

Appendix for test report

1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	PCC Test RB	SCC Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
CA_7C	LTE/TM 1	15+15	LCH	1 # 0	0 # 0	22.60	22.70	33	PASS
				partial RBs # 0	0 # 0	22.68	22.78	33	PASS
				full RBs # 0	0 # 0	21.68	21.78	33	PASS
				full RBs # 0	full RBs # 0	20.73	20.83	33	PASS
			MCH	1 # 0	0 # 0	22.79	22.89	33	PASS
				partial RBs # 0	0 # 0	22.65	22.75	33	PASS
				full RBs # 0	0 # 0	21.72	21.82	33	PASS
				full RBs # 0	full RBs # 0	20.73	20.83	33	PASS
			HCH	1 # 0	0 # 0	22.58	22.68	33	PASS
				partial RBs # 0	0 # 0	22.74	22.84	33	PASS
				full RBs # 0	0 # 0	21.80	21.90	33	PASS
				full RBs # 0	full RBs # 0	20.80	20.90	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	PCC Test RB	SCC Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
		20+20	LCH	1 # 0	0 # 0	22.40	22.50	33	PASS
				partial RBs # 0	0 # 0	22.59	22.69	33	PASS
				full RBs # 0	0 # 0	21.80	21.90	33	PASS
				full RBs # 0	full RBs # 0	20.78	20.88	33	PASS
			MCH	1 # 0	0 # 0	22.82	22.92	33	PASS
				partial RBs # 0	0 # 0	22.59	22.69	33	PASS
				full RBs # 0	0 # 0	21.72	21.82	33	PASS
				full RBs # 0	full RBs # 0	20.77	20.87	33	PASS
			HCH	1 # 0	0 # 0	22.62	22.72	33	PASS
				partial RBs # 0	0 # 0	22.66	22.76	33	PASS
				full RBs # 0	0 # 0	21.82	21.92	33	PASS
				full RBs # 0	full RBs # 0	20.82	20.92	33	PASS
	LTE/TM 2	15+15	LCH	1 # 0	0 # 0	21.67	21.77	33	PASS
				partial RBs # 0	0 # 0	21.77	21.87	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	PCC Test RB	SCC Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				full RBs # 0	0 # 0	20.73	20.83	33	PASS
				full RBs # 0	full RBs # 0	19.75	19.85	33	PASS
			MCH	1 # 0	0 # 0	22.17	22.27	33	PASS
				partial RBs # 0	0 # 0	21.79	21.89	33	PASS
				full RBs # 0	0 # 0	20.74	20.84	33	PASS
				full RBs # 0	full RBs # 0	19.78	19.88	33	PASS
			HCH	1 # 0	0 # 0	22.26	22.36	33	PASS
				partial RBs # 0	0 # 0	21.89	21.99	33	PASS
				full RBs # 0	0 # 0	20.87	20.97	33	PASS
				full RBs # 0	full RBs # 0	19.81	19.91	33	PASS
		20+20	LCH	1 # 0	0 # 0	22.24	22.34	33	PASS
				partial RBs # 0	0 # 0	21.66	21.76	33	PASS
				full RBs # 0	0 # 0	20.77	20.87	33	PASS
				full RBs # 0	full RBs # 0	19.82	19.92	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	PCC Test RB	SCC Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
			MCH	1 # 0	0 # 0	22.22	22.32	33	PASS
				partial RBs # 0	0 # 0	21.95	22.05	33	PASS
				full RBs # 0	0 # 0	20.83	20.93	33	PASS
				full RBs # 0	full RBs # 0	19.80	19.90	33	PASS
			HCH	1 # 0	0 # 0	22.22	22.32	33	PASS
				partial RBs # 0	0 # 0	21.79	21.89	33	PASS
				full RBs # 0	0 # 0	20.82	20.92	33	PASS
				full RBs # 0	full RBs # 0	19.83	19.93	33	PASS

Note1:

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

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b, SGP = Signal Generator Level

Note2:

$$\text{SET Span} = 1.5 * \text{OBW}$$

$$\text{SET RBW} = 1\% \text{ of the OBW, not to exceed 1MHz}$$

SET VBW $\geq 3 * \text{RBW}$

SET Sweep time = auto - couple.

Detector: RMS

2Appendix_B: Peak-to-Average Ratio

Part I - Test Results

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	PCC Test RB	SCC Test RB	Measured [dBm]	Limit [dBm]	Verdict
CA_7C	LTE/TM1	15+15	LCH	1 # 0	0 # 0	2.72	13	PASS
				partial RBs # 0	0 # 0	3.24	13	PASS
				full RBs # 0	0 # 0	5.37	13	PASS
				full RBs # 0	full RBs # 0	5.71	13	PASS
			MCH	1 # 0	0 # 0	3.05	13	PASS
				partial RBs # 0	0 # 0	3.65	13	PASS
				full RBs # 0	0 # 0	5.74	13	PASS
				full RBs # 0	full RBs # 0	6.03	13	PASS
			HCH	1 # 0	0 # 0	2.88	13	PASS
				partial RBs # 0	0 # 0	3.36	13	PASS
				full RBs # 0	0 # 0	5.37	13	PASS
				full RBs # 0	full RBs # 0	5.70	13	PASS
		20+20	LCH	1 # 0	0 # 0	2.54	13	PASS
				partial RBs # 0	0 # 0	3.22	13	PASS
				full RBs # 0	0 # 0	5.33	13	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	PCC Test RB	SCC Test RB	Measured [dBm]	Limit [dBm]	Verdict
				full RBs # 0	full RBs # 0	5.54	13	PASS
			MCH	1 # 0	0 # 0	3.05	13	PASS
				partial RBs # 0	0 # 0	3.59	13	PASS
				full RBs # 0	0 # 0	5.19	13	PASS
				full RBs # 0	full RBs # 0	5.52	13	PASS
			HCH	1 # 0	0 # 0	2.98	13	PASS
				partial RBs # 0	0 # 0	3.49	13	PASS
				full RBs # 0	0 # 0	5.25	13	PASS
				full RBs # 0	full RBs # 0	5.60	13	PASS
	LTE/TM2	15+15	LCH	1 # 0	0 # 0	3.48	13	PASS
				partial RBs # 0	0 # 0	4.29	13	PASS
				full RBs # 0	0 # 0	6.02	13	PASS
				full RBs # 0	full RBs # 0	6.37	13	PASS
			MCH	1 # 0	0 # 0	4.23	13	PASS
				partial RBs # 0	0 # 0	4.89	13	PASS
				full RBs # 0	0 # 0	6.39	13	PASS
				full RBs # 0	full RBs # 0	6.73	13	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	PCC Test RB	SCC Test RB	Measured [dBm]	Limit [dBm]	Verdict
			HCH	1 # 0	0 # 0	3.65	13	PASS
				partial RBs # 0	0 # 0	4.57	13	PASS
				full RBs # 0	0 # 0	6.08	13	PASS
				full RBs # 0	full RBs # 0	6.37	13	PASS
		20+20	LCH	1 # 0	0 # 0	3.45	13	PASS
				partial RBs # 0	0 # 0	4.28	13	PASS
				full RBs # 0	0 # 0	5.75	13	PASS
				full RBs # 0	full RBs # 0	6.14	13	PASS
			MCH	1 # 0	0 # 0	3.94	13	PASS
				partial RBs # 0	0 # 0	4.92	13	PASS
				full RBs # 0	0 # 0	6.22	13	PASS
				full RBs # 0	full RBs # 0	6.58	13	PASS
			HCH	1 # 0	0 # 0	3.75	13	PASS
				partial RBs # 0	0 # 0	4.74	13	PASS
				full RBs # 0	0 # 0	5.92	13	PASS
				full RBs # 0	full RBs # 0	6.37	13	PASS

3Appendix_C: Modulation Characteristics

Part I - Test Plots

3.1 For LTE

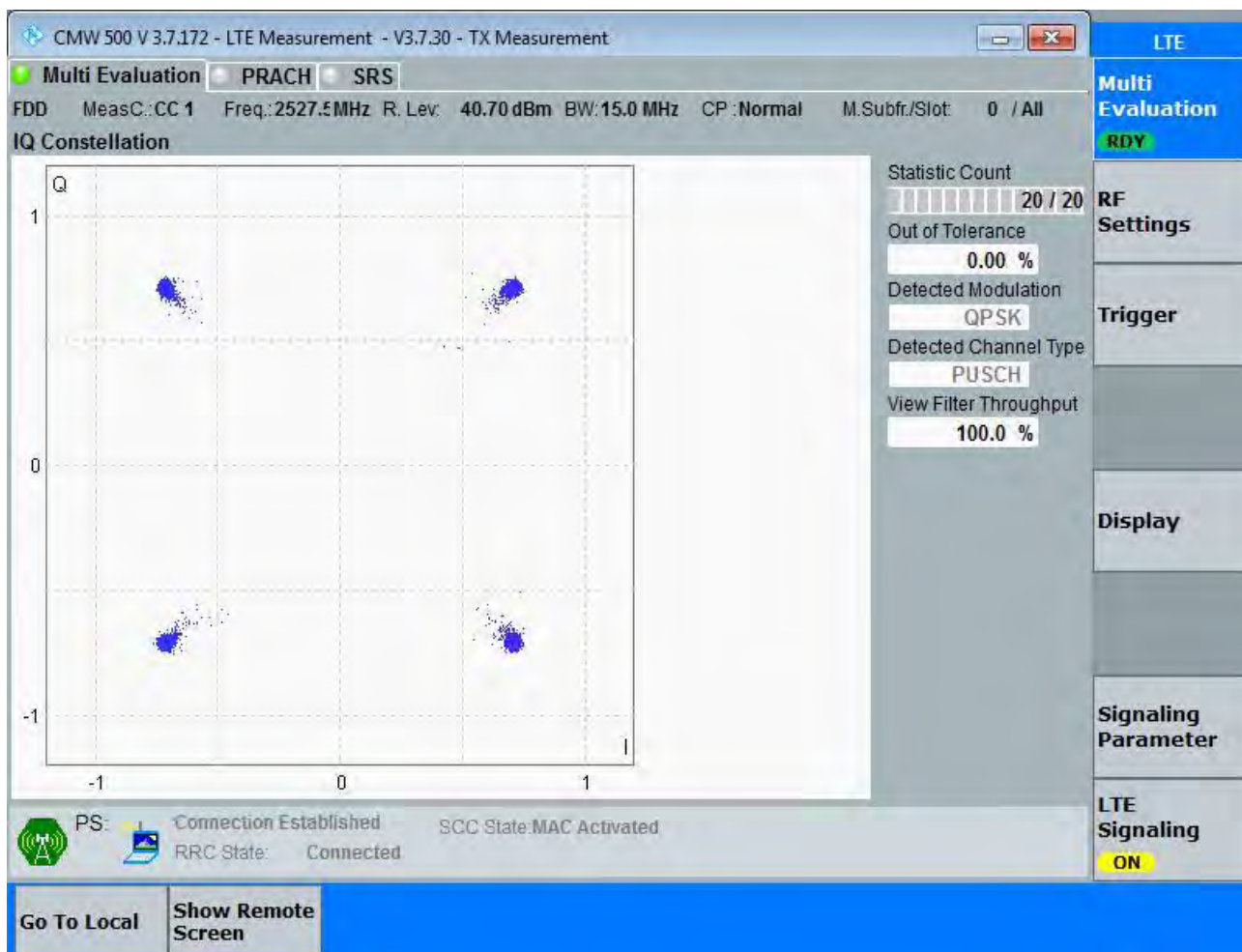
3.1.1 Test Band = CA_7C

3.1.1.1 Test Mode = LTE/TM1

3.1.1.1.1 Test Bandwidth = 15+15

3.1.1.1.1.1 Test Channel = MCH

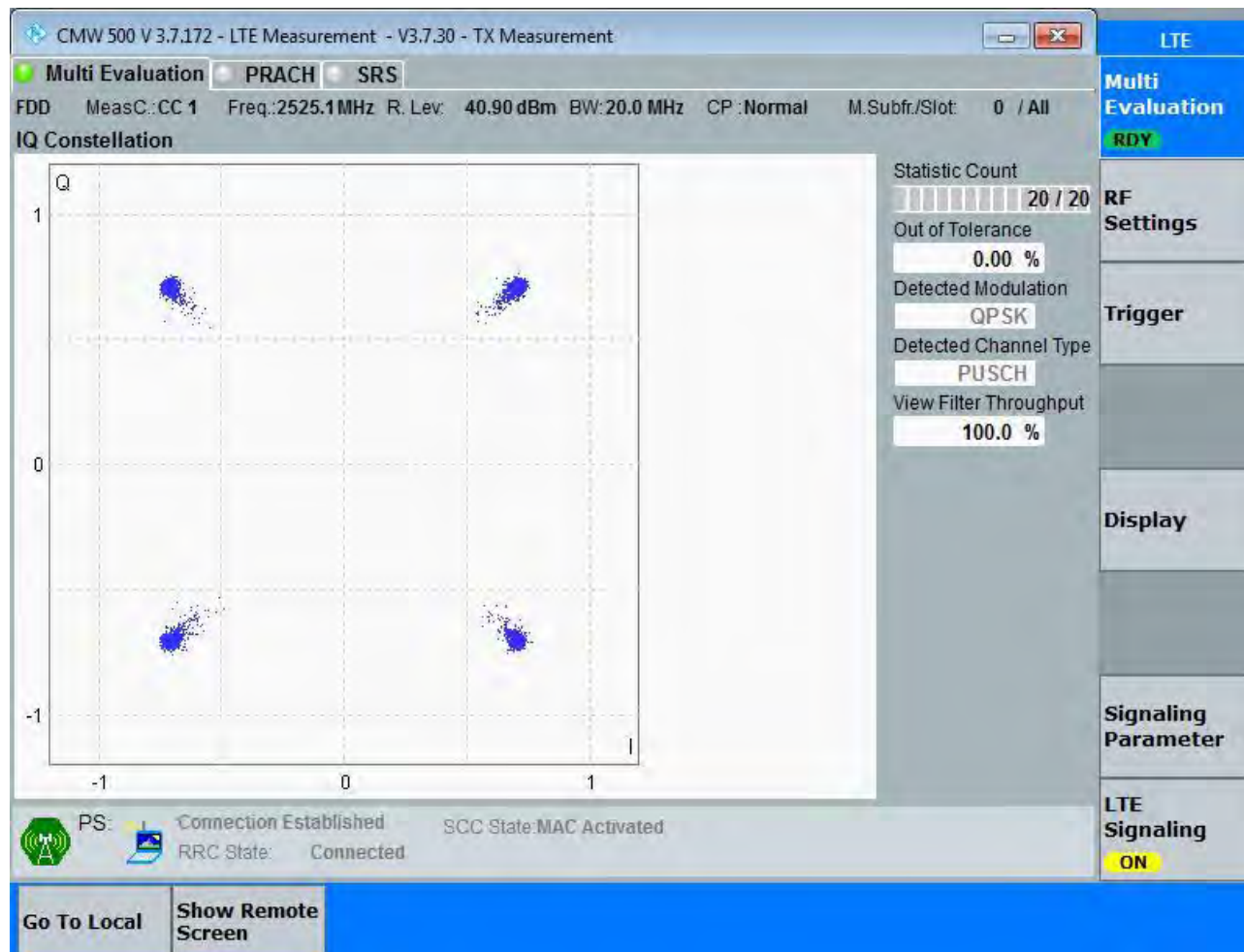
3.1.1.1.1.1.1 PCC Test RB = full RBs & SCC Test RB = full RBs



3.1.1.1.2 Test Bandwidth = 20+20

3.1.1.1.2.1 Test Channel = MCH

3.1.1.1.2.1.1 PCC Test RB = full RBs & SCC Test RB = full RBs

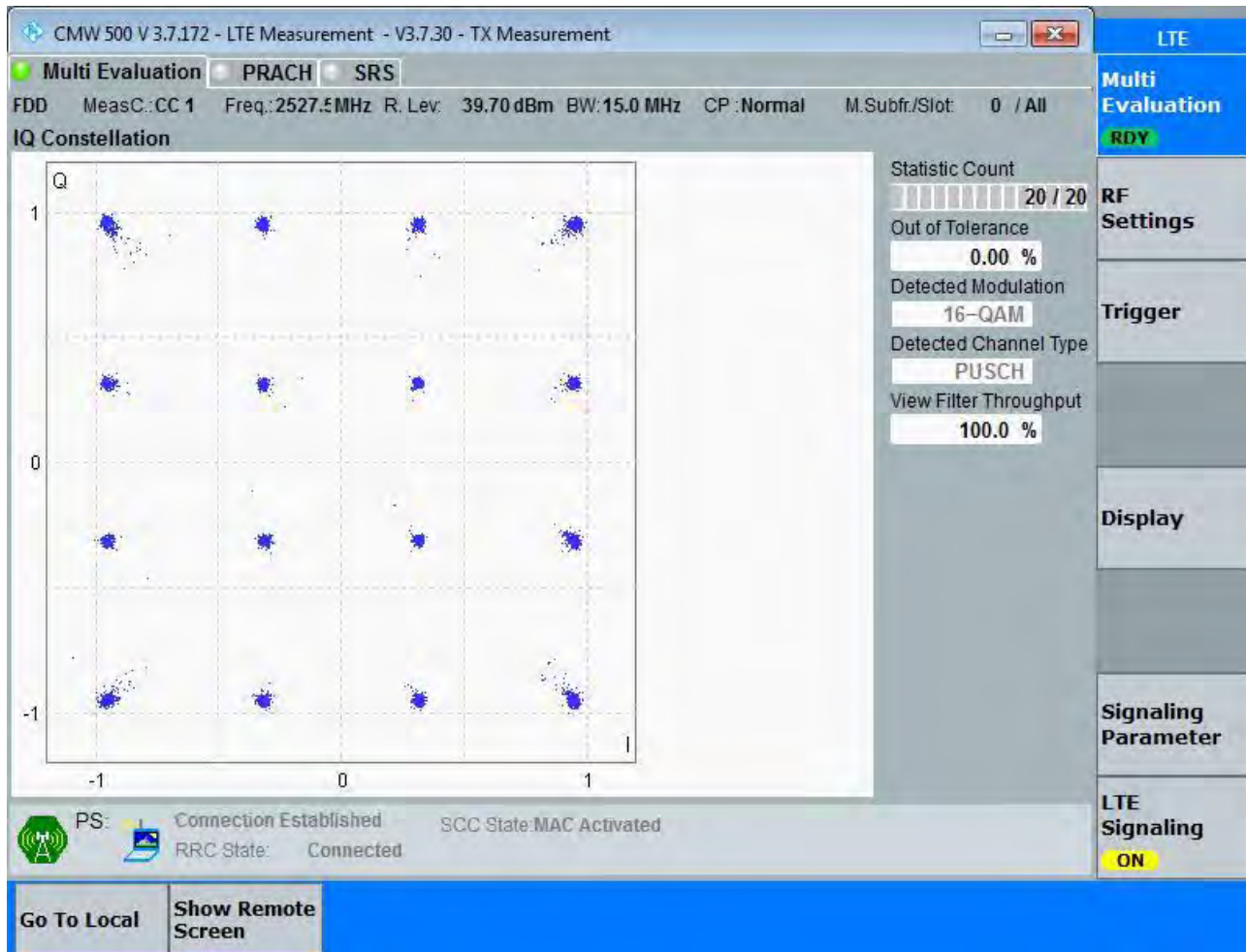


3.1.1.2 Test Mode = LTE/TM2

3.1.1.2.1 Test Bandwidth = 15+15

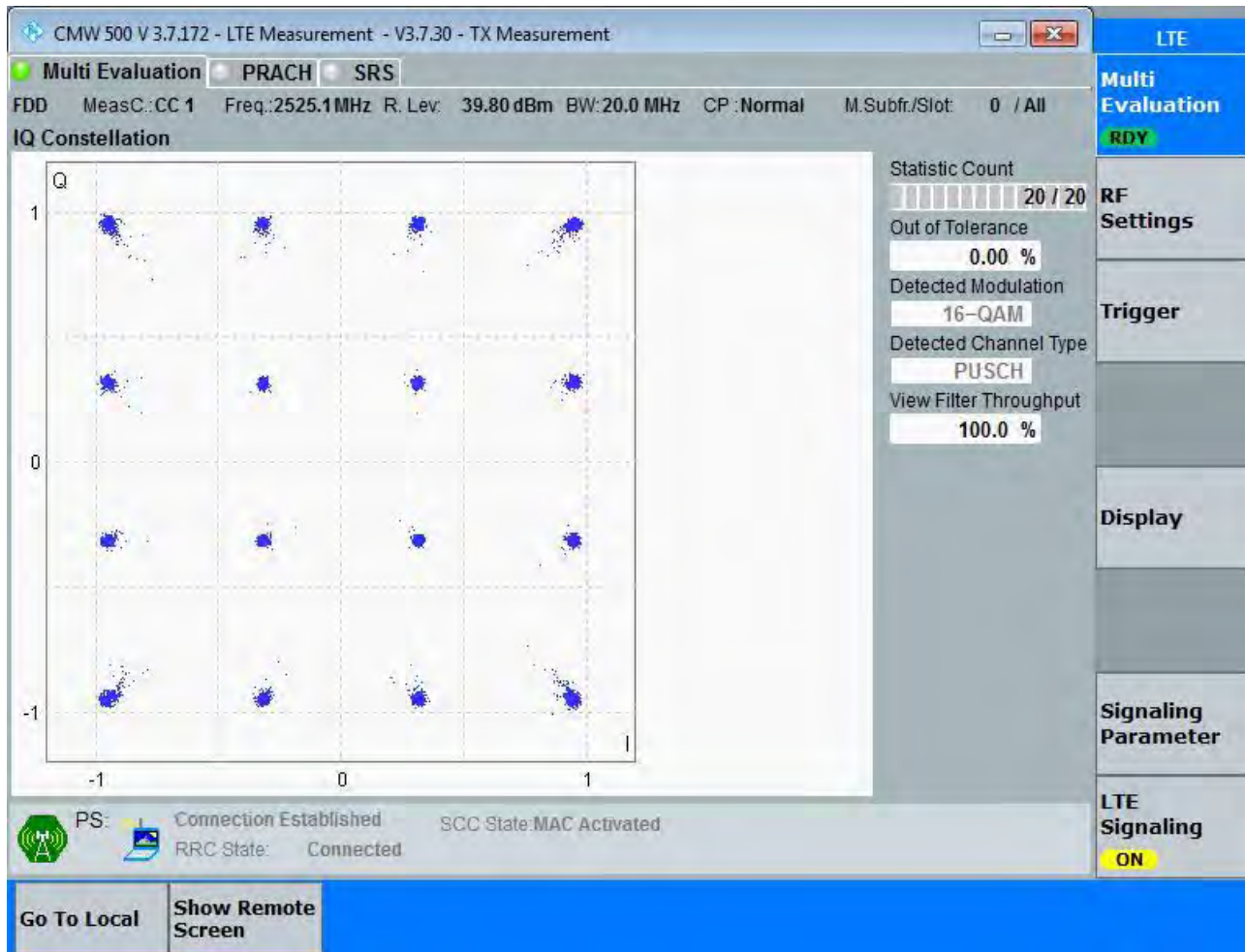
3.1.1.2.1.1 Test Channel = MCH

3.1.1.2.1.1.1 PCC Test RB = full RBs & SCC Test RB = full RBs



3.1.1.2.2 Test Bandwidth = 20+20

3.1.1.2.2.1.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4Appendix_D: Bandwidth

Part I - Test Results

Test Band (LTE)	Test Mode	Test Bandwidth	Test Channel	PCC Test RB	SCC Test RB	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
CA_7C	LTE/TM1	15+15	LCH	full RBs # 0	full RBs # 0	29.10	31.27	PASS
			MCH	full RBs # 0	full RBs # 0	28.95	31.20	PASS
			HCH	full RBs # 0	full RBs # 0	29.02	31.23	PASS
		20+20	LCH	full RBs # 0	full RBs # 0	38.44	41.35	PASS
			MCH	full RBs # 0	full RBs # 0	38.31	41.26	PASS
			HCH	full RBs # 0	full RBs # 0	38.59	41.31	PASS
	LTE/TM2	15+15	LCH	full RBs # 0	full RBs # 0	29.06	31.17	PASS
			MCH	full RBs # 0	full RBs # 0	28.92	31.19	PASS
			HCH	full RBs # 0	full RBs # 0	29.05	31.26	PASS
		20+20	LCH	full RBs # 0	full RBs # 0	38.43	41.30	PASS
			MCH	full RBs # 0	full RBs # 0	38.38	41.29	PASS
			HCH	full RBs # 0	full RBs # 0	38.42	41.36	PASS

Part II - Test Plots

4.1 For LTE

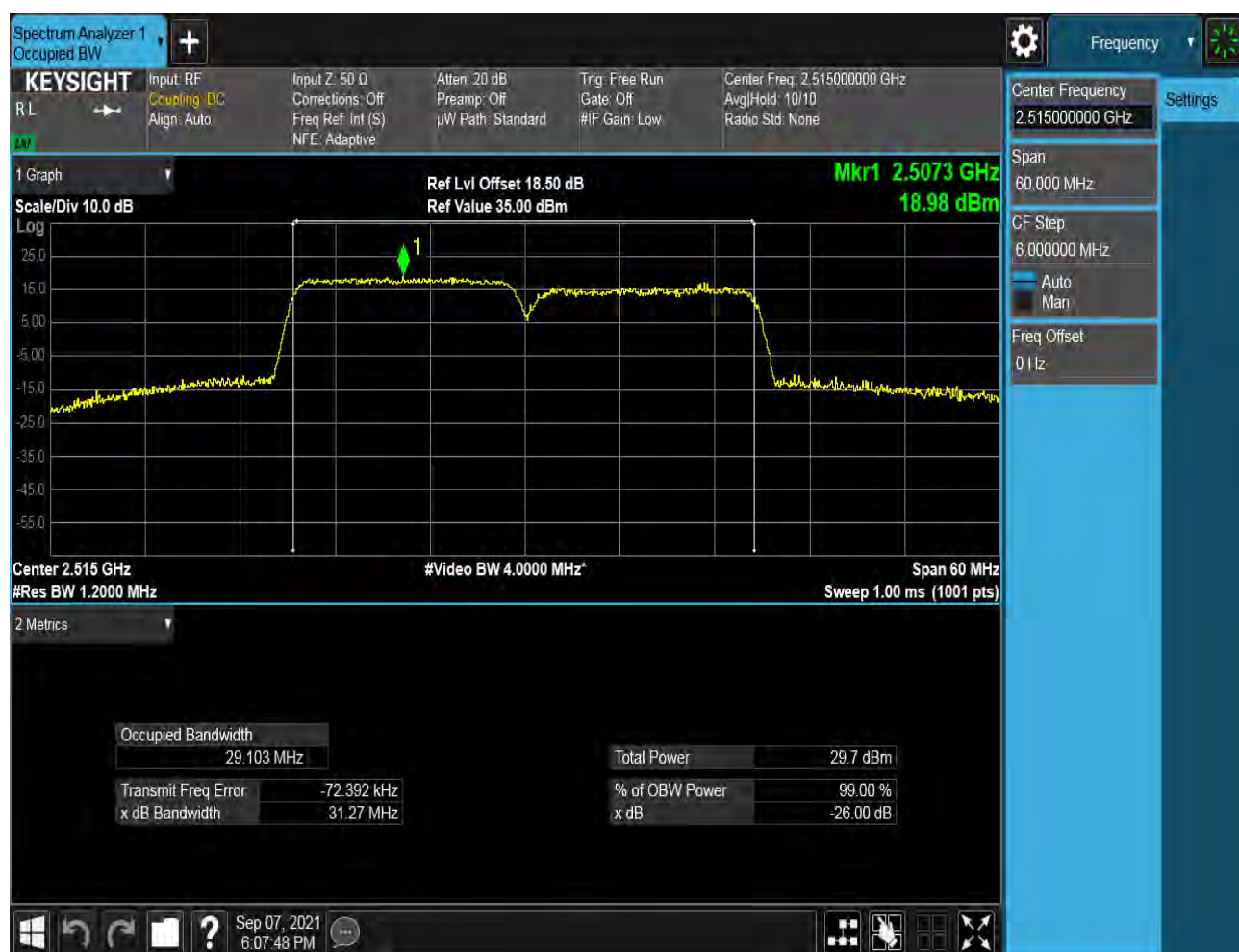
4.1.1 Test Band = CA_7C

4.1.1.1 Test Mode = LTE/TM1

4.1.1.1.1 Test Bandwidth = 15+15

4.1.1.1.1.1 Test Channel = LCH

4.1.1.1.1.1.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4.1.1.1.1.2 Test Channel = MCH

4.1.1.1.1.2.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4.1.1.1.1.3 Test Channel = HCH

4.1.1.1.1.3.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4.1.1.1.2 Test Bandwidth = 20+20

4.1.1.1.2.1 Test Channel = LCH

4.1.1.1.2.1.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4.1.1.1.2.2 Test Channel = MCH

4.1.1.1.2.2.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4.1.1.1.2.3 Test Channel = HCH

4.1.1.1.2.3.1 PCC Test RB = full RBs & SCC Test RB = full RBs

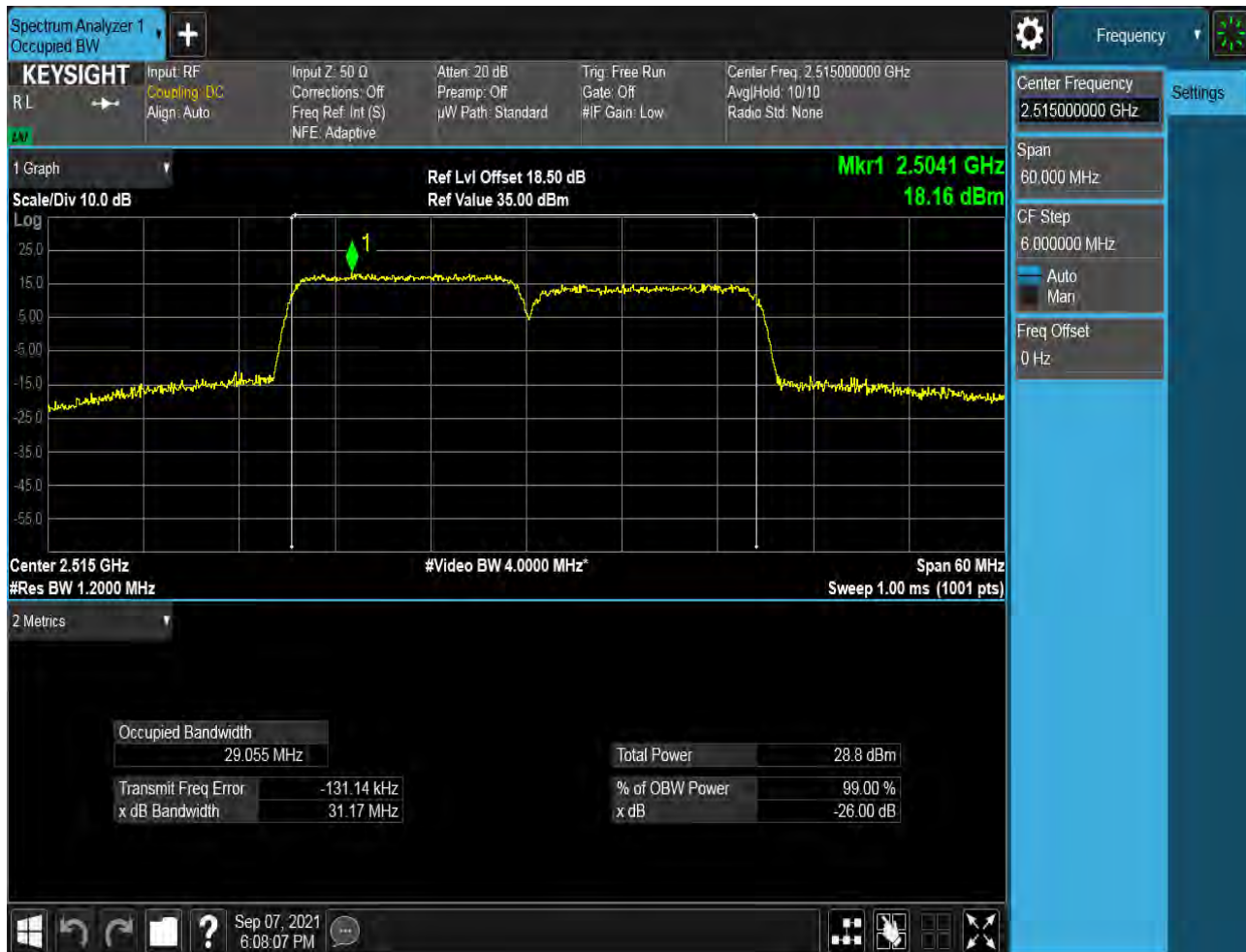


4.1.1.1 Test Mode = LTE/TM2

4.1.1.1.1 Test Bandwidth = 15+15

4.1.1.1.1.1 Test Channel = LCH

4.1.1.1.1.1.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4.1.1.1.1.2 Test Channel = MCH

4.1.1.1.1.2.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4.1.1.1.1.3 Test Channel = HCH

4.1.1.1.1.3.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4.1.1.1.2 Test Bandwidth = 20+20

4.1.1.1.2.1 Test Channel = LCH

4.1.1.1.2.1.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4.1.1.1.2.2 Test Channel = MCH

4.1.1.1.2.2.1 PCC Test RB = full RBs & SCC Test RB = full RBs



4.1.1.1.2.3 Test Channel = HCH

4.1.1.1.2.3.1 PCC Test RB = full RBs & SCC Test RB = full RBs



5Appendix_E: Band Edges Compliance

Part I - Test Plots

5.1 For LTE

5.1.1 Test Band = CA_7C

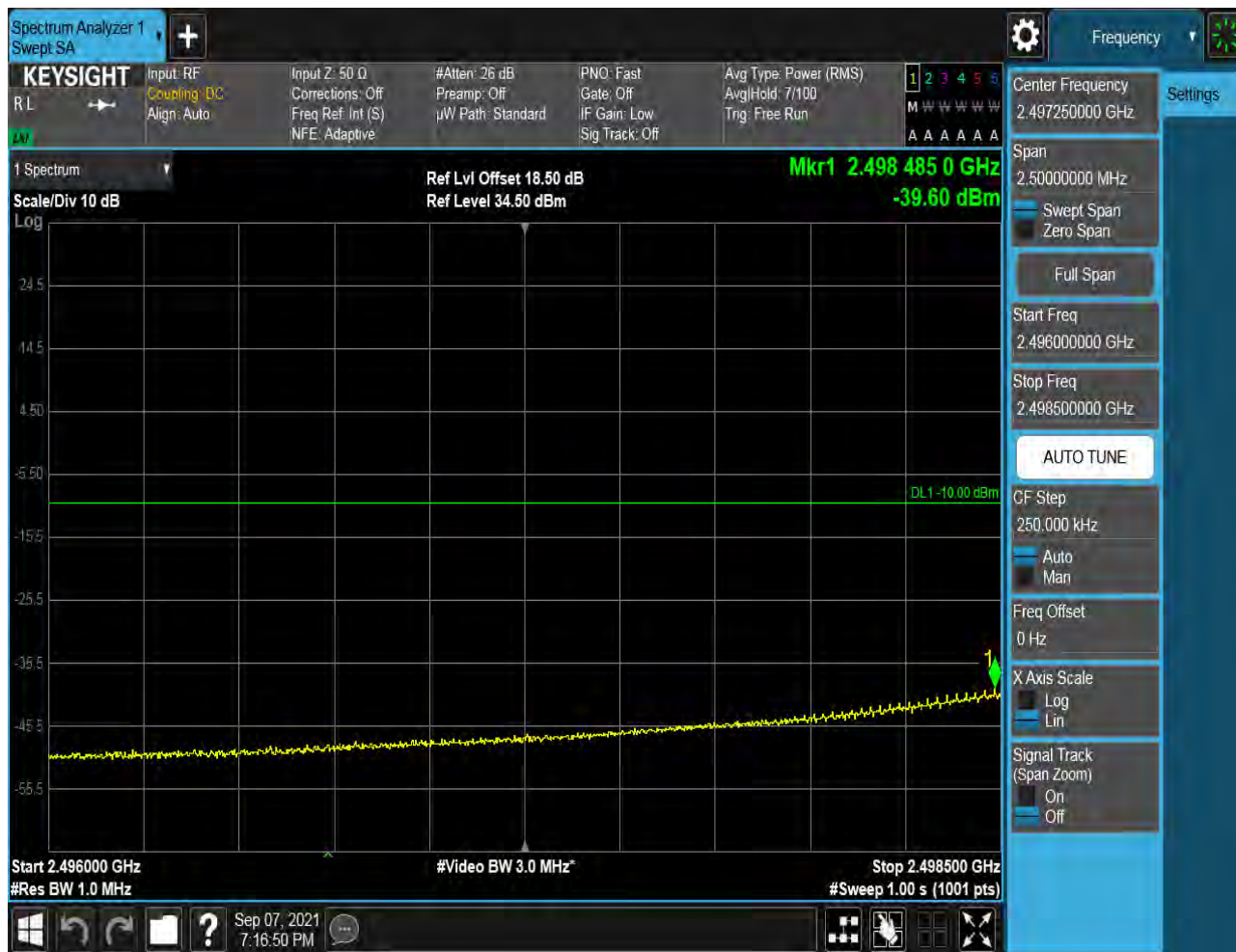
5.1.1.1 Test Mode = LTE/TM1

5.1.1.1.1 Test Bandwidth = 15+15

5.1.1.1.1.1 Test Channel = LCH

5.1.1.1.1.1.1 PCC Test RB = 1 # 0 & SCC Test RB = 0







5.1.1.1.1.2 PCC Test RB = partial RBs #0 & SCC Test RB = 0







5.1.1.1.1.3 PCC Test RB = full RBs & SCC Test RB = 0







5.1.1.1.1.4 PCC Test RB = full RBs & SCC Test RB = full RBs







5.1.1.1.1.2 Test Channel = HCH

5.1.1.1.1.2.1 PCC Test RB = 0 & SCC Test RB = 1 # max







5.1.1.1.2.2 PCC Test RB = 0 & SCC Test RB = partial RBs #max







5.1.1.1.1.2.3 PCC Test RB = 0 & SCC Test RB = full RBs







5.1.1.1.2.4 PCC Test RB = full RBs & SCC Test RB = full RBs



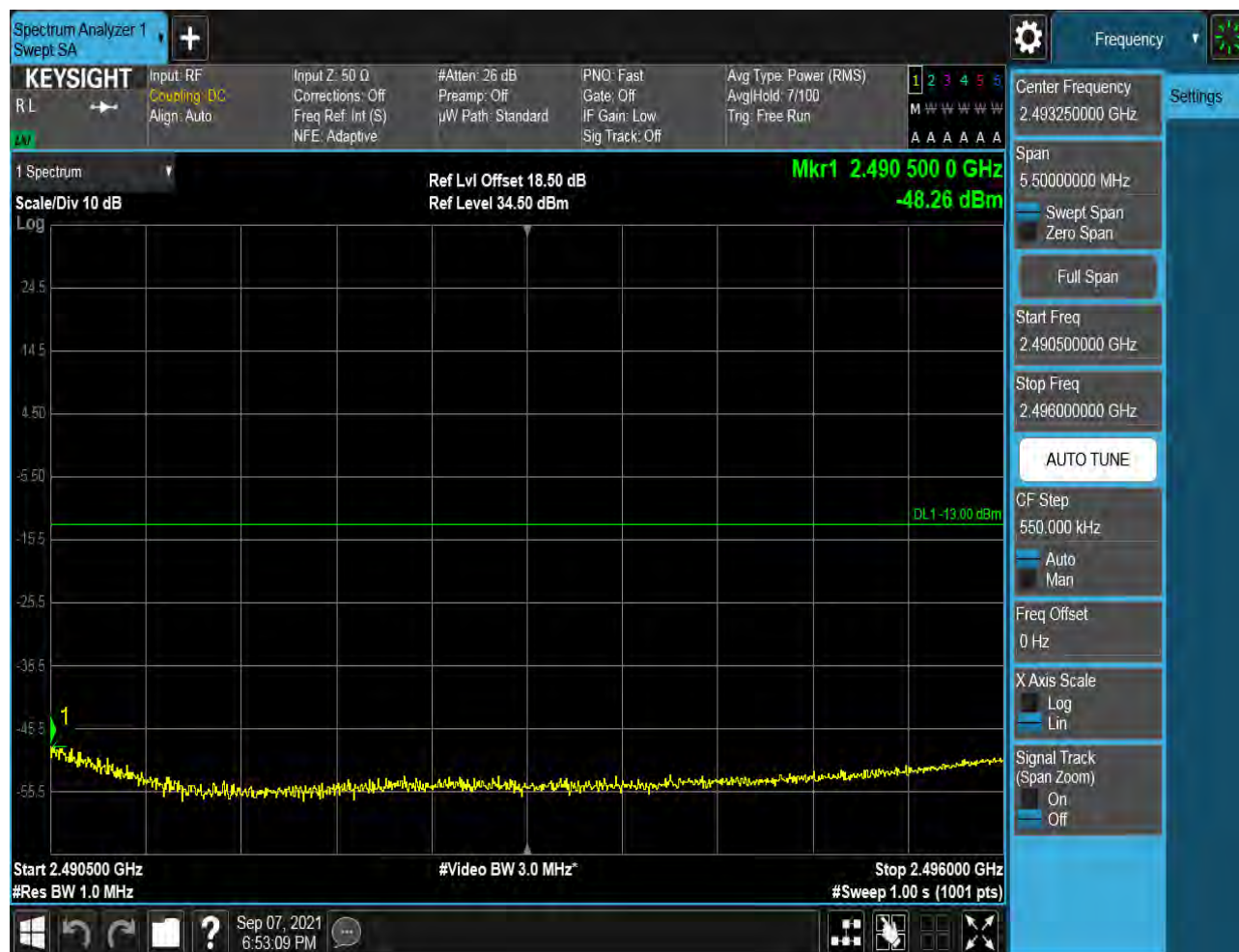


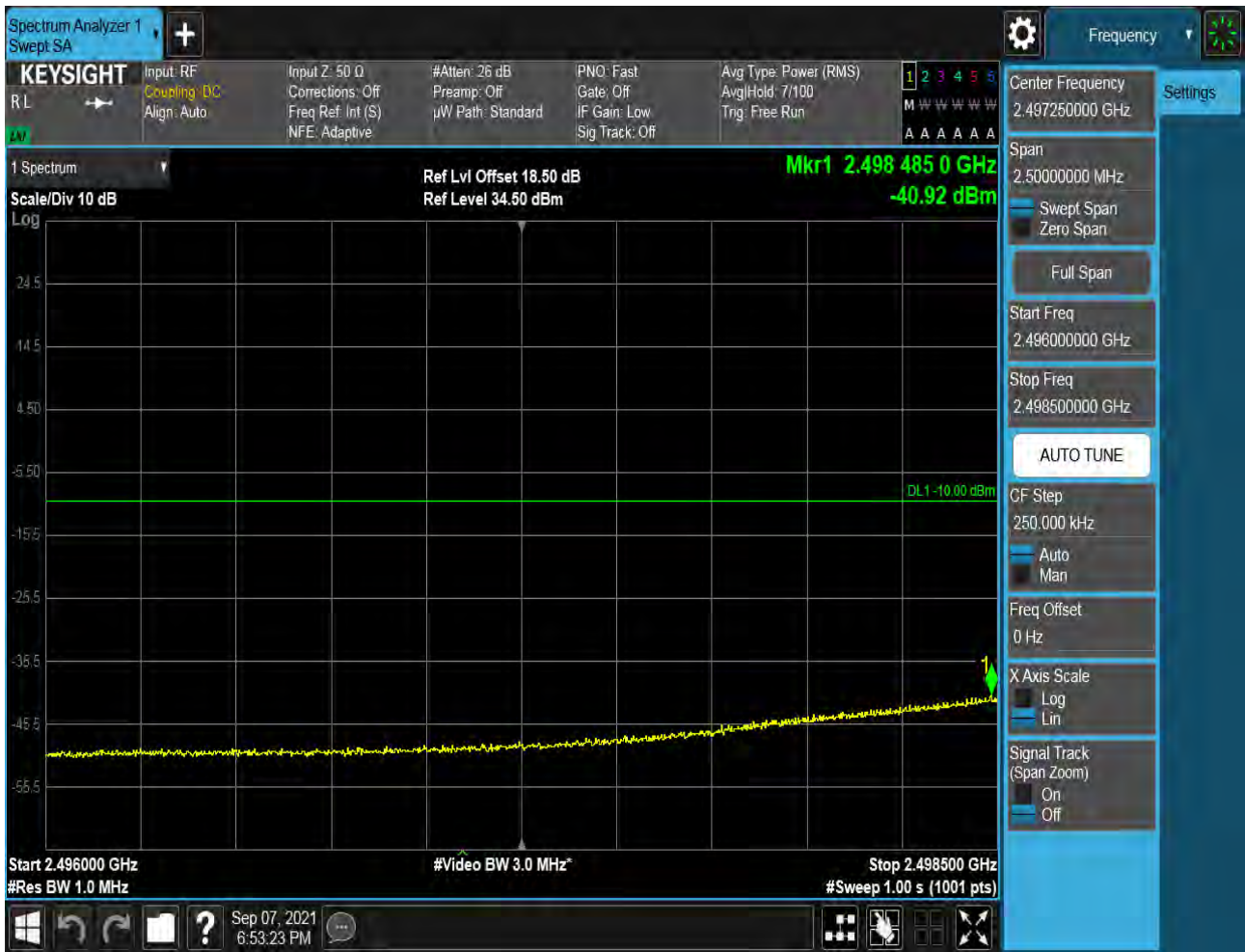


5.1.1.1.2 Test Bandwidth = 20+20

5.1.1.1.2.1 Test Channel = LCH

5.1.1.1.2.1.1 PCC Test RB = 1 # 0 & SCC Test RB = 0







5.1.1.1.2.1.2 PCC Test RB = partial RBs #0 & SCC Test RB = 0







5.1.1.1.2.1.3 PCC Test RB = full RBs & SCC Test RB = 0

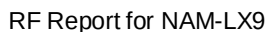






5.1.1.1.2.1.4 PCC Test RB = full RBs & SCC Test RB = full RBs







5.1.1.1.2.2 Test Channel = HCH

5.1.1.1.2.2.1 PCC Test RB = 0 & SCC Test RB = 1 # max







5.1.1.1.2.2.2 PCC Test RB = 0 & SCC Test RB = partial RBs #max







5.1.1.1.2.2.3 PCC Test RB = 0 & SCC Test RB = full RBs







5.1.1.1.2.2.4 PCC Test RB = full RBs & SCC Test RB = full RBs





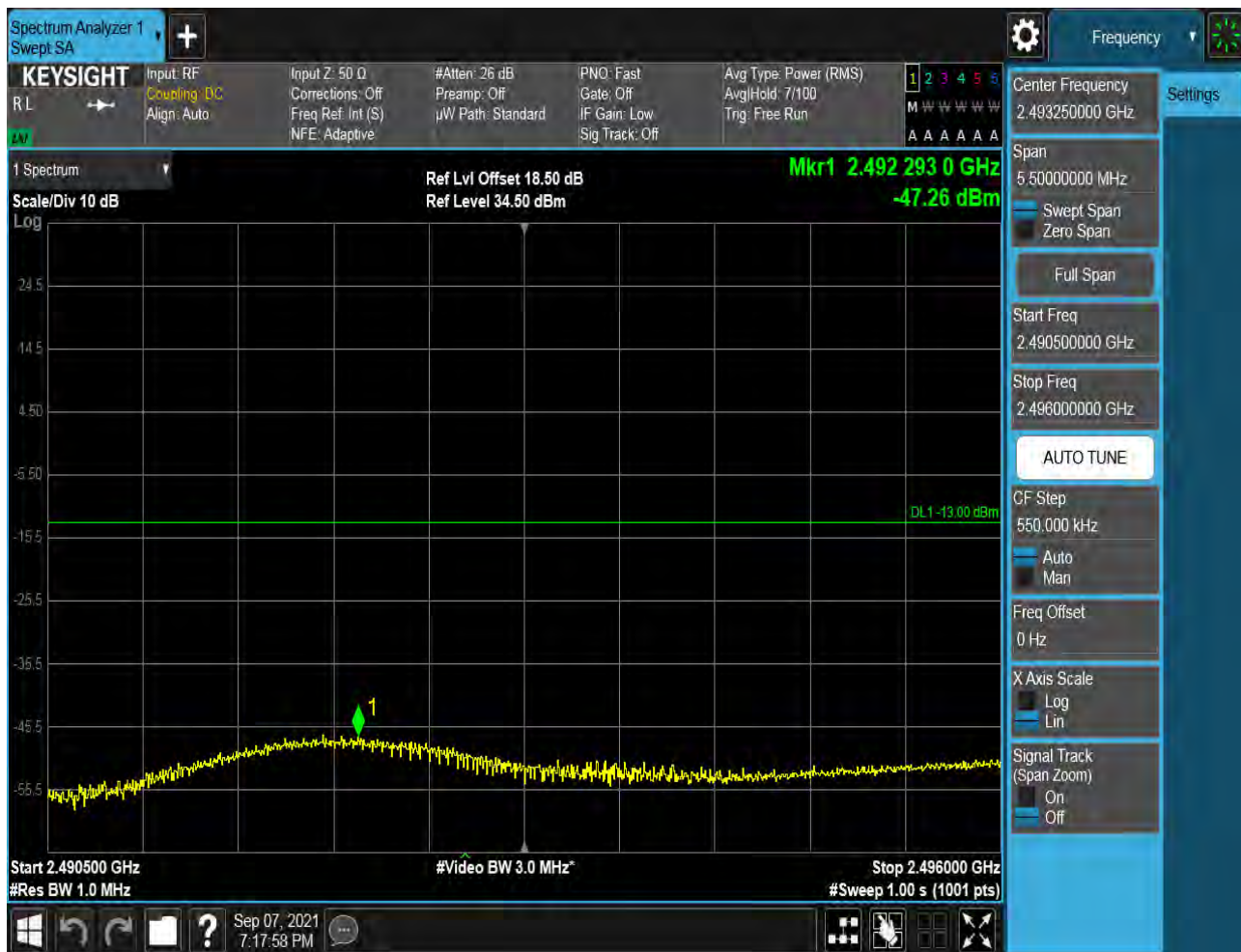


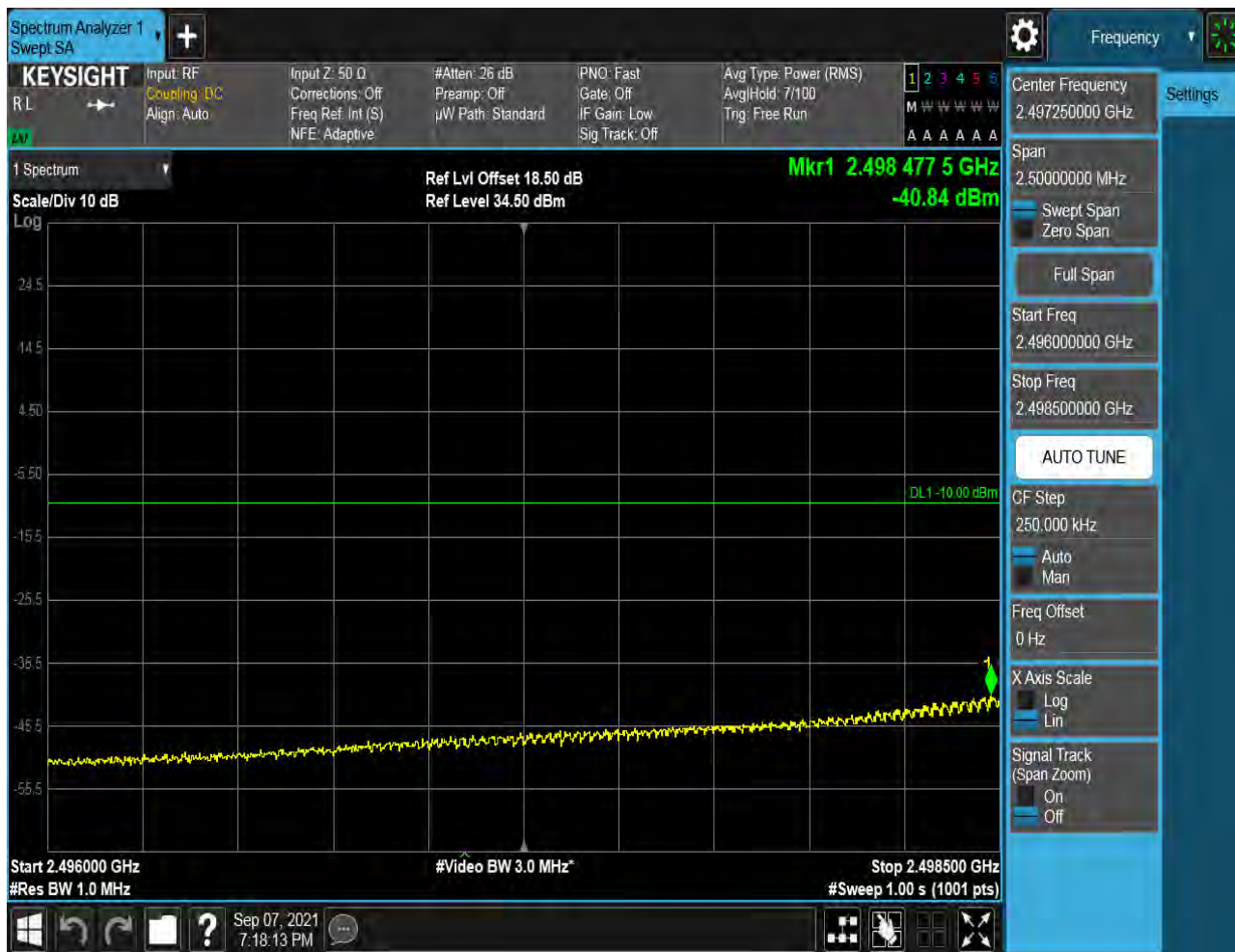
5.1.1.2 Test Mode = LTE/TM2

5.1.1.2.1 Test Bandwidth = 15+15

5.1.1.2.1.1 Test Channel = LCH

5.1.1.2.1.1.1 PCC Test RB = 1 # 0 & SCC Test RB = 0







5.1.1.2.1.1.2 PCC Test RB = partial RBs #0 & SCC Test RB = 0







5.1.1.2.1.1.3 PCC Test RB = full RBs & SCC Test RB = 0







5.1.1.2.1.1.4 PCC Test RB = full RBs & SCC Test RB = full RBs







5.1.1.2.1.2 Test Channel = HCH

5.1.1.2.1.2.1 PCC Test RB = 0 & SCC Test RB = 1 # max







5.1.1.2.1.2.2 PCC Test RB = 0 & SCC Test RB = partial RBs #max







5.1.1.2.1.2.3 PCC Test RB = 0 & SCC Test RB = full RBs







5.1.1.2.1.2.4 PCC Test RB = full RBs & SCC Test RB = full RBs





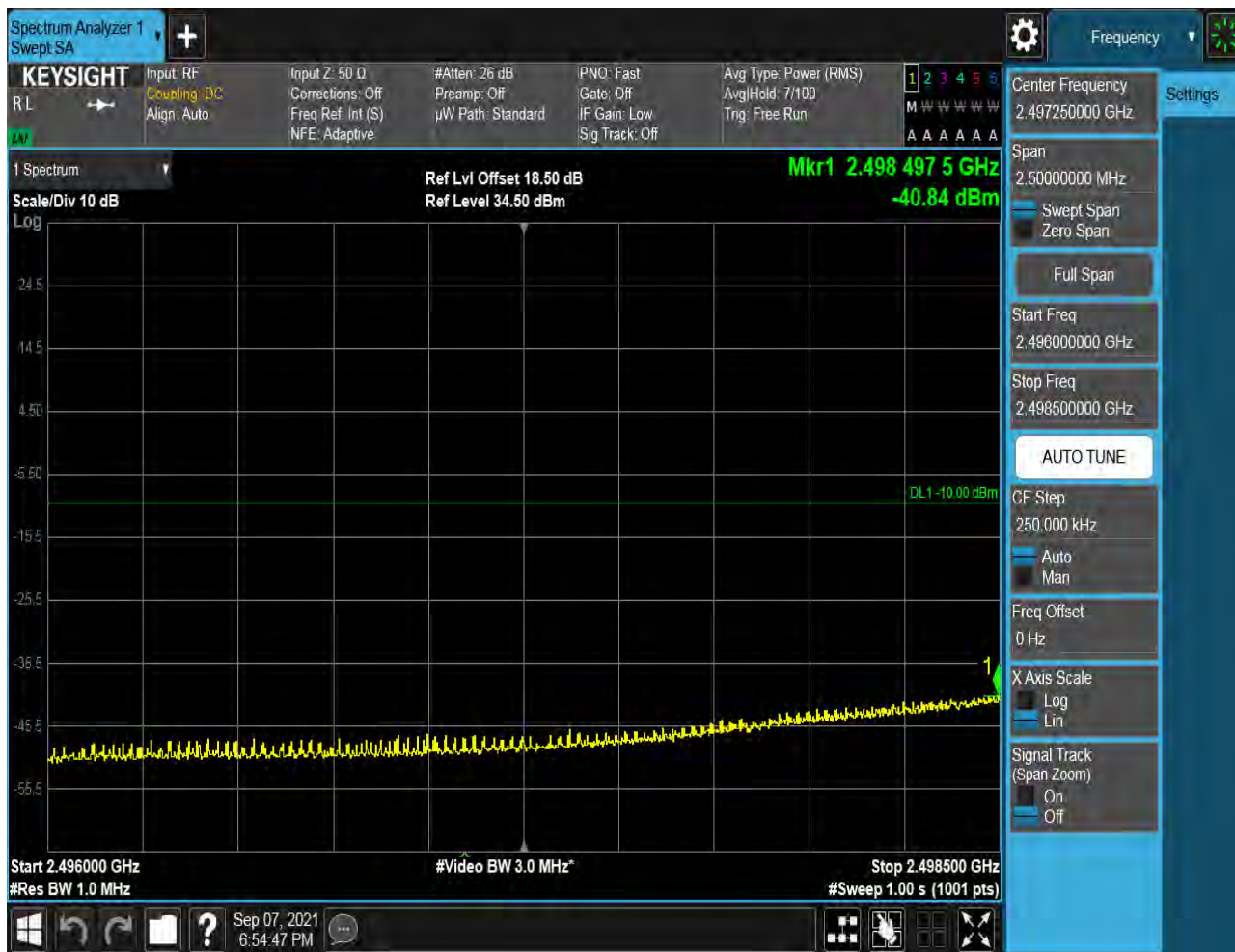


5.1.1.2.2 Test Bandwidth = 20+20

5.1.1.2.2.1 Test Channel = LCH

5.1.1.2.2.1.1 PCC Test RB = 1 # 0 & SCC Test RB = 0







5.1.1.2.2.1.2 PCC Test RB = partial RBs #0 & SCC Test RB = 0







5.1.1.2.2.1.3 PCC Test RB = full RBs & SCC Test RB = 0







5.1.1.2.2.1.4 PCC Test RB = full RBs & SCC Test RB = full RBs







5.1.1.2.2.2 Test Channel = HCH

5.1.1.2.2.2.1 PCC Test RB = 0 & SCC Test RB = 1 # max







5.1.1.2.2.2.2 PCC Test RB = 0 & SCC Test RB = partial RBs #max







5.1.1.2.2.2.3 PCC Test RB = 0 & SCC Test RB = full RBs







5.1.1.2.2.2.4 PCC Test RB = full RBs & SCC Test RB = full RBs







6Appendix_F: Spurious Emission at Antenna Terminal

NOTE: 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 narrowband 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.

Part I - Test Plots

6.1 For LTE

6.1.1 Test Band = CA_7C

6.1.1.1 Test Mode = LTE/TM1

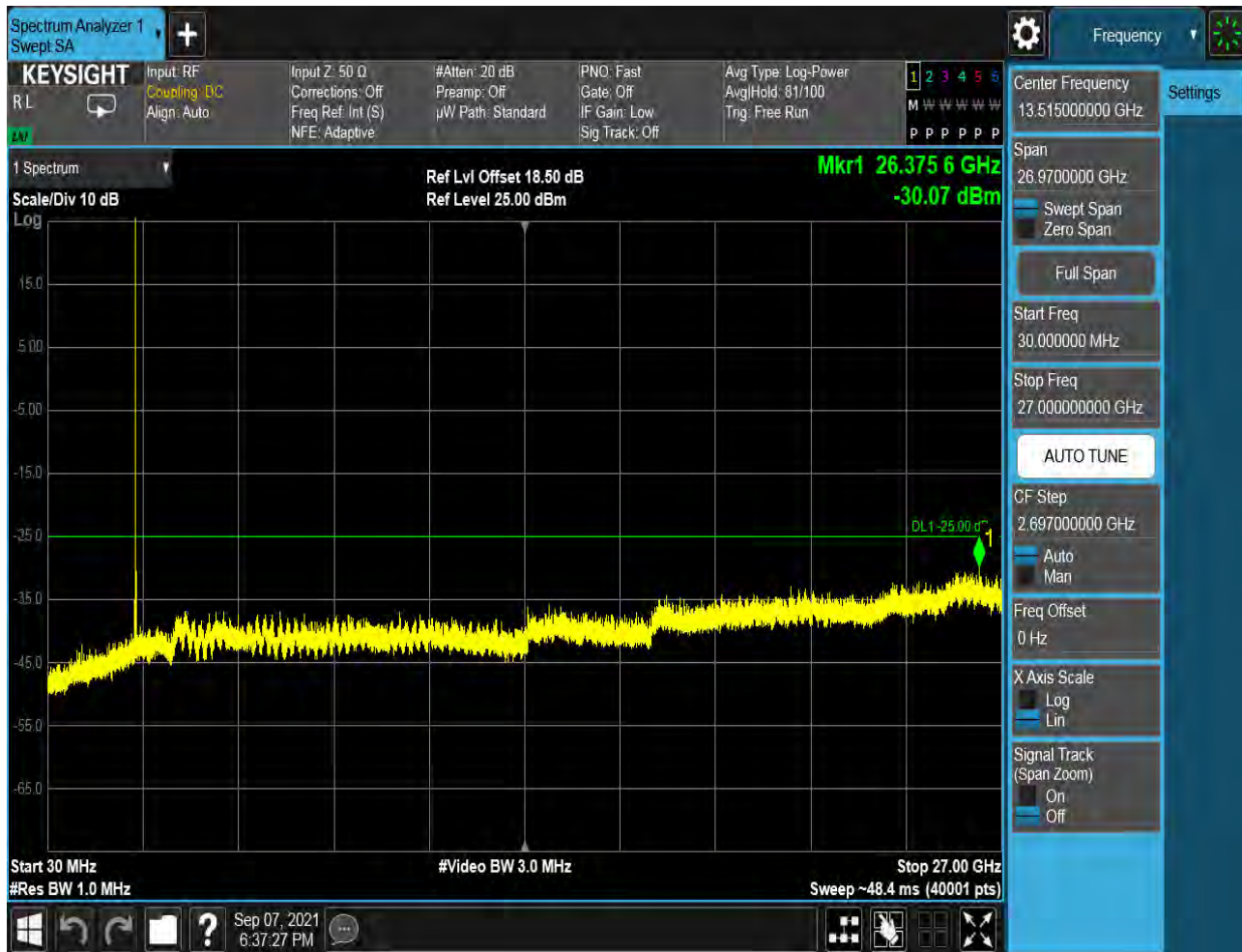
6.1.1.1.1 Test Bandwidth = 15+15

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 PCC Test RB = 1 # 0 & SCC Test RB = 0

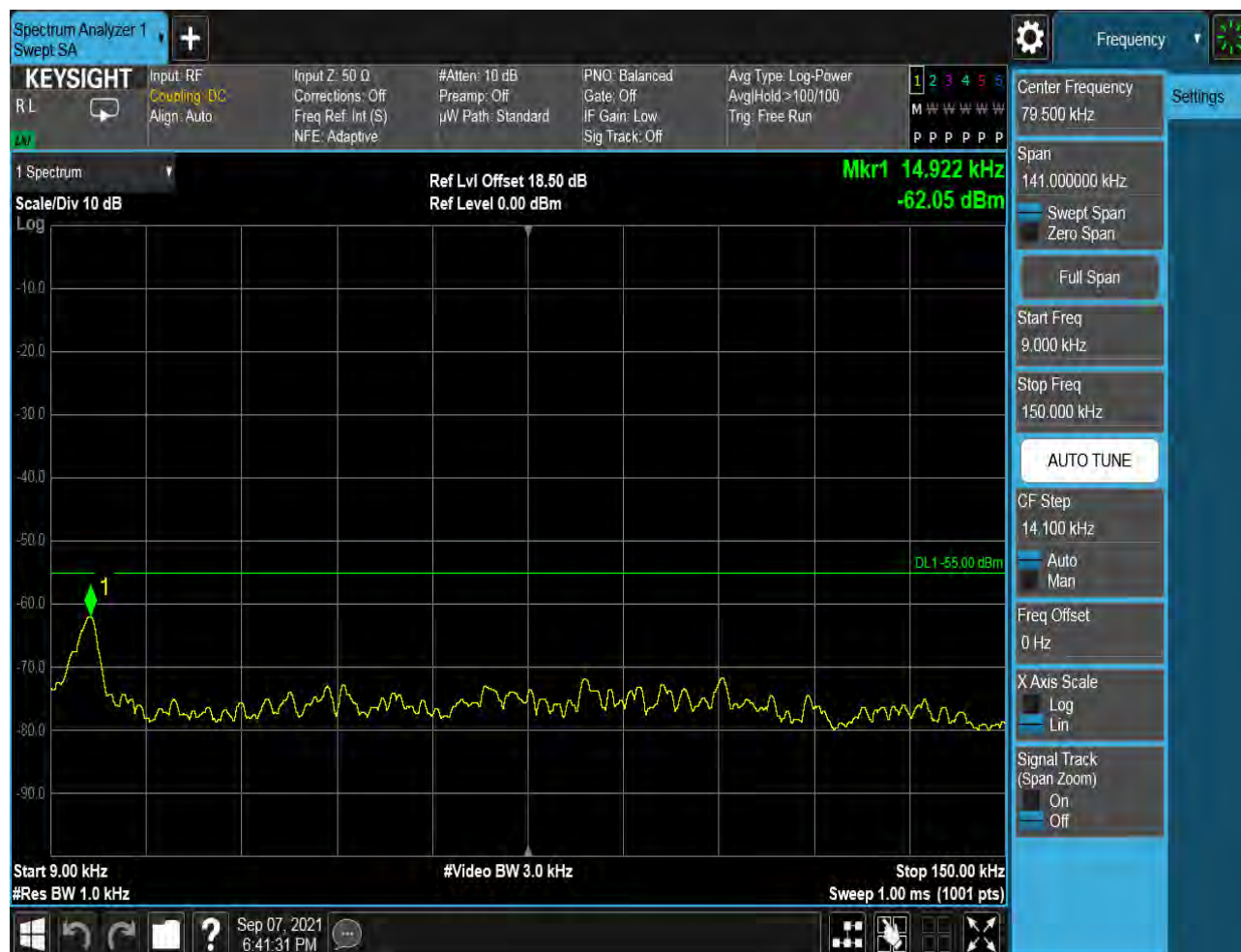


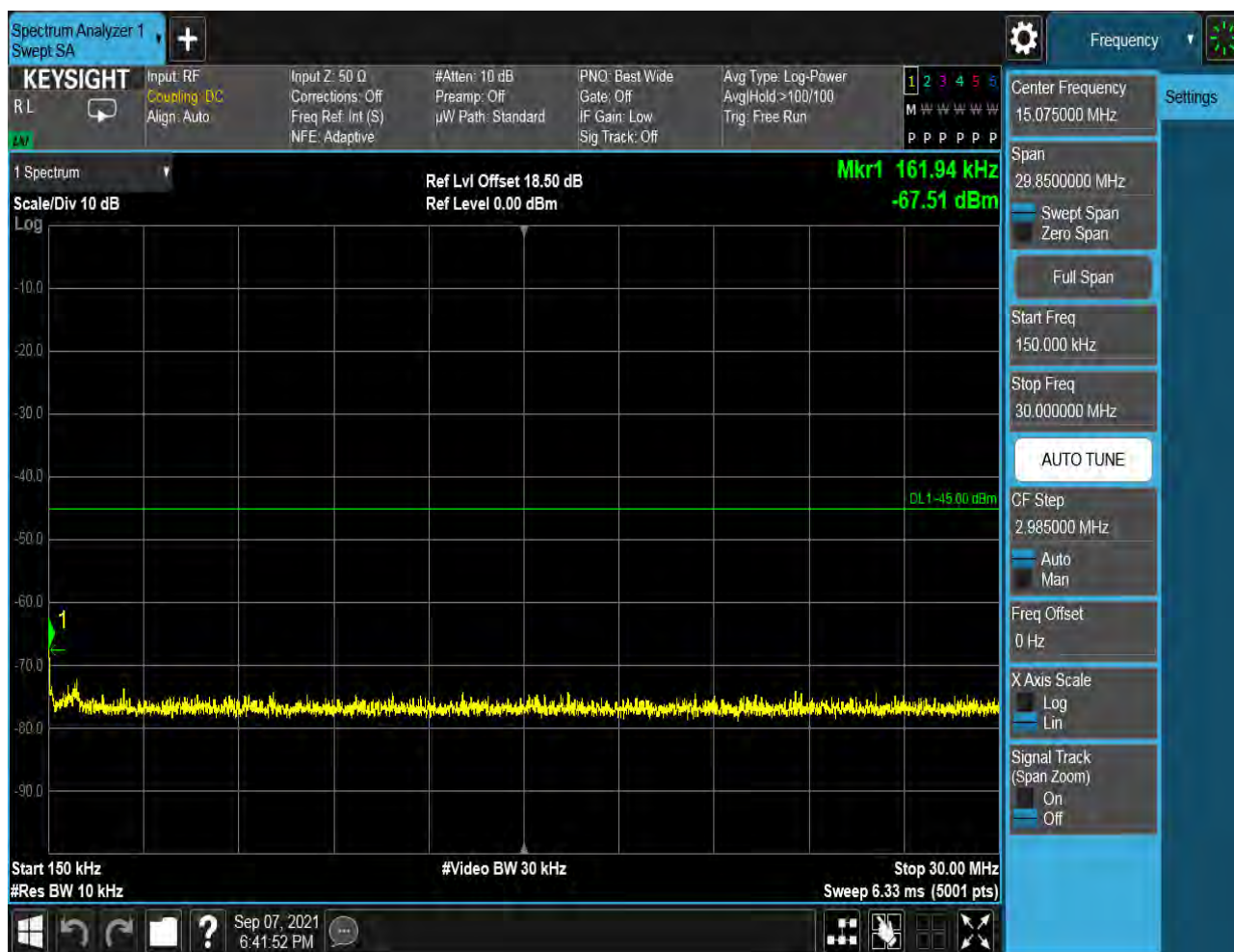




6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 PCC Test RB = 1 # 0 & SCC Test RB = 0

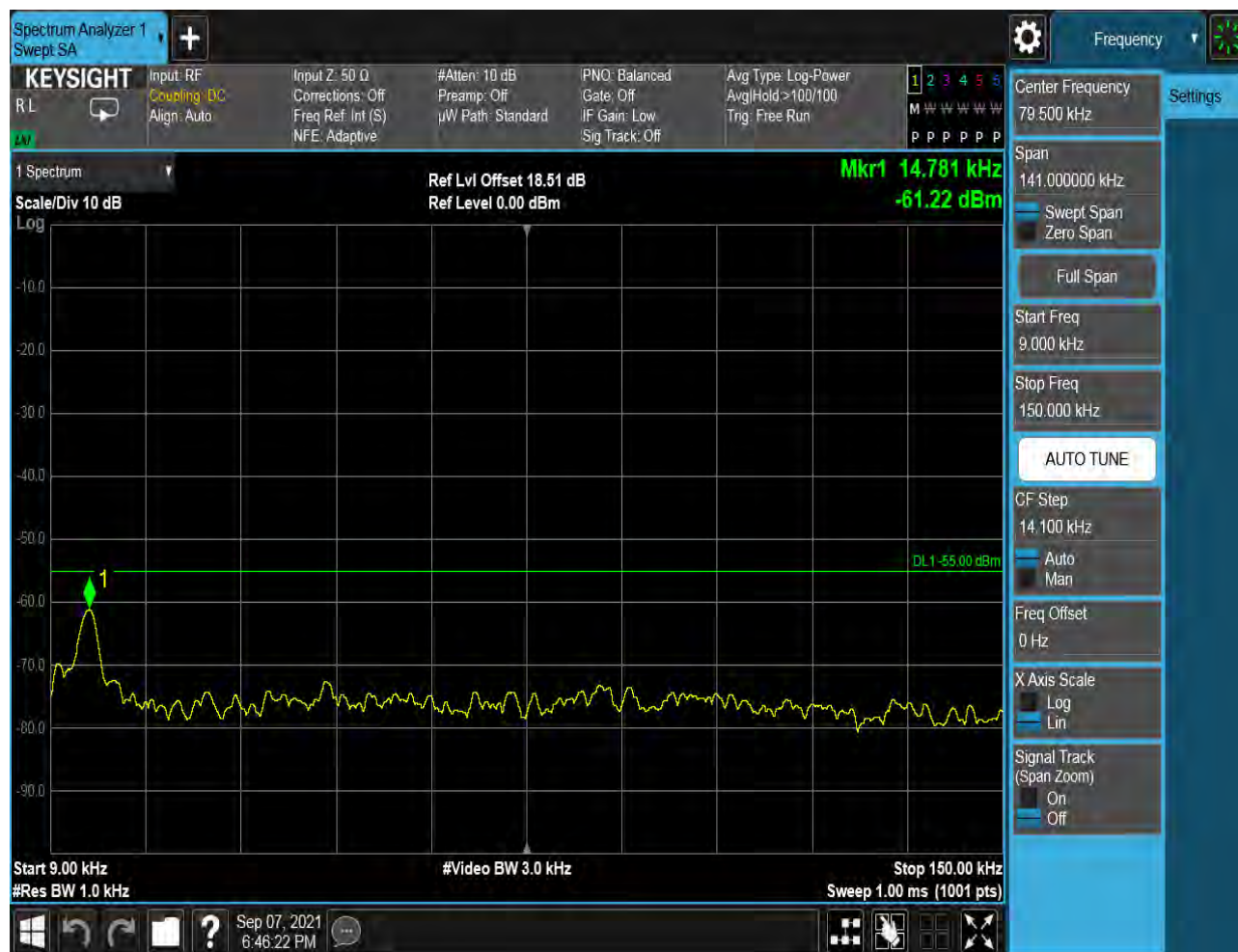


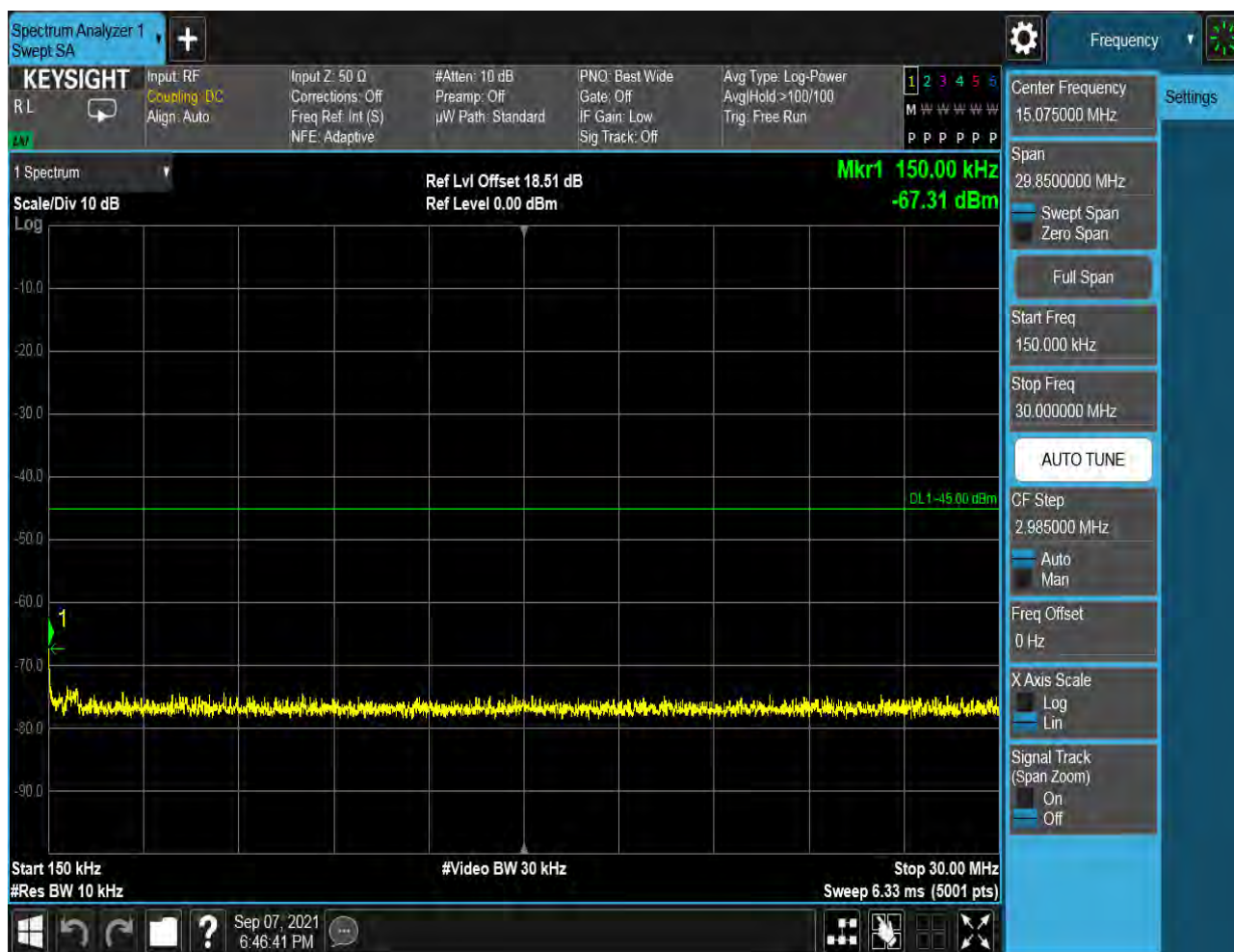




6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 PCC Test RB = 1 # 0 & SCC Test RB = 0



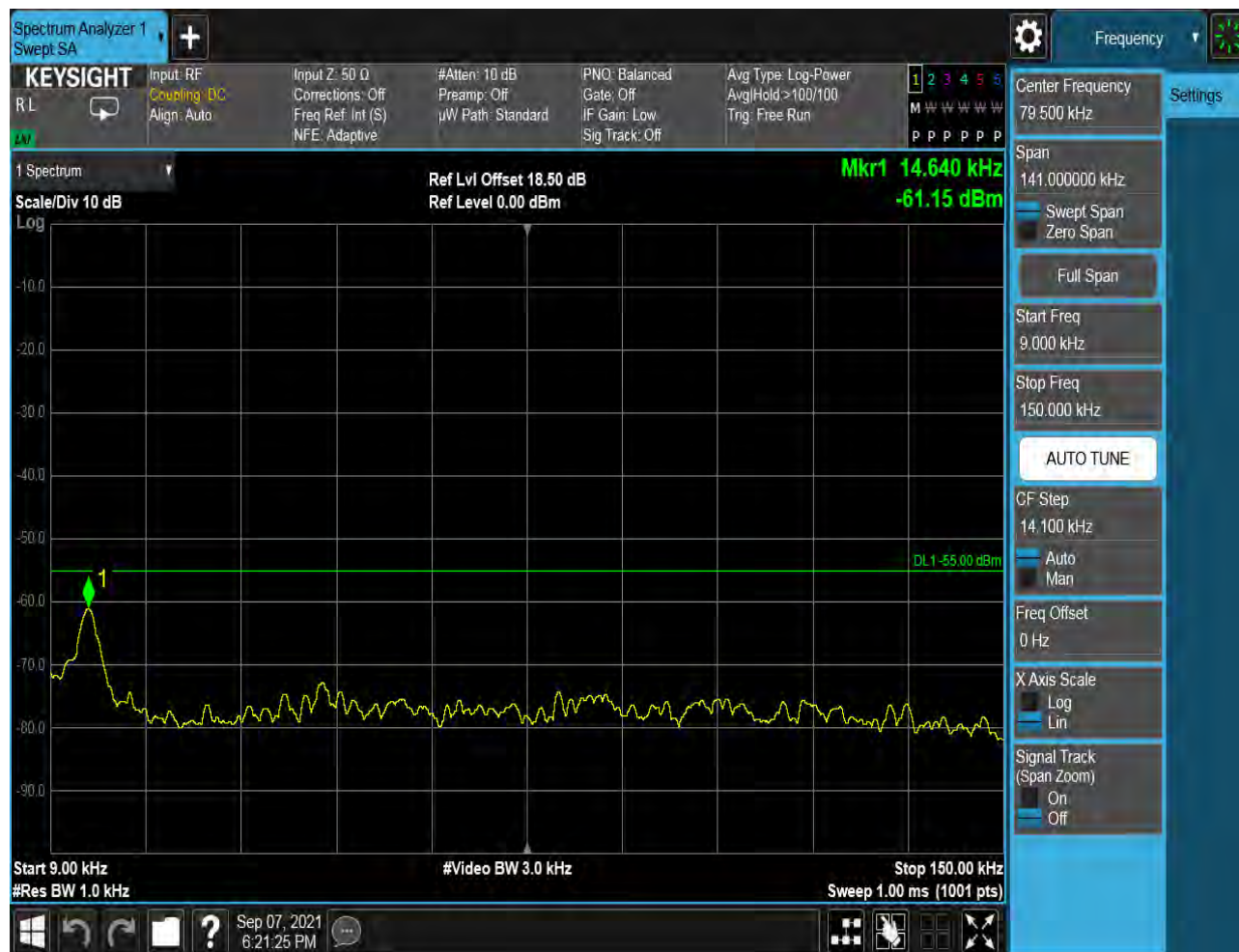




6.2.1.1.2 Test Bandwidth = 20+20

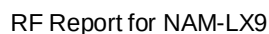
6.2.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 PCC Test RB = 1 # 0 & SCC Test RB = 0









Keysight Spectrum Analyzer 1 Swept SA

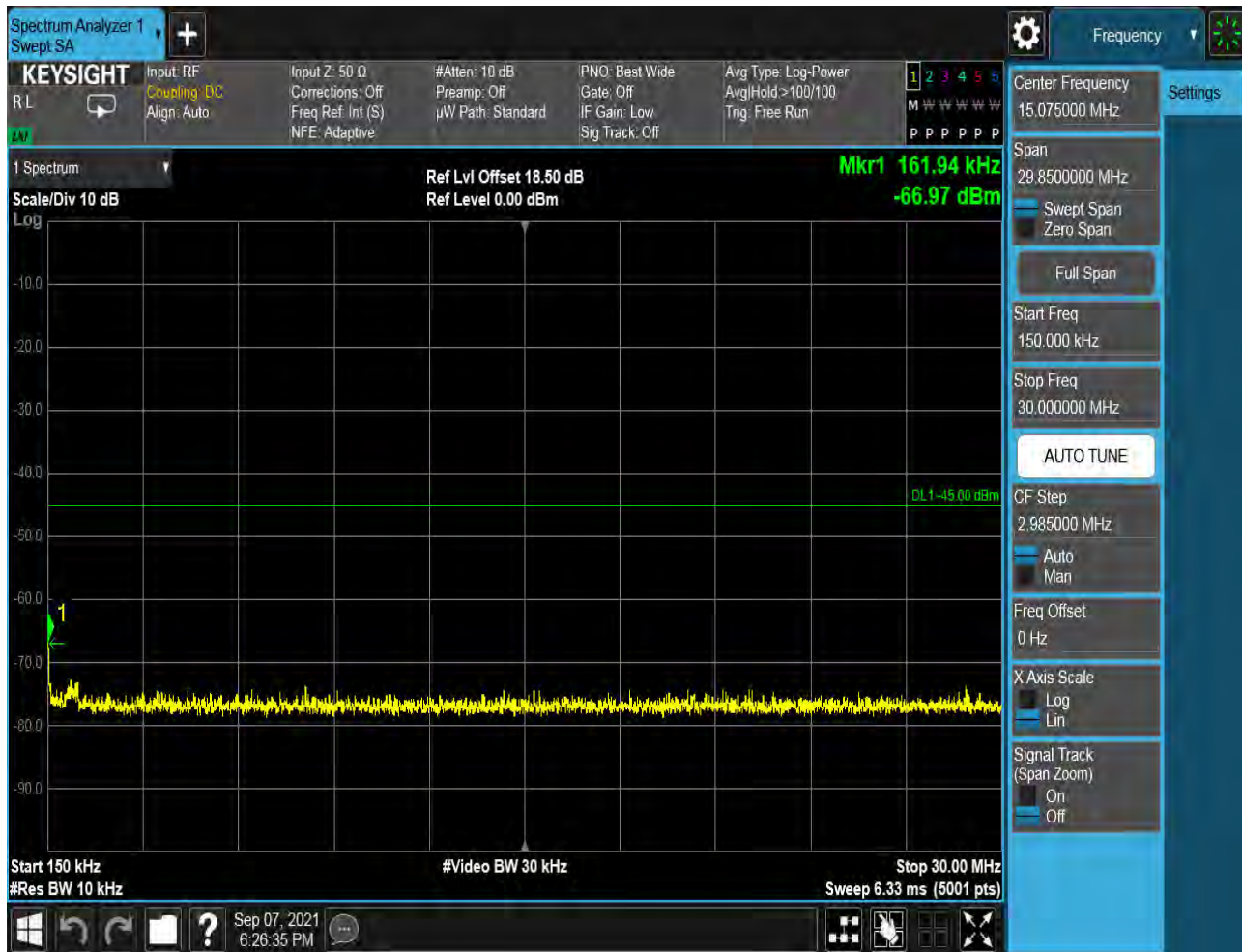
KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive #Atten: 10 dB Preamp: Off μW Path: Standard PNO: Balanced Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log Power Avg/Hold: >100/100 Trg: Free Run

1 Spectrum Scale/Div 10 dB Log Ref Lvl Offset 18.50 dB Ref Level 0.00 dBm

Mkr1 14.781 kHz -61.48 dBm

Start 9.00 kHz Stop 150.00 kHz #Video BW 3.0 kHz Sweep 1.00 ms (1001 pts) #Res BW 1.0 kHz

Start Freq 9.000 kHz Stop Freq 150.000 kHz AUTO TUNE CF Step 14.100 kHz Freq Offset 0 Hz X Axis Scale Log Signal Track (Span Zoom) On





6.2.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 PCC Test RB = 1 # 0 & SCC Test RB = 0

