Appendix for test report

1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Conducted Power [dBm]	ERP [dBm]	Limit [dBm]	Verdict
WCDMA850	UMTS/TM1	LCH	23.84	20.18	38.5	PASS
		MCH	23.97	20.36	38.5	PASS
		HCH	23.98	20.34	38.5	PASS
Test Band	**Test Mode**	**Test Channel**	**Conducted Power [dBm]**	**EIRP [dBm]**	**Limit [dBm]**	**Verdict**
WCDMA1700	UMTS/TM1	LCH	23.54	24.18	30	PASS
		MCH	23.37	24.00	30	PASS
		HCH	23.40	24.11	30	PASS
WCDMA1900	UMTS/TM1	LCH	23.89	24.74	33	PASS
		MCH	23.75	24.59	33	PASS
		HCH	23.85	24.54	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,

ERP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBd]

EIRP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBi]

b, SGP = Signal Generator Level

Note2:

SET Span = 1.5 * OBW

SET RBW = 1% of the OBW,not to exceed 1MHz

SET VBW >= 3 * RBW

SET Sweep time = auto - couple.

Detector: RMS

2Appendix_B: Peak-to-Average Ratio

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
WCDMA850	UMTS/TM1	LCH	2.91	13	PASS
		MCH	2.88	13	PASS
		HCH	2.43	13	PASS
WCDMA1700	UMTS/TM1	LCH	3.09	13	PASS
		MCH	3.11	13	PASS
		HCH	2.8	13	PASS
WCDMA1900	UMTS/TM1	LCH	3.08	13	PASS
		MCH	3.18	13	PASS
		HCH	3.21	13	PASS

3Appendix_C: Modulation Characteristics

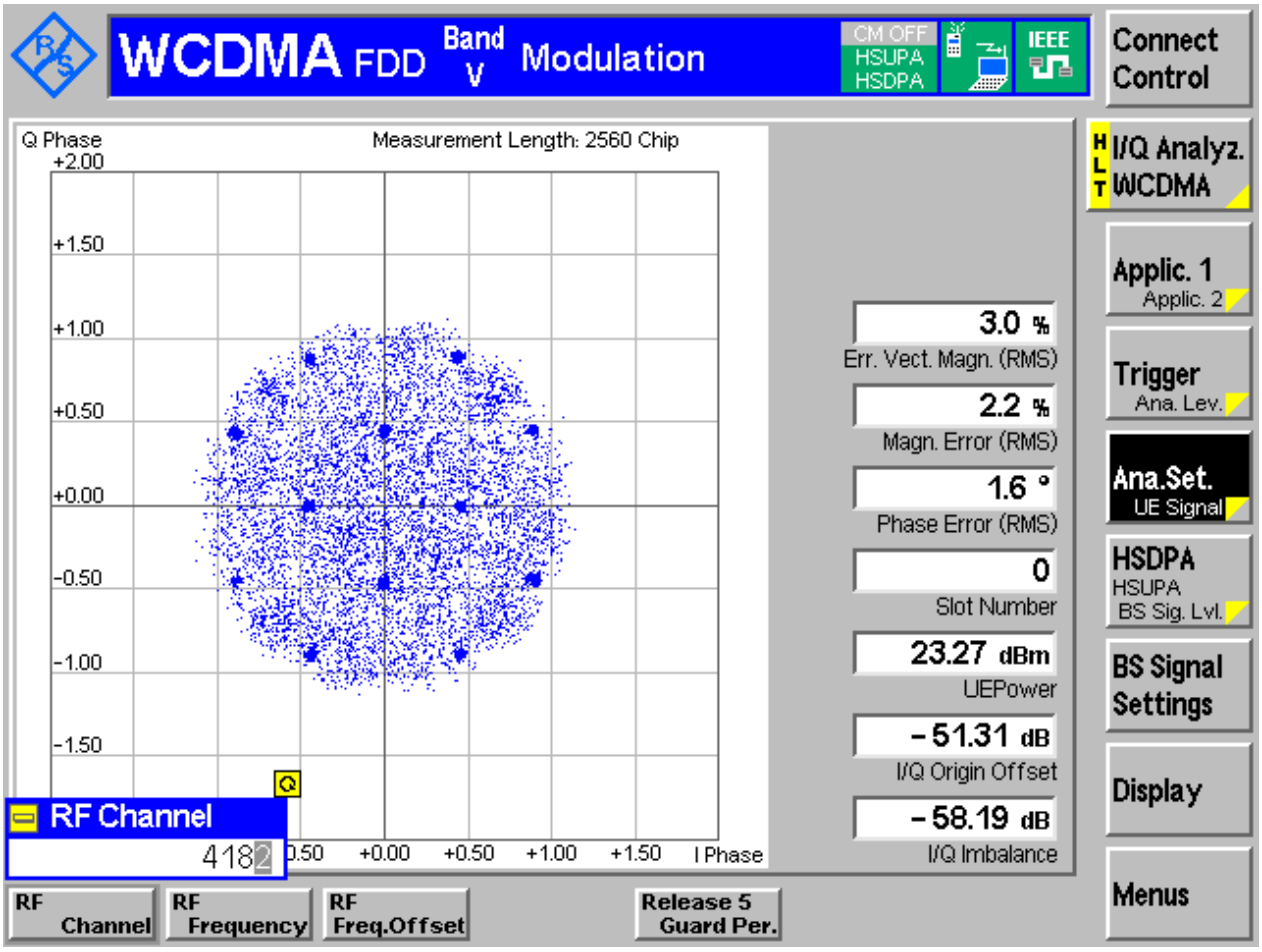
Part I - Test Plots

3.1 For UMTS

3.1.1 Test Band = WCDMA850

3.1.1.1 Test Mode = UMTS/TM1

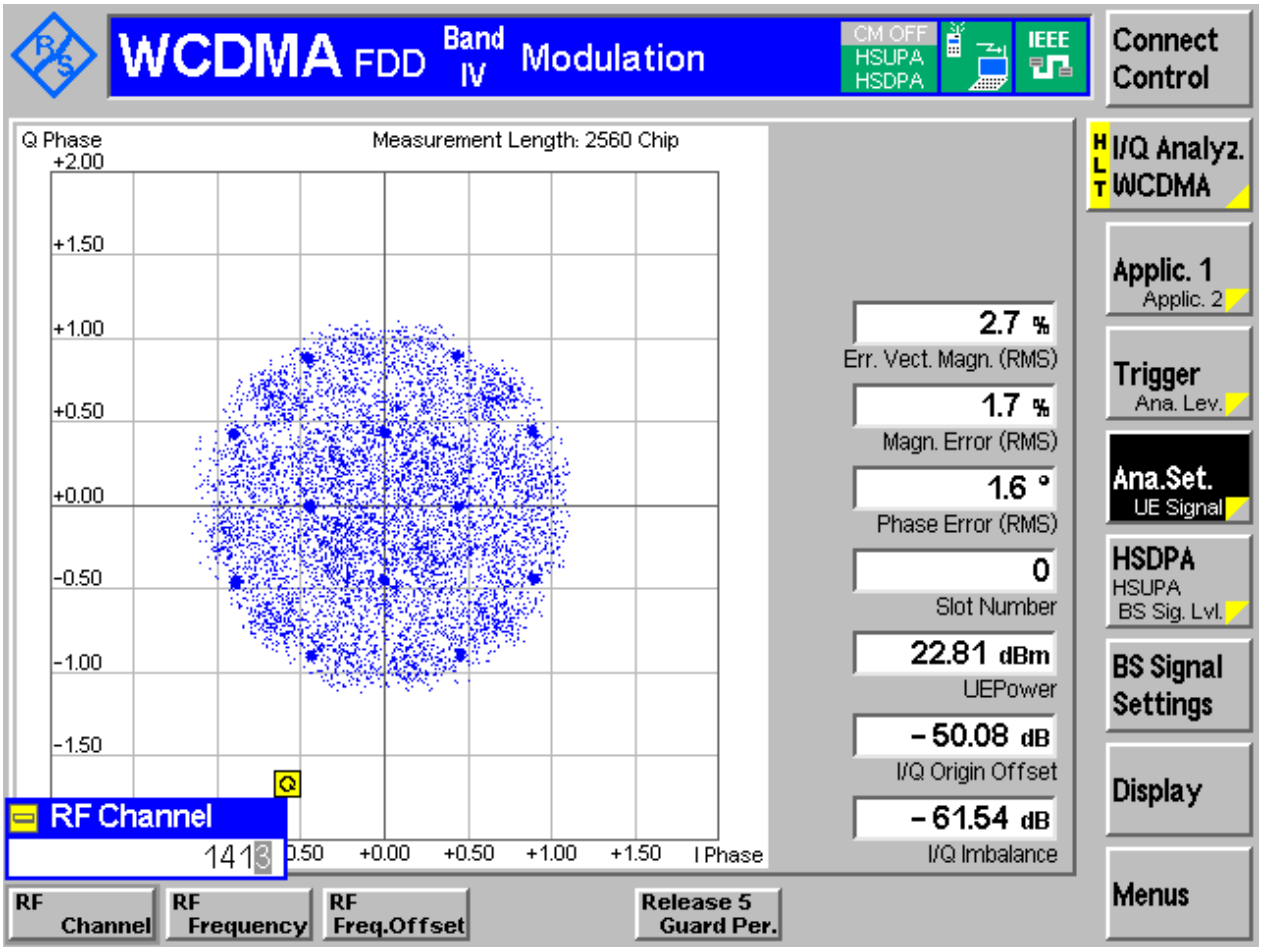
3.1.1.1.1 Test Channel = MCH



3.1.2 Test Band = WCDMA1700

3.1.2.1 Test Mode = UMTS/TM1

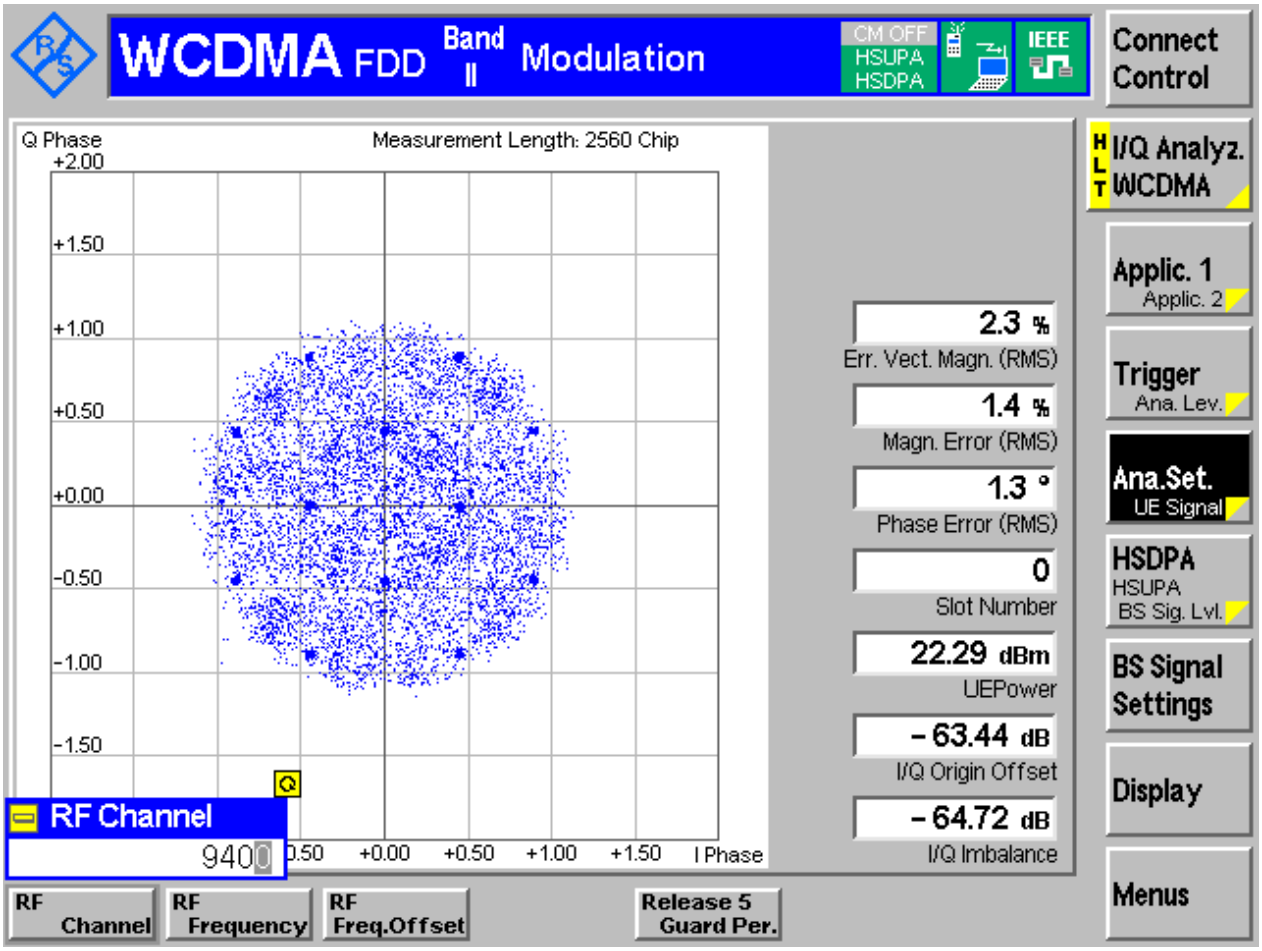
3.1.2.1.1 Test Channel = MCH



3.1.3 Test Band = WCDMA1900

3.1.3.1 Test Mode = UMTS/TM1

3.1.3.1.1 Test Channel = MCH



4Appendix_D: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
WCDMA850	UMTS/TM1	LCH	4.16	4.72	Pass
		MCH	4.16	4.72	Pass
		HCH	4.15	4.71	Pass
WCDMA1700	UMTS/TM1	LCH	4.16	4.70	Pass
		MCH	4.16	4.70	Pass
		HCH	4.16	4.72	Pass
WCDMA1900	UMTS/TM1	LCH	4.16	4.71	Pass
		MCH	4.16	4.74	Pass
		HCH	4.16	4.71	Pass

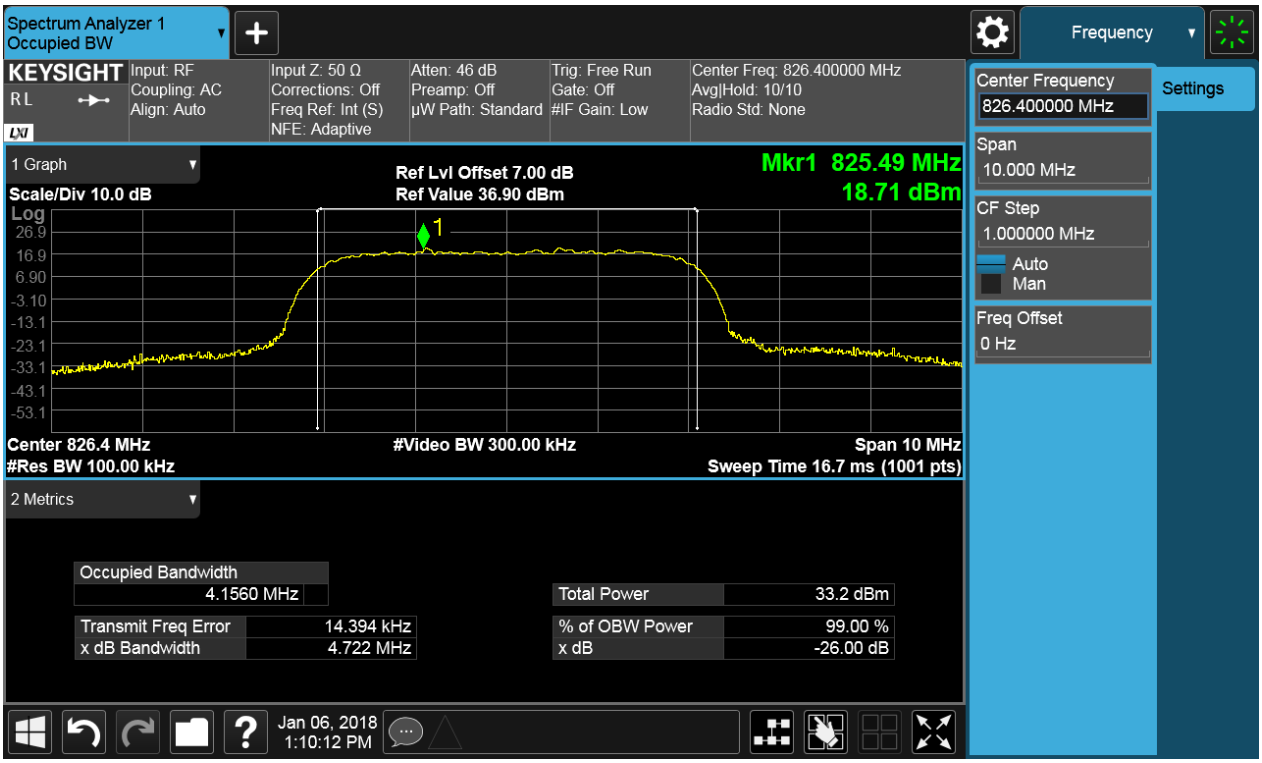
Part II - Test Plots

4.1 For UMTS

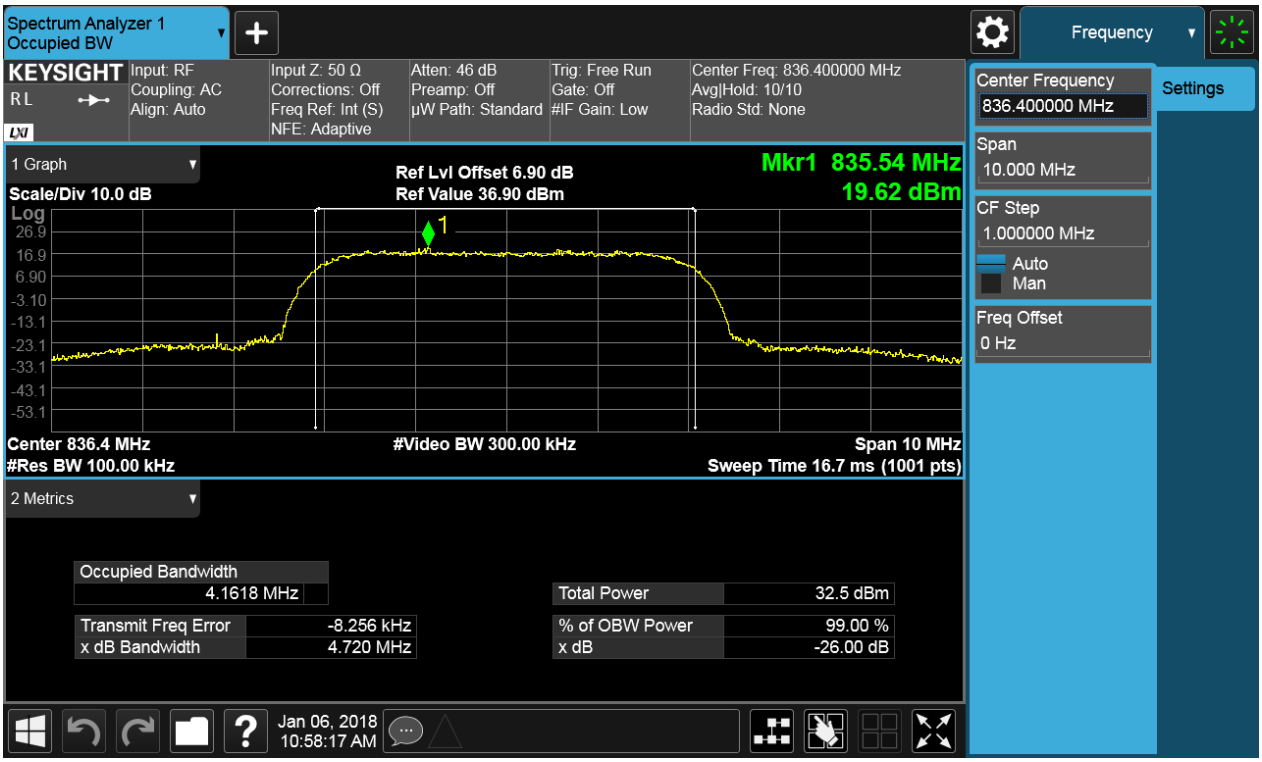
4.1.1 Test Band = WCDMA850

4.1.1.1 Test Mode = UMTS/TM1

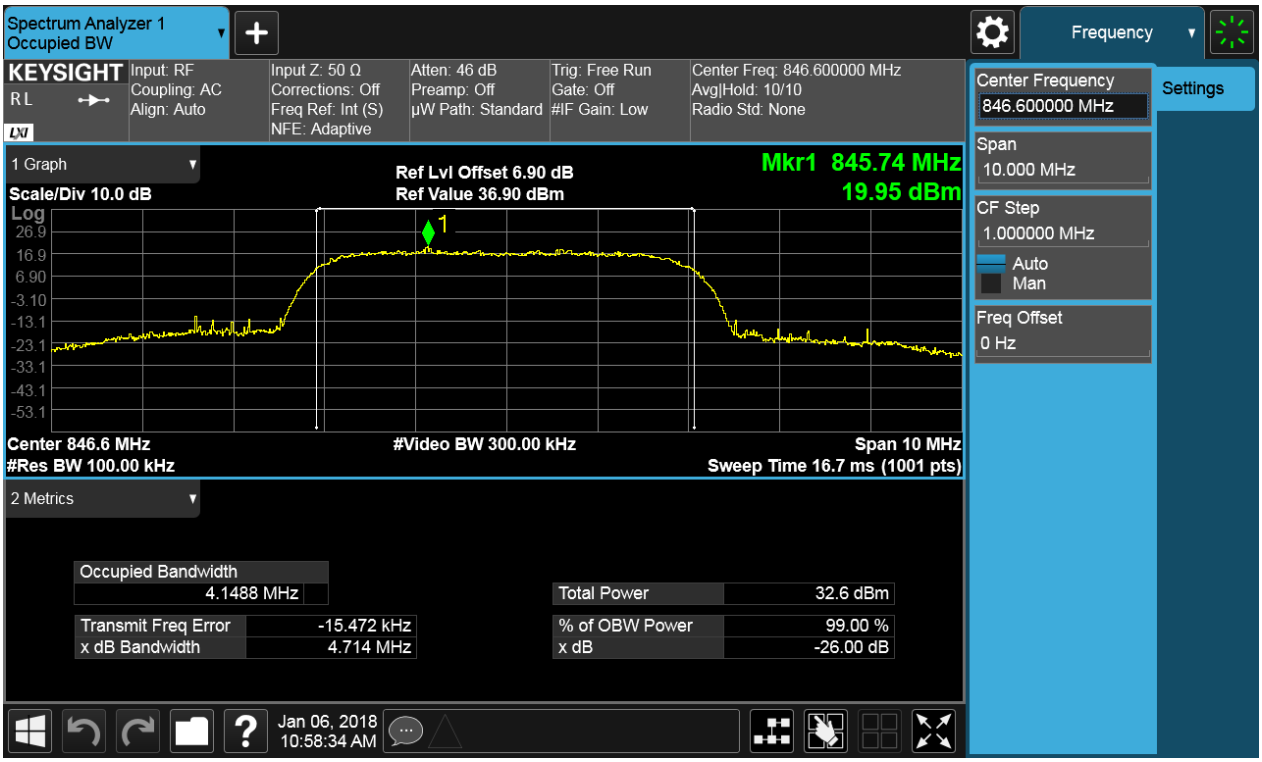
4.1.1.1.1 Test Channel = LCH



4.1.1.1.2 Test Channel = MCH



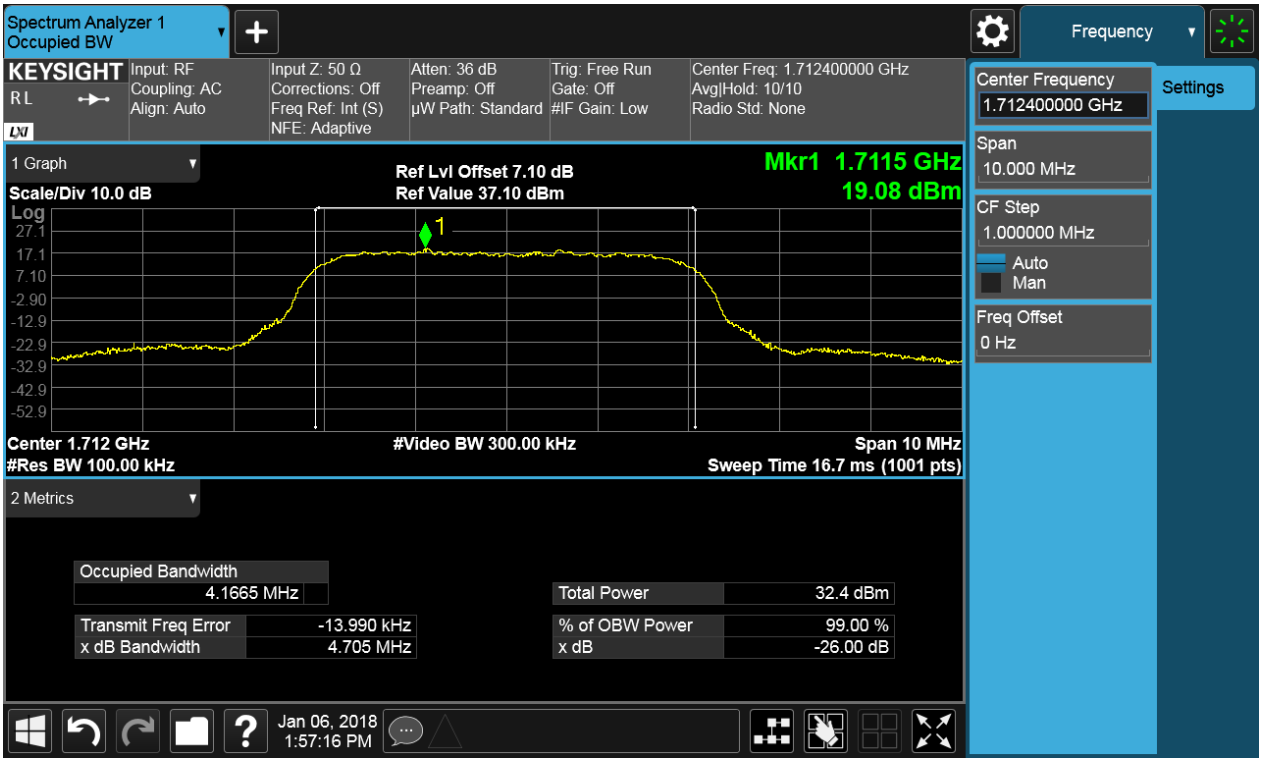
4.1.1.1.3 Test Channel = HCH



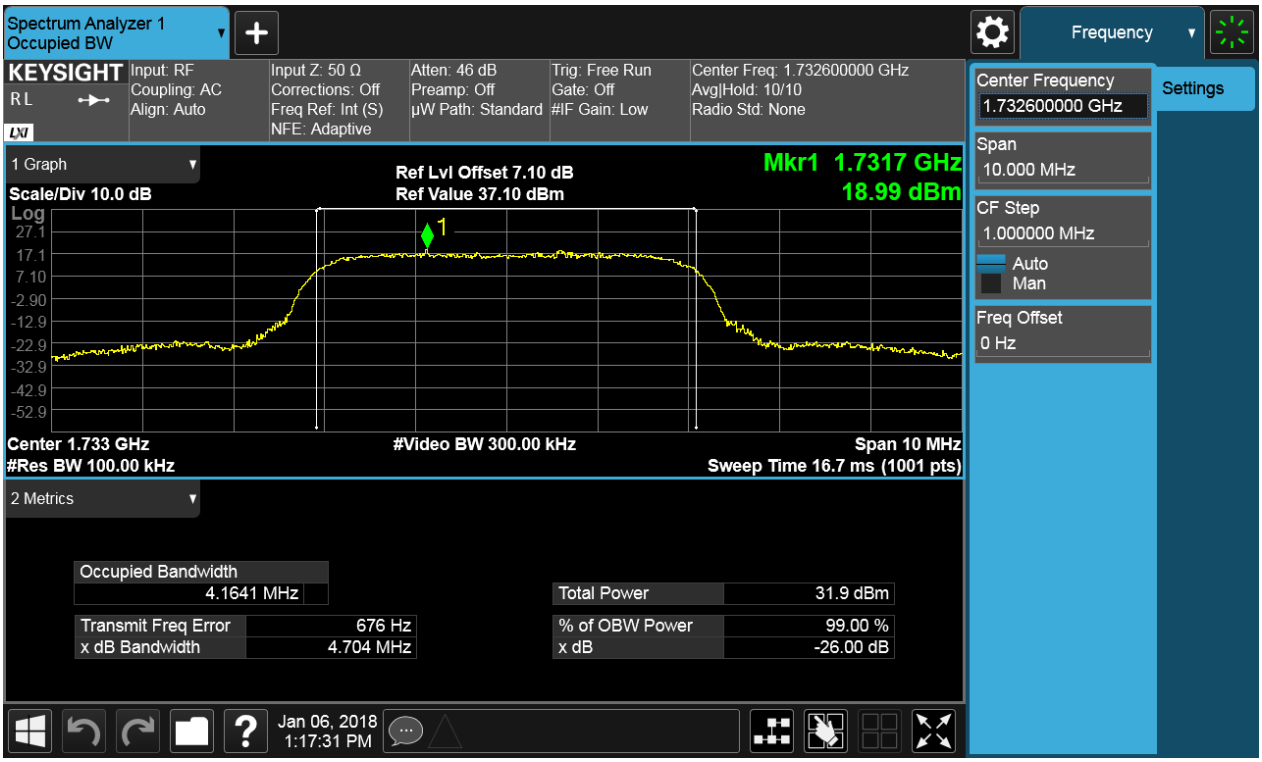
4.1.2 Test Band = WCDMA1700

4.1.2.1 Test Mode = UMTS/TM1

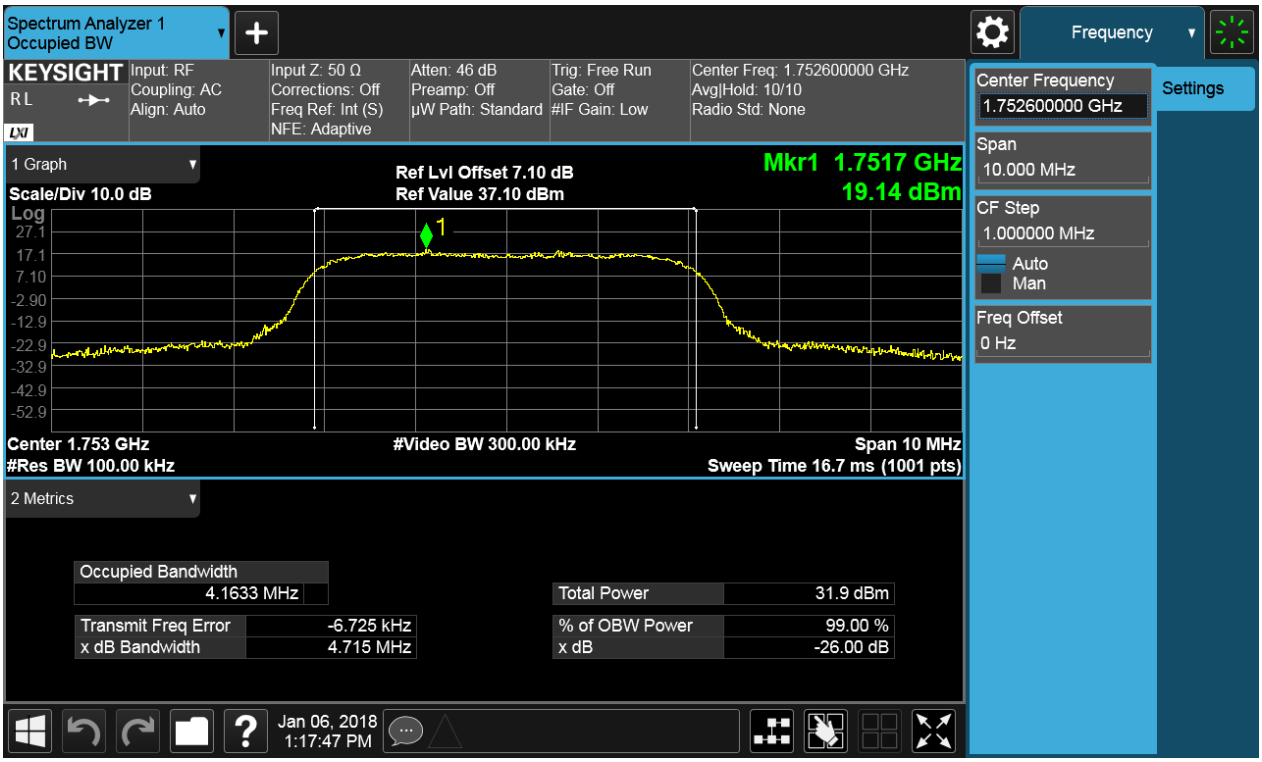
4.1.2.1.1 Test Channel = LCH



4.1.2.1.2 Test Channel = MCH



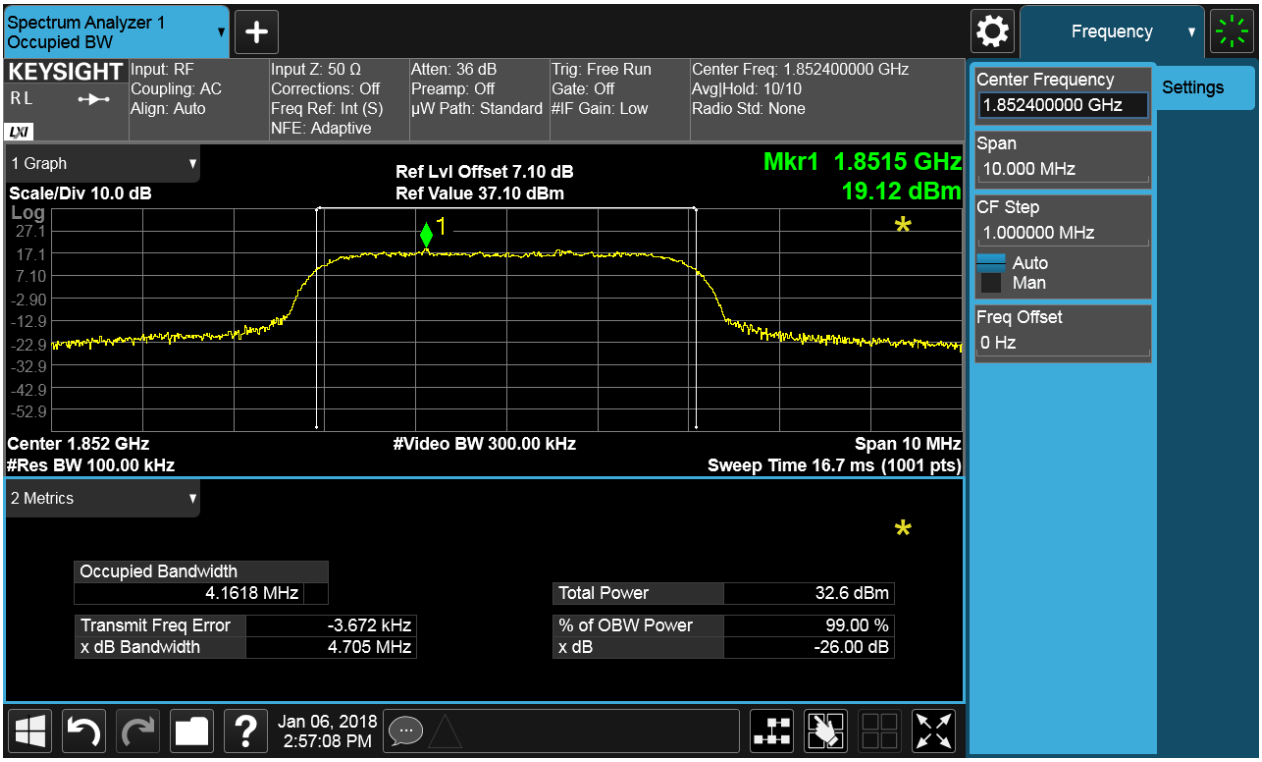
4.1.2.1.3 Test Channel = HCH



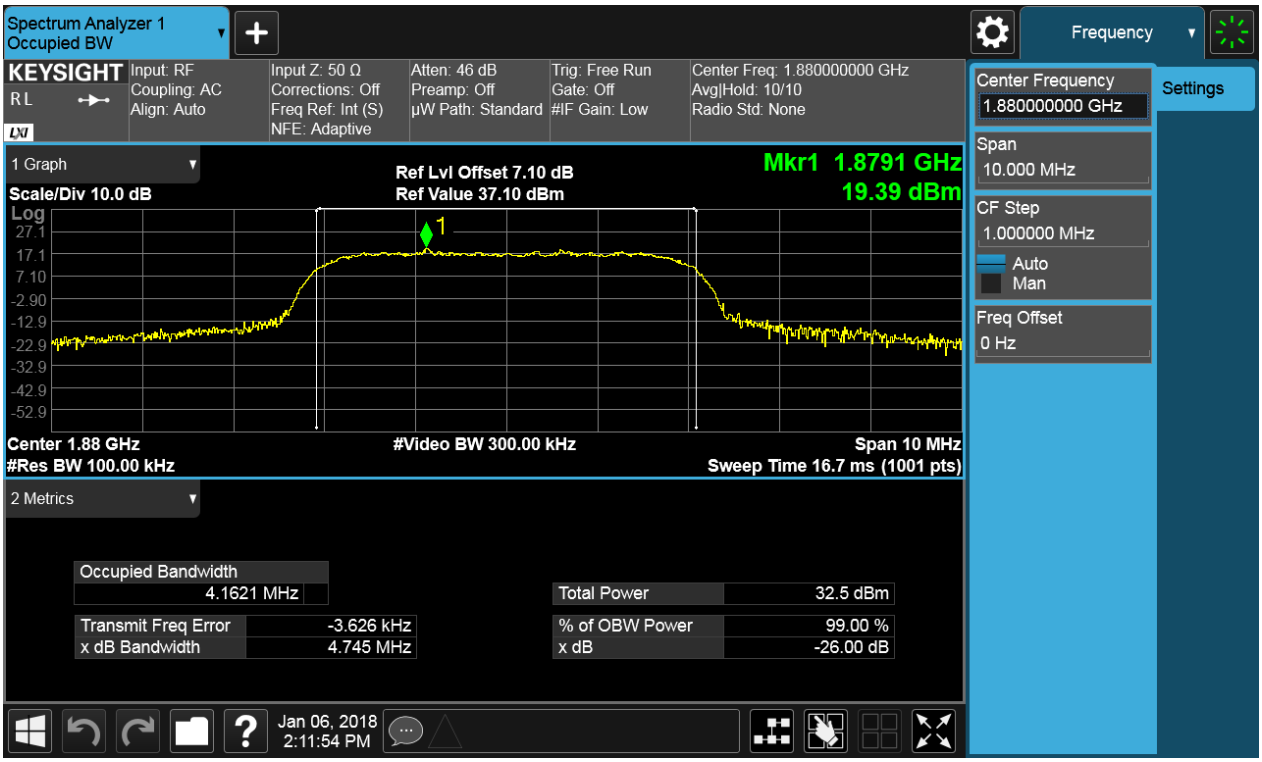
4.1.3 Test Band = WCDMA1900

4.1.3.1 Test Mode = UMTS/TM1

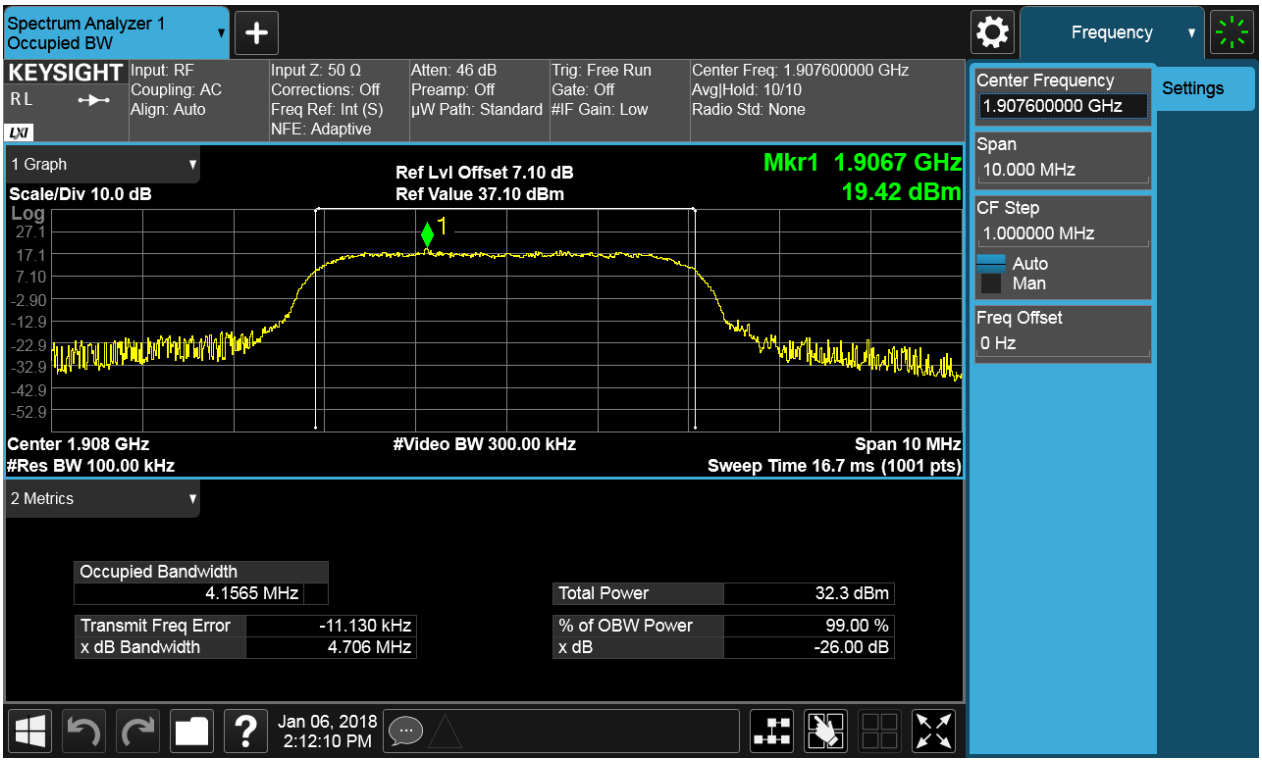
4.1.3.1.1 Test Channel = LCH



4.1.3.1.2 Test Channel = MCH



4.1.3.1.3 Test Channel = HCH



5Appendix_E: Band Edges Compliance

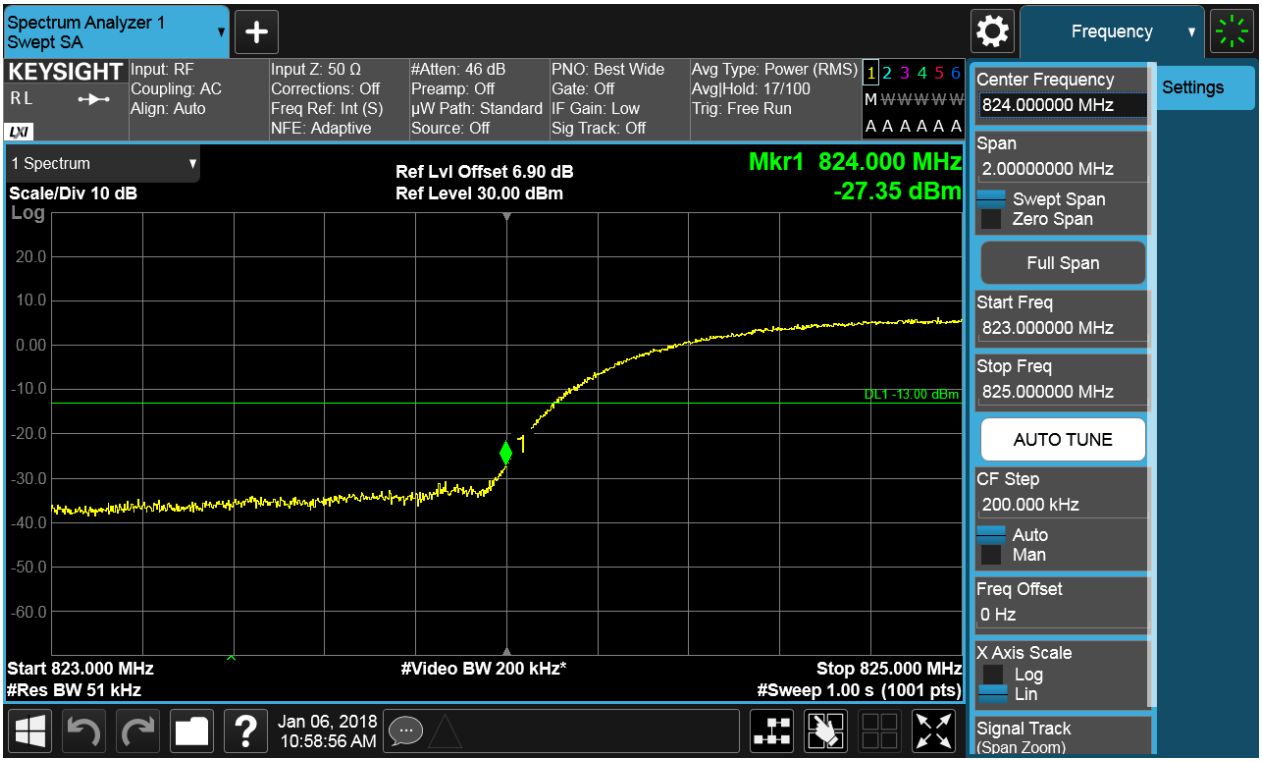
Part I - Test Plots

5.1 For UMTS

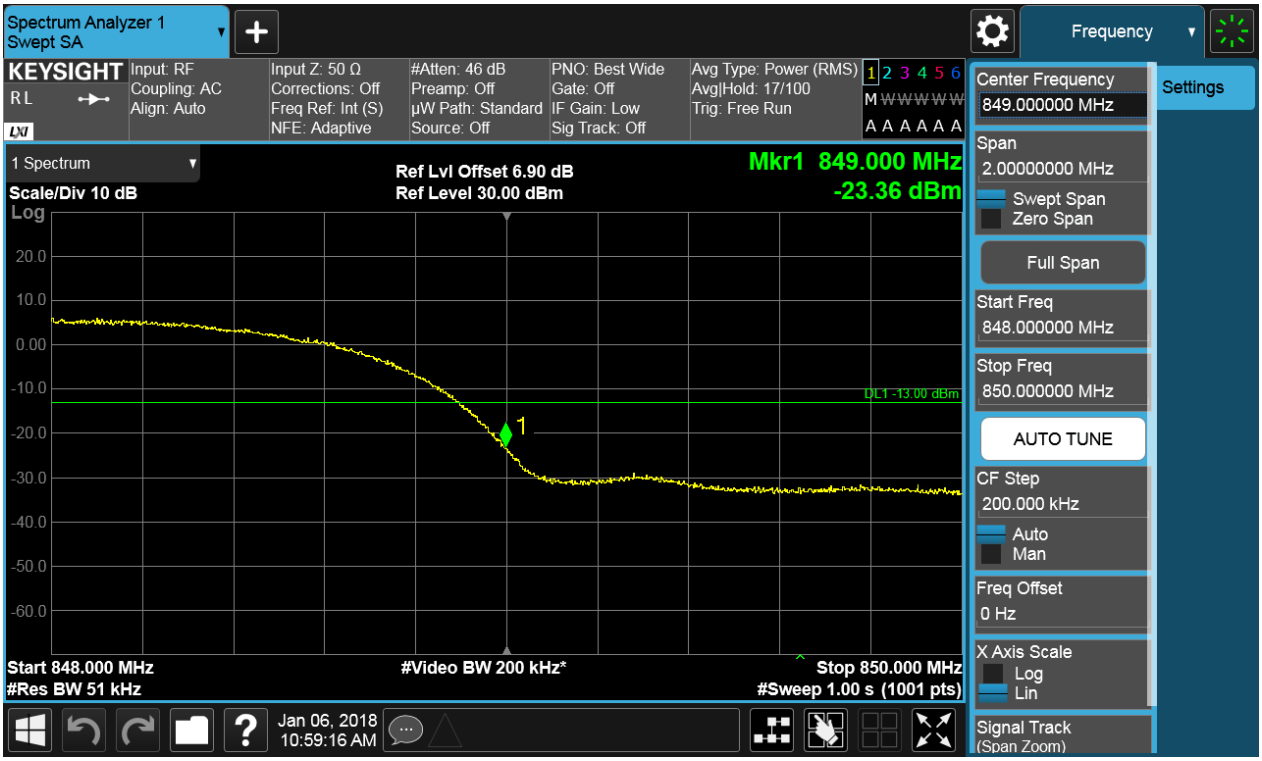
5.1.1 Test Band = WCDMA850

5.1.1.1 Test Mode = UMTS/TM1

5.1.1.1.1 Test Channel = LCH



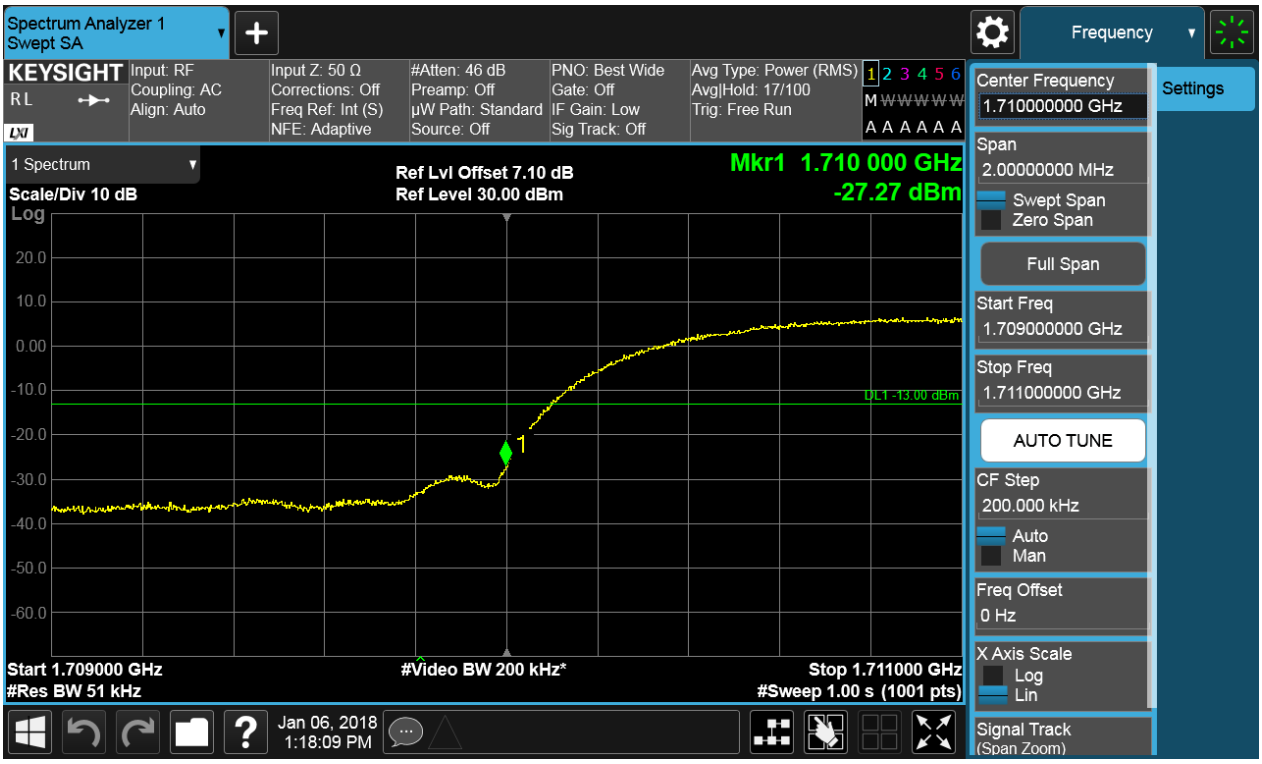
5.1.1.1.2 Test Channel = HCH



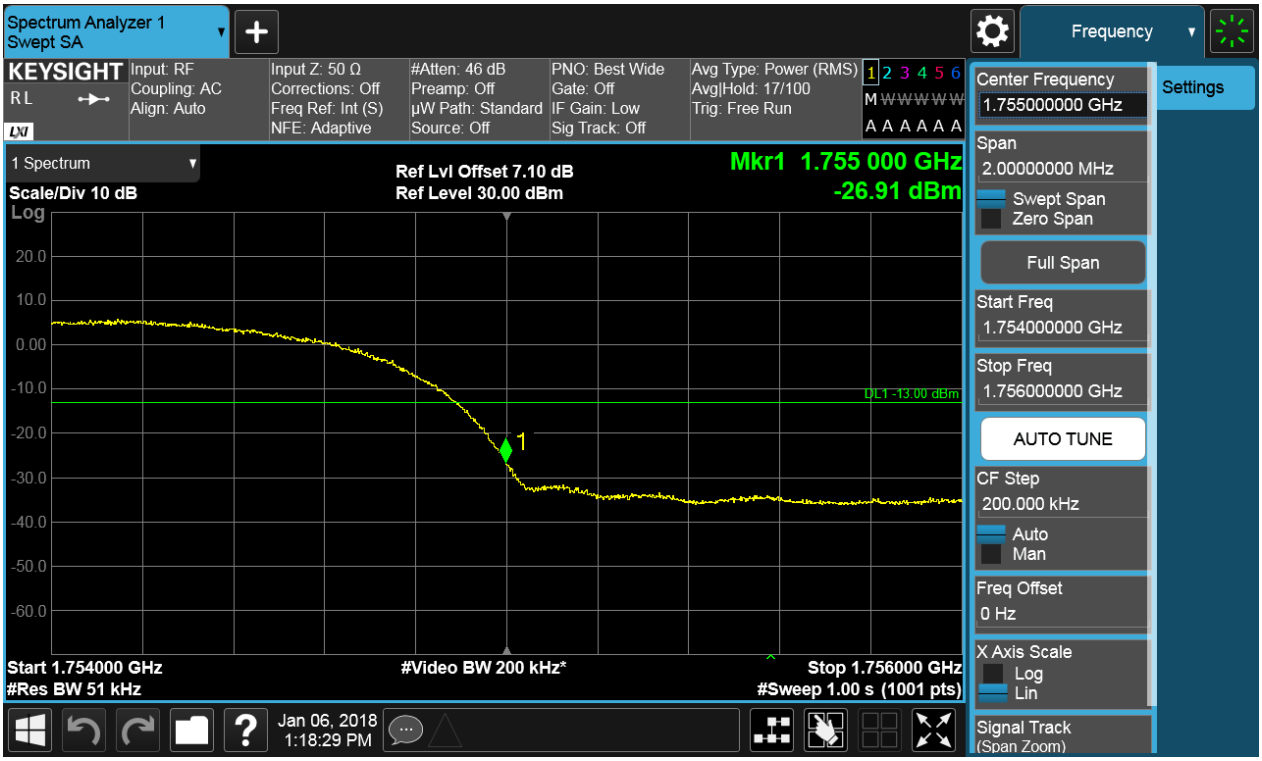
5.1.2 Test Band = WCDMA1700

5.1.2.1 Test Mode = UMTS/TM1

5.1.2.1.1 Test Channel = LCH



5.1.2.1.2 Test Channel = HCH



5.1.3 Test Band = WCDMA1900

5.1.3.1 Test Mode = UMTS/TM1

5.1.3.1.1 Test Channel = LCH

5.1.3.1.2 Test Channel = HCH

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.

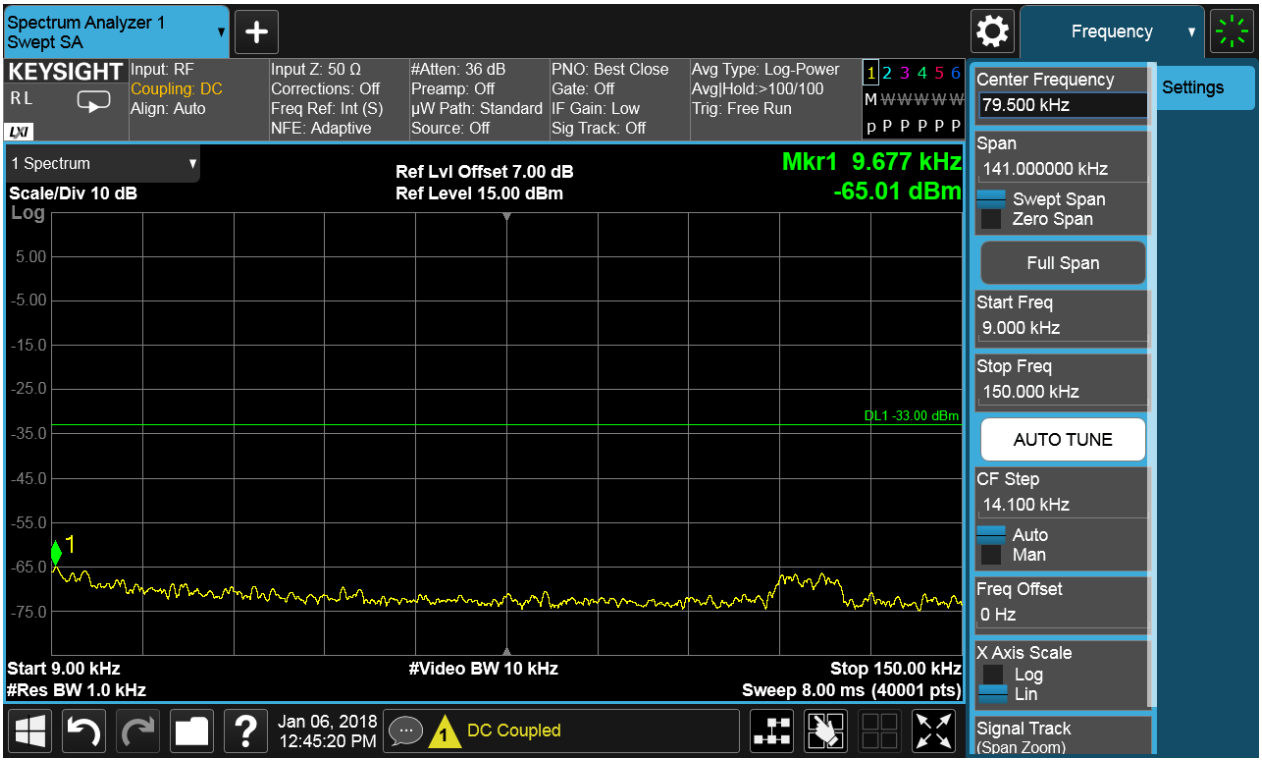
Part I - Test Plots

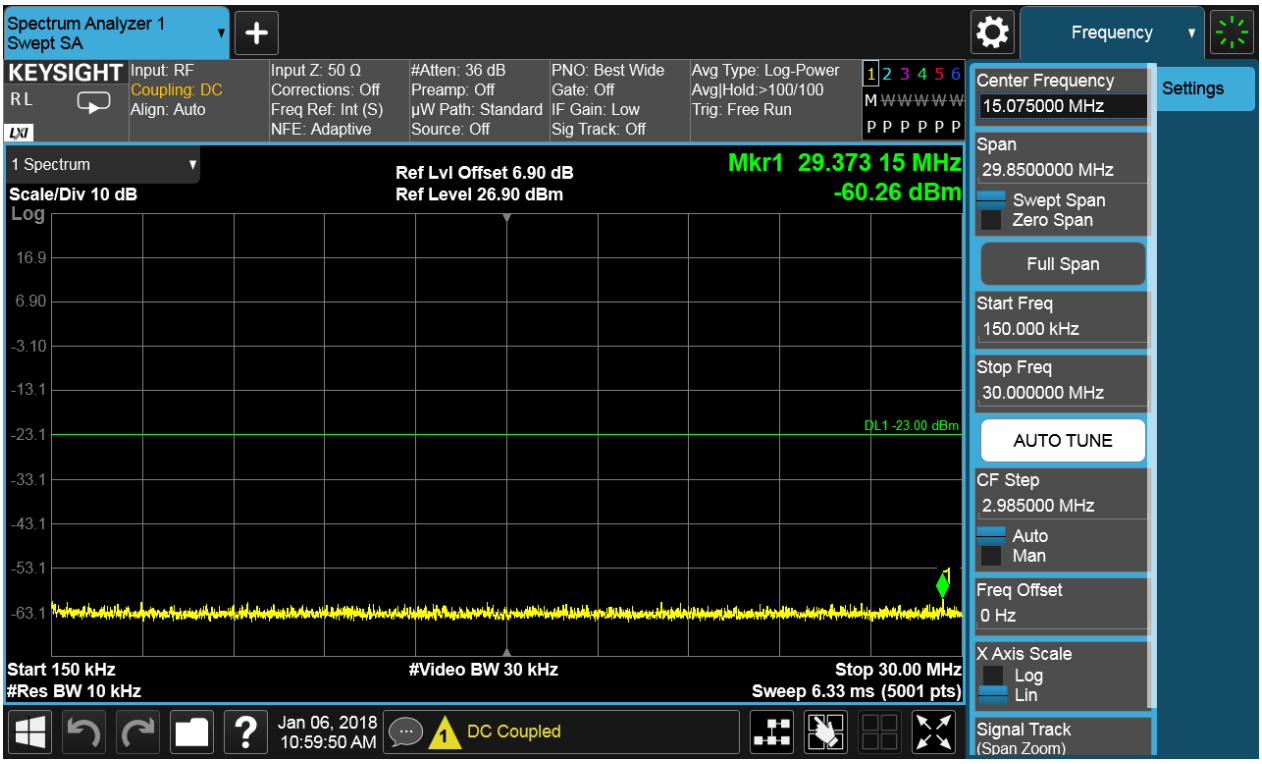
6.1 For UMTS

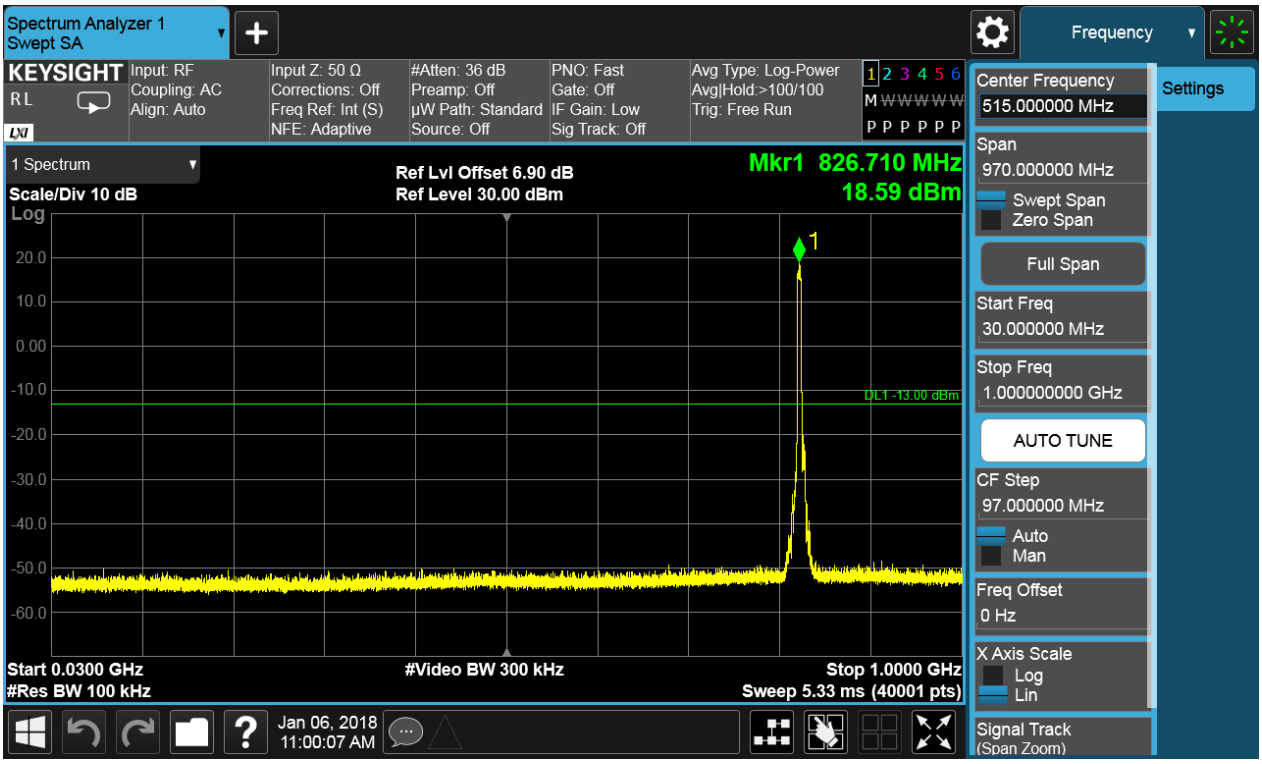
6.1.1 Test Band = WCDMA850

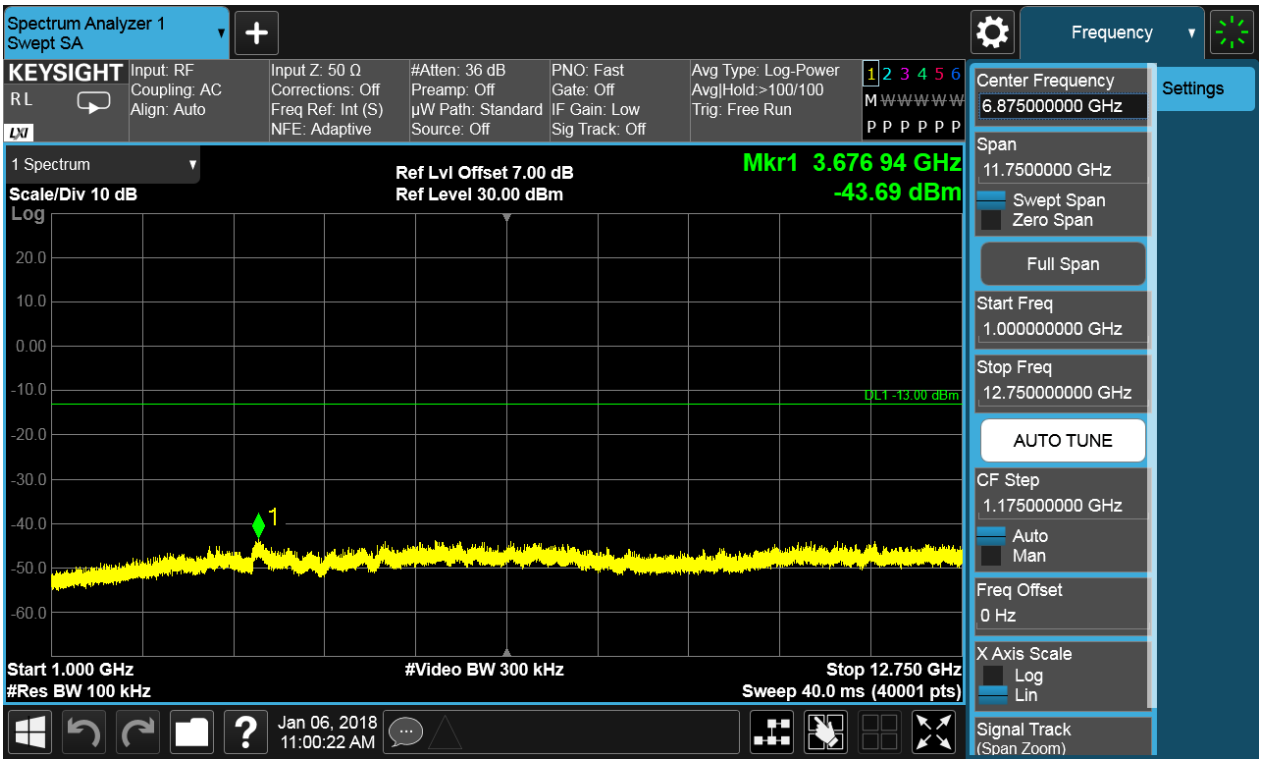
6.1.1.1 Test Mode = UMTS/TM1

6.1.1.1.1 Test Channel = LCH

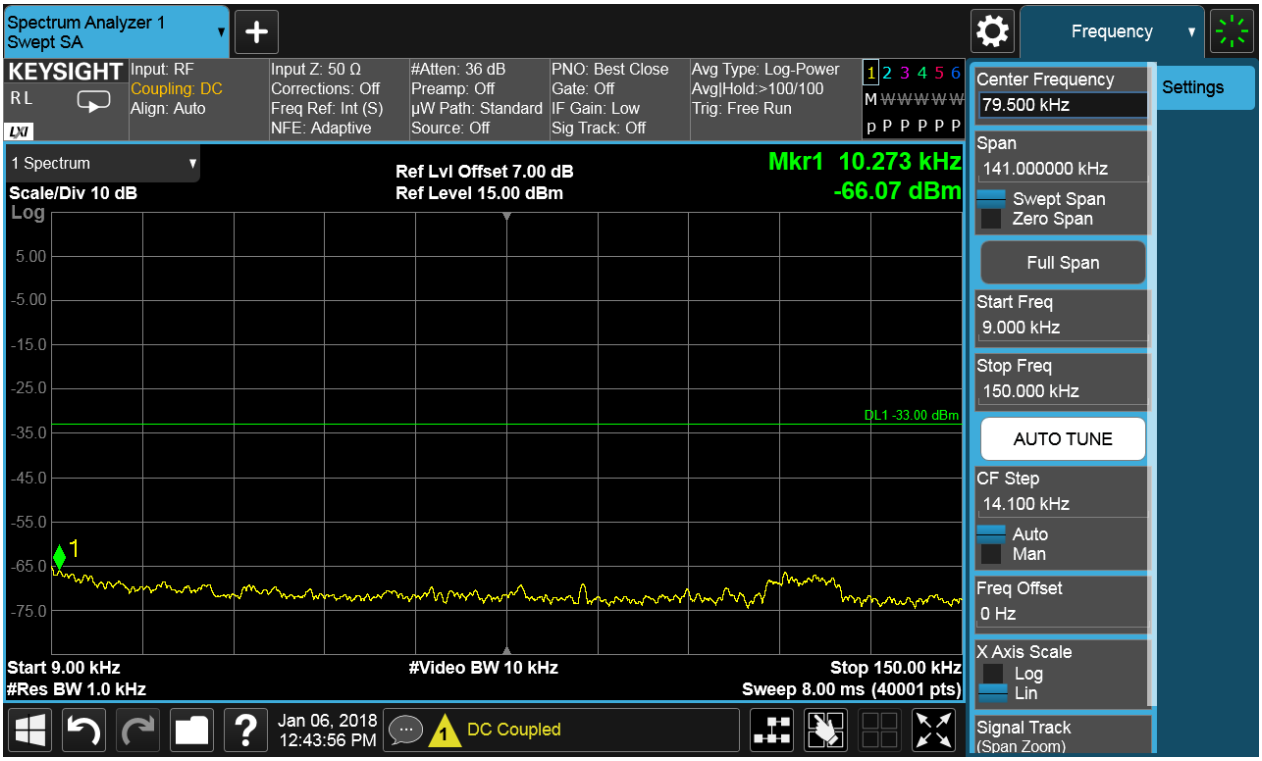


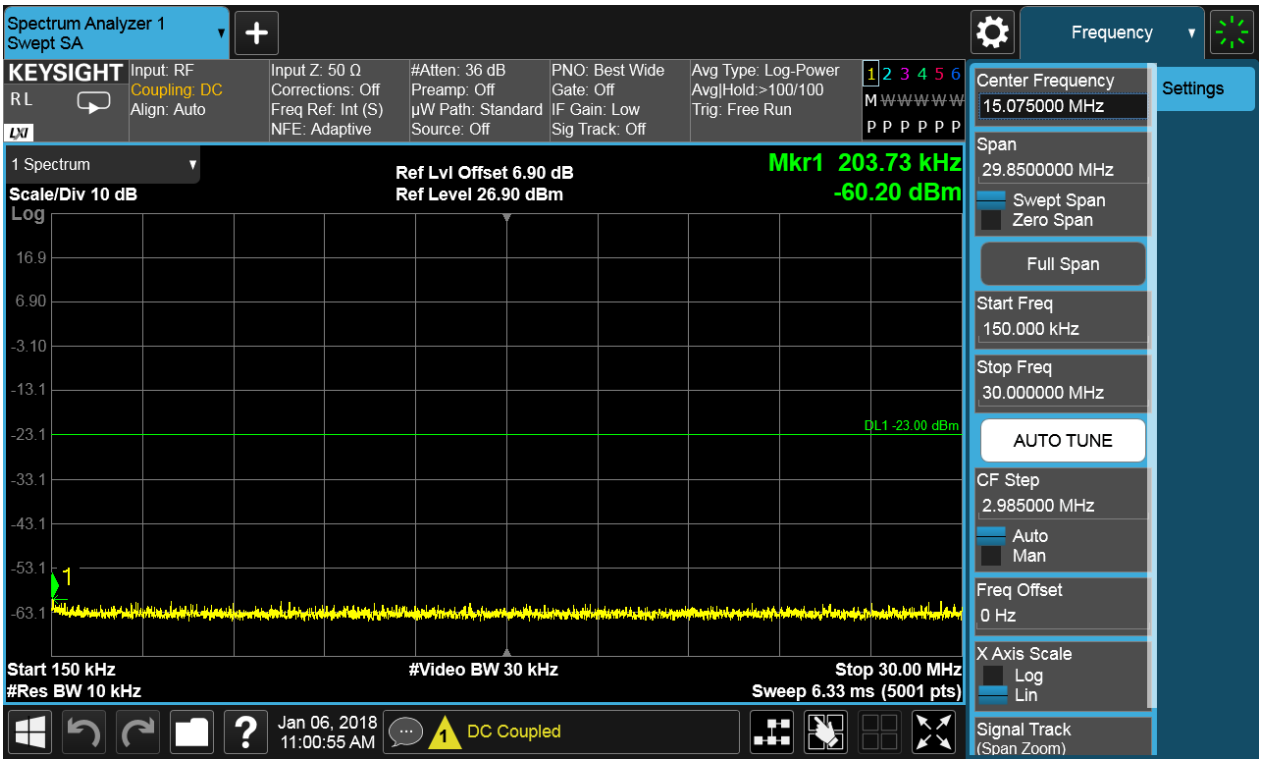


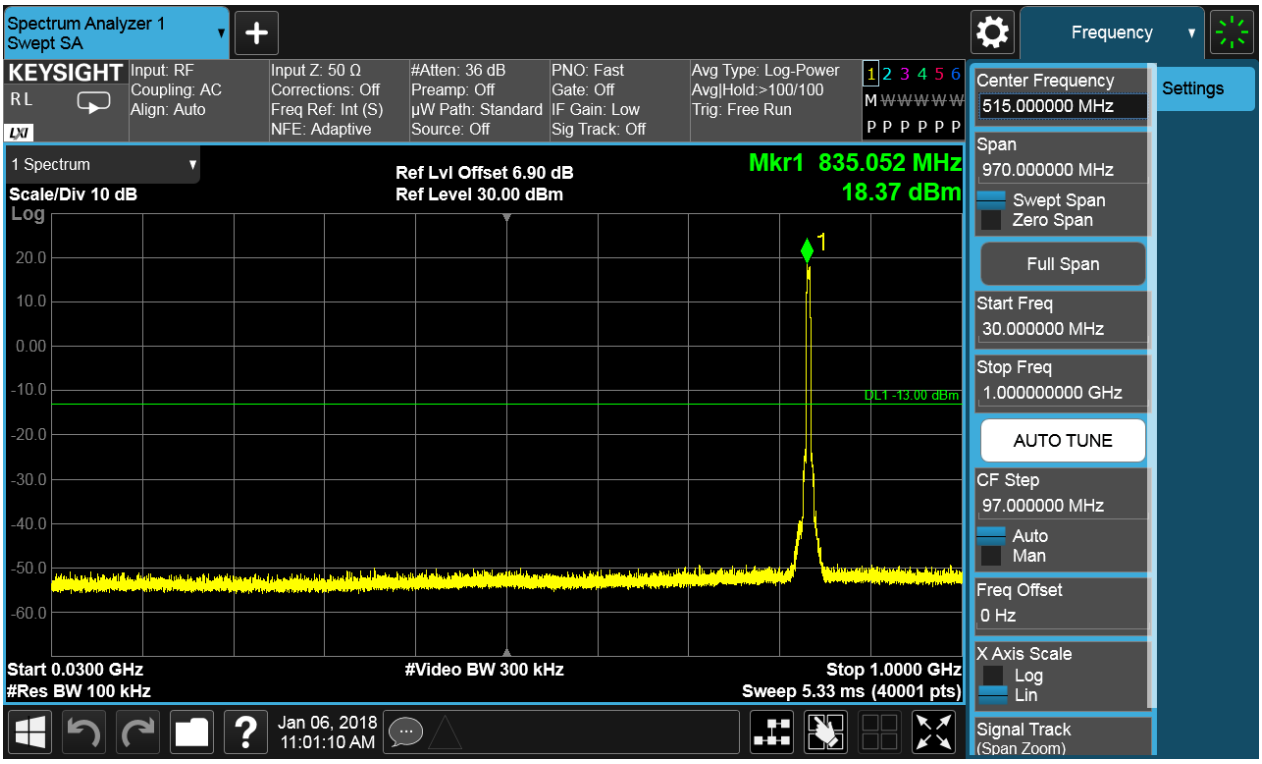


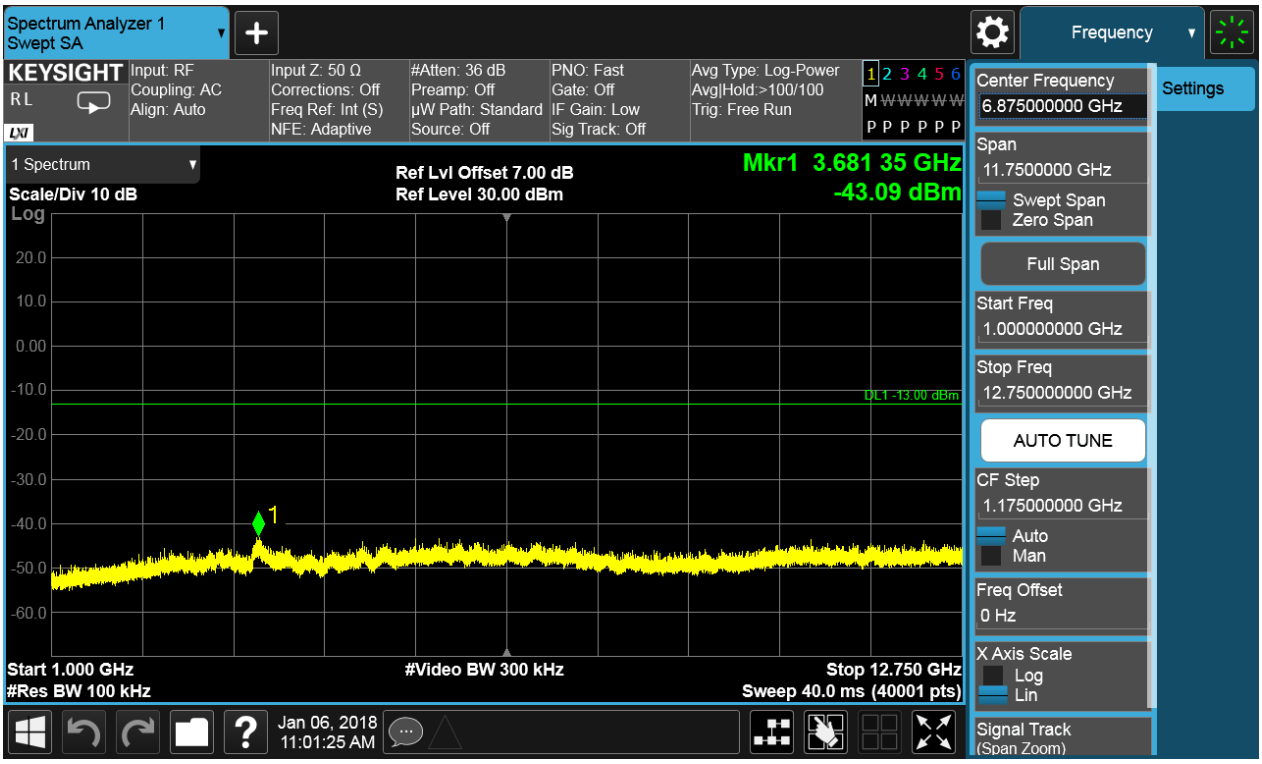


6.1.1.1.2 Test Channel = MCH

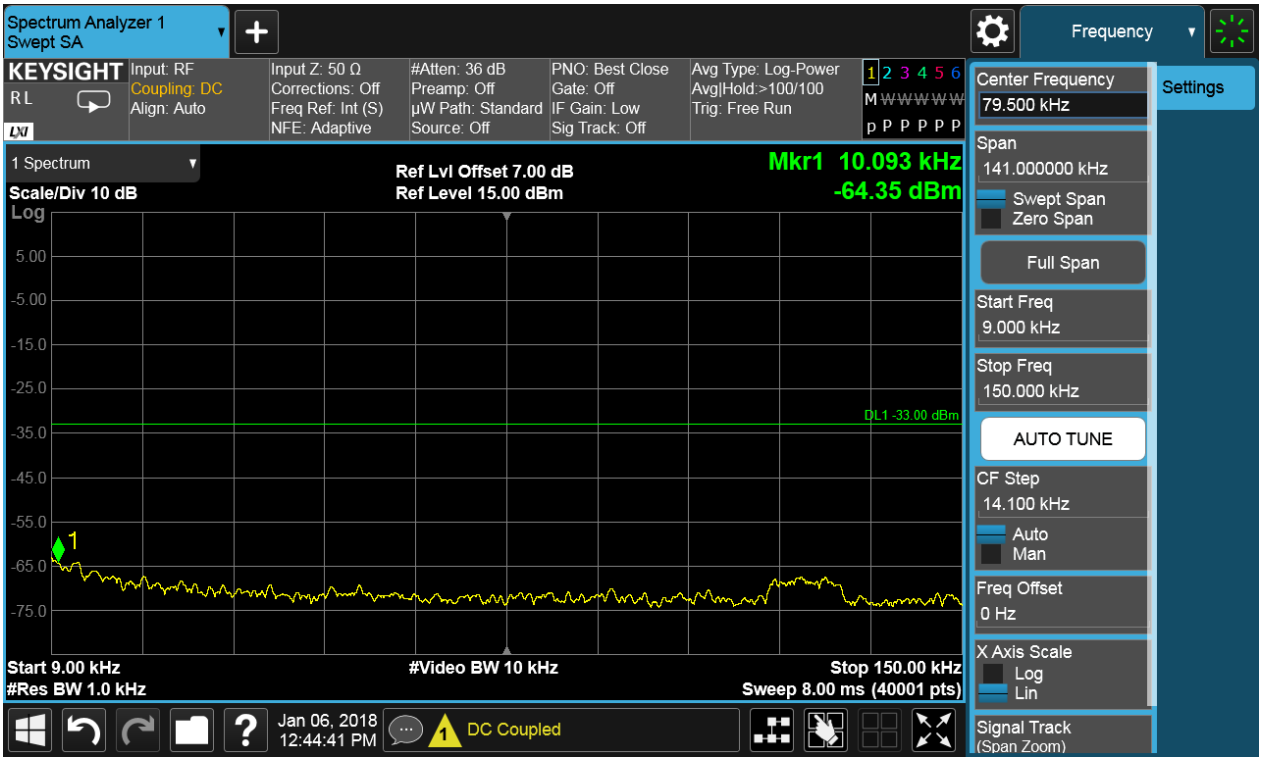


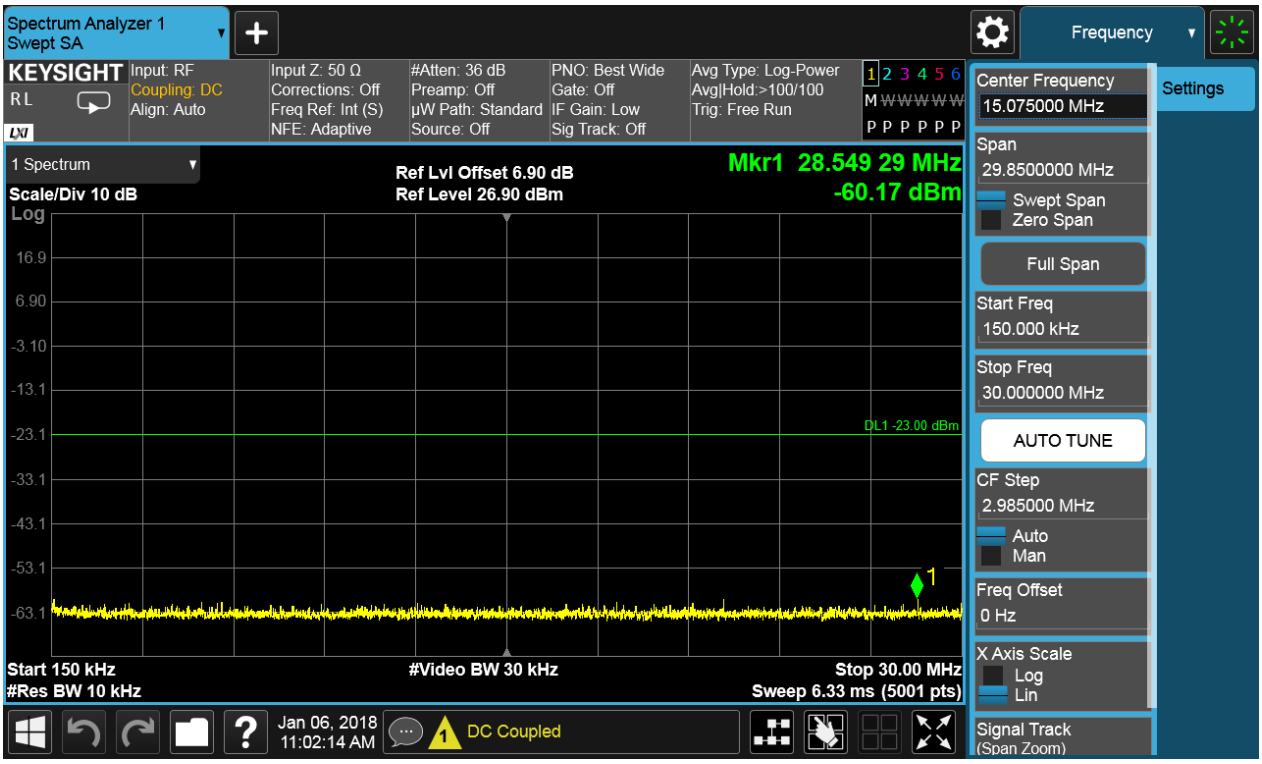


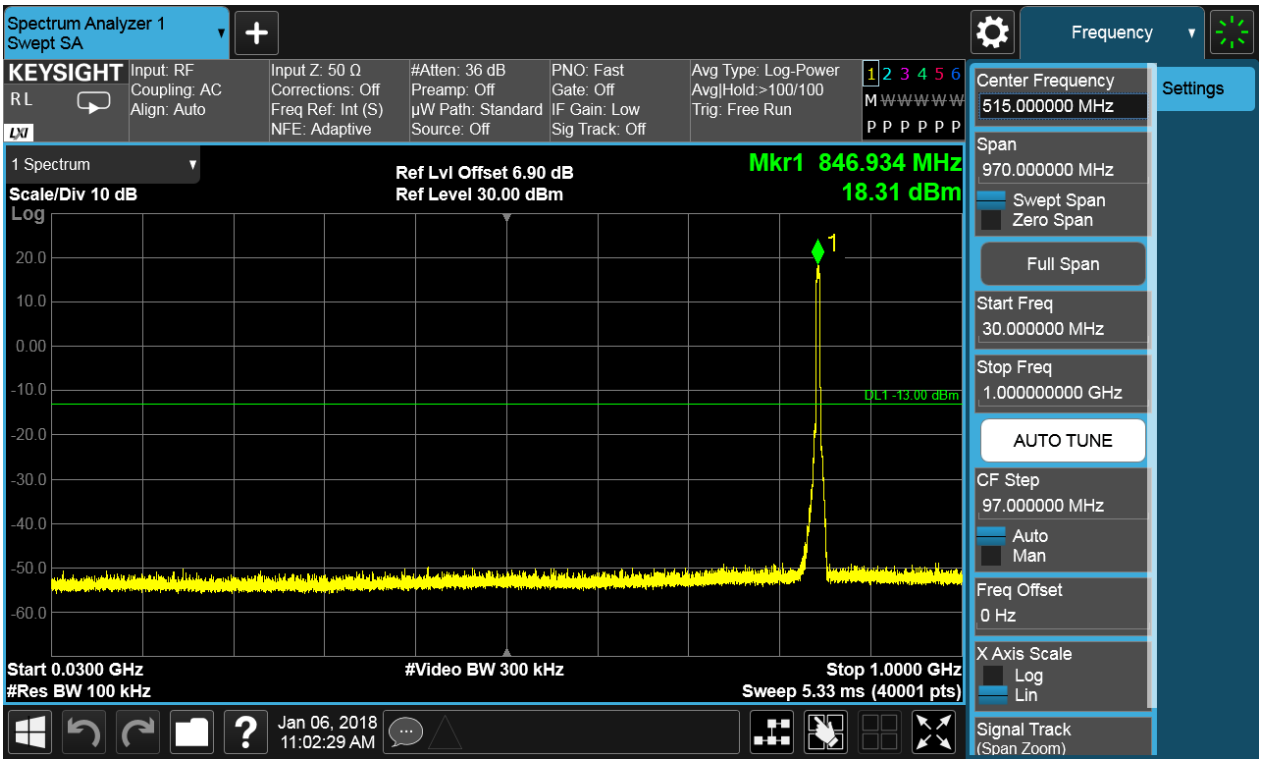


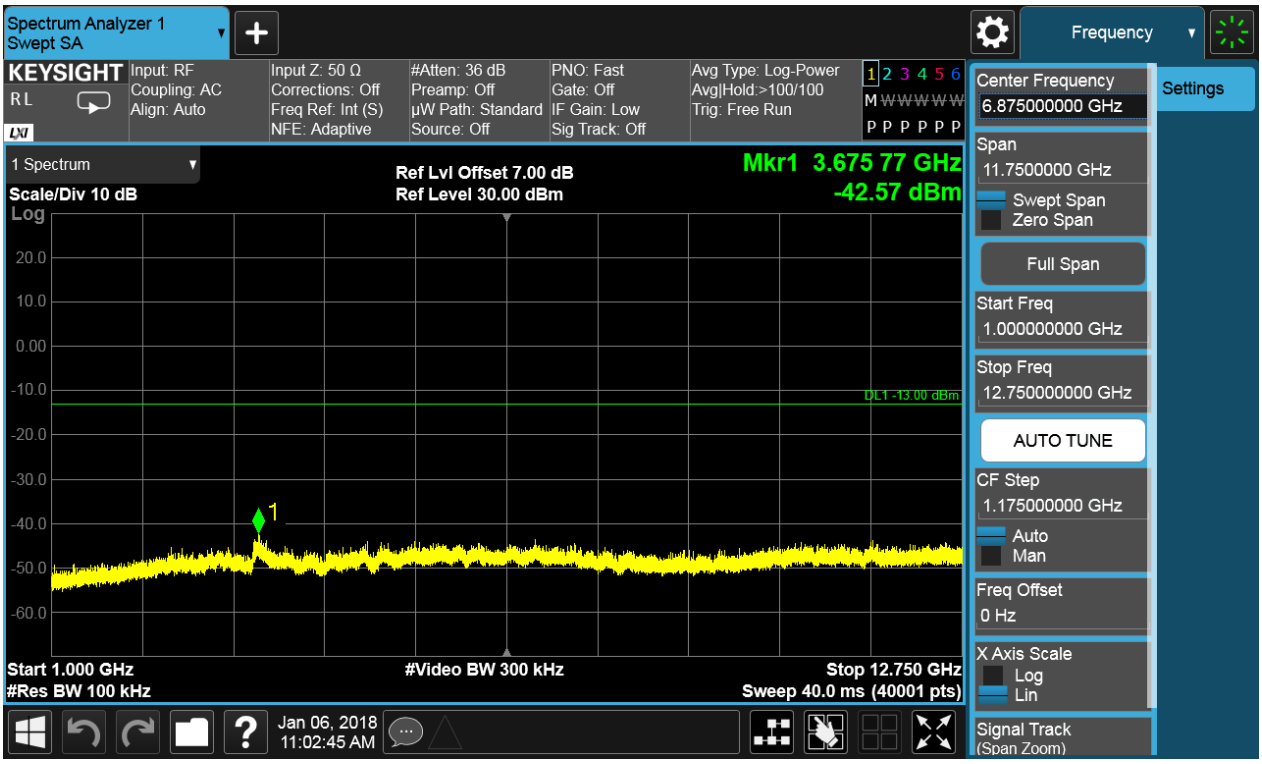


6.1.1.1.3 Test Channel = HCH





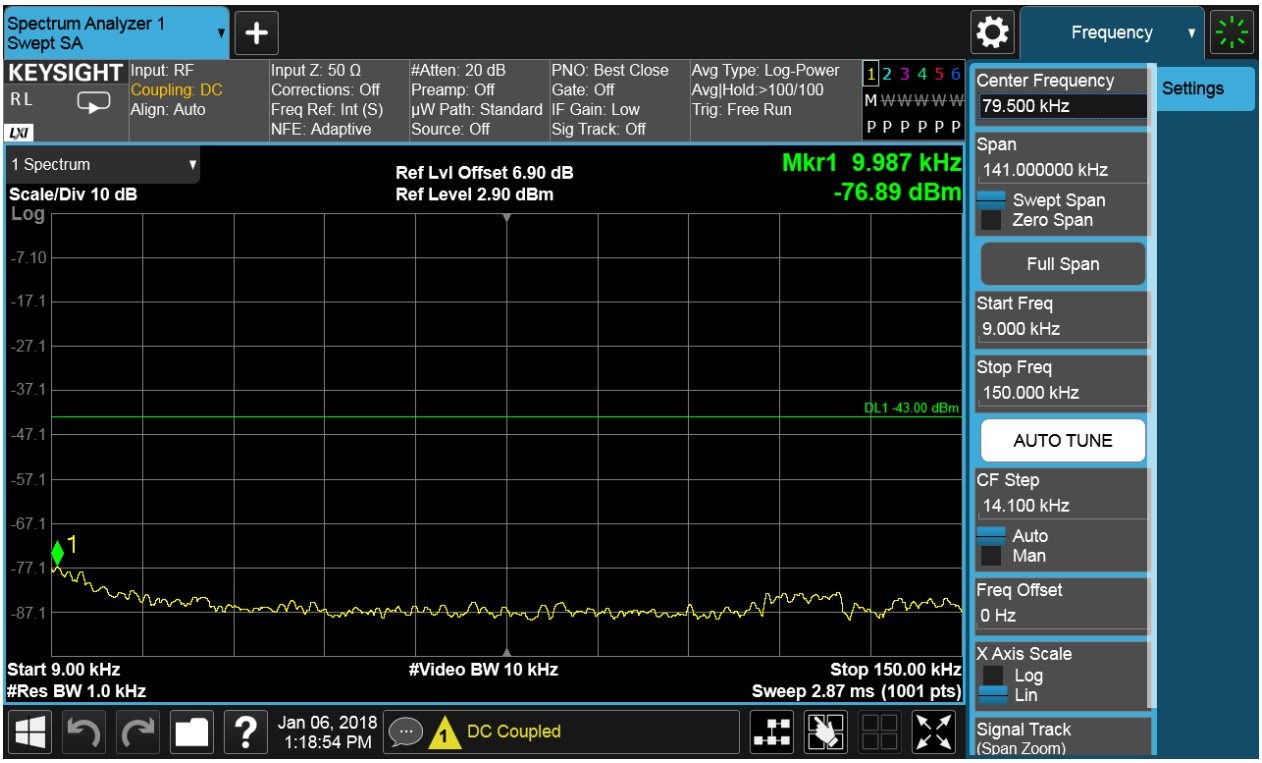


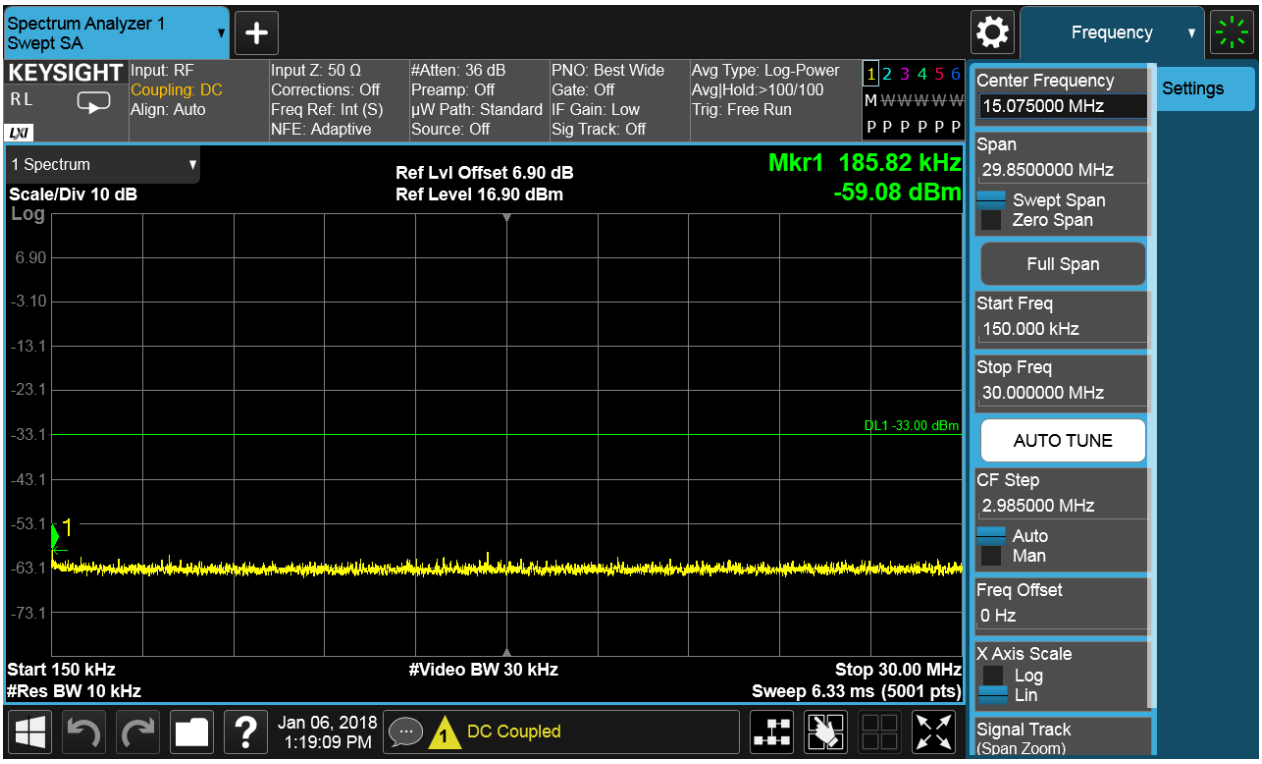


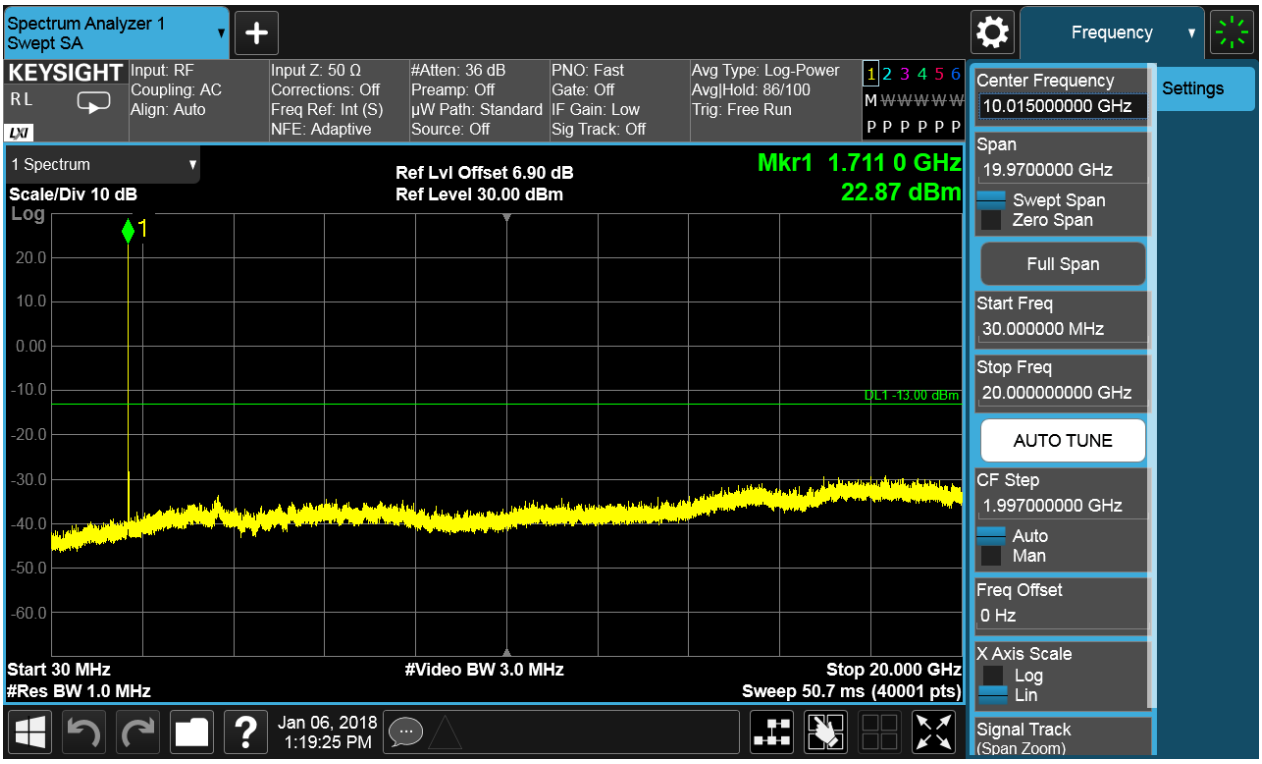
6.1.2 Test Band = WCDMA1700

6.1.2.1 Test Mode = UMTS/TM1

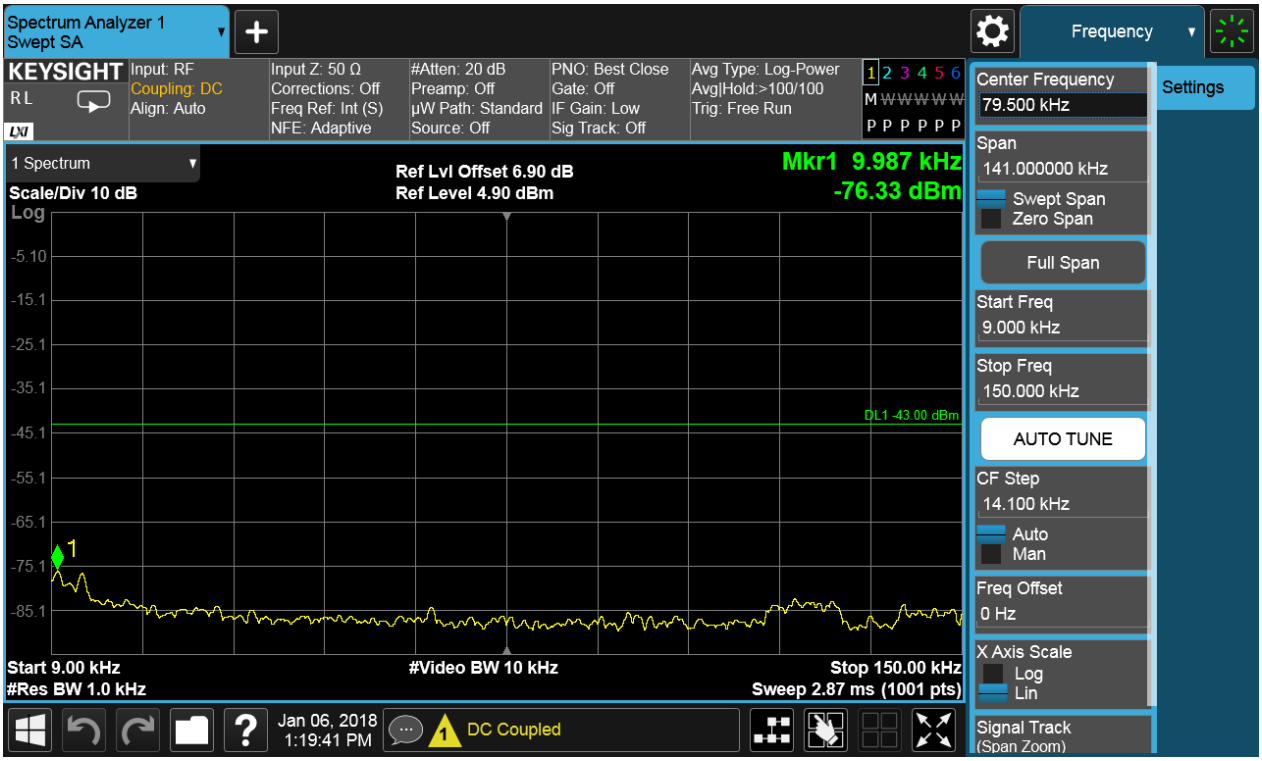
6.1.2.1.1 Test Channel = LCH

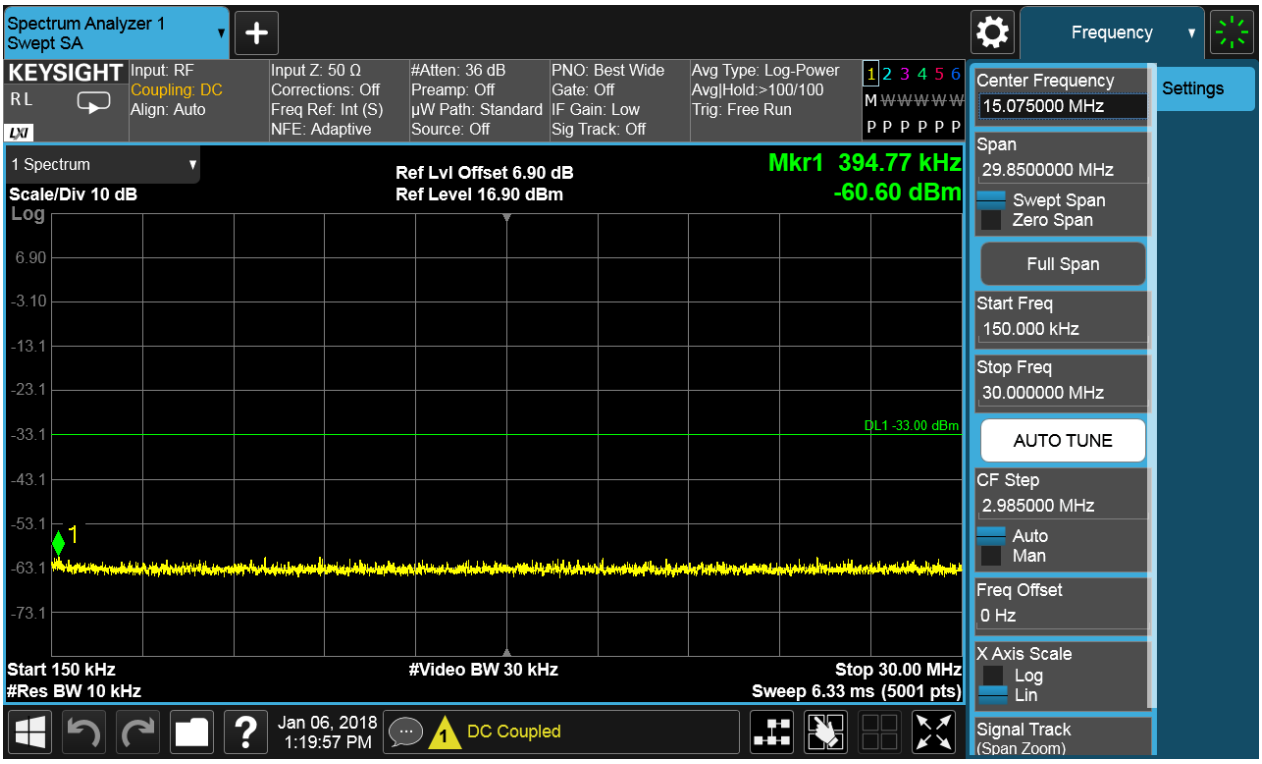


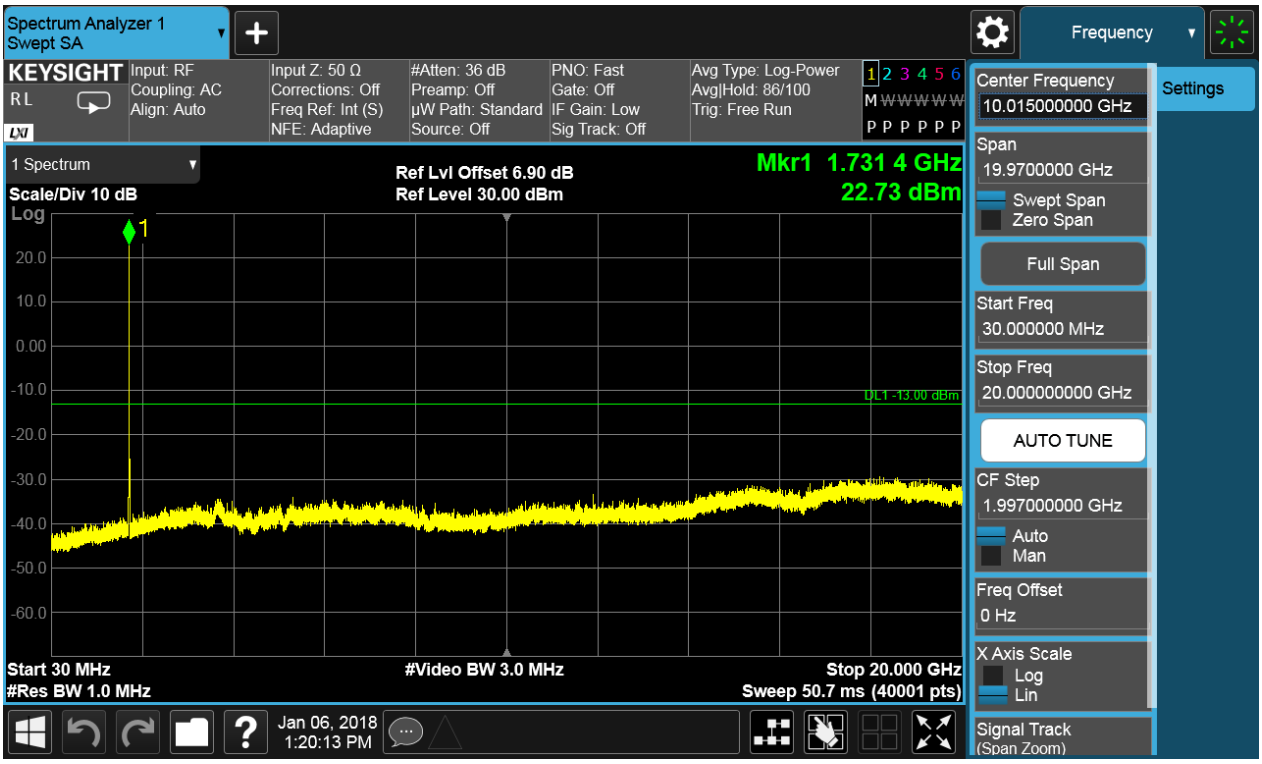




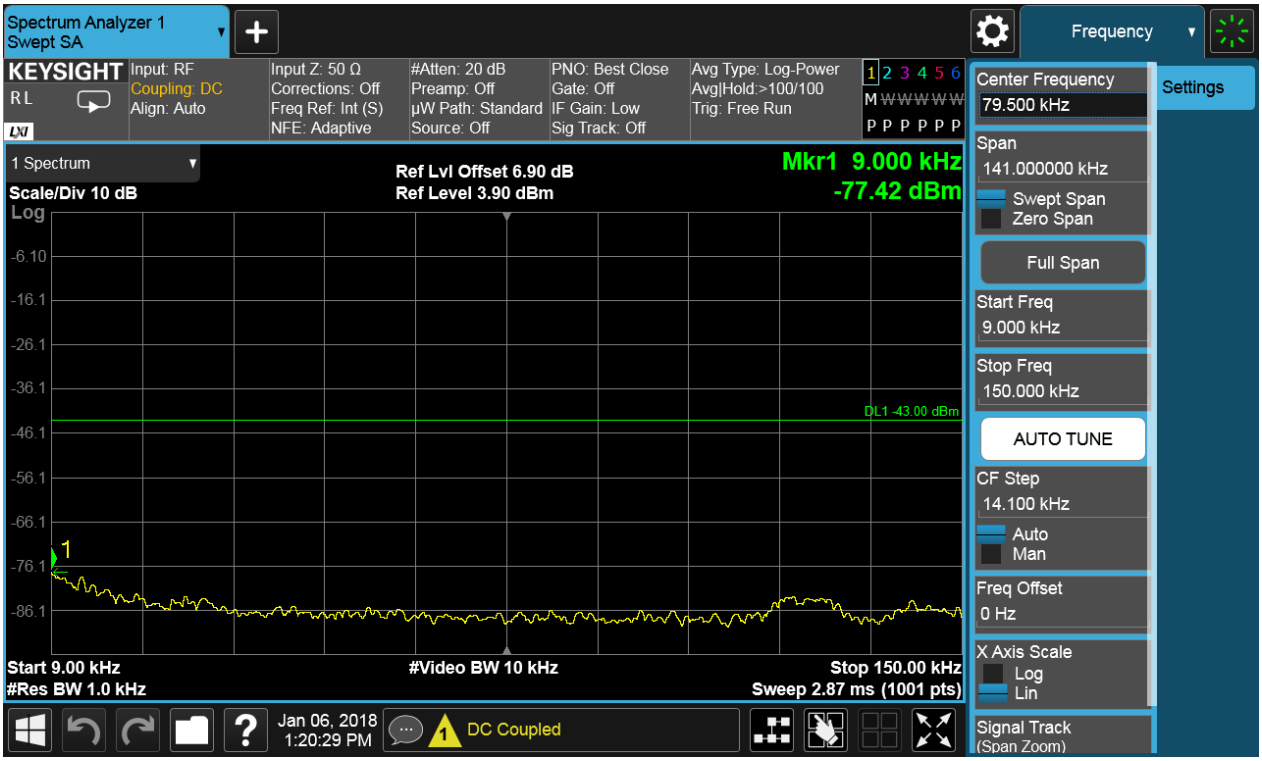
6.1.2.1.2 Test Channel = MCH

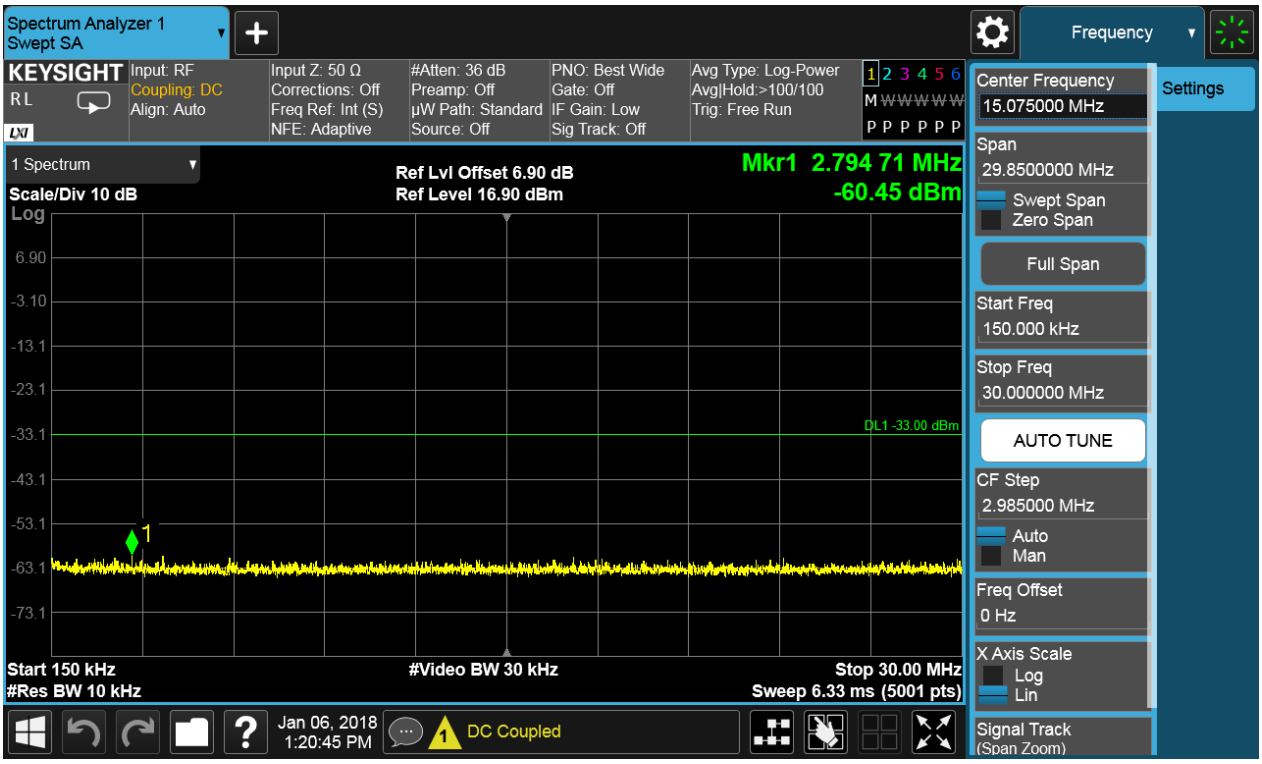


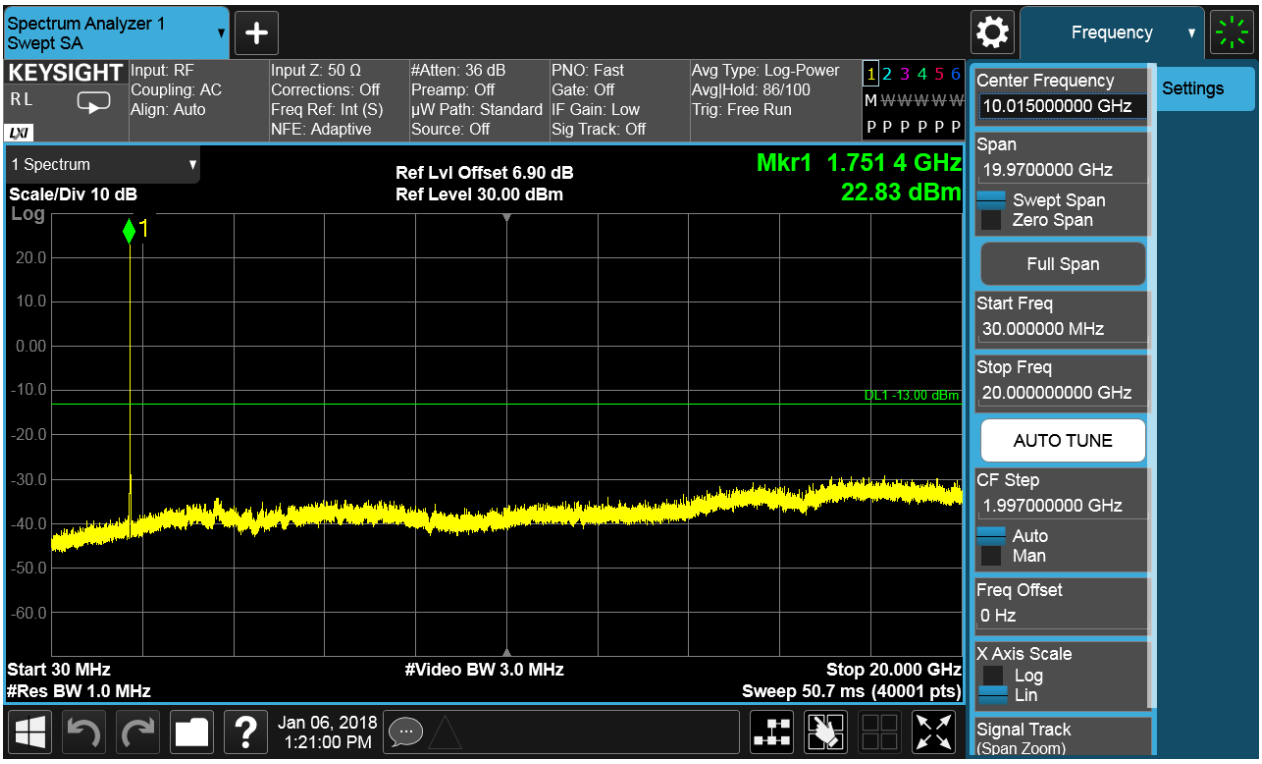




6.1.2.1.3 Test Channel = HCH



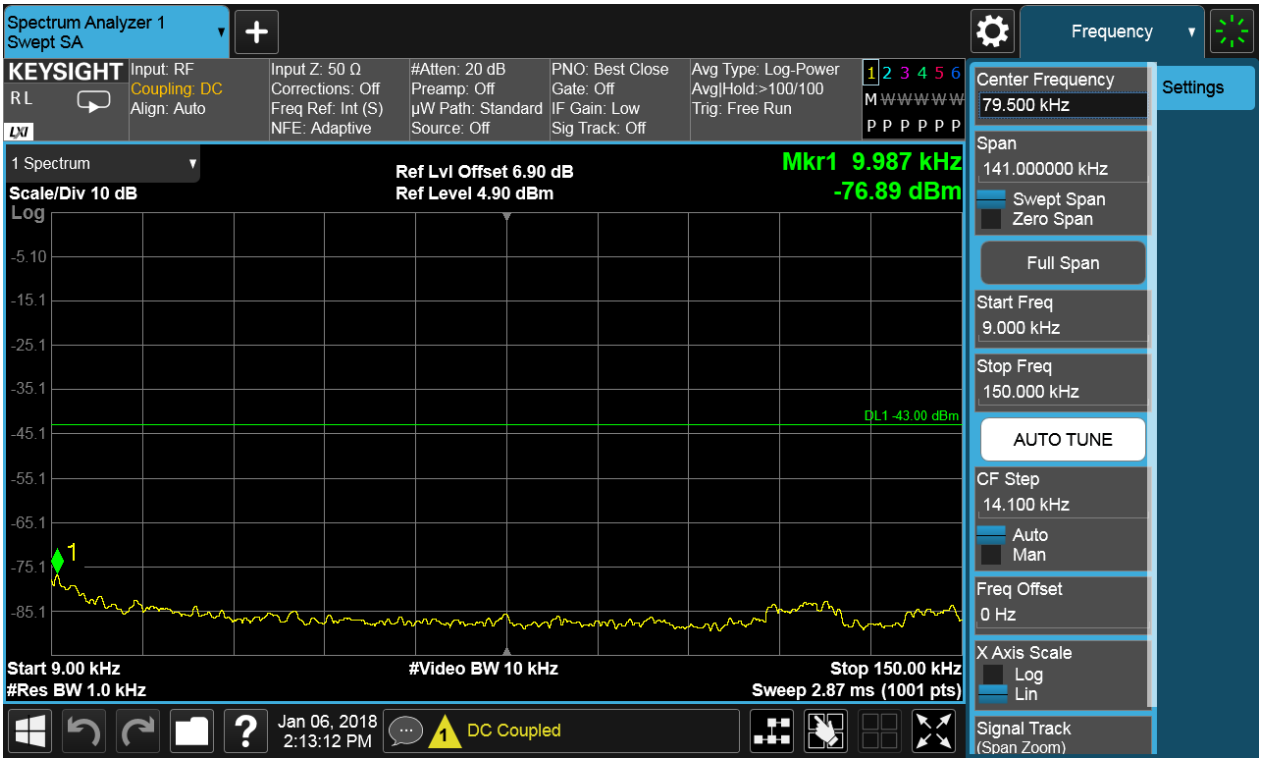


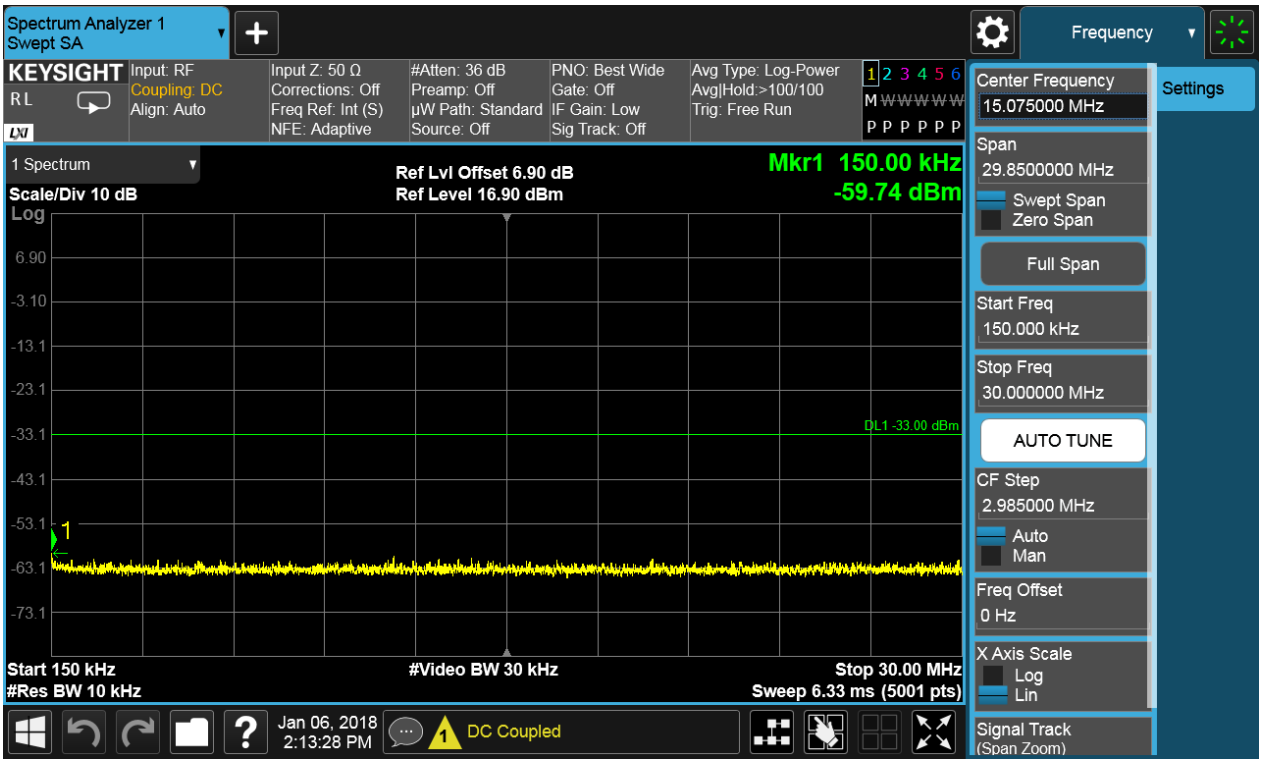


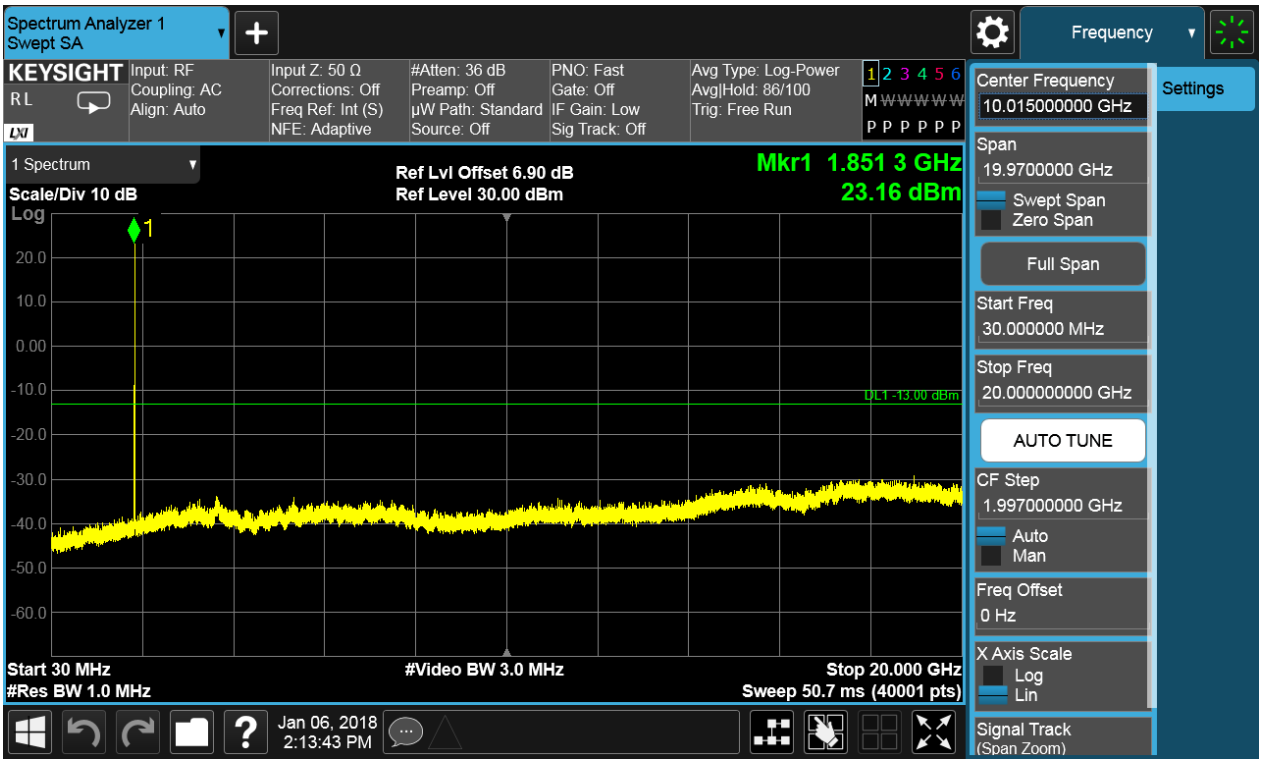
6.1.3 Test Band = WCDMA1900

6.1.3.1 Test Mode = UMTS/TM1

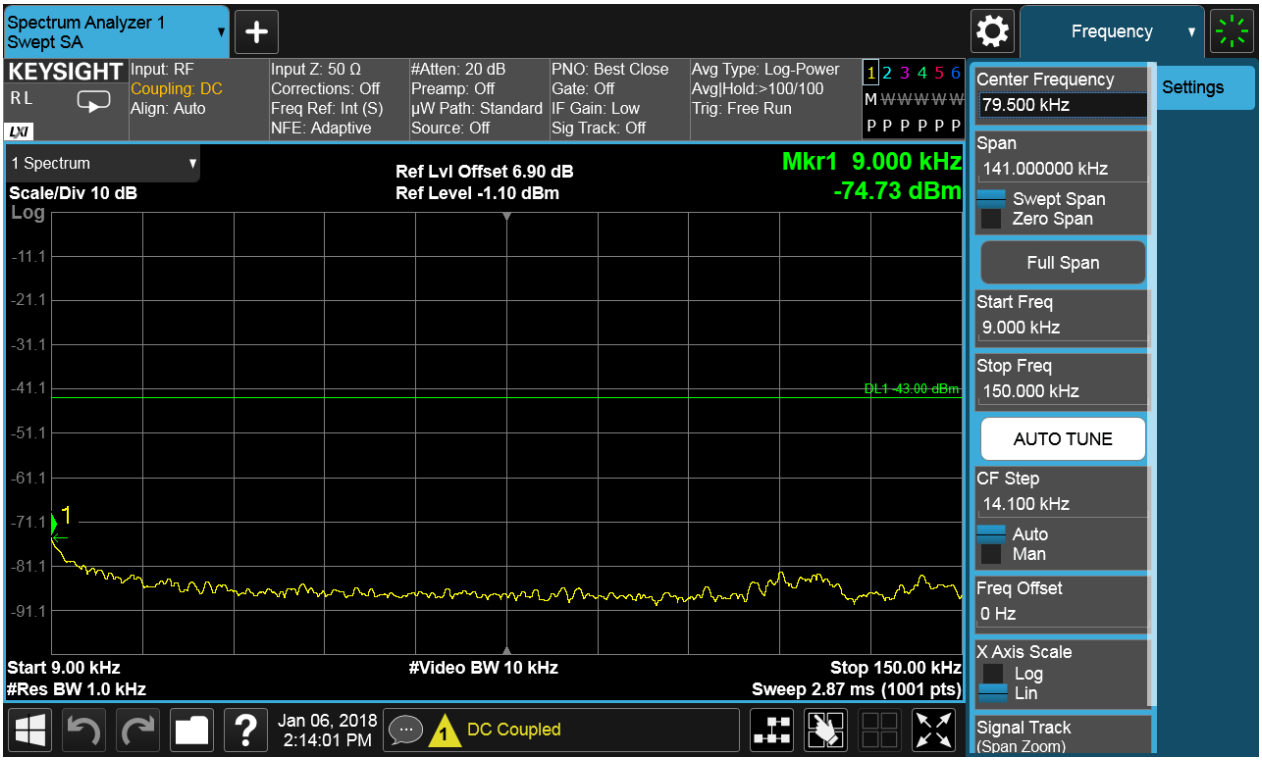
6.1.3.1.1 Test Channel = LCH

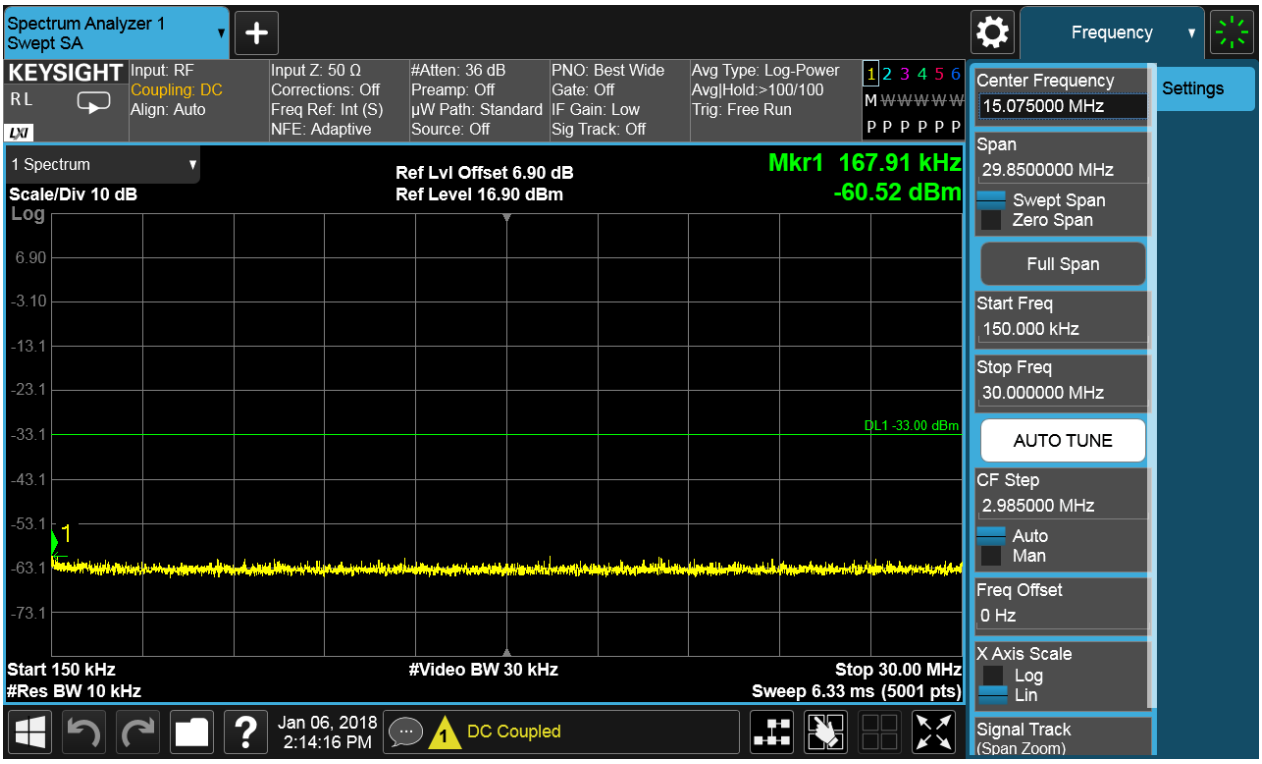


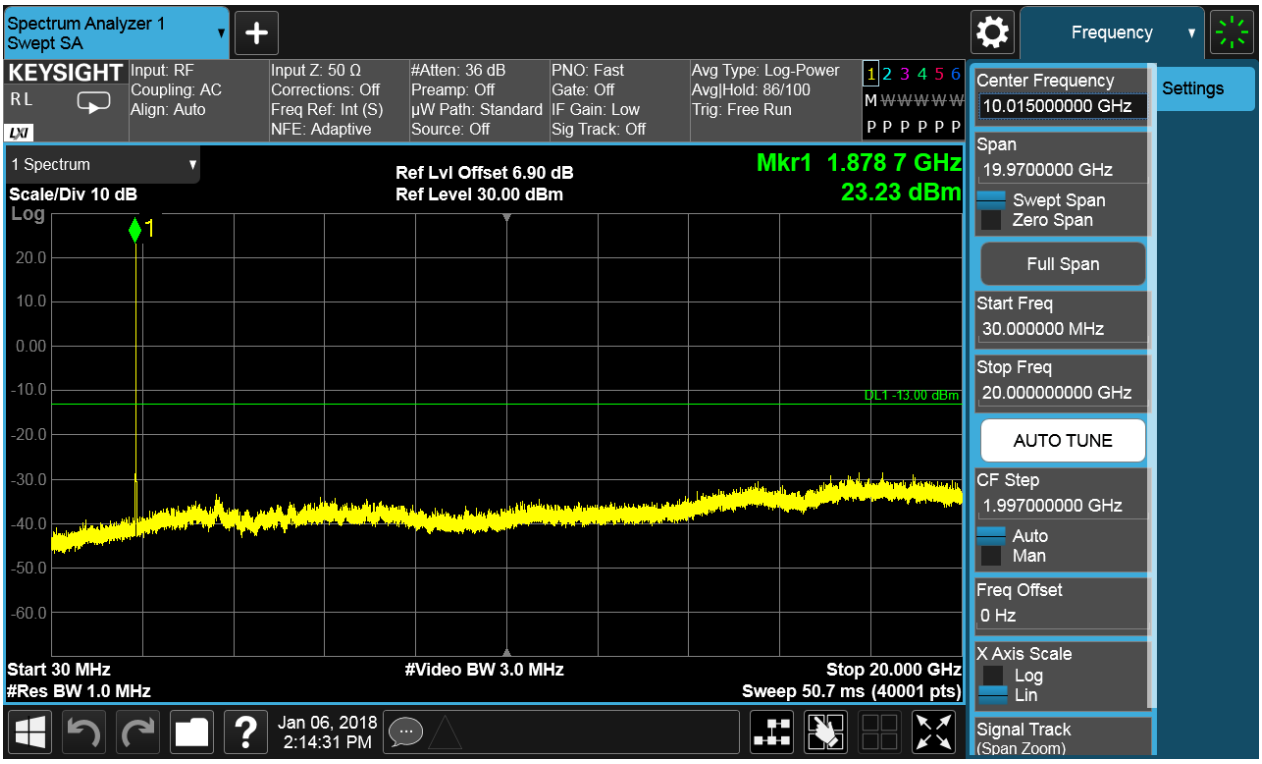




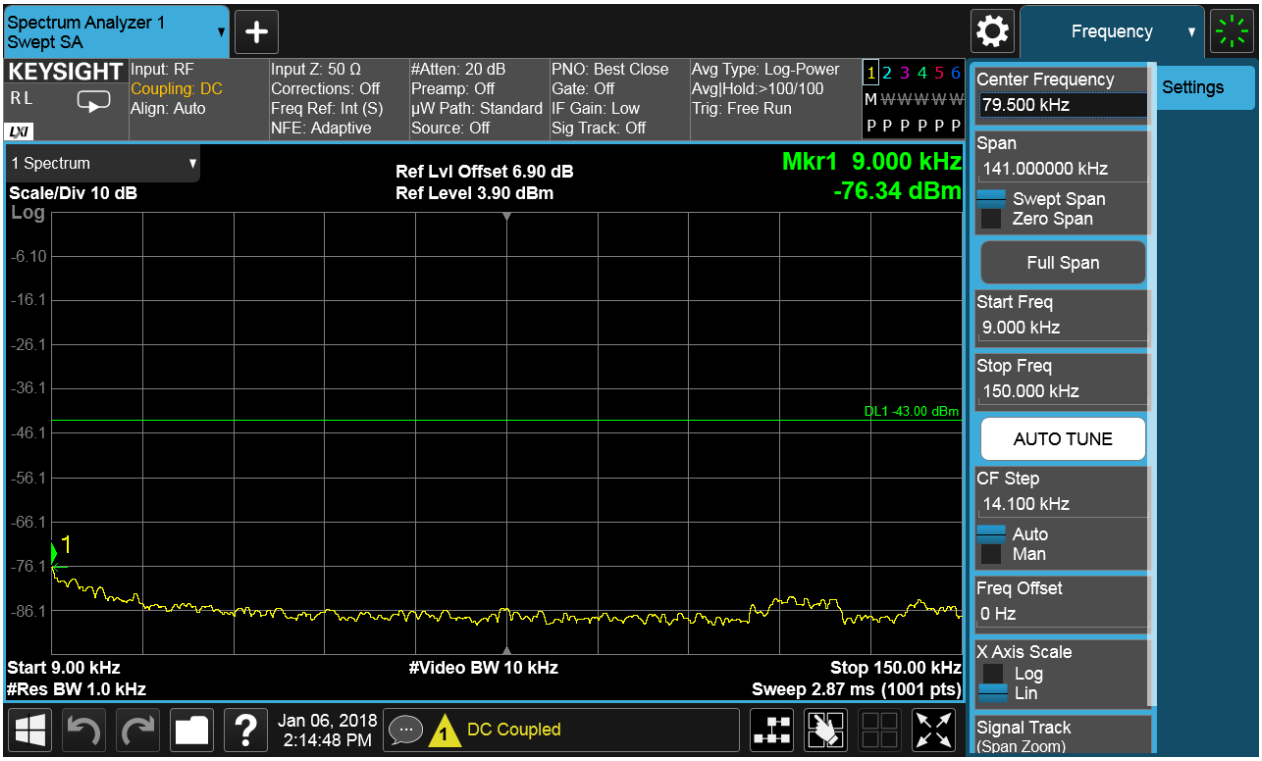
6.1.3.1.2 Test Channel = MCH

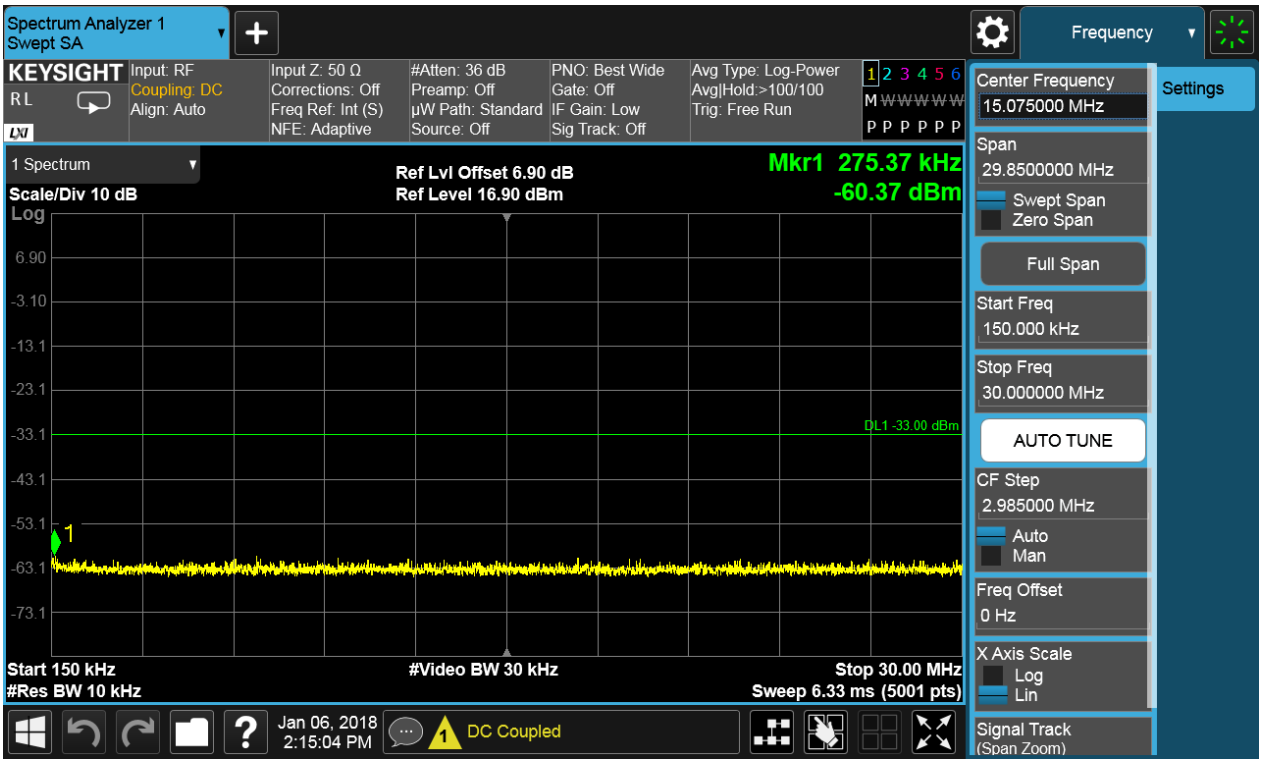


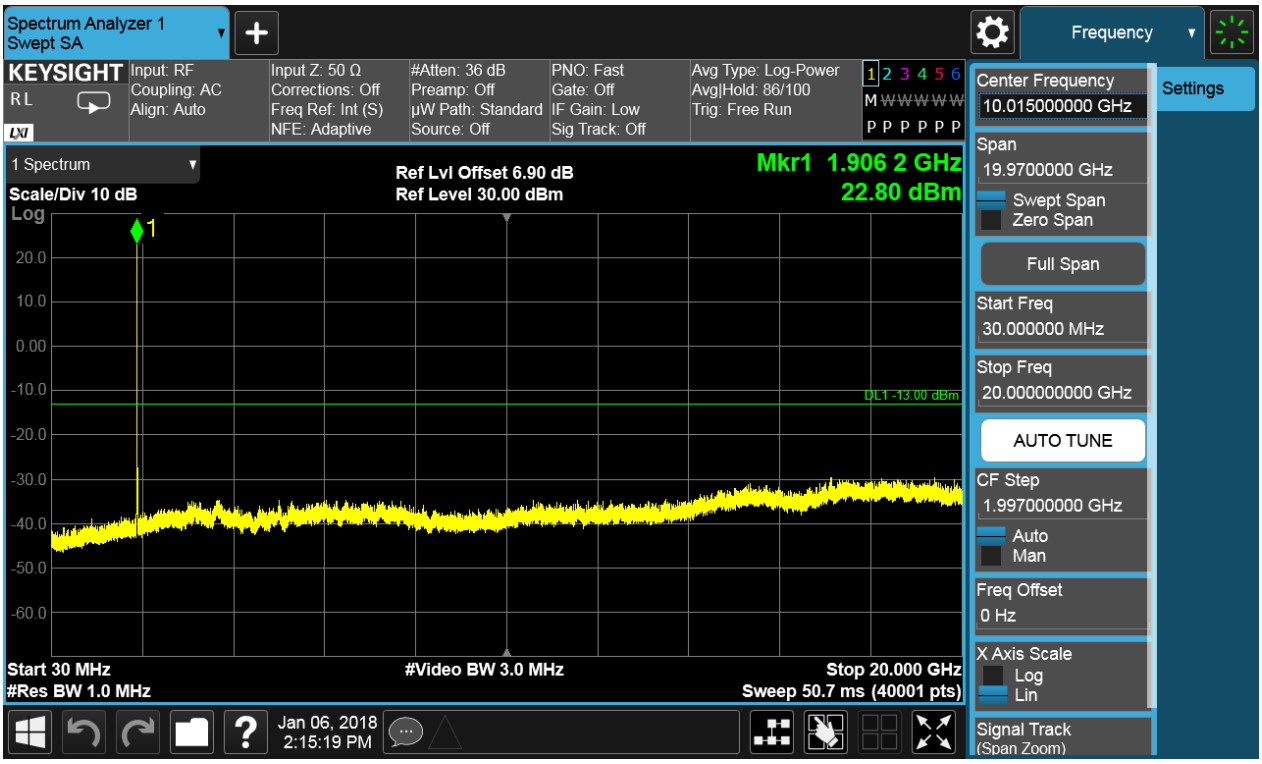




6.1.3.1.3 Test Channel = HCH







7Appendix_G: Field Strength of Spurious Radiation

Note:We tested all modes, but the data presented below is the worst case.

9kHz~150kHz, RBW = 200Hz, VBW = 600 Hz, Detector: PK

150kHz~30MHz, RBW = 9kHz, VBW = 30k Hz, Detector: PK

30MHz~1GHz, RBW = 100 kHz, VBW = 300 kHz. Detector: PK

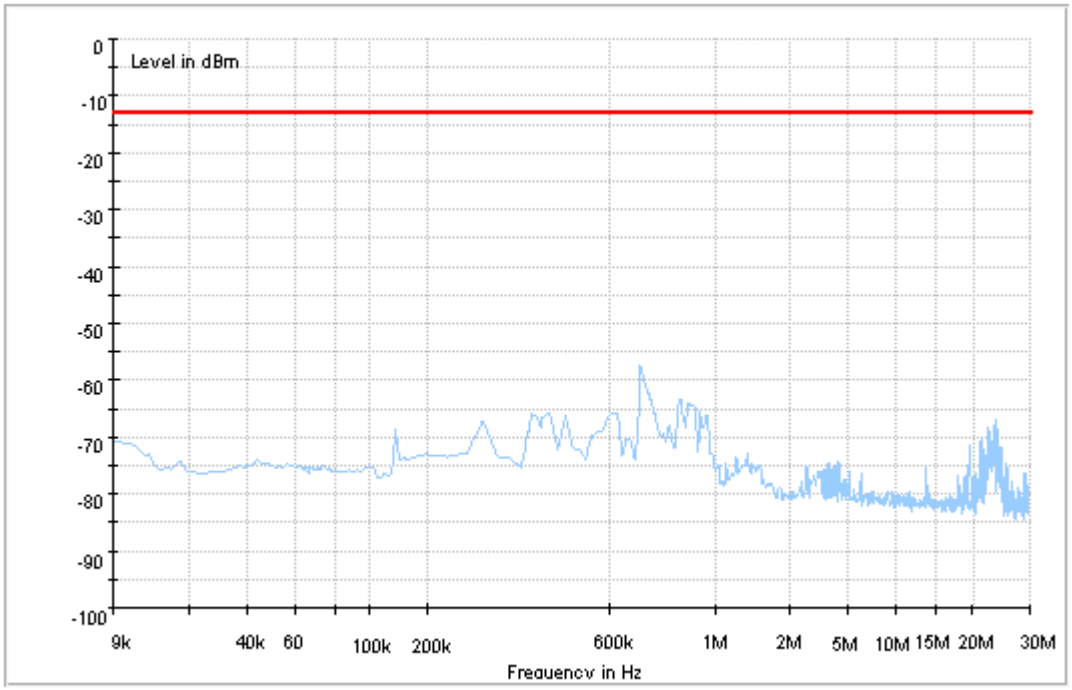
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

7.1 For UMTS

7.1.1 Test Band = WCDMA850_ANT1

7.1.1.1 Test Mode = UMTS/TM1



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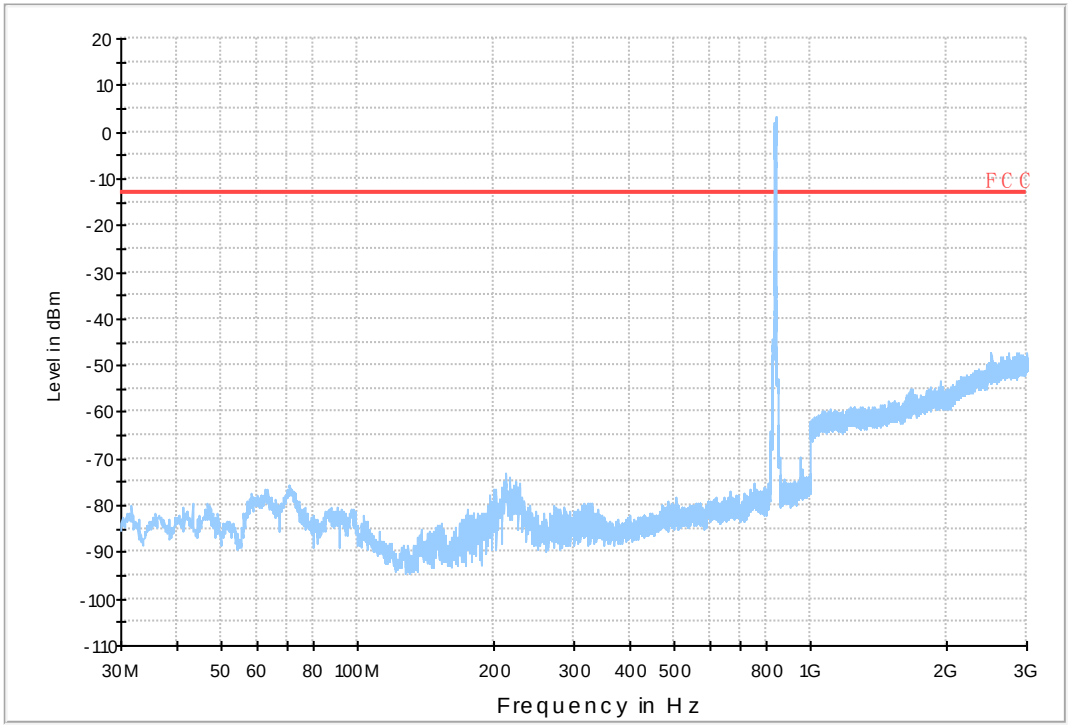

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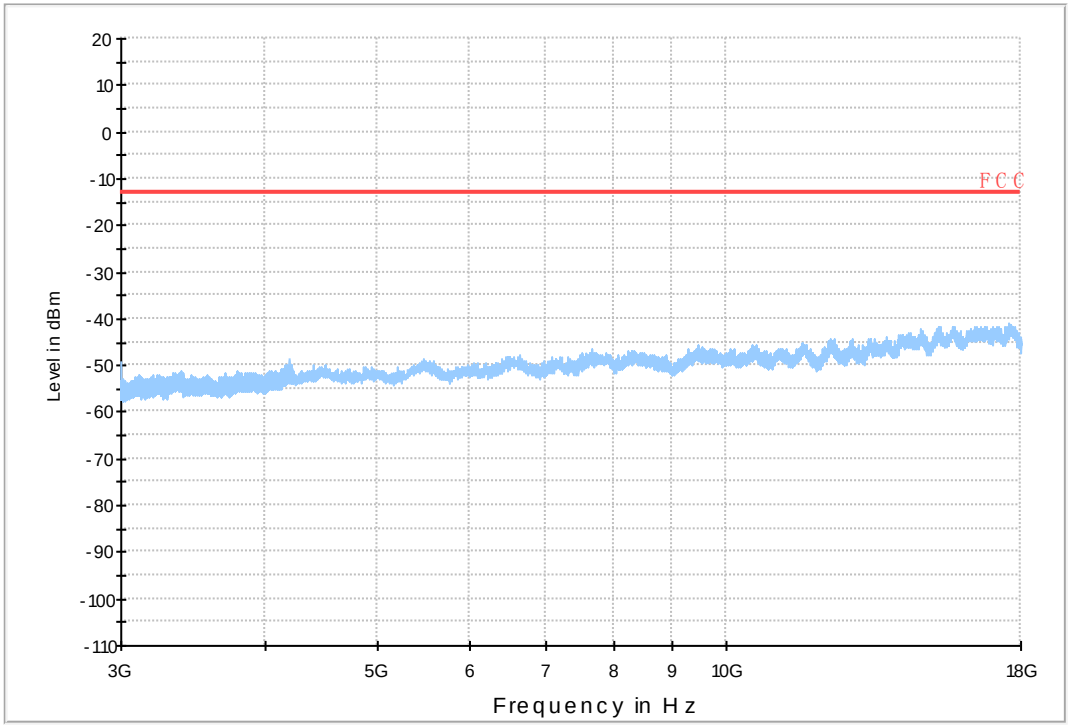
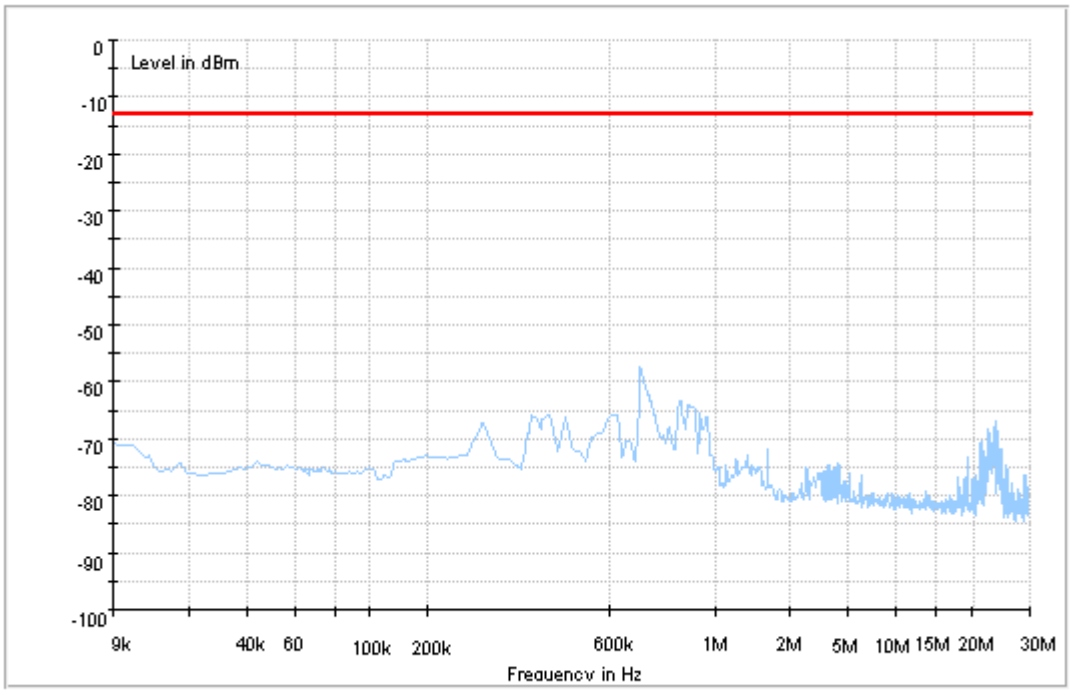


7.1.2 Test Band = WCDMA850_ANT2

7.1.2.1 Test Mode = UMTS/TM1



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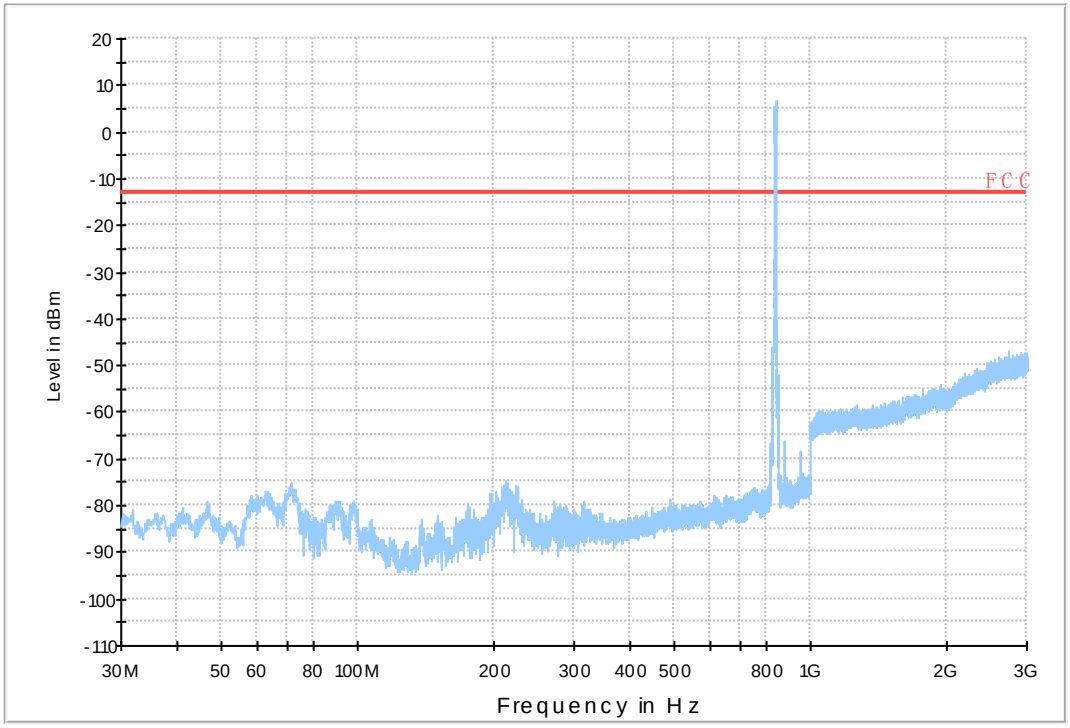

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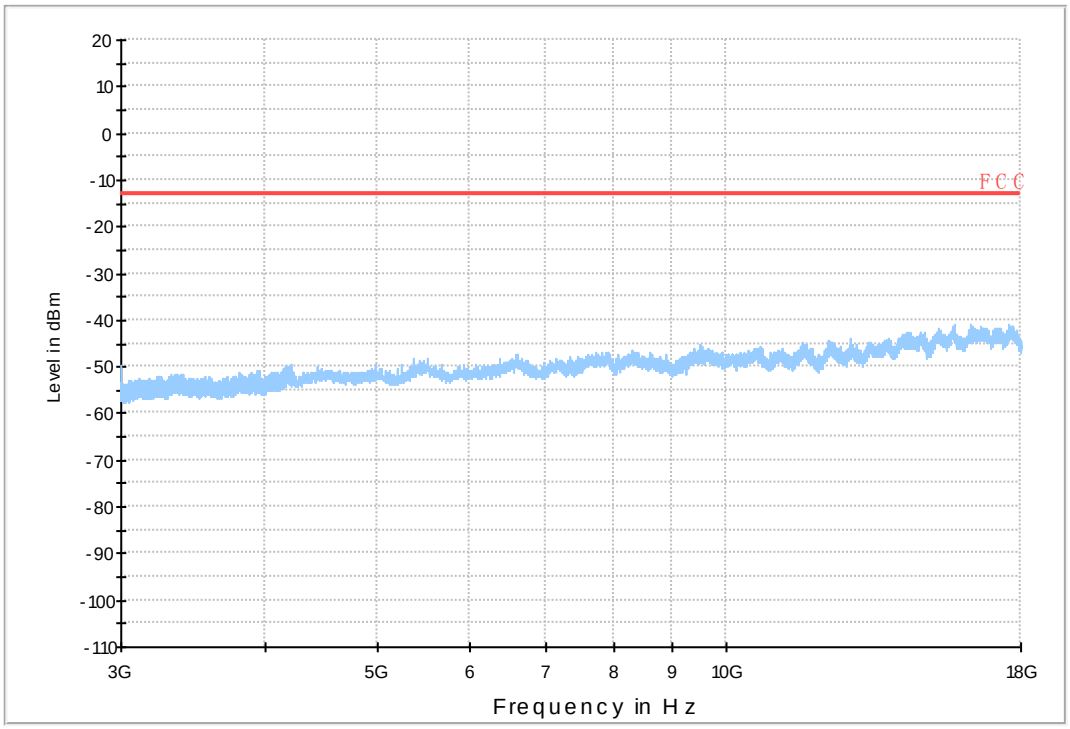
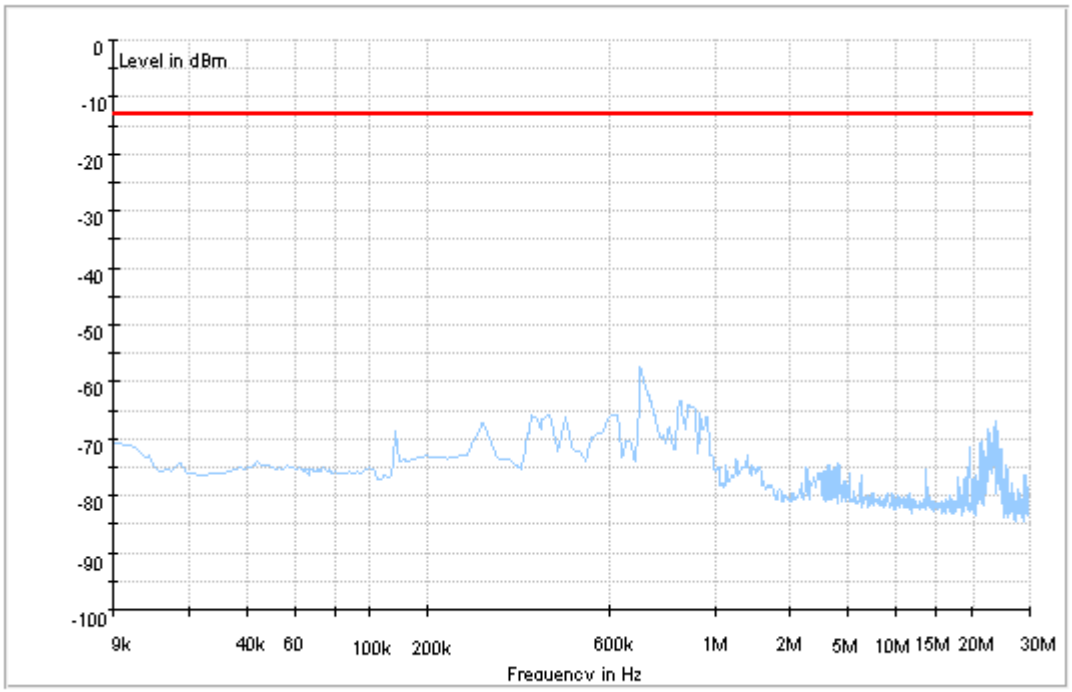


7.1.3 Test Band = WCDMA1700_ANT1

7.1.3.1 Test Mode = UMTS/TM1



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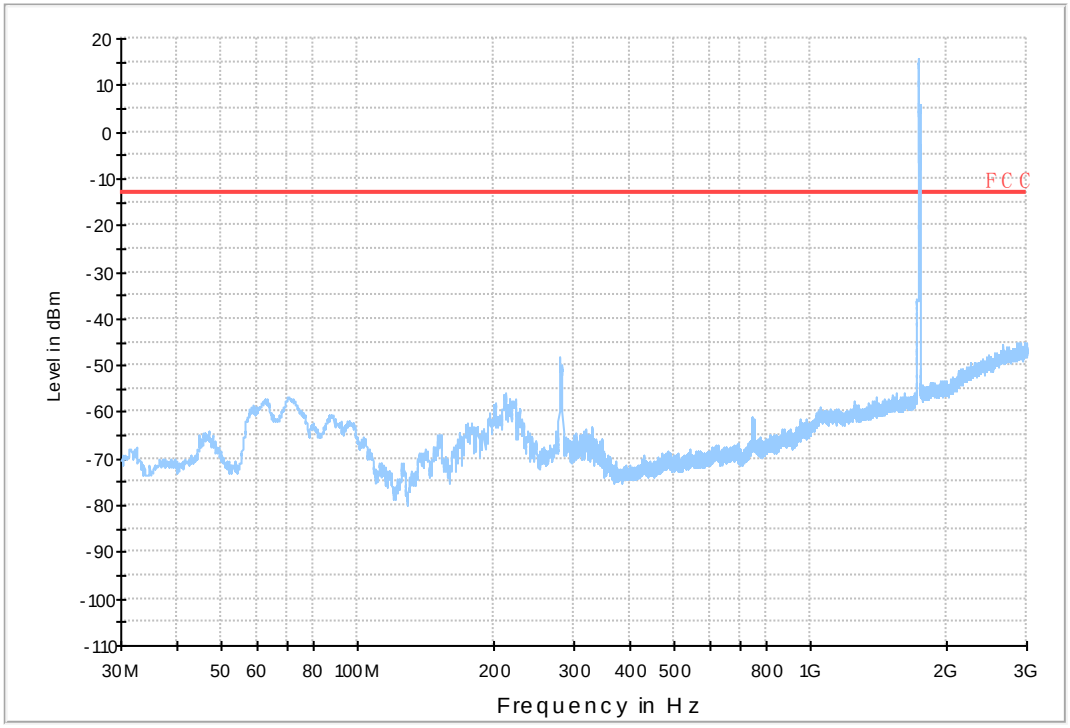

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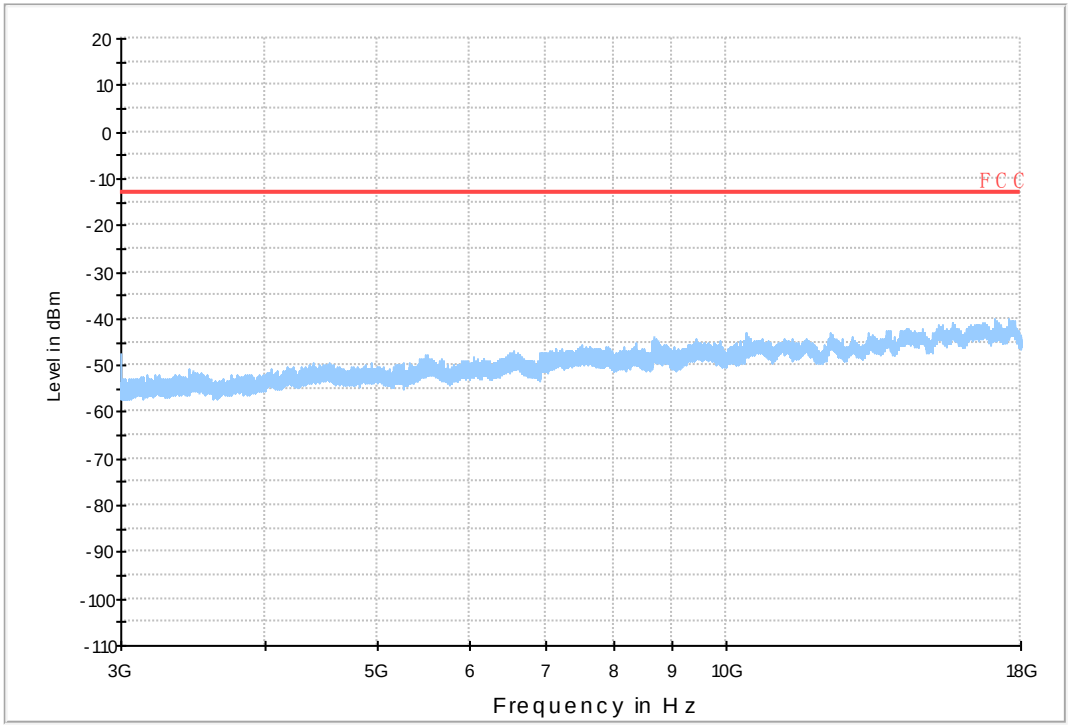
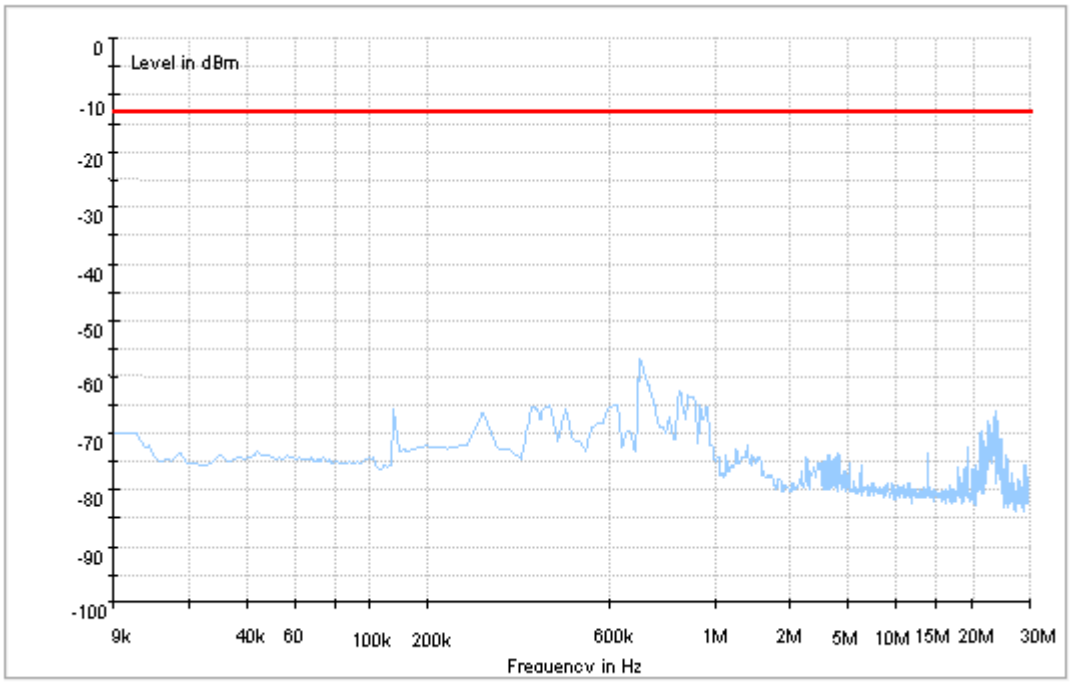


7.1.4 Test Band = WCDMA1700_ANT2

7.1.4.1 Test Mode = UMTS/TM1



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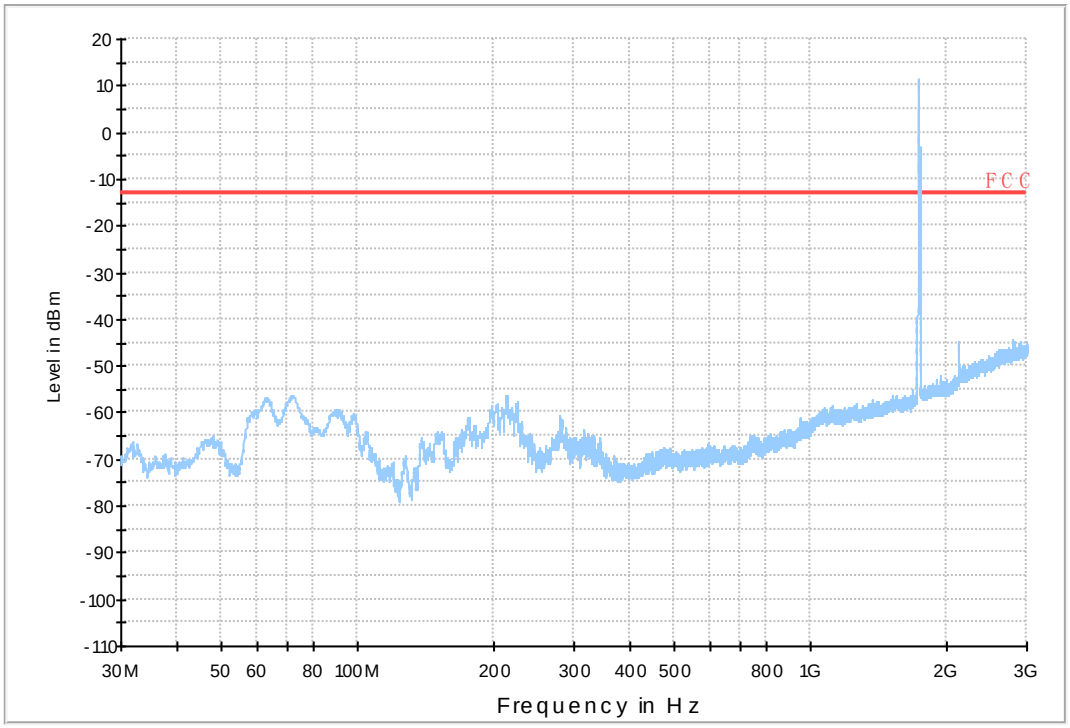

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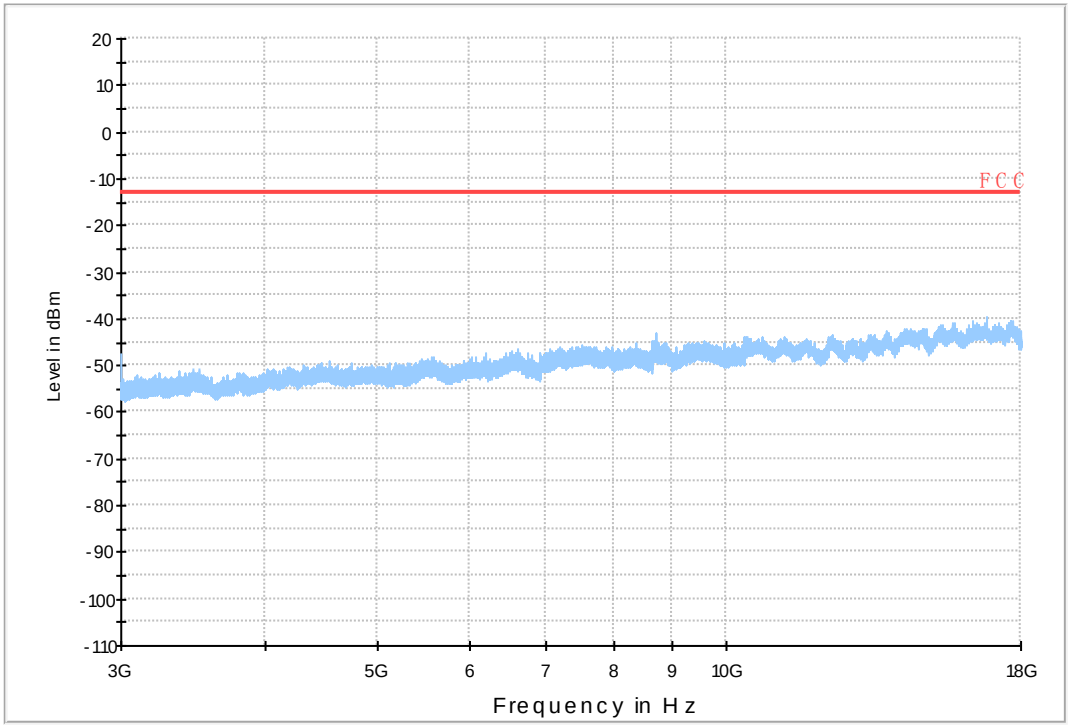
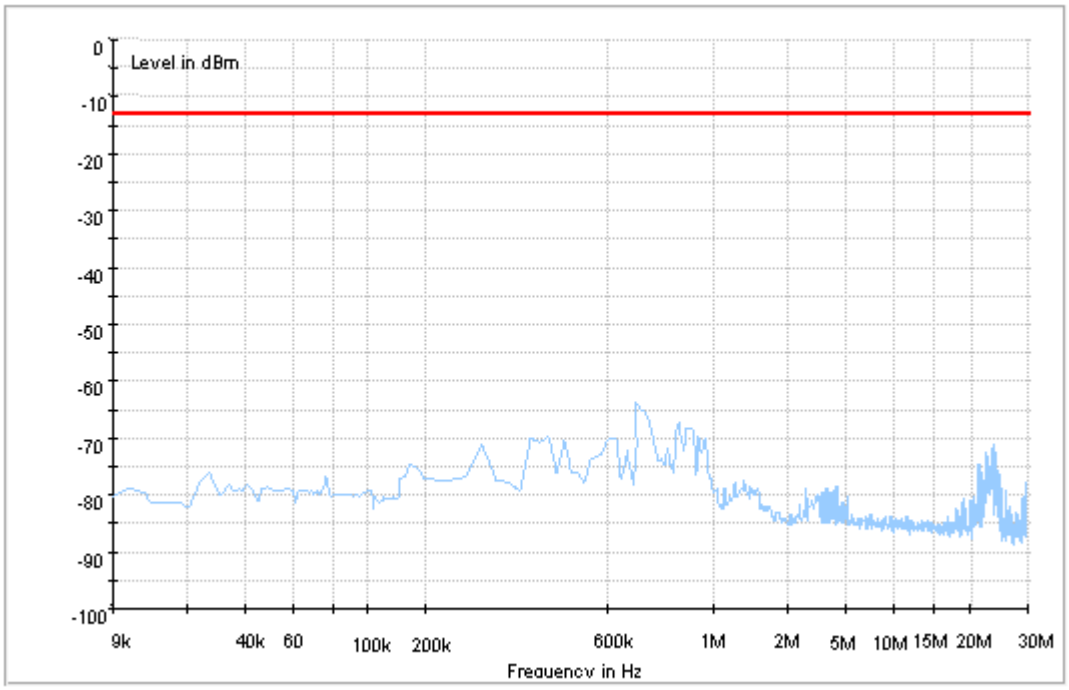


7.1.5 Test Band = WCDMA1900_ANT1

7.1.5.1 Test Mode = UMTS/TM1



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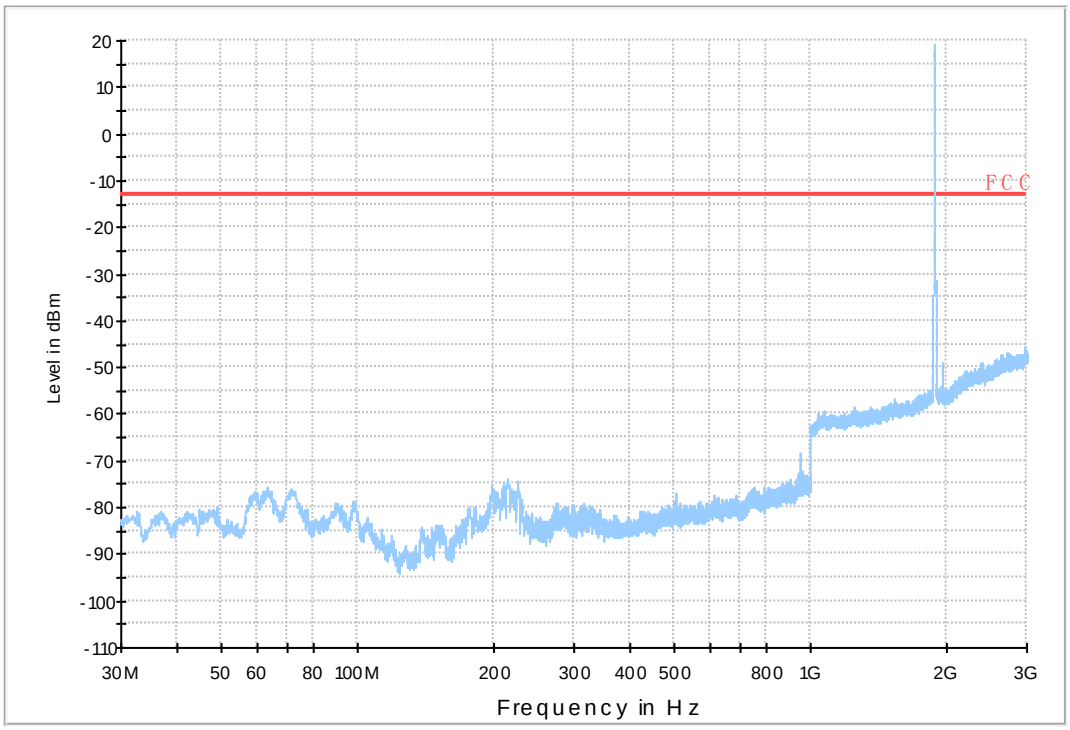

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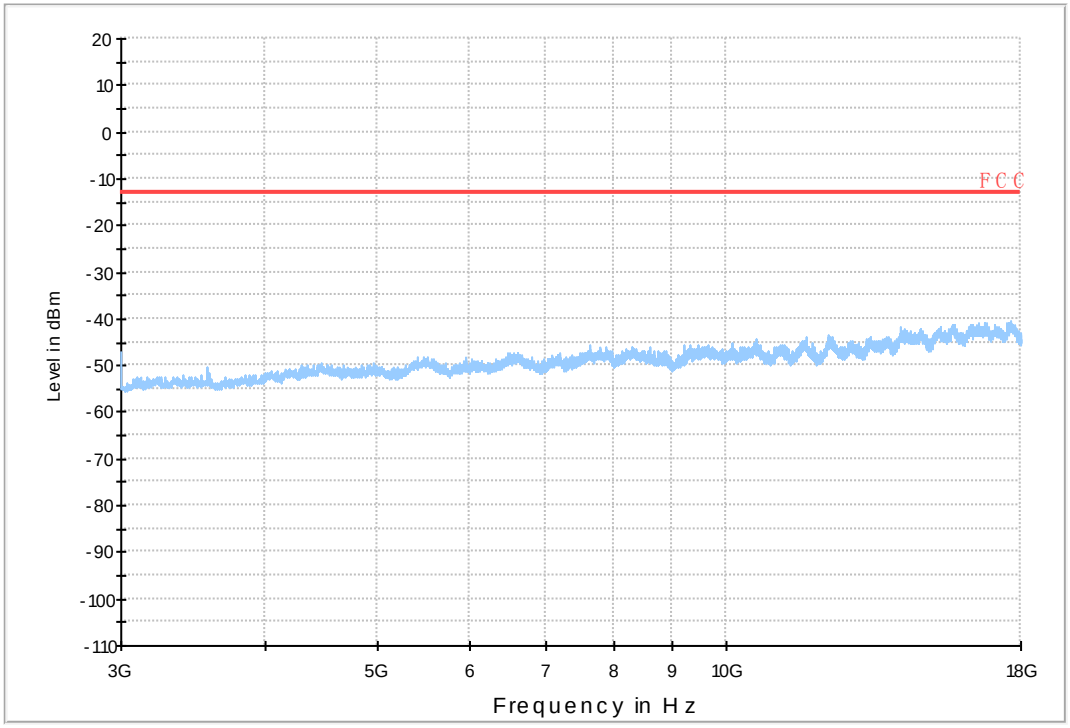
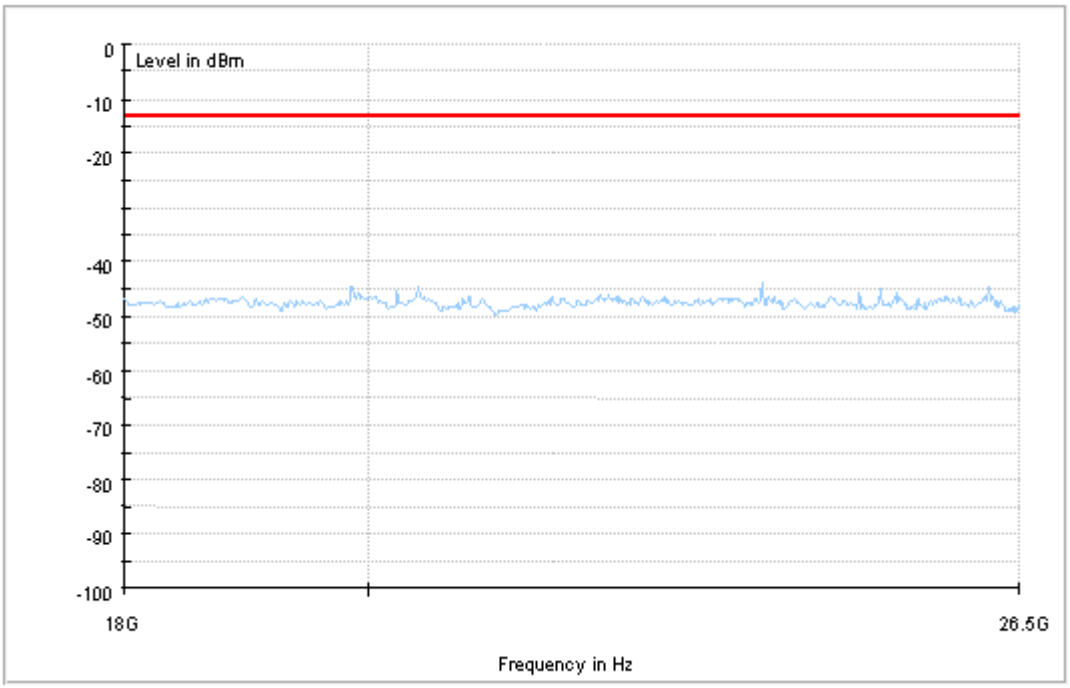
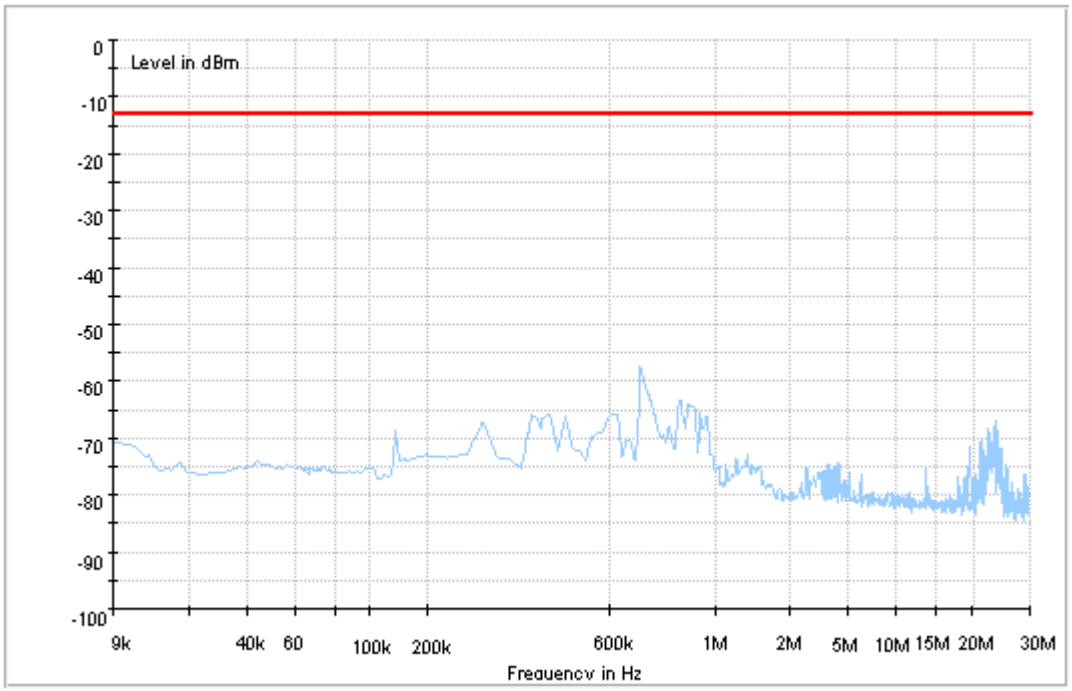




7.1.6 Test Band = WCDMA1900_ANT2

7.1.6.1 Test Mode = UMTS/TM1



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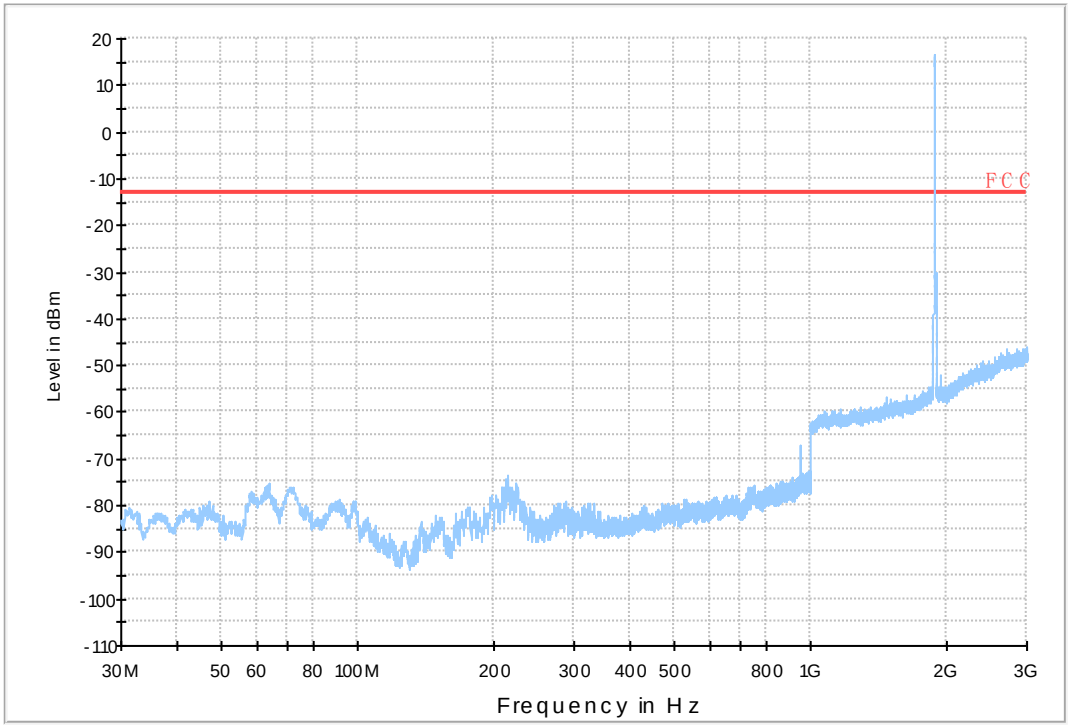

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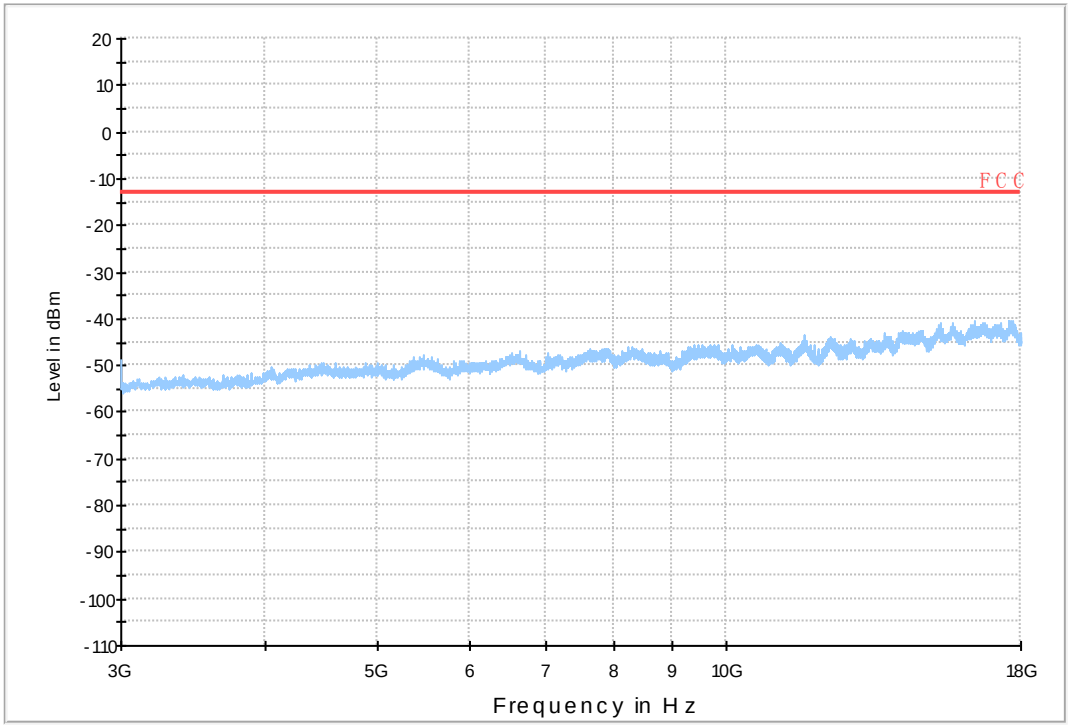

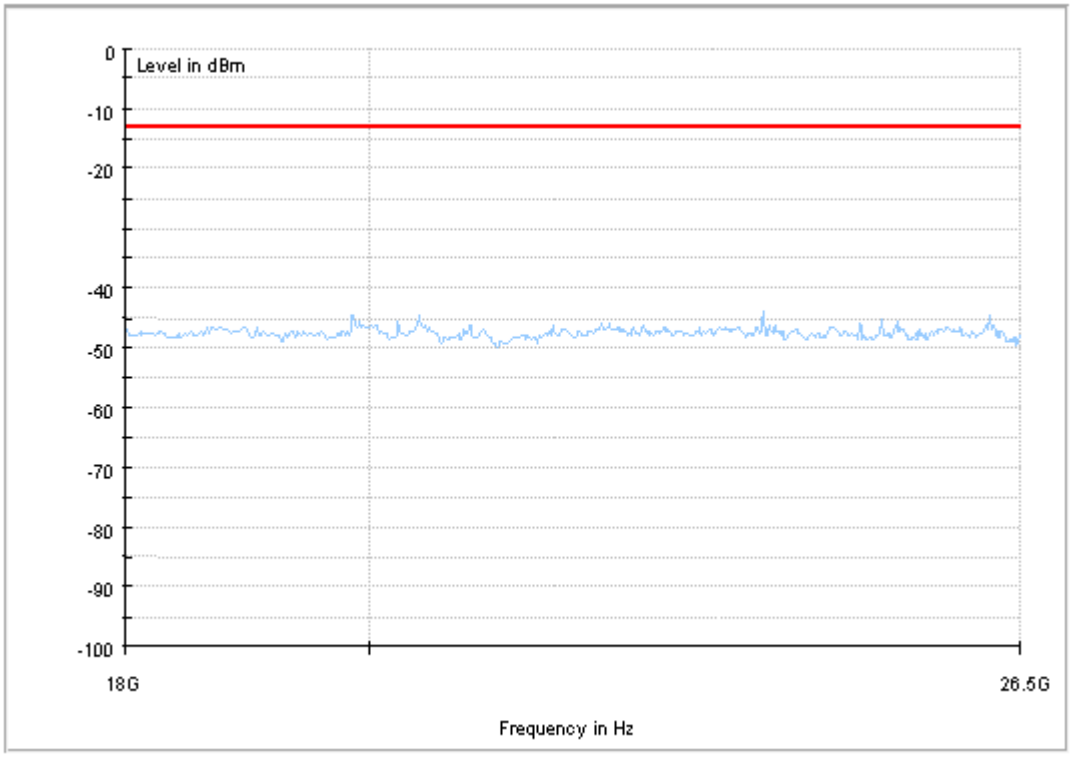

8Appendix_H: Frequency Stability

8.1 For UMTS

8.1.1Frequency Error vs. Voltage:

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA850	UMTS/TM1	LCH	TN	VL	-0.49	-0.00059	PASS
				VN	-1.30	-0.00157	PASS
				VH	0.90	0.00109	PASS
		MCH	TN	VL	8.70	0.0104	PASS
				VN	7.52	0.00899	PASS
				VH	-3.01	-0.0036	PASS
		HCH	TN	VL	9.46	0.01117	PASS
				VN	1.30	0.00154	PASS
				VH	-2.76	-0.00326	PASS
WCDMA1700	UMTS/TM1	LCH	TN	VL	-2.43	-0.00142	PASS
				VN	-3.71	-0.00217	PASS
				VH	1.27	0.00074	PASS
		MCH	TN	VL	4.01	0.00231	PASS
				VN	5.39	0.00311	PASS
				VH	-1.40	-0.00081	PASS
		HCH	TN	VL	4.73	0.0027	PASS
				VN	1.79	0.00102	PASS
				VH	-0.35	-0.0002	PASS
WCDMA1900	UMTS/TM1	LCH	TN	VL	2.46	0.00133	PASS
				VN	-2.01	-0.00109	PASS
				VH	-6.90	-0.00372	PASS
		MCH	TN	VL	1.31	0.0007	PASS
				VN	3.71	0.00197	PASS
				VH	-0.60	-0.00032	PASS
		HCH	TN	VL	4.29	0.00225	PASS
				VN	5.28	0.00277	PASS
				VH	3.68	0.00193	PASS

8.1.2Frequency Error vs. Temperature:

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA850	UMTS/TM1	LCH	VN	-30	9.48	0.01147	PASS
				-20	4.18	0.00506	PASS
				-10	2.14	0.00259	PASS
				0	1.17	0.00142	PASS
				10	5.22	0.00632	PASS
				20	3.83	0.00463	PASS
				30	-2.56	-0.0031	PASS
				40	8.01	0.00969	PASS
				50	-2.17	-0.00263	PASS
		MCH	VN	-30	4.93	0.00589	PASS
				-20	8.22	0.00983	PASS
				-10	10.01	0.01197	PASS
				0	4.21	0.00503	PASS
				10	5.04	0.00603	PASS
				20	7.87	0.00941	PASS
				30	2.27	0.00271	PASS
				40	2.67	0.00319	PASS
				50	3.95	0.00472	PASS
		HCH	VN	-30	-5.31	-0.00627	PASS
				-20	3.16	0.00373	PASS
				-10	-0.73	-0.00086	PASS
				0	-7.52	-0.00888	PASS
				10	-0.92	-0.00109	PASS
				20	10.71	0.01265	PASS
				30	2.01	0.00237	PASS
				40	-2.84	-0.00335	PASS
				50	-3.46	-0.00409	PASS
WCDMA1700	UMTS/TM1	LCH	VN	-30	2.46	0.00144	PASS
				-20	0.21	0.00012	PASS
				-10	1.59	0.00093	PASS
				0	-2.90	-0.00169	PASS
				10	3.91	0.00228	PASS
				20	0.35	0.0002	PASS
				30	-2.52	-0.00147	PASS
				40	7.13	0.00416	PASS
				50	1.39	0.00081	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
		MCH	VN	-30	-5.65	-0.00326	PASS
				-20	-2.85	-0.00164	PASS
				-10	-3.57	-0.00206	PASS
				0	0.98	0.00057	PASS
				10	2.62	0.00151	PASS
				20	3.04	0.00175	PASS
				30	-0.38	-0.00022	PASS
				40	1.72	0.00099	PASS
				50	2.88	0.00166	PASS
		HCH	VN	-30	6.99	0.00399	PASS
				-20	5.94	0.00339	PASS
				-10	3.27	0.00187	PASS
				0	4.49	0.00256	PASS
				10	5.28	0.00301	PASS
				20	-1.05	-0.0006	PASS
				30	11.60	0.00662	PASS
				40	-2.09	-0.00119	PASS
				50	4.09	0.00233	PASS
WCDMA1900	UMTS/TM1	LCH	VN	-30	4.65	0.00251	PASS
				-20	4.93	0.00266	PASS
				-10	-1.30	-0.0007	PASS
				0	3.04	0.00164	PASS
				10	-0.32	-0.00017	PASS
				20	-0.66	-0.00036	PASS
				30	1.65	0.00089	PASS
				40	-4.73	-0.00255	PASS
				50	5.62	0.00303	PASS
		MCH	VN	-30	0.15	0.00008	PASS
				-20	4.17	0.00222	PASS
				-10	-2.61	-0.00139	PASS
				0	-0.66	-0.00035	PASS
				10	-2.58	-0.00137	PASS
				20	-0.14	-0.00007	PASS
				30	2.87	0.00153	PASS
				40	-5.45	-0.0029	PASS
				50	0.87	0.00046	PASS
		HCH	VN	-30	4.26	0.00223	PASS
				-20	2.30	0.00121	PASS
				-10	0.05	0.00003	PASS
				0	-2.40	-0.00126	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				10	1.33	0.0007	PASS
				20	-1.24	-0.00065	PASS
				30	1.02	0.00053	PASS
				40	2.98	0.00156	PASS
				50	1.17	0.00061	PASS

END