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	24.04	20.49	38.5	PASS
		MCH	24.12	20.57	38.5	PASS
		HCH	24.08	20.53	38.5	PASS
Test Band	**Test Mode**	**Test Channel**	**Conducted Power**	**EIRP [dBm]**	**Limit [dBm]**	**Verdict**
WCDMA1700	UMTS/TM1	LCH	23.9	21.7	30	PASS
		MCH	23.84	21.64	30	PASS
		HCH	23.76	21.56	30	PASS
WCDMA1900	UMTS/TM1	LCH	24.11	23.81	33	PASS
		MCH	24.07	23.77	33	PASS
		HCH	23.94	23.64	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
WCDMA1900	UMTS/TM1	LCH	3.28	13	PASS
		MCH	3.26	13	PASS
		HCH	3.31	13	PASS
WCDMA1700	UMTS/TM1	LCH	3.4	13	PASS
		MCH	3.4	13	PASS
		HCH	3.58	13	PASS
WCDMA850	UMTS/TM1	LCH	3.34	13	PASS
		MCH	3.34	13	PASS
		HCH	3.48	13	PASS

3Appendix_C: Modulation Characteristics

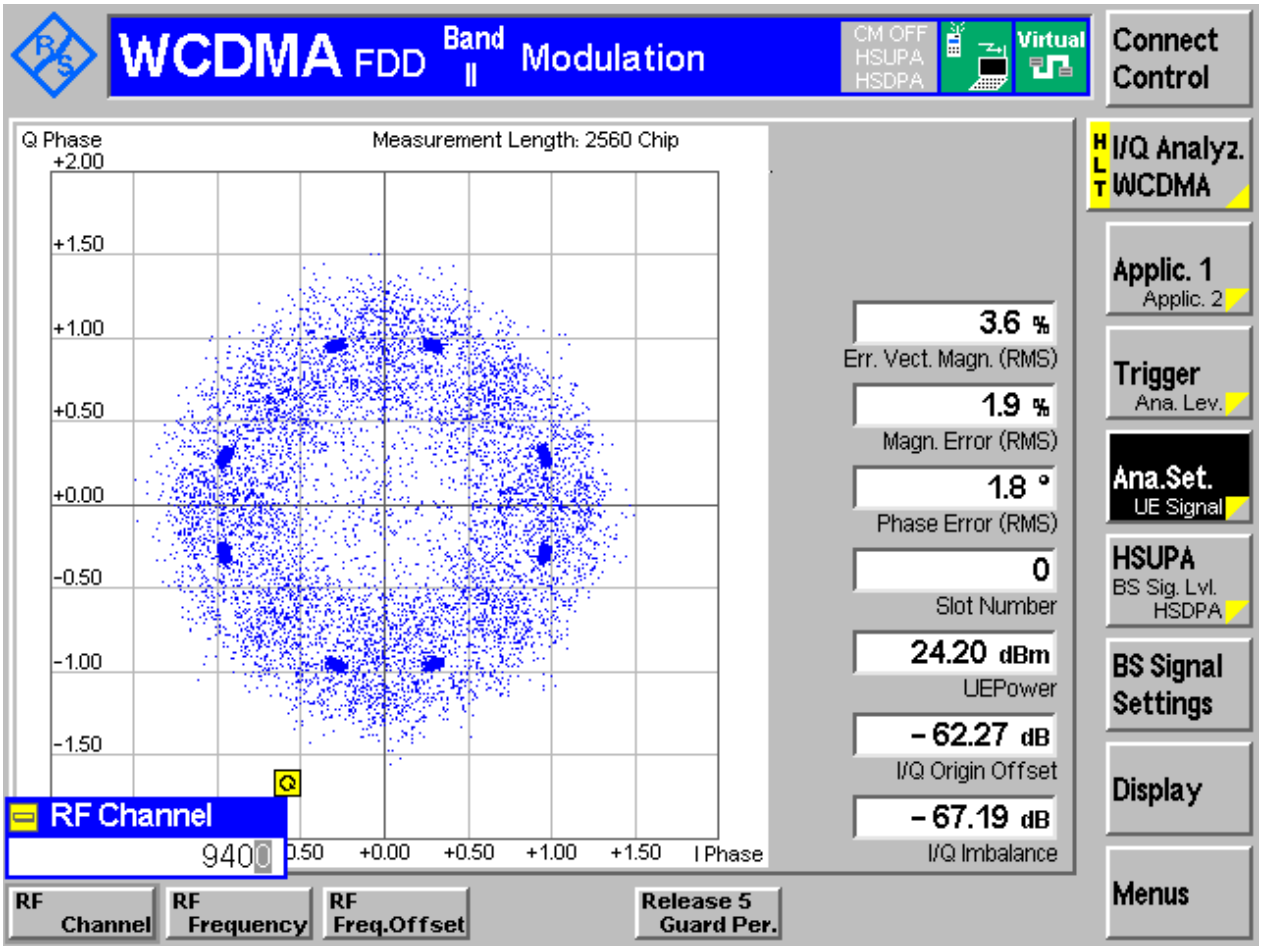
Part I - Test Plots

3.1 For UMTS

3.1.1 Test Band = WCDMA1900

3.1.1.1 Test Mode = UMTS/TM1

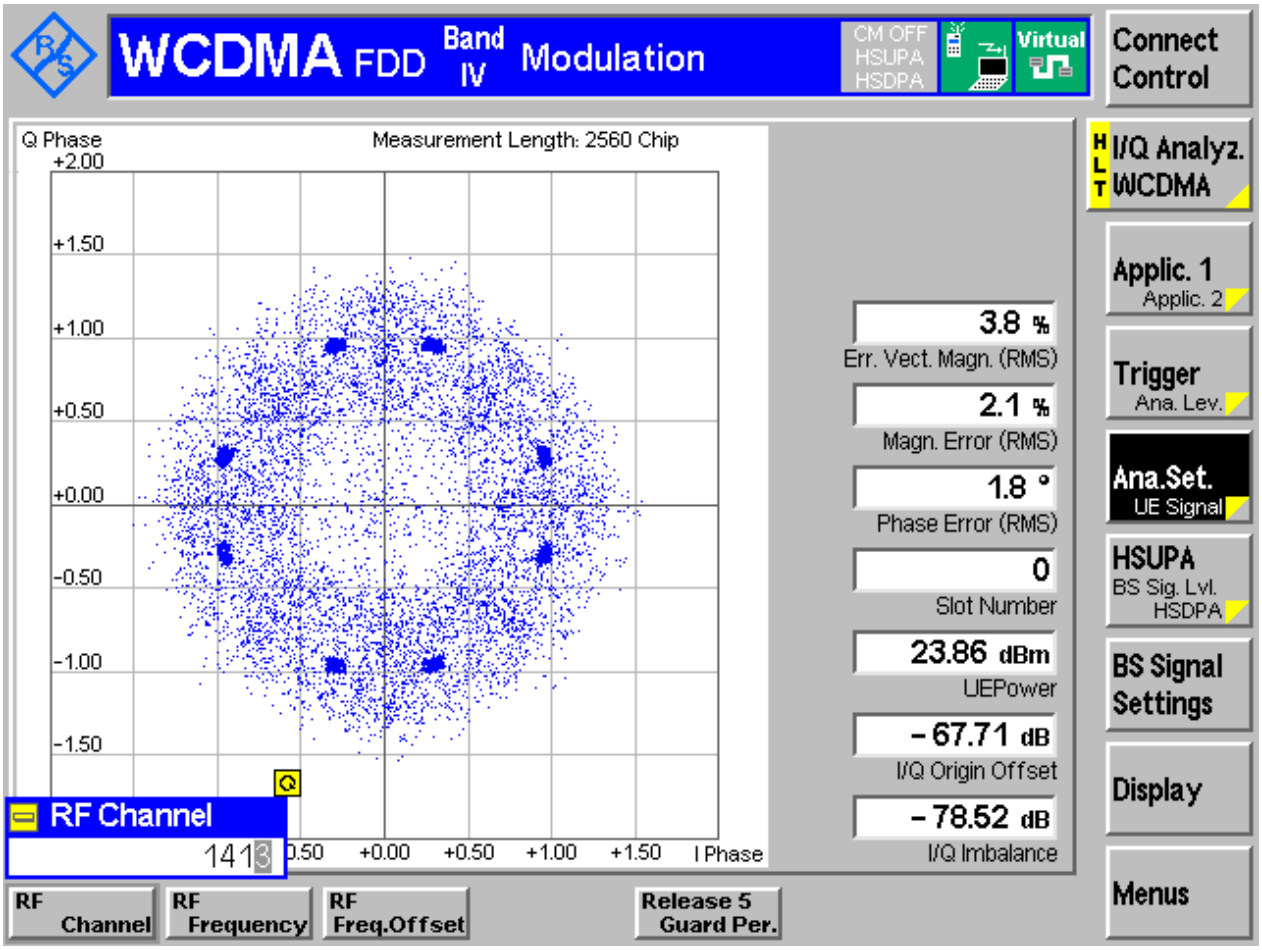
3.1.1.1.1 Test Channel = MCH



3.1.2 Test Band = WCDMA1700

3.1.2.1 Test Mode = UMTS/TM1

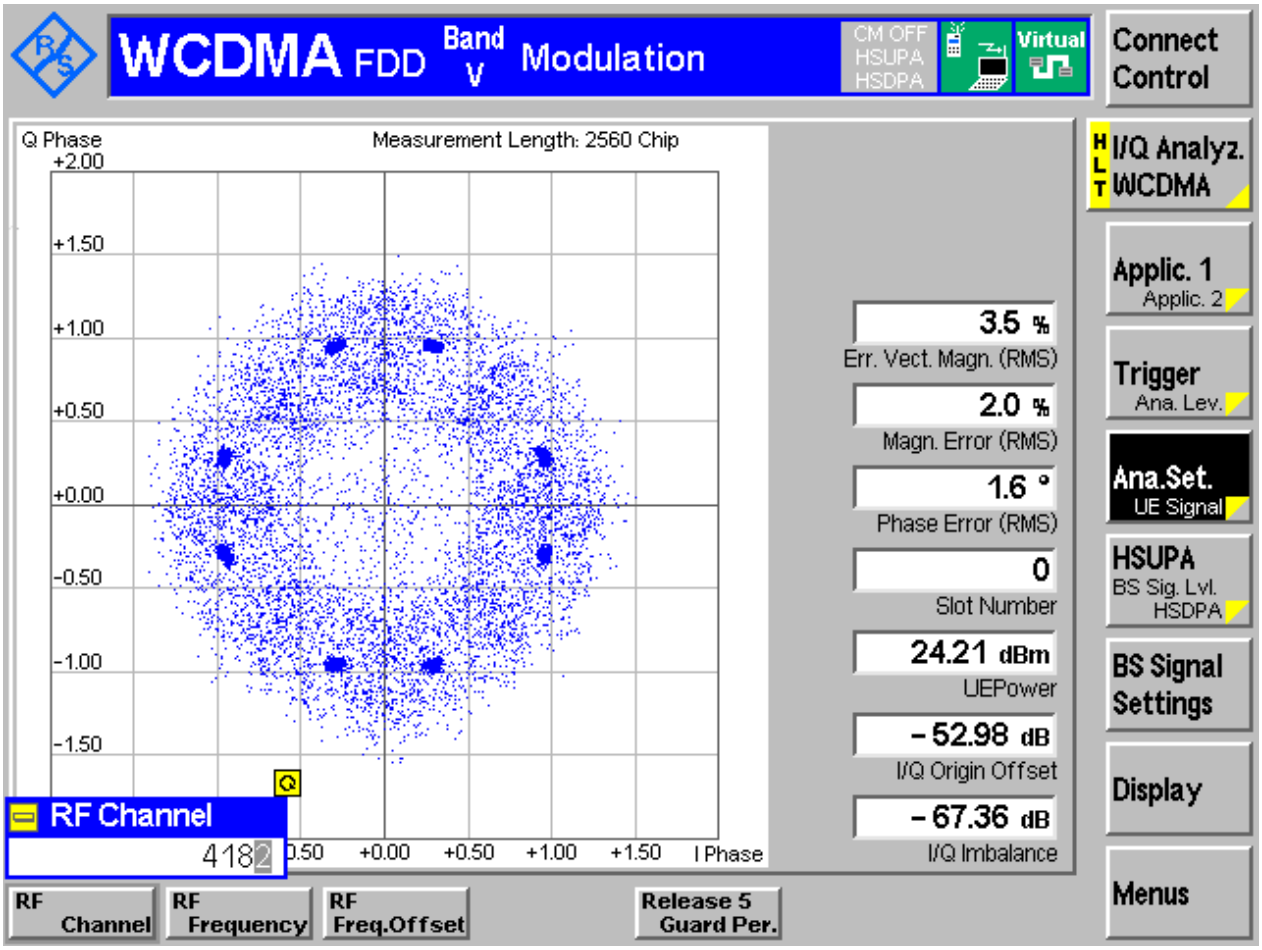
3.1.2.1.1 Test Channel = MCH



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
WCDMA850	UMTS/TM1	LCH	4.12	4.69	Pass
		MCH	4.11	4.69	Pass
		HCH	4.10	4.67	Pass
WCDMA1900	UMTS/TM1	LCH	4.14	4.65	Pass
		MCH	4.11	4.68	Pass
		HCH	4.11	4.69	Pass
WCDMA1700	UMTS/TM1	LCH	4.11	4.69	Pass
		MCH	4.11	4.69	Pass
		HCH	4.11	4.68	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

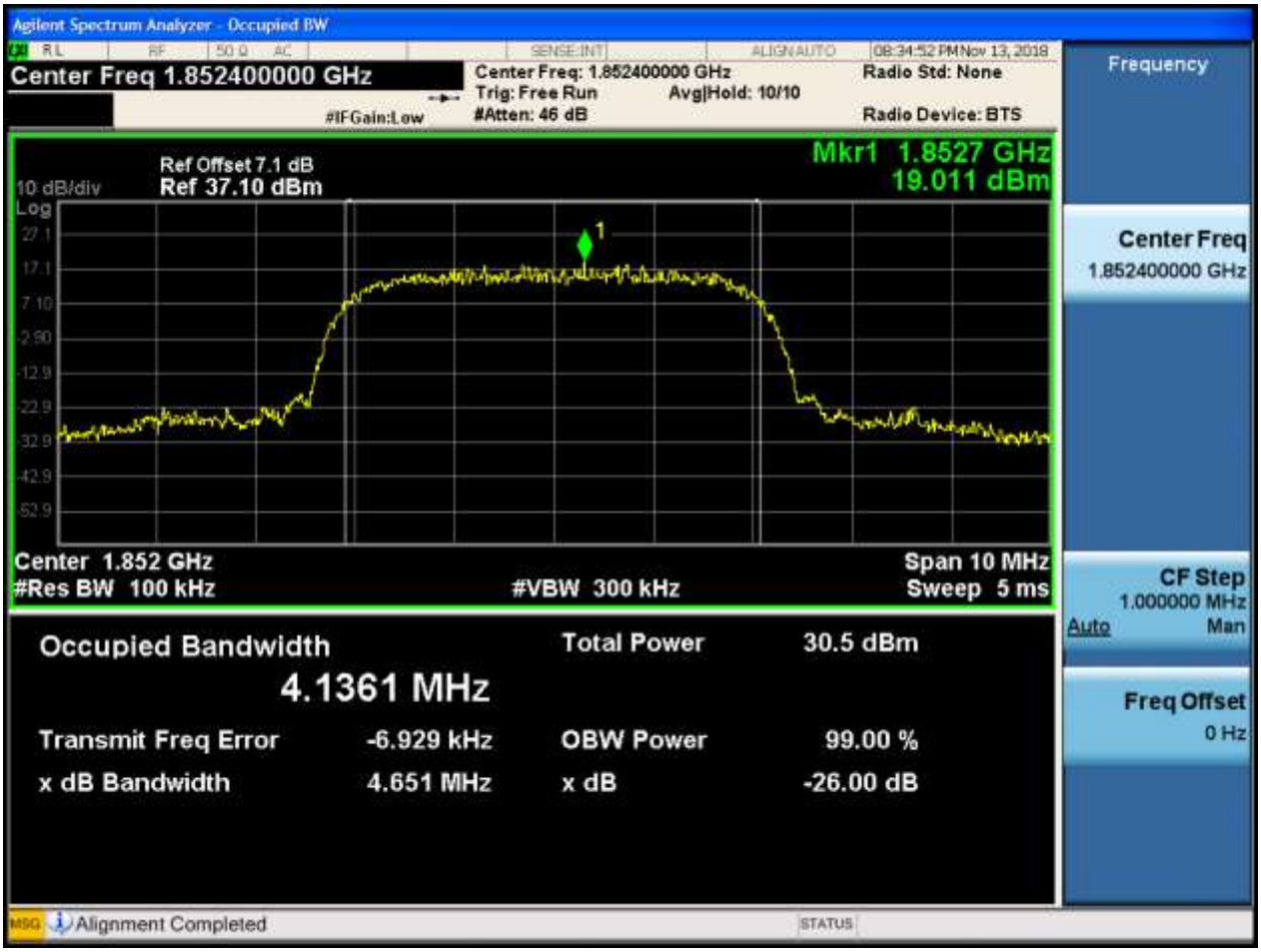
4.1.1.1.2 Test Channel = MCH

4.1.1.1.3 Test Channel = HCH

4.1.2 Test Band = WCDMA1900

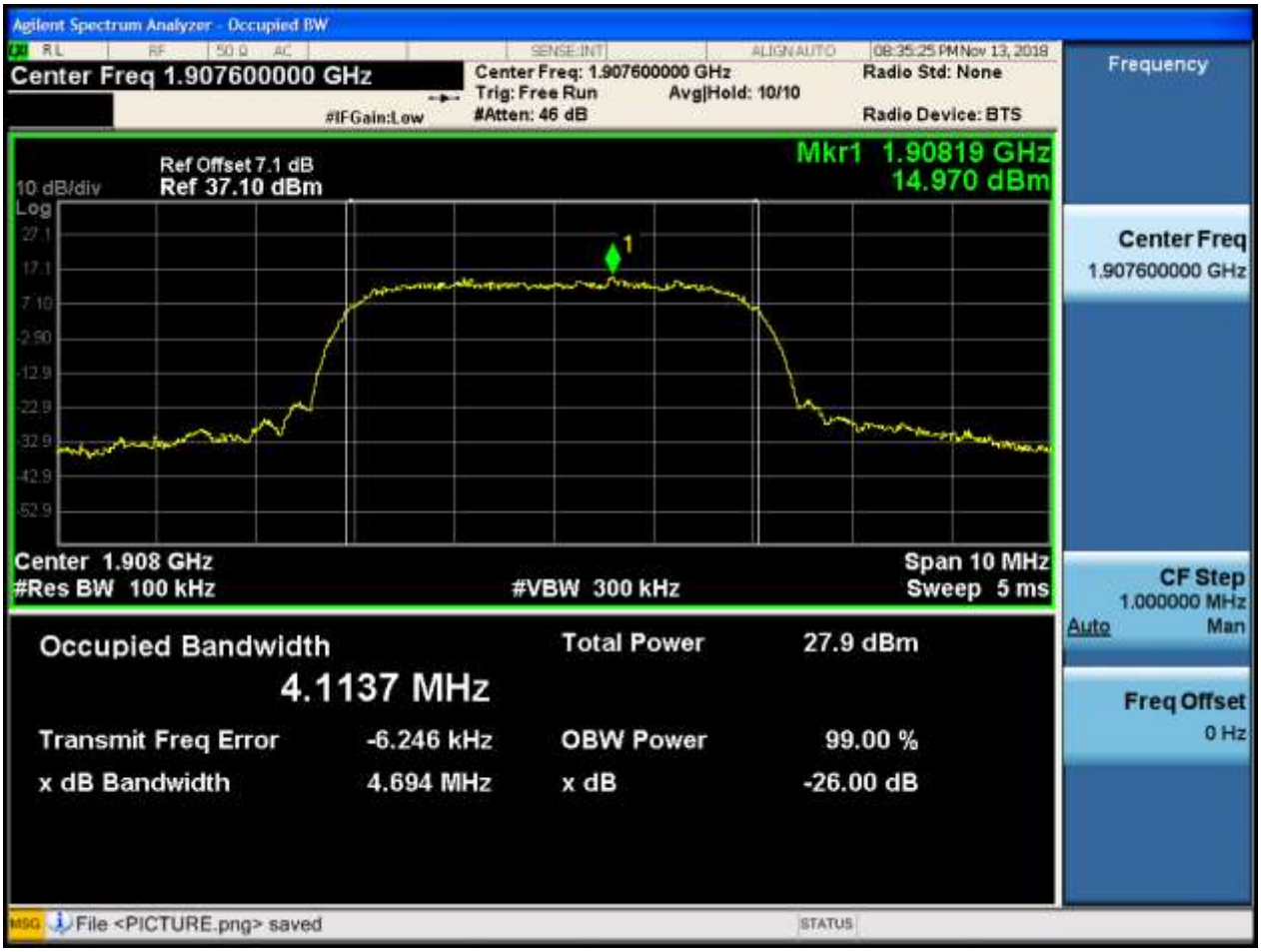
4.1.2.1 Test Mode = UMTS/TM1

4.1.2.1.1 Test Channel = LCH



4.1.2.1.2 Test Channel = MCH

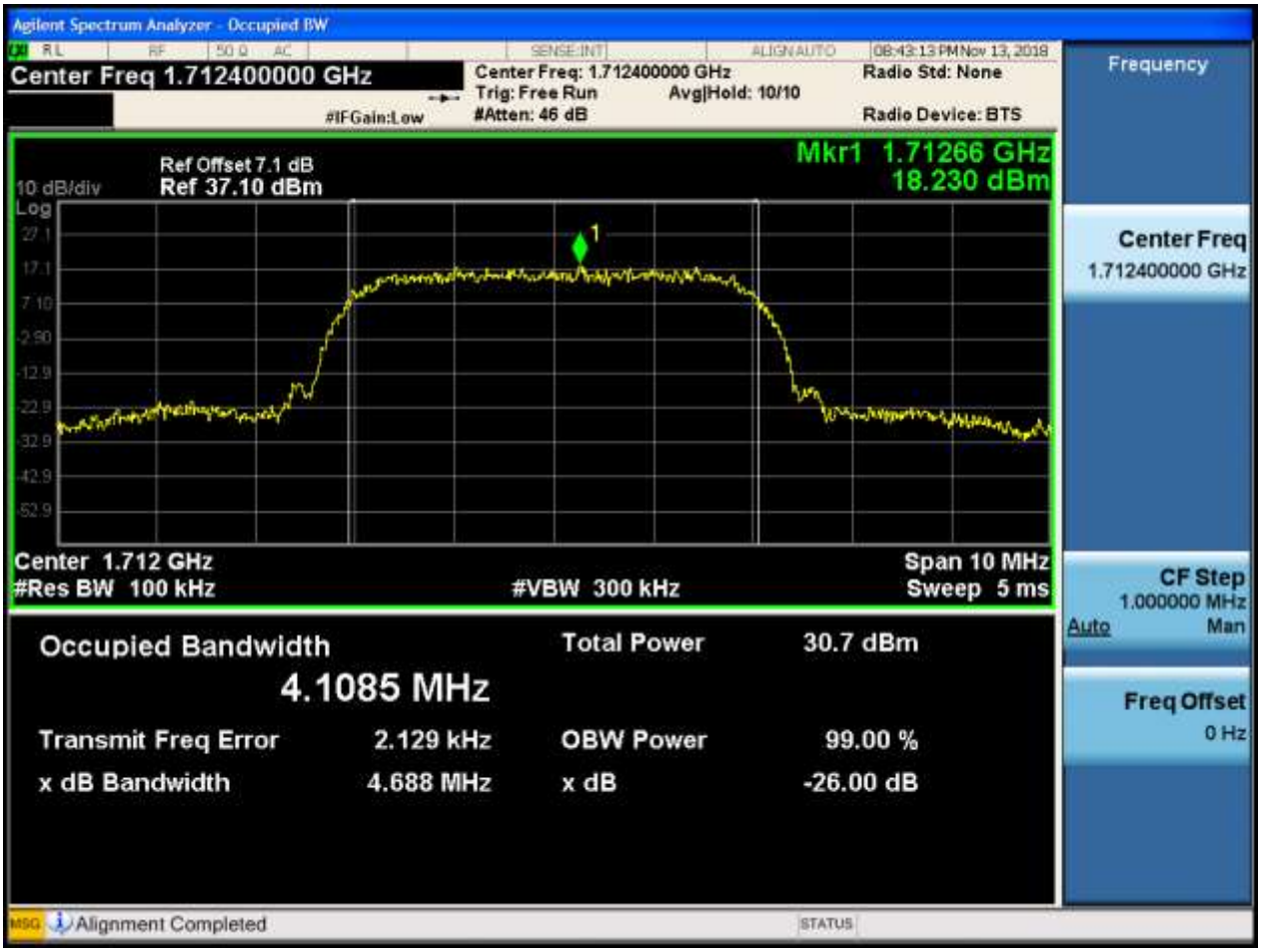
4.1.2.1.3 Test Channel = HCH



4.1.3 Test Band = WCDMA1700

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 = WCDMA1900

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 = WCDMA1700

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.

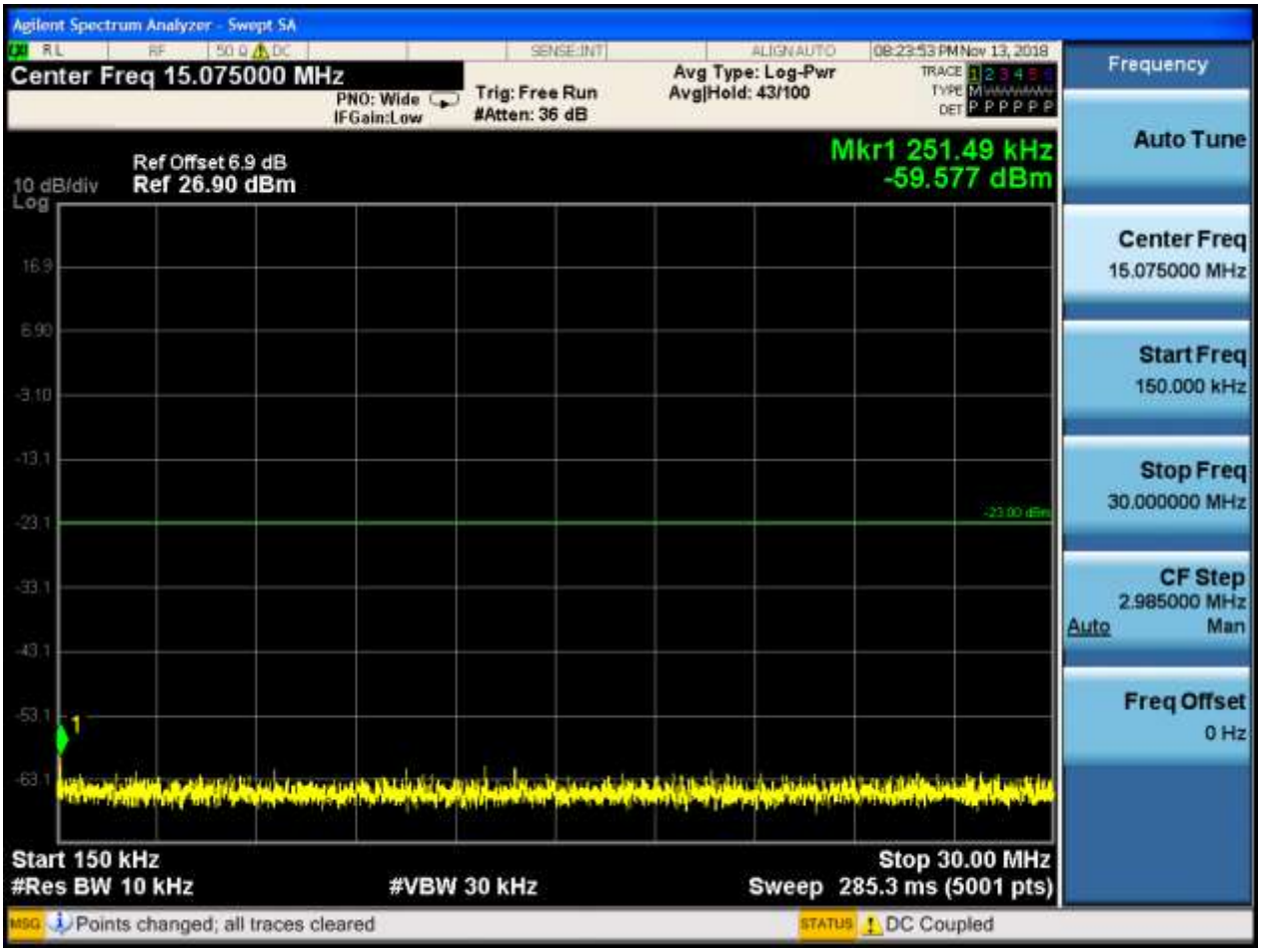
Part I - Test Plots

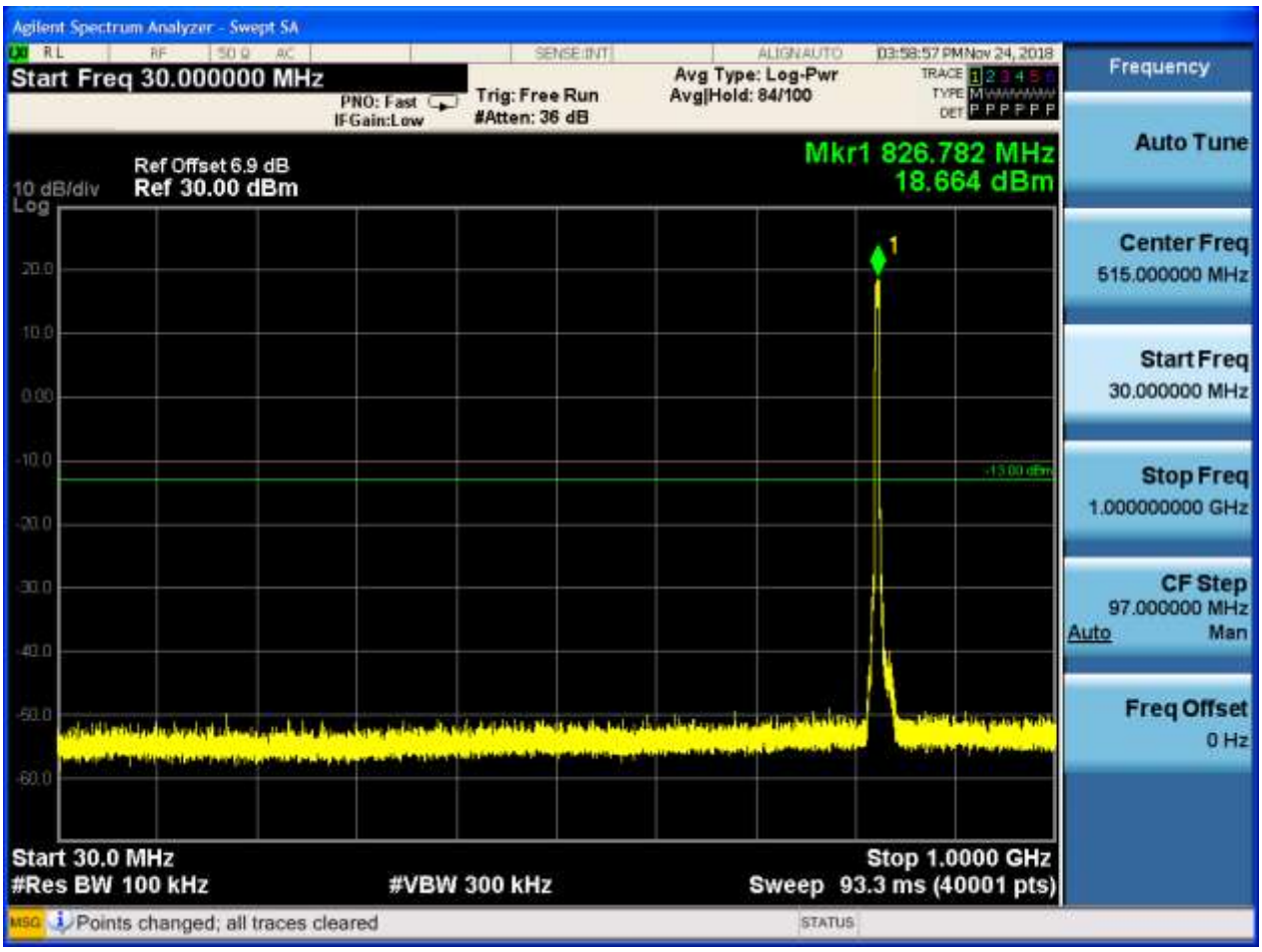
6.1 For UMTS

6.1.1 Test Band = WCDMA850

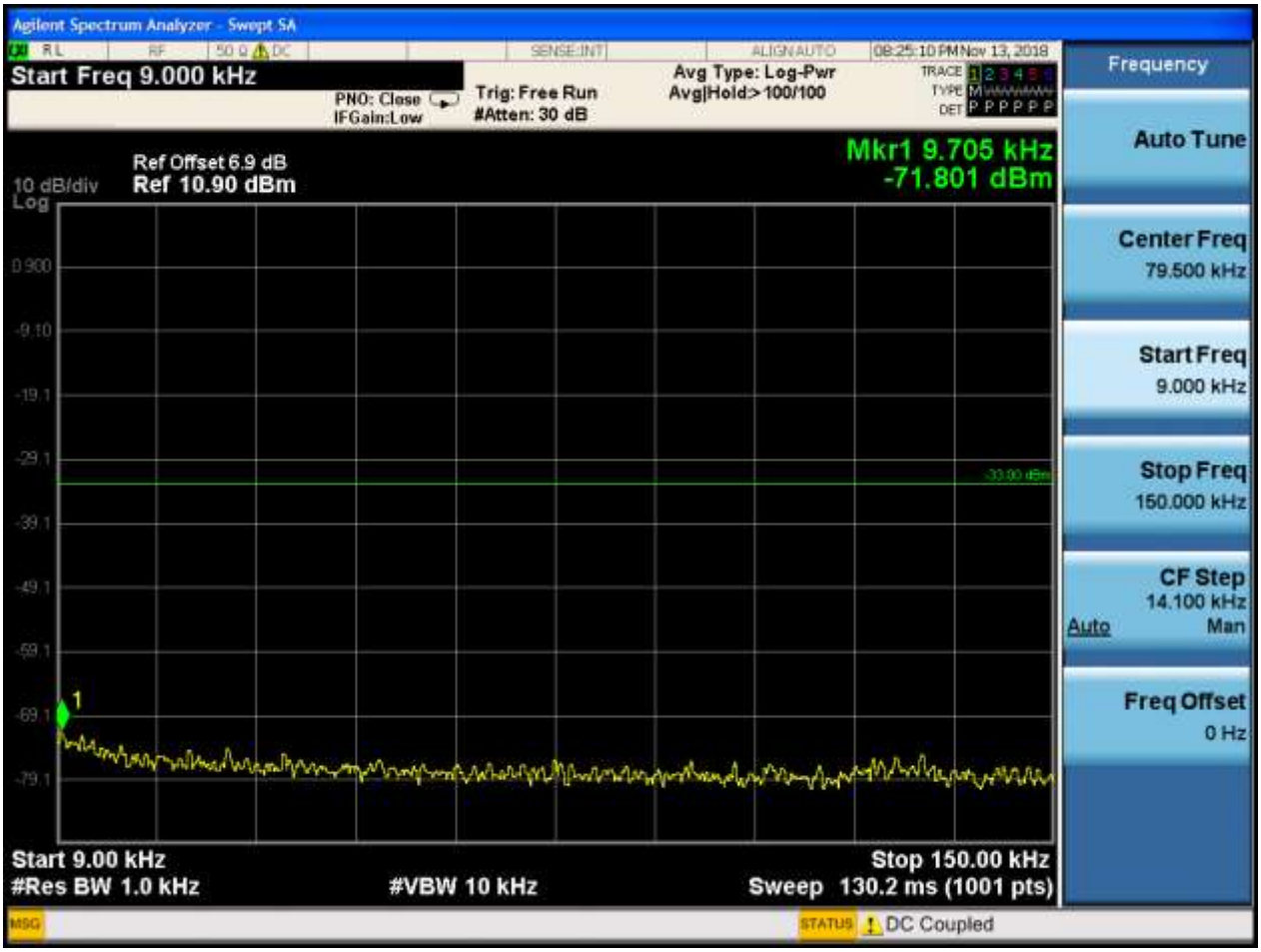
6.1.1.1 Test Mode = UMTS/TM1

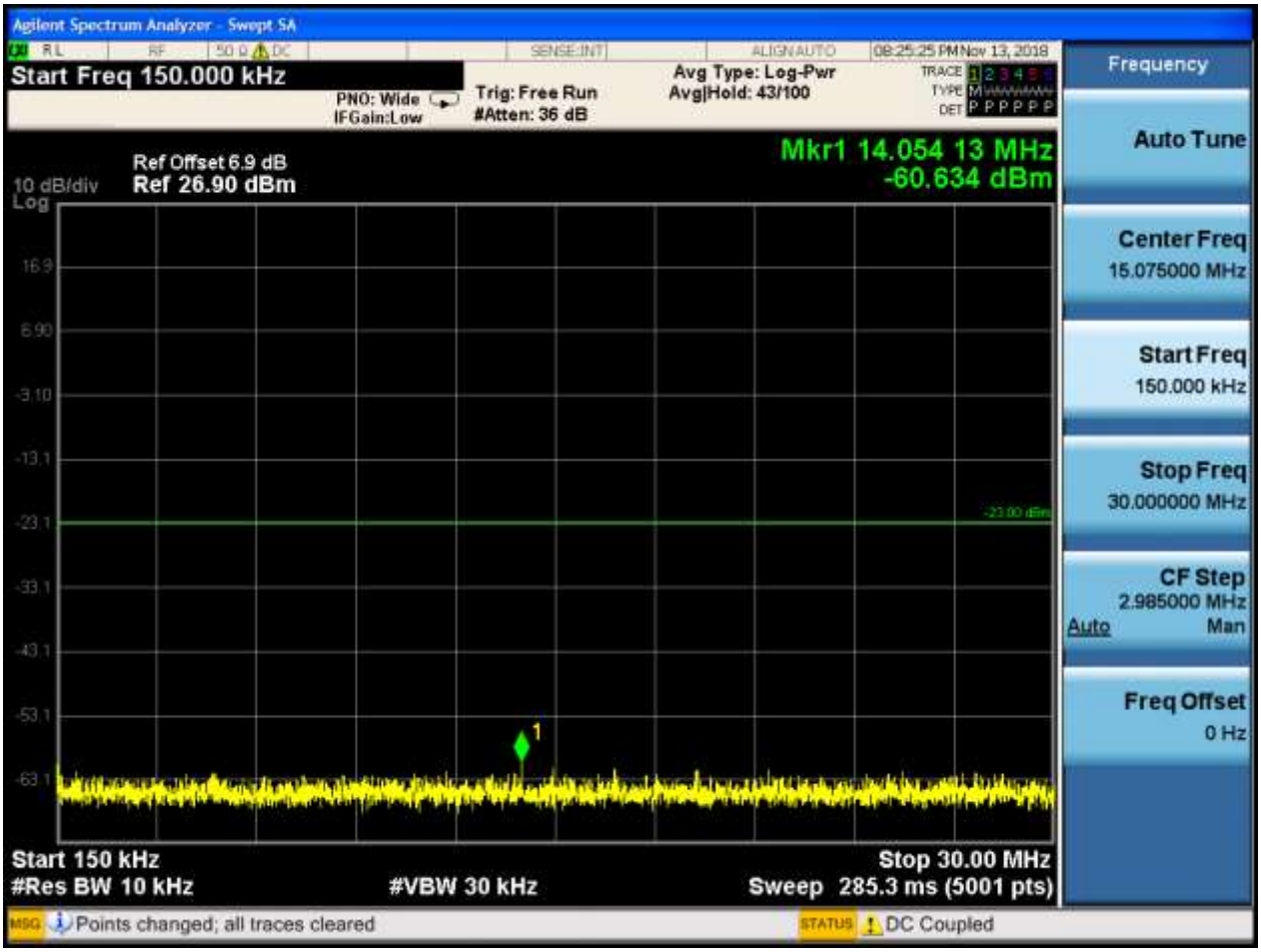
6.1.1.1.1 Test Channel = LCH

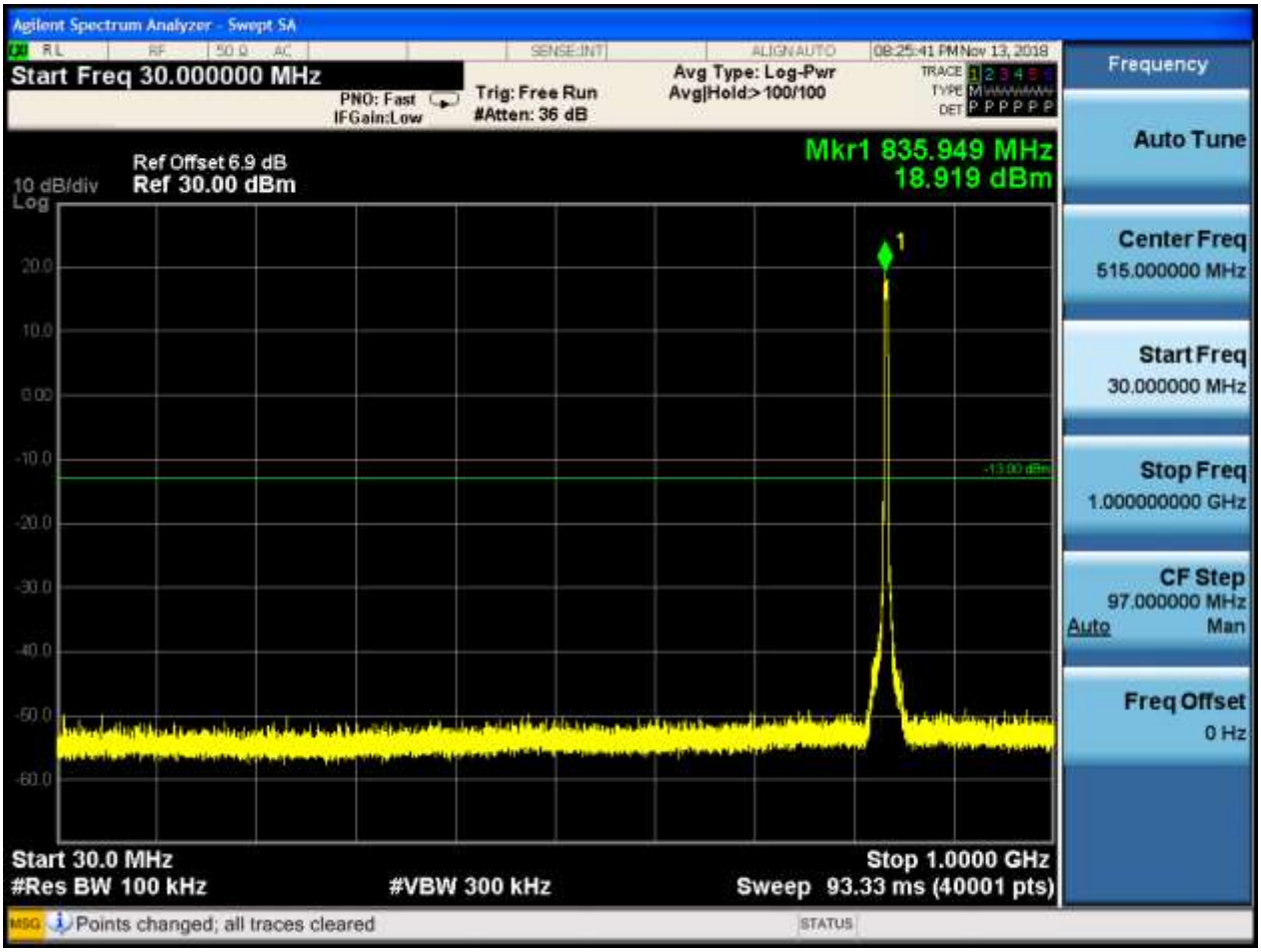




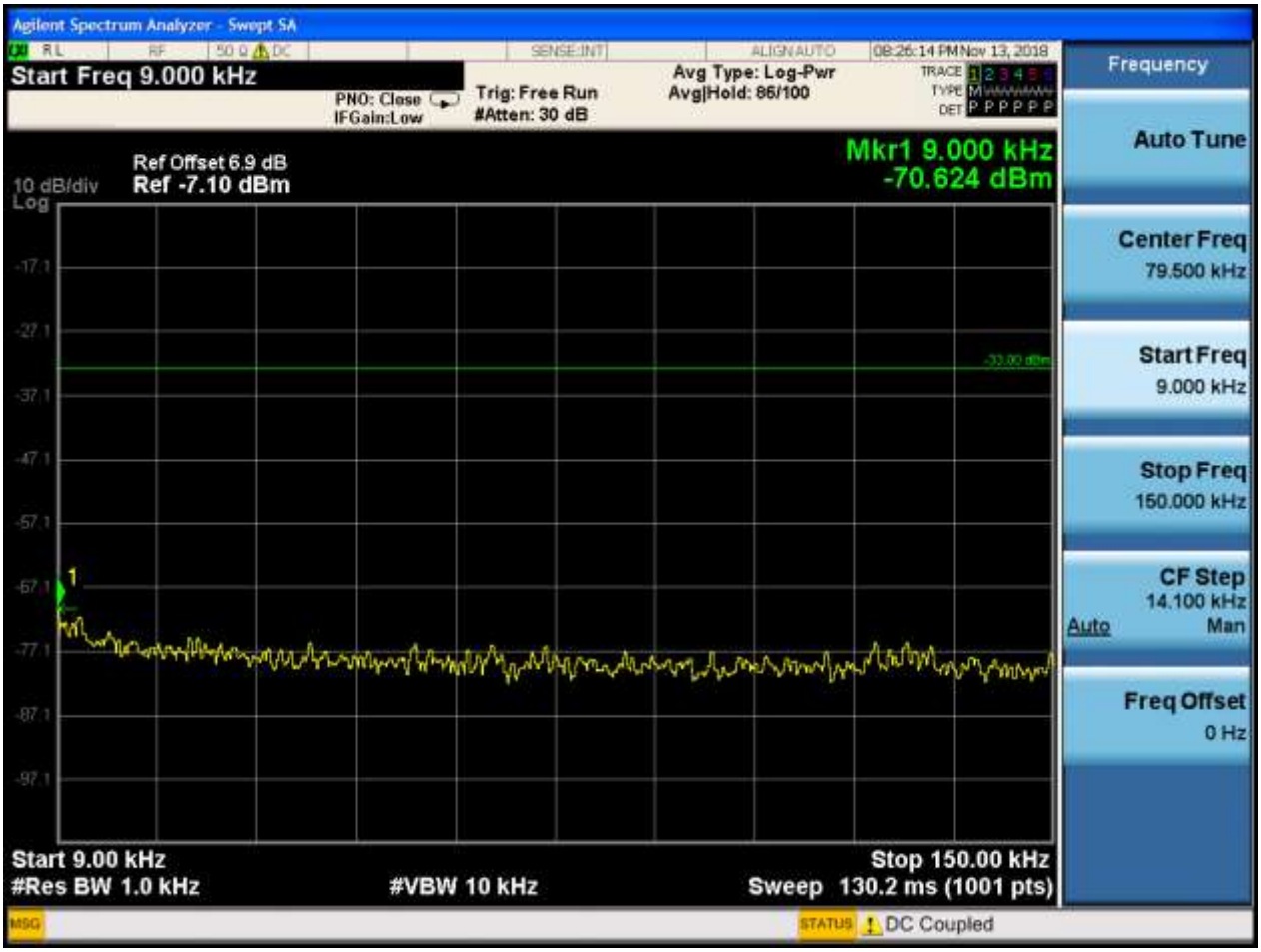
6.1.1.1.2 Test Channel = MCH

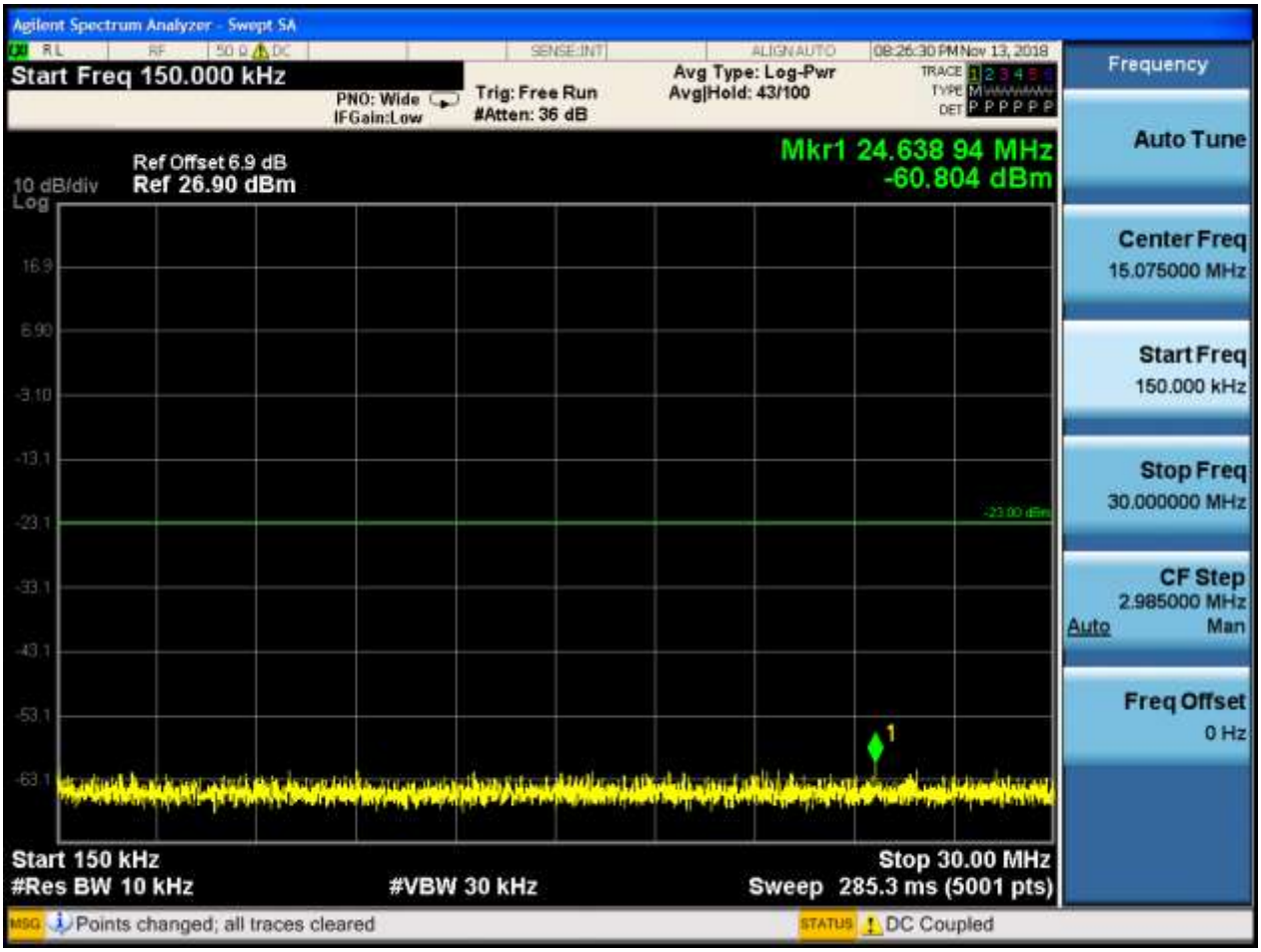


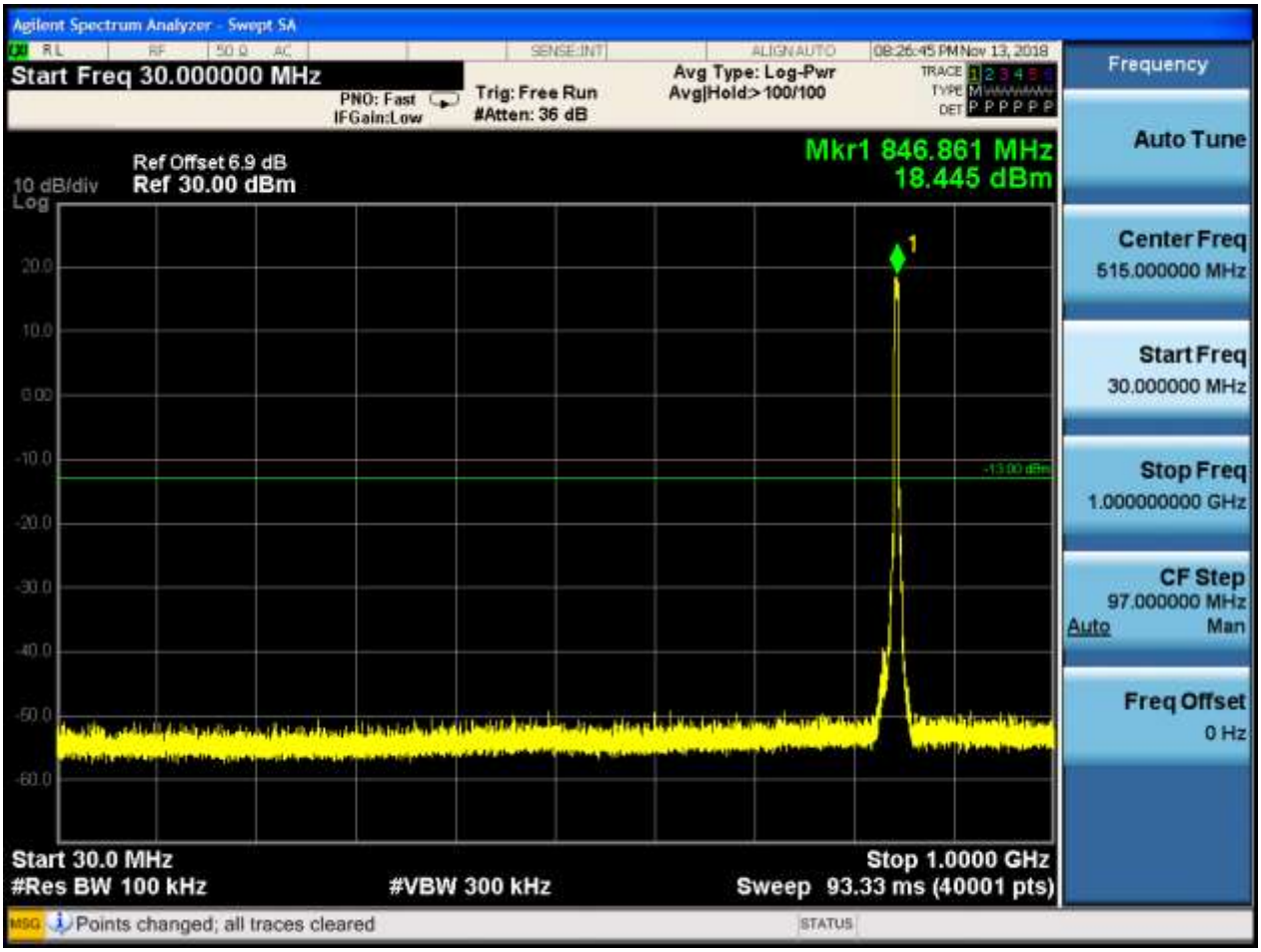




6.1.1.1.3 Test Channel = HCH



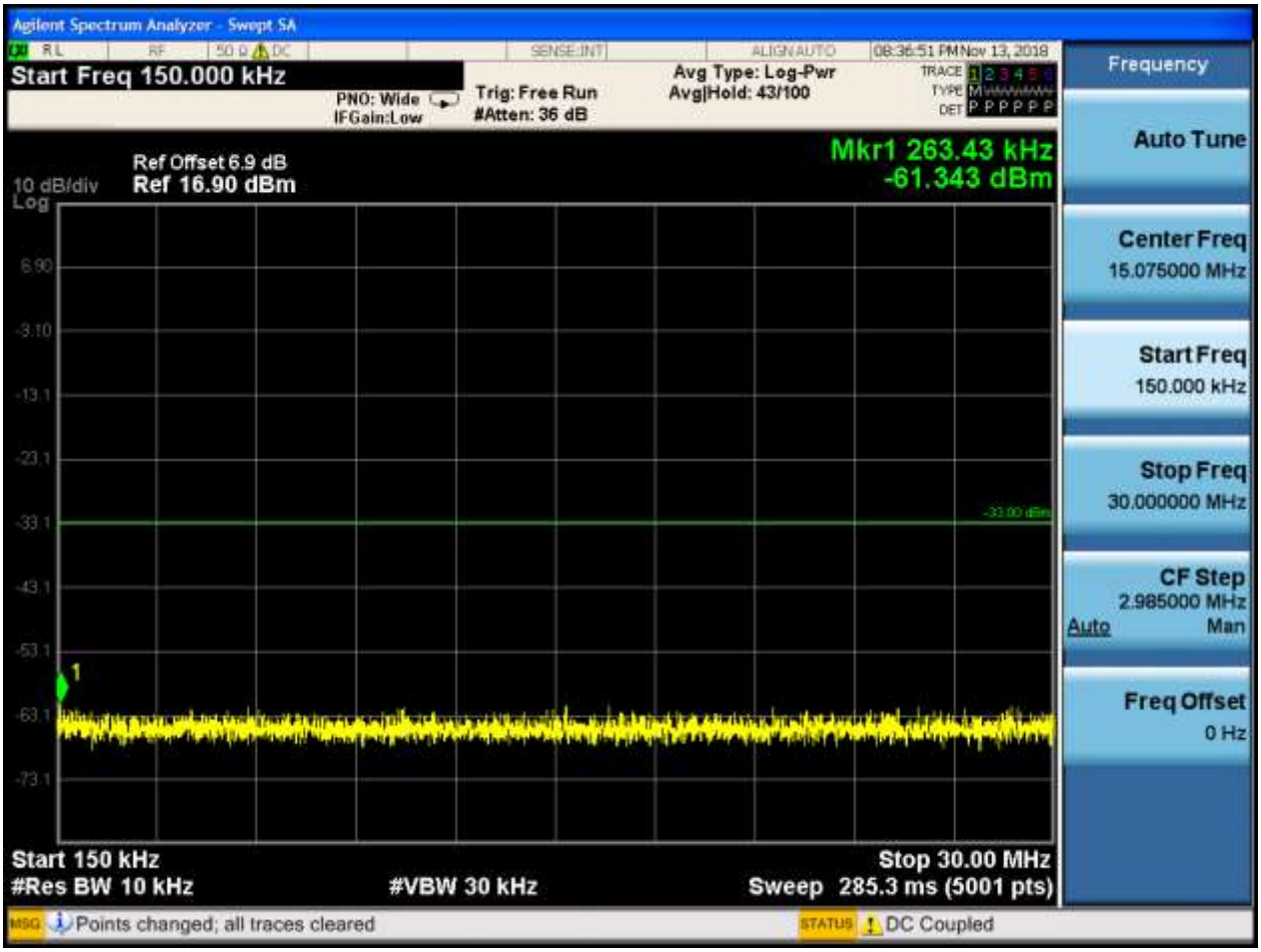




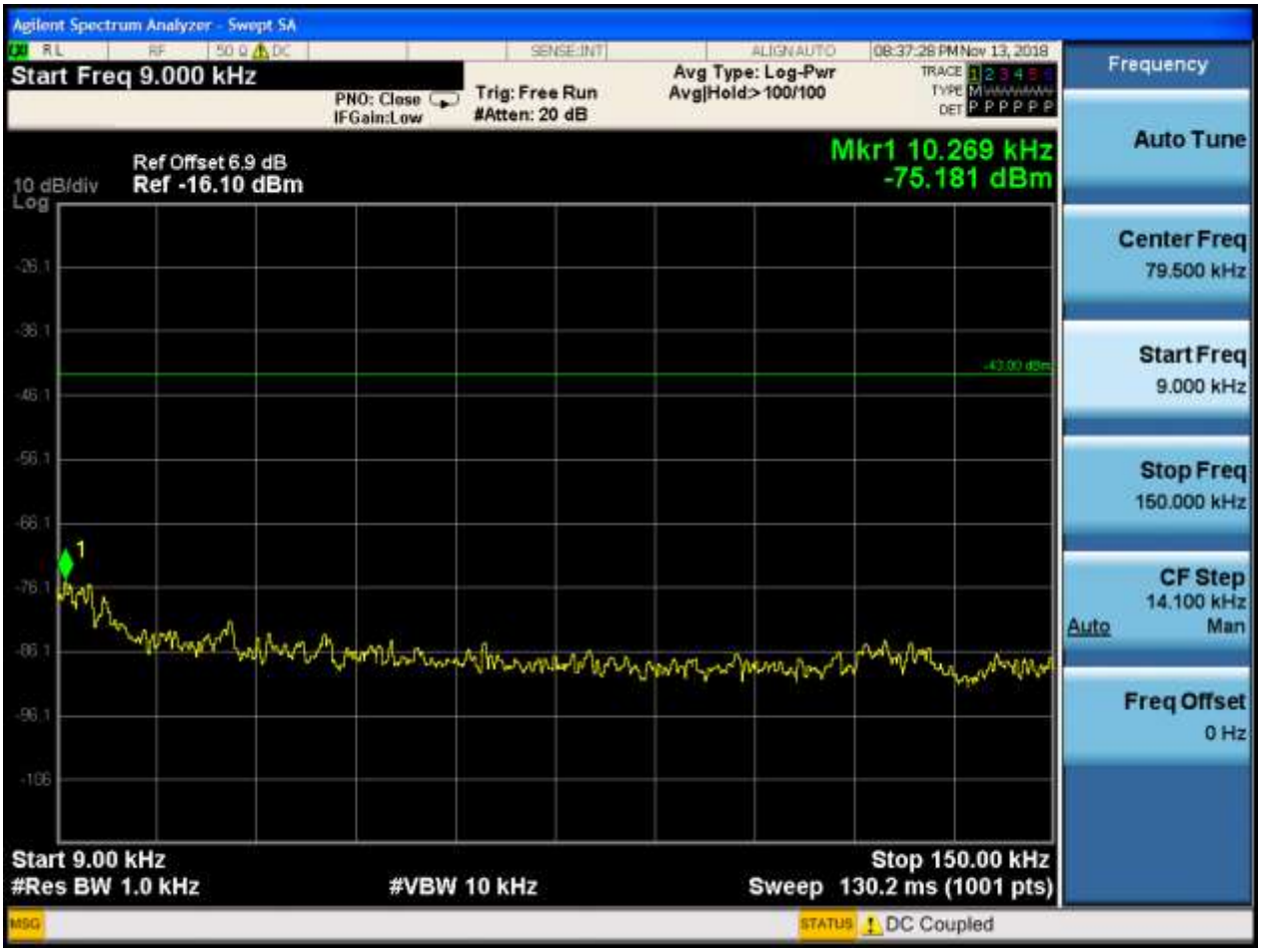
6.1.2 Test Band = WCDMA1900

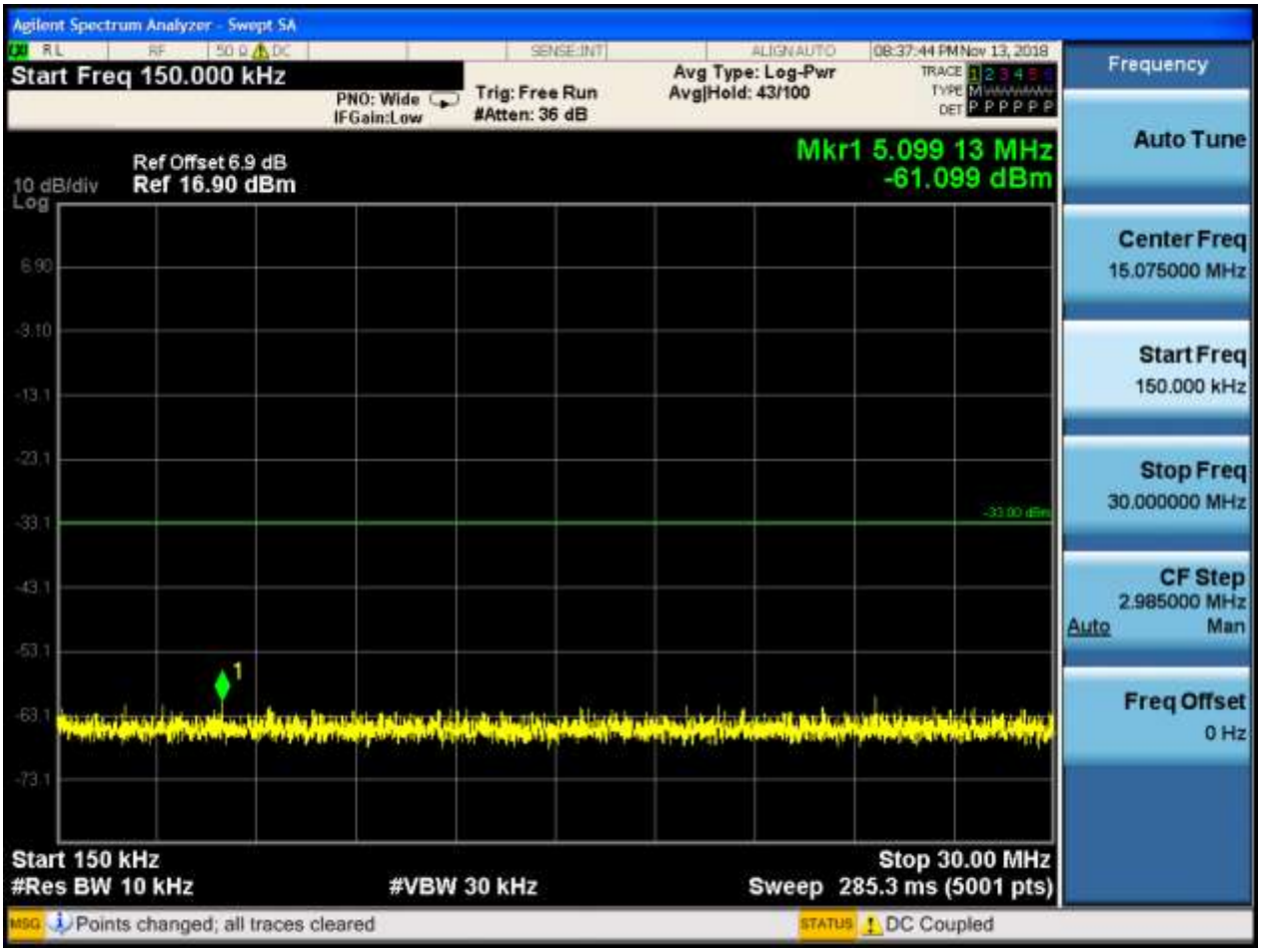
6.1.2.1 Test Mode = UMTS/TM1

6.1.2.1.1 Test Channel = LCH

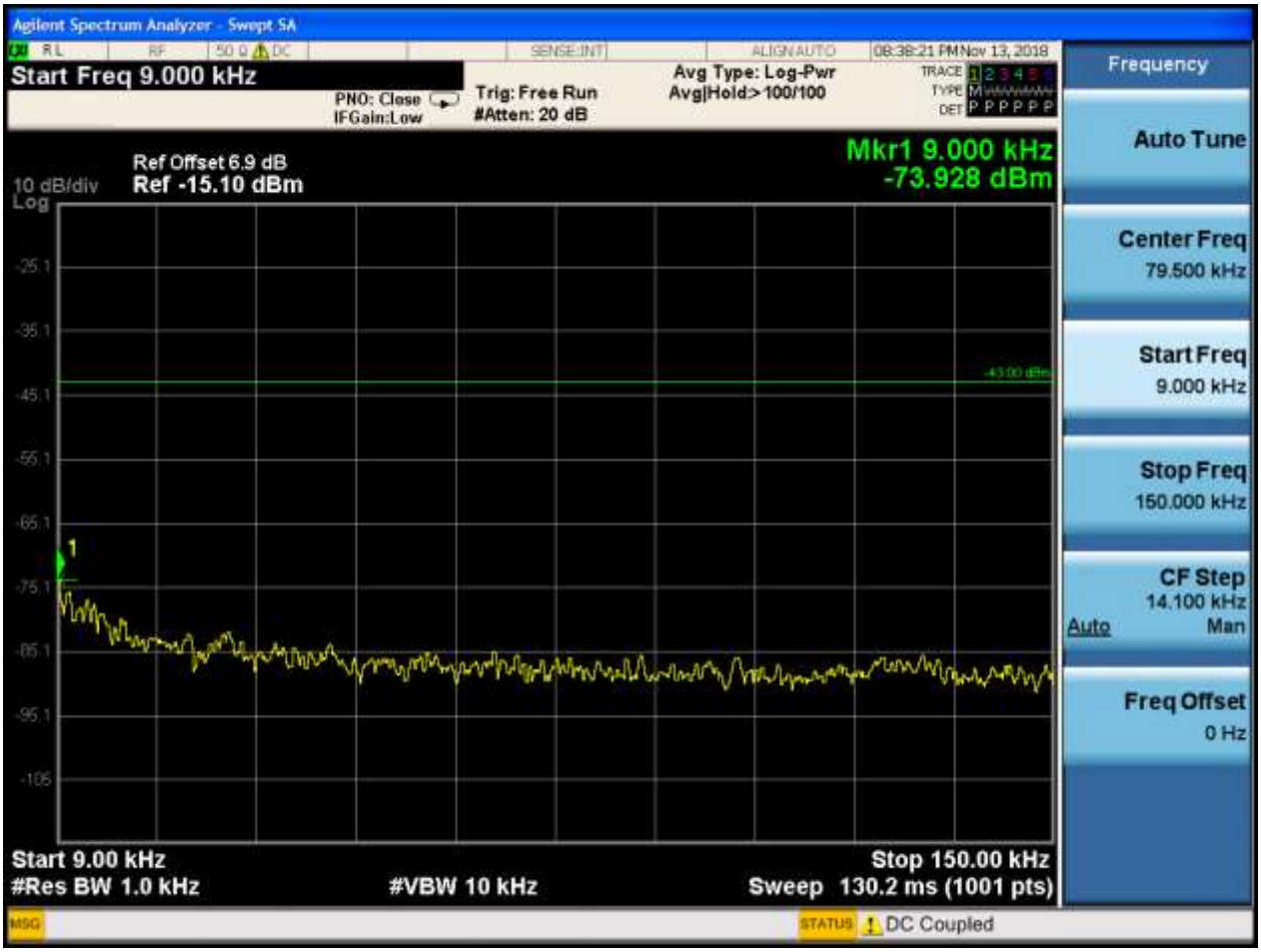


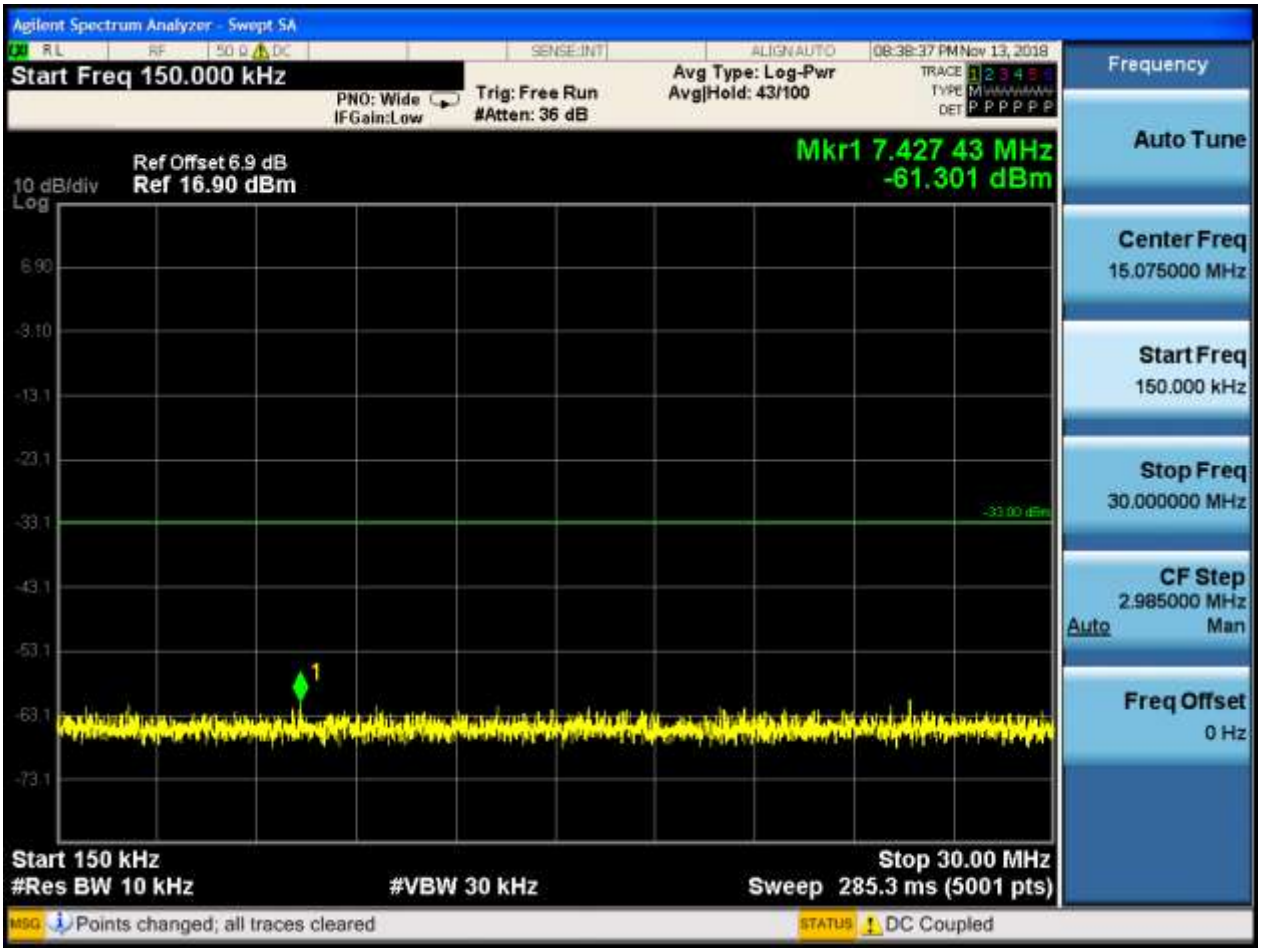
6.1.2.1.2 Test Channel = MCH





6.1.2.1.3 Test Channel = HCH

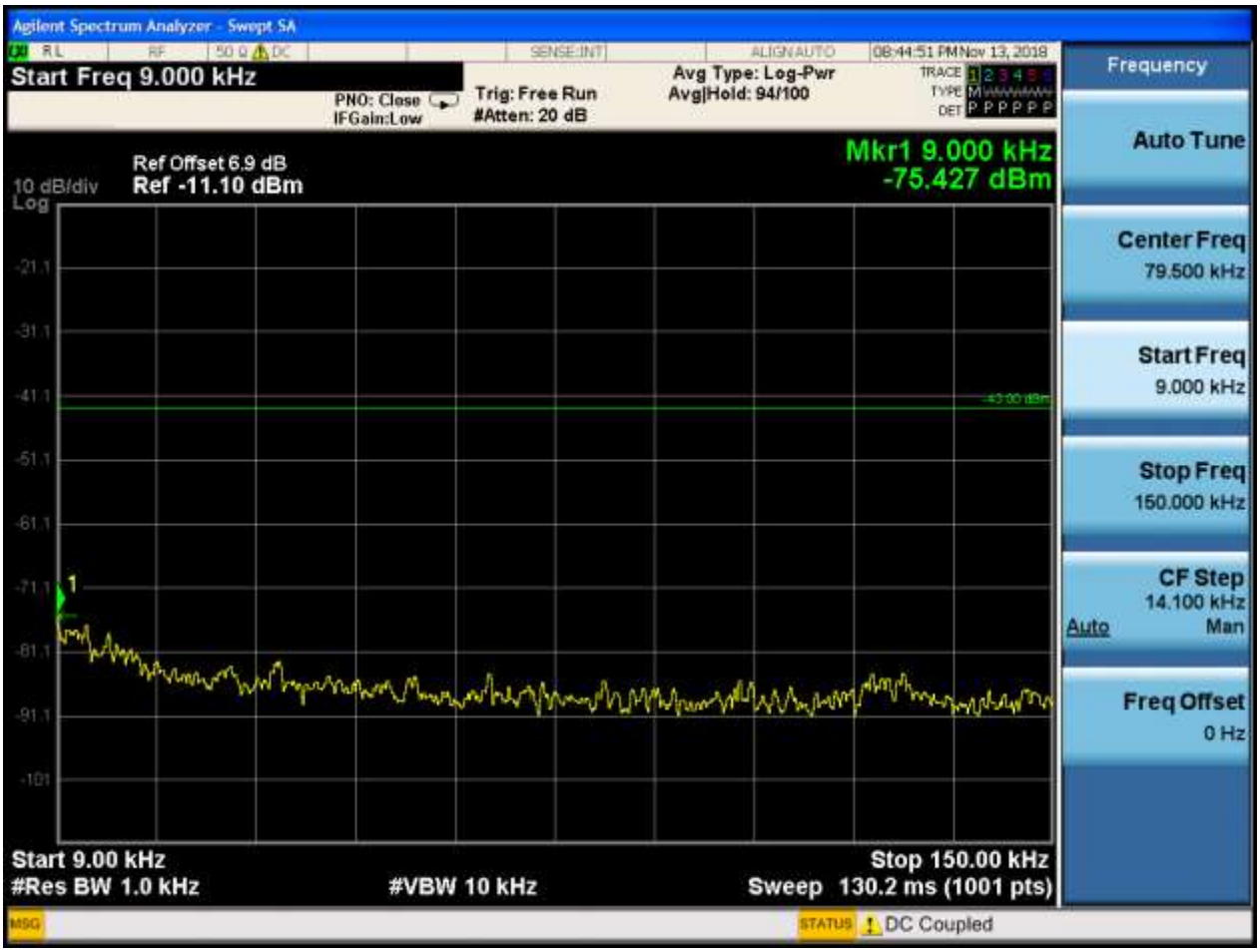


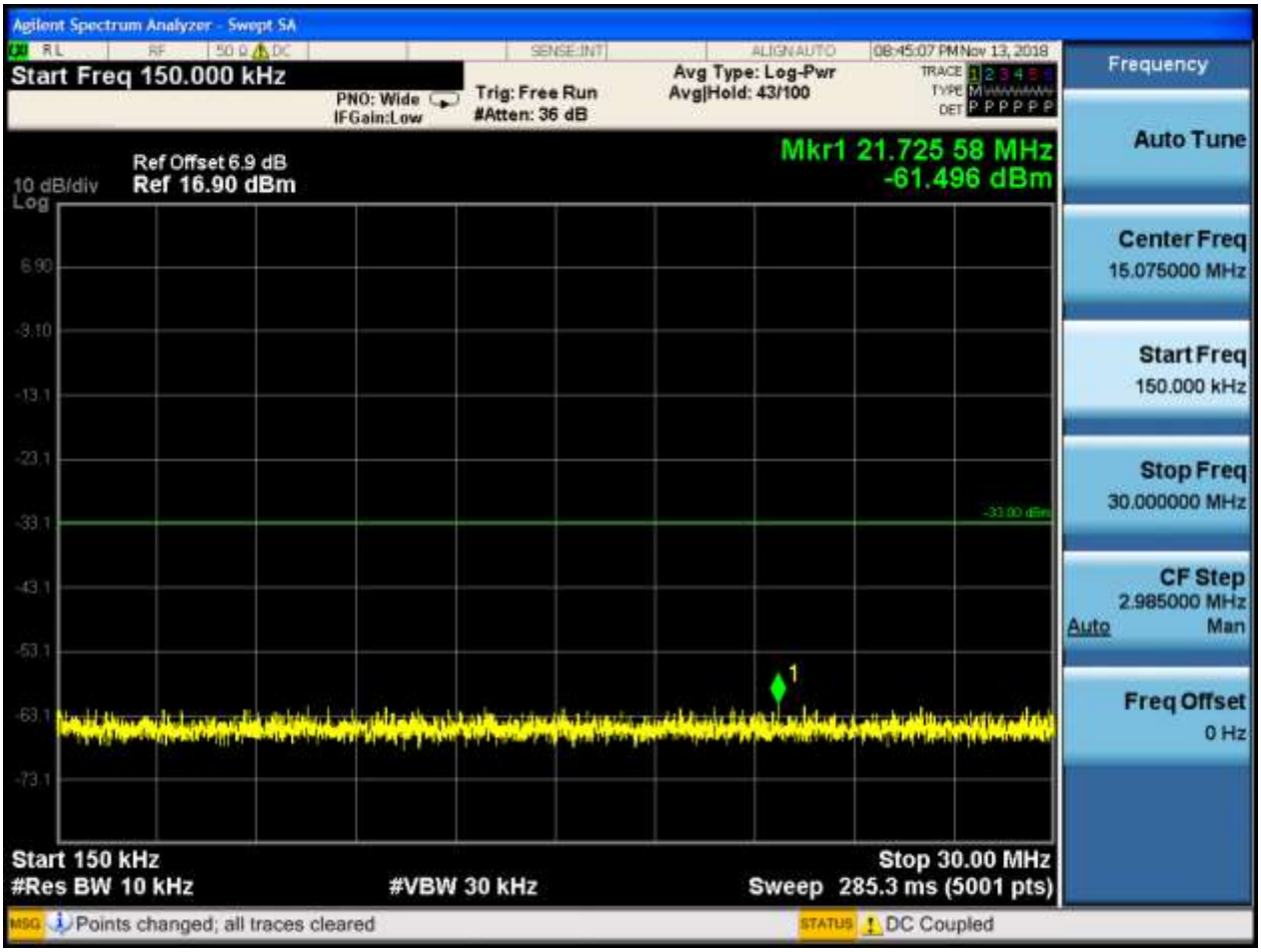


6.1.3 Test Band = WCDMA1700

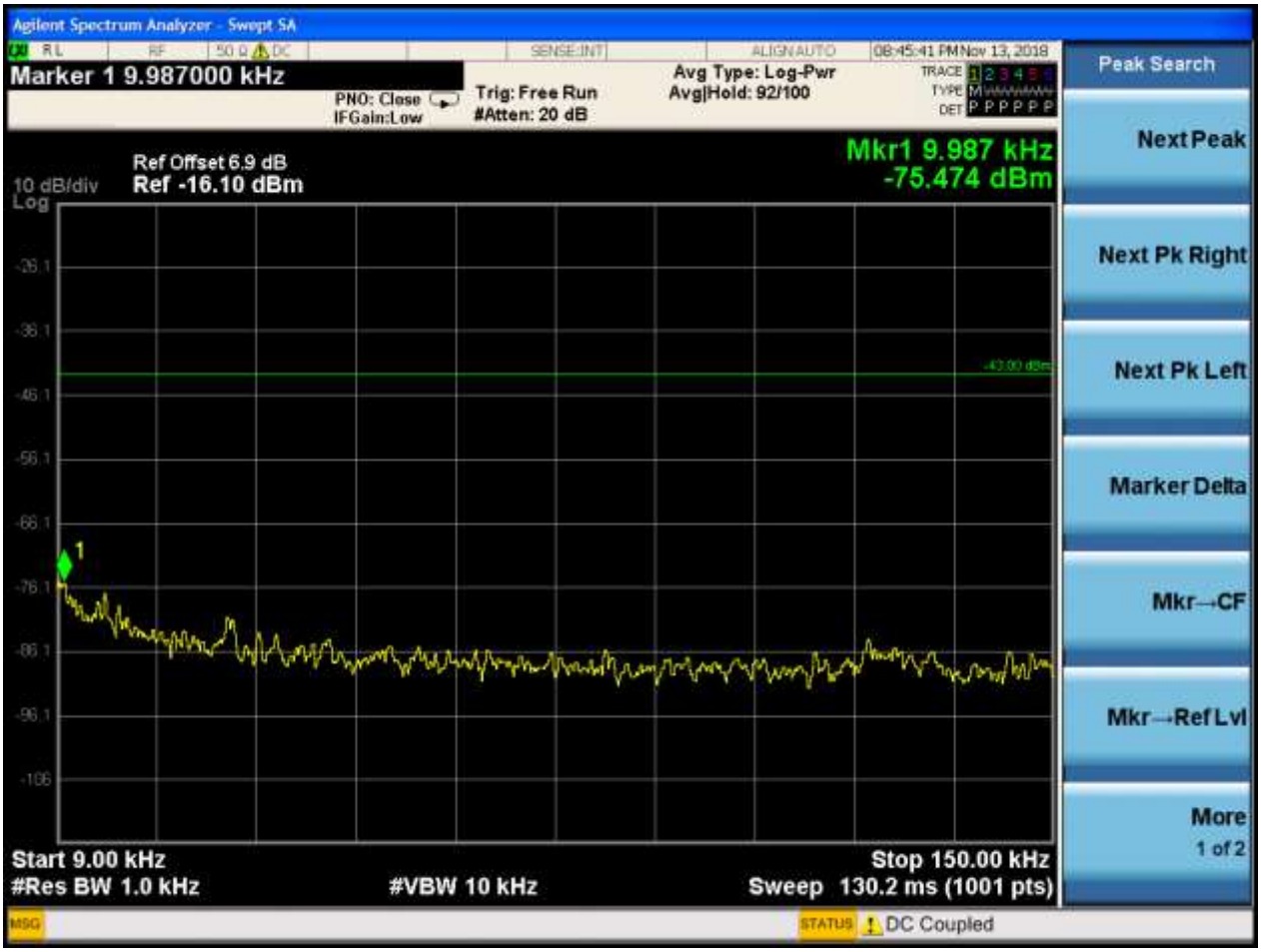
6.1.3.1 Test Mode = UMTS/TM1

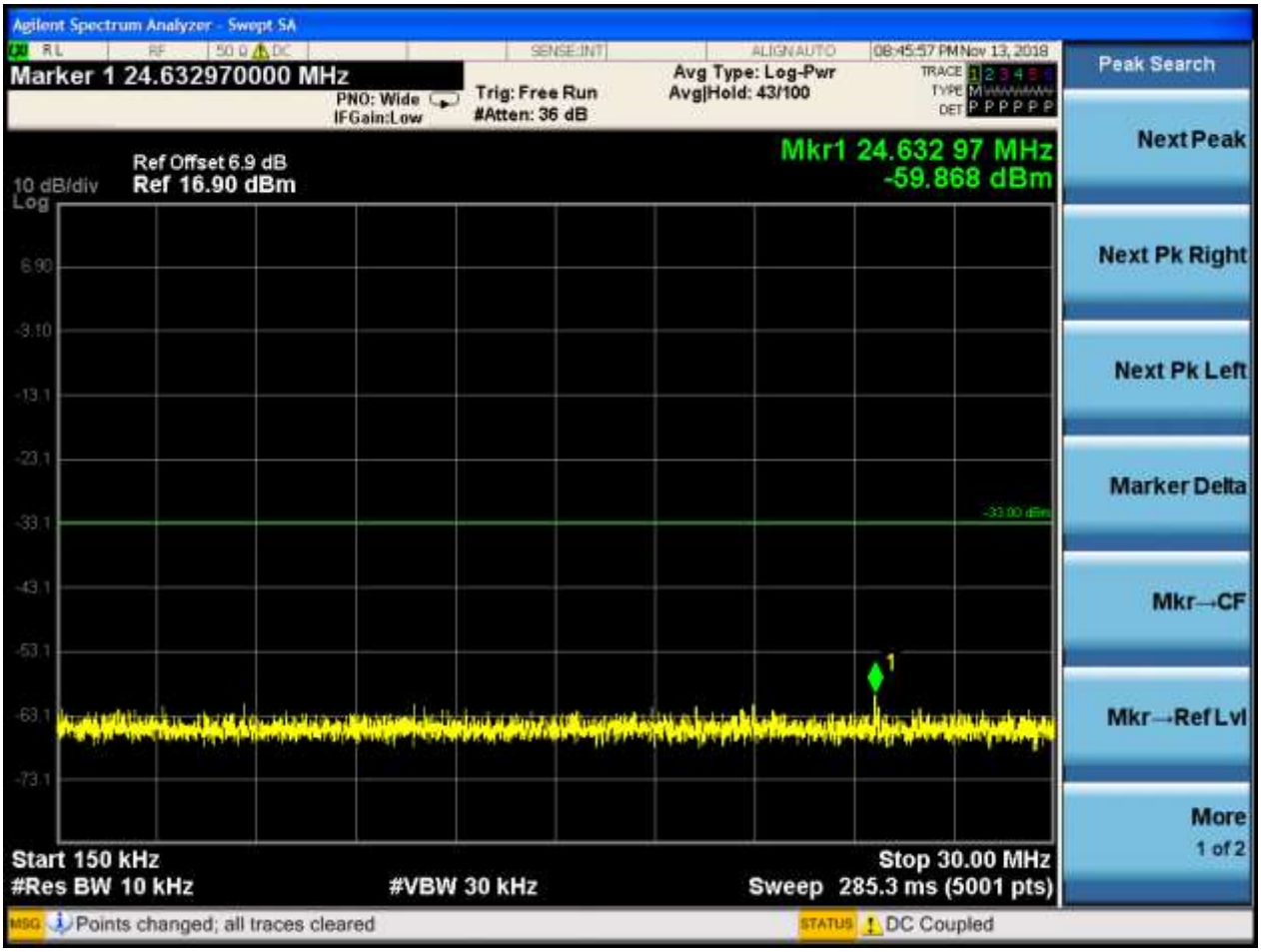
6.1.3.1.1 Test Channel = LCH



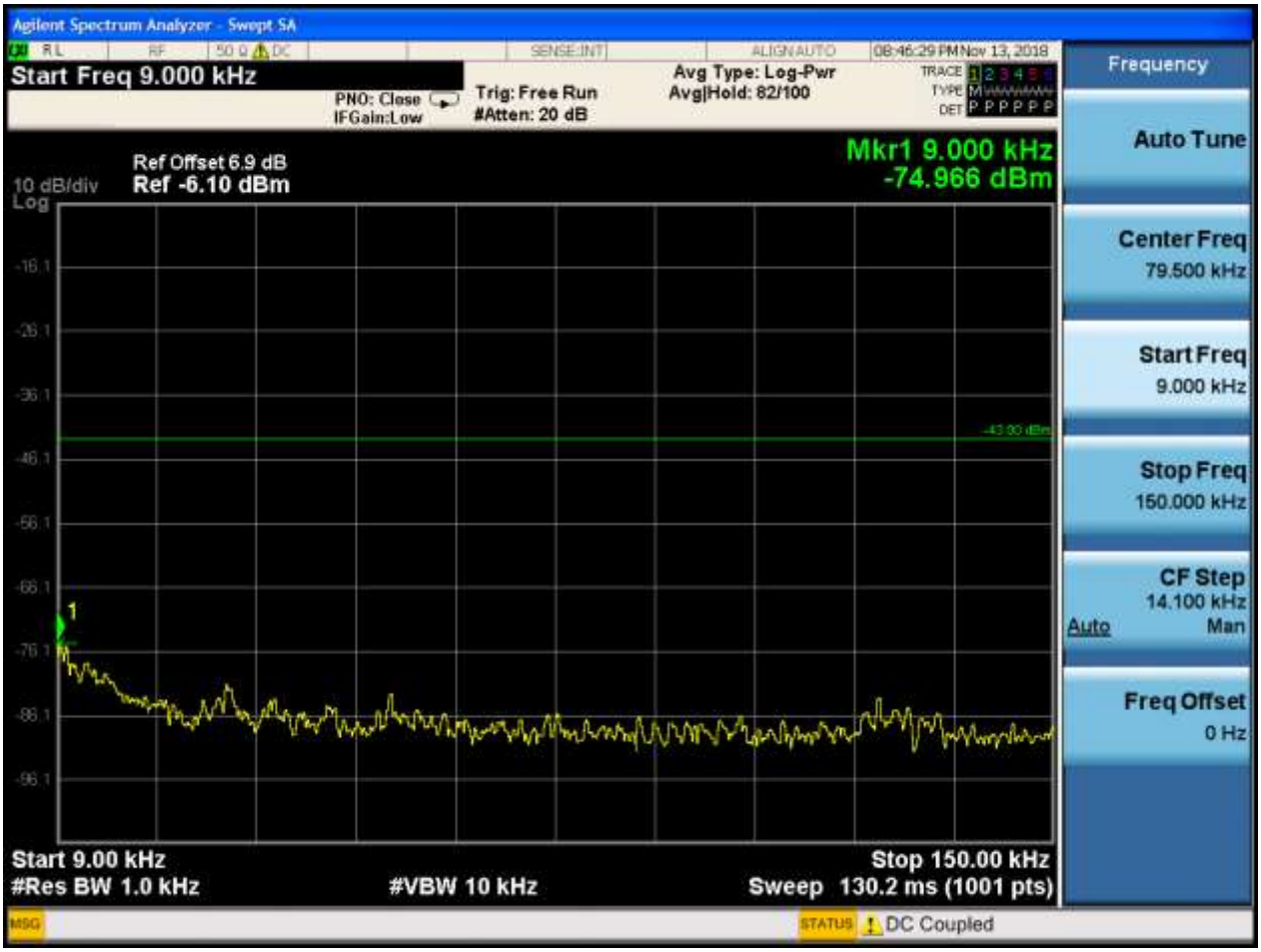


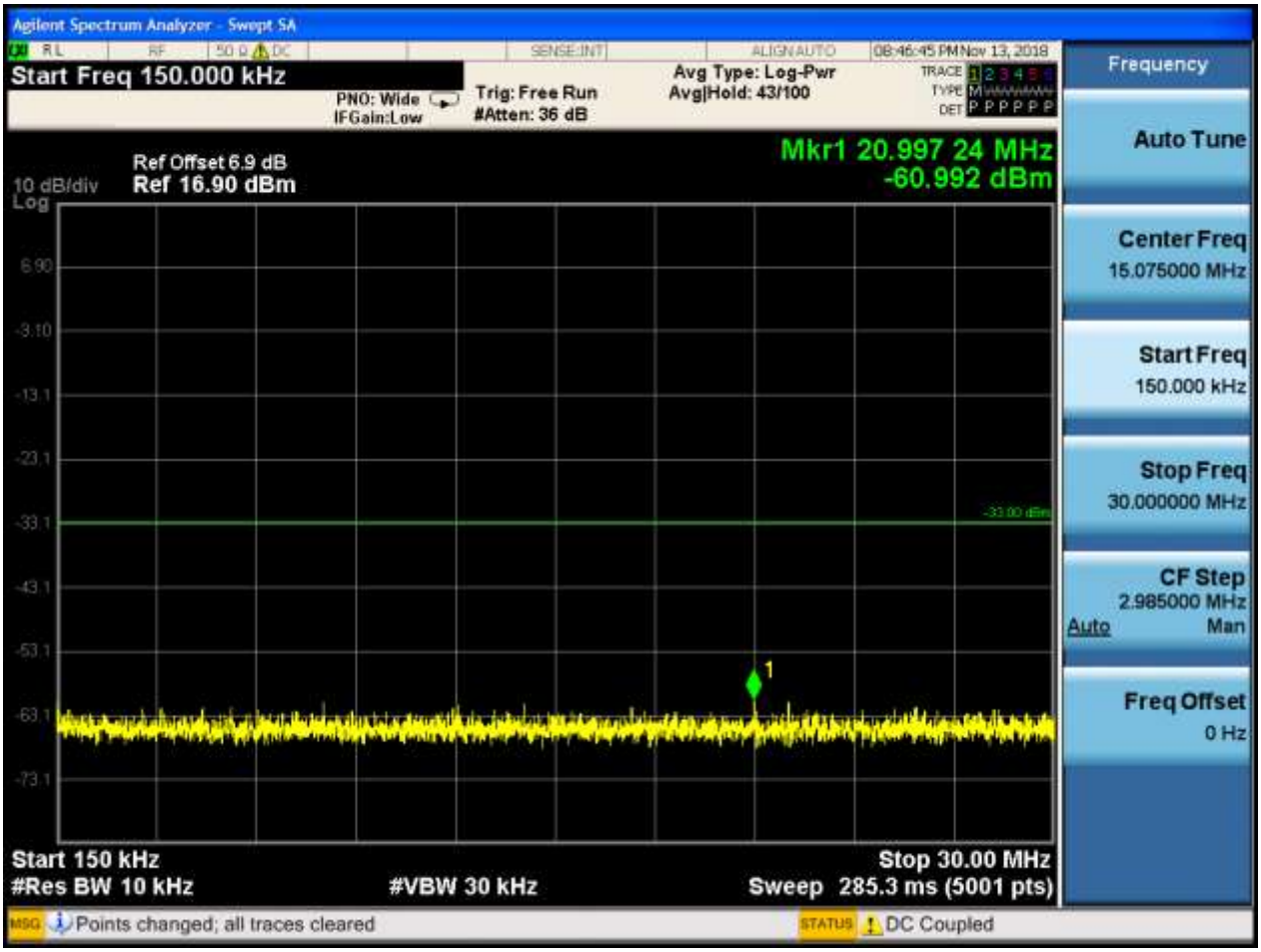
6.1.3.1.2 Test Channel = MCH





6.1.3.1.3 Test Channel = HCH





7Appendix_H: 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
WCDMA850	UMTS/TM1	LCH	TN	VL	-1.56	-0.00189	PASS
				VN	0.64	0.00077	PASS
				VH	-1.36	-0.00165	PASS
		MCH	TN	VL	0.27	0.00032	PASS
				VN	-1.37	-0.00164	PASS
				VH	-0.53	-0.00063	PASS
		HCH	TN	VL	-1.75	-0.00207	PASS
				VN	-3.34	-0.00395	PASS
				VH	-1.07	-0.00126	PASS
WCDMA1700	UMTS/TM1	LCH	TN	VL	9.25	0.0054	PASS
				VN	11.98	0.007	PASS
				VH	10.33	0.00603	PASS
		MCH	TN	VL	-1.79	-0.00103	PASS
				VN	-2.2	-0.00127	PASS
				VH	0.61	0.00035	PASS
		HCH	TN	VL	-10.07	-0.00575	PASS
				VN	-8.76	-0.005	PASS
				VH	-10.01	-0.00571	PASS
WCDMA1900	UMTS/TM1	LCH	TN	VL	-0.58	-0.00031	PASS
				VN	1.1	0.00059	PASS
				VH	-1.53	-0.00083	PASS
		MCH	TN	VL	-3.36	-0.00179	PASS
				VN	-3.68	-0.00196	PASS
				VH	-3.51	-0.00187	PASS
		HCH	TN	VL	-4.46	-0.00234	PASS
				VN	-4.68	-0.00245	PASS
				VH	-4.94	-0.00259	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
WCDMA850	UMTS/TM1	LCH	VN	-30	-1.89	-0.00229	PASS
				-20	0.29	0.00035	PASS
				-10	0.85	0.00103	PASS
				0	-1.22	-0.00148	PASS
				10	-0.41	-0.0005	PASS
				20	-0.92	-0.00111	PASS
				30	-0.96	-0.00116	PASS
				40	-1.07	-0.00129	PASS
				50	-2.09	-0.00253	PASS
		MCH	VN	-30	0	0	PASS
				-20	-0.56	-0.00067	PASS
				-10	-1.34	-0.0016	PASS
				0	-2.76	-0.0033	PASS
				10	-1.37	-0.00164	PASS
				20	-0.85	-0.00102	PASS
				30	-0.81	-0.00097	PASS
				40	-0.55	-0.00066	PASS
				50	0.21	0.00025	PASS
		HCH	VN	-30	-0.37	-0.00044	PASS
				-20	-1.4	-0.00165	PASS
				-10	-0.67	-0.00079	PASS
				0	-0.63	-0.00074	PASS
				10	-3.54	-0.00418	PASS
				20	-1.54	-0.00182	PASS
				30	-2.26	-0.00267	PASS
				40	-4.03	-0.00476	PASS
				50	-2	-0.00236	PASS
WCDMA1700	UMTS/TM1	LCH	VN	-30	8.42	0.00492	PASS
				-20	10.56	0.00617	PASS
				-10	9.8	0.00572	PASS
				0	8.8	0.00514	PASS
				10	6.62	0.00387	PASS
				20	11.64	0.0068	PASS
				30	8.22	0.0048	PASS
				40	9.77	0.00571	PASS
				50	10.59	0.00618	PASS

		MCH	VN	-30	0.75	0.00043	PASS
				-20	2.98	0.00172	PASS
				-10	2.64	0.00152	PASS
				0	-1.56	-0.0009	PASS
				10	-1.16	-0.00067	PASS
				20	-0.29	-0.00017	PASS
				30	-2.08	-0.0012	PASS
				40	-1.85	-0.00107	PASS
				50	0.41	0.00024	PASS
		HCH	VN	-30	-9.81	-0.0056	PASS
				-20	-9.57	-0.00546	PASS
				-10	-9.95	-0.00568	PASS
				0	-7.51	-0.00429	PASS
				10	-8.7	-0.00496	PASS
				20	-9.48	-0.00541	PASS
				30	-7.97	-0.00455	PASS
				40	-11.08	-0.00632	PASS
				50	-11.06	-0.00631	PASS
WCDMA1900	UMTS/TM1	LCH	VN	-30	-0.35	-0.00019	PASS
				-20	1.04	0.00056	PASS
				-10	0.34	0.00018	PASS
				0	0.2	0.00011	PASS
				10	-0.49	-0.00026	PASS
				20	3.28	0.00177	PASS
				30	2.01	0.00109	PASS
				40	1.71	0.00092	PASS
				50	0.44	0.00024	PASS
		MCH	VN	-30	-2.72	-0.00145	PASS
				-20	0.11	0.00006	PASS
				-10	1.43	0.00076	PASS
				0	0.93	0.00049	PASS
				10	-3.08	-0.00164	PASS
				20	-3.07	-0.00163	PASS
				30	-0.79	-0.00042	PASS
				40	-0.53	-0.00028	PASS
				50	-1.5	-0.0008	PASS
		HCH	VN	-30	-3.45	-0.00181	PASS
				-20	-1.95	-0.00102	PASS
				-10	-2.94	-0.00154	PASS
				0	-2.37	-0.00124	PASS
				10	-1.65	-0.00086	PASS

				20	-5.19	-0.00272	PASS
				30	-3.77	-0.00198	PASS
				40	-3.23	-0.00169	PASS
				50	-4.87	-0.00255	PASS

END