

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	-26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	100	0	17.970	19.01	PASS
	MCH	100	0	17.990	19.09	PASS
	HCH	100	0	17.896	18.94	PASS
16QAM	LCH	100	0	17.948	19.00	PASS
	MCH	100	0	17.994	19.07	PASS
	HCH	100	0	17.871	18.94	PASS

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Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	-26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4934	4.842	PASS
	MCH	25	0	4.5035	4.830	PASS
	HCH	25	0	4.4906	4.892	PASS
16QAM	LCH	25	0	4.4914	4.845	PASS
	MCH	25	0	4.4929	4.866	PASS
	HCH	25	0	4.4864	4.874	PASS

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	-26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	8.9938	9.524	PASS
	MCH	50	0	8.9665	9.595	PASS
	HCH	50	0	8.9736	9.518	PASS
16QAM	LCH	50	0	8.9741	9.576	PASS
	MCH	50	0	8.9694	9.541	PASS
	HCH	50	0	8.9675	9.601	PASS

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Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	-26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	75	0	13.461	14.29	PASS
	MCH	75	0	13.455	14.27	PASS
	HCH	75	0	13.480	14.30	PASS
16QAM	LCH	75	0	13.453	14.30	PASS
	MCH	75	0	13.470	14.32	PASS
	HCH	75	0	13.448	14.29	PASS

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	-26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	100	0	17.984	19.02	PASS
	MCH	100	0	17.942	18.99	PASS
	HCH	100	0	17.927	18.98	PASS
16QAM	LCH	100	0	17.985	18.98	PASS
	MCH	100	0	17.957	18.99	PASS
	HCH	100	0	17.921	18.97	PASS

Note: Please refers to Appendix B for compliance test plots for Occupied Bandwidth & Emission Bandwidth.

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13. BAND EDGE

13.1 MEASUREMENT OVERVIEW

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 frequencies. 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.

13.2 MEASUREMENT METHOD

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW > 1% of the emission bandwidth
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times \text{Span/RBW}$
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

TEST NOTE

§90.543(e)

1. On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log(P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
 2. On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
 3. On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log(P)$ dB.
 4. Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
 5. Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater.
- However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30kHz may be employed.

§27.53(m)

Equipment shall comply with the following unwanted emission limits:

- a) for base station and fixed subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$
- b) for mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least: $40 + 10 \log_{10} p$ from the channel

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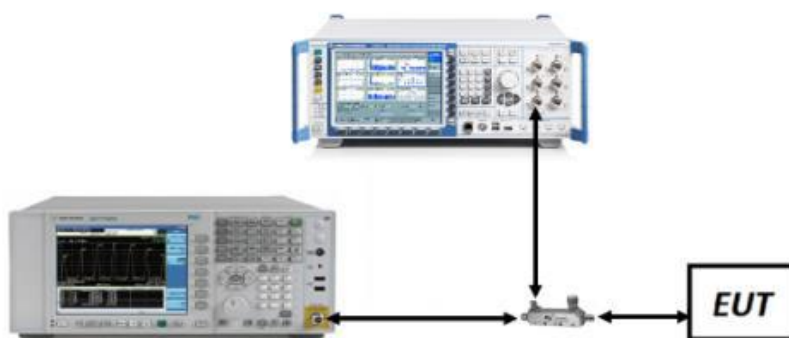
edges to 5 MHz away $43 + 10 \log_{10} p$ between 5 MHz and X MHz from the channel edges, and $55 + 10 \log_{10} p$ at X MHz and beyond from the channel edges. In addition, the attenuation shall not be less than $43 + 10 \log_{10} p$ on all frequencies between 2490.5 MHz and 2496 MHz, and $55 + 10 \log_{10} p$ at or below 2490.5 MHz.

In (a) and (b), p is the transmitter power measured in watts and X is 6 MHz or the equipment occupied bandwidth, whichever is greater.

According to FCC 22.917, 24.238, 27.53 specified that power of any emission outside of The authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. All measurements were done at 2 channels (low and high operational frequency range.)

The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

13.3 MEASUREMENT METHOD



13.4 MEASUREMENT RESULT

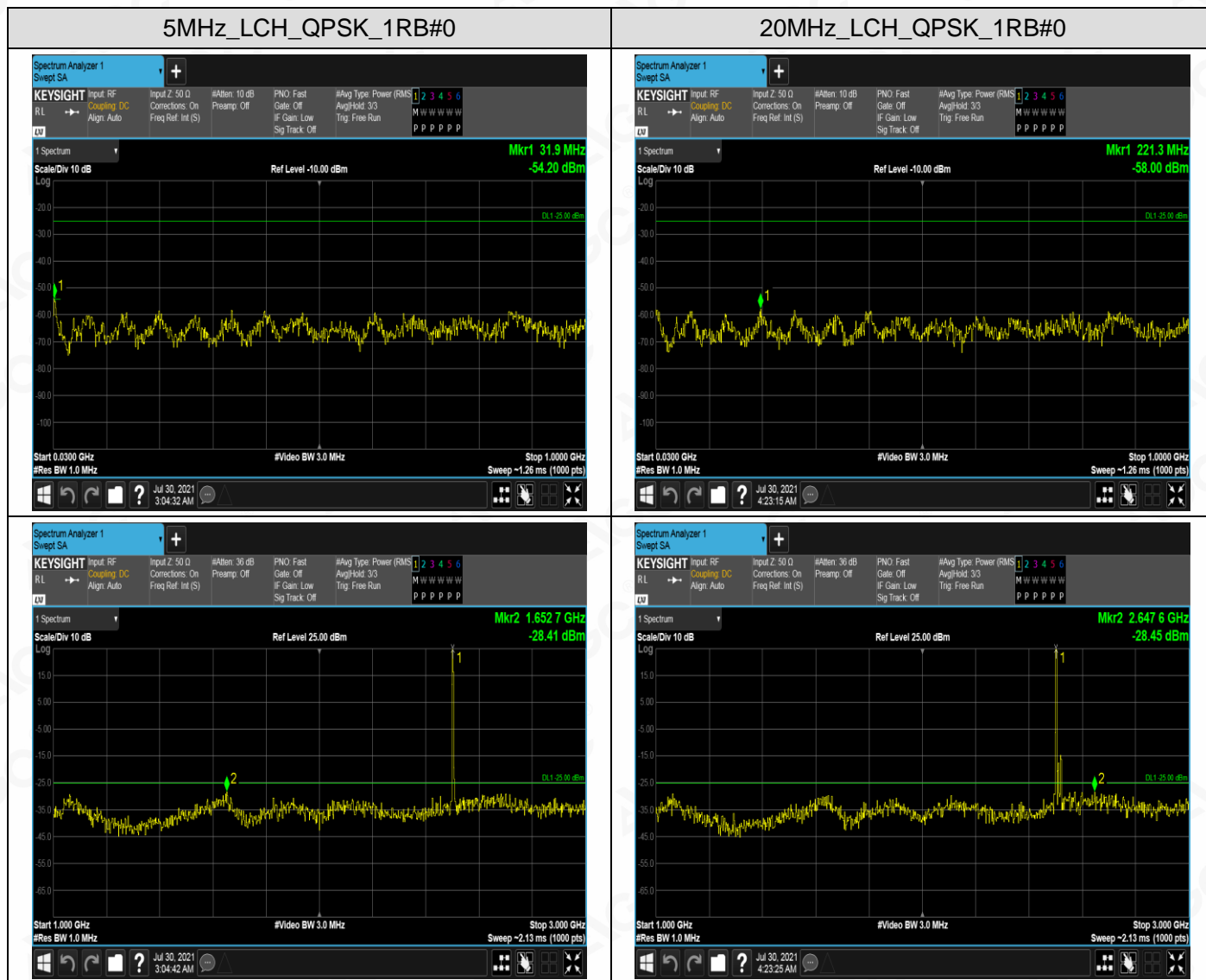
NOTE: Please refers to Appendix C for compliance test plots for band edge

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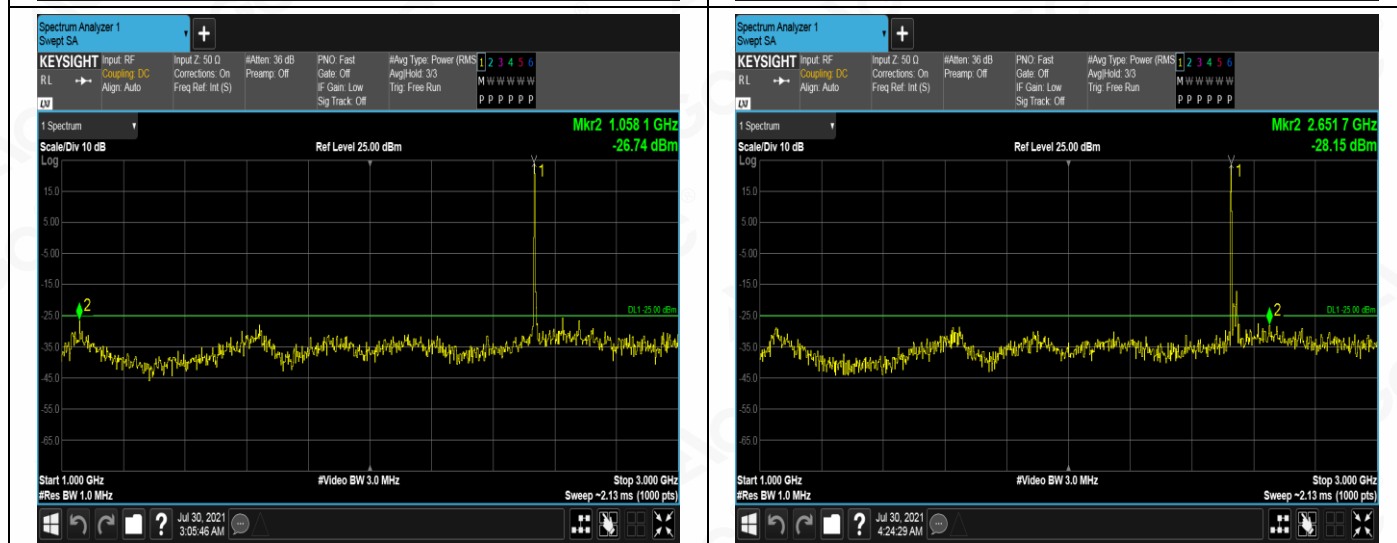
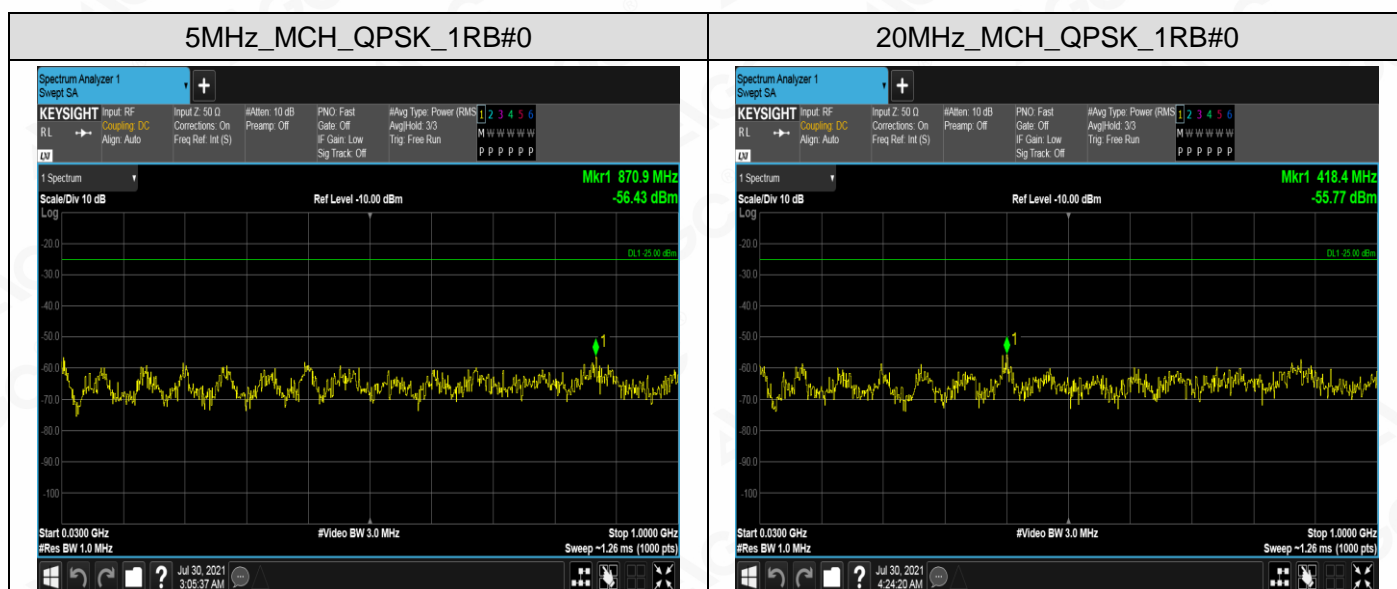
APPENDIX A TEST PLOTS FOR SPURIOUS EMISSIONS AT ANTENNA TERMINALS LTE BAND 7



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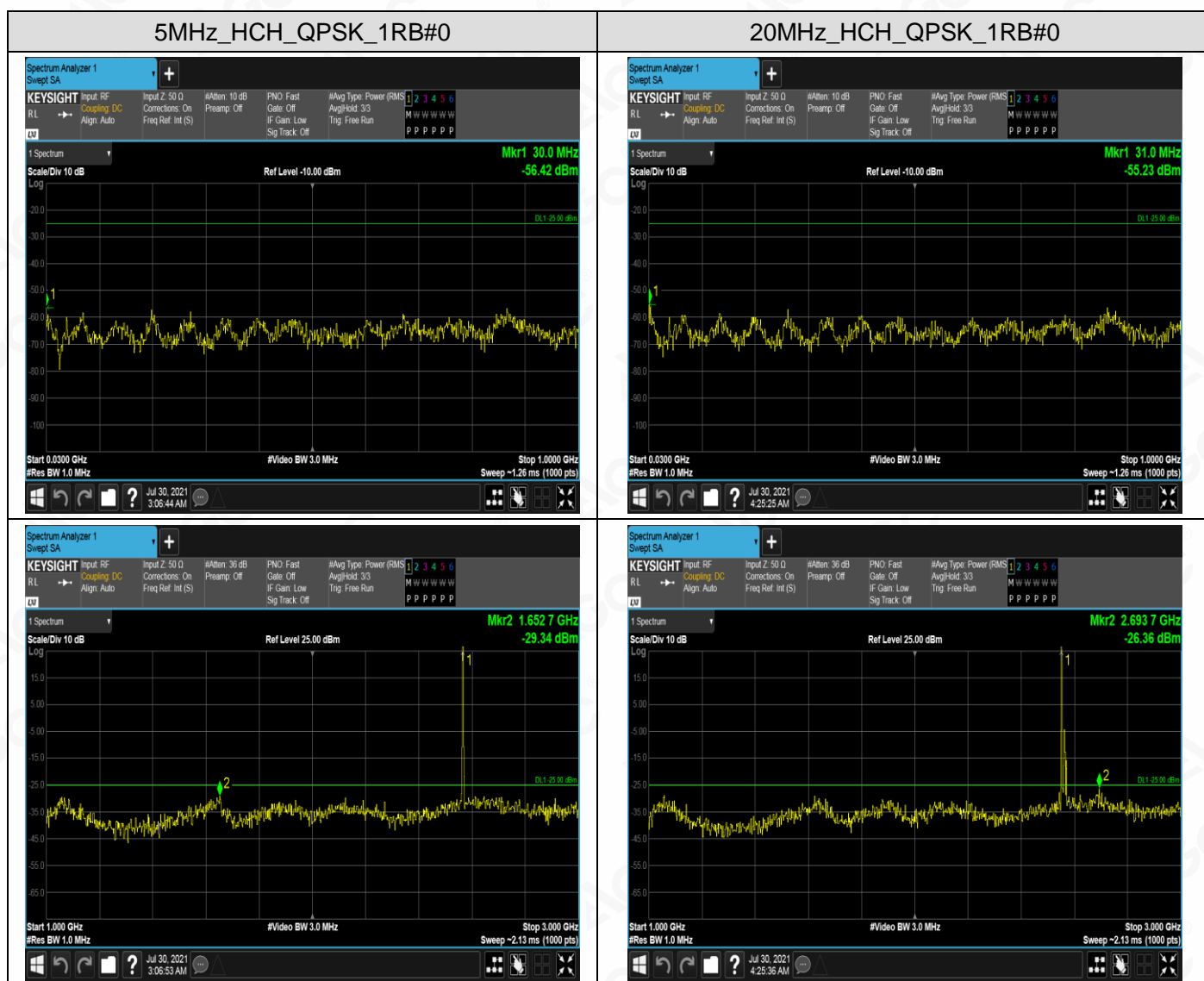
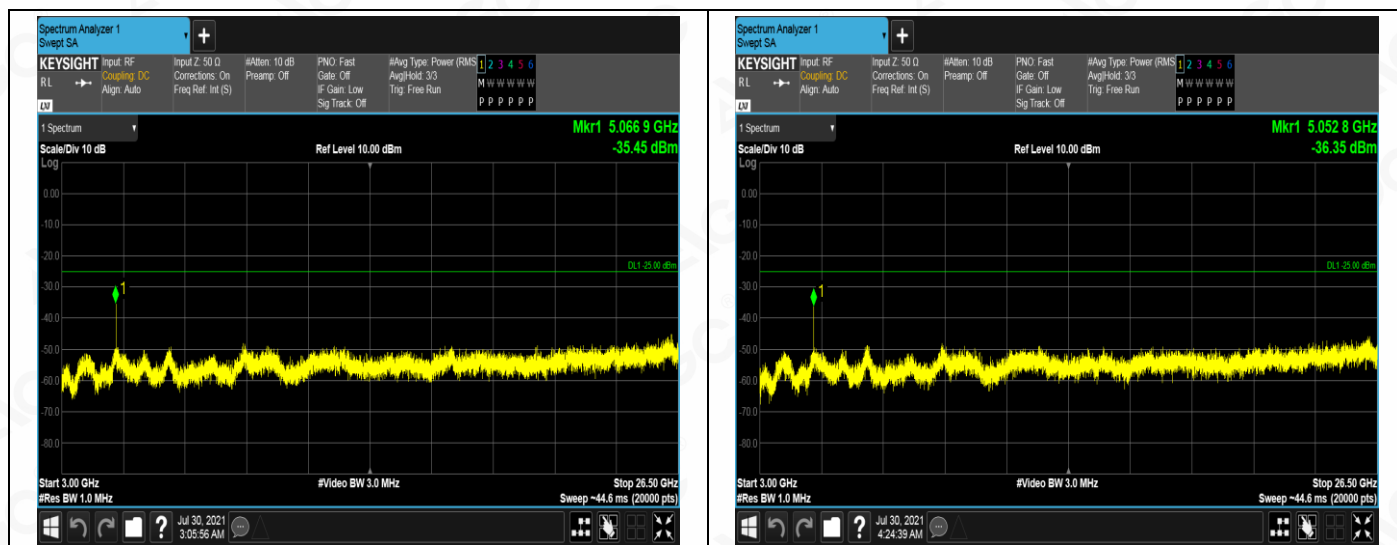




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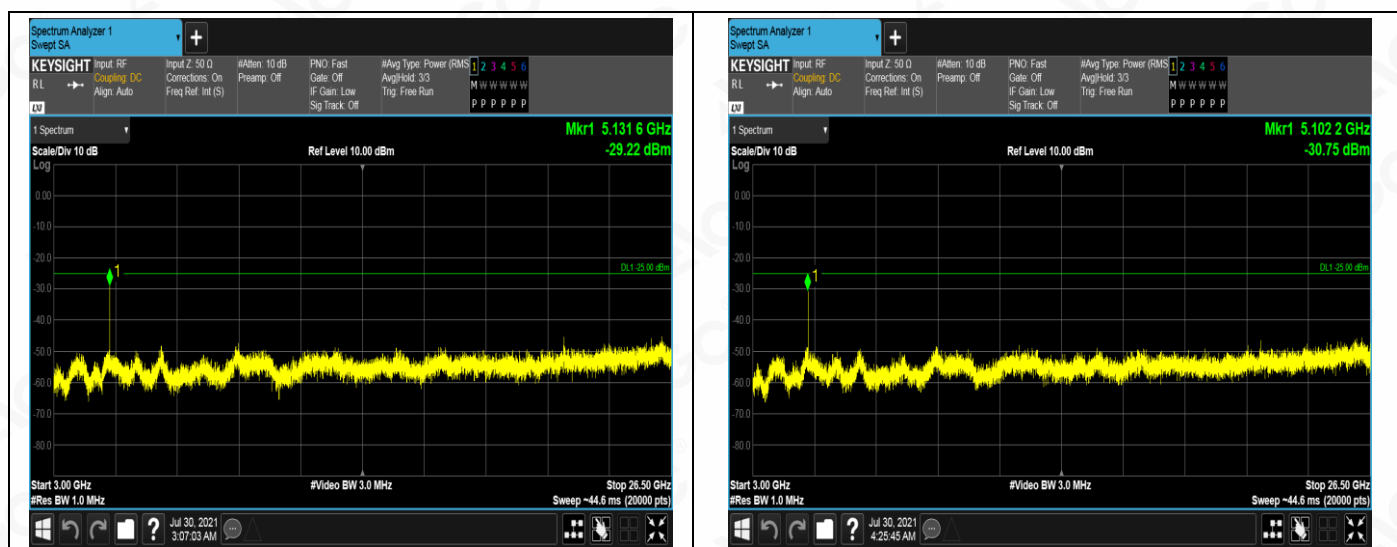




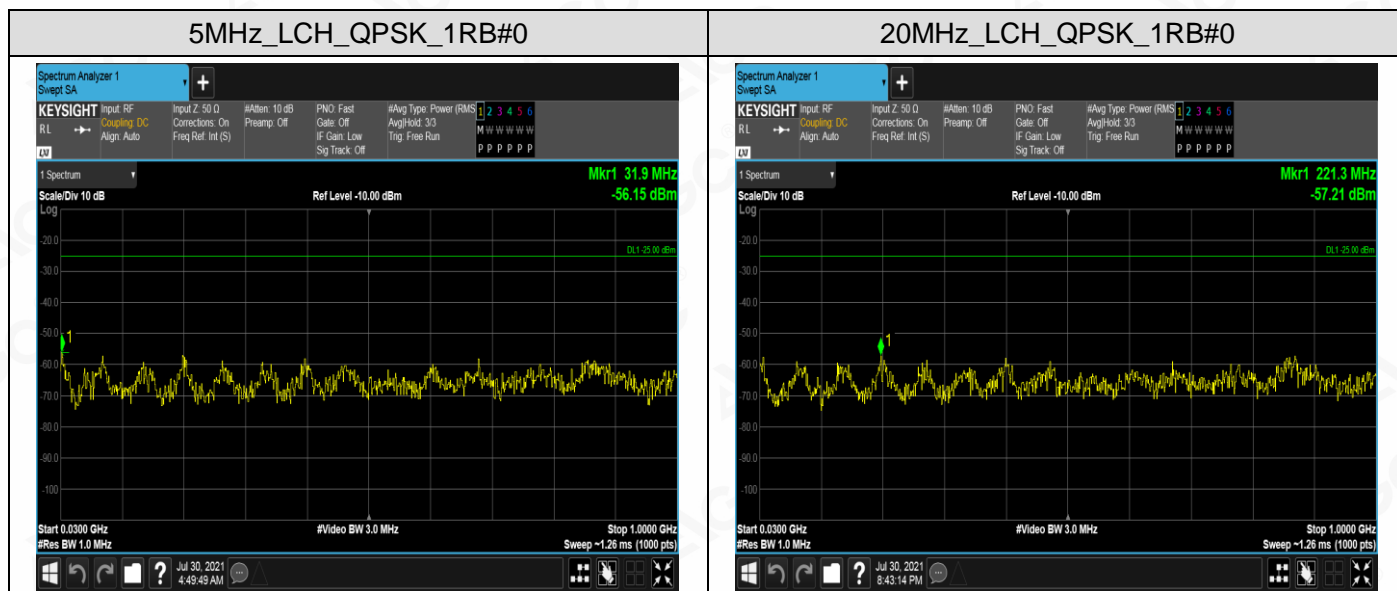
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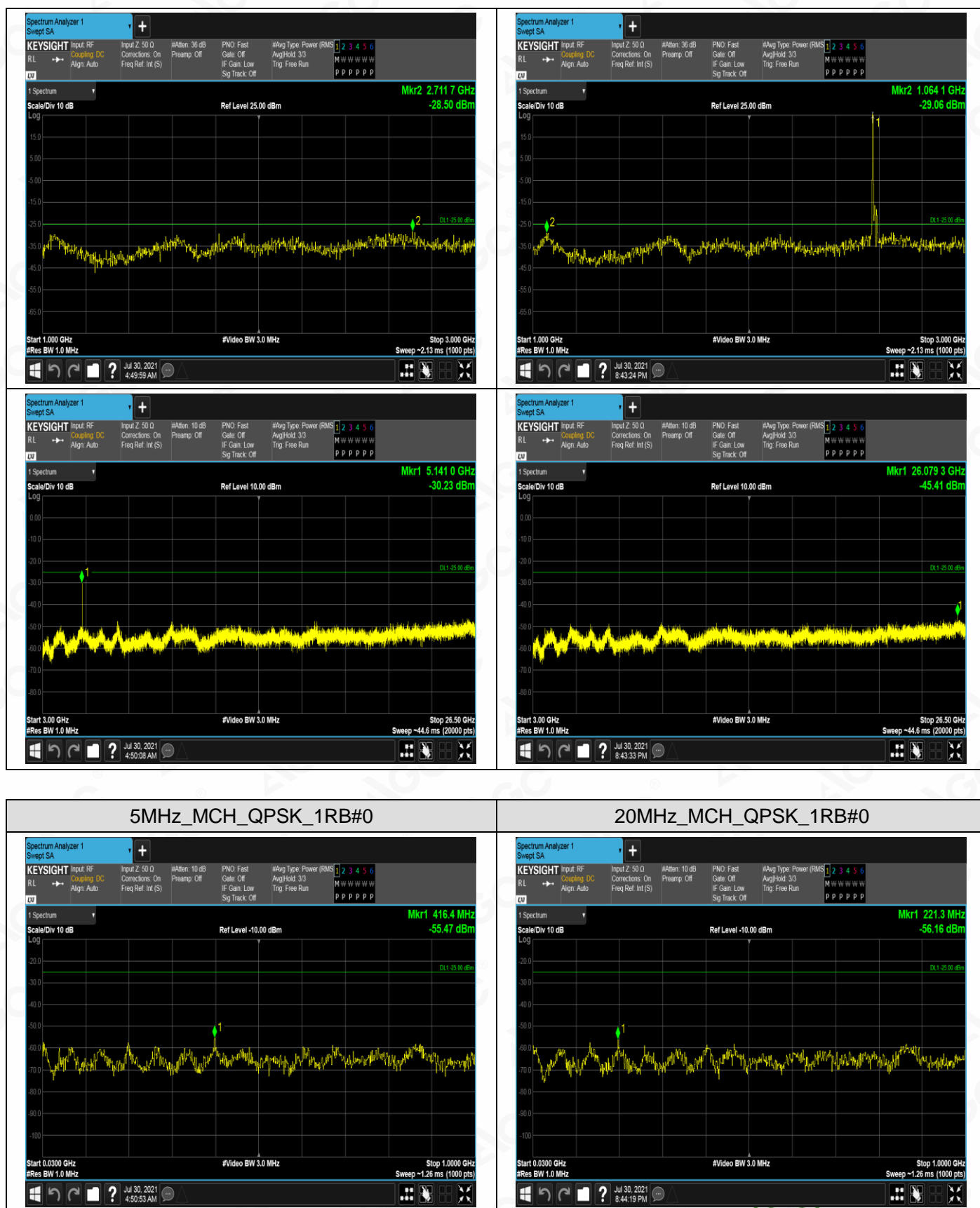
LTE BAND 38



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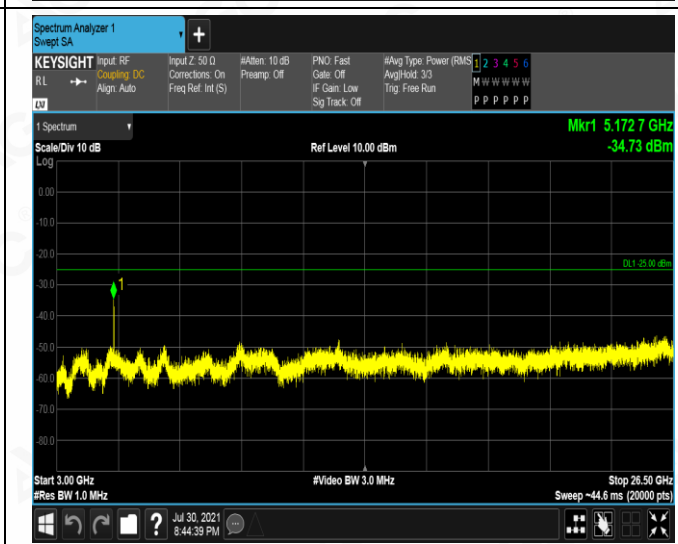




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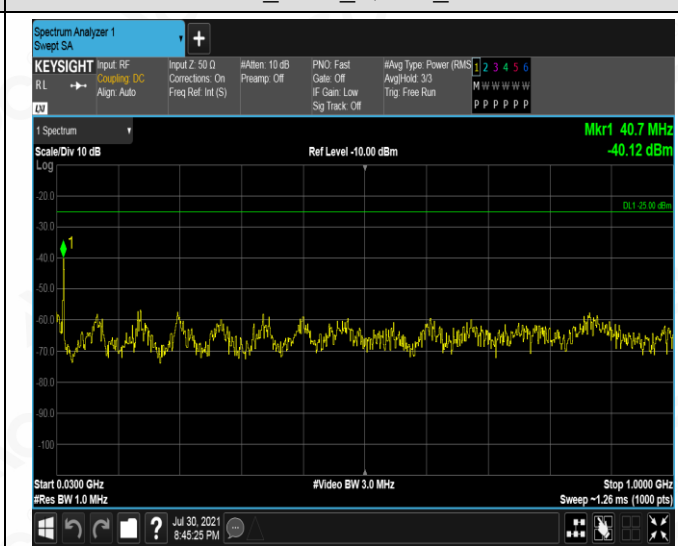




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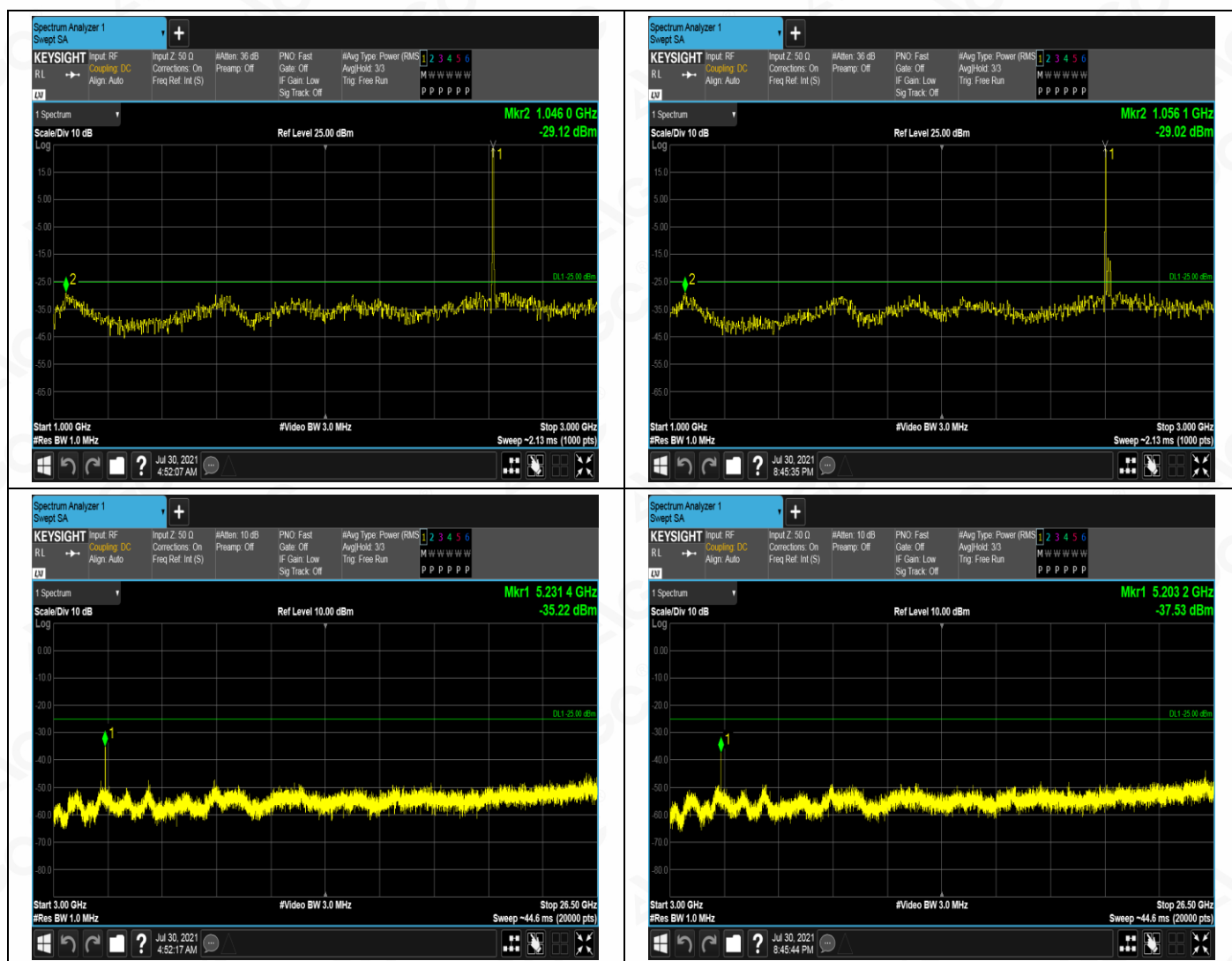
20MHz_HCH_QPSK_1RB#0



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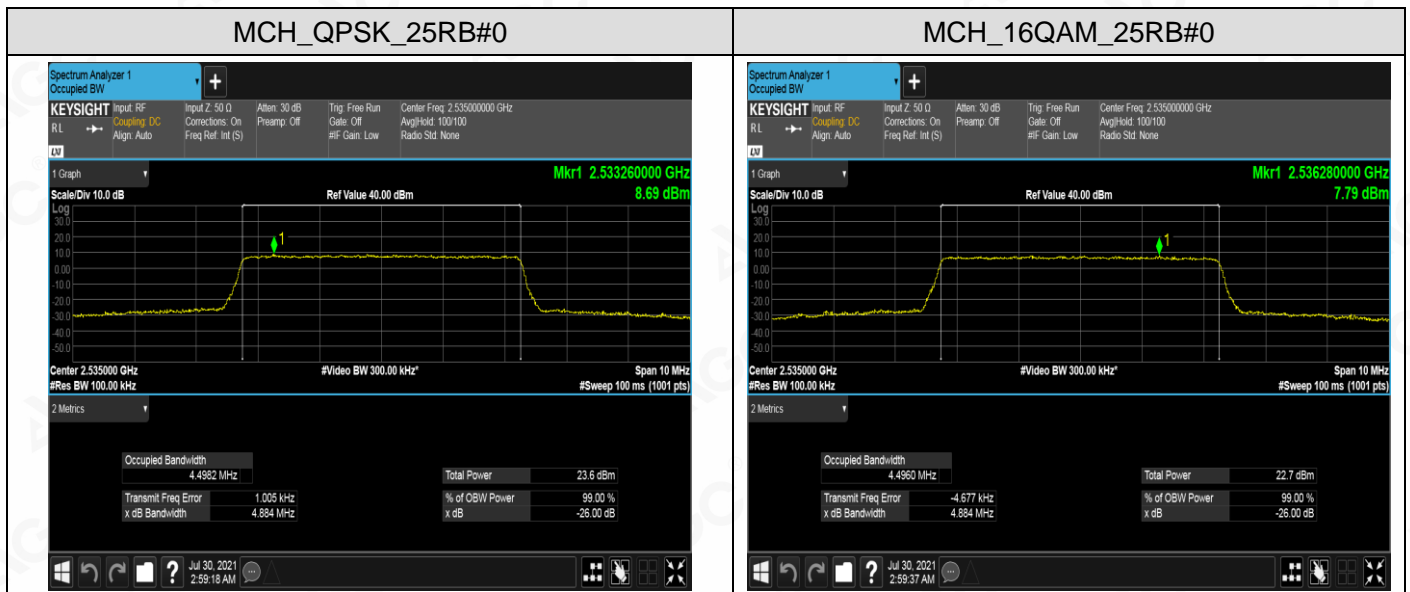
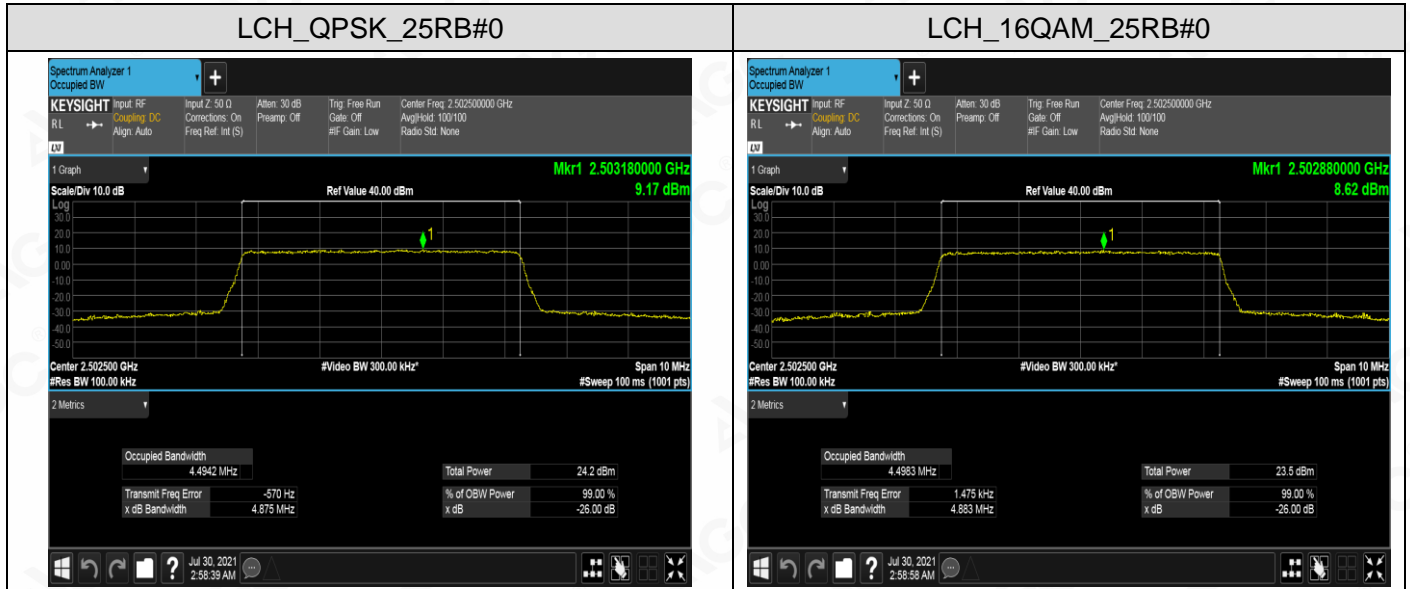
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APPENDIX B TEST PLOTS FOR OCCUPIED BANDWIDTH&EMISSION BANDWIDTH LTE Band 7

Channel Bandwidth: 5MHz



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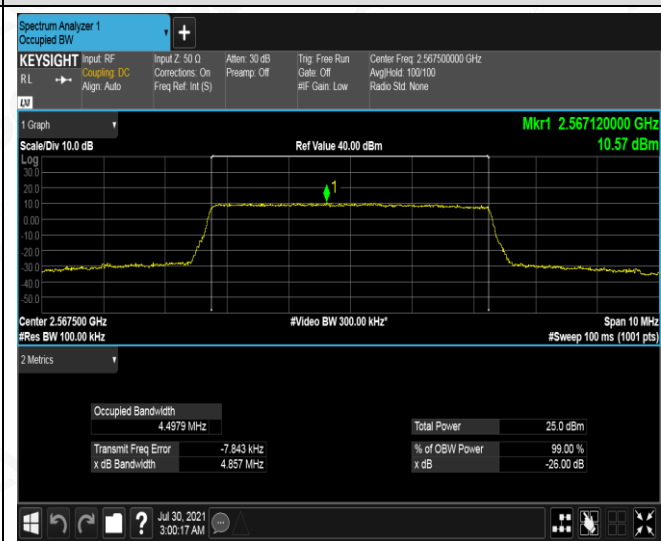
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HCH_QPSK_25RB#0

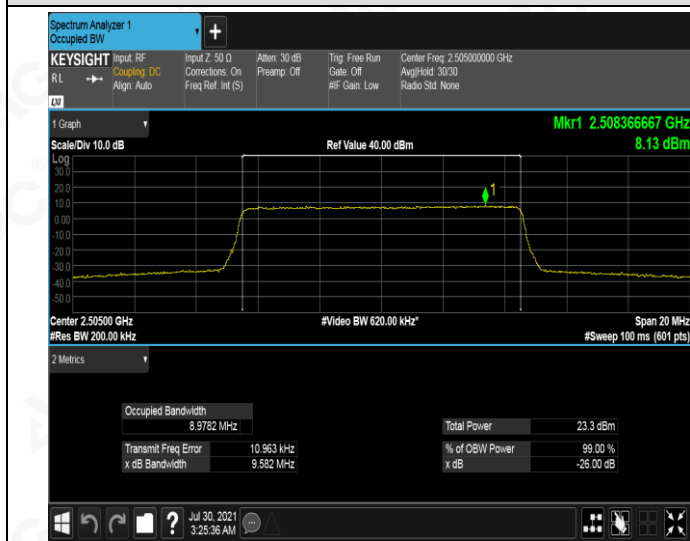


HCH_16QAM_25RB#0

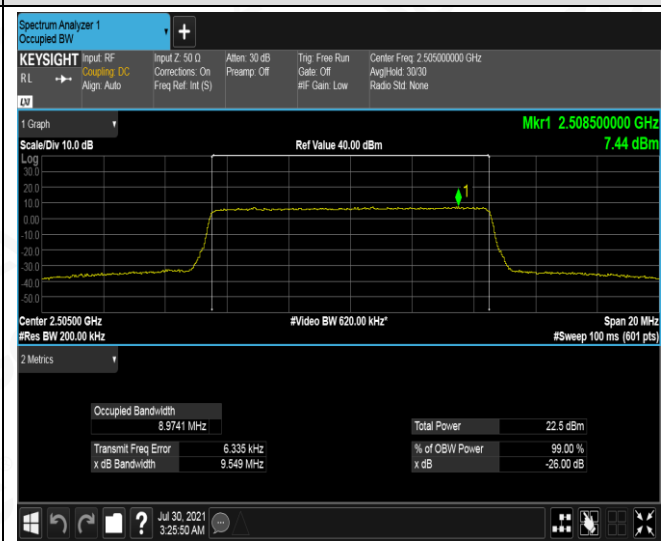


Channel Bandwidth: 10 MHz

LCH_QPSK_50RB#0



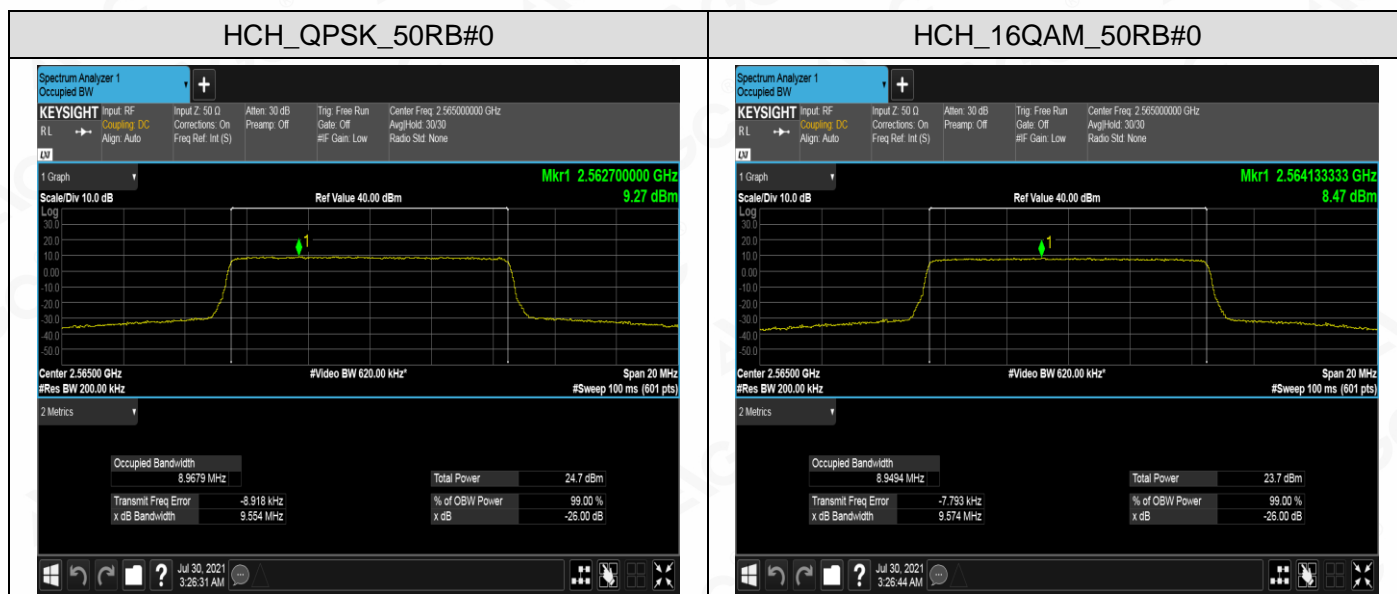
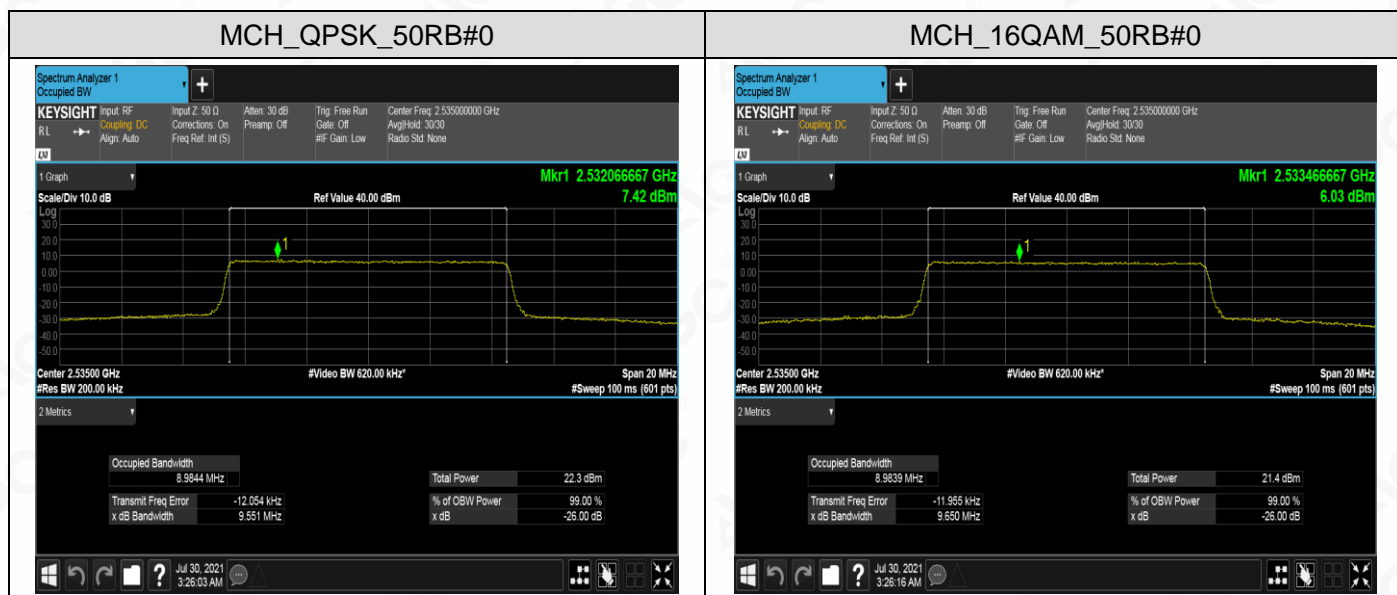
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