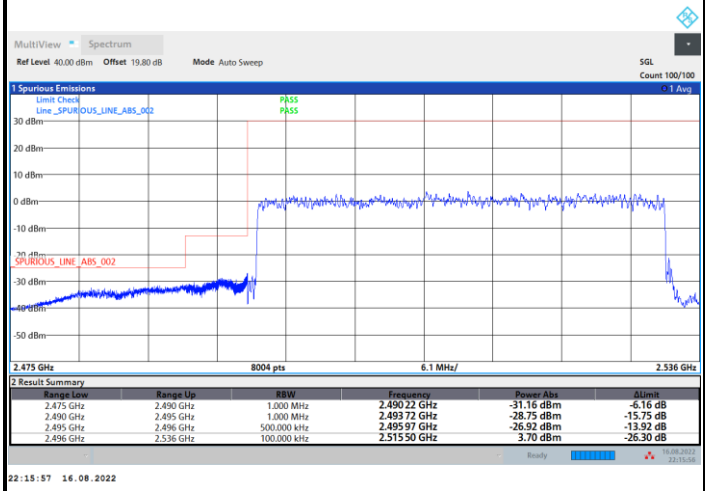
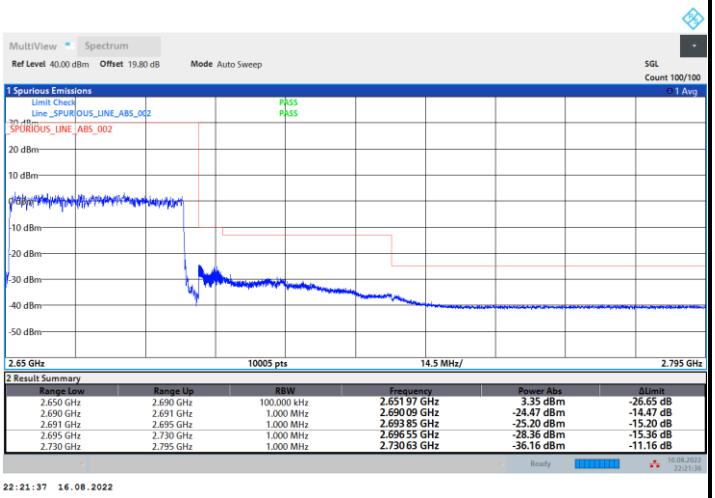
FR1 n41 (HPUE) / 40MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / Full RB

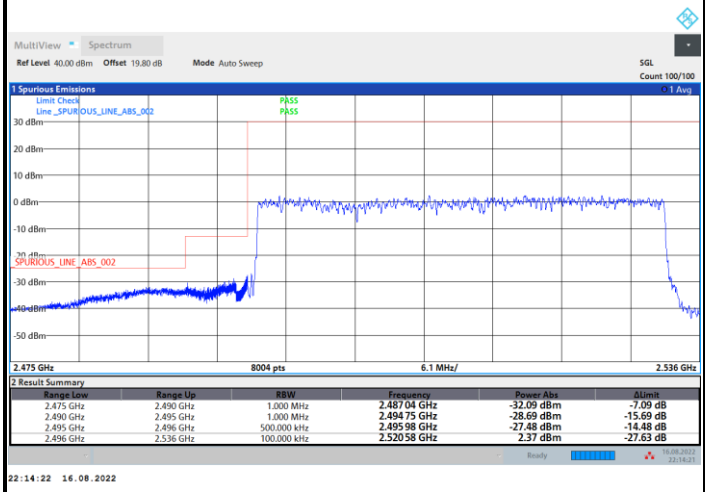


Highest Band Edge / Full RB

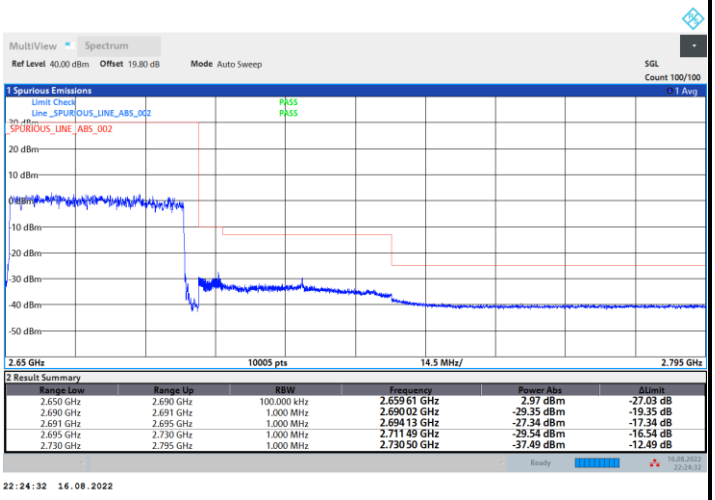


FR1 n41 (HPUE) / 40MHz / DFT-S OFDM / QPSK

Lowest Band Edge / Full RB

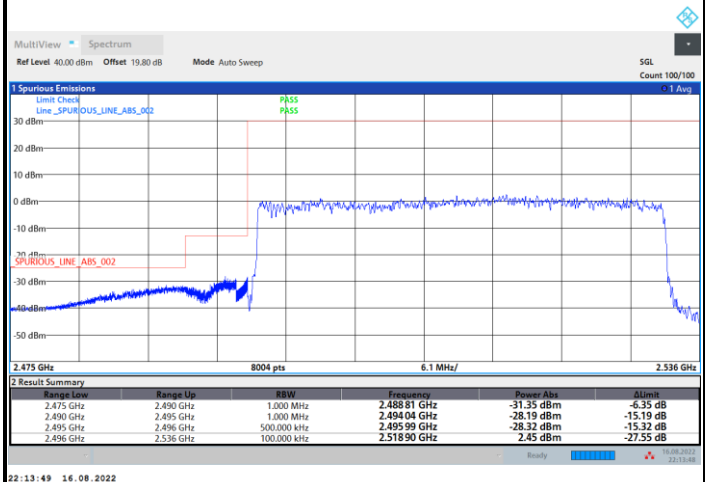


Highest Band Edge / Full RB

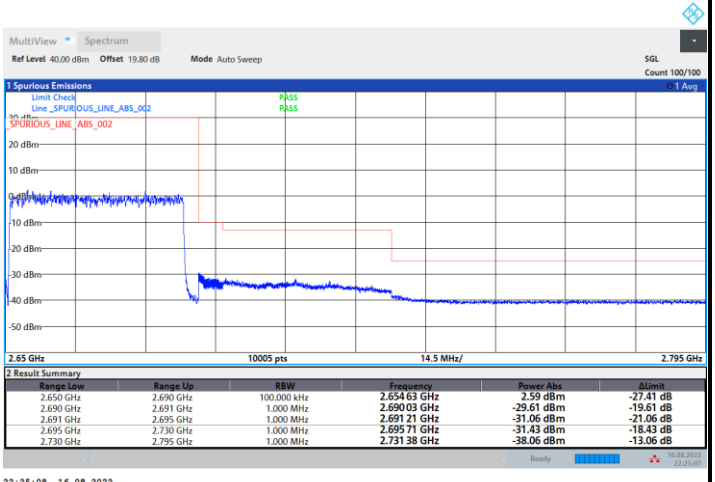


FR1 n41 (HPUE) / 40MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / Full RB

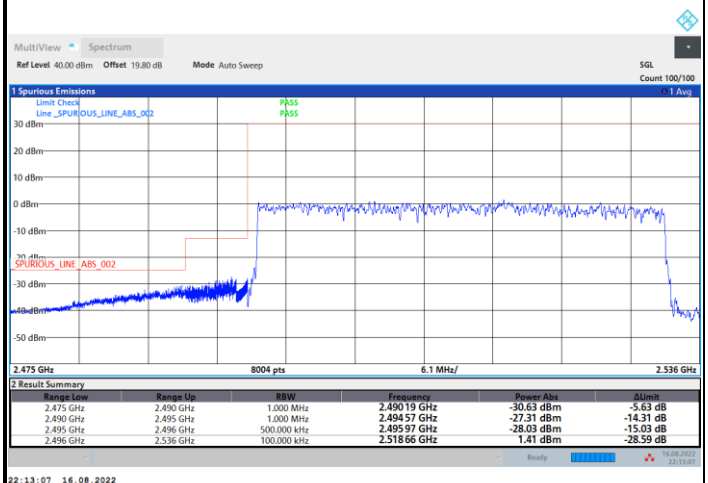


Highest Band Edge / Full RB

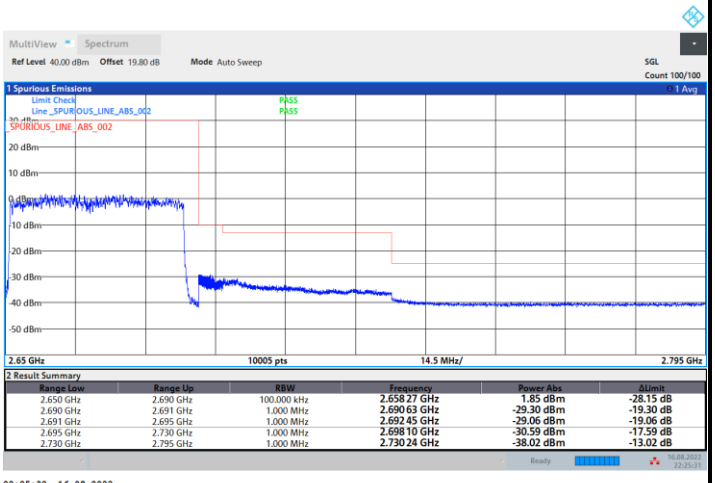


FR1 n41 (HPUE) / 40MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / Full RB

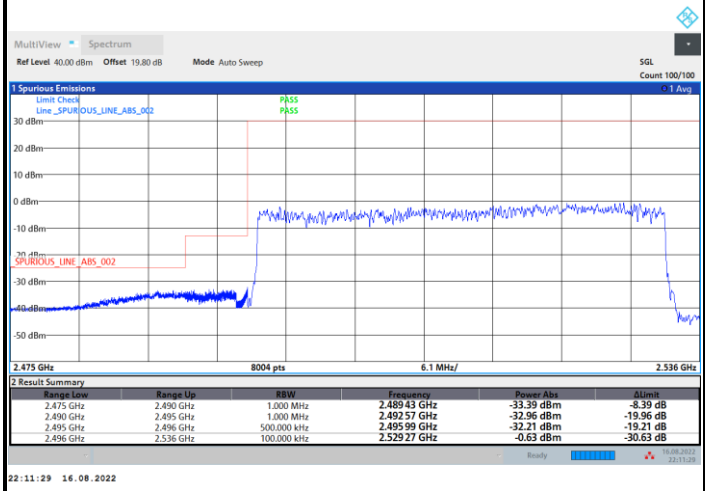


Highest Band Edge / Full RB

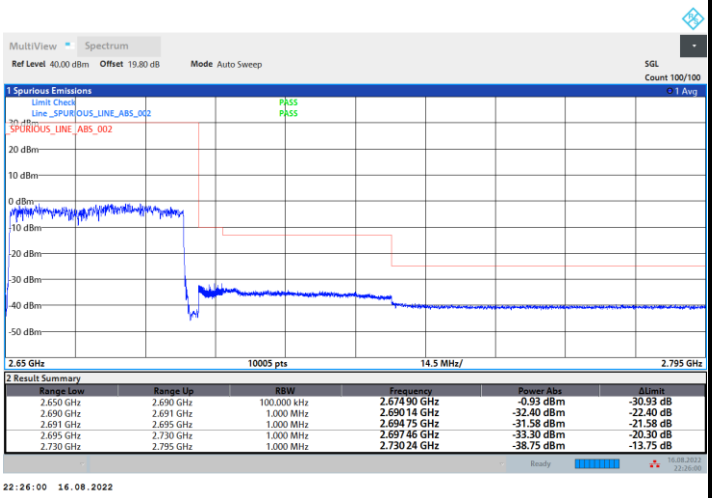


FR1 n41 (HPUE) / 40MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / Full RB

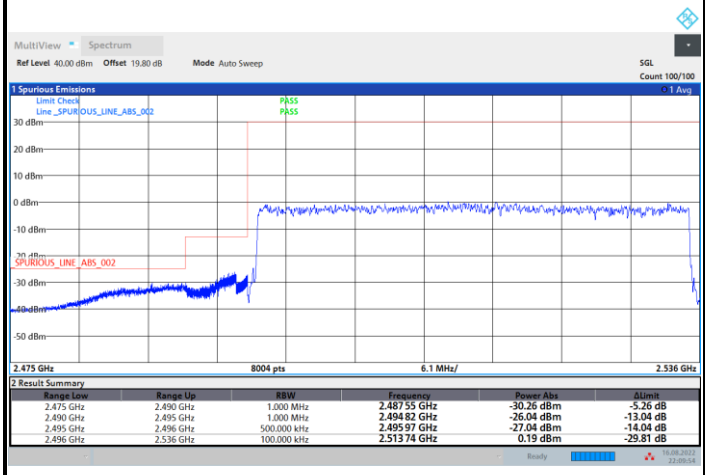


Highest Band Edge / Full RB

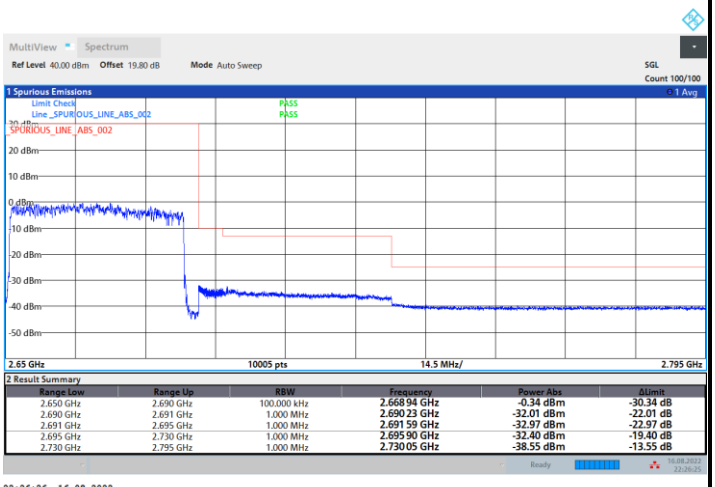


FR1 n41 (HPUE) / 40MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

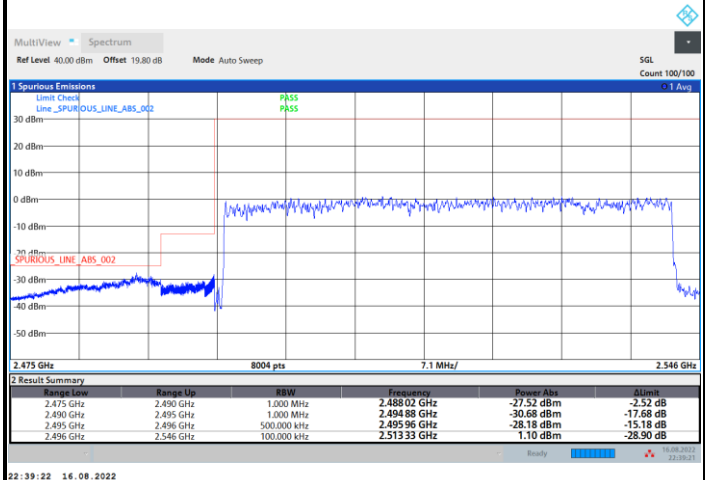


Highest Band Edge

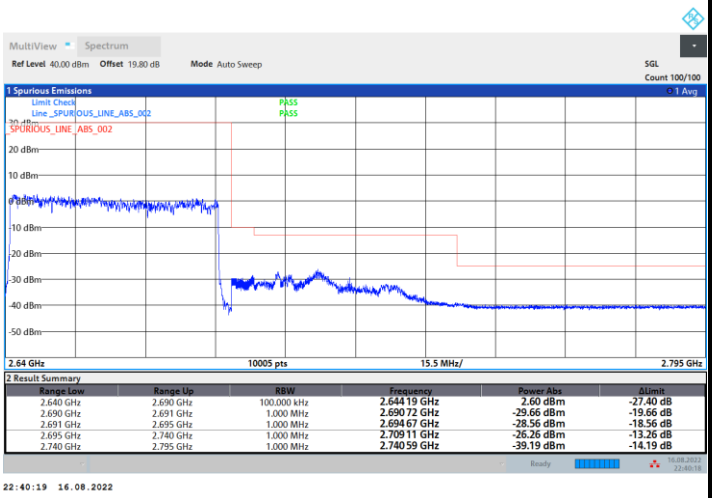


FR1 n41 (HPUE) / 50MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / Full RB

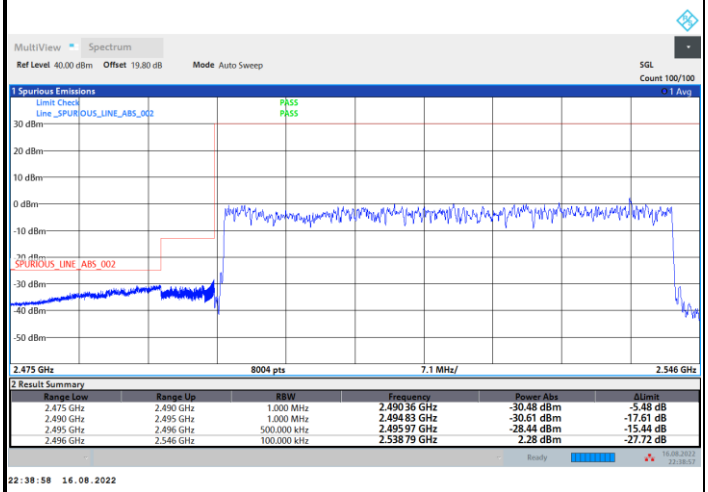


Highest Band Edge / Full RB

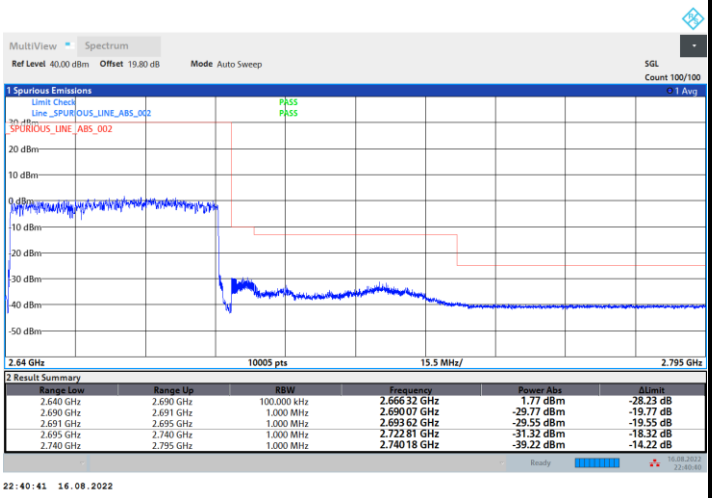


FR1 n41 (HPUE) / 50MHz / DFT-S OFDM / QPSK

Lowest Band Edge / Full RB

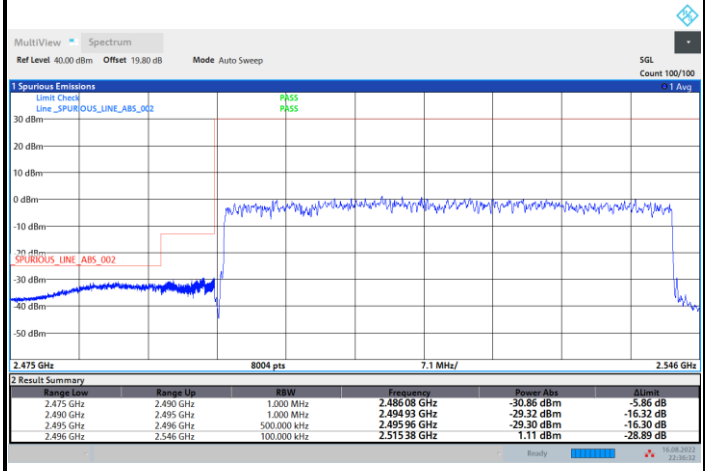


Highest Band Edge / Full RB

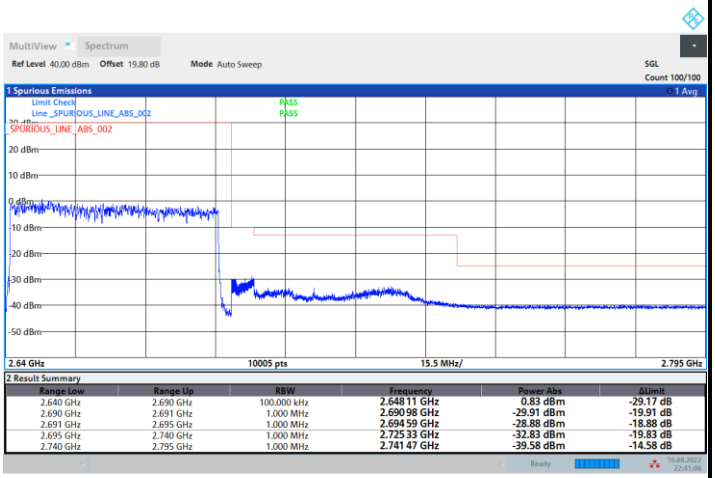


FR1 n41 (HPUE) / 50MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / Full RB

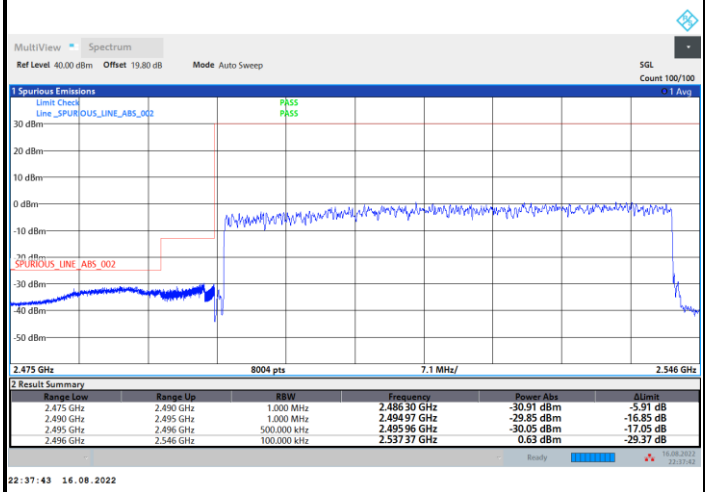


Highest Band Edge / Full RB

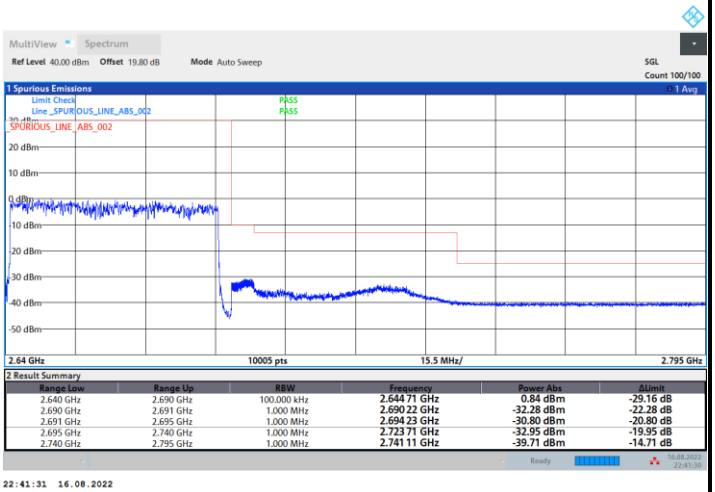


FR1 n41 (HPUE) / 50MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / Full RB

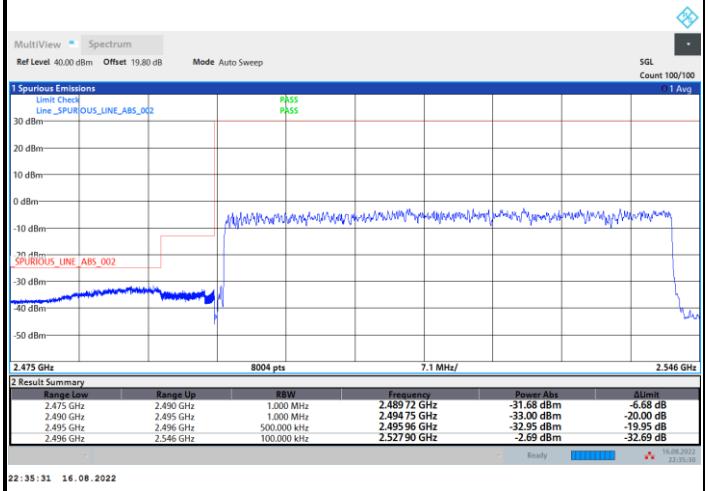


Highest Band Edge / Full RB

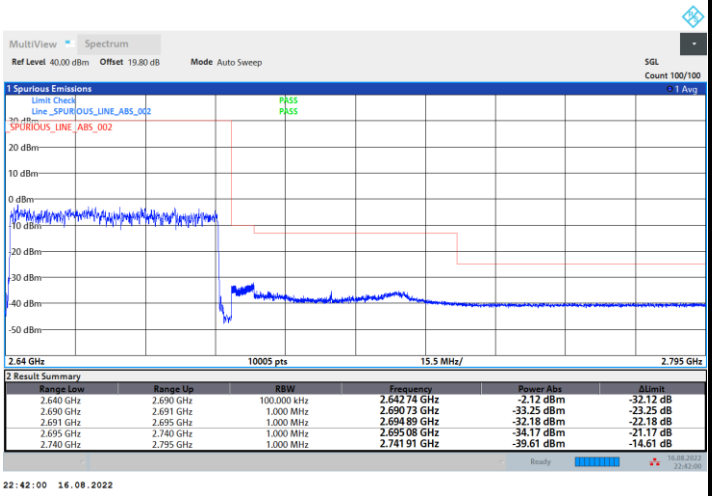


FR1 n41 (HPUE) / 50MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / Full RB

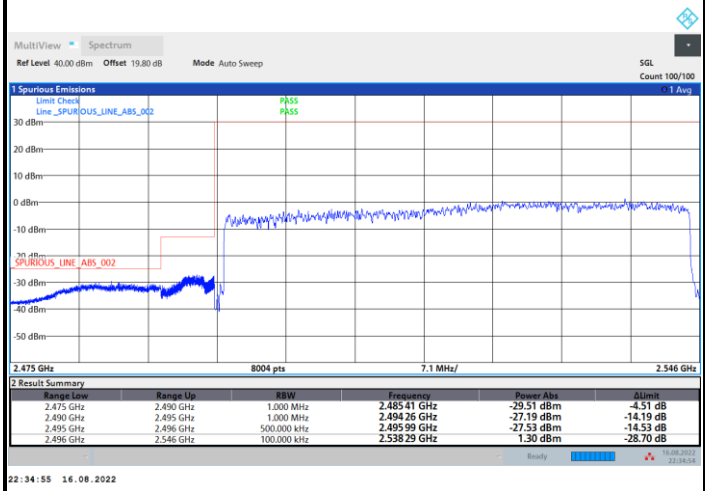


Highest Band Edge / Full RB

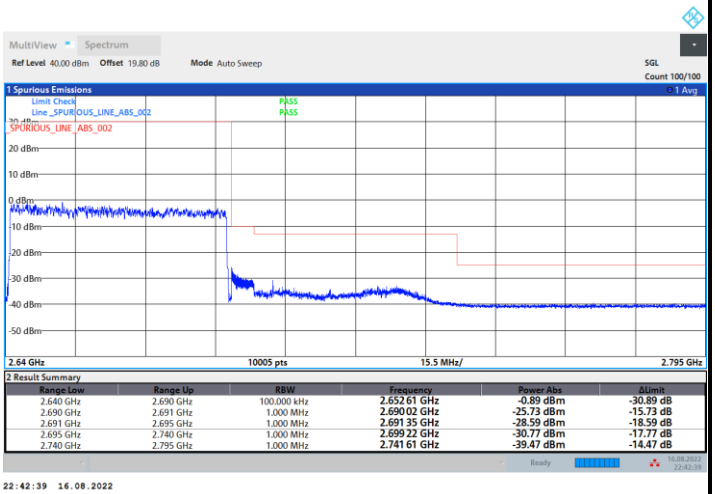


FR1 n41 (HPUE) / 50MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

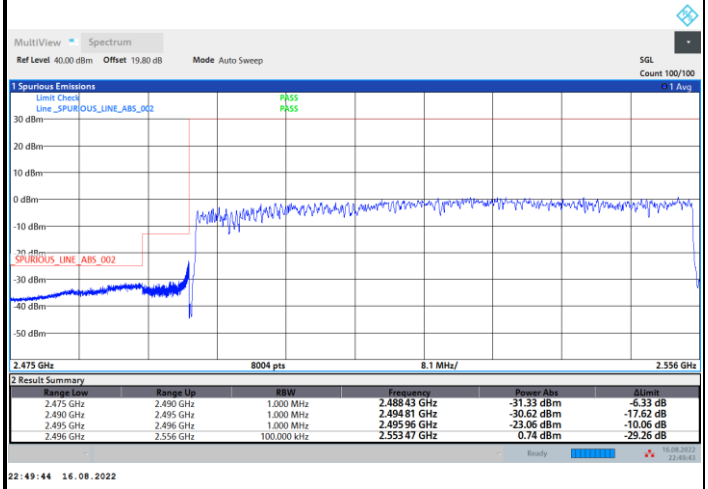


Highest Band Edge

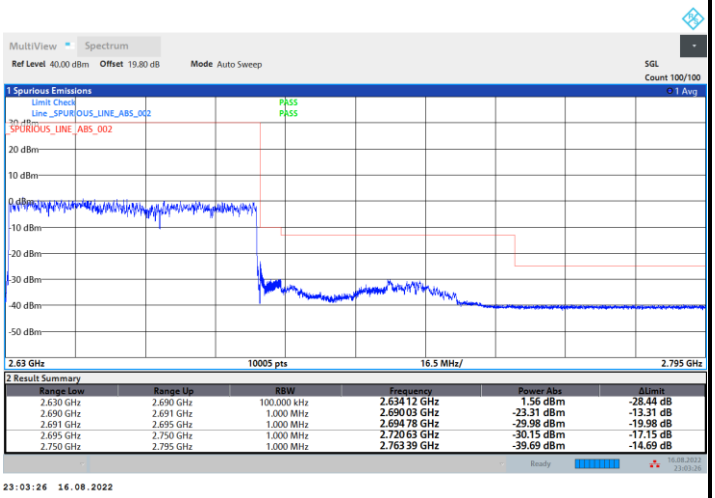


FR1 n41 (HPUE) / 60MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / Full RB

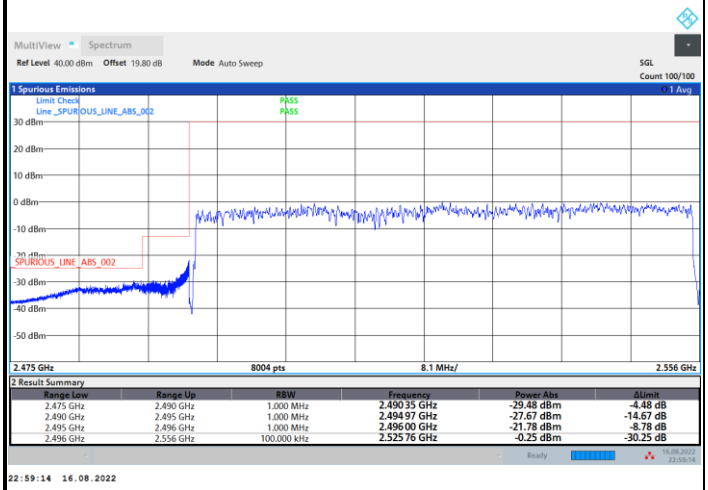


Highest Band Edge / Full RB

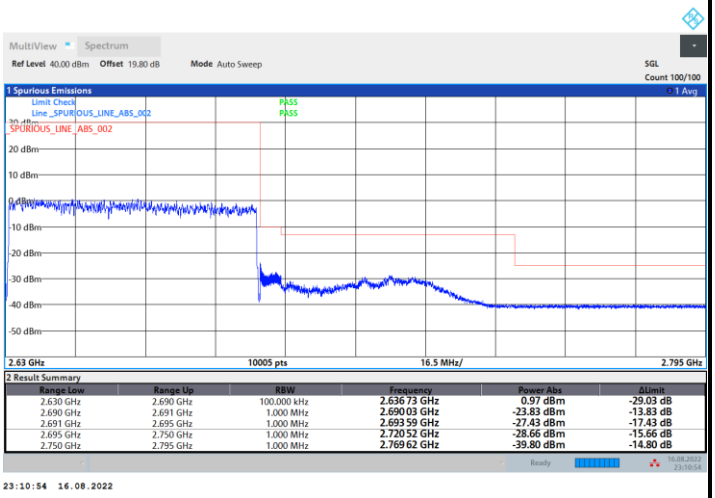


FR1 n41 (HPUE) / 60MHz / DFT-S OFDM / QPSK

Lowest Band Edge / Full RB

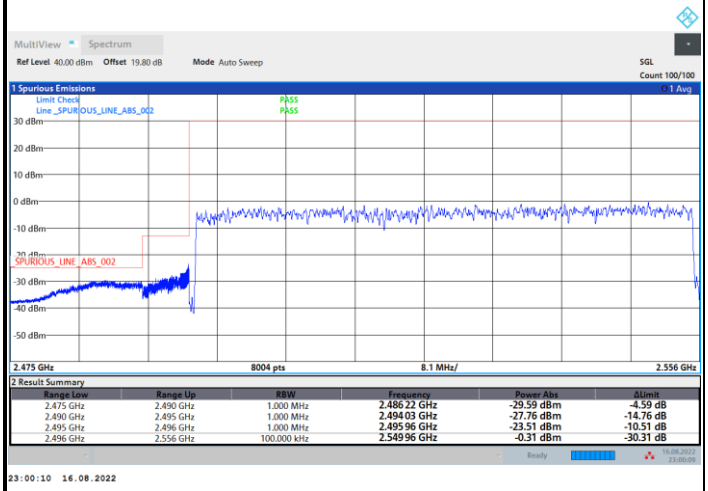


Highest Band Edge / Full RB

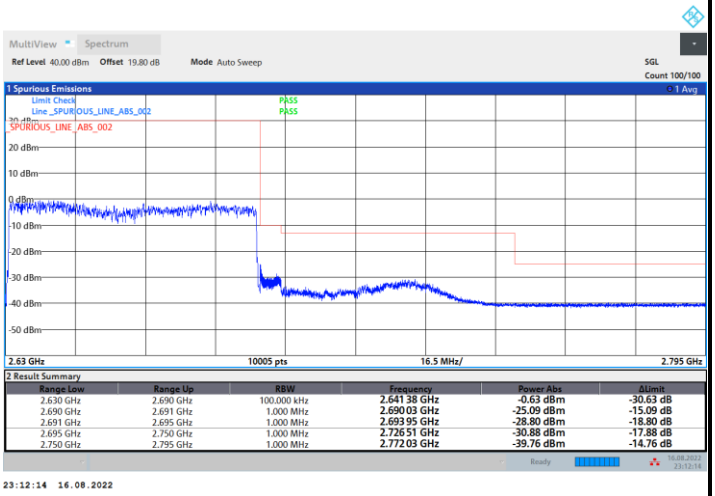


FR1 n41 (HPUE) / 60MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / Full RB

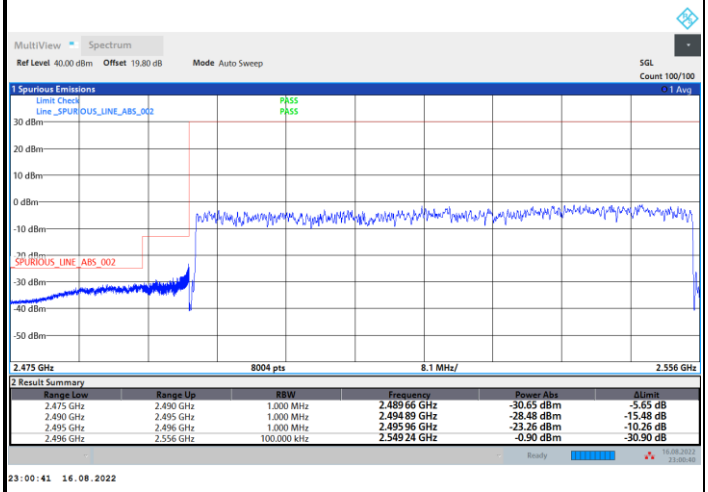


Highest Band Edge / Full RB

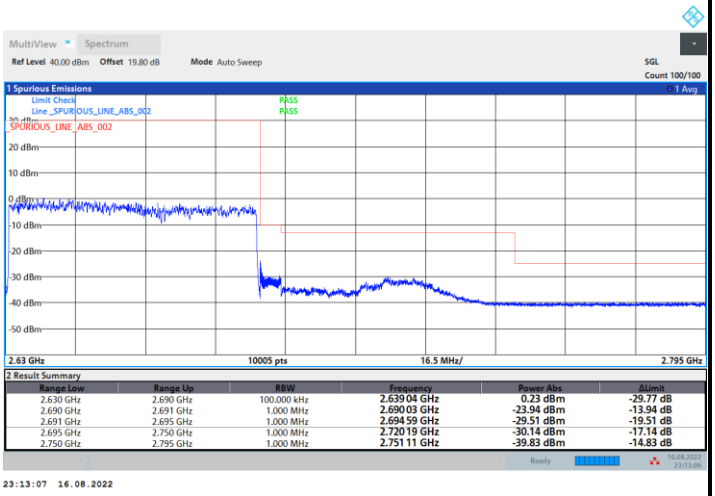


FR1 n41 (HPUE) / 60MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / Full RB

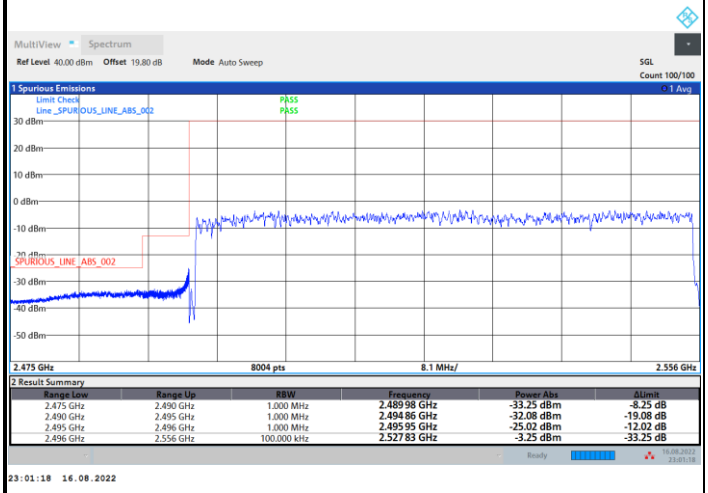


Highest Band Edge / Full RB

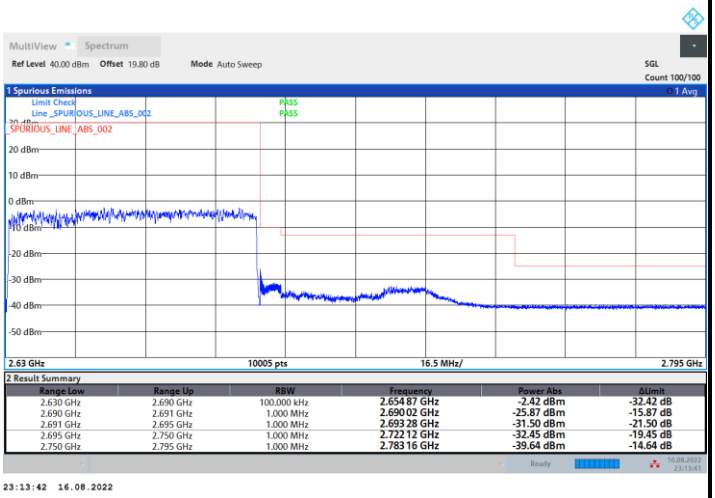


FR1 n41 (HPUE) / 60MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / Full RB

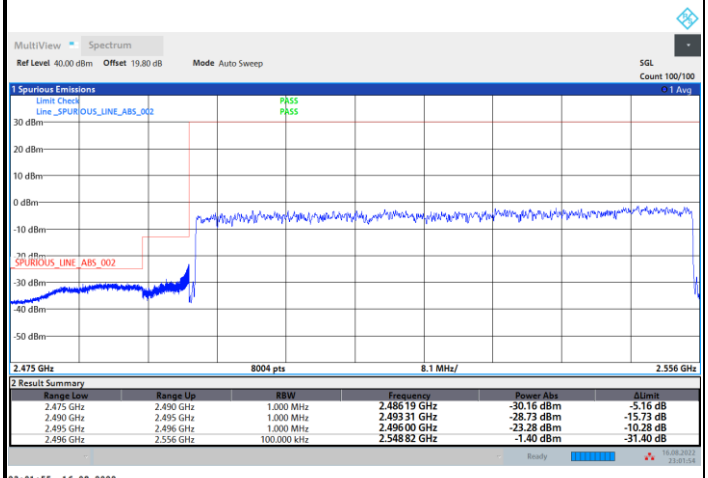


Highest Band Edge / Full RB

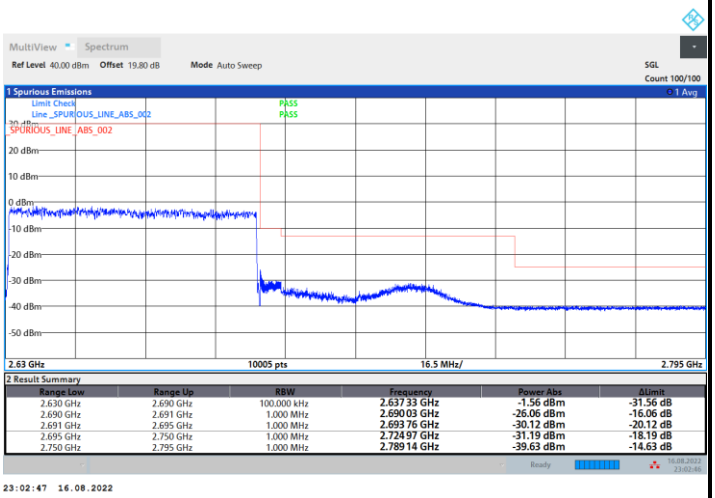


FR1 n41 (HPUE) / 60MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

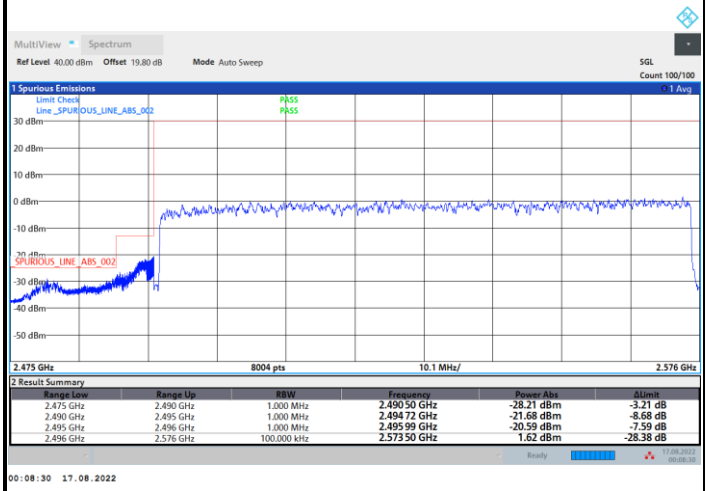


Highest Band Edge

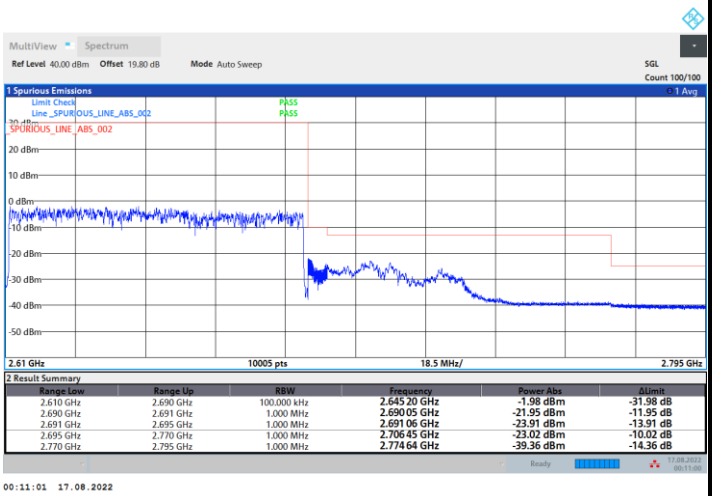


FR1 n41 (HPUE) / 80MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / Full RB

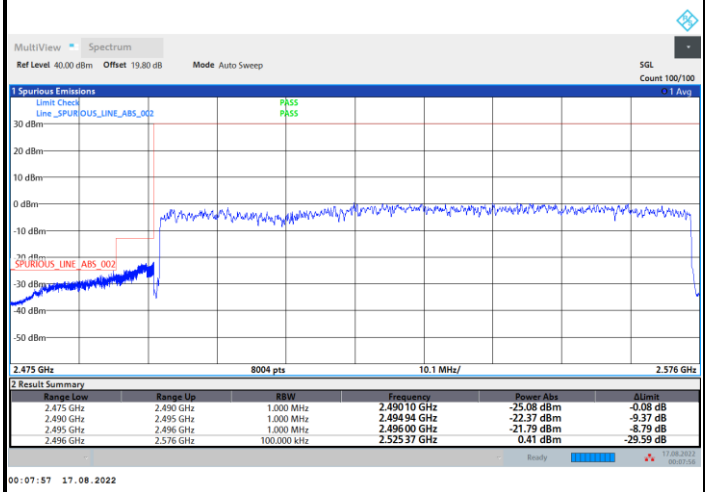


Highest Band Edge / Full RB

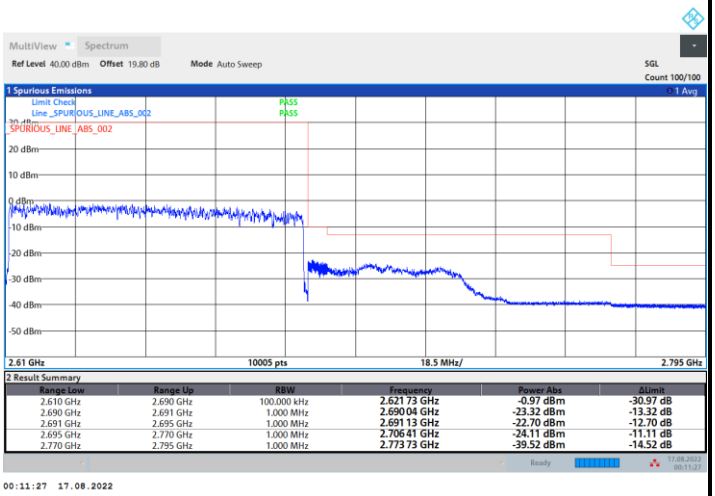


FR1 n41 (HPUE) / 80MHz / DFT-S OFDM / QPSK

Lowest Band Edge / Full RB

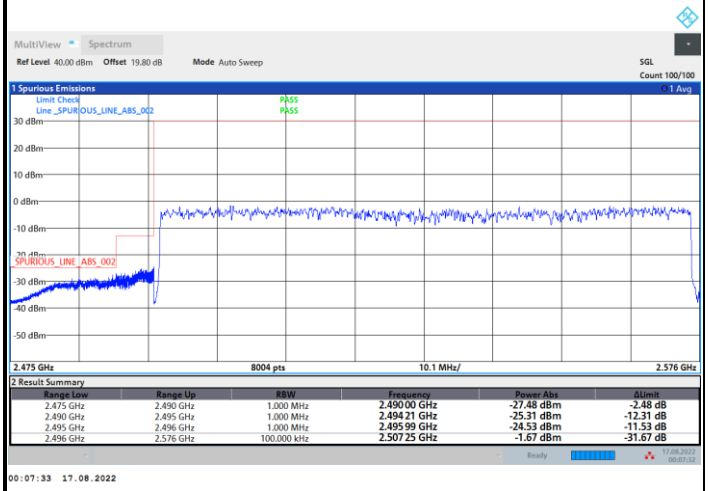


Highest Band Edge / Full RB

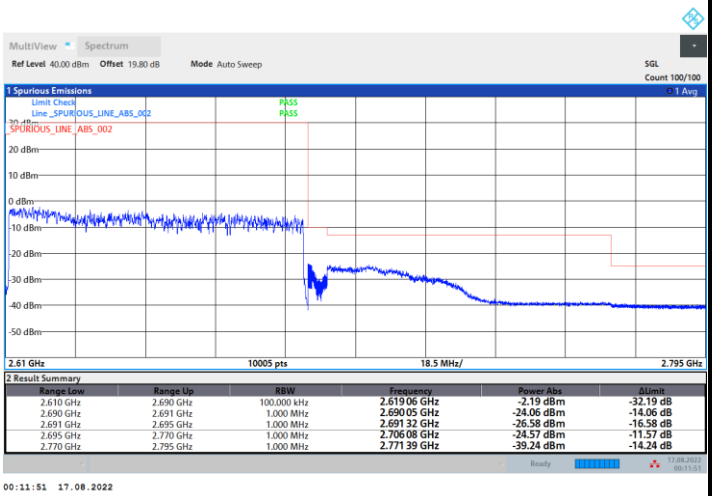


FR1 n41 (HPUE) / 80MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / Full RB

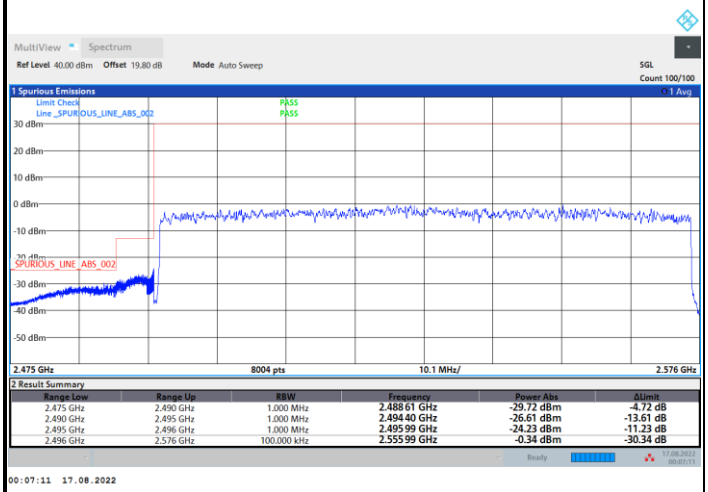


Highest Band Edge / Full RB

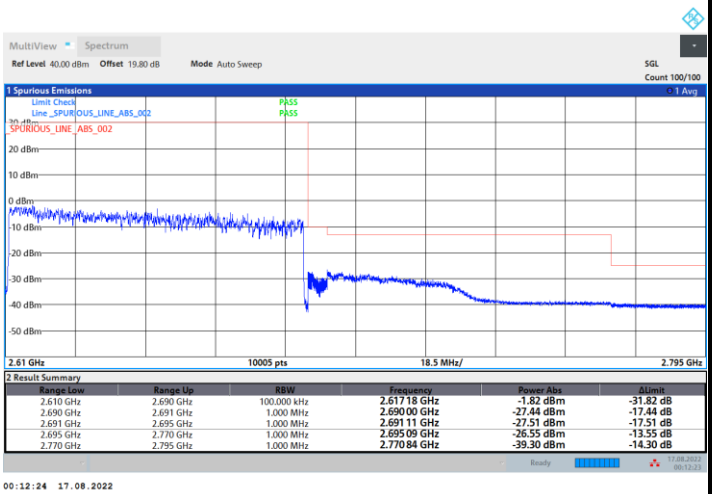


FR1 n41 (HPUE) / 80MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / Full RB

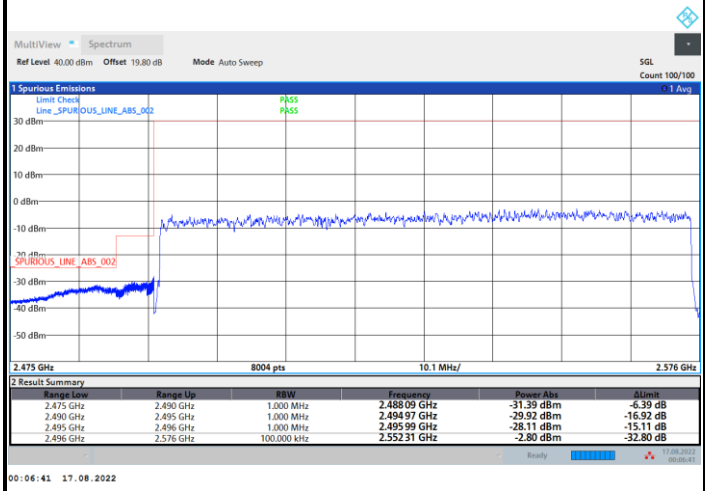


Highest Band Edge / Full RB

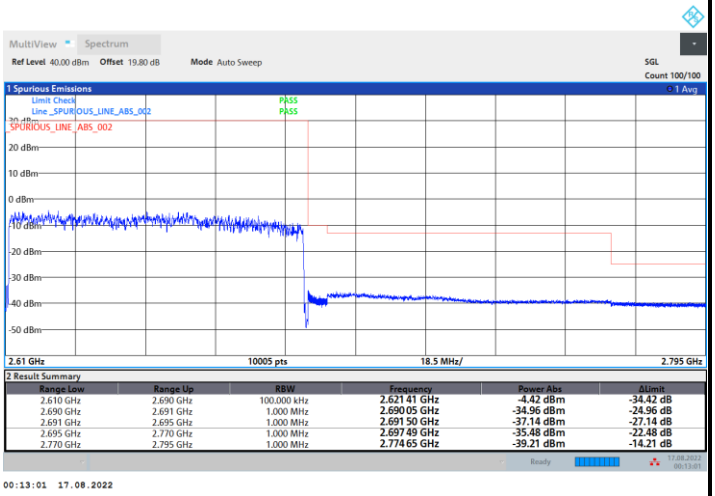


FR1 n41 (HPUE) / 80MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / Full RB

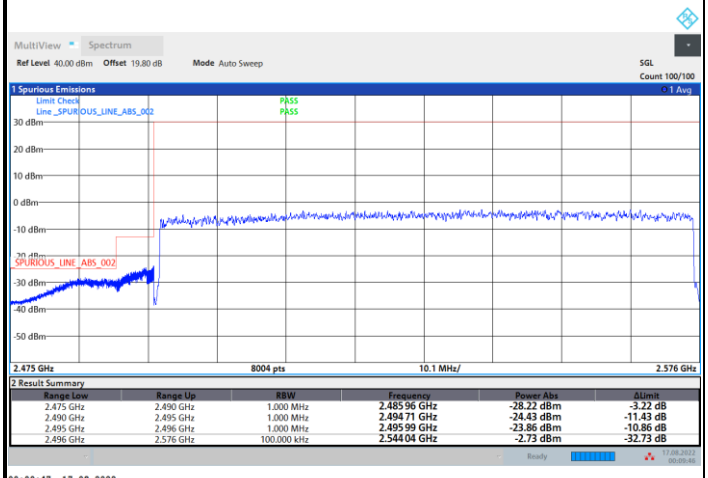


Highest Band Edge / Full RB

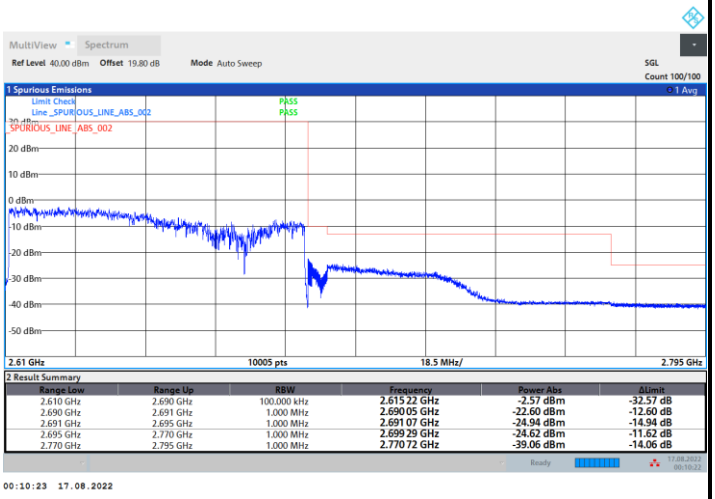


FR1 n41 (HPUE) / 80MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

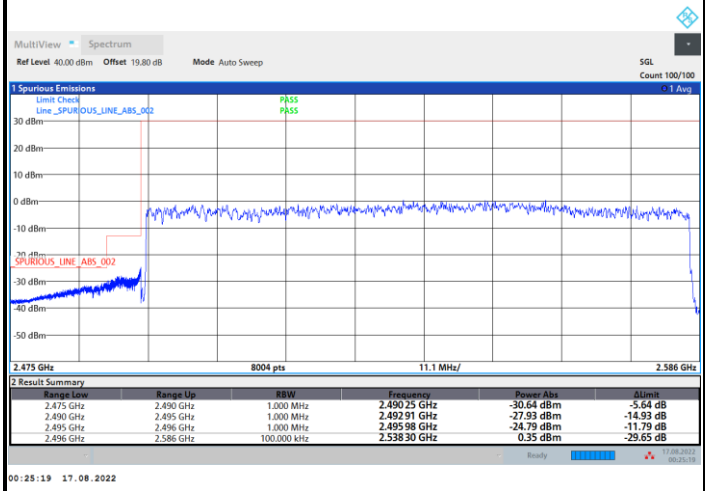


Highest Band Edge



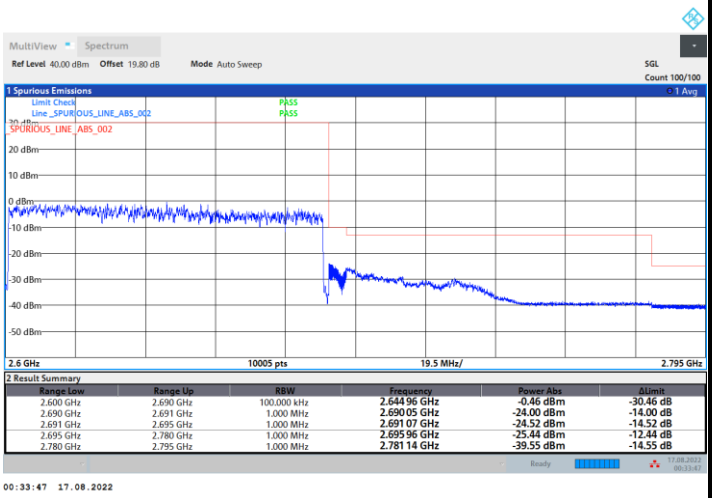
FR1 n41 (HPUE) / 90MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.490 25 GHz	-30.64 dBm	-5.64 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.492 91 GHz	-27.93 dBm	-14.93 dB
2.495 GHz	2.496 GHz	1.000 MHz	2.495 98 GHz	-24.79 dBm	-11.79 dB
2.496 GHz	2.586 GHz	100.000 kHz	2.538 30 GHz	0.35 dBm	-29.65 dB

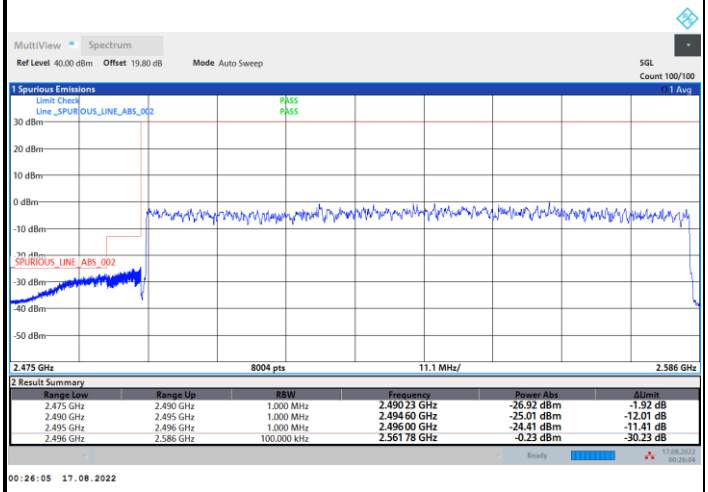
Highest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.600 GHz	2.690 GHz	100.000 kHz	2.644 96 GHz	-0.46 dBm	-30.46 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.690 05 GHz	-24.00 dBm	-14.00 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.691 07 GHz	-24.52 dBm	-14.52 dB
2.695 GHz	2.780 GHz	1.000 MHz	2.695 96 GHz	-25.44 dBm	-12.44 dB
2.780 GHz	2.795 GHz	1.000 MHz	2.781 14 GHz	-39.55 dBm	-14.55 dB

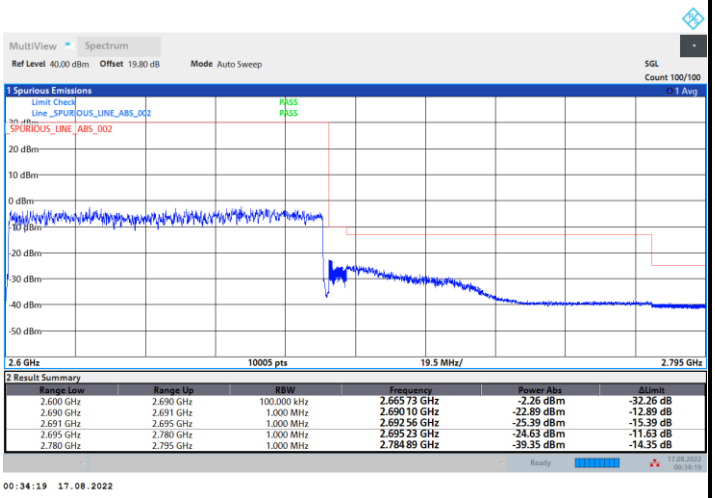
FR1 n41 (HPUE) / 90MHz / DFT-S OFDM / QPSK

Lowest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.490 23 GHz	-26.92 dBm	-1.92 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.494 60 GHz	-25.01 dBm	-12.01 dB
2.495 GHz	2.496 GHz	1.000 MHz	2.496 00 GHz	-24.41 dBm	-11.41 dB
2.496 GHz	2.586 GHz	100.000 kHz	2.561 78 GHz	-0.23 dBm	-30.23 dB

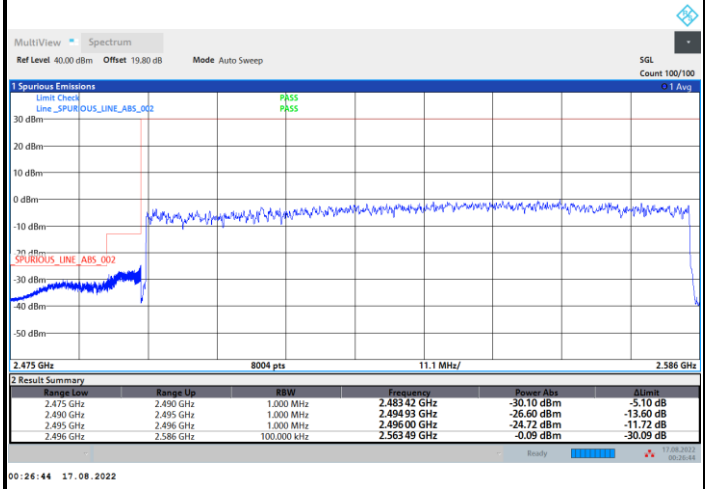
Highest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.600 GHz	2.690 GHz	100.000 kHz	2.665 73 GHz	-2.26 dBm	-32.26 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.690 10 GHz	-22.89 dBm	-12.89 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.692 56 GHz	-25.39 dBm	-15.39 dB
2.695 GHz	2.780 GHz	1.000 MHz	2.695 23 GHz	-24.63 dBm	-11.63 dB
2.780 GHz	2.795 GHz	1.000 MHz	2.784 89 GHz	-39.35 dBm	-14.35 dB

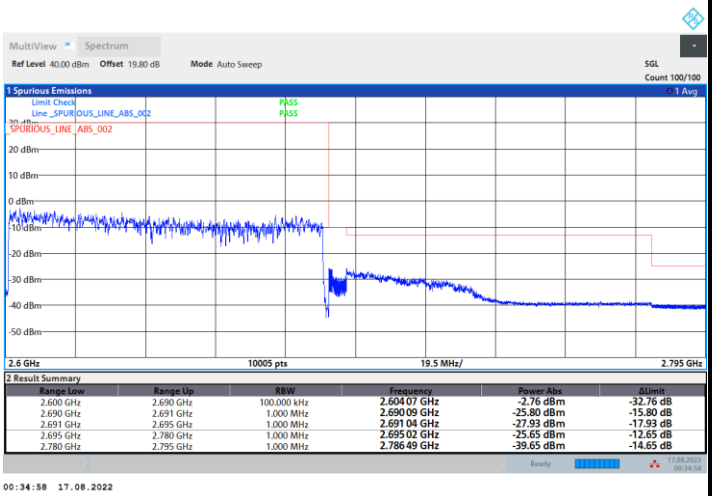
FR1 n41 (HPUE) / 90MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.483 42 GHz	-30.10 dBm	-5.10 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.494 93 GHz	-26.60 dBm	-13.60 dB
2.495 GHz	2.496 GHz	1.000 MHz	2.496 00 GHz	-24.72 dBm	-11.72 dB
2.496 GHz	2.586 GHz	100.000 kHz	2.563 49 GHz	-0.09 dBm	-30.09 dB

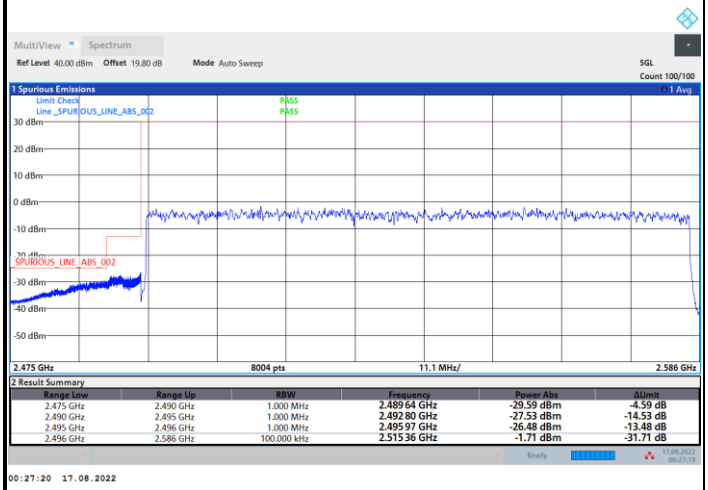
Highest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.600 GHz	2.690 GHz	100.000 kHz	2.604 07 GHz	-2.76 dBm	-32.76 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.690 09 GHz	-25.80 dBm	-15.80 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.691 04 GHz	-27.93 dBm	-17.93 dB
2.695 GHz	2.780 GHz	1.000 MHz	2.695 02 GHz	-25.65 dBm	-12.65 dB
2.780 GHz	2.795 GHz	1.000 MHz	2.786 49 GHz	-39.65 dBm	-14.65 dB

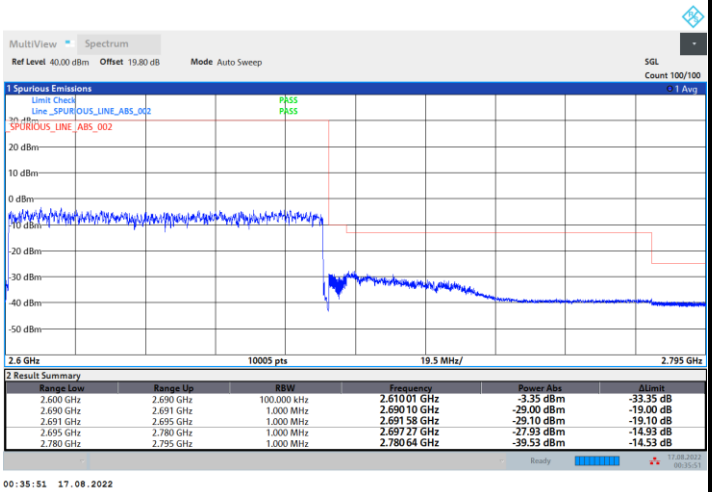
FR1 n41 (HPUE) / 90MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.489 64 GHz	-29.59 dBm	-4.59 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.492 80 GHz	-27.53 dBm	-14.53 dB
2.495 GHz	2.496 GHz	1.000 MHz	2.495 97 GHz	-26.48 dBm	-13.48 dB
2.496 GHz	2.586 GHz	100.000 kHz	2.515 36 GHz	-1.71 dBm	-31.71 dB

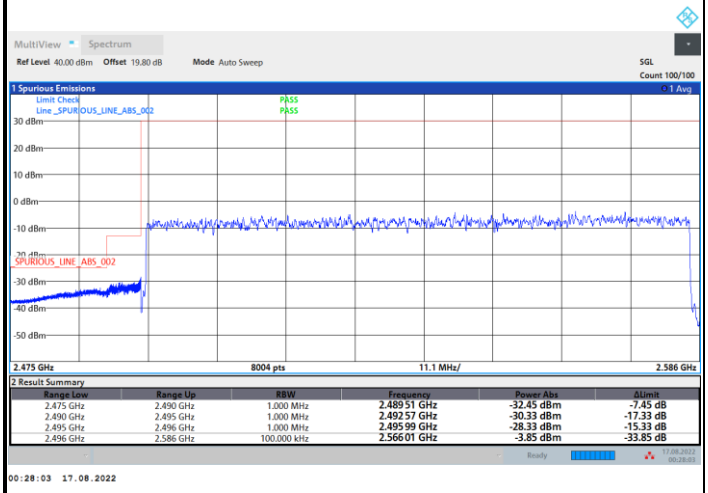
Highest Band Edge / Full RB



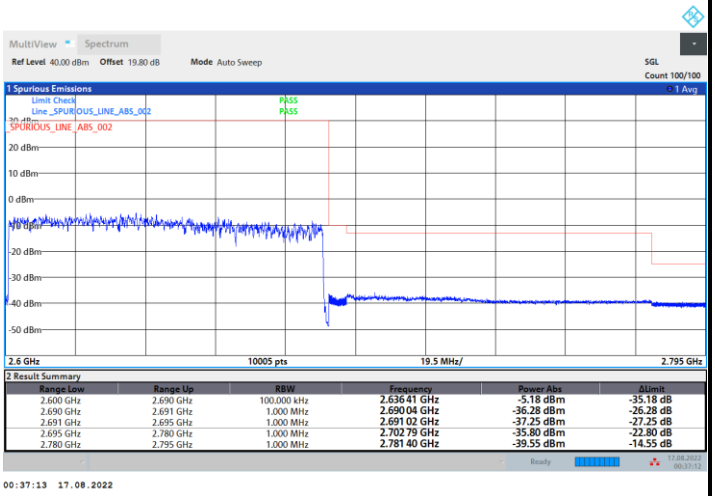
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.600 GHz	2.690 GHz	100.000 kHz	2.610 01 GHz	-3.35 dBm	-33.35 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.690 10 GHz	-29.00 dBm	-19.00 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.691 58 GHz	-29.10 dBm	-19.10 dB
2.695 GHz	2.780 GHz	1.000 MHz	2.697 27 GHz	-27.93 dBm	-14.93 dB
2.780 GHz	2.795 GHz	1.000 MHz	2.780 64 GHz	-39.53 dBm	-14.53 dB

FR1 n41 (HPUE) / 90MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / Full RB

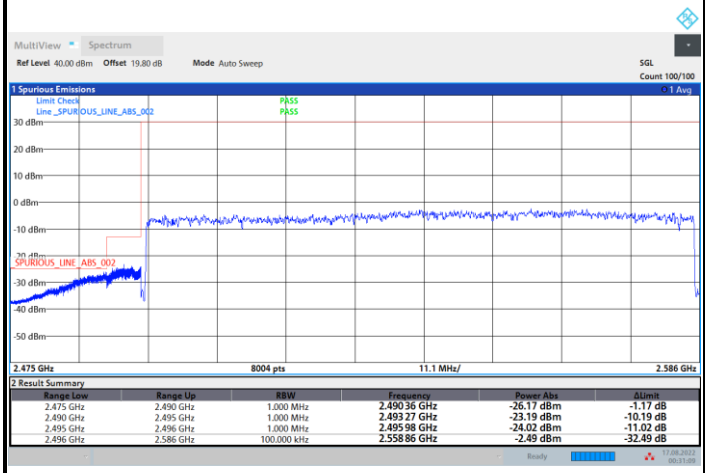


Highest Band Edge / Full RB

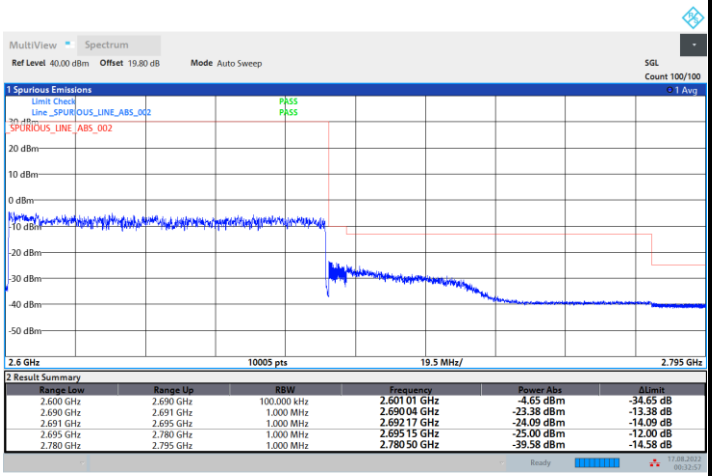


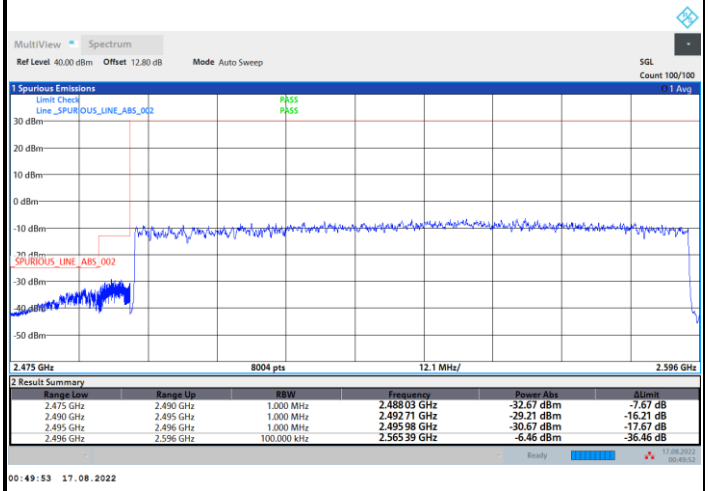
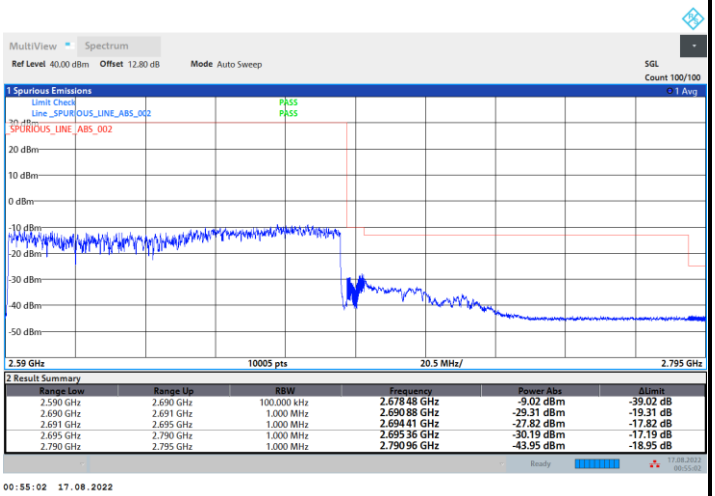
FR1 n41 (HPUE) / 90MHz / CP OFDM / QPSK / Full RB

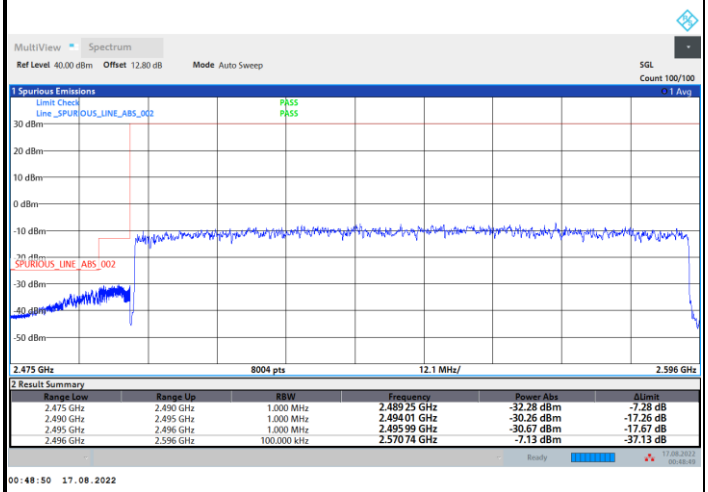
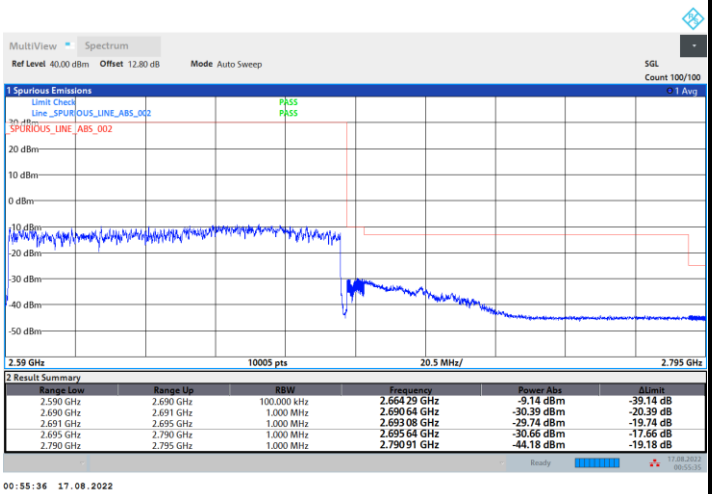
Lowest Band Edge



Highest Band Edge

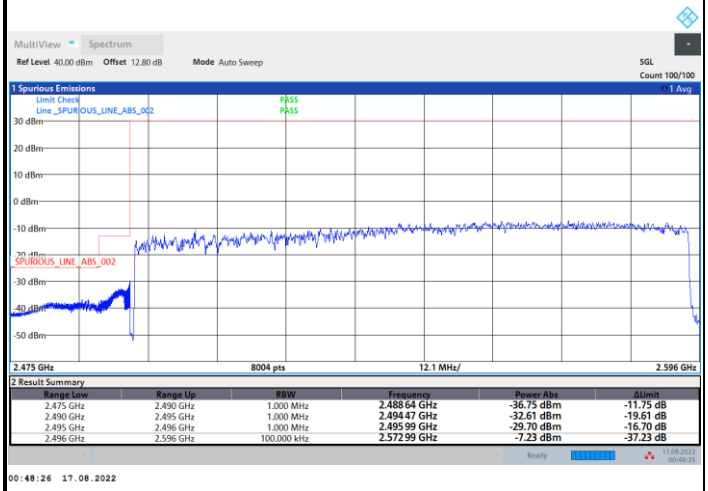


FR1 n41 (HPUE) / 100MHz / DFT-S OFDM / PI/2 BPSK	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

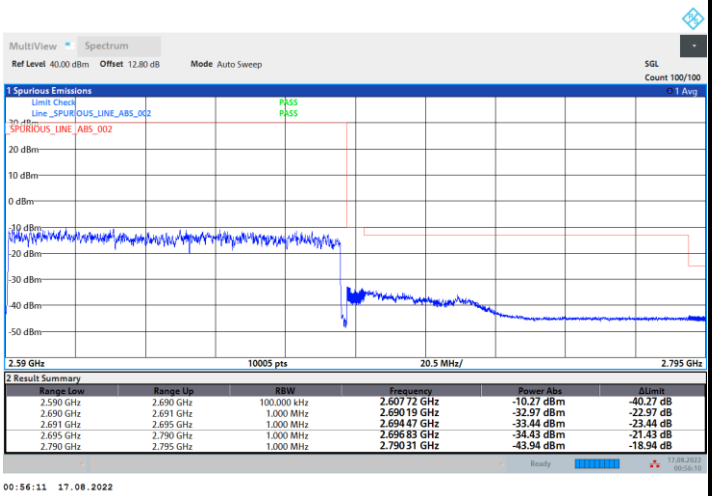
FR1 n41 (HPUE) / 100MHz / DFT-S OFDM / QPSK	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n41 (HPUE) / 100MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / Full RB

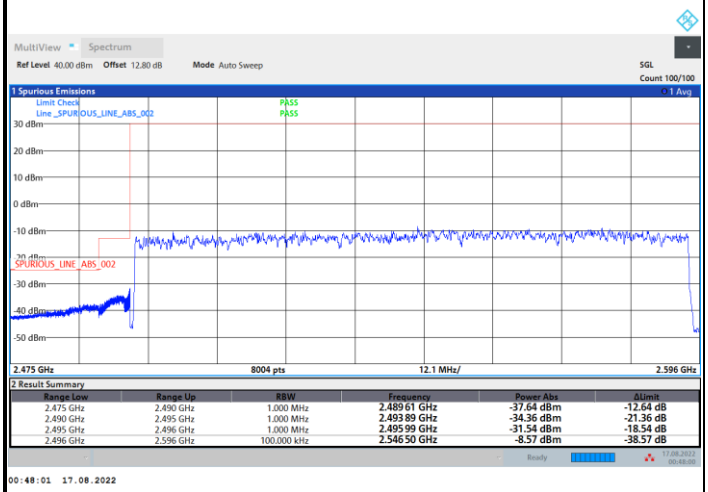


Highest Band Edge / Full RB

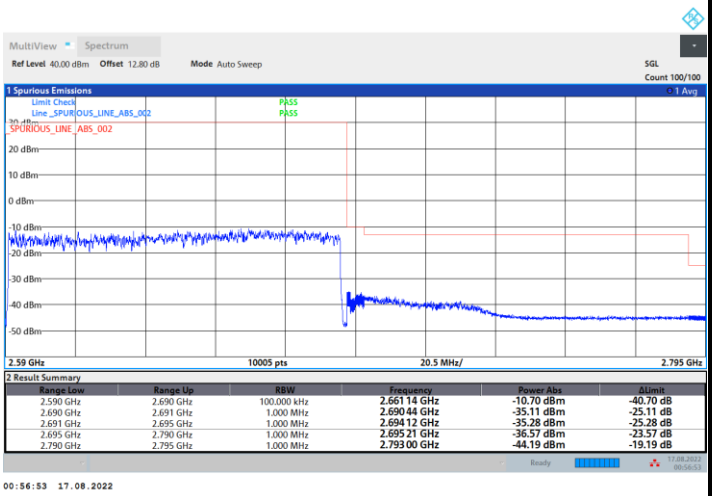


FR1 n41 (HPUE) / 100MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / Full RB

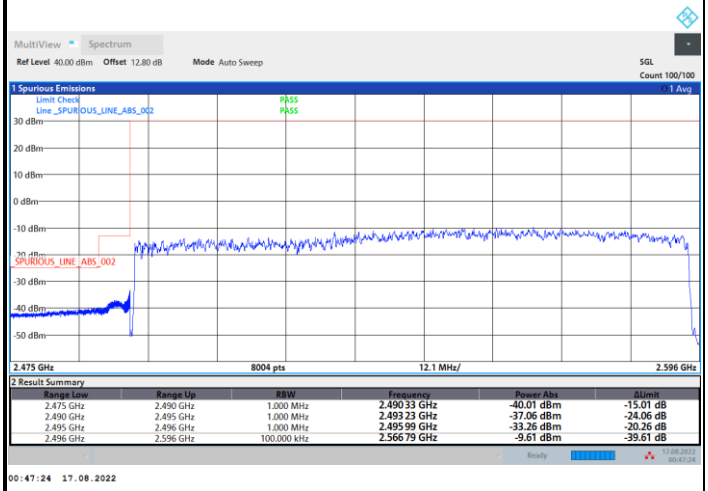


Highest Band Edge / Full RB



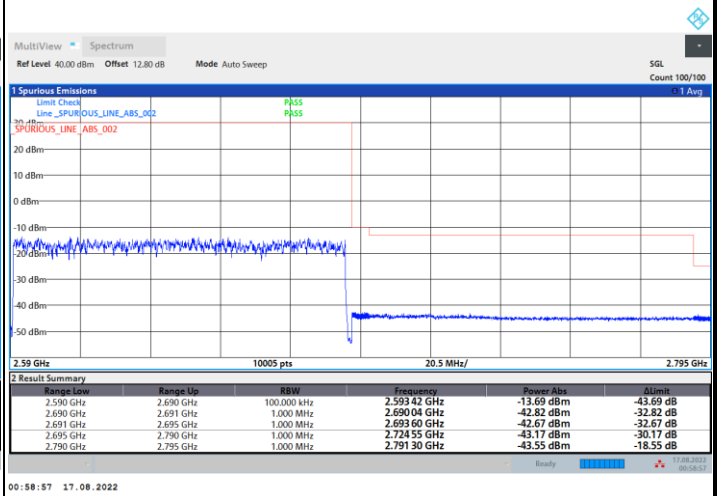
FR1 n41 (HPUE) / 100MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.490 33 GHz	-40.01 dBm	-15.01 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.493 23 GHz	-37.06 dBm	-24.06 dB
2.495 GHz	2.496 GHz	1.000 MHz	2.495 99 GHz	-33.26 dBm	-20.26 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.566 79 GHz	-9.61 dBm	-39.61 dB

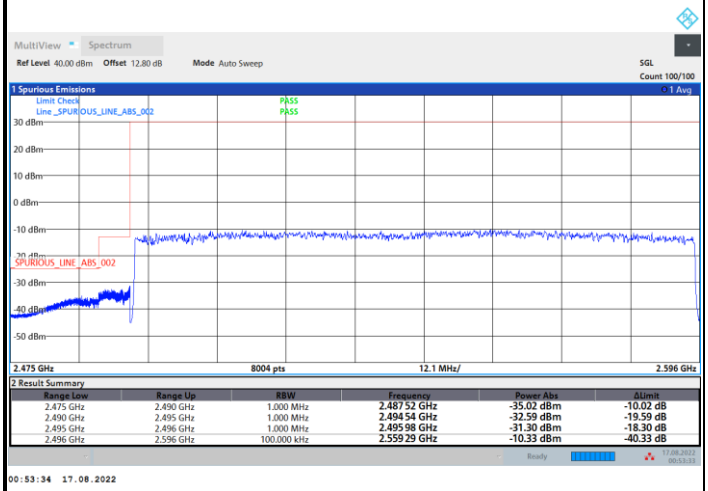
Highest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.593 42 GHz	-13.69 dBm	-43.69 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.690 04 GHz	-42.82 dBm	-32.82 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.693 60 GHz	-42.67 dBm	-32.67 dB
2.695 GHz	2.790 GHz	1.000 MHz	2.724 55 GHz	-43.17 dBm	-30.17 dB
2.790 GHz	2.795 GHz	1.000 MHz	2.791 30 GHz	-43.55 dBm	-18.55 dB

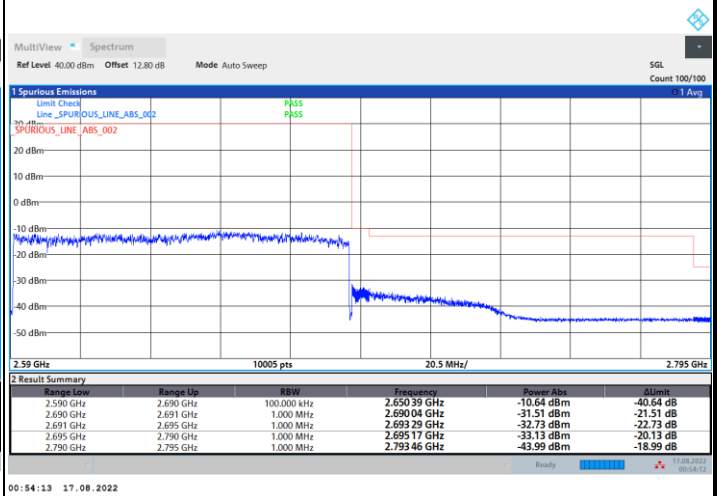
FR1 n41 (HPUE) / 100MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.487 52 GHz	-35.02 dBm	-10.02 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.494 54 GHz	-32.59 dBm	-19.59 dB
2.495 GHz	2.496 GHz	1.000 MHz	2.495 98 GHz	-31.30 dBm	-18.30 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.559 29 GHz	-10.33 dBm	-40.33 dB

Highest Band Edge

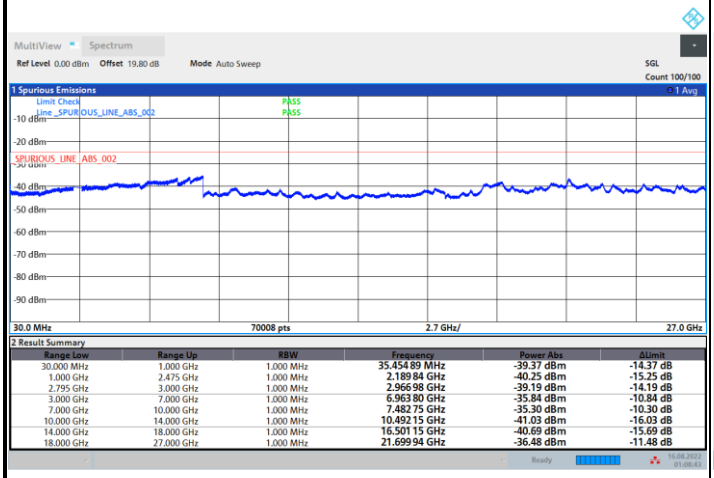


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.650 39 GHz	-10.64 dBm	-40.64 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.690 04 GHz	-31.51 dBm	-21.51 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.693 29 GHz	-32.73 dBm	-22.73 dB
2.695 GHz	2.790 GHz	1.000 MHz	2.695 17 GHz	-33.13 dBm	-20.13 dB
2.790 GHz	2.795 GHz	1.000 MHz	2.793 46 GHz	-43.99 dBm	-18.99 dB

Conducted Spurious Emission

FR1 n41 (HPUE) / 20MHz / DFT-S OFDM / QPSK / 1RB1

Lowest Channel



2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	35.454 89 MHz	-39.37 dBm	-14.37 dB
1.000 GHz	2.475 GHz	1.000 MHz	2.189 84 GHz	-40.25 dBm	-15.25 dB
2.795 GHz	3.000 GHz	1.000 MHz	2.966 98 GHz	-39.19 dBm	-14.19 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.963 80 GHz	-35.84 dBm	-10.84 dB
7.000 GHz	10.000 GHz	1.000 MHz	7.482 75 GHz	-35.30 dBm	-10.30 dB
10.000 GHz	14.000 GHz	1.000 MHz	10.492 15 GHz	-41.03 dBm	-16.03 dB
14.000 GHz	18.000 GHz	1.000 MHz	16.501 15 GHz	-40.69 dBm	-15.69 dB
18.000 GHz	27.000 GHz	1.000 MHz	21.699 94 GHz	-36.48 dBm	-11.48 dB

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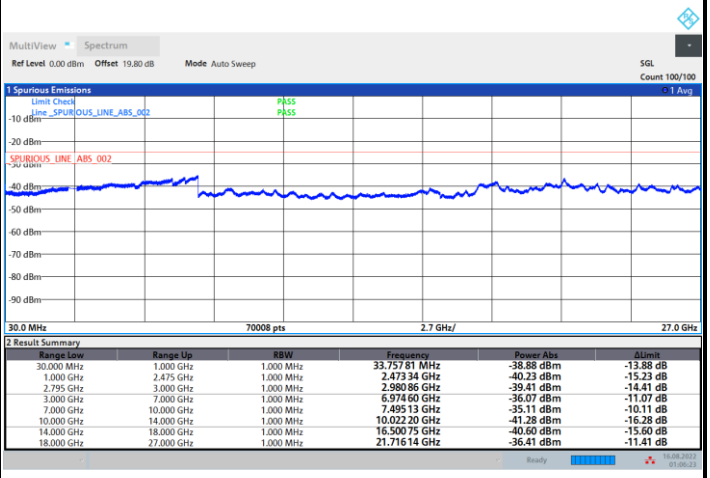
Middle Channel



2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	33.757 81 MHz	-38.88 dBm	-13.88 dB
1.000 GHz	2.475 GHz	1.000 MHz	2.473 34 GHz	-40.23 dBm	-15.23 dB
2.795 GHz	3.000 GHz	1.000 MHz	2.980 86 GHz	-39.41 dBm	-14.41 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.974 60 GHz	-36.07 dBm	-11.07 dB
7.000 GHz	10.000 GHz	1.000 MHz	7.495 13 GHz	-35.11 dBm	-10.11 dB
10.000 GHz	14.000 GHz	1.000 MHz	10.022 20 GHz	-41.28 dBm	-16.28 dB
14.000 GHz	18.000 GHz	1.000 MHz	16.500 75 GHz	-40.60 dBm	-15.60 dB
18.000 GHz	27.000 GHz	1.000 MHz	21.716 14 GHz	-36.41 dBm	-11.41 dB

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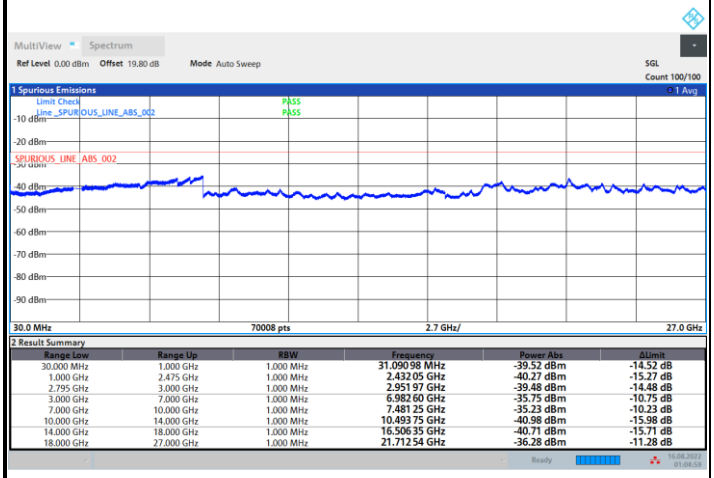
Highest Channel



2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	31.090 98 MHz	-39.52 dBm	-14.52 dB
1.000 GHz	2.475 GHz	1.000 MHz	2.432 05 GHz	-40.27 dBm	-15.27 dB
2.795 GHz	3.000 GHz	1.000 MHz	2.951 97 GHz	-39.48 dBm	-14.48 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.982 60 GHz	-35.75 dBm	-10.75 dB
7.000 GHz	10.000 GHz	1.000 MHz	7.481 25 GHz	-35.23 dBm	-10.23 dB
10.000 GHz	14.000 GHz	1.000 MHz	10.493 75 GHz	-40.98 dBm	-15.98 dB
14.000 GHz	18.000 GHz	1.000 MHz	16.506 35 GHz	-40.71 dBm	-15.71 dB
18.000 GHz	27.000 GHz	1.000 MHz	21.712 54 GHz	-36.28 dBm	-11.28 dB

01:04:59 16.08.2022

Frequency Stability

Test Conditions		FR1 n41 (HPUE) (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0011	PASS
40	Normal Voltage	0.0049	
30	Normal Voltage	0.0006	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0020	
0	Normal Voltage	0.0034	
-10	Normal Voltage	0.0035	
-20	Normal Voltage	0.0056	
-30	Normal Voltage	0.0049	
20	Maximum Voltage	0.0052	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0059	

Note:

1. Normal Voltage = 3.3 V.；Battery End Point (BEP) = 3.135 V.；Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

FR1 n41

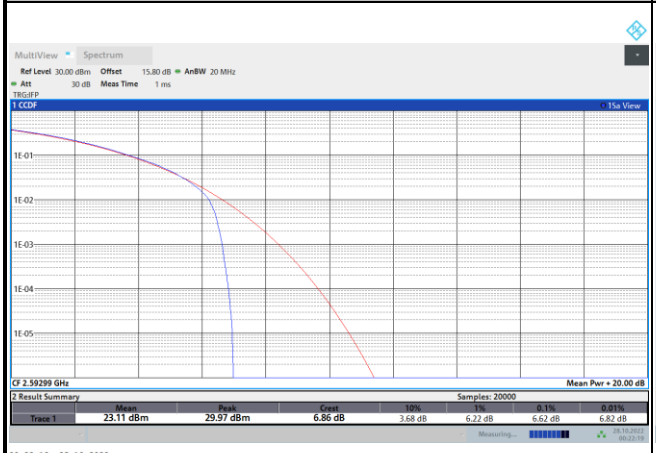
<MIMO Mode>
MIMO <Ant. 0>

Peak-to-Average Ratio

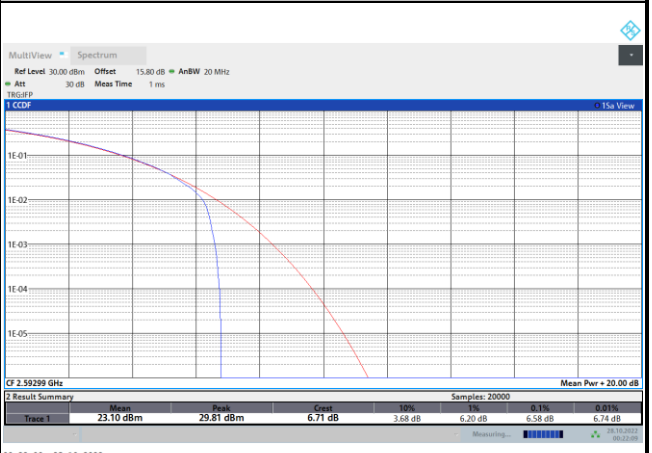
Mode	FR1 n41 / 20MHz / CP OFDM				
Mod.	QPSK	16QAM	64QAM	256QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	6.62	6.58	7.06	8.44	PASS

FR1 n41 / 20MHz /CP OFDM / Middle Channel / Full RB

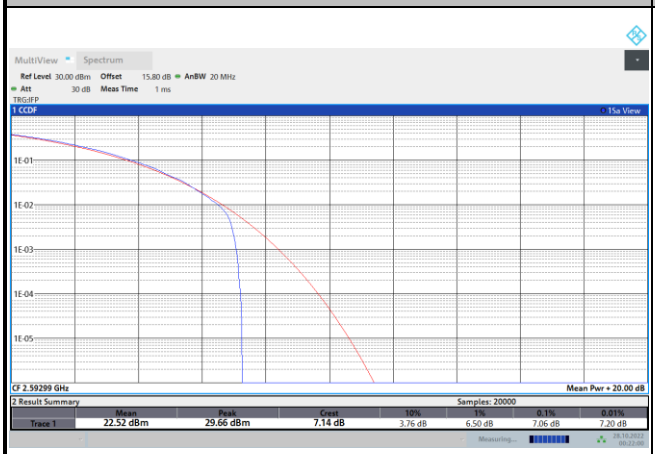
QPSK



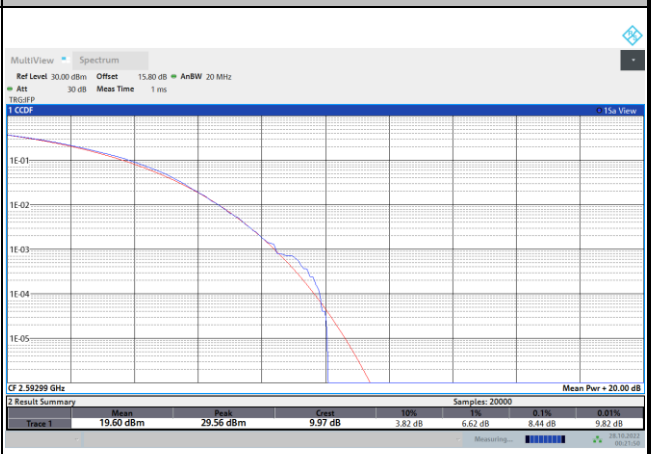
16QAM



64QAM



256QAM



26dB Bandwidth

Mode	FR1 n41 : 26dB BW(MHz) / CP OFDM							
BW	10MHz		15MHz		20MHz		25MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	19.18	19.26	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	-	-	--	-	19.10	19.18	-	-
BW	30MHz		40MHz		50MHz		60MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	29.07	28.95	40.28	40.28	50.05	50.05	60.54	60.42
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	29.19	29.07	40.52	40.52	49.95	50.15	60.54	60.54
BW	70MHz		80MHz		90MHz		100MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	80.24	80.24	90.63	90.63	100.70	100.70
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	-	-	80.56	80.24	90.27	90.27	100.50	100.30