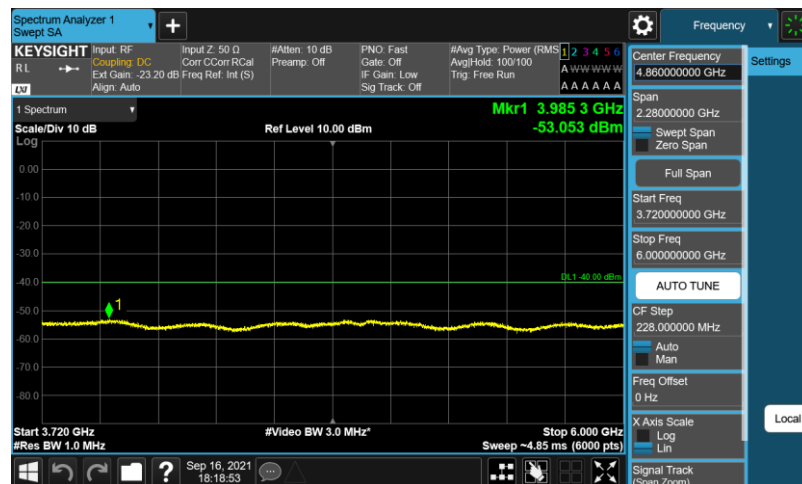


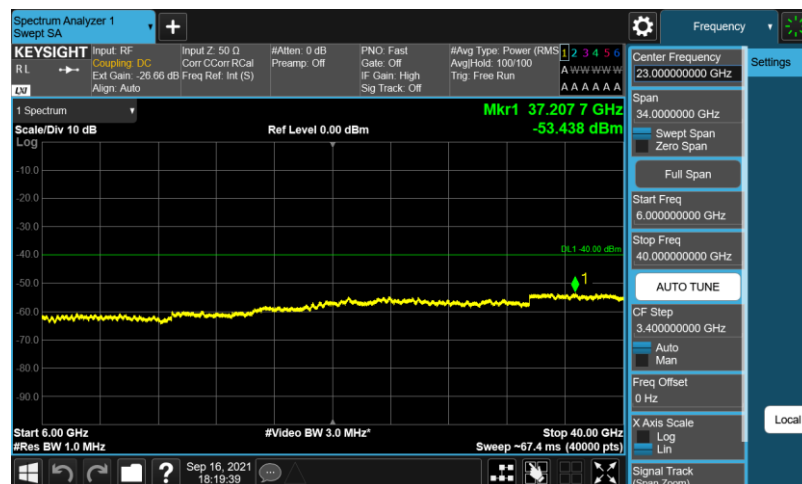
Band48-20MHz-256QAM-55990-E-TM3.1A-30-3530



Band48-20MHz-256QAM-55990-E-TM3.1A-3720-6000



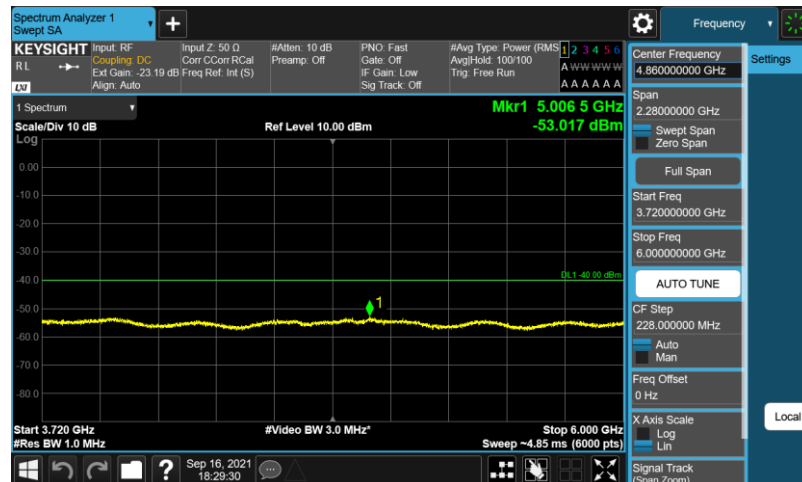
Band48-20MHz-256QAM-55990-TM3.1A-6000-40000



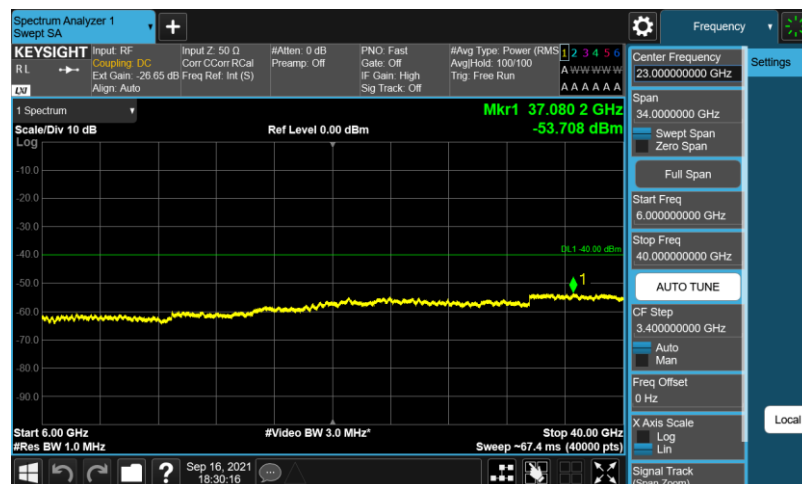
Band48-20MHz-256QAM-56640-E-TM3.1A-30-3530



Band48-20MHz-256QAM-56640-E-TM3.1A-3720-6000



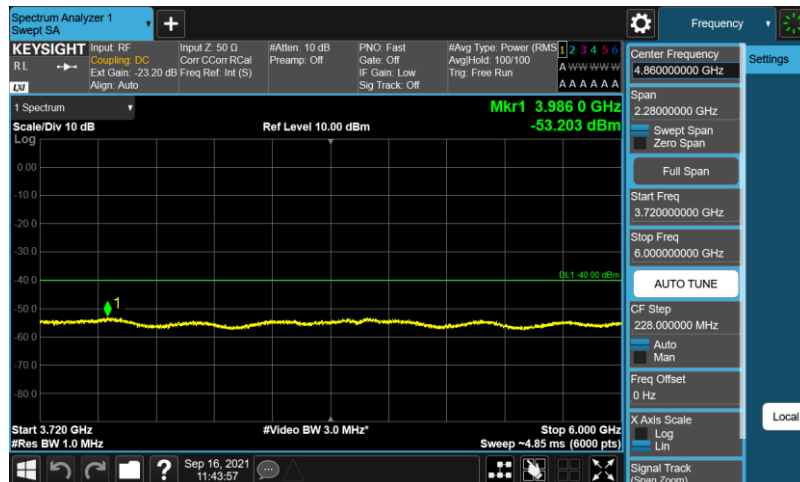
Band48-20MHz-256QAM-56640-E-TM3.1A-6000-40000



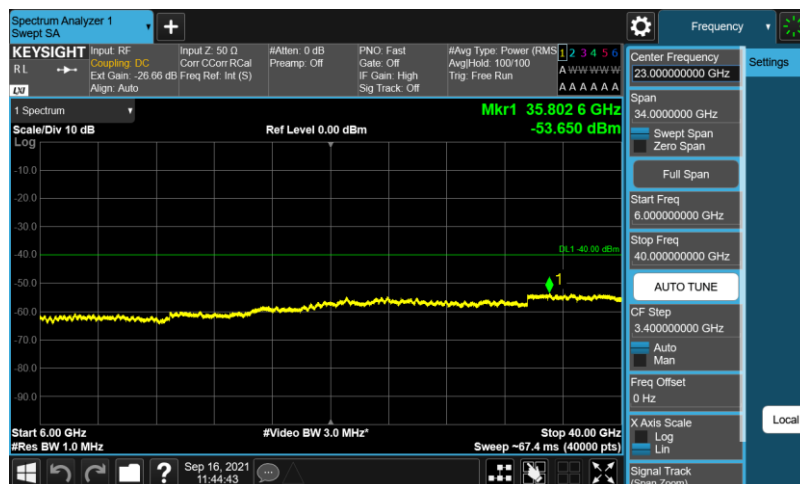
Band48-20MHz-QPSK-55340-E-TM1.1-30-3530



Band48-20MHz-QPSK-55340-E-TM1.1-3720-6000



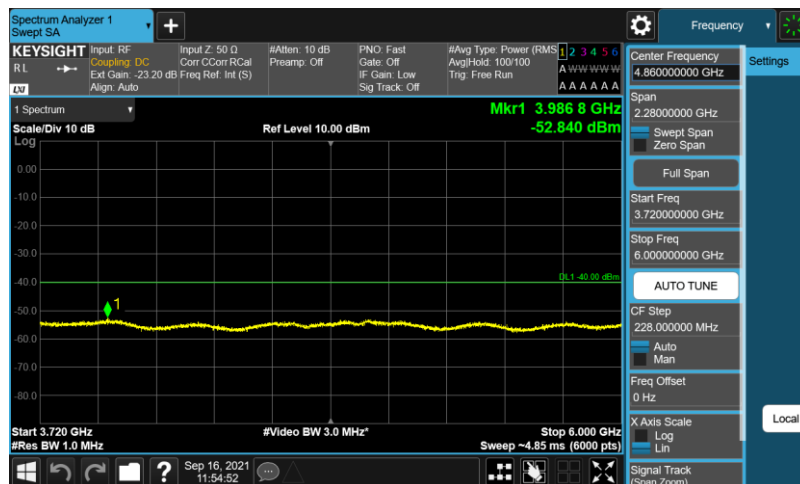
Band48-20MHz-QPSK-55340-E-TM1.1-6000-40000



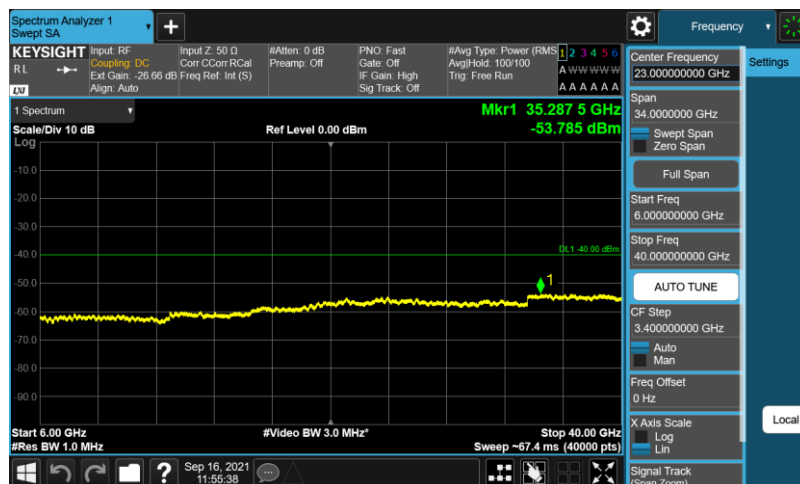
Band48-20MHz-QPSK-55990-E-TM1.1-30-3530



Band48-20MHz-QPSK-55990-E-TM1.1-3720-6000



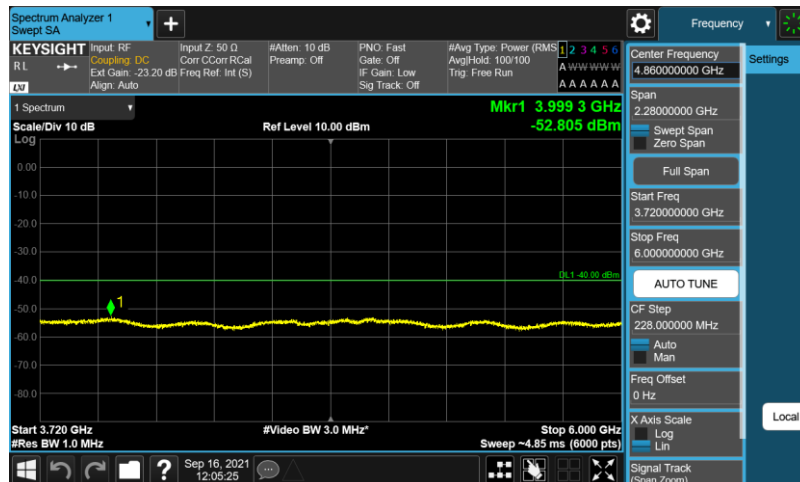
Band48-20MHz-QPSK-55990-E-TM1.1-6000-40000



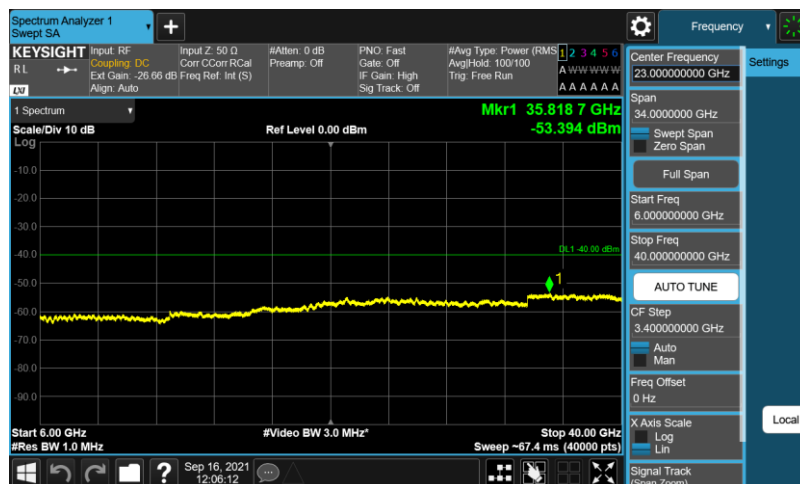
Band48-20MHz-QPSK-56640-E-TM1.1-30-3530



Band48-20MHz-QPSK-56640-E-TM1.1-3720-6000



Band48-20MHz-QPSK-56640-E-TM1.1-6000-40000



Antenna 3:

Appendix A: Effective (Isotropic) Radiated Power Output Data

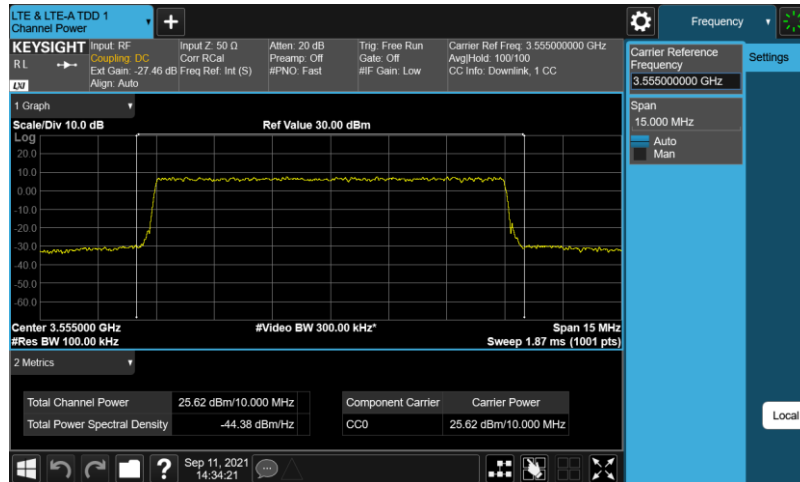
Test Result

Band	Bandwidth	Modulation	Channel	Mode	Power (dBm/10MHz)
Band48	10MHz	256QAM	55290	E-TM3.1A	25.62
Band48	10MHz	256QAM	55990	E-TM3.1A	24.99
Band48	10MHz	256QAM	56690	E-TM3.1A	24.96
Band48	10MHz	QPSK	55290	E-TM1.1	25.91
Band48	10MHz	QPSK	55990	E-TM1.1	25.23
Band48	10MHz	QPSK	56690	E-TM1.1	25.11
Band48	20MHz	256QAM	55340	E-TM3.1A	23.52
Band48	20MHz	256QAM	55990	E-TM3.1A	23.38
Band48	20MHz	256QAM	56640	E-TM3.1A	23.14
Band48	20MHz	QPSK	55340	E-TM1.1	22.78
Band48	20MHz	QPSK	55990	E-TM1.1	23.04
Band48	20MHz	QPSK	56640	E-TM1.1	22.47

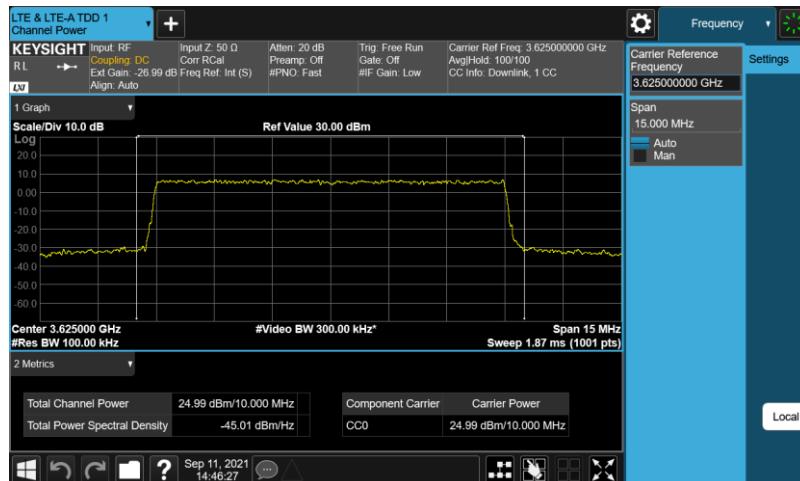
Band	Bandwidth	Modulation	Channel	Mode	Power (dBm/20MHz)
Band48	20MHz	256QAM	55340	E-TM3.1A	26.03
Band48	20MHz	256QAM	55990	E-TM3.1A	25.95
Band48	20MHz	256QAM	56640	E-TM3.1A	25.63
Band48	20MHz	QPSK	55340	E-TM1.1	25.13
Band48	20MHz	QPSK	55990	E-TM1.1	25.62
Band48	20MHz	QPSK	56640	E-TM1.1	25.18

Test Graphs

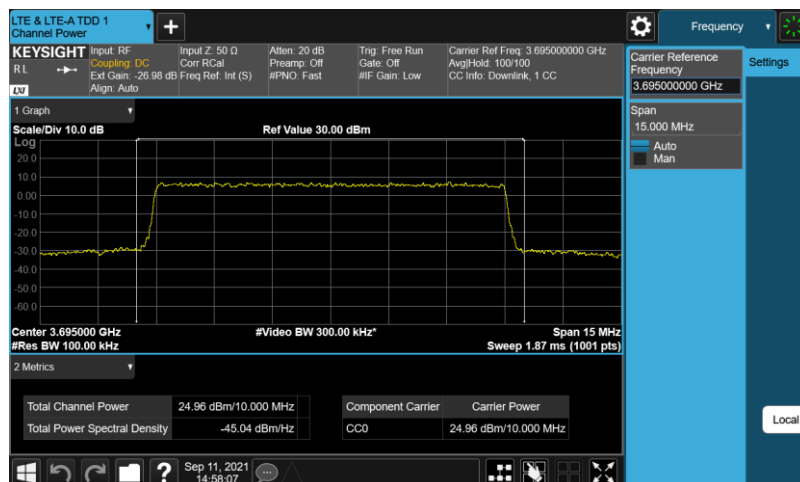
Band48-10MHz-256QAM-55290-E-TM3.1A-10



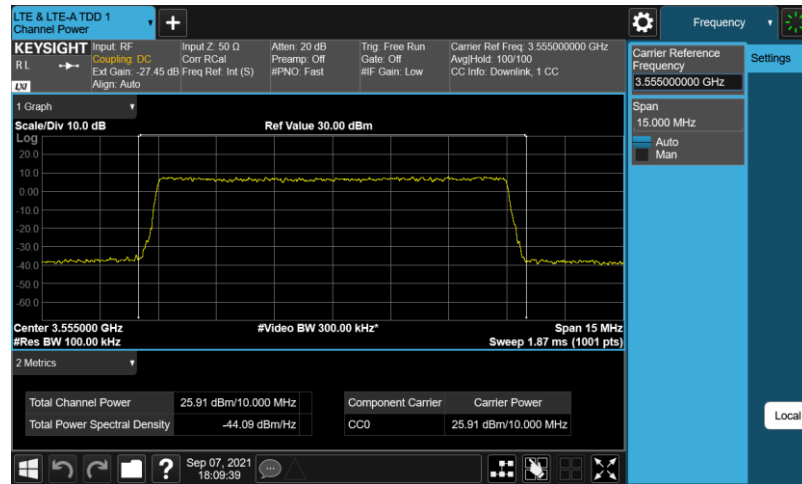
Band48-10MHz-256QAM-55990-E-TM3.1A-10



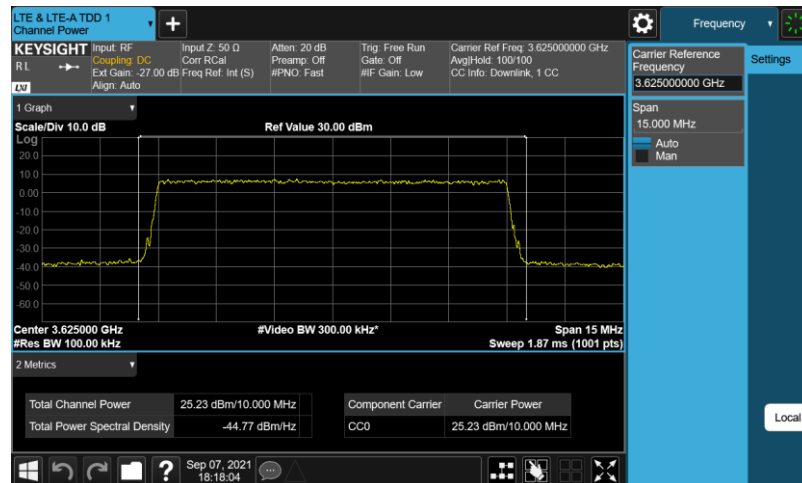
Band48-10MHz-256QAM-56690-E-TM3.1A-10



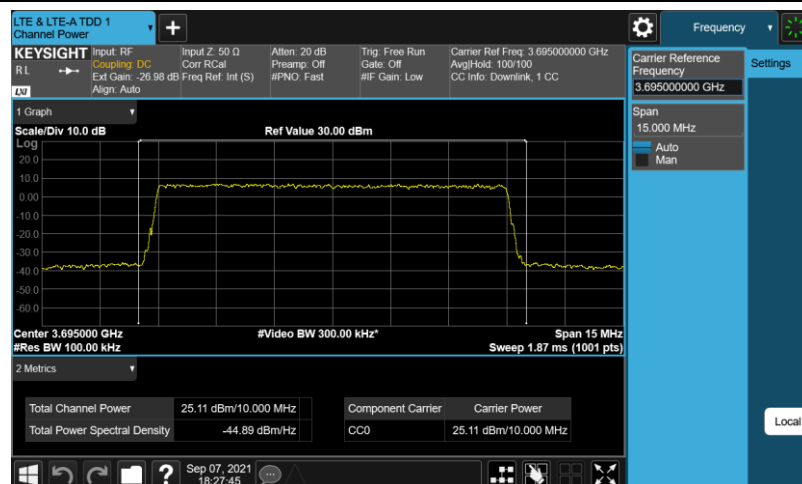
Band48-10MHz-QPSK-55290-E-TM1.1-10



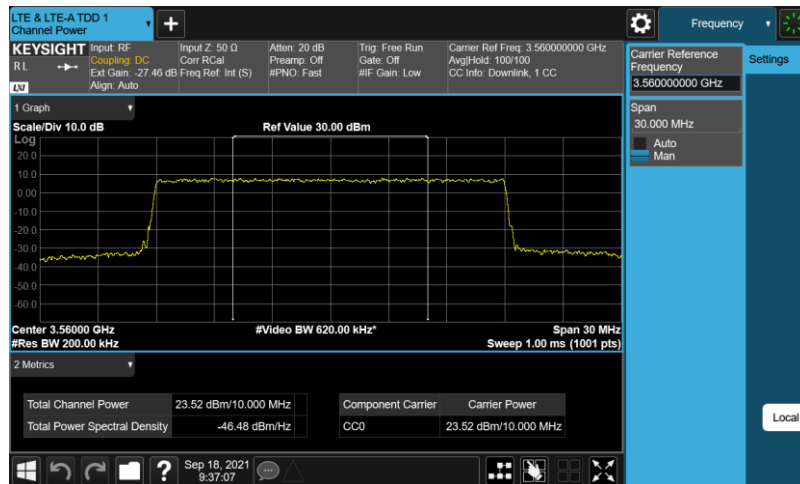
Band48-10MHz-QPSK-55990-E-TM1.1-10



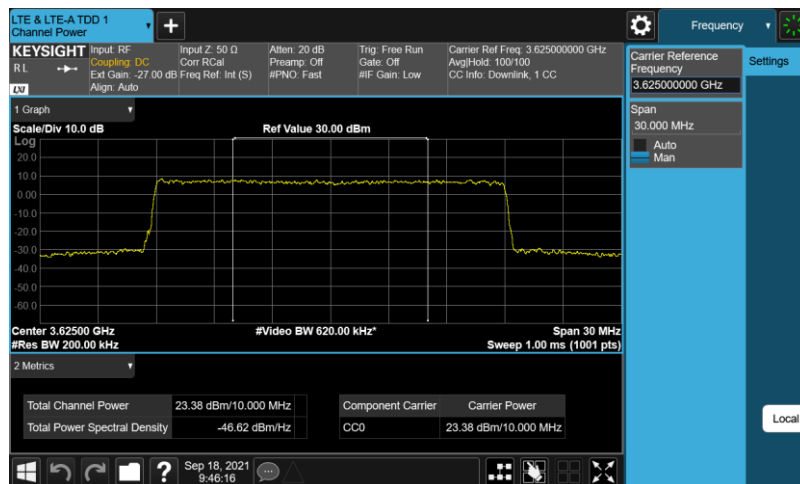
Band48-10MHz-QPSK-56690-E-TM1.1-10



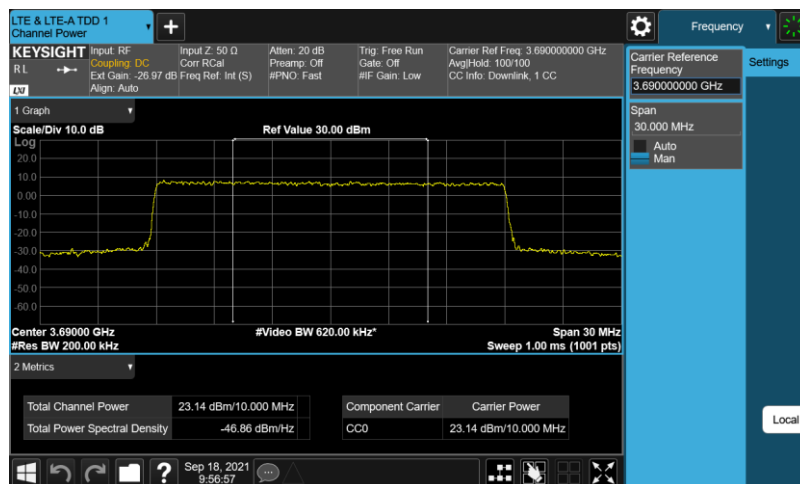
Band48-20MHz-256QAM-55340-E-TM3.1A-10



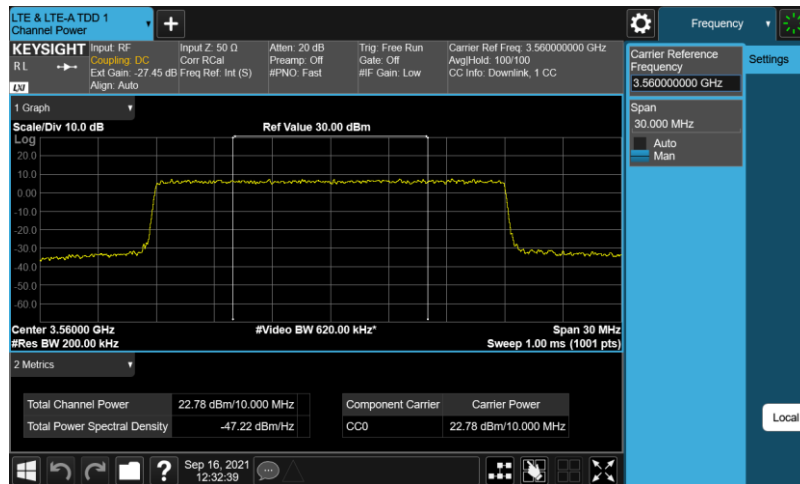
Band48-20MHz-256QAM-55990-E-TM3.1A-10



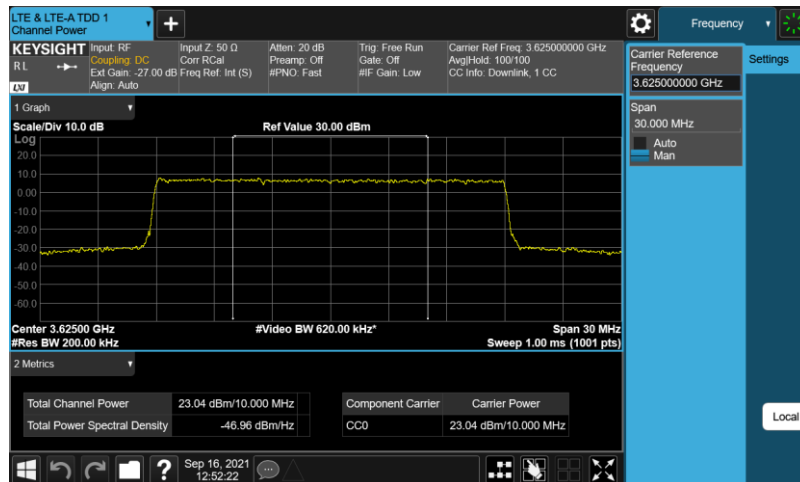
Band48-20MHz-256QAM-56640-E-TM3.1A-10



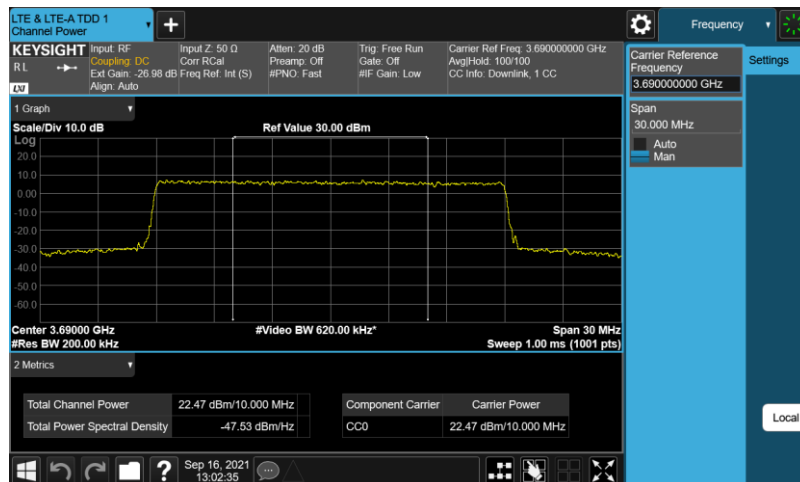
Band48-20MHz-QPSK-55340-E-TM1.1-10



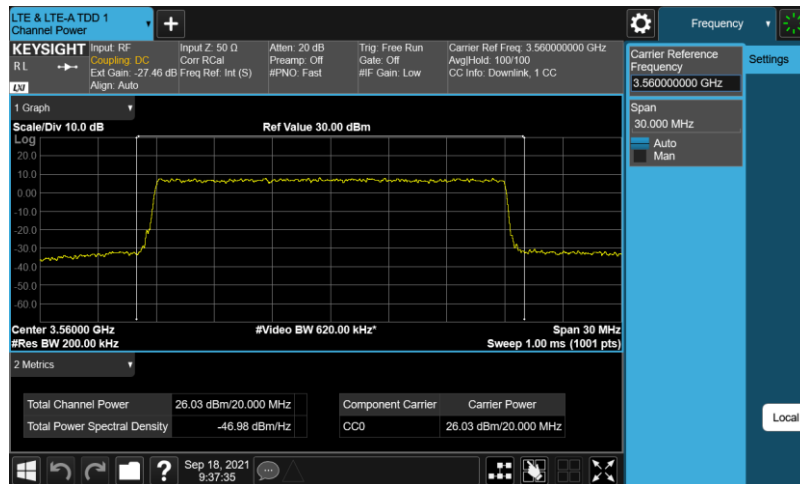
Band48-20MHz-QPSK-55990-E-TM1.1-10



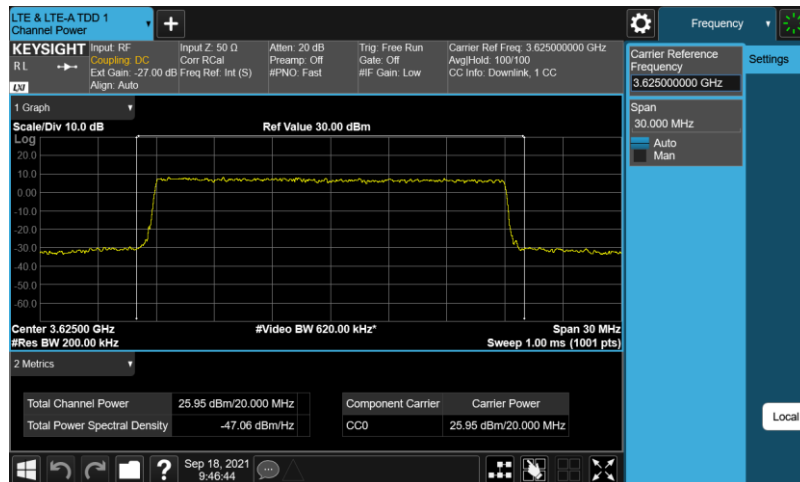
Band48-20MHz-QPSK-56640-E-TM1.1-10



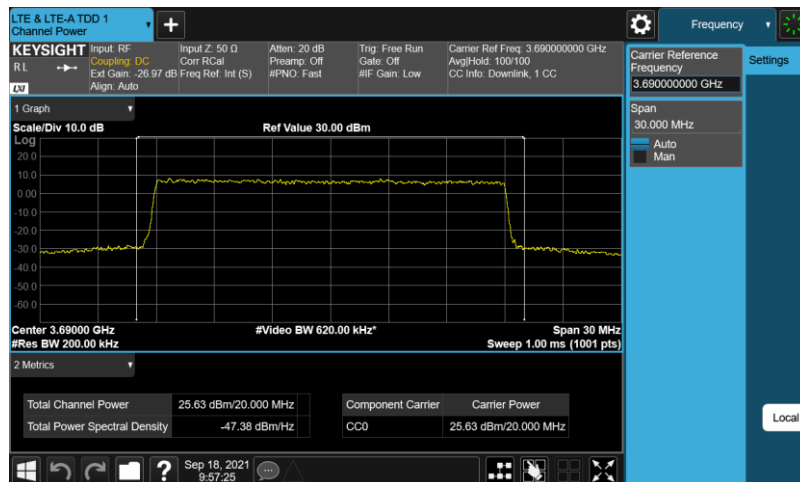
Band48-20MHz-256QAM-55340-E-TM3.1A-20



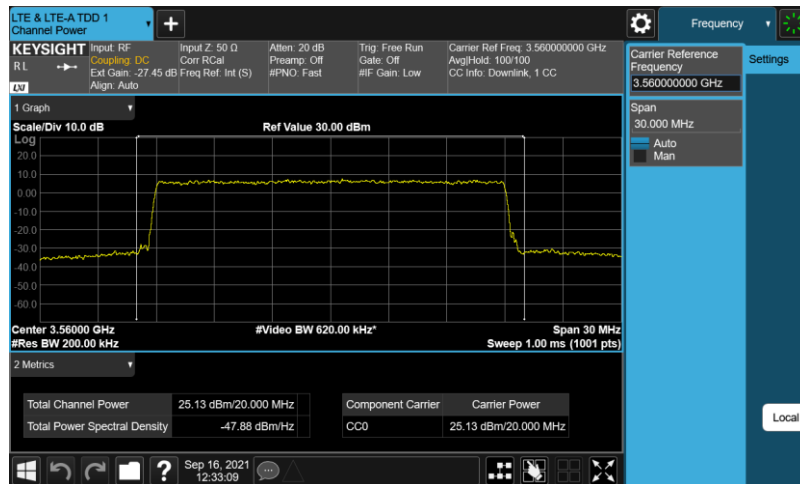
Band48-20MHz-256QAM-55990-E-TM3.1A-20



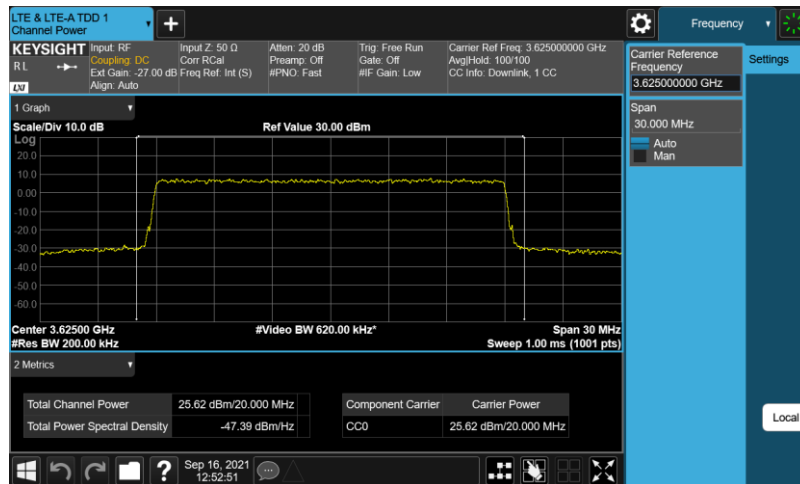
Band48-20MHz-256QAM-56640-E-TM3.1A-20



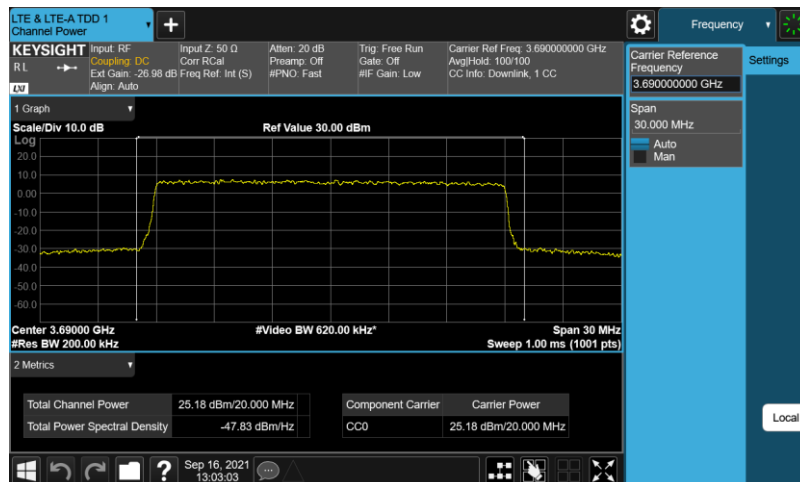
Band48-20MHz-QPSK-55340-E-TM1.1-20



Band48-20MHz-QPSK-55990-E-TM1.1-20



Band48-20MHz-QPSK-56640-E-TM1.1-20



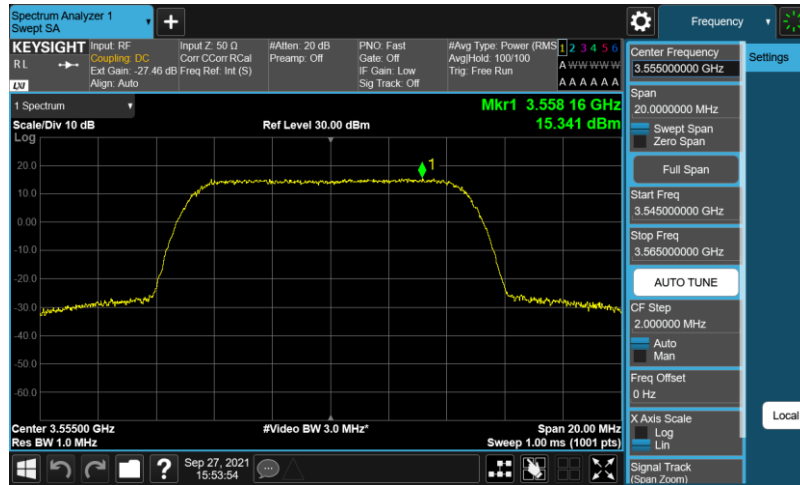
Appendix B: Power Spectral Density

Test Result

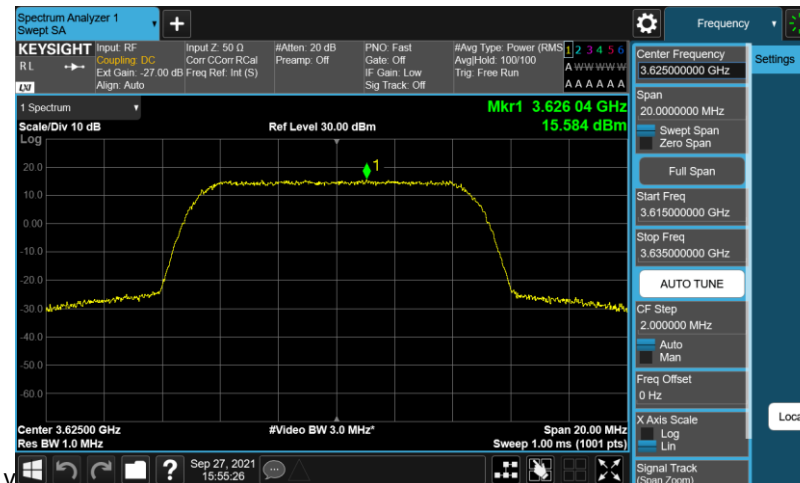
Band	Bandwidth	Modulation	Channel	Mode	PSD (dBm/MHz)
Band48	10MHz	256QAM	55290	E-TM3.1A	15.34
Band48	10MHz	256QAM	55990	E-TM3.1A	15.58
Band48	10MHz	256QAM	56690	E-TM3.1A	15.89
Band48	10MHz	QPSK	55290	E-TM1.1	15.67
Band48	10MHz	QPSK	55990	E-TM1.1	15.49
Band48	10MHz	QPSK	56690	E-TM1.1	15.24
Band48	20MHz	256QAM	55340	E-TM3.1A	13.18
Band48	20MHz	256QAM	55990	E-TM3.1A	12.75
Band48	20MHz	256QAM	56640	E-TM3.1A	13.15
Band48	20MHz	QPSK	55340	E-TM1.1	13.00
Band48	20MHz	QPSK	55990	E-TM1.1	12.97
Band48	20MHz	QPSK	56640	E-TM1.1	13.13

Test Graphs

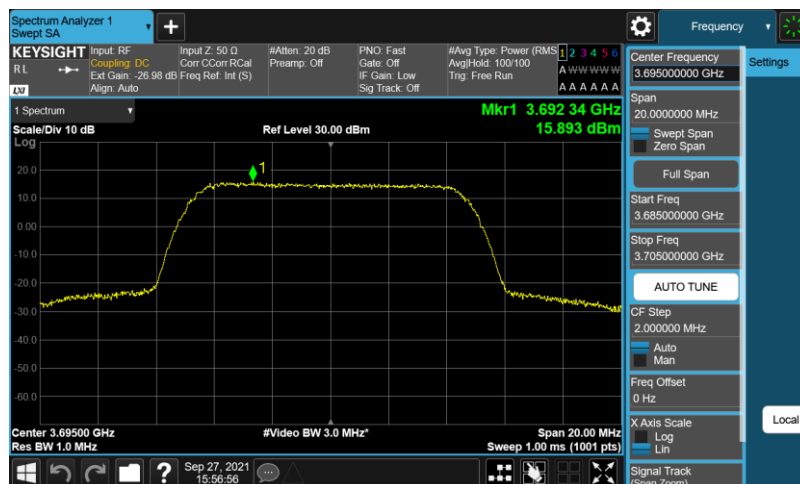
Band48-10MHz-256QAM-55290-E-TM3.1A



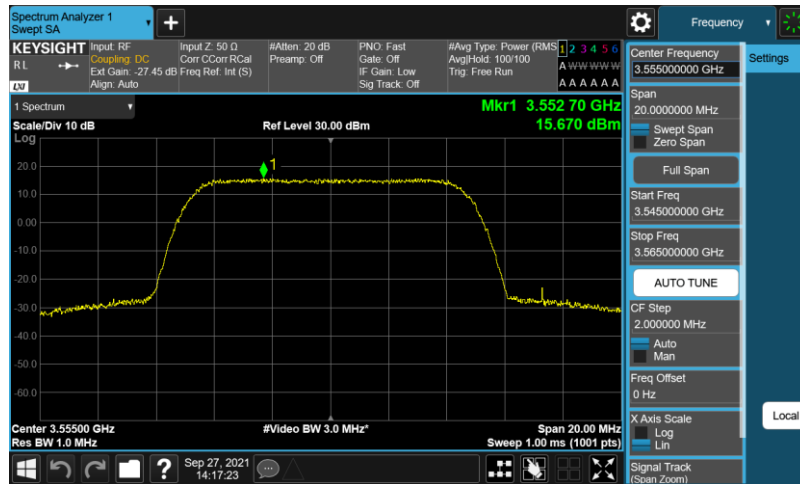
Band48-10MHz-256QAM-55990-E-TM3.1A



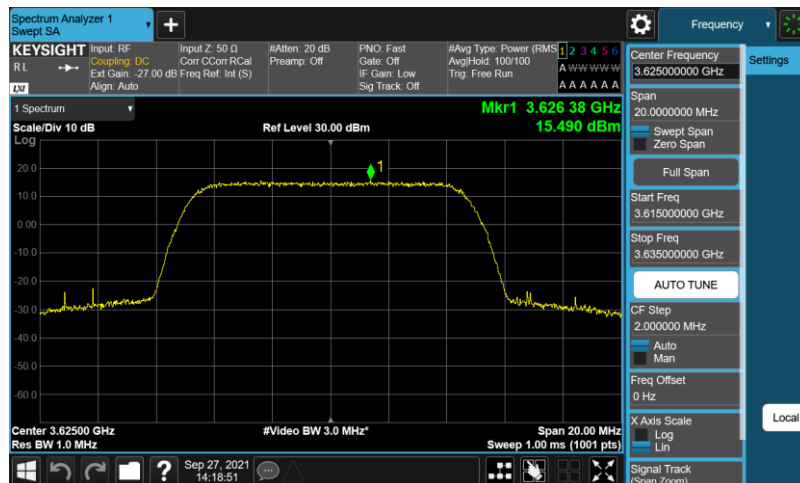
Band48-10MHz-256QAM-56690-E-TM3.1A



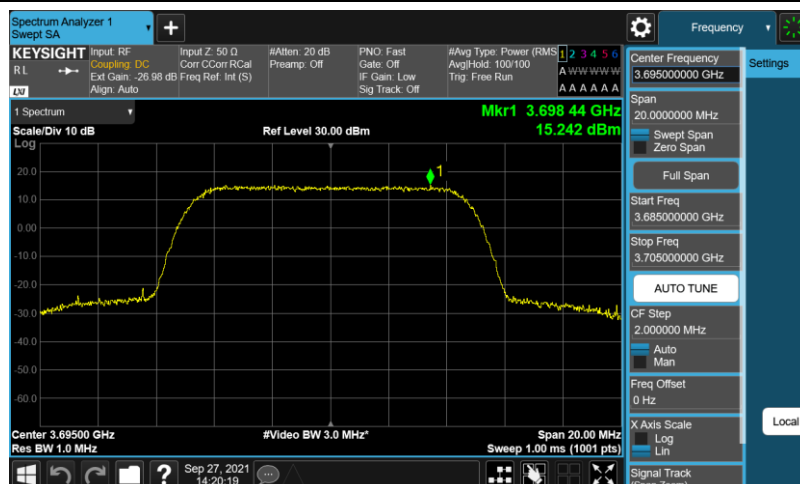
Band48-10MHz-QPSK-55290-E-TM1.1



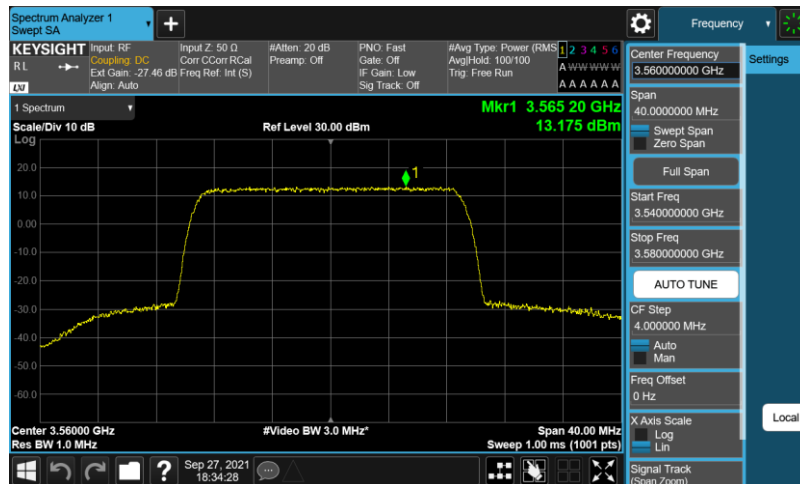
Band48-10MHz-QPSK-55990-E-TM1.1



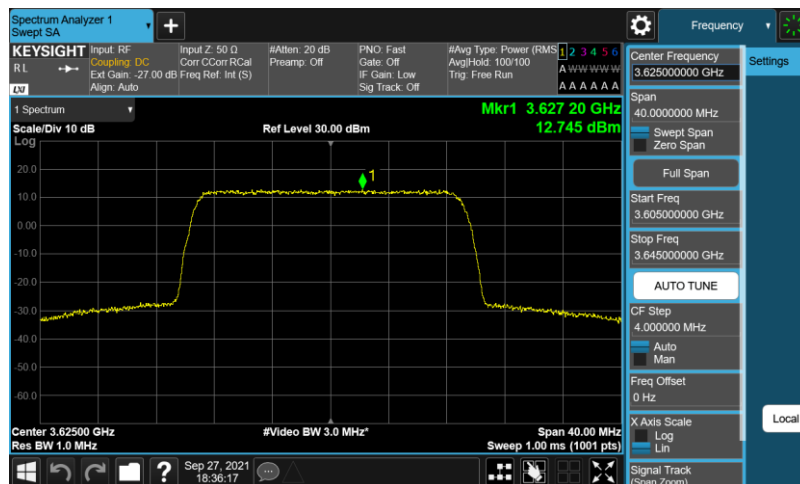
Band48-10MHz-QPSK-56690-E-TM1.1



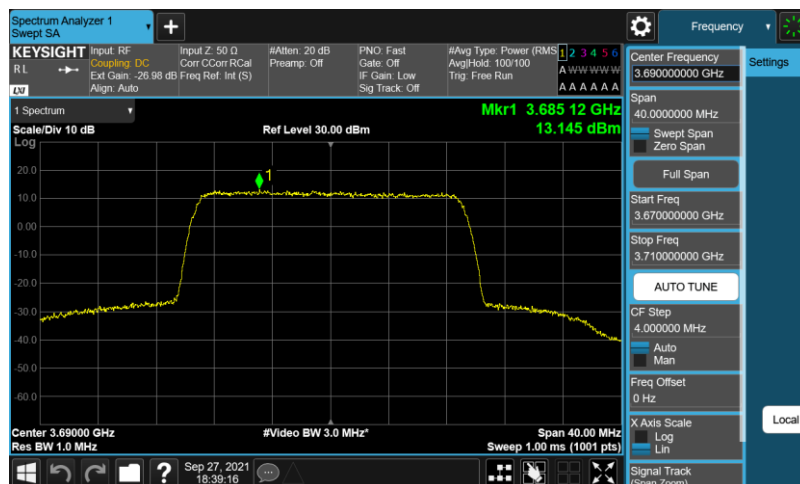
Band48-20MHz-256QAM-55340-E-TM3.1A



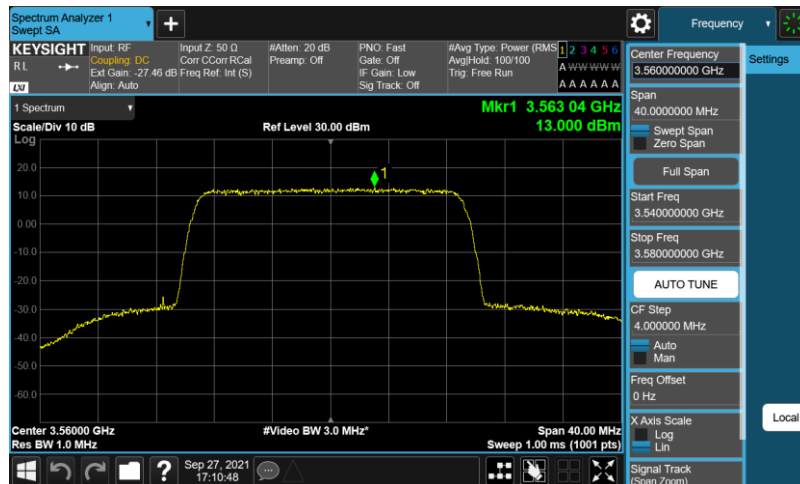
Band48-20MHz-256QAM-55990-E-TM3.1A



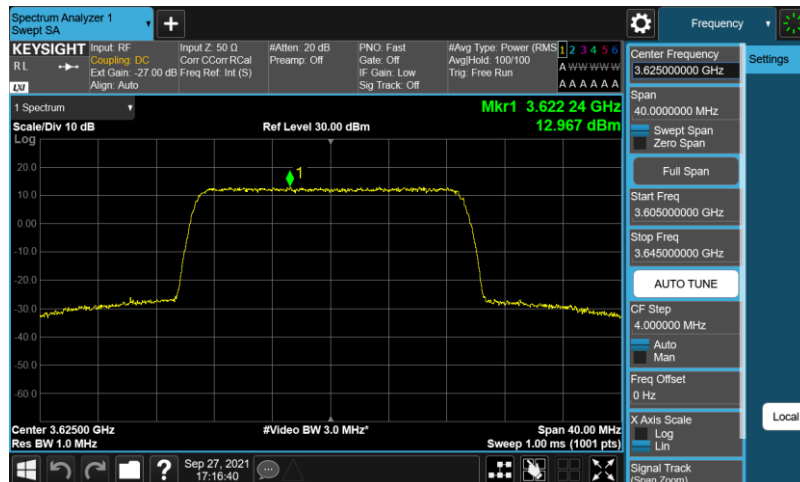
Band48-20MHz-256QAM-56640-E-TM3.1A



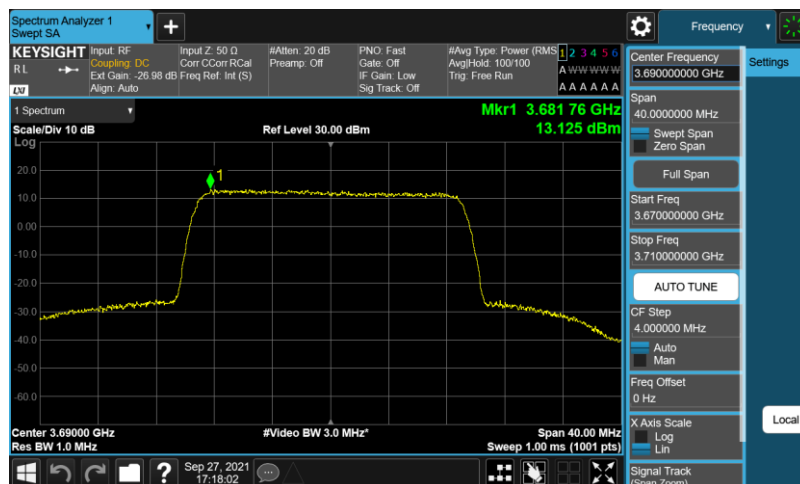
Band48-20MHz-QPSK-55340-E-TM1.1



Band48-20MHz-QPSK-55990-E-TM1.1



Band48-20MHz-QPSK-56640-E-TM1.1



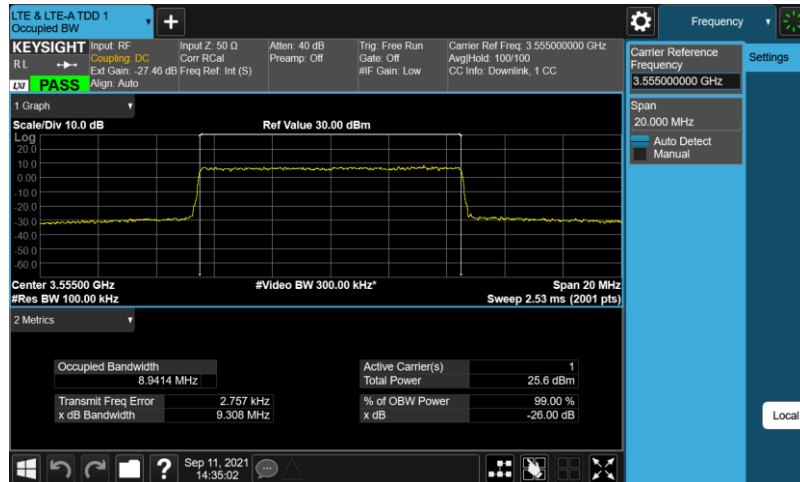
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

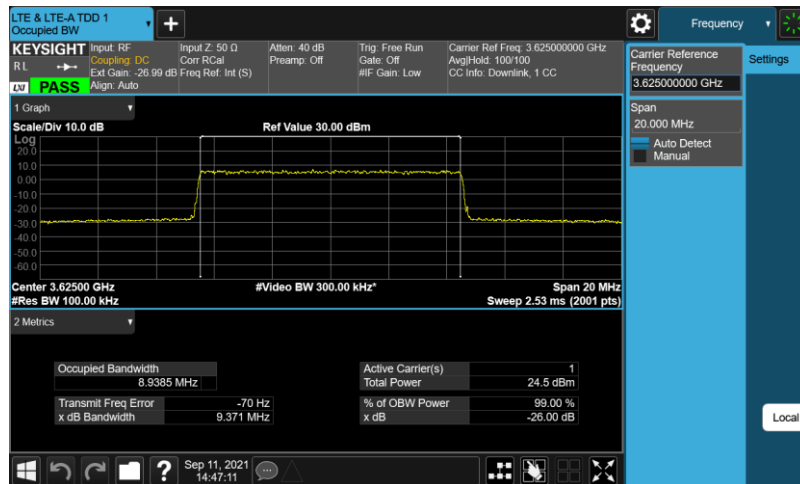
Band	Bandwidth	Modulation	Channel	Mode	99%(MHz)	EBW(MHz)
Band48	10MHz	256QAM	55290	E-TM3.1A	8.9414	9.308
Band48	10MHz	256QAM	55990	E-TM3.1A	8.9385	9.371
Band48	10MHz	256QAM	56690	E-TM3.1A	8.9425	9.290
Band48	10MHz	QPSK	55290	E-TM1.1	8.9379	9.314
Band48	10MHz	QPSK	55990	E-TM1.1	8.9402	9.323
Band48	10MHz	QPSK	56690	E-TM1.1	8.9442	9.415
Band48	20MHz	256QAM	55340	E-TM3.1A	17.894	18.60
Band48	20MHz	256QAM	55990	E-TM3.1A	17.878	18.70
Band48	20MHz	256QAM	56640	E-TM3.1A	17.883	18.52
Band48	20MHz	QPSK	55340	E-TM1.1	17.867	18.57
Band48	20MHz	QPSK	55990	E-TM1.1	17.882	18.68
Band48	20MHz	QPSK	56640	E-TM1.1	17.863	18.51

Test Graphs

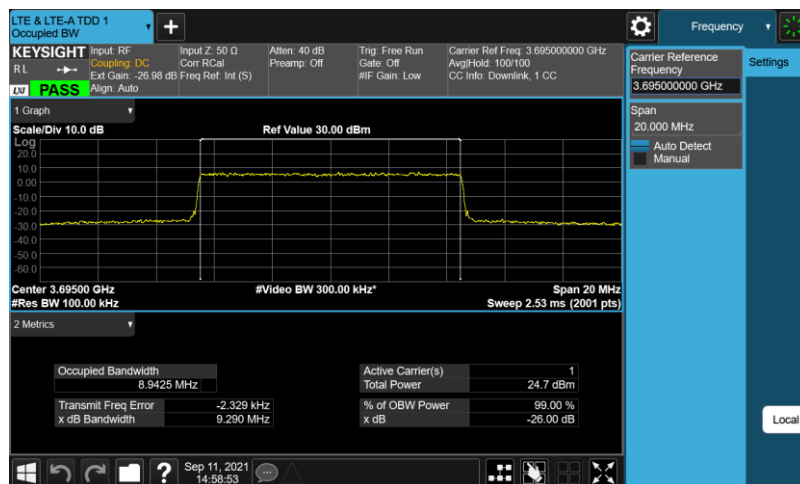
Band48-10MHz-256QAM-55290-E-TM3.1A



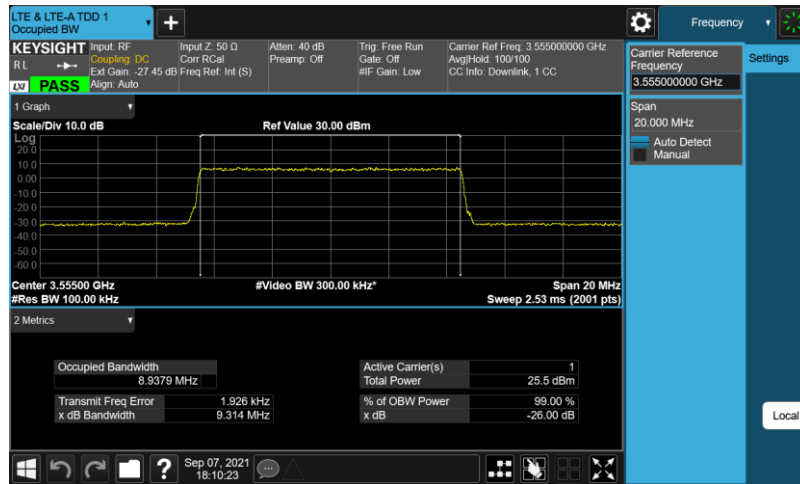
Band48-10MHz-256QAM-55990-E-TM3.1A



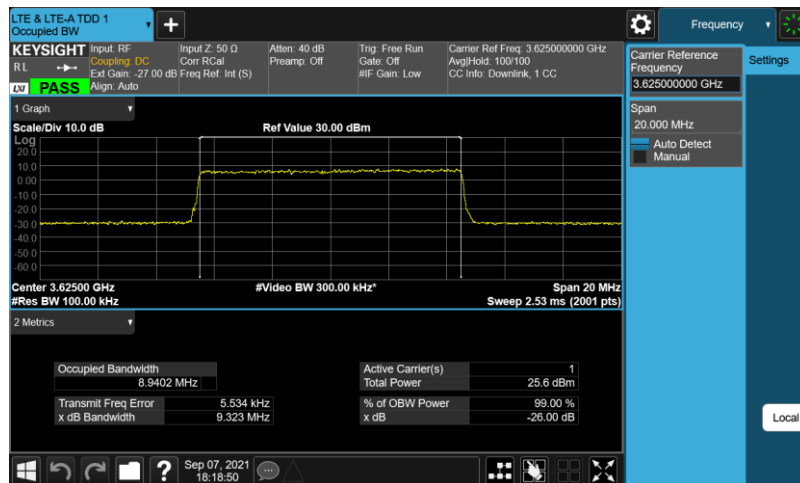
Band48-10MHz-256QAM-56690-E-TM3.1A



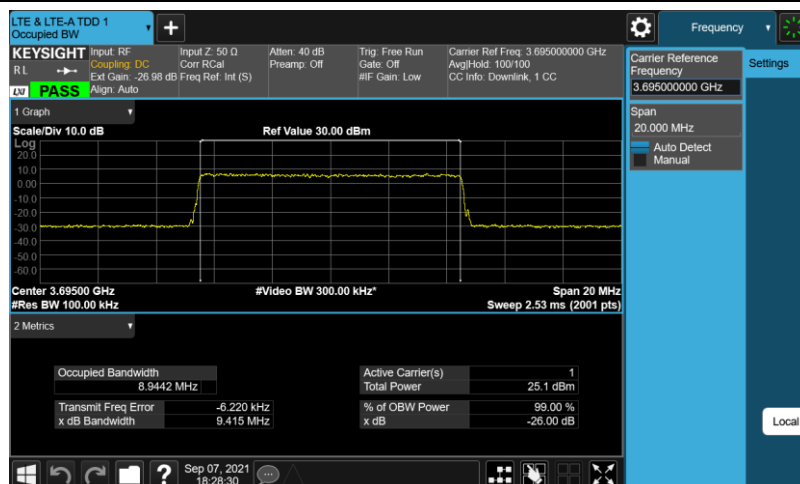
Band48-10MHz-QPSK-55290-E-TM1.1



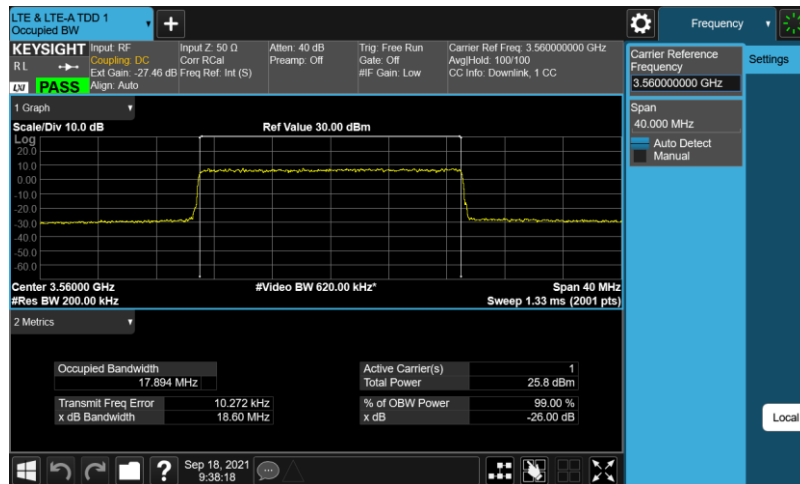
Band48-10MHz-QPSK-55990-E-TM1.1



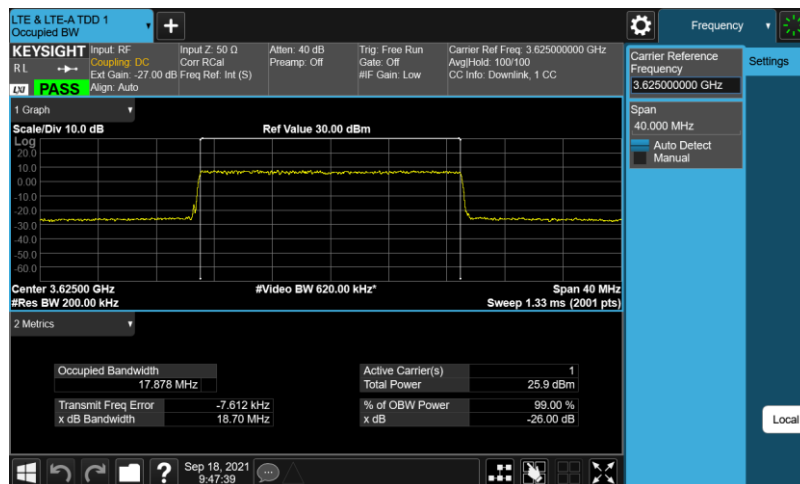
Band48-10MHz-QPSK-56690-E-TM1.1



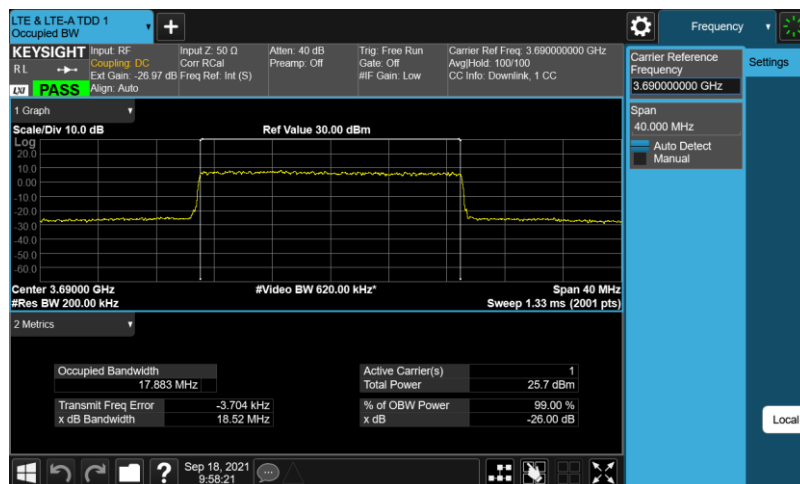
Band48-20MHz-256QAM-55340-E-TM3.1A



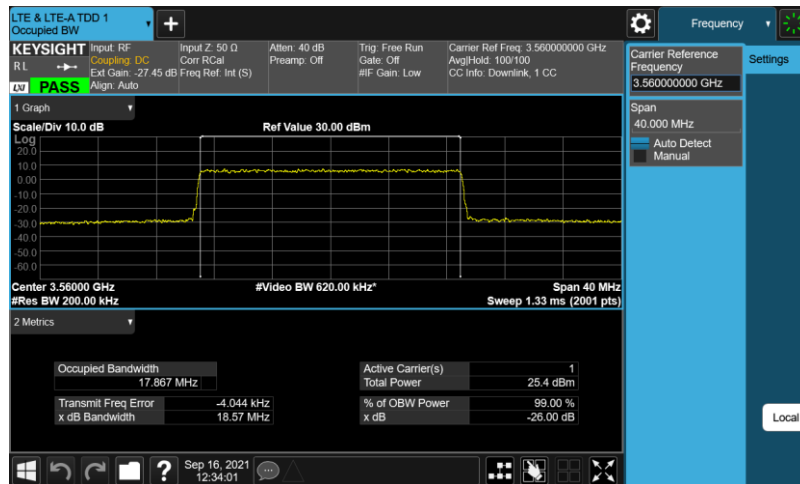
Band48-20MHz-256QAM-55990-E-TM3.1A



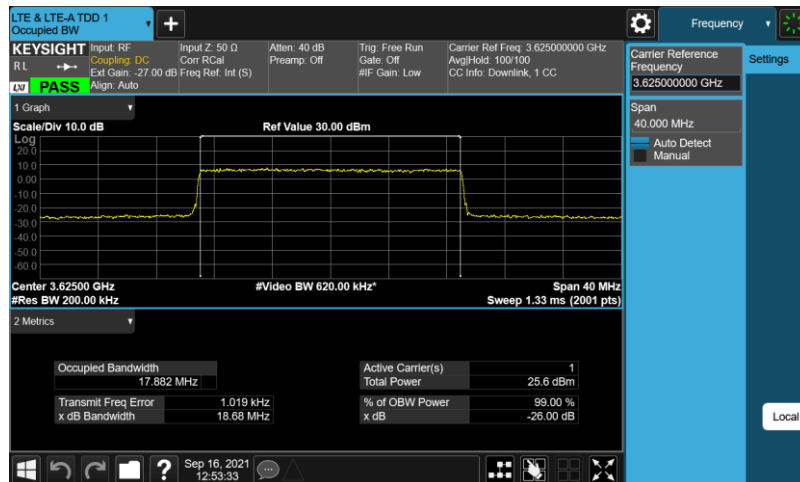
Band48-20MHz-256QAM-56640-E-TM3.1A



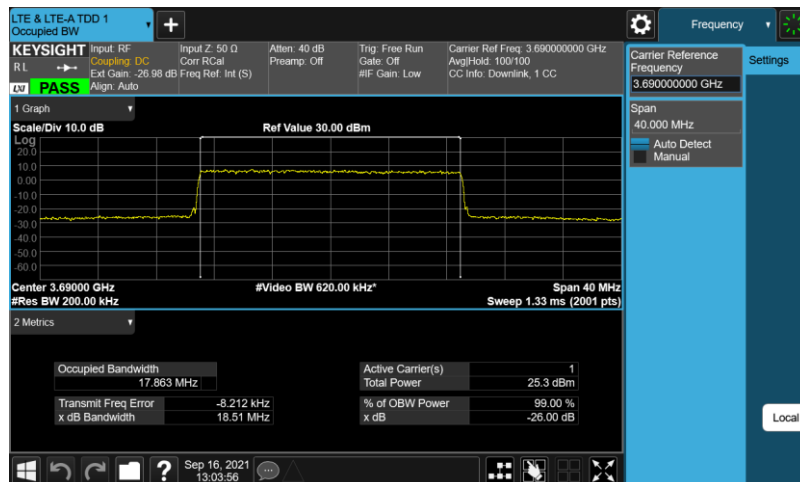
Band48-20MHz-QPSK-55340-E-TM1.1



Band48-20MHz-QPSK-55990-E-TM1.1



Band48-20MHz-QPSK-56640-E-TM1.1



Appendix D: Frequency Stability

Test Result

Voltage measurement									
Band	Bandwidth	Modulation	Channel	Mode	Voltage [Vac]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
Band48	10MHz	256QAM	55990	E-TM3.1A	102	25	72	0.020	within the authorized bands
Band48	10MHz	256QAM	55990	E-TM3.1A	120	25	74	0.020	
Band48	10MHz	256QAM	55990	E-TM3.1A	138	25	72	0.020	
Band48	10MHz	QPSK	55990	E-TM1.1	102	25	68	0.019	
Band48	10MHz	QPSK	55990	E-TM1.1	120	25	67	0.018	
Band48	10MHz	QPSK	55990	E-TM1.1	138	25	68	0.019	
Band48	20MHz	256QAM	55990	E-TM3.1A	102	25	66	0.018	
Band48	20MHz	256QAM	55990	E-TM3.1A	120	25	70	0.019	
Band48	20MHz	256QAM	55990	E-TM3.1A	138	25	72	0.020	
Band48	20MHz	QPSK	55990	E-TM1.1	102	25	69	0.019	
Band48	20MHz	QPSK	55990	E-TM1.1	120	25	73	0.020	
Band48	20MHz	QPSK	55990	E-TM1.1	138	25	69	0.019	

Temperature measurement									
Band	Bandwidth	Modulation	Channel	Mode	Voltage [Vac]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
Band48	10MHz	256QAM	55990	E-TM3.1A	120	-30	44	0.012	within the authorized bands
Band48	10MHz	256QAM	55990	E-TM3.1A	120	-20	48	0.013	
Band48	10MHz	256QAM	55990	E-TM3.1A	120	-10	44	0.012	
Band48	10MHz	256QAM	55990	E-TM3.1A	120	0	52	0.014	
Band48	10MHz	256QAM	55990	E-TM3.1A	120	10	55	0.015	
Band48	10MHz	256QAM	55990	E-TM3.1A	120	20	54	0.015	
Band48	10MHz	256QAM	55990	E-TM3.1A	120	30	48	0.013	
Band48	10MHz	256QAM	55990	E-TM3.1A	120	40	48	0.013	
Band48	10MHz	256QAM	55990	E-TM3.1A	120	50	50	0.014	
Band48	10MHz	QPSK	55990	E-TM1.1	120	-30	45	0.012	
Band48	10MHz	QPSK	55990	E-TM1.1	120	-20	45	0.012	
Band48	10MHz	QPSK	55990	E-TM1.1	120	-10	48	0.013	
Band48	10MHz	QPSK	55990	E-TM1.1	120	0	50	0.014	
Band48	10MHz	QPSK	55990	E-TM1.1	120	10	52	0.014	
Band48	10MHz	QPSK	55990	E-TM1.1	120	20	48	0.013	
Band48	10MHz	QPSK	55990	E-TM1.1	120	30	52	0.014	

Band48	10MHz	QPSK	55990	E-TM1.1	120	40	54	0.015	
Band48	10MHz	QPSK	55990	E-TM1.1	120	50	48	0.013	
Band48	20MHz	256QAM	55990	E-TM3.1A	120	-30	52	0.014	
Band48	20MHz	256QAM	55990	E-TM3.1A	120	-20	56	0.015	
Band48	20MHz	256QAM	55990	E-TM3.1A	120	-10	52	0.014	
Band48	20MHz	256QAM	55990	E-TM3.1A	120	0	55	0.015	
Band48	20MHz	256QAM	55990	E-TM3.1A	120	10	60	0.017	
Band48	20MHz	256QAM	55990	E-TM3.1A	120	20	55	0.015	
Band48	20MHz	256QAM	55990	E-TM3.1A	120	30	56	0.015	
Band48	20MHz	256QAM	55990	E-TM3.1A	120	40	58	0.016	
Band48	20MHz	256QAM	55990	E-TM3.1A	120	50	55	0.015	
Band48	20MHz	QPSK	55990	E-TM1.1	120	-30	54	0.015	
Band48	20MHz	QPSK	55990	E-TM1.1	120	-20	56	0.015	
Band48	20MHz	QPSK	55990	E-TM1.1	120	-10	55	0.015	
Band48	20MHz	QPSK	55990	E-TM1.1	120	0	52	0.014	
Band48	20MHz	QPSK	55990	E-TM1.1	120	10	48	0.013	
Band48	20MHz	QPSK	55990	E-TM1.1	120	20	49	0.014	
Band48	20MHz	QPSK	55990	E-TM1.1	120	30	52	0.014	
Band48	20MHz	QPSK	55990	E-TM1.1	120	40	54	0.015	
Band48	20MHz	QPSK	55990	E-TM1.1	120	50	52	0.014	

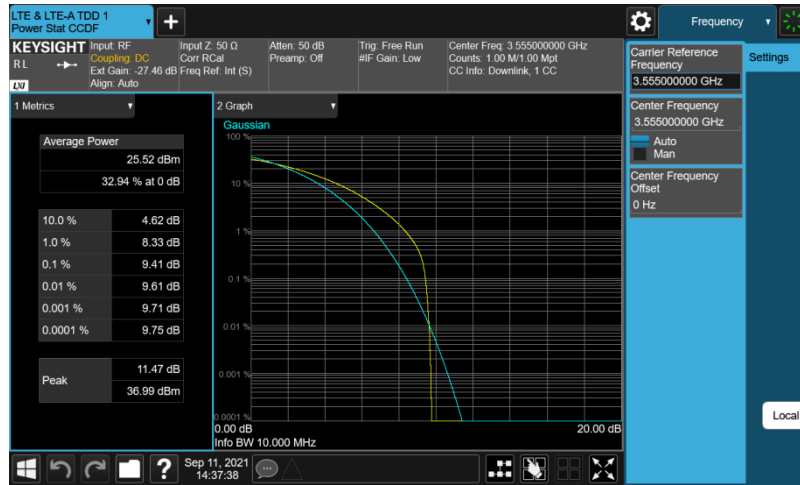
Appendix E: Peak-to-Average Ratio(CCDF)

Test Result

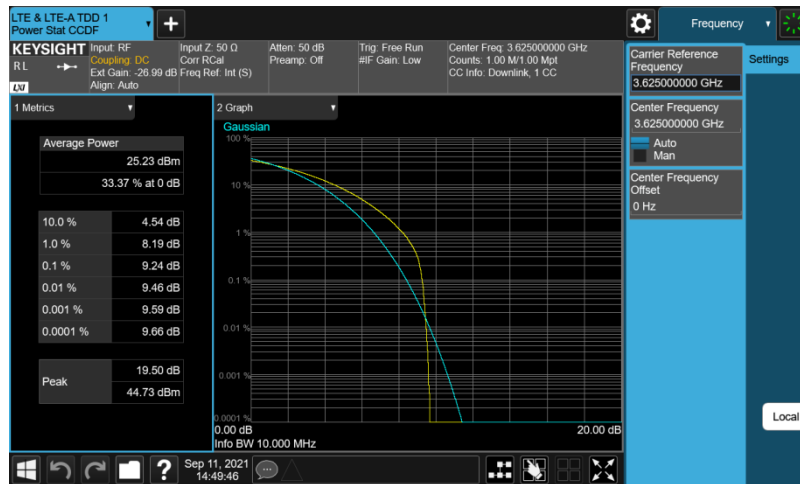
Band	Bandwidth	Modulation	Channel	Mode	Result(dBm)
Band48	10MHz	256QAM	55290	E-TM3.1A	9.41
Band48	10MHz	256QAM	55990	E-TM3.1A	9.24
Band48	10MHz	256QAM	56690	E-TM3.1A	9.32
Band48	10MHz	QPSK	55290	E-TM1.1	9.06
Band48	10MHz	QPSK	55990	E-TM1.1	9.16
Band48	10MHz	QPSK	56690	E-TM1.1	9.00
Band48	20MHz	256QAM	55340	E-TM3.1A	9.58
Band48	20MHz	256QAM	55990	E-TM3.1A	9.16
Band48	20MHz	256QAM	56640	E-TM3.1A	9.47
Band48	20MHz	QPSK	55340	E-TM1.1	8.60
Band48	20MHz	QPSK	55990	E-TM1.1	9.26
Band48	20MHz	QPSK	56640	E-TM1.1	9.30

Test Graphs

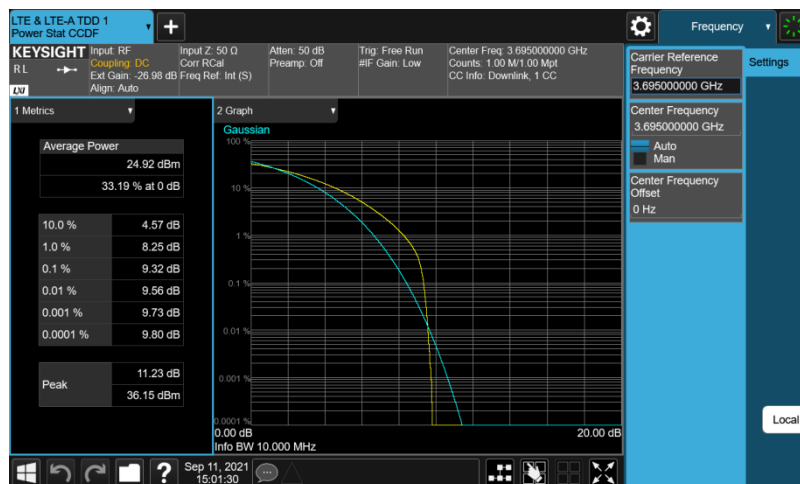
Band48-10MHz-256QAM-55290-E-TM3.1A



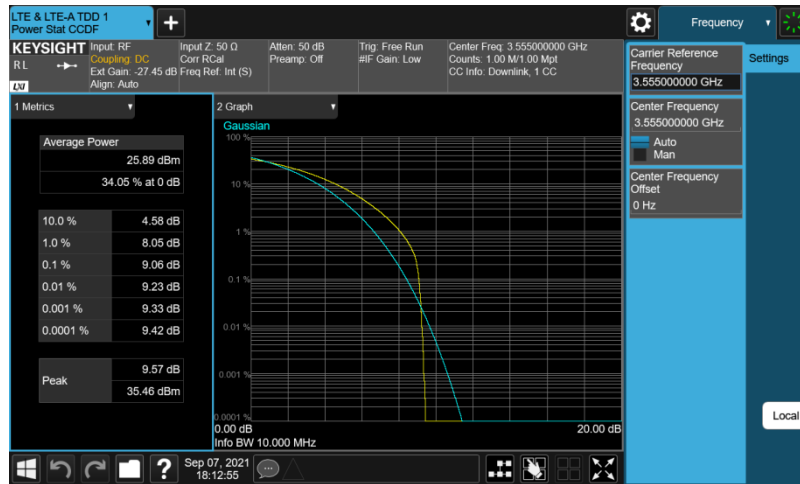
Band48-10MHz-256QAM-55990-E-TM3.1A



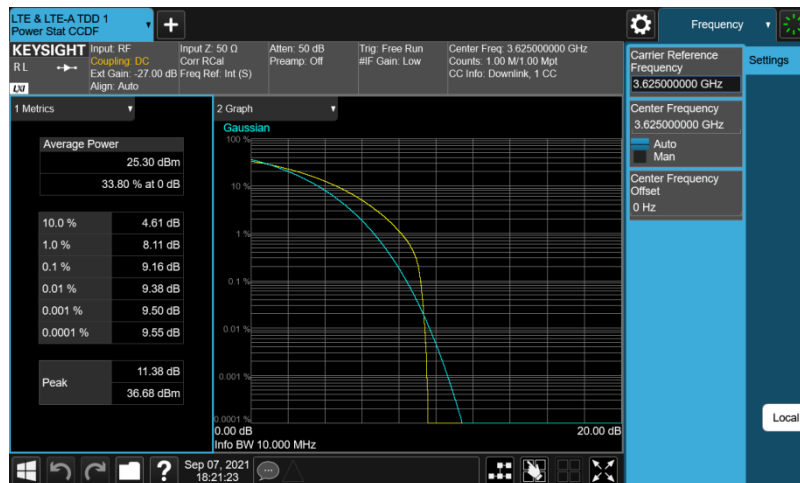
Band48-10MHz-256QAM-56690-E-TM3.1A



Band48-10MHz-QPSK-55290-E-TM1.1



Band48-10MHz-QPSK-55990-E-TM1.1



Band48-10MHz-QPSK-56690-E-TM1.1

