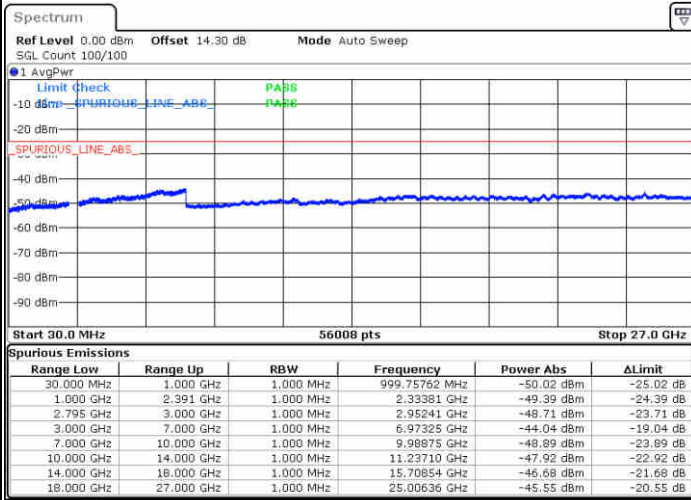




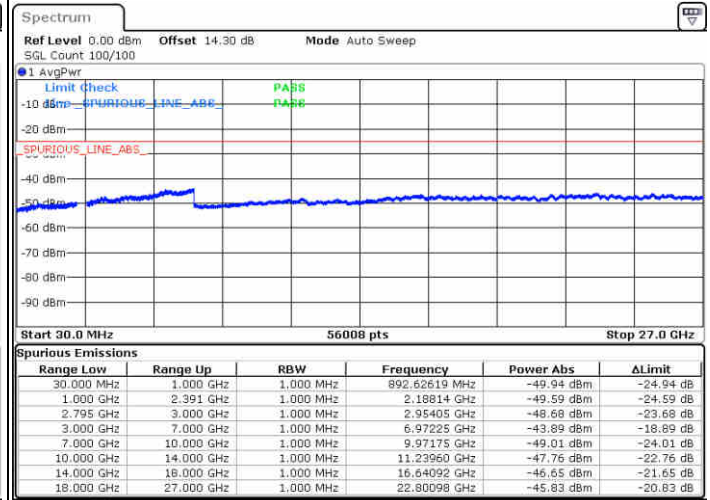
FR1 UL-MIMO n41 / 80MHz / CP-OFDM QPSK (M)

Lowest Channel / 1RB

Middle Channel / 1RB

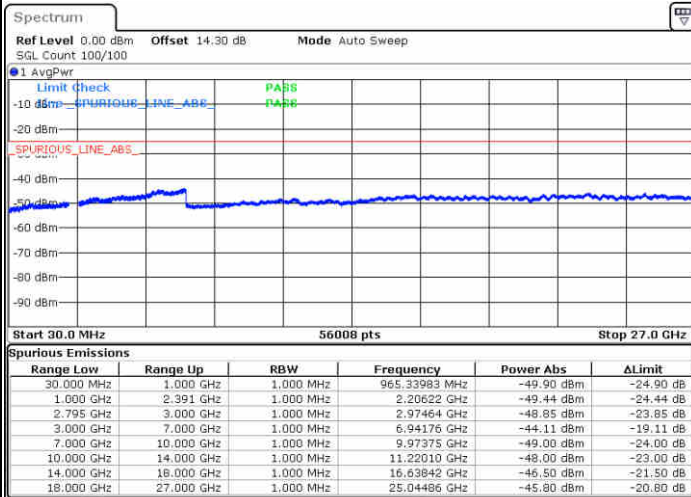


Date: 19.JAN.2021 22:08:49



Date: 19.JAN.2021 22:08:39

Highest Channel / 1RB



Date: 19.JAN.2021 22:07:29

Frequency Stability

Test Conditions		NR UL-MIMO n41 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0035	PASS
40	Normal Voltage	0.0018	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0025	
10	Normal Voltage	0.0015	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0025	
-20	Normal Voltage	0.0022	
-30	Normal Voltage	0.0017	
20	Maximum Voltage	0.0029	
20	Normal Voltage	0.0024	
20	Battery End Point	0.0038	

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 n41 NSA-SCS 15K

Peak-to-Average Ratio

Mode	FR1 n41+41A / 10MHz / 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	3.57	4.03	5.74	5.42	PASS
Middle CH	-	-	-	-	
Highest CH	3.57	4.06	5.74	5.33	



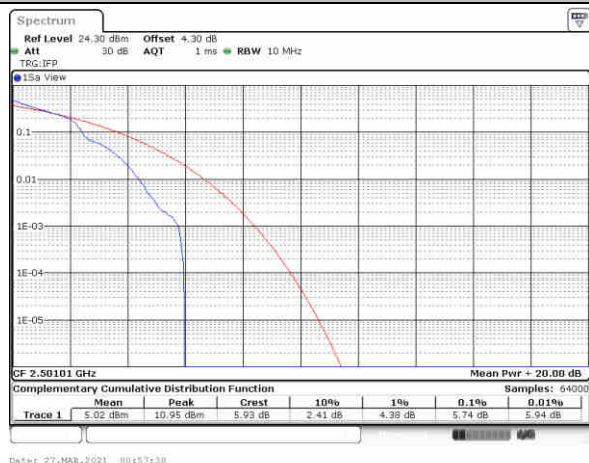
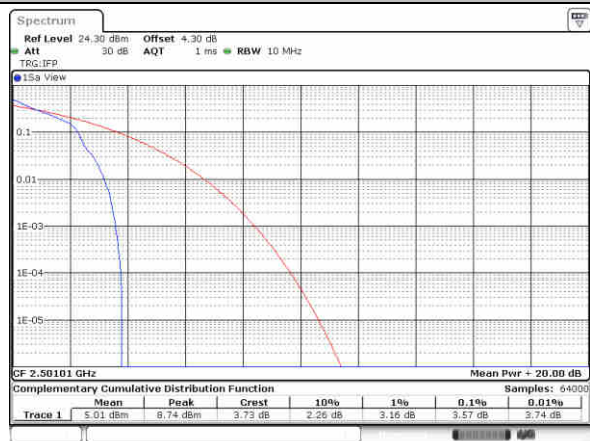
FR1 n41+41A / 10MHz / DFT-S OFDM

PI/2 BPSK

QPSK

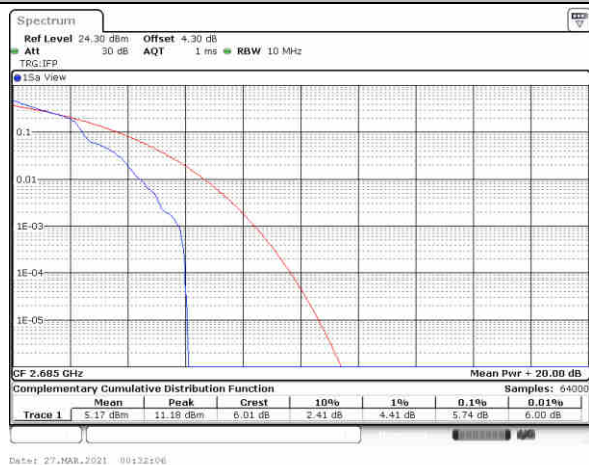
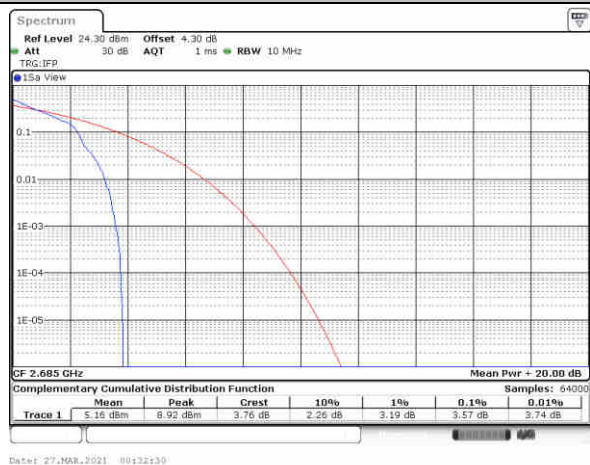
Lowest Channel / 1RB

Lowest Channel / 1RB



Highest Channel / 1 RB

Highest Channel / 1 RB





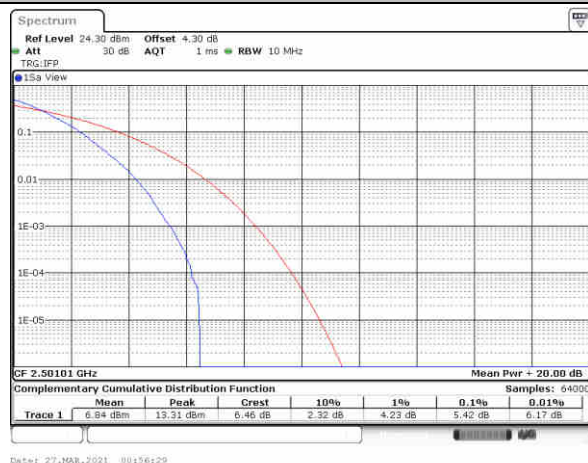
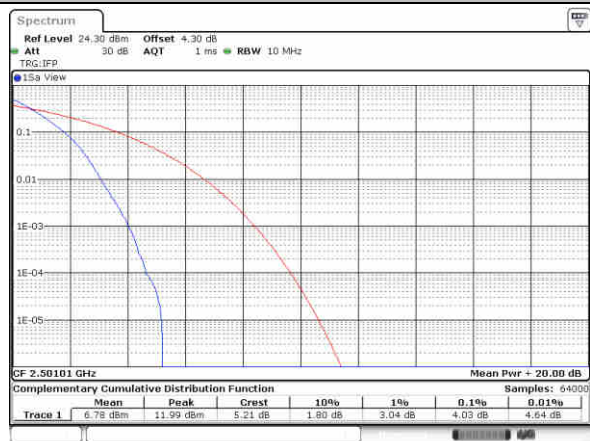
FR1 n41+41A / 10MHz / DFT-S OFDM

PI/2 BPSK

QPSK

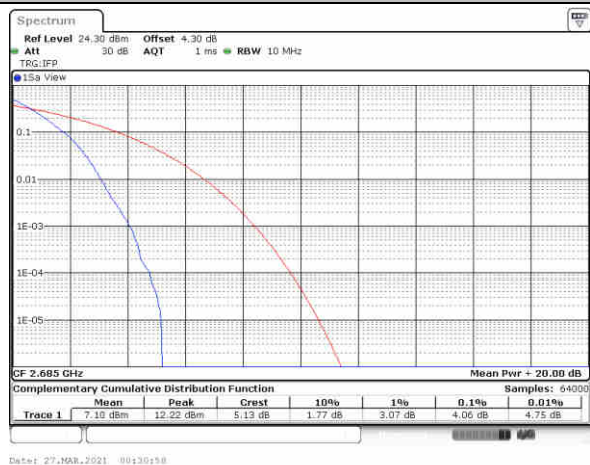
Lowest Channel / Full RB

Lowest Channel / Full RB



Highest Channel / Full RB

Highest Channel / Full RB



**26dB Bandwidth**

Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	9.79	9.71	9.73	9.57				

Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	14.87	14.78	14.90	14.87				

Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	30MHz	30MHz	30MHz	30MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	29.43	29.61	29.37	29.43				

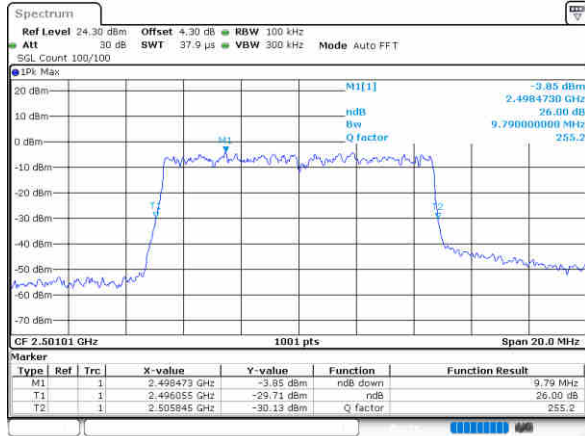
Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	41.00	40.92	40.92	41.00				



FR1 n41 / 10MHz / CP-OFDM

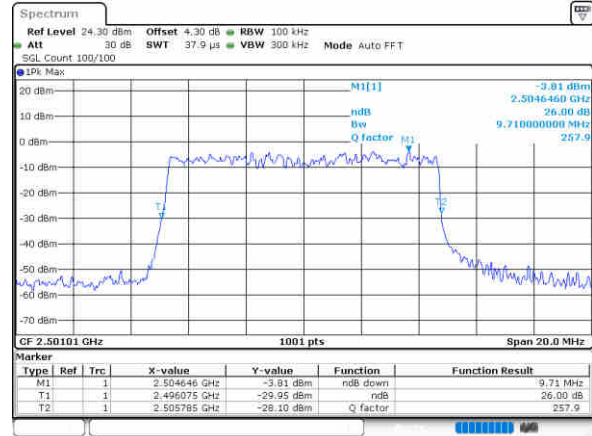
QPSK

Lowerst Channel



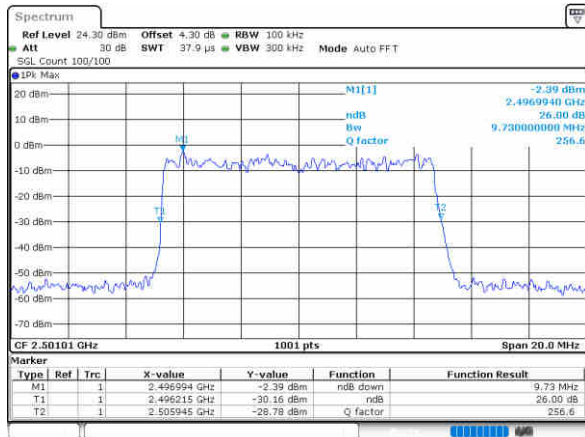
16QAM

Lowerst Channel



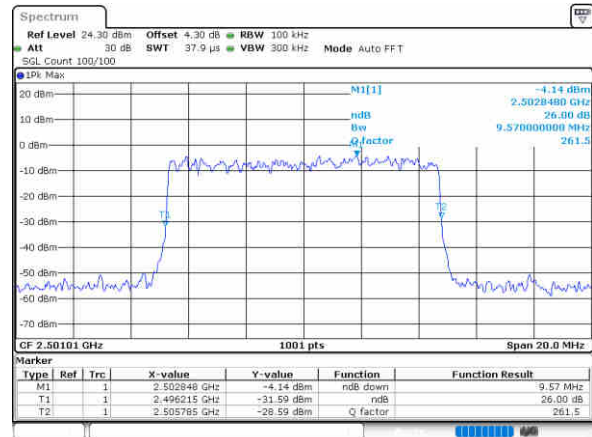
64QAM

Lowerst Channel



256QAM

Lowerst Channel

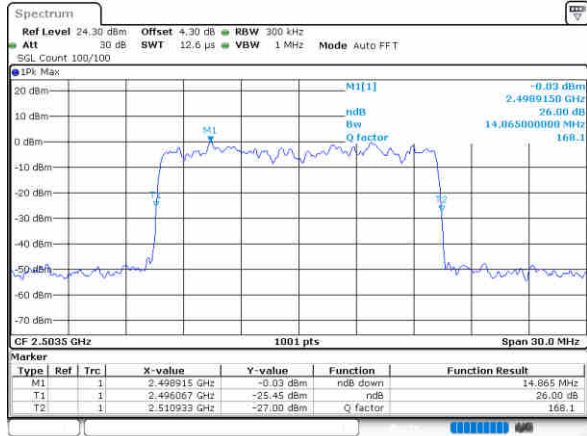




FR1 n41 / 15MHz / CP-OFDM

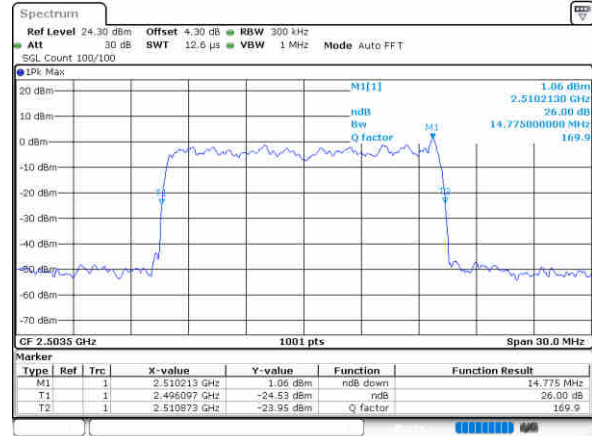
QPSK

Lowerst Channel



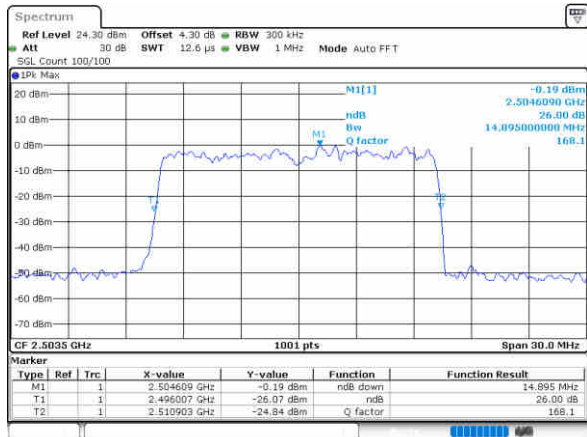
16QAM

Lowerst Channel



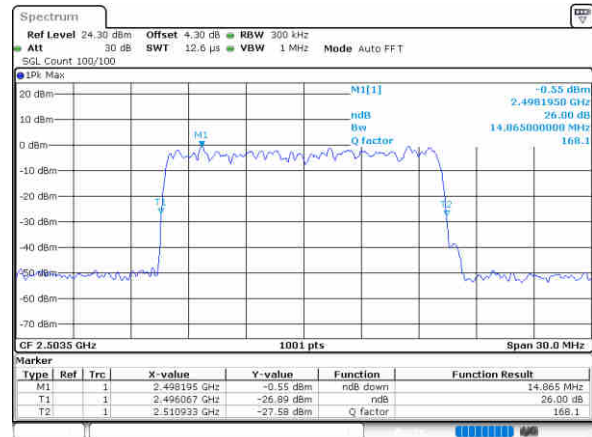
64QAM

Lowerst Channel



256QAM

Lowerst Channel

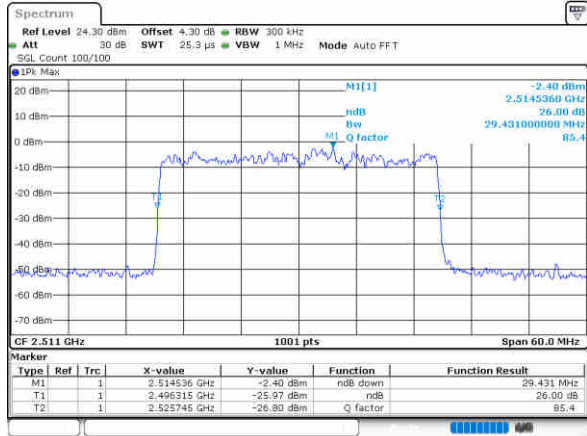




FR1 n41 / 30MHz / CP-OFDM

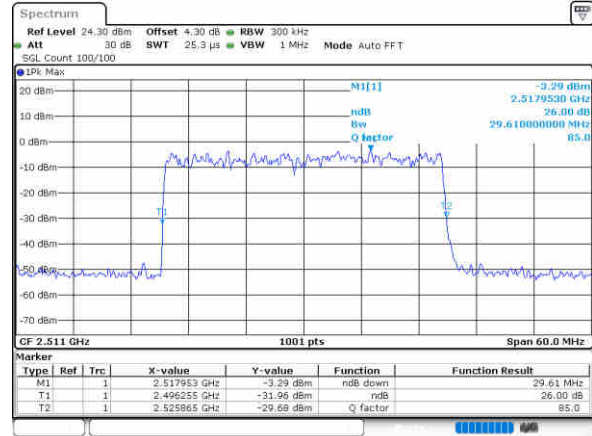
QPSK

Lowerst Channel



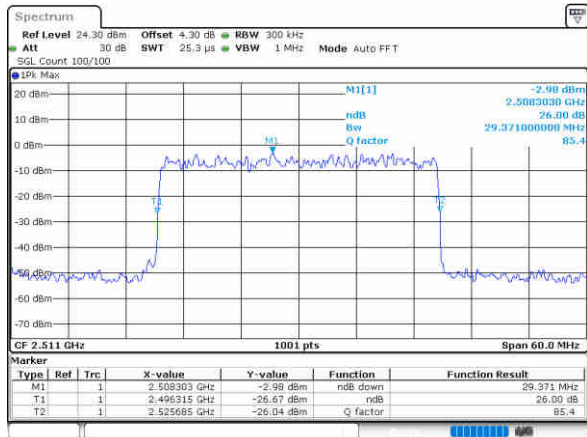
16QAM

Lowerst Channel



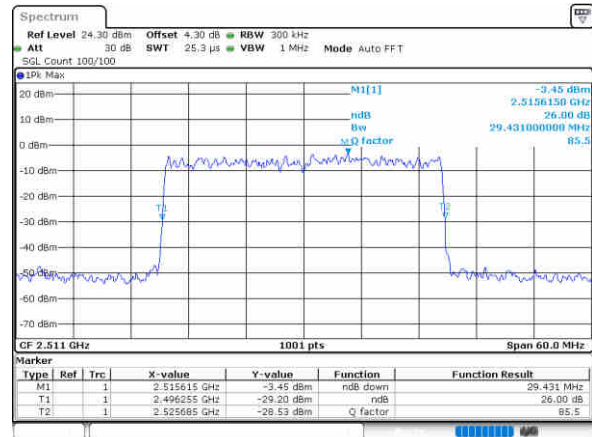
64QAM

Lowerst Channel



256QAM

Lowerst Channel





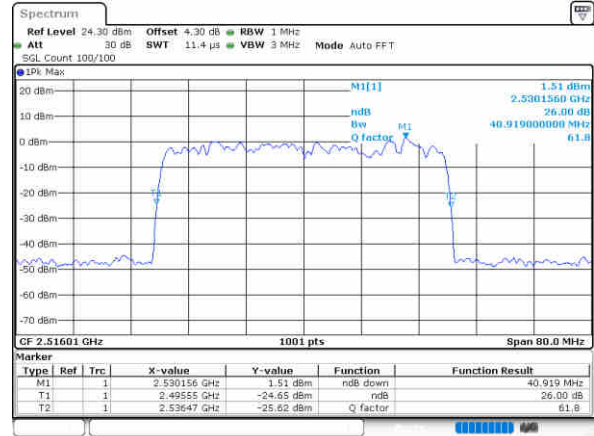
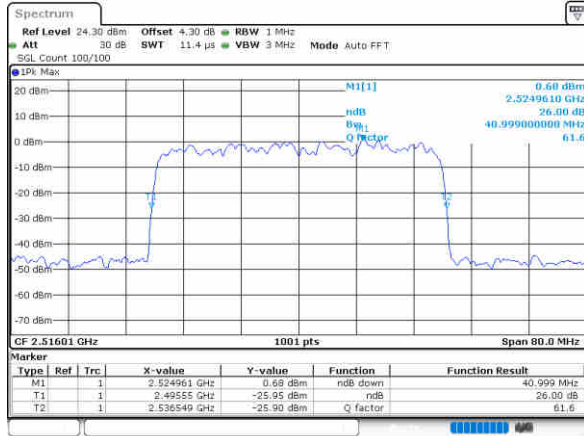
FR1 n41 / 40MHz / CP-OFDM

QPSK

16QAM

Lowerst Channel

Lowerst Channel

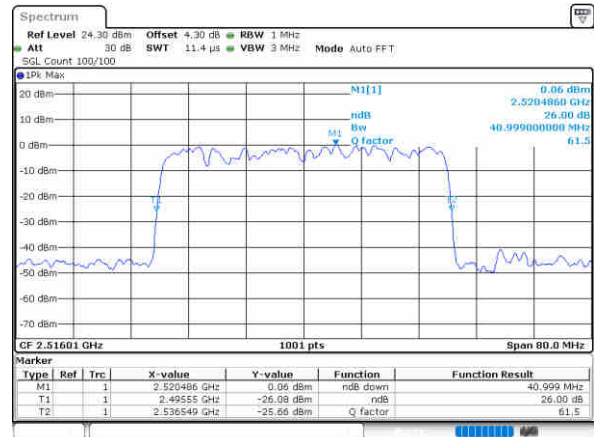
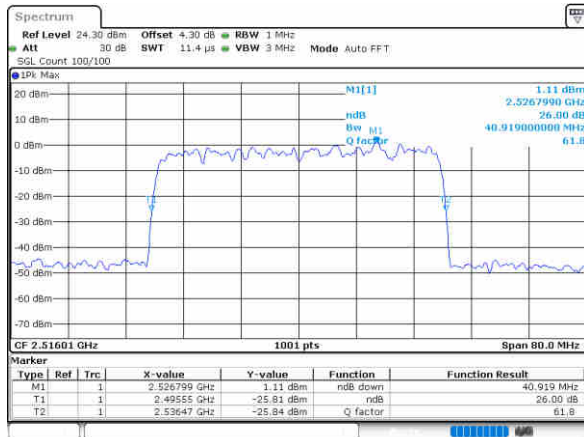


64QAM

256QAM

Lowerst Channel

Lowerst Channel



**Occupied Bandwidth**

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	9.27	9.29	9.27	9.27				

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	14.12	14.15	14.15	14.09				

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	30MHz	30MHz	30MHz	30MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	28.47	28.59	28.53	28.53				

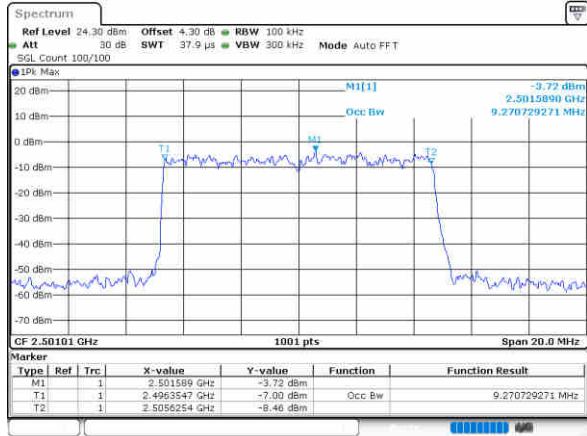
Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	38.84	38.84	38.76	38.52				



FR1 n41 / 10MHz / CP-OFDM

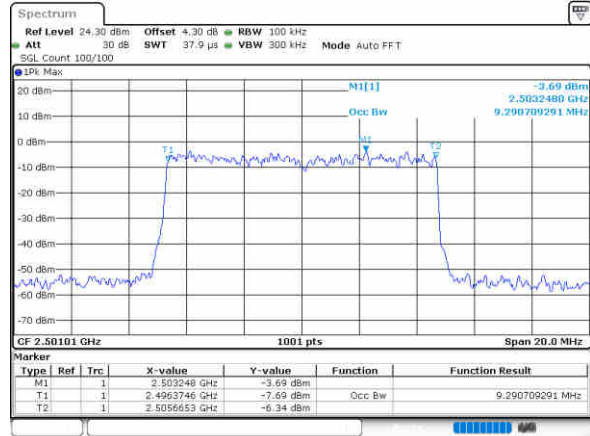
QPSK

Lowerst Channel



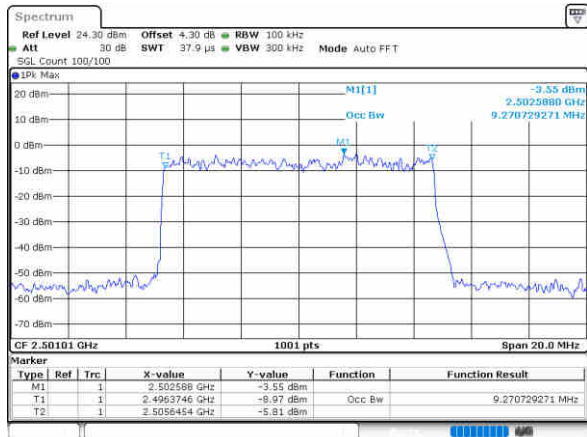
16QAM

Lowerst Channel



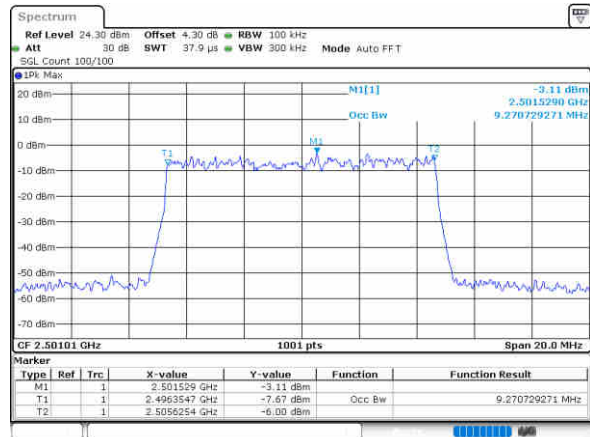
64QAM

Lowerst Channel



256QAM

Lowerst Channel





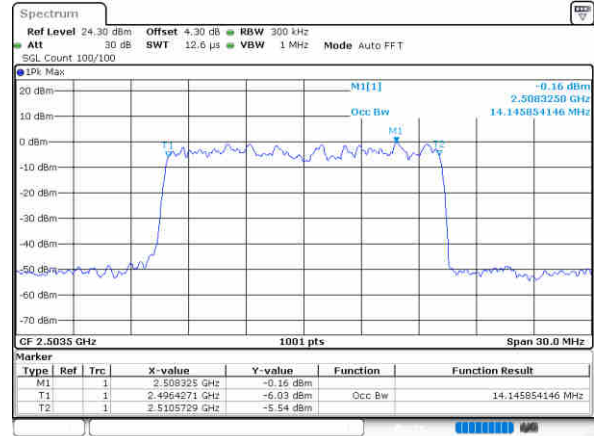
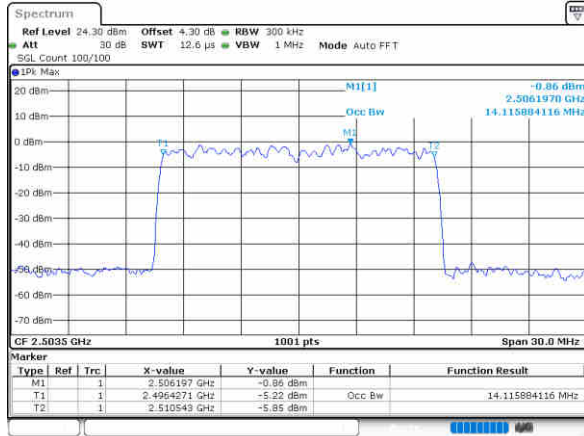
FR1 n41 / 15MHz / CP-OFDM

QPSK

16QAM

Lowerst Channel

Lowerst Channel

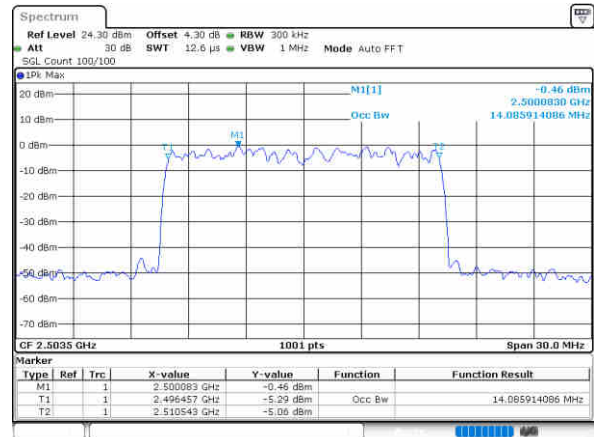
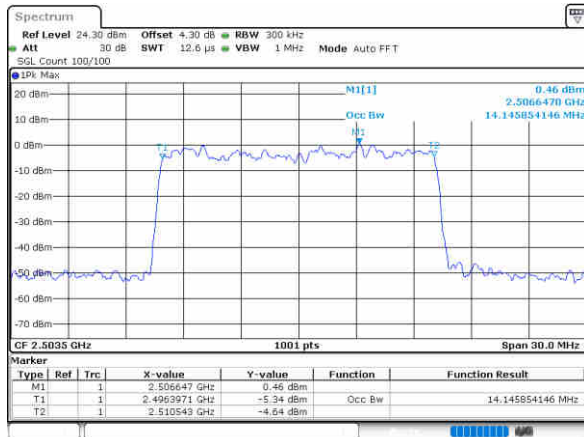


64QAM

256QAM

Lowerst Channel

Lowerst Channel

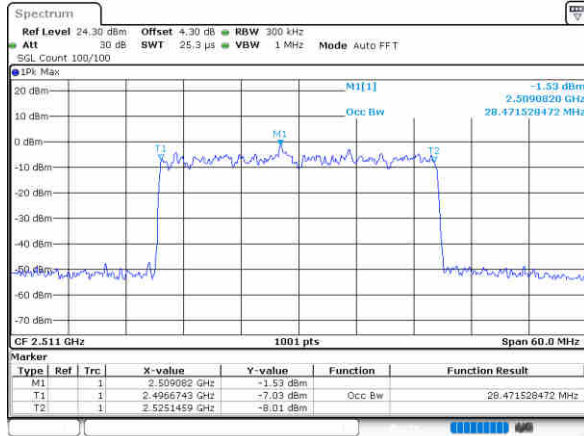




FR1 n41 / 30MHz / CP-OFDM

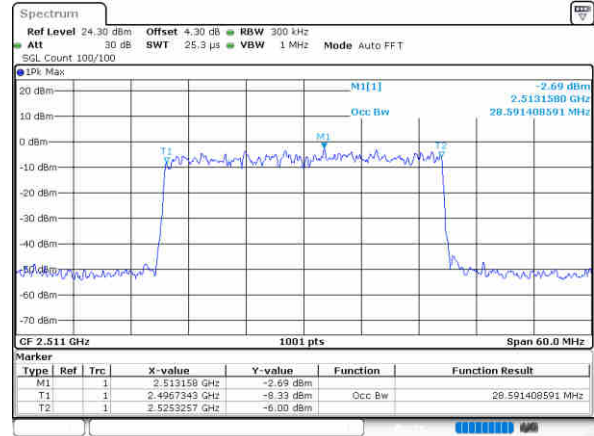
QPSK

Lowerst Channel



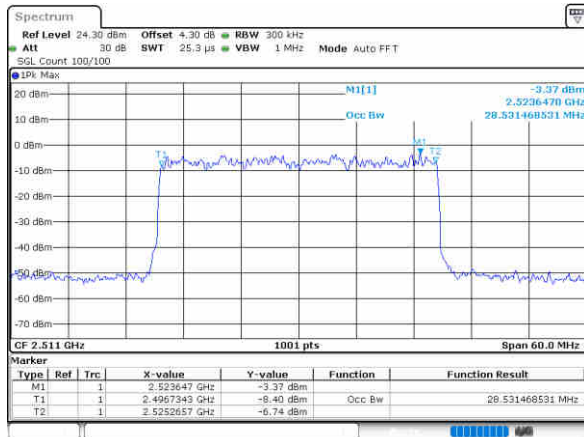
16QAM

Lowerst Channel



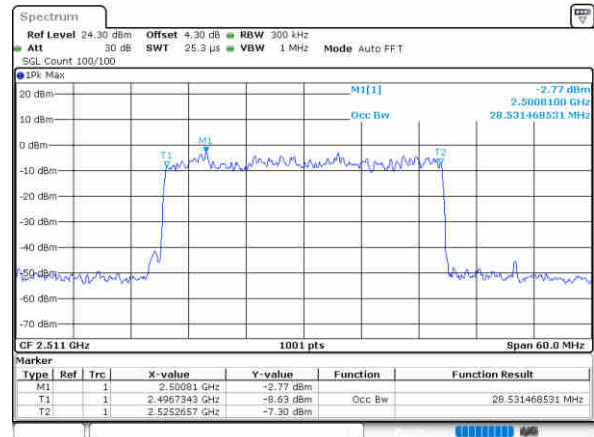
64QAM

Lowerst Channel



256QAM

Lowerst Channel





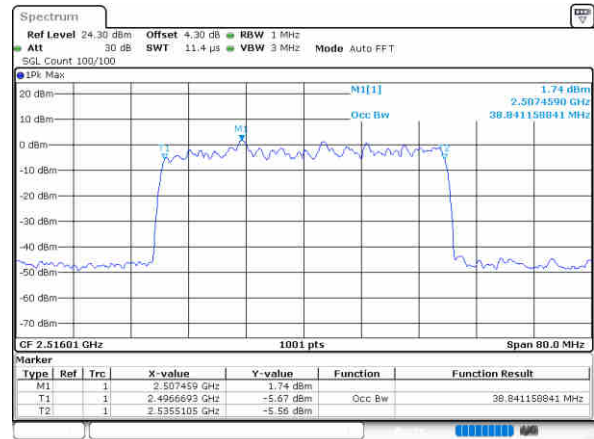
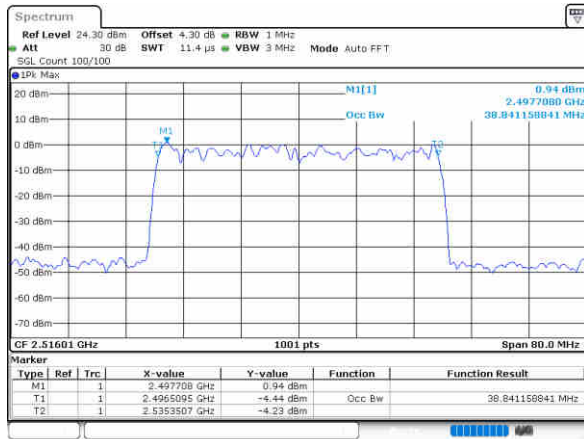
FR1 n41 / 40MHz / CP-OFDM

QPSK

16QAM

Lowerst Channel

Lowerst Channel

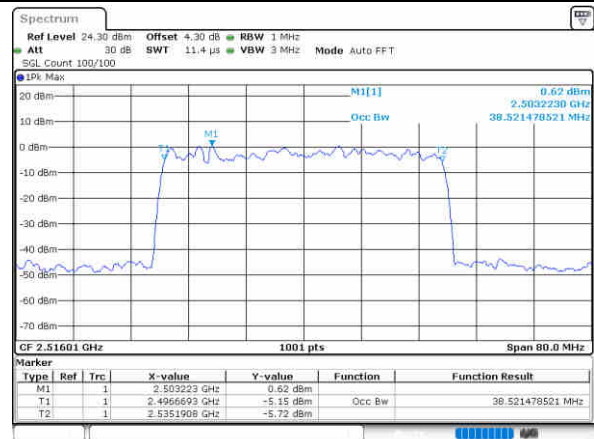
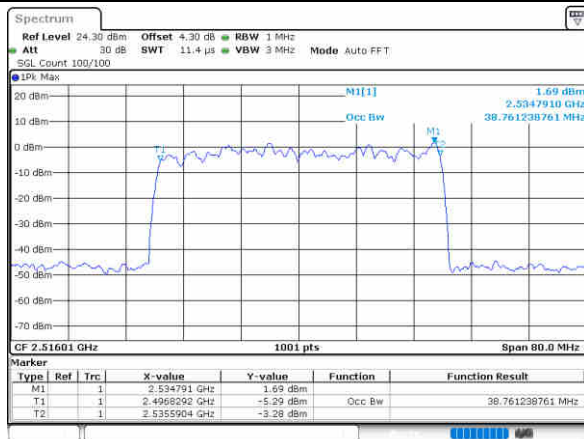


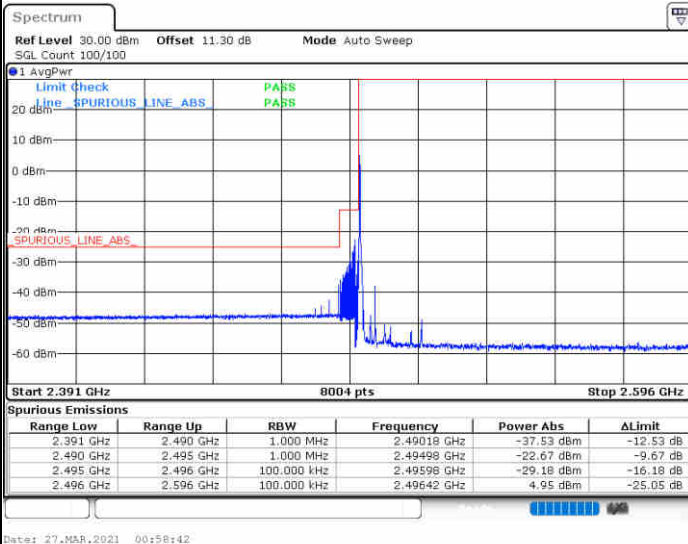
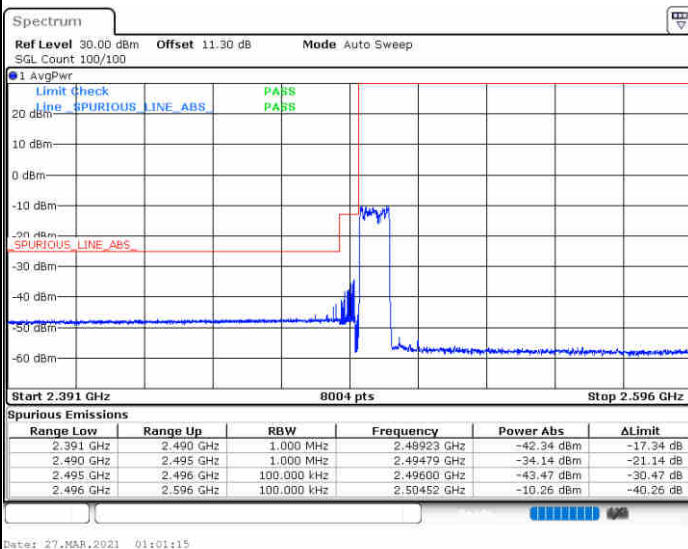
64QAM

256QAM

Lowerst Channel

Lowerst Channel



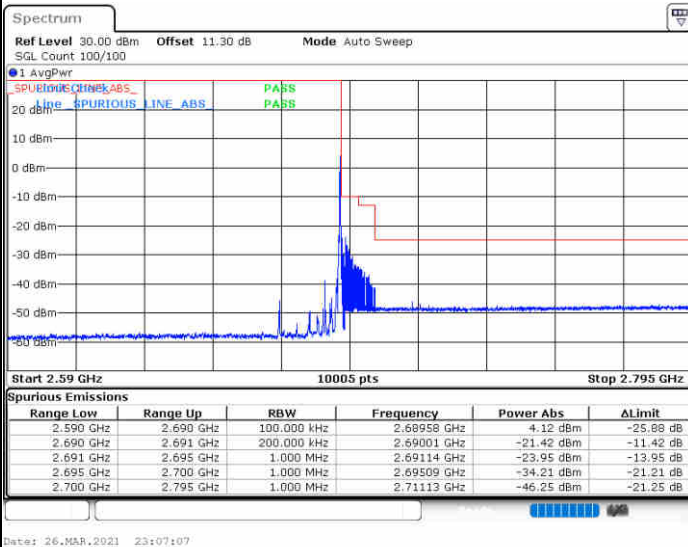
**Conducted Band Edge****FR1 n41+41A / 10MHz / DFT-S OFDM BPSK****Lowest Band Edge / 1 RB****Channel Power < -13dBm Pass****Lowest Band Edge / Full RB****Channel Power < -13dBm Pass**



FR1 n41+41A / 10MHz / DFT-S OFDM BPSK

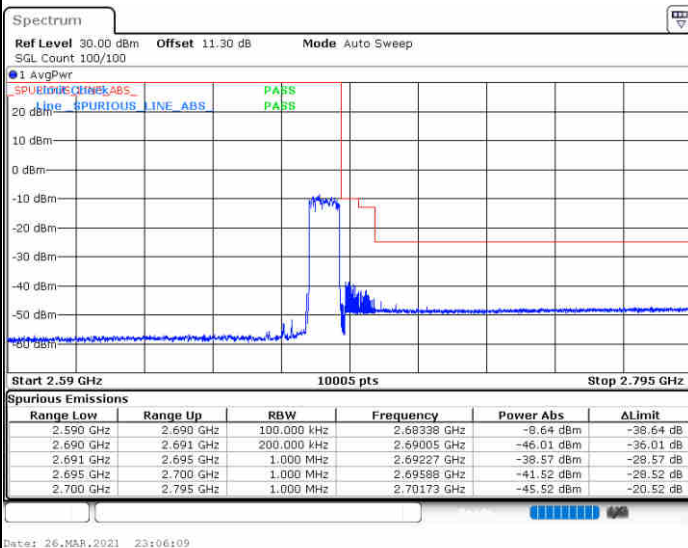
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

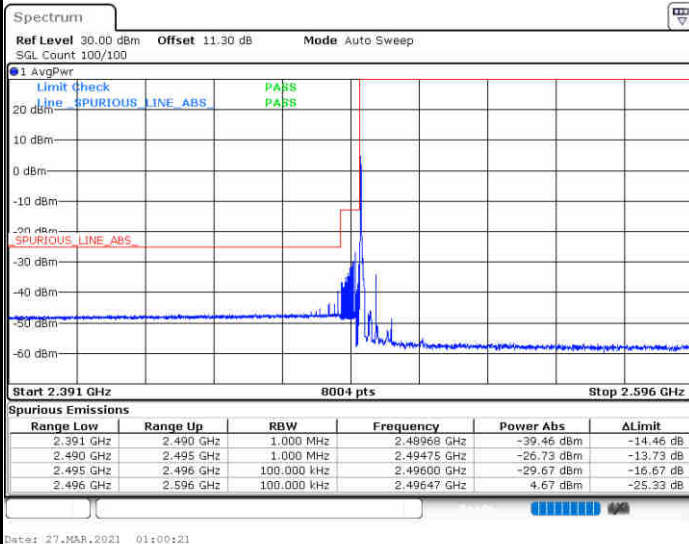




FR1 n41+41A / 10MHz / DFT-S OFDM QPSK

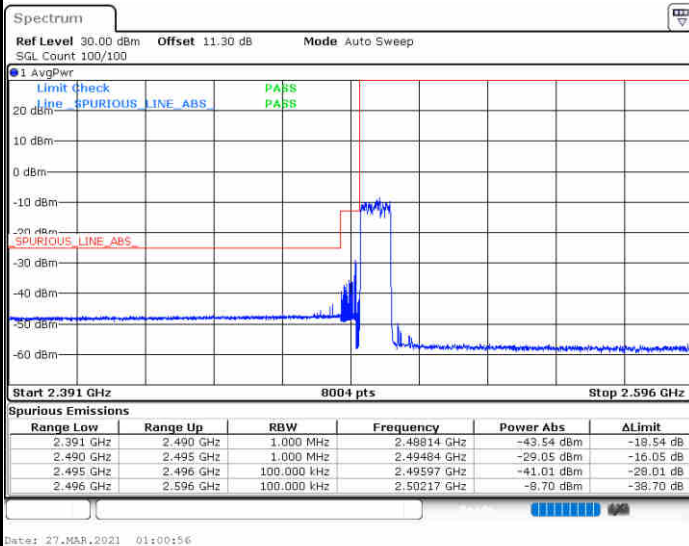
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

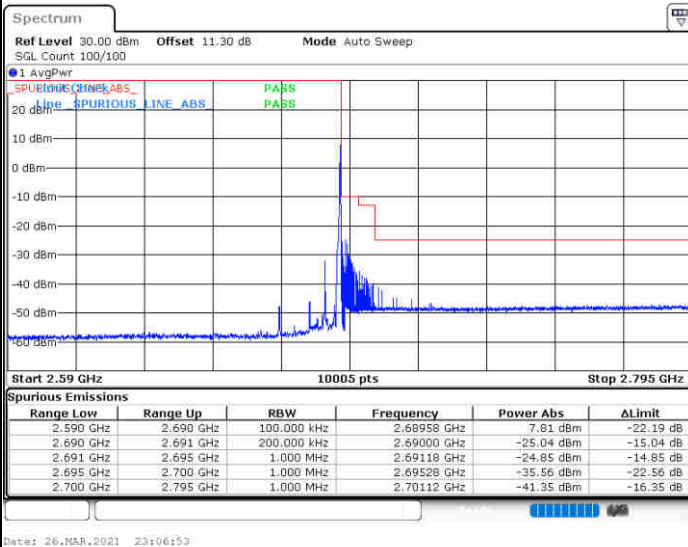




FR1 n41+41A / 10MHz / DFT-S OFDM QPSK

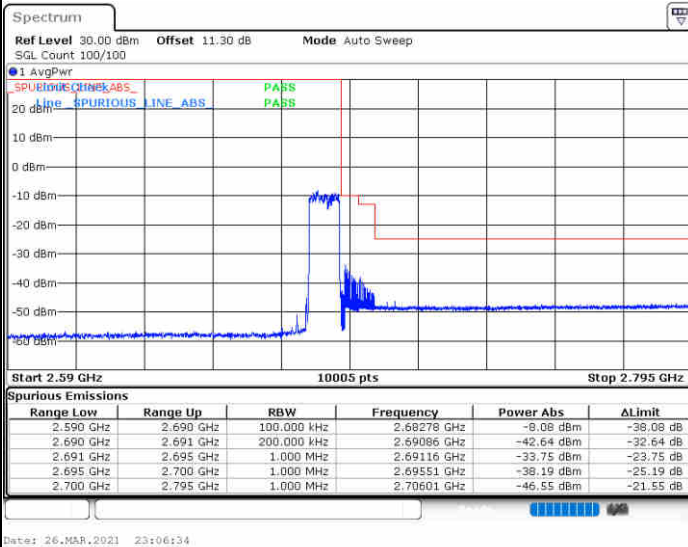
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

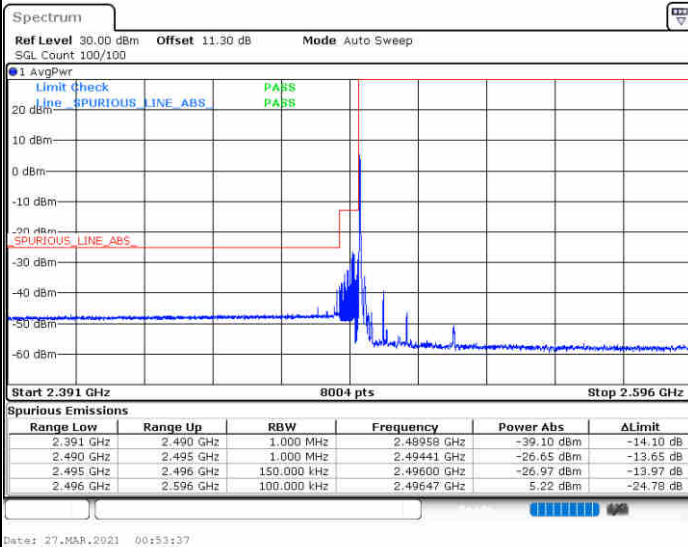




FR1 n41+41A / 15MHz / DFT-S OFDM BPSK

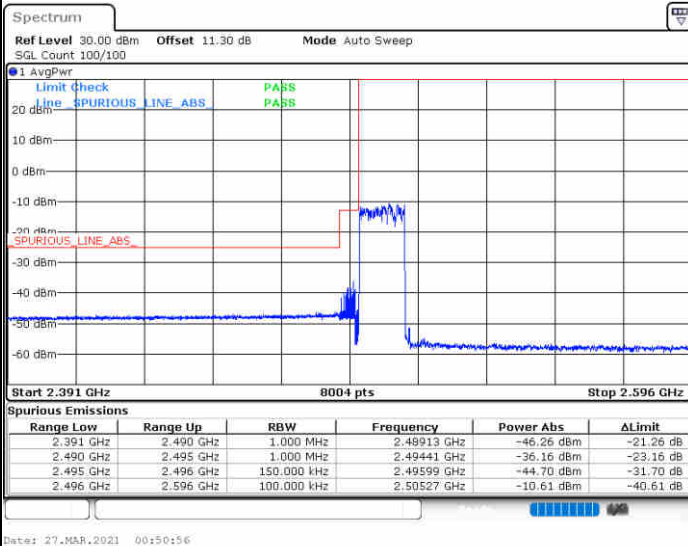
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

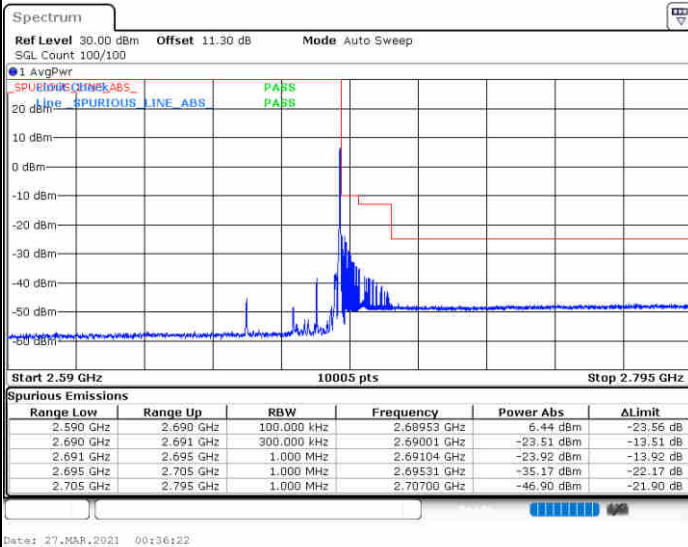




FR1 n41+41A / 15MHz / DFT-S OFDM BPSK

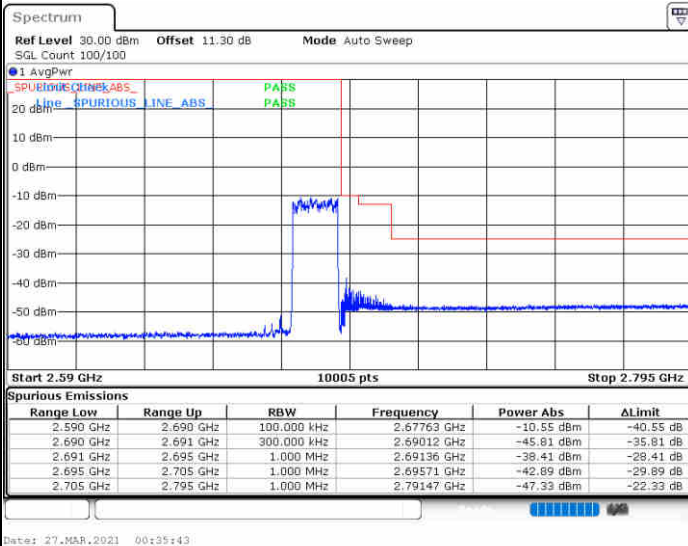
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

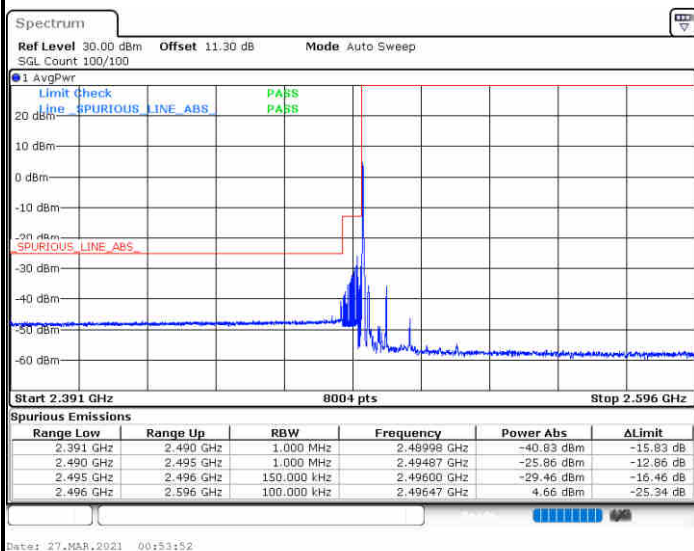




FR1 n41+41A / 15MHz / DFT-S OFDM QPSK

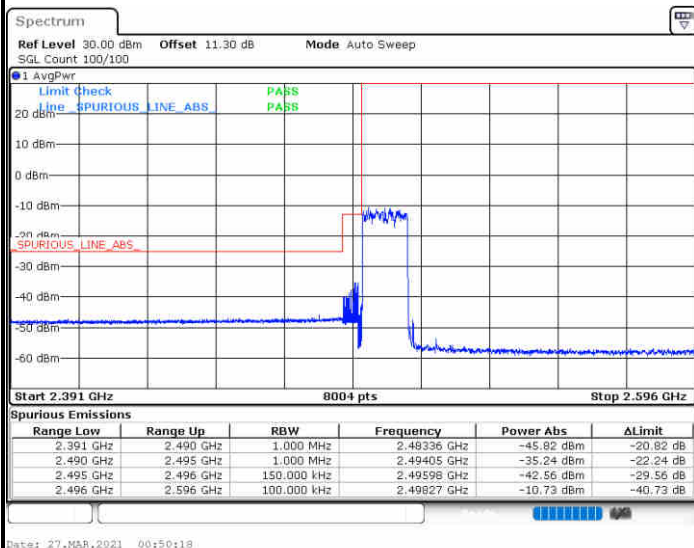
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

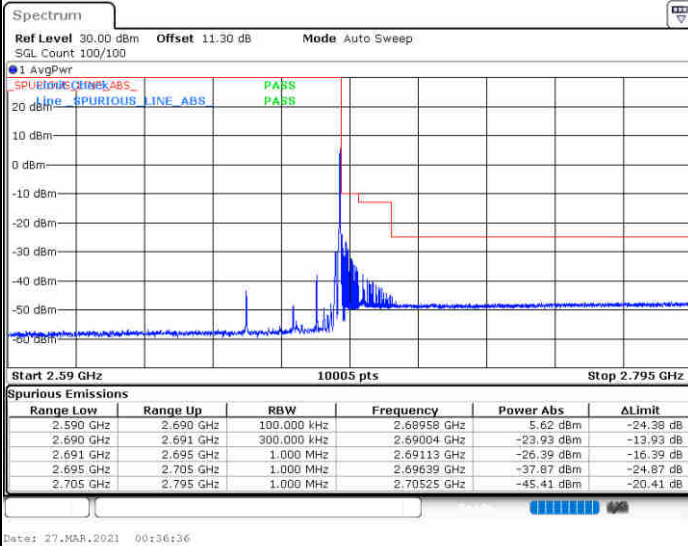




FR1 n41+41A / 15MHz / DFT-S OFDM QPSK

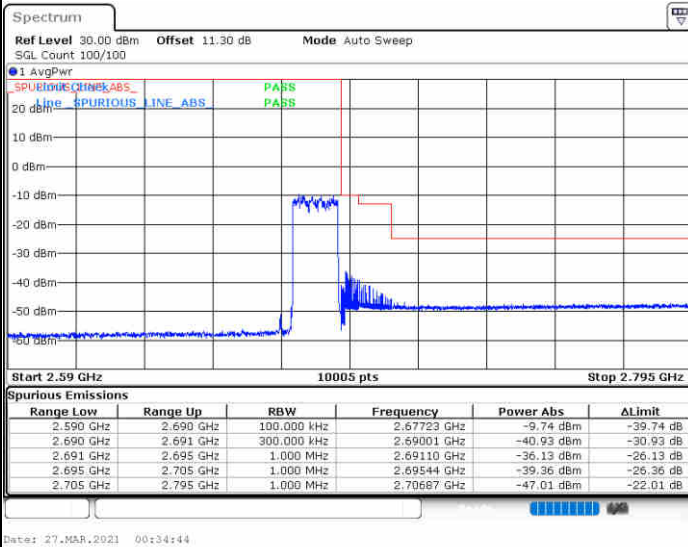
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

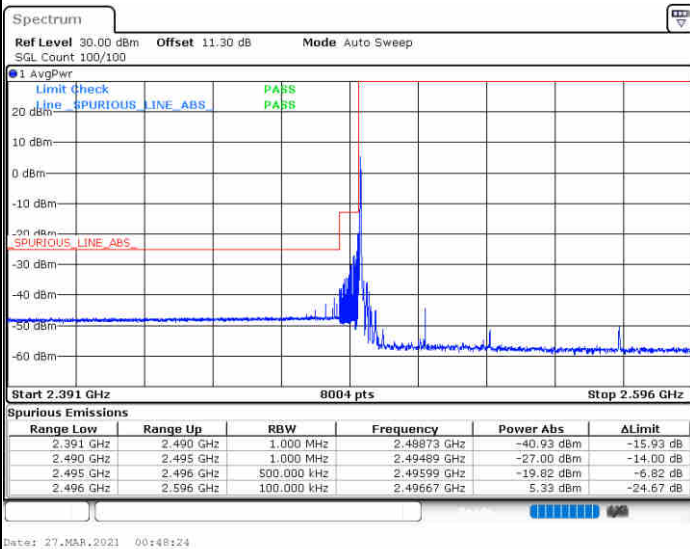




FR1 n41+41A / 40MHz / DFT-S OFDM BPSK

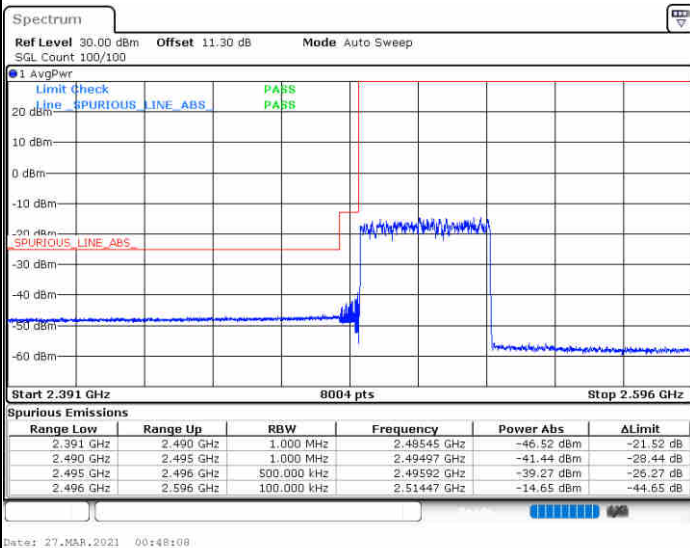
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

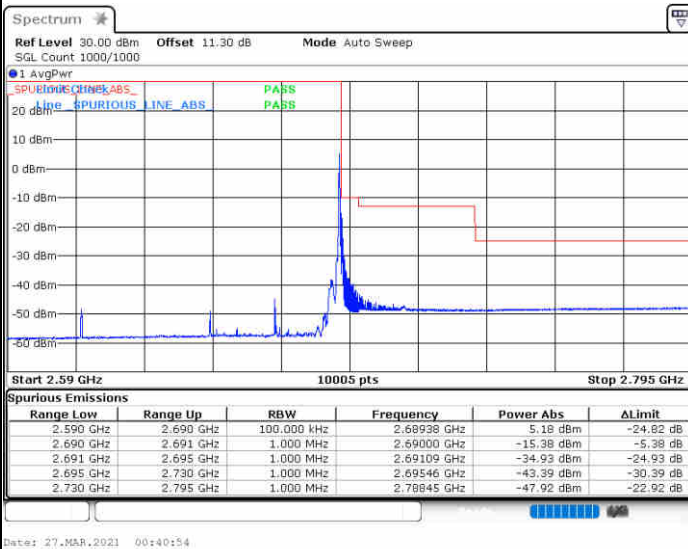




FR1 n41+41A / 40MHz / DFT-S OFDM BPSK

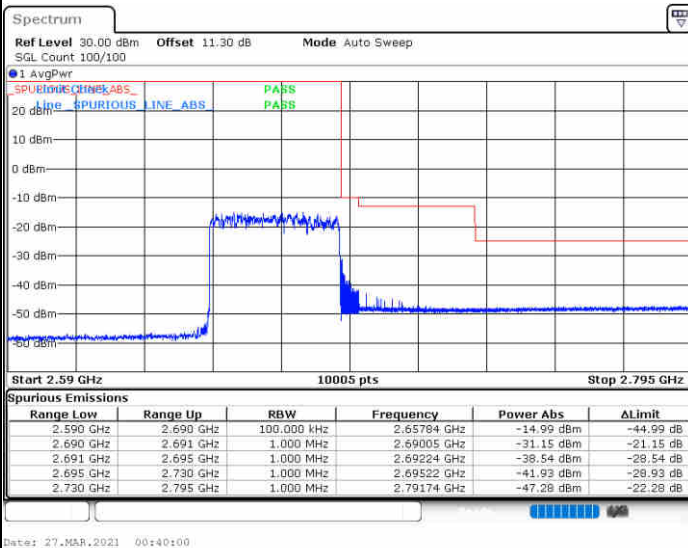
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

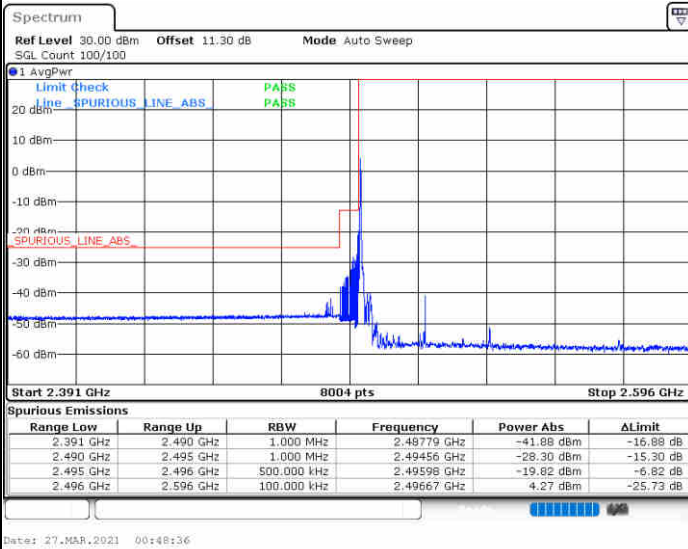




FR1 n41+41A / 40MHz / DFT-S OFDM QPSK

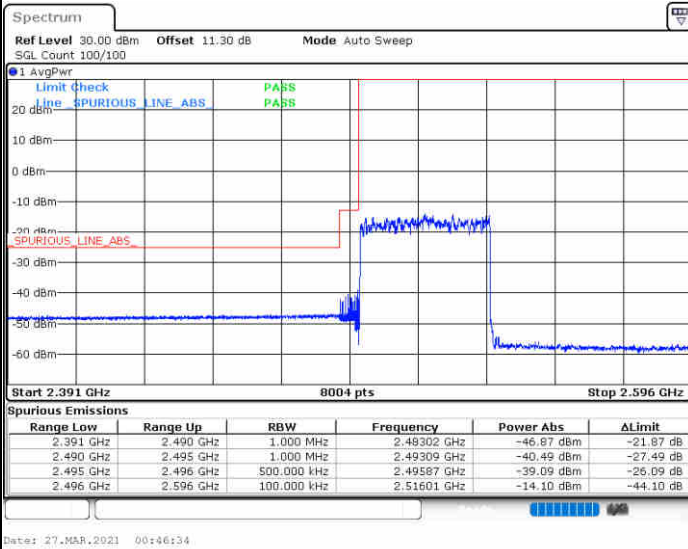
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

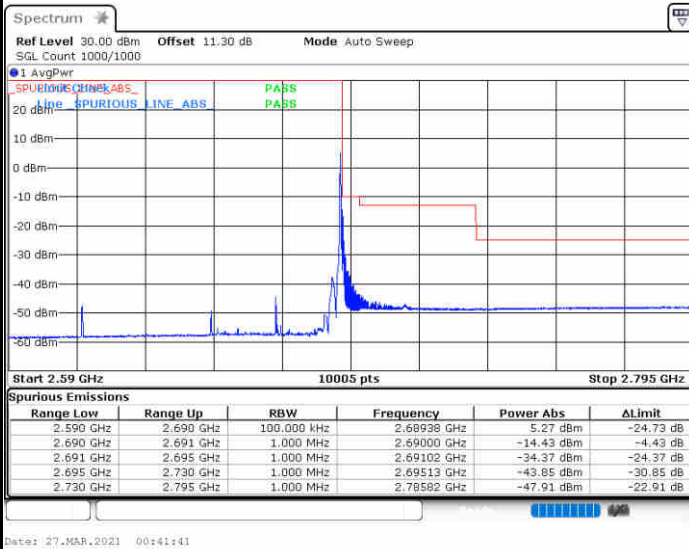




FR1 n41+41A / 40MHz / DFT-S OFDM QPSK

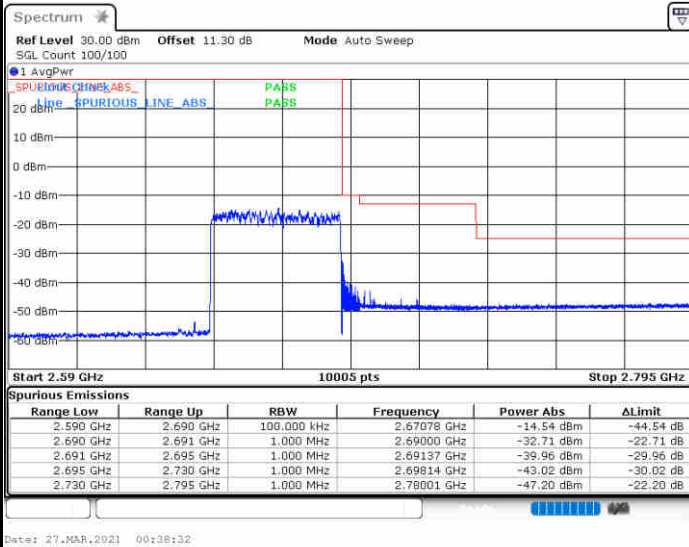
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass



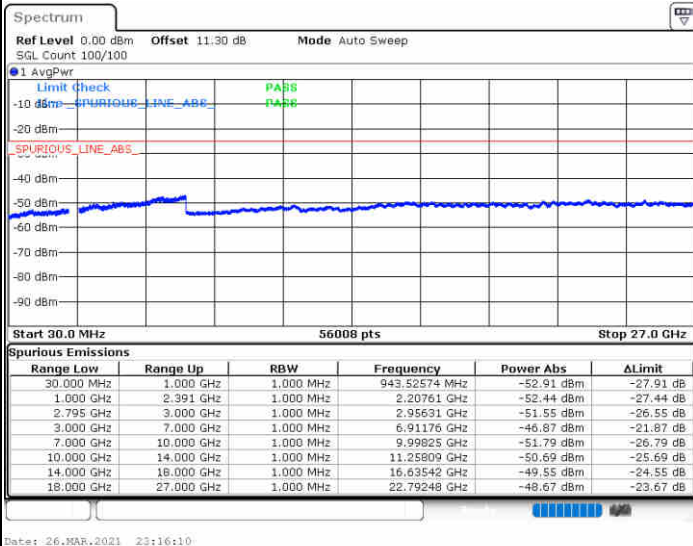


Conducted Spurious Emission

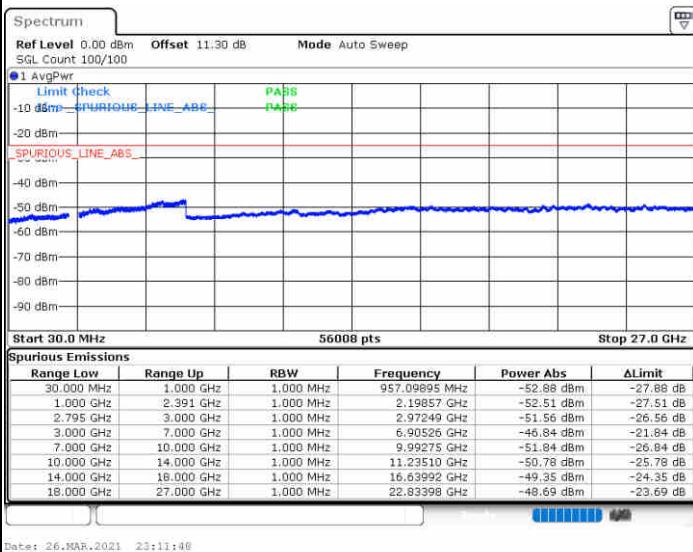
FR1 n41+41A / 10MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB



Highest Channel / 1RB

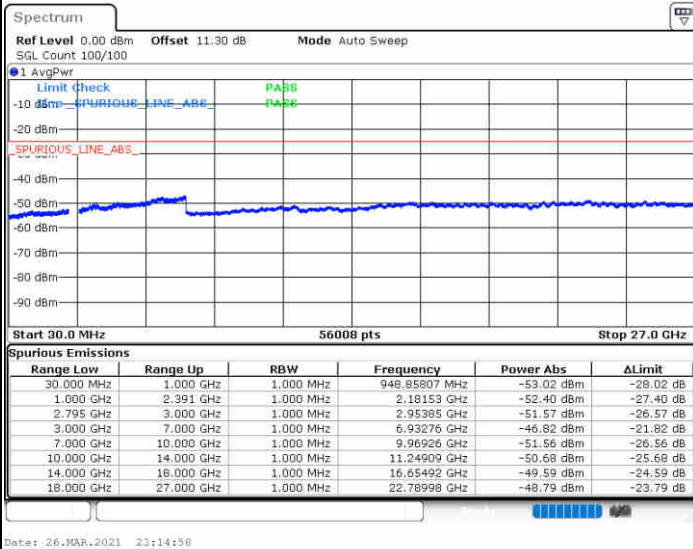




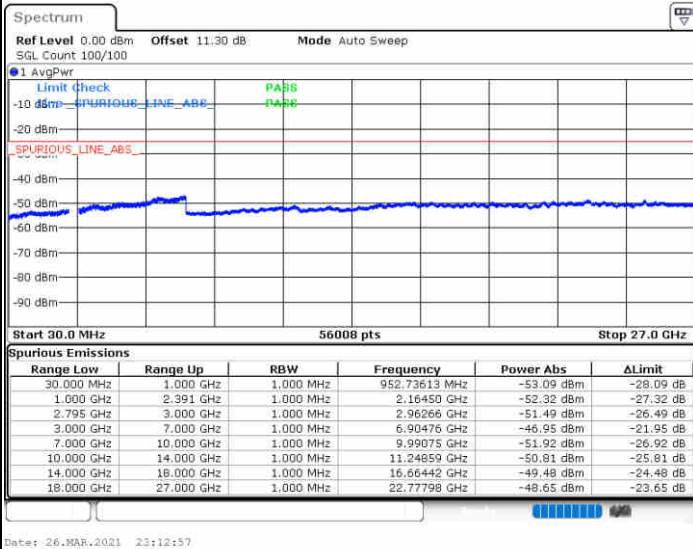
FR1 n41+41A / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB



Highest Channel / 1RB

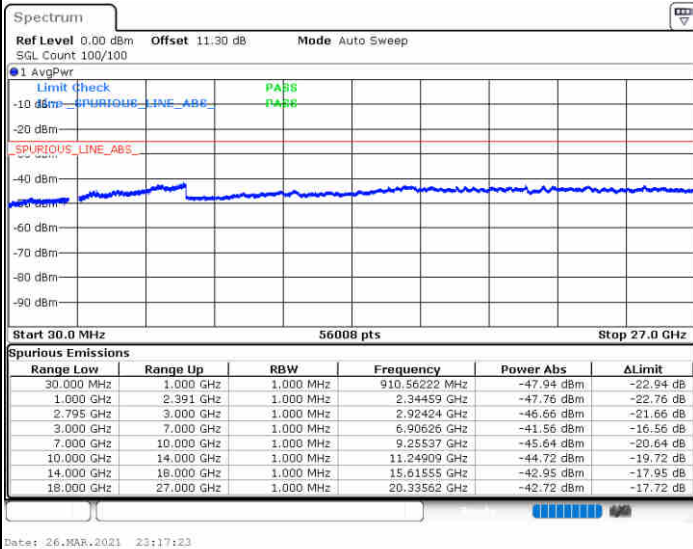




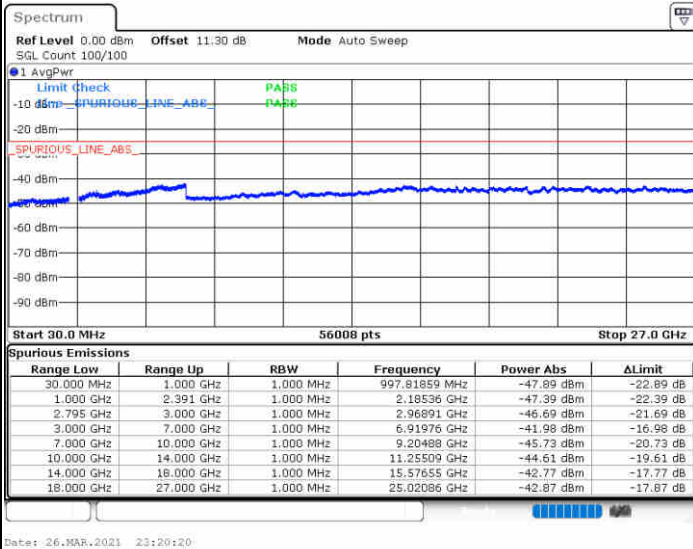
FR1 n41+41A / 15MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB



Highest Channel / 1RB

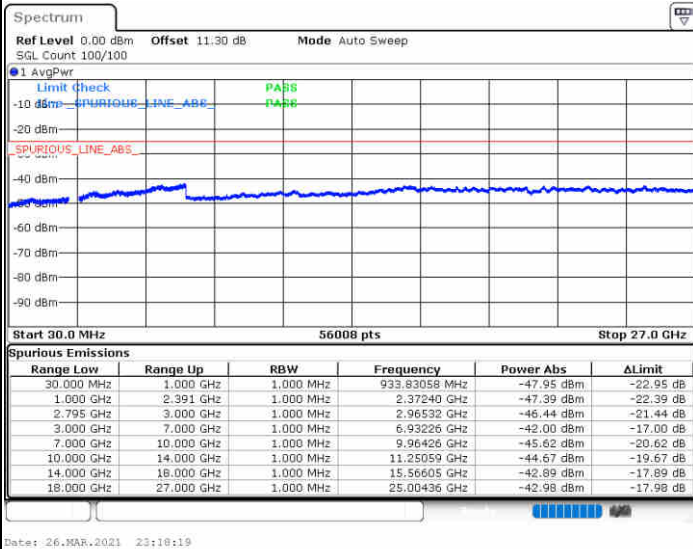




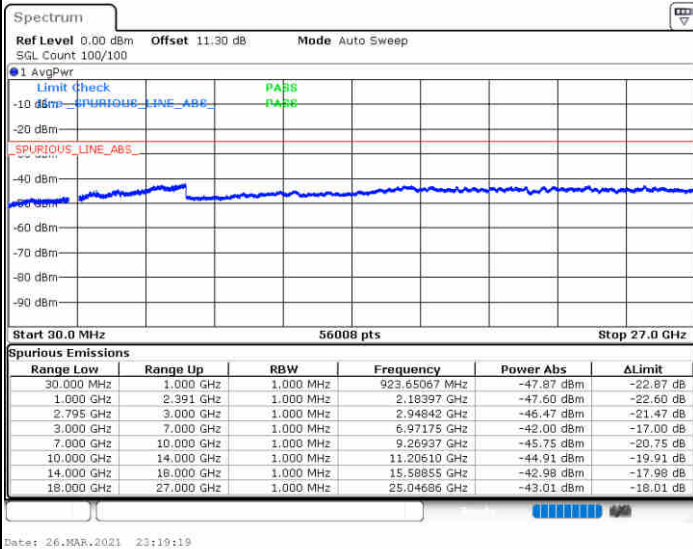
FR1 n41+41A / 40MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB



Highest Channel / 1RB

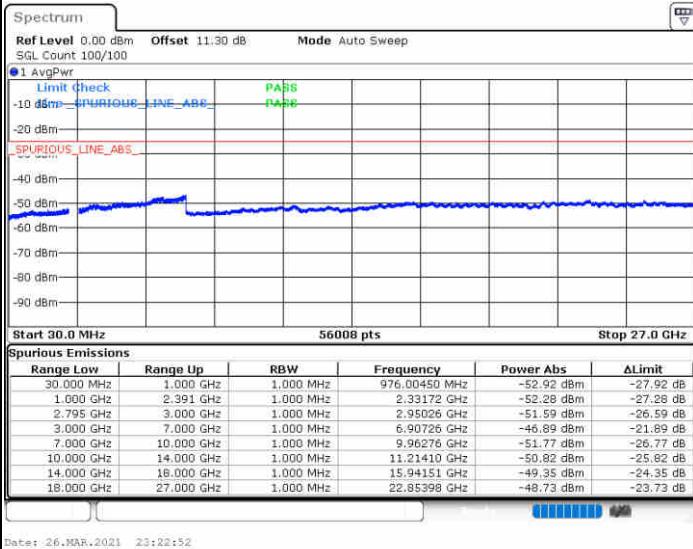




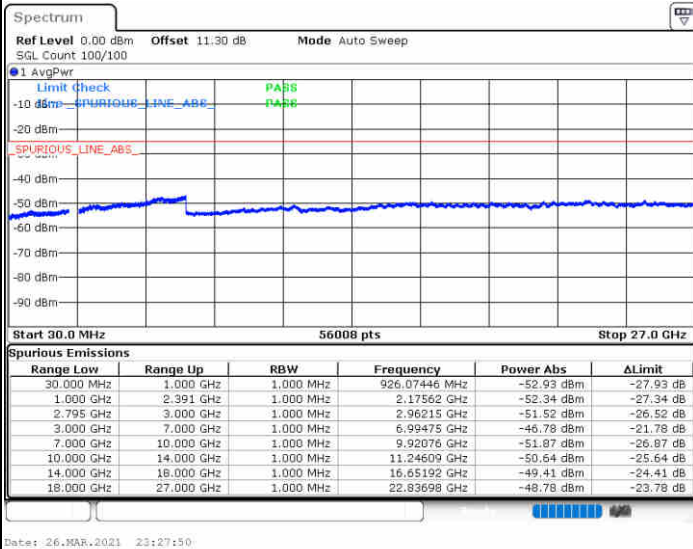
FR1 n41+41A / 40MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB



Highest Channel / 1RB

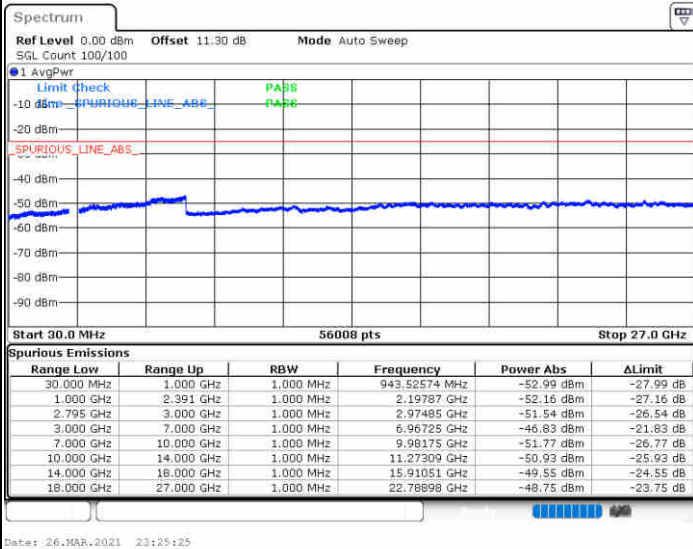




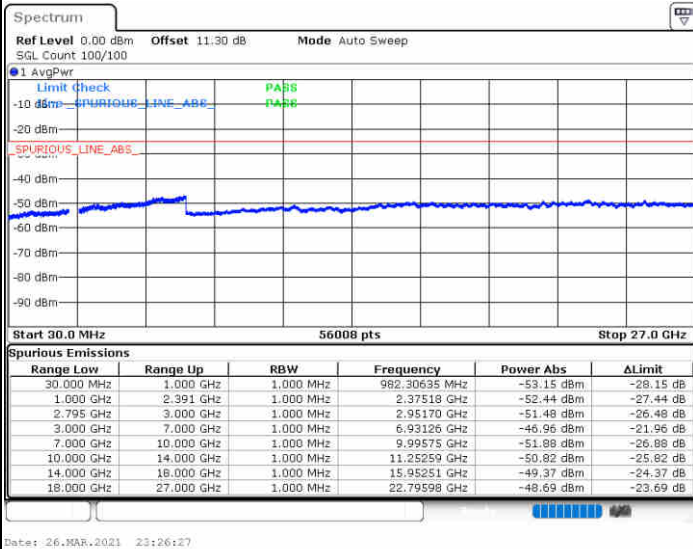
FR1 n41+41A / 80MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB



Highest Channel / 1RB



Frequency Stability

Test Conditions		NR n41+41A (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0002	PASS
40	Normal Voltage	0.0019	
30	Normal Voltage	0.0009	
20(Ref.)	Normal Voltage	0.0003	
10	Normal Voltage	0.0014	
0	Normal Voltage	0.0022	
-10	Normal Voltage	0.0014	
-20	Normal Voltage	0.0017	
-30	Normal Voltage	0.0018	
20	Maximum Voltage	0.0015	
20	Normal Voltage	0.0018	
20	Battery End Point	0.0003	

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 n41 NSA-SCS 30K

Peak-to-Average Ratio

Mode	FR1 n41+41A / 10MHz / 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	4.20	4.00	6.14	5.42	PASS
Middle CH	-	-	-	-	
Highest CH	4.20	3.97	5.74	5.59	



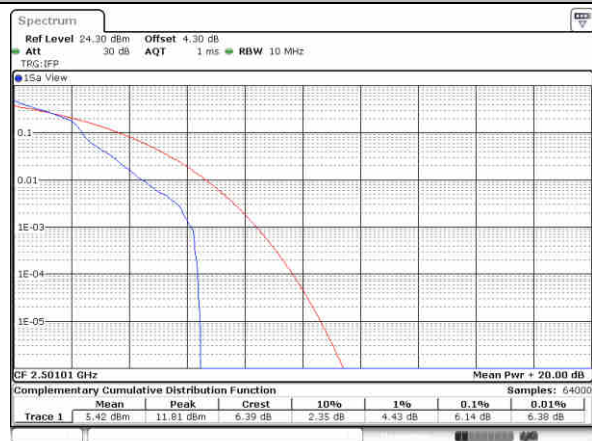
FR1 n41+41A / 10MHz / DFT-S OFDM

PI/2 BPSK

QPSK

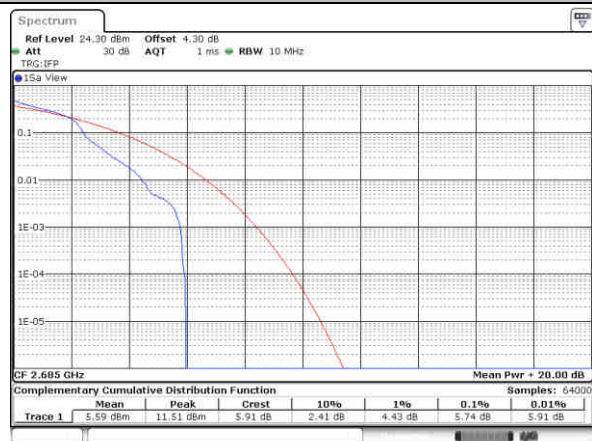
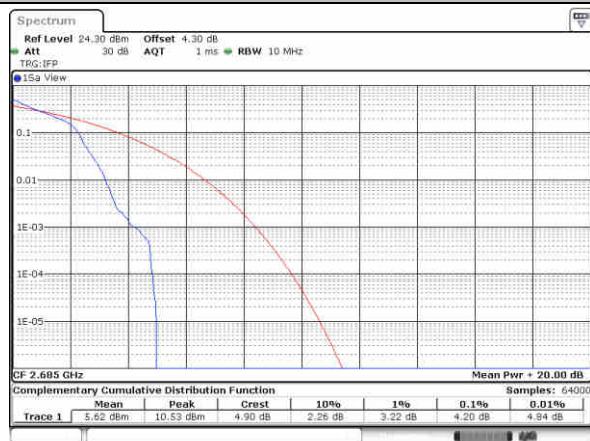
Lowest Channel / 1RB

Lowest Channel / 1RB



Highest Channel / 1 RB

Highest Channel / 1 RB





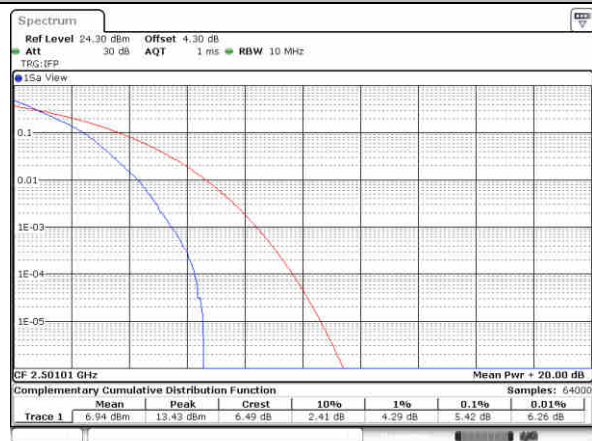
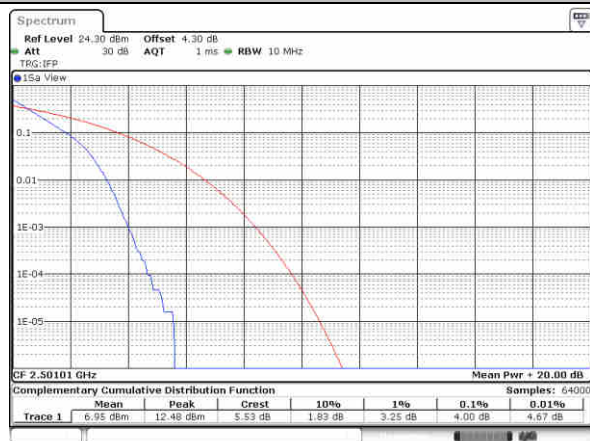
FR1 n41+41A / 10MHz / DFT-S OFDM

PI/2 BPSK

QPSK

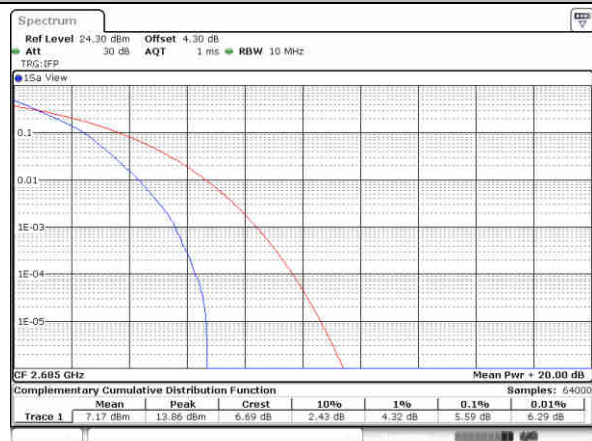
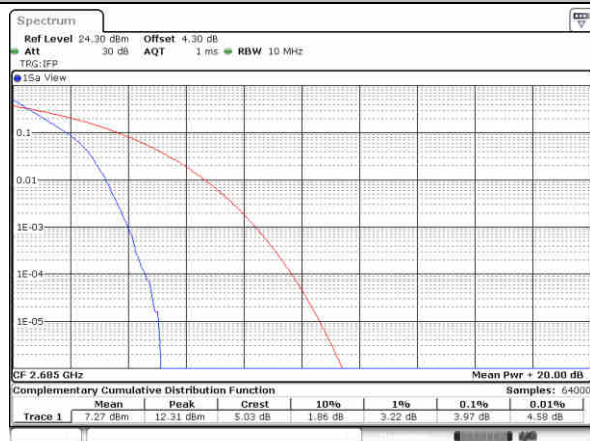
Lowest Channel / Full RB

Lowest Channel / Full RB



Highest Channel / Full RB

Highest Channel / Full RB



**26dB Bandwidth**

Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	9.27	9.29	9.37	9.13				

Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	14.27	14.75	14.30	14.48				

Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	30MHz	30MHz	30MHz	30MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	28.95	29.13	29.07	28.83				

Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	40.2	40.04	40.2	40.12				

Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	50MHz	50MHz	50MHz	50MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	49.75	49.75	49.75	49.75				

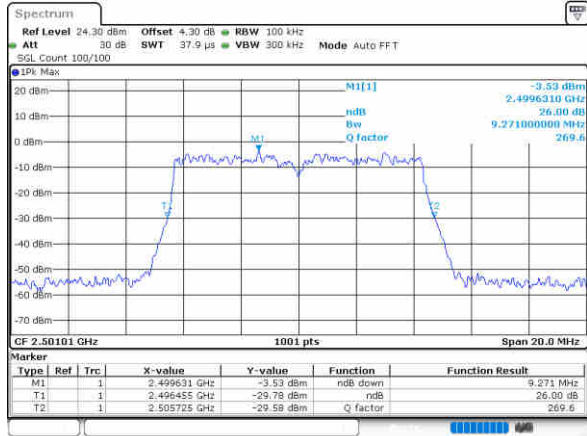
Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	80MHz	80MHz	80MHz	80MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	79.92	79.92	79.76	79.92				



FR1 n41 / 10MHz / CP-OFDM

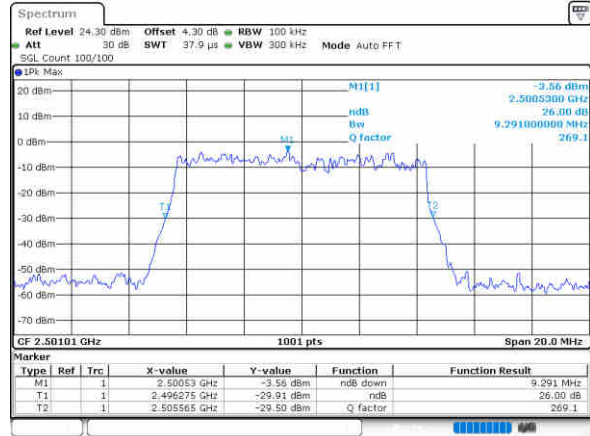
QPSK

Lowerst Channel



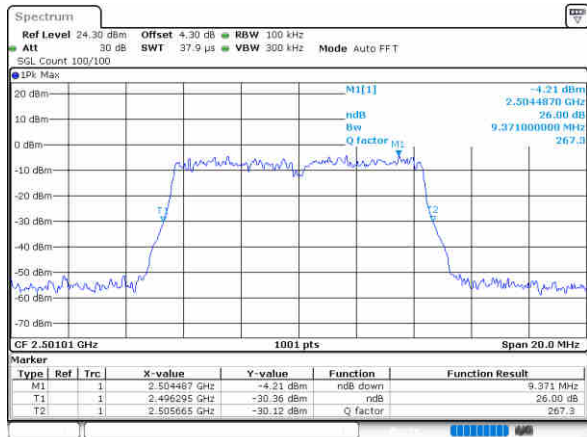
16QAM

Lowerst Channel



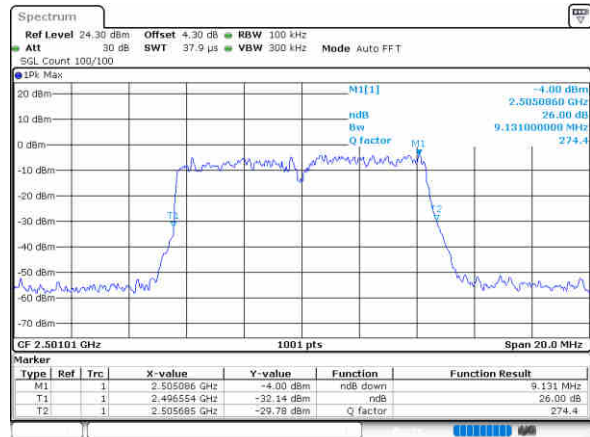
64QAM

Lowerst Channel



256QAM

Lowerst Channel

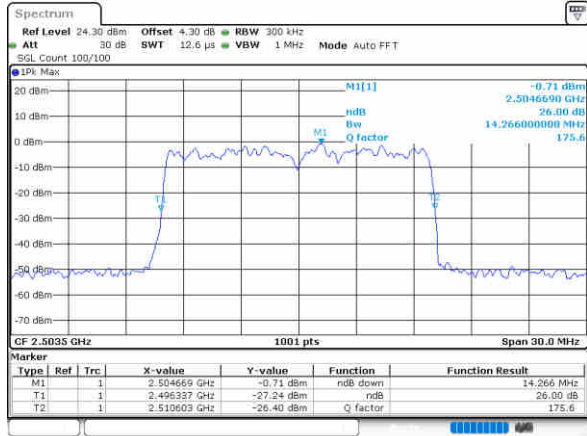




FR1 n41 / 15MHz / CP-OFDM

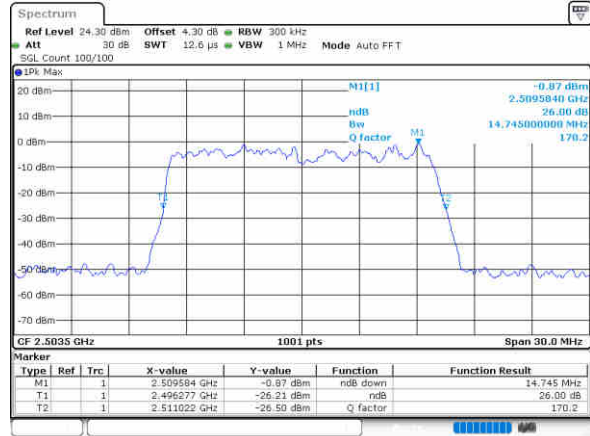
QPSK

Lowerst Channel



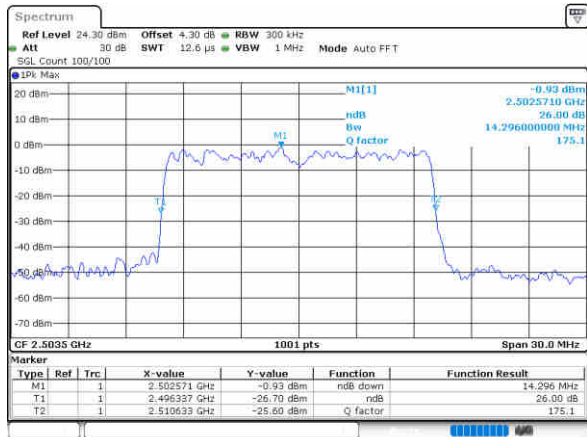
16QAM

Lowerst Channel



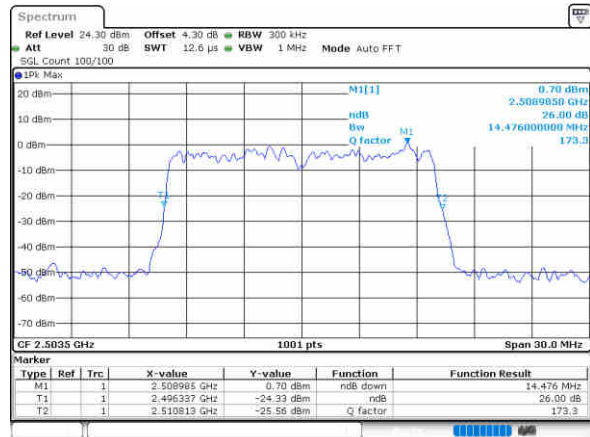
64QAM

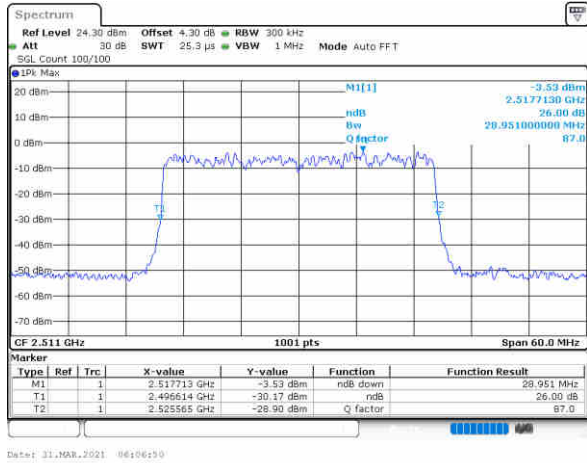
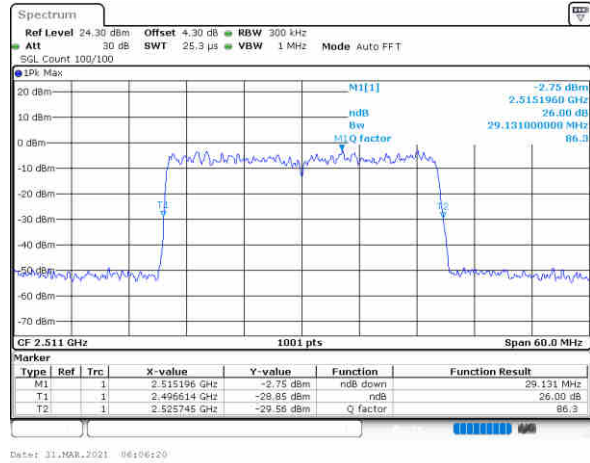
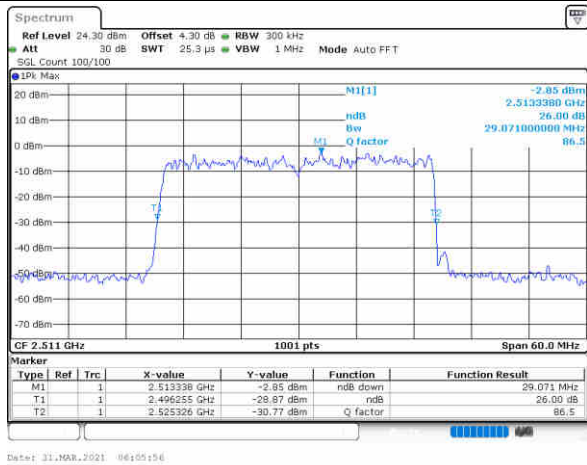
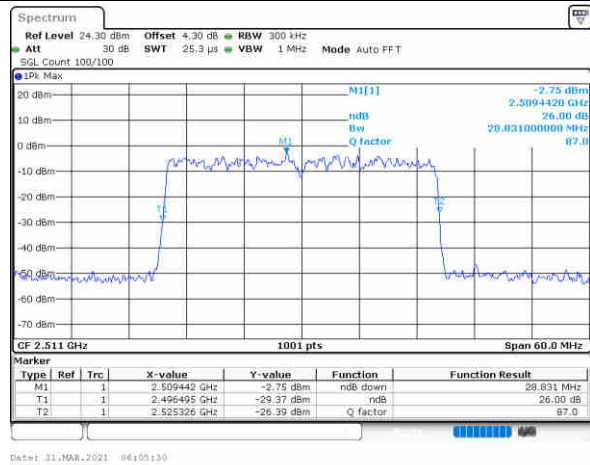
Lowerst Channel



256QAM

Lowerst Channel



FR1 n41 / 30MHz / CP-OFDM
QPSK
Lowerst Channel

16QAM
Lowerst Channel

64QAM
Lowerst Channel

256QAM
Lowerst Channel




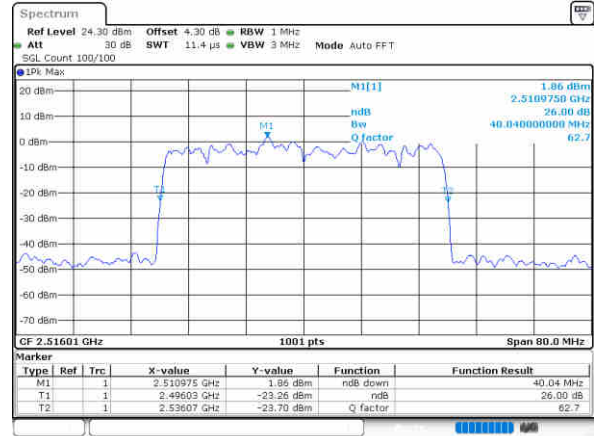
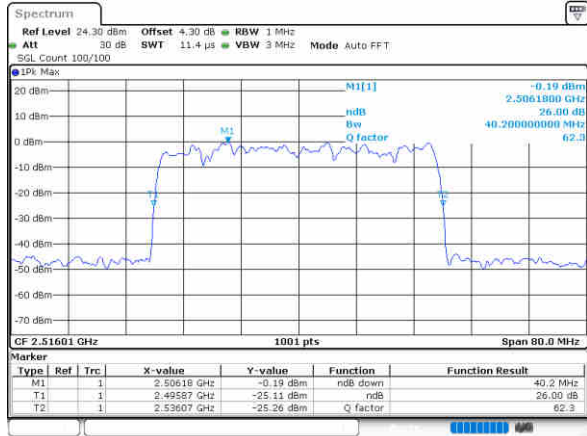
FR1 n41 / 40MHz / CP-OFDM

QPSK

16QAM

Lowerst Channel

Lowerst Channel

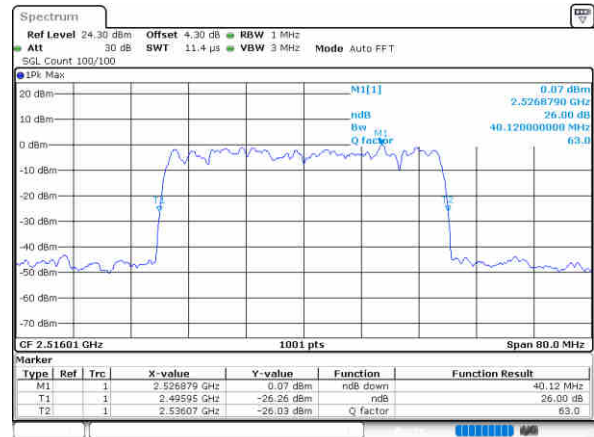
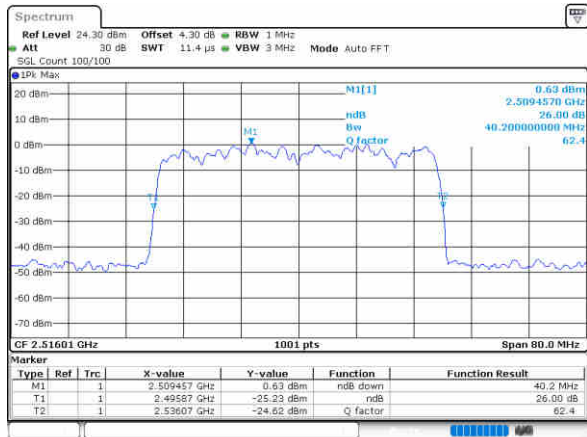


64QAM

256QAM

Lowerst Channel

Lowerst Channel





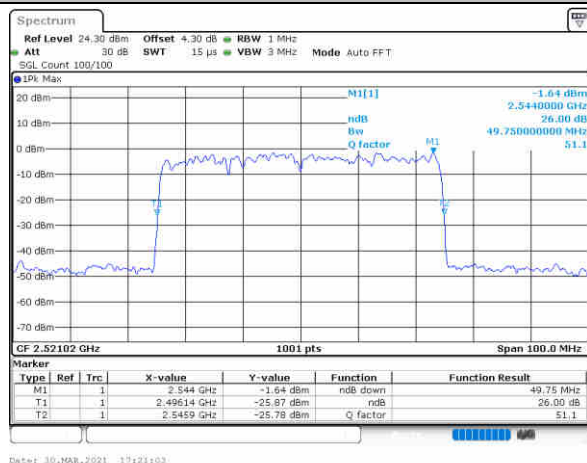
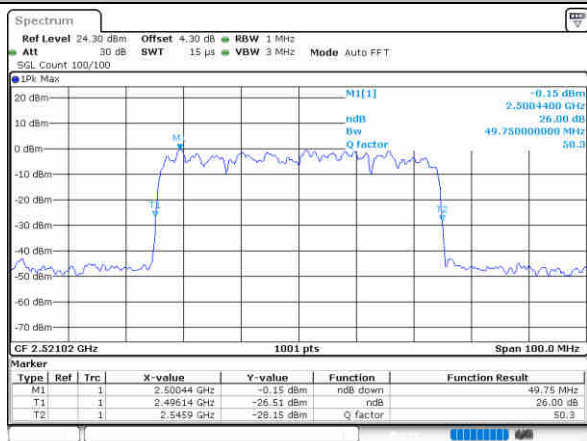
FR1 n41 / 50MHz / CP-OFDM

QPSK

16QAM

Lowerst Channel

Lowerst Channel

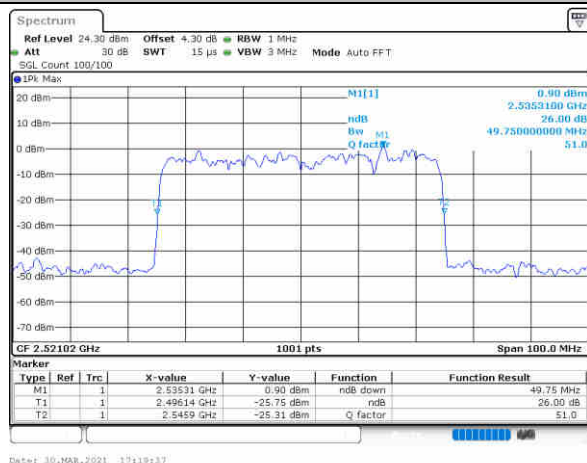
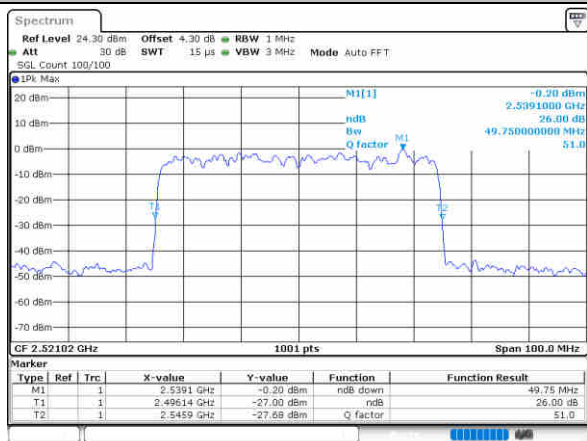


64QAM

256QAM

Lowerst Channel

Lowerst Channel

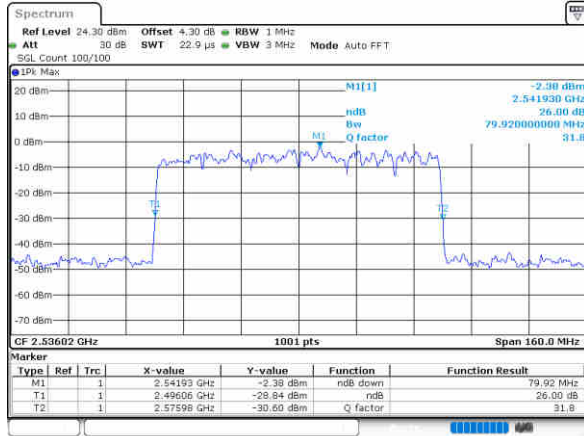




FR1 n41 / 80MHz / CP-OFDM

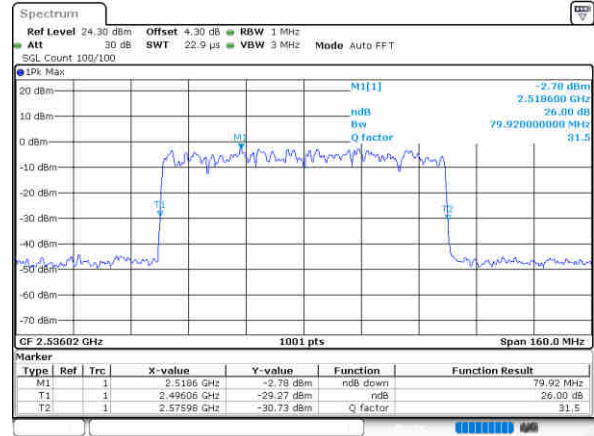
QPSK

Lowerst Channel



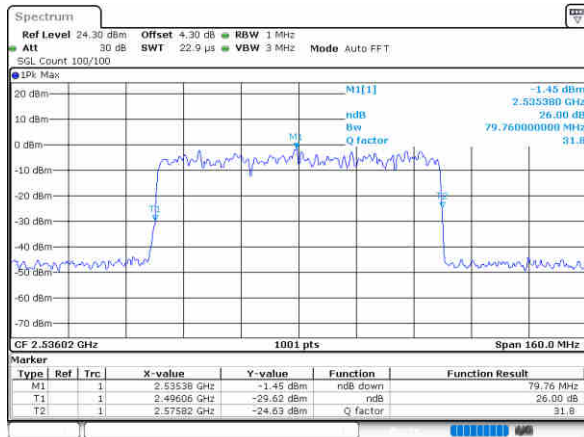
16QAM

Lowerst Channel



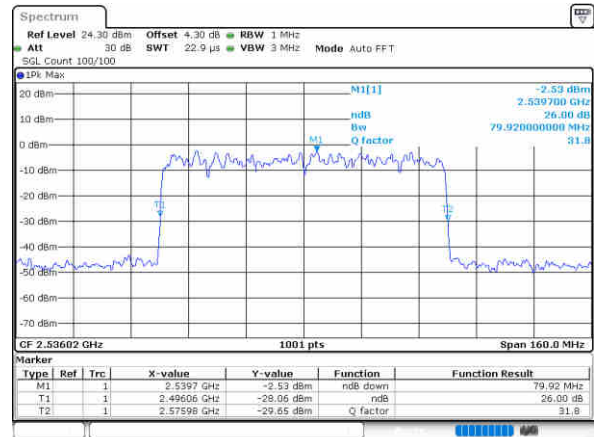
64QAM

Lowerst Channel



256QAM

Lowerst Channel



**Occupied Bandwidth**

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	8.57	8.57	8.57	8.53				

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	13.58	13.49	13.55	13.52				

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	30MHz	30MHz	30MHz	30MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	27.81	27.87	27.75	27.75				

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	38.12	37.80	37.88	37.72				

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	50MHz	50MHz	50MHz	50MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	47.65	47.35	47.65	47.85				

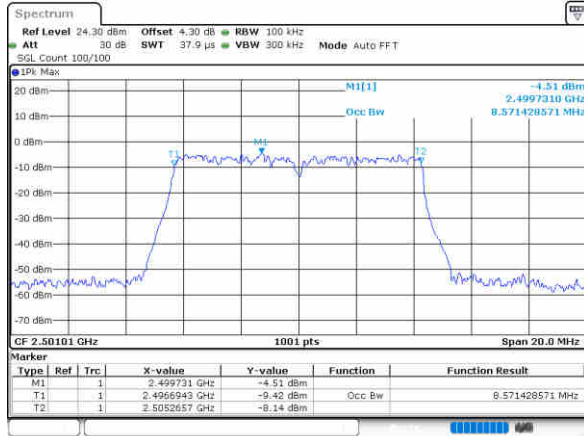
Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	80MHz	80MHz	80MHz	80MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Lowerst CH	77.36	77.52	77.20	77.36				



FR1 n41 / 10MHz / CP-OFDM

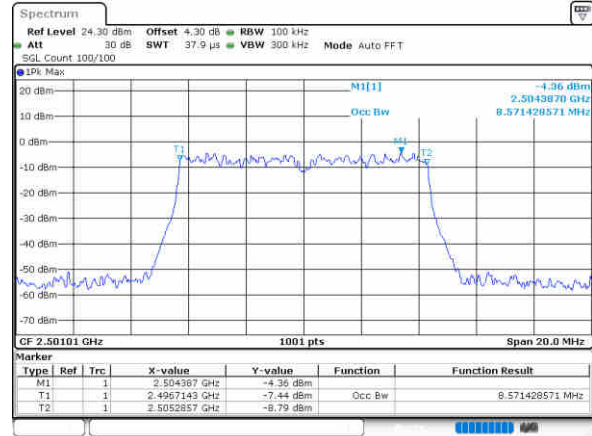
QPSK

Lowerst Channel



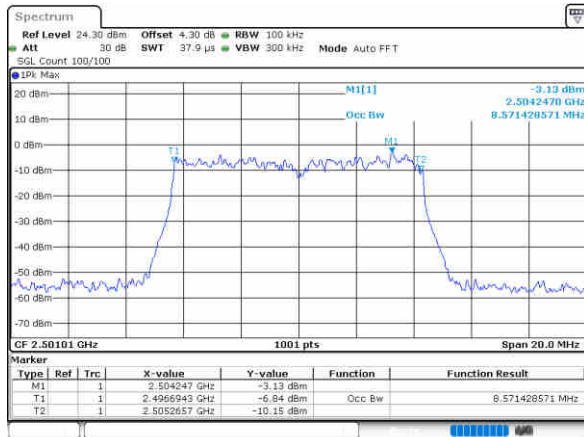
16QAM

Lowerst Channel



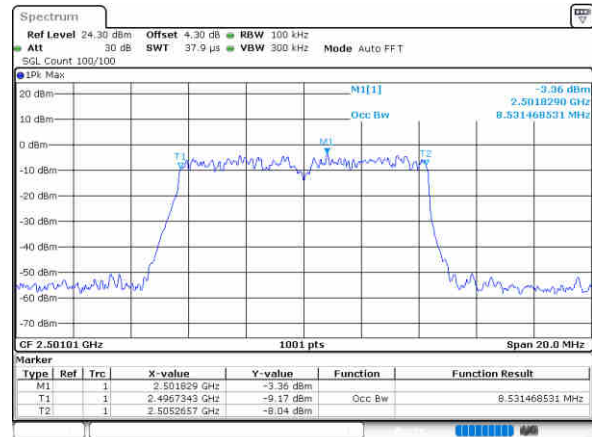
64QAM

Lowerst Channel



256QAM

Lowerst Channel

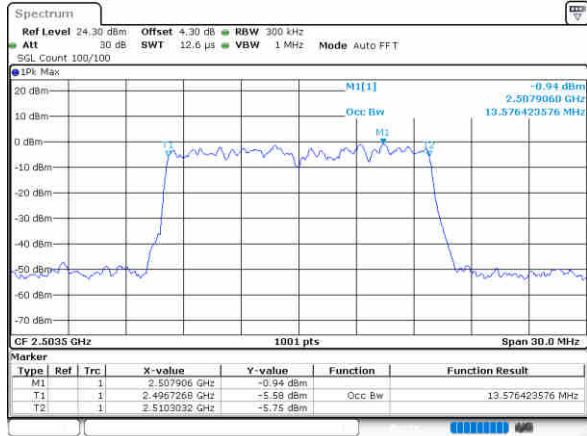




FR1 n41 / 15MHz / CP-OFDM

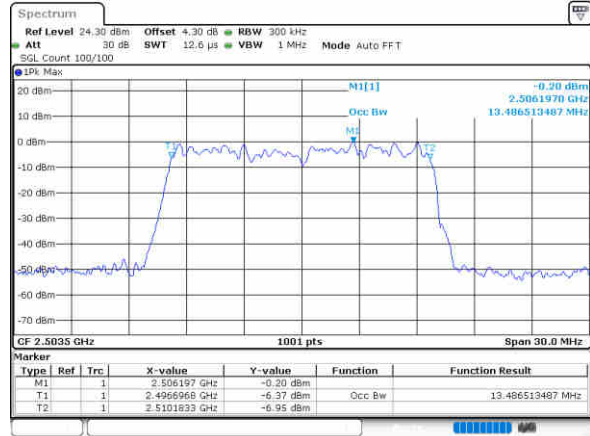
QPSK

Lowerst Channel



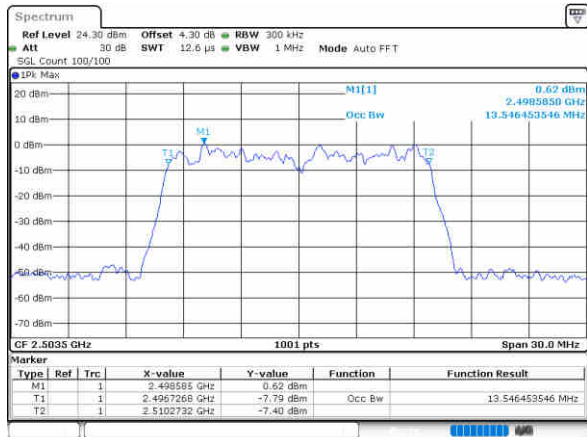
16QAM

Lowerst Channel



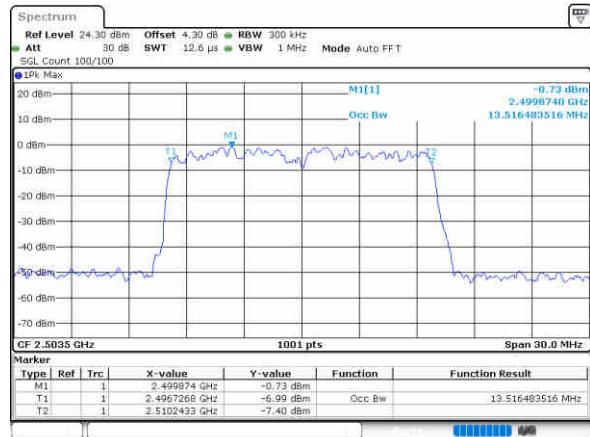
64QAM

Lowerst Channel



256QAM

Lowerst Channel

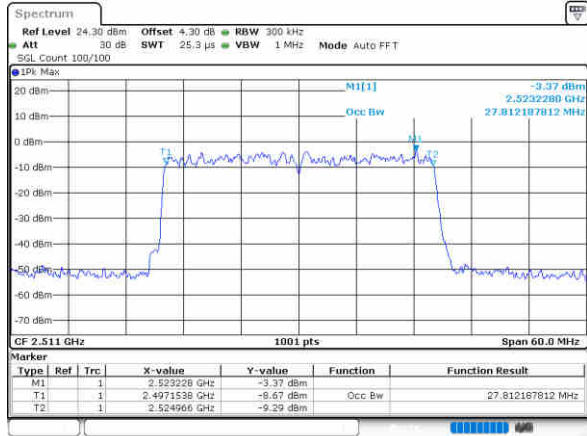




FR1 n41 / 30MHz / CP-OFDM

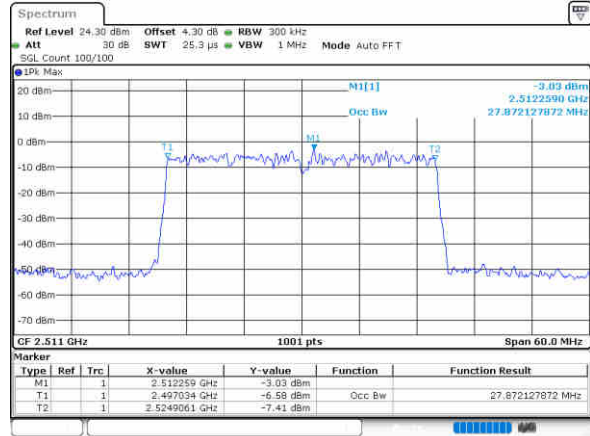
QPSK

Lowerst Channel



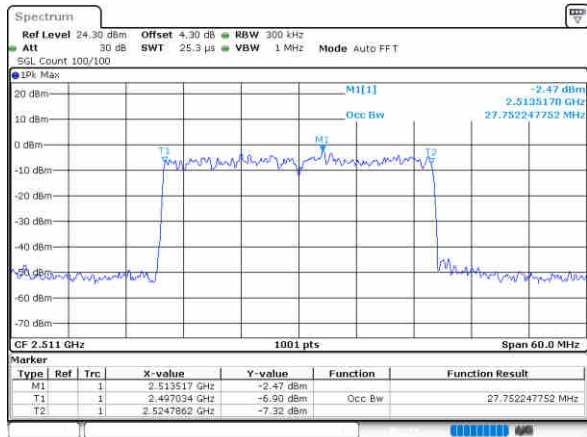
16QAM

Lowerst Channel



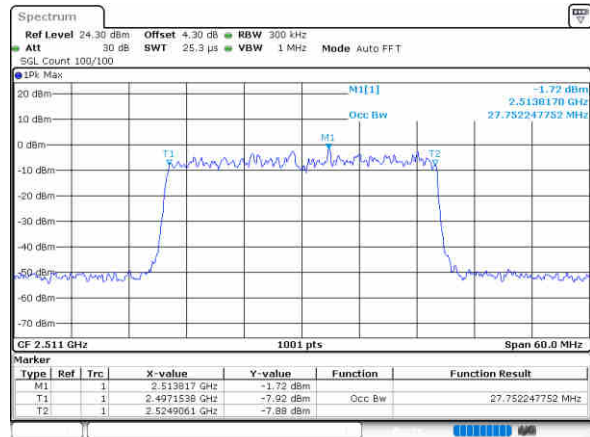
64QAM

Lowerst Channel



256QAM

Lowerst Channel





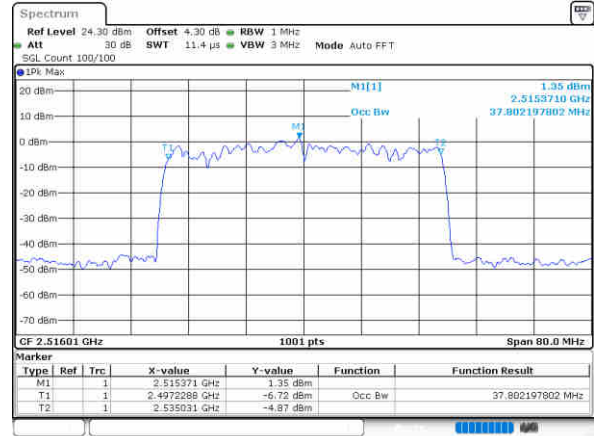
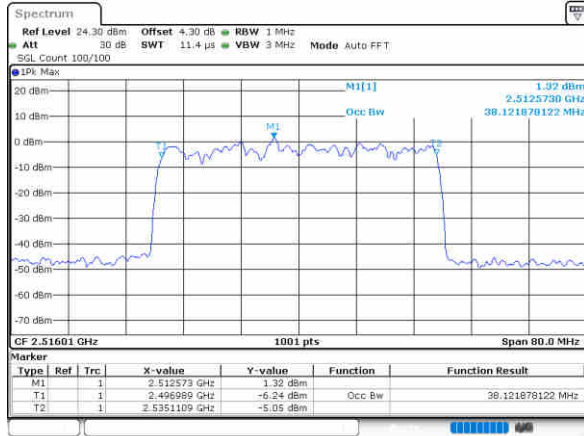
FR1 n41 / 40MHz / CP-OFDM

QPSK

16QAM

Lowerst Channel

Lowerst Channel

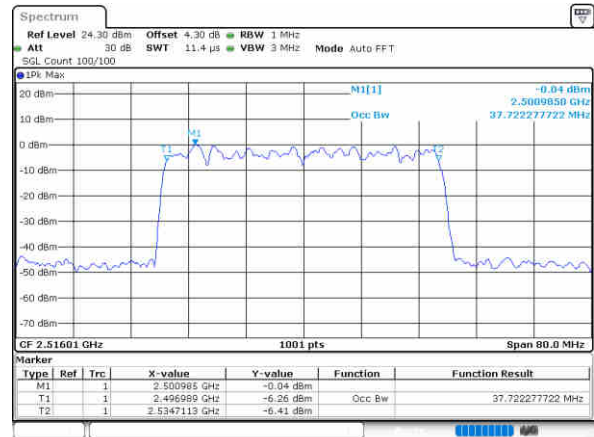
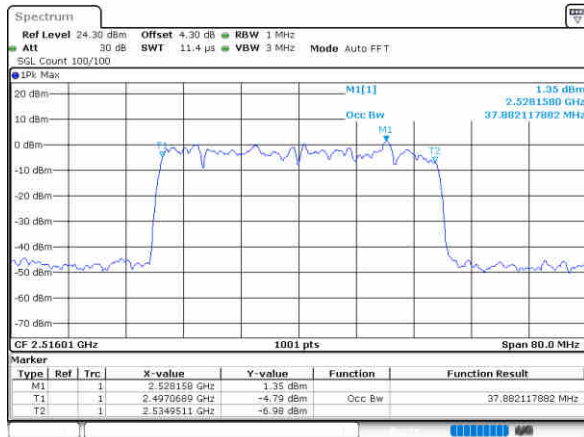


64QAM

256QAM

Lowerst Channel

Lowerst Channel

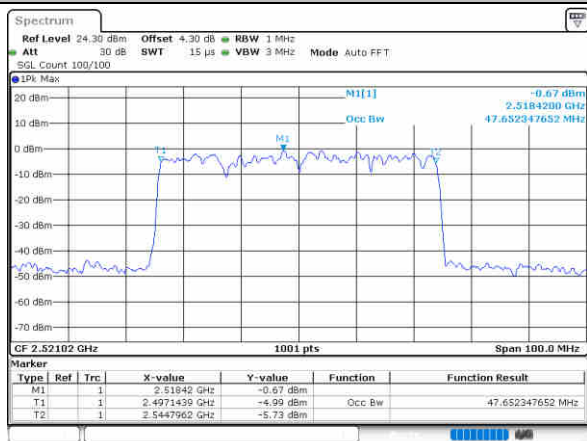




FR1 n41 / 50MHz / CP-OFDM

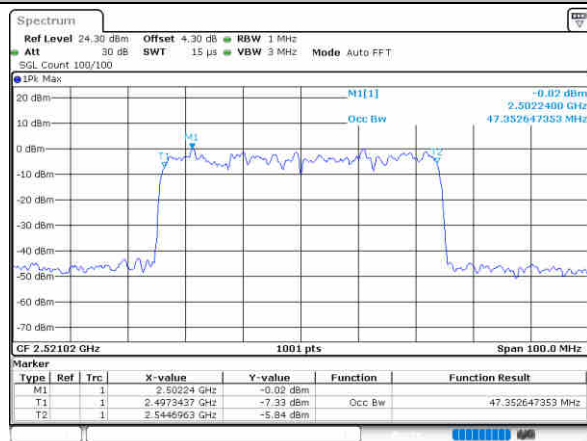
QPSK

Lowerst Channel



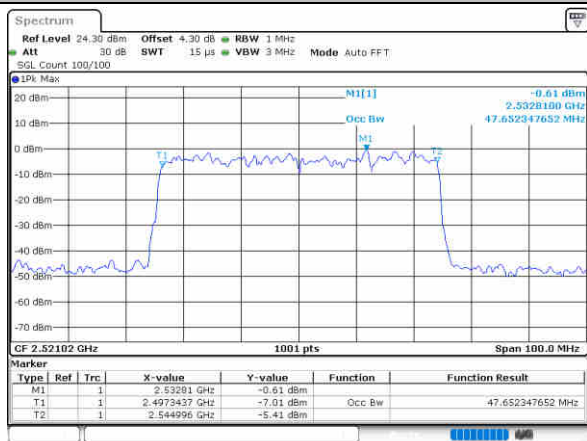
16QAM

Lowerst Channel



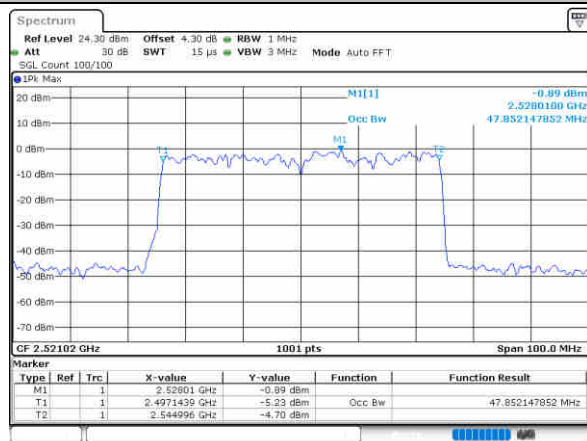
64QAM

Lowerst Channel



256QAM

Lowerst Channel

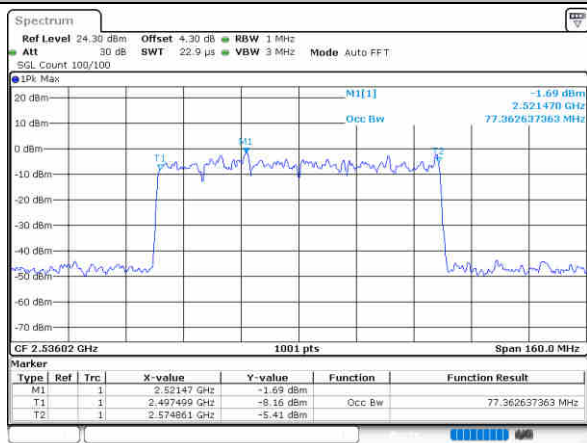




FR1 n41 / 80MHz / CP-OFDM

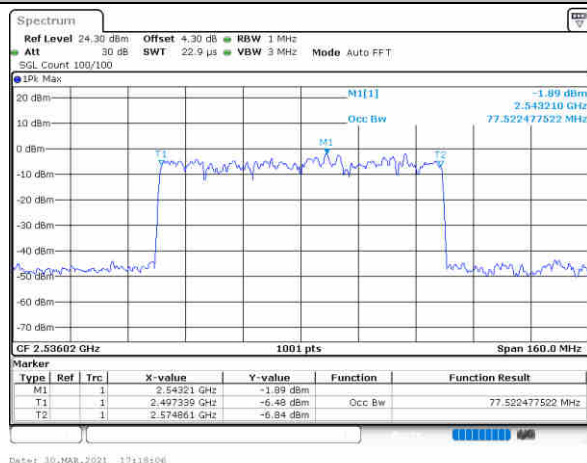
QPSK

Lowerst Channel



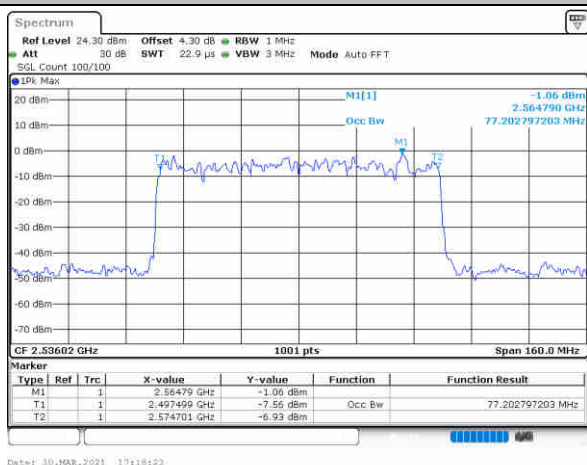
16QAM

Lowerst Channel



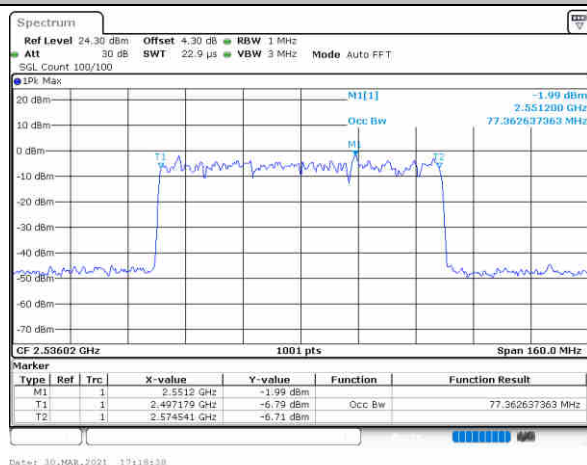
64QAM

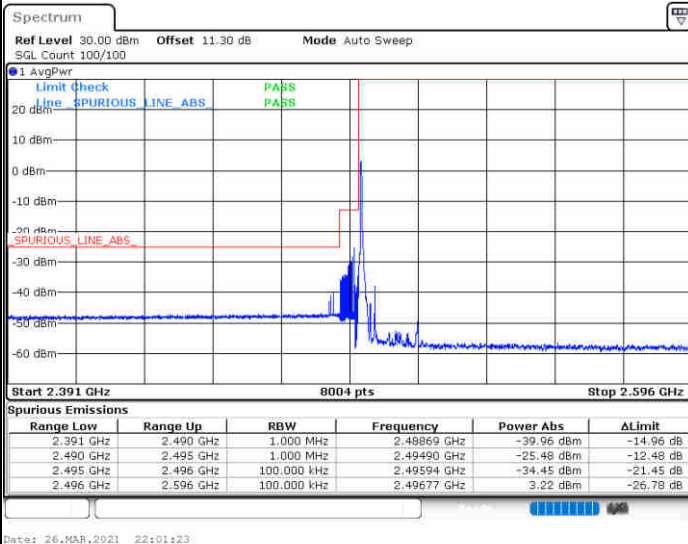
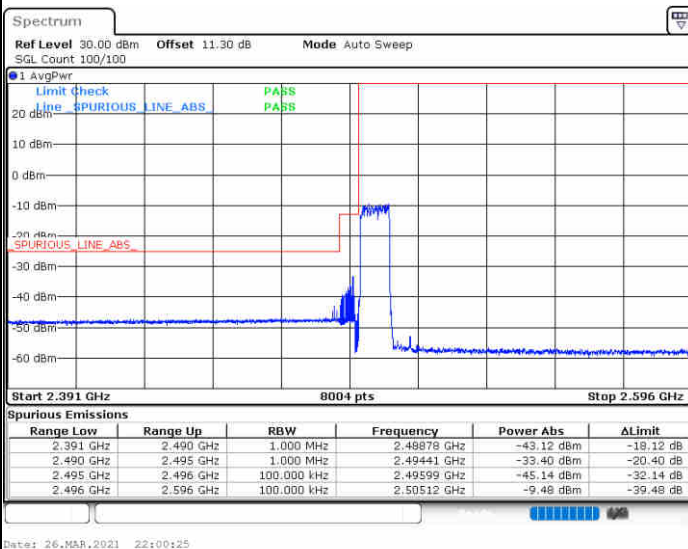
Lowerst Channel



256QAM

Lowerst Channel



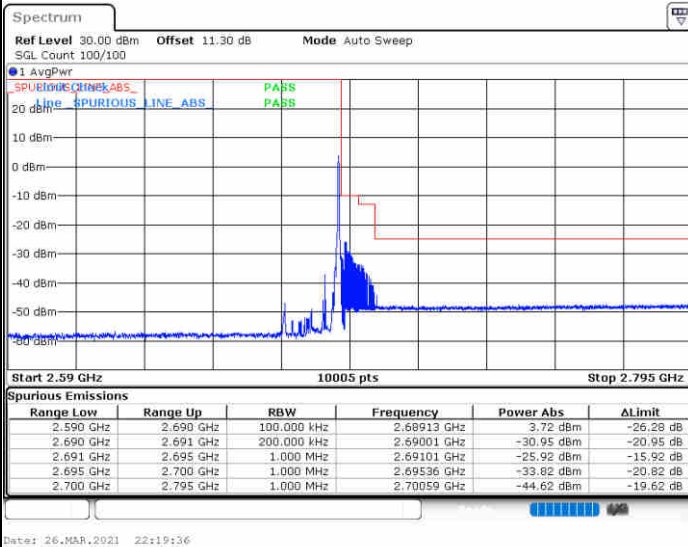
**Conducted Band Edge****FR1 n41+41A / 10MHz / DFT-S OFDM BPSK****Lowest Band Edge / 1 RB****Channel Power < -13dBm Pass****Lowest Band Edge / Full RB****Channel Power < -13dBm Pass**



FR1 n41+41A / 10MHz / DFT-S OFDM BPSK

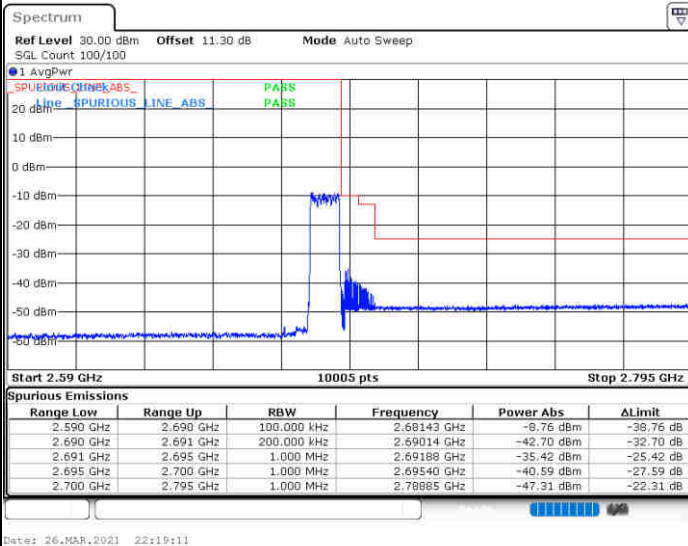
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

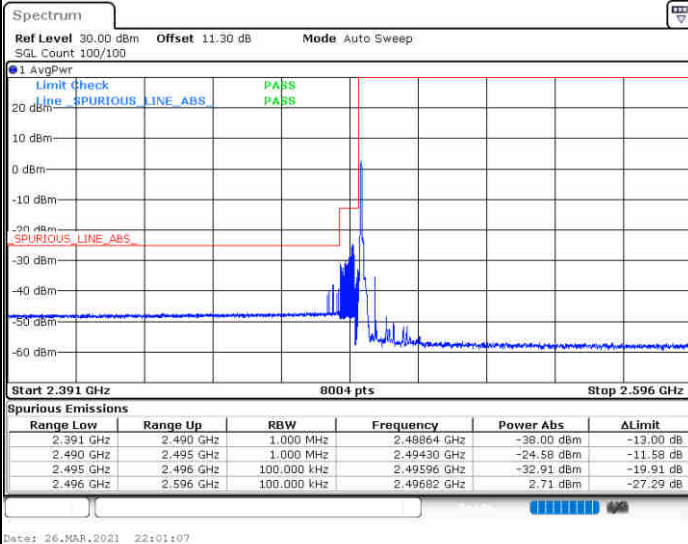




FR1 n41+41A / 10MHz / DFT-S OFDM QPSK

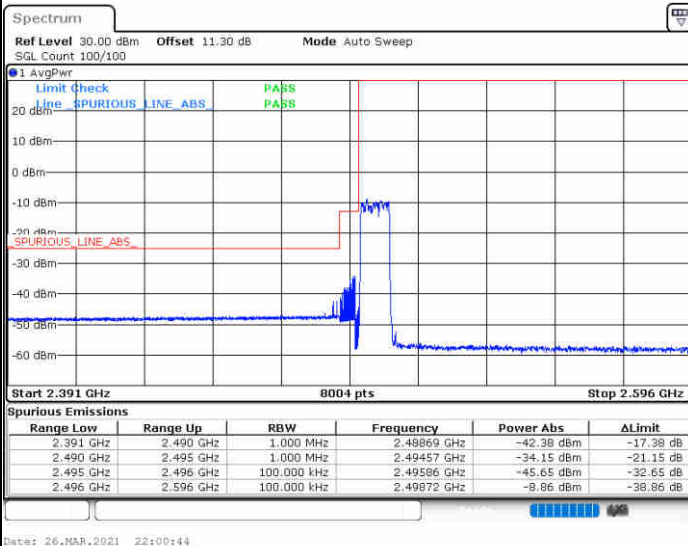
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

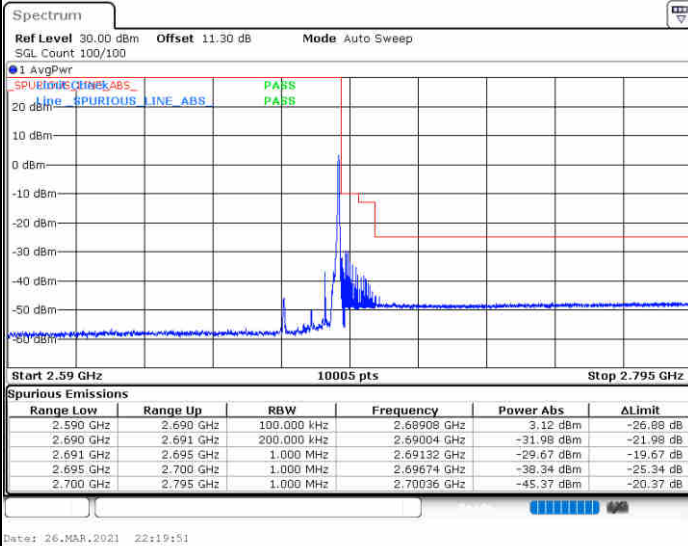




FR1 n41+41A / 10MHz / DFT-S OFDM QPSK

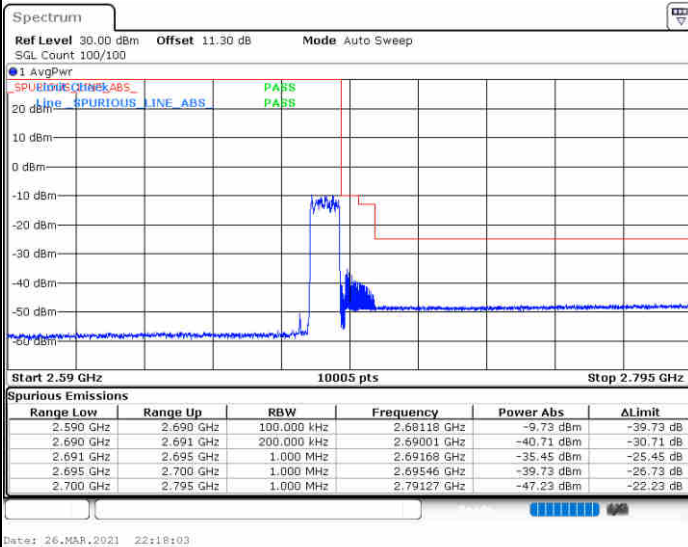
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

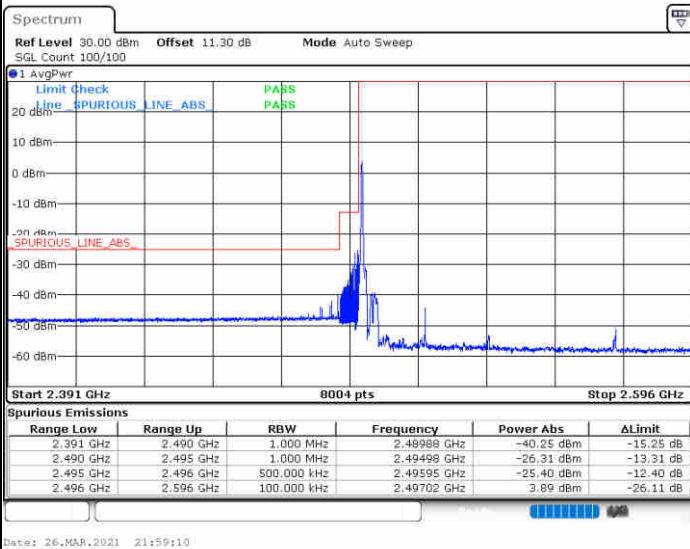




FR1 n41+41A / 40MHz / DFT-S OFDM BPSK

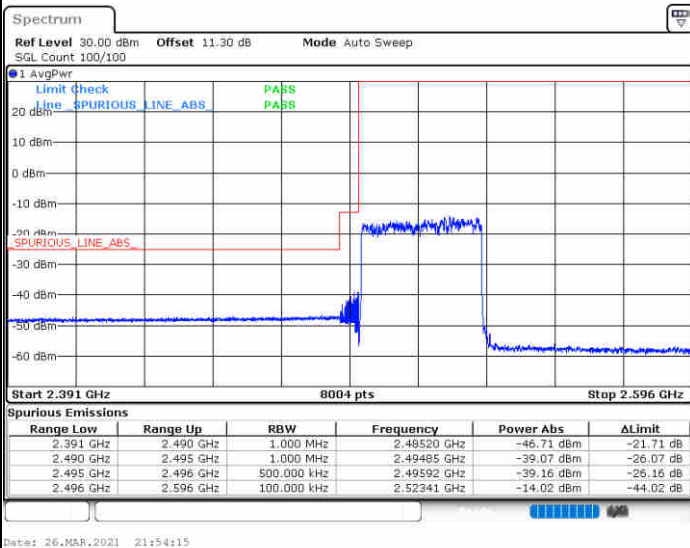
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

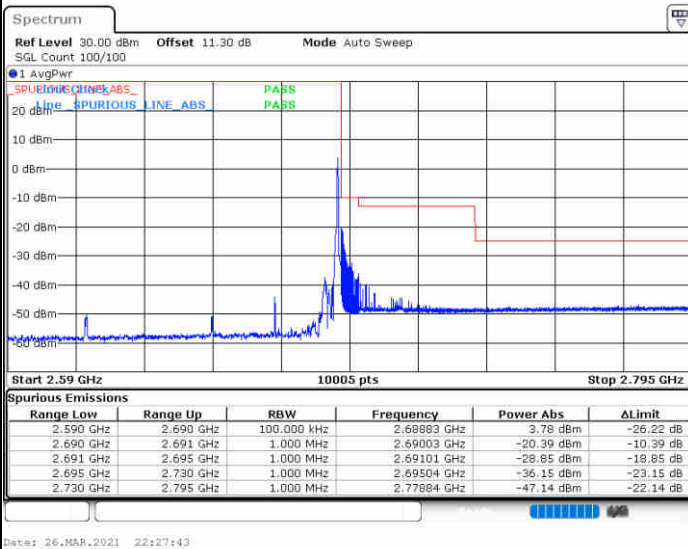




FR1 n41+41A / 40MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

