



FR1 n77

Peak-to-Average Ratio

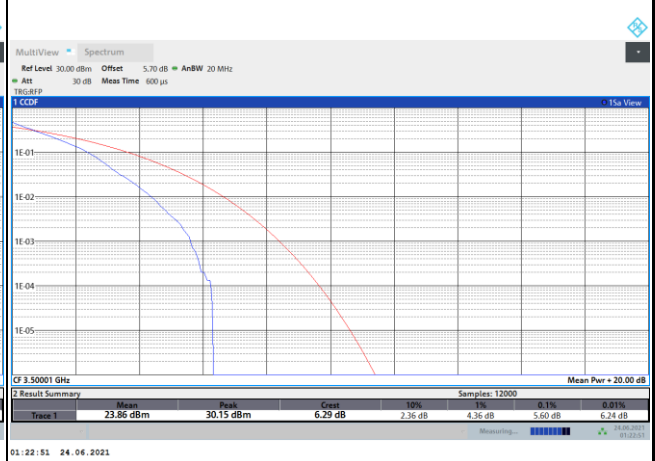
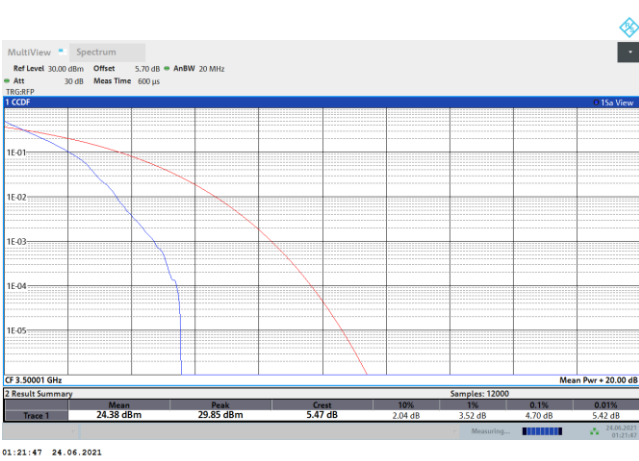
Mode	FR1 n77 / 20MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	4.70	5.60	6.54	6.88	PASS
Mode	FR1 n77 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Middle CH	6.54				PASS



FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

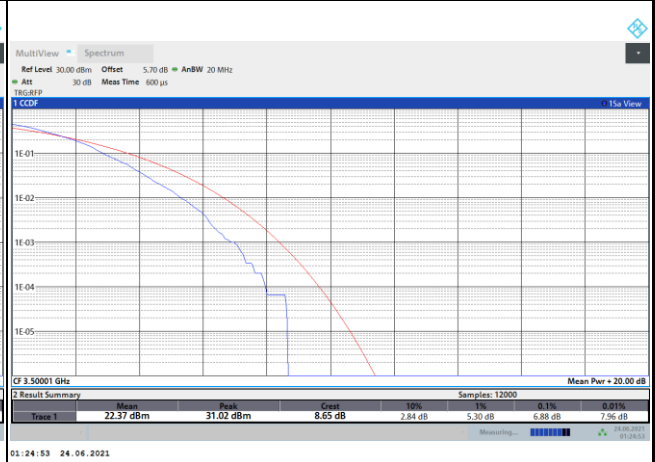
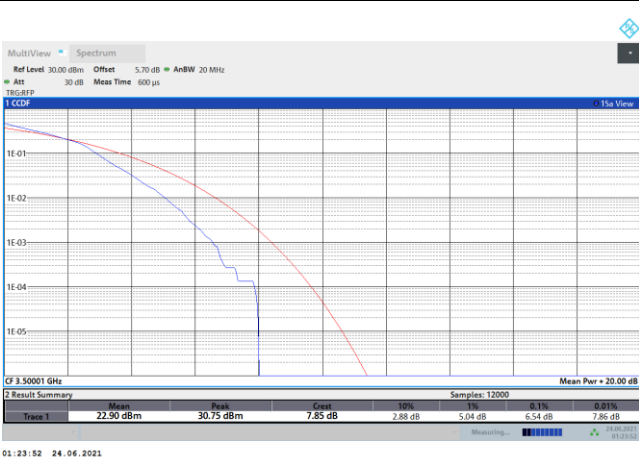
PI/2 BPSK

QPSK

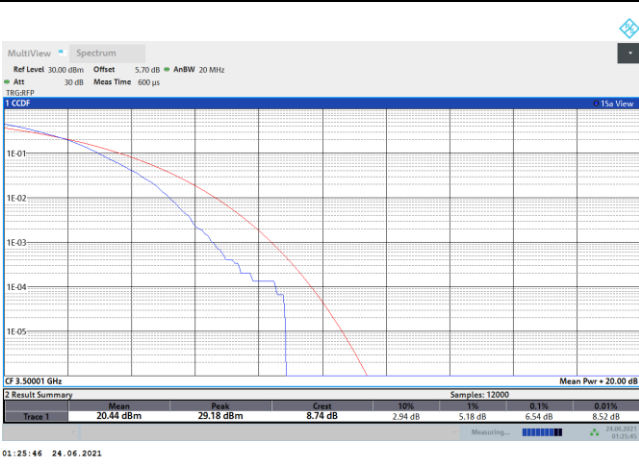


16QAM

64QAM



256QAM





26dB Bandwidth

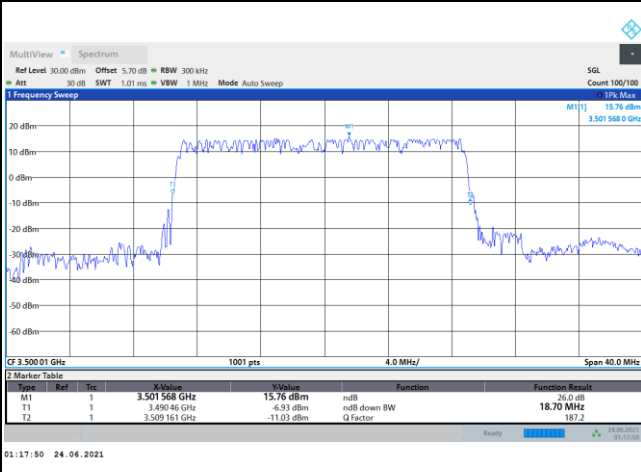
Mode	FR1 n77 : 26dB BW(MHz) / DFT-S OFDM							
BW	20MHz	30MHz	40MHz	50MHz	60MHz	70MHz	80MHz	90MHz
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK
Middle CH	18.70	N/A	37.00	N/A	N/A	N/A	N/A	N/A
BW	100MHz							
Mod.	PI/2 BPSK							
Middle CH	99.70							

Mode	FR1 n77 : 26dB BW(MHz) / CP OFDM							
BW	20MHz		30MHz		40MHz		50MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	19.10	19.06	N/A	N/A	38.92	39.32	N/A	N/A
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	19.14	19.22	N/A	N/A	39.08	39.24	N/A	N/A
BW	60MHz		70MHz		80MHz		90MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BW	100MHz							
Mod.	QPSK	16QAM						
Middle CH	100.50	100.50						
Mod.	64QAM	256QAM						
Middle CH	100.50	100.50						



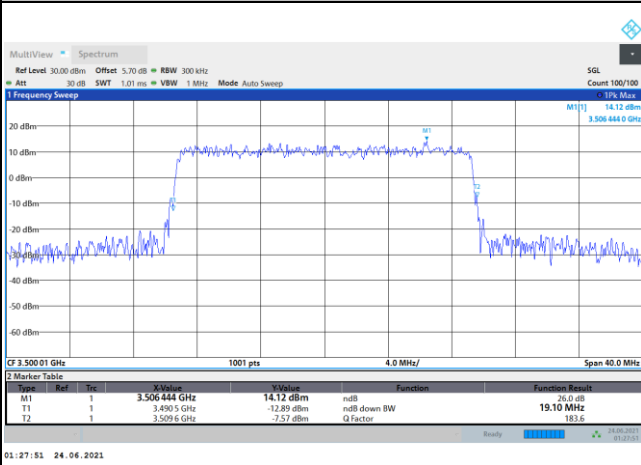
FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

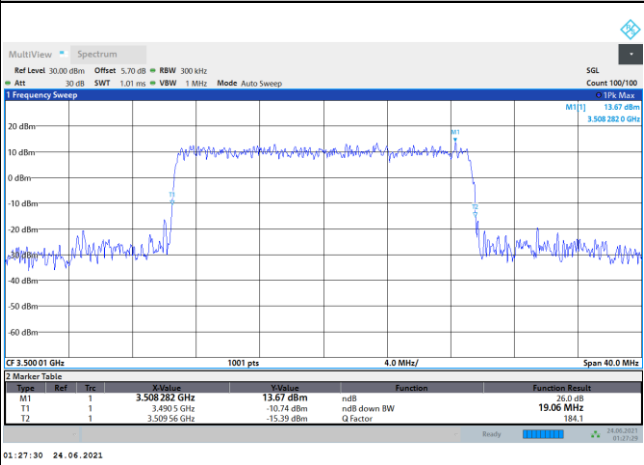


FR1 n77 / 20MHz / CP OFDM / Middle Channel / Full RB

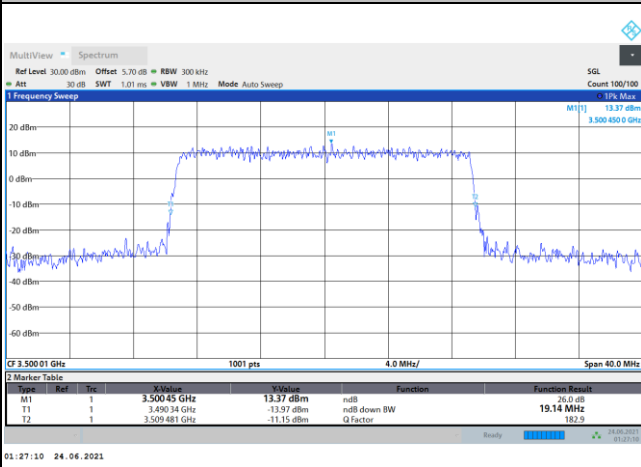
QPSK



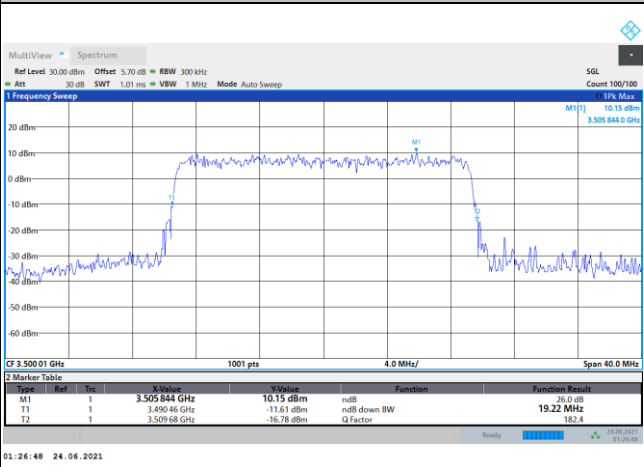
16QAM



64QAM



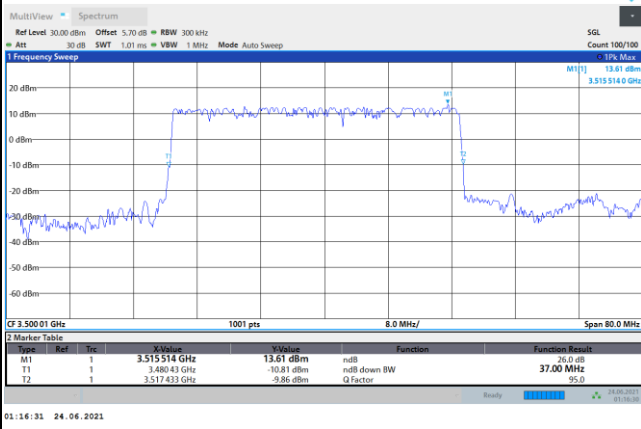
256QAM





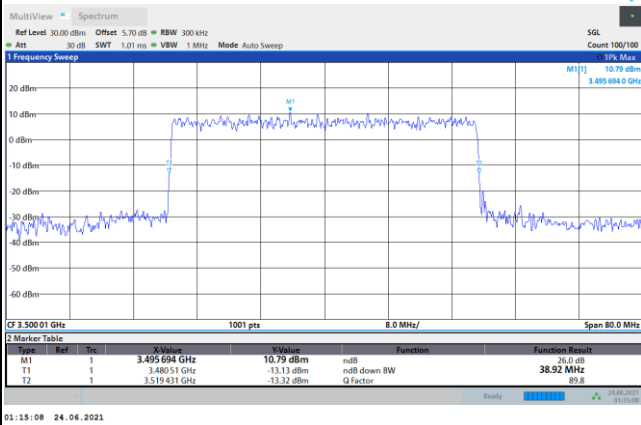
FR1 n77 / 40MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

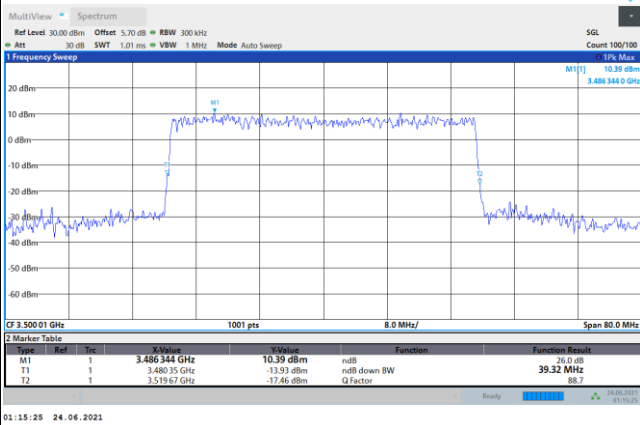


FR1 n77 / 40MHz / CP OFDM / Middle Channel / Full RB

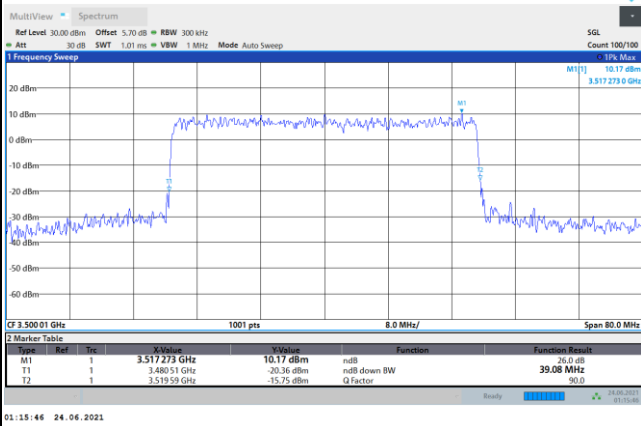
QPSK



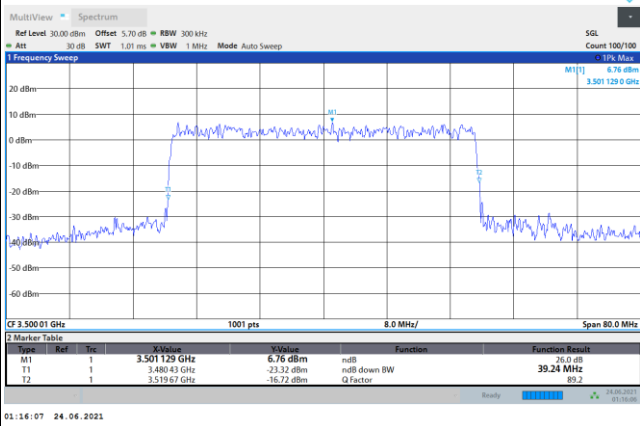
16QAM



64QAM



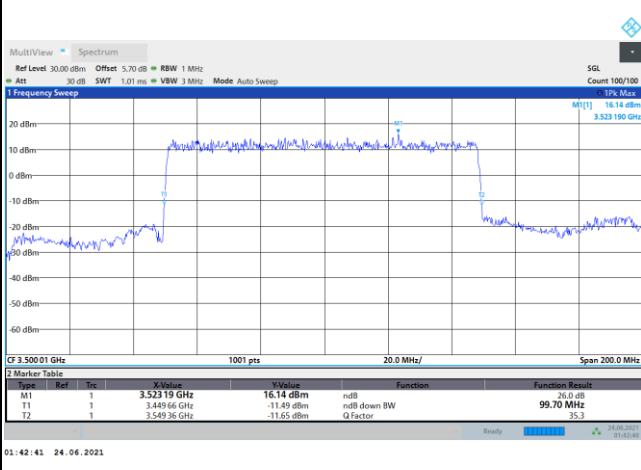
256QAM





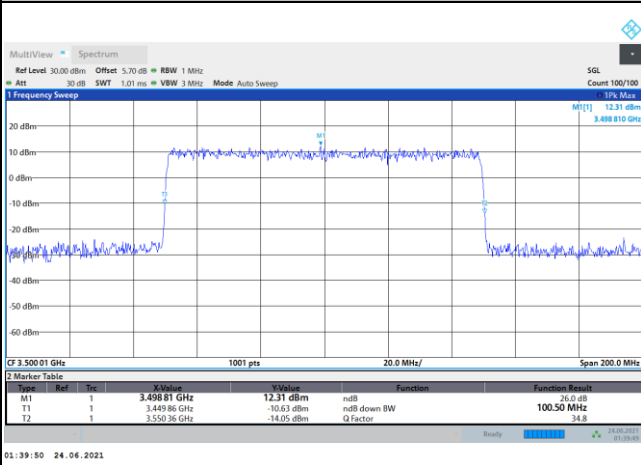
FR1 n77 / 100MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

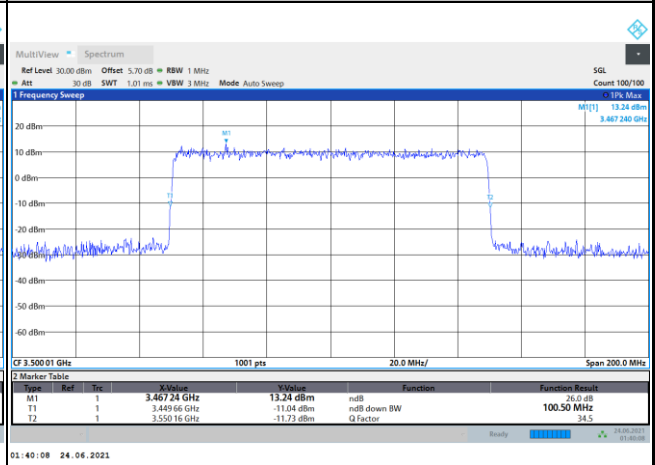


FR1 n77 / 100MHz / CP OFDM / Middle Channel / Full RB

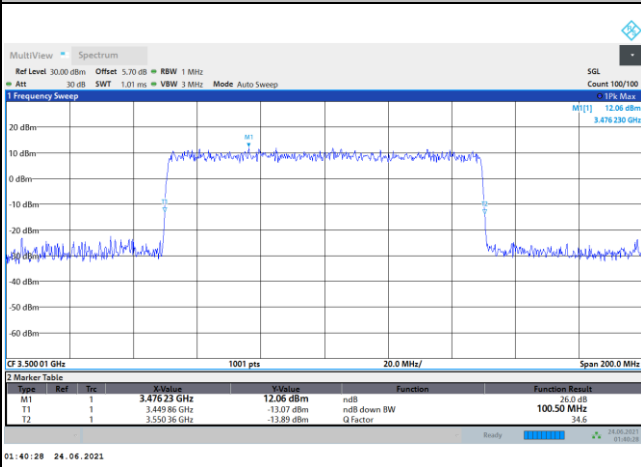
QPSK



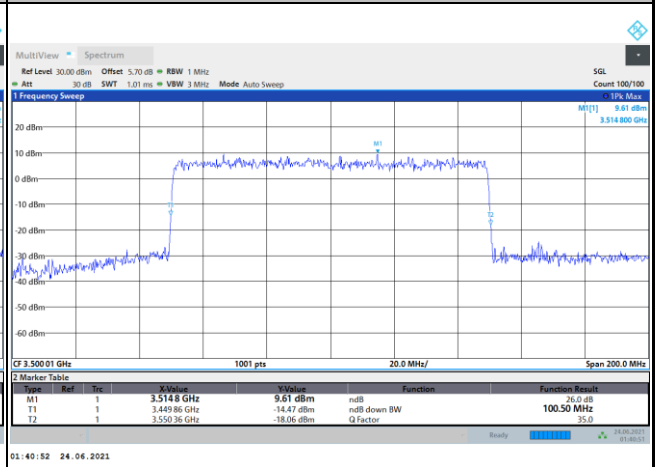
16QAM



64QAM



256QAM





Occupied Bandwidth

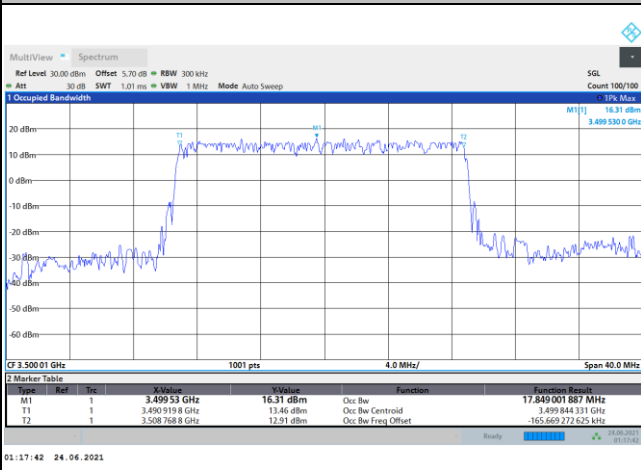
Mode	FR1 n77 : OB BW(MHz) / DFT-S OFDM							
BW	20MHz	30MHz	40MHz	50MHz	60MHz	70MHz	80MHz	90MHz
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK
Middle CH	17.85	N/A	35.61	N/A	N/A	N/A	N/A	N/A
BW	100MHz							
Mod.	PI/2 BPSK							
Middle CH	96.33							

Mode	FR1 n77 : OB BW(MHz) / CP OFDM							
BW	20MHz		30MHz		40MHz		50MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	18.16	18.17	N/A	N/A	37.72	37.73	N/A	N/A
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	18.21	18.21	N/A	N/A	37.87	37.78	N/A	N/A
BW	60MHz		70MHz		80MHz		90MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BW	100MHz							
Mod.	QPSK	16QAM						
Middle CH	97.31	97.58						
Mod.	64QAM	256QAM						
Middle CH	97.34	97.20						



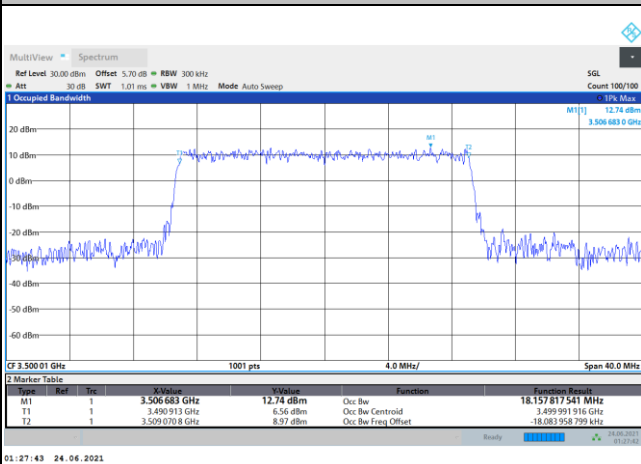
FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

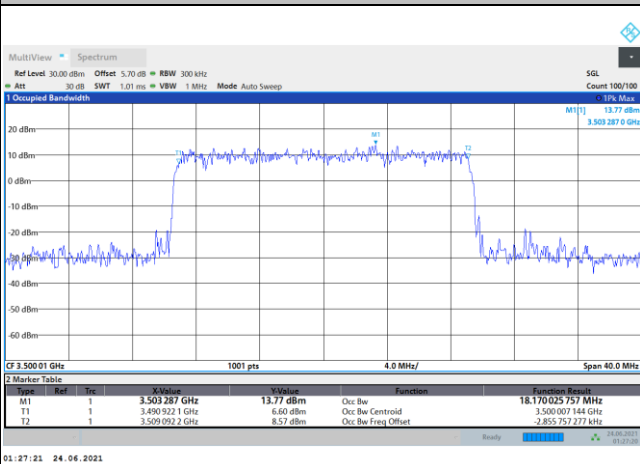


FR1 n77 / 20MHz / CP OFDM / Middle Channel / Full RB

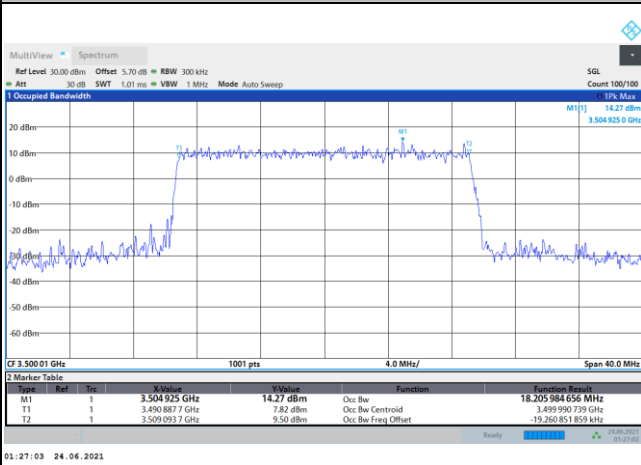
QPSK



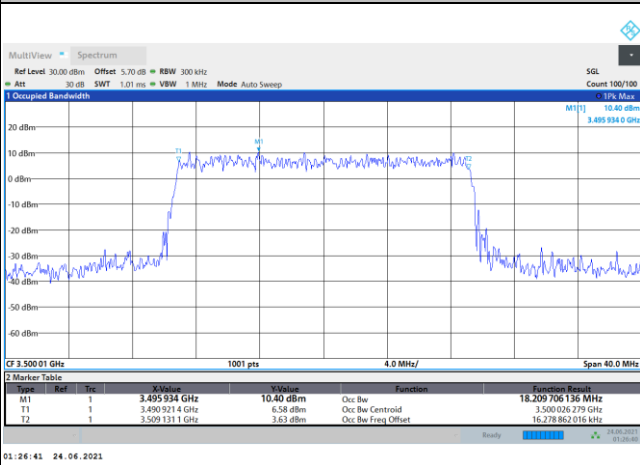
16QAM



64QAM



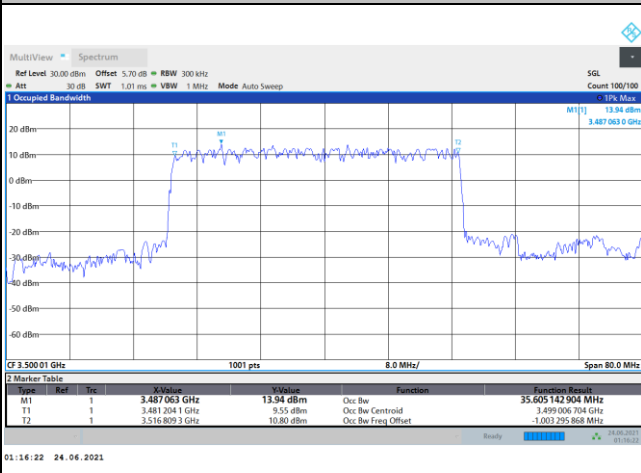
256QAM





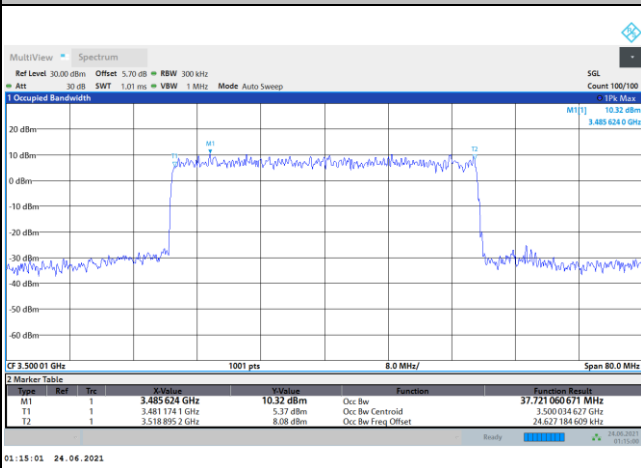
FR1 n77 / 40MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

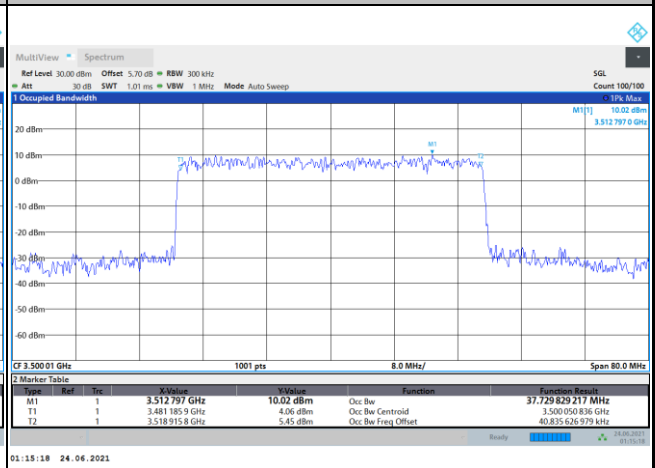


FR1 n77 / 40MHz / CP OFDM / Middle Channel / Full RB

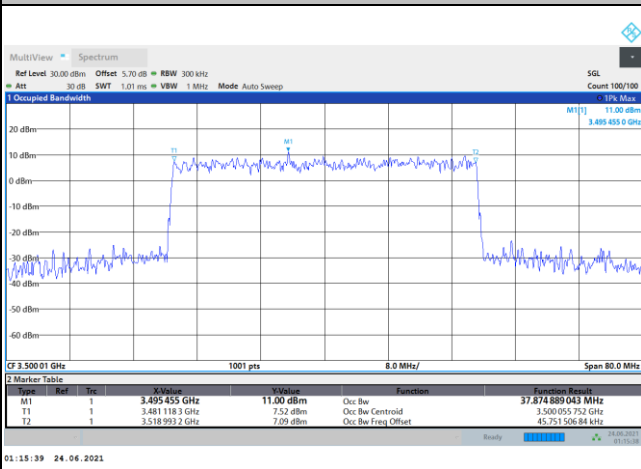
QPSK



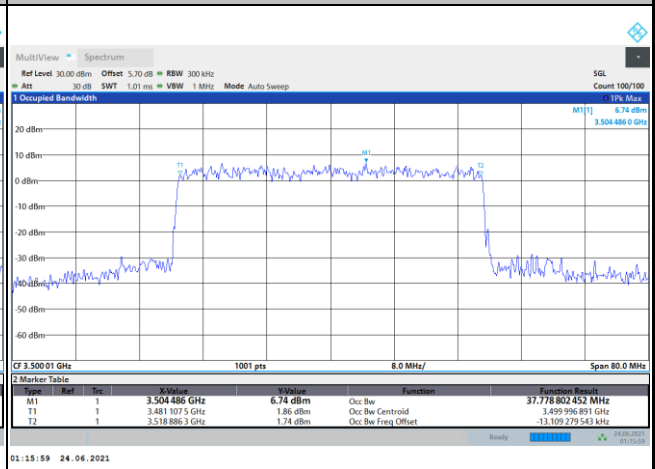
16QAM



64QAM



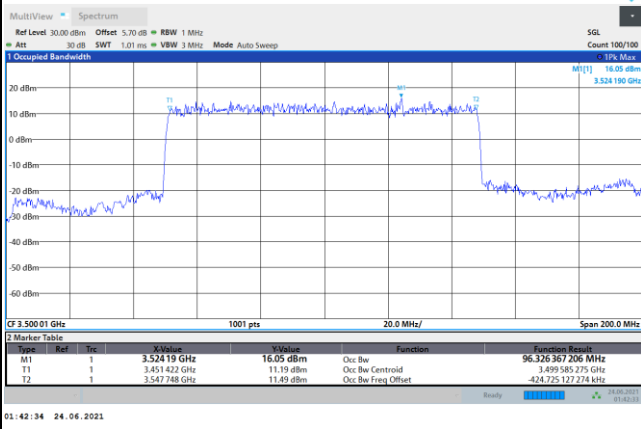
256QAM





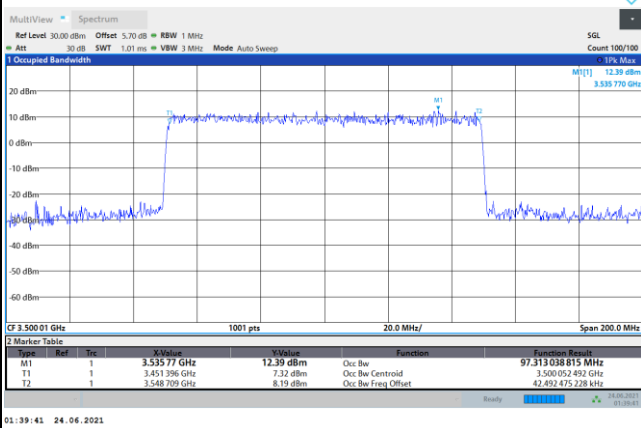
FR1 n77 / 100MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

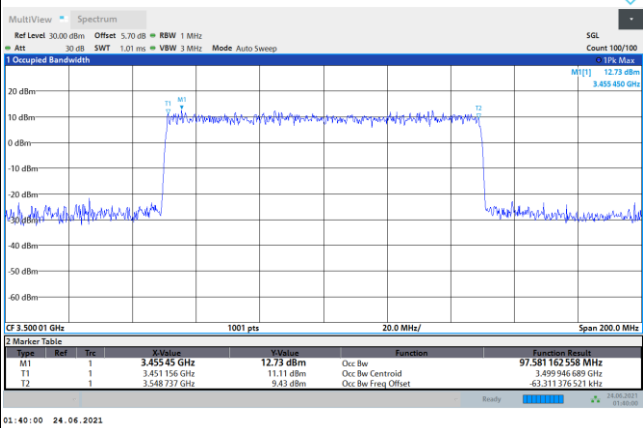


FR1 n77 / 100MHz / CP OFDM / Middle Channel / Full RB

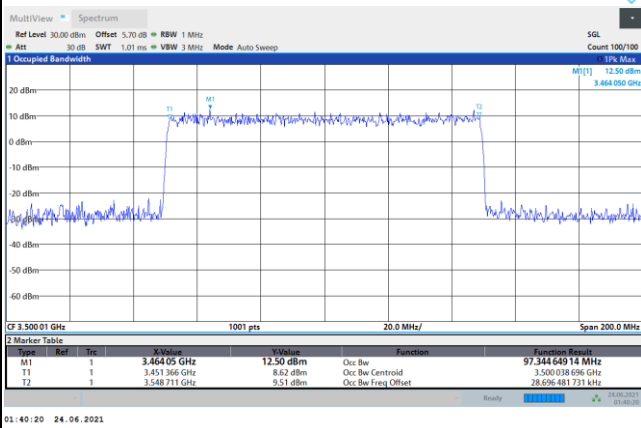
QPSK



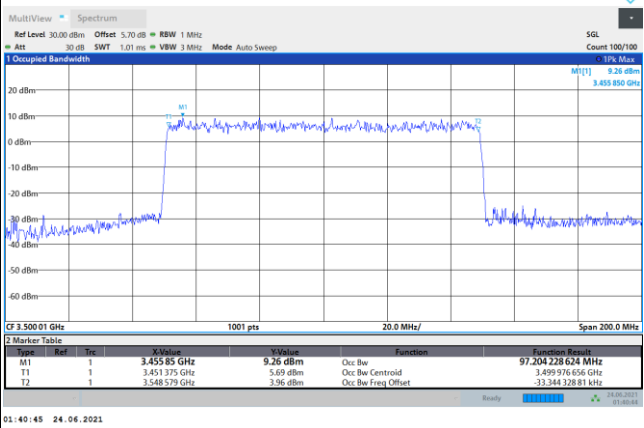
16QAM



64QAM



256QAM



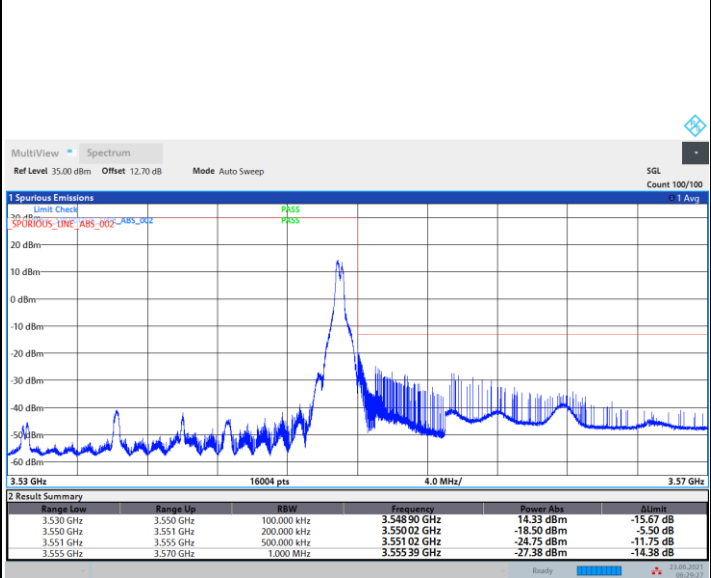
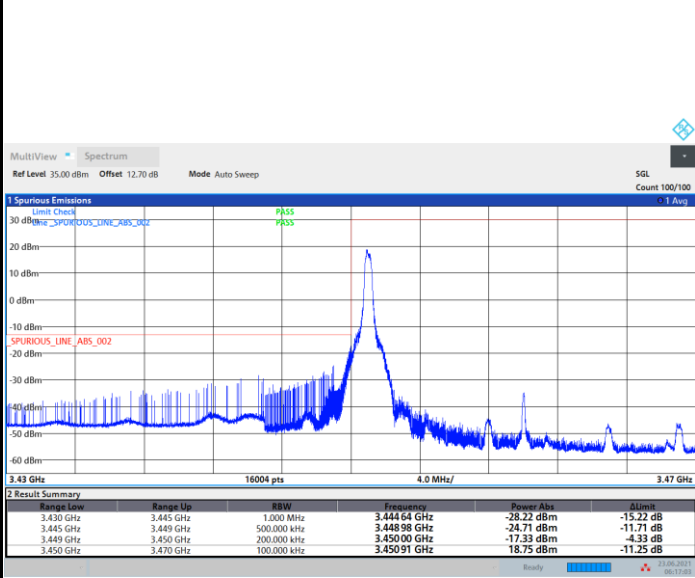


Conducted Band Edge

FR1 n77 / 20MHz / DFT-S OFDM / PI/2 BPSK

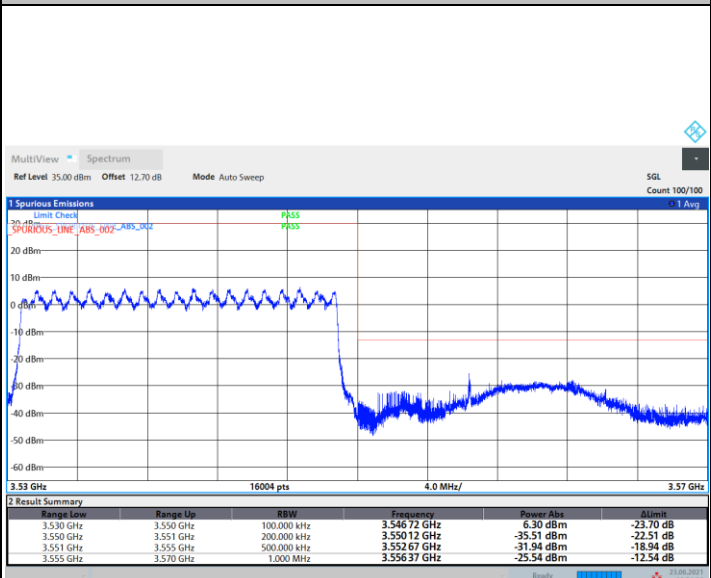
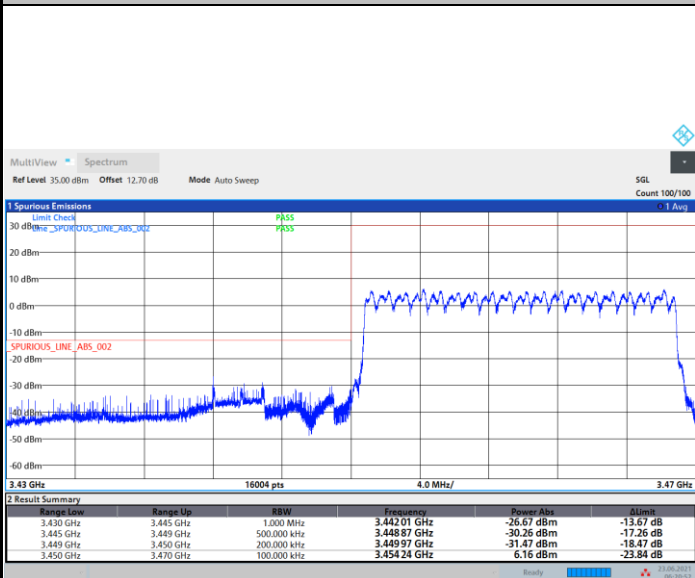
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

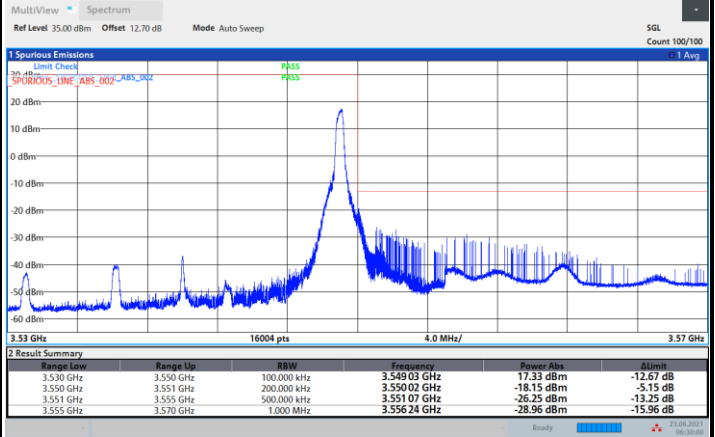
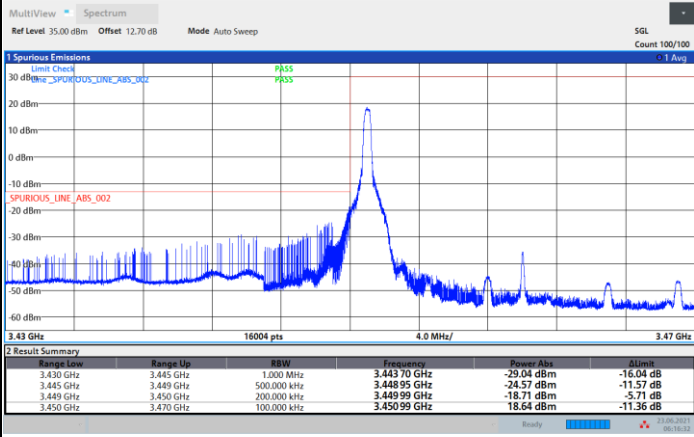




FR1 n77 / 20MHz / DFT-S OFDM / QPSK

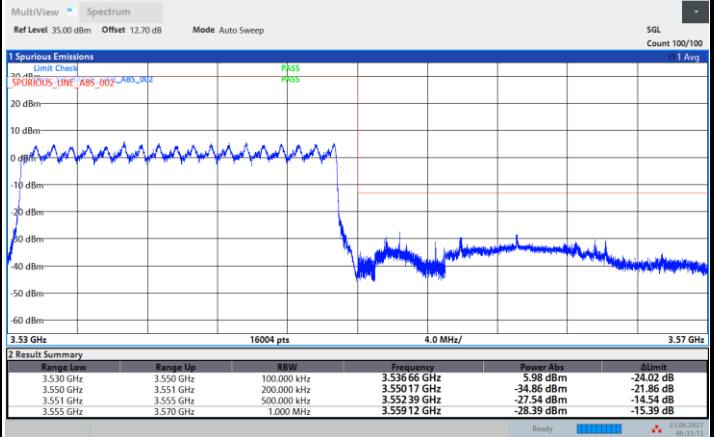
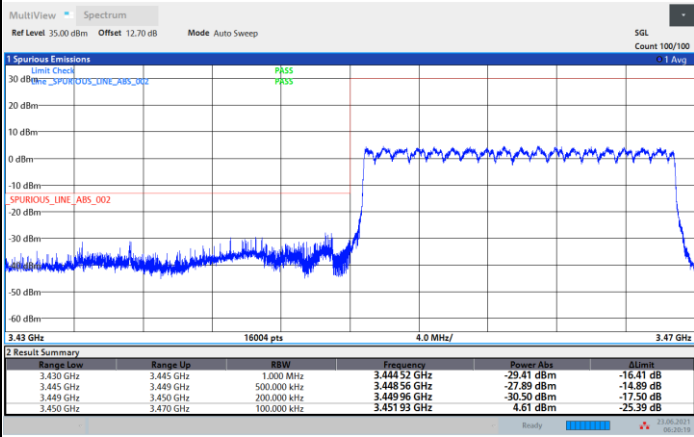
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

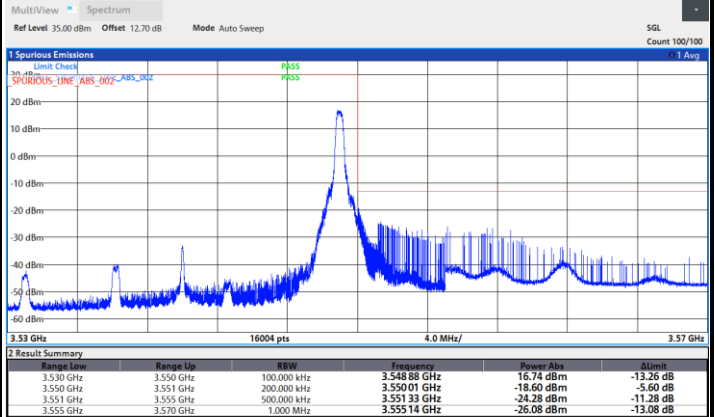
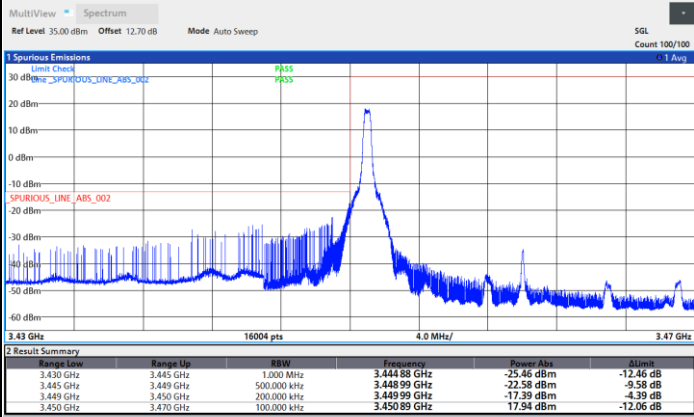




FR1 n77 / 20MHz / DFT-S OFDM / 16QAM

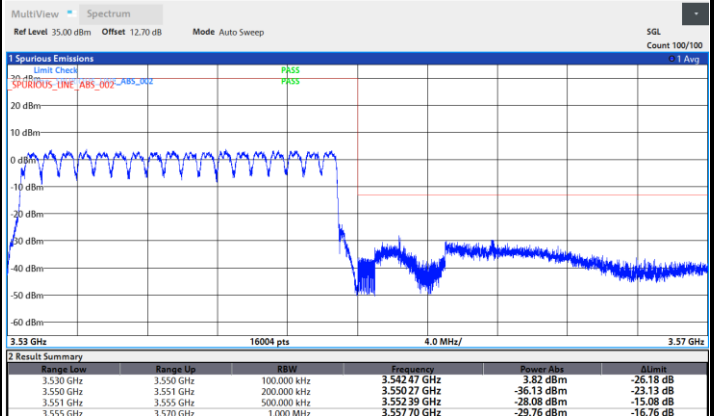
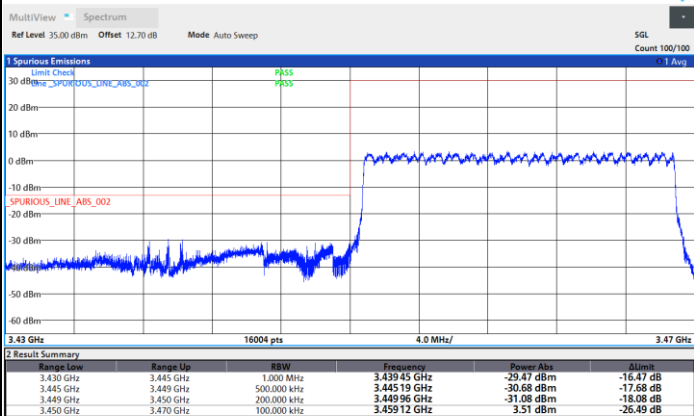
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

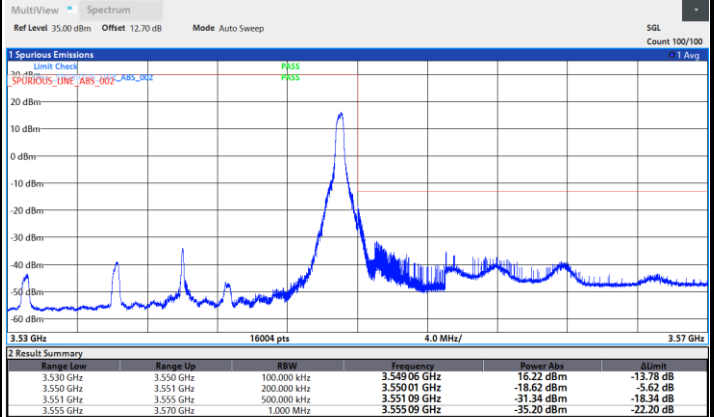
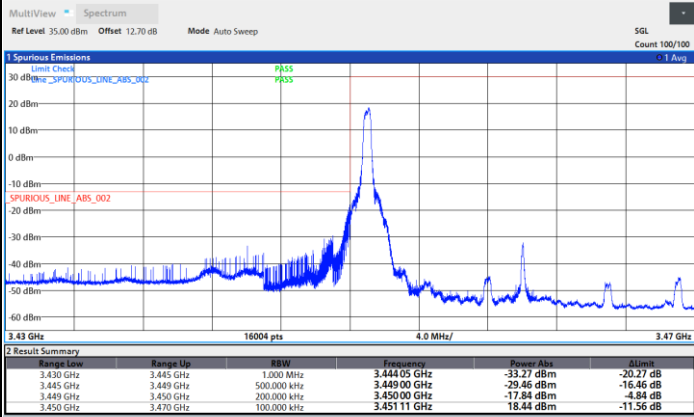




FR1 n77 / 20MHz / DFT-S OFDM / 64QAM

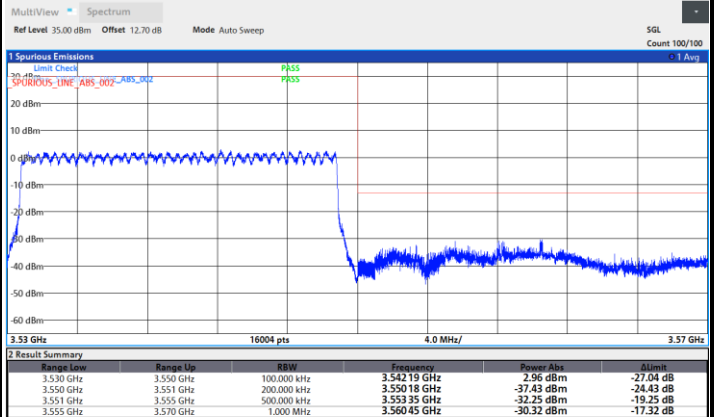
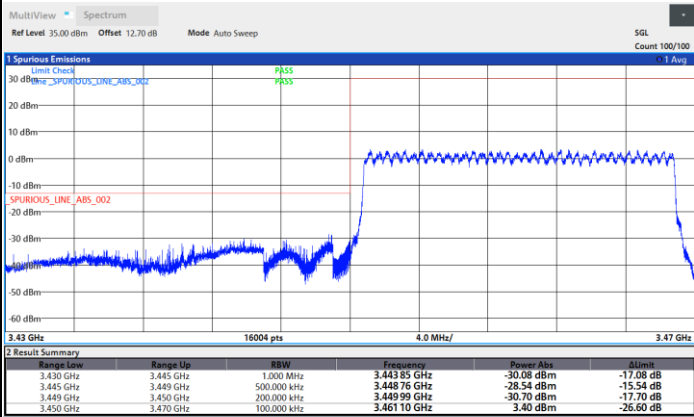
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

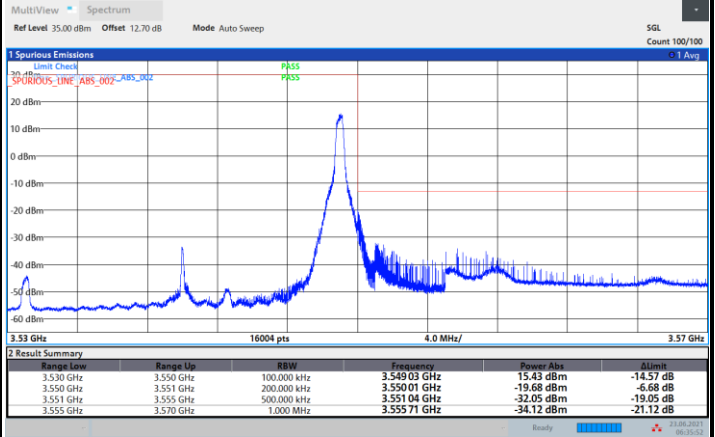
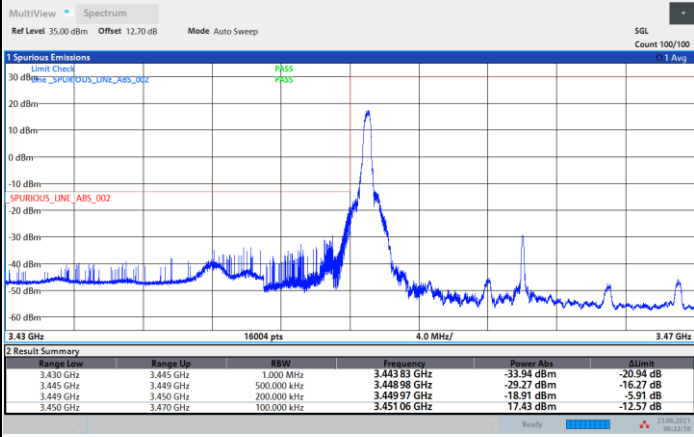




FR1 n77 / 20MHz / DFT-S OFDM / 256QAM

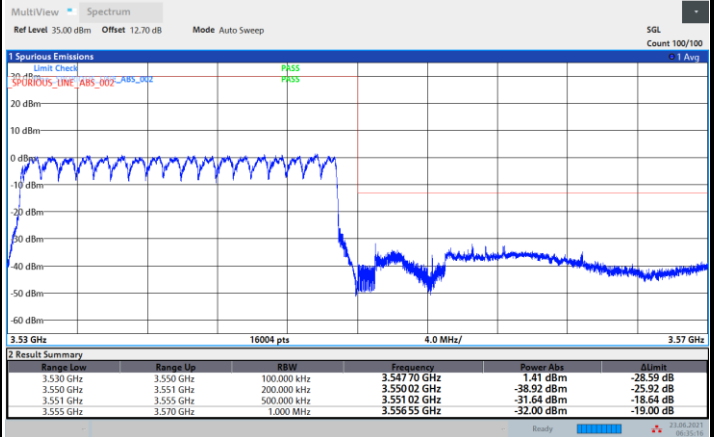
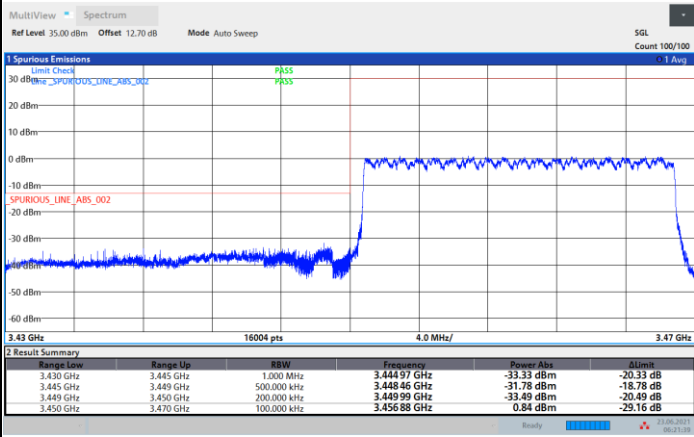
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

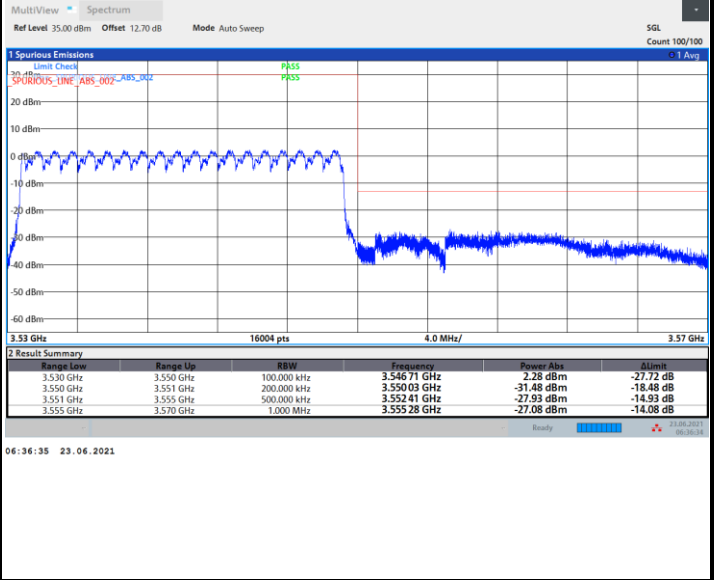
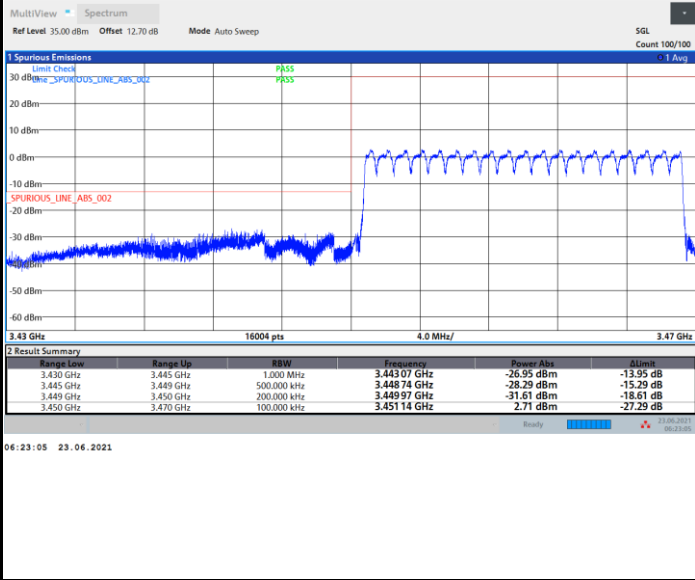




FR1 n77 / 20MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge

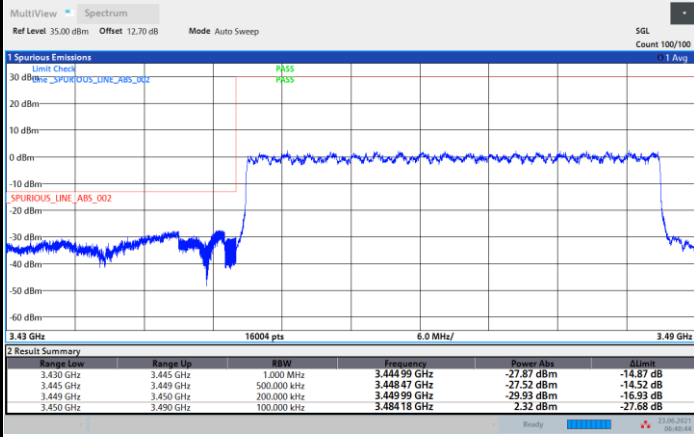




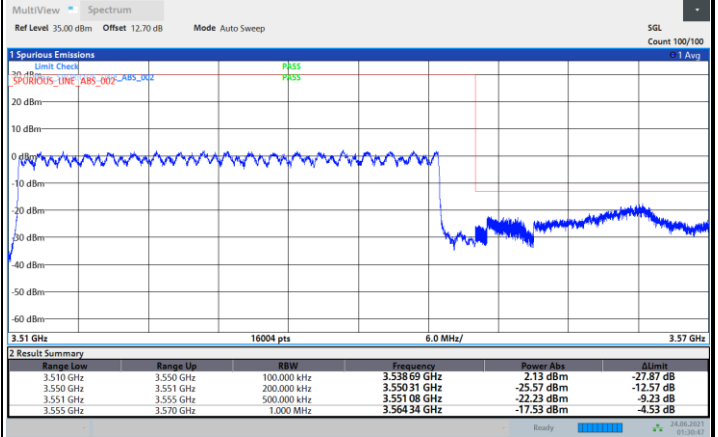
FR1 n77 / 40MHz / DFT-S OFDM / PI/2 BPSK / Full RB

Lowest Band Edge

Highest Band Edge



06:40:44 23.06.2021



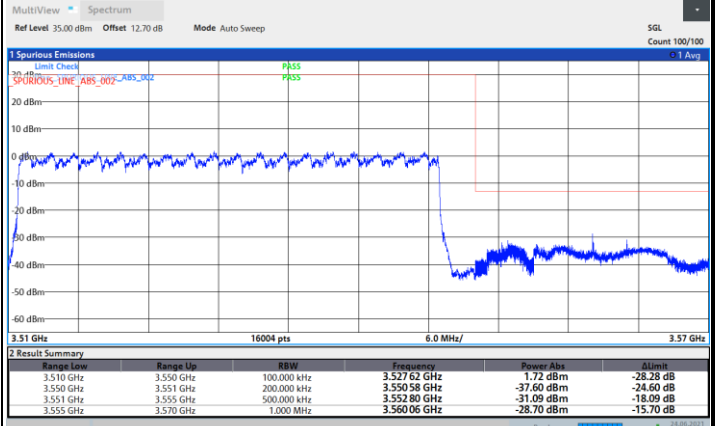
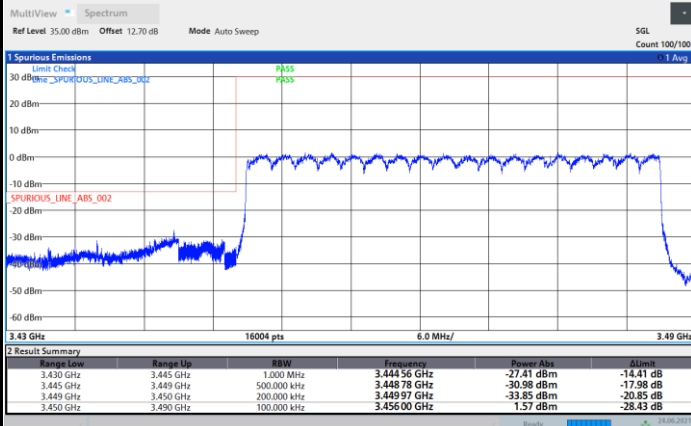
01:30:48 24.06.2021

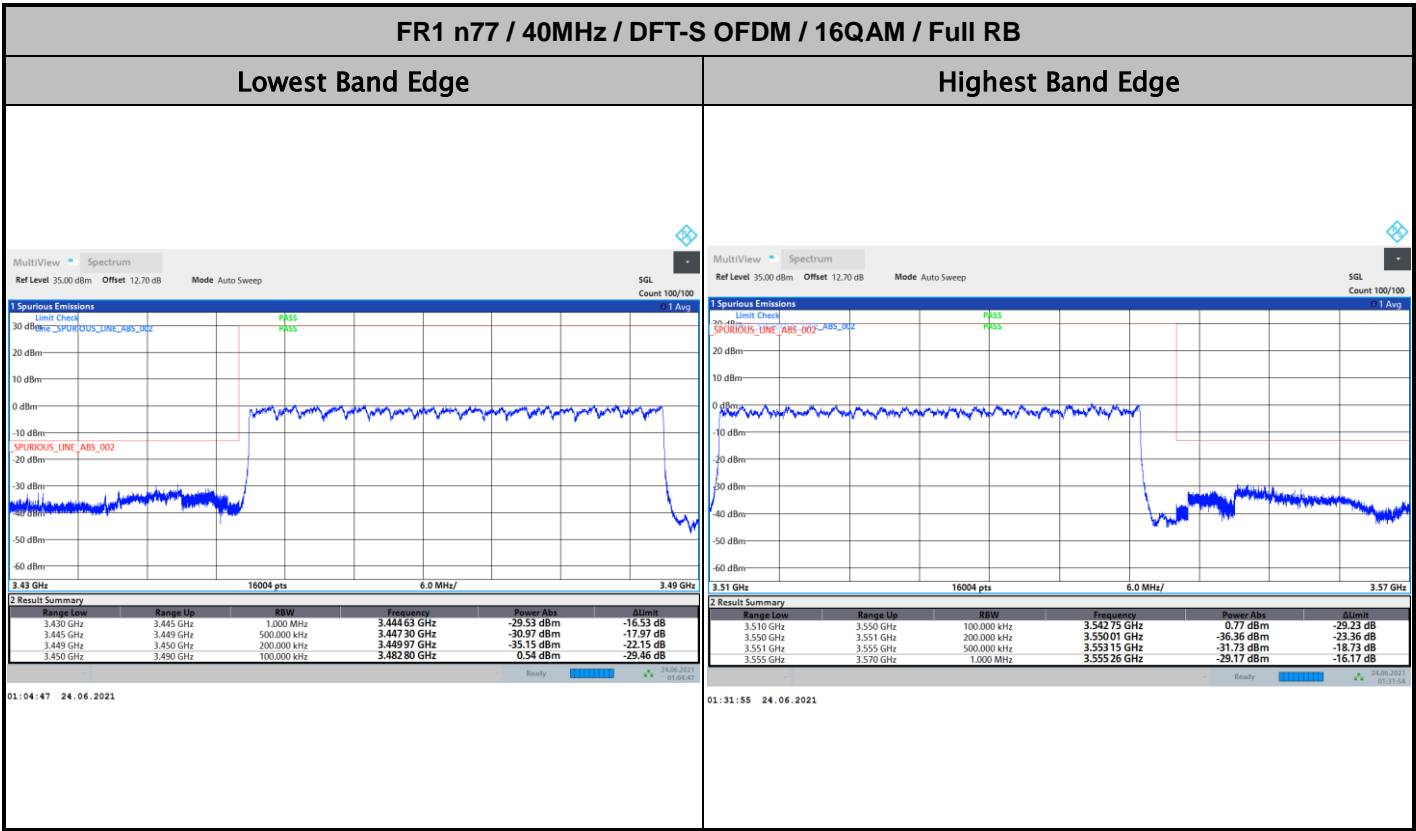


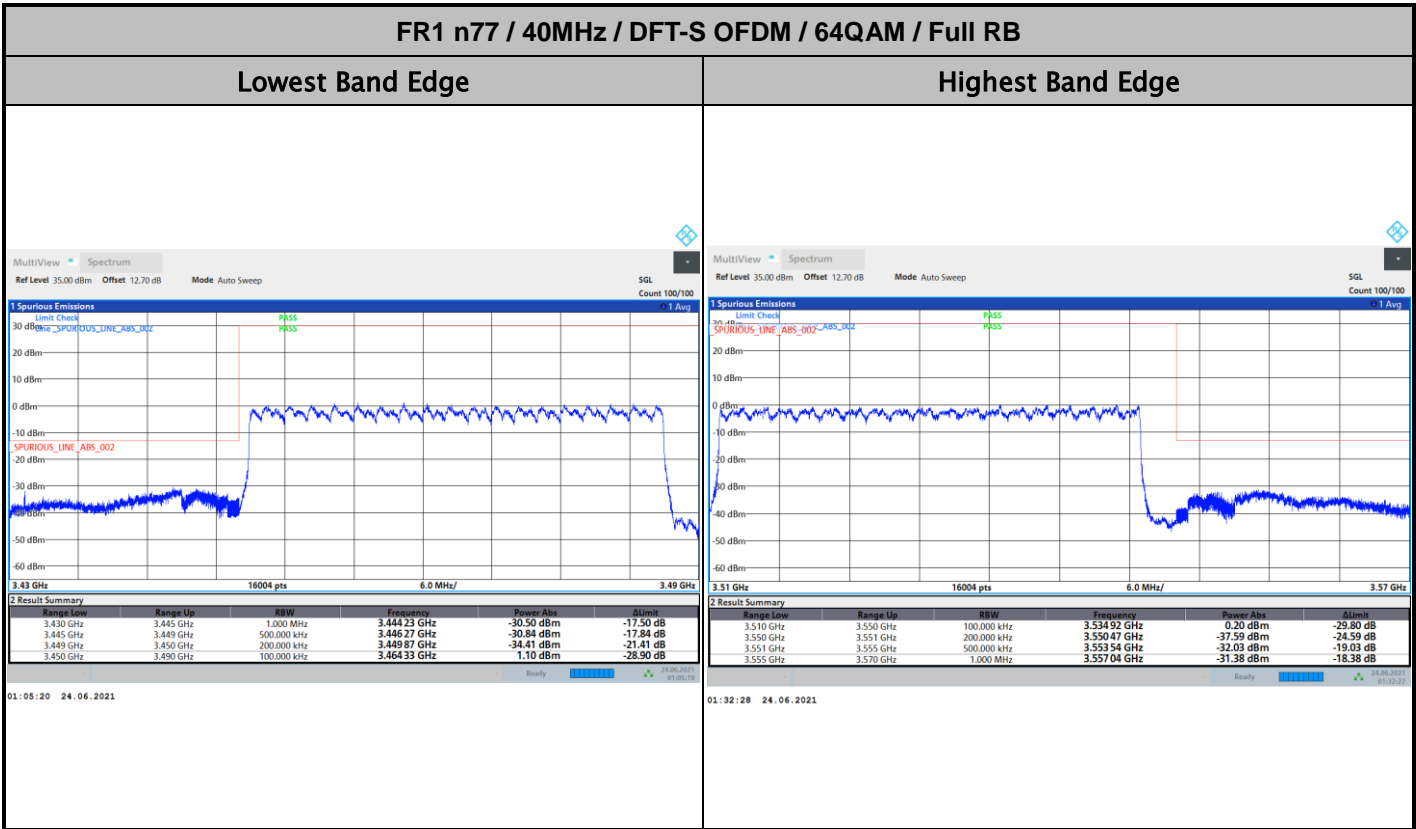
FR1 n77 / 40MHz / DFT-S OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge





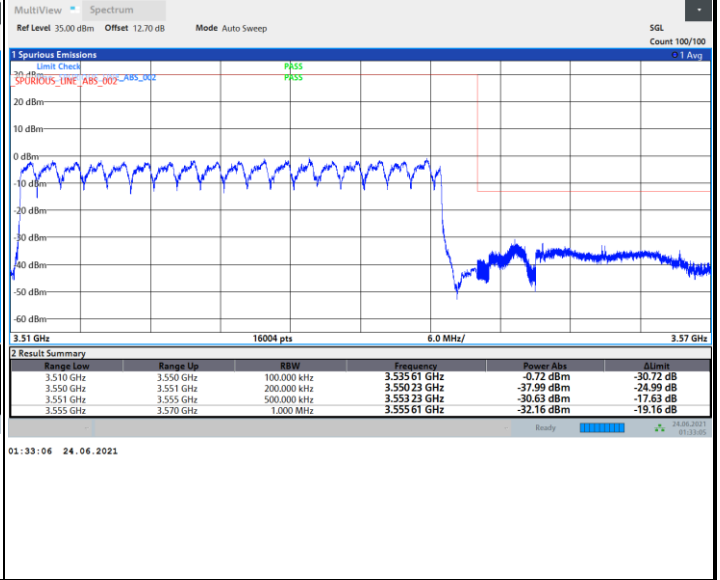
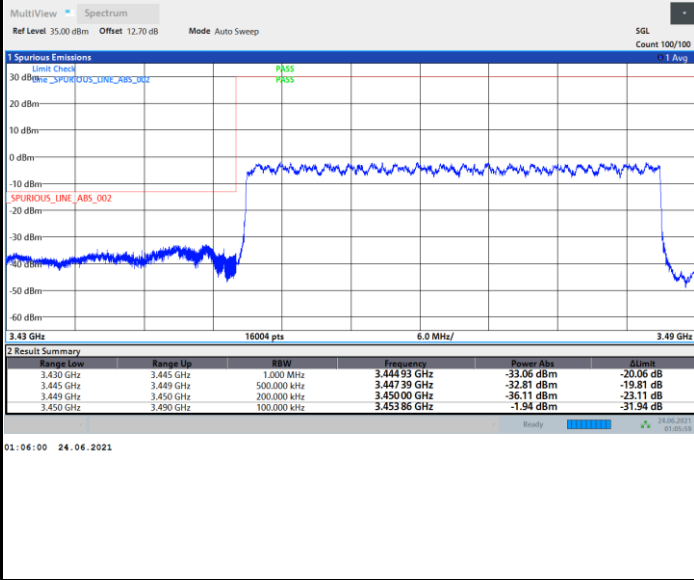


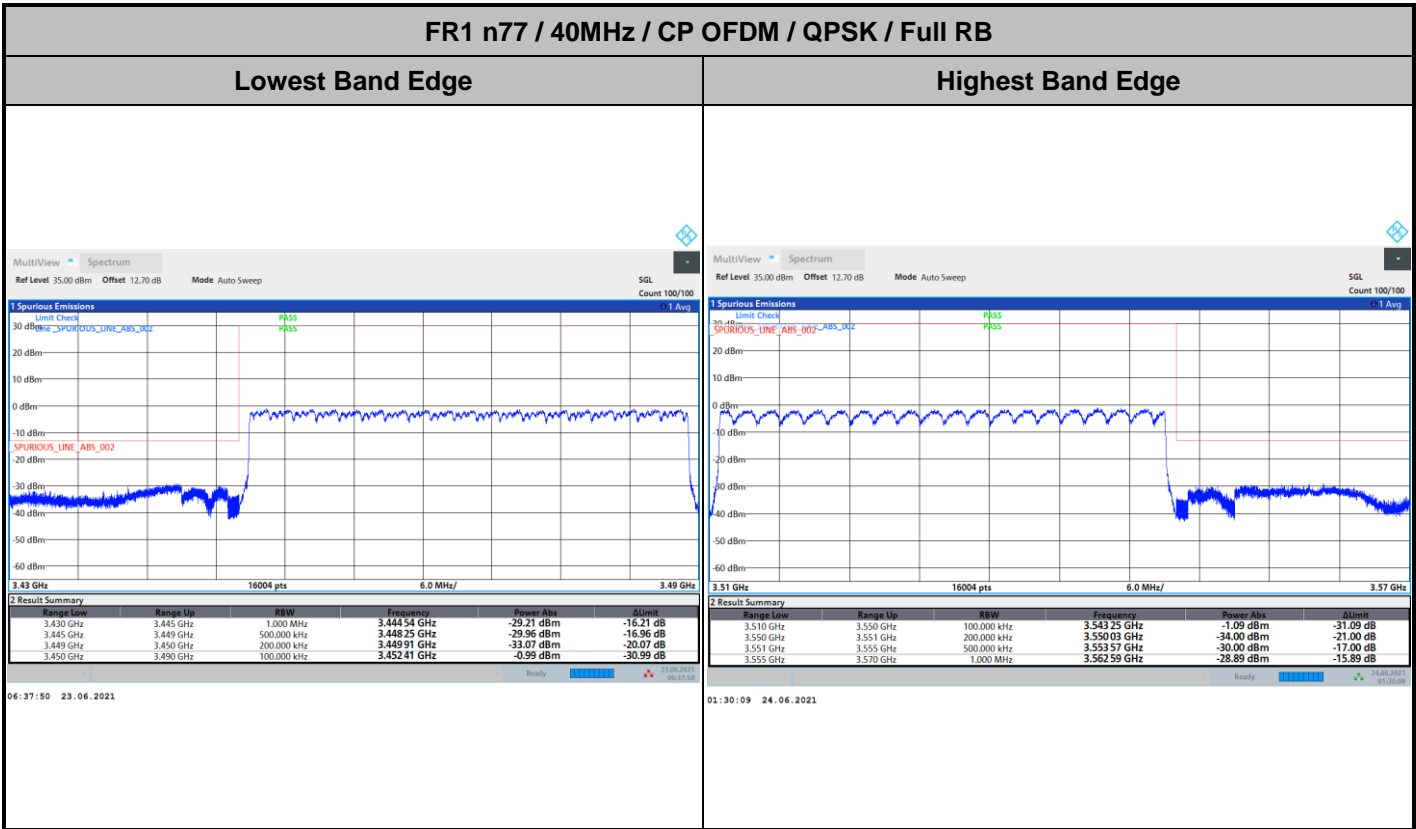


FR1 n77 / 40MHz / DFT-S OFDM / 256QAM / Full RB

Lowest Band Edge

Highest Band Edge



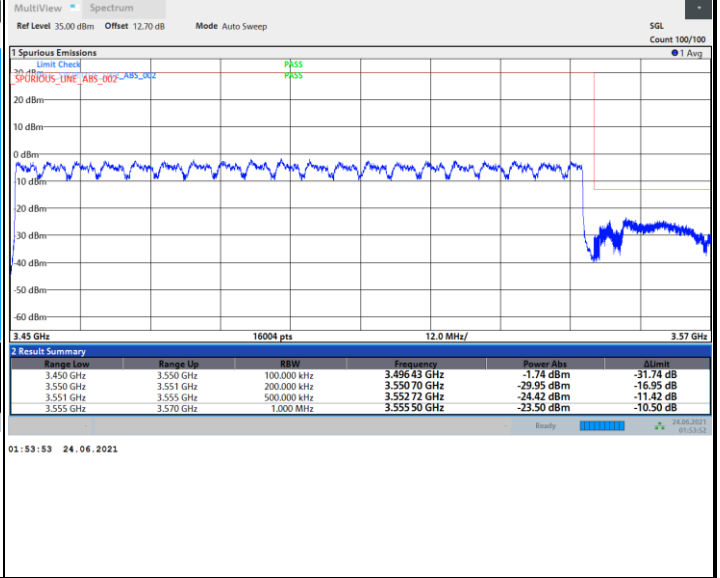
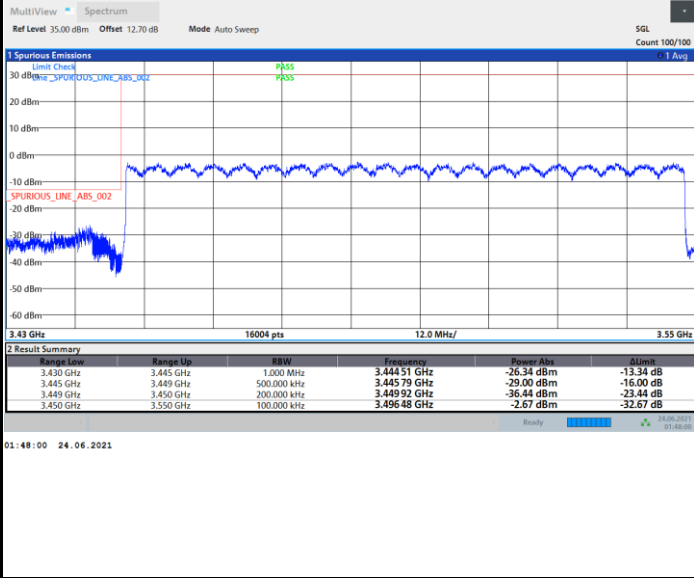




FR1 n77 / 100MHz / DFT-S OFDM / PI/2 BPSK / Full RB

Lowest Band Edge

Highest Band Edge

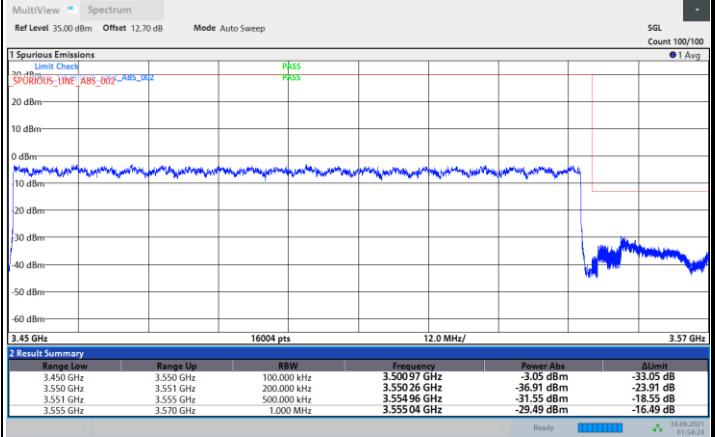
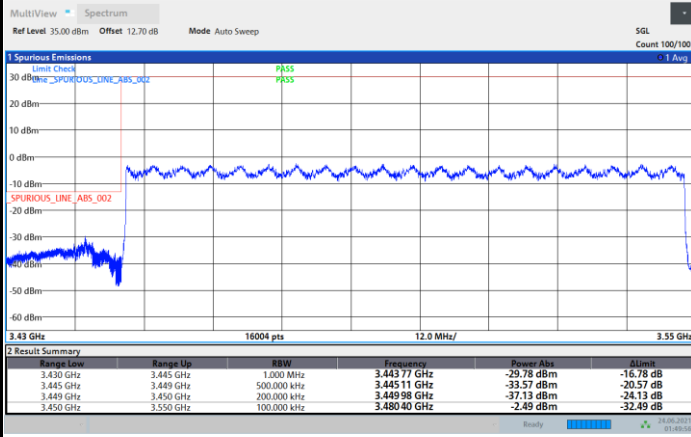




FR1 n77 / 100MHz / DFT-S OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge

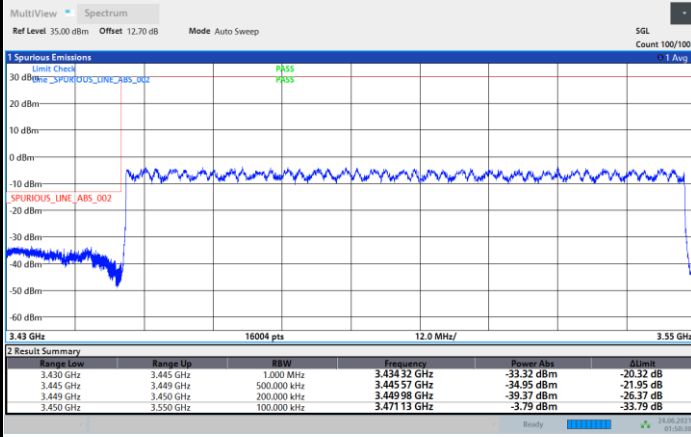




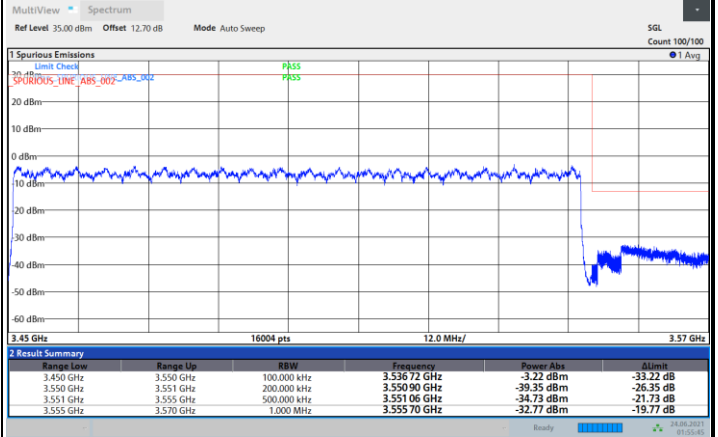
FR1 n77 / 100MHz / DFT-S OFDM / 16QAM / Full RB

Lowest Band Edge

Highest Band Edge



01:50:31 24.06.2021



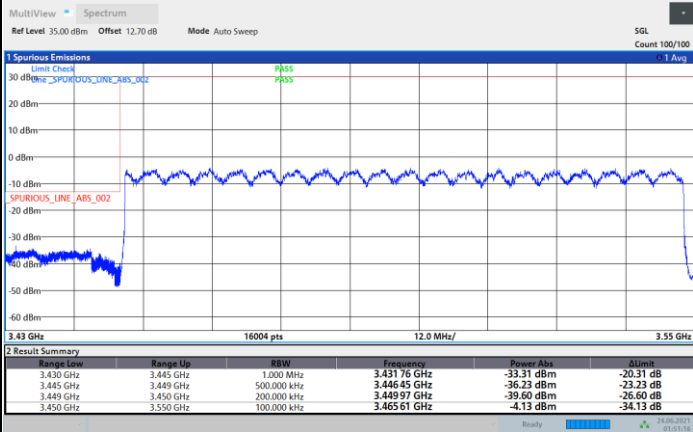
01:55:46 24.06.2021



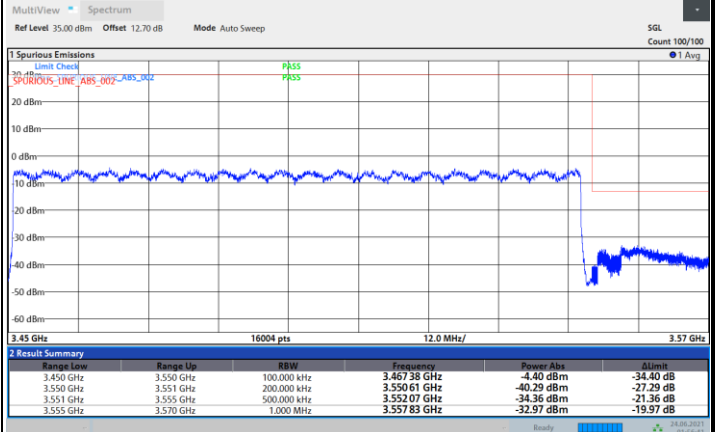
FR1 n77 / 100MHz / DFT-S OFDM / 64QAM / Full RB

Lowest Band Edge

Highest Band Edge



01:51:17 24.06.2021



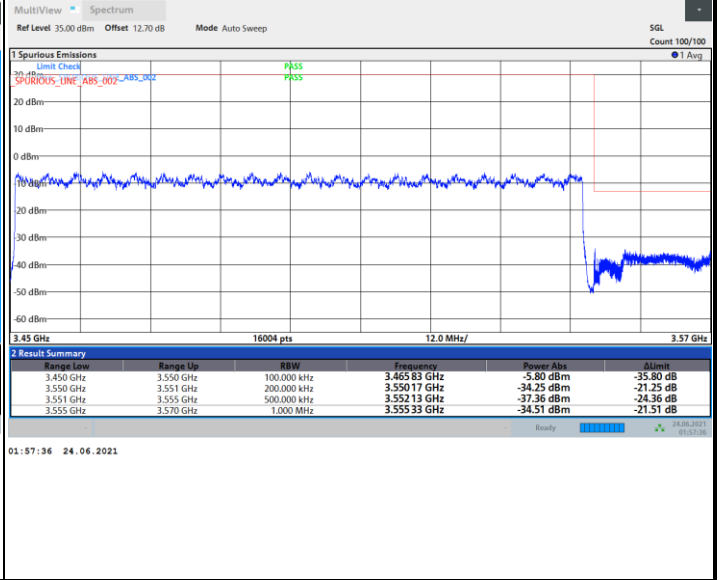
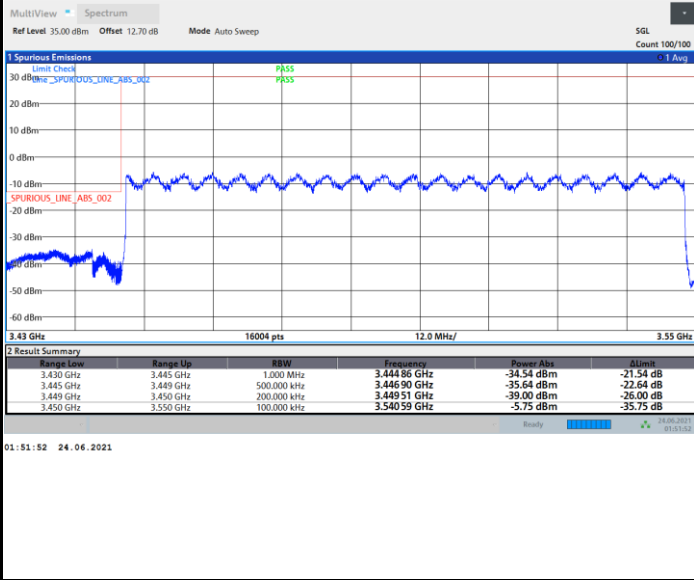
01:56:42 24.06.2021



FR1 n77 / 100MHz / DFT-S OFDM / 256QAM / Full RB

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

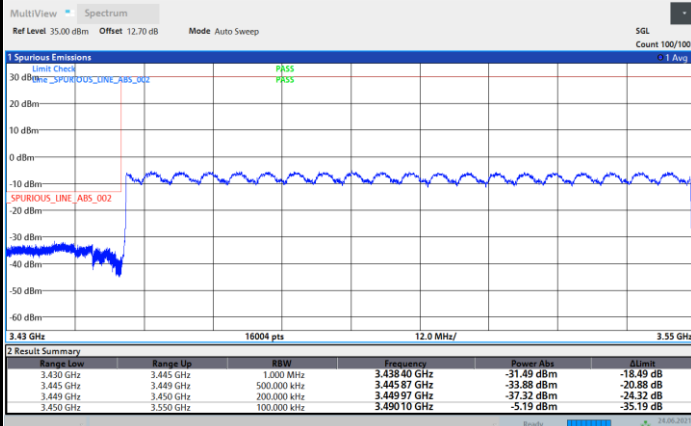




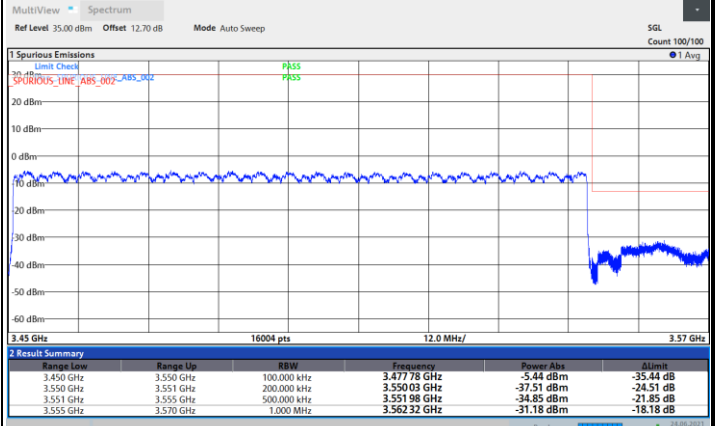
FR1 n77 / 100MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge



01:52:35 24.06.2021



01:53:13 24.06.2021



Conducted Spurious Emission





Frequency Stability

Test Conditions		FR1 n77 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0088	PASS
40	Normal Voltage	0.0076	
30	Normal Voltage	0.0285	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0043	
0	Normal Voltage	0.0080	
-10	Normal Voltage	0.0049	
-20	Normal Voltage	0.0317	
-30	Normal Voltage	0.0089	
20	Maximum Voltage	0.0080	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0279	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.60 V. ; Maximum Voltage =4.45 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of Radiated Test

<Primary Antenna>

EN-DC 66A-n77A

EN-DC 66A-n77A / 40MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	6905	-57.40	-13	-44.40	-52.77	-65.55	1.73	12.03	H
	10357	-56.91	-13	-43.91	-53.76	-63.38	2.39	11.01	H
	13809	-53.55	-13	-40.55	-57.16	-60.94	2.85	12.39	H
	20714	-54.38	-13	-41.38	-76.81	-68.82	2.06	18.64	H
	24166	-52.50	-13	-39.50	-77.44	-66.19	2.00	17.83	H
	27618	-51.00	-13	-38.00	-77.45	-65.85	2.25	19.25	H
									H
	6905	-57.54	-13	-44.54	-52.47	-65.69	1.73	12.03	V
	10357	-55.32	-13	-42.32	-52.19	-61.79	2.39	11.01	V
	13809	-53.43	-13	-40.43	-57.39	-60.82	2.85	12.39	V
	20714	-55.00	-13	-42.00	-76.92	-69.44	2.06	18.64	V
	24166	-51.83	-13	-38.83	-77.6	-65.52	2.00	17.83	V
	27618	-49.77	-13	-36.77	-77.52	-64.62	2.25	19.25	V
									V
Middle	6964	-57.09	-13	-44.09	-52.77	-65.17	1.73	11.95	H
	10446	-57.38	-13	-44.38	-54.55	-63.78	2.39	10.94	H
	13929	-54.35	-13	-41.35	-57.6	-61.60	2.87	12.27	H
	20894	-53.38	-13	-40.38	-75.91	-67.84	2.07	18.68	H
	24376	-52.25	-13	-39.25	-77.08	-65.71	2.02	17.62	H
	27858	-50.97	-13	-37.97	-76.96	-65.82	2.34	19.34	H
									H
	6964	-55.94	-13	-42.94	-51.14	-64.02	1.73	11.95	V
	10446	-55.50	-13	-42.50	-52.49	-61.90	2.39	10.94	V
	13929	-54.49	-13	-41.49	-57.97	-61.74	2.87	12.27	V
	20894	-54.23	-13	-41.23	-76.37	-68.69	2.07	18.68	V
	24376	-51.81	-13	-38.81	-77.82	-65.27	2.02	17.62	V
	27858	-49.89	-13	-36.89	-77.24	-64.74	2.34	19.34	V
									V



EN-DC 66A-n77A / 40MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Highest	7025	-55.60	-13	-42.60	-51.51	-63.58	1.73	11.86	H
	10537	-58.37	-13	-45.37	-55.8	-64.71	2.41	10.90	H
	14049	-54.61	-13	-41.61	-57.59	-61.67	2.88	12.08	H
	21074	-53.79	-13	-40.79	-76.19	-68.28	2.06	18.70	H
	24586	-52.49	-13	-39.49	-77.25	-65.94	2.04	17.64	H
	28098	-51.07	-13	-38.07	-76.69	-65.98	2.38	19.44	H
									H
	7025	-56.33	-13	-43.33	-51.77	-64.31	1.73	11.86	V
	10537	-56.52	-13	-43.52	-53.66	-62.86	2.41	10.90	V
	14049	-54.67	-13	-41.67	-57.7	-61.73	2.88	12.08	V
	21074	-55.12	-13	-42.12	-77.24	-69.61	2.06	18.70	V
	24586	-51.70	-13	-38.70	-77.81	-65.15	2.04	17.64	V
	28098	-49.87	-13	-36.87	-76.98	-64.78	2.38	19.44	V
									V

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



<ASDIV Antenna>

EN-DC 66A-n77A

EN-DC 66A-n77A / 40MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	6902	-59.41	-13	-46.41	-54.76	-67.56	1.73	12.04	H
	10356	-57.86	-13	-44.86	-54.69	-64.33	2.39	11.02	H
	13809	-53.51	-13	-40.51	-57.12	-60.90	2.85	12.39	H
	20714	-53.87	-13	-40.87	-76.3	-68.31	2.06	18.64	H
	24166	-52.72	-13	-39.72	-77.66	-66.41	2.00	17.83	H
	27618	-50.62	-13	-37.62	-77.07	-65.47	2.25	19.25	H
									H
	6902	-59.71	-13	-46.71	-54.62	-67.86	1.73	12.04	V
	10356	-57.74	-13	-44.74	-54.6	-64.21	2.39	11.02	V
	13809	-52.98	-13	-39.98	-56.94	-60.37	2.85	12.39	V
	20714	-54.53	-13	-41.53	-76.45	-68.97	2.06	18.64	V
	24166	-51.95	-13	-38.95	-77.72	-65.64	2.00	17.83	V
	27618	-49.88	-13	-36.88	-77.63	-64.73	2.25	19.25	V
									V
Middle	6964	-58.85	-13	-45.85	-54.52	-66.93	1.73	11.95	H
	10446	-57.50	-13	-44.50	-54.66	-63.90	2.39	10.94	H
	13929	-54.71	-13	-41.71	-57.96	-61.96	2.87	12.27	H
	20894	-53.66	-13	-40.66	-76.19	-68.12	2.07	18.68	H
	24376	-53.24	-13	-40.24	-78.07	-66.70	2.02	17.62	H
	27858	-51.20	-13	-38.20	-77.19	-66.05	2.34	19.34	H
									H
	6964	-58.57	-13	-45.57	-53.76	-66.65	1.73	11.95	V
	10446	-56.09	-13	-43.09	-53.08	-62.49	2.39	10.94	V
	13929	-54.02	-13	-41.02	-57.5	-61.27	2.87	12.27	V
	20894	-54.16	-13	-41.16	-76.3	-68.62	2.07	18.68	V
	24376	-51.70	-13	-38.70	-77.71	-65.16	2.02	17.62	V
	27858	-49.78	-13	-36.78	-77.13	-64.63	2.34	19.34	V
									V



EN-DC 66A-n77A / 40MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Highest	7024	-59.15	-13	-46.15	-55.05	-67.13	1.73	11.86	H
	10536	-58.12	-13	-45.12	-55.54	-64.46	2.41	10.90	H
	14049	-54.48	-13	-41.48	-57.46	-61.54	2.88	12.08	H
	21074	-54.76	-13	-41.76	-77.16	-69.25	2.06	18.70	H
	24586	-52.92	-13	-39.92	-77.68	-66.37	2.04	17.64	H
	28098	-51.41	-13	-38.41	-77.03	-66.32	2.38	19.44	H
									H
	7024	-59.57	-13	-46.57	-55	-67.55	1.73	11.86	V
	10536	-57.74	-13	-44.74	-54.88	-64.08	2.41	10.90	V
	14049	-54.82	-13	-41.82	-57.85	-61.88	2.88	12.08	V
	21074	-54.80	-13	-41.80	-76.92	-69.29	2.06	18.70	V
	24586	-51.79	-13	-38.79	-77.9	-65.24	2.04	17.64	V
	28098	-49.73	-13	-36.73	-76.84	-64.64	2.38	19.44	V
									V

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

————THE END————