LTE Band 12

Middle Channel, f_O = 707.5 MHz			
Temperature (℃)	Power Supplied (VDC)	Frequency Error (Hz)	Frequency Error (ppm)
-10	3.80	-0.40	-0.000572
0		0.83	0.001184
10		3.53	0.004994
20		4.79	0.006773
30		-2.70	-0.003780
40		-3.49	-0.004880
50		1.26	0.001779
25	4.35	0.39	0.000551
	3.23	-3.33	-0.004757

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

LTE Band 13

Middle Channel, f_O = 782 MHz			
Temperature (℃)	Power Supplied (VDC)	Frequency Error (Hz)	Frequency Error (ppm)
-10	3.80	2.52	0.003230
0		-0.62	-0.000789
10		-3.12	-0.003988
20		-2.03	-0.002598
30		1.80	0.002298
40		1.62	0.002061
50		2.40	0.003073
25	4.35	9.23	0.011837
	3.23	9.83	0.012608

LTE Band 25

Middle Channel, f_O = 1882.5 MHz			
Temperature (℃)	Power Supplied (VDC)	Frequency Error (Hz)	Frequency Error (ppm)
-10	3.80	-4.35	-0.002350
0		-5.82	-0.003146
10		-9.03	-0.004795
20		-5.46	-0.002903
30		8.25	0.004312
40		4.68	0.002444
50		-2.29	-0.001216
25	4.35	-2.02	-0.001090
	3.23	-2.76	-0.001492

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

9. OCCUPIED BANDWIDTH

9.1 MEASUREMENT METHOD

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

9.2 PROVISIONS APPLICABLE

The emission bandwidth is defined as two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power

9.3 MEASUREMENT RESULT

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

LTE Band 2

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	6	0	1.0832	PASS
	MCH	6	0	1.0797	PASS
	HCH	6	0	1.0830	PASS
16QAM	LCH	6	0	1.0846	PASS
	MCH	6	0	1.0847	PASS
	HCH	6	0	1.0831	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	15	0	2.6927	PASS
	MCH	15	0	2.6888	PASS
	HCH	15	0	2.6929	PASS
16QAM	LCH	15	0	2.6857	PASS
	MCH	15	0	2.6842	PASS
	HCH	15	0	2.6883	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.4833	PASS
	MCH	25	0	4.4818	PASS
	HCH	25	0	4.4860	PASS
16QAM	LCH	25	0	4.4869	PASS
	MCH	25	0	4.4844	PASS
	HCH	25	0	4.4783	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	8.9579	PASS
	MCH	50	0	8.9582	PASS
	HCH	50	0	8.9625	PASS
16QAM	LCH	50	0	8.9630	PASS
	MCH	50	0	8.9575	PASS
	HCH	50	0	8.9575	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	75	0	13.423	PASS
	MCH	75	0	13.427	13.372
	HCH	75	0	13.476	PASS
16QAM	LCH	75	0	13.433	PASS
	MCH	75	0	13.428	PASS
	HCH	75	0	13.441	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	100	0	17.913	PASS
	MCH	100	0	17.886	PASS
	HCH	100	0	17.920	PASS
16QAM	LCH	100	0	17.886	PASS
	MCH	100	0	17.892	PASS
	HCH	100	0	17.918	PASS

LTE Band 4

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	6	0	1.0812	PASS
	MCH	6	0	1.0807	PASS
	HCH	6	0	1.0836	PASS
16QAM	LCH	6	0	1.0801	PASS
	MCH	6	0	1.0810	PASS
	HCH	6	0	1.0819	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	15	0	2.6850	PASS
	MCH	15	0	2.6937	PASS
	HCH	15	0	2.6896	PASS
16QAM	LCH	15	0	2.6920	PASS
	MCH	15	0	2.6866	PASS
	HCH	15	0	2.6874	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.4852	PASS
	MCH	25	0	4.4823	PASS
	HCH	25	0	4.4769	PASS
16QAM	LCH	25	0	4.4826	PASS
	MCH	25	0	4.4833	PASS
	HCH	25	0	4.4757	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	8.9560	PASS
	MCH	50	0	8.9503	PASS
	HCH	50	0	8.9473	PASS
16QAM	LCH	50	0	8.9622	PASS
	MCH	50	0	8.9583	PASS
	HCH	50	0	8.9514	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	75	0	13.477	PASS
	MCH	75	0	13.434	PASS
	HCH	75	0	13.404	PASS
16QAM	LCH	75	0	13.420	PASS
	MCH	75	0	13.437	PASS
	HCH	75	0	13.415	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	100	0	18.001	PASS
	MCH	100	0	17.892	PASS
	HCH	100	0	17.839	PASS
16QAM	LCH	100	0	17.918	PASS
	MCH	100	0	17.911	PASS
	HCH	100	0	17.852	PASS

LTE Band 7

Channel Bandwidth: 5MHz

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.4890	PASS
	MCH	25	0	4.4822	PASS
	HCH	25	0	4.4789	PASS
16QAM	LCH	25	0	4.4904	PASS
	MCH	25	0	4.4834	PASS
	HCH	25	0	4.4807	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	8.9650	PASS
	MCH	50	0	8.9519	PASS
	HCH	50	0	8.9634	PASS
16QAM	LCH	50	0	8.9806	PASS
	MCH	50	0	8.9647	PASS
	HCH	50	0	8.9678	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	75	0	13.427	PASS
	MCH	75	0	13.435	PASS
	HCH	75	0	13.429	PASS
16QAM	LCH	75	0	13.436	PASS
	MCH	75	0	13.442	PASS
	HCH	75	0	13.430	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	100	0	17.865	PASS
	MCH	100	0	17.900	PASS
	HCH	100	0	17.874	PASS
16QAM	LCH	100	0	17.893	PASS
	MCH	100	0	17.892	PASS
	HCH	100	0	17.882	PASS

LTE Band 12

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	6	0	1.0829	PASS
	MCH	6	0	1.0867	PASS
	HCH	6	0	1.0842	PASS
16QAM	LCH	6	0	1.0827	PASS
	MCH	6	0	1.0859	PASS
	HCH	6	0	1.0851	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth:3 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	15	0	2.6893	PASS
	MCH	15	0	2.6917	PASS
	HCH	15	0	2.6870	PASS
16QAM	LCH	15	0	2.6917	PASS
	MCH	15	0	2.6969	PASS
	HCH	15	0	2.6939	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.4890	PASS
	MCH	25	0	4.4883	PASS
	HCH	25	0	4.4944	PASS
16QAM	LCH	25	0	4.4943	PASS
	MCH	25	0	4.4962	PASS
	HCH	25	0	4.4865	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	8.9956	PASS
	MCH	50	0	8.9531	PASS
	HCH	50	0	8.9281	PASS
16QAM	LCH	50	0	8.9965	PASS
	MCH	50	0	8.9406	PASS
	HCH	50	0	8.9286	PASS

LTE Band 13

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.4861	PASS
	MCH	25	0	4.4816	PASS
	HCH	25	0	4.4874	PASS
16QAM	LCH	25	0	4.4932	PASS
	MCH	25	0	4.4882	PASS
	HCH	25	0	4.4833	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	8.9879	PASS
	MCH	50	0	8.9842	PASS
	HCH	50	0	8.9841	PASS
16QAM	LCH	50	0	8.9758	PASS
	MCH	50	0	8.9851	PASS
	HCH	50	0	8.9801	PASS

LTE Band 25

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	6	0	1.0819	PASS
	MCH	6	0	1.0794	PASS
	HCH	6	0	1.0813	PASS
16QAM	LCH	6	0	1.0842	PASS
	MCH	6	0	1.0810	PASS
	HCH	6	0	1.0836	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	15	0	2.6908	PASS
	MCH	15	0	2.6913	PASS
	HCH	15	0	2.6860	PASS
16QAM	LCH	15	0	2.6885	PASS
	MCH	15	0	2.6907	PASS
	HCH	15	0	2.6893	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth(MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.4869	PASS
	MCH	25	0	4.4777	PASS
	HCH	25	0	4.4809	PASS
16QAM	LCH	25	0	4.4851	PASS
	MCH	25	0	4.4832	PASS
	HCH	25	0	4.4819	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	8.9678	PASS
	MCH	50	0	8.9502	PASS
	HCH	50	0	8.9291	PASS
16QAM	LCH	50	0	8.9618	PASS
	MCH	50	0	8.9444	PASS
	HCH	50	0	8.9299	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	75	0	13.433	PASS
	MCH	75	0	13.423	PASS
	HCH	75	0	13.420	PASS
16QAM	LCH	75	0	13.432	PASS
	MCH	75	0	13.430	PASS
	HCH	75	0	13.397	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz					
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	100	0	17.904	PASS
	MCH	100	0	17.865	PASS
	HCH	100	0	17.879	PASS
16QAM	LCH	100	0	17.901	PASS
	MCH	100	0	17.890	PASS
	HCH	100	0	17.887	PASS

Note: Please refers to Appendix B for compliance test plots for Occupied Bandwidth (99%)

10. EMISSION BANDWIDTH

10.1 MEASUREMENT METHOD

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

10.2 PROVISIONS APPLICABLE

The emission bandwidth is defined as two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power.

10.3 MEASUREMENT RESULT

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

LTE Band 2

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	6	0	1.338	PASS
	MCH	6	0	1.337	PASS
	HCH	6	0	1.398	PASS
16QAM	LCH	6	0	1.372	PASS
	MCH	6	0	1.440	PASS
	HCH	6	0	1.398	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	15	0	2.947	PASS
	MCH	15	0	2.912	PASS
	HCH	15	0	2.928	PASS
16QAM	LCH	15	0	2.952	PASS
	MCH	15	0	2.969	PASS
	HCH	15	0	2.939	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.915	PASS
	MCH	25	0	4.917	PASS
	HCH	25	0	4.907	PASS
16QAM	LCH	25	0	4.934	PASS
	MCH	25	0	4.961	PASS
	HCH	25	0	4.957	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	9.666	PASS
	MCH	50	0	9.717	PASS
	HCH	50	0	9.775	PASS
16QAM	LCH	50	0	9.857	PASS
	MCH	50	0	9.813	PASS
	HCH	50	0	9.726	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	75	0	14.33	PASS
	MCH	75	0	14.35	PASS
	HCH	75	0	14.49	PASS
16QAM	LCH	75	0	14.19	PASS
	MCH	75	0	14.44	PASS
	HCH	75	0	14.62	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	100	0	18.79	PASS
	MCH	100	0	18.84	PASS
	HCH	100	0	18.93	PASS
16QAM	LCH	100	0	18.77	PASS
	MCH	100	0	19.00	PASS
	HCH	100	0	18.91	PASS

LTE Band 4

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	6	0	1.354	PASS
	MCH	6	0	1.312	PASS
	HCH	6	0	1.345	PASS
16QAM	LCH	6	0	1.440	PASS
	MCH	6	0	1.346	PASS
	HCH	6	0	1.340	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	15	0	2.910	PASS
	MCH	15	0	2.934	PASS
	HCH	15	0	2.925	PASS
16QAM	LCH	15	0	2.955	PASS
	MCH	15	0	2.948	PASS
	HCH	15	0	2.942	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.958	PASS
	MCH	25	0	4.929	PASS
	HCH	25	0	4.935	PASS
16QAM	LCH	25	0	4.918	PASS
	MCH	25	0	4.910	PASS
	HCH	25	0	4.894	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	9.605	PASS
	MCH	50	0	9.630	PASS
	HCH	50	0	9.729	PASS
16QAM	LCH	50	0	9.701	PASS
	MCH	50	0	9.848	PASS
	HCH	50	0	9.687	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	75	0	13.48	PASS
	MCH	75	0	14.41	PASS
	HCH	75	0	14.35	PASS
16QAM	LCH	75	0	14.49	PASS
	MCH	75	0	14.32	PASS
	HCH	75	0	14.26	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	100	0	18.00	PASS
	MCH	100	0	18.79	PASS
	HCH	100	0	18.75	PASS
16QAM	LCH	100	0	18.92	PASS
	MCH	100	0	18.88	PASS
	HCH	100	0	18.80	PASS

LTE Band 7

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.999	PASS
	MCH	25	0	4.994	PASS
	HCH	25	0	4.921	PASS
16QAM	LCH	25	0	4.986	PASS
	MCH	25	0	4.974	PASS
	HCH	25	0	4.962	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	12.00	PASS
	MCH	50	0	9.731	PASS
	HCH	50	0	9.738	PASS
16QAM	LCH	50	0	11.840	PASS
	MCH	50	0	9.726	PASS
	HCH	50	0	9.746	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	75	0	18.87	PASS
	MCH	75	0	14.53	PASS
	HCH	75	0	14.43	PASS
16QAM	LCH	75	0	17.98	PASS
	MCH	75	0	14.63	PASS
	HCH	75	0	14.47	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	100	0	19.29	PASS
	MCH	100	0	18.85	PASS
	HCH	100	0	18.86	PASS
16QAM	LCH	100	0	19.61	PASS
	MCH	100	0	18.95	PASS
	HCH	100	0	18.85	PASS

LTE Band 12

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	6	0	1.354	PASS
	MCH	6	0	1.441	PASS
	HCH	6	0	1.378	PASS
16QAM	LCH	6	0	1.363	PASS
	MCH	6	0	1.345	PASS
	HCH	6	0	1.386	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	15	0	2.925	PASS
	MCH	15	0	2.999	PASS
	HCH	15	0	2.950	PASS
16QAM	LCH	15	0	2.952	PASS
	MCH	15	0	2.979	PASS
	HCH	15	0	2.967	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.874	PASS
	MCH	25	0	4.957	PASS
	HCH	25	0	4.948	PASS
16QAM	LCH	25	0	4.951	PASS
	MCH	25	0	4.994	PASS
	HCH	25	0	4.948	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	9.990	PASS
	MCH	50	0	9.662	PASS
	HCH	50	0	9.711	PASS
16QAM	LCH	50	0	9.847	PASS
	MCH	50	0	9.690	PASS
	HCH	50	0	9.604	PASS

LTE BAND 13

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	5.001	PASS
	MCH	25	0	4.904	PASS
	HCH	25	0	4.962	PASS
16QAM	LCH	25	0	4.977	PASS
	MCH	25	0	4.960	PASS
	HCH	25	0	4.975	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	10.07	PASS
	MCH	50	0	9.850	PASS
	HCH	50	0	10.07	PASS
16QAM	LCH	50	0	9.938	PASS
	MCH	50	0	9.881	PASS
	HCH	50	0	9.852	PASS

LTE Band 25

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	6	0	1.313	PASS
	MCH	6	0	1.337	PASS
	HCH	6	0	1.303	PASS
16QAM	LCH	6	0	1.388	PASS
	MCH	6	0	1.371	PASS
	HCH	6	0	1.366	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	15	0	2.934	PASS
	MCH	15	0	2.918	PASS
	HCH	15	0	2.934	PASS
16QAM	LCH	15	0	2.941	PASS
	MCH	15	0	2.923	PASS
	HCH	15	0	2.935	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	25	0	4.934	PASS
	MCH	25	0	4.915	PASS
	HCH	25	0	4.940	PASS
16QAM	LCH	25	0	4.920	PASS
	MCH	25	0	4.956	PASS
	HCH	25	0	4.932	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	50	0	9.846	PASS
	MCH	50	0	9.626	PASS
	HCH	50	0	9.632	PASS
16QAM	LCH	50	0	9.780	PASS
	MCH	50	0	9.824	PASS
	HCH	50	0	9.694	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	75	0	14.62	PASS
	MCH	75	0	14.77	PASS
	HCH	75	0	14.33	PASS
16QAM	LCH	75	0	14.65	PASS
	MCH	75	0	14.60	PASS
	HCH	75	0	14.40	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz					
Modulation	Channel	RB Configuration		26dB Bandwidth (MHz)	Verdict
		Size	Offset		
QPSK	LCH	100	0	18.85	PASS
	MCH	100	0	18.80	PASS
	HCH	100	0	18.80	PASS
16QAM	LCH	100	0	18.81	PASS
	MCH	100	0	18.81	PASS
	HCH	100	0	18.82	PASS

Note: Please refers to Appendix B for compliance test plots for emission bandwidth (-26dBc)

11. BAND EDGE

11.1 MEASUREMENT METHOD

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

11.2 PROVISIONS APPLICABLE

As Specified in FCC rules of §2.1051 §24.238(a) §27.53(g) §27.53(h) §27.53(m)
KDB 971168 D01v03 – Section 6.0

11.3 MEASUREMENT RESULT

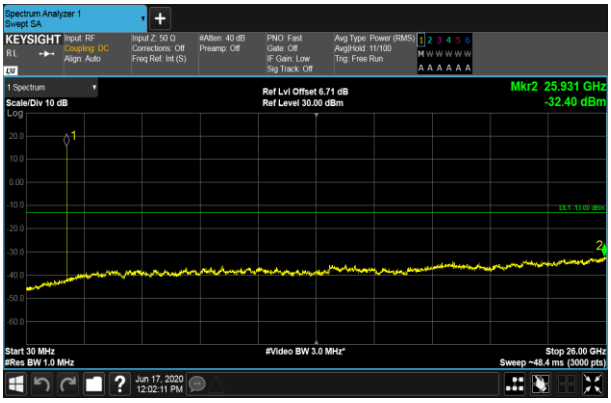
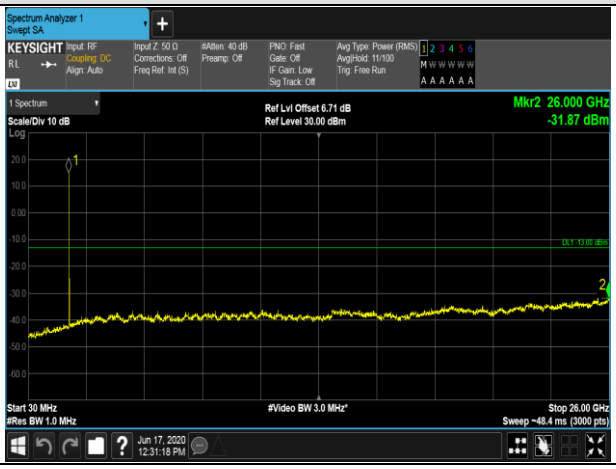
All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequency. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.
The minimum permissible attenuation level of any spurious emission is 43 + log10(P[Watts]), where P is the transmitter power in Watts.

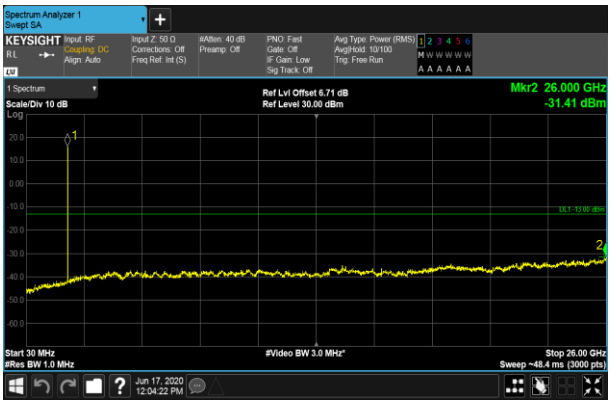
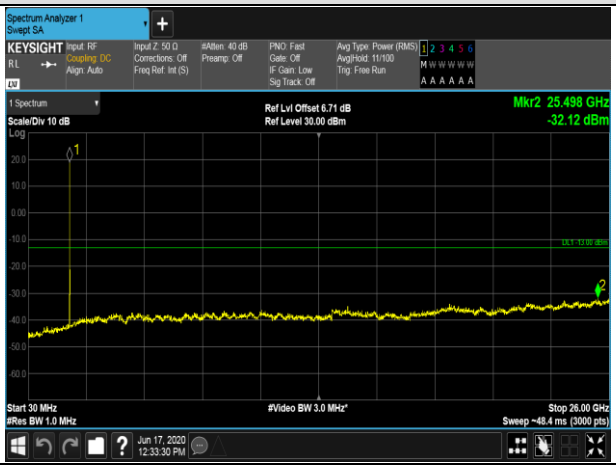
For Band 7:
(i) 40 + 10 log10 p from the channel edges to 5 MHz away
(ii) 43 + 10 log10 p between 5 MHz and X MHz from the channel edges, and
(iii) 55 + 10 log10 p at X MHz and beyond from the channel edges

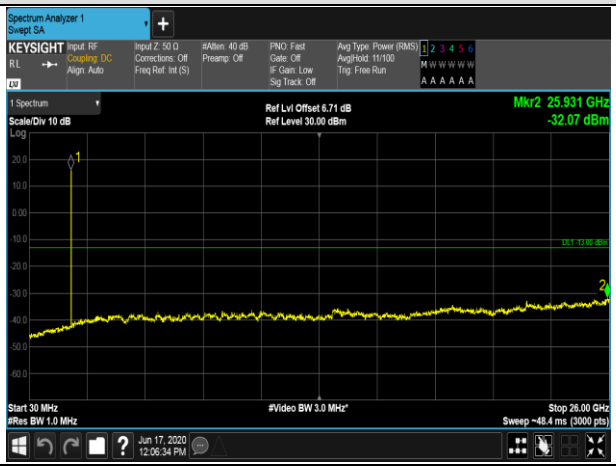
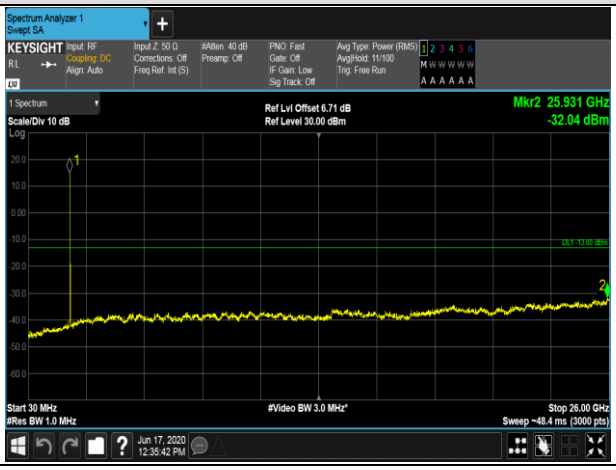
Please refers to Appendix C for compliance test plots for band edge

APPENDIX A TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION

LTE BAND 2

1.4MHz_LCH_QPSK_1RB#0	20MHz_LCH_QPSK_1RB#0
	

1.4MHz_MCH_QPSK_1RB#0	20MHz_MCH_QPSK_1RB#0
	

1.4MHz_HCH_QPSK_1RB#0	20MHz_HCH_QPSK_1RB#0
	

TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION
LTE BAND 4

1.4MHz_LCH_QPSK_1RB#0	20MHz_LCH_QPSK_1RB#0

1.4MHz_MCH_QPSK_1RB#0	20MHz_MCH_QPSK_1RB#0

1.4MHz_HCH_QPSK_1RB#0	20MHz_HCH_QPSK_1RB#0

TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION

LTE BAND 7

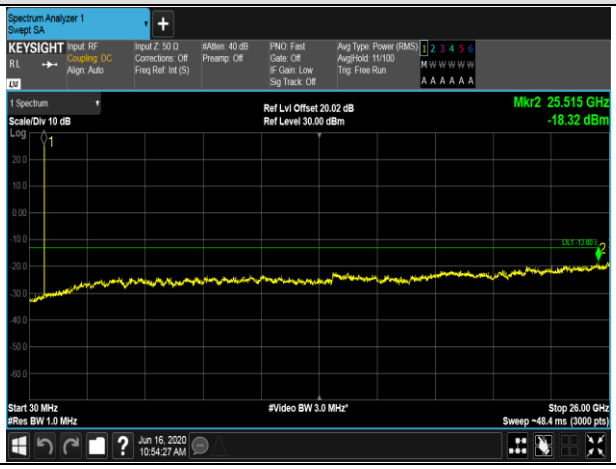
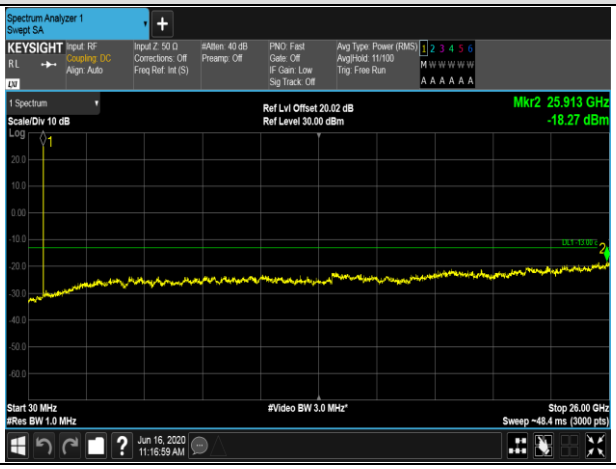
5MHz_LCH_QPSK_1RB#0	20MHz_LCH_QPSK_1RB#0

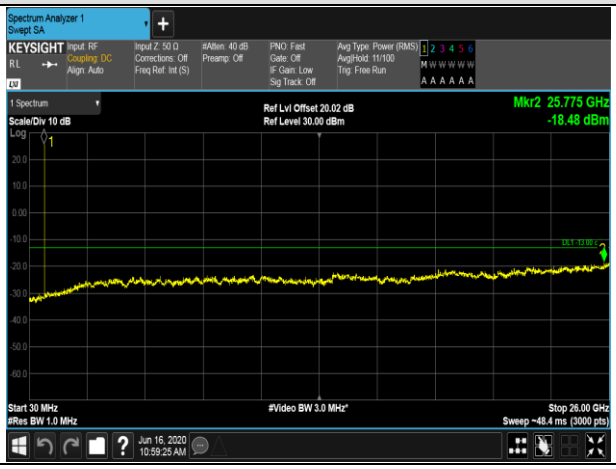
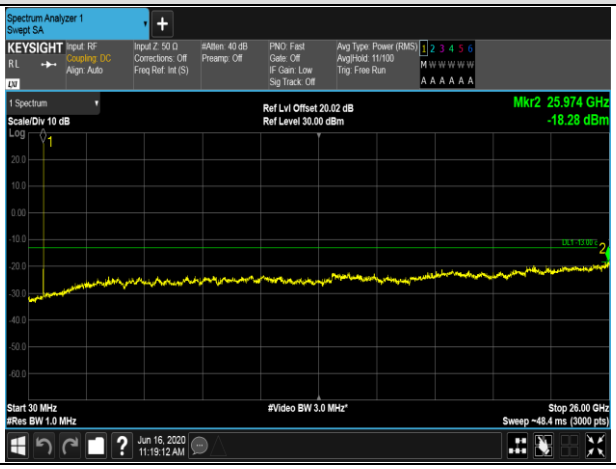
5MHz_MCH_QPSK_1RB#0	20MHz_MCH_QPSK_1RB#0

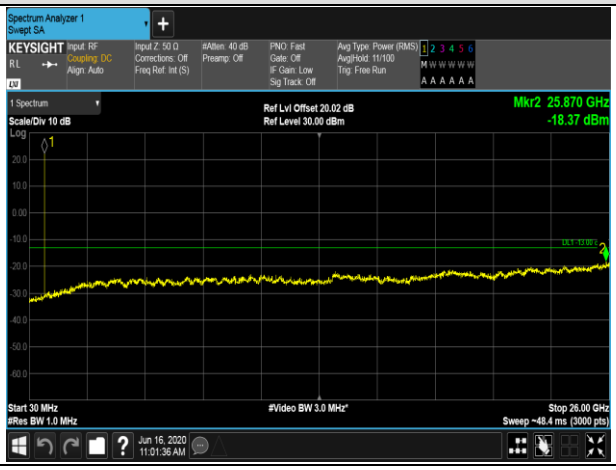
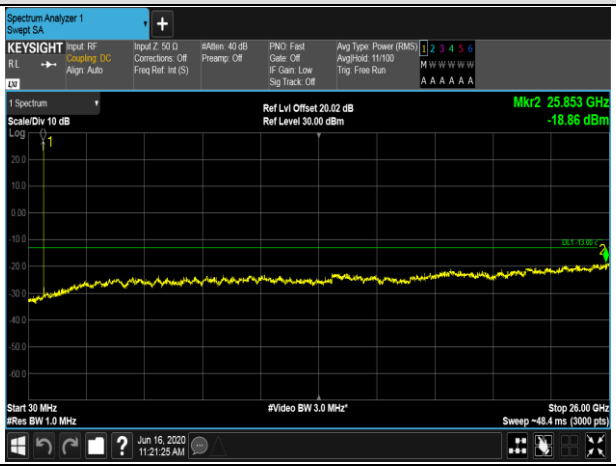
5MHz_HCH_QPSK_1RB#0	20MHz_HCH_QPSK_1RB#0

TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION

LTE BAND 12

1.4MHz_LCH_QPSK_1RB#0	10MHz_LCH_QPSK_1RB#0
	

1.4MHz_MCH_QPSK_1RB#0	10MHz_MCH_QPSK_1RB#0
	

1.4MHz_HCH_QPSK_1RB#0	10MHz_HCH_QPSK_1RB#0
	

TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION

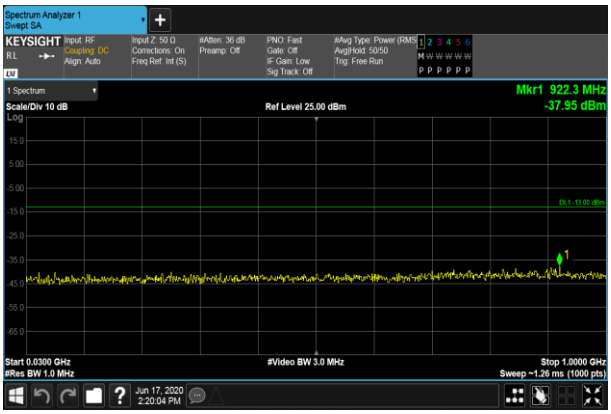
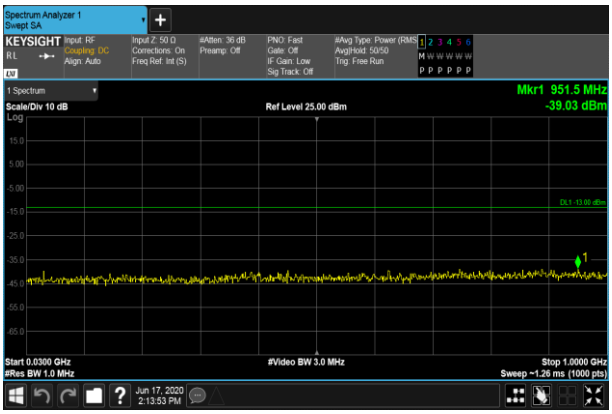
LTE BAND 13

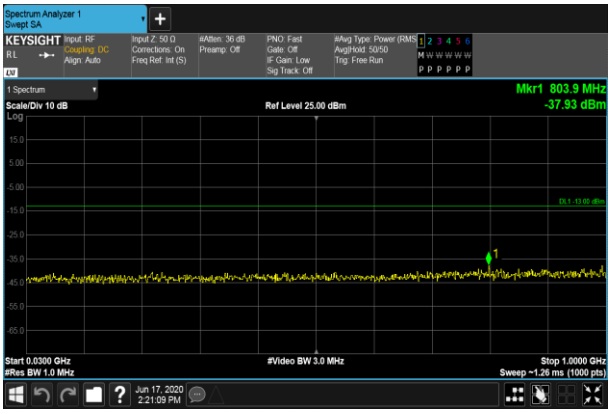
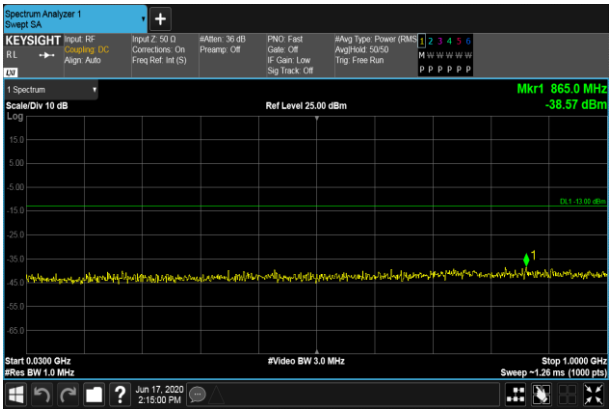
5MHz_LCH_QPSK_1RB#0	10MHz_LCH_QPSK_1RB#0

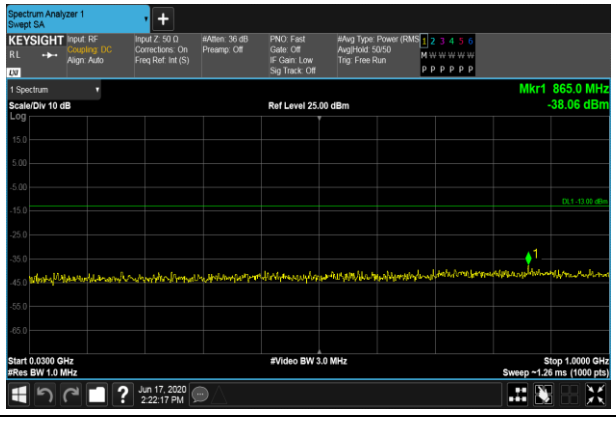
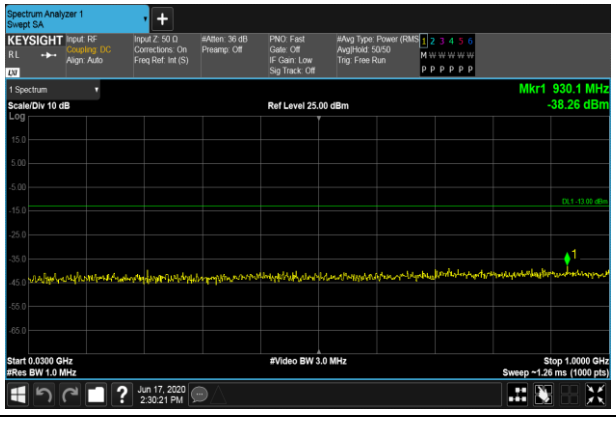
5MHz_MCH_QPSK_1RB#0	10MHz_MCH_QPSK_1RB#0

5MHz_HCH_QPSK_1RB#0	10MHz_HCH_QPSK_1RB#0

TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION
LTE BAND 25

1.4MHz_LCH_QPSK_1RB#0	20MHz_LCH_QPSK_1RB#0
	

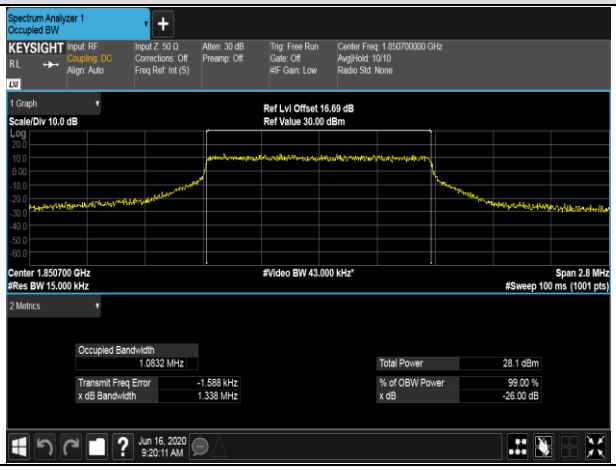
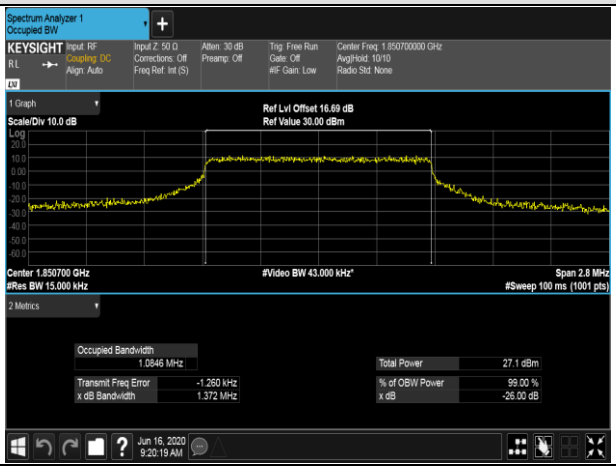
1.4MHz_MCH_QPSK_1RB#0	20MHz_MCH_QPSK_1RB#0
	

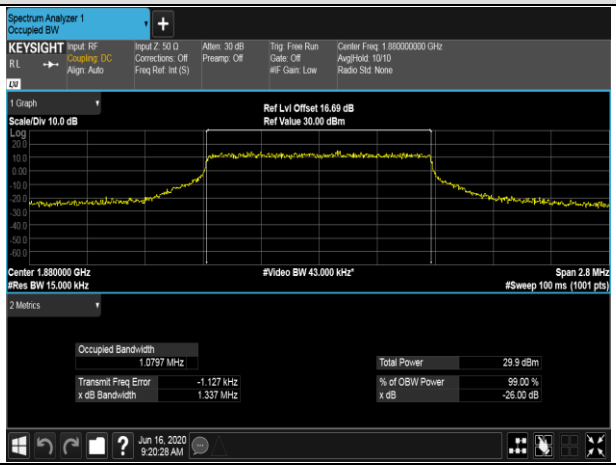
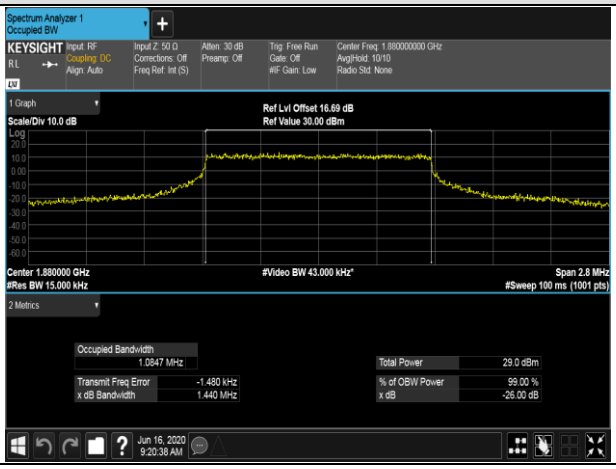
1.4MHz_HCH_QPSK_1RB#0	20MHz_HCH_QPSK_1RB#0
	

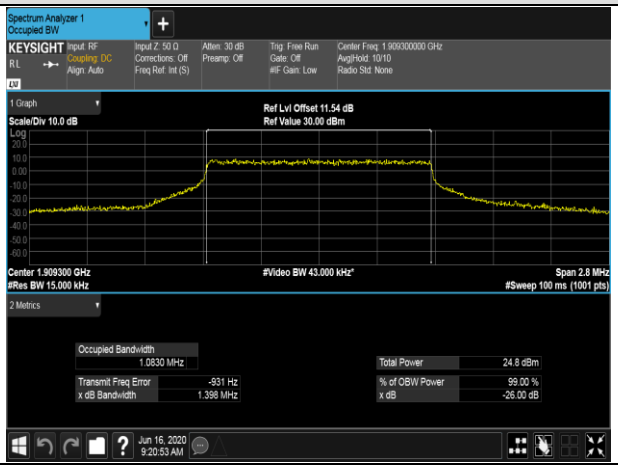
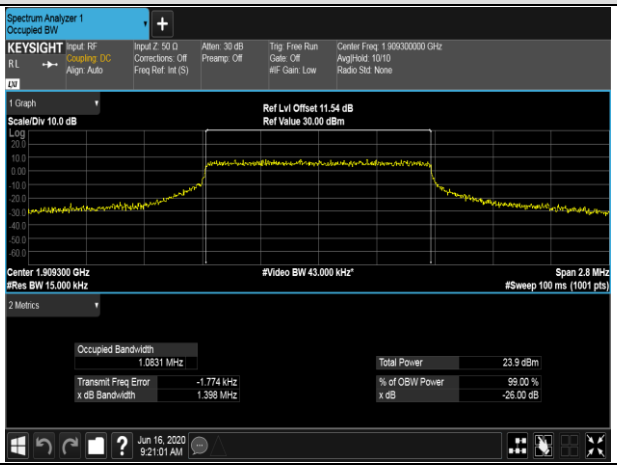
Note: 1. Below 30MHZ no Spurious found and Above is the worst mode data.

2. As no emission found in standby or receive mode, no recording in this report.

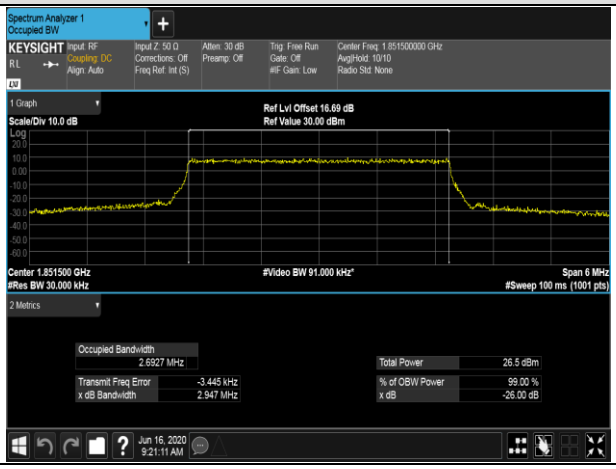
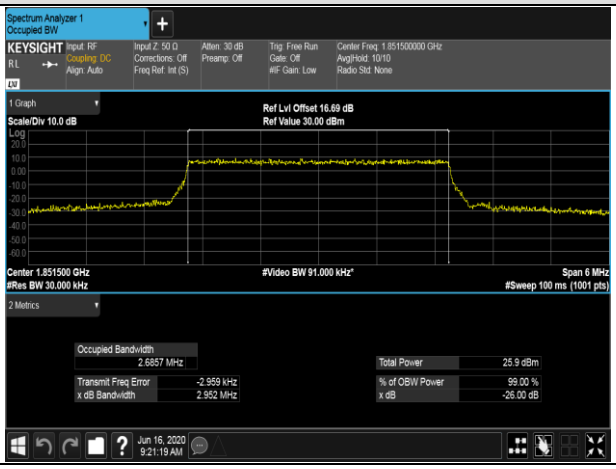
APPENDIX B TEST PLOTS FOR OCCUPIED BANDWIDTH (99%)
EMISSION BANDWIDTH (-26dBC)
LTE Band 2 Channel Bandwidth: 1.4 MHz

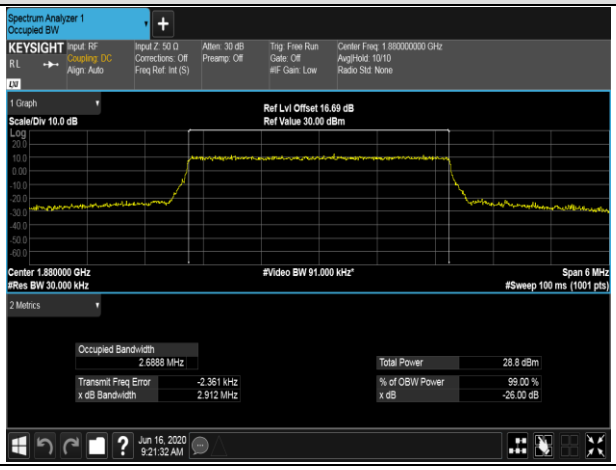
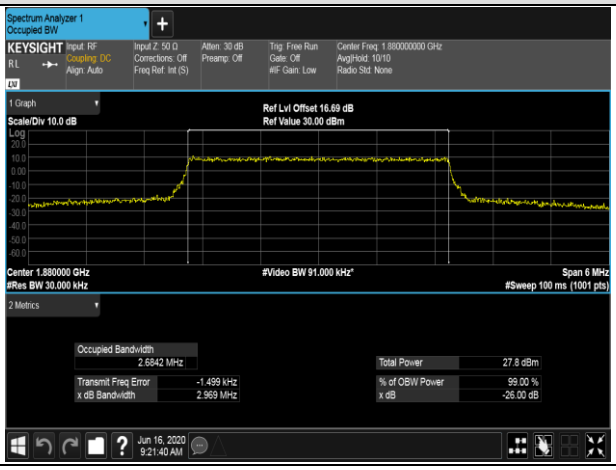
LCH_QPSK_6RB#0	LCH_16QAM_6RB#0
	

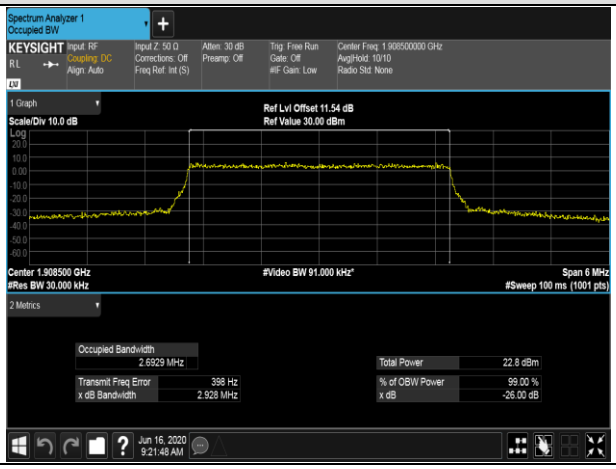
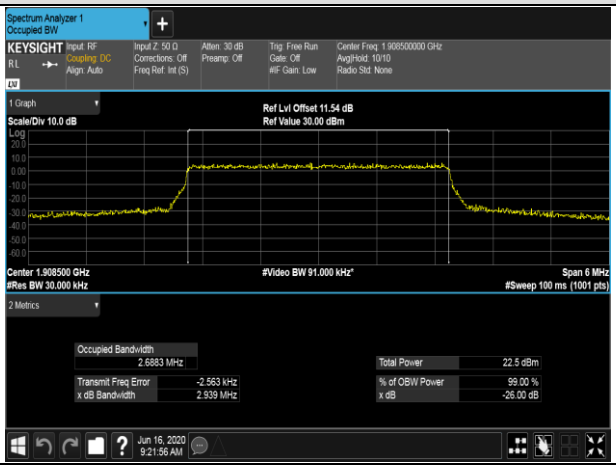
MCH_QPSK_6RB#0	MCH_16QAM_6RB#0
	

HCH_QPSK_6RB#0	HCH_16QAM_6RB#0
	

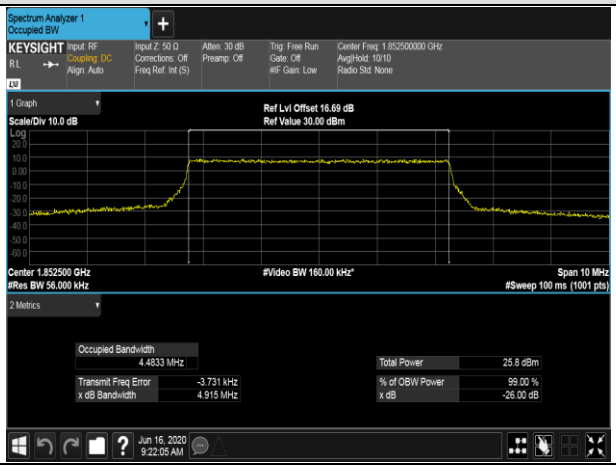
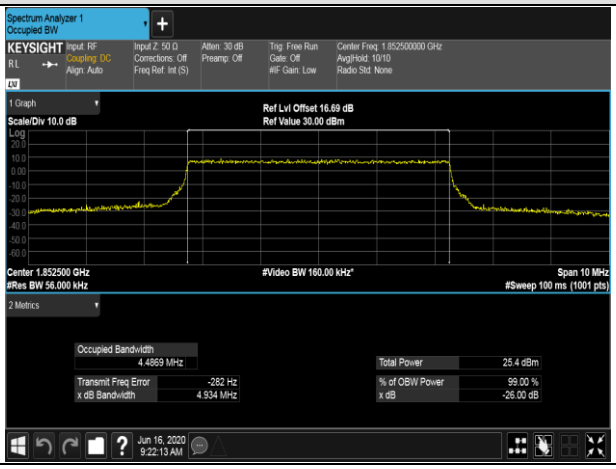
Channel Bandwidth: 3 MHz

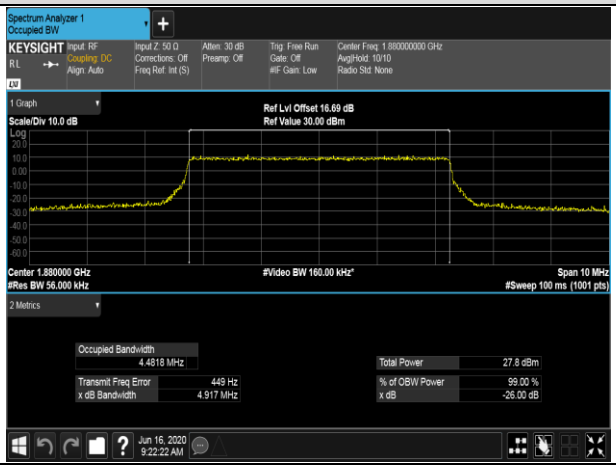
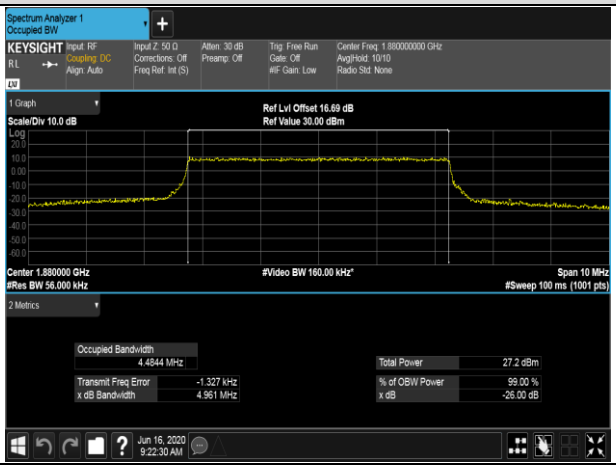
LCH_QPSK_15RB#0	LCH_16QAM_15RB#0
	

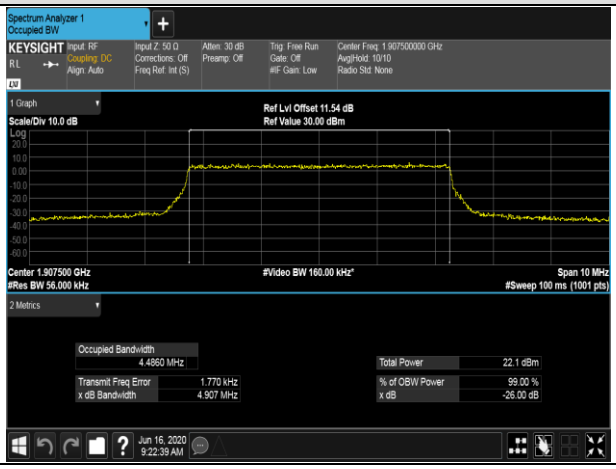
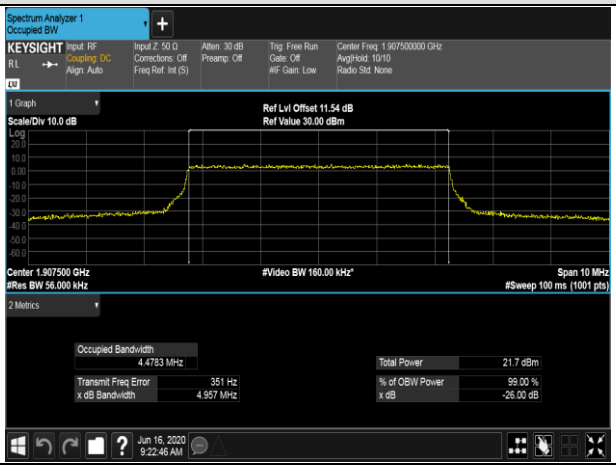
MCH_QPSK_15RB#0	MCH_16QAM_15RB#0
	

HCH_QPSK_15RB#0	HCH_16QAM_15RB#0
	

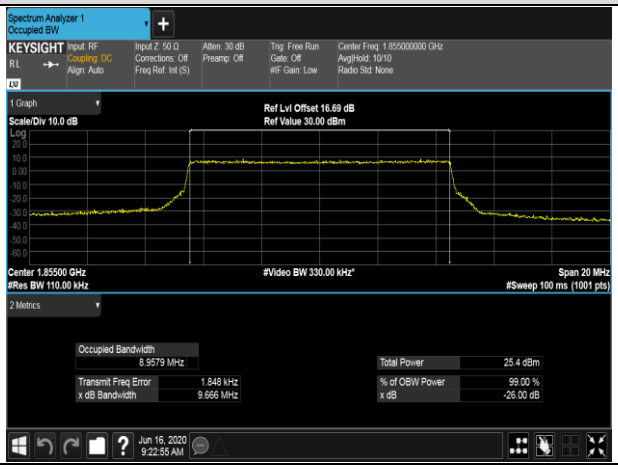
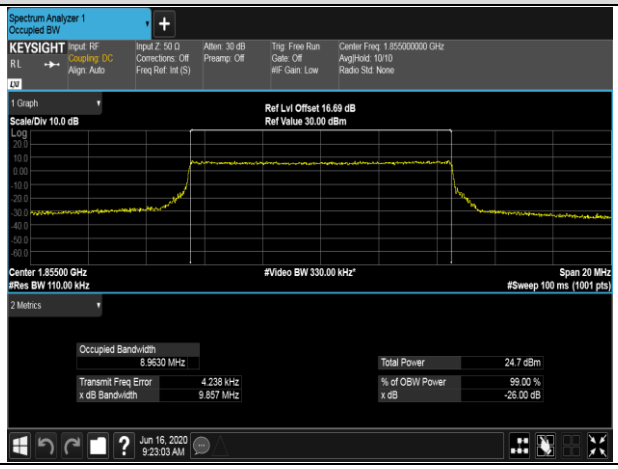
Channel Bandwidth: 5 MHz

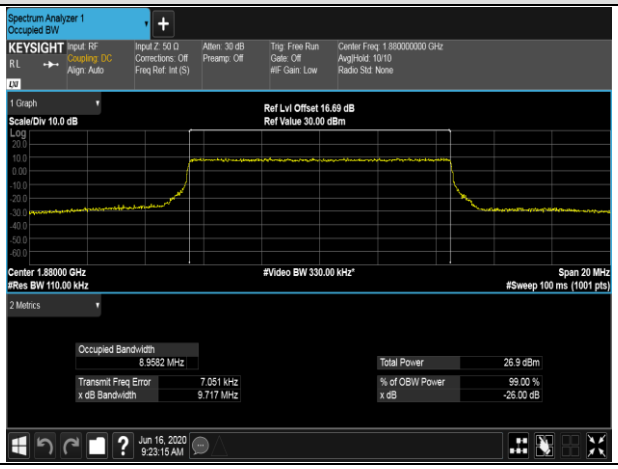
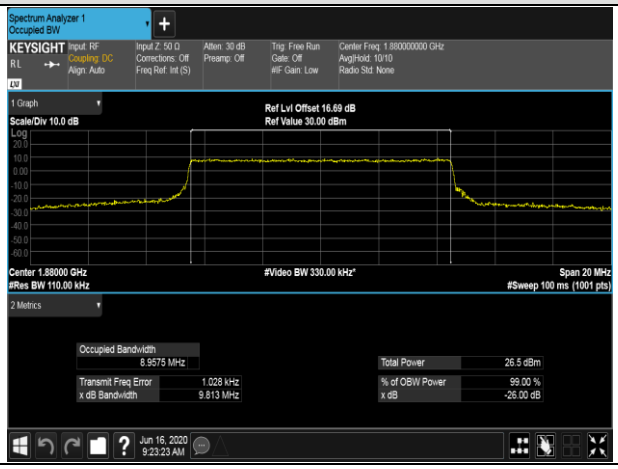
LCH_QPSK_25RB#0	LCH_16QAM_25RB#0
	

MCH_QPSK_25RB#0	MCH_16QAM_25RB#0
	

HCH_QPSK_25RB#0	HCH_16QAM_25RB#0
	

Channel Bandwidth: 10 MHz

LCH_QPSK_50RB#0	LCH_16QAM_50RB#0
	

MCH_QPSK_50RB#0	MCH_16QAM_50RB#0
	

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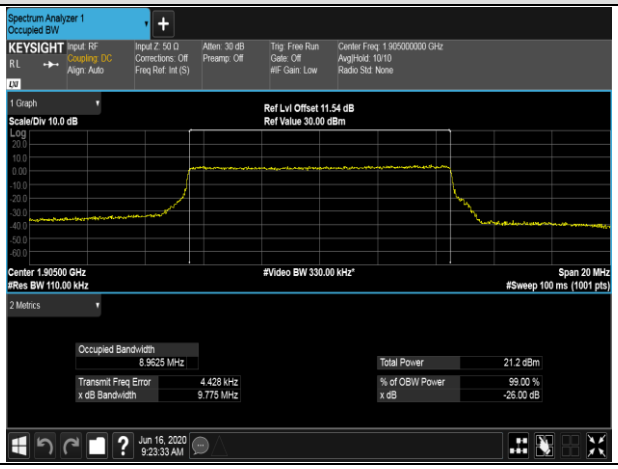	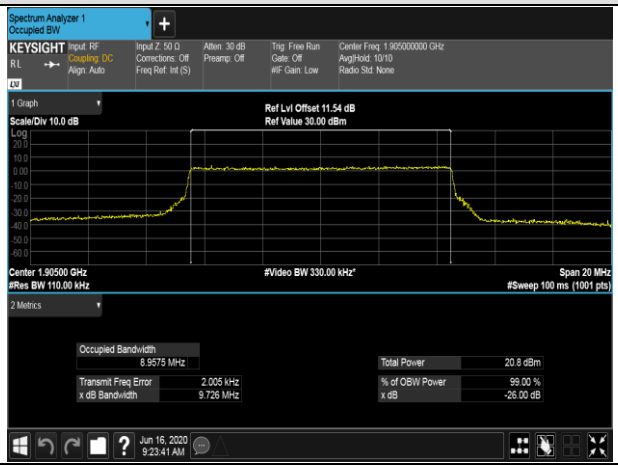

Channel Bandwidth: 15 MHz

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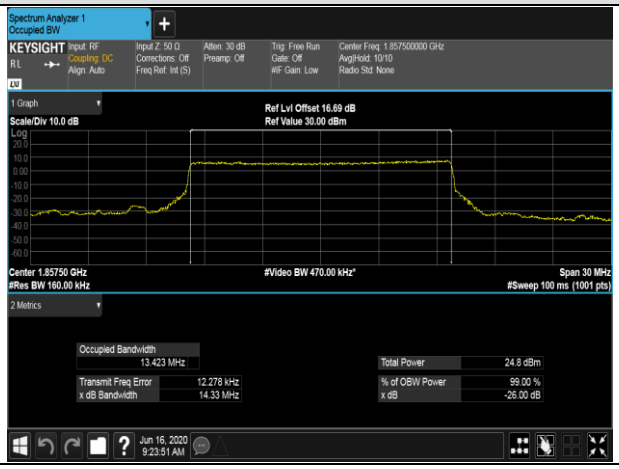	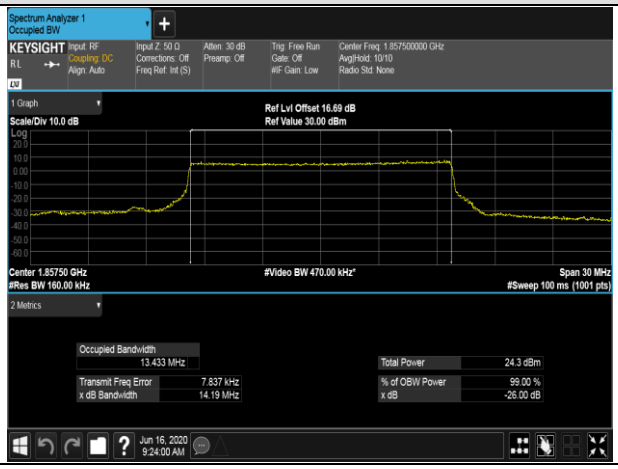

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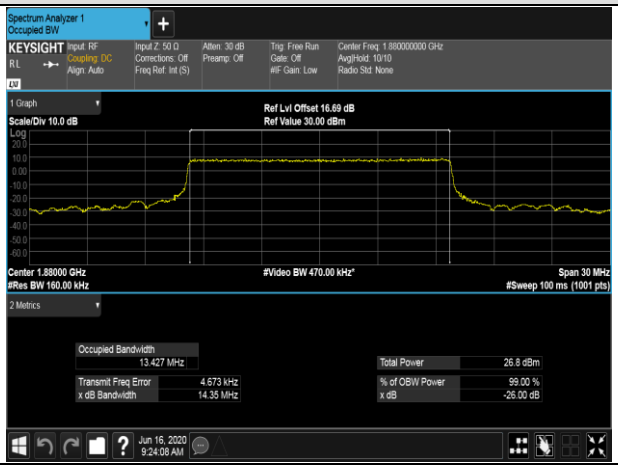	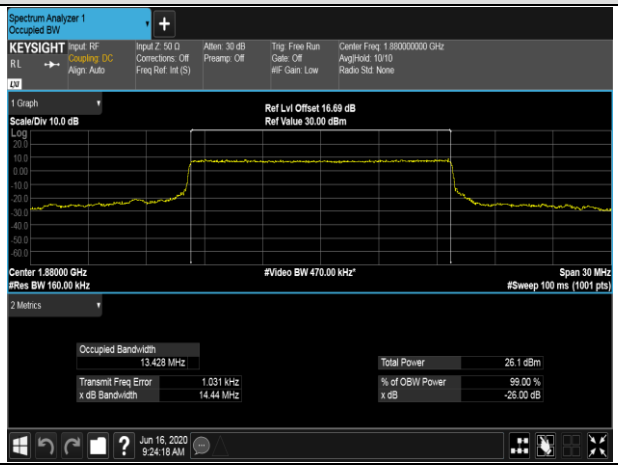

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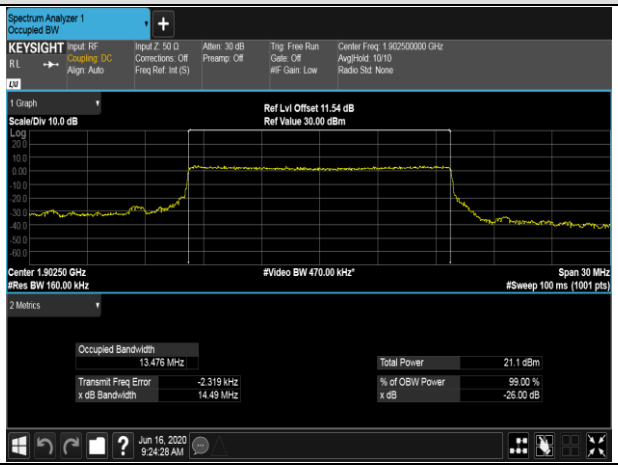	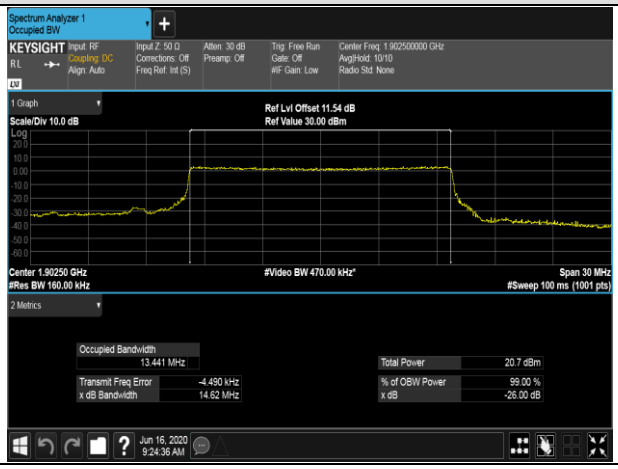

Channel Bandwidth: 20 MHz

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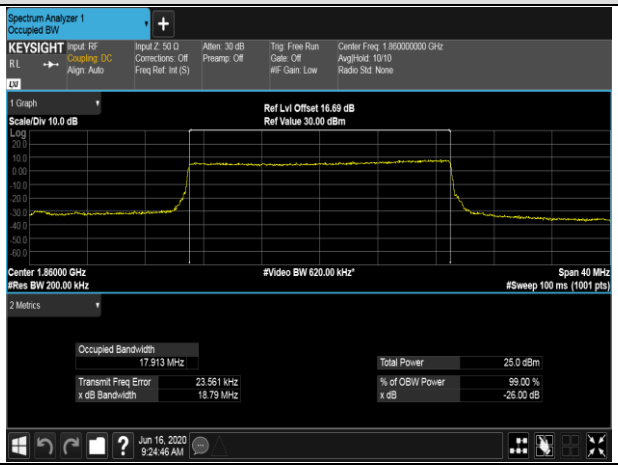	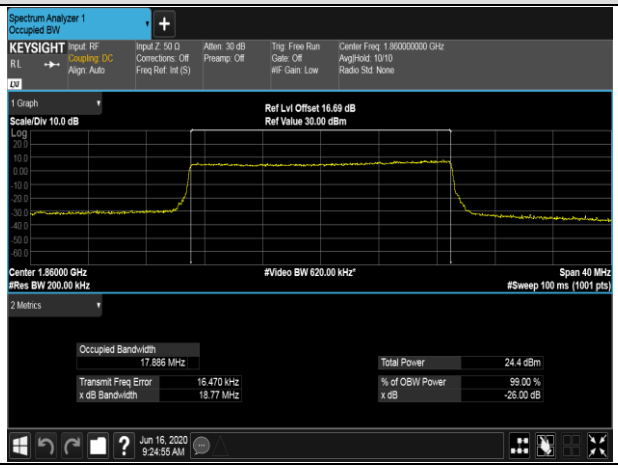

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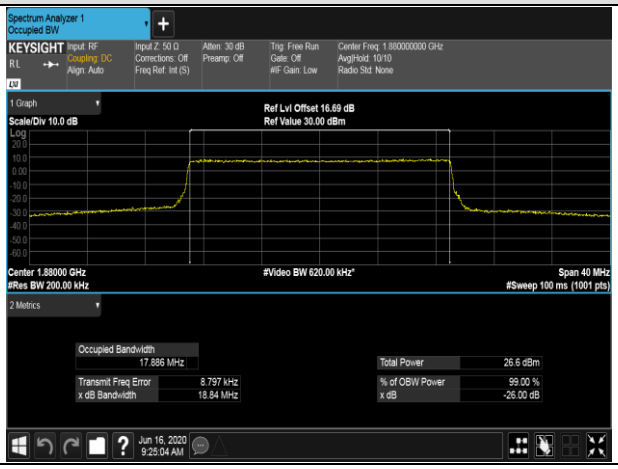	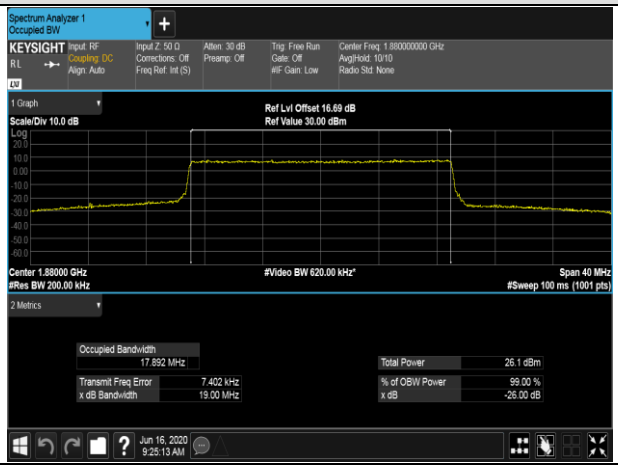
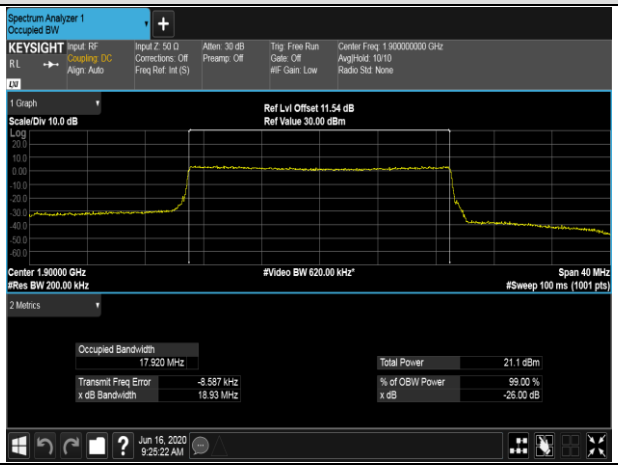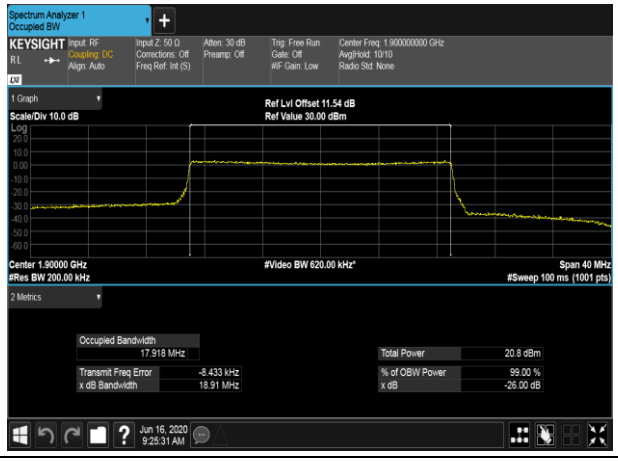
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