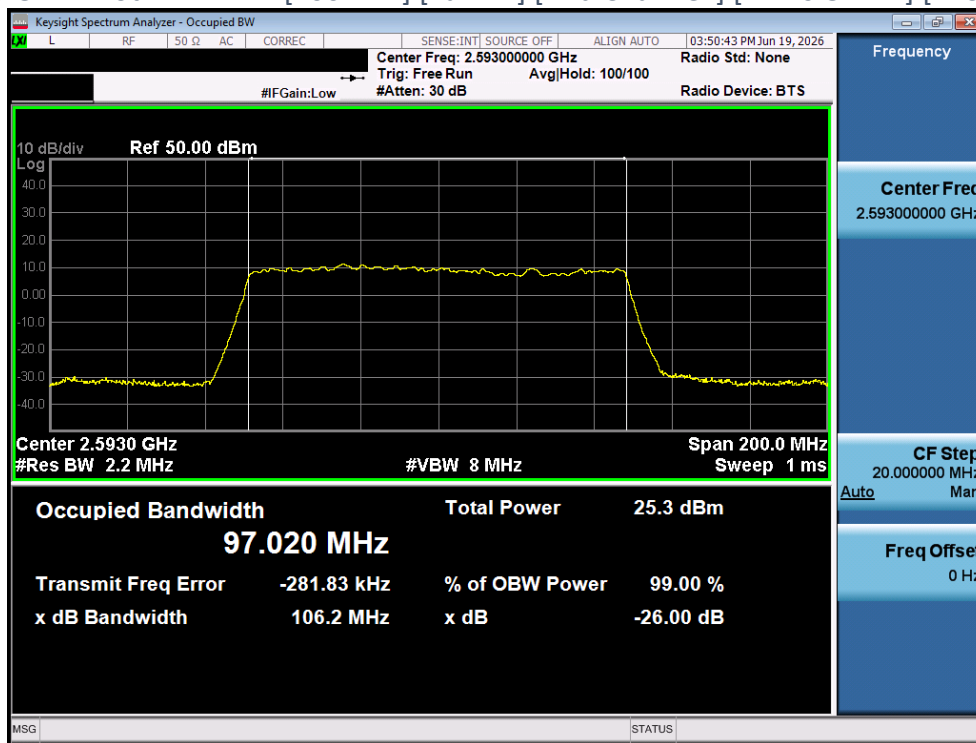
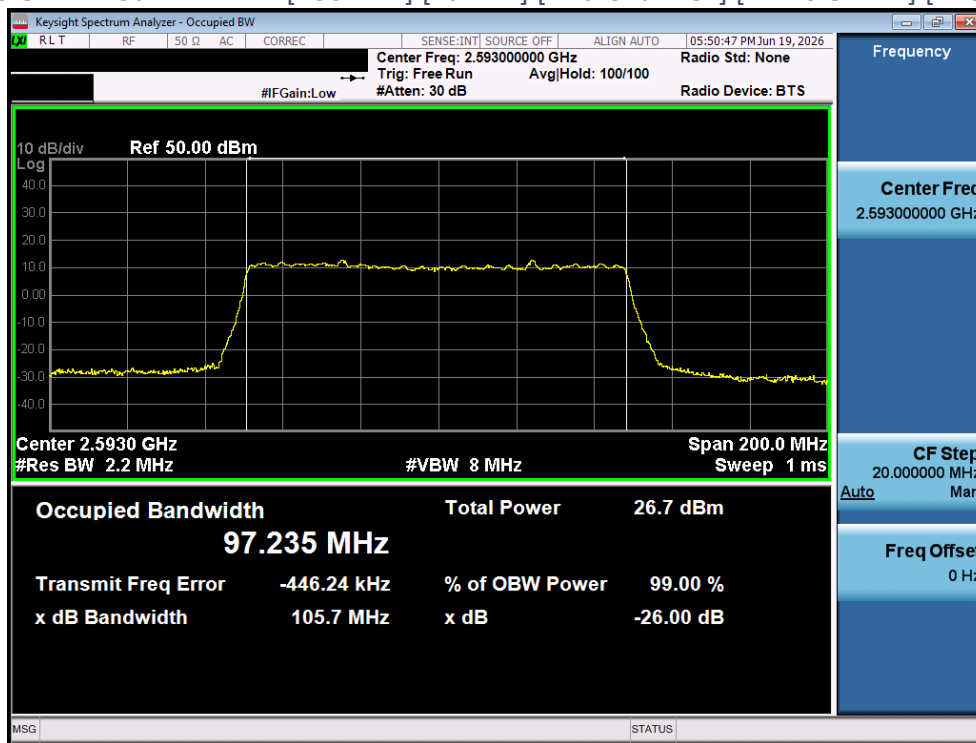


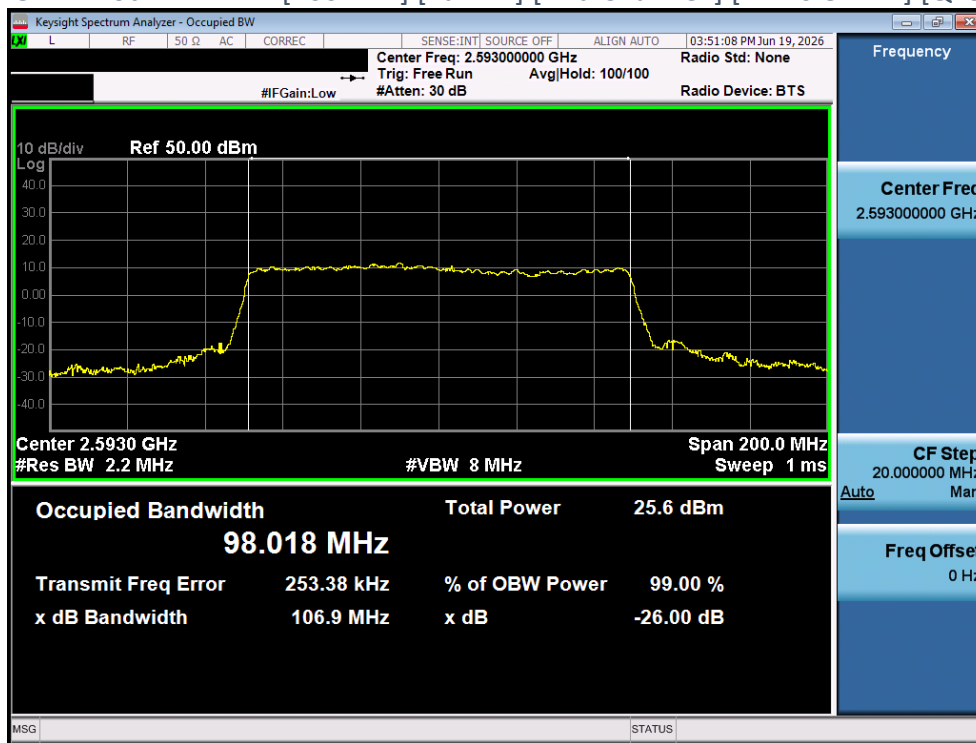
Plot 4-109 OBW Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [BPSK] [SRS D3]



Plot 4-110 OBW Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [BPSK] [SRS S3]



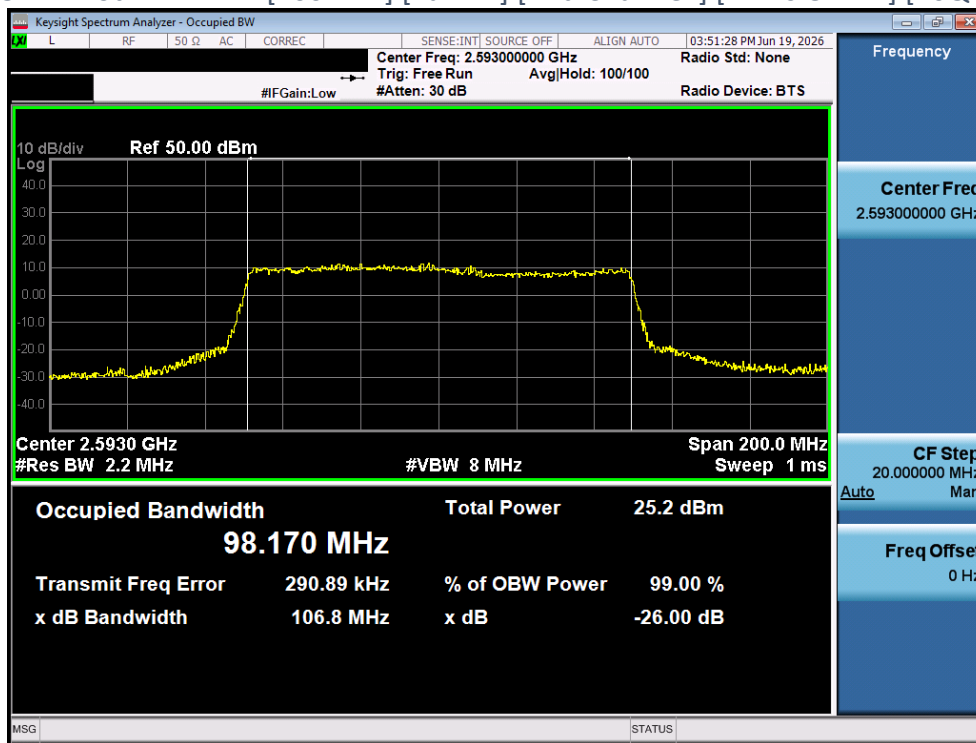
Plot 4-111 OBW Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [QPSK] [SRS D3]



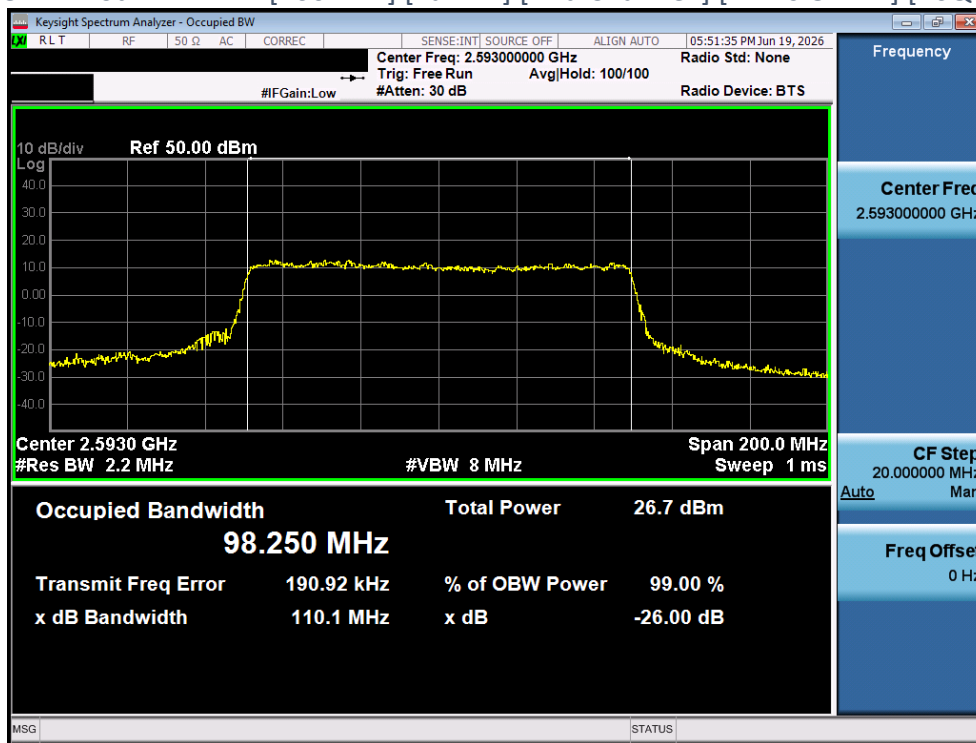
Plot 4-112 OBW Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [QPSK] [SRS S3]



Plot 4-113 OBW Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [16QAM] [SRS D3]



Plot 4-114 OBW Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [16QAM] [SRS S3]



4.5. Peak to Average Ratio

4.5.1. Regulatory Limit

RSS-199(5.5)

The peak to average power ratio (PAPR) of the equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

4.5.2. Test Method

ANSI C63.26-2015, clause 5.2.3.4

4.5.3. Test Procedure

The CCDF measurement function of the spectrum analyzer was used.

The procedure for this method is follows:

- a) Set center frequency to the nominal EUT channel center frequency.
- b) Set analysis Bandwidth $\geq$ OBW or specified reference bandwidth.
- c) Number of Count = stabilizes the measured CCDF curve.
- d) Set the measurement interval as follows:
For continuous transmissions, set to the greater of $[10 \times (\text{number of points in sweep}) \times (\text{transmission symbol period})]$ or 1 ms.
For burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize. Set the measurement interval to a time that is less than or equal to the burst duration.
- e) Record the maximum PAPR level associated with a probability of 0.1%.

Test Note

- ✓ All modulation were evaluated, and only the worst-case results are reported herein.

4.5.4. Test Results

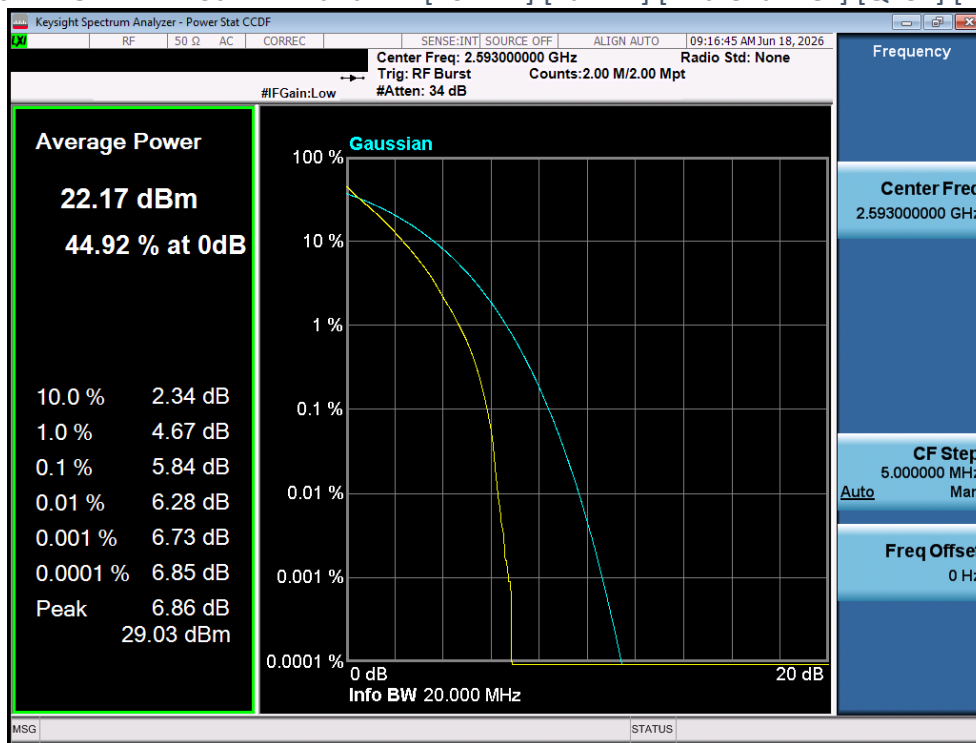
Table 4-11 PAPR Test Data LTE Band 41 Ant1

Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
LTE Band 41 (PC3)	20	2593	40620	100/0	QPSK	5.84	13	-7.16
					16QAM	6.47	13	-6.53
					64QAM	6.54	13	-6.46
					256QAM	6.81	13	-6.19
	15	2593	40620	75/0	QPSK	5.95	13	-7.05
					16QAM	6.58	13	-6.42
					64QAM	6.39	13	-6.61
					256QAM	6.66	13	-6.34
	10	2593	40620	50/0	QPSK	5.77	13	-7.23
					16QAM	6.28	13	-6.72
					64QAM	6.27	13	-6.73
					256QAM	6.58	13	-6.42
	5	2593	40620	25/0	QPSK	5.47	13	-7.53
					16QAM	6.24	13	-6.76
					64QAM	6.16	13	-6.84
					256QAM	6.47	13	-6.53

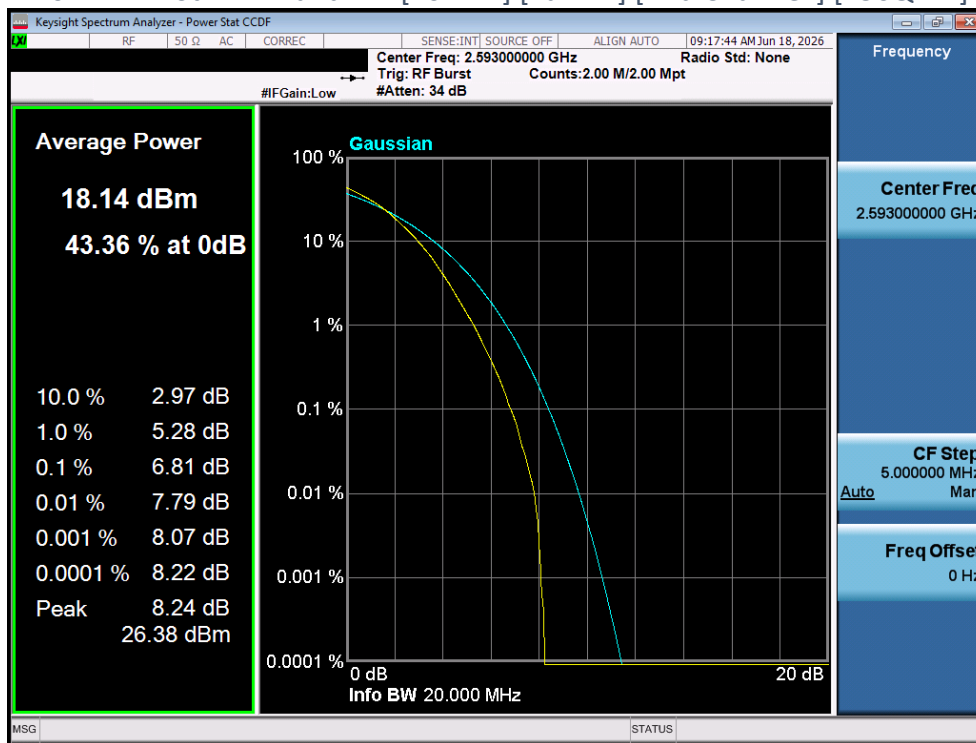
Table 4-12 PAPR Test Data LTE Band 41 Ant2

Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
LTE Band 41 (PC2) & (PC3)	20	2593	40620	100/0	QPSK	5.39	13	-7.61
					16QAM	6.10	13	-6.90
					64QAM	6.21	13	-6.79
					256QAM	6.58	13	-6.42
	15	2593	40620	75/0	QPSK	5.43	13	-7.57
					16QAM	6.11	13	-6.89
					64QAM	6.14	13	-6.86
					256QAM	6.45	13	-6.55
	10	2593	40620	50/0	QPSK	5.27	13	-7.73
					16QAM	5.93	13	-7.07
					64QAM	6.11	13	-6.89
					256QAM	6.57	13	-6.43
	5	2593	40620	25/0	QPSK	5.15	13	-7.85
					16QAM	5.72	13	-7.28
					64QAM	5.99	13	-7.01
					256QAM	6.52	13	-6.48

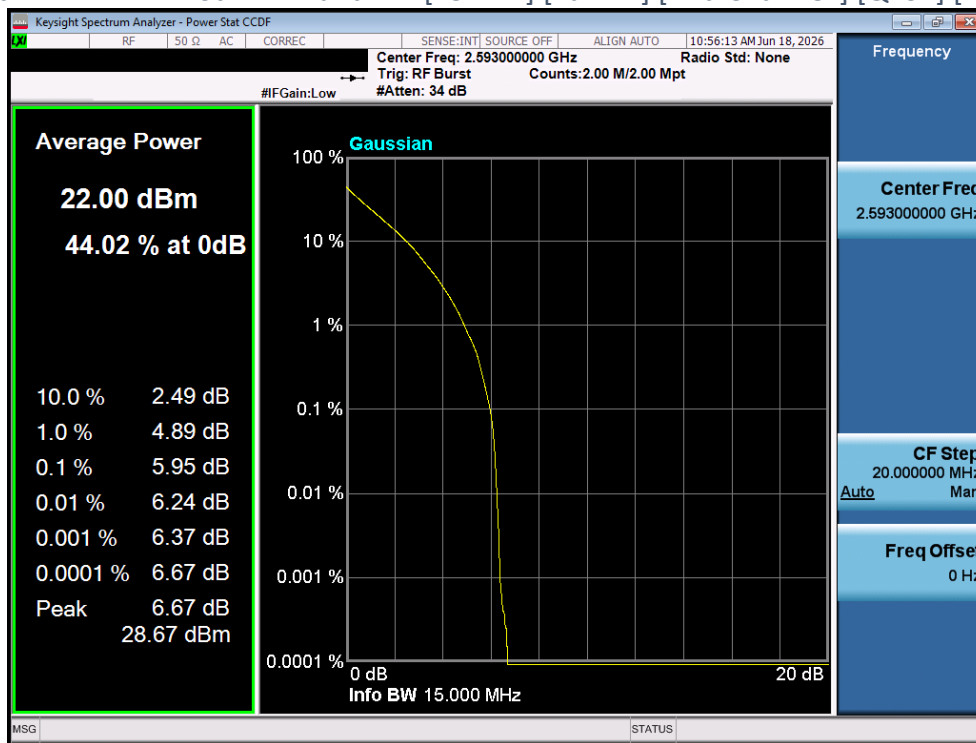
Plot 4-115 PAPR Plot - LTE Band41 - [20MHz] [Full RB] [Mid Channel] [QPSK] [Ant 1]



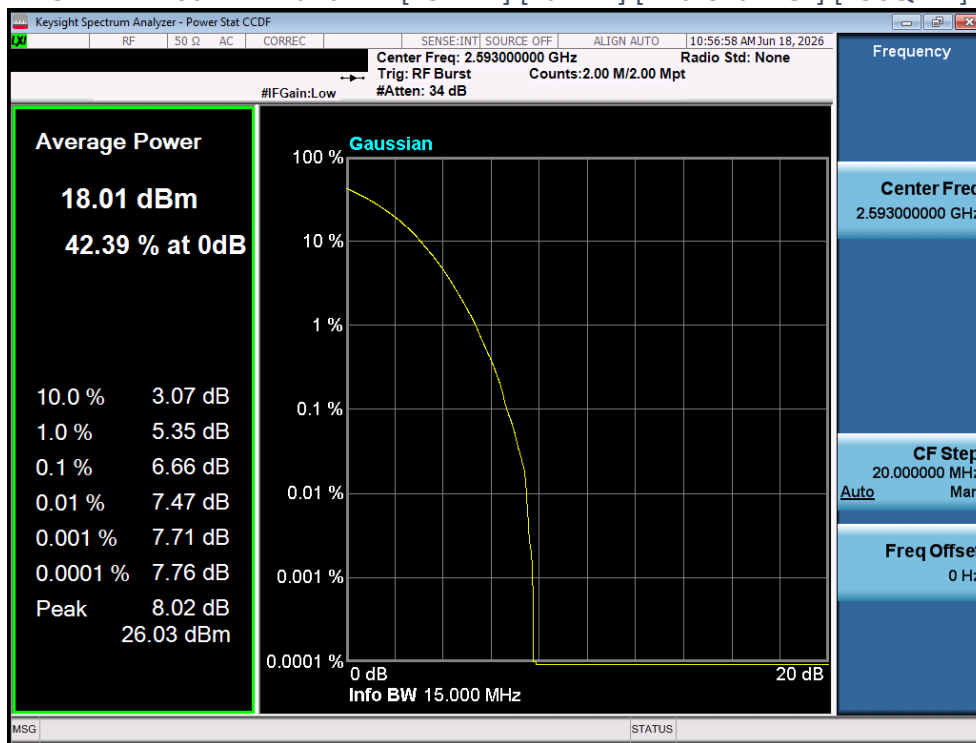
Plot 4-116 PAPR Plot - LTE Band41 - [20MHz] [Full RB] [Mid Channel] [256QAM] [Ant 1]



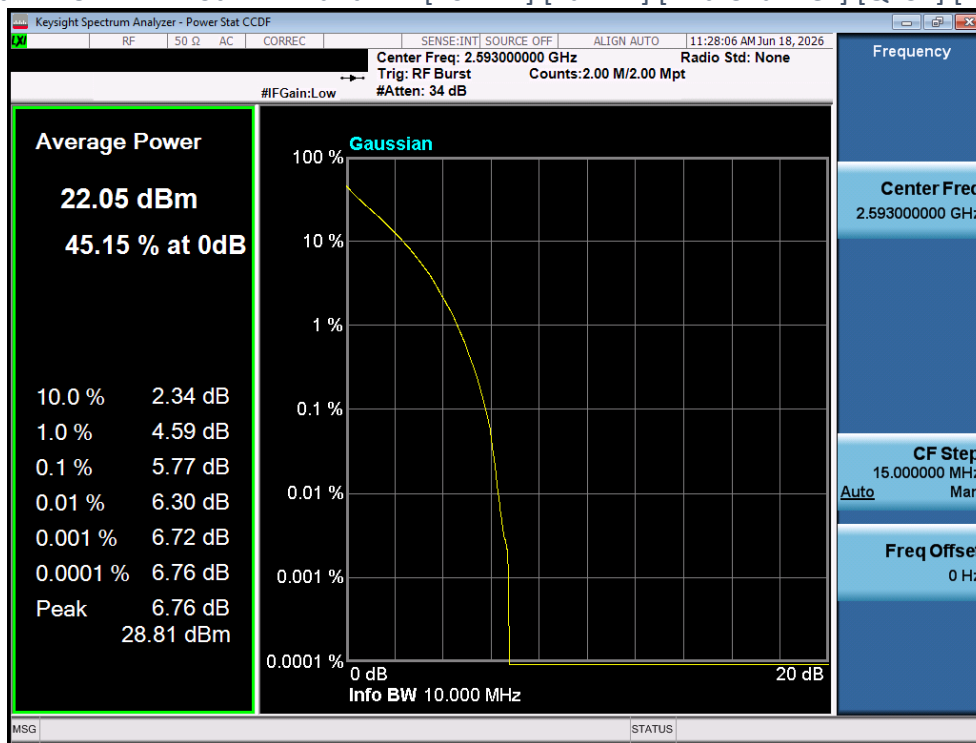
Plot 4-117 PAPR Plot - LTE Band41 - [15MHz] [Full RB] [Mid Channel] [QPSK] [Ant 1]



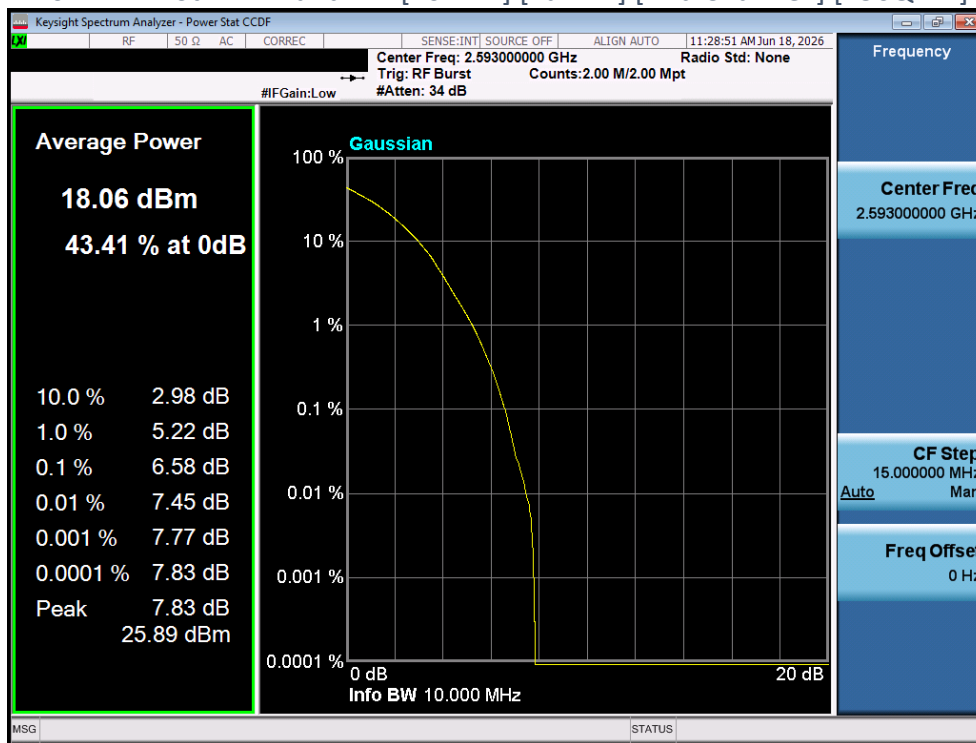
Plot 4-118 PAPR Plot - LTE Band41 - [15MHz] [Full RB] [Mid Channel] [256QAM] [Ant 1]



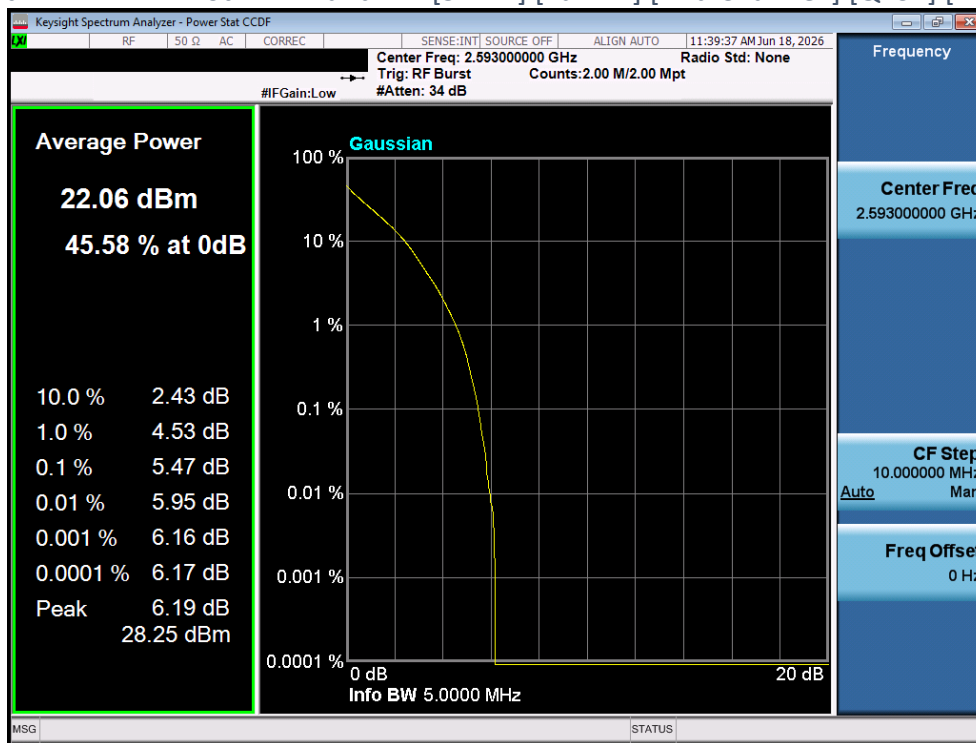
Plot 4-119 PAPR Plot - LTE Band41 - [10MHz] [Full RB] [Mid Channel] [QPSK] [Ant 1]



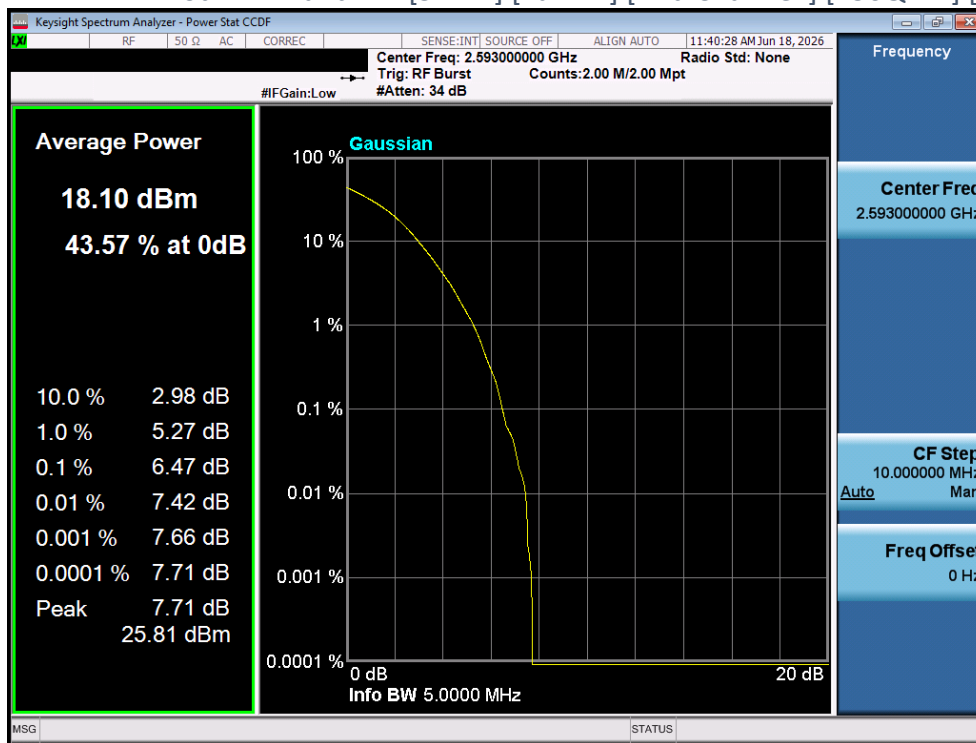
Plot 4-120 PAPR Plot - LTE Band41 - [10MHz] [Full RB] [Mid Channel] [256QAM] [Ant 1]



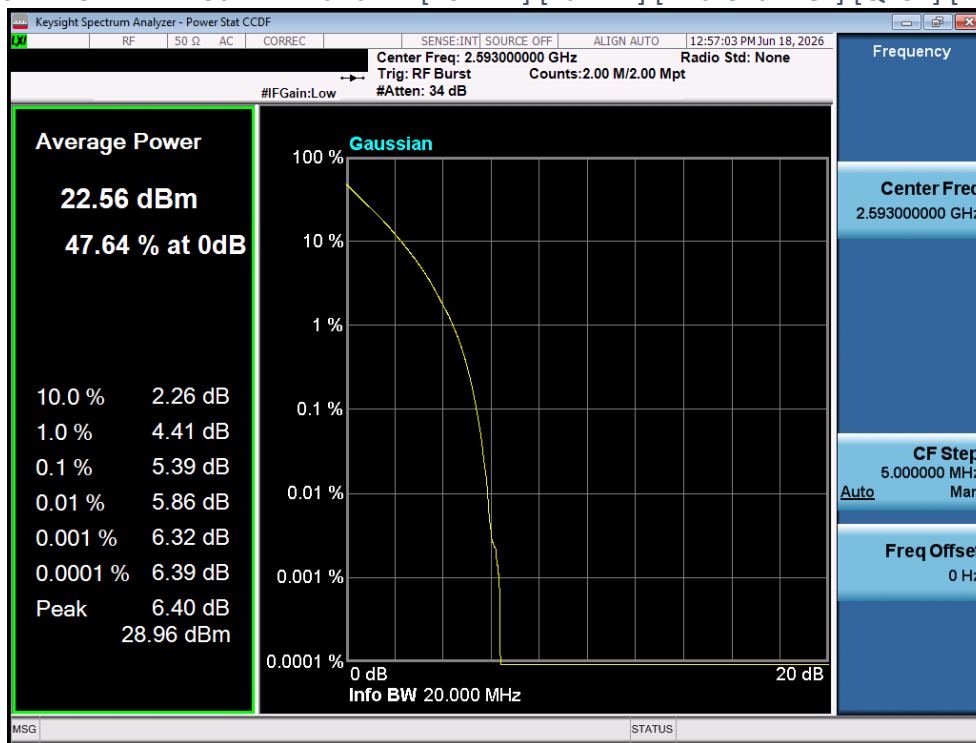
Plot 4-121 PAPR Plot - LTE Band41 - [5MHz] [Full RB] [Mid Channel] [QPSK] [Ant 1]



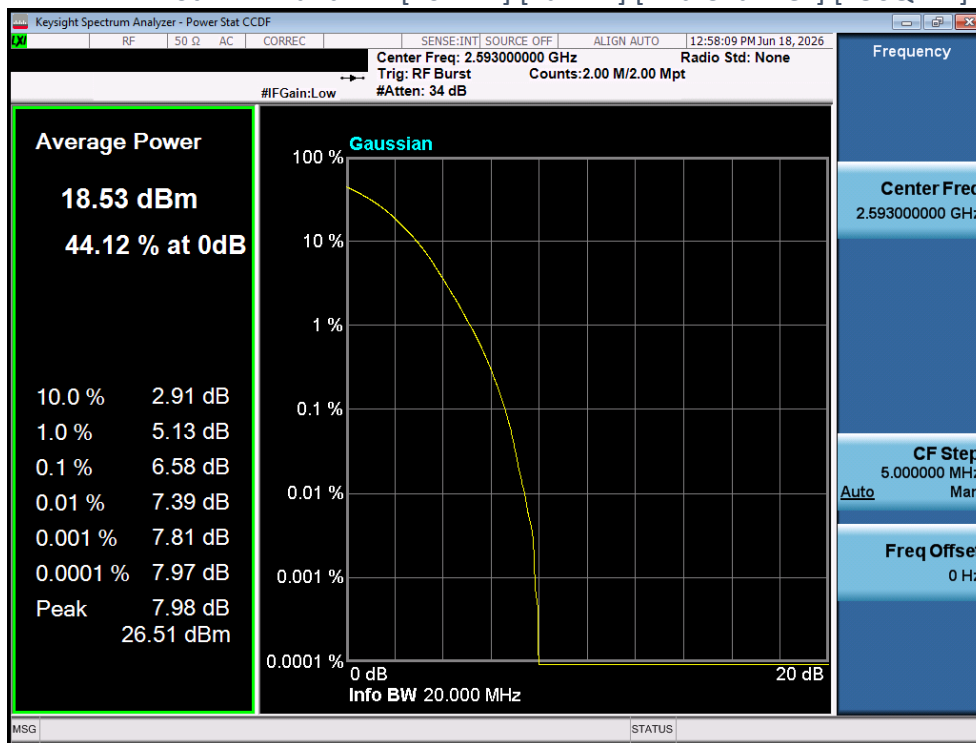
Plot 4-122 PAPR Plot - LTE Band41 - [5MHz] [Full RB] [Mid Channel] [256QAM] [Ant 1]



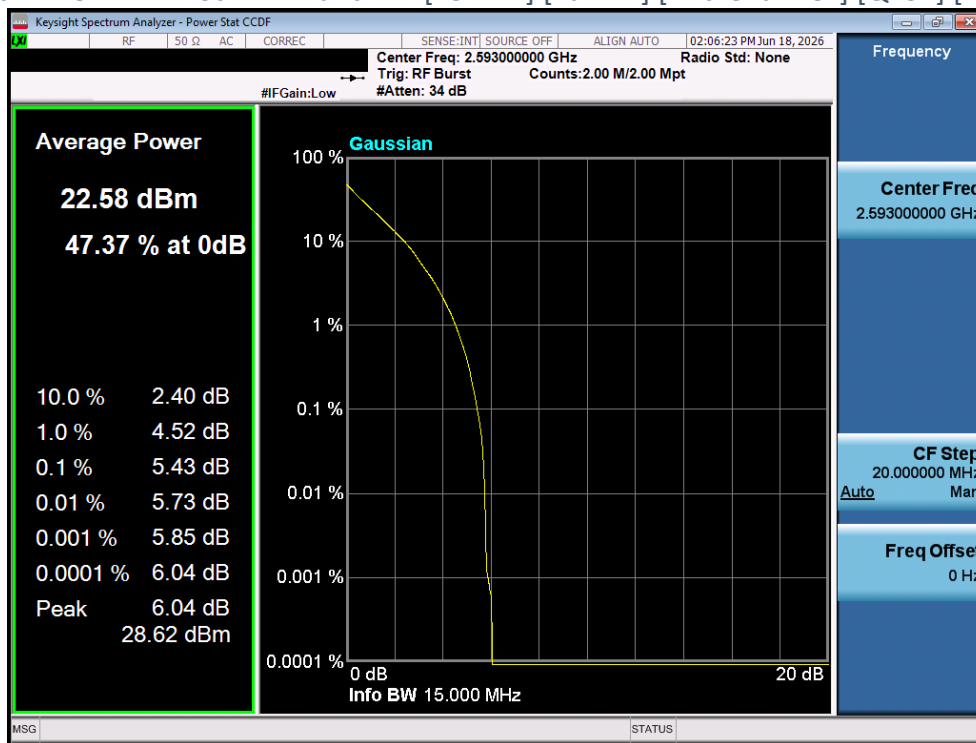
Plot 4-123 PAPR Plot - LTE Band41- [20MHz] [Full RB] [Mid Channel] [QPSK] [Ant 2]



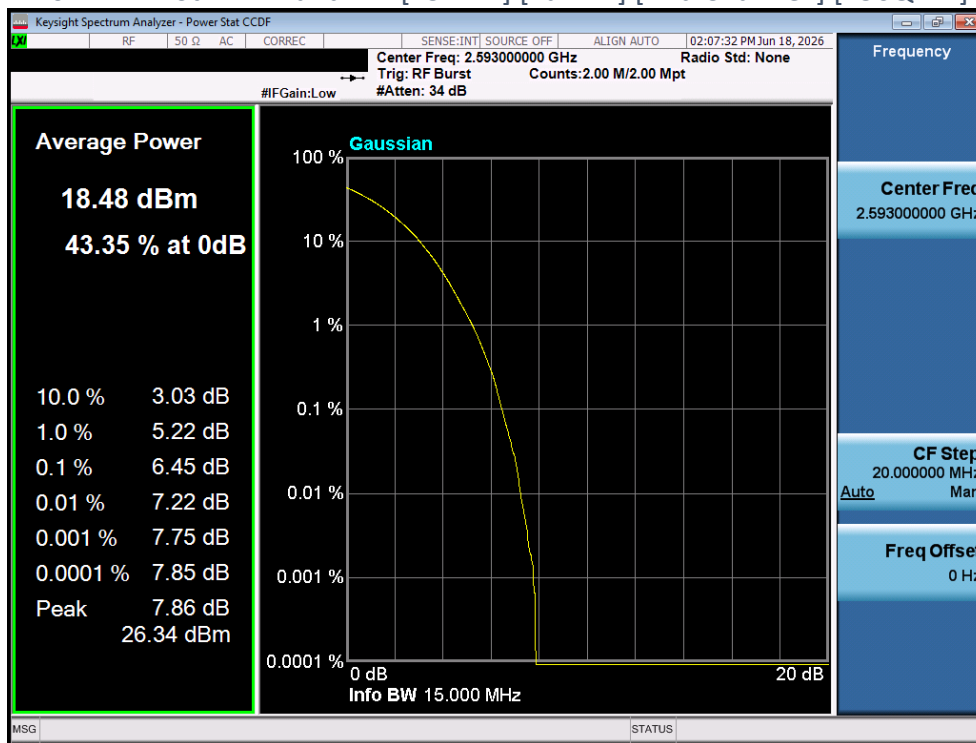
Plot 4-124 PAPR Plot - LTE Band41 - [20MHz] [Full RB] [Mid Channel] [256QAM] [Ant 2]



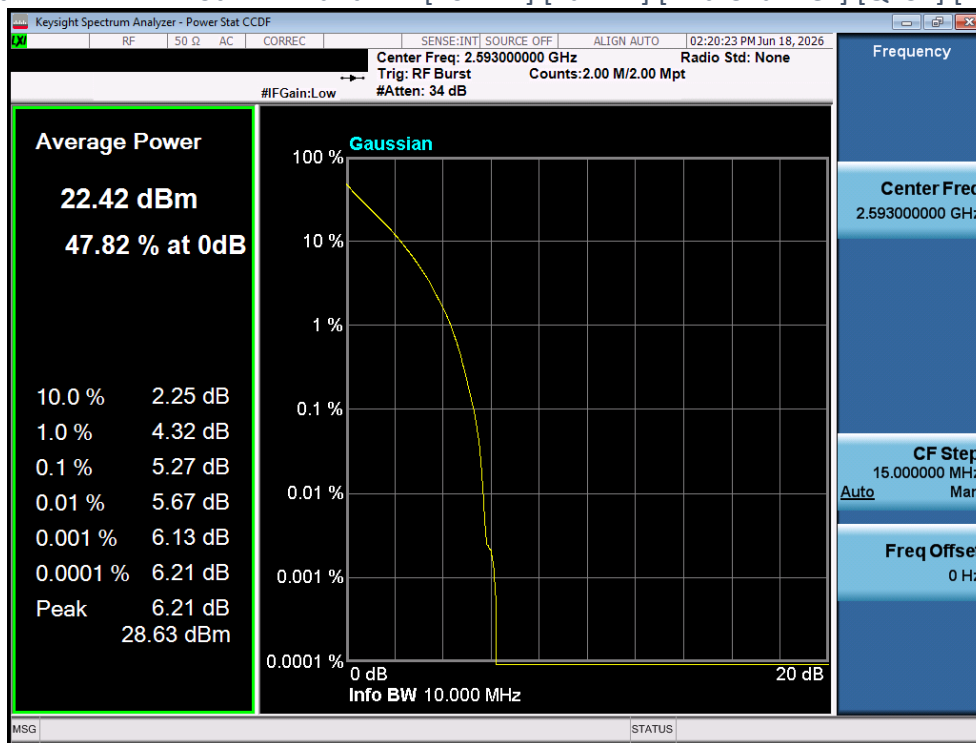
Plot 4-125 PAPR Plot - LTE Band41 - [15MHz] [Full RB] [Mid Channel] [QPSK] [Ant 2]



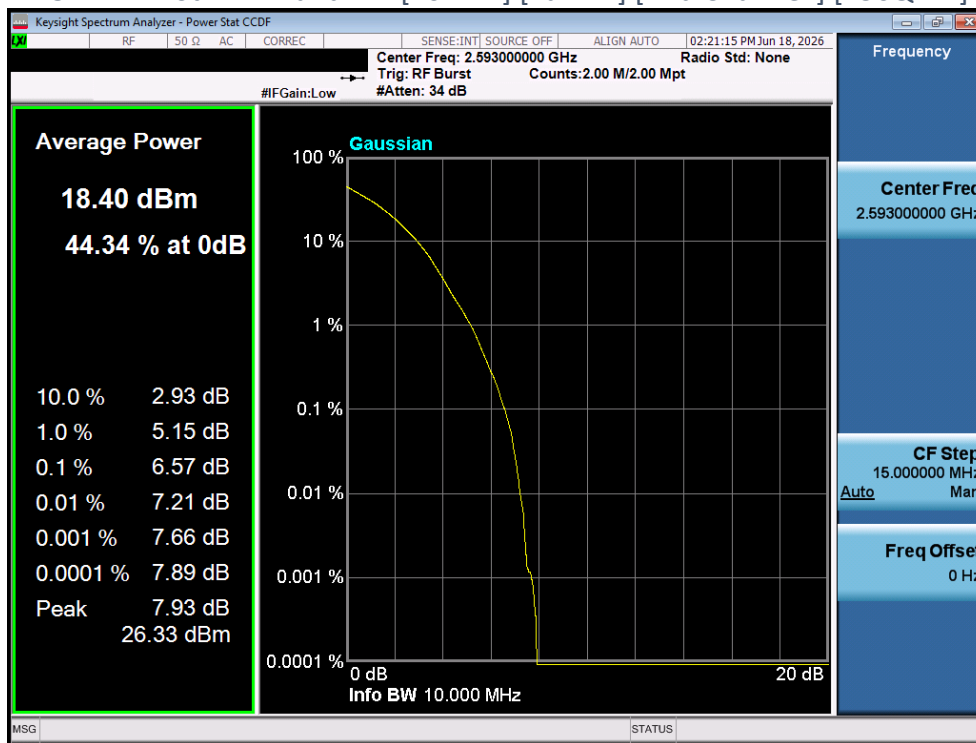
Plot 4-126 PAPR Plot - LTE Band41 - [15MHz] [Full RB] [Mid Channel] [256QAM] [Ant 2]



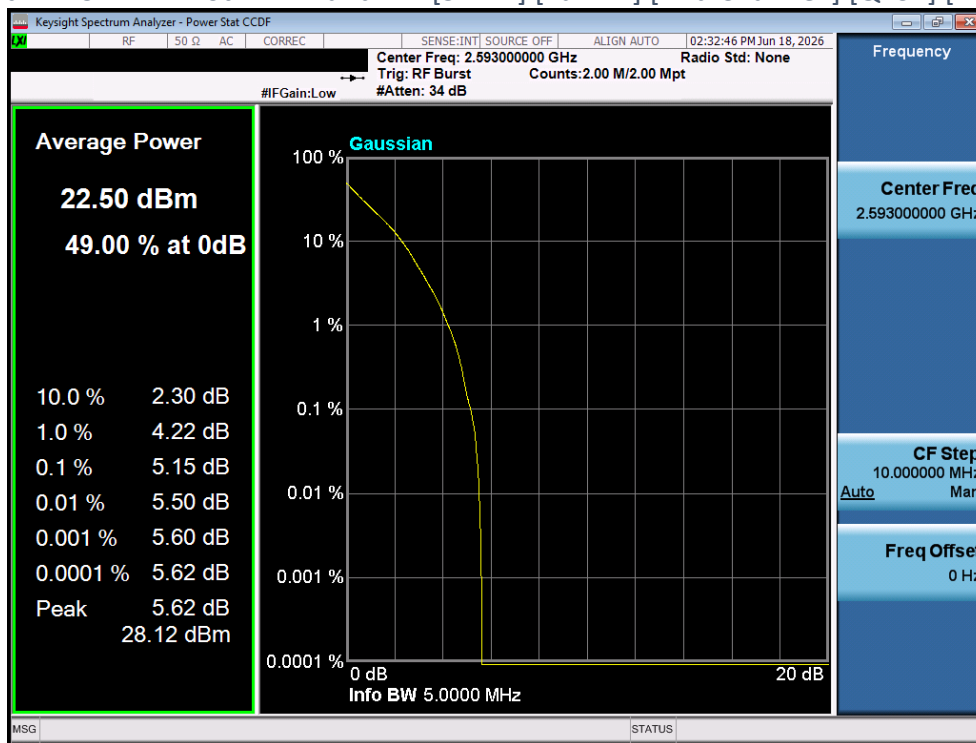
Plot 4-127 PAPR Plot - LTE Band41 - [10MHz] [Full RB] [Mid Channel] [QPSK] [Ant 2]



Plot 4-128 PAPR Plot - LTE Band41 - [10MHz] [Full RB] [Mid Channel] [256QAM] [Ant 2]



Plot 4-129 PAPR Plot - LTE Band41 - [5MHz] [Full RB] [Mid Channel] [QPSK] [Ant 2]



Plot 4-130 PAPR Plot - LTE Band41 - [5MHz] [Full RB] [Mid Channel] [256QAM] [Ant 2]

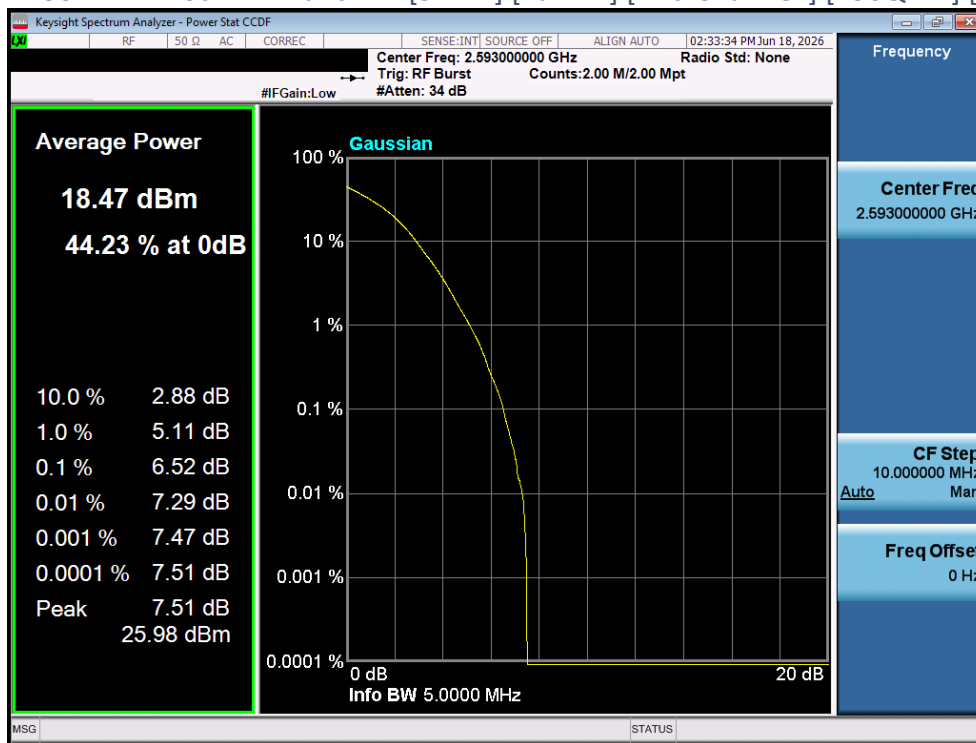
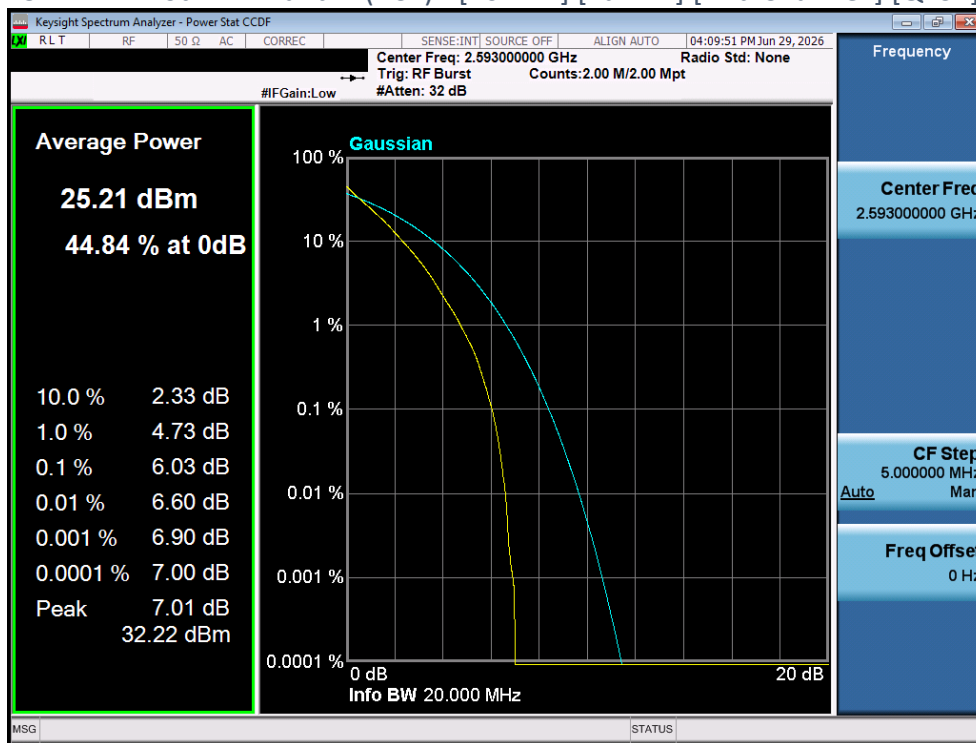


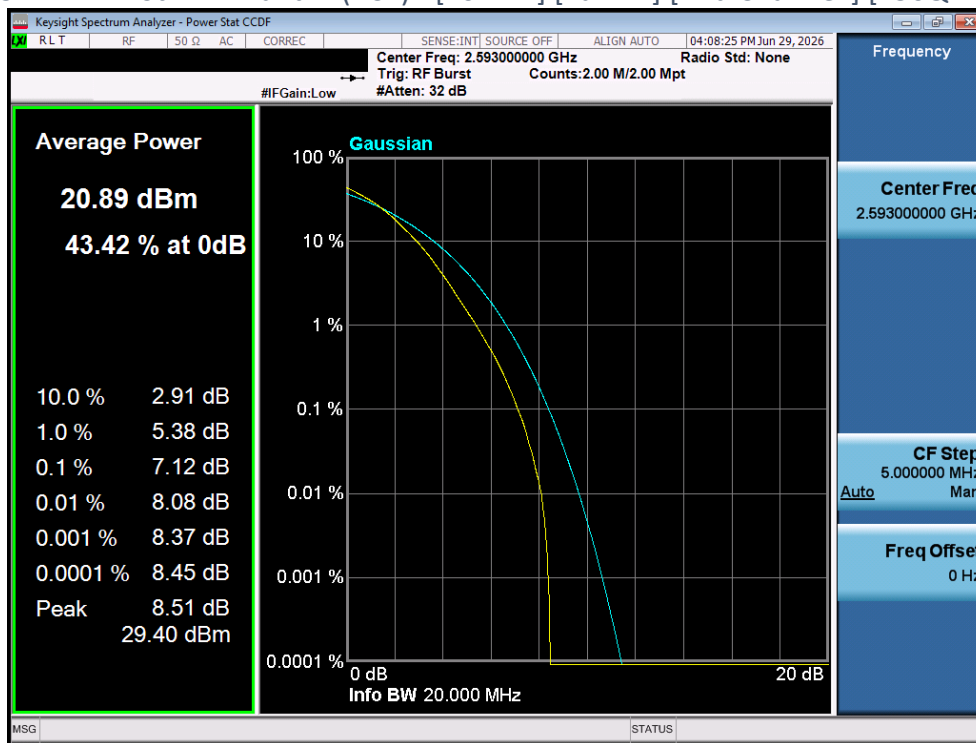
Table 4-13 PAPR Test Data LTE Band 41(PC2) Ant1

Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
LTE Band 41 (PC2)	20	2593	40620	100/0	QPSK	6.03	13	-6.97
					16QAM	6.71	13	-6.29
					64QAM	7.00	13	-6.00
					256QAM	7.12	13	-5.88
	15	2593	40620	75/0	QPSK	6.21	13	-6.79
					16QAM	6.76	13	-6.24
					64QAM	6.92	13	-6.08
					256QAM	6.97	13	-6.03
	10	2593	40620	50/0	QPSK	5.93	13	-7.07
					16QAM	6.64	13	-6.36
					64QAM	6.75	13	-6.25
					256QAM	6.86	13	-6.14
	5	2593	40620	25/0	QPSK	5.80	13	-7.20
					16QAM	6.50	13	-6.50
					64QAM	6.59	13	-6.41
					256QAM	7.04	13	-5.96

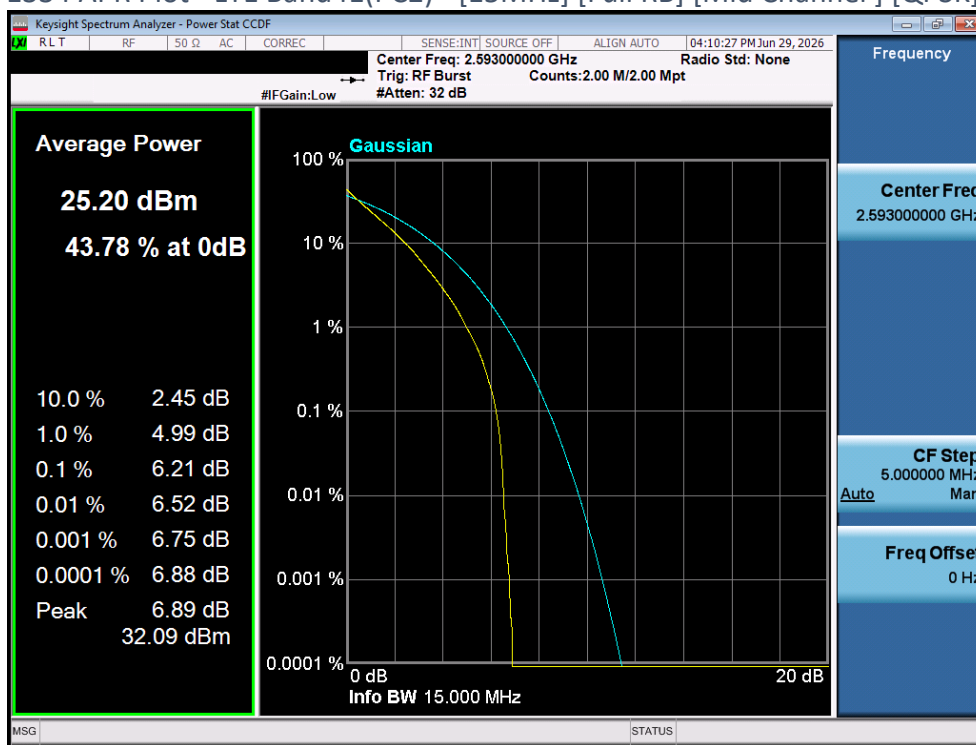
Plot 4-131 PAPR Plot - LTE Band41(PC2) - [20MHz] [Full RB] [Mid Channel] [QPSK] [Ant 1]



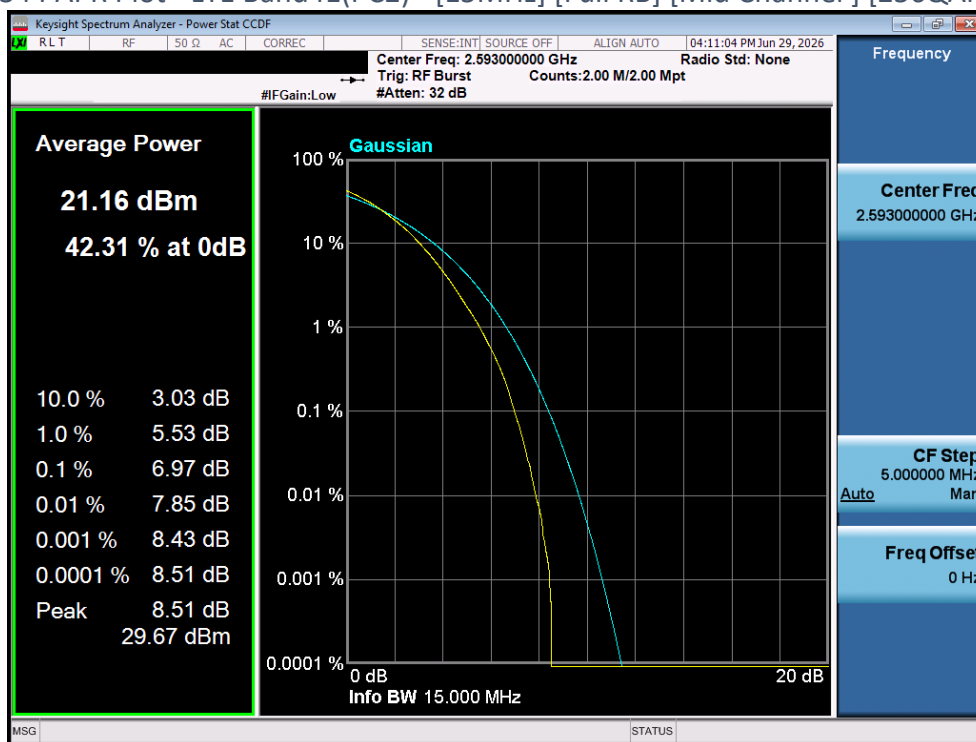
Plot 4-132 PAPR Plot - LTE Band41(PC2) - [20MHz] [Full RB] [Mid Channel] [256QAM] [Ant 1]



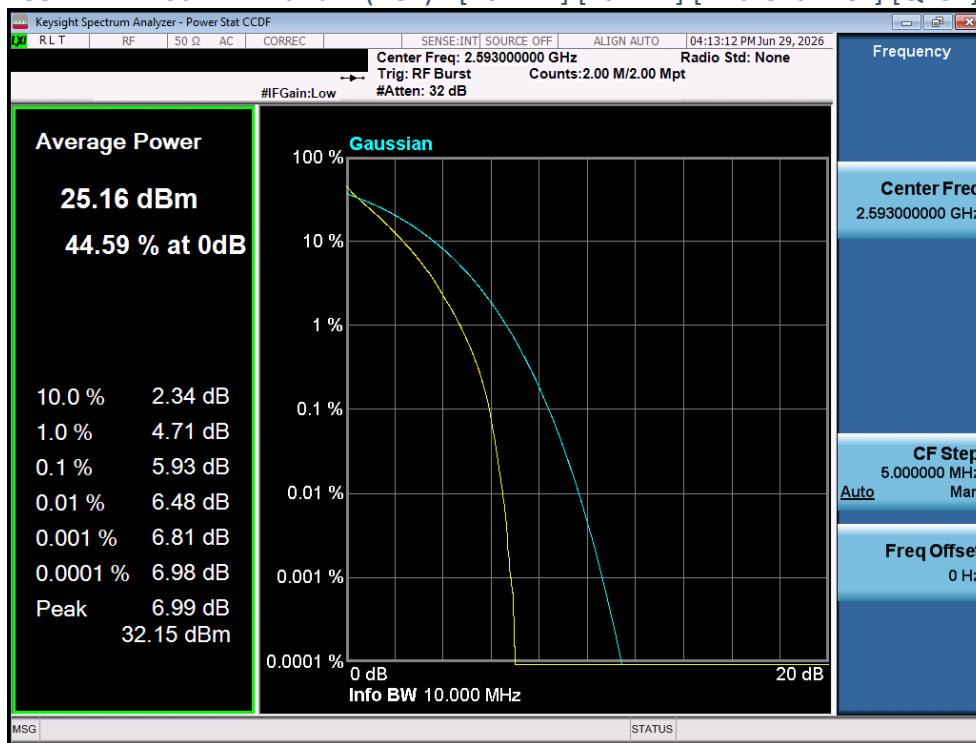
Plot 4-133 PAPR Plot - LTE Band41(PC2) - [15MHz] [Full RB] [Mid Channel] [QPSK] [Ant 1]



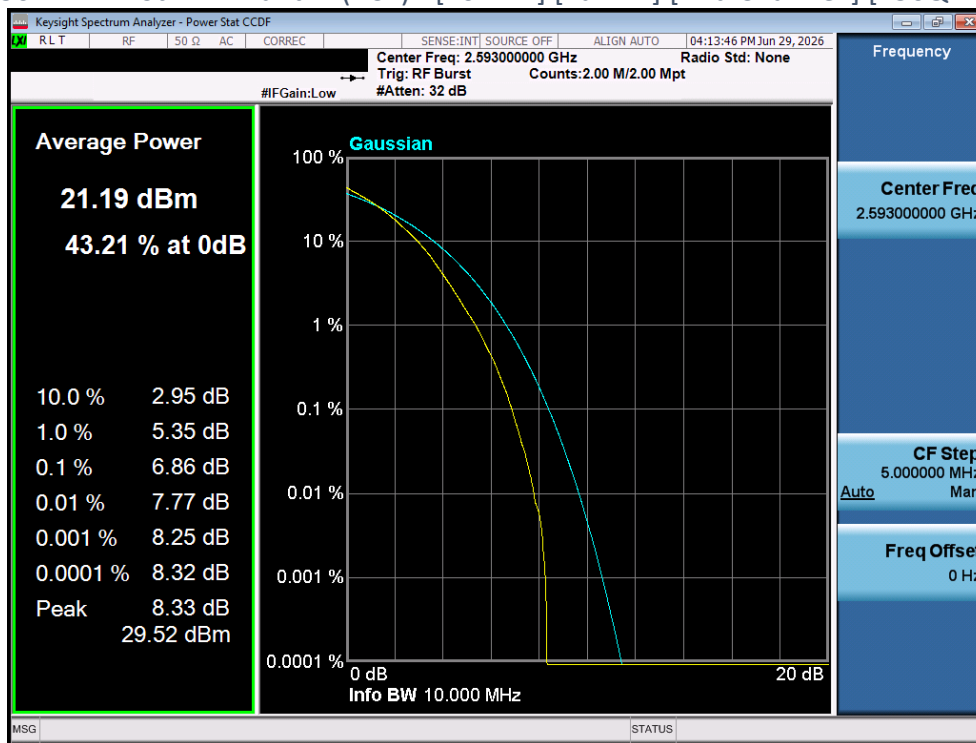
Plot 4-134 PAPR Plot - LTE Band41(PC2) - [15MHz] [Full RB] [Mid Channel] [256QAM] [Ant 1]



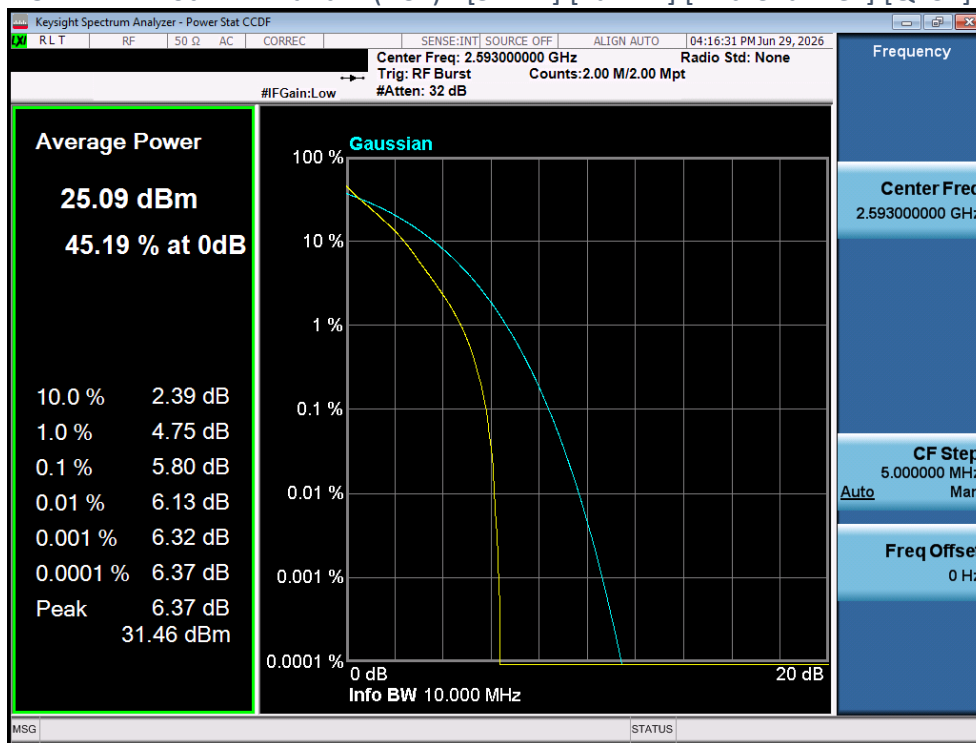
Plot 4-135 PAPR Plot - LTE Band41(PC2) - [10MHz] [Full RB] [Mid Channel] [QPSK] [Ant 1]



Plot 4-136 PAPR Plot - LTE Band41(PC2) - [10MHz] [Full RB] [Mid Channel] [256QAM] [Ant 1]



Plot 4-137 PAPR Plot - LTE Band41(PC2) - [5MHz] [Full RB] [Mid Channel] [QPSK] [Ant 1]



Plot 4-138 PAPR Plot - LTE Band41(PC2) - [5MHz] [Full RB] [Mid Channel] [256QAM] [Ant 1]

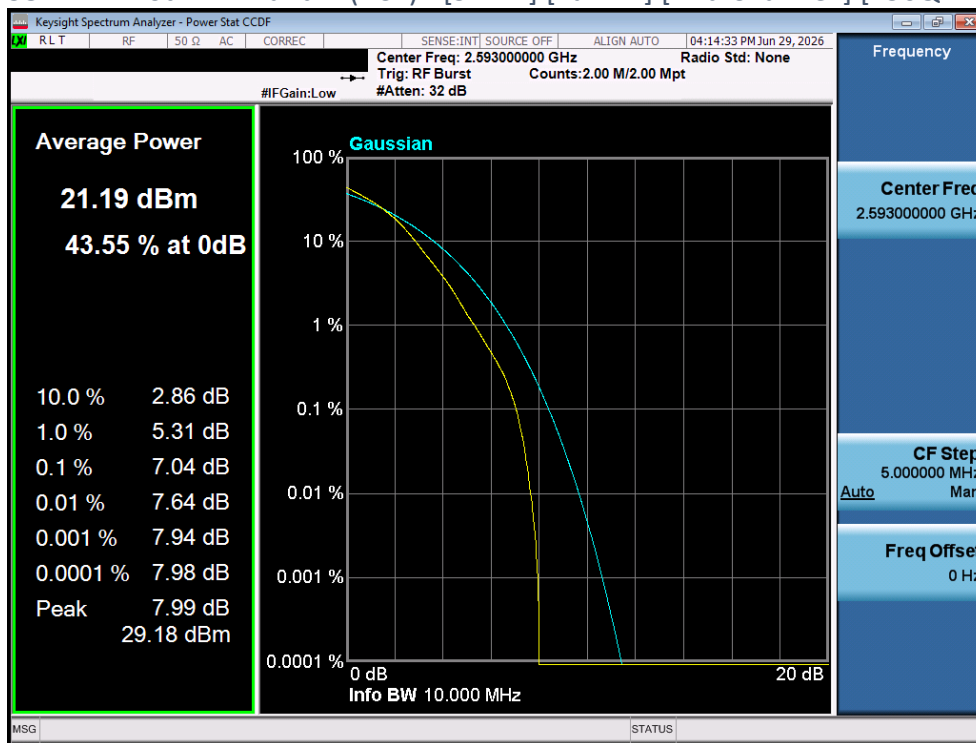


Table 4-14 PAPR Test Data NR n41 Ant1

Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
NR n41	100	2592.99	518598	270/0	DFT-s-OFDM	BPSK	4.84	13	-8.16
					DFT-s-OFDM	QPSK	5.48	13	-7.52
					DFT-s-OFDM	16QAM	6.30	13	-6.70
					DFT-s-OFDM	64QAM	6.32	13	-6.68
					DFT-s-OFDM	256QAM	6.50	13	-6.50
	90	2592.99	518598	243/0	DFT-s-OFDM	BPSK	4.40	13	-8.60
					DFT-s-OFDM	QPSK	5.34	13	-7.66
					DFT-s-OFDM	16QAM	6.20	13	-6.80
					DFT-s-OFDM	64QAM	6.32	13	-6.68
					DFT-s-OFDM	256QAM	6.52	13	-6.48
	80	2592.99	518598	216/0	DFT-s-OFDM	BPSK	4.74	13	-8.26
					DFT-s-OFDM	QPSK	5.52	13	-7.48
					DFT-s-OFDM	16QAM	6.40	13	-6.60
					DFT-s-OFDM	64QAM	6.42	13	-6.58
					DFT-s-OFDM	256QAM	6.54	13	-6.46
	70	2592.99	518598	180/0	DFT-s-OFDM	BPSK	4.46	13	-8.54
					DFT-s-OFDM	QPSK	5.38	13	-7.62
					DFT-s-OFDM	16QAM	6.24	13	-6.76
					DFT-s-OFDM	64QAM	6.30	13	-6.70
					DFT-s-OFDM	256QAM	6.48	13	-6.52
	60	2592.99	518598	162/0	DFT-s-OFDM	BPSK	4.48	13	-8.52
					DFT-s-OFDM	QPSK	5.34	13	-7.66
					DFT-s-OFDM	16QAM	6.22	13	-6.78
					DFT-s-OFDM	64QAM	6.36	13	-6.64
					DFT-s-OFDM	256QAM	6.48	13	-6.52
	50	2592.99	518598	128/0	DFT-s-OFDM	BPSK	4.42	13	-8.58
					DFT-s-OFDM	QPSK	5.26	13	-7.74
					DFT-s-OFDM	16QAM	6.16	13	-6.84
					DFT-s-OFDM	64QAM	6.22	13	-6.78
					DFT-s-OFDM	256QAM	6.50	13	-6.50
	40	2592.99	518598	100/0	DFT-s-OFDM	BPSK	4.30	13	-8.70
					DFT-s-OFDM	QPSK	5.30	13	-7.70
					DFT-s-OFDM	16QAM	6.14	13	-6.86
					DFT-s-OFDM	64QAM	6.10	13	-6.90
					DFT-s-OFDM	256QAM	6.66	13	-6.34
	30	2592.99	518598	75/0	DFT-s-OFDM	BPSK	4.24	13	-8.76
					DFT-s-OFDM	QPSK	5.18	13	-7.82
					DFT-s-OFDM	16QAM	6.00	13	-7.00
					DFT-s-OFDM	64QAM	5.92	13	-7.08
					DFT-s-OFDM	256QAM	6.74	13	-6.26
	25	2592.99	518598	64/0	DFT-s-OFDM	BPSK	4.16	13	-8.84
					DFT-s-OFDM	QPSK	5.14	13	-7.86
					DFT-s-OFDM	16QAM	6.02	13	-6.98
					DFT-s-OFDM	64QAM	5.62	13	-7.38
					DFT-s-OFDM	256QAM	6.64	13	-6.36
	20	2592.99	518598	50/0	DFT-s-OFDM	BPSK	4.18	13	-8.82
					DFT-s-OFDM	QPSK	5.24	13	-7.76
					DFT-s-OFDM	16QAM	6.06	13	-6.94
					DFT-s-OFDM	64QAM	5.94	13	-7.06
					DFT-s-OFDM	256QAM	6.74	13	-6.26
	15	2592.99	518598	36/0	DFT-s-OFDM	BPSK	4.02	13	-8.98
					DFT-s-OFDM	QPSK	5.02	13	-7.98
					DFT-s-OFDM	16QAM	5.86	13	-7.14
					DFT-s-OFDM	64QAM	5.58	13	-7.42
					DFT-s-OFDM	256QAM	6.52	13	-6.48
	10	2592.99	518598	24/0	DFT-s-OFDM	BPSK	4.22	13	-8.78
					DFT-s-OFDM	QPSK	5.10	13	-7.90
					DFT-s-OFDM	16QAM	6.02	13	-6.98
					DFT-s-OFDM	64QAM	5.86	13	-7.14
					DFT-s-OFDM	256QAM	6.60	13	-6.40

Table 4-15 PAPR Test Data NR n41 Ant2

Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
NR n41	100	2592.99	518598	270/0	DFT-s-OFDM	BPSK	5.00	13	-8.00
					DFT-s-OFDM	QPSK	5.86	13	-7.14
					DFT-s-OFDM	16QAM	6.50	13	-6.50
					DFT-s-OFDM	64QAM	6.68	13	-6.32
					DFT-s-OFDM	256QAM	6.58	13	-6.42
	90	2592.99	518598	243/0	DFT-s-OFDM	BPSK	4.66	13	-8.34
					DFT-s-OFDM	QPSK	5.84	13	-7.16
					DFT-s-OFDM	16QAM	6.50	13	-6.50
					DFT-s-OFDM	64QAM	6.68	13	-6.32
					DFT-s-OFDM	256QAM	6.56	13	-6.44
	80	2592.99	518598	216/0	DFT-s-OFDM	BPSK	4.96	13	-8.04
					DFT-s-OFDM	QPSK	5.94	13	-7.06
					DFT-s-OFDM	16QAM	6.58	13	-6.42
					DFT-s-OFDM	64QAM	6.66	13	-6.34
					DFT-s-OFDM	256QAM	5.58	13	-7.42
	70	2592.99	518598	180/0	DFT-s-OFDM	BPSK	4.62	13	-8.38
					DFT-s-OFDM	QPSK	5.82	13	-7.18
					DFT-s-OFDM	16QAM	6.56	13	-6.44
					DFT-s-OFDM	64QAM	6.66	13	-6.34
					DFT-s-OFDM	256QAM	6.64	13	-6.36
	60	2592.99	518598	162/0	DFT-s-OFDM	BPSK	4.60	13	-8.40
					DFT-s-OFDM	QPSK	5.76	13	-7.24
					DFT-s-OFDM	16QAM	6.50	13	-6.50
					DFT-s-OFDM	64QAM	6.66	13	-6.34
					DFT-s-OFDM	256QAM	6.60	13	-6.40
	50	2592.99	518598	128/0	DFT-s-OFDM	BPSK	4.62	13	-8.38
					DFT-s-OFDM	QPSK	5.72	13	-7.28
					DFT-s-OFDM	16QAM	6.40	13	-6.60
					DFT-s-OFDM	64QAM	6.60	13	-6.40
					DFT-s-OFDM	256QAM	6.60	13	-6.40
	40	2592.99	518598	100/0	DFT-s-OFDM	BPSK	4.12	13	-8.88
					DFT-s-OFDM	QPSK	4.80	13	-8.20
					DFT-s-OFDM	16QAM	5.76	13	-7.24
					DFT-s-OFDM	64QAM	5.98	13	-7.02
					DFT-s-OFDM	256QAM	6.40	13	-6.60
	30	2592.99	518598	75/0	DFT-s-OFDM	BPSK	4.00	13	-9.00
					DFT-s-OFDM	QPSK	4.74	13	-8.26
					DFT-s-OFDM	16QAM	5.60	13	-7.40
					DFT-s-OFDM	64QAM	5.98	13	-7.02
					DFT-s-OFDM	256QAM	6.42	13	-6.58
	25	2592.99	518598	64/0	DFT-s-OFDM	BPSK	4.04	13	-8.96
					DFT-s-OFDM	QPSK	4.92	13	-8.08
					DFT-s-OFDM	16QAM	5.70	13	-7.30
					DFT-s-OFDM	64QAM	6.06	13	-6.94
					DFT-s-OFDM	256QAM	6.60	13	-6.40
	20	2592.99	518598	50/0	DFT-s-OFDM	BPSK	4.18	13	-8.82
					DFT-s-OFDM	QPSK	5.10	13	-7.90
					DFT-s-OFDM	16QAM	5.88	13	-7.12
					DFT-s-OFDM	64QAM	6.22	13	-6.78
					DFT-s-OFDM	256QAM	6.34	13	-6.66
	15	2592.99	518598	36/0	DFT-s-OFDM	BPSK	4.04	13	-8.96
					DFT-s-OFDM	QPSK	4.90	13	-8.10
					DFT-s-OFDM	16QAM	5.58	13	-7.42
					DFT-s-OFDM	64QAM	6.18	13	-6.82
					DFT-s-OFDM	256QAM	6.18	13	-6.82
	10	2592.99	518598	24/0	DFT-s-OFDM	BPSK	4.14	13	-8.86
					DFT-s-OFDM	QPSK	5.00	13	-8.00
					DFT-s-OFDM	16QAM	5.88	13	-7.12
					DFT-s-OFDM	64QAM	6.06	13	-6.94
					DFT-s-OFDM	256QAM	6.64	13	-6.36

Table 4-16 PAPR Test Data NR n41 SRS D1

Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
NR n41	100	2592.99	518598	270/0	DFT-s-OFDM	BPSK	4.78	13	-8.22
					DFT-s-OFDM	QPSK	5.60	13	-7.40
					DFT-s-OFDM	16QAM	6.40	13	-6.60
					DFT-s-OFDM	64QAM	6.60	13	-6.40
					DFT-s-OFDM	256QAM	6.48	13	-6.52

Table 4-17 PAPR Test Data NR n41 SRS D2

Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
NR n41	100	2592.99	518598	270/0	DFT-s-OFDM	BPSK	4.48	13	-8.52
					DFT-s-OFDM	QPSK	5.14	13	-7.86
					DFT-s-OFDM	16QAM	5.92	13	-7.08
					DFT-s-OFDM	64QAM	6.04	13	-6.96
					DFT-s-OFDM	256QAM	6.18	13	-6.82

Table 4-18 PAPR Test Data NR n41 SRS D3

Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
NR n41	100	2592.99	518598	270/0	DFT-s-OFDM	BPSK	4.76	13	-8.24
					DFT-s-OFDM	QPSK	5.54	13	-7.46
					DFT-s-OFDM	16QAM	6.30	13	-6.70
					DFT-s-OFDM	64QAM	6.44	13	-6.56
					DFT-s-OFDM	256QAM	6.50	13	-6.50

Table 4-19 PAPR Test Data NR n41 SRS S1

Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
NR n41	100	2592.99	518598	270/0	DFT-s-OFDM	BPSK	5.16	13	-7.84
					DFT-s-OFDM	QPSK	5.76	13	-7.24
					DFT-s-OFDM	16QAM	6.44	13	-6.56
					DFT-s-OFDM	64QAM	6.60	13	-6.40
					DFT-s-OFDM	256QAM	6.66	13	-6.34

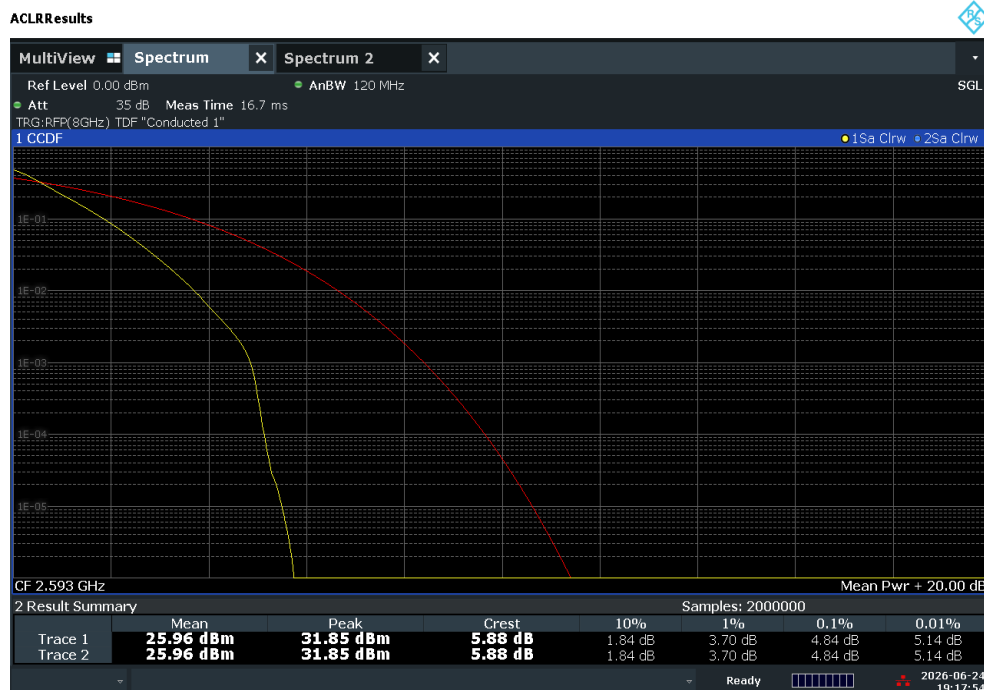
Table 4-20 PAPR Test Data NR n41 SRS S2

Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
NR n41	100	2592.99	518598	270/0	DFT-s-OFDM	BPSK	5.02	13	-7.98
					DFT-s-OFDM	QPSK	5.44	13	-7.56
					DFT-s-OFDM	16QAM	6.22	13	-6.78
					DFT-s-OFDM	64QAM	6.32	13	-6.68
					DFT-s-OFDM	256QAM	6.44	13	-6.56

Table 4-21 PAPR Test Data NR n41 SRS S3

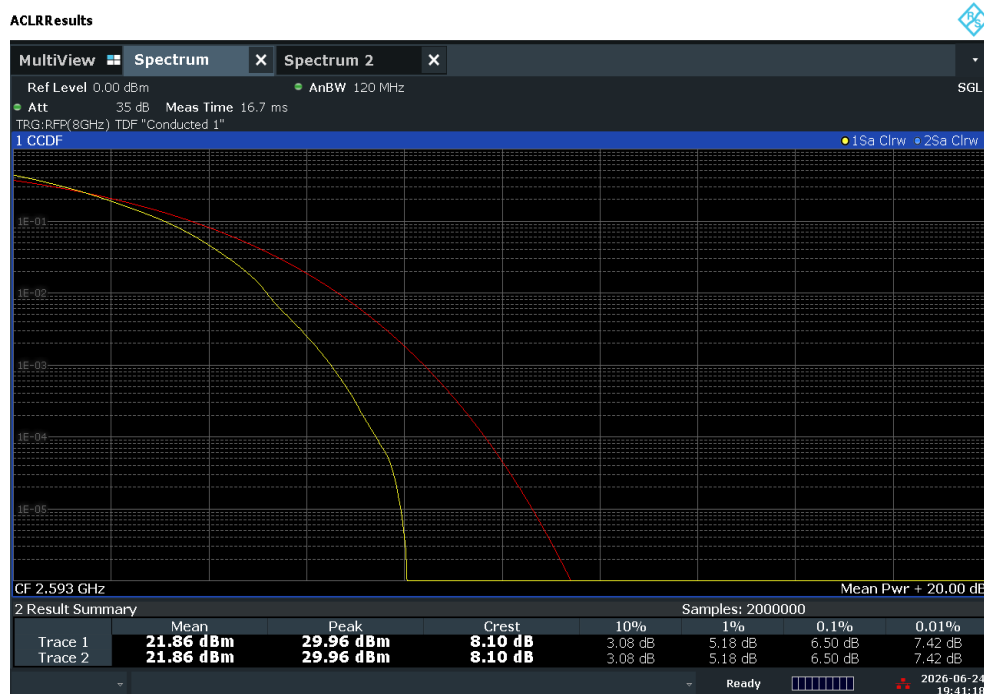
Band	Band Width [MHz]	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	PAR 0.1 % [dB]	Limit [dB]	Margin [dB]
NR n41	100	2592.99	518598	270/0	DFT-s-OFDM	BPSK	4.90	13	-8.10
					DFT-s-OFDM	QPSK	5.64	13	-7.36
					DFT-s-OFDM	16QAM	6.44	13	-6.56
					DFT-s-OFDM	64QAM	6.56	13	-6.44
					DFT-s-OFDM	256QAM	6.46	13	-6.54

Plot 4-139 PAPR Plot – NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [BPSK] [Ant 1]



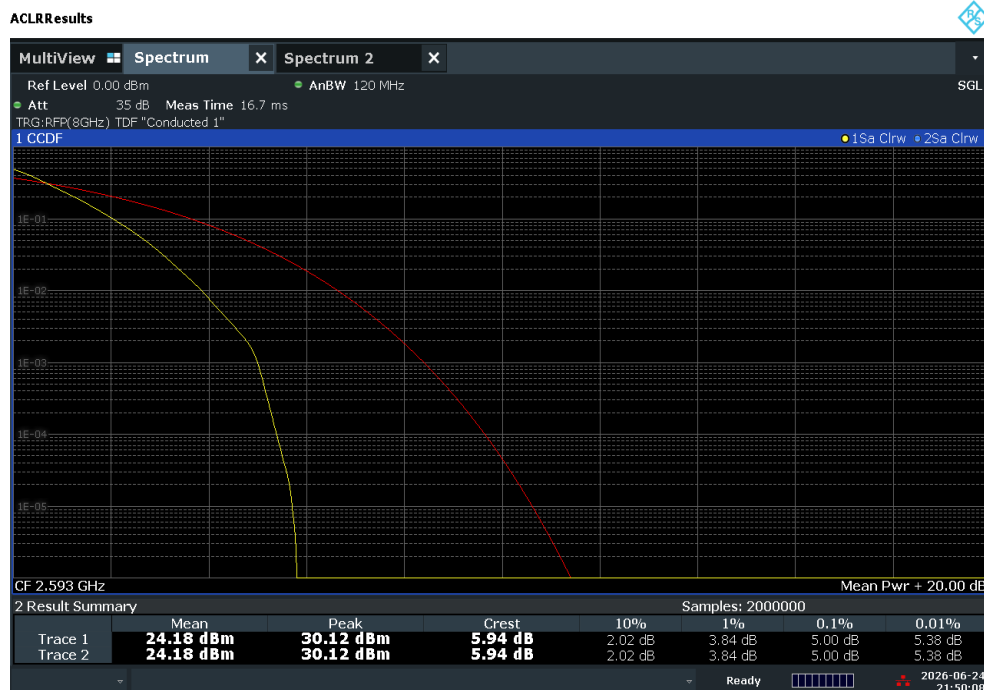
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Plot 4-140 PAPR Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [256QAM] [Ant 1]



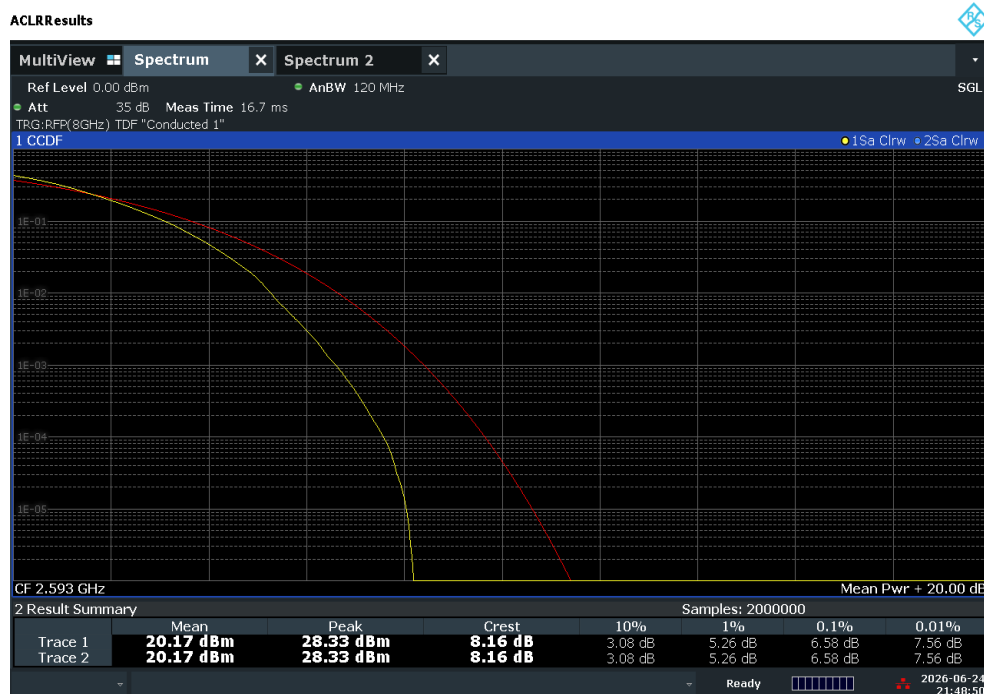
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Plot 4-141 PAPR Plot – NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [BPSK] [Ant 2]



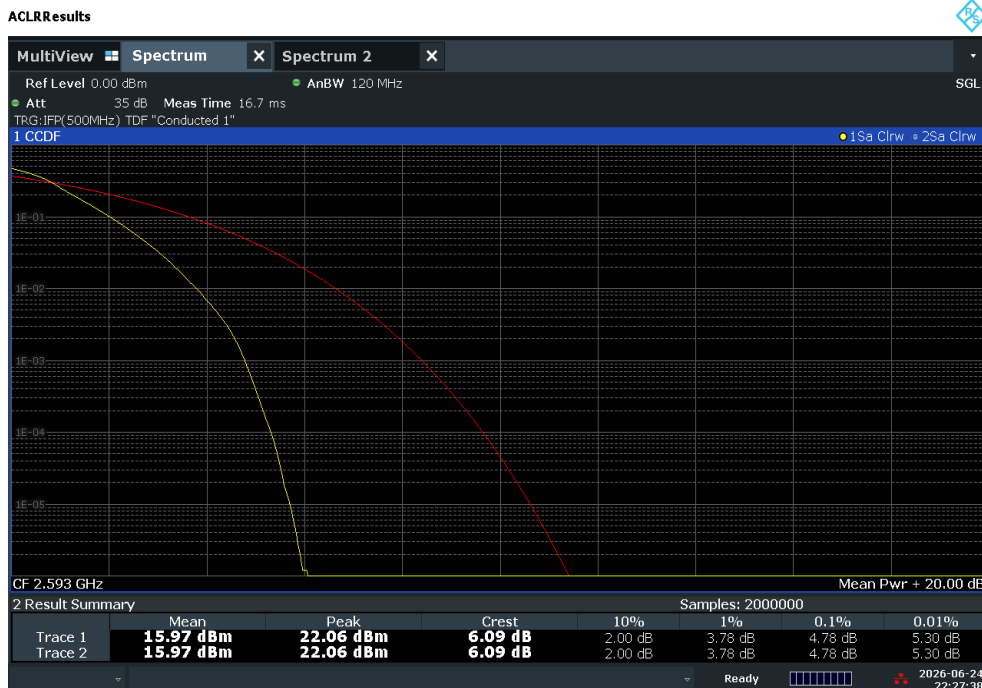
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Plot 4-142 PAPR Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [256QAM] [Ant 2]



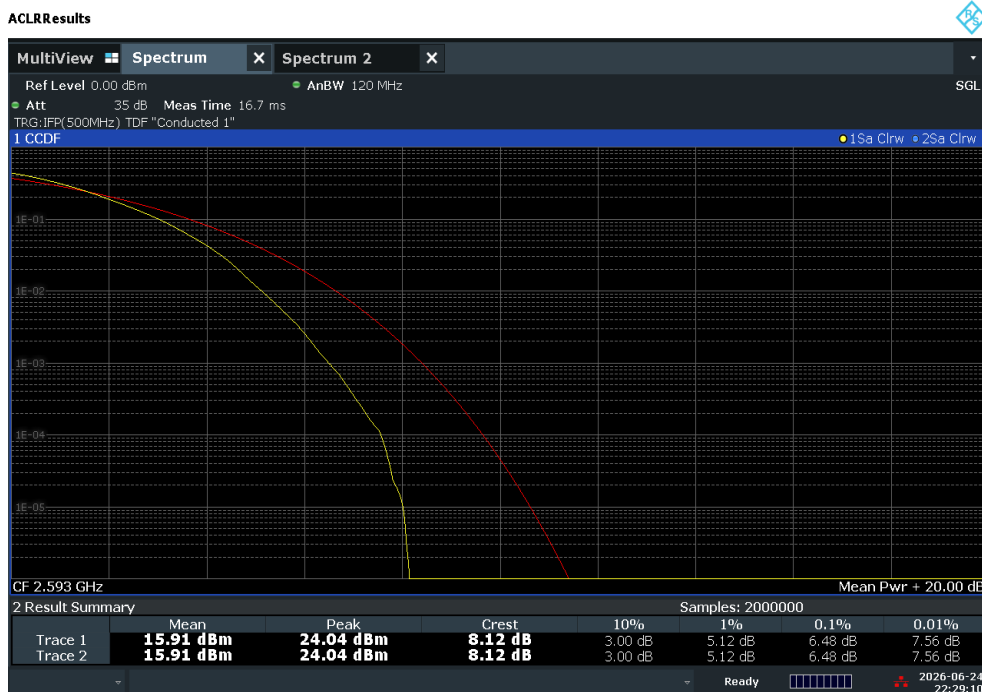
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Plot 4-143 PAPR Plot – NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [BPSK] [SRS D1]



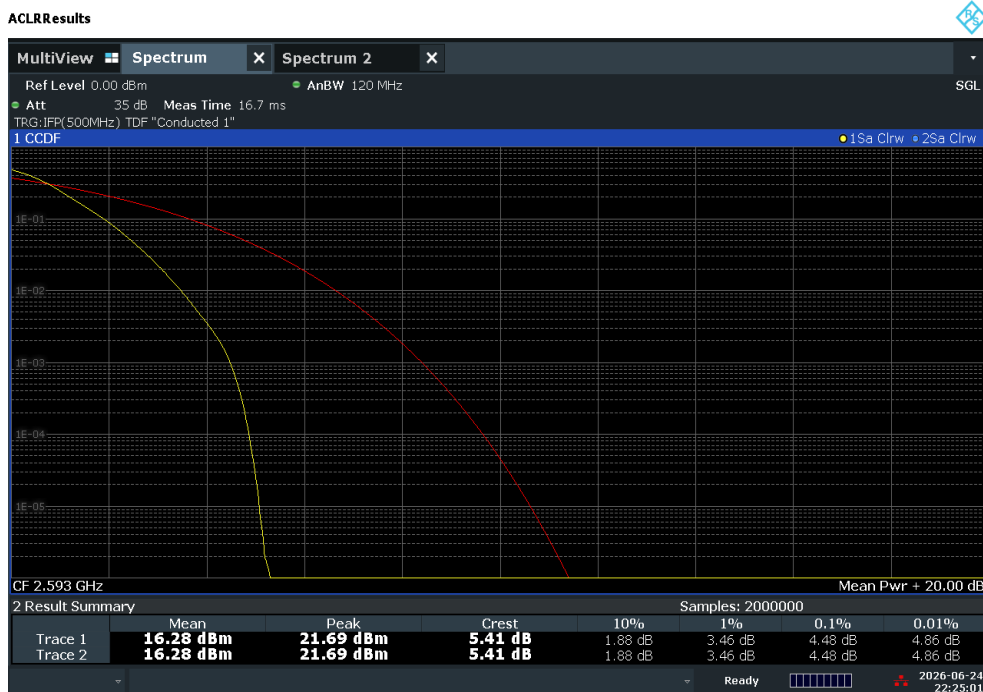
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Plot 4-144 PAPR Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [256QAM] [SRS D1]



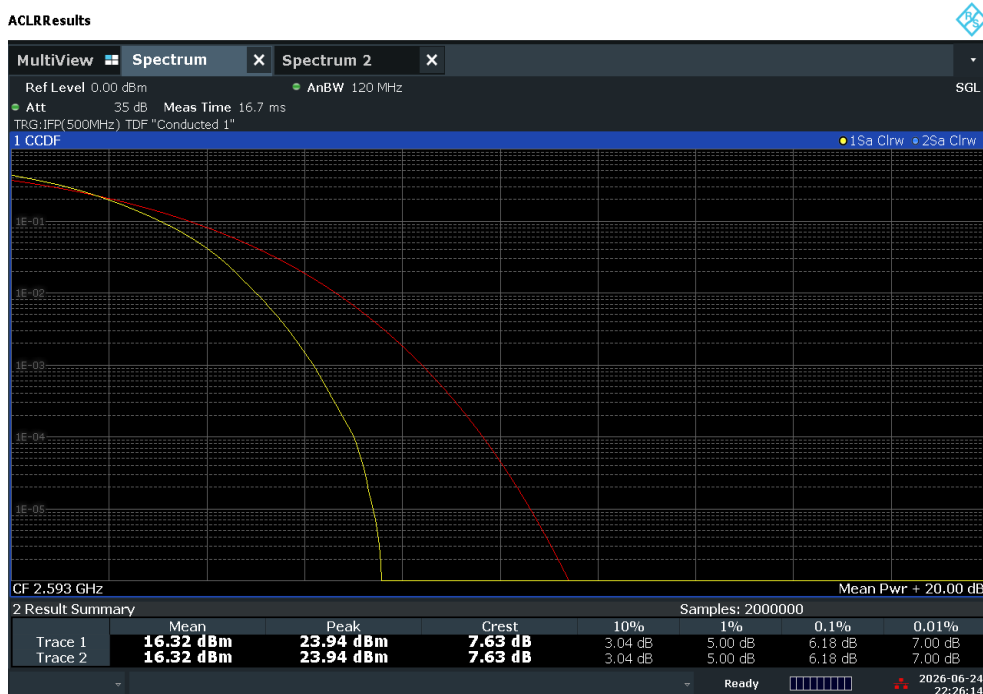
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Plot 4-145 PAPR Plot – NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [BPSK] [SRS D2]



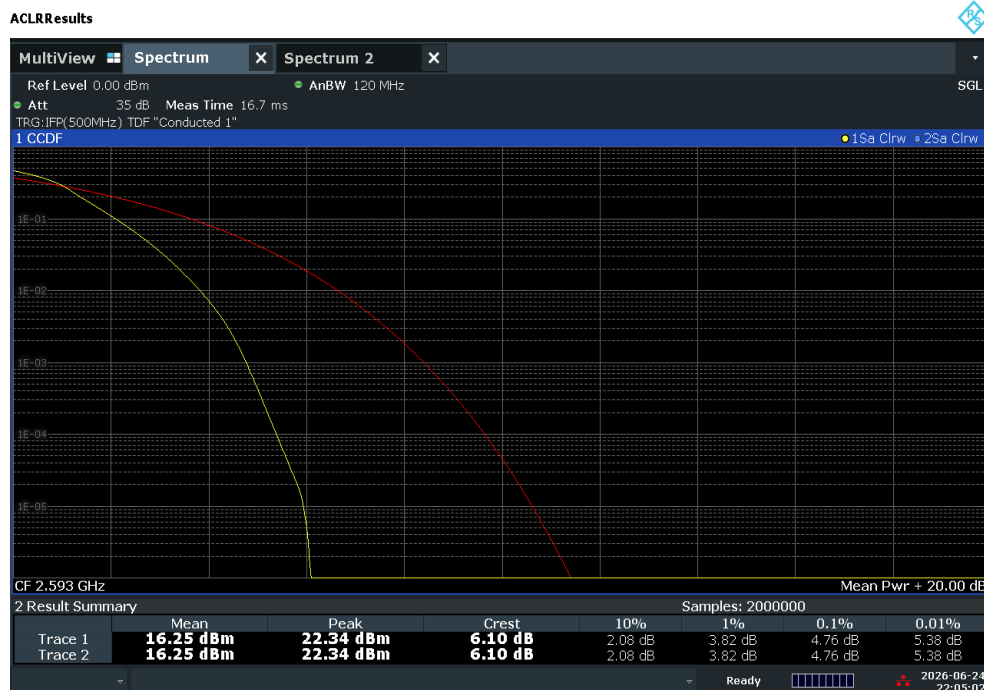
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Plot 4-146 PAPR Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [256QAM] [SRS D2]



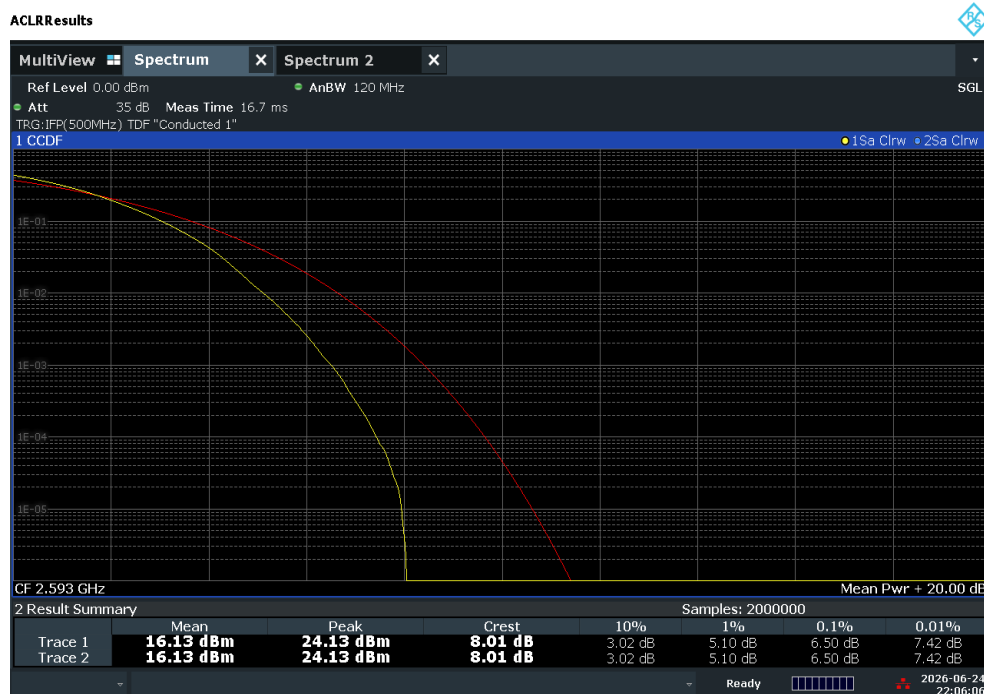
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Plot 4-147 PAPR Plot – NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [BPSK] [SRS D3]



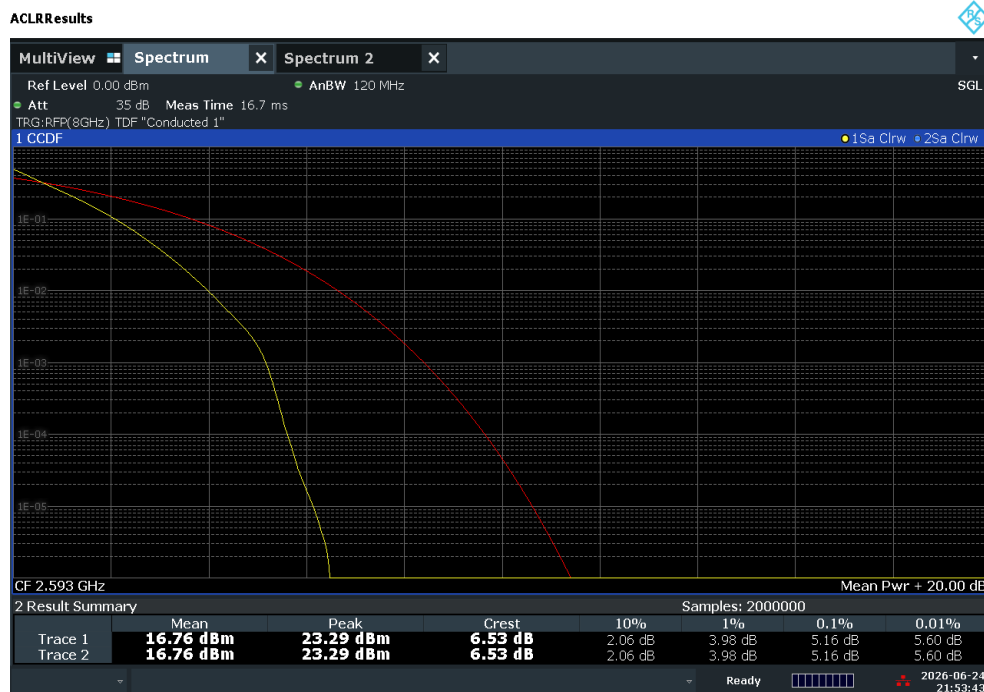
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Plot 4-148 PAPR Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [256QAM] [SRS D3]



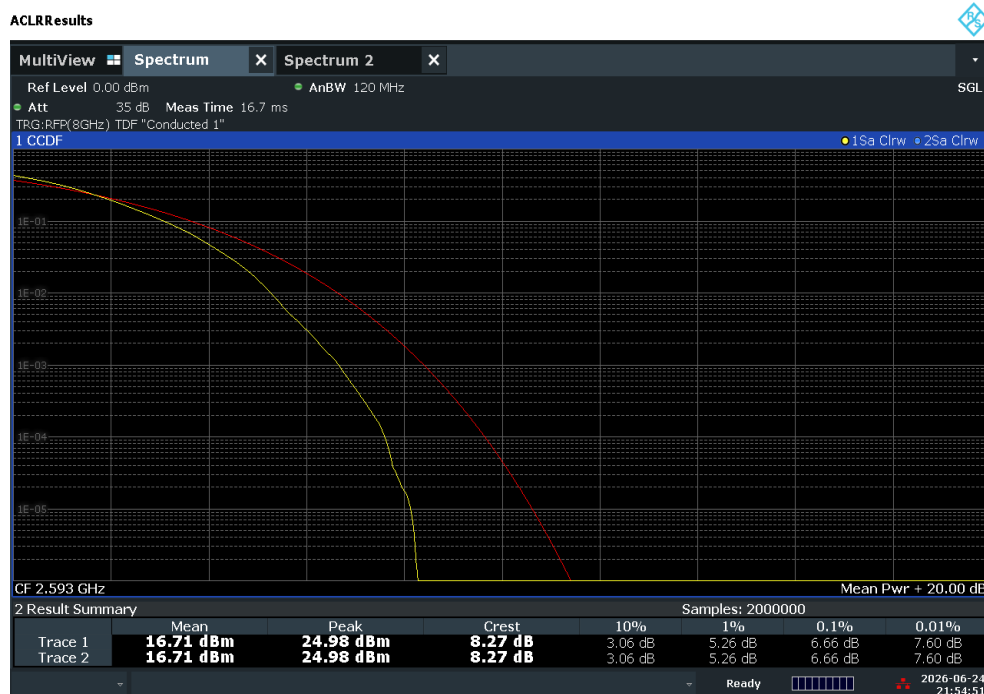
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Plot 4-149 PAPR Plot – NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [BPSK] [SRS S1]



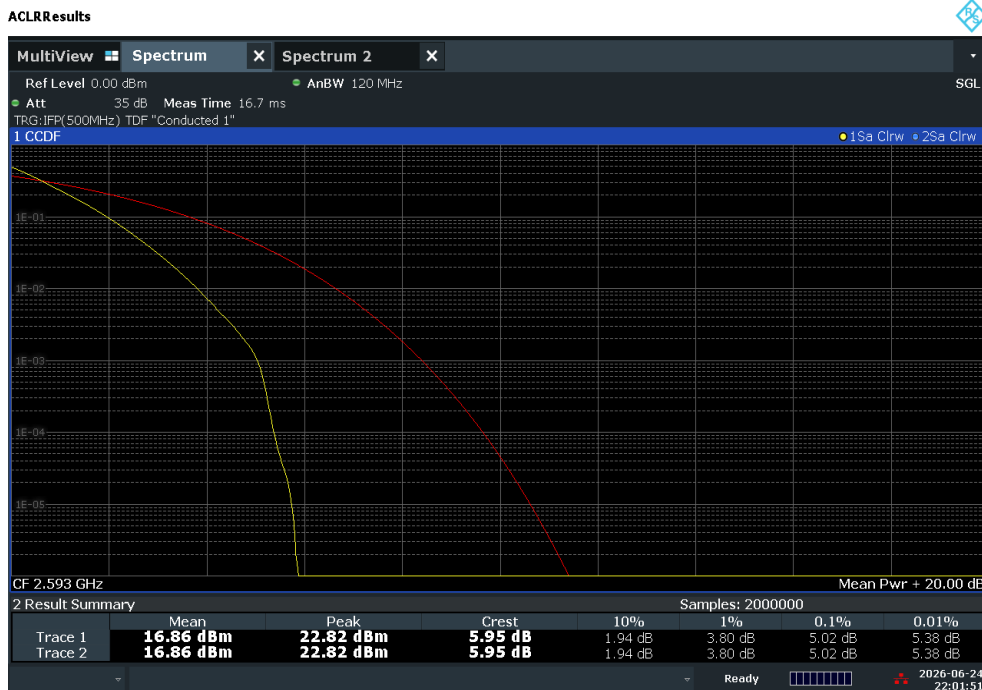
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Plot 4-150 PAPR Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [256QAM] [SRS S1]



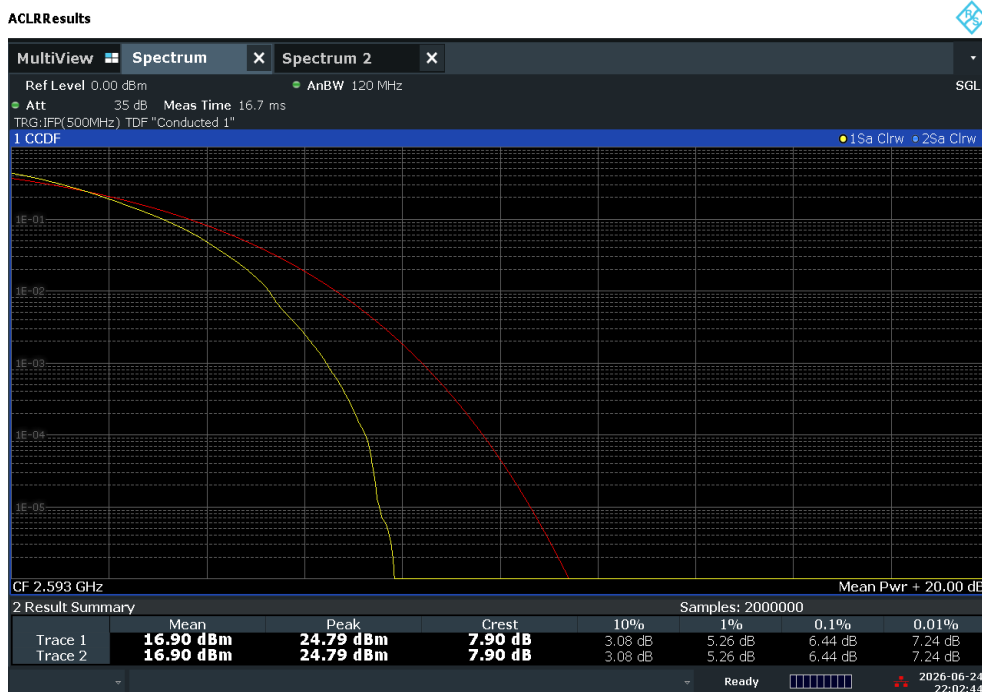
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Plot 4-151 PAPR Plot – NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [BPSK] [SRS S2]



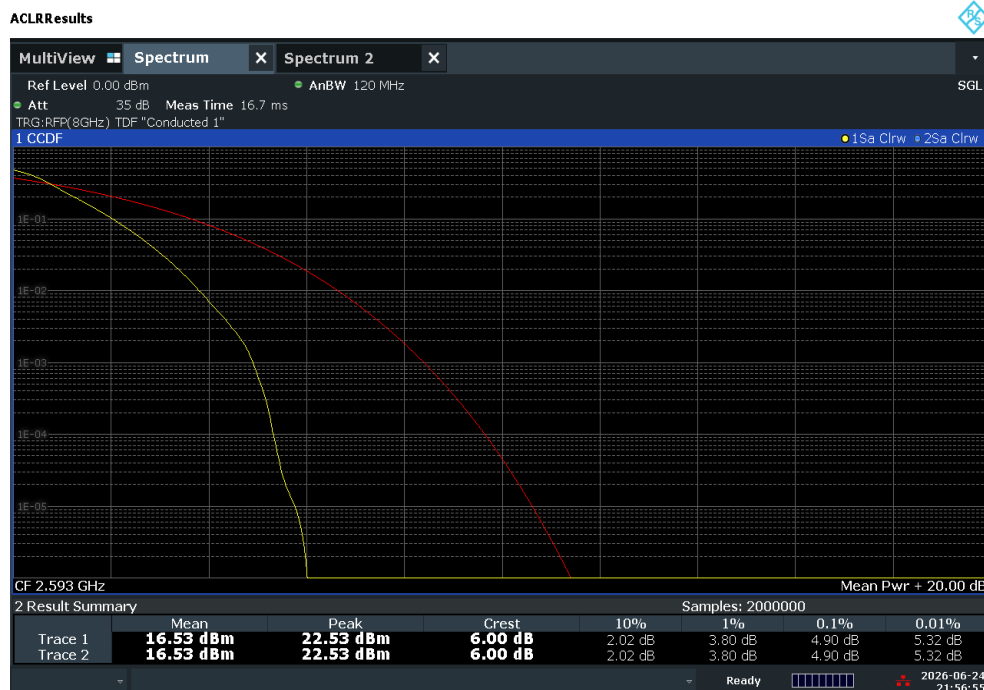
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Plot 4-152 PAPR Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [256QAM] [SRS S2]



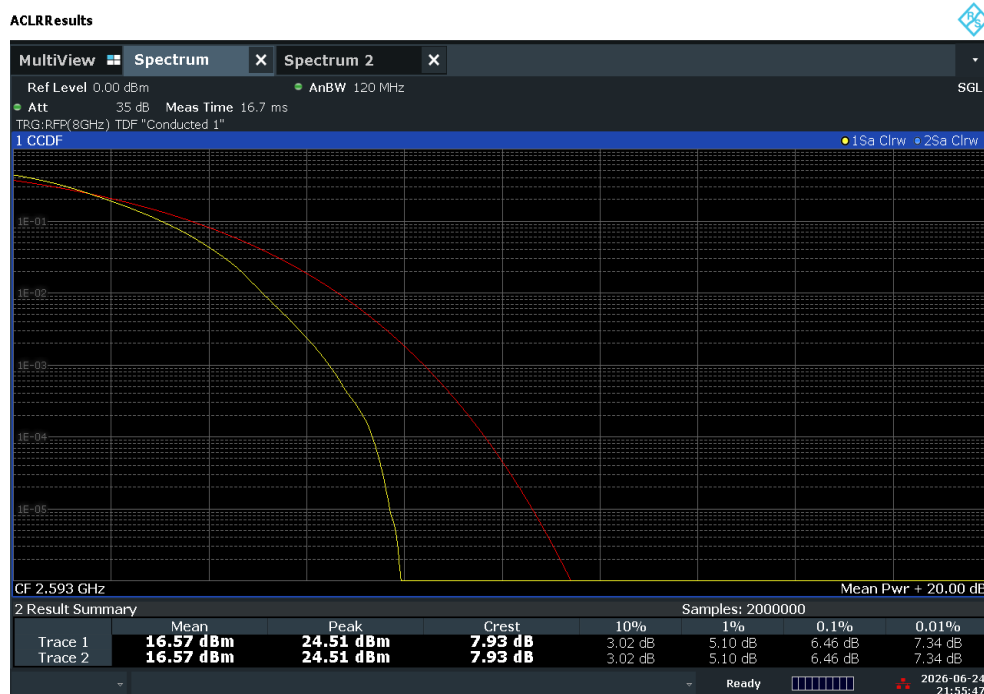
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Plot 4-153 PAPR Plot – NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [BPSK] [SRS S3]



09:56:55 PM 06/24/2026

Plot 4-154 PAPR Plot - NR n41 - [100MHz] [Full RB] [Mid Channel] [DFT-s OFDM] [256QAM] [SRS S3]



09:55:48 PM 06/24/2026

4.6. Band Edge Emissions

4.6.1. Regulatory Limit

§Part. 27.53(m)(4) & RSS-199(5.6)

Equipment shall meet the unwanted emission limits, specified below, outside each frequency block group

§Part. 27.53(m)(4)			RSS-199(5.6)		
Offset from the edge of the frequency block		Limit dBm/MHz	Offset from the edge of the frequency block		Limit dBm/MHz
MHz	MHz		MHz	MHz	
0	1	-10	0	1	-10
1	5	-10	1	5	-10
5	X	-13	5	X	-13
X	Above	-25	X	Above	-25

** X is 6 MHz or the equipment occupied bandwidth, whichever is greater

In addition to complying with the limits in table 5, subscriber equipment other than fixed subscriber equipment shall not exceed -13 dBm/MHz on all frequencies between 2490.5 MHz and 2496 MHz, and -25 dBm/MHz at or below 2490.5 MHz.

4.6.2. Test Method

ANSI C63.26-2015, clause 5.7.3

4.6.3. Test Procedure

The procedure for this method is follows:

- Set the spectrum analyzer center frequency to the block, band, or channel edge frequency.
- Set the span wide enough to capture the fundamental emission closest to the authorized block.
- Set RBW = at least 1 % of the EBW
- Set the VBW $\geq$ RBW
- Set Number of points Sweep $\geq$ 2x span/RBW
- Detector = RMS
- Trace Mode = Average
- Sweep time = Auto (Coupled) or sufficient to investigate

Test Note

- ✓ Per §Part. 27.53(a)(5), in the 1 MHz bands immediately outside and adjacent to the channel blocks at 2305, 2310, 2315, 2320, 2345, 2350, 2355, and 2360 MHz, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.
- ✓ Per §Part. 27.53(m)(4), in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed.
- ✓ Per RSS-195(5.7.3), A smaller resolution bandwidth is permitted provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz. However, in the 1 MHz bands immediately adjacent to the edges of the frequency range(s) in which the equipment is allowed to operate, the power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz.
- ✓ Per RSS-199(5.6), For the unwanted emission limits, in the 1 MHz band immediately outside and adjacent to the frequency block group, the power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth for fixed stations, base stations, and fixed subscriber equipment, and 2% for subscriber equipment other than fixed subscriber equipment. Beyond this 1 MHz band, a resolution bandwidth of 1 MHz shall be used. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz, or 1% or 2% of the occupied bandwidth, as applicable.
- ✓ For cases where the duty cycle was less than 98%, measurements were performed using a gated trigger.
- ✓ All modulation were evaluated, and only the worst-case results are reported herein.
- ✓ Although 1RB and Half RB allocations were evaluated along with the Full RB, only the worst-case results are reported herein.
- ✓ According to the test results in Section 4.4 of the report, 1% of EBW was applied

4.6.4. Test Results

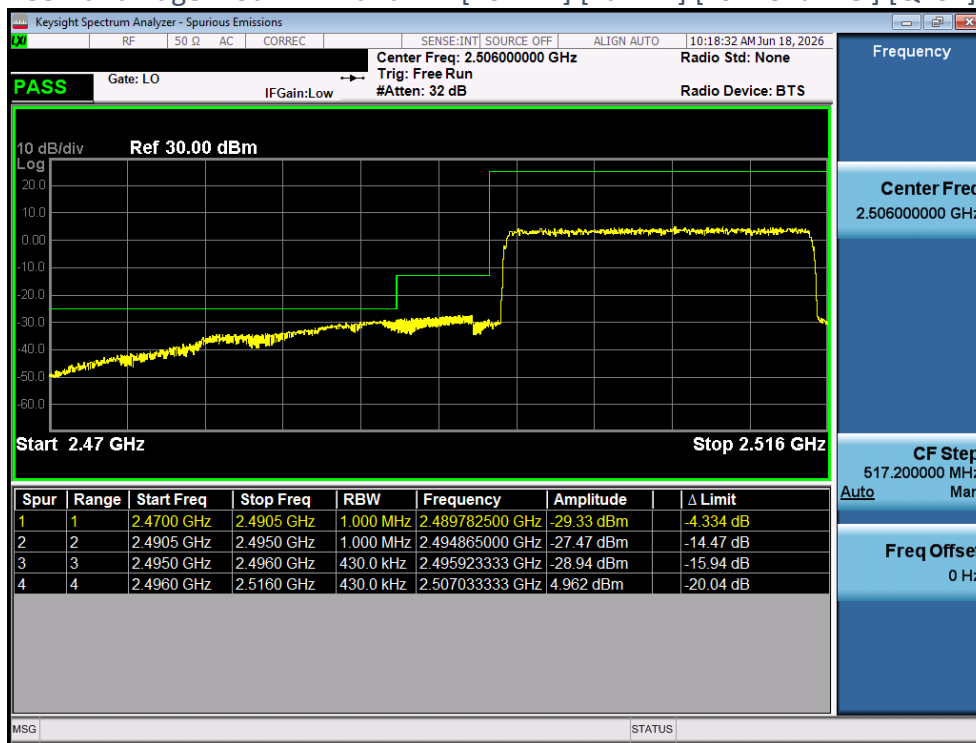
Table 4-22 Band Edge Emissions Data LTE Band 41 Ant 1

Band	BW [MHz]	CH	Frequency [MHz]	Earfcn UL	RB Size/Offset	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 41 (PC3)	20	Low	2506.0	39750	100/0	QPSK	-29.33	-25	-4.33
		High	2680.0	41490	100/0	QPSK	-40.16	-25	-15.16
	15	Low	2503.5	39725	75/0	QPSK	-31.31	-25	-6.31
		High	2682.5	41515	75/0	QPSK	-37.84	-25	-12.84
	10	Low	2501.0	39700	50/0	QPSK	-32.71	-25	-7.71
		High	2685.0	41540	50/0	QPSK	-38.07	-25	-13.07
	5	Low	2498.5	39675	25/0	QPSK	-36.28	-25	-11.28
		High	2687.5	41565	25/0	QPSK	-38.32	-25	-13.32

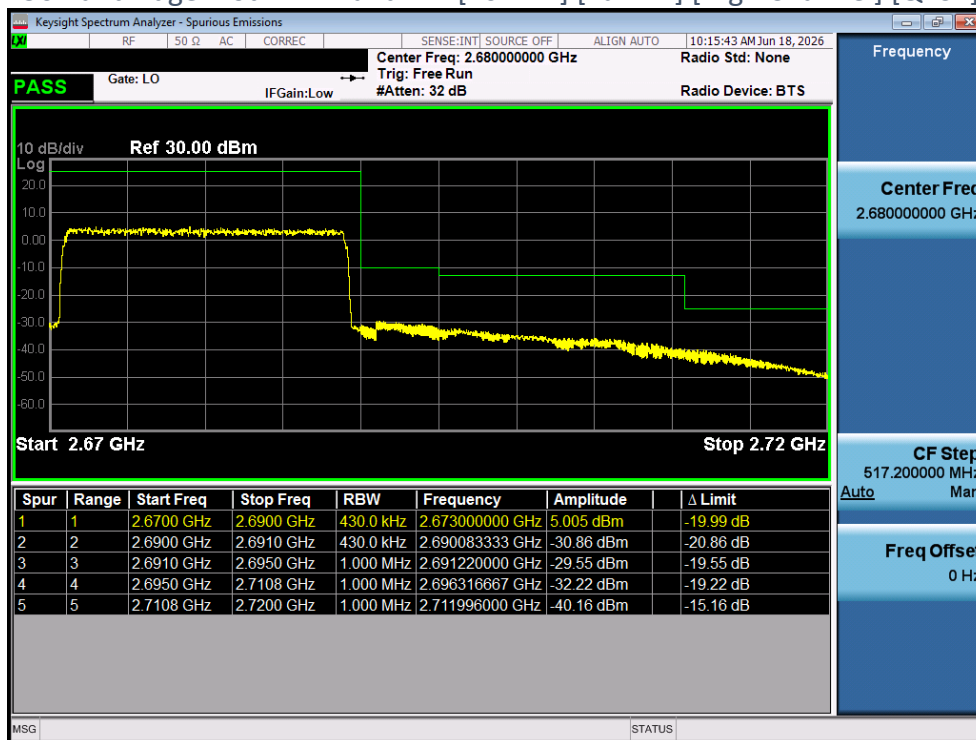
Table 4-23 Band Edge Emissions Data LTE Band 41 Ant 2

Band	BW [MHz]	CH	Frequency [MHz]	Earfcn UL	RB Size/Offset	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 41 (PC2) & (PC3)	20	Low	2506.0	39750	100/0	QPSK	-28.25	-25	-3.25
		High	2680.0	41490	100/0	QPSK	-41.29	-25	-16.29
	15	Low	2503.5	39725	75/0	QPSK	-26.01	-25	-1.01
		High	2682.5	41515	75/0	QPSK	-39.40	-25	-14.40
	10	Low	2501.0	39700	50/0	QPSK	-29.18	-25	-4.18
		High	2685.0	41540	50/0	QPSK	-39.64	-25	-14.64
	5	Low	2498.5	39675	25/0	QPSK	-20.53	-13	-7.53
		High	2687.5	41565	25/0	QPSK	-35.91	-25	-10.91

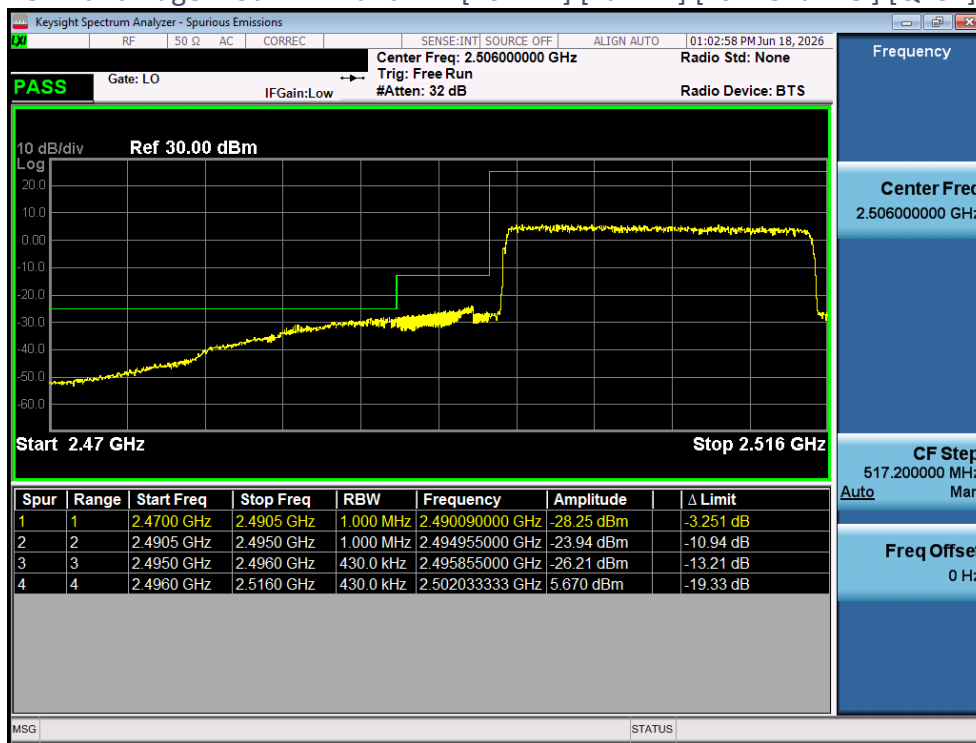
Plot 4-155 Band Edge Plot - LTE Band41 - [20MHz] [Full RB] [Low Channel] [QPSK] [Ant 1]



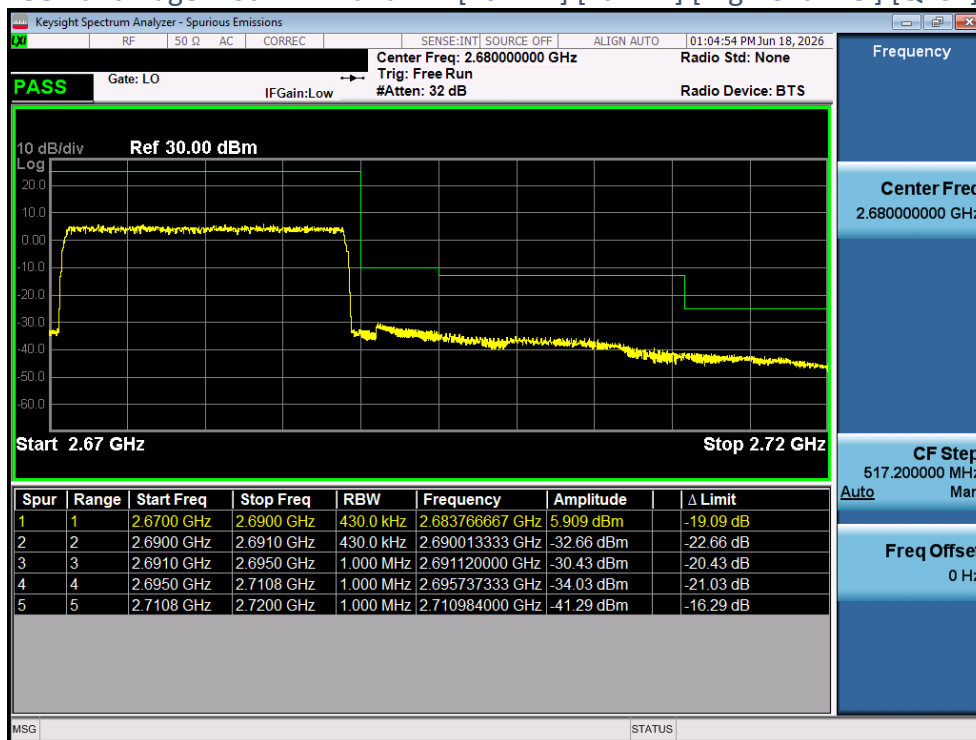
Plot 4-156 Band Edge Plot - LTE Band41 - [20MHz] [Full RB] [High Channel] [QPSK] [Ant 1]



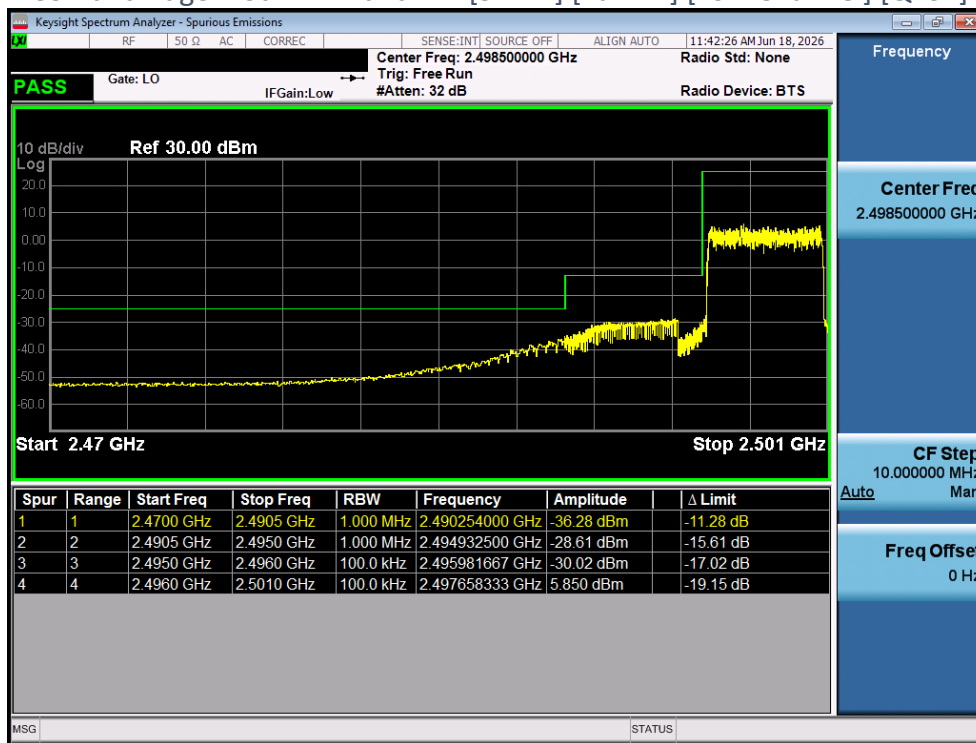
Plot 4-157 Band Edge Plot - LTE Band41 - [20MHz] [Full RB] [Low Channel] [QPSK] [Ant 2]



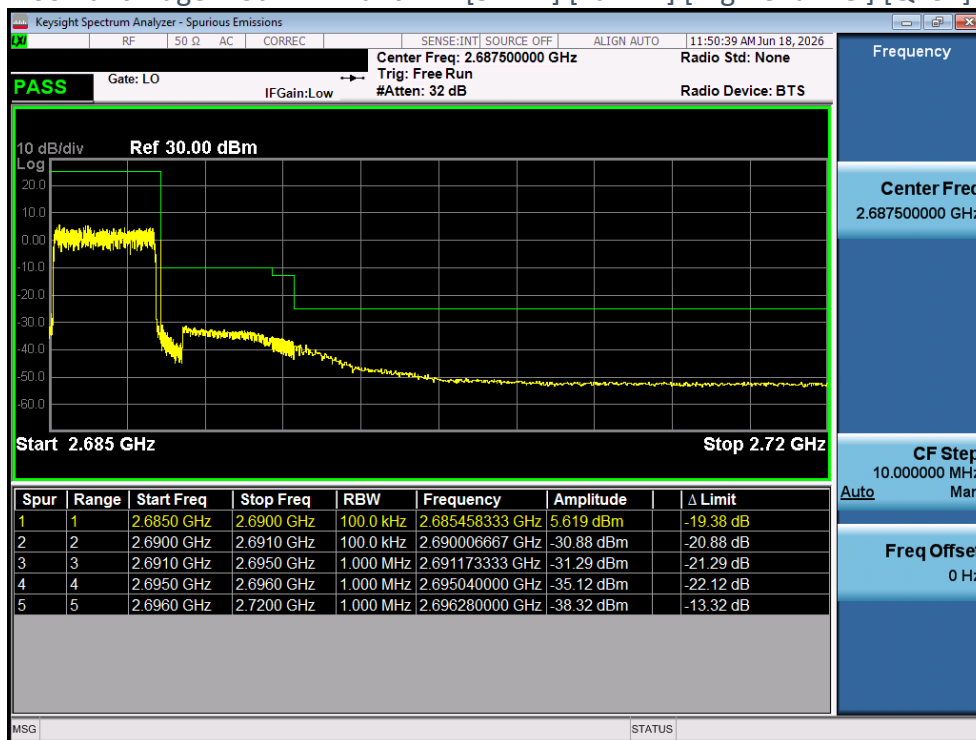
Plot 4-158 Band Edge Plot - LTE Band41 - [20MHz] [Full RB] [High Channel] [QPSK] [Ant 2]



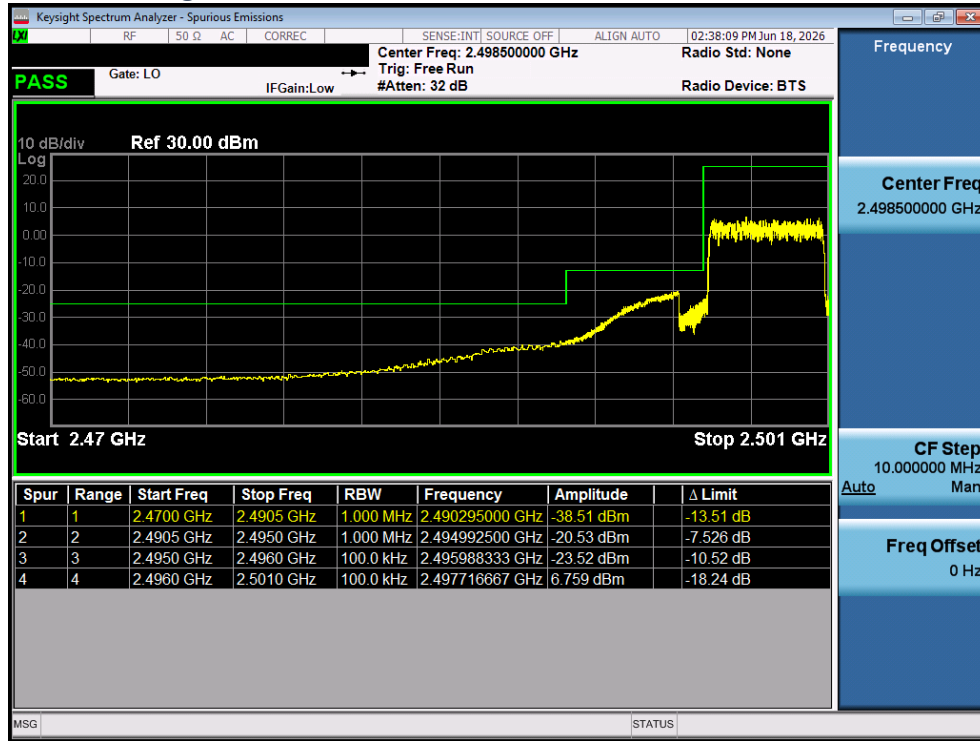
Plot 4-159 Band Edge Plot - LTE Band41 - [5MHz] [Full RB] [Low Channel] [QPSK] [Ant 1]



Plot 4-160 Band Edge Plot - LTE Band41 - [5MHz] [Full RB] [High Channel] [QPSK] [Ant 1]



Plot 4-161 Band Edge Plot - LTE Band41 - [5MHz] [Full RB] [Low Channel] [QPSK] [Ant 2]



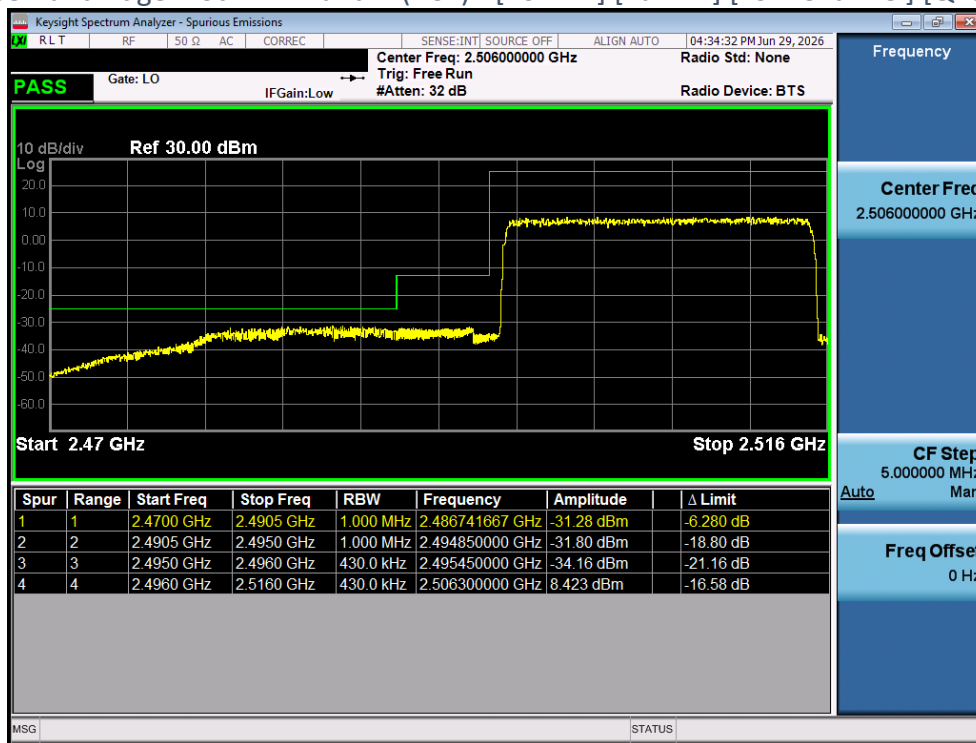
Plot 4-162 Band Edge Plot - LTE Band41 - [5MHz] [Full RB] [High Channel] [QPSK] [Ant 2]



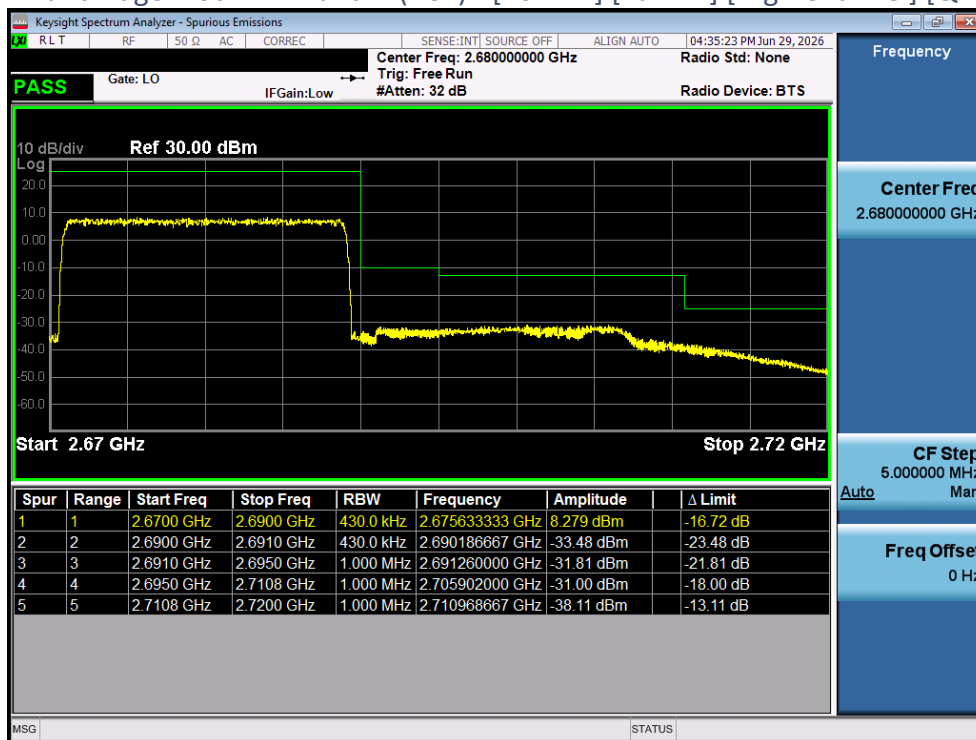
Table 4-24 Band Edge Emissions Data LTE Band 41(PC2) Ant 1

Band	BW [MHz]	CH	Frequency [MHz]	Earfcn UL	RB Size/Offset	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 41 (PC2)	20	Low	2506.0	39750	100/0	QPSK	-31.28	-25	-6.28
		High	2680.0	41490	100/0	QPSK	-38.11	-25	-13.11
	15	Low	2503.5	39725	75/0	QPSK	-29.96	-25	-4.96
		High	2682.5	41515	75/0	QPSK	-35.53	-25	-10.53
	10	Low	2501.0	39700	50/0	QPSK	-31.12	-25	-6.12
		High	2685.0	41540	50/0	QPSK	-35.50	-25	-10.50
	5	Low	2498.5	39675	25/0	QPSK	-33.85	-25	-8.85
		High	2687.5	41565	25/0	QPSK	-33.61	-25	-8.61

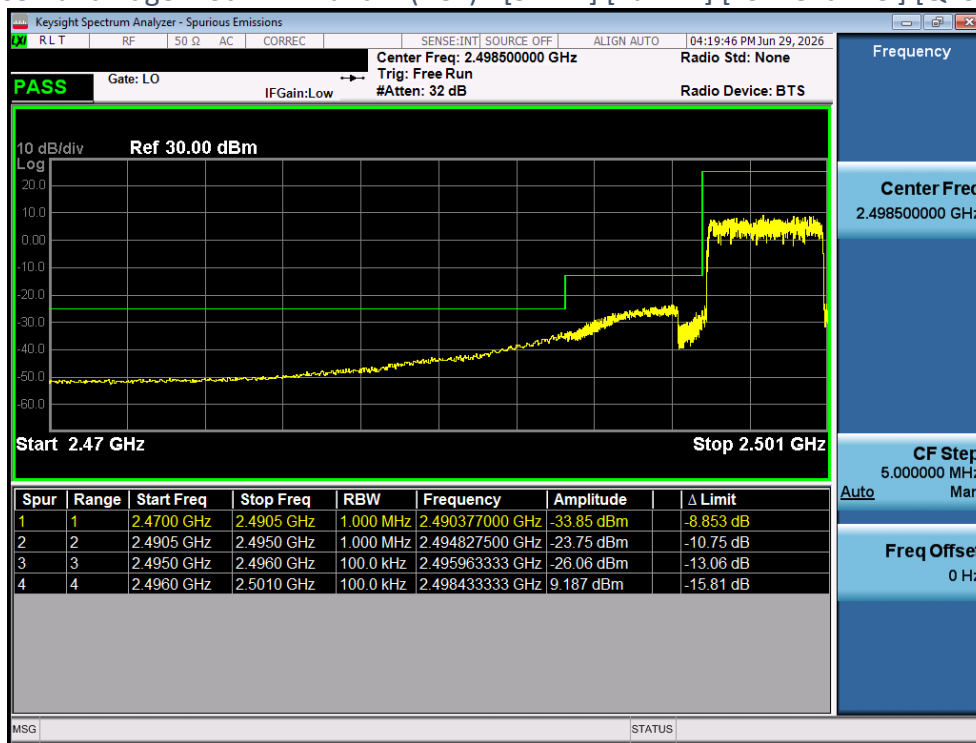
Plot 4-163 Band Edge Plot - LTE Band41(PC2) - [20MHz] [Full RB] [Low Channel] [QPSK] [Ant 1]



Plot 4-164 Band Edge Plot - LTE Band41(PC2) - [20MHz] [Full RB] [High Channel] [QPSK] [Ant 1]



Plot 4-165 Band Edge Plot - LTE Band41(PC2) - [5MHz] [Full RB] [Low Channel] [QPSK] [Ant 1]



Plot 4-166 Band Edge Plot - LTE Band41(PC2) - [5MHz] [Full RB] [High Channel] [QPSK] [Ant 1]



Table 4-25 Band Edge Emissions Data NR n41 Ant 1

Band	BW [MHz]	Channel	Freq [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	270/0	DFT-s-OFDM	BPSK	-35.54	-25	-10.54
					270/0	DFT-s-OFDM	QPSK	-35.66	-25	-10.66
					273/0	CP-OFDM	QPSK	-36.05	-25	-11.05
		High	2640.00	528000	270/0	DFT-s-OFDM	BPSK	-34.30	-10	-24.30
					270/0	DFT-s-OFDM	QPSK	-38.18	-13	-25.18
					273/0	CP-OFDM	QPSK	-37.68	-13	-24.68
	90	Low	2541.00	508200	243/0	DFT-s-OFDM	BPSK	-37.13	-25	-12.13
					243/0	DFT-s-OFDM	QPSK	-36.67	-25	-11.67
					245/0	CP-OFDM	QPSK	-36.33	-25	-11.33
		High	2644.98	528996	243/0	DFT-s-OFDM	BPSK	-36.30	-13	-23.30
					243/0	DFT-s-OFDM	QPSK	-35.47	-13	-22.47
					245/0	CP-OFDM	QPSK	-37.82	-13	-24.82
	80	Low	2536.02	507204	216/0	DFT-s-OFDM	BPSK	-36.69	-25	-11.69
					216/0	DFT-s-OFDM	QPSK	-35.39	-25	-10.39
					217/0	CP-OFDM	QPSK	-35.45	-25	-10.45
		High	2649.99	529998	216/0	DFT-s-OFDM	BPSK	-38.22	-13	-25.22
					216/0	DFT-s-OFDM	QPSK	-36.79	-13	-23.79
					217/0	CP-OFDM	QPSK	-36.43	-13	-23.43
	70	Low	2531.01	506202	180/0	DFT-s-OFDM	BPSK	-35.09	-25	-10.09
					180/0	DFT-s-OFDM	QPSK	-33.90	-25	-8.90
					189/0	CP-OFDM	QPSK	-34.74	-25	-9.74
		High	2655.00	531000	180/0	DFT-s-OFDM	BPSK	-34.49	-13	-21.49
					180/0	DFT-s-OFDM	QPSK	-32.64	-10	-22.64
					189/0	CP-OFDM	QPSK	-36.00	-13	-23.00
	60	Low	2526.00	505200	162/0	DFT-s-OFDM	BPSK	-36.60	-25	-11.60
					162/0	DFT-s-OFDM	QPSK	-35.03	-25	-10.03
					162/0	CP-OFDM	QPSK	-33.43	-25	-8.43
		High	2659.98	531996	162/0	DFT-s-OFDM	BPSK	-33.12	-13	-20.12
					162/0	DFT-s-OFDM	QPSK	-31.13	-10	-21.13
					162/0	CP-OFDM	QPSK	-35.03	-13	-22.03
	50	Low	2521.02	504204	128/0	DFT-s-OFDM	BPSK	-36.48	-25	-11.48
					128/0	DFT-s-OFDM	QPSK	-33.99	-25	-8.99
					133/0	CP-OFDM	QPSK	-34.14	-25	-9.14
		High	2664.99	532998	128/0	DFT-s-OFDM	BPSK	-33.67	-10	-23.67
					128/0	DFT-s-OFDM	QPSK	-35.43	-13	-22.43
					133/0	CP-OFDM	QPSK	-34.67	-13	-21.67

	40	Low	2516.01	503202	100/0	DFT-s-OFDM	BPSK	-34.30	-25	-9.30
					100/0	DFT-s-OFDM	QPSK	-33.52	-25	-8.52
					106/0	CP-OFDM	QPSK	-33.71	-25	-8.71
		High	2670.00	534000	100/0	DFT-s-OFDM	BPSK	-33.26	-13	-20.26
					100/0	DFT-s-OFDM	QPSK	-31.59	-13	-18.59
					106/0	CP-OFDM	QPSK	-30.12	-10	-20.12
	30	Low	2511.00	502200	75/0	DFT-s-OFDM	BPSK	-34.09	-25	-9.09
					75/0	DFT-s-OFDM	QPSK	-33.48	-25	-8.48
					78/0	CP-OFDM	QPSK	-33.85	-25	-8.85
		High	2674.98	534996	75/0	DFT-s-OFDM	BPSK	-32.67	-13	-19.67
					75/0	DFT-s-OFDM	QPSK	-42.71	-25	-17.71
					78/0	CP-OFDM	QPSK	-45.67	-25	-20.67
	25	Low	2508.50	501204	64/0	DFT-s-OFDM	BPSK	-34.49	-25	-9.49
					64/0	DFT-s-OFDM	QPSK	-34.20	-25	-9.20
					65/0	CP-OFDM	QPSK	-33.54	-25	-8.54
		High	2677.50	535998	64/0	DFT-s-OFDM	BPSK	-34.74	-25	-9.74
					64/0	DFT-s-OFDM	QPSK	-33.48	-25	-8.48
					65/0	CP-OFDM	QPSK	-38.84	-25	-13.84
	20	Low	2506.02	501204	50/0	DFT-s-OFDM	BPSK	-38.02	-25	-13.02
					50/0	DFT-s-OFDM	QPSK	-36.51	-25	-11.51
					51/0	CP-OFDM	QPSK	-35.97	-25	-10.97
		High	2679.99	535998	50/0	DFT-s-OFDM	BPSK	-39.85	-25	-14.85
					50/0	DFT-s-OFDM	QPSK	-37.30	-25	-12.30
					51/0	CP-OFDM	QPSK	-39.65	-25	-14.65
	15	Low	2503.50	500700	36/0	DFT-s-OFDM	BPSK	-37.80	-25	-12.80
					36/0	DFT-s-OFDM	QPSK	-35.83	-25	-10.83
					38/0	CP-OFDM	QPSK	-34.94	-25	-9.94
		High	2682.48	536496	36/0	DFT-s-OFDM	BPSK	-32.63	-13	-19.63
					36/0	DFT-s-OFDM	QPSK	-32.50	-13	-19.50
					38/0	CP-OFDM	QPSK	-32.85	-13	-19.85
	10	Low	2501.01	500202	24/0	DFT-s-OFDM	BPSK	-38.28	-25	-13.28
					24/0	DFT-s-OFDM	QPSK	-35.36	-25	-10.36
					24/0	CP-OFDM	QPSK	-34.90	-25	-9.90
		High	2685.00	537000	24/0	DFT-s-OFDM	BPSK	-33.49	-13	-20.49
					24/0	DFT-s-OFDM	QPSK	-31.52	-13	-18.52
					24/0	CP-OFDM	QPSK	-29.46	-10	-19.46

Table 4-26 Band Edge Emissions Data NR n41 Ant 2

Band	BW [MHz]	Channel	Freq [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	270/0	DFT-s-OFDM	BPSK	-41.16	-25	-16.16
					270/0	DFT-s-OFDM	QPSK	-39.55	-25	-14.55
					273/0	CP-OFDM	QPSK	-40.10	-25	-15.10
		High	2640.00	528000	270/0	DFT-s-OFDM	BPSK	-35.32	-10	-25.32
					270/0	DFT-s-OFDM	QPSK	-36.94	-13	-23.94
					273/0	CP-OFDM	QPSK	-36.78	-13	-23.78
	90	Low	2541.00	508200	243/0	DFT-s-OFDM	BPSK	-38.47	-25	-13.47
					243/0	DFT-s-OFDM	QPSK	-37.51	-25	-12.51
					245/0	CP-OFDM	QPSK	-37.63	-25	-12.63
		High	2644.98	528996	243/0	DFT-s-OFDM	BPSK	-36.69	-10	-26.69
					243/0	DFT-s-OFDM	QPSK	-36.34	-13	-23.34
					245/0	CP-OFDM	QPSK	-36.10	-13	-23.10
	80	Low	2536.02	507204	216/0	DFT-s-OFDM	BPSK	-36.91	-25	-11.91
					216/0	DFT-s-OFDM	QPSK	-36.11	-25	-11.11
					217/0	CP-OFDM	QPSK	-37.23	-25	-12.23
		High	2649.99	529998	216/0	DFT-s-OFDM	BPSK	-39.11	-13	-26.11
					216/0	DFT-s-OFDM	QPSK	-35.90	-13	-22.90
					217/0	CP-OFDM	QPSK	-35.49	-13	-22.49
	70	Low	2531.01	506202	180/0	DFT-s-OFDM	BPSK	-37.02	-25	-12.02
					180/0	DFT-s-OFDM	QPSK	-36.23	-25	-11.23
					189/0	CP-OFDM	QPSK	-36.97	-25	-11.97
		High	2655.00	531000	180/0	DFT-s-OFDM	BPSK	-31.15	-10	-21.15
					180/0	DFT-s-OFDM	QPSK	-32.66	-13	-19.66
					189/0	CP-OFDM	QPSK	-34.60	-13	-21.60
	60	Low	2526.00	505200	162/0	DFT-s-OFDM	BPSK	-36.80	-25	-11.80
					162/0	DFT-s-OFDM	QPSK	-35.82	-25	-10.82
					162/0	CP-OFDM	QPSK	-37.03	-25	-12.03
		High	2659.98	531996	162/0	DFT-s-OFDM	BPSK	-30.77	-10	-20.77
					162/0	DFT-s-OFDM	QPSK	-32.47	-13	-19.47
					162/0	CP-OFDM	QPSK	-33.87	-13	-20.87
	50	Low	2521.02	504204	128/0	DFT-s-OFDM	BPSK	-39.21	-25	-14.21
					128/0	DFT-s-OFDM	QPSK	-37.44	-25	-12.44
					133/0	CP-OFDM	QPSK	-38.52	-25	-13.52
		High	2664.99	532998	128/0	DFT-s-OFDM	BPSK	-28.26	-10	-18.26
					128/0	DFT-s-OFDM	QPSK	-29.56	-13	-16.56
					133/0	CP-OFDM	QPSK	-32.38	-13	-19.38

	40	Low	2516.01	503202	100/0	DFT-s-OFDM	BPSK	-34.13	-25	-9.13
					100/0	DFT-s-OFDM	QPSK	-29.28	-25	-4.28
					106/0	CP-OFDM	QPSK	-30.90	-25	-5.90
		High	2670.00	534000	100/0	DFT-s-OFDM	BPSK	-27.10	-10	-17.10
					100/0	DFT-s-OFDM	QPSK	-29.72	-13	-16.72
					106/0	CP-OFDM	QPSK	-30.95	-13	-17.95
	30	Low	2511.00	502200	75/0	DFT-s-OFDM	BPSK	-32.83	-25	-7.83
					75/0	DFT-s-OFDM	QPSK	-28.65	-25	-3.65
					78/0	CP-OFDM	QPSK	-28.89	-25	-3.89
		High	2674.98	534996	75/0	DFT-s-OFDM	BPSK	-28.44	-10	-18.44
					75/0	DFT-s-OFDM	QPSK	-27.94	-13	-14.94
					78/0	CP-OFDM	QPSK	-41.67	-25	-16.67
	25	Low	2508.50	501204	64/0	DFT-s-OFDM	BPSK	-37.23	-25	-12.23
					64/0	DFT-s-OFDM	QPSK	-29.41	-25	-4.41
					65/0	CP-OFDM	QPSK	-28.60	-25	-3.60
		High	2677.50	535998	64/0	DFT-s-OFDM	BPSK	-42.67	-25	-17.67
					64/0	DFT-s-OFDM	QPSK	-37.09	-25	-12.09
					65/0	CP-OFDM	QPSK	-25.67	-13	-12.67
	20	Low	2506.02	501204	50/0	DFT-s-OFDM	BPSK	-35.28	-25	-10.28
					50/0	DFT-s-OFDM	QPSK	-31.31	-25	-6.31
					51/0	CP-OFDM	QPSK	-29.58	-25	-4.58
		High	2679.99	535998	50/0	DFT-s-OFDM	BPSK	-43.35	-25	-18.35
					50/0	DFT-s-OFDM	QPSK	-34.61	-25	-9.61
					51/0	CP-OFDM	QPSK	-39.63	-25	-14.63
	15	Low	2503.50	500700	36/0	DFT-s-OFDM	BPSK	-27.69	-25	-2.69
					36/0	DFT-s-OFDM	QPSK	-27.98	-25	-2.98
					38/0	CP-OFDM	QPSK	-27.25	-25	-2.25
		High	2682.48	536496	36/0	DFT-s-OFDM	BPSK	-28.23	-13	-15.23
					36/0	DFT-s-OFDM	QPSK	-24.99	-13	-11.99
					38/0	CP-OFDM	QPSK	-23.34	-10	-13.34
	10	Low	2501.01	500202	24/0	DFT-s-OFDM	BPSK	-30.80	-25	-5.80
					24/0	DFT-s-OFDM	QPSK	-27.97	-25	-2.97
					24/0	CP-OFDM	QPSK	-30.66	-25	-5.66
		High	2685.00	537000	24/0	DFT-s-OFDM	BPSK	-30.68	-10	-20.68
					24/0	DFT-s-OFDM	QPSK	-25.10	-10	-15.10
					24/0	CP-OFDM	QPSK	-21.42	-10	-11.42

Table 4-27 Band Edge Emissions Data NR n41 SRS D1

Band	BW [MHz]	CH	Freq [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	270/0	DFT-s-OFDM	BPSK	-49.20	-25	-24.20
					270/0	DFT-s-OFDM	QPSK	-46.91	-25	-21.91
					273/0	CP-OFDM	QPSK	-44.81	-25	-19.81
		High	2640.00	528000	270/0	DFT-s-OFDM	BPSK	-51.58	-25	-26.58
					270/0	DFT-s-OFDM	QPSK	-51.64	-25	-26.64
					273/0	CP-OFDM	QPSK	-51.46	-25	-26.46

Table 4-28 Band Edge Emissions Data NR n41 SRS D2

Band	BW [MHz]	CH	Freq [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	270/0	DFT-s-OFDM	BPSK	-46.76	-25	-21.76
					270/0	DFT-s-OFDM	QPSK	-44.93	-25	-19.93
					273/0	CP-OFDM	QPSK	-43.98	-25	-18.98
		High	2640.00	528000	270/0	DFT-s-OFDM	BPSK	-51.70	-25	-26.70
					270/0	DFT-s-OFDM	QPSK	-51.62	-25	-26.62
					273/0	CP-OFDM	QPSK	-51.48	-25	-26.48

Table 4-29 Band Edge Emissions Data NR n41 SRS D3

Band	BW [MHz]	CH	Freq [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	270/0	DFT-s-OFDM	BPSK	-48.23	-25	-23.23
					270/0	DFT-s-OFDM	QPSK	-45.78	-25	-20.78
					273/0	CP-OFDM	QPSK	-41.94	-25	-16.94
		High	2640.00	528000	270/0	DFT-s-OFDM	BPSK	-53.49	-25	-28.49
					270/0	DFT-s-OFDM	QPSK	-53.50	-25	-28.50
					273/0	CP-OFDM	QPSK	-53.62	-25	-28.62

Table 4-30 Band Edge Emissions Data NR n41 SRS S1

Band	BW [MHz]	CH	Freq [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	270/0	DFT-s-OFDM	BPSK	-48.14	-25	-23.14
					270/0	DFT-s-OFDM	QPSK	-43.90	-25	-18.90
					273/0	CP-OFDM	QPSK	-44.02	-25	-19.02
		High	2640.00	528000	270/0	DFT-s-OFDM	BPSK	-53.60	-25	-28.60
					270/0	DFT-s-OFDM	QPSK	-53.73	-25	-28.73
					273/0	CP-OFDM	QPSK	-53.55	-25	-28.55

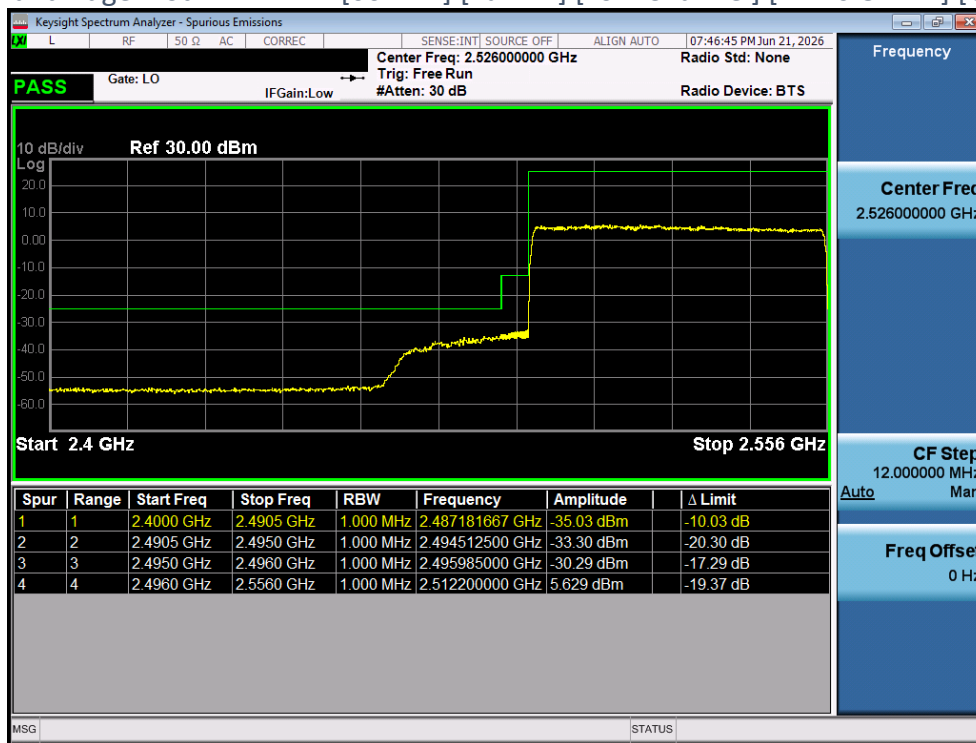
Table 4-31 Band Edge Emissions Data NR n41 SRS S2

Band	BW [MHz]	CH	Freq [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	270/0	DFT-s-OFDM	BPSK	-48.28	-25	-23.28
					270/0	DFT-s-OFDM	QPSK	-44.22	-25	-19.22
					273/0	CP-OFDM	QPSK	-42.31	-25	-17.31
		High	2640.00	528000	270/0	DFT-s-OFDM	BPSK	-53.60	-25	-28.60
					270/0	DFT-s-OFDM	QPSK	-53.65	-25	-28.65
					273/0	CP-OFDM	QPSK	-53.72	-25	-28.72

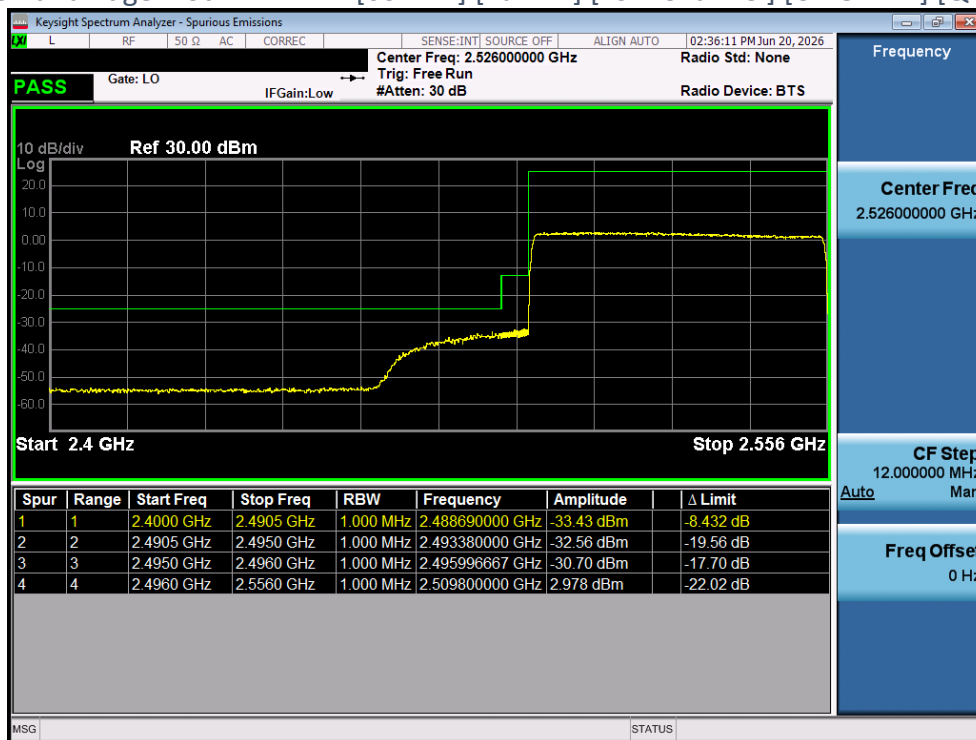
Table 4-32 Band Edge Emissions Data NR n41 SRS S3

Band	BW [MHz]	CH	Freq [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	270/0	DFT-s-OFDM	BPSK	-46.03	-25	-21.03
					270/0	DFT-s-OFDM	QPSK	-43.92	-25	-18.92
					273/0	CP-OFDM	QPSK	-40.66	-25	-15.66
		High	2640.00	528000	270/0	DFT-s-OFDM	BPSK	-53.64	-25	-28.64
					270/0	DFT-s-OFDM	QPSK	-53.57	-25	-28.57
					273/0	CP-OFDM	QPSK	-40.79	-13	-27.79

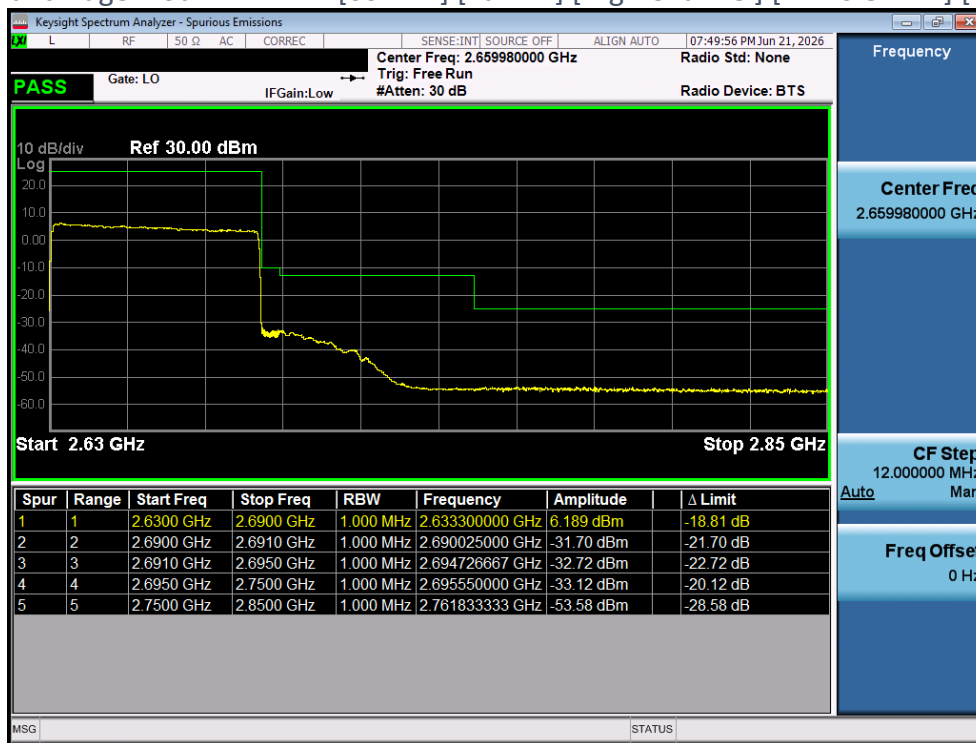
Plot 4-167 Band Edge Plot – NR n41 - [60MHz] [Full RB] [Low Channel] [DFT-s OFDM] [QPSK] [Ant 1]



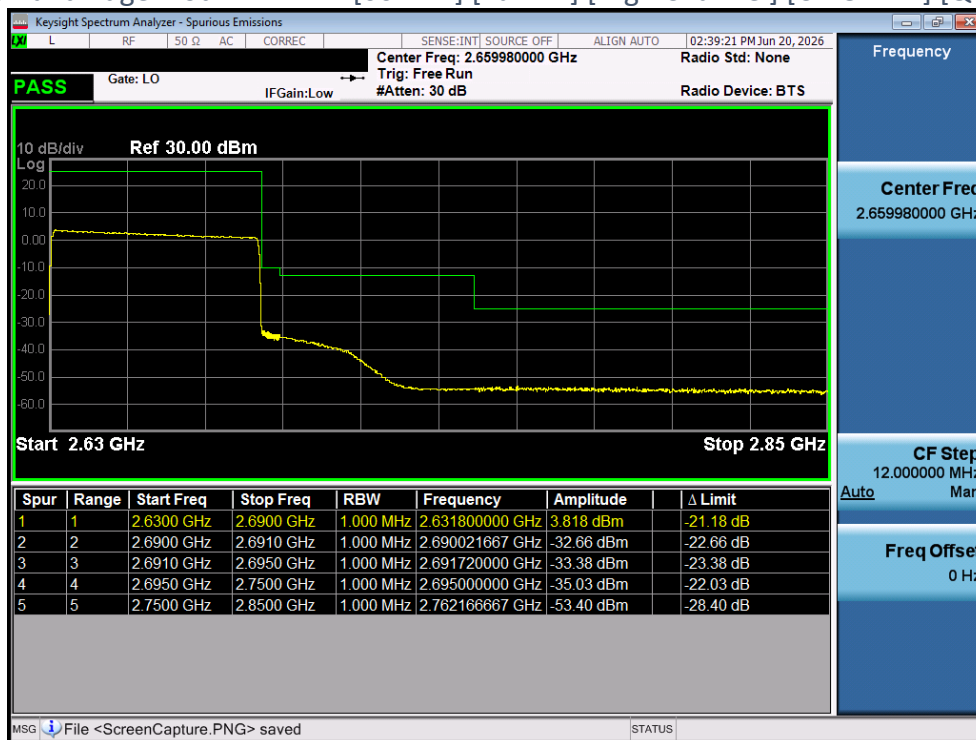
Plot 4-168 Band Edge Plot - NR n41 - [60MHz] [Full RB] [Low Channel] [CP-OFDM] [QPSK] [Ant 1]



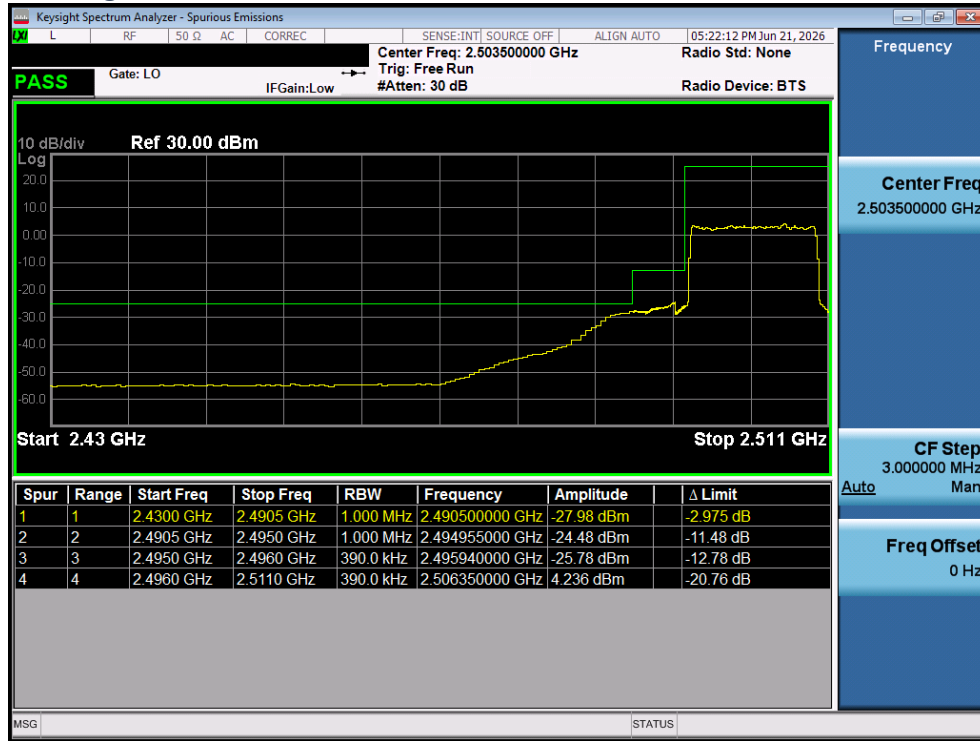
Plot 4-169 Band Edge Plot – NR n41 - [60MHz] [Full RB] [High Channel] [DFT-s OFDM] [QPSK] [Ant 1]



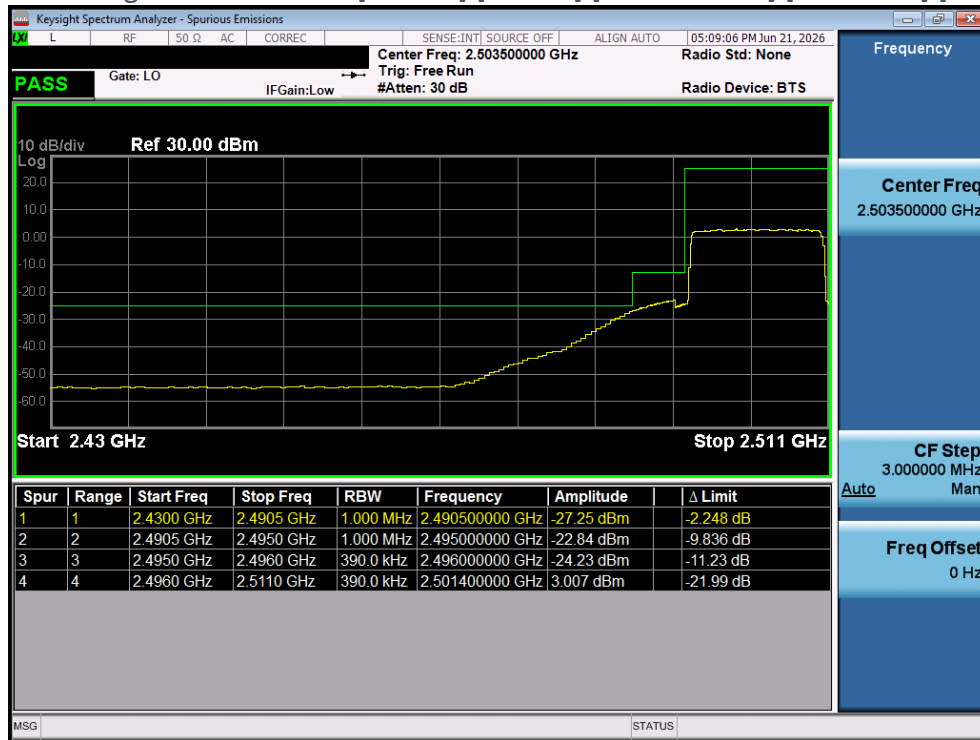
Plot 4-170 Band Edge Plot - NR n41 - [60MHz] [Full RB] [High Channel] [CP-OFDM] [QPSK] [Ant 1]



Plot 4-171 Band Edge Plot – NR n41 - [15MHz] [Full RB] [Low Channel] [DFT-s OFDM] [QPSK] [Ant 2]



Plot 4-172 Band Edge Plot - NR n41 - [15MHz] [Full RB] [Low Channel] [CP-OFDM] [QPSK] [Ant 2]



Plot 4-173 Band Edge Plot – NR n41 - [15MHz] [Full RB] [High Channel] [DFT-s OFDM] [QPSK] [Ant 2]



Plot 4-174 Band Edge Plot - NR n41 - [15MHz] [Full RB] [High Channel] [CP-OFDM] [QPSK] [Ant 2]



4.7. Conducted Spurious Emissions

4.7.1. Regulatory Limit

§Part. 27.53(m)(4) & RSS-199(5.6)

Equipment shall meet the unwanted emission limits, specified below, outside each frequency block group

§Part. 27.53(m)(4)			RSS-199(5.6)		
Offset from the edge of the frequency block		Limit dBm/MHz	Offset from the edge of the frequency block		Limit dBm/MHz
MHz	MHz		MHz	MHz	
0	1	-10	0	1	-10
1	5	-10	1	5	-10
5	X	-13	5	X	-13
X	Above	-25	X	Above	-25

** X is 6 MHz or the equipment occupied bandwidth, whichever is greater

In addition to complying with the limits in table 5, subscriber equipment other than fixed subscriber equipment shall not exceed -13 dBm/MHz on all frequencies between 2490.5 MHz and 2496 MHz, and -25 dBm/MHz at or below 2490.5 MHz.

4.7.2. Test Method

ANSI C63.26-2015, clause 5.7.4

4.7.3. Test Procedure

The measurement range defined by the start and stop frequencies was subdivided based on the frequency block requirements. The procedure for this method is follows:

- Set RBW = 1 MHz
- Set the VBW $\geq 3 \times$ RBW.
- Detector = RMS
- Trace Mode = Average
- Set Number of points Sweep $\geq 2 \times$ (span / RBW)
- When unwanted noise or emissions are detected close to the limit, the sweep time is increased to perform a detailed measurement and capture the accurate signal level. (sweep time > number of points in sweep $\times$ symbol period)

Test Note

- ✓ All out of band spurious emissions were measured up to more than the 10th harmonic.
- ✓ Tests were conducted under LTE Band QPSK modulation, which represents the worst-case scenario with the highest power level across all bandwidths.
- ✓ Tests were conducted under NR Band DFT-s OFDM BPSK modulation, which represents the worst-case scenario with the highest power level across all bandwidths.
- ✓ Although all transmission bandwidths and RB allocations including Full RB and 1 RB were evaluated, only the worst-case results are reported herein.
- ✓ Frequency Ranges A, B and C represent separate out-of-band emission frequency ranges for each operating band.

4.7.4. Test Results

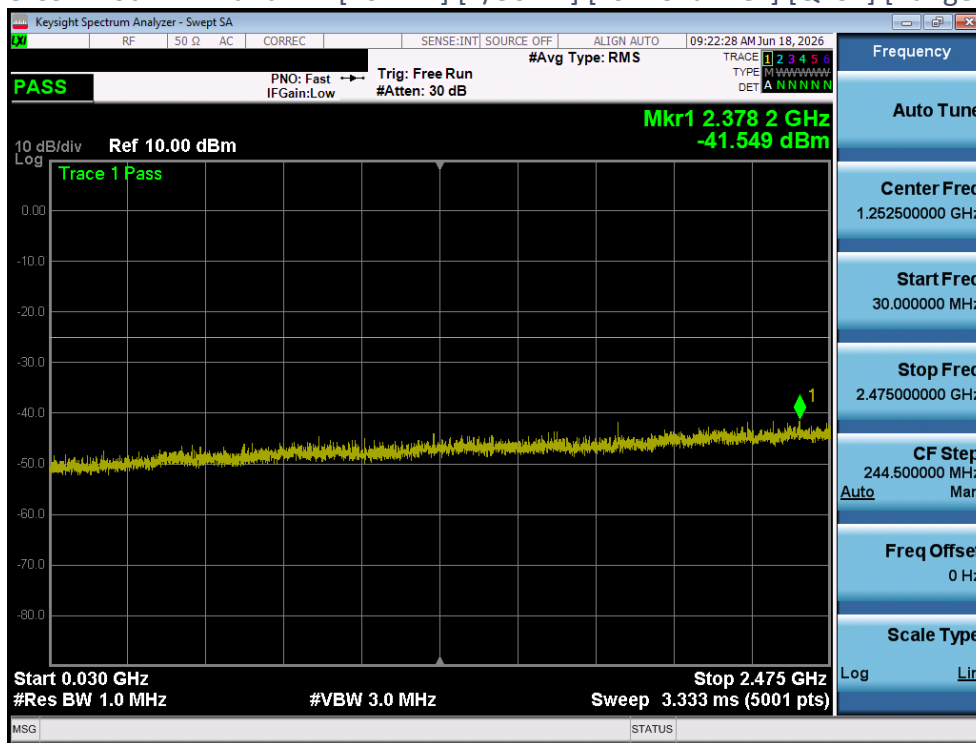
Table 4-33 Conducted Spurious Emissions Data LTE Band 41 Ant1

Band	BW [MHz]	Channel	Frequency [MHz]	RB Size/Offset	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 41 (PC3)	20	Low	2506	1/50	QPSK	A	-41.55	-25	-16.55
						B	-37.07	-25	-12.07
						C	-47.13	-25	-22.13
		Mid	2593	1/50	QPSK	A	-41.97	-25	-16.97
						B	-36.40	-25	-11.40
						C	-46.92	-25	-21.92
		High	2680	1/50	QPSK	A	-41.46	-25	-16.46
						B	-37.57	-25	-12.57
						C	-47.01	-25	-22.01

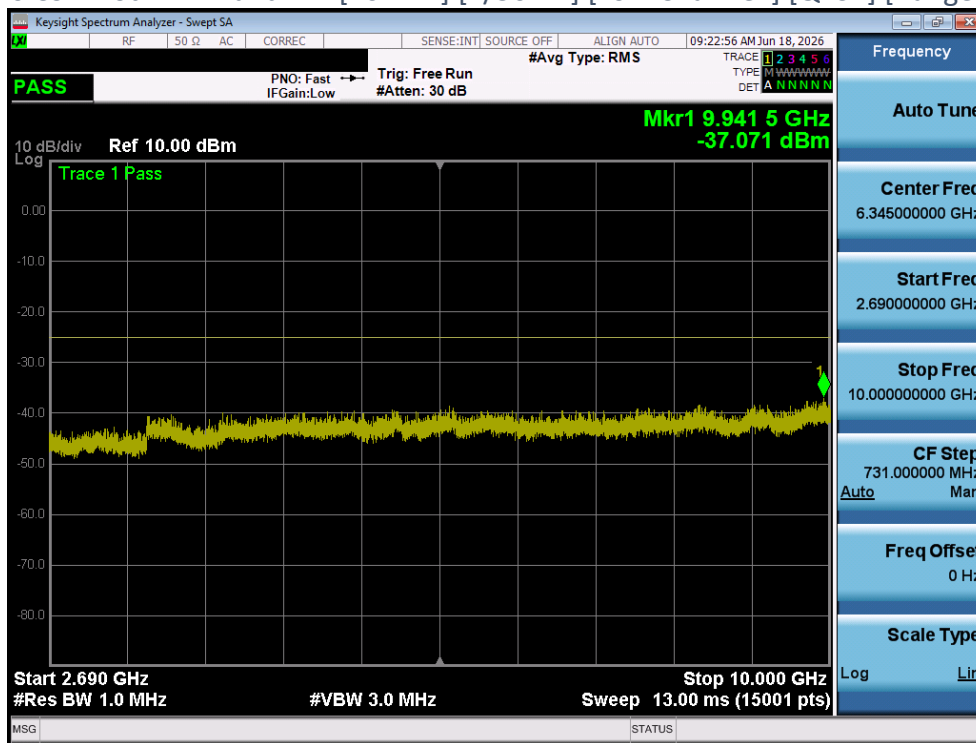
Table 4-34 Conducted Spurious Emissions Data LTE Band 41 Ant2

Band	BW [MHz]	Channel	Frequency [MHz]	RB Size/Offset	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 41 (PC2) & (PC3)	20	Low	2506	1/50	QPSK	A	-41.71	-25	-16.71
						B	-36.94	-25	-11.94
						C	-46.93	-25	-21.93
		Mid	2593	1/50	QPSK	A	-40.57	-25	-15.57
						B	-37.49	-25	-12.49
						C	-46.93	-25	-21.93
		High	2680	1/50	QPSK	A	-41.81	-25	-16.81
						B	-36.99	-25	-11.99
						C	-46.89	-25	-21.89

Plot 4-175 CSE Plot - LTE Band41 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range A] [Ant 1]



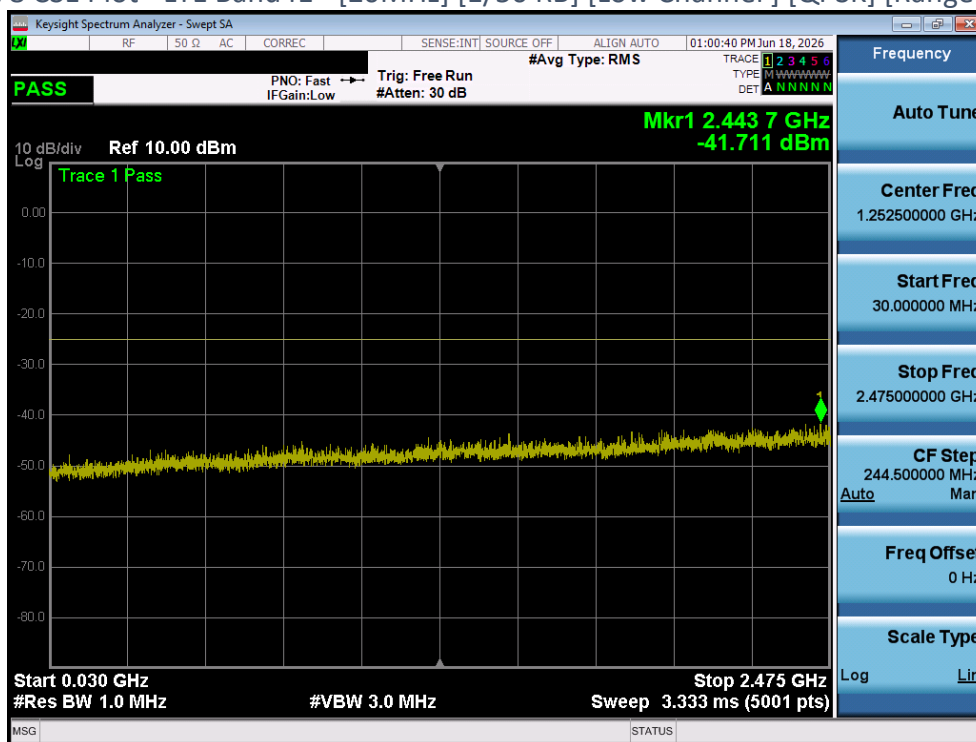
Plot 4-176 CSE Plot - LTE Band41 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range B] [Ant 1]



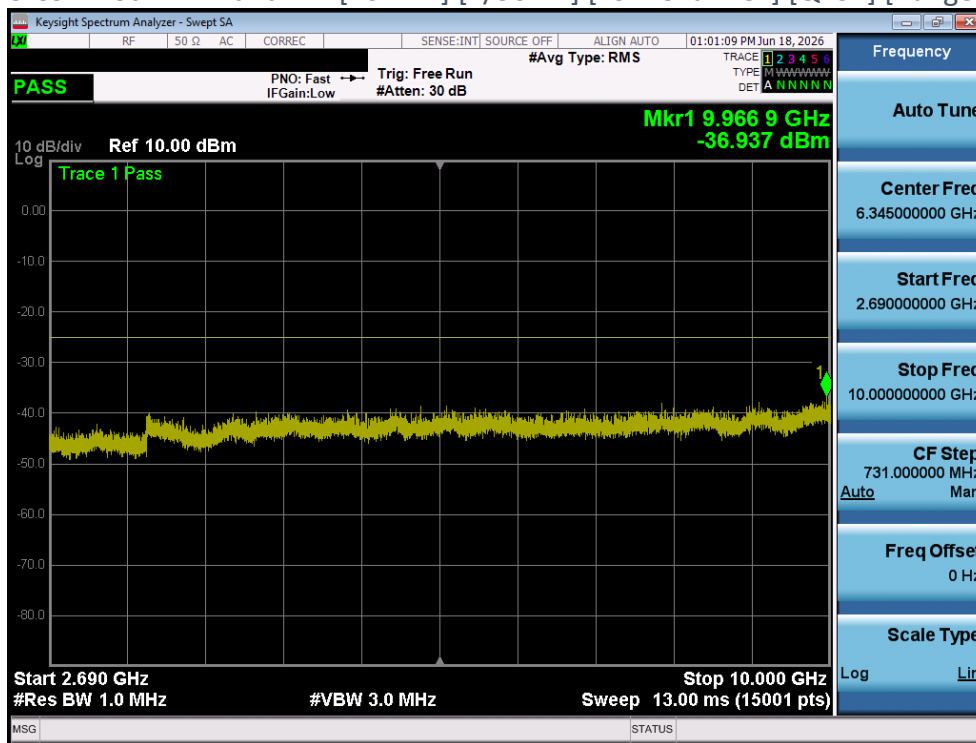
Plot 4-177 CSE Plot - LTE Band41 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range C] [Ant 1]



Plot 4-178 CSE Plot - LTE Band41 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range A] [Ant 2]



Plot 4-179 CSE Plot - LTE Band41 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range B] [Ant 2]



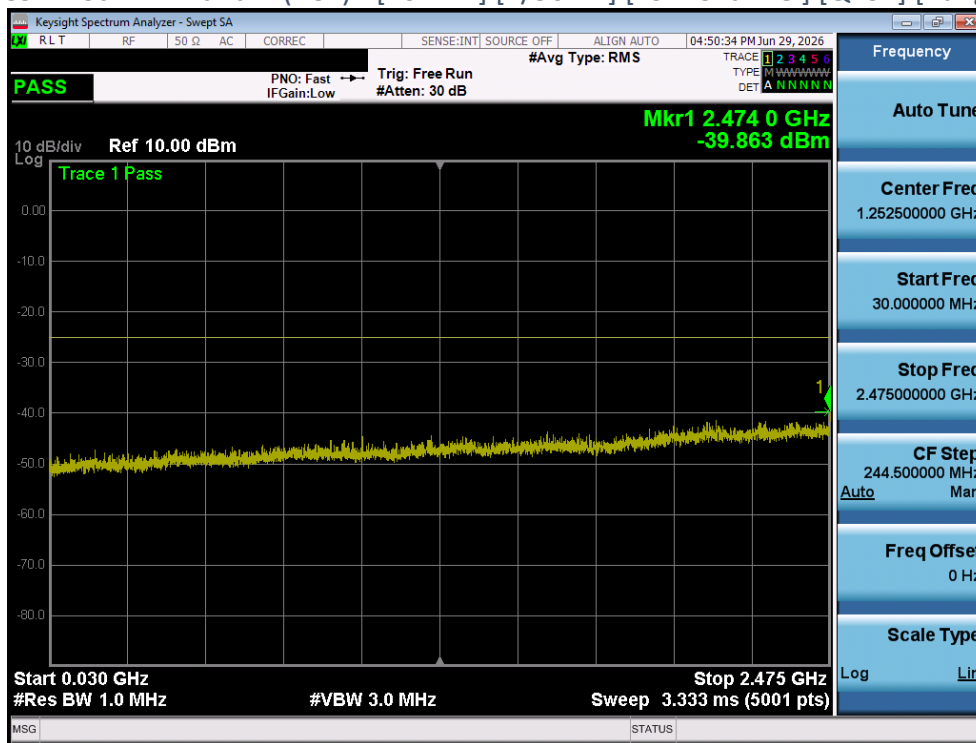
Plot 4-180 CSE Plot - LTE Band41 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range C] [Ant 2]



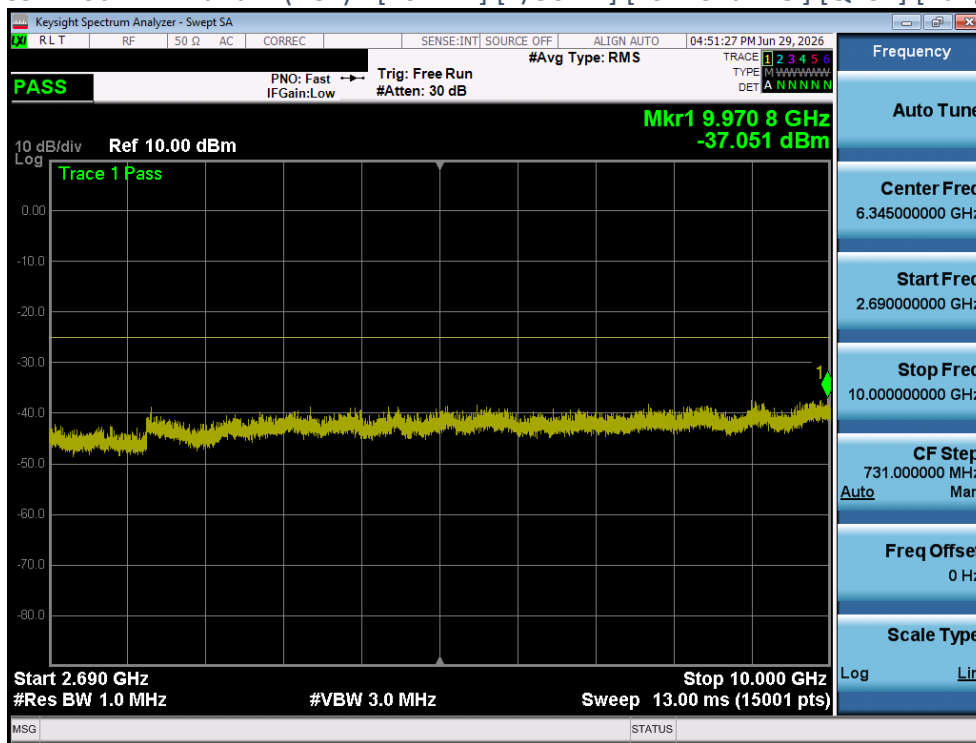
Table 4-35 Conducted Spurious Emissions Data LTE Band 41(PC2) Ant1

Band	BW [MHz]	Channel	Frequency [MHz]	RB Size/Offset	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 41 (PC2)	20	Low	2506	1/50	QPSK	A	-39.86	-25	-14.86
						B	-37.05	-25	-12.05
						C	-46.93	-25	-21.93
		Mid	2593	1/50	QPSK	A	-40.67	-25	-15.67
						B	-37.15	-25	-12.15
						C	-46.88	-25	-21.88
		High	2680	1/50	QPSK	A	-40.64	-25	-15.64
						B	-37.10	-25	-12.10
						C	-46.70	-25	-21.70

Plot 4-181 CSE Plot - LTE Band41(PC2) - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range A] [Ant 1]



Plot 4-182 CSE Plot - LTE Band41(PC2) - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range B] [Ant 1]



Plot 4-183 CSE Plot - LTE Band41(PC2) - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range C] [Ant 1]



Table 4-36 Conducted Spurious Emissions Data NR n41 Ant1

Band	BW [MHz]	Channel	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	1/135	DFT-s-OFDM	QPSK	A	-40.02	-25	-15.02
						DFT-s-OFDM		B	-30.84	-25	-5.84
						DFT-s-OFDM		C	-39.25	-25	-14.25
		Mid	2592.99	518598	1/135	DFT-s-OFDM	QPSK	A	-34.01	-25	-9.01
						DFT-s-OFDM		B	-30.64	-25	-5.64
						DFT-s-OFDM		C	-38.45	-25	-13.45
		High	2640.00	528000	1/135	DFT-s-OFDM	QPSK	A	-39.91	-25	-14.91
						DFT-s-OFDM		B	-30.69	-25	-5.69
						DFT-s-OFDM		C	-39.10	-25	-14.10

Table 4-37 Conducted Spurious Emissions Data NR n41 SRS D1

Band	BW [MHz]	Channel	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	1/135	DFT-s-OFDM	QPSK	A	-50.10	-25	-25.10
						DFT-s-OFDM		B	-41.04	-25	-16.04
						DFT-s-OFDM		C	-39.41	-25	-14.41
		Mid	2592.99	518598	1/135	DFT-s-OFDM	QPSK	A	-44.56	-25	-19.56
						DFT-s-OFDM		B	-40.59	-25	-15.59
						DFT-s-OFDM		C	-39.26	-25	-14.26
		High	2640.00	528000	1/135	DFT-s-OFDM	QPSK	A	-48.87	-25	-23.87
						DFT-s-OFDM		B	-40.74	-25	-15.74
						DFT-s-OFDM		C	-38.88	-25	-13.88

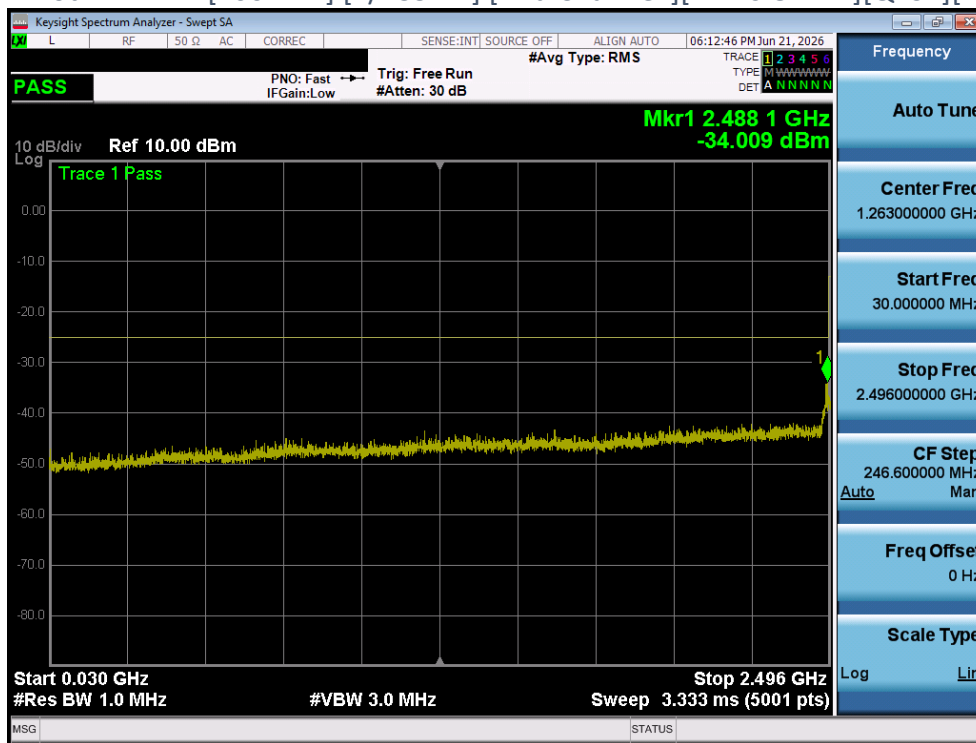
Table 4-38 Conducted Spurious Emissions Data NR n41 SRS D2

Band	BW [MHz]	Channel	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	1/135	DFT-s-OFDM	QPSK	A	-50.63	-25	-25.63
						DFT-s-OFDM		B	-40.93	-25	-15.93
						DFT-s-OFDM		C	-38.86	-25	-13.86
		Mid	2592.99	518598	1/135	DFT-s-OFDM	QPSK	A	-44.44	-25	-19.44
						DFT-s-OFDM		B	-40.23	-25	-15.23
						DFT-s-OFDM		C	-39.12	-25	-14.12
		High	2640.00	528000	1/135	DFT-s-OFDM	QPSK	A	-46.97	-25	-21.97
						DFT-s-OFDM		B	-40.87	-25	-15.87
						DFT-s-OFDM		C	-39.14	-25	-14.14

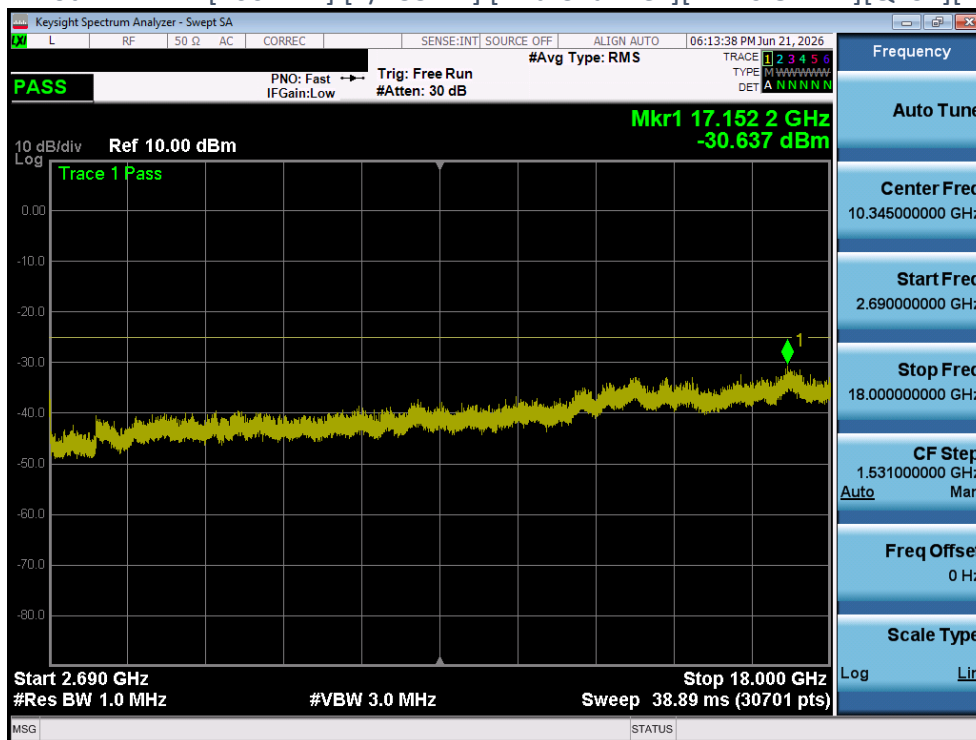
Table 4-39 Conducted Spurious Emissions Data NR n41 SRS D3

Band	BW [MHz]	Channel	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	1/135	DFT-s-OFDM	QPSK	A	-49.34	-25	-24.34
						DFT-s-OFDM		B	-41.05	-25	-16.05
						DFT-s-OFDM		C	-39.42	-25	-14.42
		Mid	2592.99	518598	1/135	DFT-s-OFDM	QPSK	A	-44.44	-25	-19.44
						DFT-s-OFDM		B	-41.10	-25	-16.10
						DFT-s-OFDM		C	-39.34	-25	-14.34
		High	2640.00	528000	1/135	DFT-s-OFDM	QPSK	A	-49.26	-25	-24.26
						DFT-s-OFDM		B	-40.41	-25	-15.41
						DFT-s-OFDM		C	-38.61	-25	-13.61

Plot 4-184 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel][DFT-s OFDM][QPSK][Range A][Ant 1]



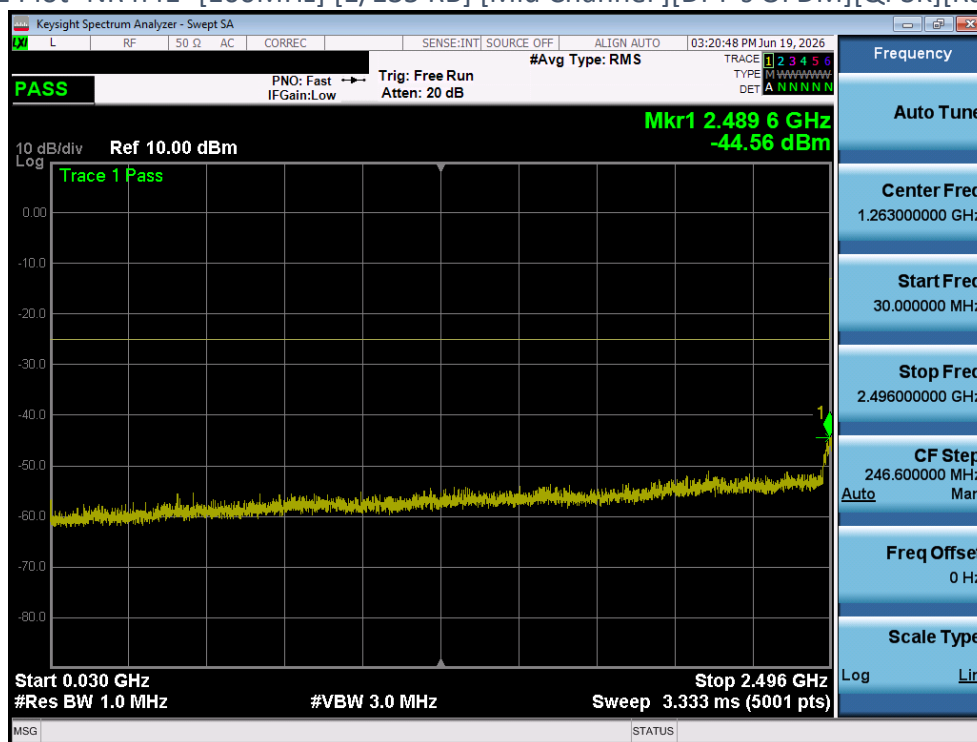
Plot 4-185 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel][DFT-s OFDM][QPSK][Range B][Ant 1]



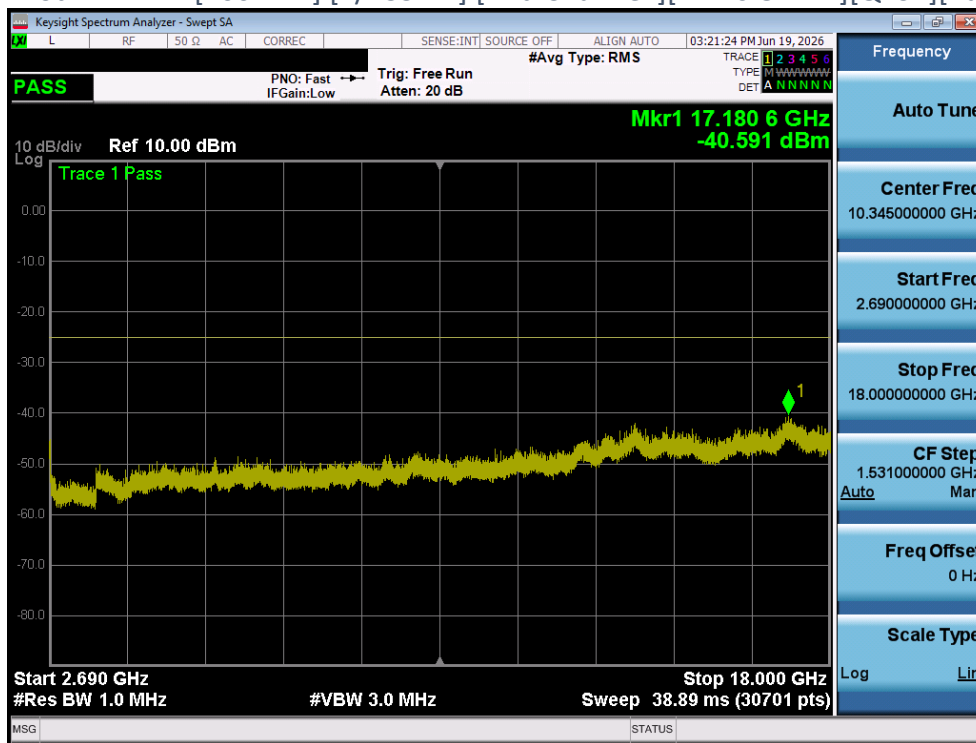
Plot 4-186 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel][DFT-s OFDM][QPSK][Range C][Ant 1]



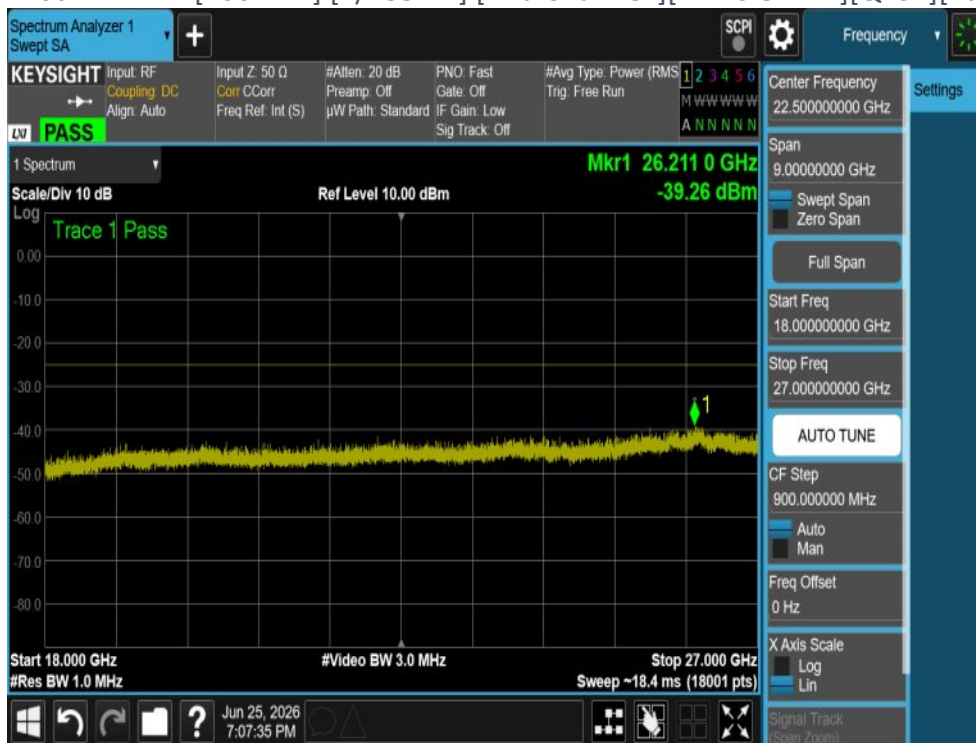
Plot 4-187 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel][DFT-s OFDM][QPSK][Range A][SRS D1]



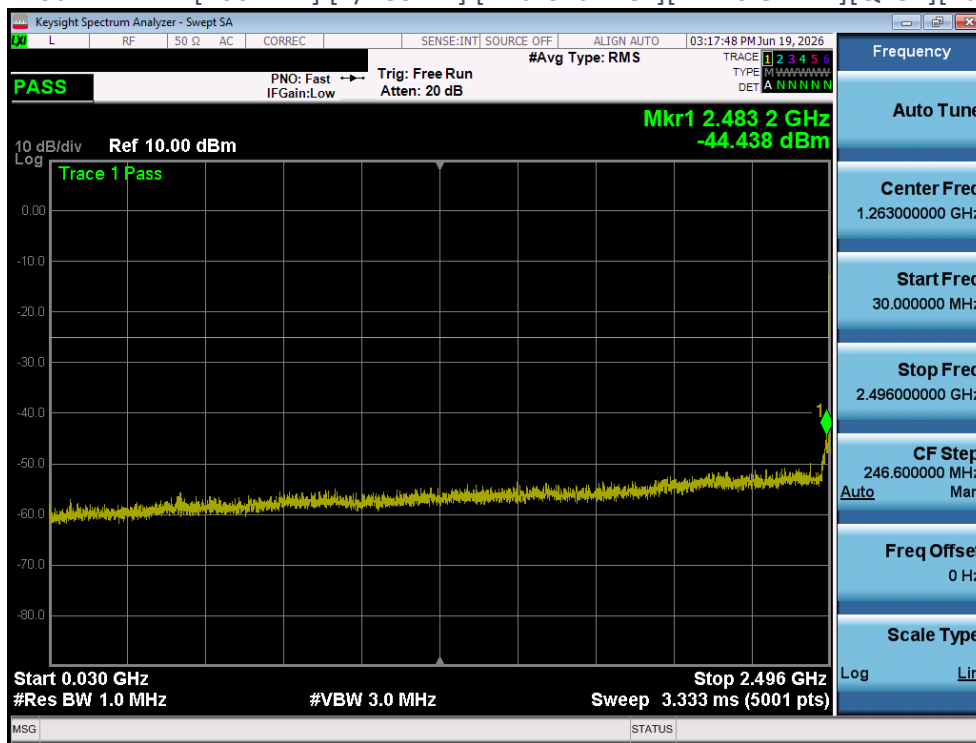
Plot 4-188 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [[DFT-s OFDM][QPSK][Range B][SRS D1]



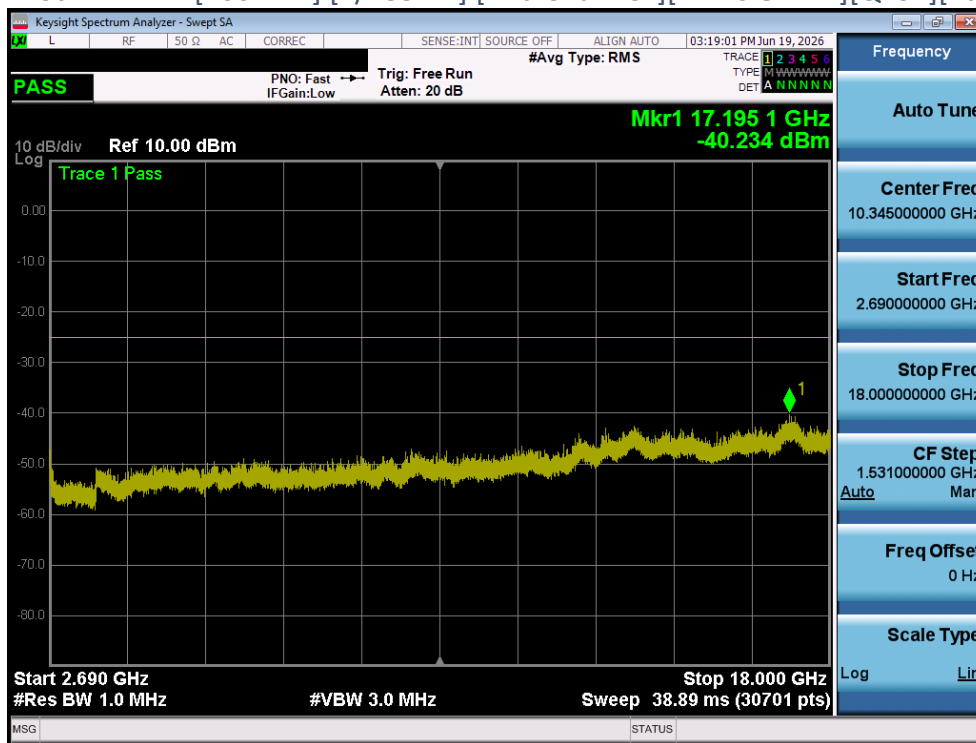
Plot 4-189 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [[DFT-s OFDM][QPSK][Range C][SRS D1]



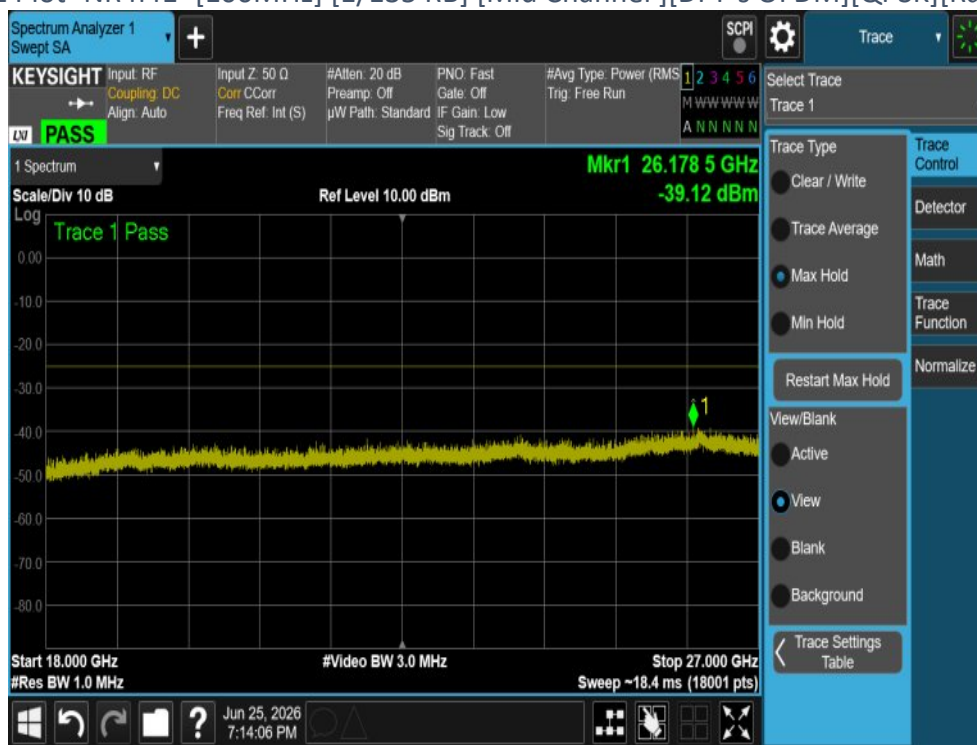
Plot 4-190 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [DFT-s OFDM] [QPSK] [Range A] [SRS D2]



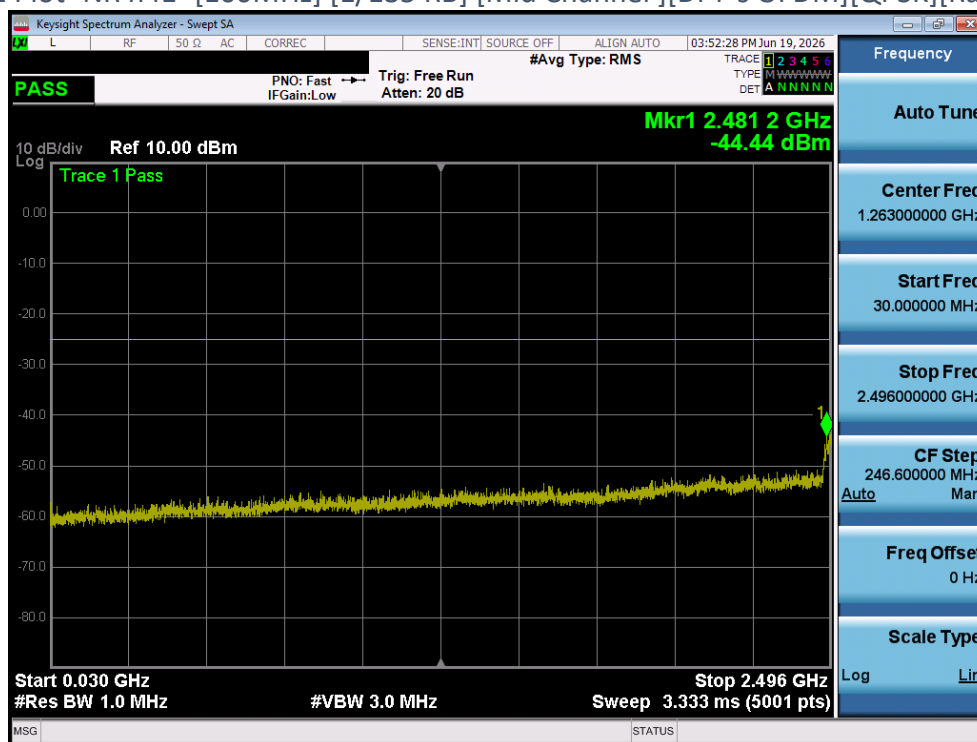
Plot 4-191 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [DFT-s OFDM] [QPSK] [Range B] [SRS D2]



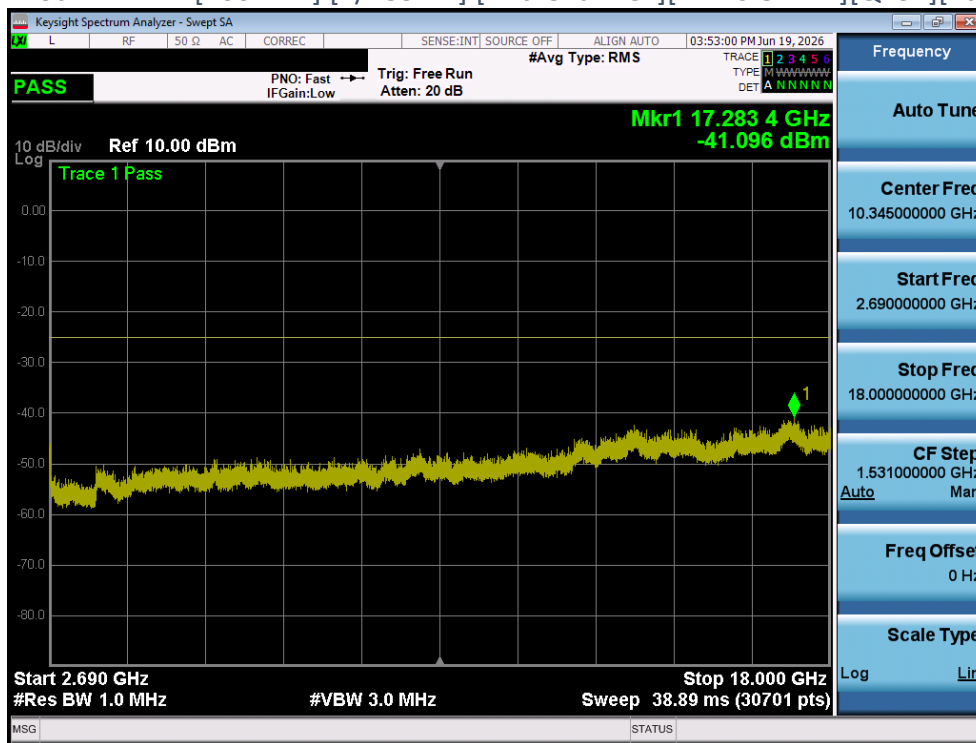
Plot 4-192 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [DFT-s OFDM] [QPSK] [Range C] [SRS D2]



Plot 4-193 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [DFT-s OFDM] [QPSK] [Range A] [SRS D3]



Plot 4-194 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [[DFT-s OFDM][QPSK][Range B][SRS D3]



Plot 4-195 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [[DFT-s OFDM][QPSK][Range C][SRS D3]

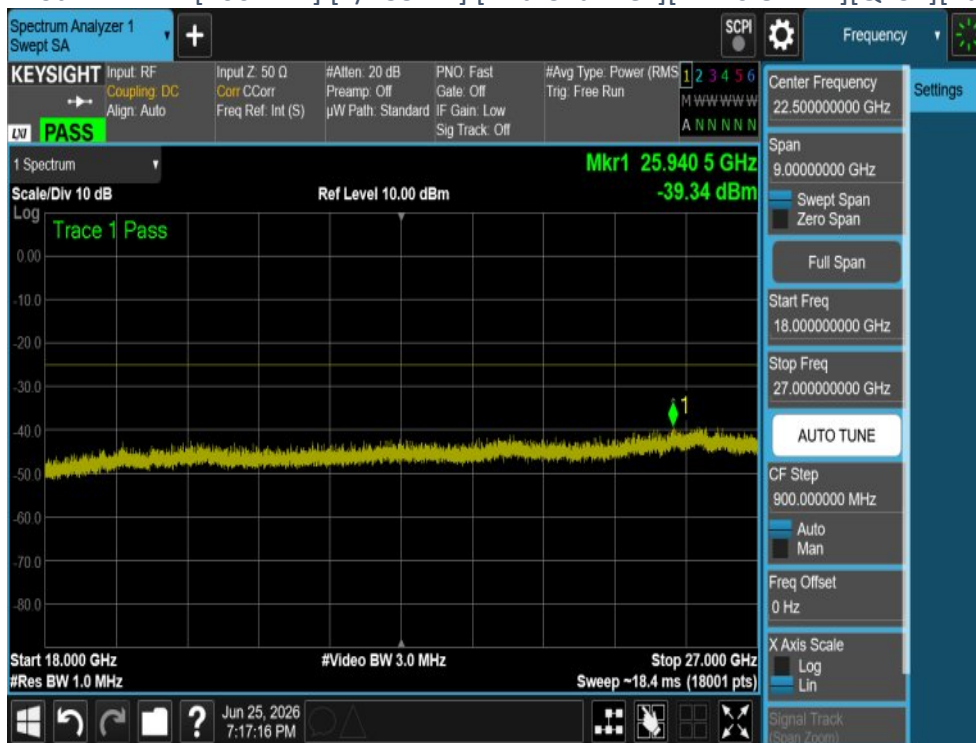


Table 4-40 Conducted Spurious Emissions Data NR n41 Ant2

Band	BW [MHz]	Channel	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	1/135	DFT-s-OFDM	QPSK	A	-41.70	-25	-16.70
						DFT-s-OFDM		B	-29.60	-25	-4.60
						DFT-s-OFDM		C	-38.81	-25	-13.81
		Mid	2592.99	518598	1/135	DFT-s-OFDM	QPSK	A	-35.51	-25	-10.51
						DFT-s-OFDM		B	-31.16	-25	-6.16
						DFT-s-OFDM		C	-39.02	-25	-14.02
		High	2640.00	528000	1/135	DFT-s-OFDM	QPSK	A	-40.06	-25	-15.06
						DFT-s-OFDM		B	-30.67	-25	-5.67
						DFT-s-OFDM		C	-38.56	-25	-13.56

Table 4-41 Conducted Spurious Emissions Data NR n41 SRS S1

Band	BW [MHz]	Channel	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	1/135	DFT-s-OFDM	QPSK	A	-51.24	-25	-26.24
						DFT-s-OFDM		B	-40.48	-25	-15.48
						DFT-s-OFDM		C	-39.22	-25	-14.22
		Mid	2592.99	518598	1/135	DFT-s-OFDM	QPSK	A	-41.87	-25	-16.87
						DFT-s-OFDM		B	-40.69	-25	-15.69
						DFT-s-OFDM		C	-38.95	-25	-13.95
		High	2640.00	528000	1/135	DFT-s-OFDM	QPSK	A	-48.20	-25	-23.20
						DFT-s-OFDM		B	-41.09	-25	-16.09
						DFT-s-OFDM		C	-39.36	-25	-14.36

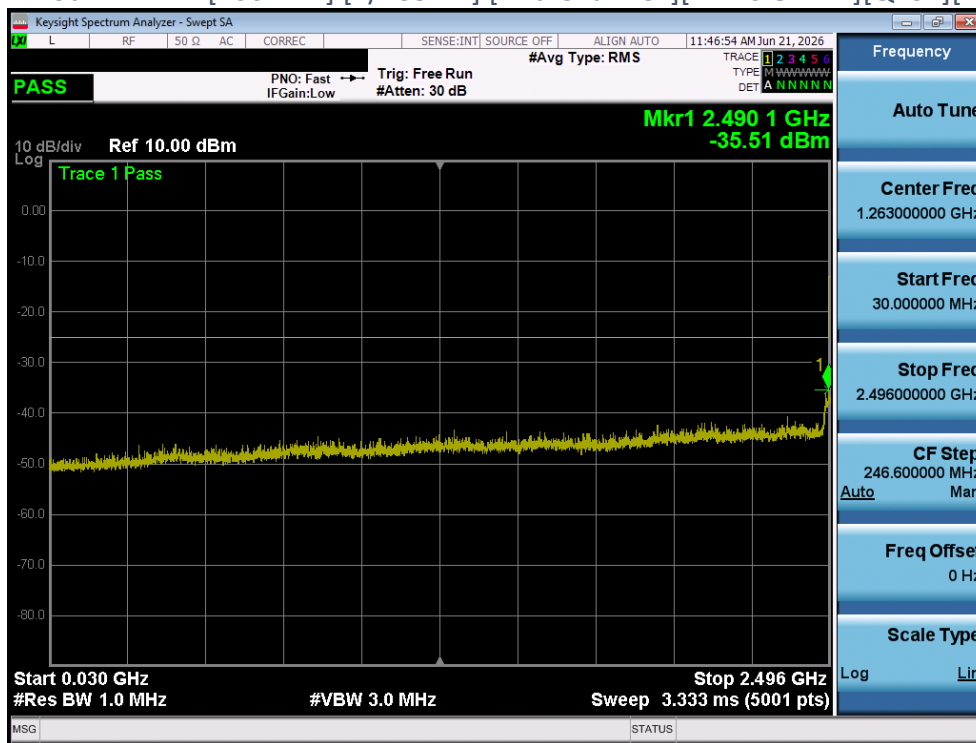
Table 4-42 Conducted Spurious Emissions Data NR n41 SRS S2

Band	BW [MHz]	Channel	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	1/135	DFT-s-OFDM	QPSK	A	-50.07	-25	-25.07
						DFT-s-OFDM		B	-41.17	-25	-16.17
						DFT-s-OFDM		C	-39.27	-25	-14.27
		Mid	2592.99	518598	1/135	DFT-s-OFDM	QPSK	A	-41.01	-25	-16.01
						DFT-s-OFDM		B	-41.28	-25	-16.28
						DFT-s-OFDM		C	-38.87	-25	-13.87
		High	2640.00	528000	1/135	DFT-s-OFDM	QPSK	A	-44.75	-25	-19.75
						DFT-s-OFDM		B	-40.77	-25	-15.77
						DFT-s-OFDM		C	-38.79	-25	-13.79

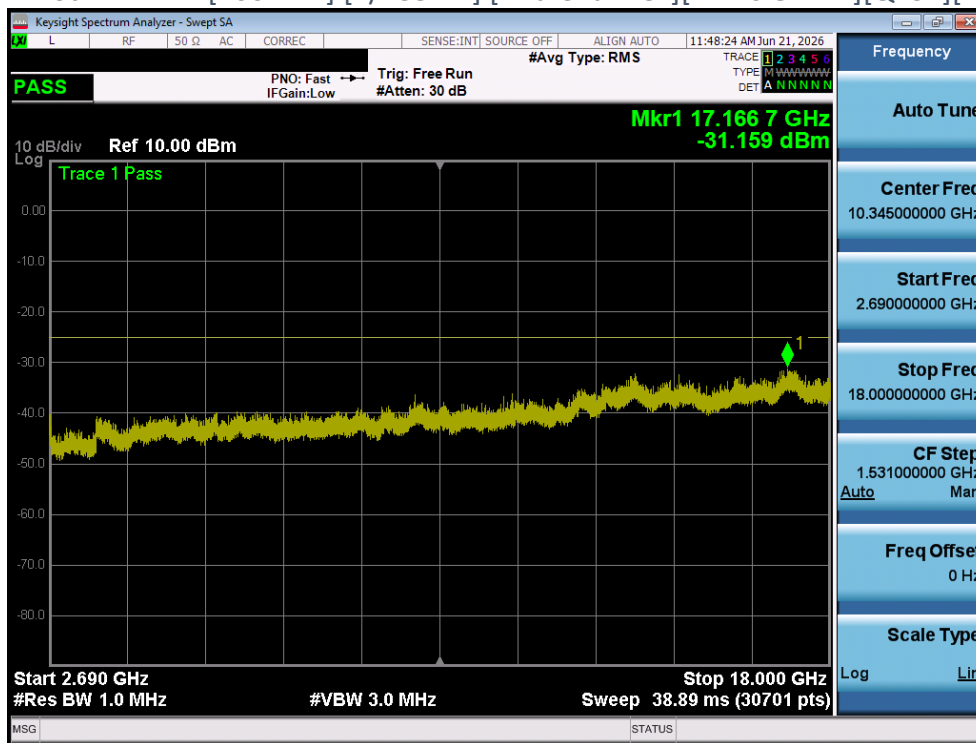
Table 4-43 Conducted Spurious Emissions Data NR n41 SRS S3

Band	BW [MHz]	Channel	Frequency [MHz]	Earfcn UL	RB Size/Offset	Waveform	Modulation	Range	Level [dBm]	Limit [dBm]	Margin [dB]
NR n41	100	Low	2546.01	509202	1/135	DFT-s-OFDM	QPSK	A	-50.41	-25	-25.41
						DFT-s-OFDM		B	-40.61	-25	-15.61
						DFT-s-OFDM		C	-38.78	-25	-13.78
		Mid	2592.99	518598	1/135	DFT-s-OFDM	QPSK	A	-43.11	-25	-18.11
						DFT-s-OFDM		B	-40.38	-25	-15.38
						DFT-s-OFDM		C	-39.35	-25	-14.35
		High	2640.00	528000	1/135	DFT-s-OFDM	QPSK	A	-46.32	-25	-21.32
						DFT-s-OFDM		B	-40.86	-25	-15.86
						DFT-s-OFDM		C	-39.23	-25	-14.23

Plot 4-196 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel][DFT-s OFDM][QPSK][Range A][Ant 2]



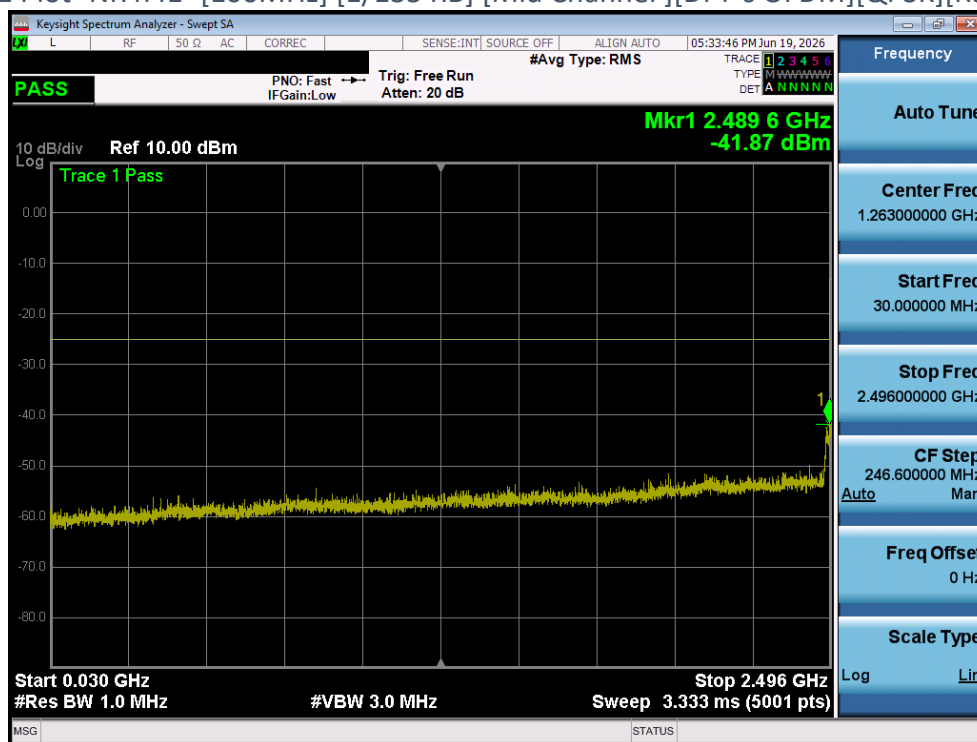
Plot 4-197 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel][DFT-s OFDM][QPSK][Range B][Ant 2]



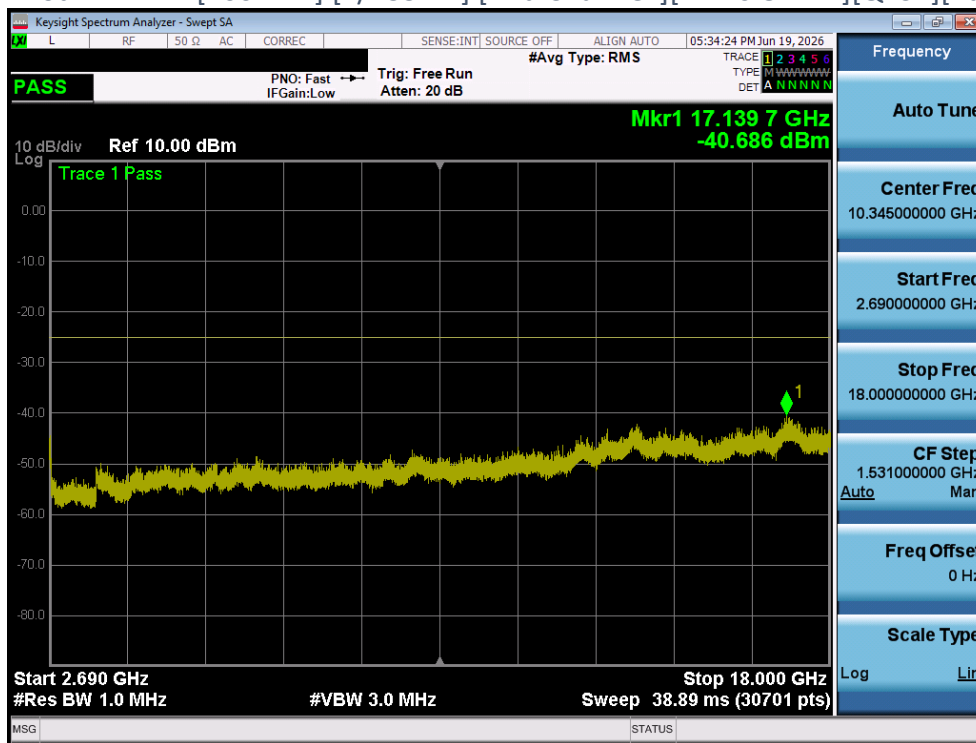
Plot 4-198 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel][DFT-s OFDM][QPSK][Range C][Ant 2]



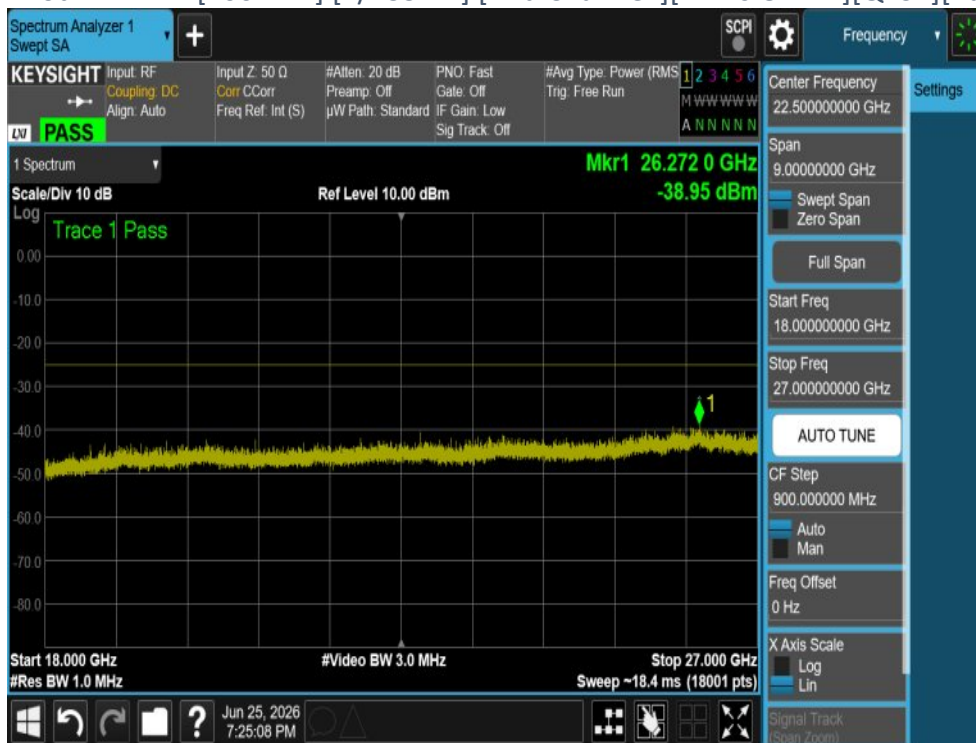
Plot 4-199 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel][DFT-s OFDM][QPSK][Range A][SRS S1]



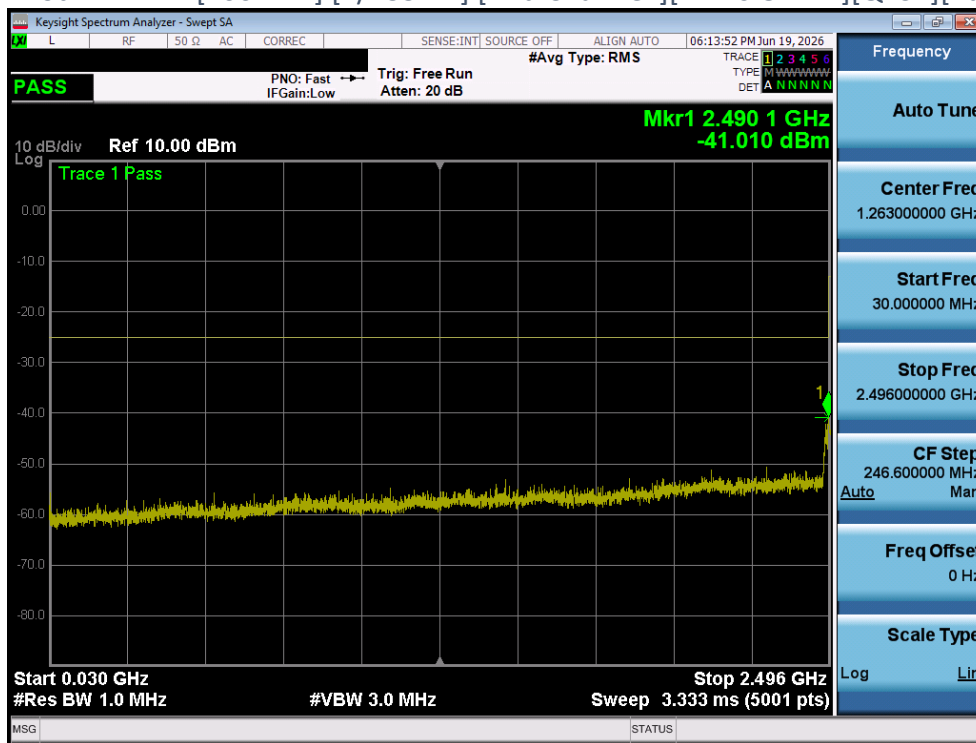
Plot 4-200 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [DFT-s OFDM][QPSK][Range B][SRS S1]



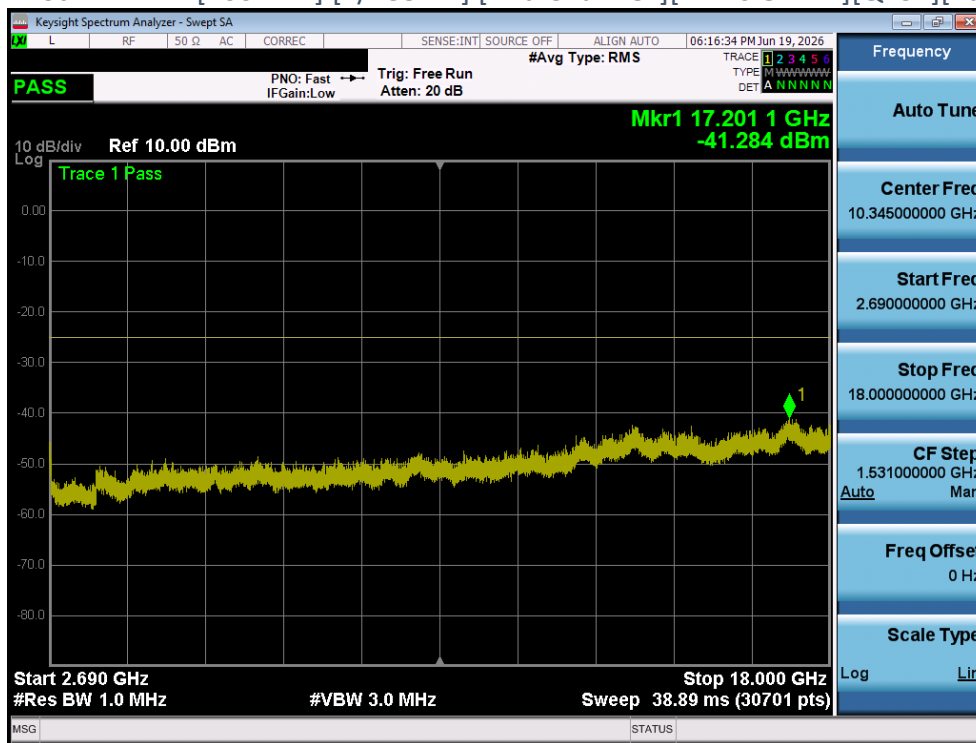
Plot 4-201 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [DFT-s OFDM][QPSK][Range C][SRS S1]



Plot 4-202 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel][DFT-s OFDM][QPSK][Range A][SRS S2]



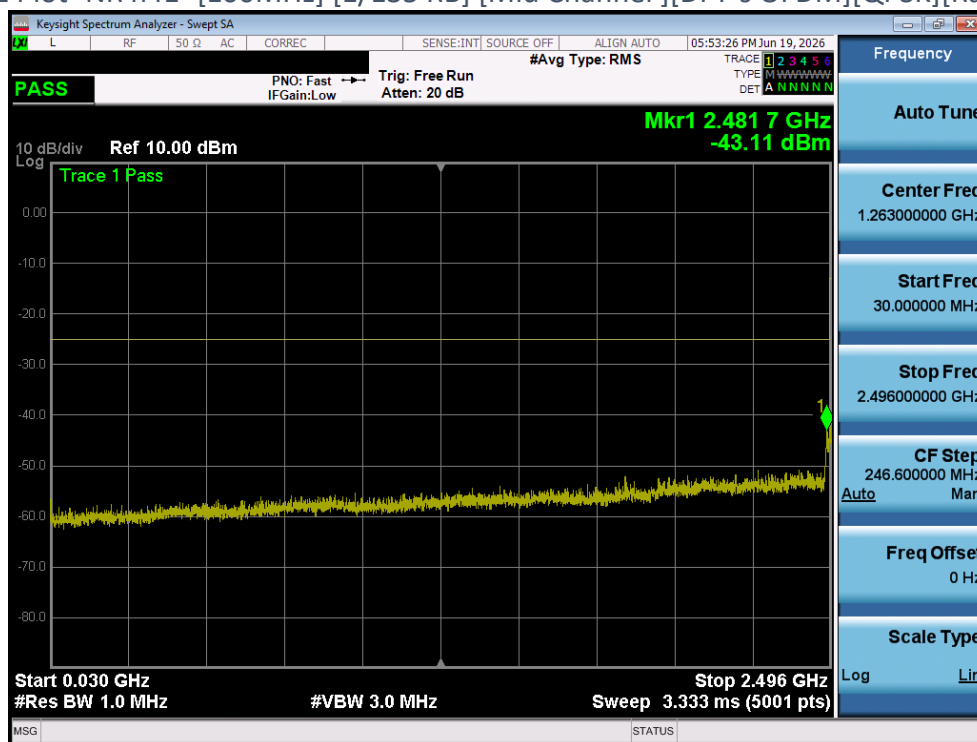
Plot 4-203 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel][DFT-s OFDM][QPSK][Range B][SRS S2]



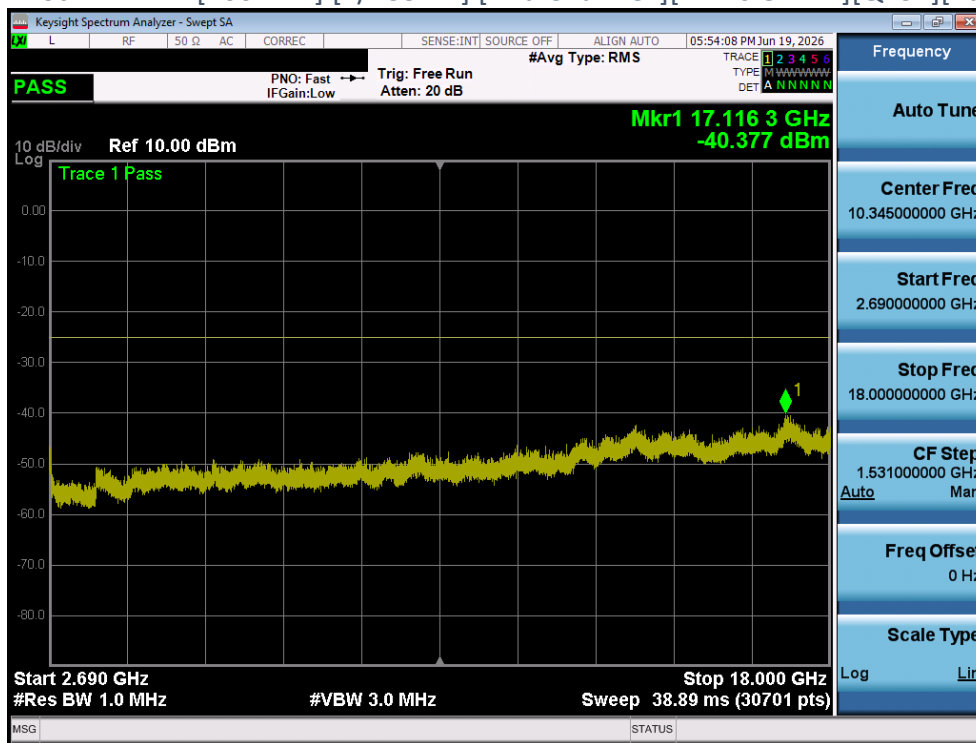
Plot 4-204 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [DFT-s OFDM][QPSK][Range C][SRS S2]



Plot 4-205 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [DFT-s OFDM][QPSK][Range A][SRS S3]



Plot 4-206 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [DFT-s OFDM][QPSK][Range B][SRS S3]



Plot 4-207 CSE Plot -NR n41- [100MHz] [1/135 RB] [Mid Channel] [DFT-s OFDM][QPSK][Range C][SRS S3]



4.8. Frequency Stability

4.8.1. Regulatory Limits

§Part. 2.1055

The frequency stability of the transmitter shall be measured while varying the ambient temperatures and supply voltages over the ranges specified in Section 2.1055.

RSS-195(5.5) & RSS-199(5.4)

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block or frequency block group.

4.8.2. Test Method

ANSI C63.26-2015, clause 5.6

4.8.3. Test Procedure

The call simulator was used to control the EUT.

For the frequency stability measurement, the OBW function of the spectrum analyzer was used.

The procedure for this method is follows:

- Place the test sample (EUT) inside the temperature chamber
- Reference Measurement - Set the chamber to +20°C and wait until both the chamber and the EUT internal components are completely stabilized under the nominal voltage condition.
- Connect the dummy load provided by the client and perform the measurement at the battery operating end point voltage.
- High-Temperature - increase the chamber temperature to +50°C.
- Incremental Temperature - lower the chamber temperature in 10°C (+50°C ~ -30°C)

Test Note

- ✓ The supply voltage was varied using the dummy load provided by the customer, and the battery operating end point voltage was verified.
- ✓ Sufficient time was allowed for the EUT to stabilize under all temperature conditions.
- ✓ Nominal voltage – 3.89 VDC, Endpoint – 2.85 VDC

4.8.4. Test Results

Table 4-44 Frequency Stability Data LTE Band 41(PC3)

Band	Channel	Voltage Condition	Temp [°C]	OBW T1 [Hz]	Limit	Pass/Fail
LTE Band 41 (PC3)	Low	Nominal	+50	2,496,826,600	2,496,000,000	PASS
			+40	2,496,829,590	2,496,000,000	PASS
			+30	2,496,827,430	2,496,000,000	PASS
			+20	2,496,811,080	2,496,000,000	PASS
			+10	2,496,809,040	2,496,000,000	PASS
			0	2,496,826,970	2,496,000,000	PASS
			-10	2,496,828,840	2,496,000,000	PASS
			-20	2,496,846,040	2,496,000,000	PASS
			-30	2,496,825,030	2,496,000,000	PASS
		Endpoint	+20	2,496,836,170	2,496,000,000	PASS
	Channel	Voltage Condition	Temp [°C]	OBW T2 [Hz]	Limit	Pass/Fail
	High	Nominal	+50	2,689,247,400	2,690,000,000	PASS
			+40	2,689,212,690	2,690,000,000	PASS
			+30	2,689,223,040	2,690,000,000	PASS
			+20	2,689,198,820	2,690,000,000	PASS
			+10	2,689,218,050	2,690,000,000	PASS
			0	2,689,210,170	2,690,000,000	PASS
			-10	2,689,218,330	2,690,000,000	PASS
			-20	2,689,215,350	2,690,000,000	PASS
			-30	2,689,227,030	2,690,000,000	PASS
		Endpoint	+20	2,689,222,520	2,690,000,000	PASS

*Note - Temp '+20°C' condition is reference

Table 4-45 Frequency Stability Data LTE Band 41(PC2)

Band	Channel	Voltage Condition	Temp [°C]	OBW T1 [Hz]	Limit	Pass/Fail
LTE Band 41 (PC2)	Low	Nominal	+50	2,496,815,231	2,496,000,000	PASS
			+40	2,496,811,998	2,496,000,000	PASS
			+30	2,496,819,975	2,496,000,000	PASS
			+20	2,496,812,094	2,496,000,000	PASS
			+10	2,496,816,698	2,496,000,000	PASS
			0	2,496,815,593	2,496,000,000	PASS
			-10	2,496,821,387	2,496,000,000	PASS
			-20	2,496,821,876	2,496,000,000	PASS
			-30	2,496,817,301	2,496,000,000	PASS
		Endpoint	+20	2,496,826,681	2,496,000,000	PASS
	Channel	Voltage Condition	Temp [°C]	OBW T2 [Hz]	Limit	Pass/Fail
	High	Nominal	+50	2,689,216,260	2,690,000,000	PASS
			+40	2,689,220,008	2,690,000,000	PASS
			+30	2,689,220,692	2,690,000,000	PASS
			+20	2,689,225,135	2,690,000,000	PASS
			+10	2,689,229,683	2,690,000,000	PASS
			0	2,689,214,576	2,690,000,000	PASS
			-10	2,689,229,048	2,690,000,000	PASS
			-20	2,689,222,482	2,690,000,000	PASS
			-30	2,689,224,731	2,690,000,000	PASS
		Endpoint	+20	2,689,210,240	2,690,000,000	PASS

*Note - Temp '+20°C' condition is reference

Table 4-46 Frequency Stability Data NR n41

Band	Channel	Voltage Condition	Temp [°C]	OBW T1 [Hz]	Limit	Pass/Fail
NR n41	Low	Nominal	+50	2,497,348,000	2,496,000,000	PASS
			+40	2,497,440,000	2,496,000,000	PASS
			+30	2,497,463,000	2,496,000,000	PASS
			+20	2,497,356,000	2,496,000,000	PASS
			+10	2,497,457,000	2,496,000,000	PASS
			0	2,497,432,000	2,496,000,000	PASS
			-10	2,497,422,000	2,496,000,000	PASS
			-20	2,497,306,000	2,496,000,000	PASS
			-30	2,497,310,000	2,496,000,000	PASS
		Endpoint	+20	2,497,437,000	2,496,000,000	PASS
	Channel	Voltage Condition	Temp [°C]	OBW T2 [Hz]	Limit	Pass/Fail
	High	Nominal	+50	2,687,176,000	2,690,000,000	PASS
			+40	2,687,306,000	2,690,000,000	PASS
			+30	2,687,319,000	2,690,000,000	PASS
			+20	2,687,335,000	2,690,000,000	PASS
			+10	2,687,430,000	2,690,000,000	PASS
			0	2,687,326,000	2,690,000,000	PASS
			-10	2,687,291,000	2,690,000,000	PASS
			-20	2,687,239,000	2,690,000,000	PASS
			-30	2,687,239,000	2,690,000,000	PASS
		Endpoint	+20	2,687,439,000	2,690,000,000	PASS

*Note - Temp '+20°C' condition is reference

5. Radiated Test Results

5.1. Test Configuration

Radiated Test Facilities & Setup

Radiated emissions testing was conducted in an indoor 3-meter semi-anechoic chamber (SAC). For all frequency ranges, the turntable was rotated 360° and the receive antenna height was varied from 1 m to 4 m to maximize emissions. The specific test setups and calibrated, linearly polarized antennas utilized are as follows:

- 9 kHz to 30 MHz : DUT height at 0.8 m / Active Loop Antenna
- 30 MHz to 1 GHz : DUT height at 0.8 m / No floor absorbers / Broadband Bi-log Antenna
- 1 GHz to 18 GHz : DUT height at 1.5 m / Floor absorbers deployed / Broadband Double-Ridge Horn Antenna
- Above 18 GHz : DUT height at 1.5 m / Floor absorbers deployed / Standard Gain Horn Antenna

Test Orientations

The DUT was investigated in three orthogonal orientations (X, Y, and Z) for each band. Since the equipment transmits below 10 GHz, Radiated Spurious Emissions testing was performed from 9 kHz up to the lower of the tenth harmonic of the highest fundamental frequency or 40 GHz. Testing from 1 GHz to 18 GHz was performed on the low, mid, and high channels. Testing below 1 GHz and above 18 GHz was conducted only under the worst-case configuration. In accordance with ANSI C63.26, measurement results for the 9 kHz to 30 MHz range and frequencies above 18 GHz are included in the report only when emissions are detected within 20 dB of the applicable limit.

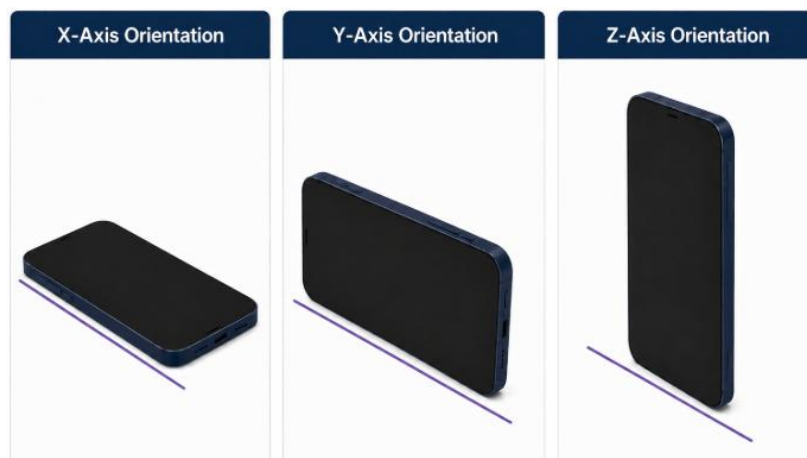


Figure 5-1 Three orthogonal orientations.

Radiated emissions were captured using automated test software 'NGTL ATE' Ver. 0.00.

5.2. Radiated Measurement Setup

Figure 5-2 Radiated Measurement Setup Below 30 MHz

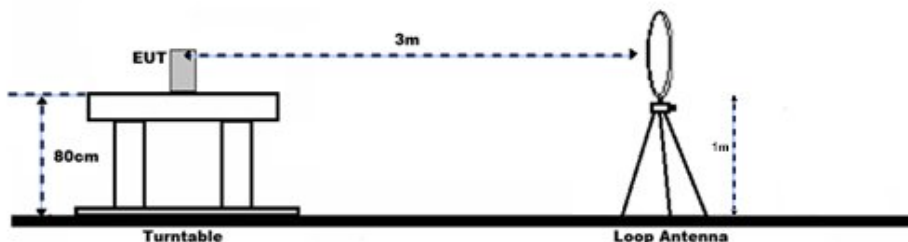


Figure 5-3 Radiated Measurement Setup Below 1 GHz

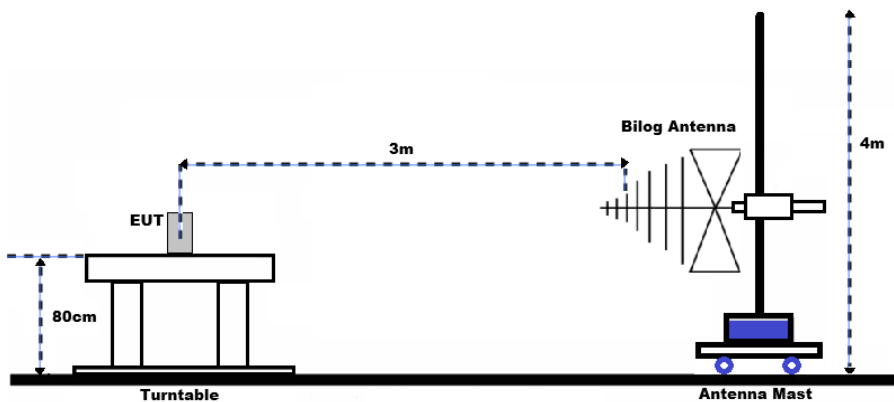
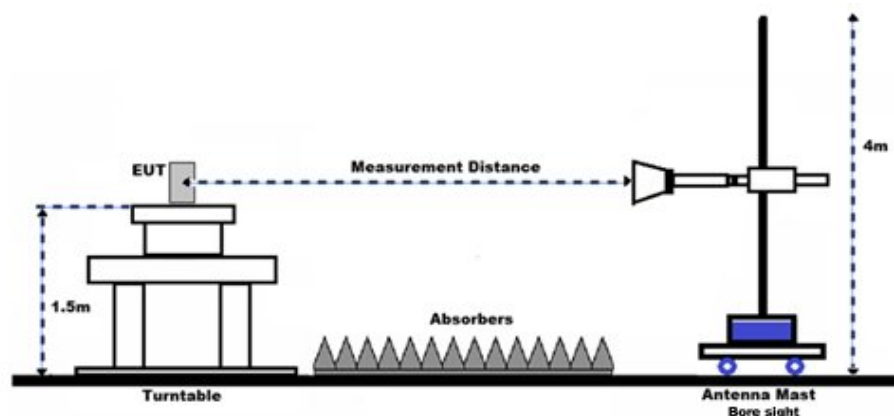


Figure 5-4 Radiated Measurement Setup Above 1 GHz



5.3. Radiated Measurement Sample

Serial Number(s) :

ZF50735M, ZEE0154M, ZDR0217M

5.4. Radiated Power

5.4.1. Regulatory Limit

§Part 27.50(d)(4) & RSS-199(5.5)

The e.i.r.p. shall not exceed 2 W for portable equipment.

5.4.2. Test Method

ANSI C63.26 – 2015, clause 5.2.4.2

5.4.3. Test Procedure

The procedure for Average measurement is follows:

- a) Connect the power sensor to the EMI receiver, and then perform zeroing and calibration.
- b) Connect the DUT to a wideband gated RF power sensor.
- c) Configure the DUT to transmit at its maximum power control level.
- d) Record the maximum power level
- e) When the burst duty cycle is below 98%, a trigger/gate is utilized to ensure power is measured only during active full-power transmission bursts.

Test Note

- ✓ For this test, substitution measurements were performed in a 3m semi-anechoic chamber that meets both normalized site attenuation (NSA) and SVWSR requirements.
- ✓ For the test in this section, a power sensor was connected to the EMI receiver. Signal maximizing was performed using the receiver, while the power measurement was conducted using the sensor. A splitter was placed at the input of the receiver to distribute the signal to both the receiver and the sensor, and the resulting loss was compensated as an offset in the power sensor.

5.4.4. Test Results

Table 5-1 Radiated Power - LTE Band 41(PC3) Ant 1

BW [MHz]	Modulation	Ant. Pol.	Antenna Height [m]	Turntable Azimuth [deg °]	RB Size	RB Offset	Frequency [MHz] / Earfcn / EIRP [dBm]			Limit [dBm]	Margin at Max Power [dB]
							2506	2593	2680		
							39750	40620	41490		
20	QPSK	H	1.00	294	1	0	21.38	21.07	20.37	33	-11.62
		H	1.00	287	1	50	21.36	20.84	20.60		-11.64
		H	1.00	286	1	99	21.60	20.12	20.40		-11.40
		H	1.00	291	100	0	20.47	19.68	19.57		-12.53
	16QAM	H	1.00	344	1	0	20.27	20.14	19.43		-12.73
		H	1.00	345	1	50	20.44	19.91	19.64		-12.56
		H	1.00	347	1	99	20.65	19.10	19.51		-12.35
		H	1.00	345	100	0	19.51	18.74	18.67		-13.49
BW [MHz]	Modulation	Ant. Pol.	Antenna Height [m]	Turntable Azimuth [deg °]	RB Size	RB Offset	Frequency [MHz] / Earfcn / EIRP [dBm]			Limit [dBm]	Margin at Max Power [dB]
							2503.5	2593	2682.5		
							39725	40620	41515		
15	QPSK	H	1.00	294	1	0	21.26	21.08	19.82	33	-11.74
		H	1.00	287	1	36	21.32	20.89	20.76		-11.68
		H	1.00	286	1	74	21.60	20.23	20.55		-11.40
		H	1.00	291	75	0	20.42	19.68	19.60		-12.58
	16QAM	H	1.00	344	1	0	20.41	19.91	19.54		-12.59
		H	1.00	345	1	36	20.40	19.68	19.70		-12.60
		H	1.00	347	1	74	20.65	18.86	19.82		-12.35
		H	1.00	345	75	0	19.49	18.78	18.66		-13.51
BW [MHz]	Modulation	Ant. Pol.	Antenna Height [m]	Turntable Azimuth [deg °]	RB Size	RB Offset	Frequency [MHz] / Earfcn / EIRP [dBm]			Limit [dBm]	Margin at Max Power [dB]
							2501	2593	2685		
							39700	40620	41540		
10	QPSK	H	1.00	294	1	0	21.10	21.31	20.35	33	-11.69
		H	1.00	287	1	25	21.39	21.11	20.70		-11.61
		H	1.00	286	1	49	21.57	20.07	19.49		-11.43
		H	1.00	291	50	0	20.43	19.74	19.55		-12.57
	16QAM	H	1.00	344	1	0	20.37	20.01	19.24		-12.63
		H	1.00	345	1	25	20.56	19.65	19.63		-12.44
		H	1.00	347	1	49	20.51	18.80	19.74		-12.49
		H	1.00	345	50	0	19.49	18.82	18.39		-13.51
BW [MHz]	Modulation	Ant. Pol.	Antenna Height [m]	Turntable Azimuth [deg °]	RB Size	RB Offset	Frequency [MHz] / Earfcn / EIRP [dBm]			Limit [dBm]	Margin at Max Power [dB]
							2498.5	2593	2687.5		
							39675	40620	41565		
5	QPSK	H	1.00	294	1	0	21.28	21.19	20.33	33	-11.72
		H	1.00	287	1	12	21.35	20.98	20.47		-11.65
		H	1.00	286	1	24	21.35	20.13	20.40		-11.65
		H	1.00	291	25	0	20.34	19.69	19.46		-12.66
	16QAM	H	1.00	344	1	0	20.54	20.14	19.37		-12.46
		H	1.00	345	1	12	20.60	19.94	19.67		-12.40
		H	1.00	347	1	24	20.68	18.87	19.60		-12.32
		H	1.00	345	25	0	19.44	18.78	18.55		-13.56