Appendix B

NR band N38

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1 Effective (Isotropic) Radiated Power Output Data

Ant4:

NR Band	Bandwidth	SCS	Modulation	Channel	RB Config	Conducted Power(dBm)	EIRP (dBm)	Limit (dBm)	Verdict
N38	20MHz	30KHz	TM1	516000	Inner Full	23.06	20.06	33	PASS
N38	20MHz	30KHz	TM1	516000	Inner 1RB Left	21.9	18.9	33	PASS
N38	20MHz	30KHz	TM1	516000	Inner 1RB Right	21.41	18.41	33	PASS
N38	20MHz	30KHz	TM1	519000	Inner Full	22.48	19.48	33	PASS
N38	20MHz	30KHz	TM1	519000	Inner 1RB Left	21.69	18.69	33	PASS
N38	20MHz	30KHz	TM1	519000	Inner 1RB Right	22.14	19.14	33	PASS
N38	20MHz	30KHz	TM1	522000	Inner Full	23.31	20.31	33	PASS
N38	20MHz	30KHz	TM1	522000	Inner 1RB Left	21.93	18.93	33	PASS
N38	20MHz	30KHz	TM1	522000	Inner 1RB Right	21.81	18.81	33	PASS
N38	20MHz	30KHz	TM2	516000	Inner Full	21.98	18.98	33	PASS
N38	20MHz	30KHz	TM2	516000	Inner 1RB Left	20.99	17.99	33	PASS
N38	20MHz	30KHz	TM2	516000	Inner 1RB Right	20.53	17.53	33	PASS
N38	20MHz	30KHz	TM2	519000	Inner Full	21.53	18.53	33	PASS
N38	20MHz	30KHz	TM2	519000	Inner 1RB Left	20.6	17.6	33	PASS
N38	20MHz	30KHz	TM2	519000	Inner 1RB Right	20.75	17.75	33	PASS
N38	20MHz	30KHz	TM2	522000	Inner Full	22.29	19.29	33	PASS
N38	20MHz	30KHz	TM2	522000	Inner 1RB Left	20.98	17.98	33	PASS
N38	20MHz	30KHz	TM2	522000	Inner 1RB Right	20.87	17.87	33	PASS
N38	20MHz	30KHz	TM3	516000	Inner Full	20.49	17.49	33	PASS
N38	20MHz	30KHz	TM3	516000	Inner 1RB Left	20.5	17.5	33	PASS
N38	20MHz	30KHz	TM3	516000	Inner 1RB Right	19.86	16.86	33	PASS
N38	20MHz	30KHz	TM3	519000	Inner Full	20	17	33	PASS
N38	20MHz	30KHz	TM3	519000	Inner 1RB Left	20.23	17.23	33	PASS
N38	20MHz	30KHz	TM3	519000	Inner 1RB Right	20.58	17.58	33	PASS
N38	20MHz	30KHz	TM3	522000	Inner Full	20.76	17.76	33	PASS
N38	20MHz	30KHz	TM3	522000	Inner 1RB Left	20.4	17.4	33	PASS
N38	20MHz	30KHz	TM3	522000	Inner 1RB Right	20.47	17.47	33	PASS
N38	20MHz	30KHz	TM4	516000	Inner Full	18.54	15.54	33	PASS
N38	20MHz	30KHz	TM4	516000	Inner 1RB Left	17.99	14.99	33	PASS
N38	20MHz	30KHz	TM4	516000	Inner 1RB Right	17.8	14.8	33	PASS
N38	20MHz	30KHz	TM4	519000	Inner Full	18.1	15.1	33	PASS
N38	20MHz	30KHz	TM4	519000	Inner 1RB Left	18.18	15.18	33	PASS
N38	20MHz	30KHz	TM4	519000	Inner 1RB Right	18.47	15.47	33	PASS
N38	20MHz	30KHz	TM4	522000	Inner Full	18.83	15.83	33	PASS
N38	20MHz	30KHz	TM4	522000	Inner 1RB Left	18.52	15.52	33	PASS
N38	20MHz	30KHz	TM4	522000	Inner 1RB Right	18.35	15.35	33	PASS
N38	20MHz	30KHz	TM5	516000	Inner Full	21.46	18.46	33	PASS
N38	20MHz	30KHz	TM5	516000	Inner 1RB Left	19.97	16.97	33	PASS
N38	20MHz	30KHz	TM5	516000	Inner 1RB Right	19.38	16.38	33	PASS
N38	20MHz	30KHz	TM5	519000	Inner Full	21.05	18.05	33	PASS

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N38	20MHz	30KHz	TM5	519000	Inner 1RB Left	19.78	16.78	33	PASS
N38	20MHz	30KHz	TM5	519000	Inner 1RB Right	20.06	17.06	33	PASS
N38	20MHz	30KHz	TM5	522000	Inner Full	21.83	18.83	33	PASS
N38	20MHz	30KHz	TM5	522000	Inner 1RB Left	19.91	16.91	33	PASS
N38	20MHz	30KHz	TM5	522000	Inner 1RB Right	20.04	17.04	33	PASS
N38	20MHz	30KHz	TM6	516000	Inner Full	21	18	33	PASS
N38	20MHz	30KHz	TM6	516000	Inner 1RB Left	19.86	16.86	33	PASS
N38	20MHz	30KHz	TM6	516000	Inner 1RB Right	19.11	16.11	33	PASS
N38	20MHz	30KHz	TM6	519000	Inner Full	20.57	17.57	33	PASS
N38	20MHz	30KHz	TM6	519000	Inner 1RB Left	19.65	16.65	33	PASS
N38	20MHz	30KHz	TM6	519000	Inner 1RB Right	19.88	16.88	33	PASS
N38	20MHz	30KHz	TM6	522000	Inner Full	21.42	18.42	33	PASS
N38	20MHz	30KHz	TM6	522000	Inner 1RB Left	20.47	17.47	33	PASS
N38	20MHz	30KHz	TM6	522000	Inner 1RB Right	18.86	15.86	33	PASS
N38	20MHz	30KHz	TM7	516000	Inner Full	19.52	16.52	33	PASS
N38	20MHz	30KHz	TM7	516000	Inner 1RB Left	19.41	16.41	33	PASS
N38	20MHz	30KHz	TM7	516000	Inner 1RB Right	18.9	15.9	33	PASS
N38	20MHz	30KHz	TM7	519000	Inner Full	19.11	16.11	33	PASS
N38	20MHz	30KHz	TM7	519000	Inner 1RB Left	19.25	16.25	33	PASS
N38	20MHz	30KHz	TM7	519000	Inner 1RB Right	19.75	16.75	33	PASS
N38	20MHz	30KHz	TM7	522000	Inner Full	19.95	16.95	33	PASS
N38	20MHz	30KHz	TM7	522000	Inner 1RB Left	19.51	16.51	33	PASS
N38	20MHz	30KHz	TM7	522000	Inner 1RB Right	19.57	16.57	33	PASS
N38	20MHz	30KHz	TM8	516000	Inner Full	16.53	13.53	33	PASS
N38	20MHz	30KHz	TM8	516000	Inner 1RB Left	16.07	13.07	33	PASS
N38	20MHz	30KHz	TM8	516000	Inner 1RB Right	15.71	12.71	33	PASS
N38	20MHz	30KHz	TM8	519000	Inner Full	15.97	12.97	33	PASS
N38	20MHz	30KHz	TM8	519000	Inner 1RB Left	15.96	12.96	33	PASS
N38	20MHz	30KHz	TM8	519000	Inner 1RB Right	16.69	13.69	33	PASS
N38	20MHz	30KHz	TM8	522000	Inner Full	16.94	13.94	33	PASS
N38	20MHz	30KHz	TM8	522000	Inner 1RB Left	16.62	13.62	33	PASS
N38	20MHz	30KHz	TM8	522000	Inner 1RB Right	16.33	13.33	33	PASS

Ant3:

NR Band	Bandwidth	SCS	Modulation	Channel	RB Config	Conducted Power(dBm)	EIRP (dBm)	Limit (dBm)	Verdict
N38	20MHz	30KHz	TM1	516000	Inner Full	16.38	15.38	33	PASS
N38	20MHz	30KHz	TM1	516000	Inner 1RB Left	16.29	15.29	33	PASS
N38	20MHz	30KHz	TM1	516000	Inner 1RB Right	16.2	15.2	33	PASS
N38	20MHz	30KHz	TM1	519000	Inner Full	16.17	15.17	33	PASS
N38	20MHz	30KHz	TM1	519000	Inner 1RB Left	16.25	15.25	33	PASS
N38	20MHz	30KHz	TM1	519000	Inner 1RB Right	16.31	15.31	33	PASS
N38	20MHz	30KHz	TM1	522000	Inner Full	16.33	15.33	33	PASS
N38	20MHz	30KHz	TM1	522000	Inner 1RB Left	16.35	15.35	33	PASS
N38	20MHz	30KHz	TM1	522000	Inner 1RB Right	16.35	15.35	33	PASS
N38	20MHz	30KHz	TM2	516000	Inner Full	16.29	15.29	33	PASS

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N38	20MHz	30KHz	TM2	516000	Inner 1RB Left	16.38	15.38	33	PASS
N38	20MHz	30KHz	TM2	516000	Inner 1RB Right	16.31	15.31	33	PASS
N38	20MHz	30KHz	TM2	519000	Inner Full	16.39	15.39	33	PASS
N38	20MHz	30KHz	TM2	519000	Inner 1RB Left	16.46	15.46	33	PASS
N38	20MHz	30KHz	TM2	519000	Inner 1RB Right	16.41	15.41	33	PASS
N38	20MHz	30KHz	TM2	522000	Inner Full	16.5	15.5	33	PASS
N38	20MHz	30KHz	TM2	522000	Inner 1RB Left	16.53	15.53	33	PASS
N38	20MHz	30KHz	TM2	522000	Inner 1RB Right	16.63	15.63	33	PASS
N38	20MHz	30KHz	TM3	516000	Inner Full	16.61	15.61	33	PASS
N38	20MHz	30KHz	TM3	516000	Inner 1RB Left	16.64	15.64	33	PASS
N38	20MHz	30KHz	TM3	516000	Inner 1RB Right	16.67	15.67	33	PASS
N38	20MHz	30KHz	TM3	519000	Inner Full	16.75	15.75	33	PASS
N38	20MHz	30KHz	TM3	519000	Inner 1RB Left	16.84	15.84	33	PASS
N38	20MHz	30KHz	TM3	519000	Inner 1RB Right	16.82	15.82	33	PASS
N38	20MHz	30KHz	TM3	522000	Inner Full	16.86	15.86	33	PASS
N38	20MHz	30KHz	TM3	522000	Inner 1RB Left	16.78	15.78	33	PASS
N38	20MHz	30KHz	TM3	522000	Inner 1RB Right	16.83	15.83	33	PASS
N38	20MHz	30KHz	TM4	516000	Inner Full	16.88	15.88	33	PASS
N38	20MHz	30KHz	TM4	516000	Inner 1RB Left	16.8	15.8	33	PASS
N38	20MHz	30KHz	TM4	516000	Inner 1RB Right	16.87	15.87	33	PASS
N38	20MHz	30KHz	TM4	519000	Inner Full	16.92	15.92	33	PASS
N38	20MHz	30KHz	TM4	519000	Inner 1RB Left	16.98	15.98	33	PASS
N38	20MHz	30KHz	TM4	519000	Inner 1RB Right	17.04	16.04	33	PASS
N38	20MHz	30KHz	TM4	522000	Inner Full	17.02	16.02	33	PASS
N38	20MHz	30KHz	TM4	522000	Inner 1RB Left	16.95	15.95	33	PASS
N38	20MHz	30KHz	TM4	522000	Inner 1RB Right	16.86	15.86	33	PASS
N38	20MHz	30KHz	TM5	516000	Inner Full	16.89	15.89	33	PASS
N38	20MHz	30KHz	TM5	516000	Inner 1RB Left	16.8	15.8	33	PASS
N38	20MHz	30KHz	TM5	516000	Inner 1RB Right	16.81	15.81	33	PASS
N38	20MHz	30KHz	TM5	519000	Inner Full	16.9	15.9	33	PASS
N38	20MHz	30KHz	TM5	519000	Inner 1RB Left	16.95	15.95	33	PASS
N38	20MHz	30KHz	TM5	519000	Inner 1RB Right	16.88	15.88	33	PASS
N38	20MHz	30KHz	TM5	522000	Inner Full	16.8	15.8	33	PASS
N38	20MHz	30KHz	TM5	522000	Inner 1RB Left	16.88	15.88	33	PASS
N38	20MHz	30KHz	TM5	522000	Inner 1RB Right	16.8	15.8	33	PASS
N38	20MHz	30KHz	TM6	516000	Inner Full	16.86	15.86	33	PASS
N38	20MHz	30KHz	TM6	516000	Inner 1RB Left	16.86	15.86	33	PASS
N38	20MHz	30KHz	TM6	516000	Inner 1RB Right	16.79	15.79	33	PASS
N38	20MHz	30KHz	TM6	519000	Inner Full	16.72	15.72	33	PASS
N38	20MHz	30KHz	TM6	519000	Inner 1RB Left	16.68	15.68	33	PASS
N38	20MHz	30KHz	TM6	519000	Inner 1RB Right	16.75	15.75	33	PASS
N38	20MHz	30KHz	TM6	522000	Inner Full	16.66	15.66	33	PASS
N38	20MHz	30KHz	TM6	522000	Inner 1RB Left	16.6	15.6	33	PASS
N38	20MHz	30KHz	TM6	522000	Inner 1RB Right	16.5	15.5	33	PASS
N38	20MHz	30KHz	TM7	516000	Inner Full	16.45	15.45	33	PASS
N38	20MHz	30KHz	TM7	516000	Inner 1RB Left	16.42	15.42	33	PASS
N38	20MHz	30KHz	TM7	516000	Inner 1RB Right	16.41	15.41	33	PASS
N38	20MHz	30KHz	TM7	519000	Inner Full	16.39	15.39	33	PASS

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N38	20MHz	30KHz	TM7	519000	Inner 1RB Left	16.37	15.37	33	PASS
N38	20MHz	30KHz	TM7	519000	Inner 1RB Right	16.3	15.3	33	PASS
N38	20MHz	30KHz	TM7	522000	Inner Full	16.23	15.23	33	PASS
N38	20MHz	30KHz	TM7	522000	Inner 1RB Left	16.26	15.26	33	PASS
N38	20MHz	30KHz	TM7	522000	Inner 1RB Right	16.3	15.3	33	PASS
N38	20MHz	30KHz	TM8	516000	Inner Full	16.26	15.26	33	PASS
N38	20MHz	30KHz	TM8	516000	Inner 1RB Left	16.2	15.2	33	PASS
N38	20MHz	30KHz	TM8	516000	Inner 1RB Right	16.26	15.26	33	PASS
N38	20MHz	30KHz	TM8	519000	Inner Full	16.2	15.2	33	PASS
N38	20MHz	30KHz	TM8	519000	Inner 1RB Left	16.16	15.16	33	PASS
N38	20MHz	30KHz	TM8	519000	Inner 1RB Right	16.07	15.07	33	PASS
N38	20MHz	30KHz	TM8	522000	Inner Full	16.08	15.08	33	PASS
N38	20MHz	30KHz	TM8	522000	Inner 1RB Left	16.12	15.12	33	PASS
N38	20MHz	30KHz	TM8	522000	Inner 1RB Right	16.17	15.17	33	PASS

Note:

a: For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

EIRP [dBm] = Conducted Power [dBm] + Gain [dBi]

ERP [dBm] = Conducted Power [dBm] + Gain [dBi] -2.15

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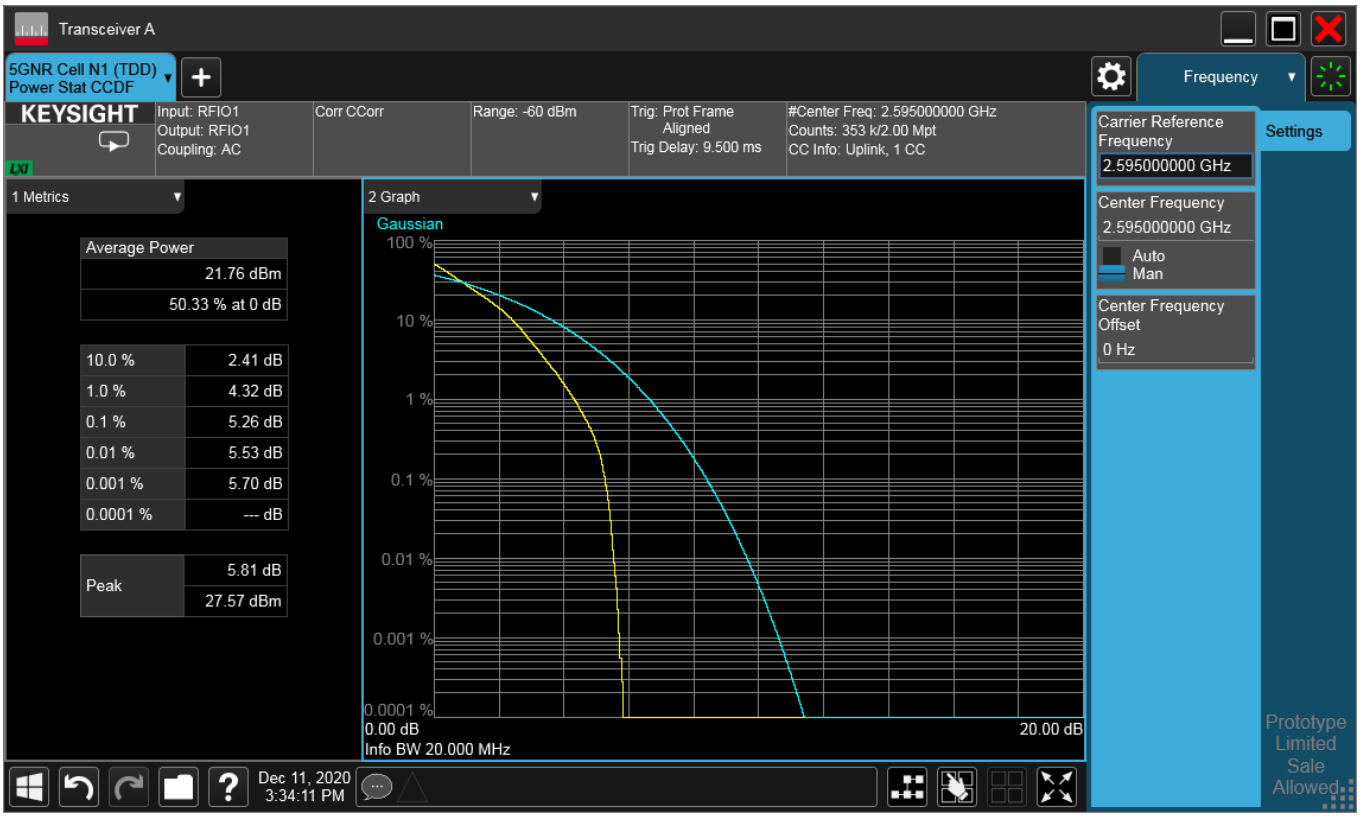
2 Peak-to-Average Ratio

2.1 Test Results

NR Band	Bandwidth	SCS	Modulation	Channel	RB Config	Result (dB)	Limit (dBm)	Verdict
N38	20MHz	30KHz	TM1	519000	Outer Full	5.26	13	PASS
N38	20MHz	30KHz	TM5	519000	Outer Full	6.99	13	PASS

2.2 Test Plots

N38-20MHz-15KHz-TM1-519000-Outer Full



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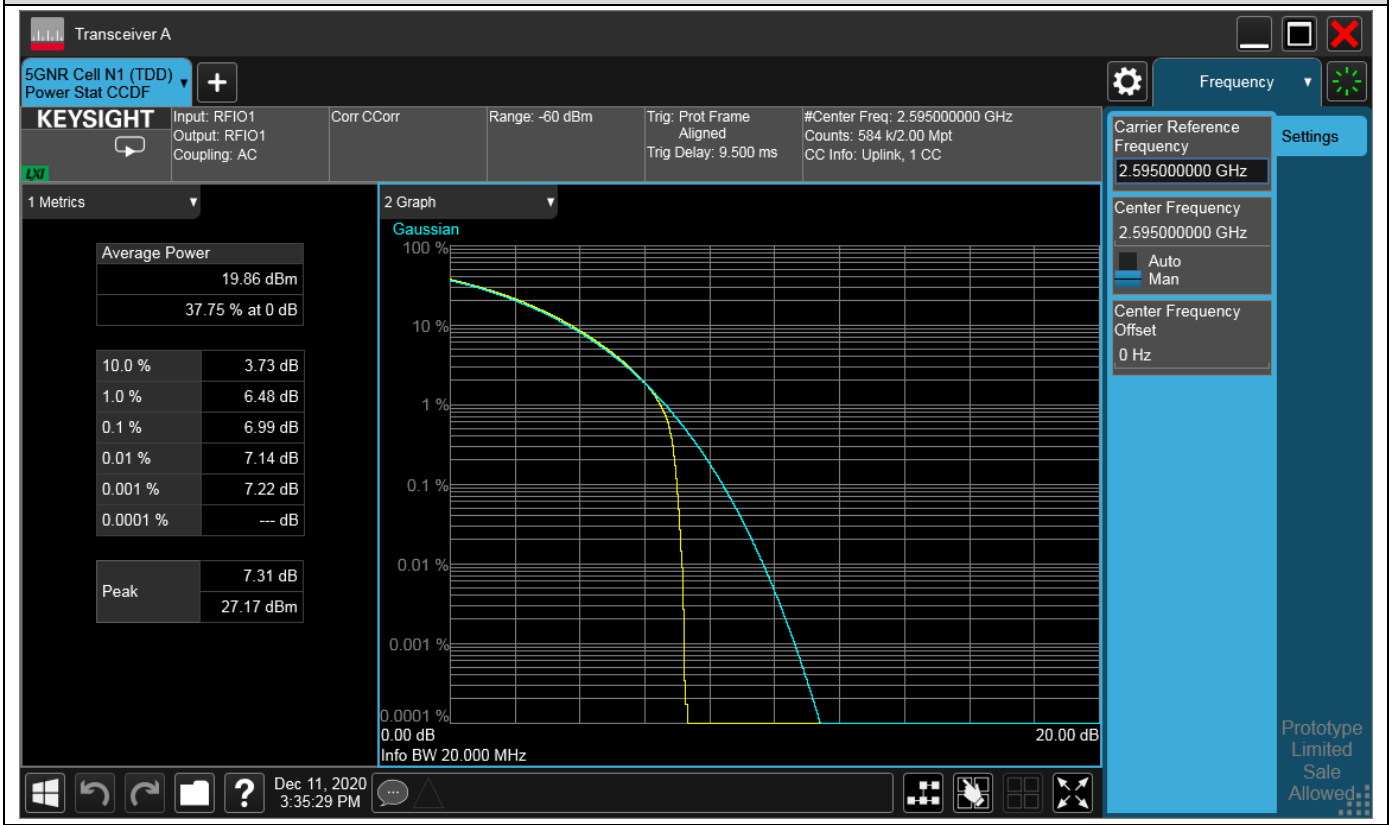
N38-20MHz-15KHz-TM5-519000-Outer Full



REMARK:
All antenna and all modulation had been tested, but only the worst case data displayed in this report

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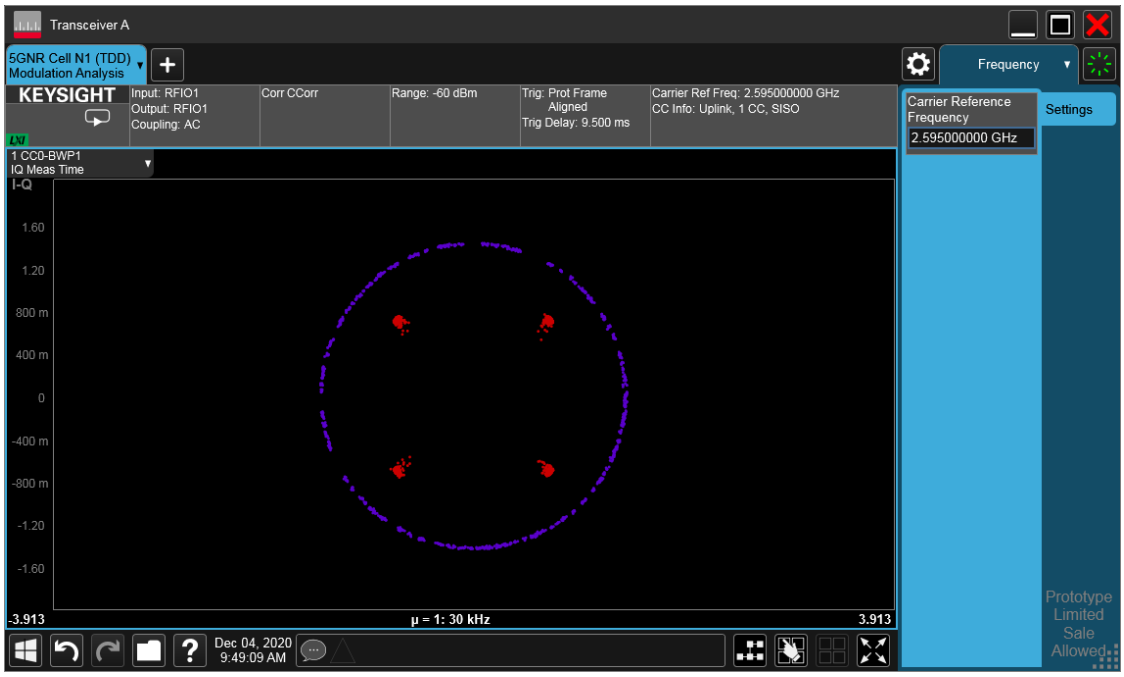
3 Modulation Characteristics

3.1 Test Plots

3.1.1 Test Band = N38

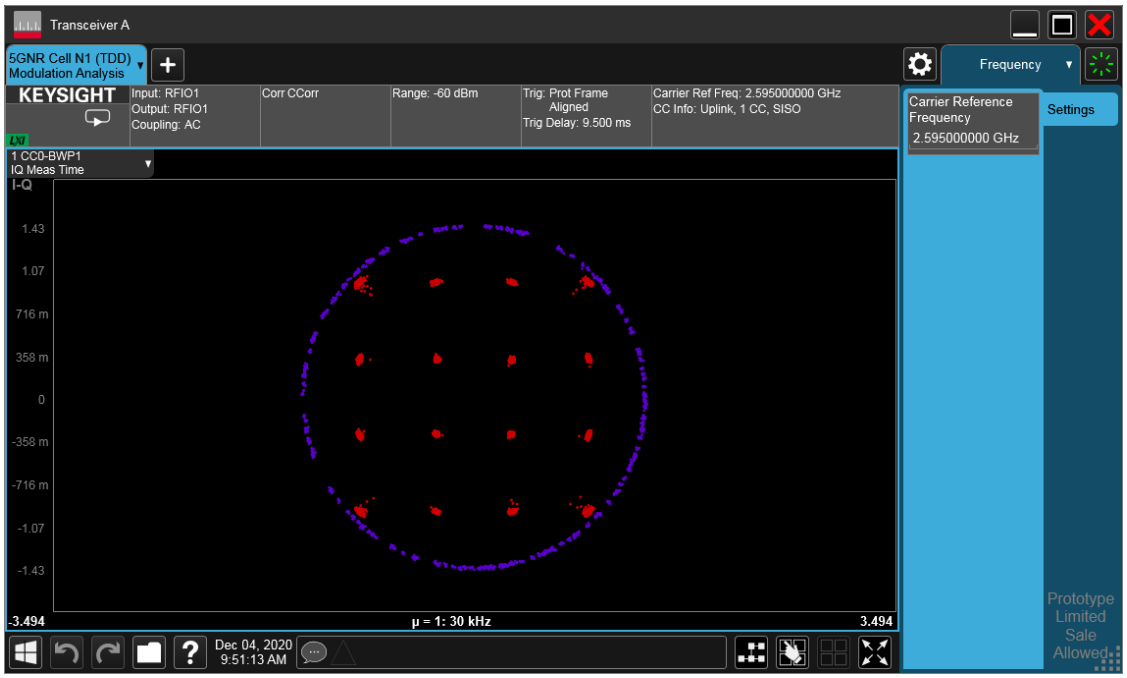
3.1.1.1 Test Mode = TM1 20MHz

3.1.1.1.1 Test Channel = MCH



3.1.1.2 Test Mode = TM2 20MHz

3.1.1.2.1 Test Channel = MCH



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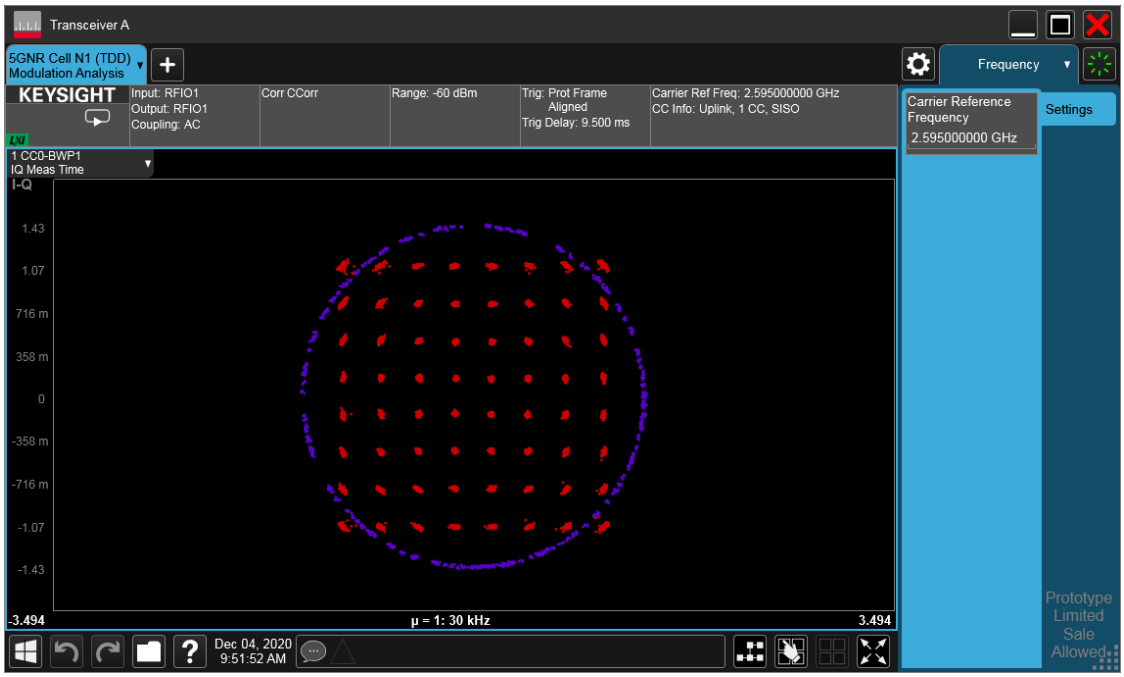
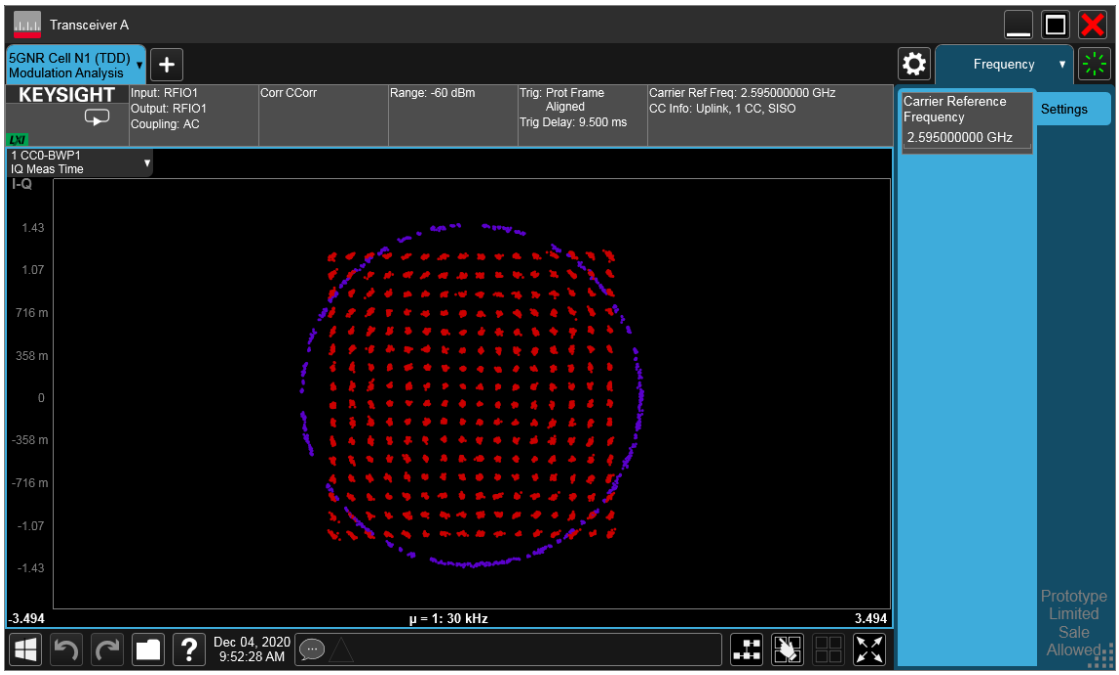
3.1.1.3 Test Mode = TM3 20MHz

3.1.1.3.1 Test Channel = MCH



3.1.1.4 Test Mode = TM4 20MHz

3.1.1.4.1 Test Channel = MCH



REMARK:
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4 Occupied Bandwidth & 26dB Emission Bandwidth

4.1 Test Results

NR Band	Bandwidth	SCS	Modulation	Channel	RB Config	OBW (MHz)	EBW (MHz)	Verdict
N38	20MHz	30KHz	TM1	519000	Outer Full	17.78	18.94	PASS
N38	20MHz	30KHz	TM2	519000	Outer Full	17.84	19.33	PASS
N38	20MHz	30KHz	TM3	519000	Outer Full	17.79	19.25	PASS
N38	20MHz	30KHz	TM4	519000	Outer Full	17.80	19.22	PASS
N38	20MHz	30KHz	TM5	519000	Outer Full	18.25	19.79	PASS
N38	20MHz	30KHz	TM6	519000	Outer Full	18.17	19.44	PASS
N38	20MHz	30KHz	TM7	519000	Outer Full	18.21	19.41	PASS
N38	20MHz	30KHz	TM8	519000	Outer Full	18.18	19.44	PASS

4.2 Test Plots

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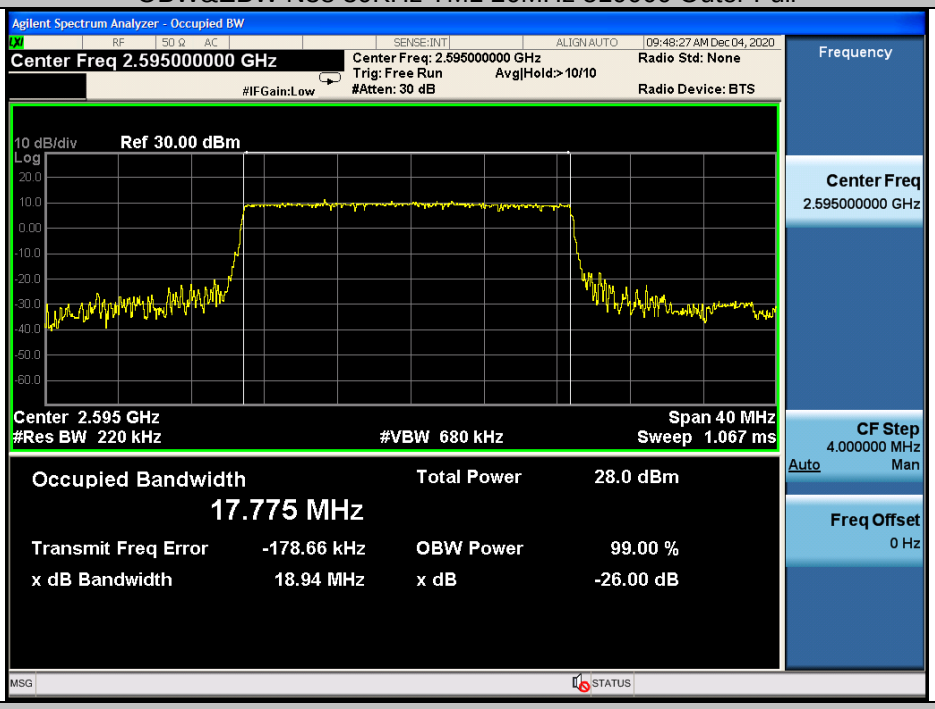
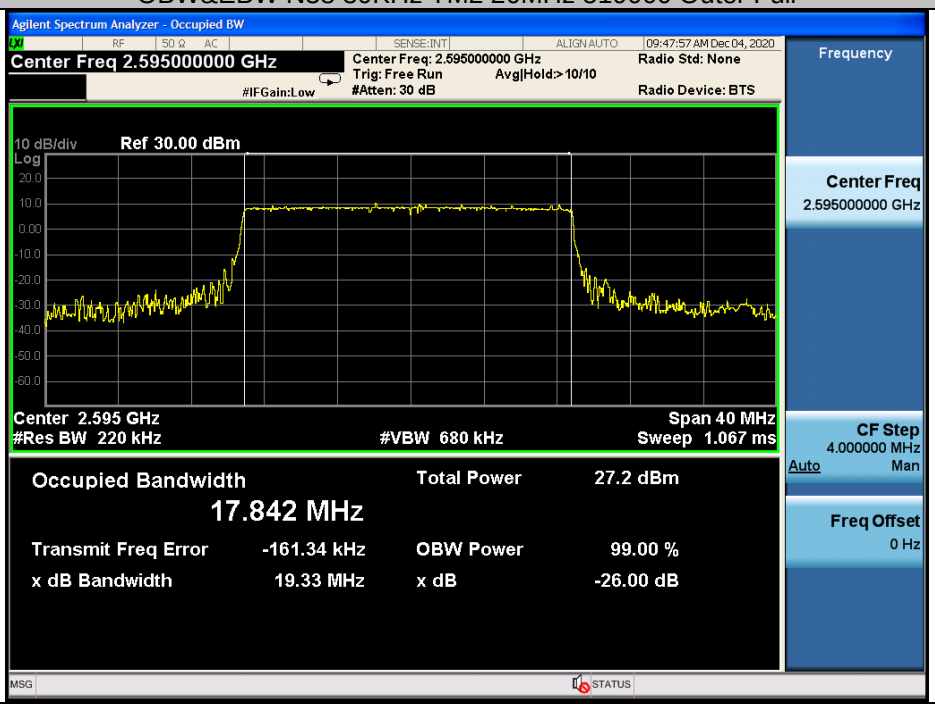
OBW&EBW N38 30KHz TM1 20MHz 519000 Outer Full



OBW&EBW N38 30KHz TM2 20MHz 519000 Outer Full



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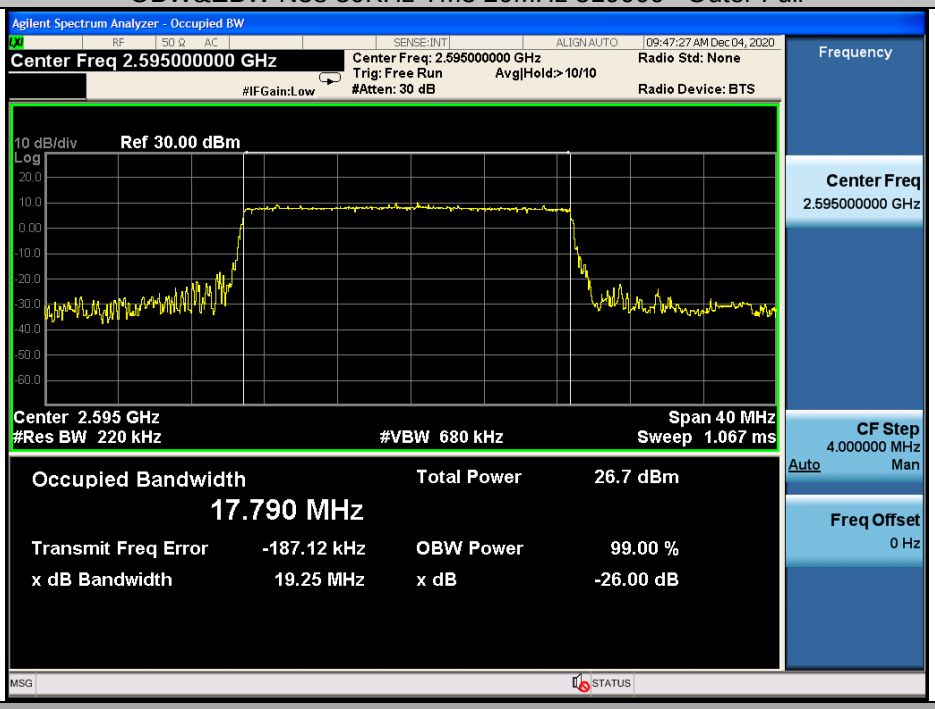
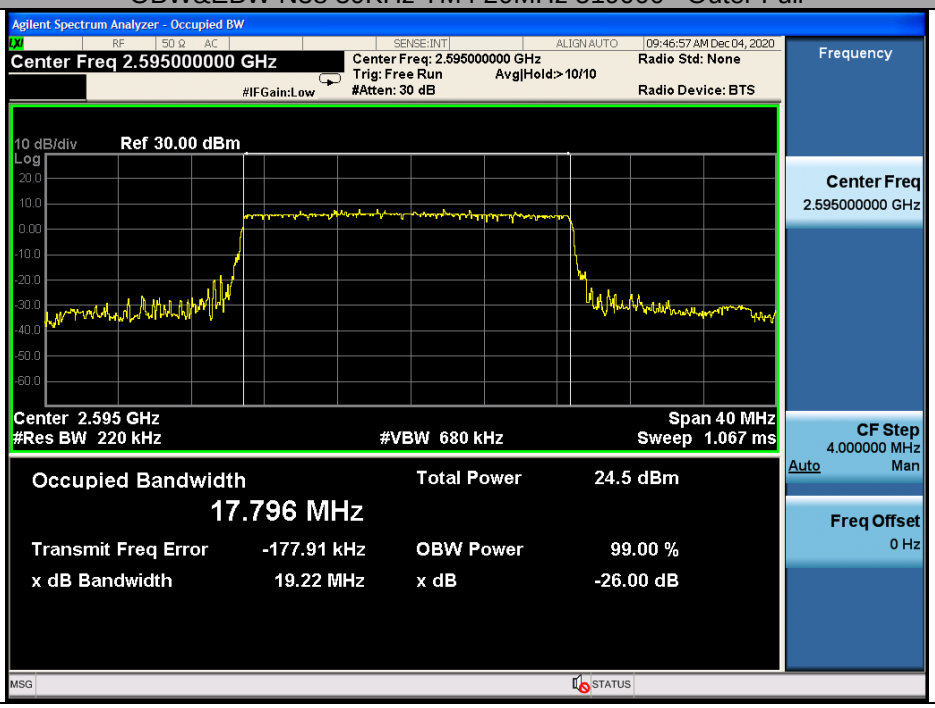
OBW&EBW N38 30KHz TM3 20MHz 519000 Outer Full



OBW&EBW N38 30KHz TM4 20MHz 519000 Outer Full



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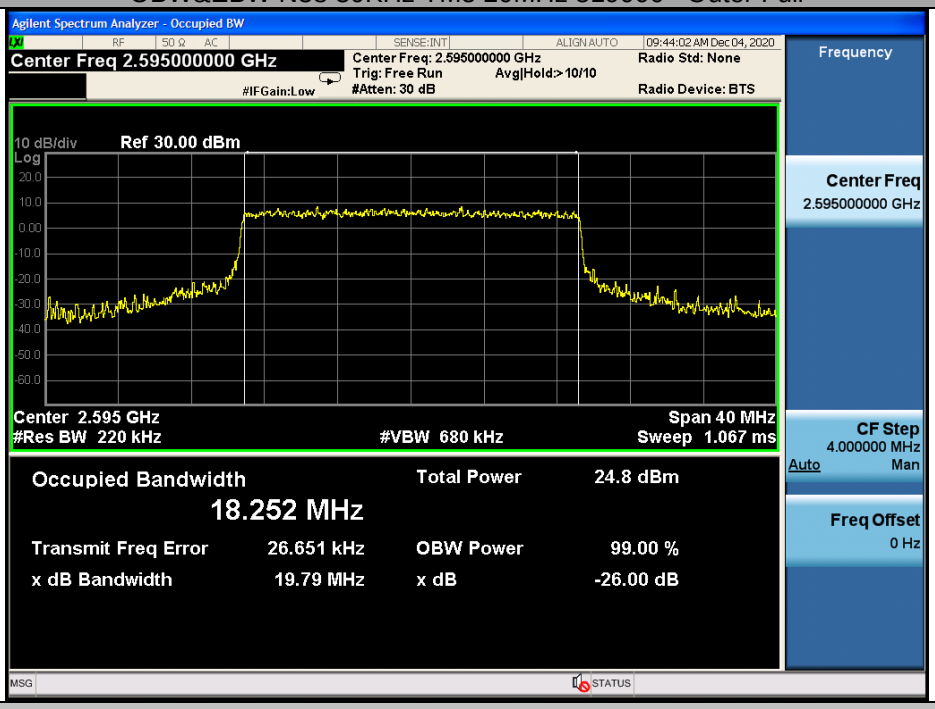
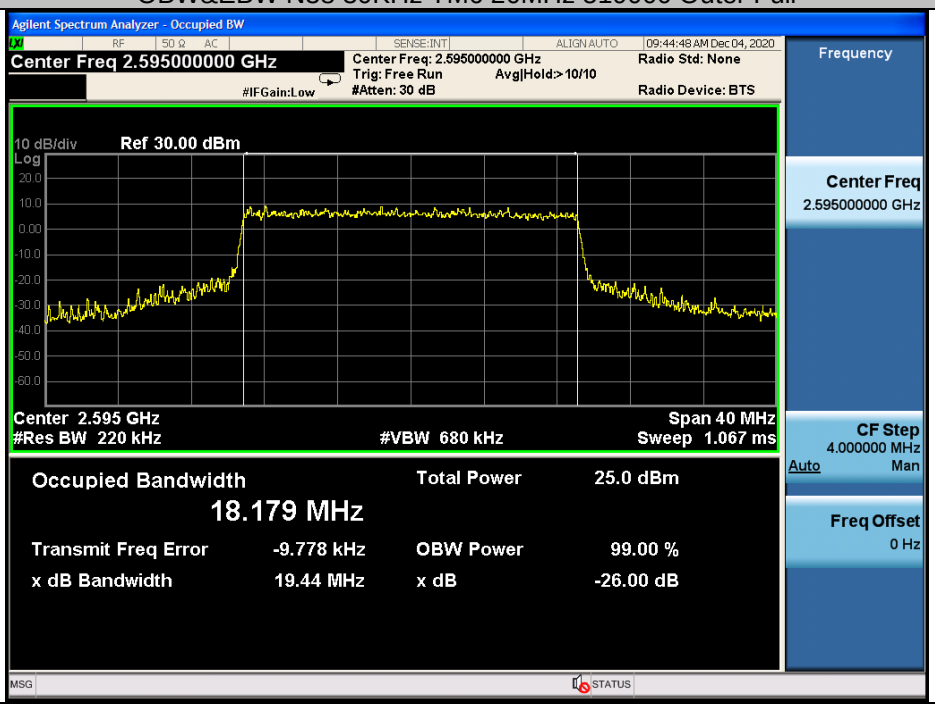
OBW&EBW N38 30KHz TM5 20MHz 519000 Outer Full



OBW&EBW N38 30KHz TM6 20MHz 519000 Outer Full



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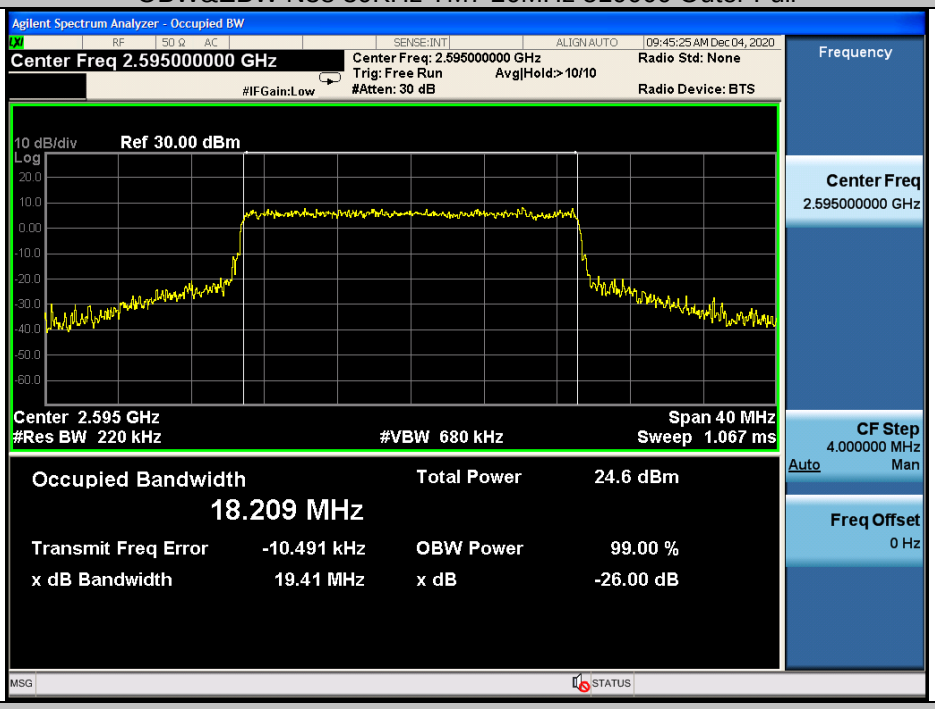
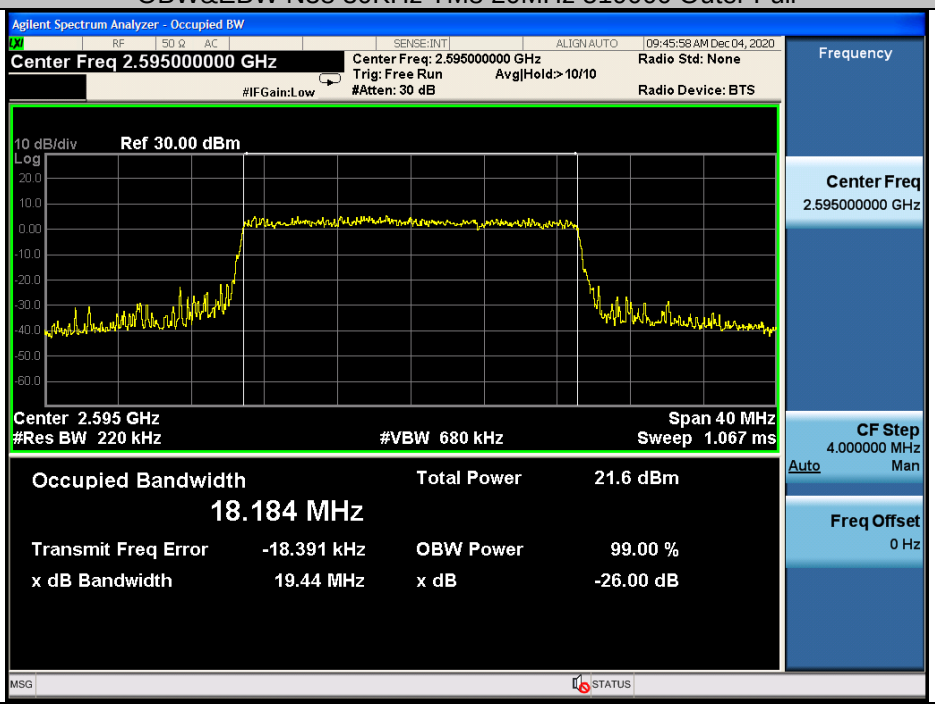
OBW&EBW N38 30KHz TM7 20MHz 519000 Outer Full



OBW&EBW N38 30KHz TM8 20MHz 519000 Outer Full



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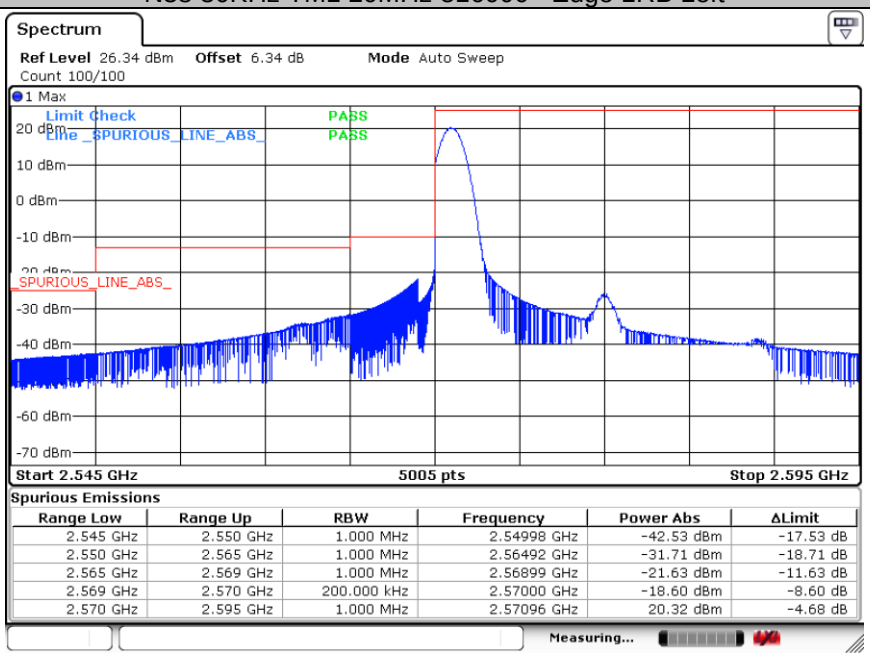
5 Band Edges Compliance

5.1 Test Plots

N38 30KHz TM1 20MHz 516000 Edge 1RB Left

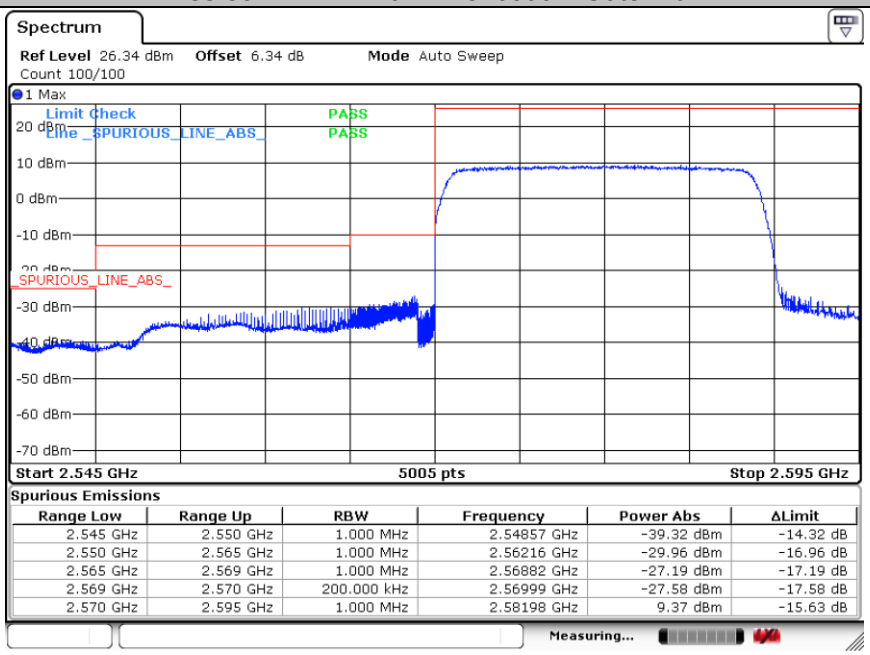


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.545 GHz	2.550 GHz	1.000 MHz	2.54998 GHz	-42.53 dBm	-17.53 dB
2.550 GHz	2.565 GHz	1.000 MHz	2.56492 GHz	-31.71 dBm	-18.71 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56899 GHz	-21.63 dBm	-11.63 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.57000 GHz	-18.60 dBm	-8.60 dB
2.570 GHz	2.595 GHz	1.000 MHz	2.57096 GHz	20.32 dBm	-4.68 dB

Date: 5.DEC.2020 17:06:54

N38 30KHz TM1 20MHz 516000 Outer Full



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.545 GHz	2.550 GHz	1.000 MHz	2.54857 GHz	-39.32 dBm	-14.32 dB
2.550 GHz	2.565 GHz	1.000 MHz	2.56216 GHz	-29.96 dBm	-16.96 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56882 GHz	-27.19 dBm	-17.19 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56999 GHz	-27.58 dBm	-17.58 dB
2.570 GHz	2.595 GHz	1.000 MHz	2.58198 GHz	9.37 dBm	-15.63 dB

Date: 5.DEC.2020 17:05:35

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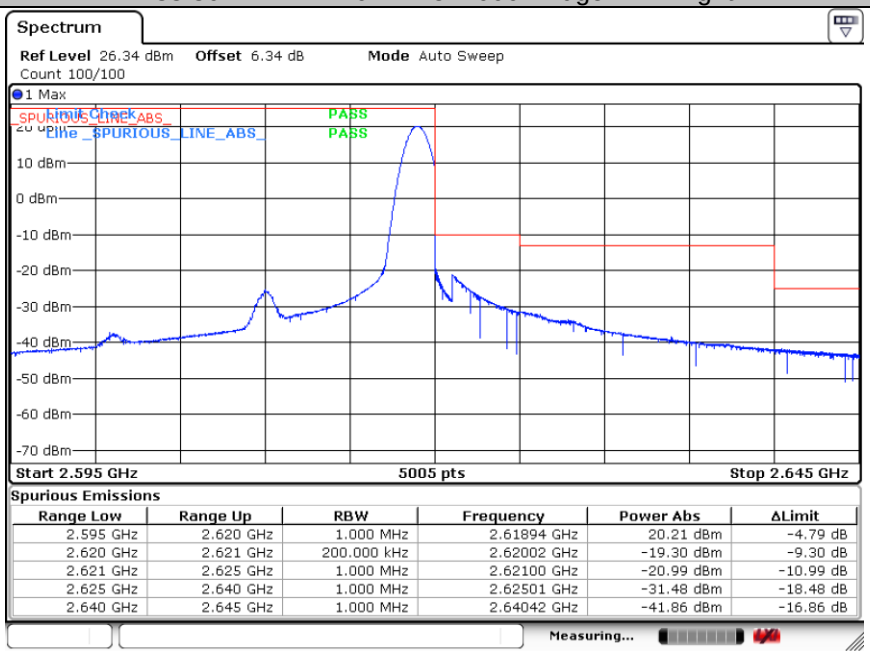
N38 30KHz TM1 20MHz 522000 Edge 1RB Right

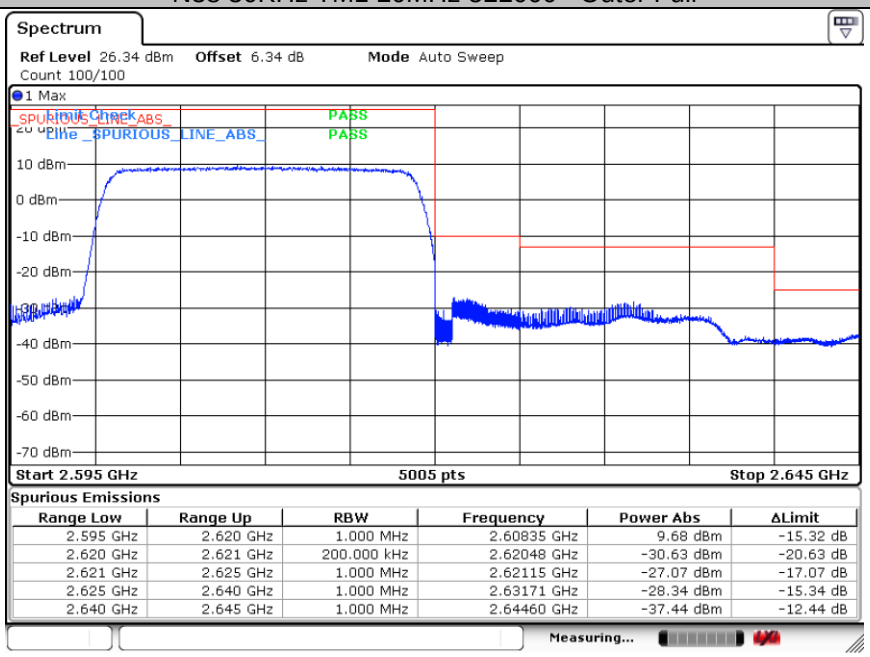


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.595 GHz	2.620 GHz	1.000 MHz	2.61894 GHz	20.21 dBm	-4.79 dB
2.620 GHz	2.621 GHz	200.000 kHz	2.62002 GHz	-19.30 dBm	-9.30 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62100 GHz	-20.99 dBm	-10.99 dB
2.625 GHz	2.640 GHz	1.000 MHz	2.62501 GHz	-31.48 dBm	-18.48 dB
2.640 GHz	2.645 GHz	1.000 MHz	2.64042 GHz	-41.86 dBm	-16.86 dB

Date: 5.DEC.2020 16:49:53

N38 30KHz TM1 20MHz 522000 Outer Full



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.595 GHz	2.620 GHz	1.000 MHz	2.60835 GHz	9.68 dBm	-15.32 dB
2.620 GHz	2.621 GHz	200.000 kHz	2.62048 GHz	-30.63 dBm	-20.63 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62115 GHz	-27.07 dBm	-17.07 dB
2.625 GHz	2.640 GHz	1.000 MHz	2.63171 GHz	-28.34 dBm	-15.34 dB
2.640 GHz	2.645 GHz	1.000 MHz	2.64460 GHz	-37.44 dBm	-12.44 dB

Date: 5.DEC.2020 16:47:21

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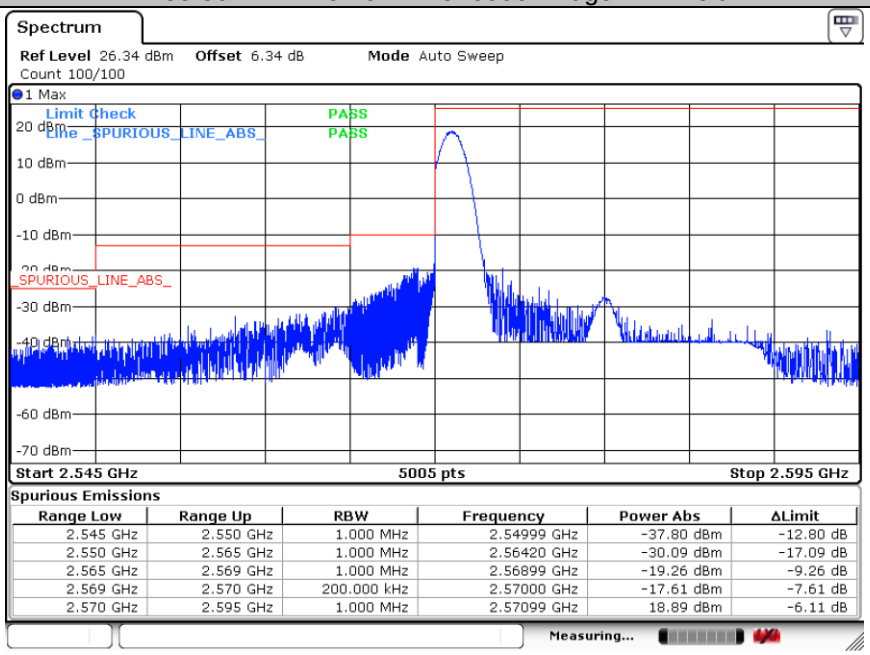
N38 30KHz TM5 20MHz 516000 Edge 1RB Left

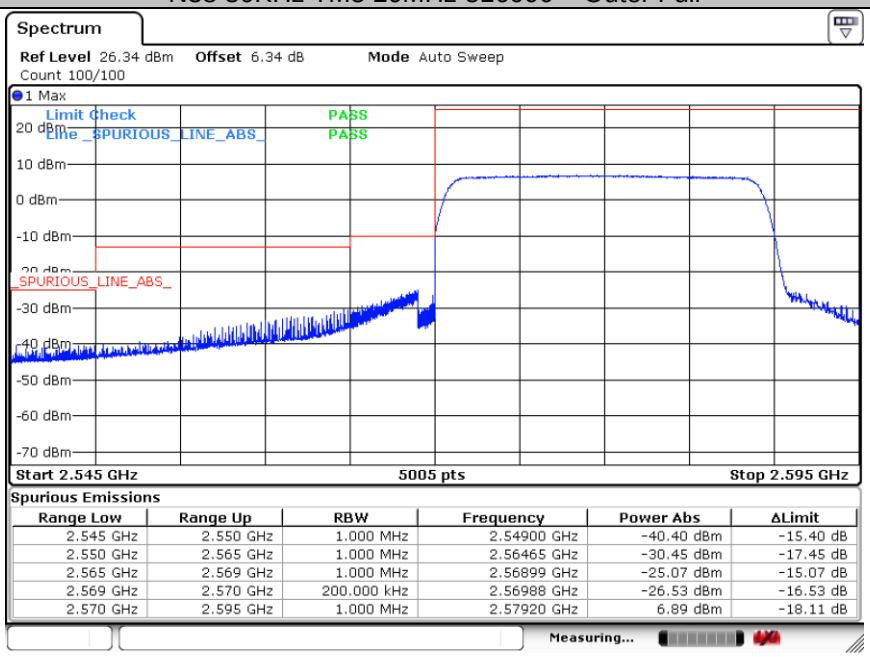


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.545 GHz	2.550 GHz	1.000 MHz	2.54999 GHz	-37.80 dBm	-12.80 dB
2.550 GHz	2.565 GHz	1.000 MHz	2.56420 GHz	-30.09 dBm	-17.09 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56899 GHz	-19.26 dBm	-9.26 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.57000 GHz	-17.61 dBm	-7.61 dB
2.570 GHz	2.595 GHz	1.000 MHz	2.57099 GHz	18.89 dBm	-6.11 dB

Date: 5.DEC.2020 17:03:53

N38 30KHz TM5 20MHz 516000 Outer Full



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.545 GHz	2.550 GHz	1.000 MHz	2.54900 GHz	-40.40 dBm	-15.40 dB
2.550 GHz	2.565 GHz	1.000 MHz	2.56465 GHz	-30.45 dBm	-17.45 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56899 GHz	-25.07 dBm	-15.07 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56988 GHz	-26.53 dBm	-16.53 dB
2.570 GHz	2.595 GHz	1.000 MHz	2.57920 GHz	6.89 dBm	-18.11 dB

Date: 5.DEC.2020 17:02:20

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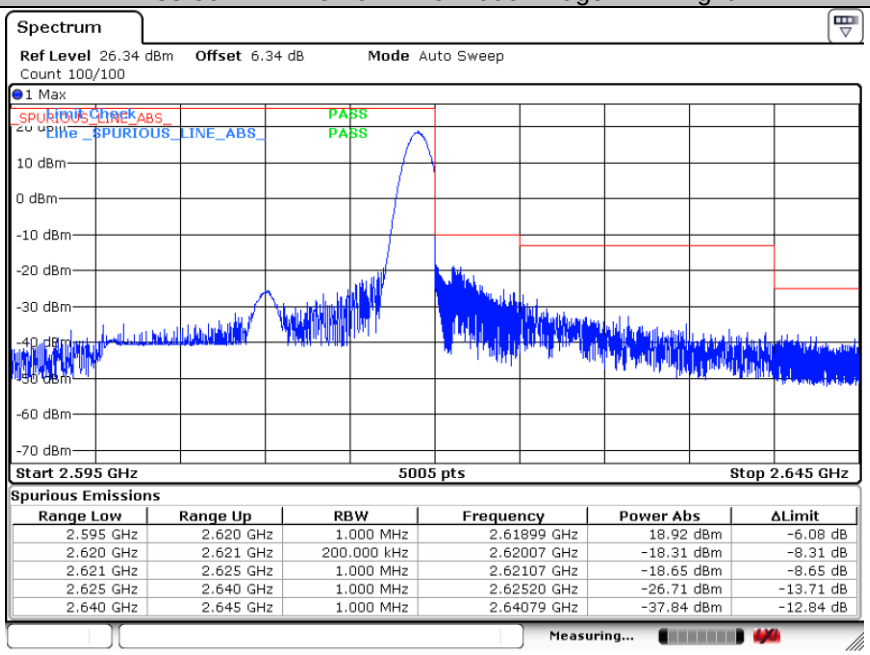
N38 30KHz TM5 20MHz 522000 Edge 1RB Right

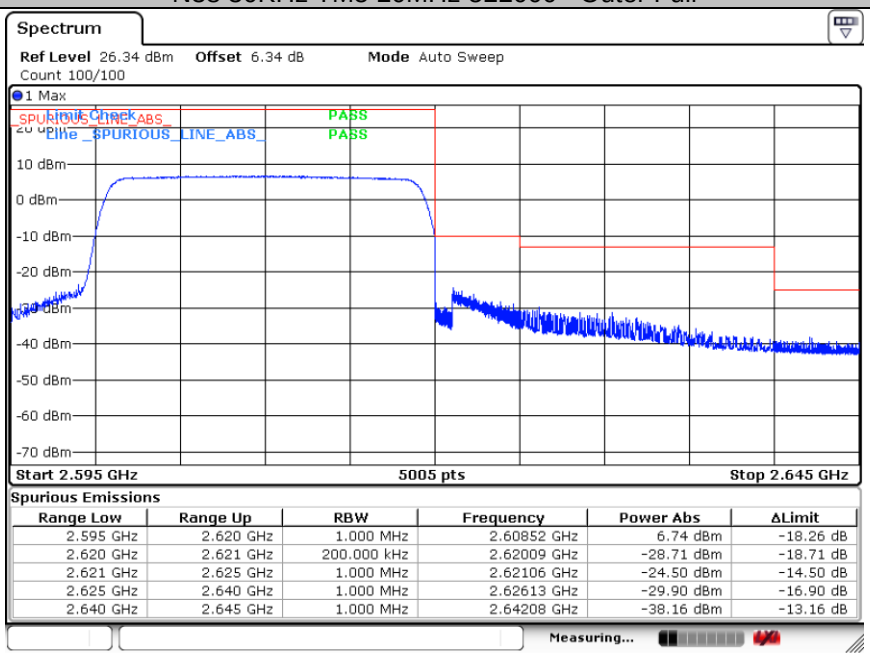


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.595 GHz	2.620 GHz	1.000 MHz	2.61899 GHz	18.92 dBm	-6.08 dB
2.620 GHz	2.621 GHz	200.000 kHz	2.62007 GHz	-18.31 dBm	-8.31 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62107 GHz	-18.65 dBm	-8.65 dB
2.625 GHz	2.640 GHz	1.000 MHz	2.62520 GHz	-26.71 dBm	-13.71 dB
2.640 GHz	2.645 GHz	1.000 MHz	2.64079 GHz	-37.84 dBm	-12.84 dB

Date: 5.DEC.2020 16:58:05

N38 30KHz TM5 20MHz 522000 Outer Full



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.595 GHz	2.620 GHz	1.000 MHz	2.60852 GHz	6.74 dBm	-18.26 dB
2.620 GHz	2.621 GHz	200.000 kHz	2.62009 GHz	-28.71 dBm	-18.71 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62106 GHz	-24.50 dBm	-14.50 dB
2.625 GHz	2.640 GHz	1.000 MHz	2.62613 GHz	-29.90 dBm	-16.90 dB
2.640 GHz	2.645 GHz	1.000 MHz	2.64208 GHz	-38.16 dBm	-13.16 dB

Date: 5.DEC.2020 16:56:18

REMARK:
All antenna and all modulation had been tested, but only the worst case data displayed in this report

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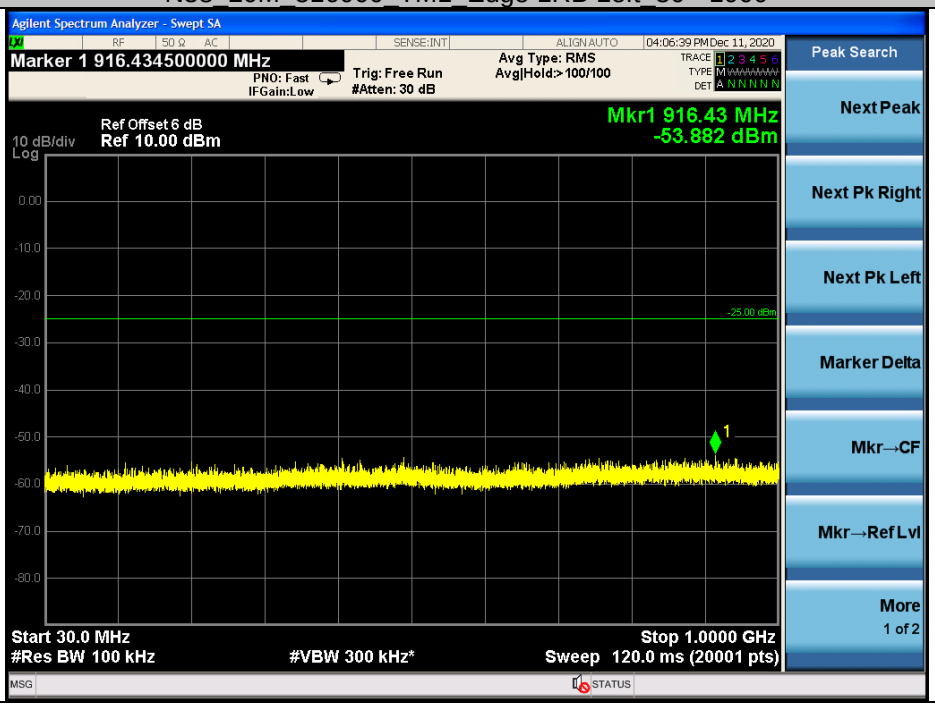
6 Spurious Emission at Antenna Terminal

REMARK: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of < RBW/2 so that narrow Band signals are not lost between frequency bins. As to the present test item, the "Measurement Points = k * (Span / RBW)" with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

6.1 Test Plots

N38_20M_516000_TM1_Edge 1RB Left_30 - 1000



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N38_20M_516000_TM1_Edge 1RB Left_1000 - 26500

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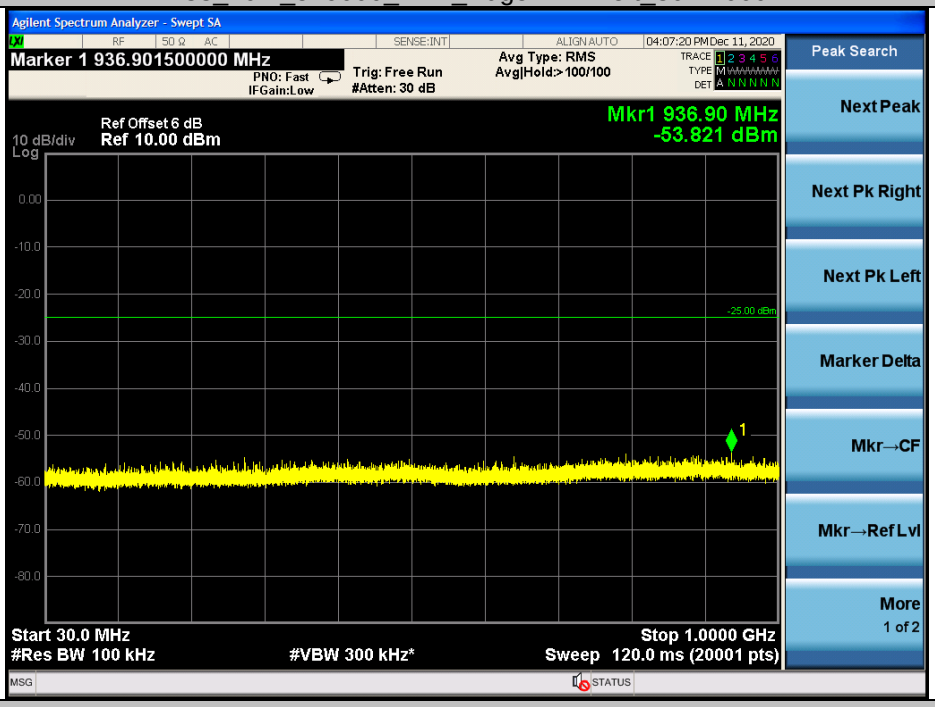
N38_20M_519000_TM1_Edge 1RB Left_30 - 1000



N38_20M_519000_TM1_Edge 1RB Left_1000 - 265000

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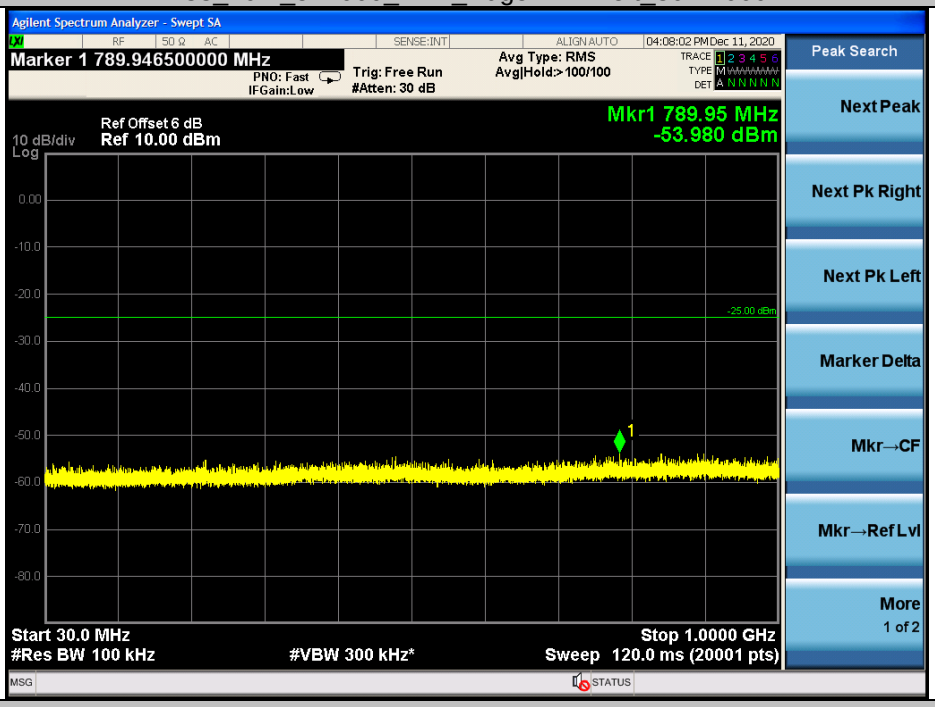

N38_20M_522000_TM1_Edge 1RB Left_1000 - 26500

REMARK:
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7 Field Strength of Spurious Radiation

7.1 Test Band = N38(ant4)

7.1.1 20MHz _TM1

7.1.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
38.2454	-67.44	-25.00	42.44	178	290	Vertical
100.9105	-54.62	-25.00	29.62	253	22	Vertical
156.1063	-73.53	-25.00	48.53	284	207	Vertical
1380.3190	-55.01	-25.00	30.01	222	22	Vertical
7713.2357	-47.13	-25.00	22.13	239	226	Vertical
17752.4876	-40.89	-25.00	15.89	284	342	Vertical
33.7347	-68.77	-25.00	43.77	166	122	Horizontal
102.0746	-69.94	-25.00	44.94	173	278	Horizontal
204.8027	-73.41	-25.00	48.41	222	72	Horizontal
1800.4400	-44.64	-25.00	19.64	174	31	Horizontal
6268.6634	-53.86	-25.00	28.86	219	336	Horizontal
17204.9602	-40.65	-25.00	15.65	268	55	Horizontal

7.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
96.2543	-46.87	-25.00	21.87	132	37	Vertical
515.3638	-77.74	-25.00	52.74	172	229	Vertical
1393.9197	-60.01	-25.00	35.01	266	0	Vertical
5703.8852	-51.95	-25.00	26.95	217	22	Vertical
9819.3410	-45.00	-25.00	20.00	268	94	Vertical
17861.9931	-39.15	-25.00	14.15	173	111	Vertical
39.8945	-69.93	-25.00	44.93	127	157	Horizontal
96.6908	-66.52	-25.00	41.52	353	114	Horizontal
521.9601	-77.31	-25.00	52.31	245	30	Horizontal
1799.1400	-50.02	-25.00	25.02	172	338	Horizontal
6707.4354	-51.98	-25.00	26.98	221	14	Horizontal

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17399.9700	-38.42	-25.00	13.42	169	187	Horizontal

7.1.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
38.1969	-67.62	-25.00	42.62	222	227	Vertical
101.0561	-53.46	-25.00	28.46	284	54	Vertical
513.3752	-78.25	-25.00	53.25	296	304	Vertical
1753.0377	-53.72	-25.00	28.72	231	219	Vertical
5201.3601	-49.78	-25.00	24.78	178	212	Vertical
17861.2431	-39.86	-25.00	14.86	269	278	Vertical
38.5364	-69.85	-25.00	44.85	263	179	Horizontal
101.9776	-68.52	-25.00	43.52	222	280	Horizontal
204.8027	-74.30	-25.00	49.30	185	222	Horizontal
1764.0382	-41.68	-25.00	16.68	166	338	Horizontal
5739.8870	-53.26	-25.00	28.26	196	5	Horizontal
17388.7194	-39.22	-25.00	14.22	241	349	Horizontal

7.2 Test Band = N38(ant3)

7.2.1 20MHz _TM1

7.2.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
38.3424	-67.04	-25.00	42.04	263	203	Vertical
100.9105	-53.41	-25.00	28.41	274	62	Vertical
155.5728	-72.53	-25.00	47.53	118	53	Vertical
1416.5208	-55.02	-25.00	30.02	296	168	Vertical
5678.3839	-51.76	-25.00	26.76	258	55	Vertical
17856.7428	-38.89	-25.00	13.89	148	71	Vertical
38.5364	-68.16	-25.00	43.16	142	144	Horizontal
87.4269	-69.39	-25.00	44.39	175	120	Horizontal
1801.1401	-44.59	-25.00	19.59	166	54	Horizontal
5795.3898	-53.02	-25.00	28.02	374	329	Horizontal

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9742.0871	-45.89	-25.00	20.89	222	30	Horizontal
17395.4698	-38.01	-25.00	13.01	218	5	Horizontal

7.2.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
38.8759	-68.14	-25.00	43.14	196	160	Vertical
96.6423	-48.95	-25.00	23.95	173	26	Vertical
617.6069	-76.98	-25.00	51.98	282	194	Vertical
1439.9220	-59.32	-25.00	34.32	132	92	Vertical
7185.2093	-50.41	-25.00	25.41	266	105	Vertical
17774.2387	-39.00	-25.00	14.00	274	262	Vertical
34.0257	-69.74	-25.00	44.74	173	110	Horizontal
96.0118	-66.33	-25.00	41.33	254	127	Horizontal
518.5649	-77.51	-25.00	52.51	166	27	Horizontal
1798.8399	-50.17	-25.00	25.17	198	101	Horizontal
6516.1758	-52.50	-25.00	27.50	172	195	Horizontal
17385.7193	-38.67	-25.00	13.67	234	96	Horizontal

7.2.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
38.9729	-68.19	-25.00	43.19	261	252	Vertical
100.4255	-53.04	-25.00	28.04	249	43	Vertical
522.6391	-78.81	-25.00	53.81	184	329	Vertical
1627.3314	-54.41	-25.00	29.41	122	243	Vertical
5202.1101	-50.46	-25.00	25.46	184	232	Vertical
17863.4932	-39.79	-25.00	14.79	251	80	Vertical
38.4394	-69.32	-25.00	44.32	115	154	Horizontal
101.8321	-68.85	-25.00	43.85	152	280	Horizontal
205.0938	-74.65	-25.00	49.65	269	338	Horizontal
1798.5399	-44.58	-25.00	19.58	268	0	Horizontal
7071.9536	-51.17	-25.00	26.17	284	89	Horizontal
17392.4696	-39.63	-25.00	14.63	218	337	Horizontal

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Remark:

1 According to 971168 D01 Power Meas License Digital Systems, The amplitudes of unwanted emissions that are attenuated more than 20 dB below the applicable limit are not required to be reported.

2 The disturbance below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data displayed in this report.

3 All modulation and all Bandwidth had been tested, but only the worst case data displayed in this report.

4 The disturbance above26.5GHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data displayed in this report.

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8 Frequency Stability

8.1 Frequency Error VS. Voltage

NR Band	SCS	Bandwidth	Modulation	Channel	RB Config	Voltage [Vdc]	Temperature(℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
N38	30KHz	20MHz	TM1	516000	Outer Full	VL	NT	-12.53	-0.00486	±2.5	PASS
N38	30KHz	20MHz	TM1	516000	Outer Full	VN	NT	-11.23	-0.00435	±2.5	PASS
N38	30KHz	20MHz	TM1	516000	Outer Full	VH	NT	11.30	0.00438	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VL	NT	-17.54	-0.00676	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VN	NT	-9.49	-0.00366	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VH	NT	-11.56	-0.00445	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VL	NT	-19.10	-0.00732	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VN	NT	9.64	0.00369	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VH	NT	11.68	0.00448	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VL	NT	-8.53	-0.00331	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VN	NT	-15.56	-0.00603	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VH	NT	-12.84	-0.00498	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VL	NT	-10.68	-0.00412	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VN	NT	9.69	0.00373	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VH	NT	-17.65	-0.00680	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VL	NT	11.41	0.00437	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VN	NT	-10.33	-0.00396	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VH	NT	9.08	0.00348	±2.5	PASS

8.2 Frequency Error VS. Temperature

NR Band	SCS	Bandwidth	Modulation	Channel	RB Config	Voltage [Vdc]	Temperature(℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
N38	30KHz	20MHz	TM1	516000	Outer Full	VN	-30	-8.44	-0.00327	±2.5	PASS
N38	30KHz	20MHz	TM1	516000	Outer Full	VN	-20	15.64	0.00606	±2.5	PASS
N38	30KHz	20MHz	TM1	516000	Outer Full	VN	-10	20.53	0.00796	±2.5	PASS
N38	30KHz	20MHz	TM1	516000	Outer Full	VN	0	-11.34	-0.00440	±2.5	PASS
N38	30KHz	20MHz	TM1	516000	Outer Full	VN	10	7.83	0.00303	±2.5	PASS
N38	30KHz	20MHz	TM1	516000	Outer Full	VN	20	12.47	0.00483	±2.5	PASS
N38	30KHz	20MHz	TM1	516000	Outer Full	VN	30	-16.45	-0.00638	±2.5	PASS
N38	30KHz	20MHz	TM1	516000	Outer Full	VN	40	-14.08	-0.00546	±2.5	PASS
N38	30KHz	20MHz	TM1	516000	Outer Full	VN	50	11.76	0.00456	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VN	-30	13.65	0.00526	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VN	-20	-11.90	-0.00459	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VN	-10	-18.45	-0.00711	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VN	0	-12.67	-0.00488	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VN	10	-22.41	-0.00864	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VN	20	-12.44	-0.00479	±2.5	PASS

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N38	30KHz	20MHz	TM1	519000	Outer Full	VN	30	-10.24	-0.00395	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VN	40	-13.66	-0.00526	±2.5	PASS
N38	30KHz	20MHz	TM1	519000	Outer Full	VN	50	15.56	0.00600	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VN	-30	13.63	0.00522	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VN	-20	-15.09	-0.00578	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VN	-10	-8.52	-0.00326	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VN	0	9.36	0.00359	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VN	10	-13.21	-0.00506	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VN	20	13.86	0.00531	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VN	30	-11.44	-0.00438	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VN	40	-17.37	-0.00666	±2.5	PASS
N38	30KHz	20MHz	TM1	522000	Outer Full	VN	50	12.08	0.00463	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VN	-30	-10.53	-0.00408	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VN	-20	-11.61	-0.00450	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VN	-10	20.65	0.00800	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VN	0	-9.61	-0.00372	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VN	10	11.58	0.00449	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VN	20	-12.52	-0.00485	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VN	30	-14.35	-0.00556	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VN	40	-12.38	-0.00480	±2.5	PASS
N38	30KHz	20MHz	TM5	516000	Outer Full	VN	50	-11.54	-0.00447	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VN	-30	-9.56	-0.00368	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VN	-20	-18.65	-0.00719	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VN	-10	-10.23	-0.00394	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VN	0	-14.68	-0.00566	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VN	10	10.28	0.00396	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VN	20	-11.46	-0.00442	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VN	30	-13.66	-0.00526	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VN	40	-8.20	-0.00316	±2.5	PASS
N38	30KHz	20MHz	TM5	519000	Outer Full	VN	50	-19.63	-0.00756	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VN	-30	-13.86	-0.00531	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VN	-20	17.30	0.00663	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VN	-10	18.46	0.00707	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VN	0	-13.09	-0.00502	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VN	10	18.07	0.00692	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VN	20	-19.54	-0.00749	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VN	30	12.12	0.00464	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VN	40	-14.08	-0.00539	±2.5	PASS
N38	30KHz	20MHz	TM5	522000	Outer Full	VN	50	-11.44	-0.00438	±2.5	PASS

REMARK:
All antenna and all modulation had been tested, but only the worst case data displayed in this report

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