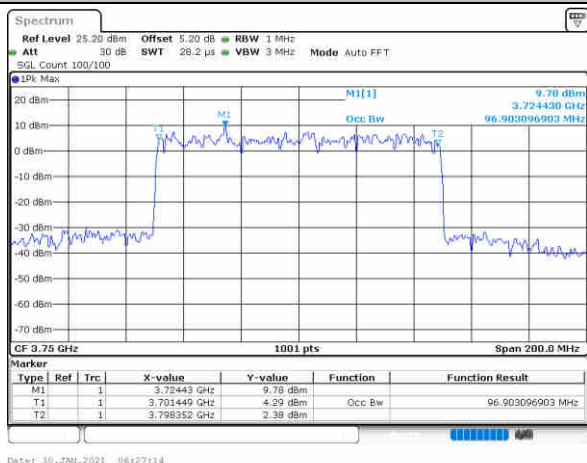
16QAM

Middle Channel



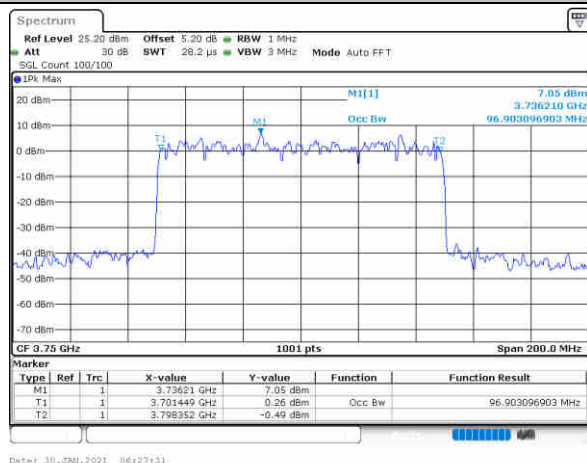
64QAM

Middle Channel



256QAM

Middle Channel

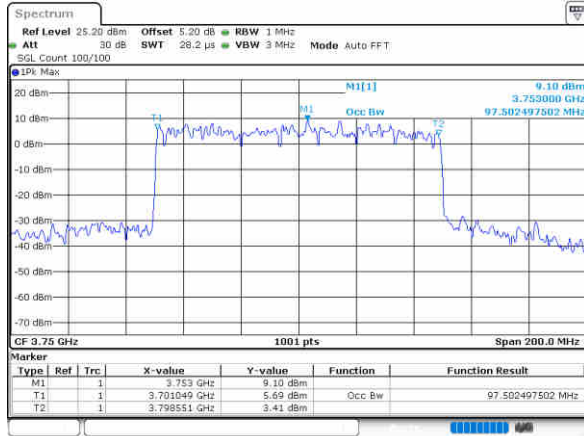




FR1 UL-MIMO n78 / 100MHz / CP-OFDM (M)

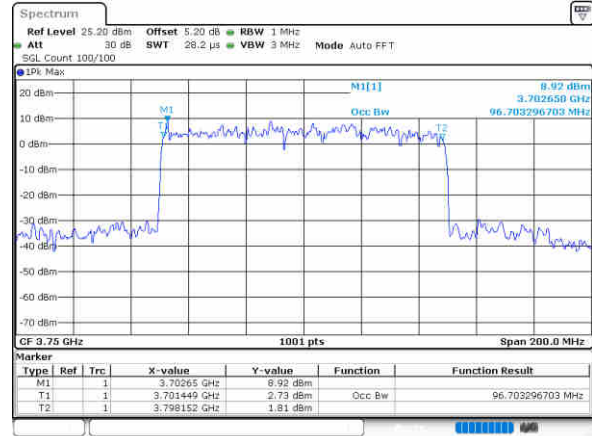
QPSK

Middle Channel



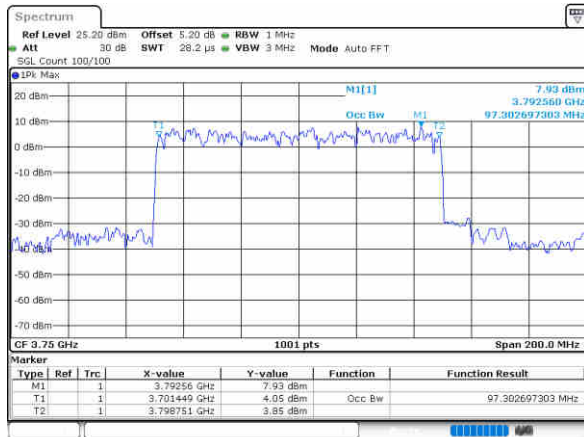
16QAM

Middle Channel



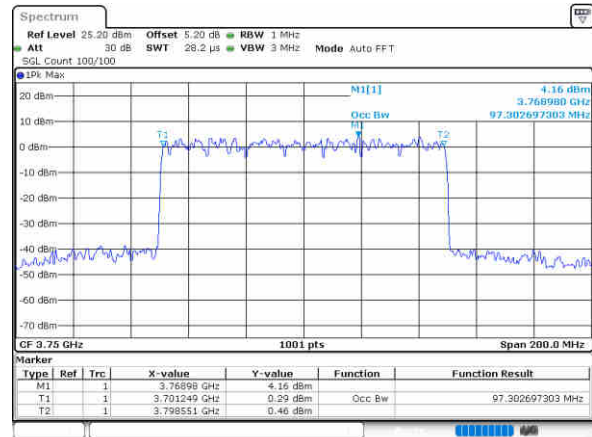
64QAM

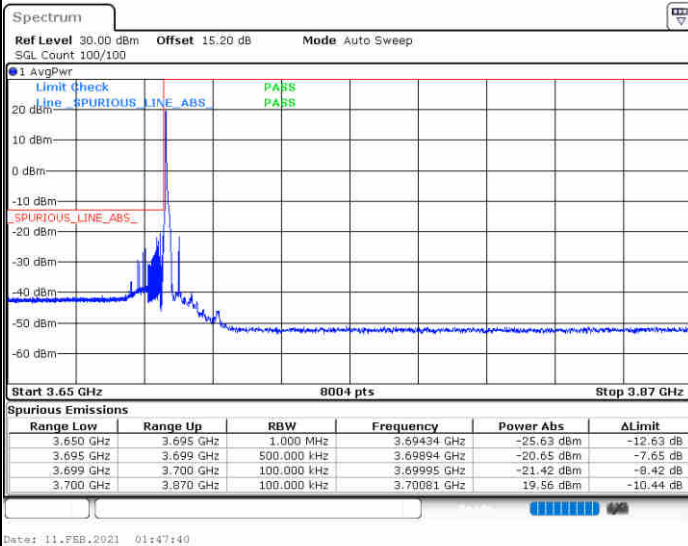
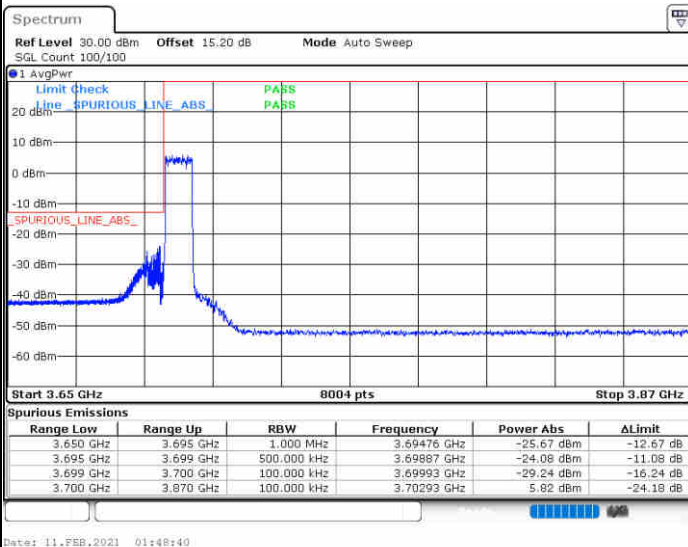
Middle Channel



256QAM

Middle Channel



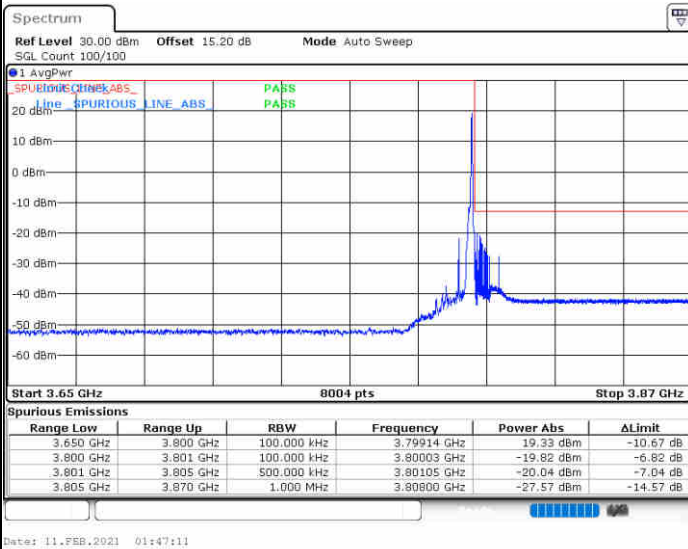
**Conducted Band Edge****FR1 UL-MIMO n78 / 10MHz / CP-OFDM QPSK (M2)****Lowest Band Edge / 1 RB****Channel Power < -13dBm Pass****Lowest Band Edge / Full RB****Channel Power < -13dBm Pass**



FR1 UL-MIMO n78 / 10MHz / CP-OFDM QPSK (M2)

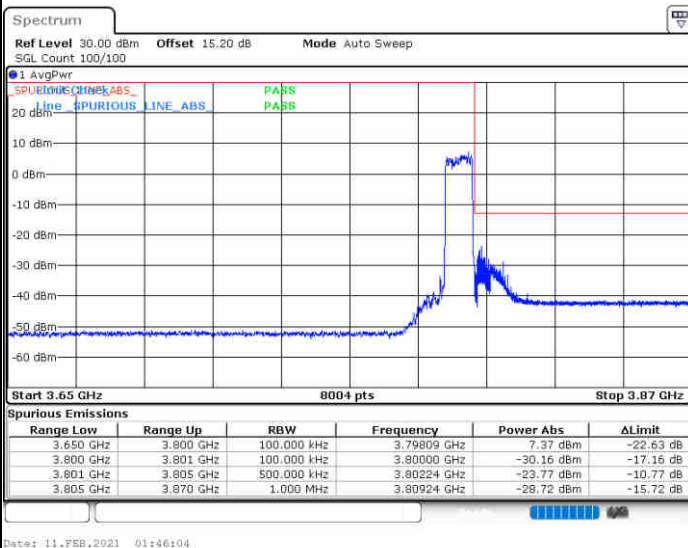
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

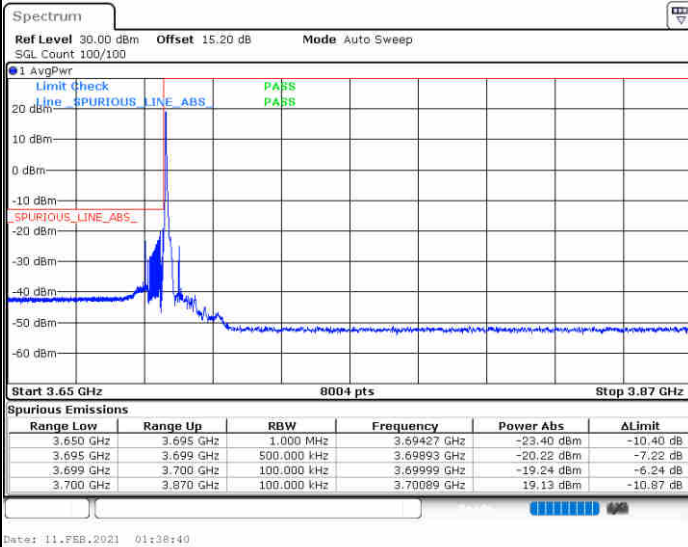




FR1 UL-MIMO n78 / 10MHz / CP-OFDM QPSK (M)

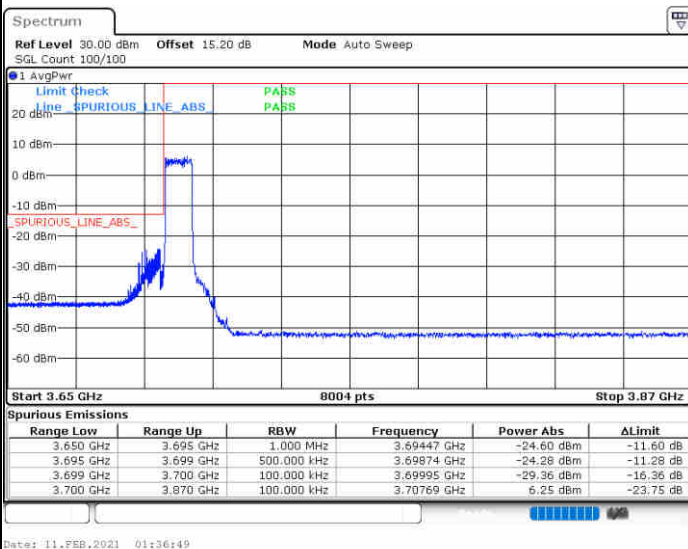
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

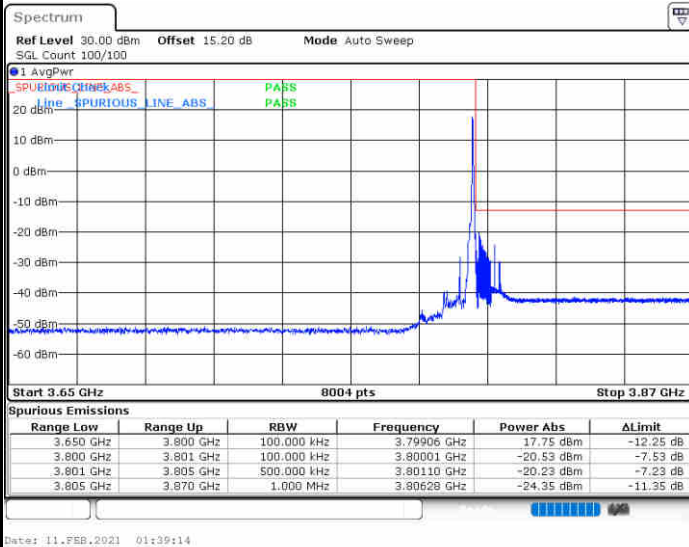




FR1 UL-MIMO n78 / 10MHz / CP-OFDM QPSK (M)

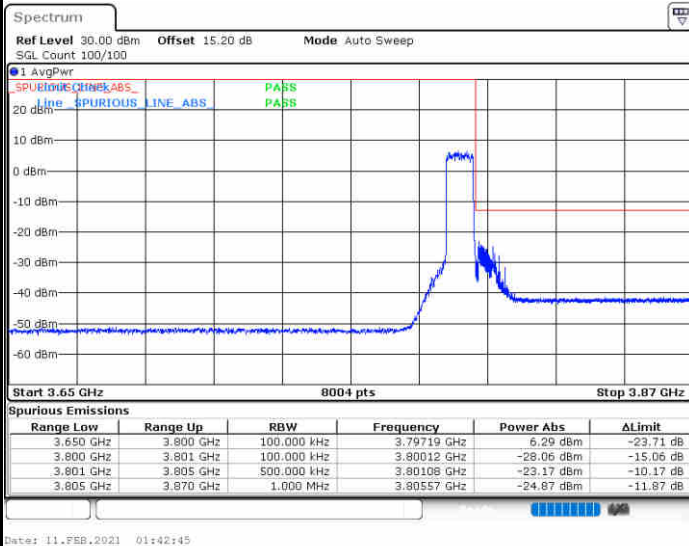
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

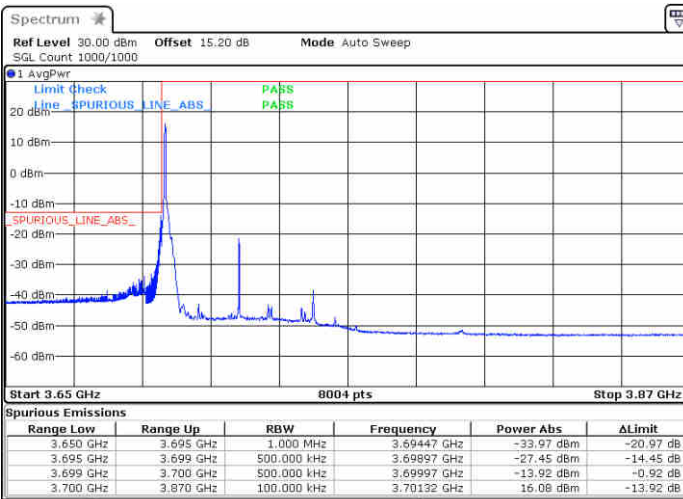
Channel Power < -13dBm Pass



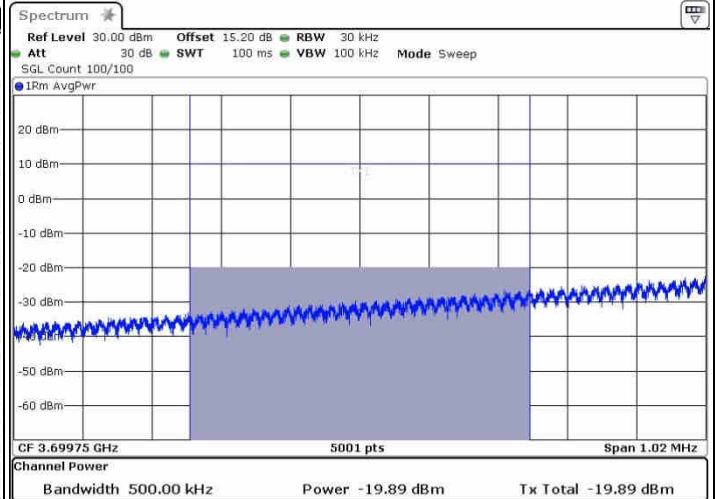


FR1 UL-MIMO n78 / 50MHz / CP-OFDM QPSK (M2)

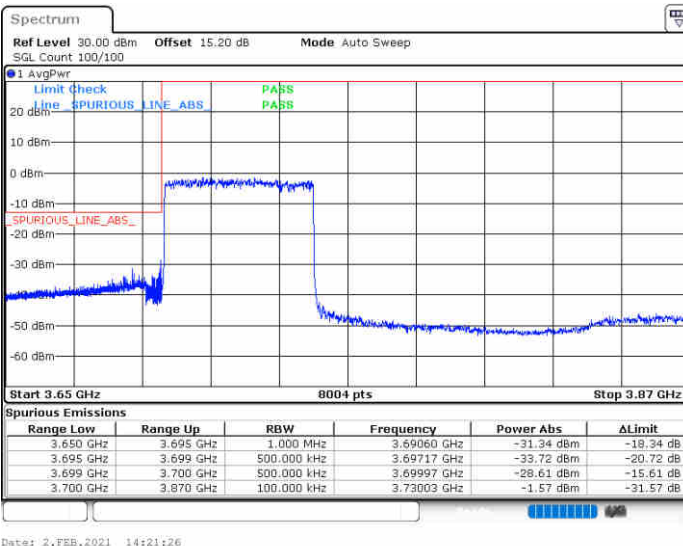
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



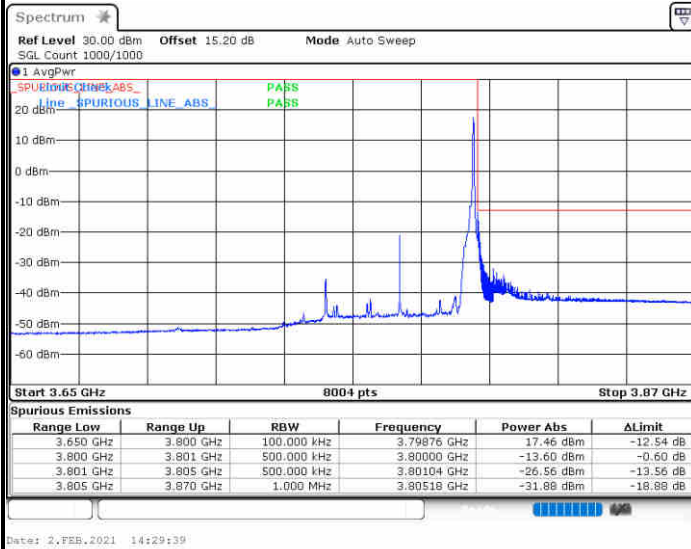
Channel Power < -13dBm Pass

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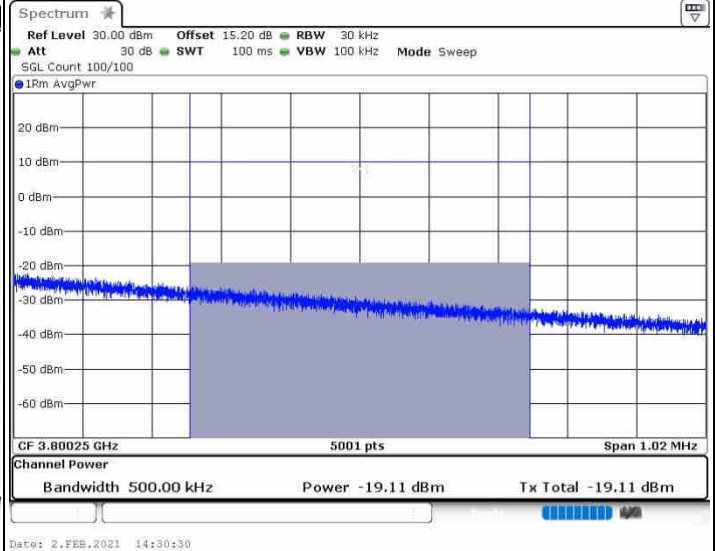


FR1 UL-MIMO n78 / 50MHz / CP-OFDM QPSK (M2)

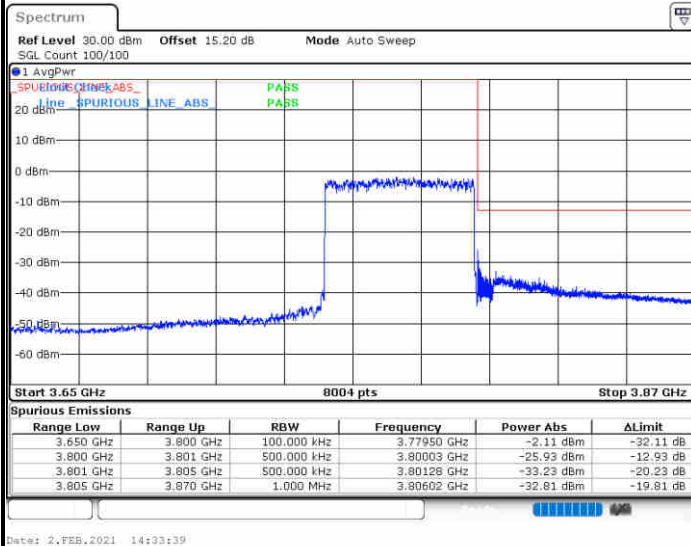
Highest Band Edge / 1 RB



Channel Power < -13dBm Pass



Highest Band Edge / Full RB



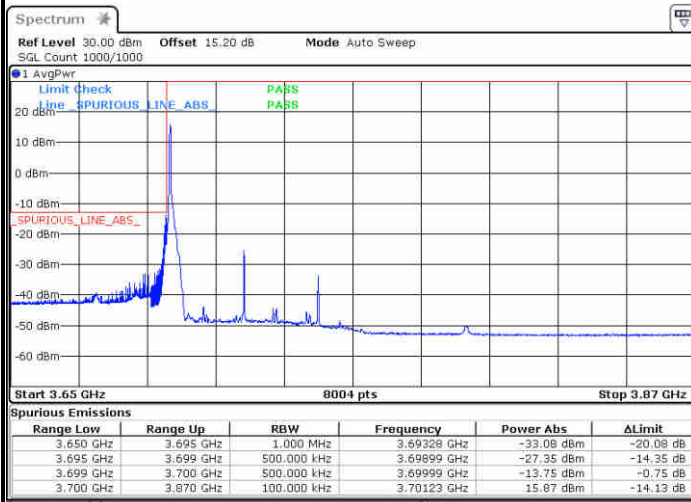
Channel Power < -13dBm Pass

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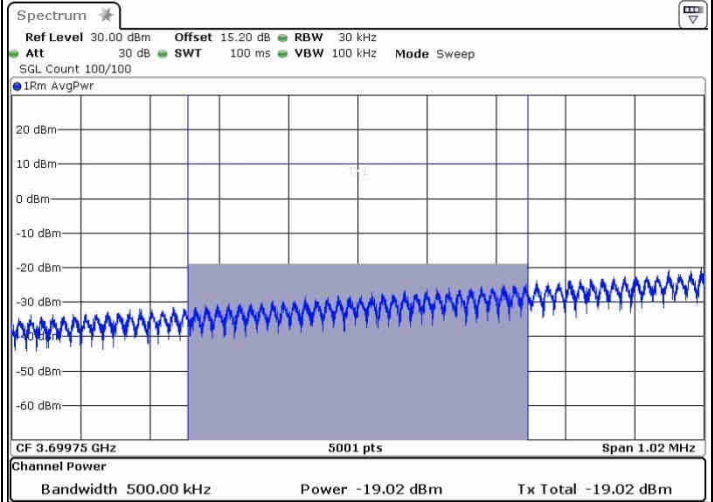


FR1 UL-MIMO n78 / 50MHz / CP-OFDM QPSK (M)

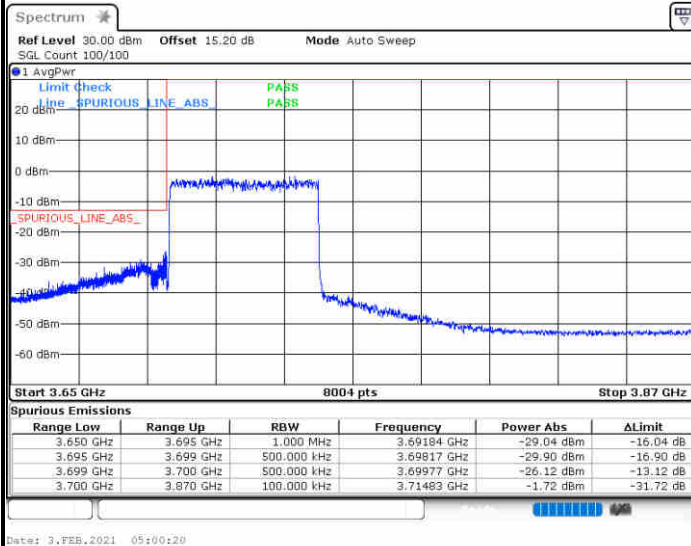
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



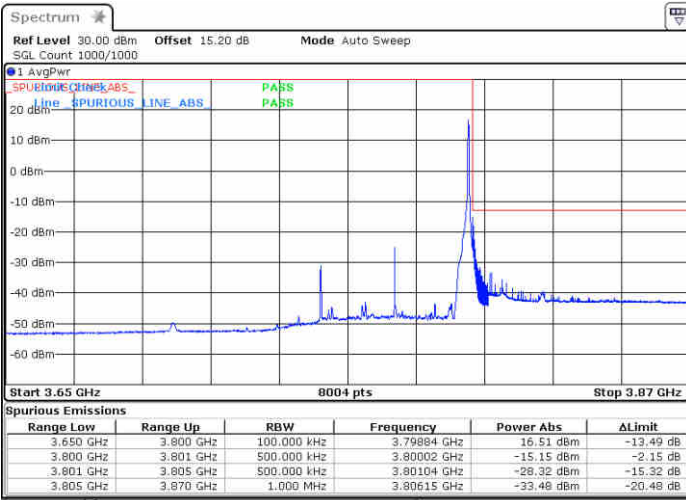
Channel Power < -13dBm Pass

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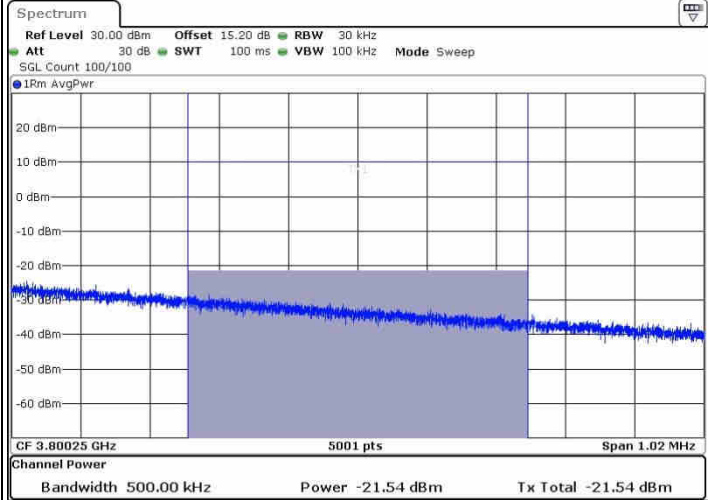


FR1 UL-MIMO n78 / 50MHz / CP-OFDM QPSK (M)

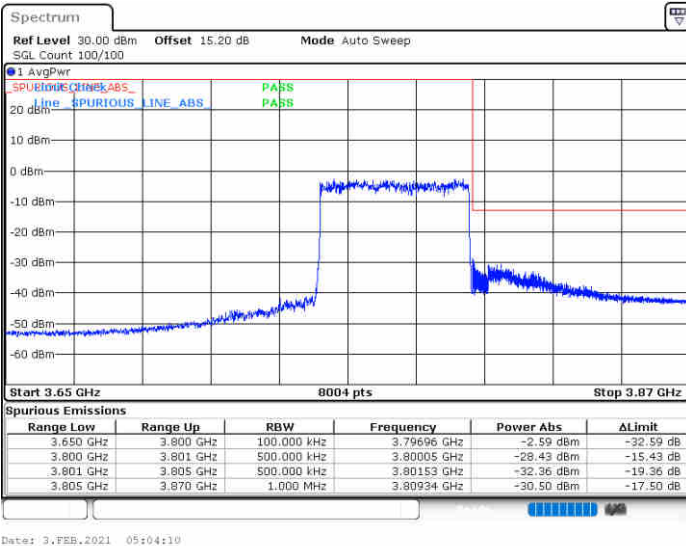
Highest Band Edge / 1 RB



Channel Power < -13dBm Pass



Highest Band Edge / Full RB



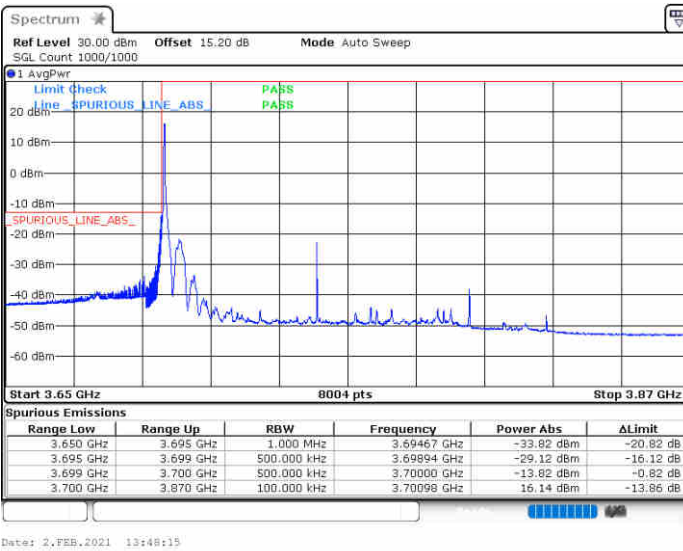
Channel Power < -13dBm Pass

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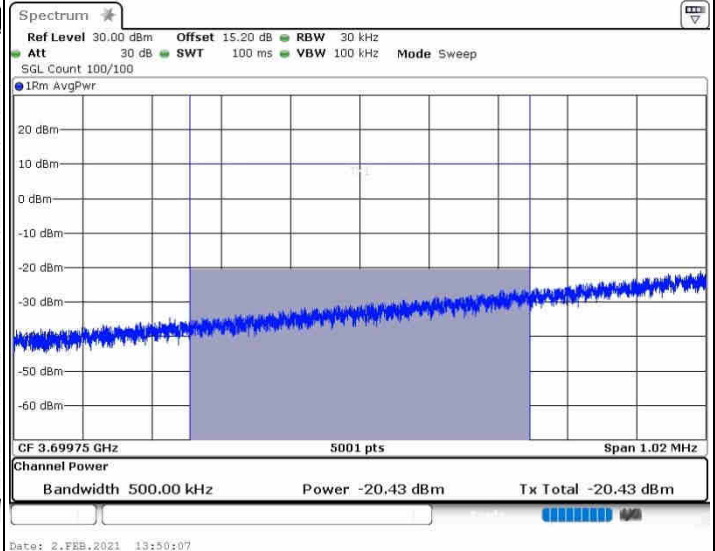


FR1 UL-MIMO n78 / 100MHz / CP-OFDM QPSK (M2)

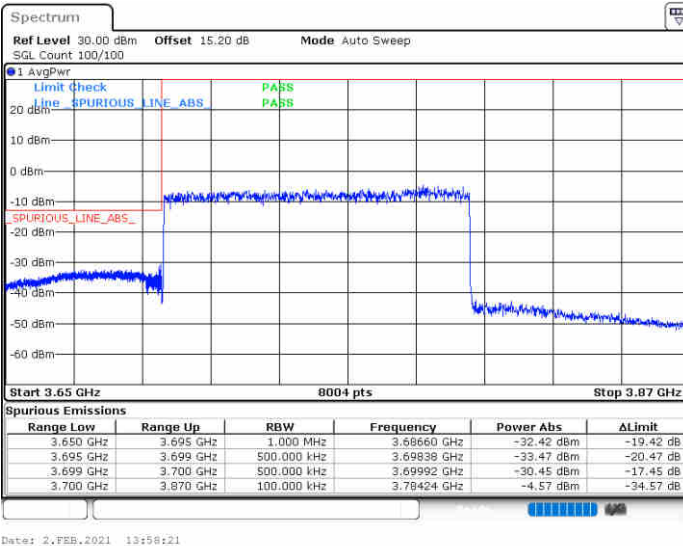
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



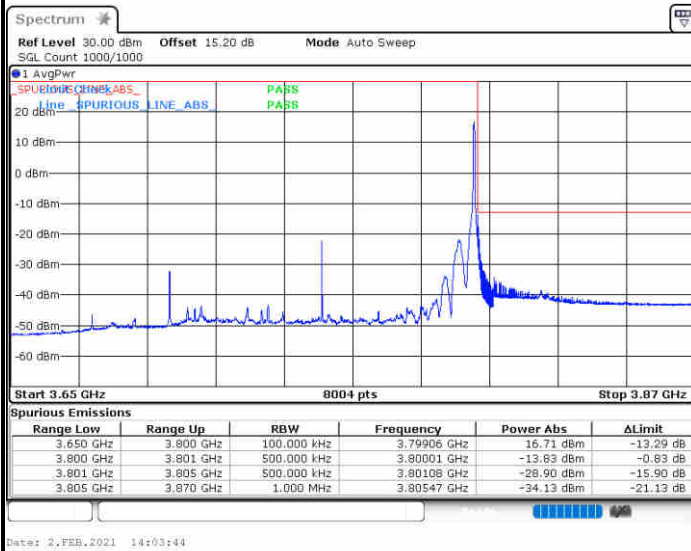
Channel Power < -13dBm Pass

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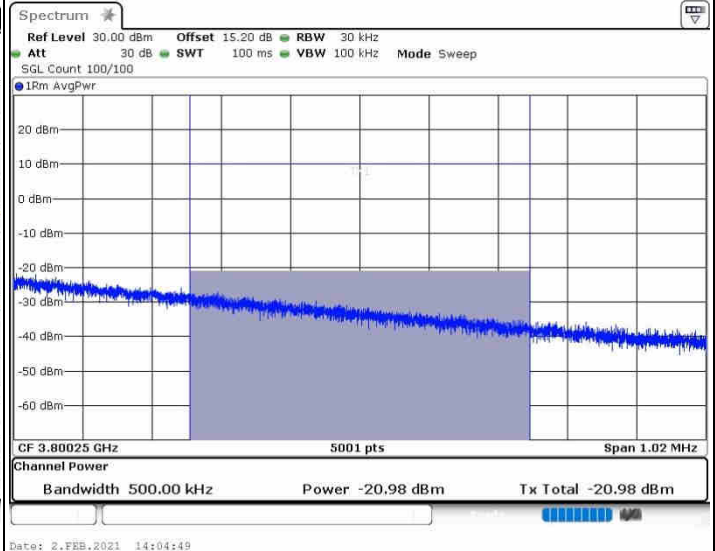


FR1 UL-MIMO n78 / 100MHz / CP-OFDM QPSK (M2)

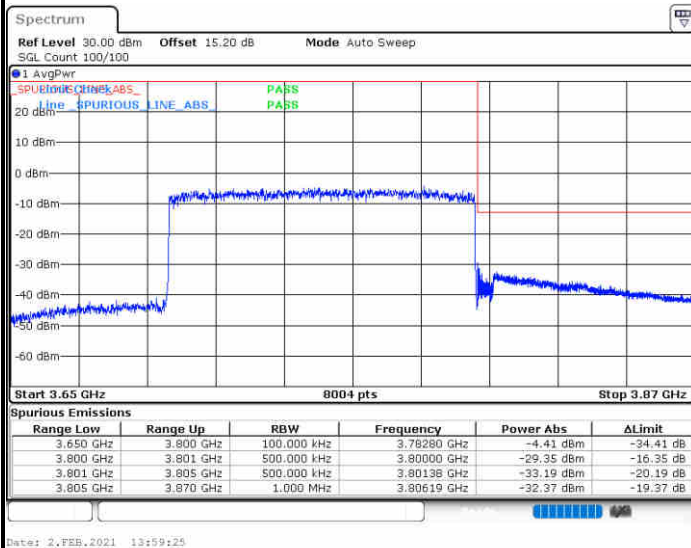
Highest Band Edge / 1 RB



Channel Power < -13dBm Pass



Highest Band Edge / Full RB



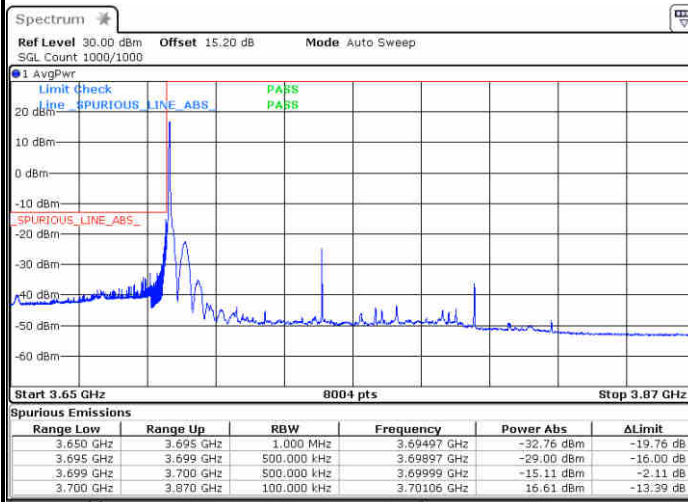
Channel Power < -13dBm Pass

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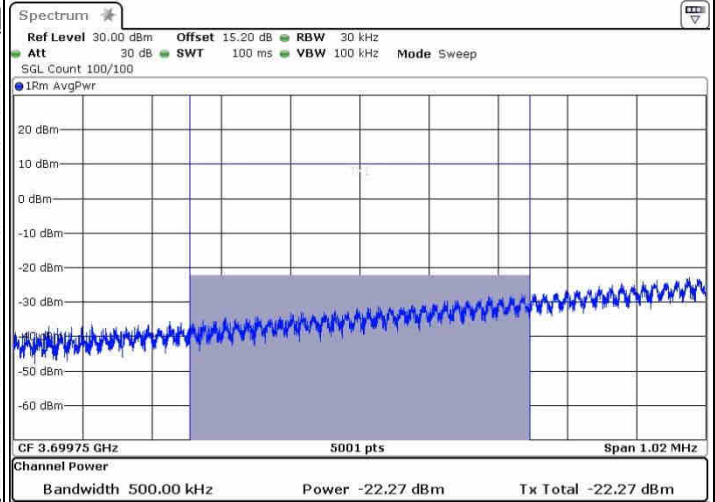


FR1 UL-MIMO n78 / 100MHz / CP-OFDM QPSK (M)

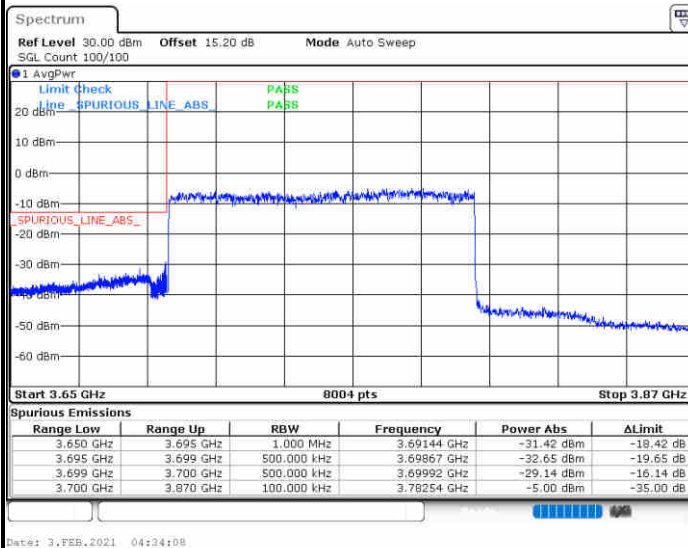
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



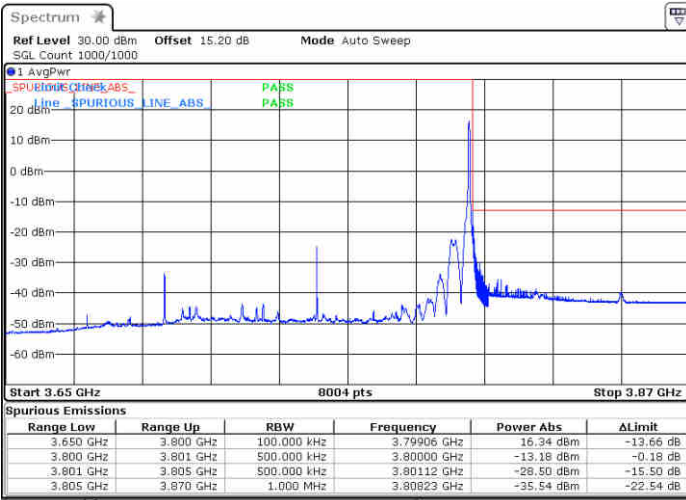
Channel Power < -13dBm Pass

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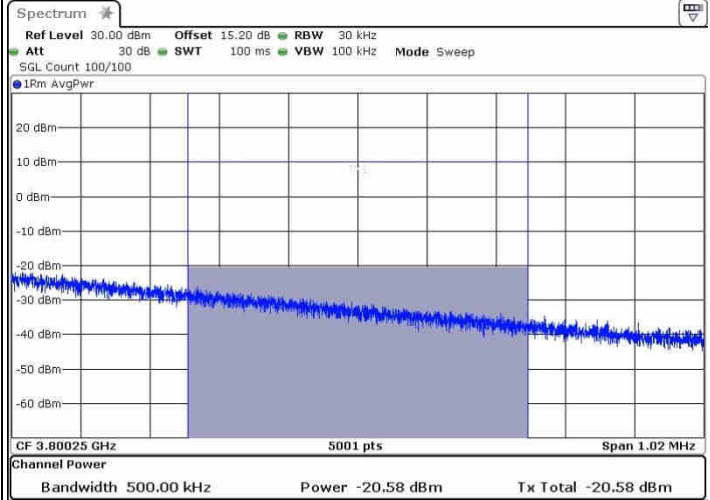


FR1 UL-MIMO n78 / 100MHz / CP-OFDM QPSK (M)

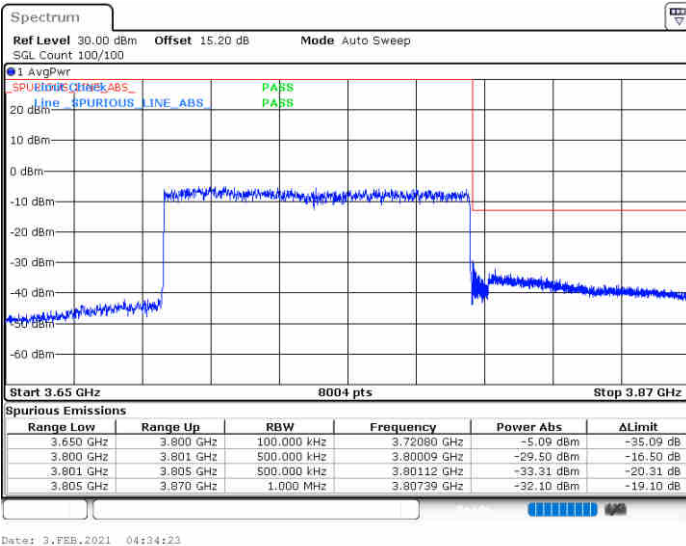
Highest Band Edge / 1 RB



Channel Power < -13dBm Pass



Highest Band Edge / Full RB



Channel Power < -13dBm Pass

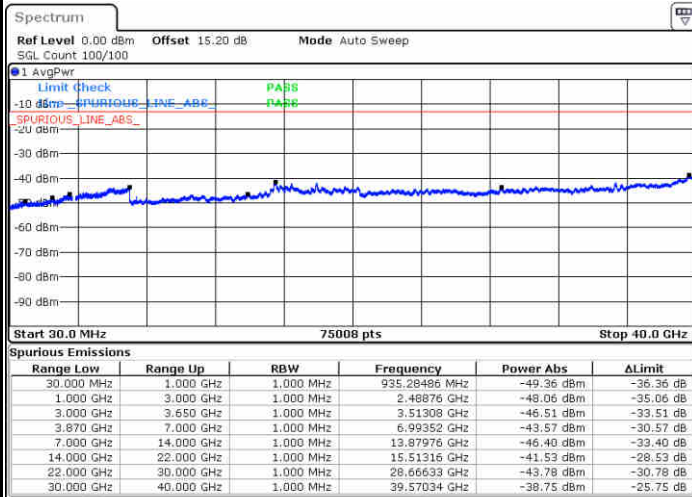
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Conducted Spurious Emission

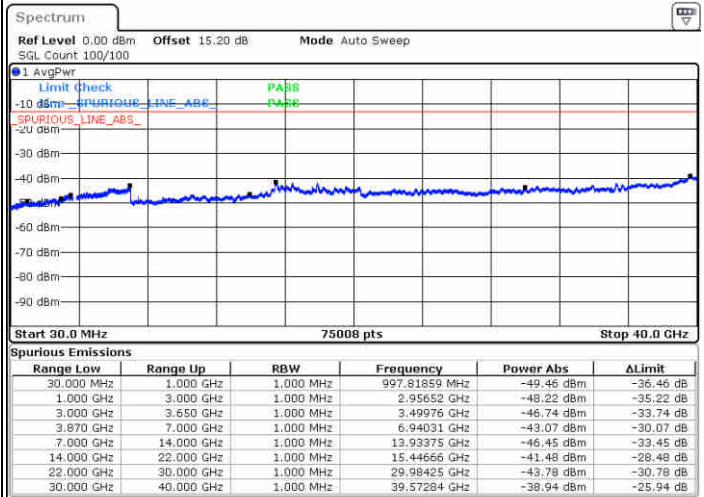
FR1 UL-MIMO n78 / 10MHz / CP-OFDM QPSK (M2)

Lowest Channel / 1RB



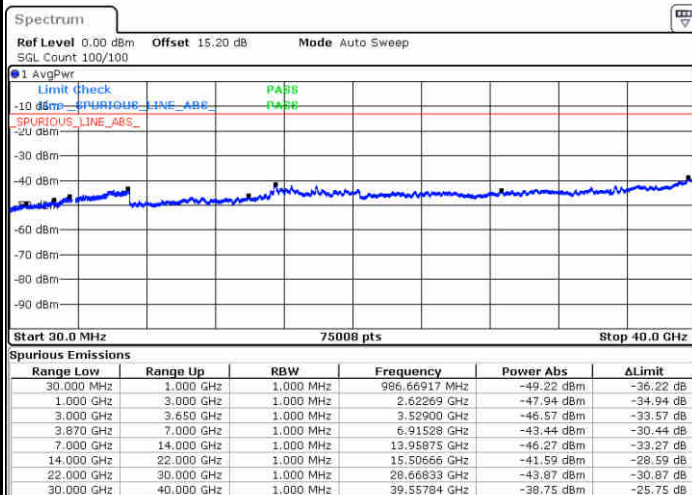
Date: 2.FEB.2021 14:56:25

Middle Channel / 1RB



Date: 2.FEB.2021 15:12:51

Highest Channel / 1RB

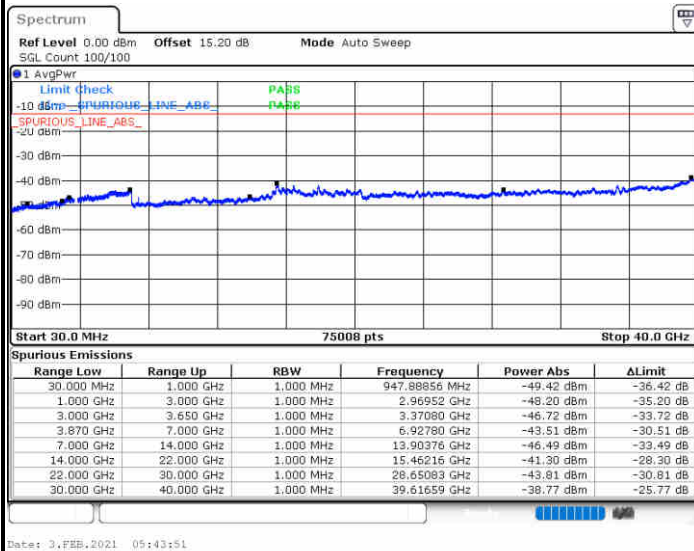


Date: 2.FEB.2021 15:35:01

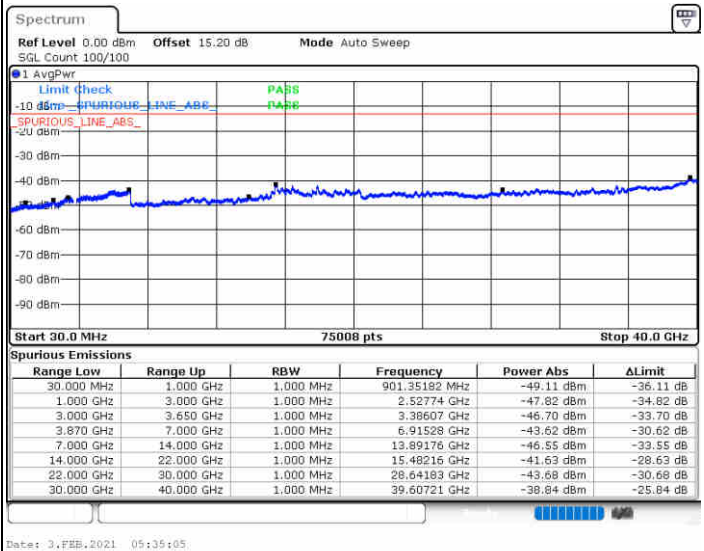


FR1 UL-MIMO n78 / 10MHz / CP-OFDM QPSK (M)

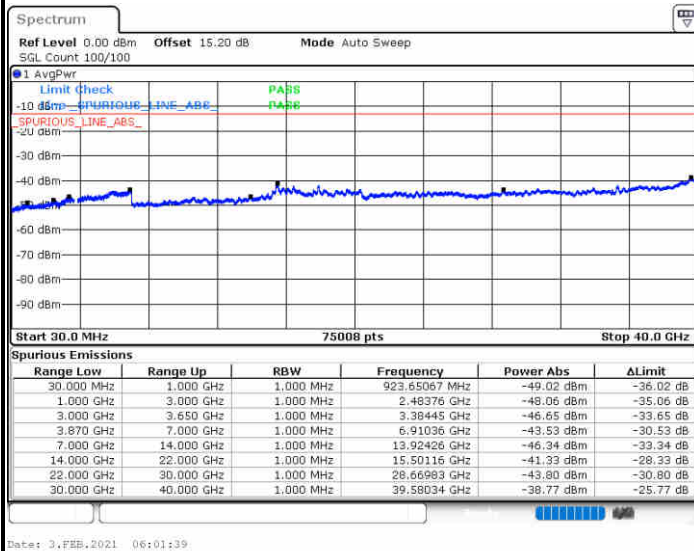
Lowest Channel / 1RB



Middle Channel / 1RB



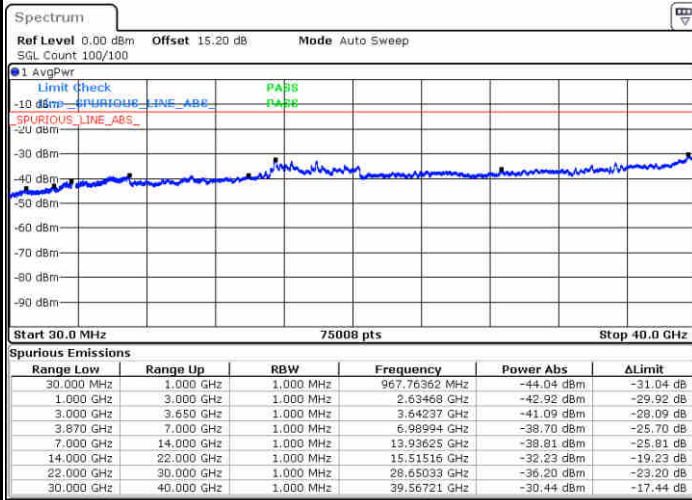
Highest Channel / 1RB





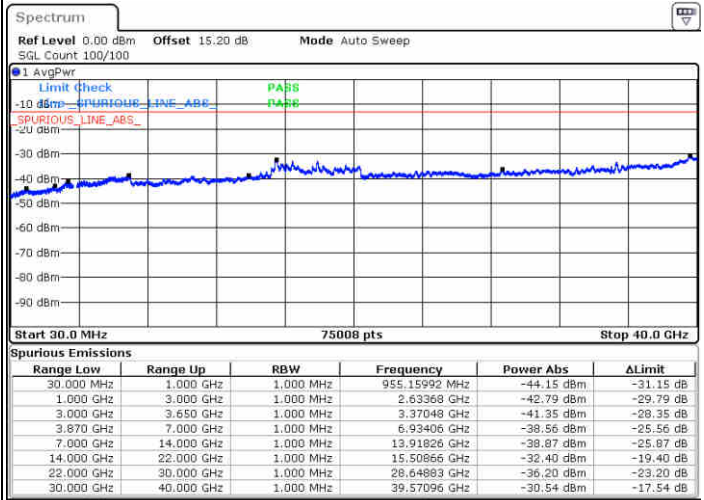
FR1 UL-MIMO n78 / 50MHz / CP-OFDM QPSK (M2)

Lowest Channel / 1RB



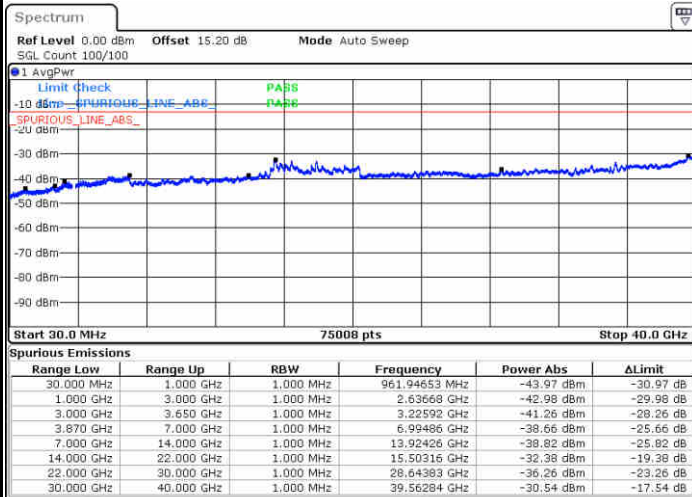
Date: 2.FEB.2021 14:17:20

Middle Channel / 1RB



Date: 2.FEB.2021 14:23:19

Highest Channel / 1RB



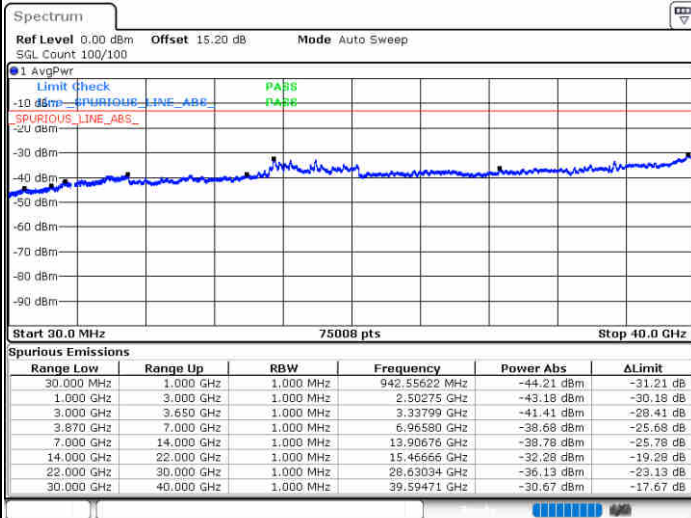
Date: 2.FEB.2021 14:27:42



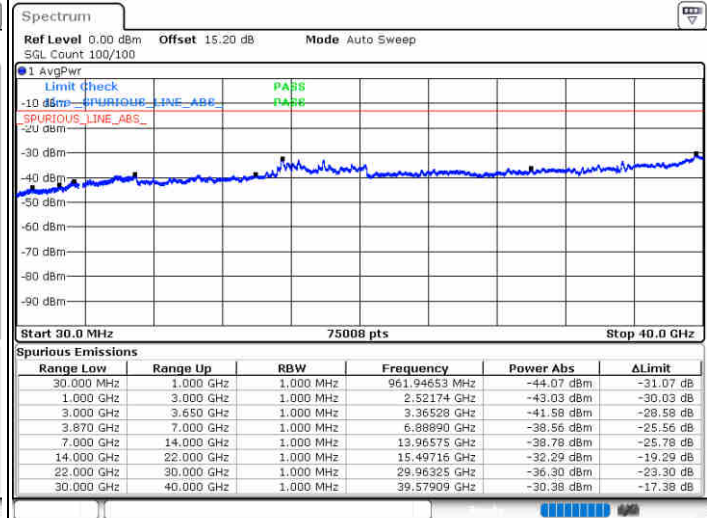
FR1 UL-MIMO n78 / 50MHz / CP-OFDM QPSK (M)

Lowest Channel / 1RB

Middle Channel / 1RB

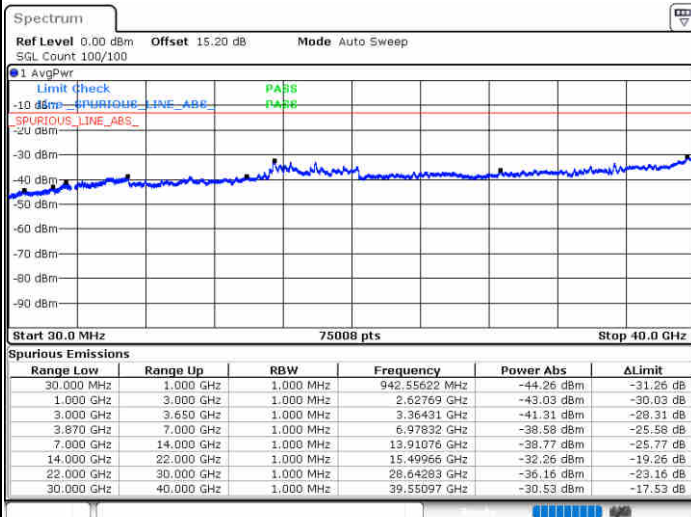


Date: 3.FEB.2021 04:52:22



Date: 3.FEB.2021 04:47:27

Highest Channel / 1RB

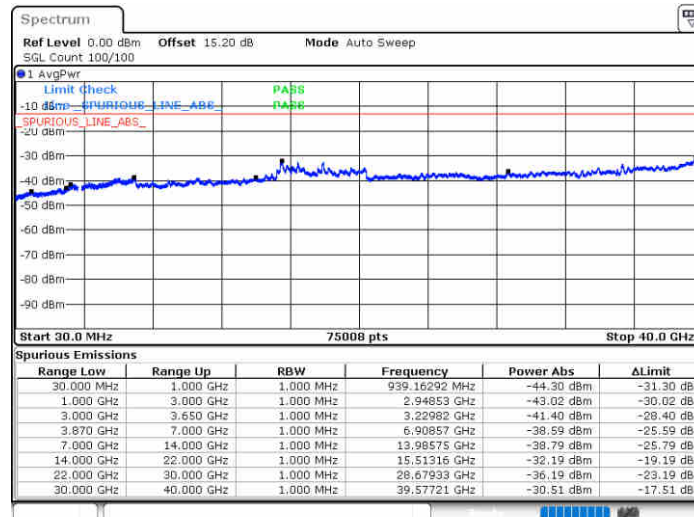


Date: 3.FEB.2021 05:10:26



FR1 UL-MIMO n78 / 100MHz / CP-OFDM QPSK (M2)

Middle Channel / 1RB

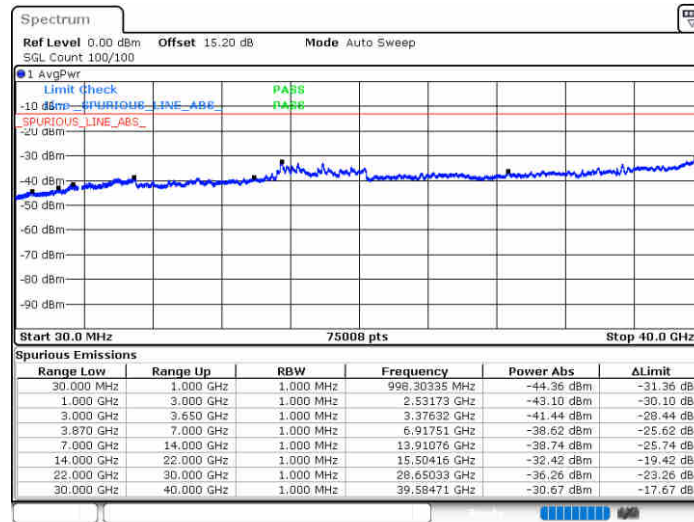


Date: 2.FEB.2021 14:11:41



FR1 UL-MIMO n78 / 100MHz / CP-OFDM QPSK (M)

Middle Channel / 1RB



Date: 3.FEB.2021 04:27:12

Frequency Stability

Test Conditions		NR UL-MIMO n78 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0012	PASS
40	Normal Voltage	0.0019	
30	Normal Voltage	0.0002	
20(Ref.)	Normal Voltage	0.0021	
10	Normal Voltage	0.0012	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0019	
-20	Normal Voltage	0.0010	
-30	Normal Voltage	0.0023	
20	Maximum Voltage	0.0014	
20	Normal Voltage	0.0015	
20	Battery End Point	0.0013	

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.



5G NR n78 NSA-SCS 15K

Peak-to-Average Ratio

Mode	FR1 n78 / 20MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	PI/2 BPSK	QPSK	QPSK	Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.43	3.91	5.28	5.42	PASS
Middle CH	4.32	3.86	5.59	5.39	
Highest CH	4.61	3.91	6.29	5.04	