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]	EIRP [dBm]	Limit [dBm]	Verdict
WCDMA1900	UMTS/TM1	LCH	23.95	23.33	33	PASS
		MCH	23.98	23.43	33	PASS
		HCH	23.83	23.25	33	PASS
WCDMA1700	UMTS/TM1	LCH	23.85	23.05	30	PASS
		MCH	23.76	23.09	30	PASS
		HCH	23.94	23.18	30	PASS
Test Band	**Test Mode**	**Test Channel**	**Conducted Power [dBm]**	**ERP [dBm]**	**Limit [dBm]**	**Verdict**
WCDMA850	UMTS/TM1	LCH	24.49	22.55	38.5	PASS
		MCH	24.42	22.27	38.5	PASS
		HCH	24.58	22.53	38.5	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
WCDMA1900	UMTS/TM1	LCH	2.68	13	PASS
		MCH	2.84	13	PASS
		HCH	2.78	13	PASS
WCDMA1700	UMTS/TM1	LCH	2.71	13	PASS
		MCH	2.66	13	PASS
		HCH	2.78	13	PASS
WCDMA850	UMTS/TM1	LCH	2.78	13	PASS
		MCH	2.66	13	PASS
		HCH	2.67	13	PASS

3Appendix_C: Modulation Characteristics

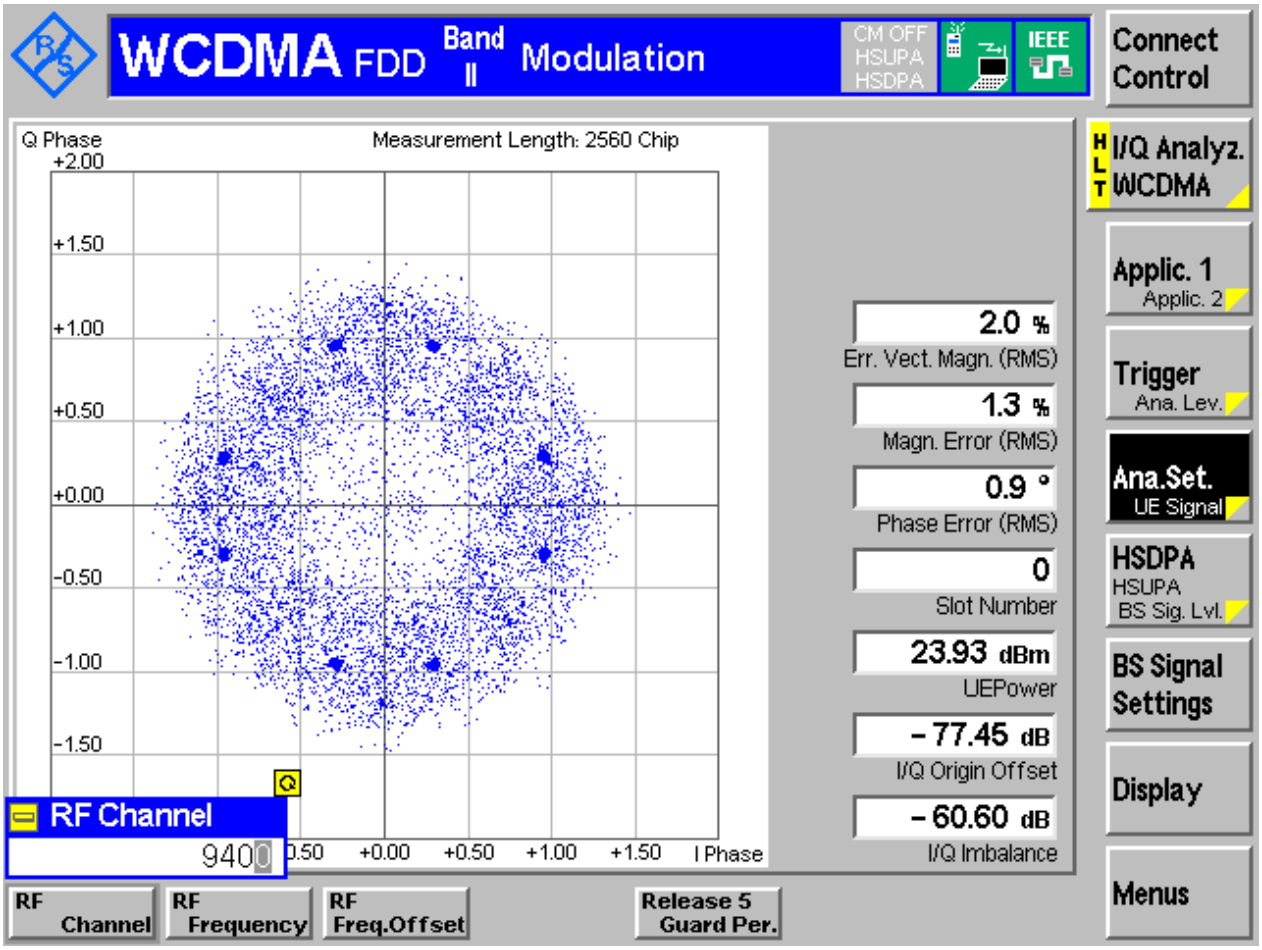
Part I - Test Plots

3.1 For UMTS

3.1.1 Test Band = WCDMA1900

3.1.1.1 Test Mode = UMTS/TM1

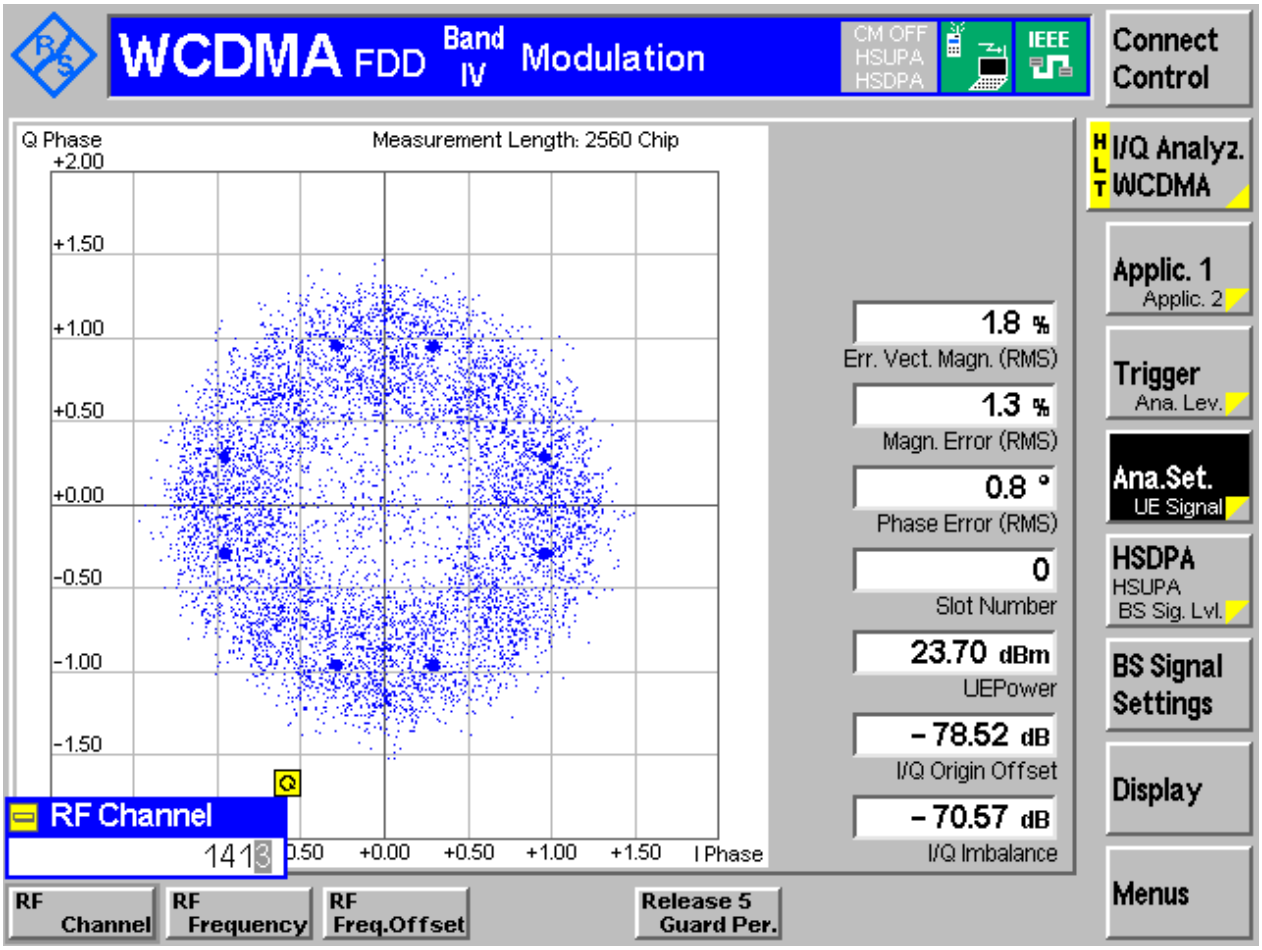
3.1.1.1.1 Test Channel = MCH



3.1.2 Test Band = WCDMA1700

3.1.2.1 Test Mode = UMTS/TM1

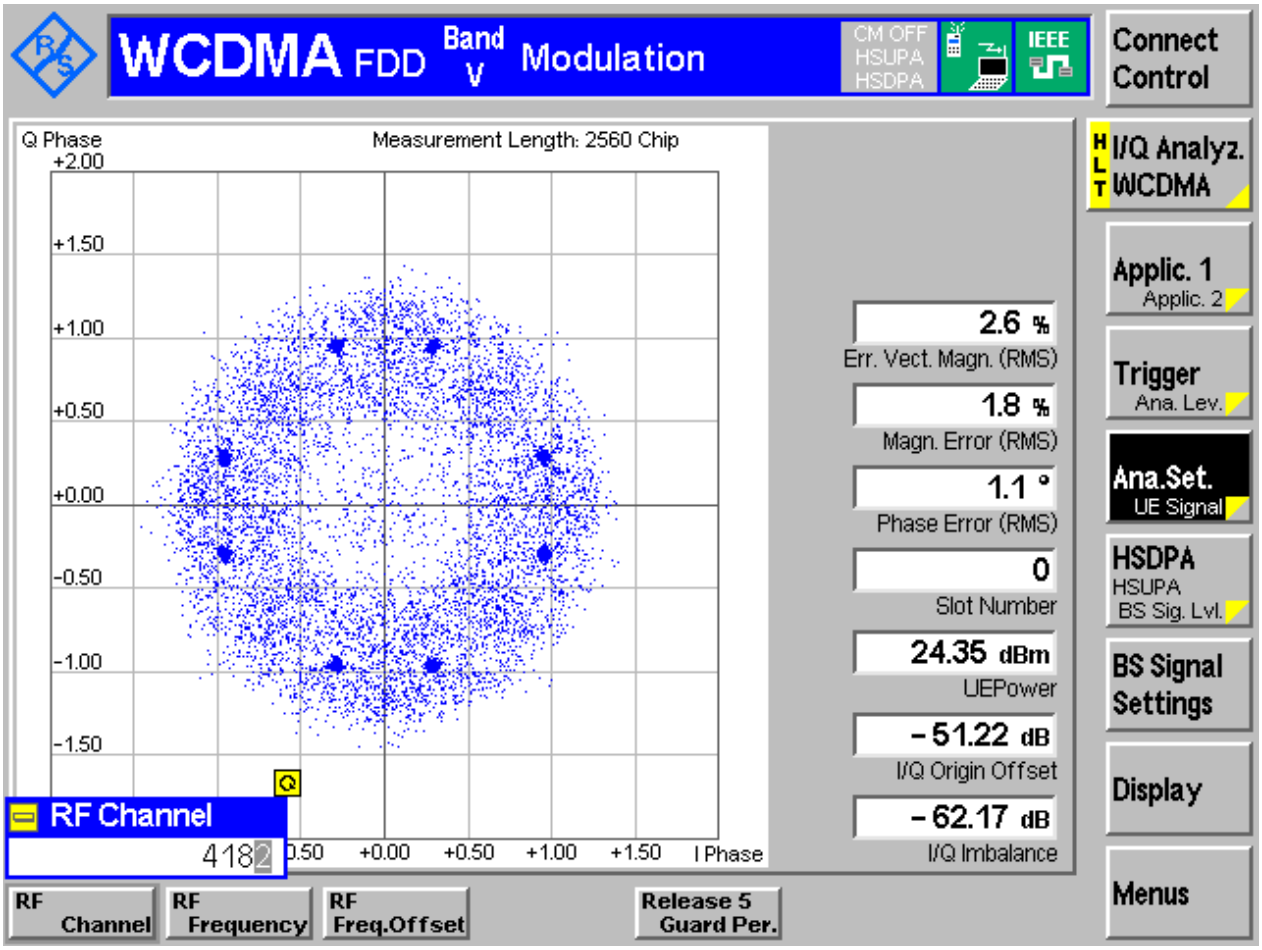
3.1.2.1.1 Test Channel = MCH



3.1.3 Test Band = WCDMA850

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
WCDMA1900	UMTS/TM1	LCH	4.18	4.74	Pass
		MCH	4.17	4.74	Pass
		HCH	4.18	4.74	Pass
WCDMA1700	UMTS/TM1	LCH	4.16	4.73	Pass
		MCH	4.17	4.71	Pass
		HCH	4.17	4.73	Pass
WCDMA850	UMTS/TM1	LCH	4.17	4.75	Pass
		MCH	4.18	4.73	Pass
		HCH	4.17	4.73	Pass

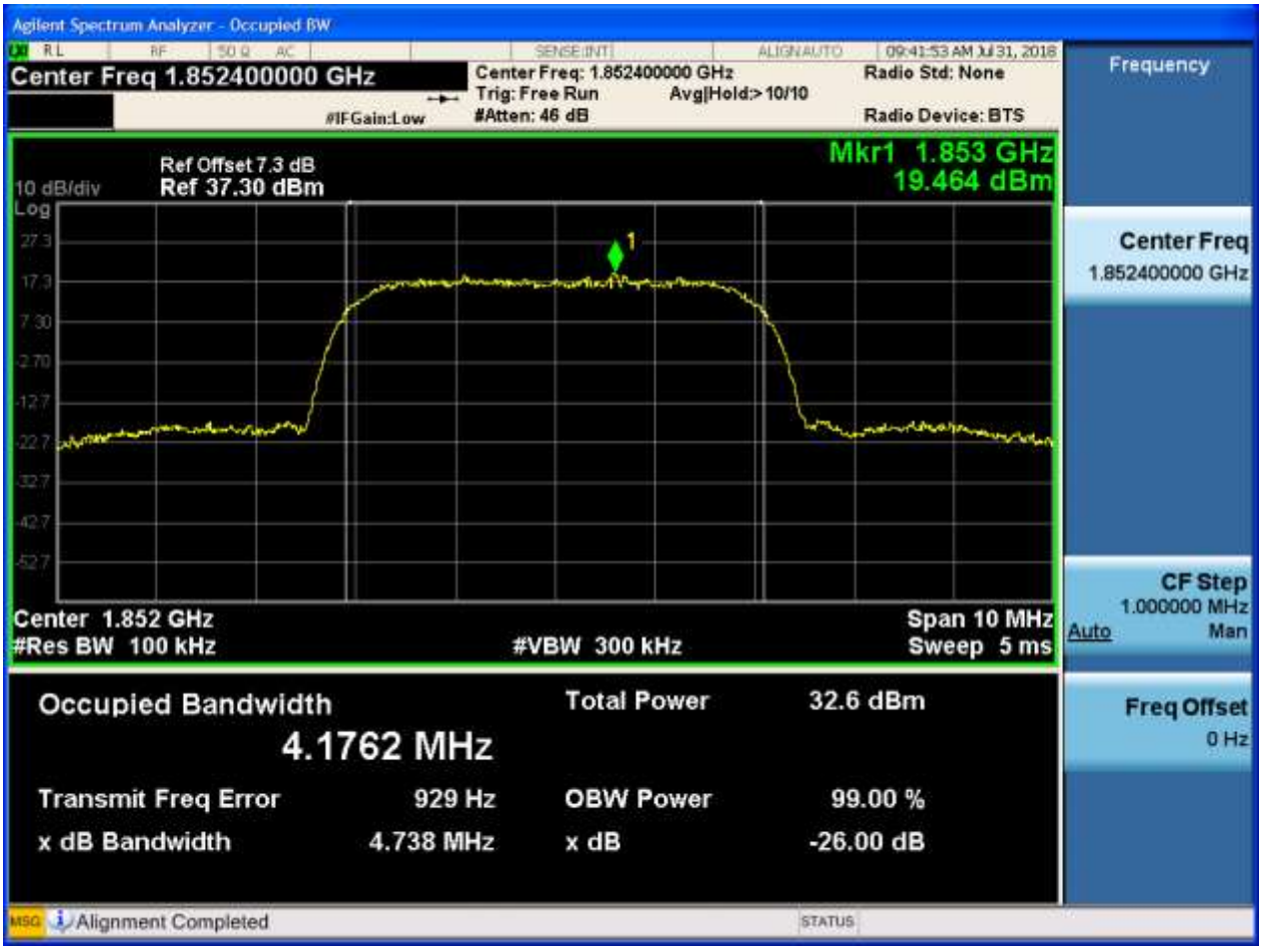
Part II - Test Plots

4.1 For UMTS

4.1.1 Test Band = WCDMA1900

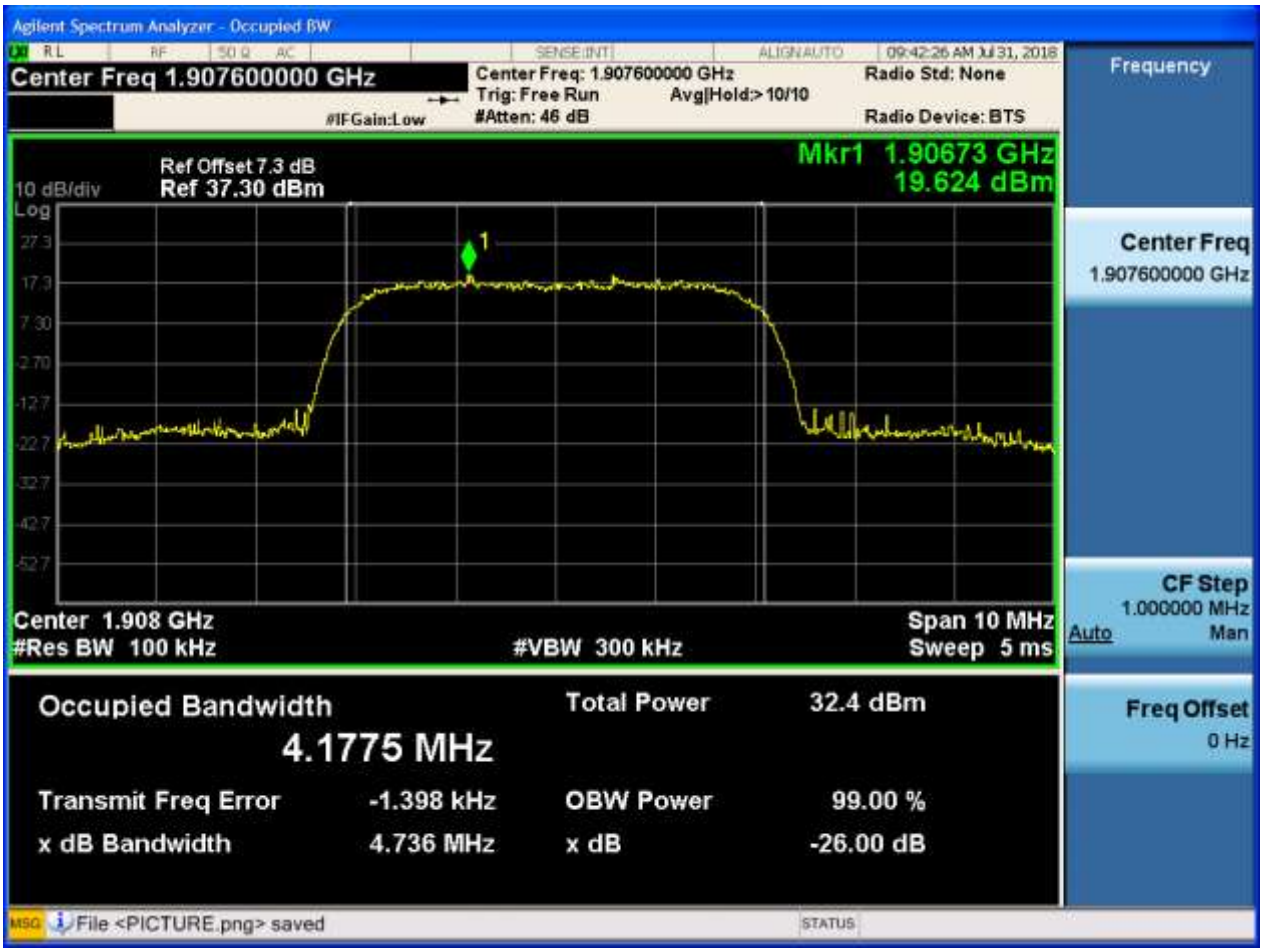
4.1.1.1 Test Mode = UMTS/TM1

4.1.1.1.1 Test Channel = LCH



4.1.1.1.2 Test Channel = MCH

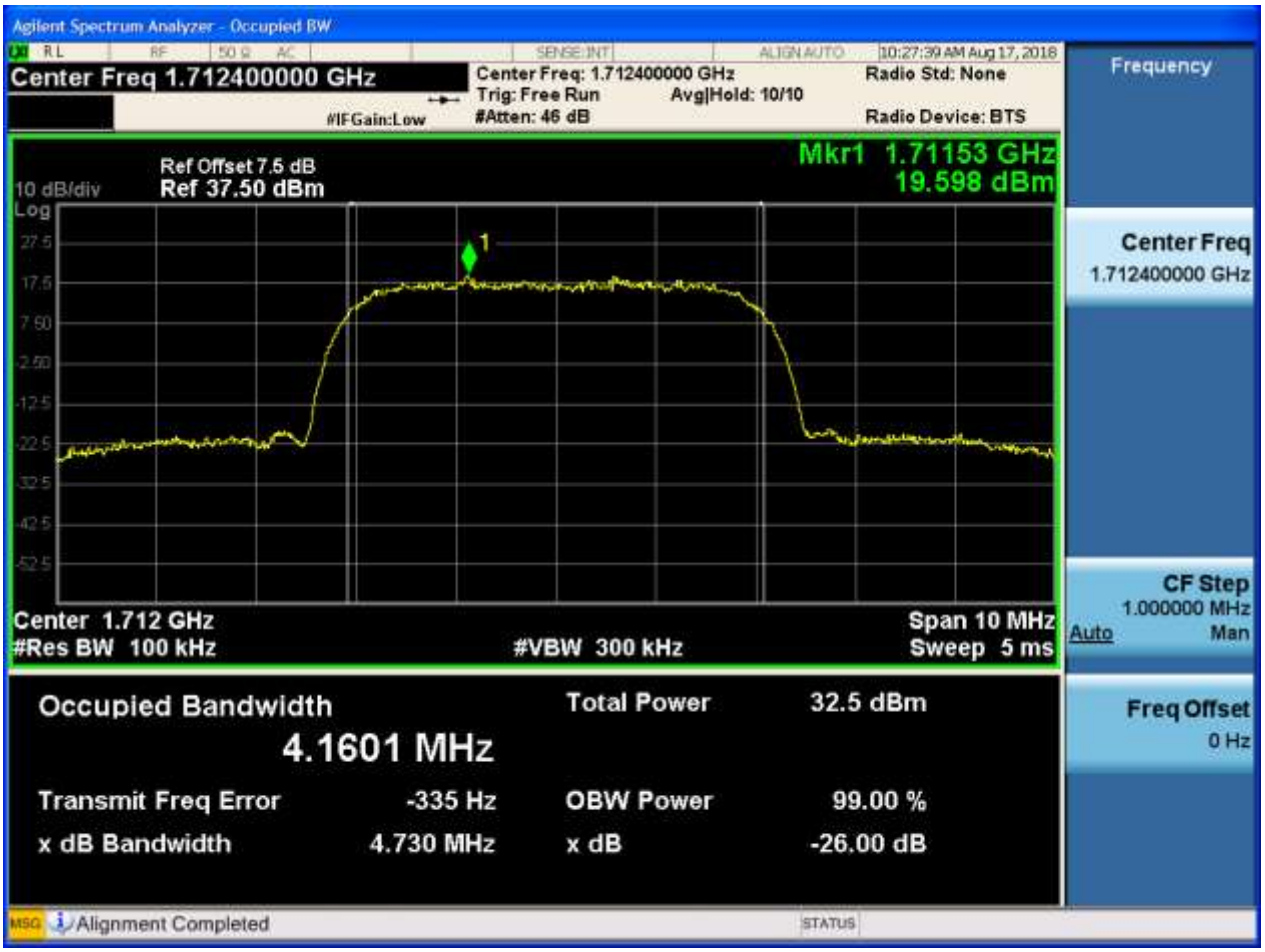
4.1.1.1.3 Test Channel = HCH



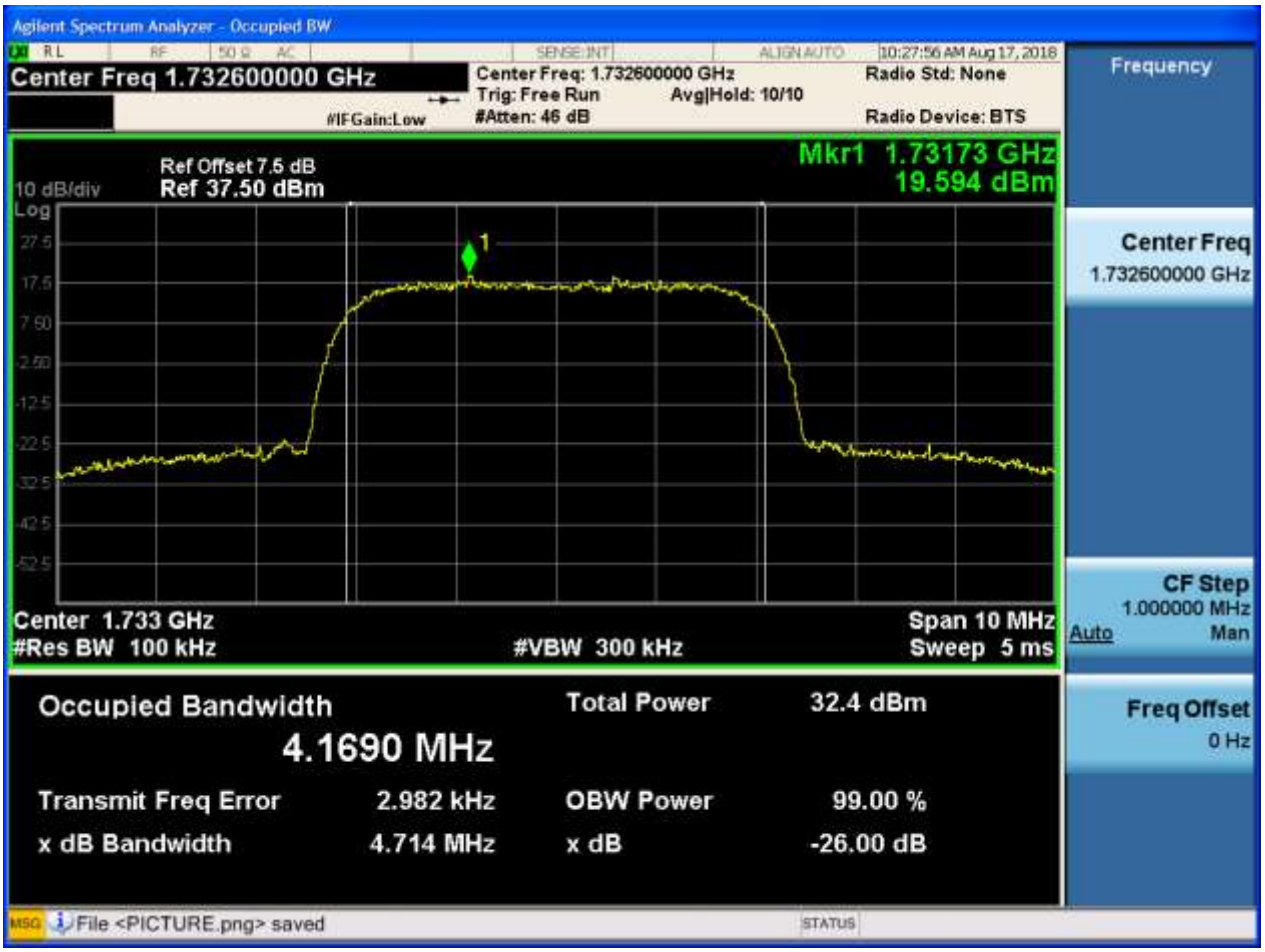
4.1.2 Test Band = WCDMA1700

4.1.2.1 Test Mode = UMTS/TM1

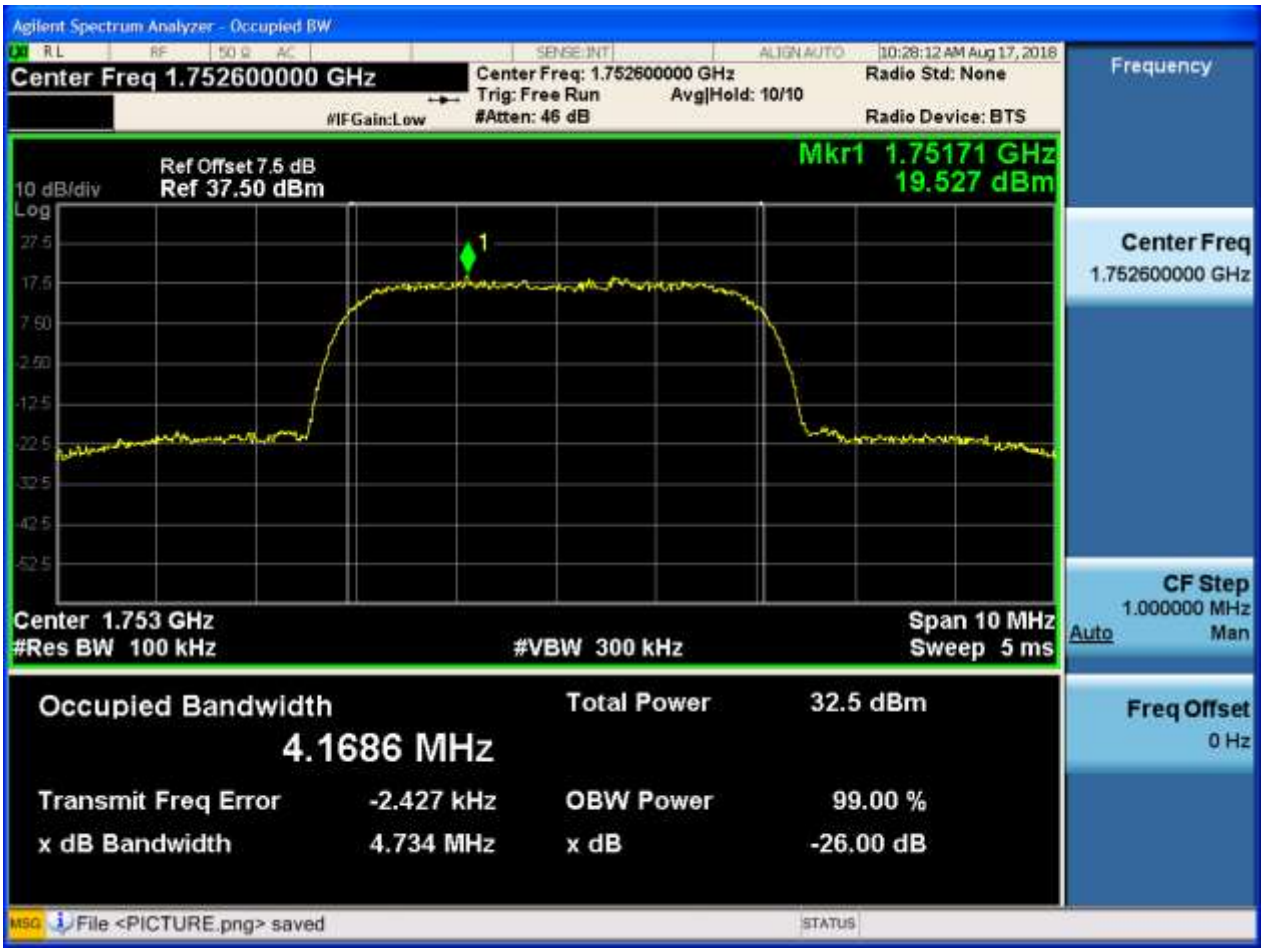
4.1.2.1.1 Test Channel = LCH



4.1.2.1.2 Test Channel = MCH



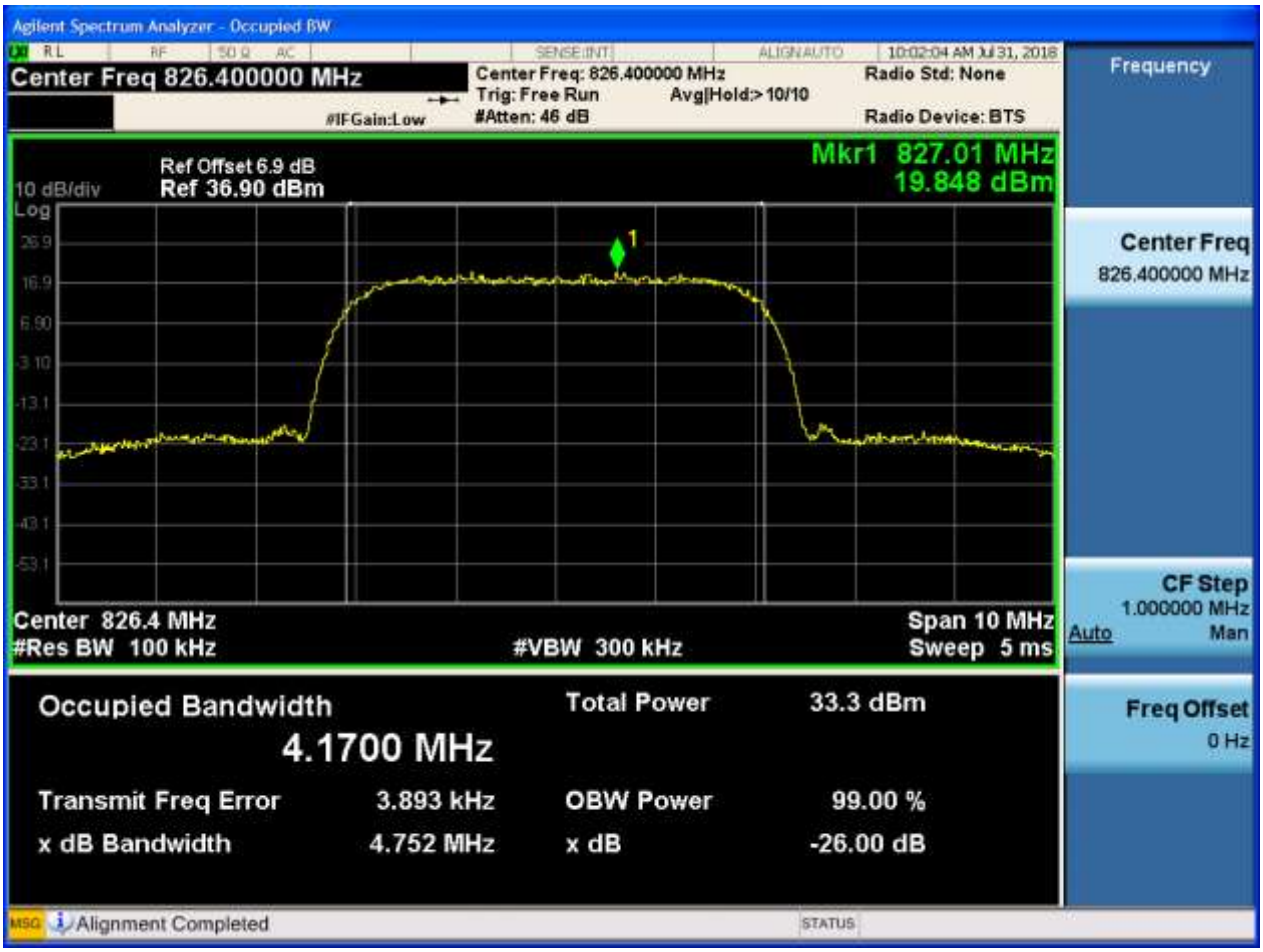
4.1.2.1.3 Test Channel = HCH



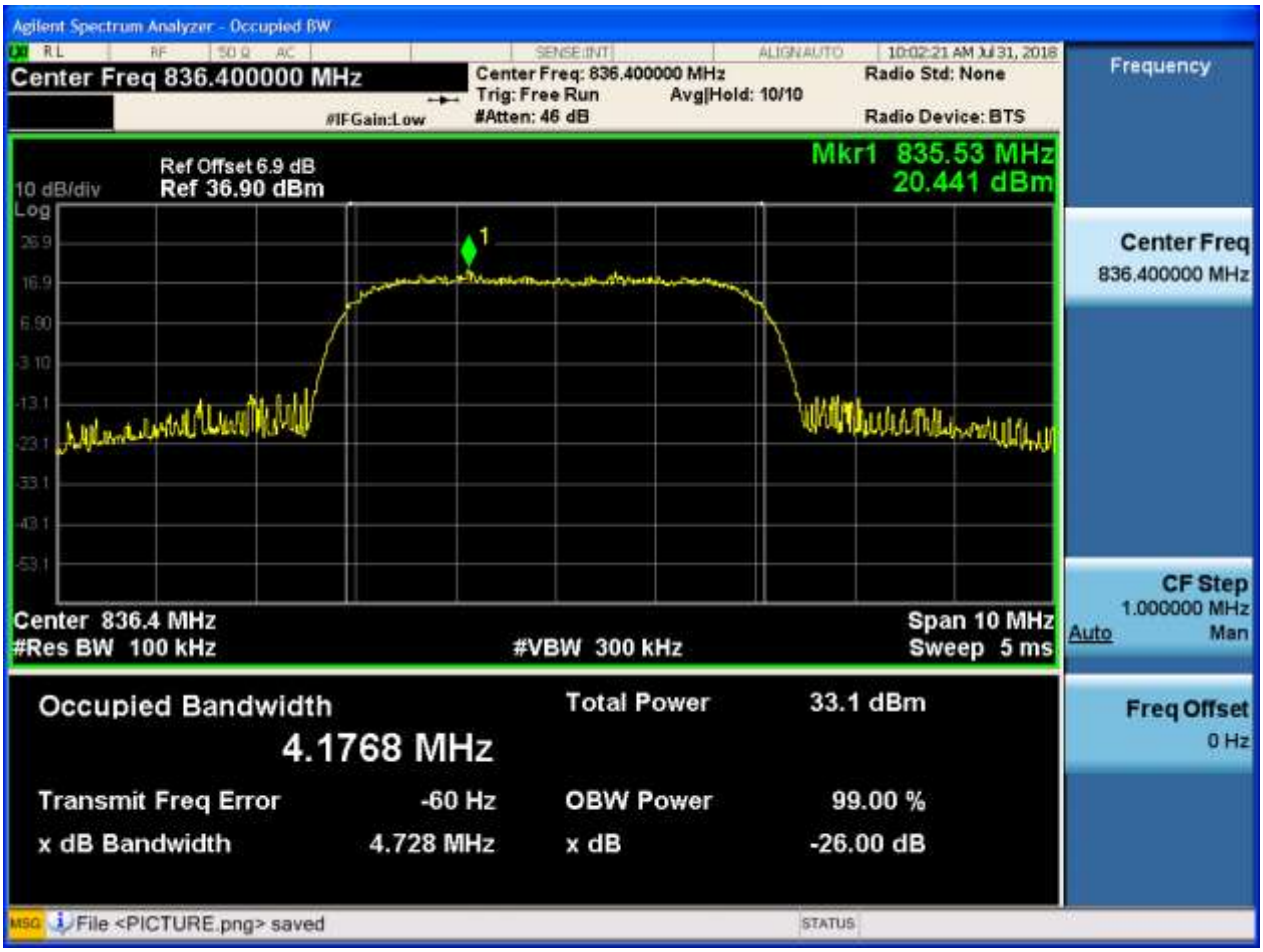
4.1.3 Test Band = WCDMA850

4.1.3.1 Test Mode = UMTS/TM1

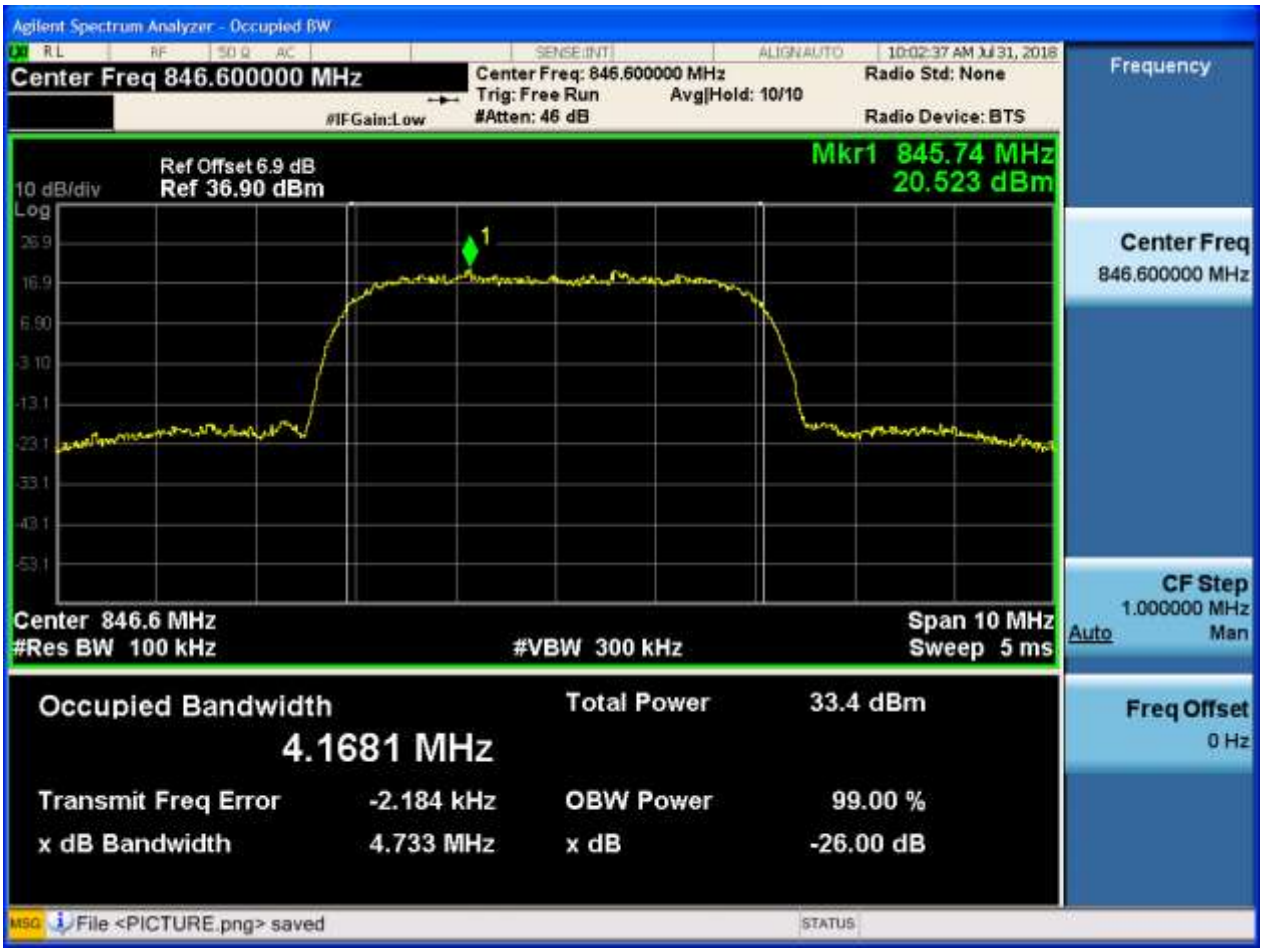
4.1.3.1.1 Test Channel = LCH



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 = WCDMA1900

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 = WCDMA850

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.

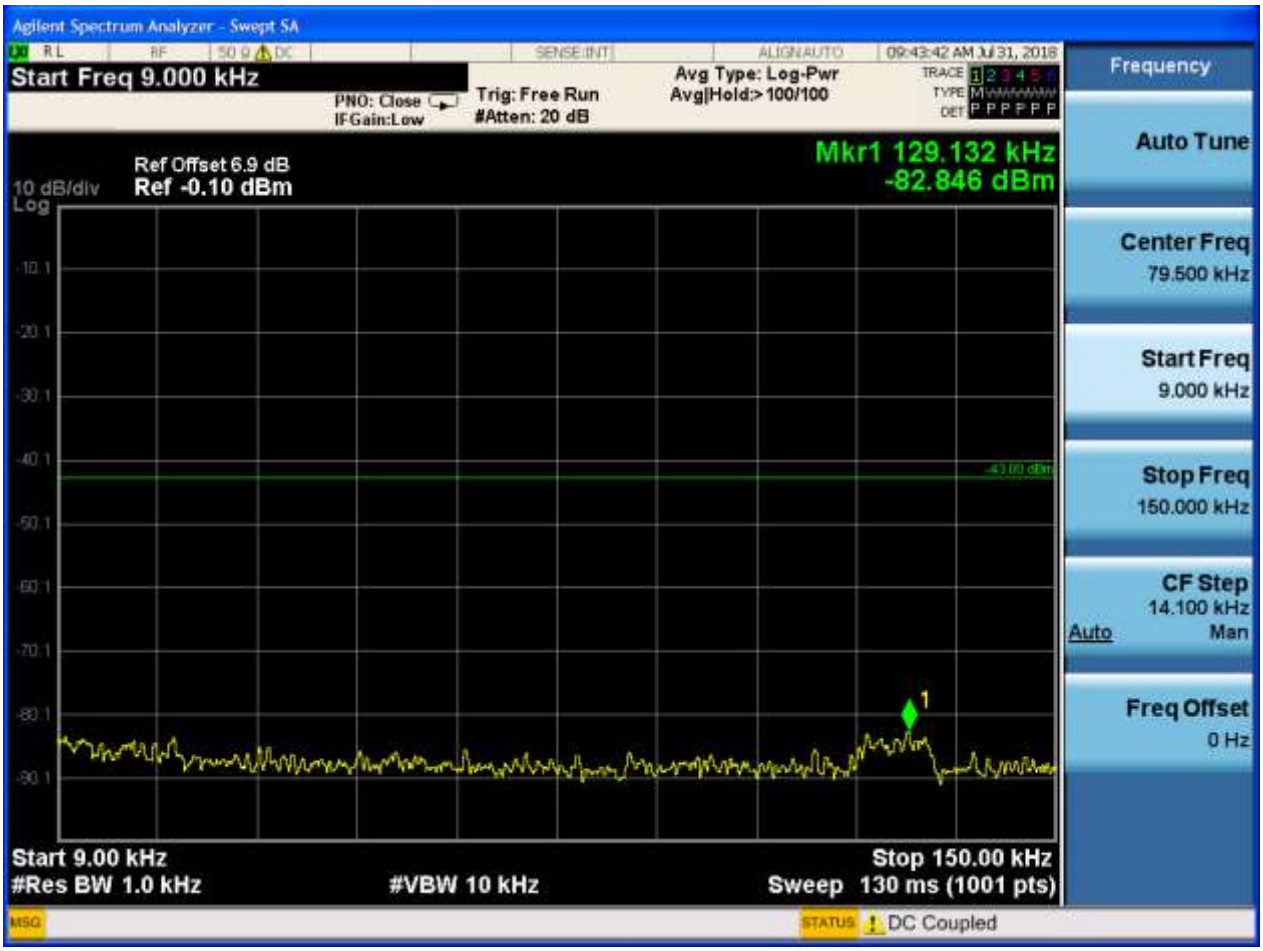
Part I - Test Plots

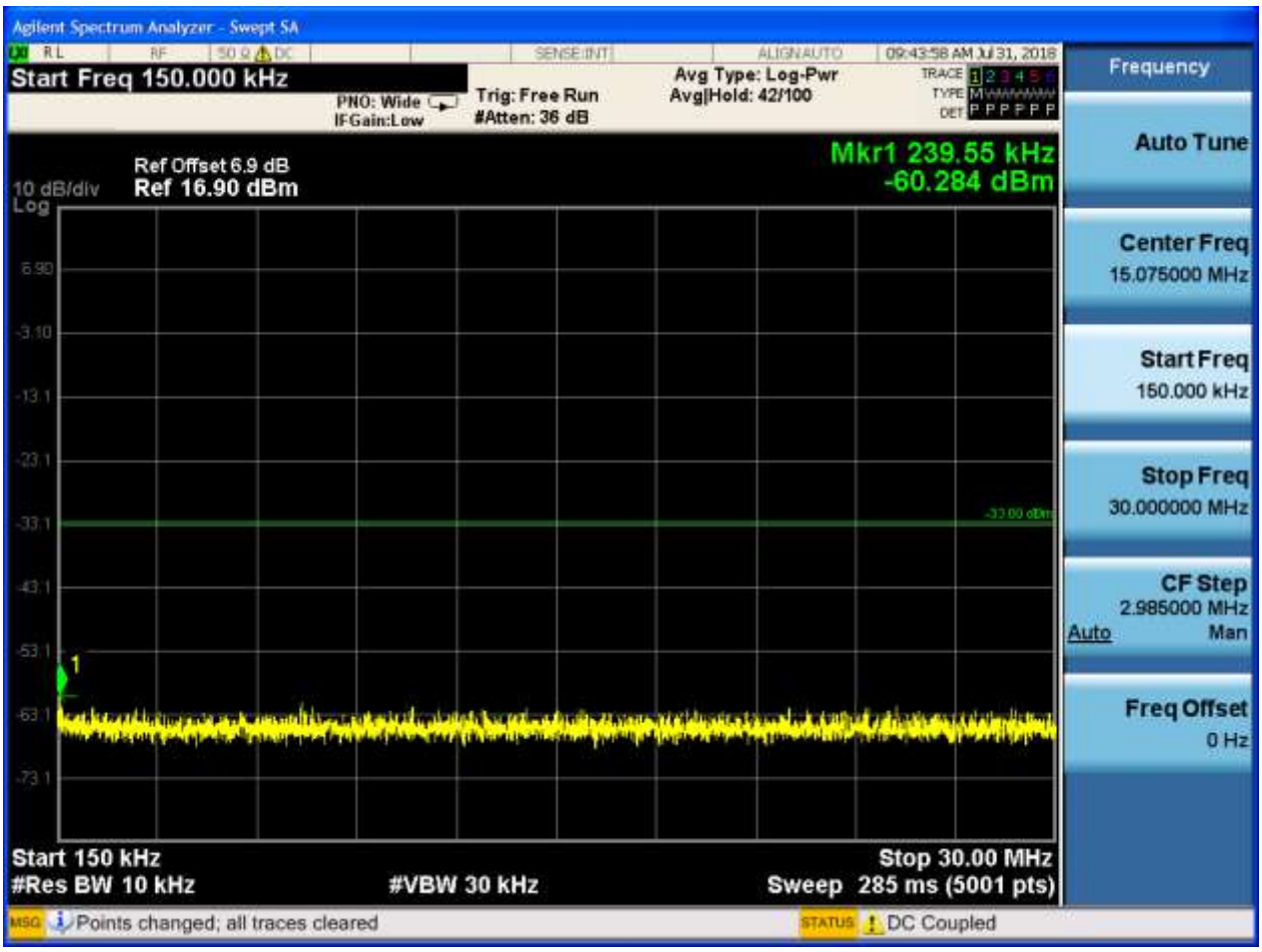
6.1 For UMTS

6.1.1 Test Band = WCDMA1900

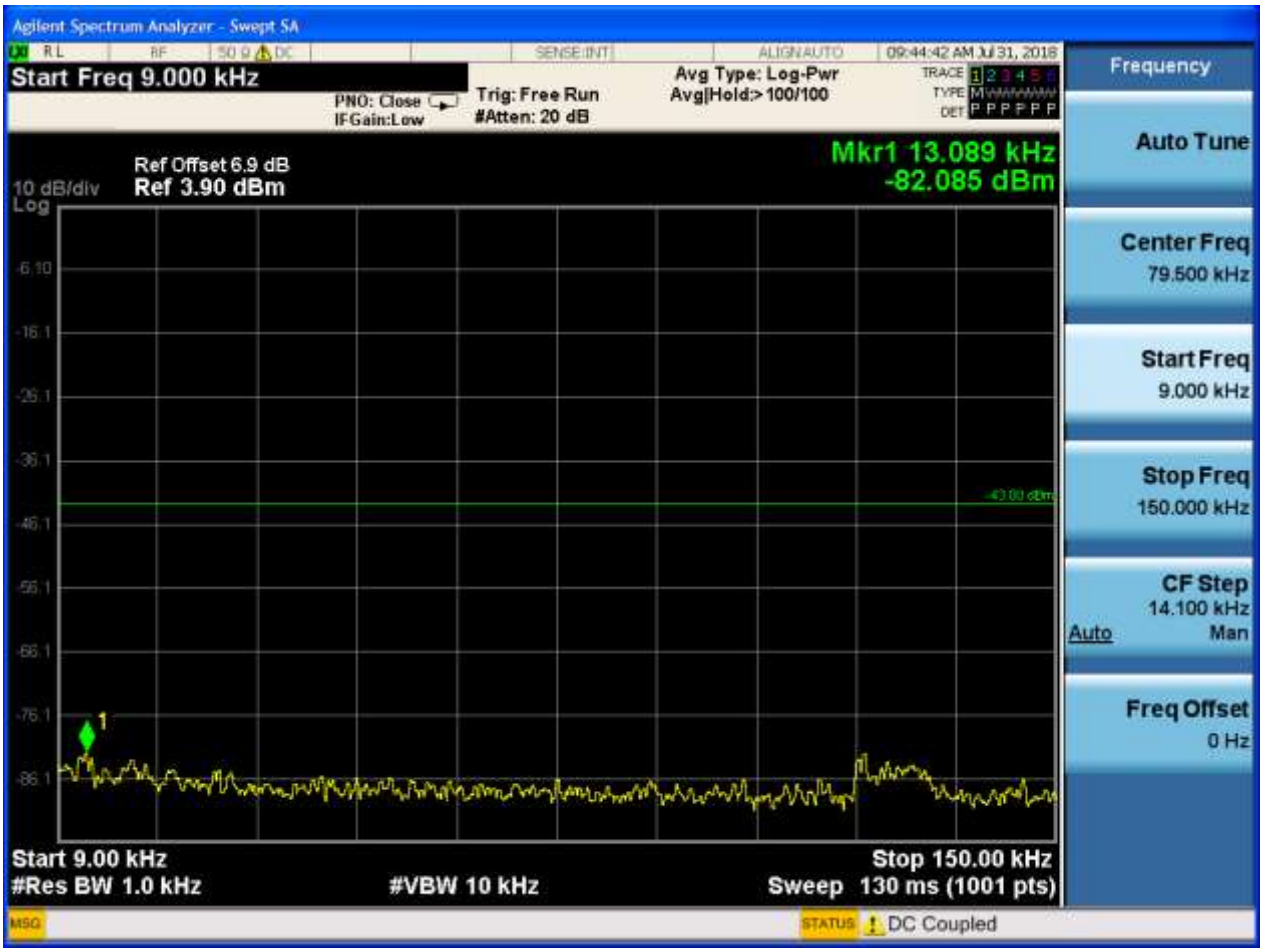
6.1.1.1 Test Mode = UMTS/TM1

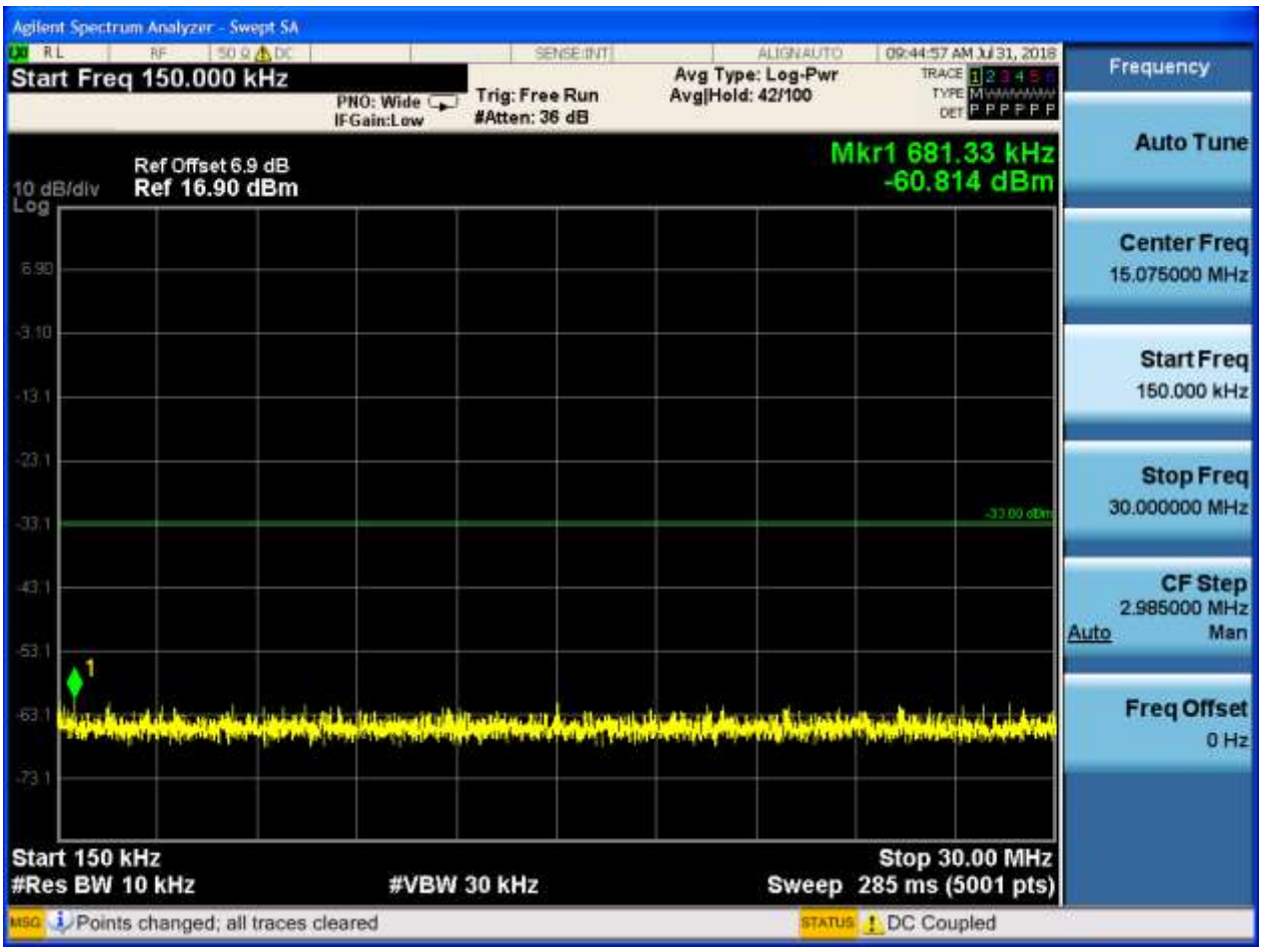
6.1.1.1.1 Test Channel = LCH



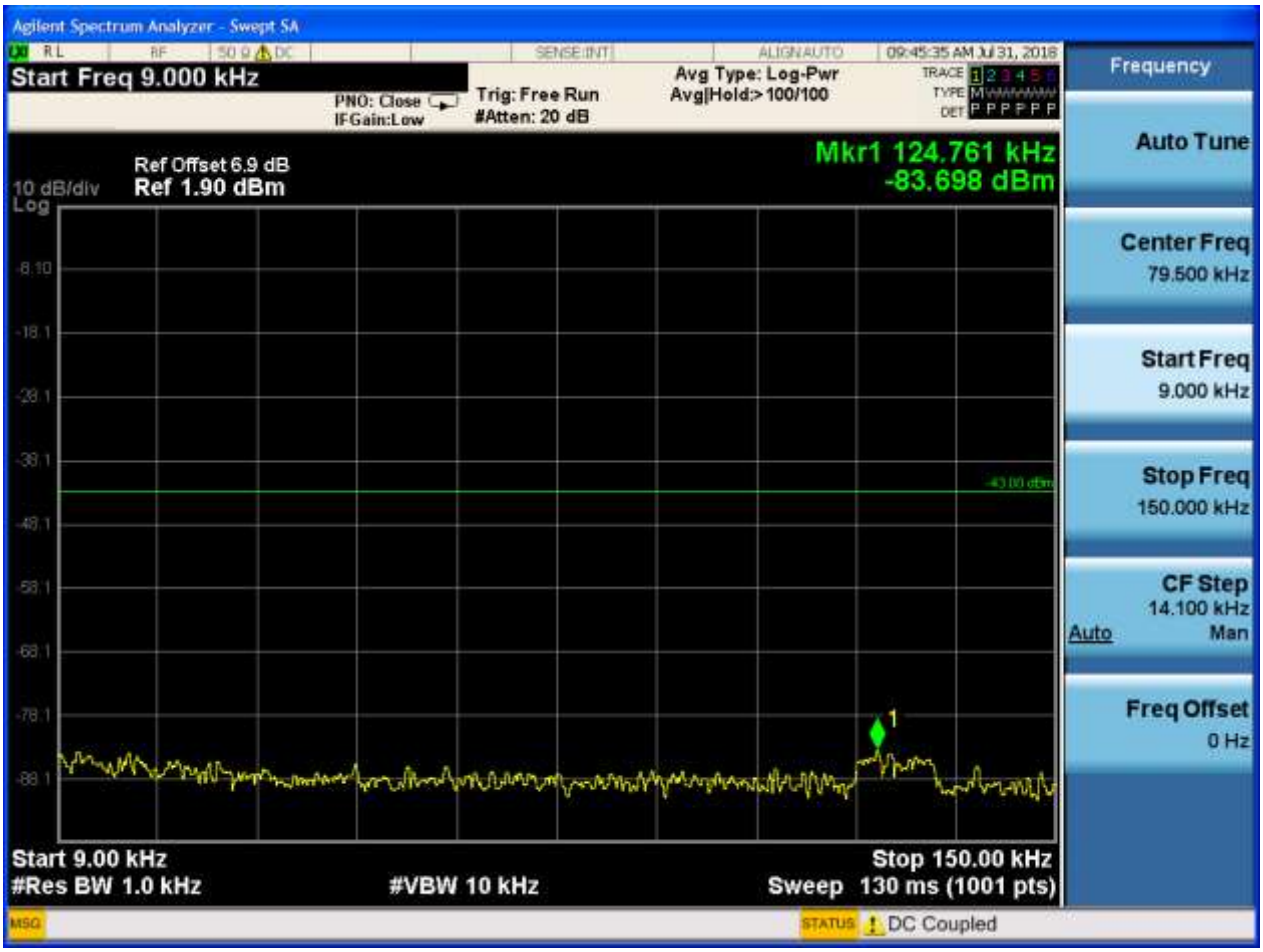


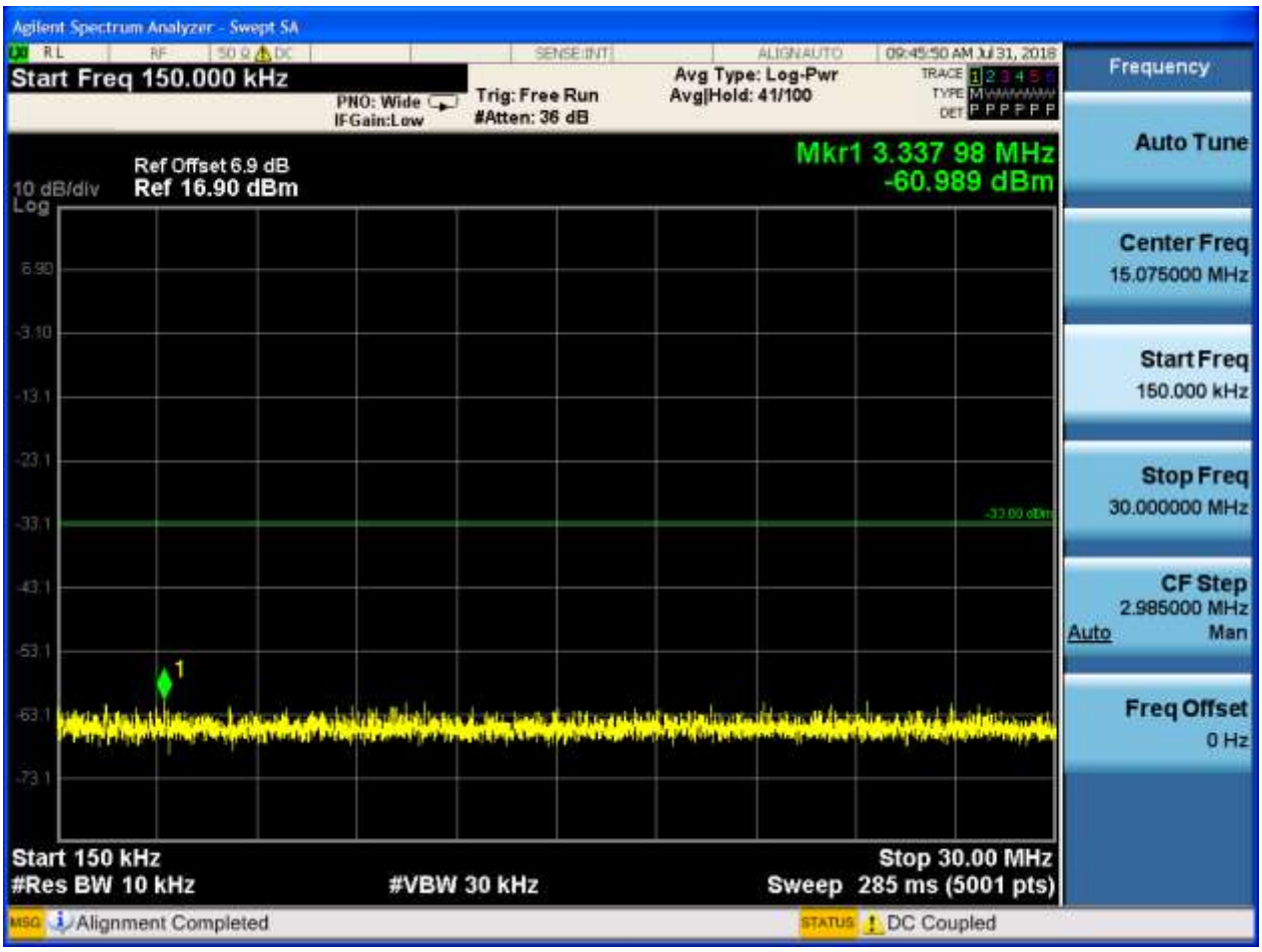
6.1.1.1.2 Test Channel = MCH





6.1.1.1.3 Test Channel = HCH

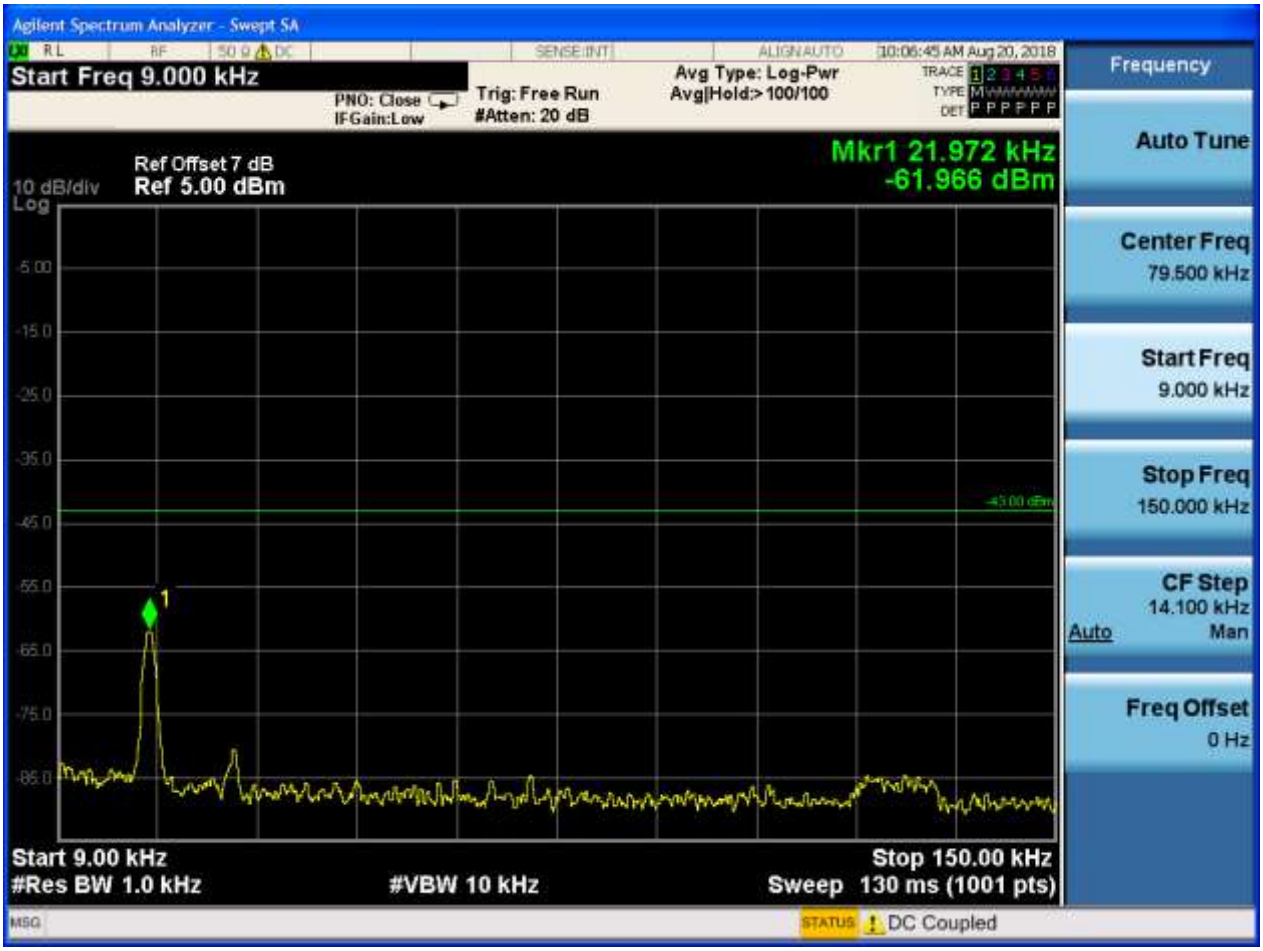


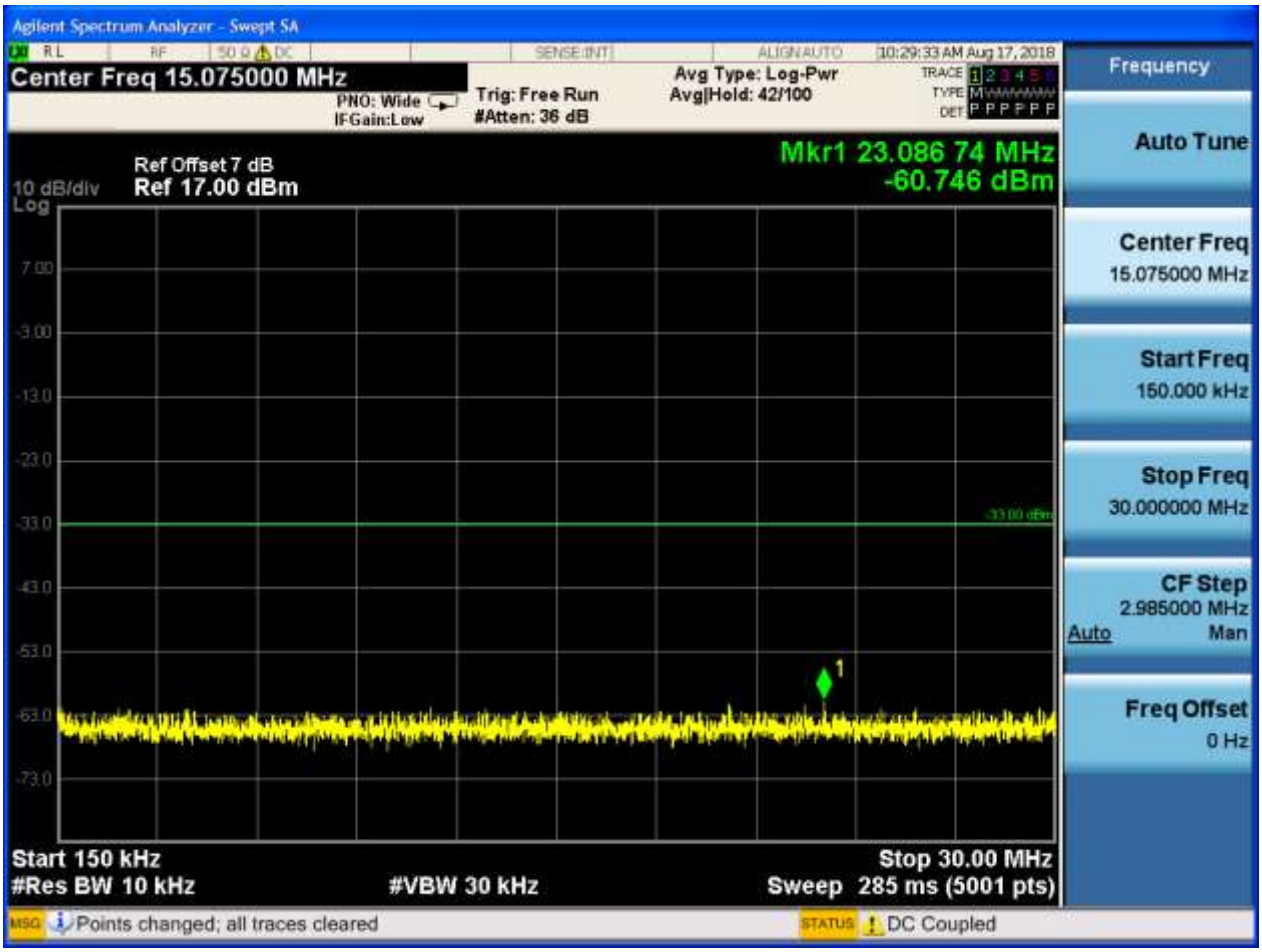


6.1.2 Test Band = WCDMA1700

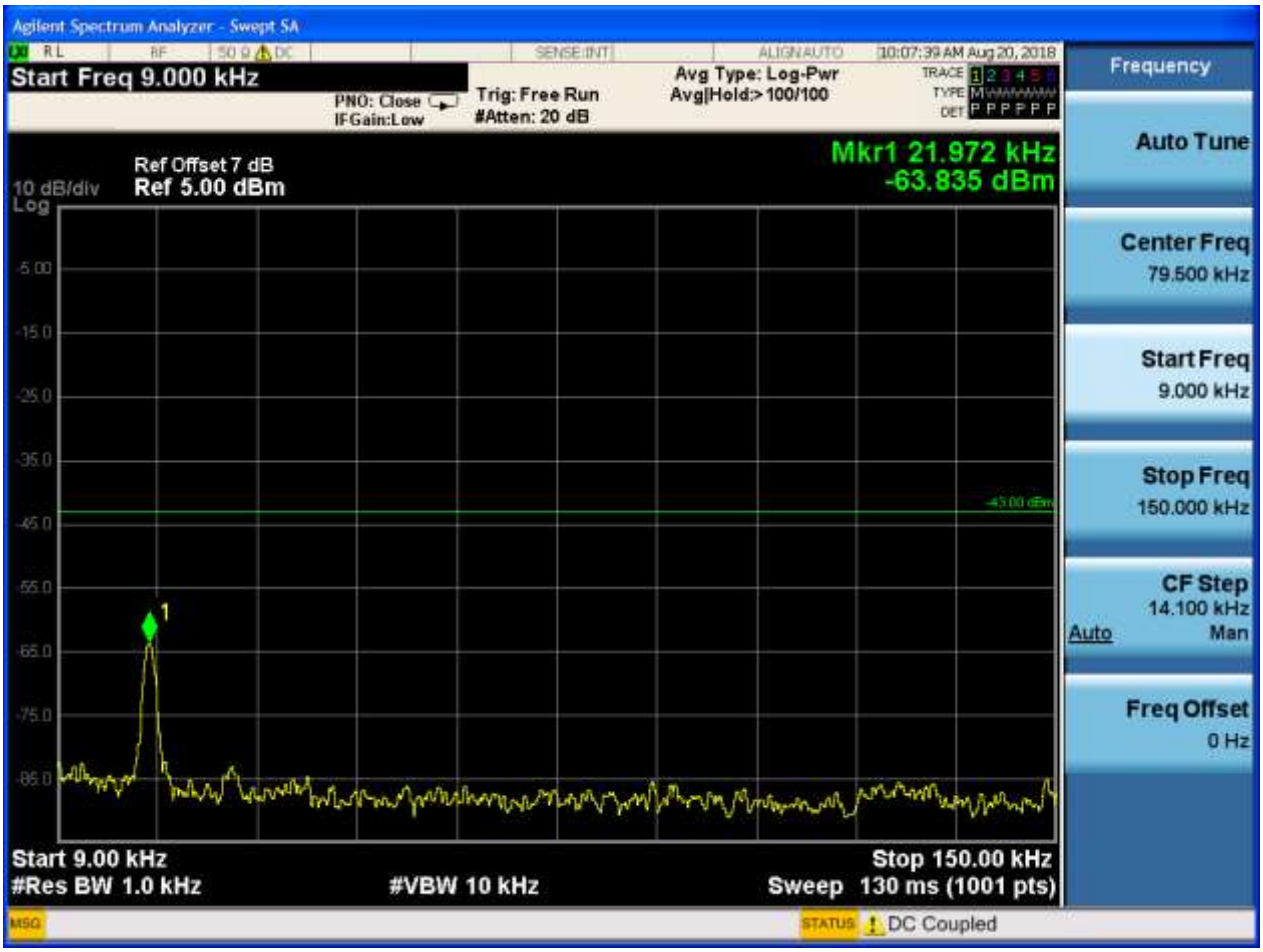
6.1.2.1 Test Mode = UMTS/TM1

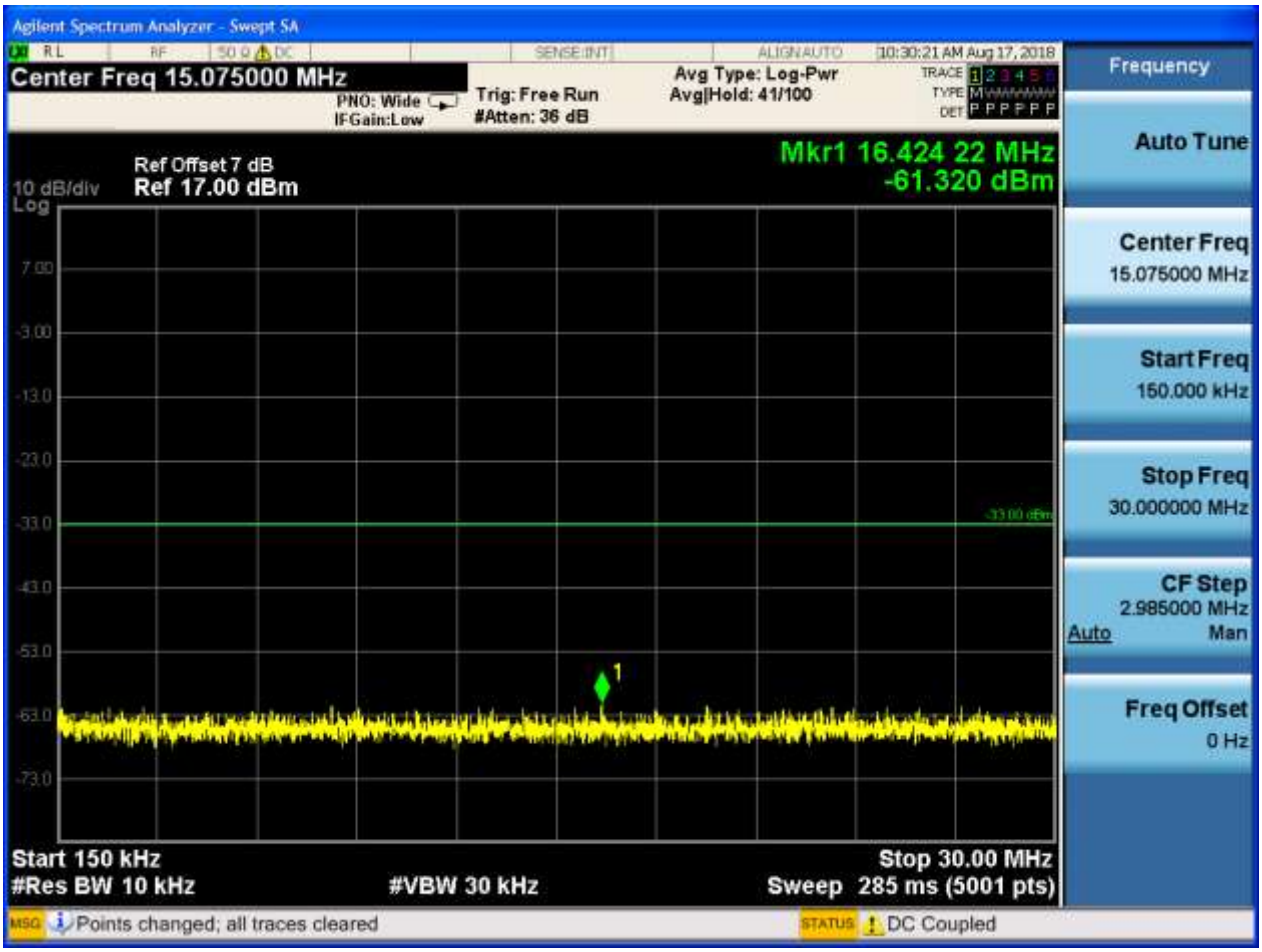
6.1.2.1.1 Test Channel = LCH



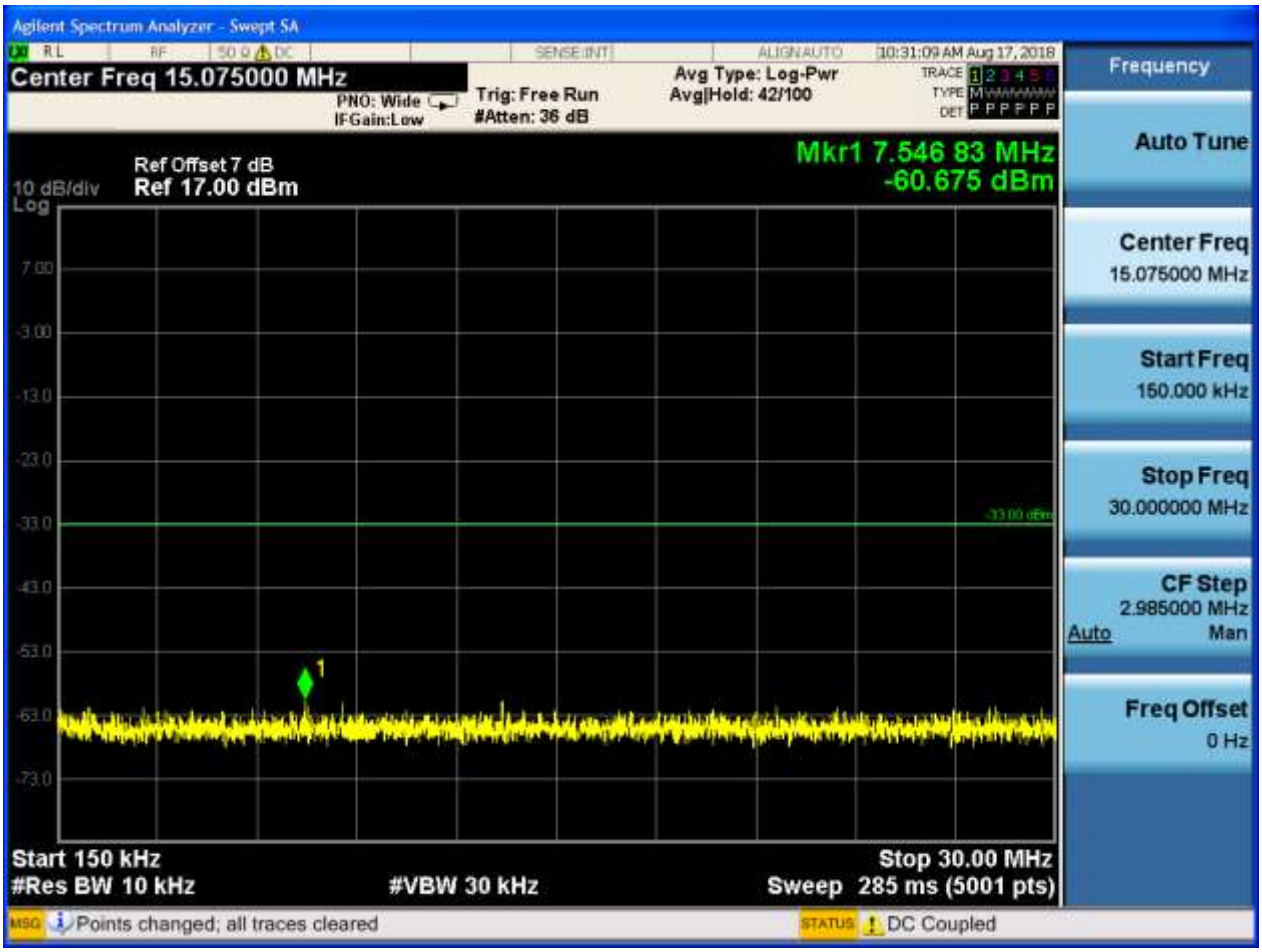


6.1.2.1.2 Test Channel = MCH





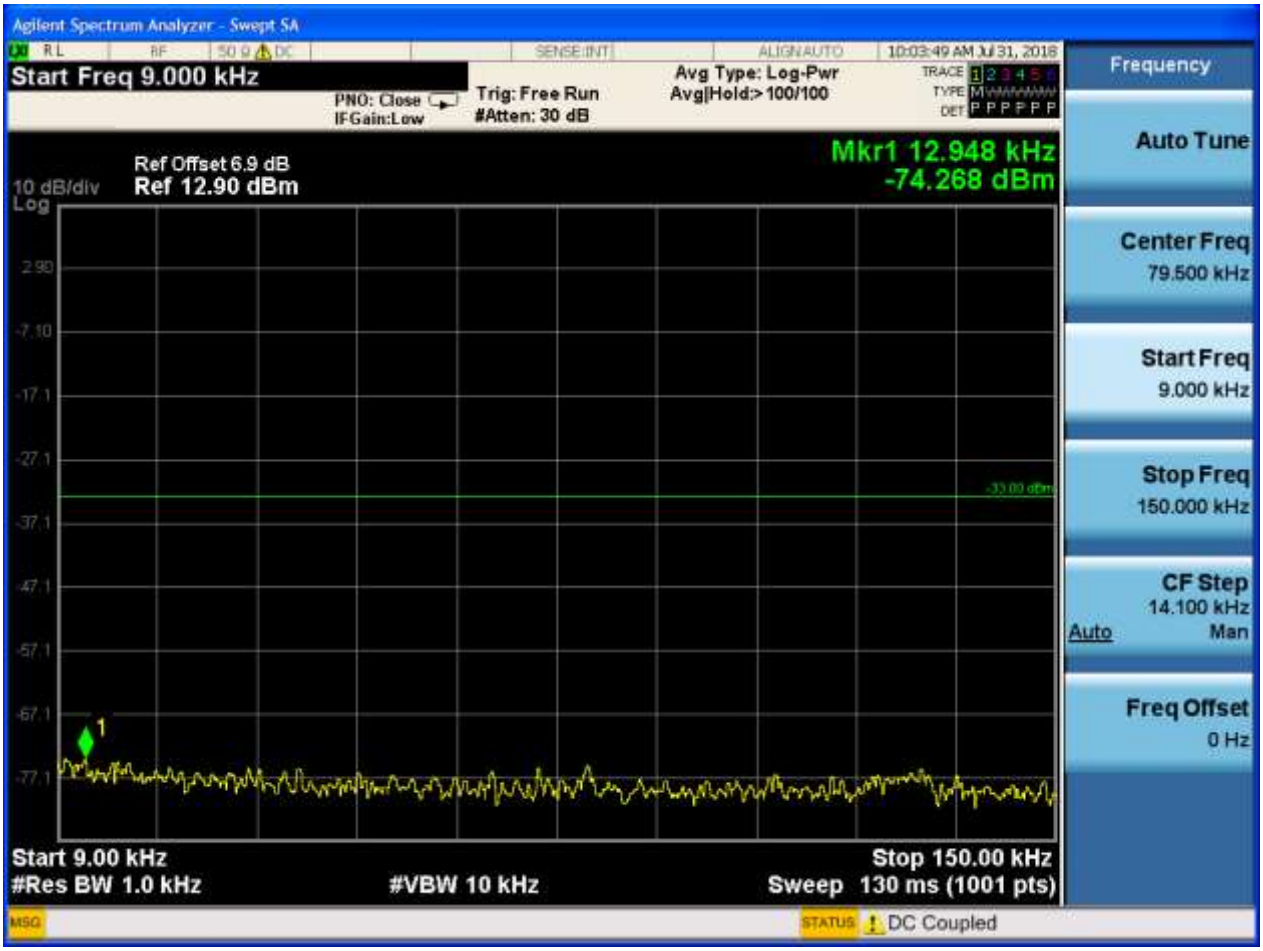
6.1.2.1.3 Test Channel = HCH

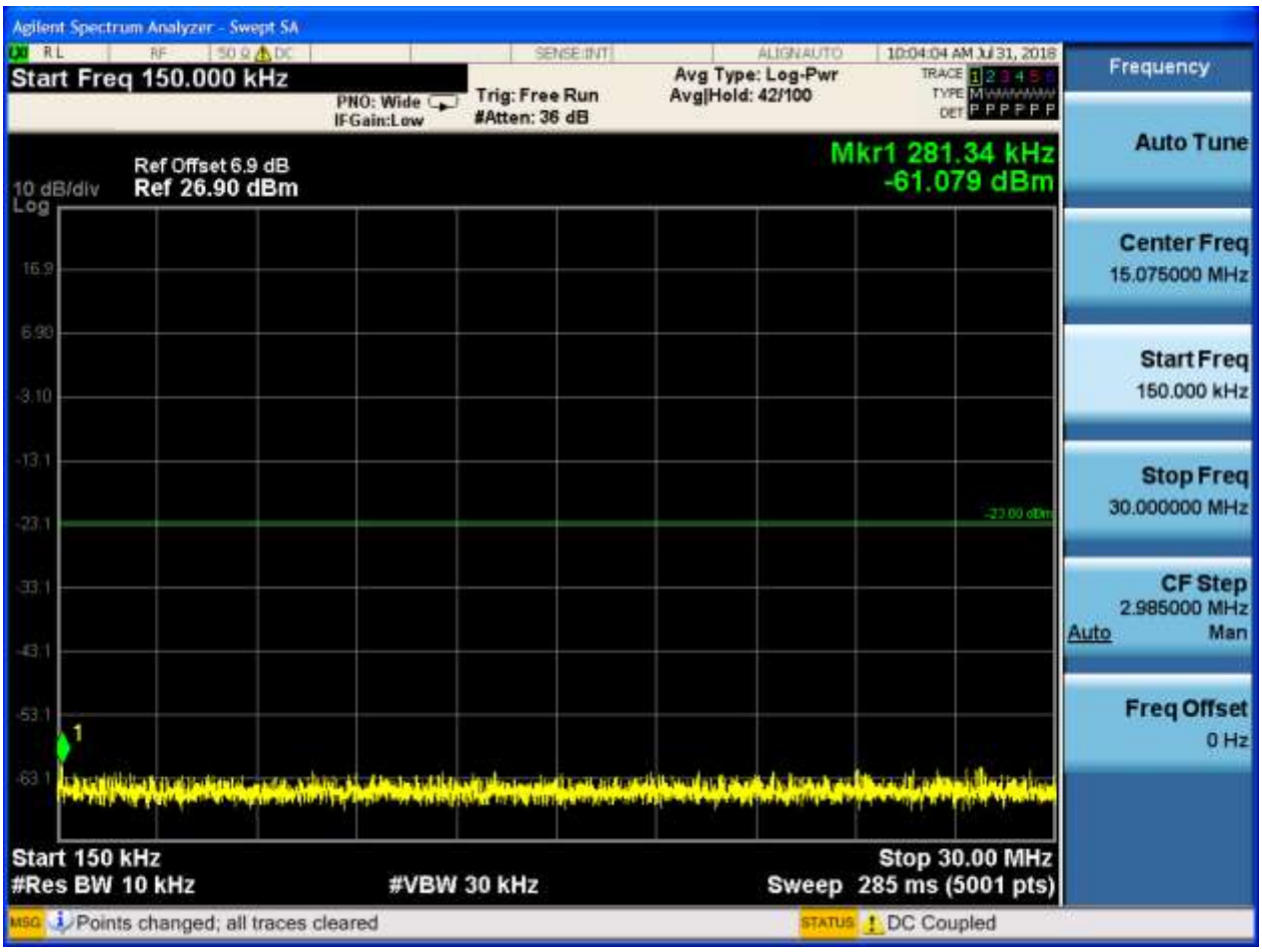


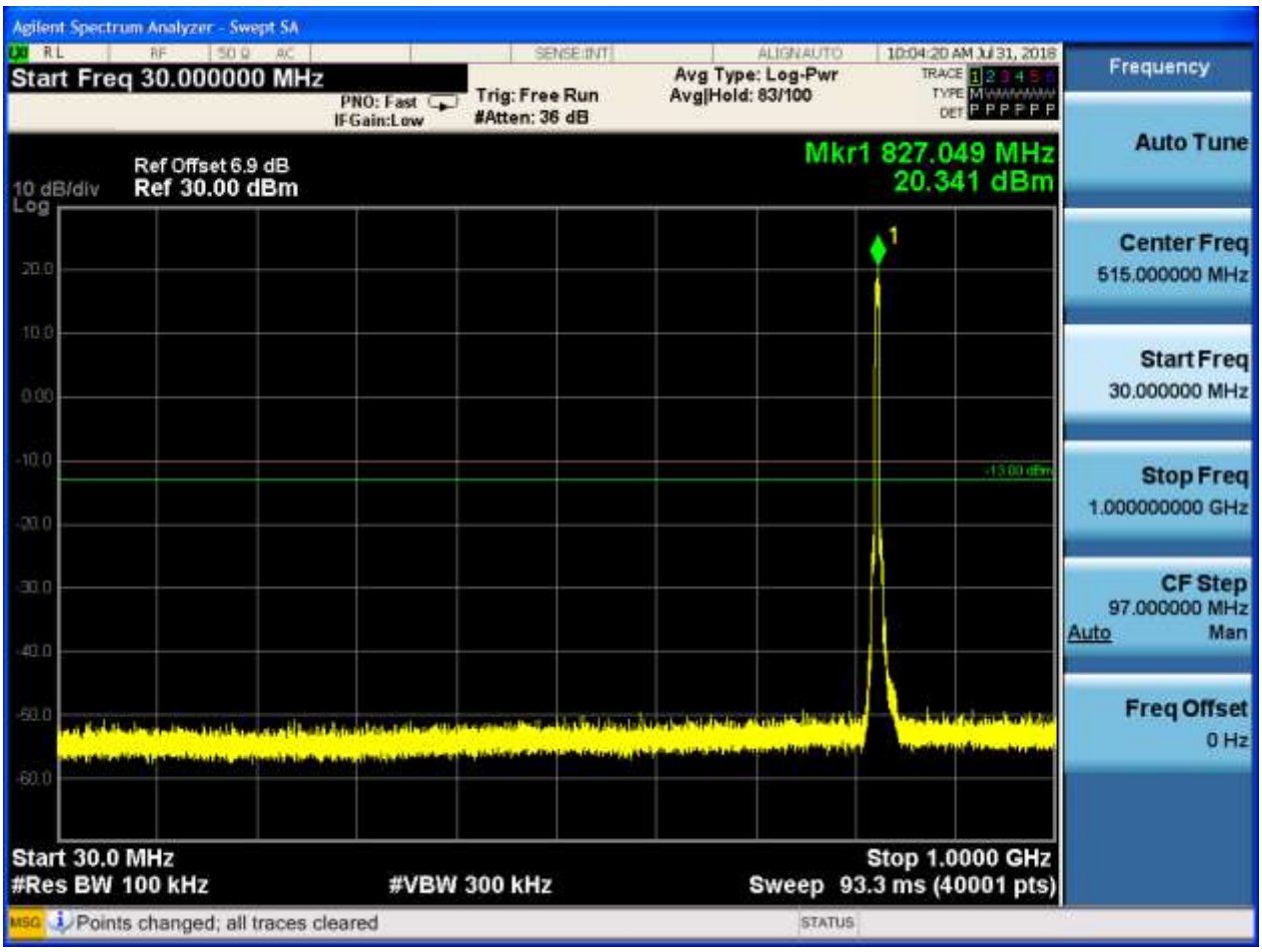
6.1.3 Test Band = WCDMA850

6.1.3.1 Test Mode = UMTS/TM1

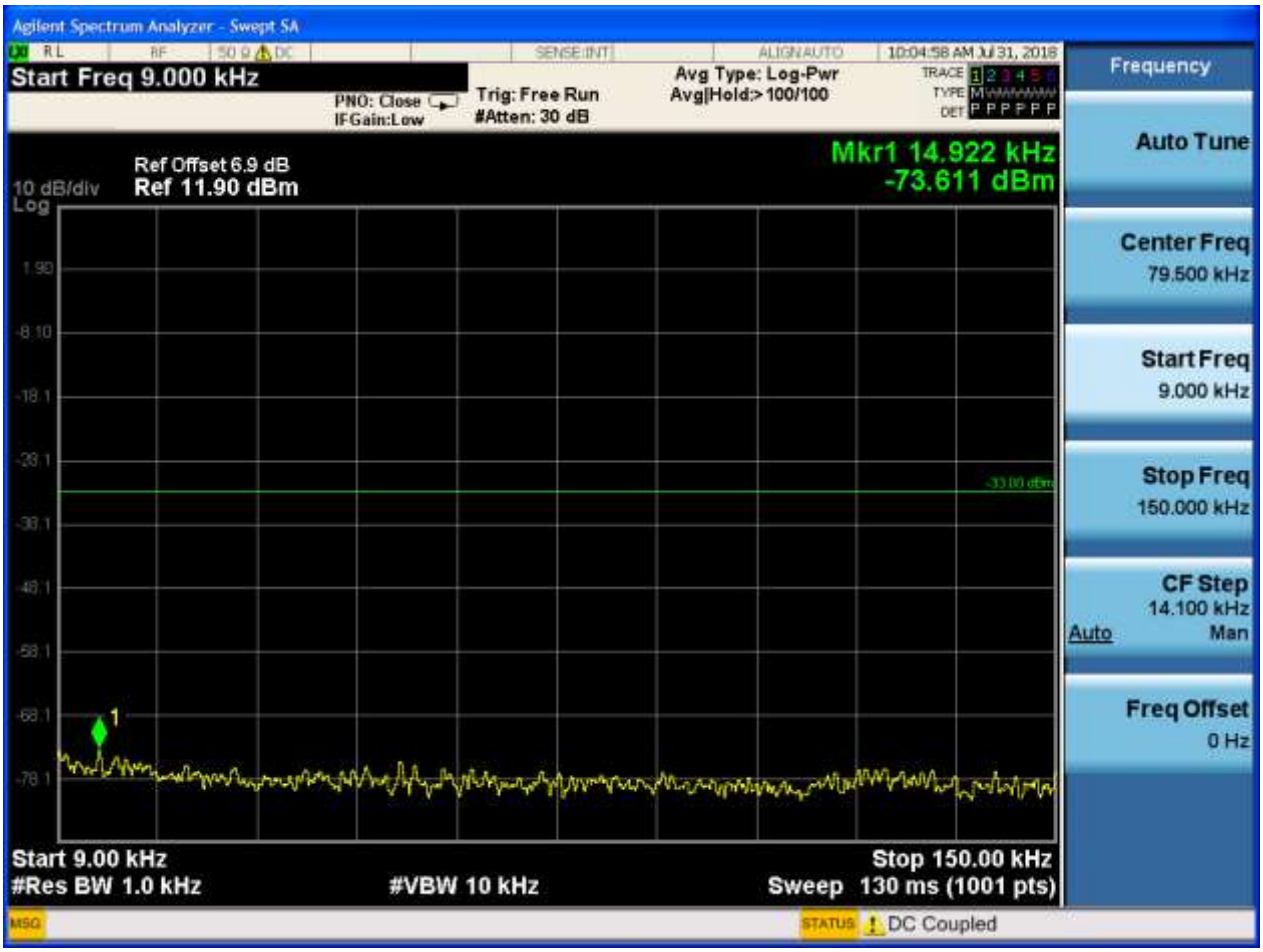
6.1.3.1.1 Test Channel = LCH

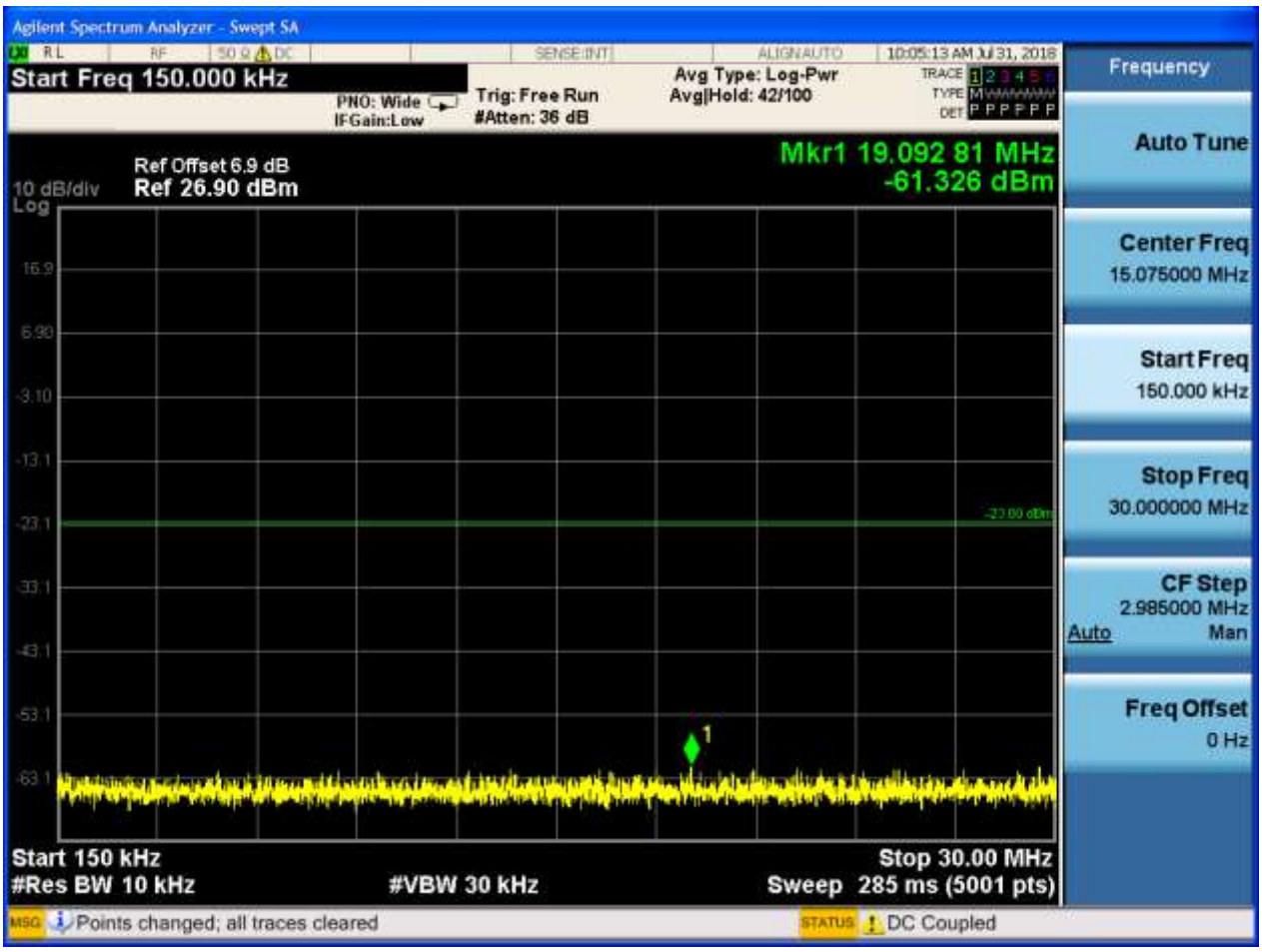


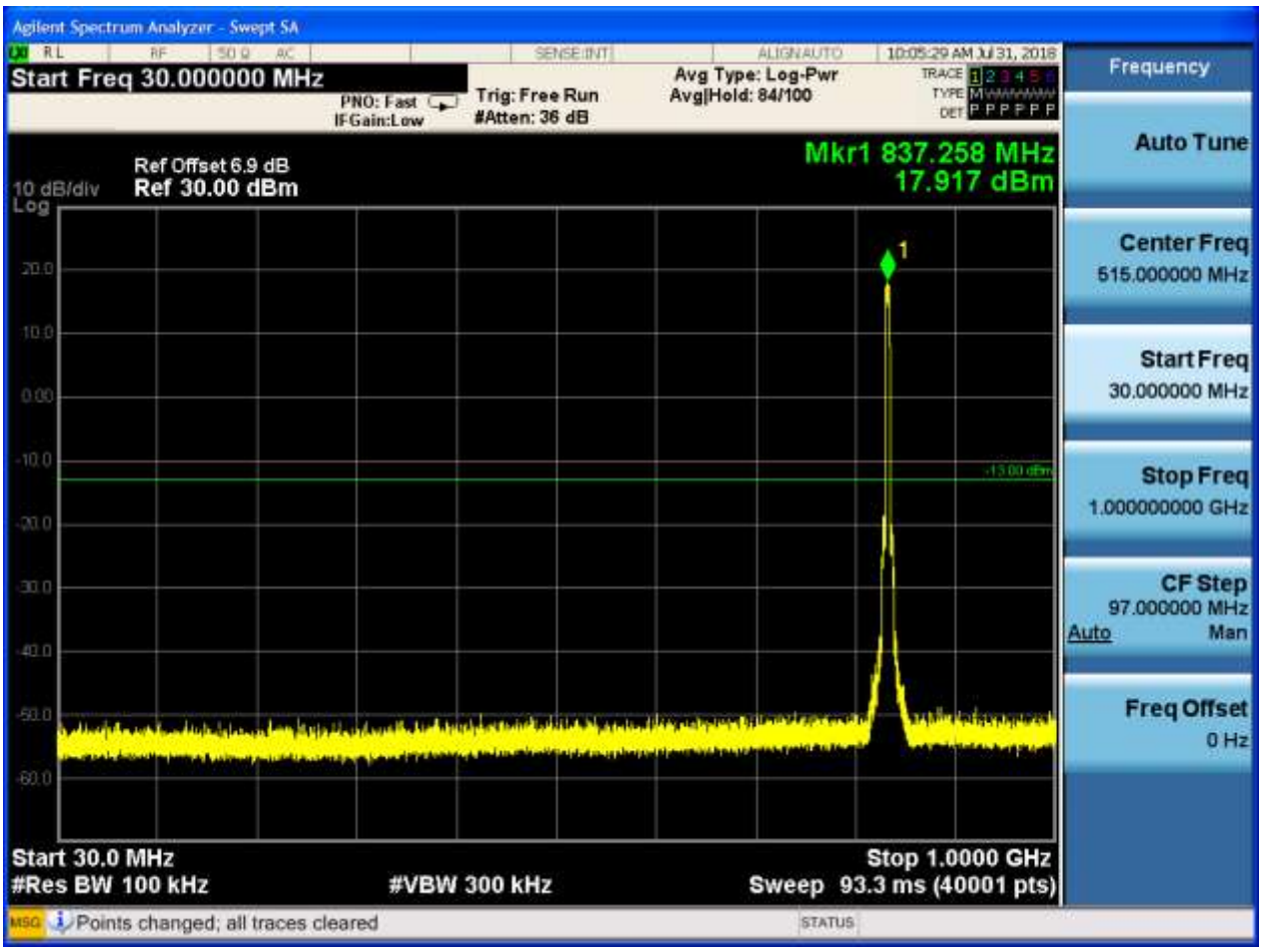




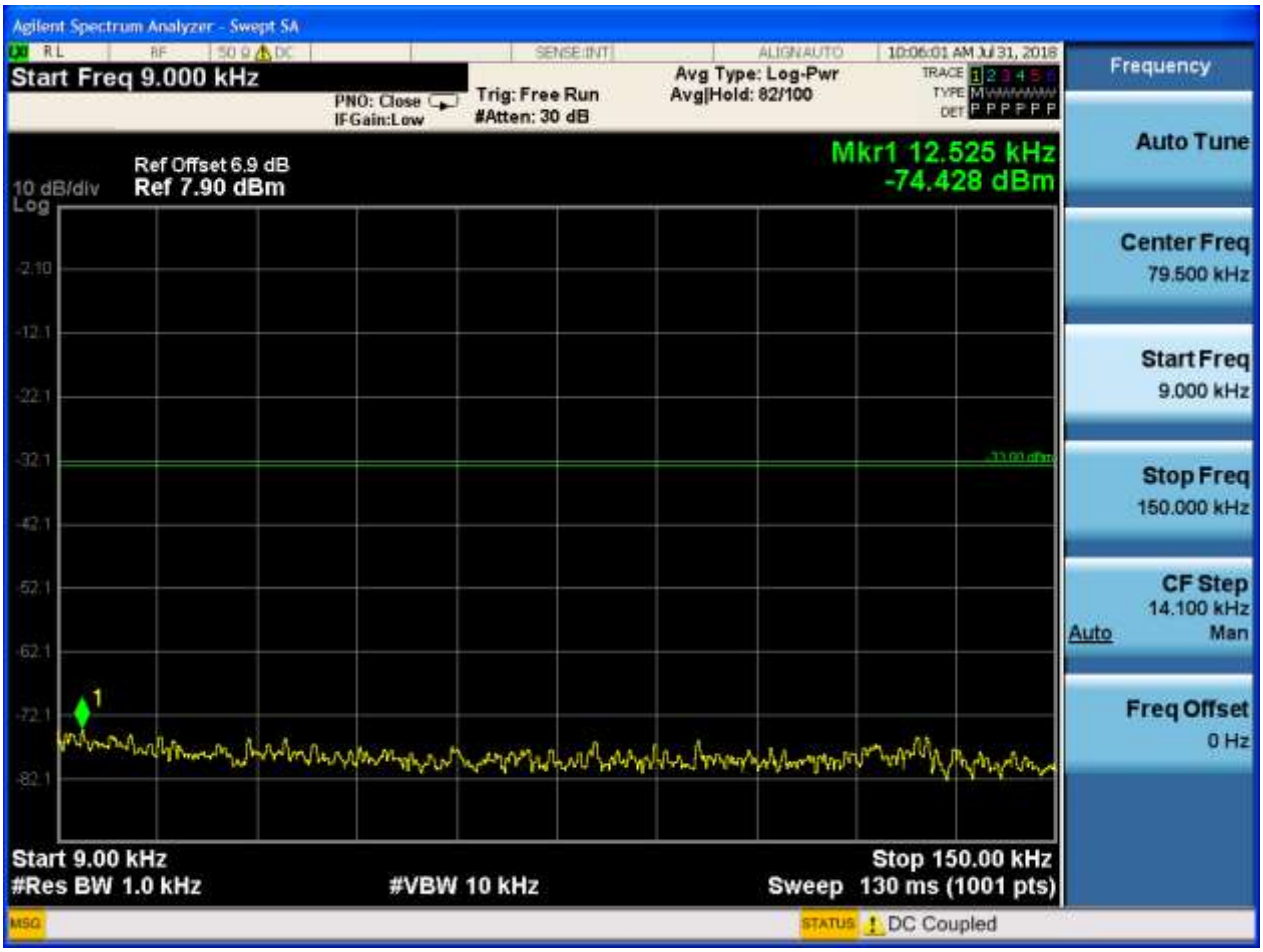
6.1.3.1.2 Test Channel = MCH

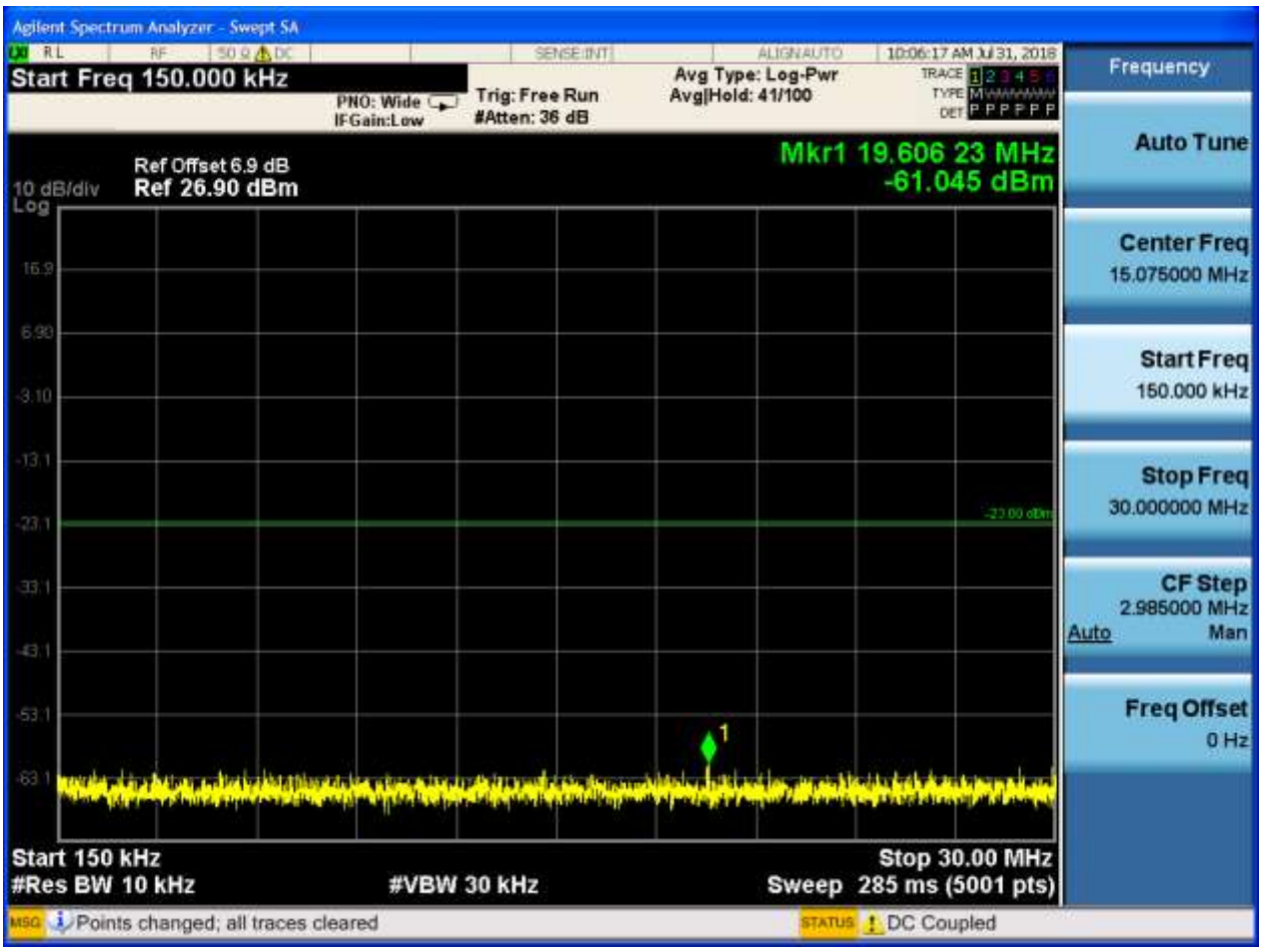


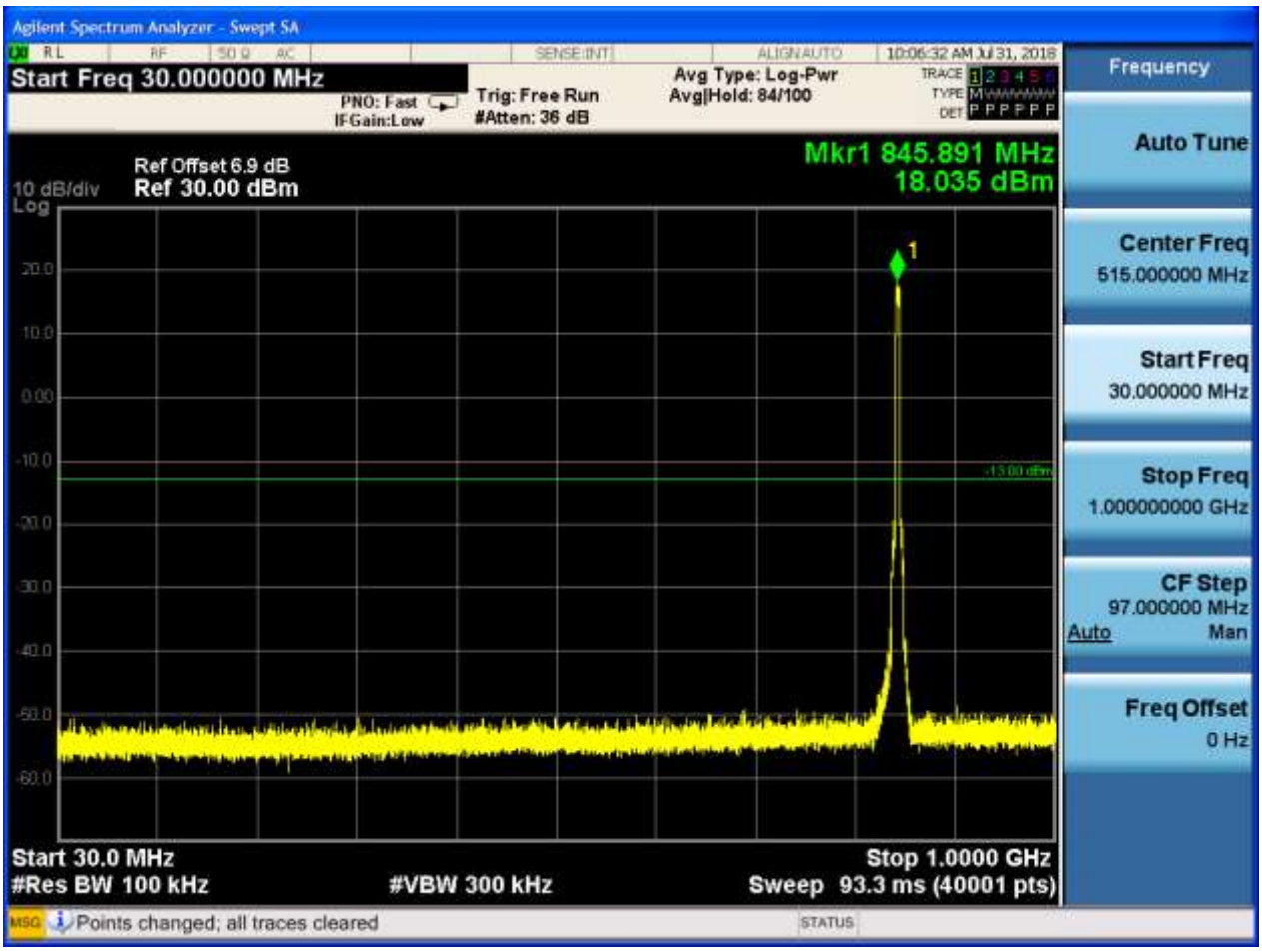




6.1.3.1.3 Test Channel = HCH







7Appendix_G: Frequency Stability

7.1 For UMTS

7.1.1Frequency Error vs. Voltage:

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA1900	UMTS/TM1	LCH	TN	VL	-0.73	-0.00039	PASS
				VN	-3.27	-0.00177	PASS
				VH	2.90	0.00157	PASS
		MCH	TN	VL	9.22	0.0049	PASS
				VN	9.16	0.00487	PASS
				VH	12.65	0.00673	PASS
		HCH	TN	VL	8.44	0.00442	PASS
				VN	5.97	0.00313	PASS
				VH	-0.98	-0.00051	PASS
WCDMA1700	UMTS/TM1	LCH	TN	VL	-1.48	-0.00086	PASS
				VN	6.96	0.00406	PASS
				VH	8.35	0.00488	PASS
		MCH	TN	VL	0.63	0.00036	PASS
				VN	0.89	0.00051	PASS
				VH	3.34	0.00193	PASS
		HCH	TN	VL	6.88	0.00393	PASS
				VN	8.74	0.00499	PASS
				VH	12.27	0.007	PASS
WCDMA850	UMTS/TM1	LCH	TN	VL	6.00	0.00726	PASS
				VN	5.20	0.00629	PASS
				VH	-1.62	-0.00196	PASS
		MCH	TN	VL	0.98	0.00117	PASS
				VN	4.94	0.00591	PASS
				VH	6.85	0.00819	PASS
		HCH	TN	VL	0.05	0.00006	PASS
				VN	-1.14	-0.00135	PASS
				VH	-1.25	-0.00148	PASS

7.1.2Frequency Error vs. Temperature:

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA1900	UMTS/TM1	LCH	VN	-30	0.29	0.00016	PASS
				-20	-1.57	-0.00085	PASS
				-10	2.85	0.00154	PASS
				0	7.54	0.00407	PASS
				10	-0.76	-0.00041	PASS
				20	11.09	0.00599	PASS
				30	7.29	0.00394	PASS
				40	6.99	0.00377	PASS
				50	1.37	0.00074	PASS
		MCH	VN	-30	4.24	0.00226	PASS
				-20	8.33	0.00443	PASS
				-10	5.81	0.00309	PASS
				0	5.46	0.0029	PASS
				10	4.73	0.00252	PASS
				20	3.33	0.00177	PASS
				30	7.63	0.00406	PASS
				40	2.49	0.00132	PASS
				50	2.09	0.00111	PASS
		HCH	VN	-30	5.39	0.00283	PASS
				-20	1.72	0.0009	PASS
				-10	0.92	0.00048	PASS
				0	3.25	0.0017	PASS
				10	8.35	0.00438	PASS
				20	6.91	0.00362	PASS
				30	0.05	0.00003	PASS
				40	5.33	0.00279	PASS
				50	1.63	0.00085	PASS
WCDMA1700	UMTS/TM1	LCH	VN	-30	5.4	0.00315	PASS
				-20	5.92	0.00346	PASS
				-10	4.87	0.00284	PASS
				0	10.13	0.00592	PASS
				10	1.05	0.00061	PASS
				20	-1.91	-0.00112	PASS
				30	3.66	0.00214	PASS
				40	6.16	0.0036	PASS
				50	3.23	0.00189	PASS
		MCH	VN	-30	4.18	0.00241	PASS
				-20	3.85	0.00222	PASS
				-10	0.58	0.00033	PASS
				0	7.68	0.00443	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				10	4.56	0.00263	PASS
				20	1.51	0.00087	PASS
				30	4.26	0.00246	PASS
				40	2.73	0.00158	PASS
				50	4.64	0.00268	PASS
		HCH	VN	-30	5.2	0.00297	PASS
				-20	3.42	0.00195	PASS
				-10	8.87	0.00506	PASS
				0	6.84	0.0039	PASS
				10	5.54	0.00316	PASS
				20	1.54	0.00088	PASS
				30	-1.62	-0.00092	PASS
				40	4.32	0.00246	PASS
				50	4.91	0.0028	PASS
WCDMA850	UMTS/TM1	LCH	VN	-30	4.84	0.00586	PASS
				-20	6.30	0.00762	PASS
				-10	1.28	0.00155	PASS
				0	6.94	0.0084	PASS
				10	-2.72	-0.00329	PASS
				20	4.65	0.00563	PASS
				30	3.98	0.00482	PASS
				40	-0.69	-0.00083	PASS
				50	12.24	0.01481	PASS
		MCH	VN	-30	4.41	0.00527	PASS
				-20	0.75	0.0009	PASS
				-10	9.57	0.01144	PASS
				0	7.35	0.00879	PASS
				10	8.33	0.00996	PASS
				20	2.43	0.00291	PASS
				30	6.41	0.00766	PASS
				40	-2.66	-0.00318	PASS
				50	1.82	0.00218	PASS
		HCH	VN	-30	-2.78	-0.00328	PASS
				-20	-5.28	-0.00624	PASS
				-10	8.41	0.00993	PASS
				0	-2.87	-0.00339	PASS
				10	4.17	0.00493	PASS
				20	-6.06	-0.00716	PASS
				30	8.00	0.00945	PASS
				40	7.42	0.00876	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				50	5.40	0.00638	PASS

END