

Appendix H: Test Data for LTE Band 13

Product Name: TD0301 LTE Wi-Fi Hotspot

Test Model: TD0301

H1. Effective (Isotropic) Radiated Power Output Data

H1.1 Test Result

Test Band: 13 5MHz Bandwidth												
Modulation	RB Allocation		Conducted Power (dBm)			Antenna gain		ERP(dBm)			Limit (dBm)	Verdict
	Size	Offset	LCH	MCH	HCH	(dBd)	(dBi)	LCH	MCH	HCH		
QPSK	1	0	24.17	24.59	24.59	-1.15	1.00	23.02	23.44	23.44	34.77	PASS
		13	24.71	24.45	24.69	-1.15	1.00	23.56	23.30	23.54	34.77	PASS
		24	24.43	24.45	24.63	-1.15	1.00	23.28	23.30	23.48	34.77	PASS
	12	0	23.47	23.79	23.68	-1.15	1.00	22.32	22.64	22.53	34.77	PASS
		6	23.81	23.75	23.70	-1.15	1.00	22.66	22.60	22.55	34.77	PASS
		13	23.72	23.72	23.62	-1.15	1.00	22.57	22.57	22.47	34.77	PASS
16QAM	1	0	23.68	23.83	23.50	-1.15	1.00	22.53	22.68	22.35	34.77	PASS
		13	23.39	23.88	23.38	-1.15	1.00	22.24	22.73	22.23	34.77	PASS
		24	23.97	24.12	23.34	-1.15	1.00	22.82	22.97	22.19	34.77	PASS
	12	0	23.68	24.17	22.96	-1.15	1.00	22.53	23.02	21.81	34.77	PASS
		6	22.66	22.54	22.54	-1.15	1.00	21.51	21.39	21.39	34.77	PASS
		13	22.73	22.66	22.64	-1.15	1.00	21.58	21.51	21.49	34.77	PASS
	25	0	22.63	22.63	22.54	-1.15	1.00	21.48	21.48	21.39	34.77	PASS
		6	22.63	22.63	22.54	-1.15	1.00	21.48	21.48	21.39	34.77	PASS
		13	22.61	22.74	22.46	-1.15	1.00	21.46	21.59	21.31	34.77	PASS

Note:
 1) dBd = dBi - 2.15
 2) EIRP = Conducted output power + Antenna gain (dBi)
 3) ERP = Conducted output power + Antenna gain (dBd)

Test Band: 13 10MHz Bandwidth												
Modulation	RB Allocation		Conducted Power (dBm)			Antenna gain		ERP(dBm)			Limit (dBm)	Verdict
	Size	Offset	LCH	MCH	HCH	(dBd)	(dBi)	LCH	MCH	HCH		
QPSK	1	0	/	24.31	/	-1.15	1.00	/	23.16	/	34.77	PASS
		25	/	24.93	/	-1.15	1.00	/	23.78	/	34.77	PASS
		49	/	24.36	/	-1.15	1.00	/	23.21	/	34.77	PASS
	25	0	/	23.54	/	-1.15	1.00	/	22.39	/	34.77	PASS
		13	/	23.57	/	-1.15	1.00	/	22.42	/	34.77	PASS
		25	/	23.59	/	-1.15	1.00	/	22.44	/	34.77	PASS
	50	0	/	23.58	/	-1.15	1.00	/	22.43	/	34.77	PASS
	/		23.60	/	-1.15	1.00	/	22.45	/	34.77	PASS	
16QAM	1	25	/	24.08	/	-1.15	1.00	/	22.93	/	34.77	PASS
		49	/	23.70	/	-1.15	1.00	/	22.55	/	34.77	PASS
		0	/	22.60	/	-1.15	1.00	/	21.45	/	34.77	PASS
	25	13	/	22.63	/	-1.15	1.00	/	21.48	/	34.77	PASS
		25	/	22.58	/	-1.15	1.00	/	21.43	/	34.77	PASS
		0	/	22.34	/	-1.15	1.00	/	21.19	/	34.77	PASS
	Note: 1) dBd = dBi - 2.15 2) EIRP = Conducted output power + Antenna gain (dBi) 3) ERP = Conducted output power + Antenna gain (dBd)											

H2. Frequency stability

H2.1 Test Result

Test Band: 13 5MHz Bandwidth (Frequency Error VS. Voltage)												
Test Mode	RB Allocation		Test Temp.	Test Volt.	Freq. Error (Hz)			Freq. vs. rated (ppm)			Limit (ppm)	Verdict
	Size	Offset			LCH	MCH	HCH	LCH	MCH	HCH		
QPSK	25	0	NT	LV	- 1.759 5	- 1.473 4	0.114 4	-0.0023	-0.0019	0.0001	2.50	PASS
				NV	- 1.344 7	- 0.886 9	- 0.314 7	-0.0017	-0.0011	-0.0004	2.50	PASS
				HV	- 2.431 9	- 0.987 1	- 0.615 1	-0.0031	-0.0013	-0.0008	2.50	PASS
16QAM	25	0	NT	LV	- 2.088 5	- 1.273 2	- 0.543 6	-0.0027	-0.0016	-0.0007	2.50	PASS
				NV	- 1.301 8	- 1.087 2	- 0.987 1	-0.0017	-0.0014	-0.0013	2.50	PASS
				HV	- 1.430 5	- 1.831 1	- 0.400 5	-0.0018	-0.0023	-0.0005	2.50	PASS

Test Band: 13 5MHz Bandwidth (Frequency Error VS. Temperature)												
Test Mode	RB Allocation		Test Volt.	Test Temp.	Freq. Error (Hz)			Freq. vs. rated (ppm)			Limit (ppm)	Verdict
	Size	Offset			LCH	MCH	HCH	LCH	MCH	HCH		
QPSK	25	0	NV	-30.00	- 1.101 5	- 1.215 9	- 0.228 9	-0.0014	-0.0016	-0.0003	2.50	PASS
				-20.00	- 1.831 1	- 0.772 5	0.629 4	-0.0023	-0.0010	0.0008	2.50	PASS
				-10.00	- 1.573 6	- 1.258 8	- 0.343 3	-0.0020	-0.0016	-0.0004	2.50	PASS
				0.00	- 1.959 8	- 1.702 3	- 1.030 0	-0.0025	-0.0022	-0.0013	2.50	PASS
				10.00	- 1.602 2	- 0.271 8	- 0.557 9	-0.0021	-0.0003	-0.0007	2.50	PASS
				20.00	- 1.058 6	- 1.215 9	0.414 8	-0.0014	-0.0016	0.0005	2.50	PASS
				30.00	- 1.688 0	- 0.758 2	- 0.314 7	-0.0022	-0.0010	-0.0004	2.50	PASS
				40.00	- 1.258 8	- 1.201 6	- 0.500 7	-0.0016	-0.0015	-0.0006	2.50	PASS
				50.00	- 1.688 0	- 0.615 1	- 0.371 9	-0.0022	-0.0008	-0.0005	2.50	PASS

16QAM	25	0	NV	-30.00	- 1.602 2	- 1.230 2	- 0.729 6	-0.0021	-0.0016	-0.0009	2.50	PASS
				-20.00	- 1.802 4	- 0.286 1	0.429 2	-0.0023	-0.0004	0.0005	2.50	PASS
				-10.00	- 1.173 0	- 1.044 3	- 0.643 7	-0.0015	-0.0013	-0.0008	2.50	PASS
				0.00	- 1.416 2	- 1.058 6	- 0.944 1	-0.0018	-0.0014	-0.0012	2.50	PASS
				10.00	- 1.287 5	- 0.615 1	0.343 3	-0.0017	-0.0008	0.0004	2.50	PASS
				20.00	- 1.788 1	- 0.715 3	- 0.758 2	-0.0023	-0.0009	-0.0010	2.50	PASS
				30.00	- 1.273 2	- 0.371 9	- 0.014 3	-0.0016	-0.0005	0.0000	2.50	PASS
				40.00	- 1.688 0	- 1.215 9	- 0.743 9	-0.0022	-0.0016	-0.0009	2.50	PASS
				50.00	- 1.773 8	- 0.600 8	- 0.186 0	-0.0023	-0.0008	-0.0002	2.50	PASS

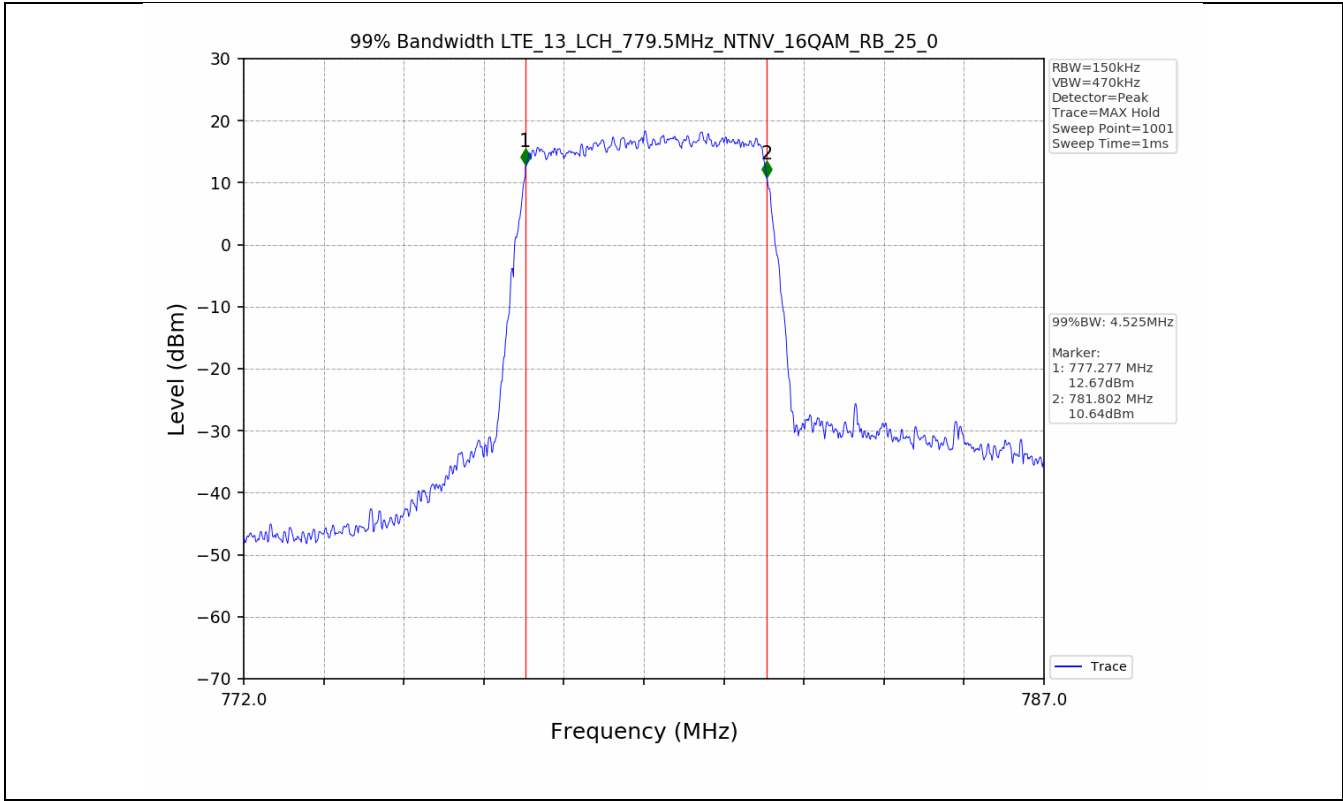
Test Band: 13_ 10MHz Bandwidth (Frequency Error VS. Voltage)												
Test Mode	RB Allocation		Test Temp.	Test Volt.	Freq. Error (Hz)			Freq. vs. rated (ppm)			Limit (ppm)	Verdict
	Size	Offset			LCH	MCH	HCH	LCH	MCH	HCH		
QPSK	50	0	NT	LV	/	- 0.772 5	/	/	-0.0010	/	2.50	PASS
				NV	/	- 1.244 5	/	/	-0.0016	/	2.50	PASS
				HV	/	- 1.459 1	/	/	-0.0019	/	2.50	PASS
16QAM	50	0	NT	LV	/	- 0.743 9	/	/	-0.0010	/	2.50	PASS
				NV	/	- 1.230 2	/	/	-0.0016	/	2.50	PASS
				HV	/	- 0.772 5	/	/	-0.0010	/	2.50	PASS

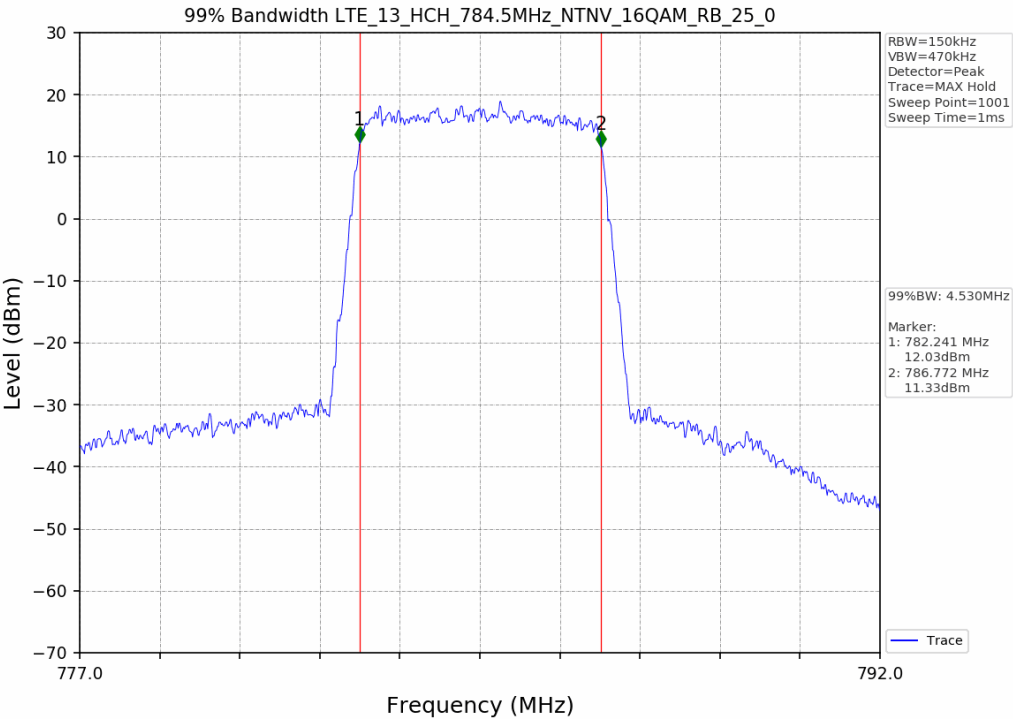
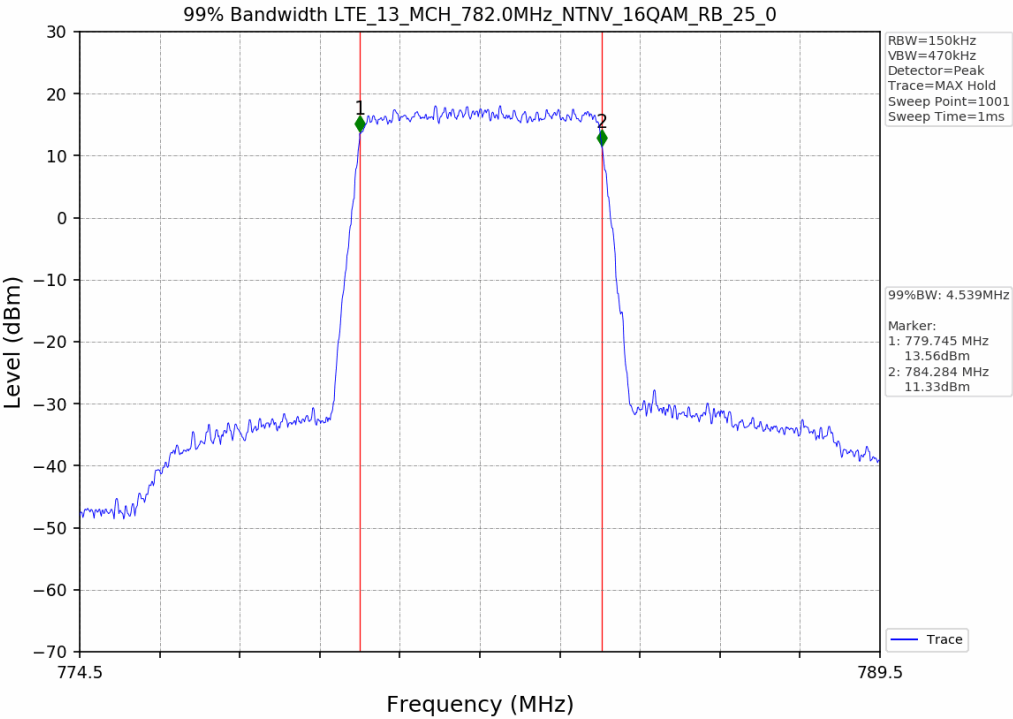
Test Band: 13 10MHz Bandwidth (Frequency Error VS. Temperature)												
Test Mode	RB Allocation		Test Volt.	Test Temp.	Freq. Error (Hz)			Freq. vs. rated (ppm)			Limit (ppm)	Verdict
	Size	Offset			LCH	MCH	HCH	LCH	MCH	HCH		
QPSK	50	0	NV	-30.00	/	- 0.600 8	/	/	-0.0008	/	2.50	PASS
				-20.00	/	- 0.429 2	/	/	-0.0005	/	2.50	PASS
				-10.00	/	- 1.115 8	/	/	-0.0014	/	2.50	PASS
				0.00	/	- 0.872 6	/	/	-0.0011	/	2.50	PASS
				10.00	/	- 1.287 5	/	/	-0.0016	/	2.50	PASS
				20.00	/	- 1.030 0	/	/	-0.0013	/	2.50	PASS
				30.00	/	- 1.101 5	/	/	-0.0014	/	2.50	PASS
				40.00	/	- 1.344 7	/	/	-0.0017	/	2.50	PASS
				50.00	/	- 0.858 3	/	/	-0.0011	/	2.50	PASS
16QAM	50	0	NV	-30.00	/	- 0.672 3	/	/	-0.0009	/	2.50	PASS
				-20.00	/	- 1.287 5	/	/	-0.0016	/	2.50	PASS
				-10.00	/	- 0.457 8	/	/	-0.0006	/	2.50	PASS
				0.00	/	- 0.858 3	/	/	-0.0011	/	2.50	PASS
				10.00	/	- 0.815 4	/	/	-0.0010	/	2.50	PASS
				20.00	/	- 0.557 9	/	/	-0.0007	/	2.50	PASS
				30.00	/	- 0.987 1	/	/	-0.0013	/	2.50	PASS
				40.00	/	- 0.457 8	/	/	-0.0006	/	2.50	PASS
				50.00	/	- 0.844 0	/	/	-0.0011	/	2.50	PASS

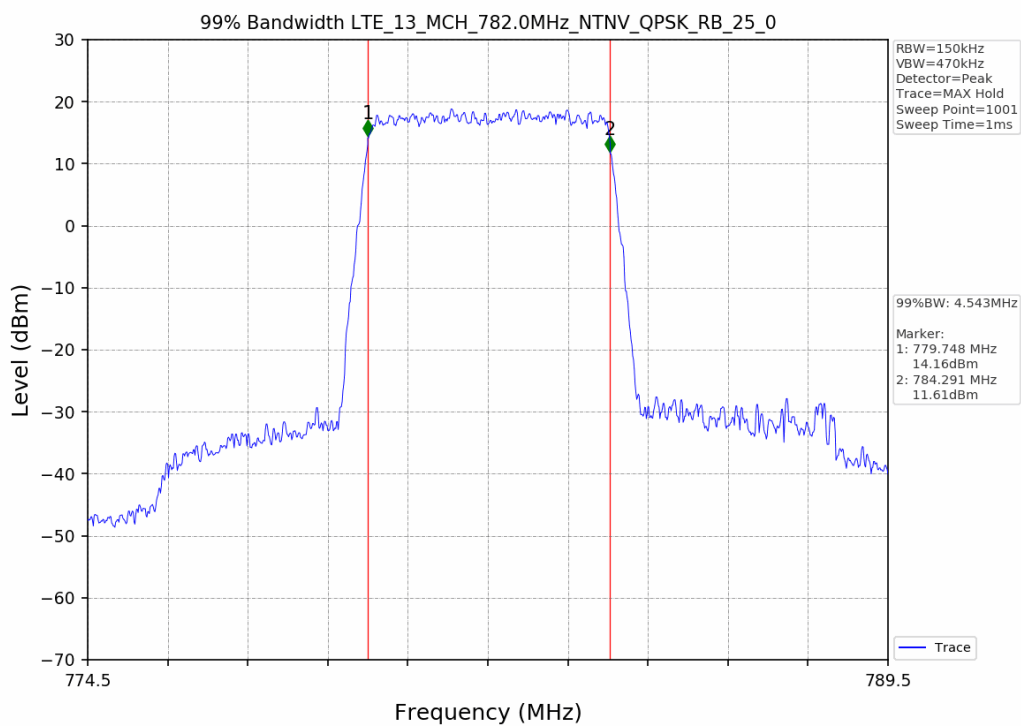
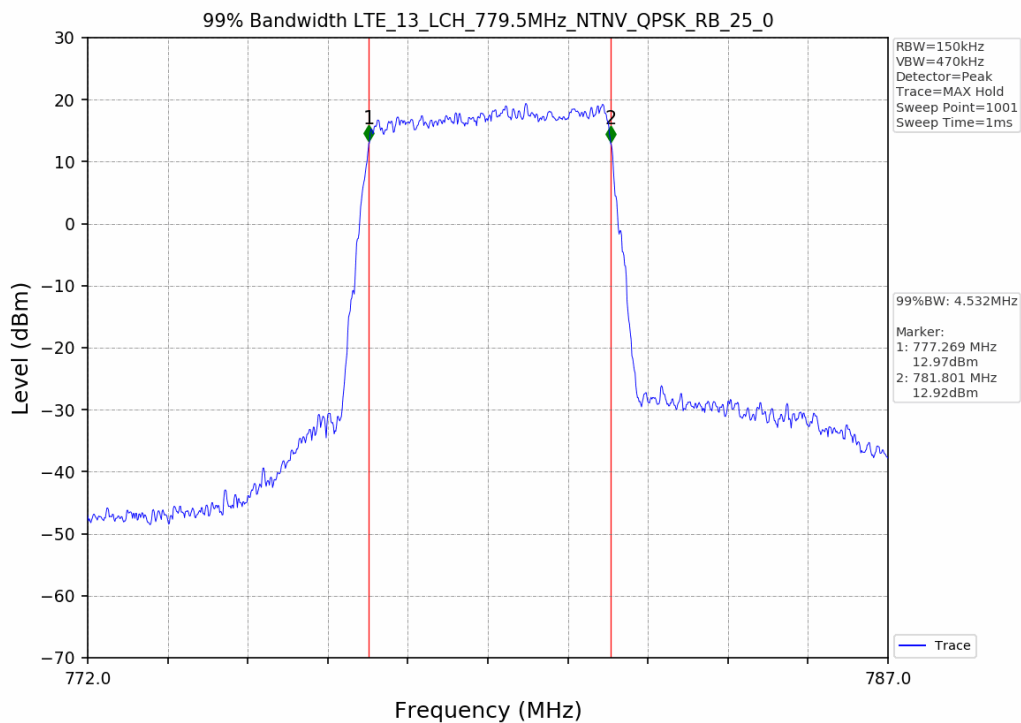
H3. 99% & 26dB Bandwidth

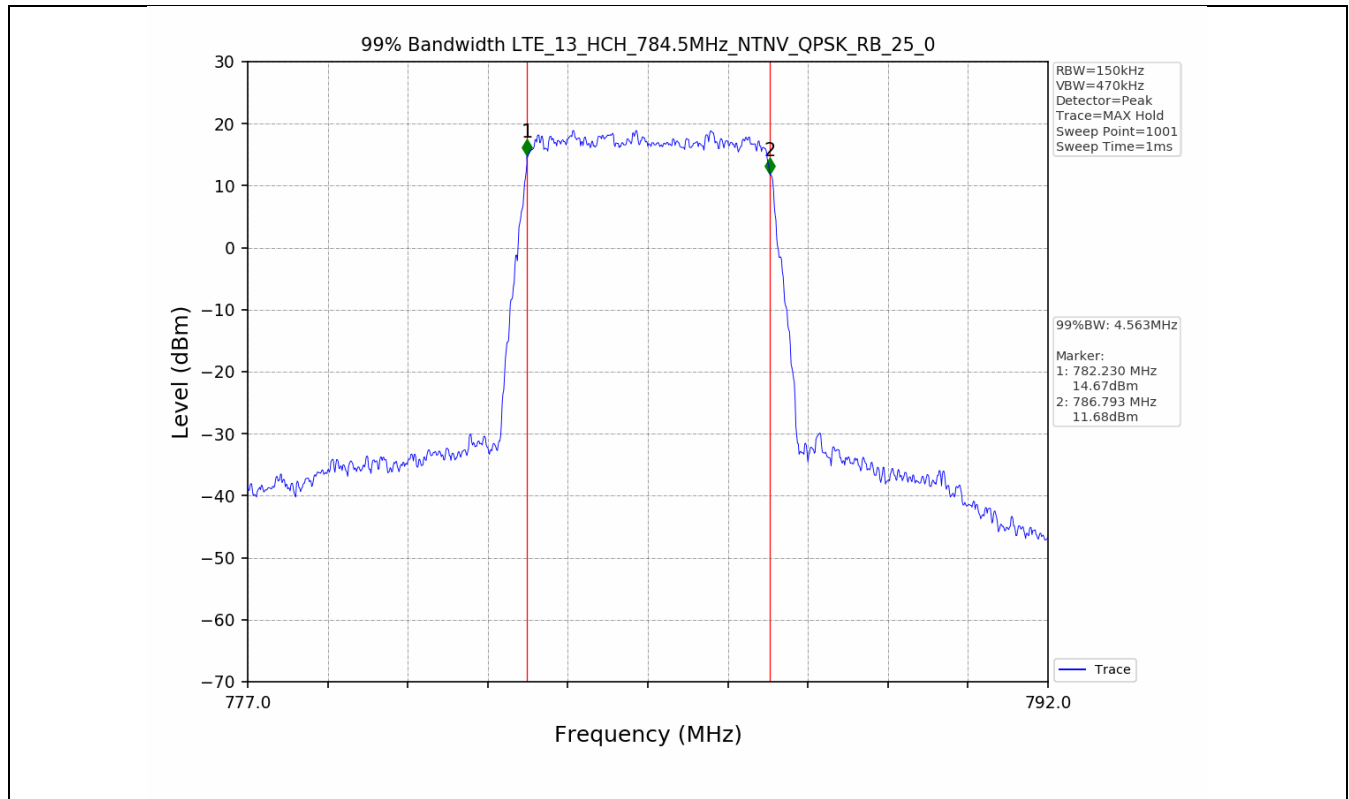
H3.1 Test Result

Test Band: 13_5MHz Bandwidth							
Test Mode	RB Allocation		99% Occupied Bandwidth (MHz)			Limit	Verdict
	Size	Offset	LCH	MCH	HCH		
QPSK	25	0	4.532	4.543	4.563	N/A	PASS
16QAM	25	0	4.525	4.539	4.530	N/A	PASS

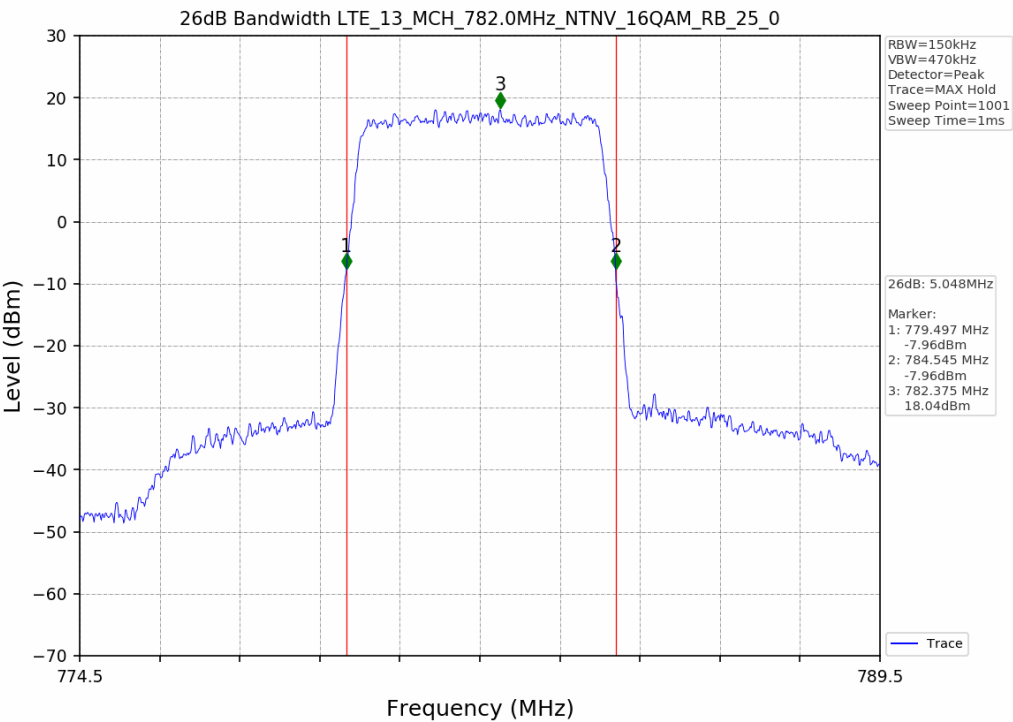
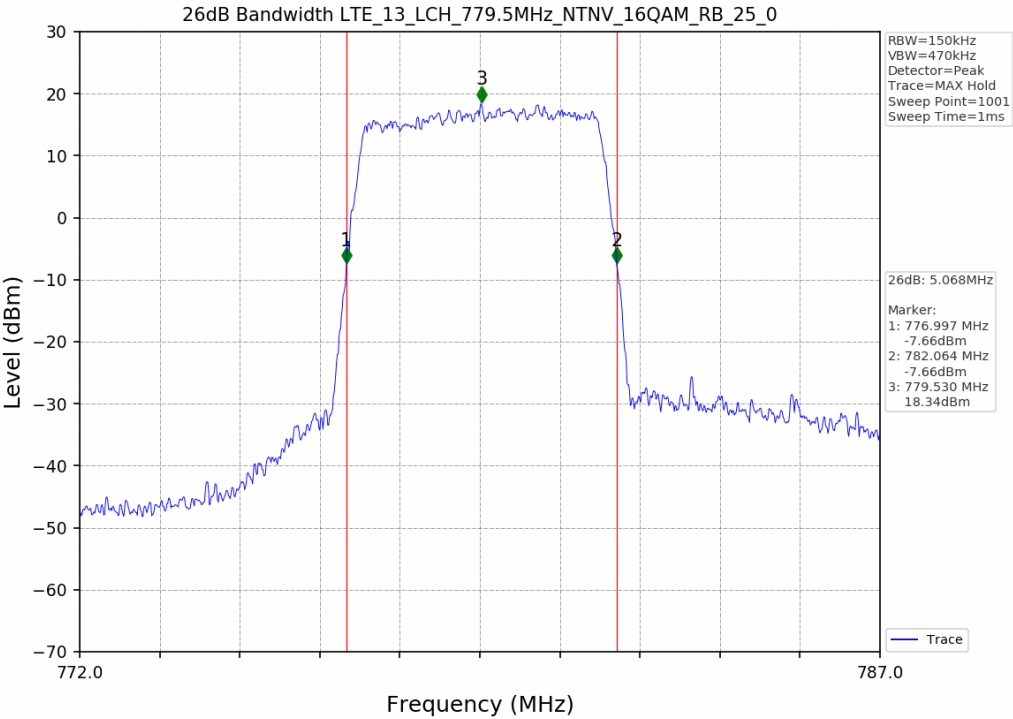


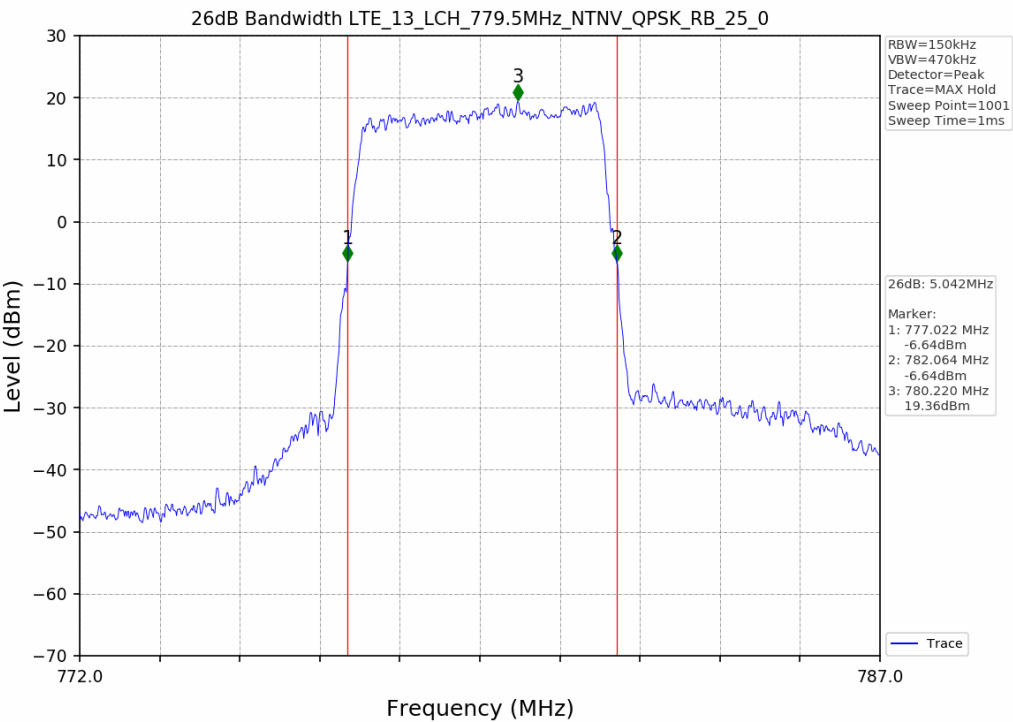
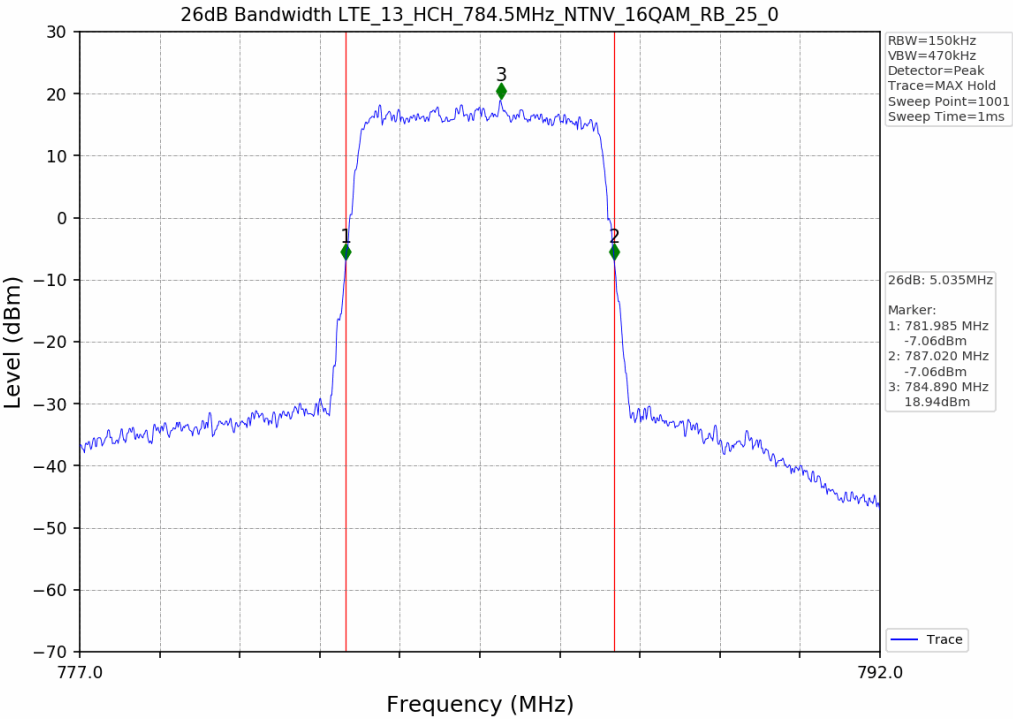


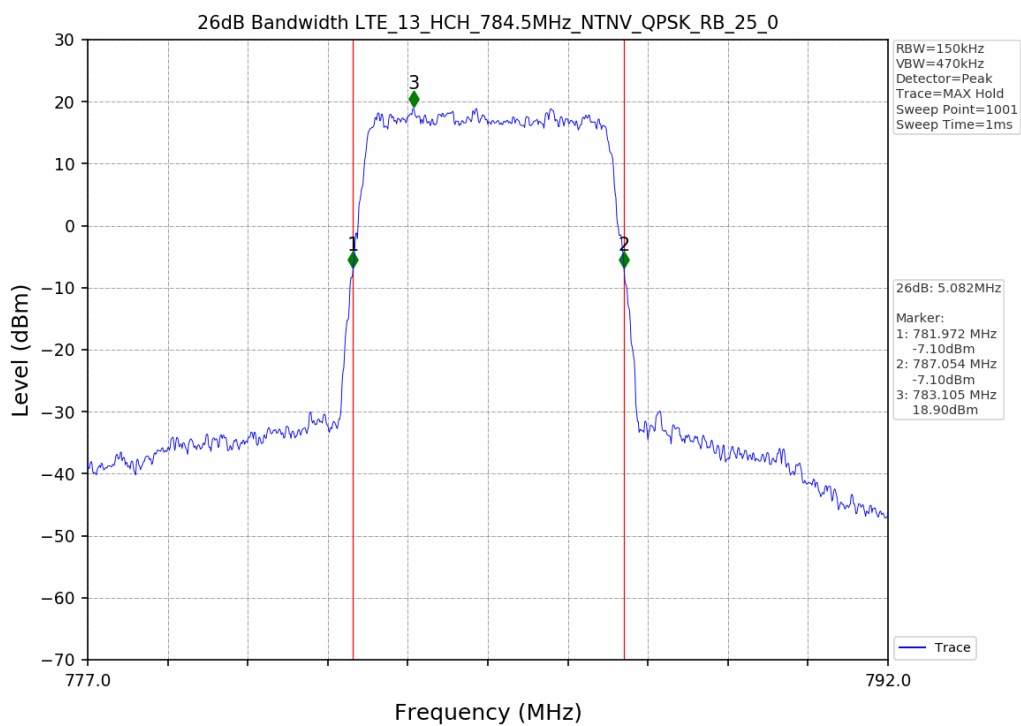
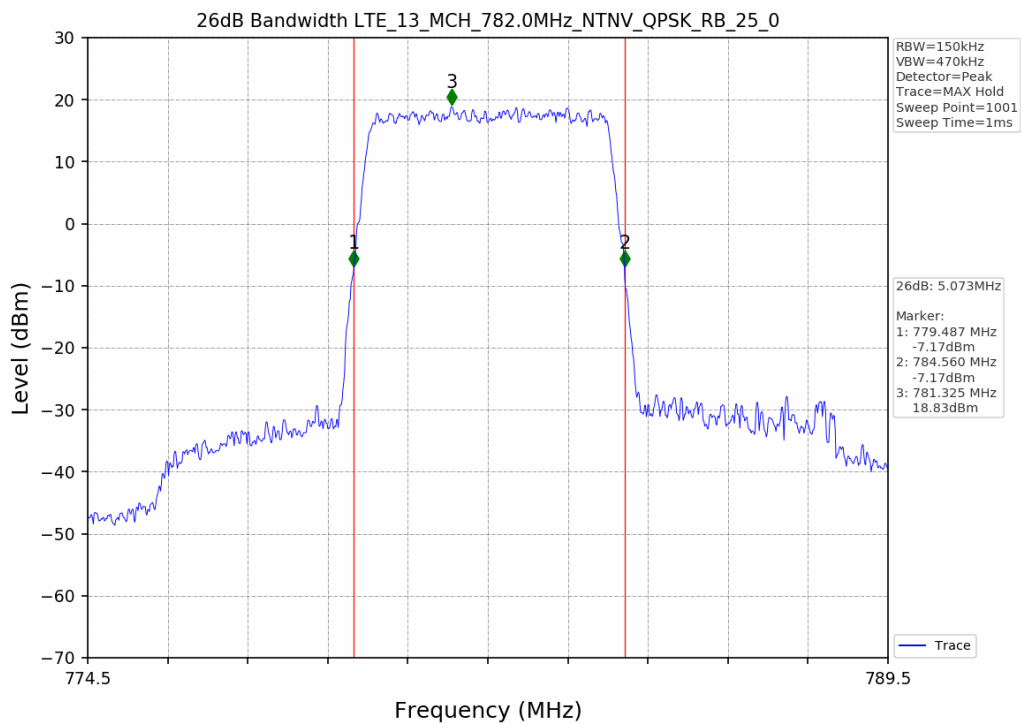




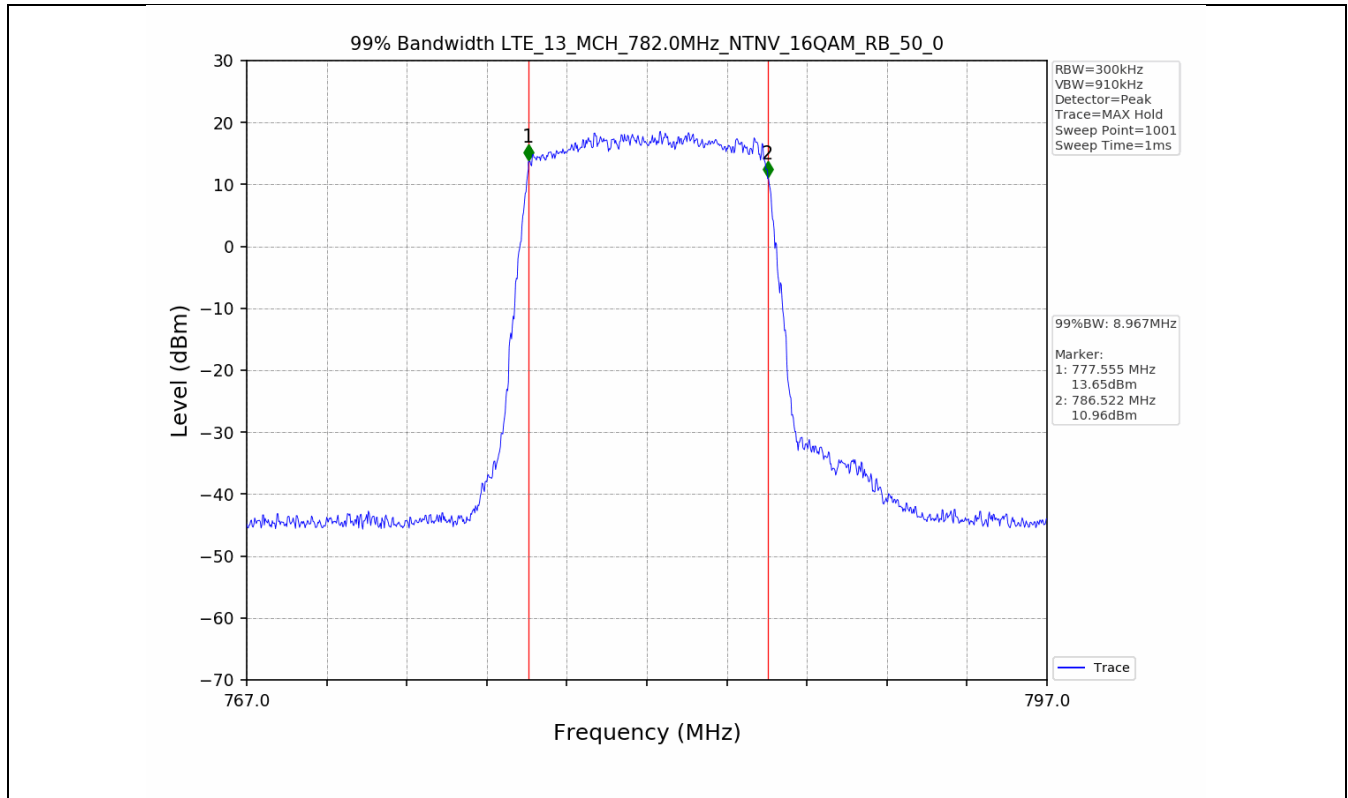
Test Band: 13_5MHz Bandwidth							
Test Mode	RB Allocation		26dB Bandwidth (MHz)			Limit	Verdict
	Size	Offset	LCH	MCH	HCH		
QPSK	25	0	5.042	5.073	5.082	N/A	PASS
16QAM	25	0	5.068	5.048	5.035	N/A	PASS

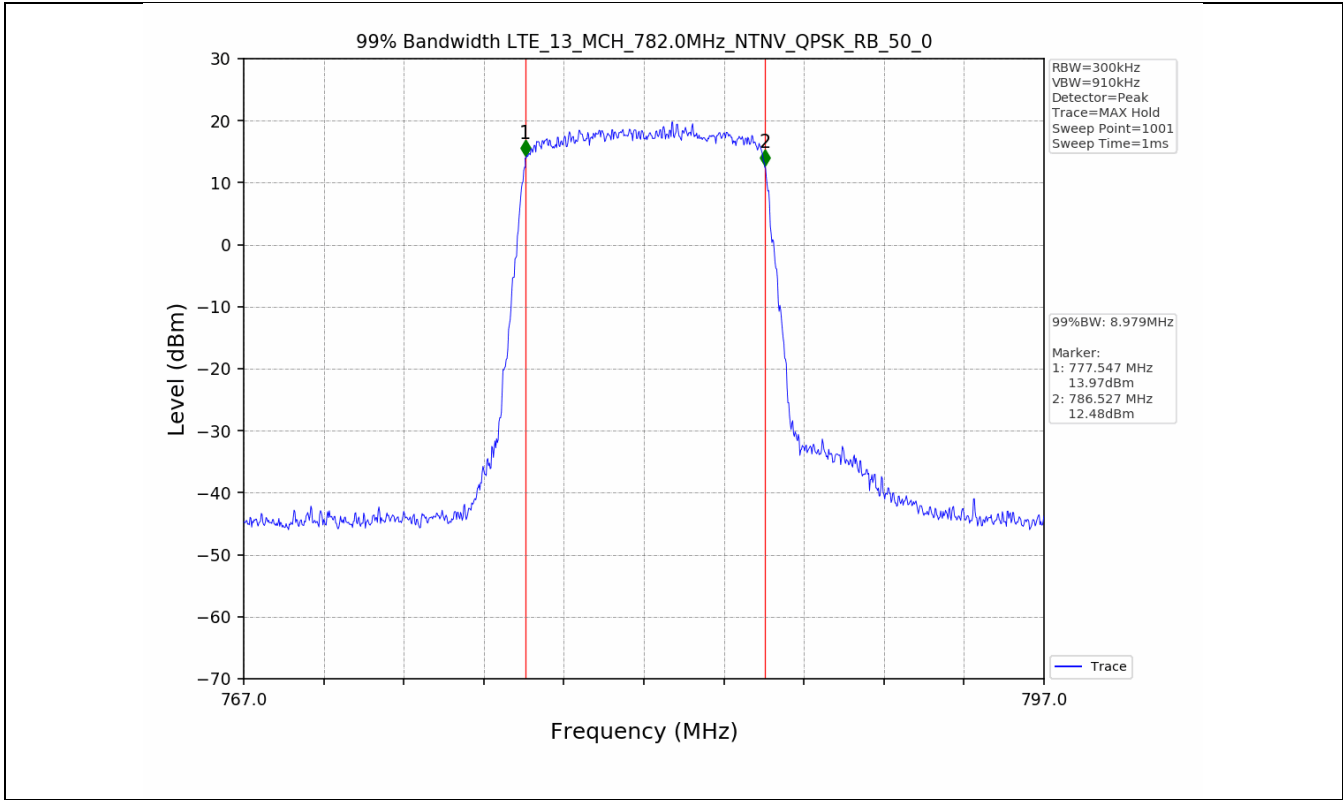




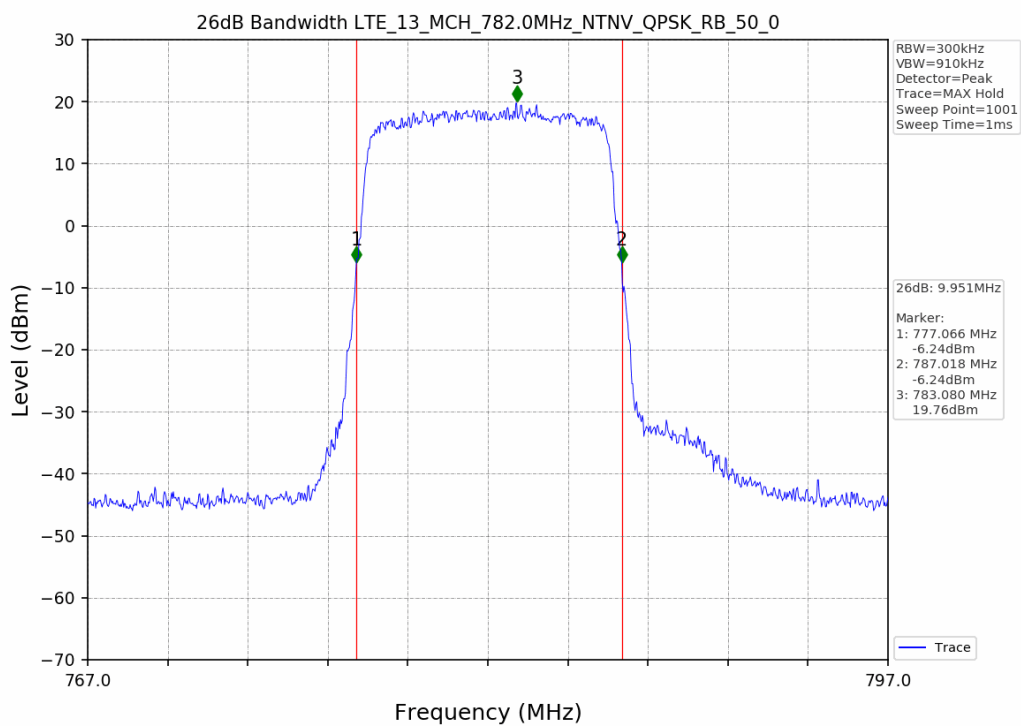
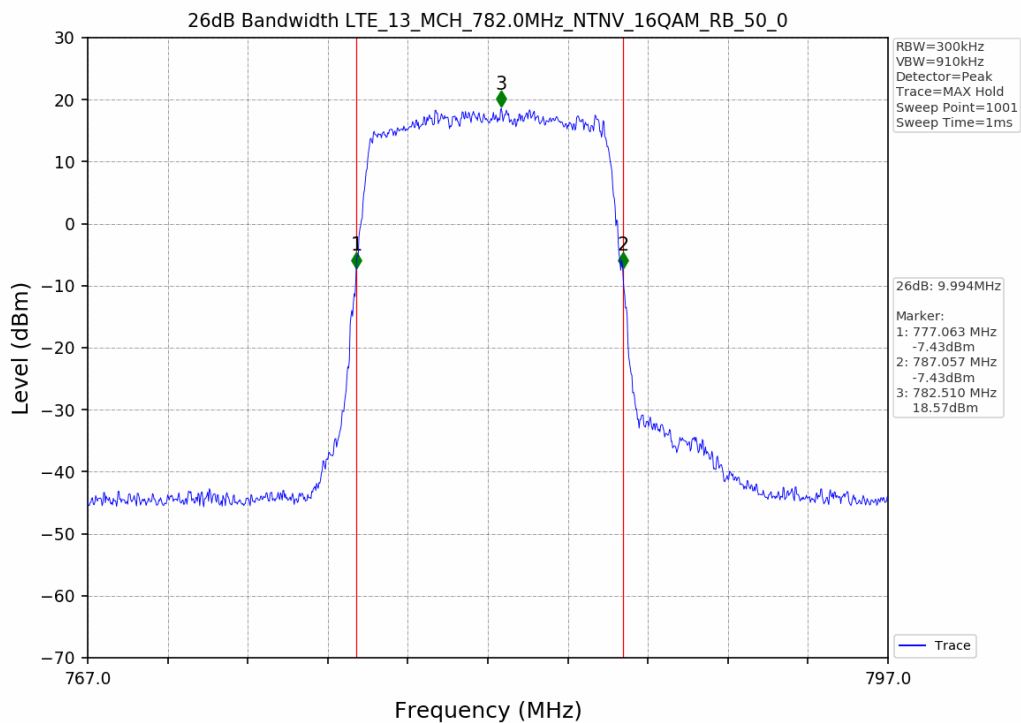


Test Band: 13_10MHz Bandwidth							
Test Mode	RB Allocation		99% Occupied Bandwidth (MHz)			Limit	Verdict
	Size	Offset	LCH	MCH	HCH		
QPSK	50	0	/	8.979	/	N/A	PASS
16QAM	50	0	/	8.967	/	N/A	PASS





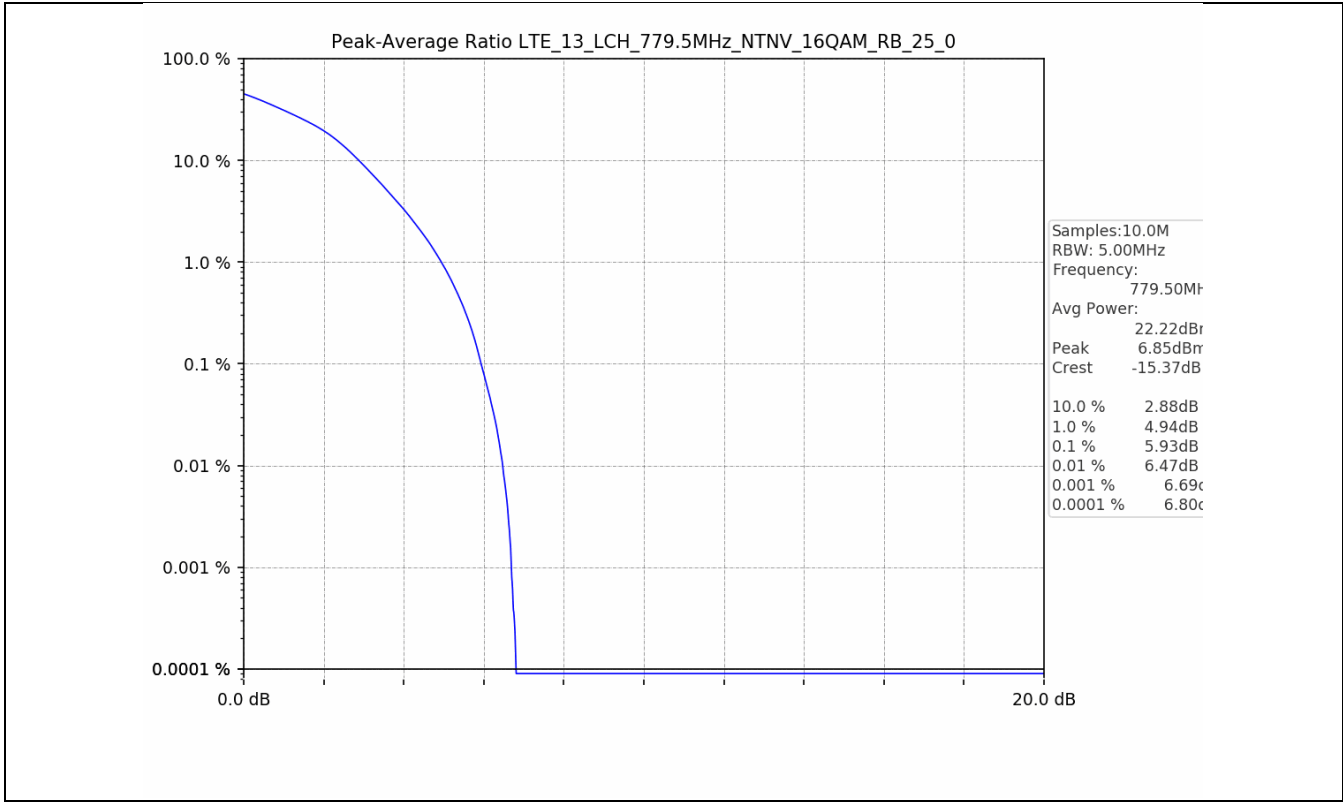
Test Band: 13_10MHz Bandwidth							
Test Mode	RB Allocation		26dB Bandwidth (MHz)			Limit	Verdict
	Size	Offset	LCH	MCH	HCH		
QPSK	50	0	/	9.951	/	N/A	PASS
16QAM	50	0	/	9.994	/	N/A	PASS

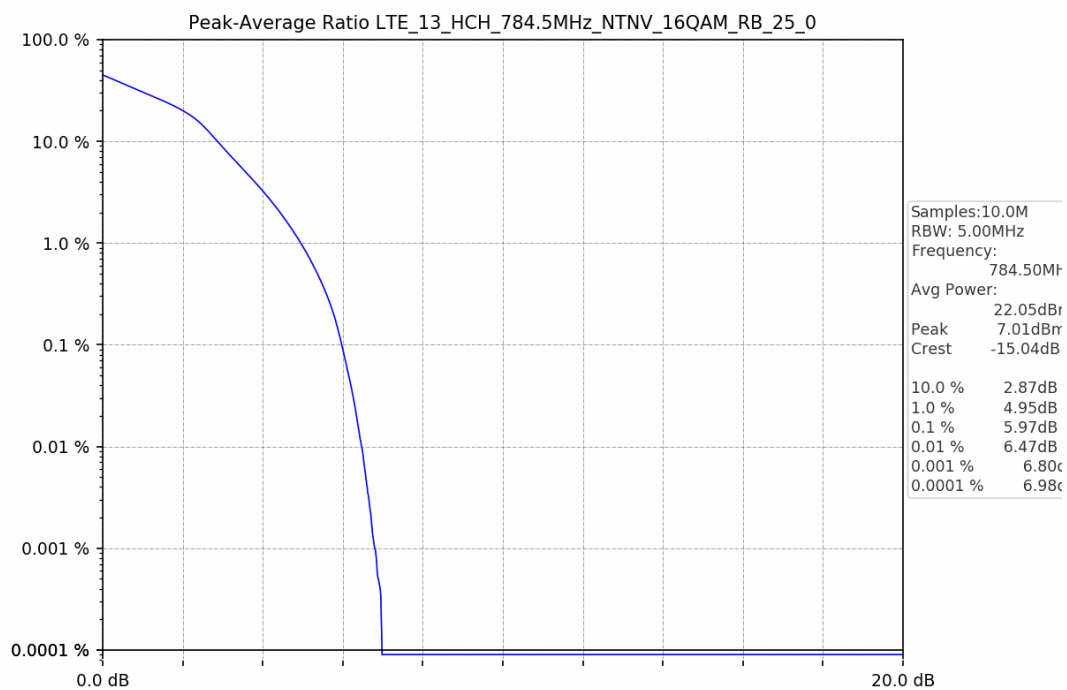
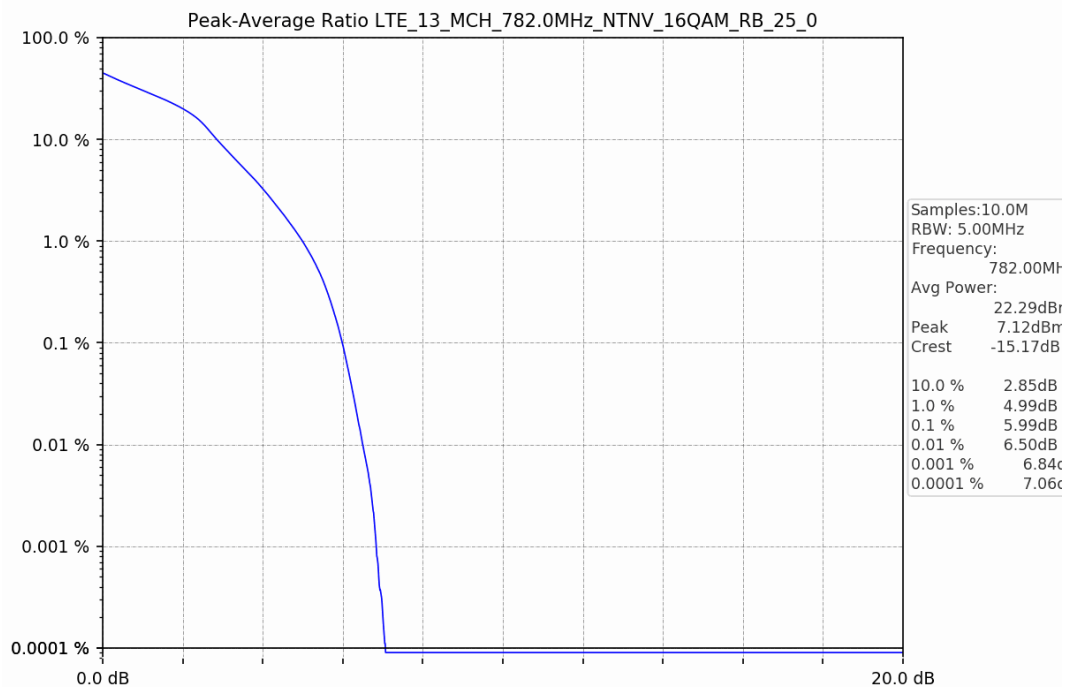


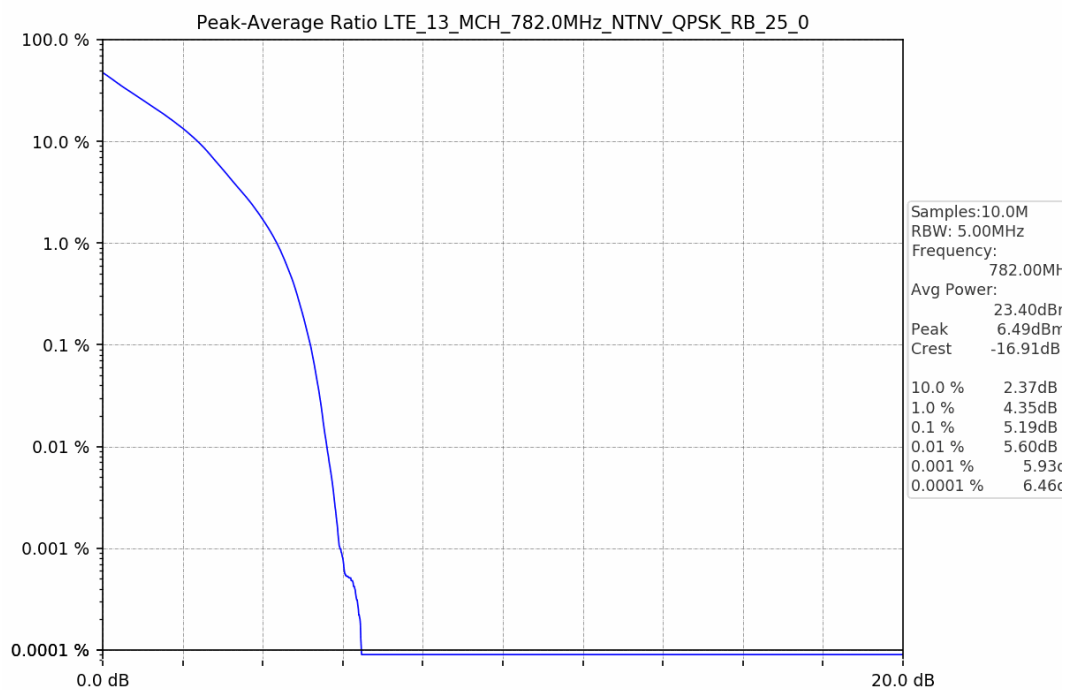
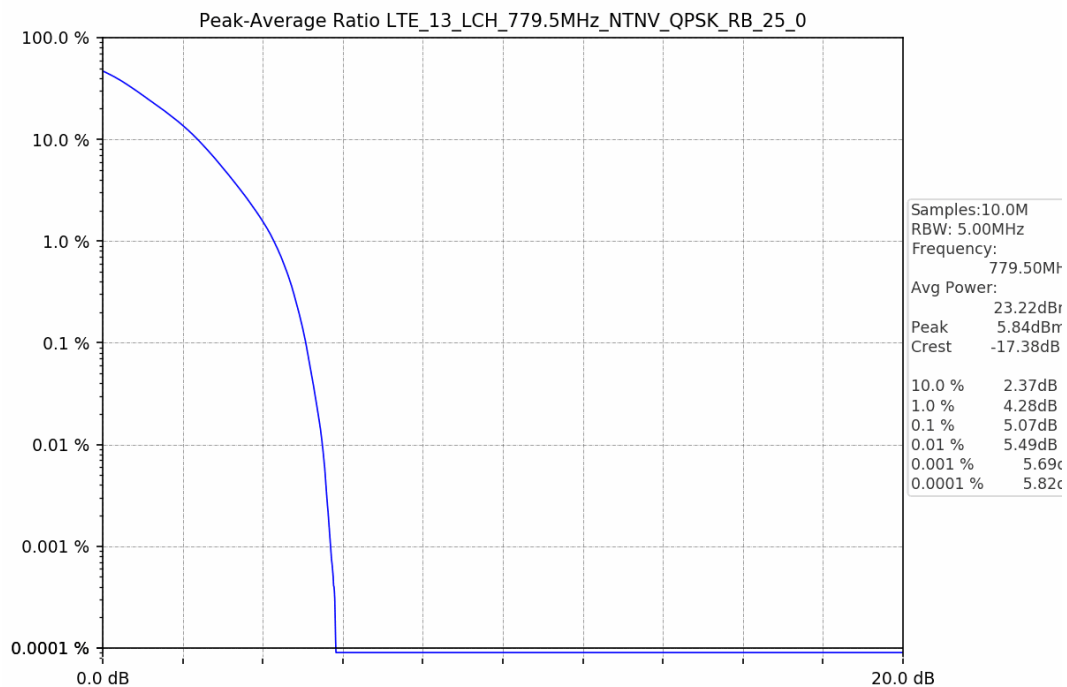
H4. Peak-Average Ratio

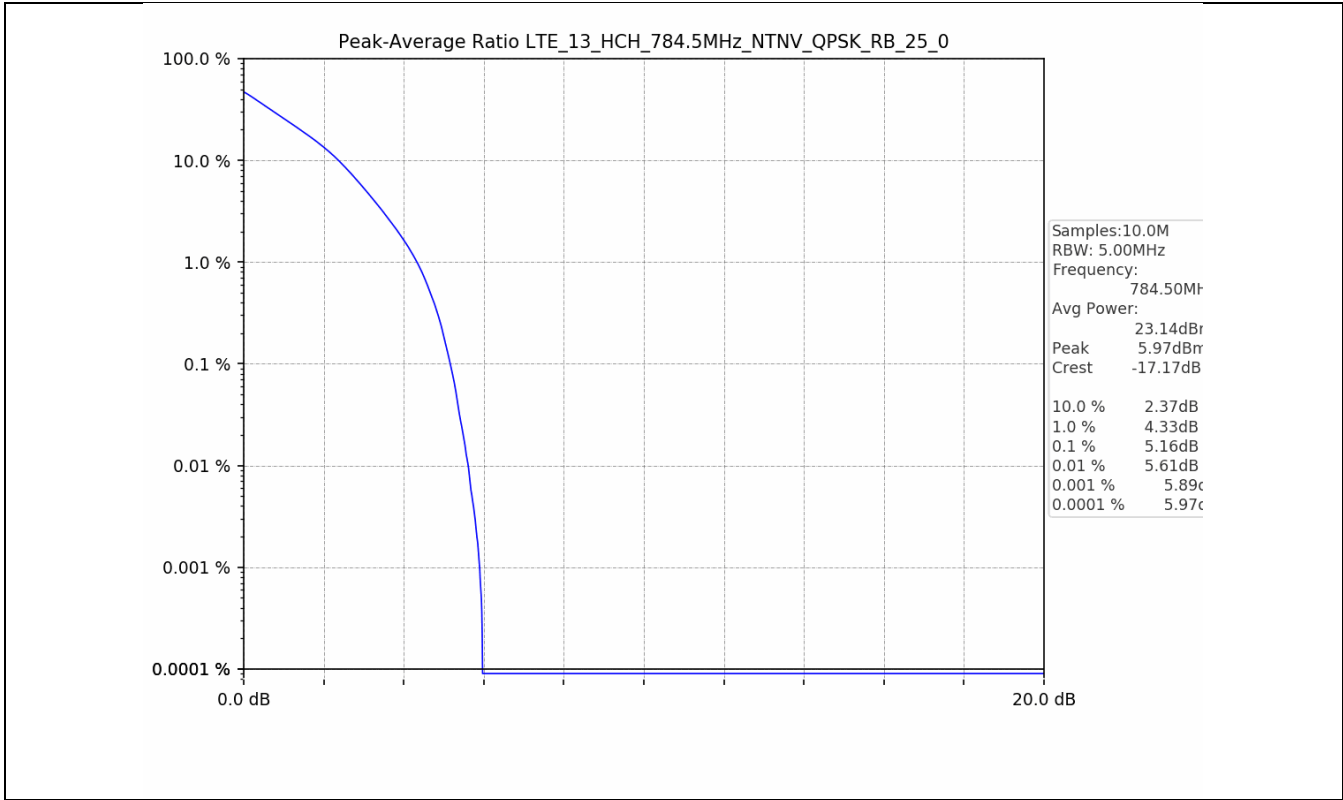
H4.1 Test Result

Test Band: 13 5MHz Bandwidth							
Test Mode	RB Allocation		Test result (dB)			Limit (dB)	Verdict
	Size	Offset	LCH	MCH	HCH		
QPSK	25	0	5.07	5.19	5.16	13	PASS
16QAM	25	0	5.93	5.99	5.97	13	PASS

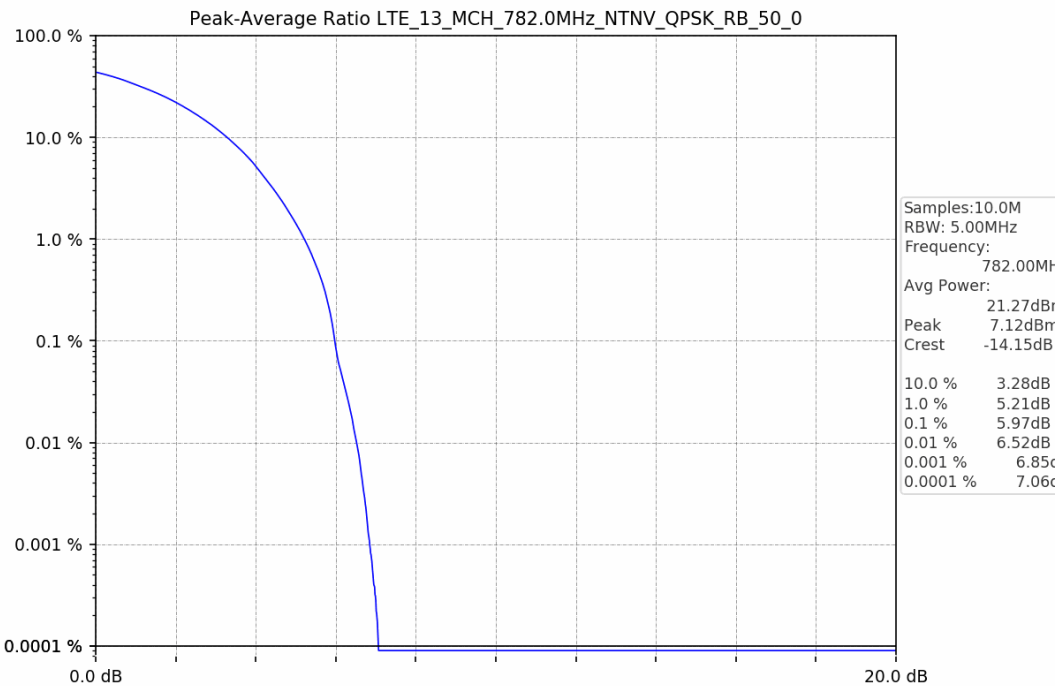
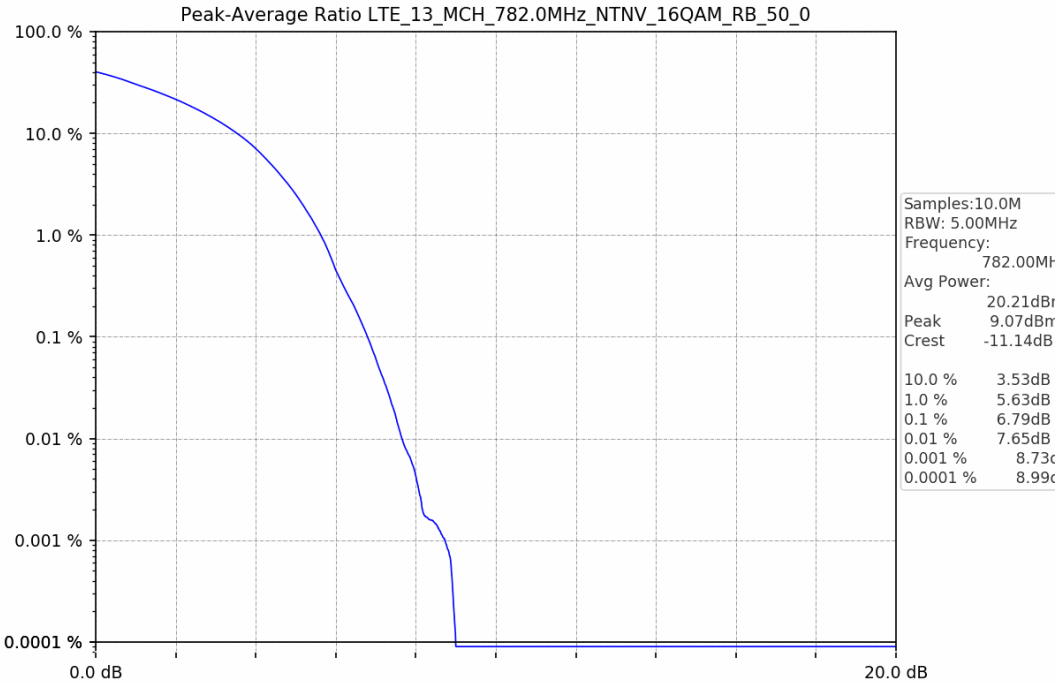








Test Band: 13_10MHz Bandwidth							
Test Mode	RB Allocation		Test result (dB)			Limit (dB)	Verdict
	Size	Offset	LCH	MCH	HCH		
QPSK	50	0	/	5.97	/	13	PASS
16QAM	50	0	/	6.79	/	13	PASS



H5. Spurious Emission

H5.1 Test Graph

