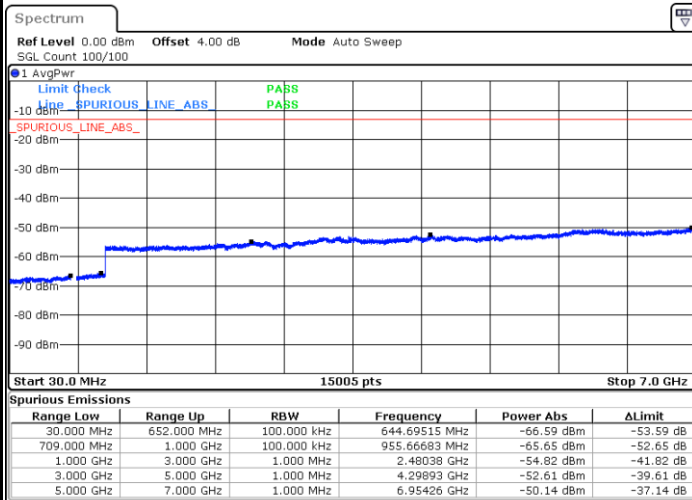




Conducted Spurious Emission

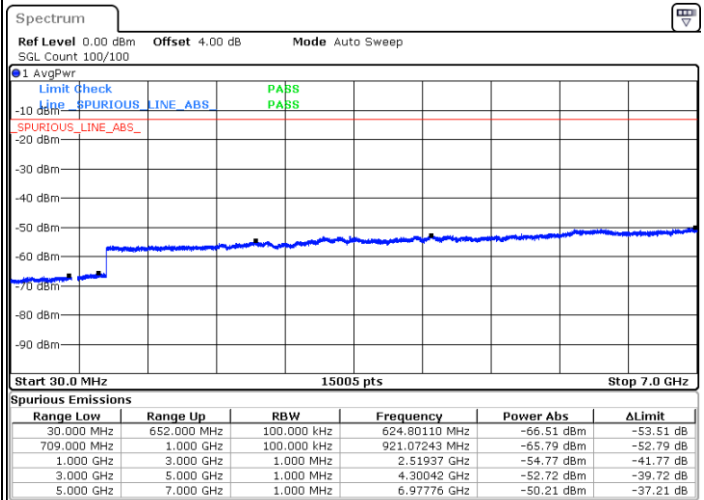
FR1 n71+2A / 5MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB



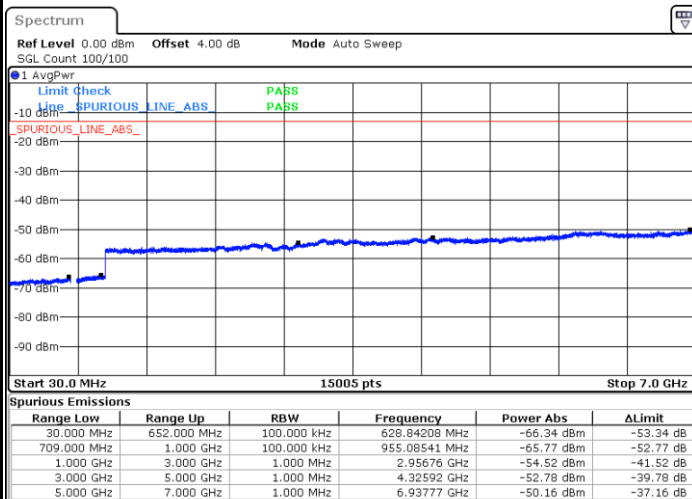
Date: 19.DEC.2020 22:56:52

Middle Channel / 1RB



Date: 19.DEC.2020 22:54:39

Highest Channel / 1RB

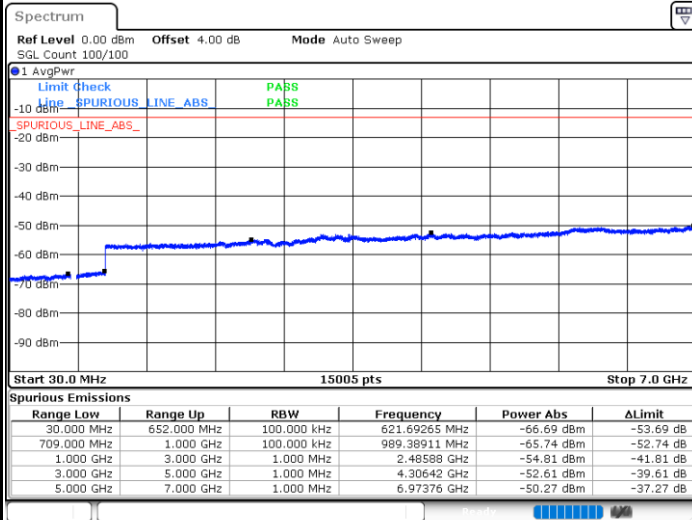


Date: 19.DEC.2020 22:55:10

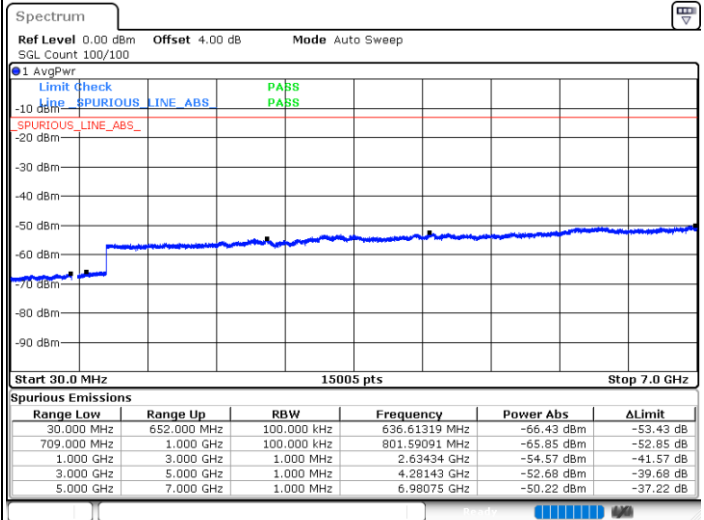


FR1 n71+2A / 5MHz / DFT-S OFDM / QPSK

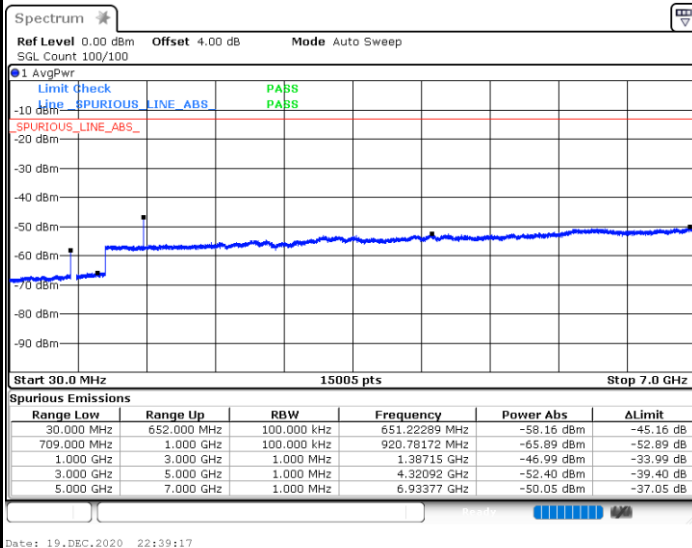
Lowest Channel / 1RB



Middle Channel / 1RB



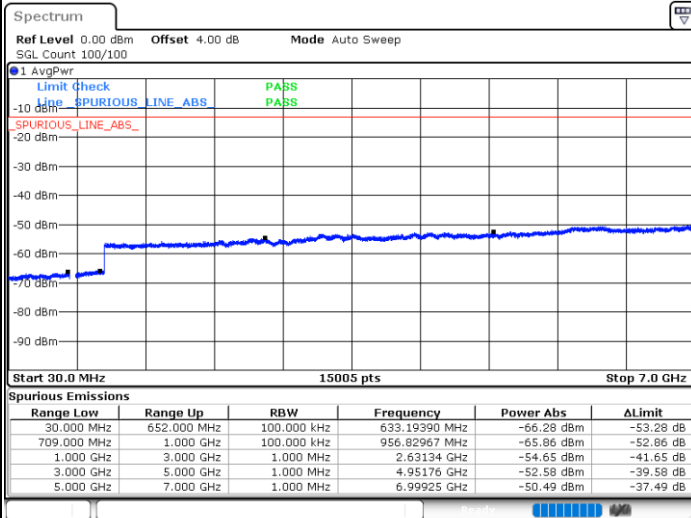
Highest Channel / 1RB





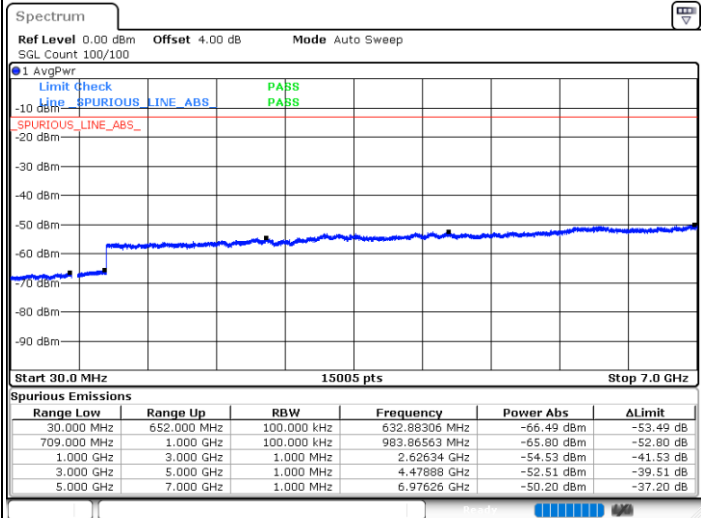
FR1 n71+2A / 10MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB



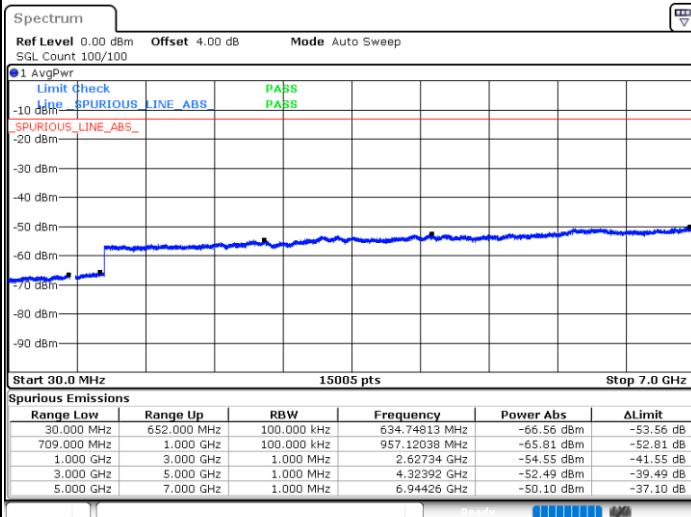
Date: 19.DEC.2020 22:57:46

Middle Channel / 1RB



Date: 19.DEC.2020 22:59:38

Highest Channel / 1RB



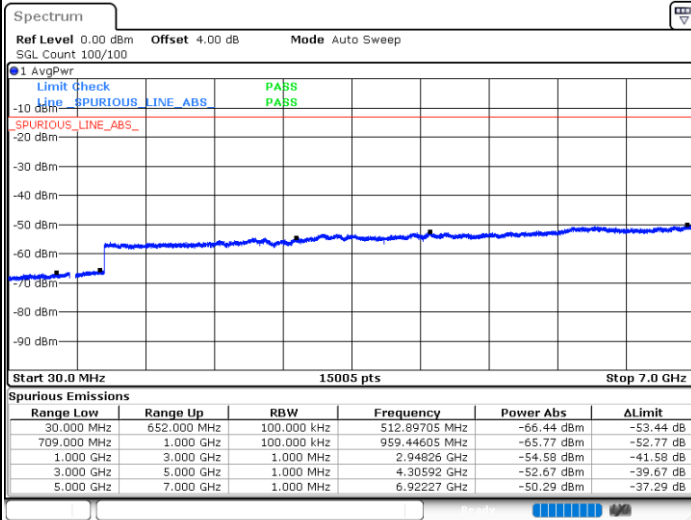
Date: 19.DEC.2020 23:00:01



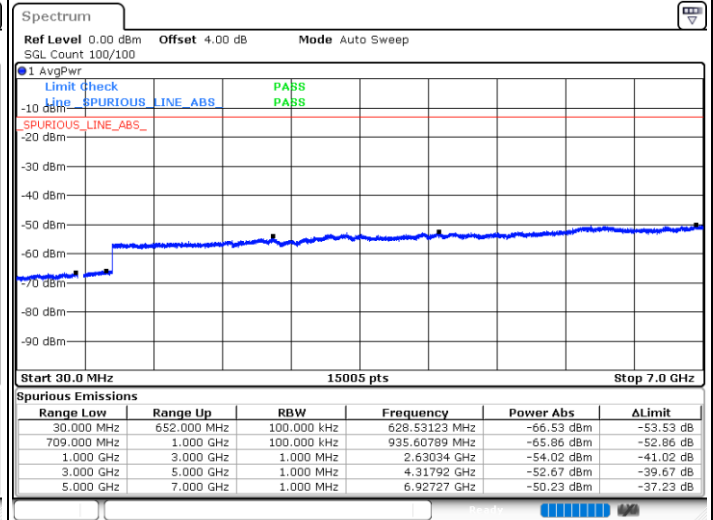
FR1 n71+2A / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

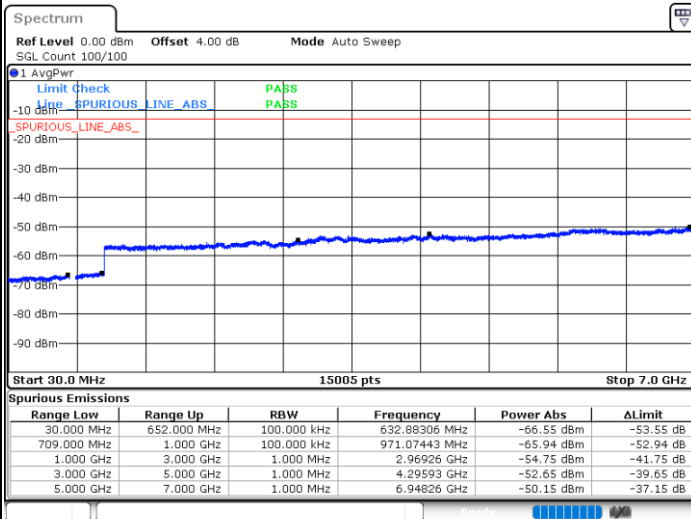


Date: 19.DEC.2020 22:58:31



Date: 19.DEC.2020 22:59:07

Highest Channel / 1RB

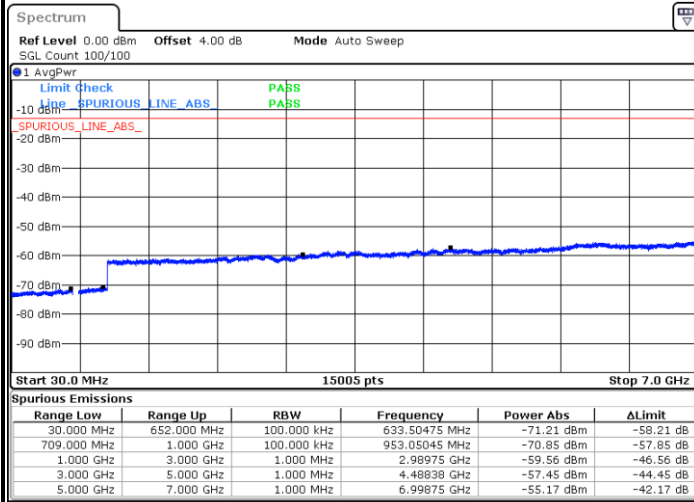


Date: 19.DEC.2020 23:00:29



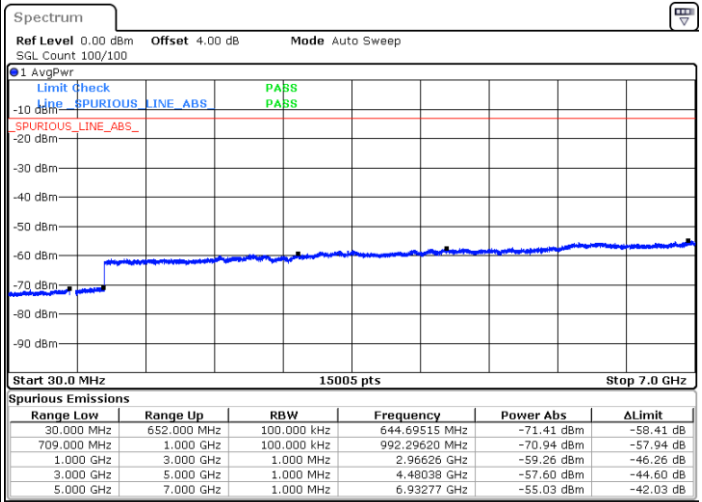
FR1 n71+2A / 20MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB



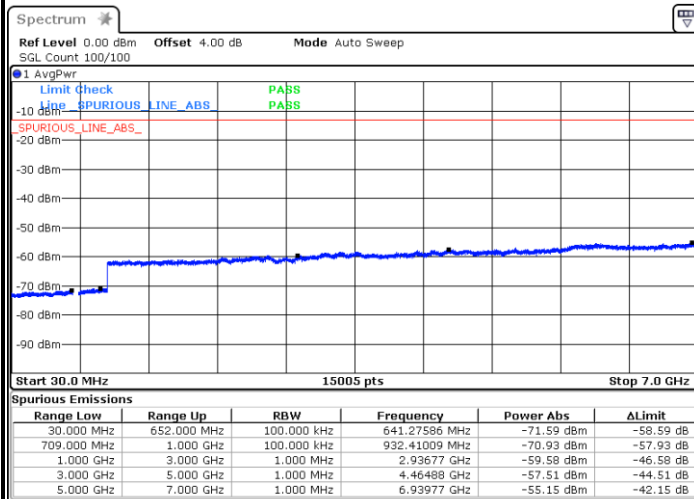
Date: 19.DEC.2020 23:04:30

Middle Channel / 1RB



Date: 19.DEC.2020 23:05:22

Highest Channel / 1RB

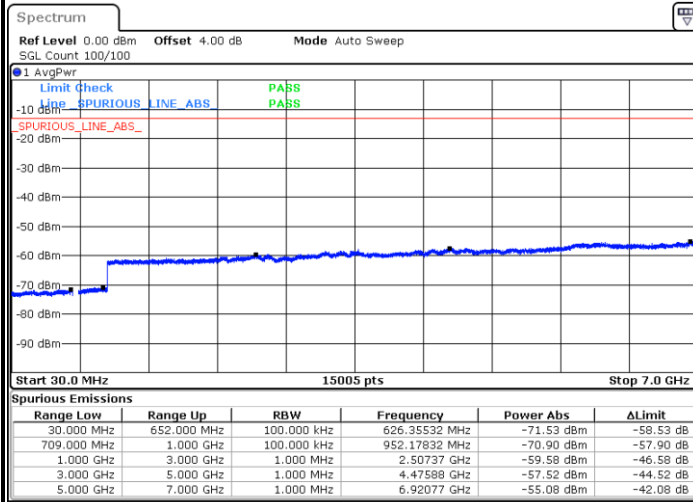


Date: 19.DEC.2020 23:08:17



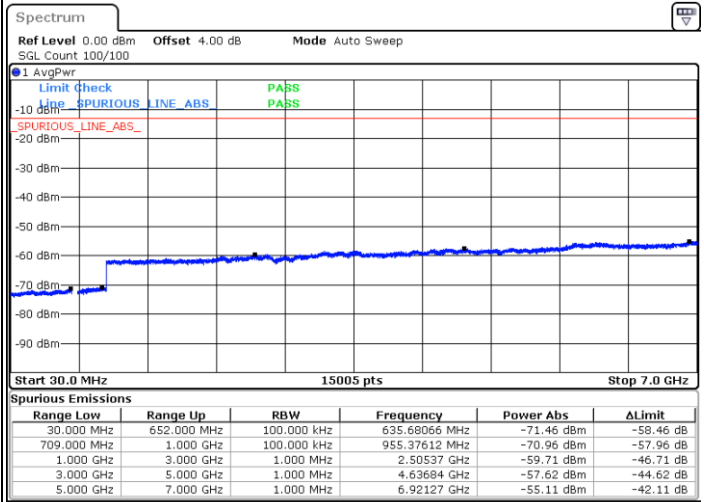
FR1 n71+2A / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB



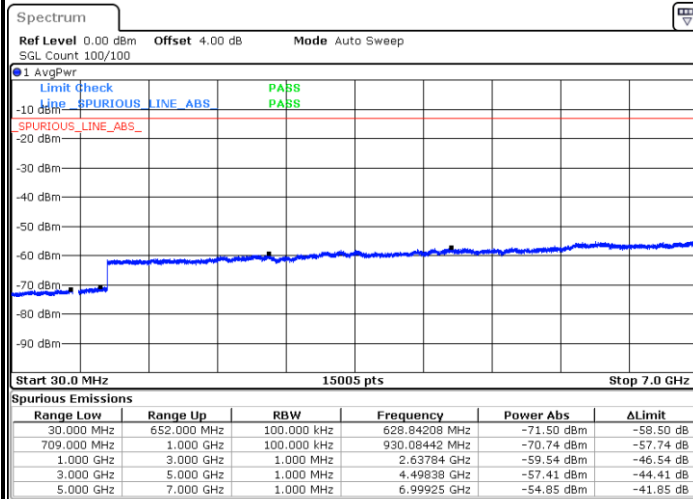
Date: 19.DEC.2020 23:03:33

Middle Channel / 1RB



Date: 19.DEC.2020 23:05:55

Highest Channel / 1RB



Date: 19.DEC.2020 23:06:22

**Frequency Stability**

Test Conditions		NR n71+2A (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0019	PASS
40	Normal Voltage	0.0017	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0022	
10	Normal Voltage	0.0018	
0	Normal Voltage	0.0013	
-10	Normal Voltage	0.0015	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0018	
20	Maximum Voltage	0.0019	
20	Normal Voltage	0.0026	
20	Battery End Point	0.0021	

Note:

1. Normal Voltage =7.74 V. ; Battery End Point (BEP) =7.2 V. ; Maximum Voltage =8.9 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



5G NR n77 NSA

Peak-to-Average Ratio

Mode	FR1 n77+5A / 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	6.41	7.45	7.33	7.48	PASS
Middle CH	6.41	6.49	6.78	7.57	
Highest CH	6.46	6.41	6.75	7.57	



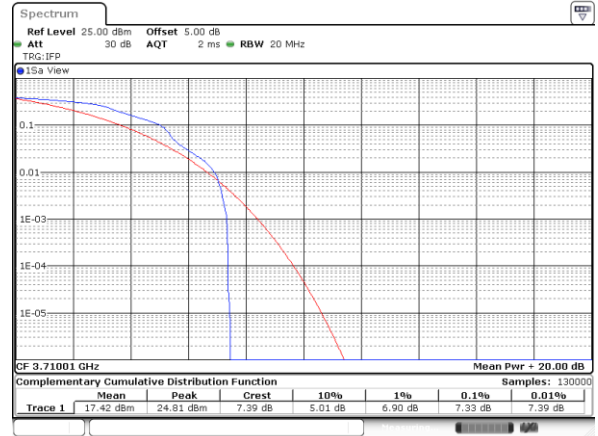
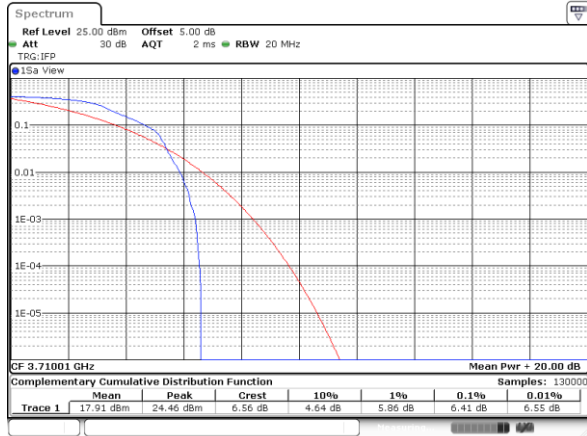
FR1 n77+5A / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

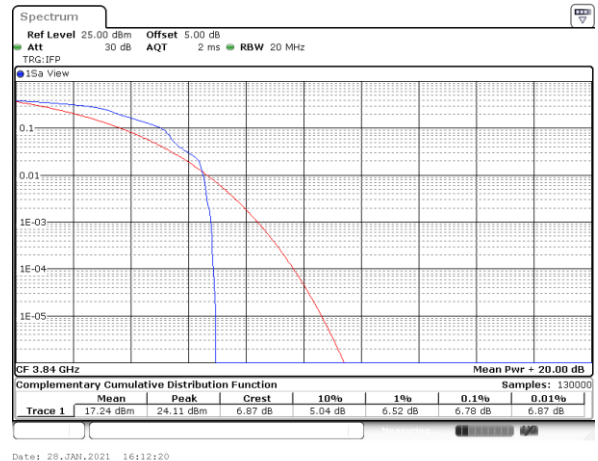
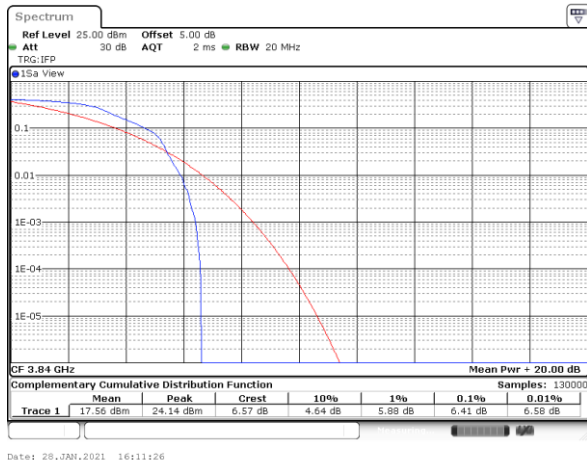
Lowest Channel / 1RB

Lowest Channel / 1RB



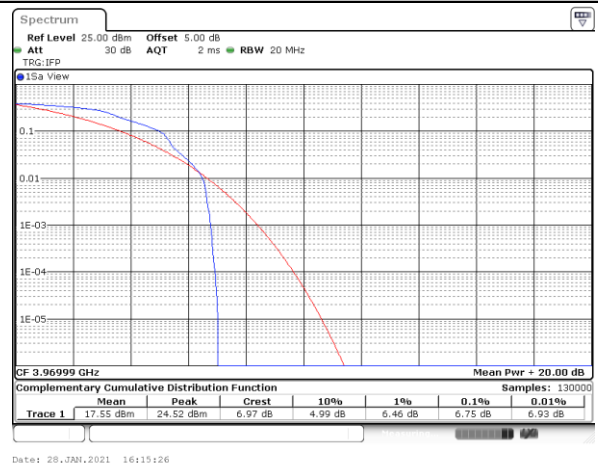
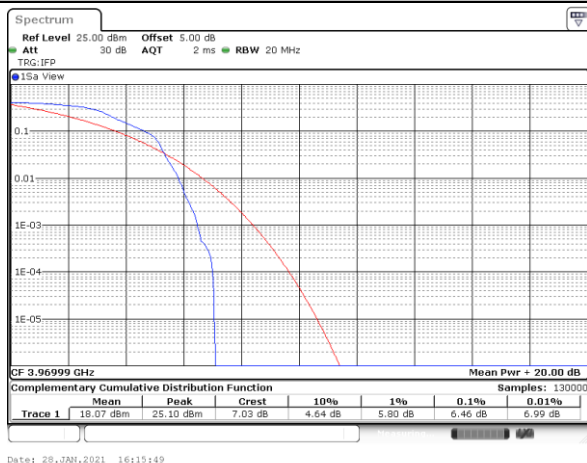
Middle Channel / 1 RB

Middle Channel / 1 RB



Highest Channel / 1 RB

Highest Channel / 1 RB





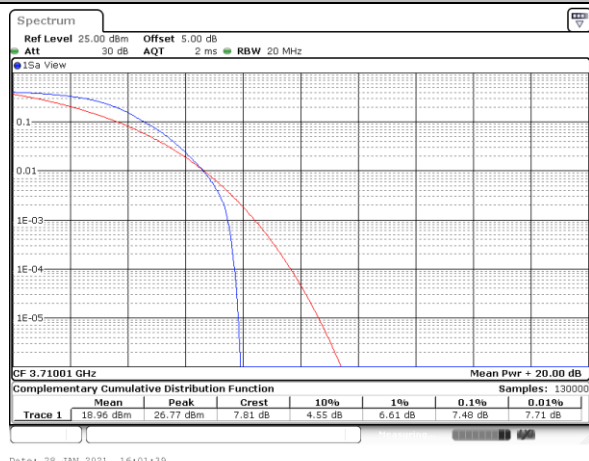
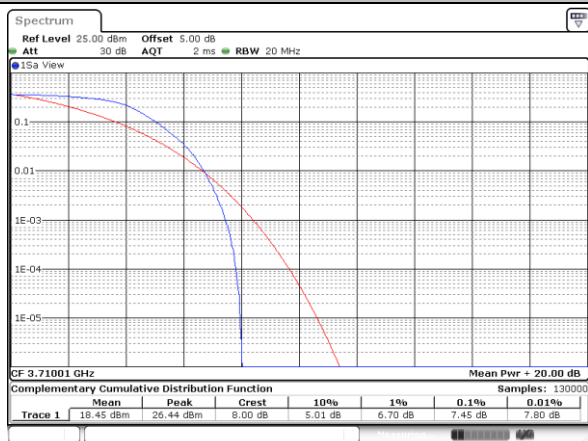
FR1 n77+5A / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

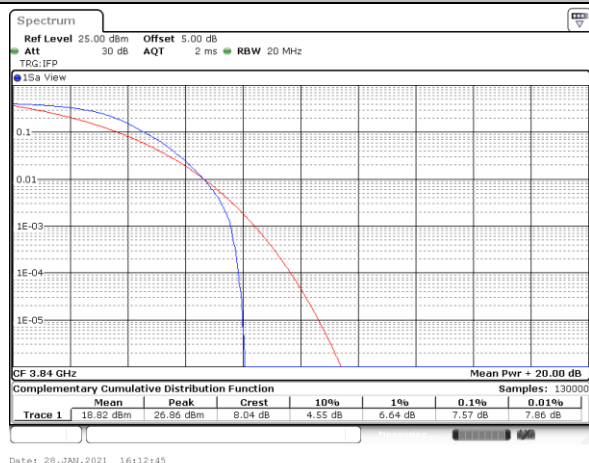
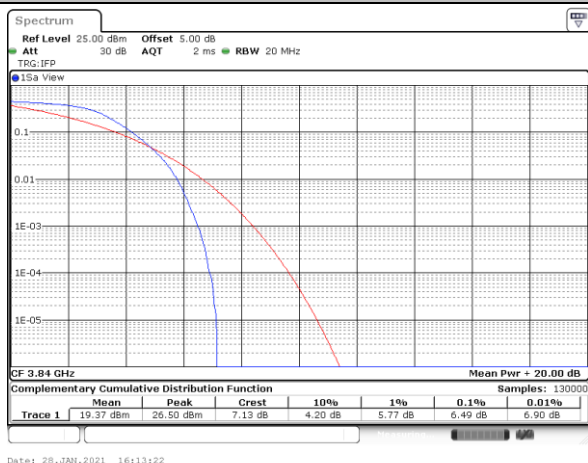
Lowest Channel / Full RB

Lowest Channel / Full RB



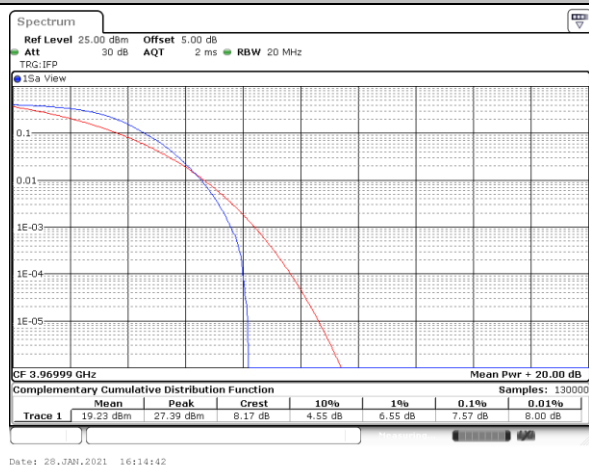
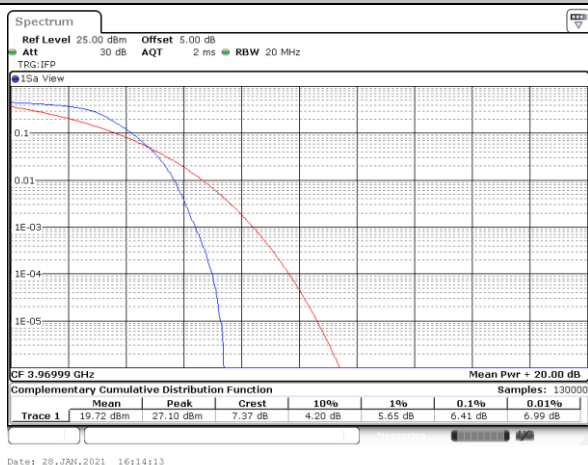
Middle Channel / Full RB

Middle Channel / Full RB



Highest Channel / Full RB

Highest Channel / Full RB



**26dB Bandwidth**

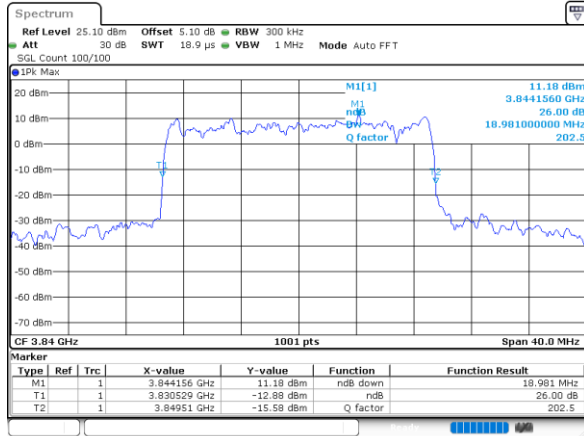
Mode	FR1 n77+5A : 26dB BW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	18.98	19.34	19.46	19.14				
BW	30MHz	30MHz	30MHz	30MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	29.01	28.77	28.77	28.89				
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	40.28	40.36	40.20	40.12				
BW	50MHz	50MHz	50MHz	50MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	49.75	49.65	49.85	49.75				
BW	80MHz	80MHz	80MHz	80MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	79.92	79.92	80.08	80.08				
BW	90MHz	90MHz	90MHz	90MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	90.45	90.45	90.27	90.27				
BW	100MHz	100MHz	100MHz	100MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	100.5	100.5	100.5	100.5				



FR1 n77+5A / 20MHz / CP-OFDM

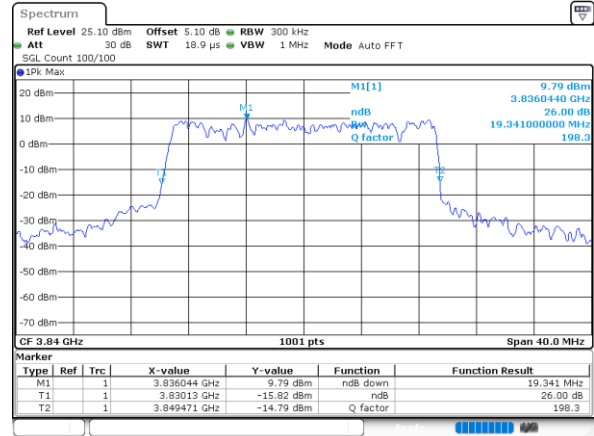
QPSK

Middle Channel



16QAM

Middle Channel



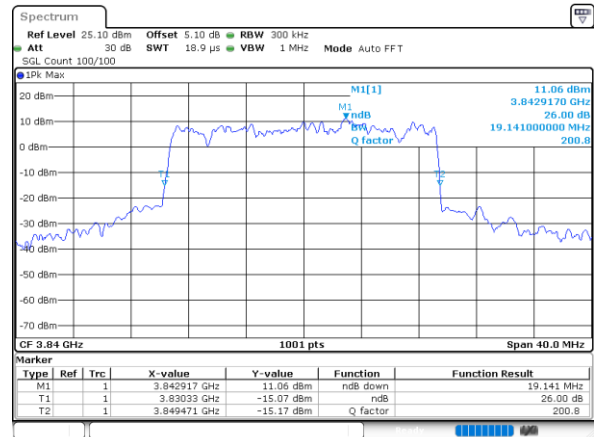
64QAM

Middle Channel



256QAM

Middle Channel

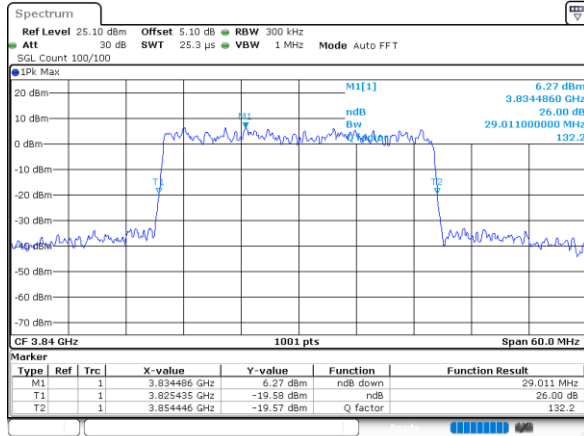




FR1 n77+5A / 30MHz / CP-OFDM

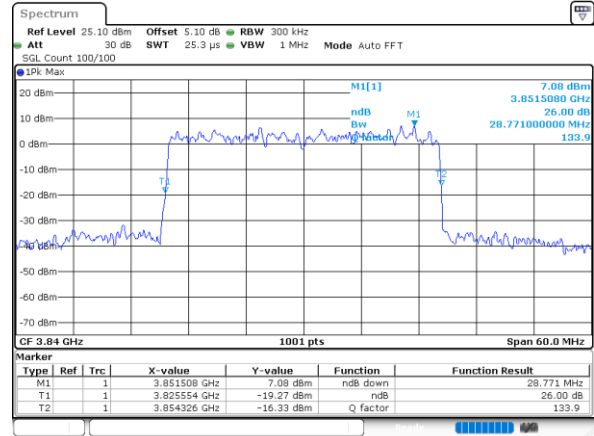
QPSK

Middle Channel



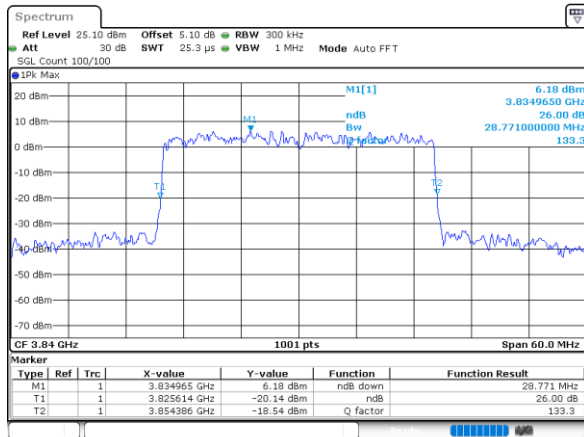
16QAM

Middle Channel



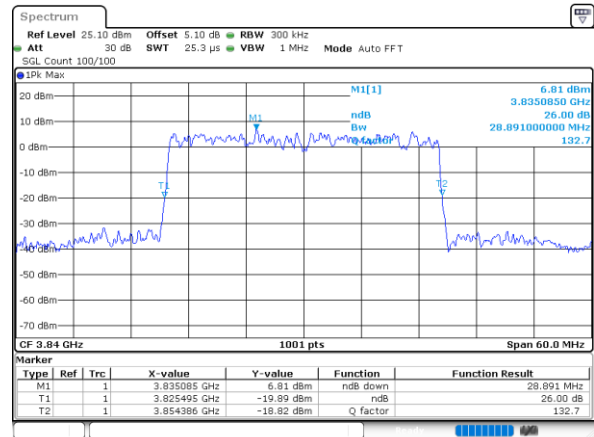
64QAM

Middle Channel



256QAM

Middle Channel

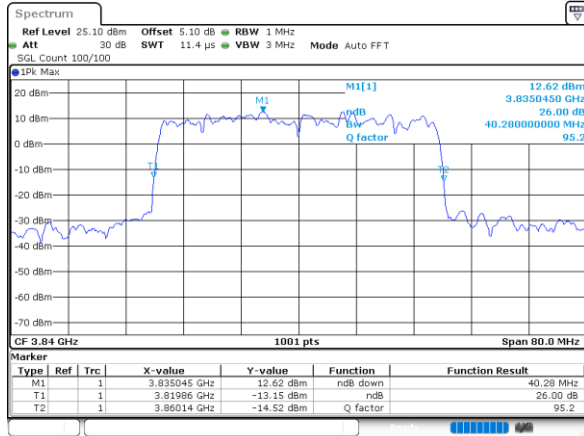




FR1 n77+5A / 40MHz / CP-OFDM

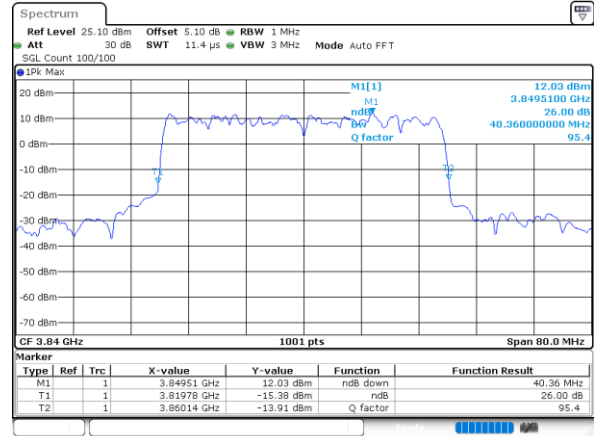
QPSK

Middle Channel



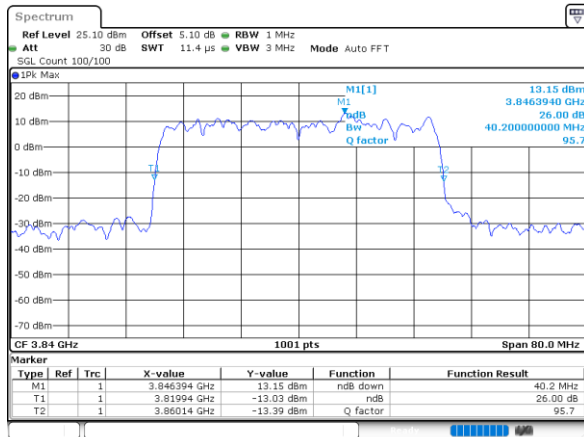
16QAM

Middle Channel



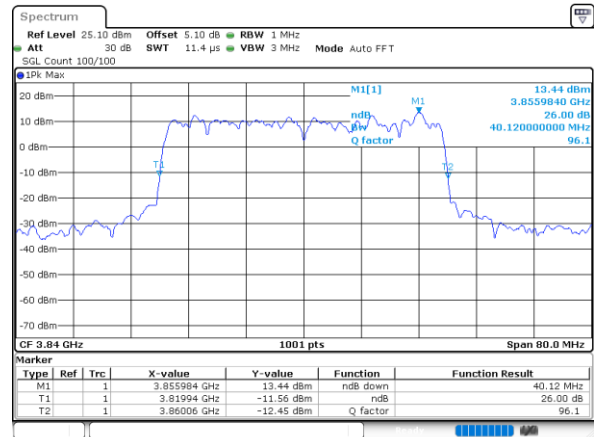
64QAM

Middle Channel



256QAM

Middle Channel

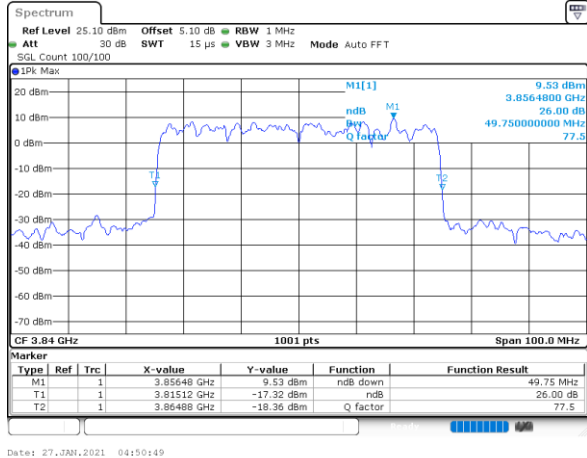




FR1 n77+5A / 50MHz / CP-OFDM

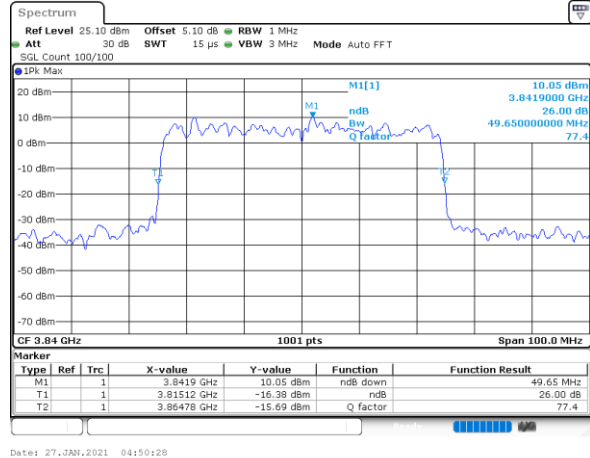
QPSK

Middle Channel



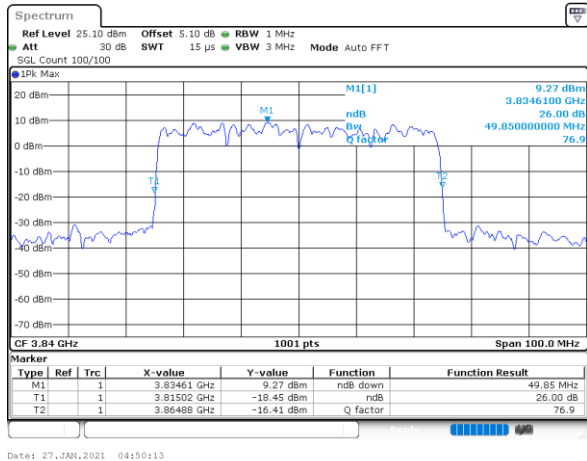
16QAM

Middle Channel



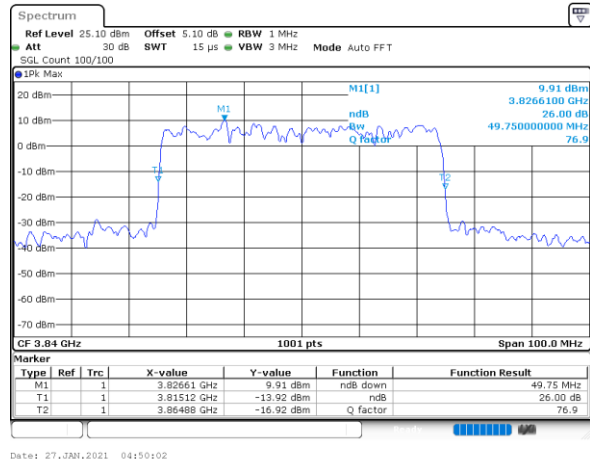
64QAM

Middle Channel



256QAM

Middle Channel

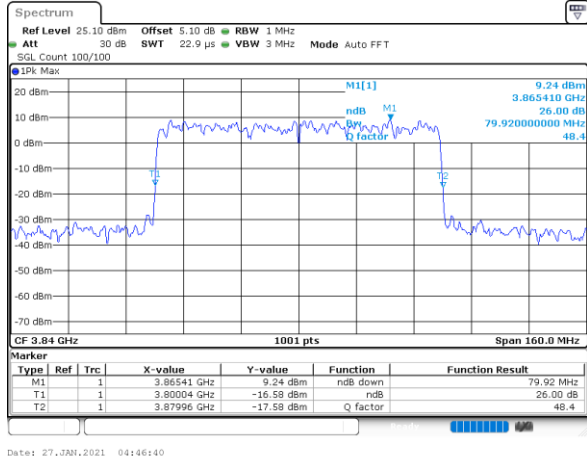




FR1 n77+5A / 80MHz / CP-OFDM

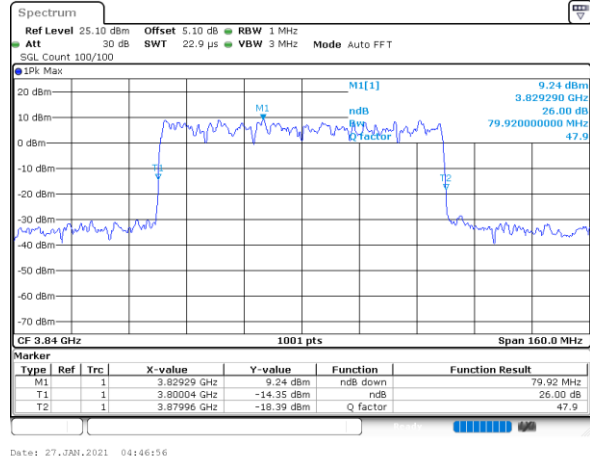
QPSK

Middle Channel



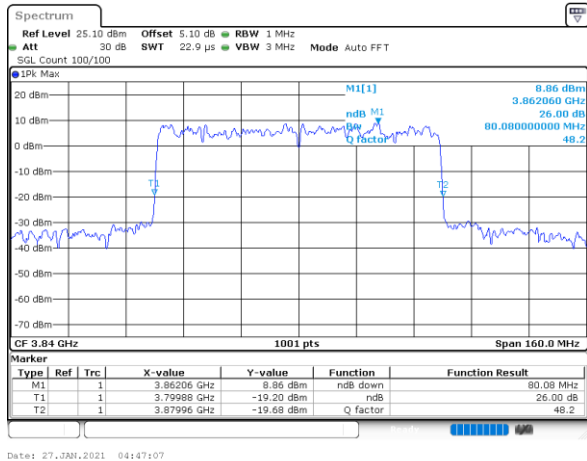
16QAM

Middle Channel



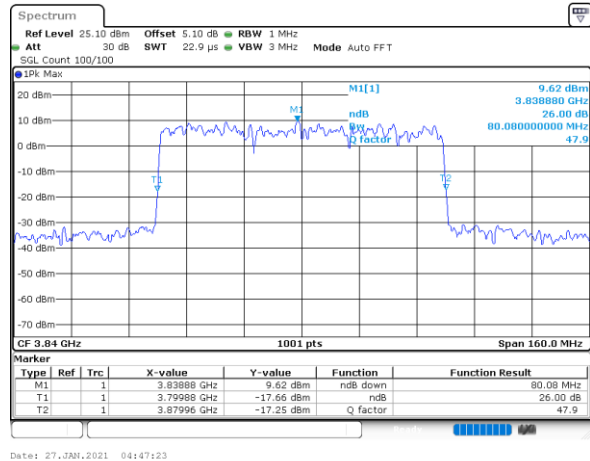
64QAM

Middle Channel



256QAM

Middle Channel

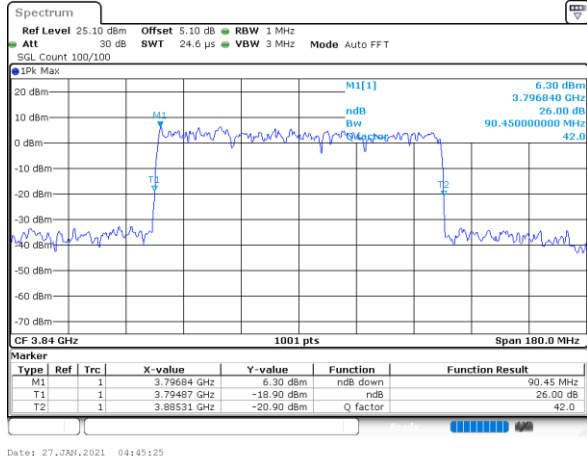




FR1 n77+5A / 90MHz / CP-OFDM

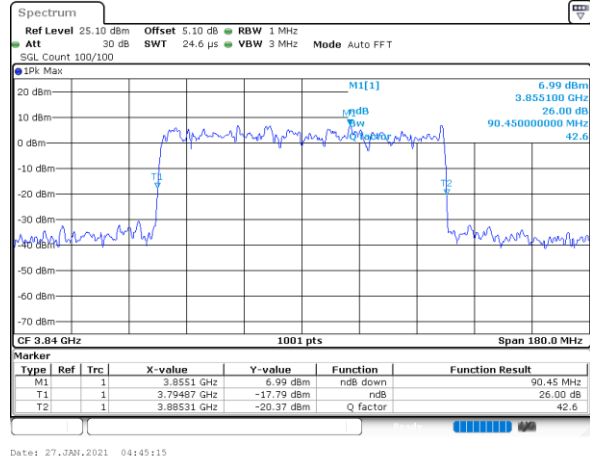
QPSK

Middle Channel



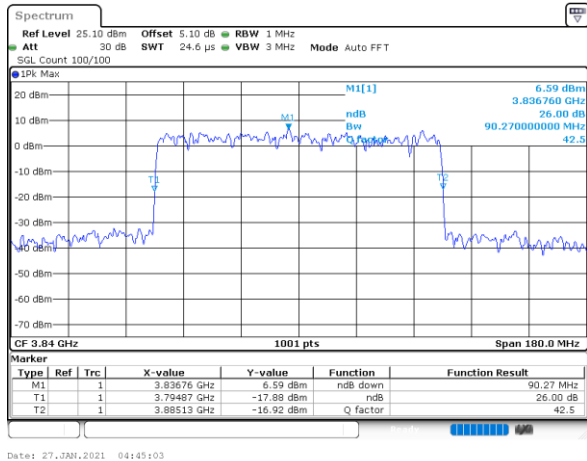
16QAM

Middle Channel



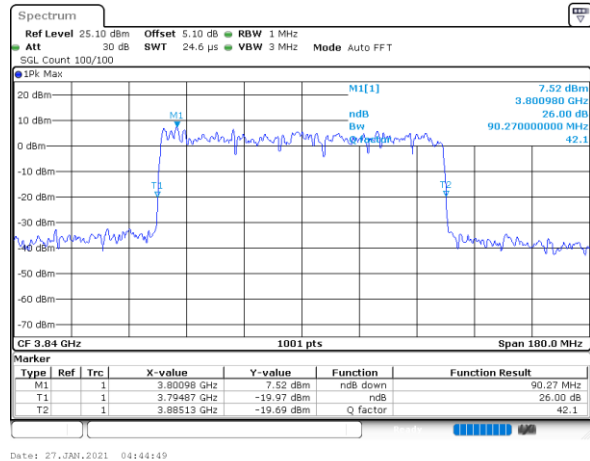
64QAM

Middle Channel



256QAM

Middle Channel

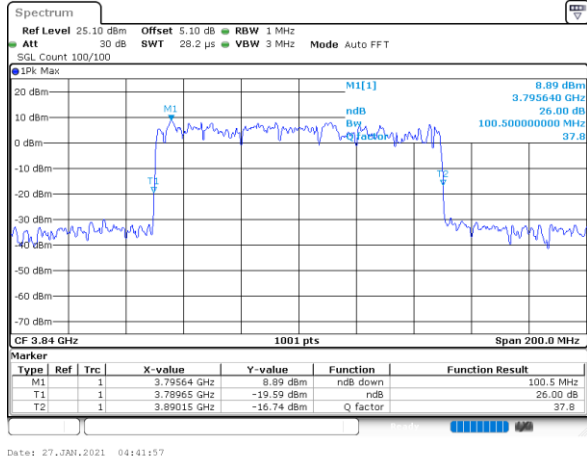




FR1 n77+5A / 100MHz / CP-OFDM

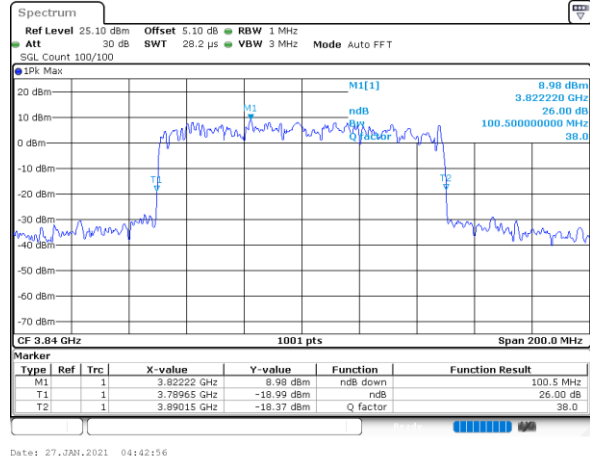
QPSK

Middle Channel



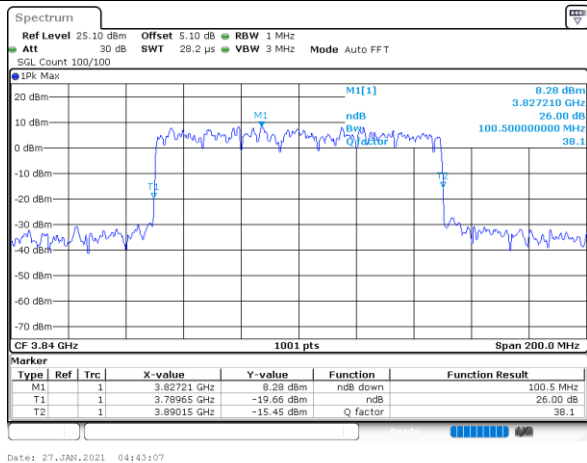
16QAM

Middle Channel



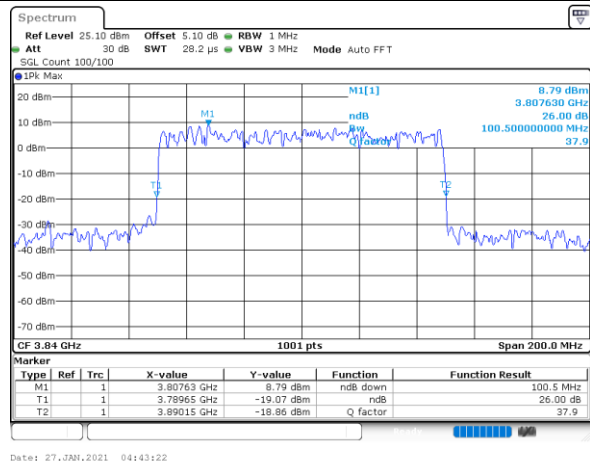
64QAM

Middle Channel



256QAM

Middle Channel



**Occupied Bandwidth**

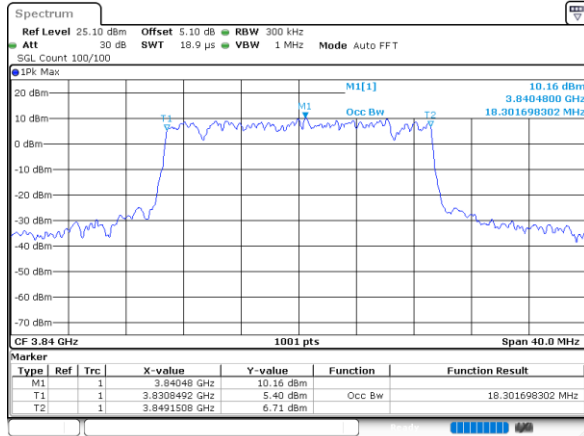
Mode	FR1 n77+5A : OBW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	18.30	18.18	18.30	18.22				
BW	30MHz	30MHz	30MHz	30MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	27.93	27.87	27.75	27.69				
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	38.20	37.88	38.04	38.28				
BW	50MHz	50MHz	50MHz	50MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	47.65	47.55	47.35	47.85				
BW	80MHz	80MHz	80MHz	80MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	77.52	77.52	77.52	77.20				
BW	90MHz	90MHz	90MHz	90MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	87.03	87.03	87.03	86.85				
BW	100MHz	100MHz	100MHz	100MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	97.70	97.30	97.10	97.10				



FR1 n77+5A / 20MHz / CP-OFDM

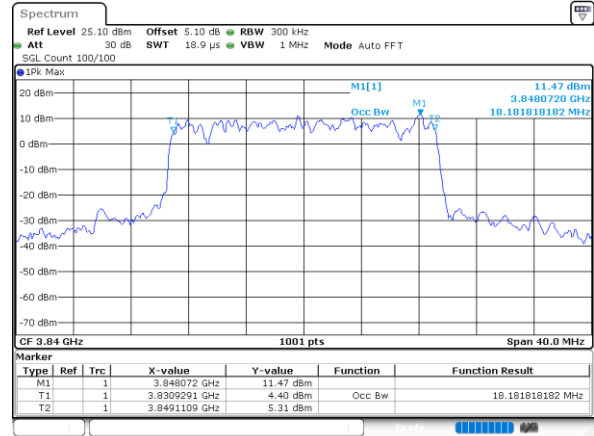
QPSK

Middle Channel



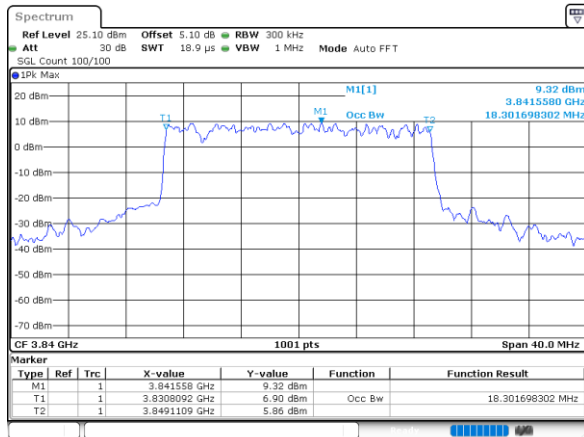
16QAM

Middle Channel



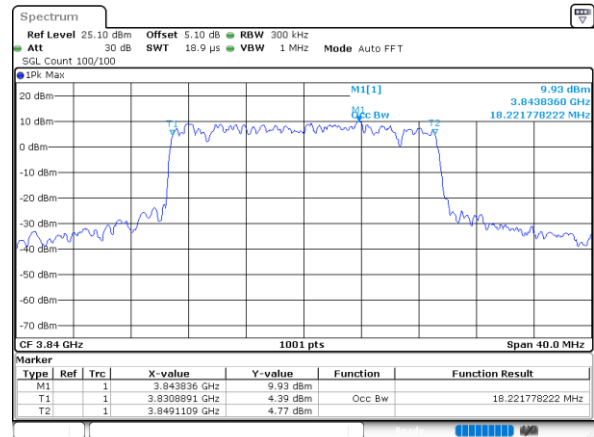
64QAM

Middle Channel



256QAM

Middle Channel

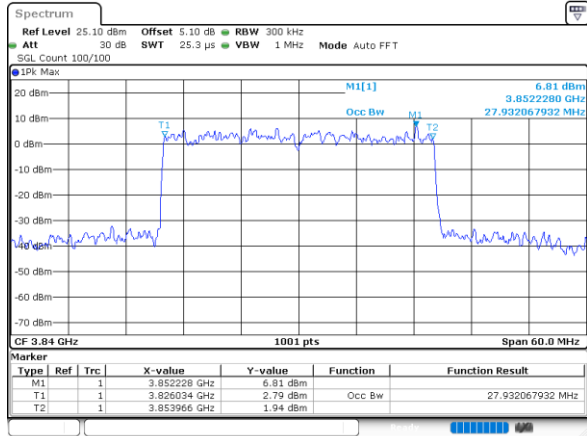




FR1 n77+5A / 30MHz / CP-OFDM

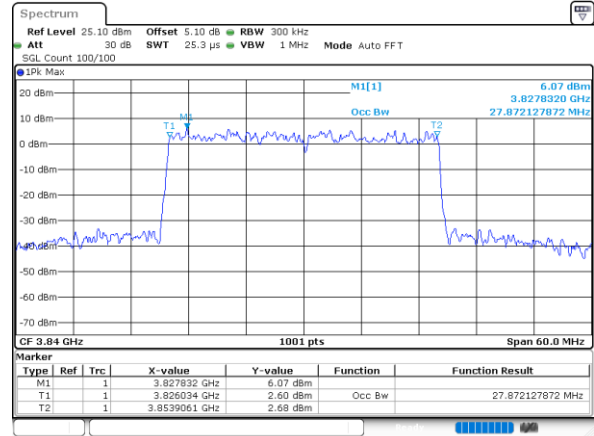
QPSK

Middle Channel



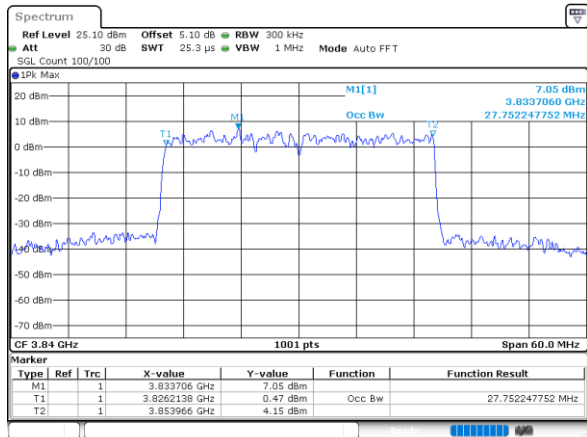
16QAM

Middle Channel



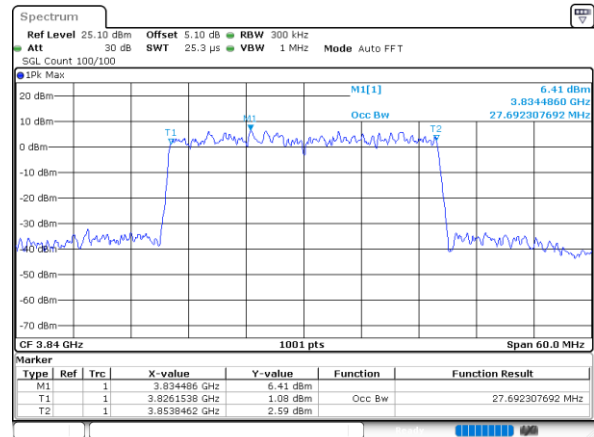
64QAM

Middle Channel



256QAM

Middle Channel

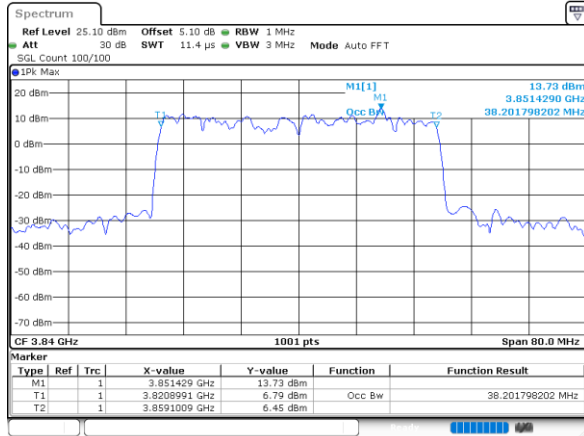




FR1 n77+5A / 40MHz / CP-OFDM

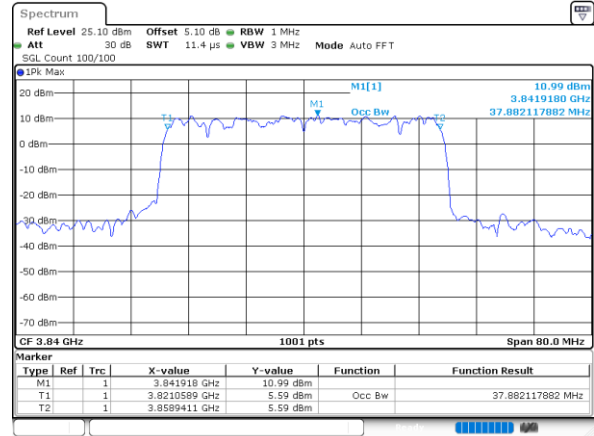
QPSK

Middle Channel



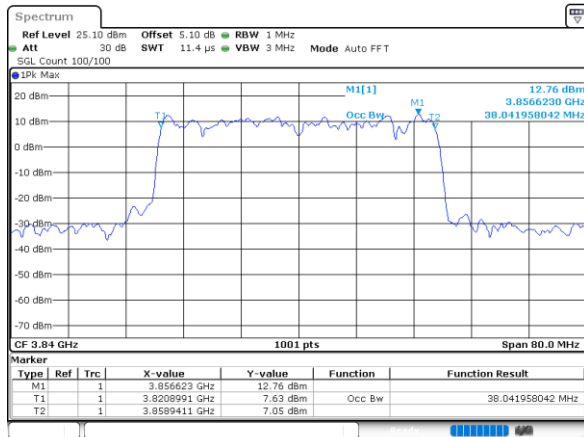
16QAM

Middle Channel



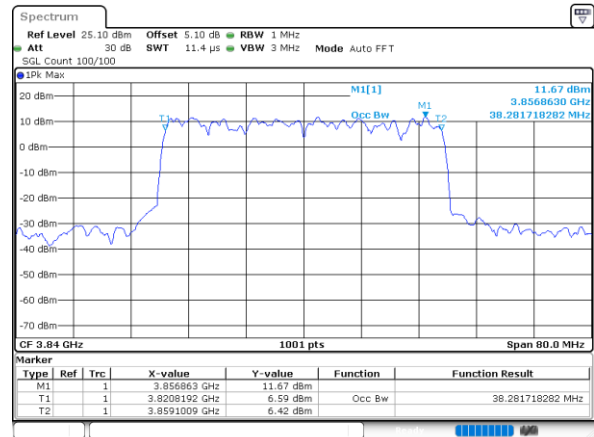
64QAM

Middle Channel



256QAM

Middle Channel

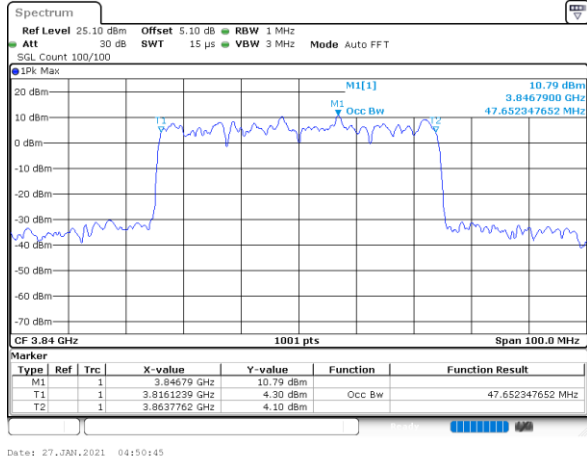




FR1 n77+5A / 50MHz / CP-OFDM

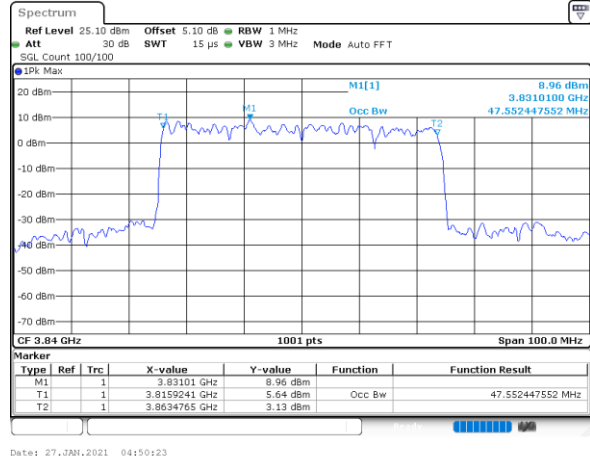
QPSK

Middle Channel



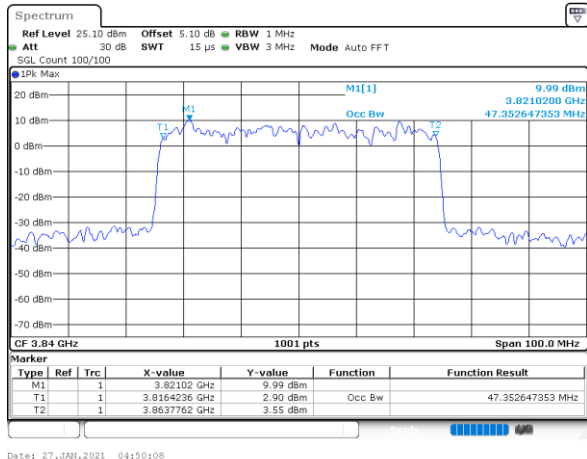
16QAM

Middle Channel



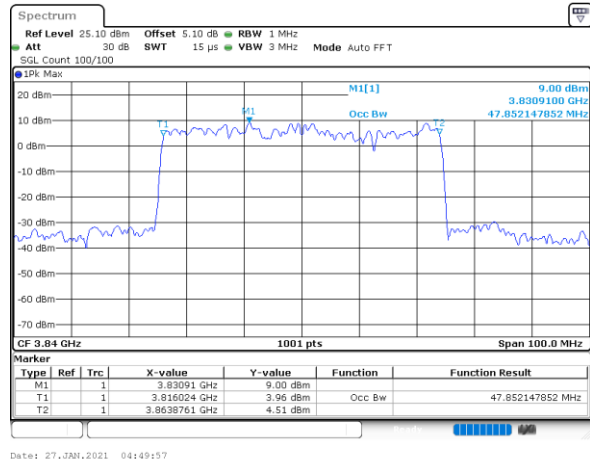
64QAM

Middle Channel



256QAM

Middle Channel

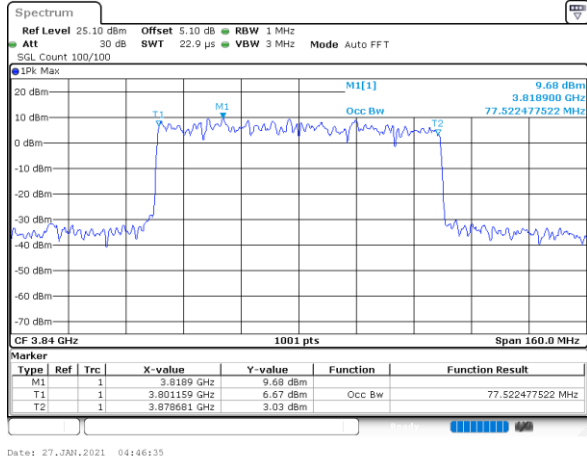




FR1 n77+5A / 80MHz / CP-OFDM

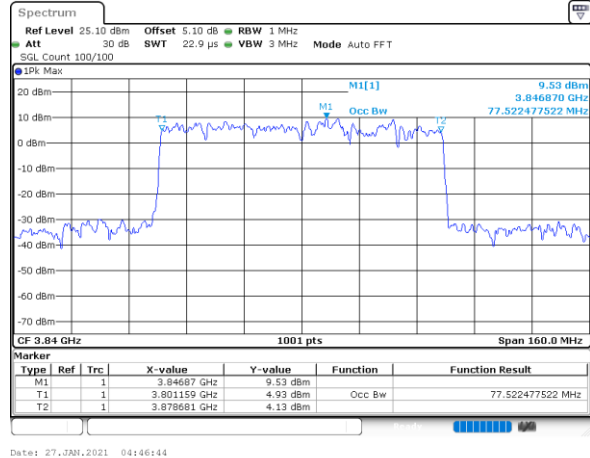
QPSK

Middle Channel



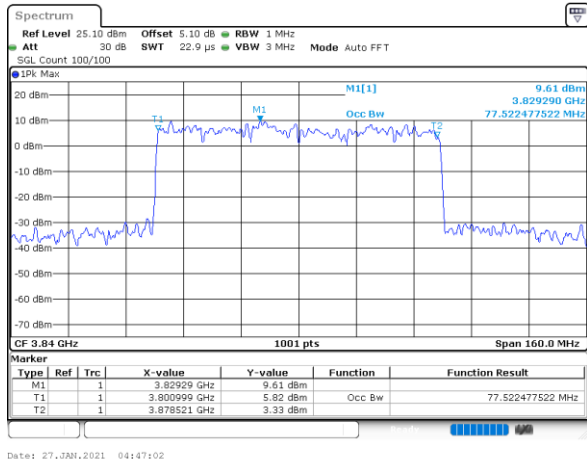
16QAM

Middle Channel



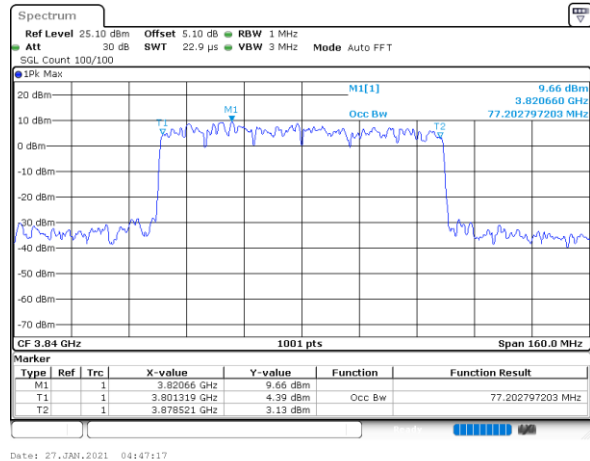
64QAM

Middle Channel



256QAM

Middle Channel

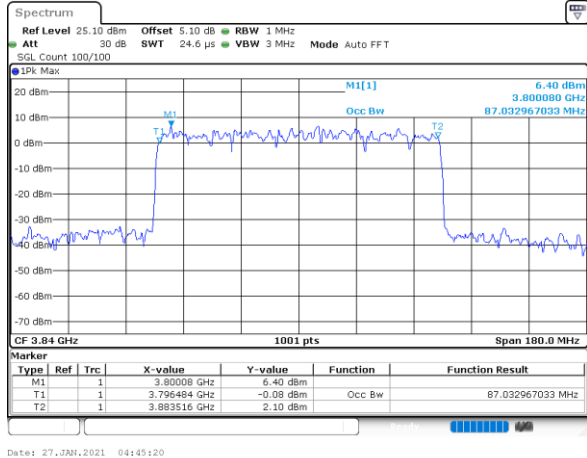




FR1 n77+5A / 90MHz / CP-OFDM

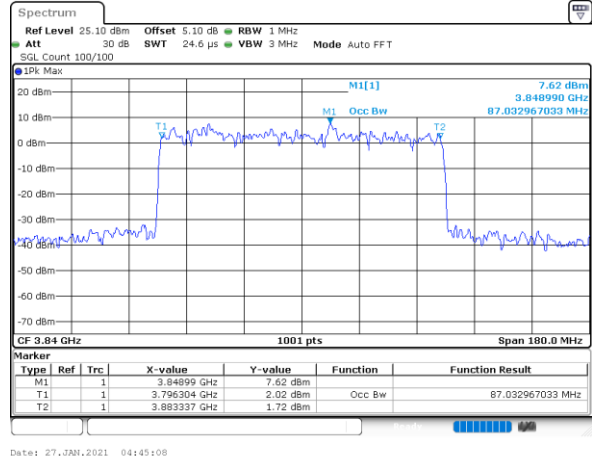
QPSK

Middle Channel



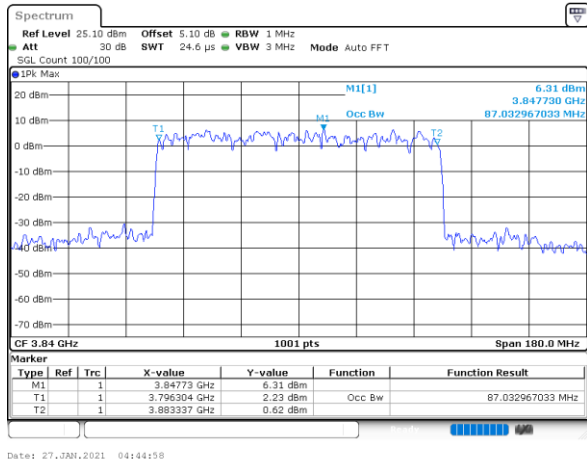
16QAM

Middle Channel



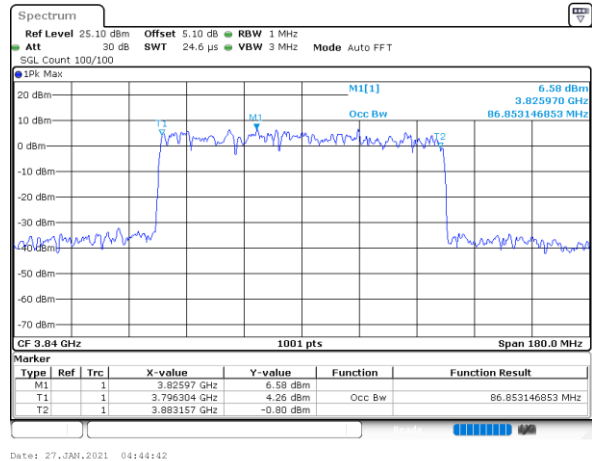
64QAM

Middle Channel



256QAM

Middle Channel

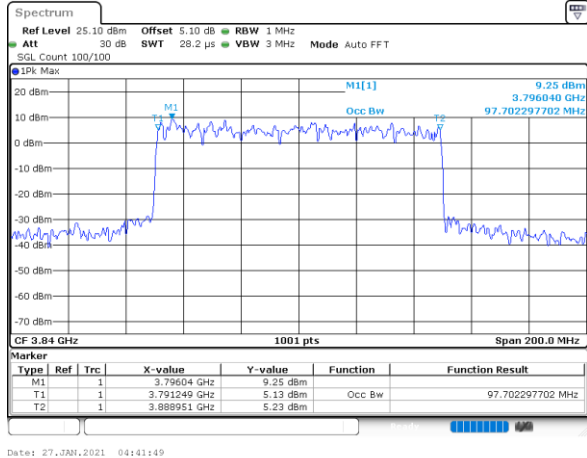




FR1 n77+5A / 100MHz / CP-OFDM

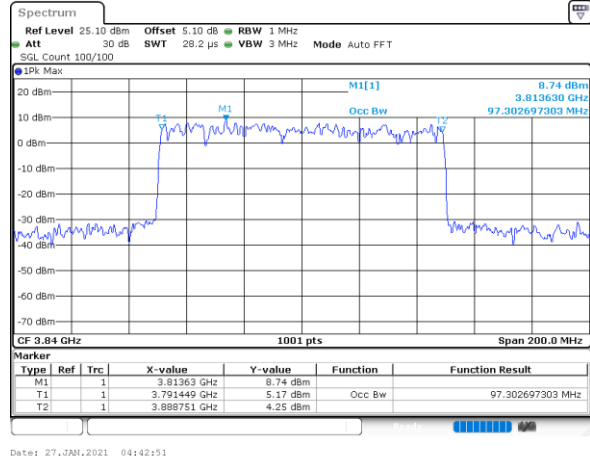
QPSK

Middle Channel



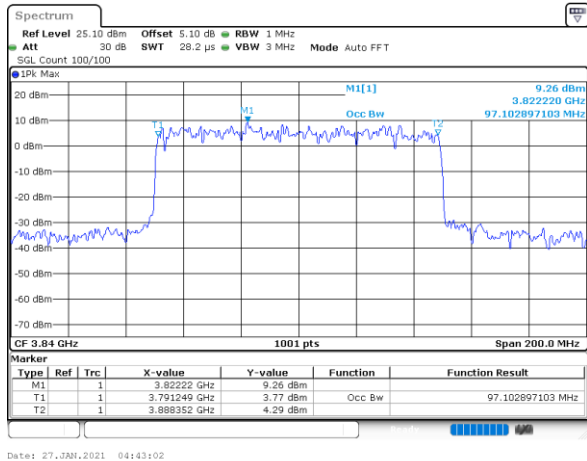
16QAM

Middle Channel



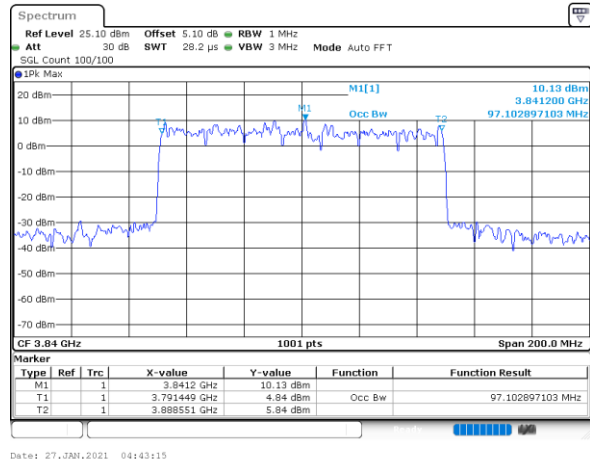
64QAM

Middle Channel



256QAM

Middle Channel

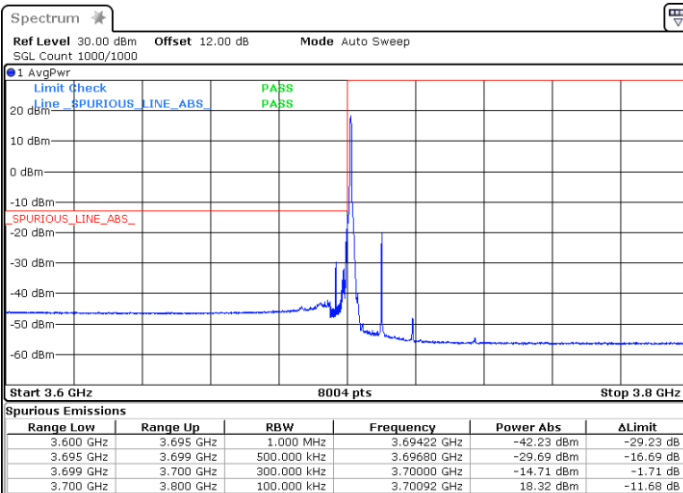




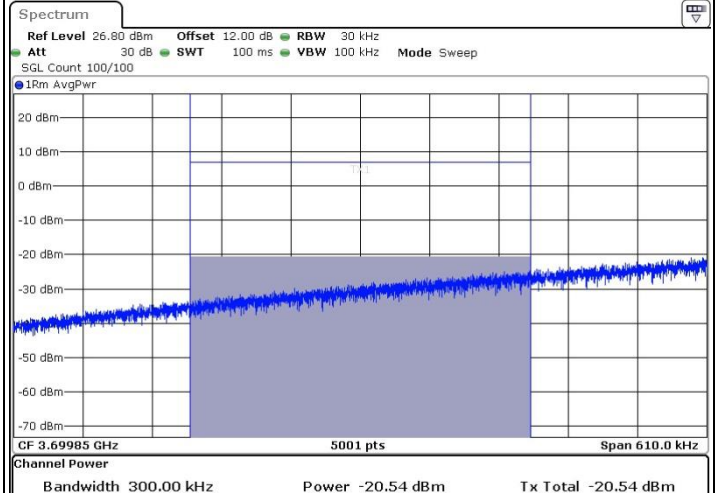
Conducted Band Edge

FR1 n77+5A / 20MHz / DFT-S OFDM BPSK

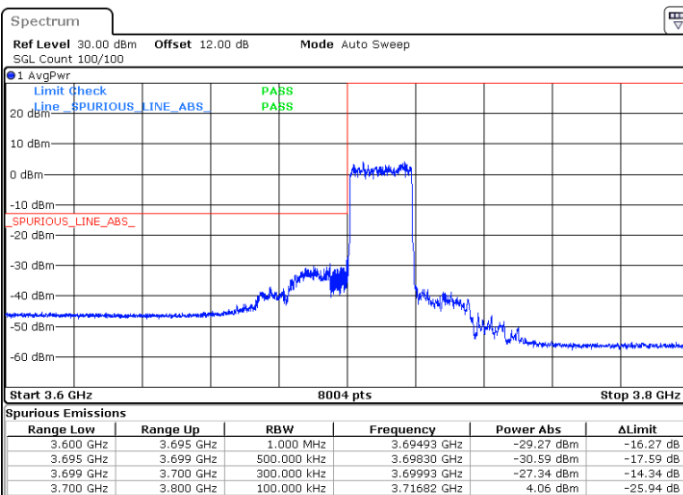
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



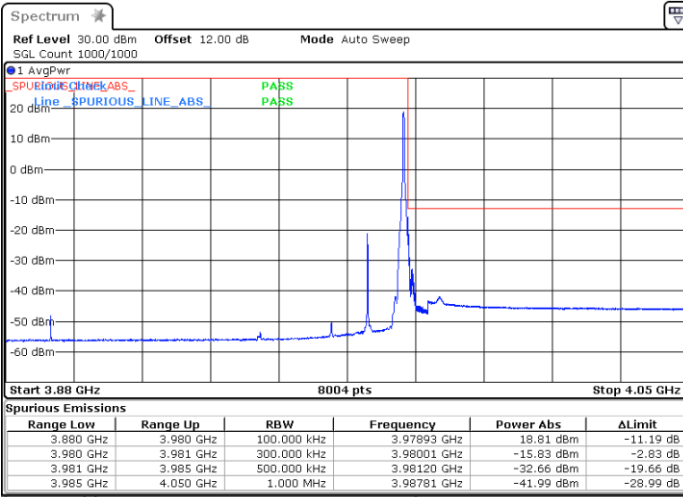
Channel Power < -13dBm Pass

/

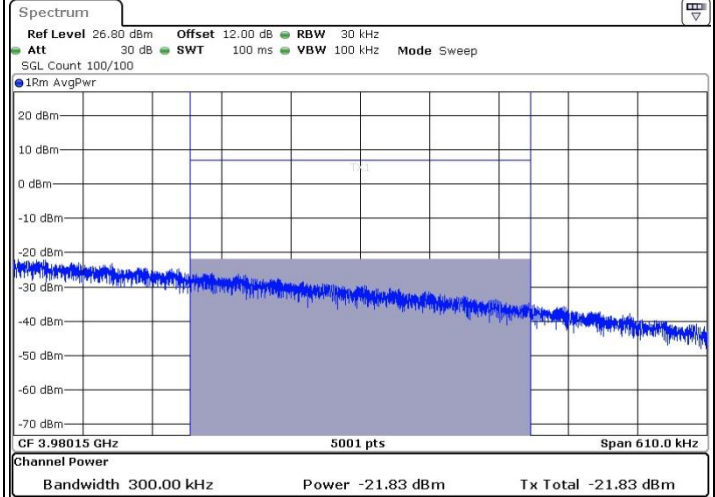


FR1 n77+5A / 20MHz / DFT-S OFDM BPSK

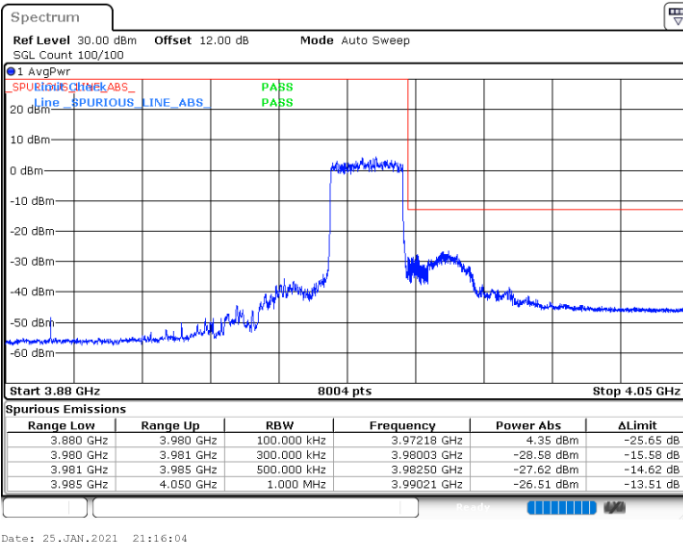
Highest Band Edge / 1 RB



Channel Power < -13dBm Pass



Highest Band Edge / Full RB



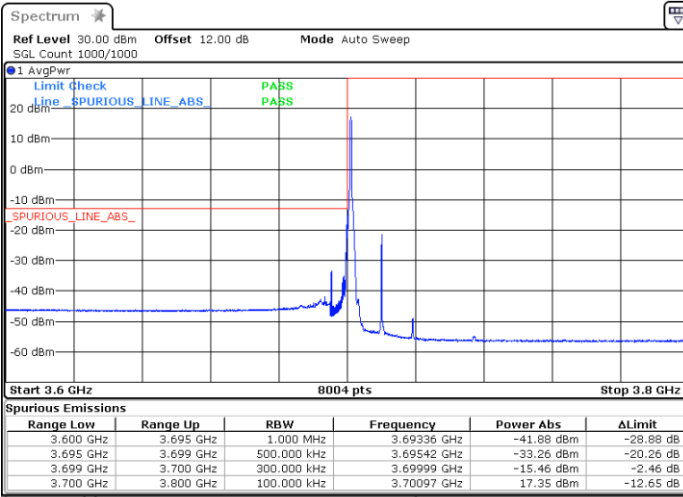
Channel Power < -13dBm Pass

/

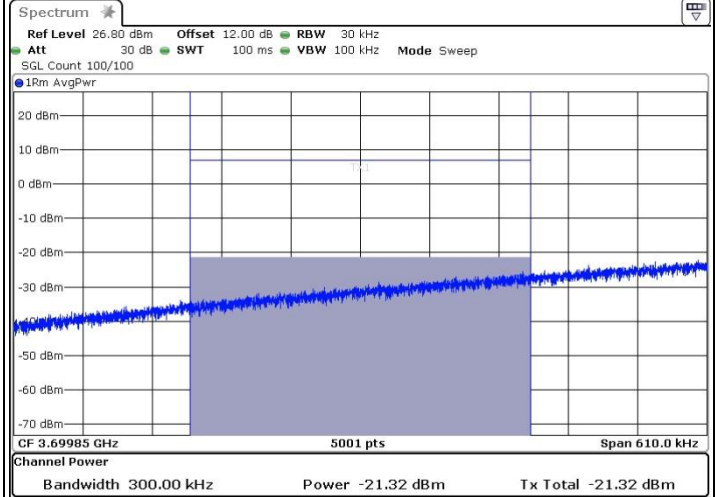


FR1 n77+5A / 20MHz / DFT-S OFDM QPSK

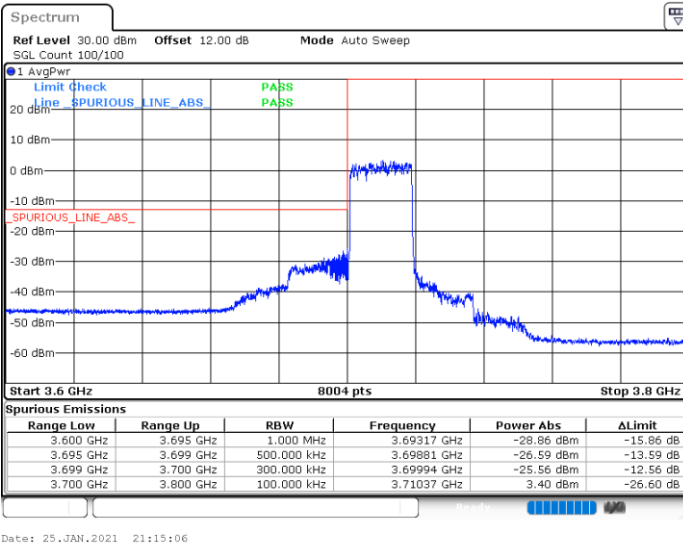
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



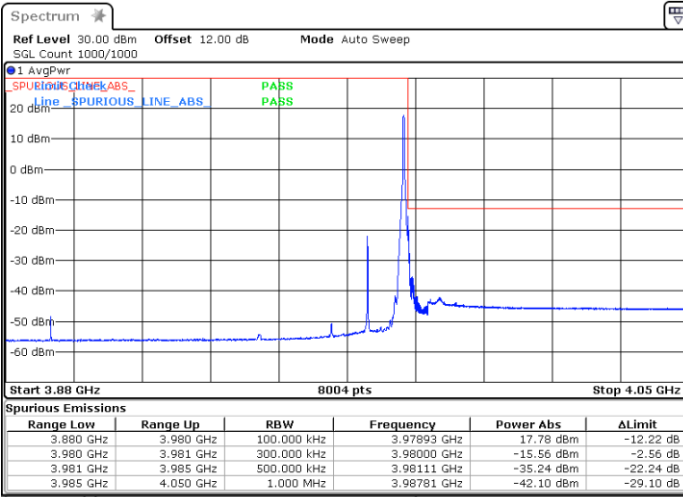
Channel Power < -13dBm Pass

/

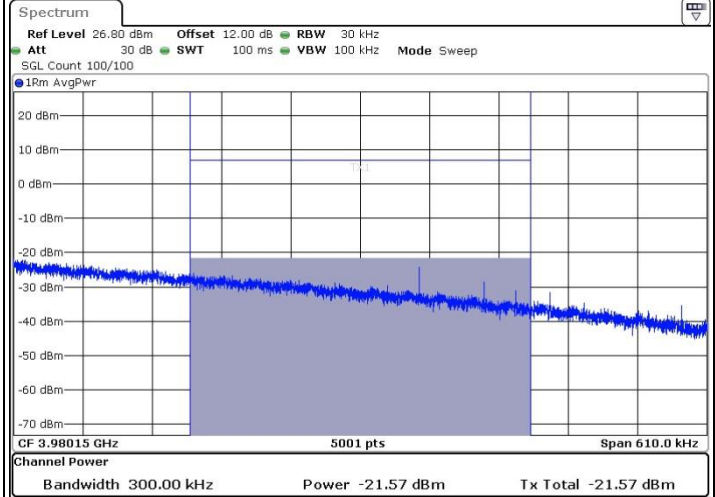


FR1 n77+5A / 20MHz / DFT-S OFDM QPSK

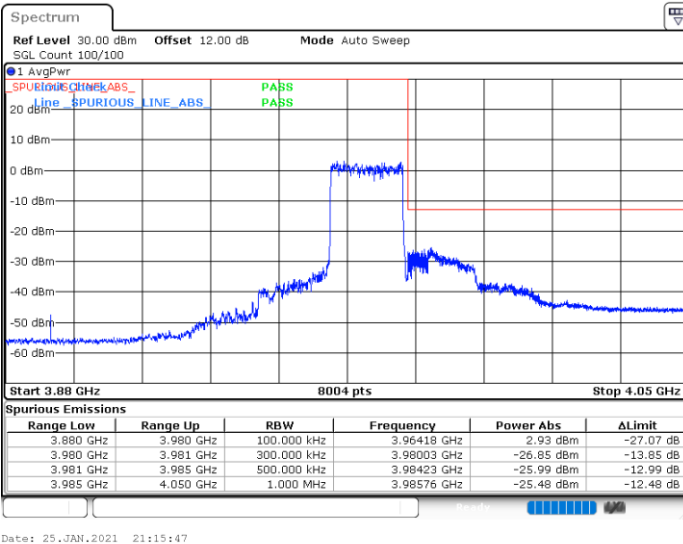
Highest Band Edge / 1 RB



Channel Power < -13dBm Pass



Highest Band Edge / Full RB



Channel Power < -13dBm Pass

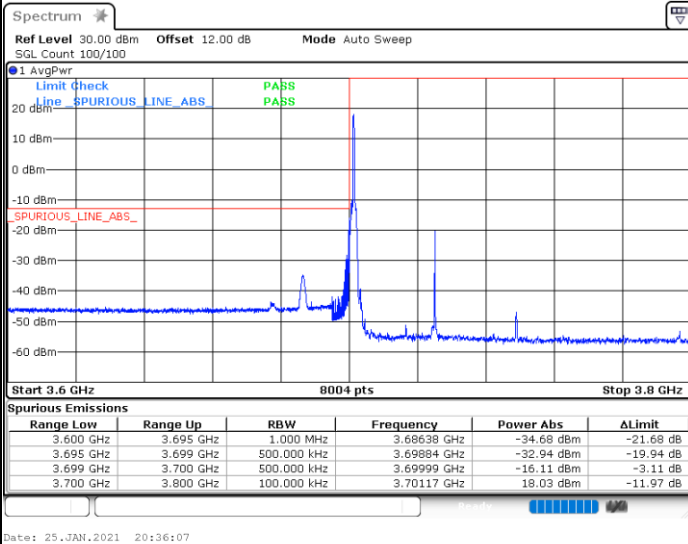
/



FR1 n77+5A / 50MHz / DFT-S OFDM BPSK

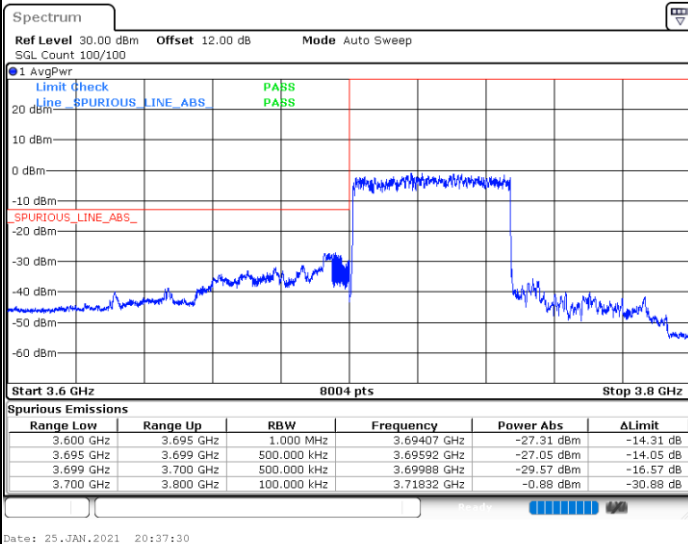
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

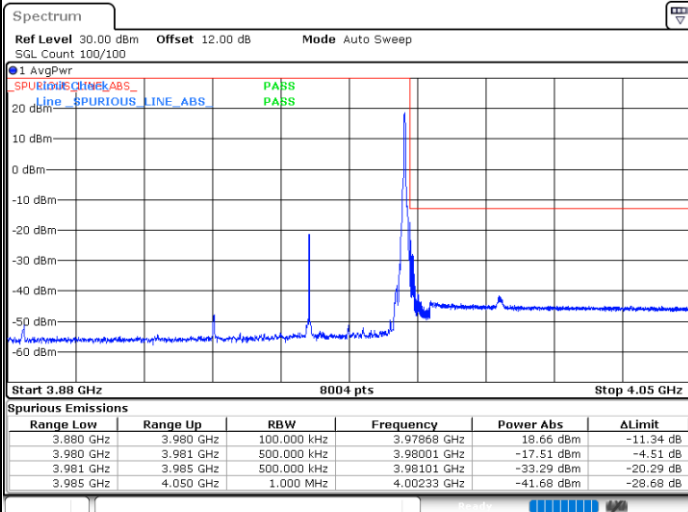




FR1 n77+5A / 50MHz / DFT-S OFDM BPSK

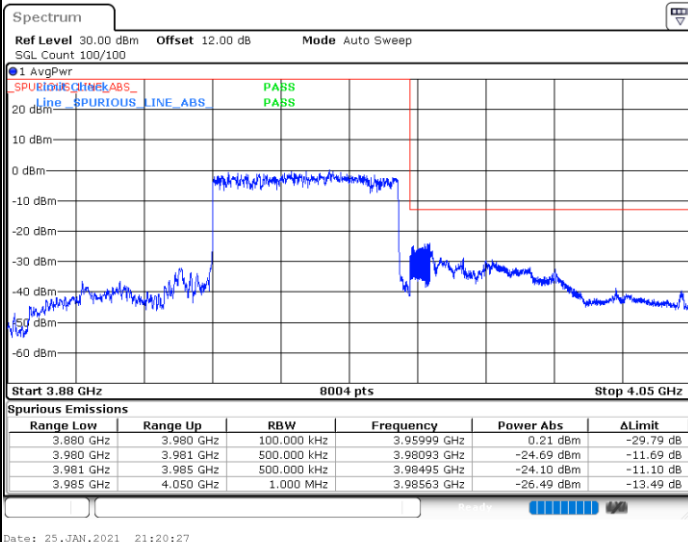
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

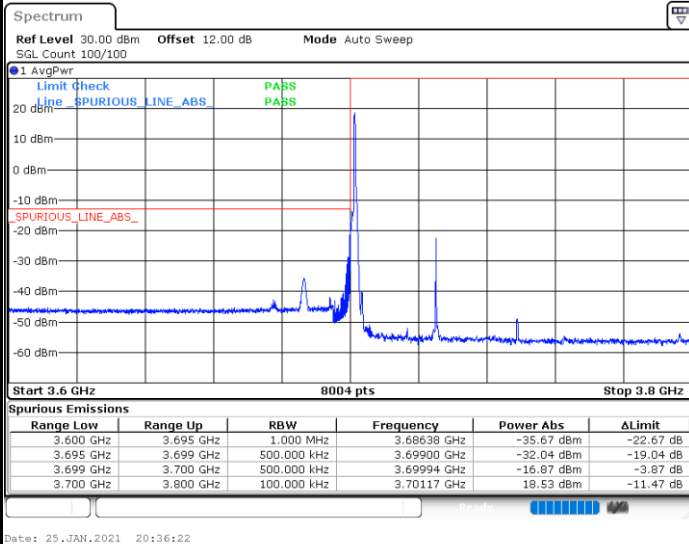




FR1 n77+5A / 50MHz / DFT-S OFDM QPSK

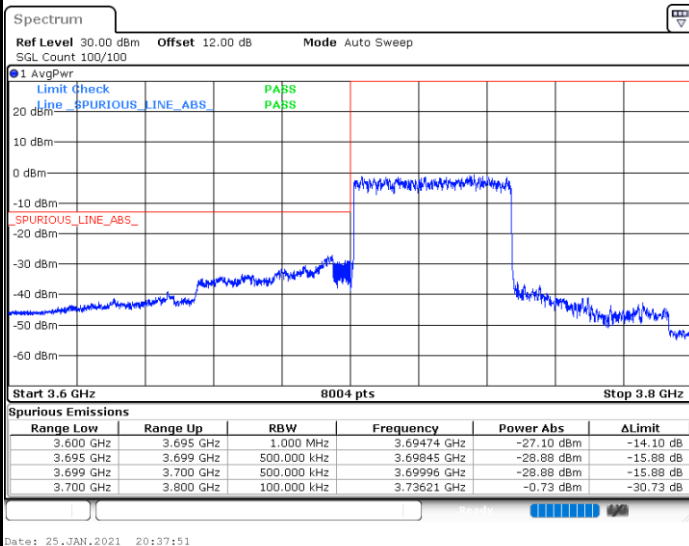
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

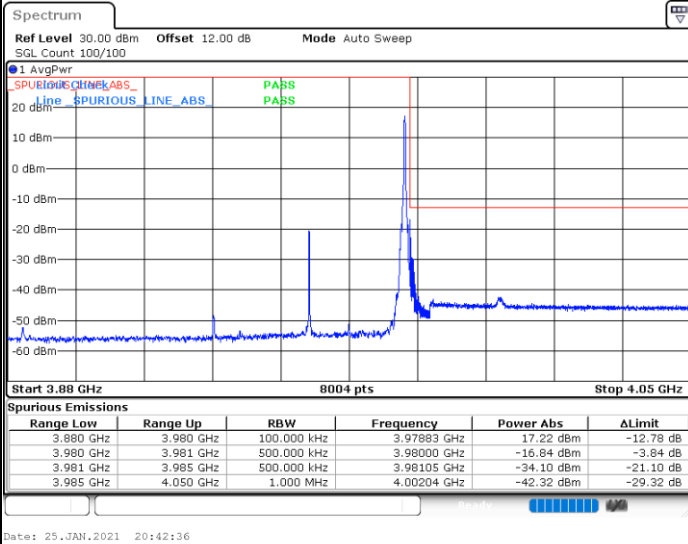




FR1 n77+5A / 50MHz / DFT-S OFDM QPSK

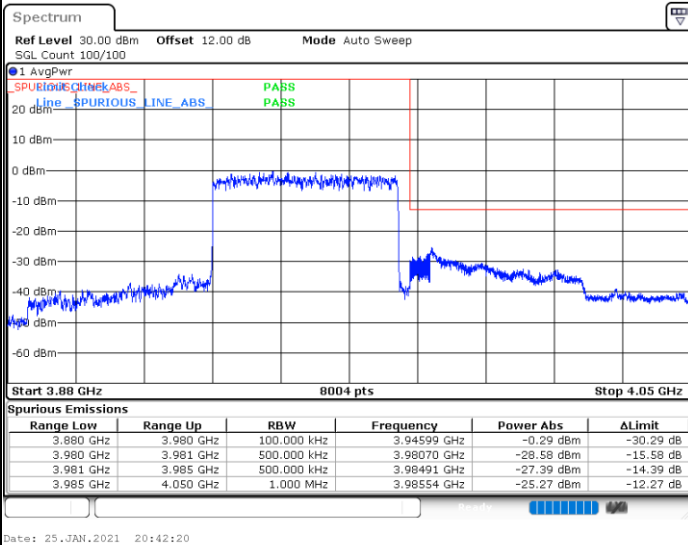
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

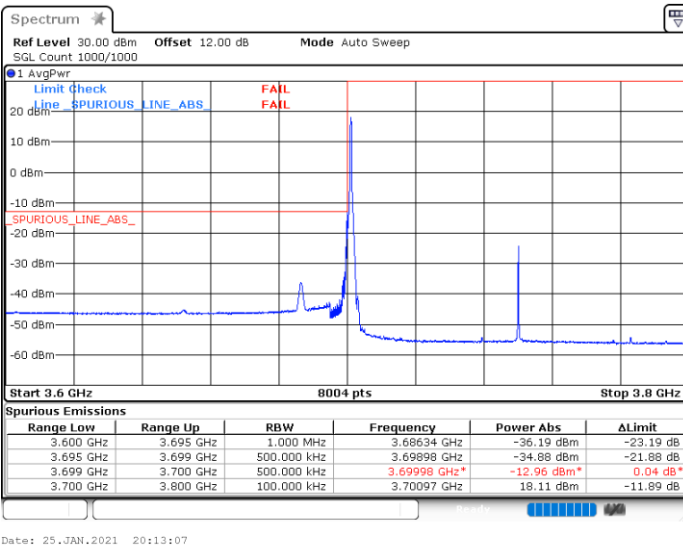
Channel Power < -13dBm Pass



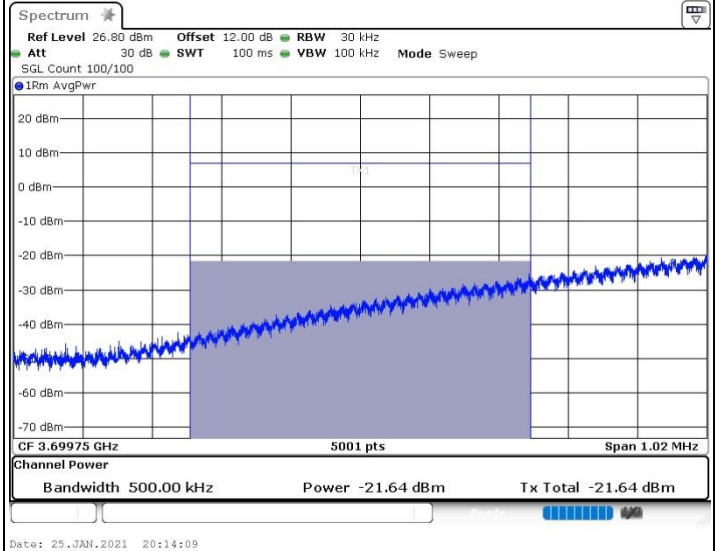


FR1 n77+5A / 100MHz / DFT-S OFDM BPSK

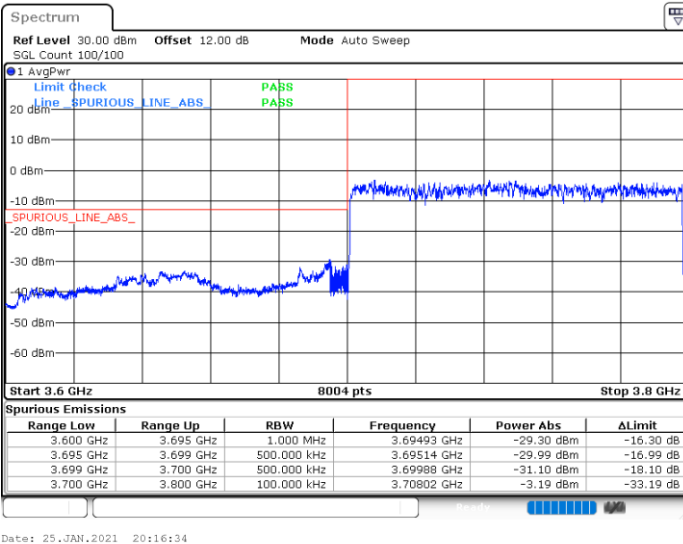
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



Channel Power < -13dBm Pass

/