Appendix for test report

1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
WCDMA1900	UMTS/TM1	LCH	23.55	25.50	33	PASS
		MCH	23.48	25.35	33	PASS
		HCH	23.62	25.60	33	PASS
Test Band	**Test Mode**	**Test Channel**	**Measured[dBm]**	**ERP [dBm]**	**Limit [dBm]**	**Verdict**
WCDMA850	UMTS/TM1	LCH	23.53	18.53	38.5	PASS
		MCH	23.59	18.46	38.5	PASS
		HCH	23.50	18.72	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 wxceed 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	2.96	13	PASS
		MCH	3.1	13	PASS
		HCH	2.92	13	PASS
WCDMA850	UMTS/TM1	LCH	2.91	13	PASS
		MCH	3.12	13	PASS
		HCH	3.05	13	PASS

3Appendix_C: Modulation Characteristics

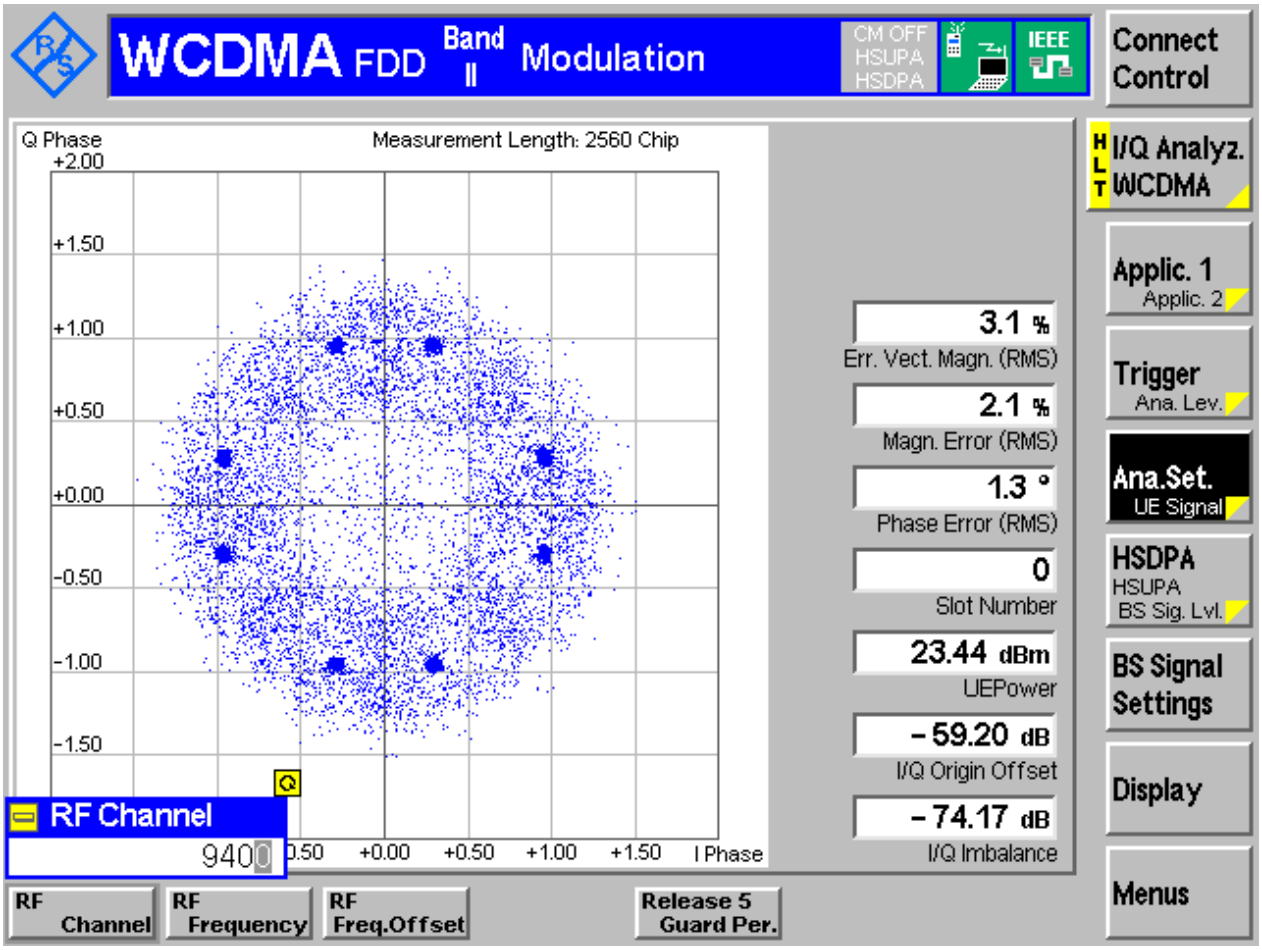
Part I - Test Plots

3.1 For UMTS

3.1.1 Test Band = WCDMA1900

3.1.1.1 Test Mode = UMTS/TM1

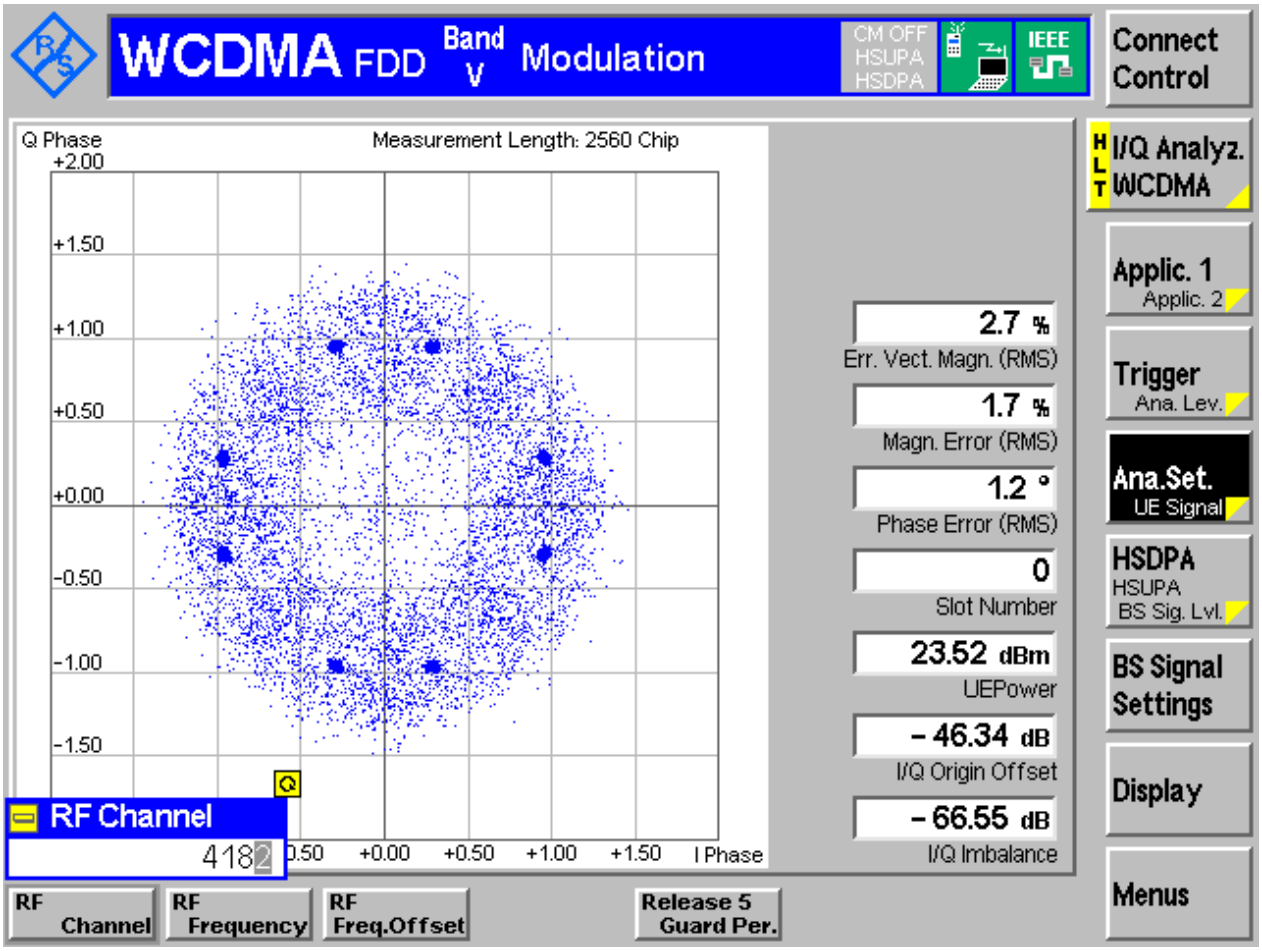
3.1.1.1.1 Test Channel = MCH



3.1.2 Test Band = WCDMA850

3.1.2.1 Test Mode = UMTS/TM1

3.1.2.1.1 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	4.14	4.70	Pass
		MCH	4.14	4.70	Pass
		HCH	4.14	4.70	Pass
WCDMA850	UMTS/TM1	LCH	4.14	4.70	Pass
		MCH	4.13	4.70	Pass
		HCH	4.13	4.70	Pass

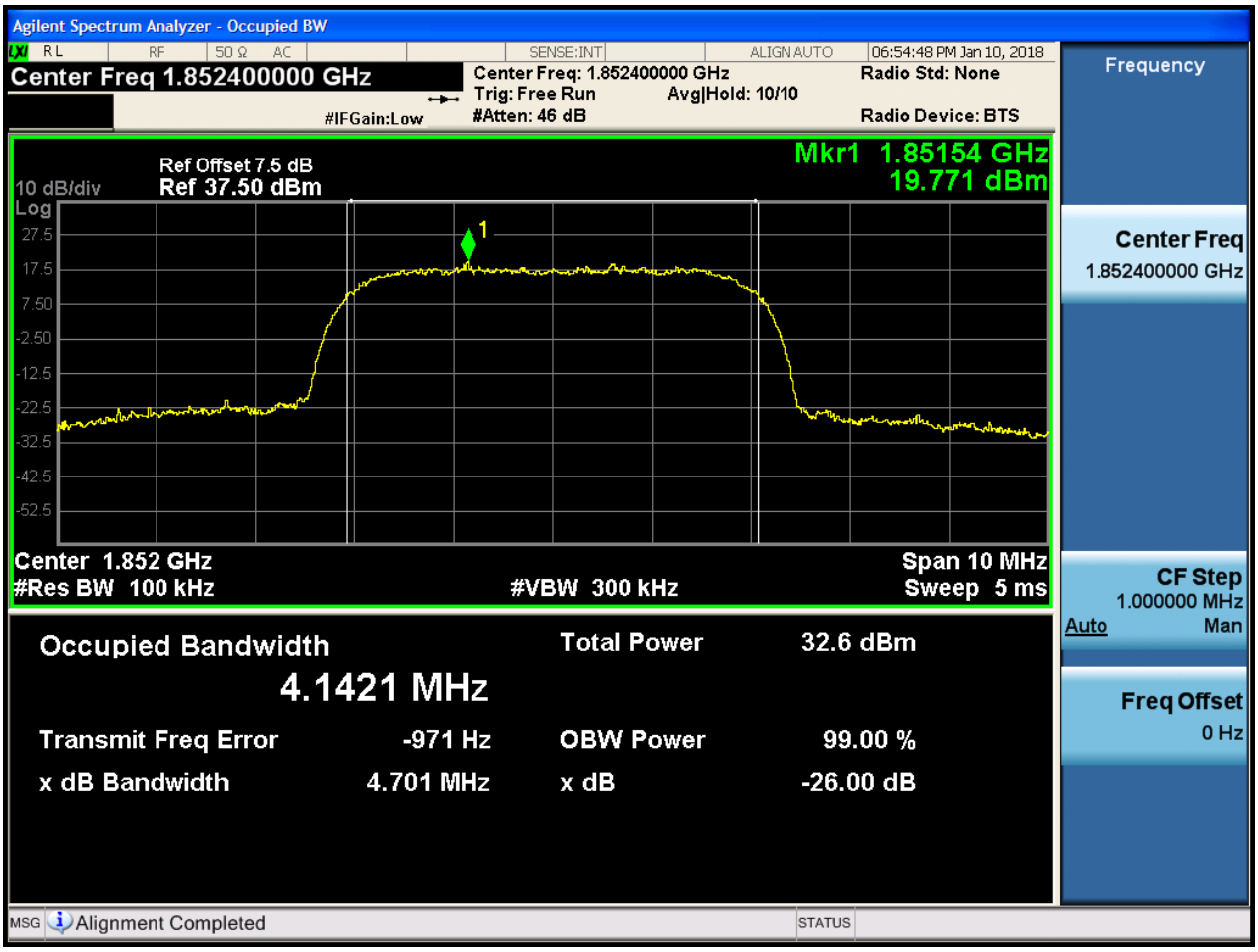
Part II - Test Plots

4.1 For UMTS

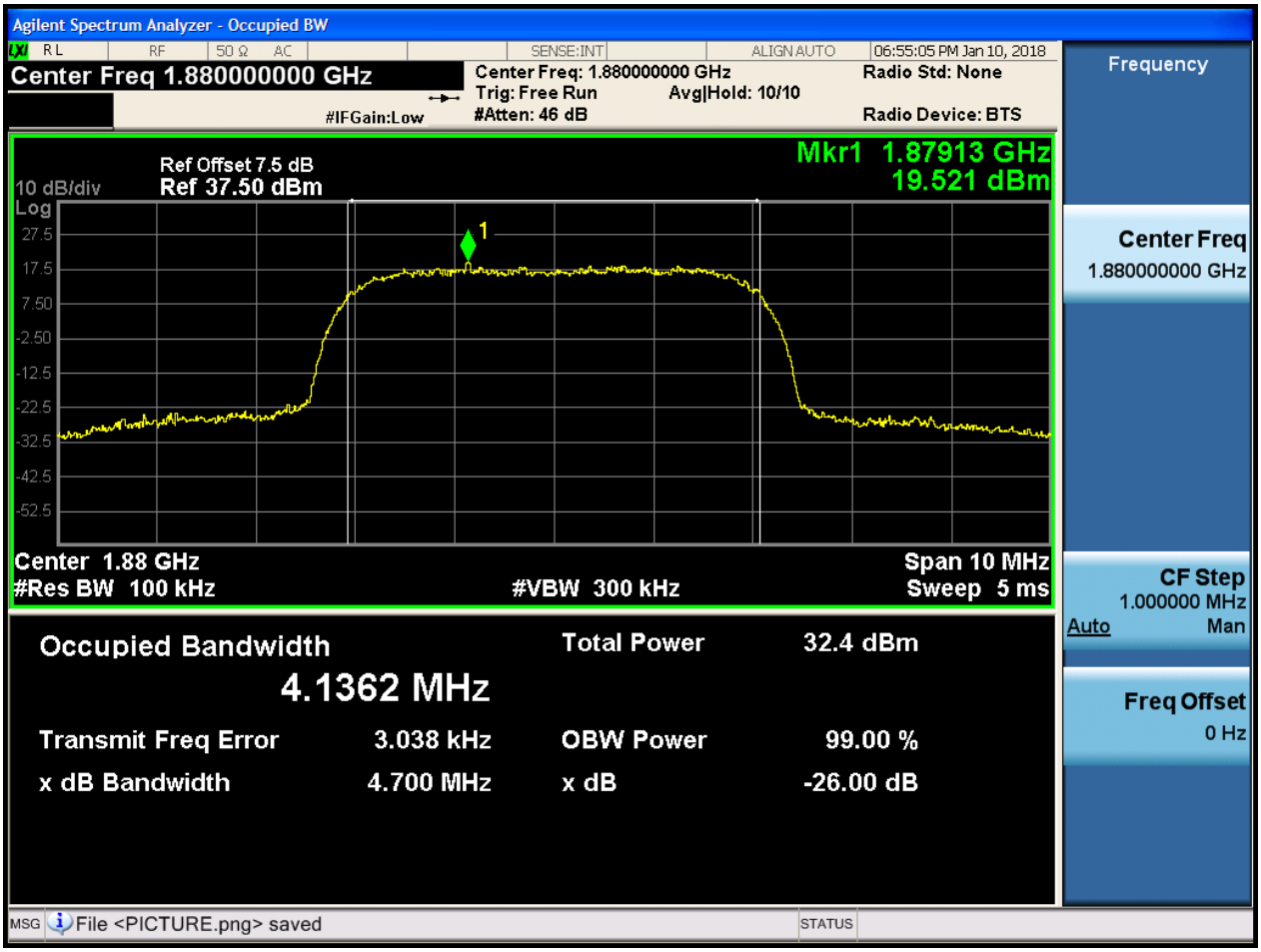
4.1.1 Test Band = WCDMA1900

4.1.1.1 Test Mode = UMTS/TM1

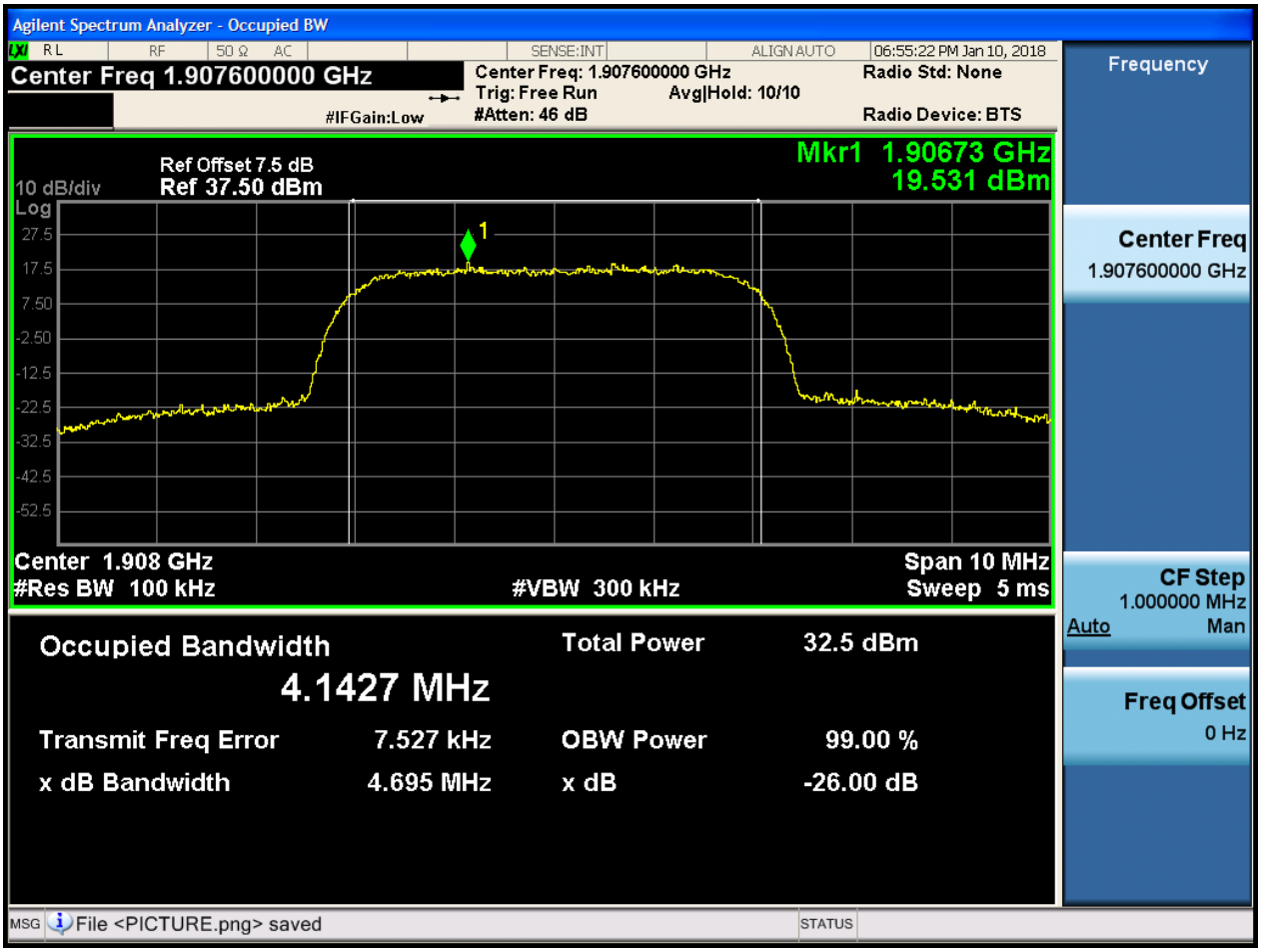
4.1.1.1.1 Test Channel = LCH



4.1.1.1.2 Test Channel = MCH



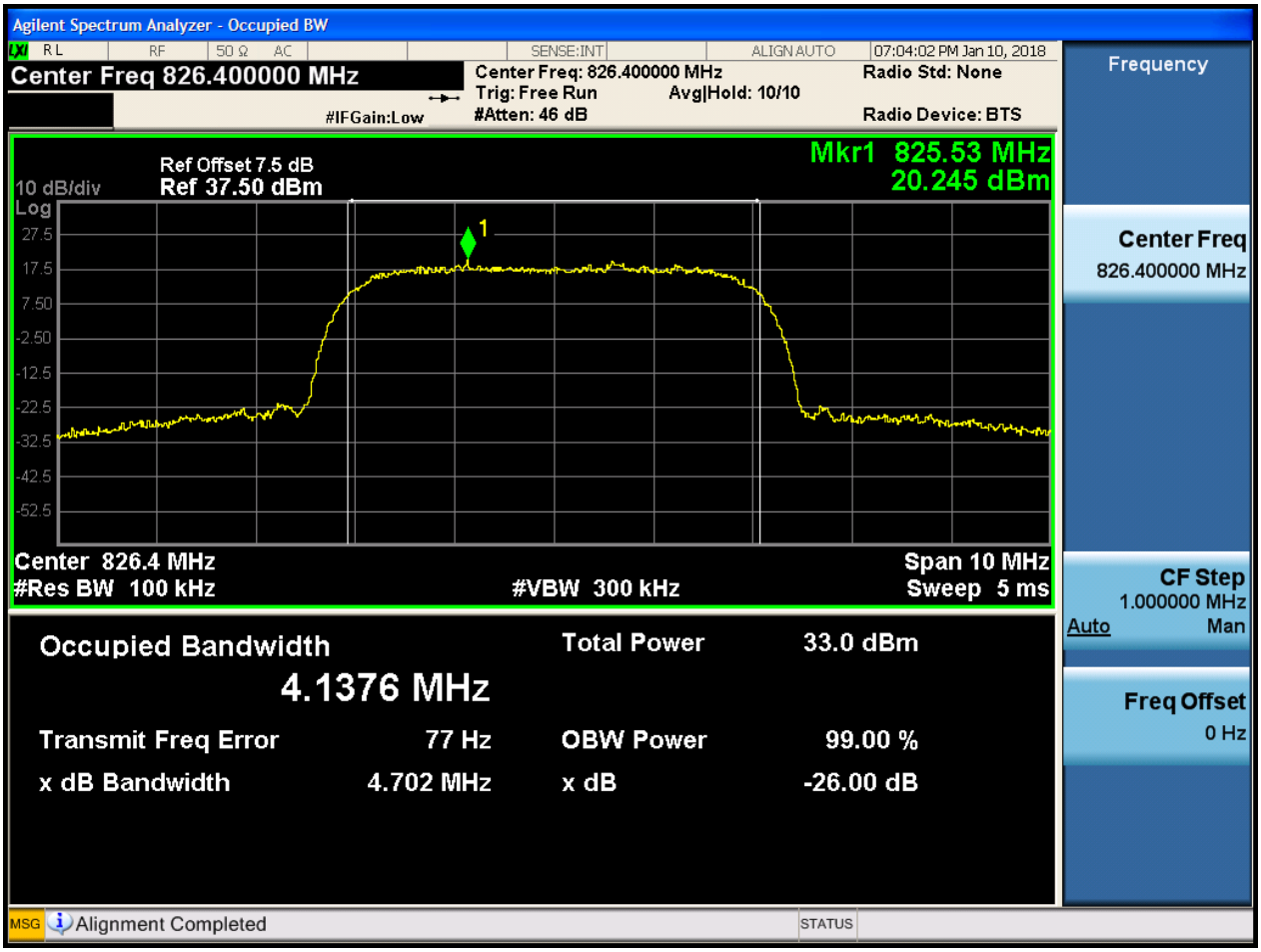
4.1.1.1.3 Test Channel = HCH



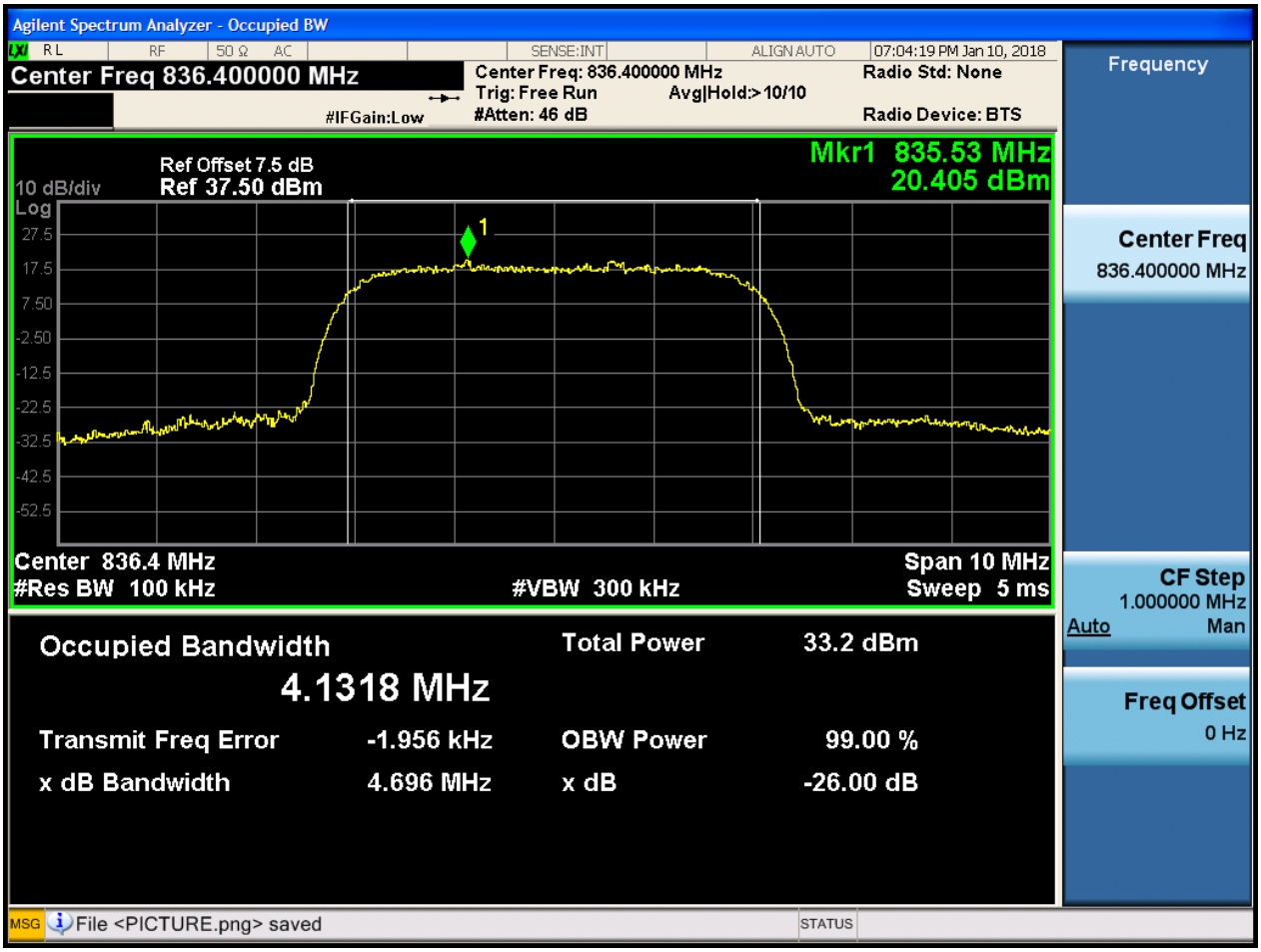
4.1.2 Test Band = WCDMA850

4.1.2.1 Test Mode = UMTS/TM1

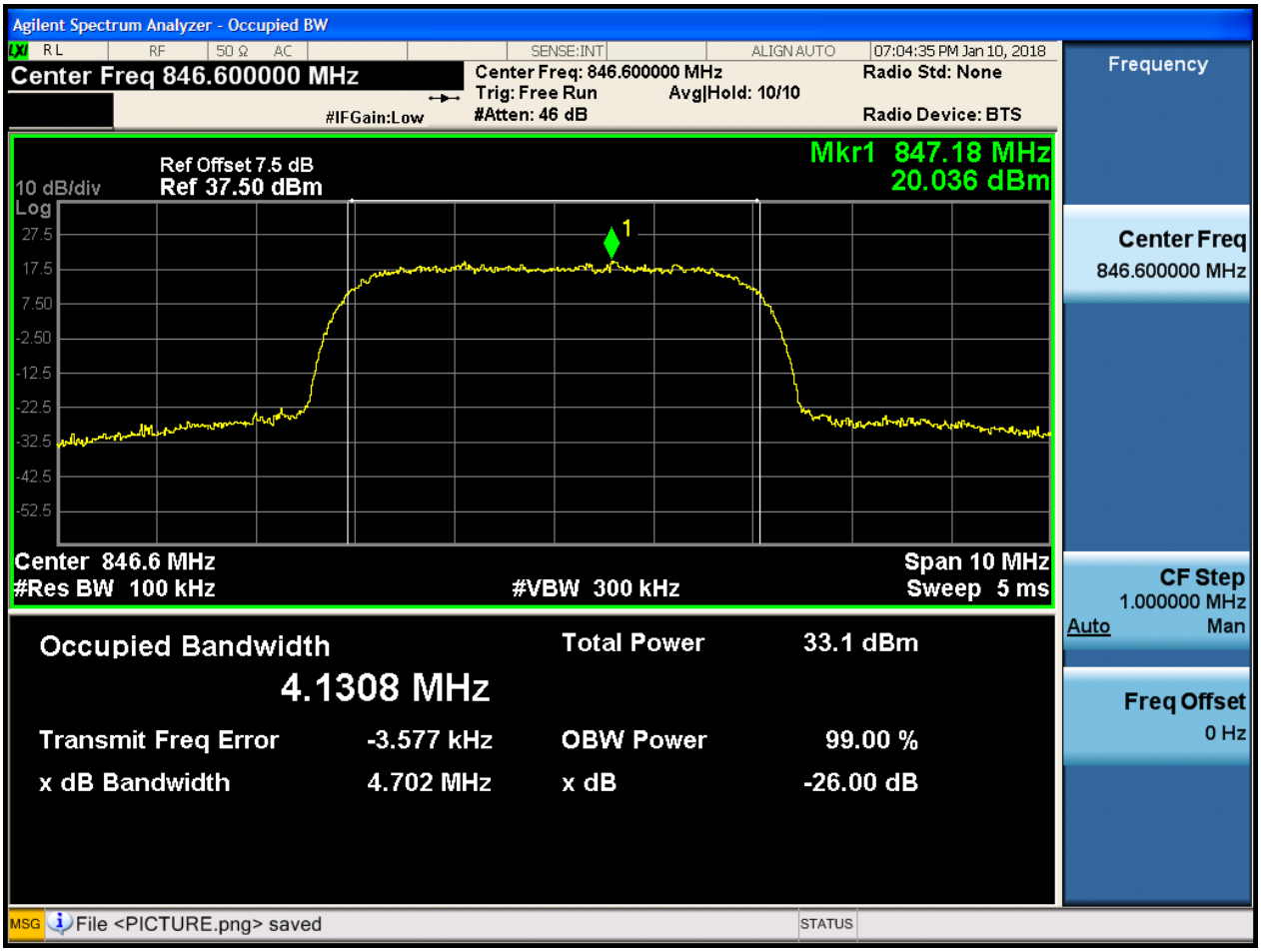
4.1.2.1.1 Test Channel = LCH



4.1.2.1.2 Test Channel = MCH



4.1.2.1.3 Test Channel = HCH



5Appendix_E: Band Edges Compliance

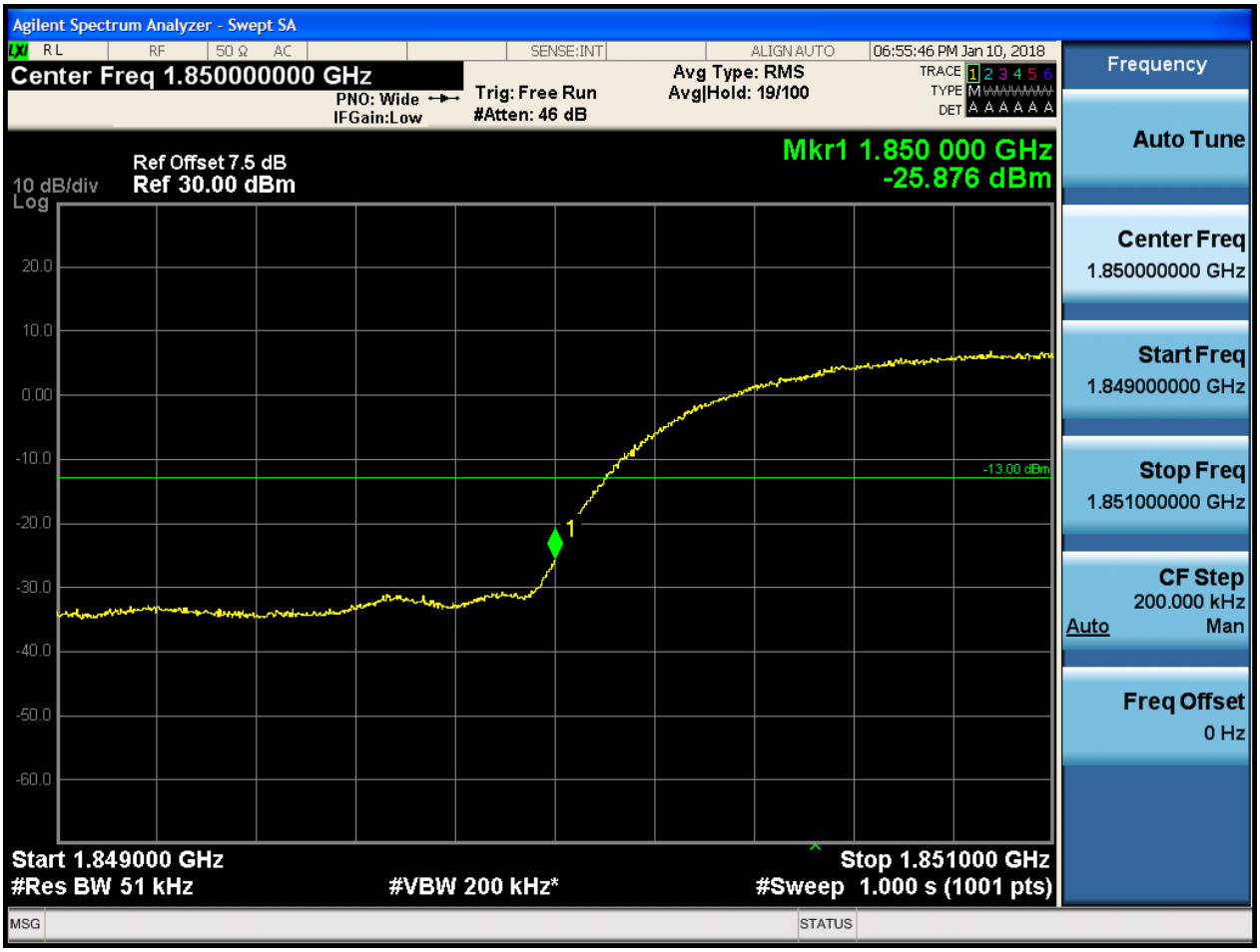
Part I - Test Plots

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

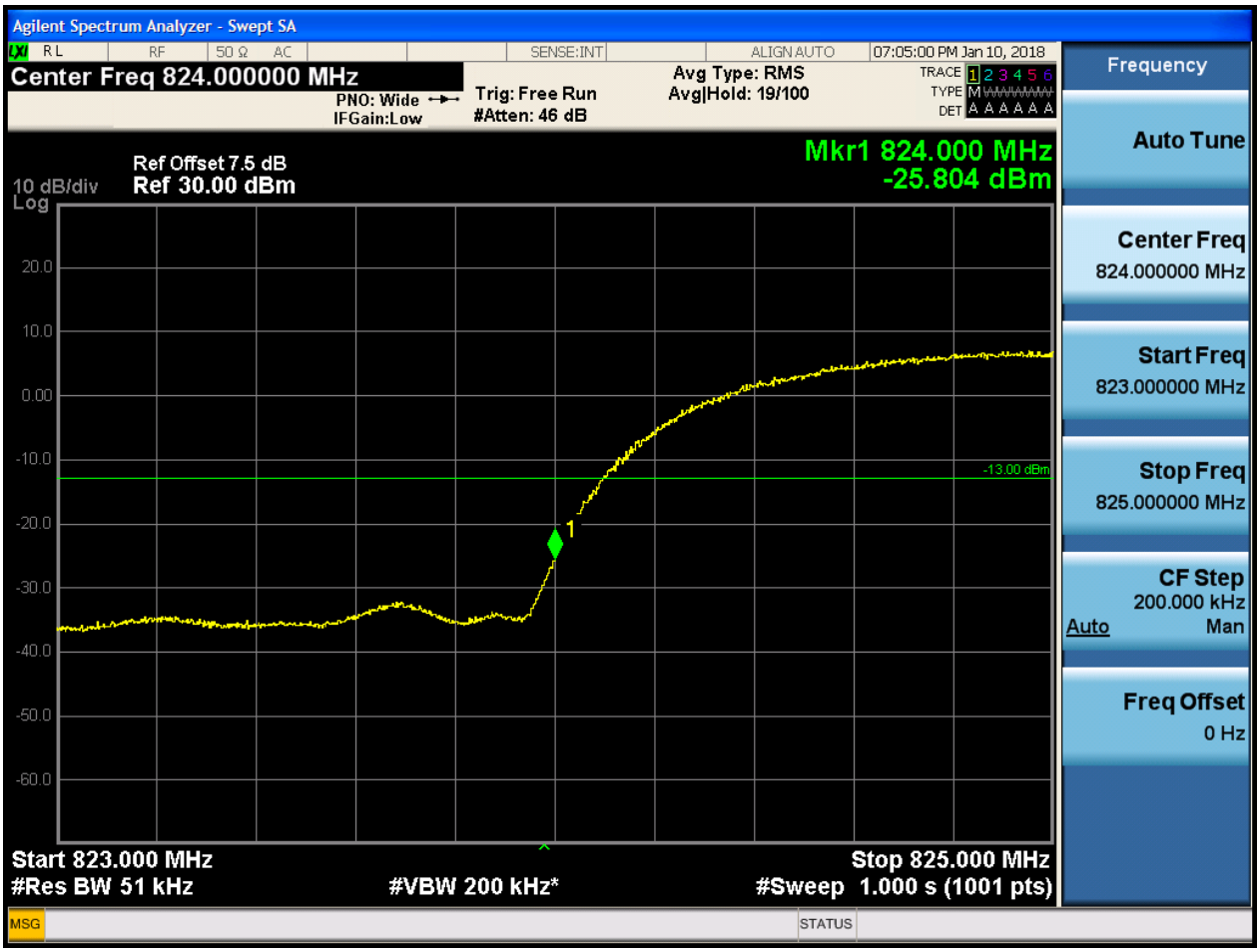


5.1.1.1.2 Test Channel = HCH

5.1.2 Test Band = WCDMA850

5.1.2.1 Test Mode = UMTS/TM1

5.1.2.1.1 Test Channel = LCH



5.1.2.1.2 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.

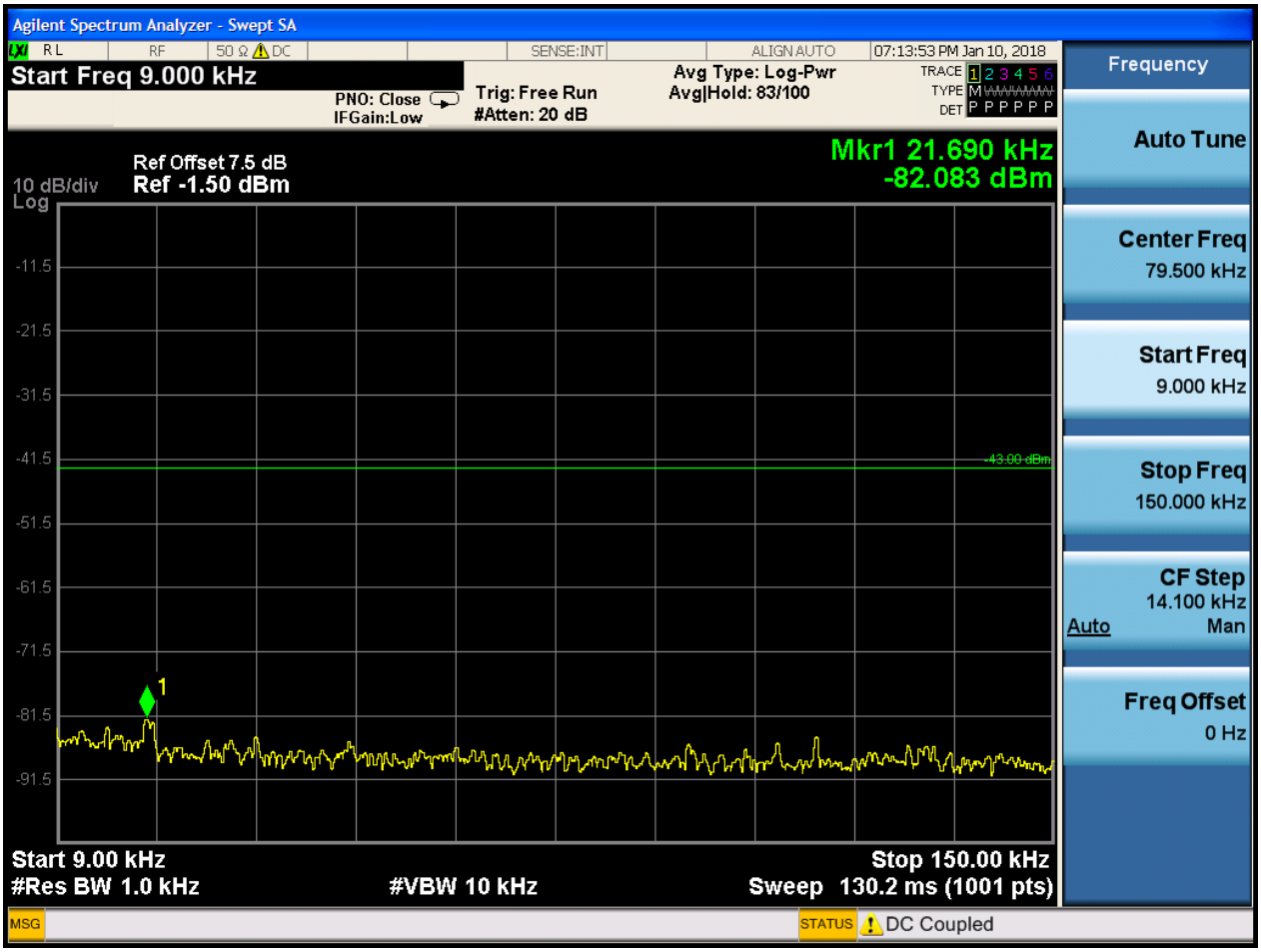
Part I - Test Plots

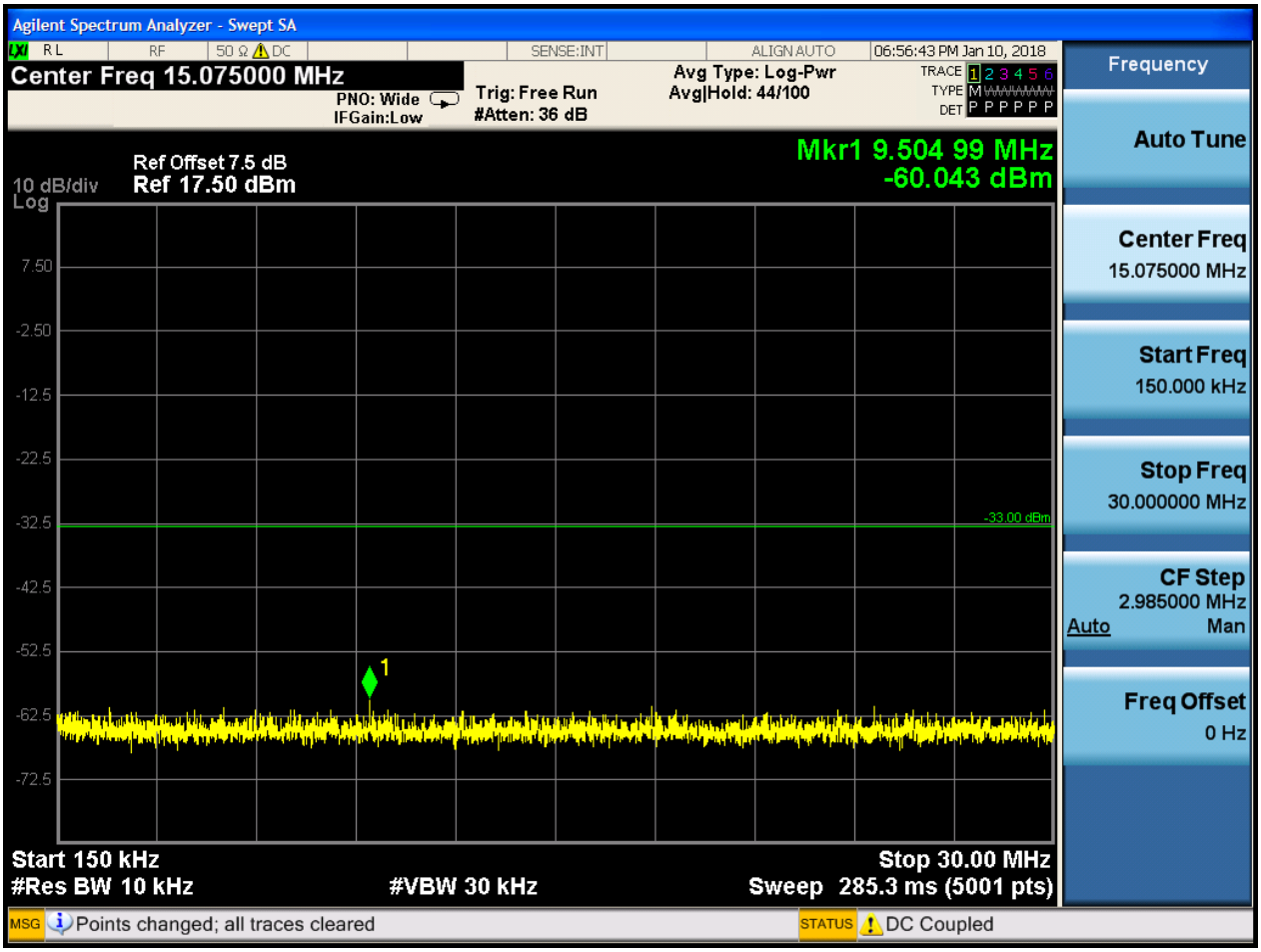
6.1 For UMTS

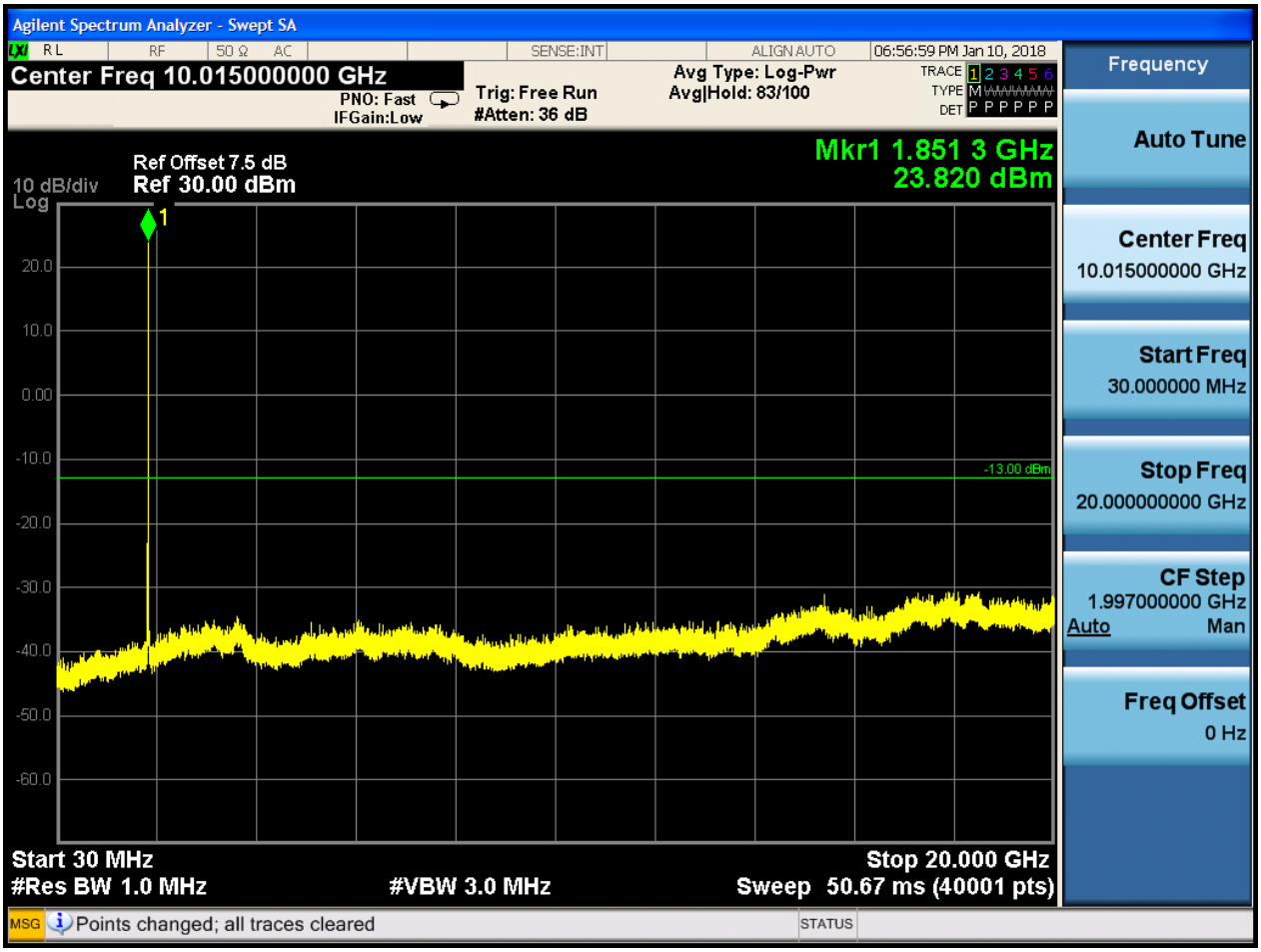
6.1.1 Test Band = WCDMA1900

6.1.1.1 Test Mode = UMTS/TM1

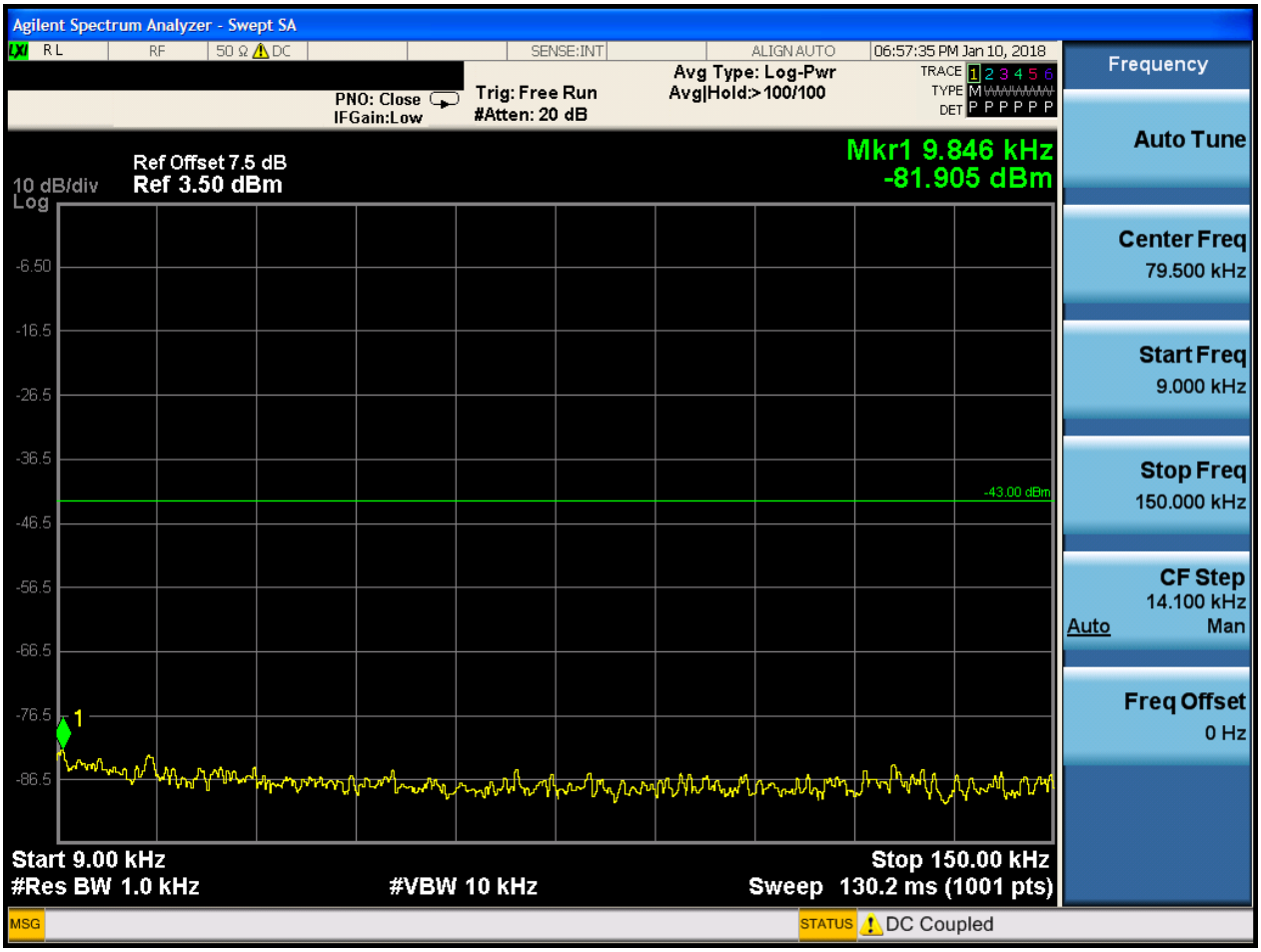
6.1.1.1.1 Test Channel = LCH

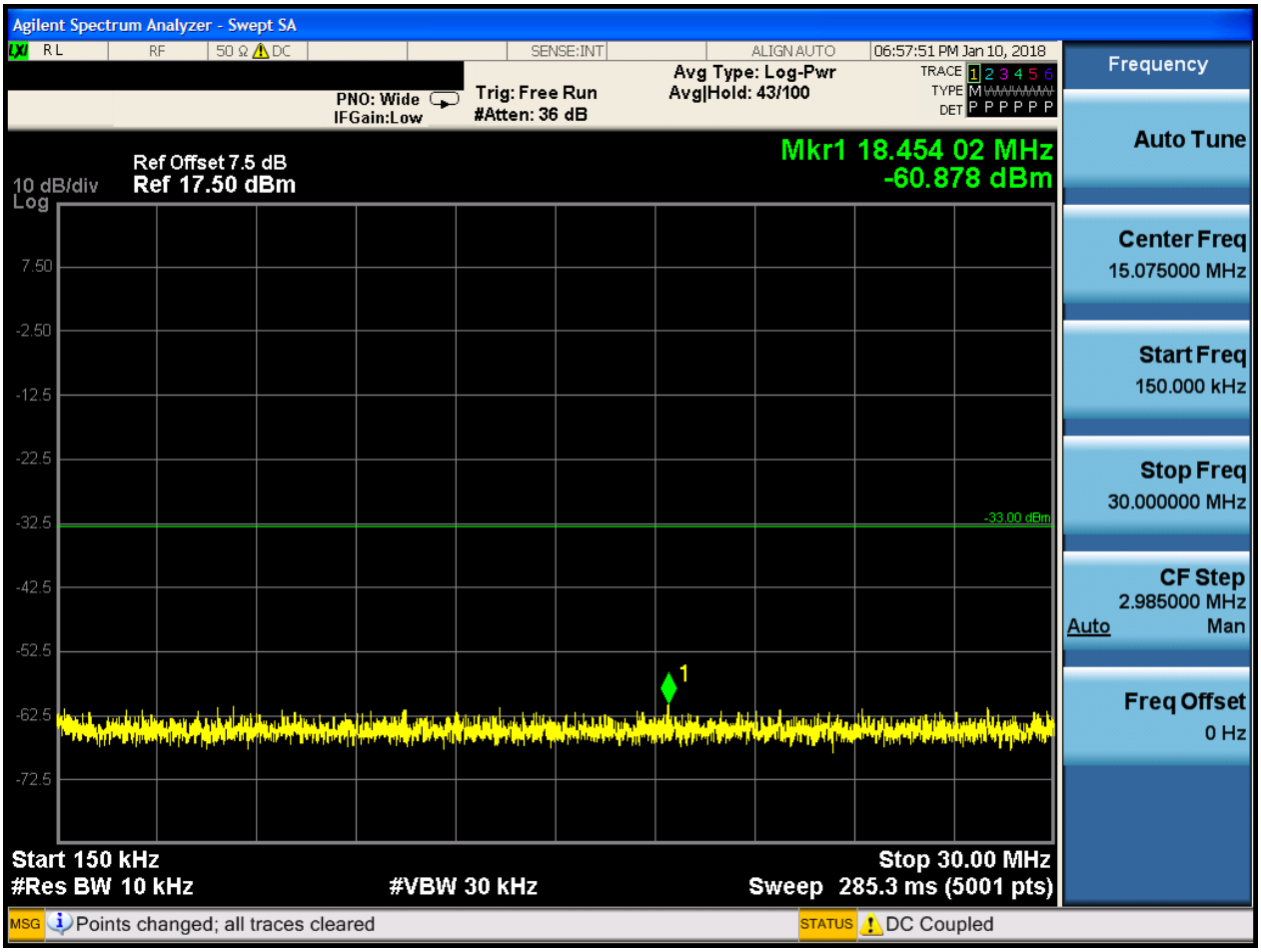


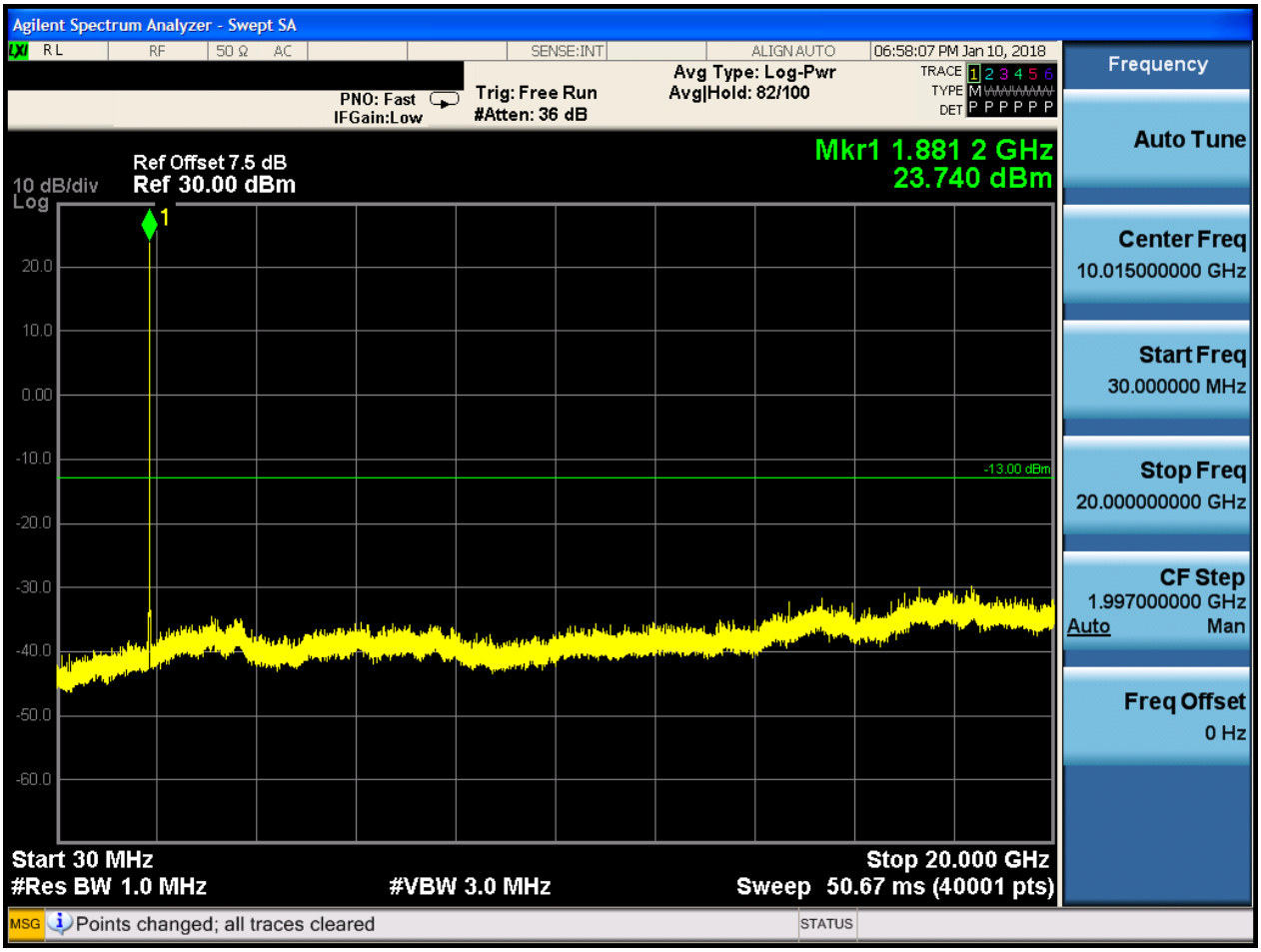




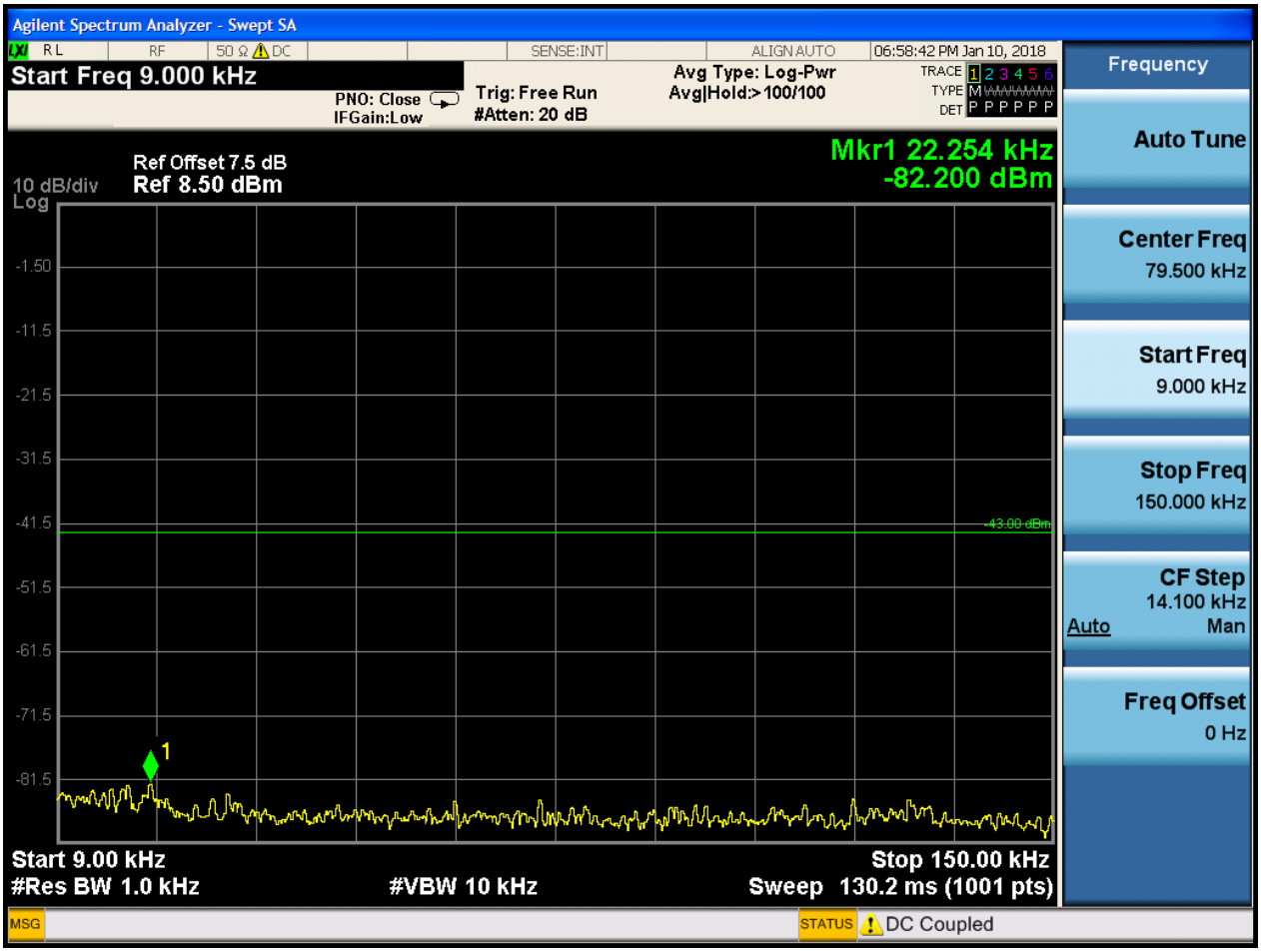
6.1.1.1.2 Test Channel = MCH

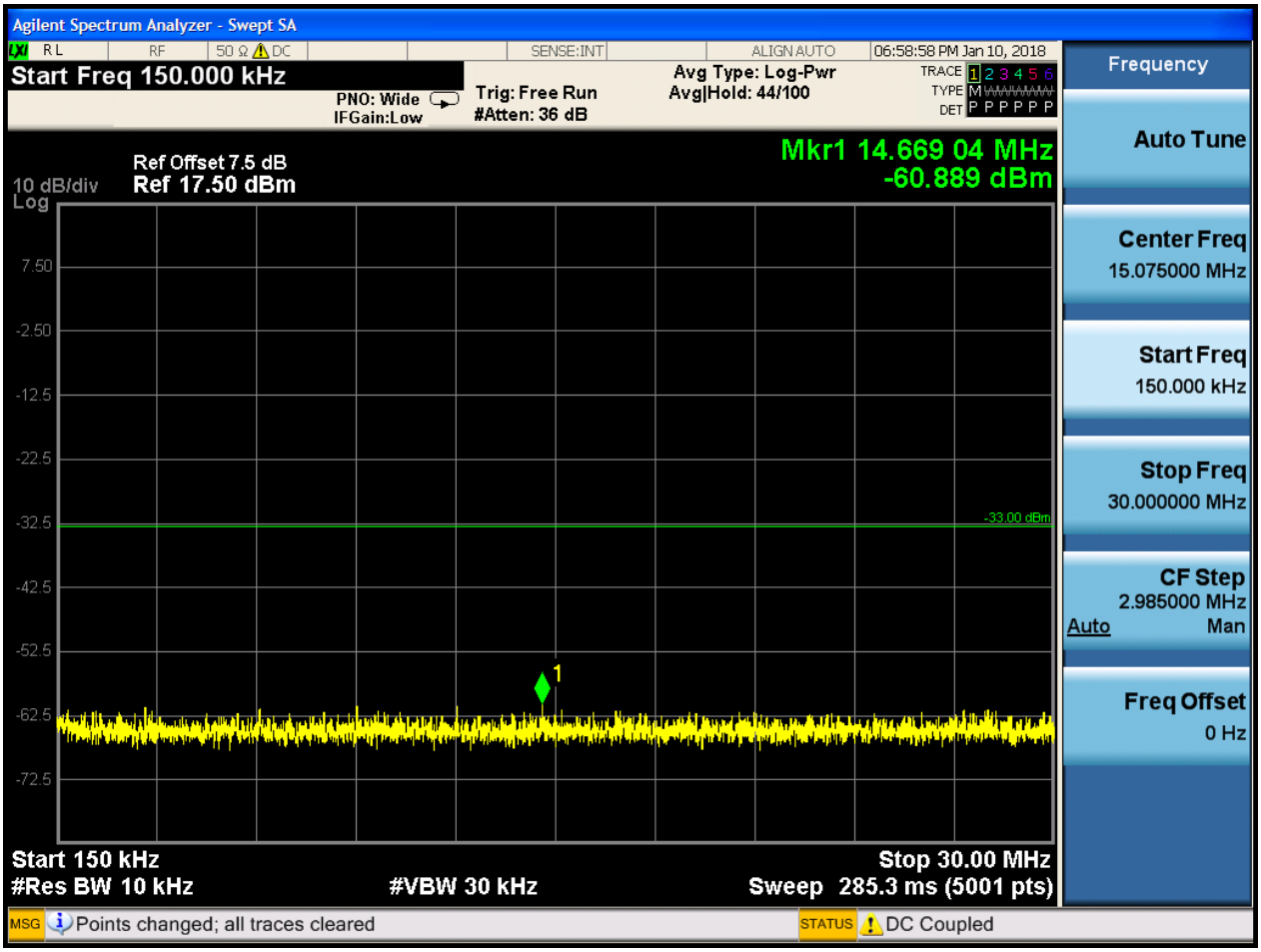


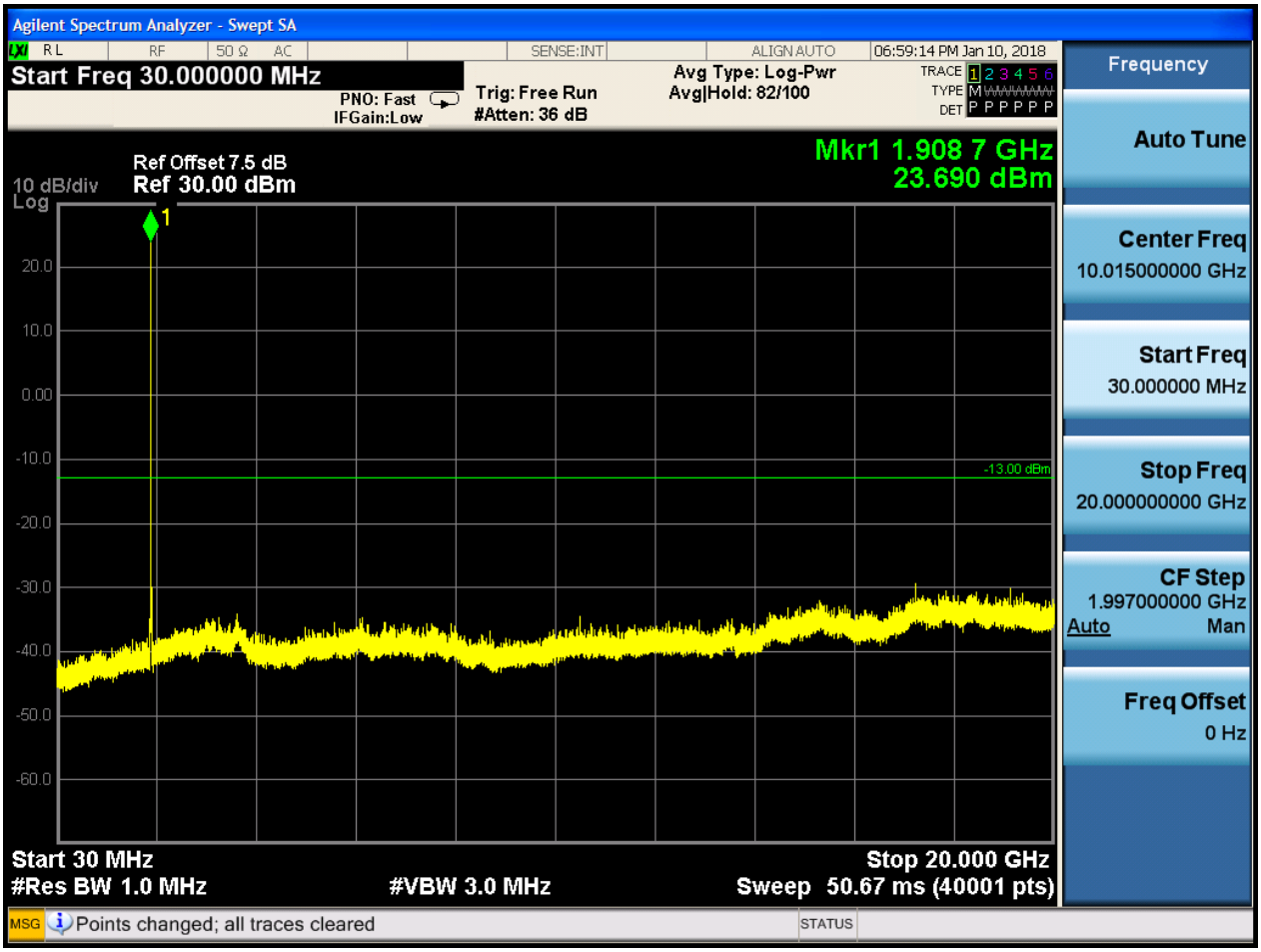




6.1.1.1.3 Test Channel = HCH



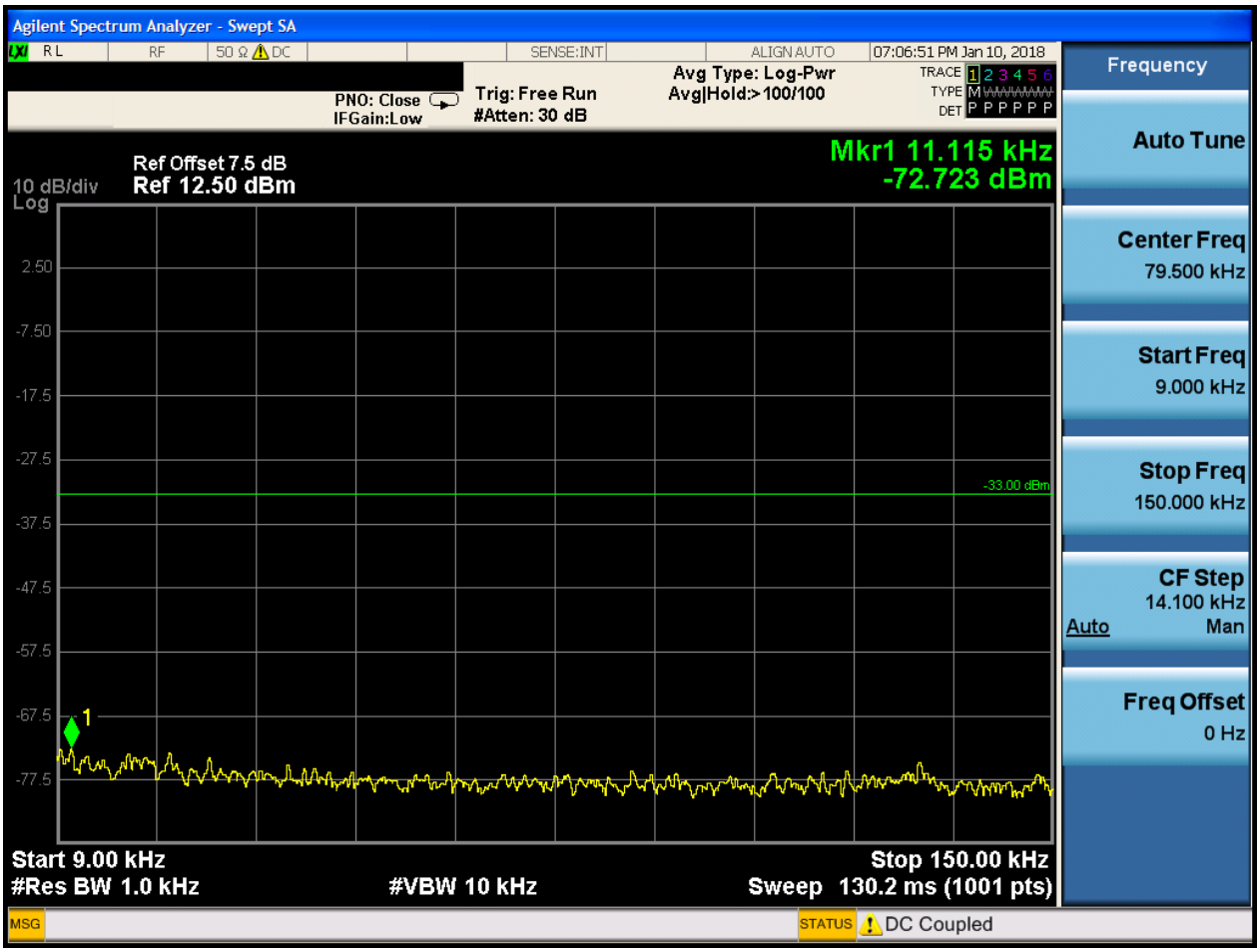


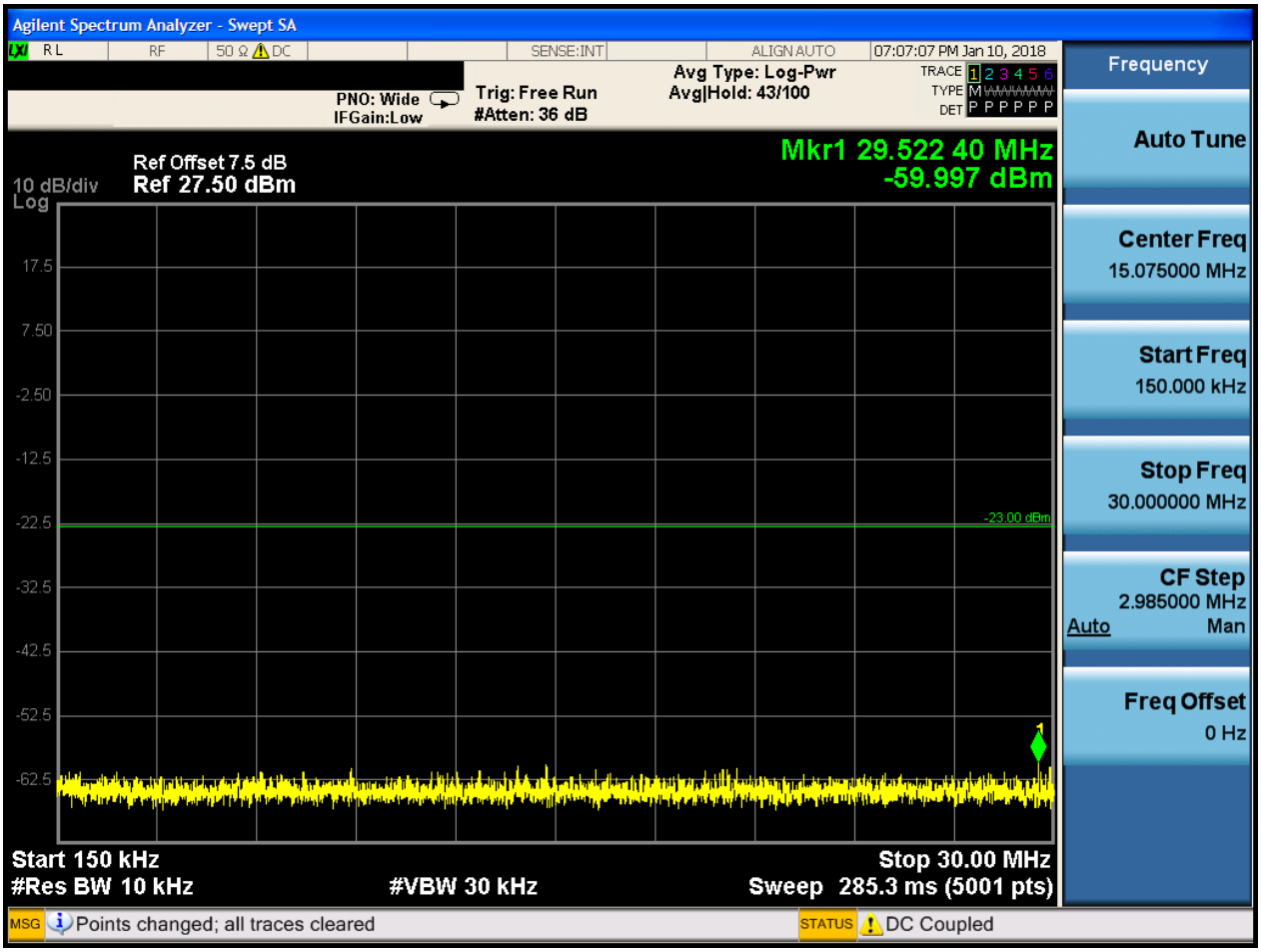


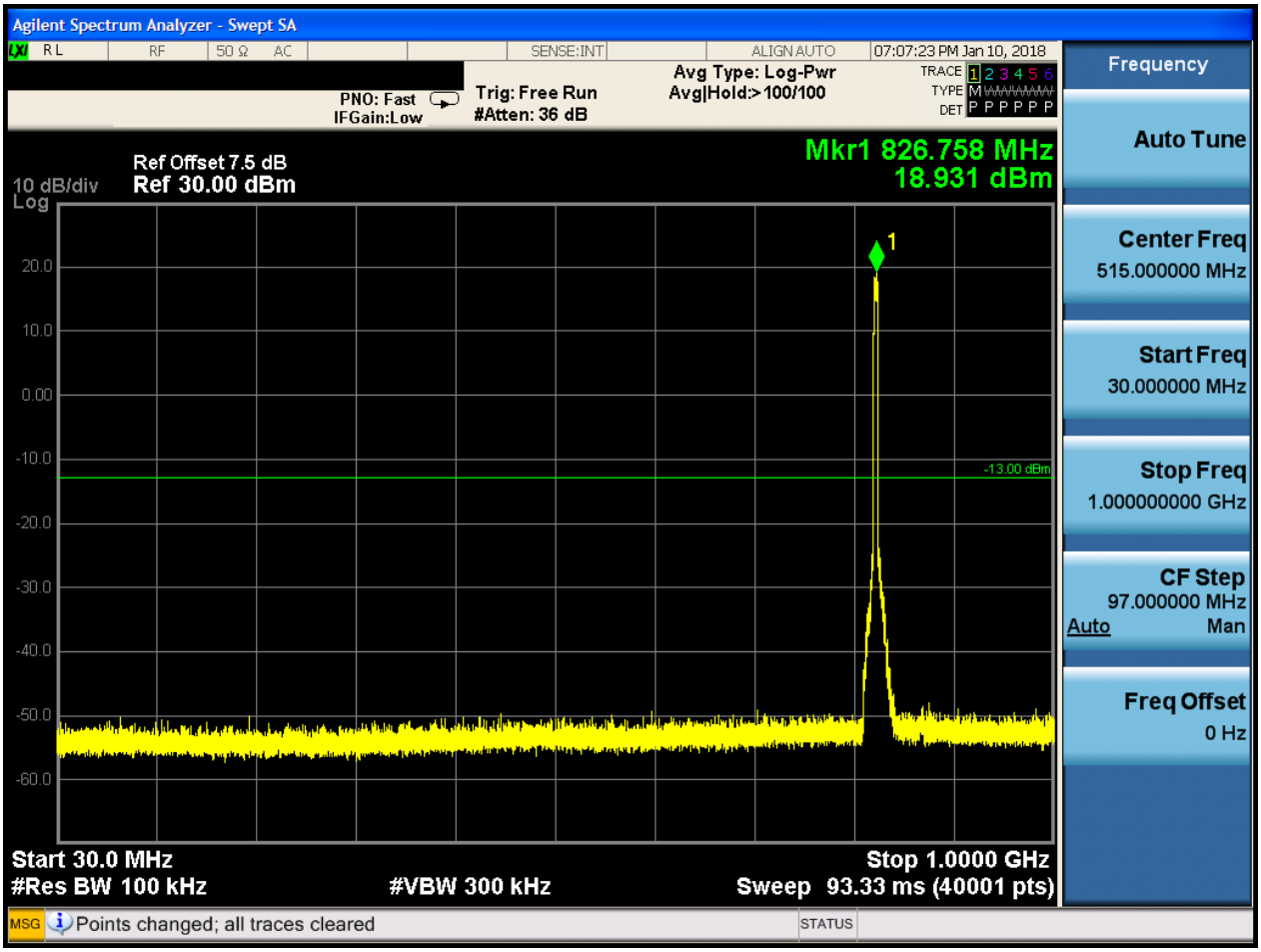
6.1.2 Test Band = WCDMA850

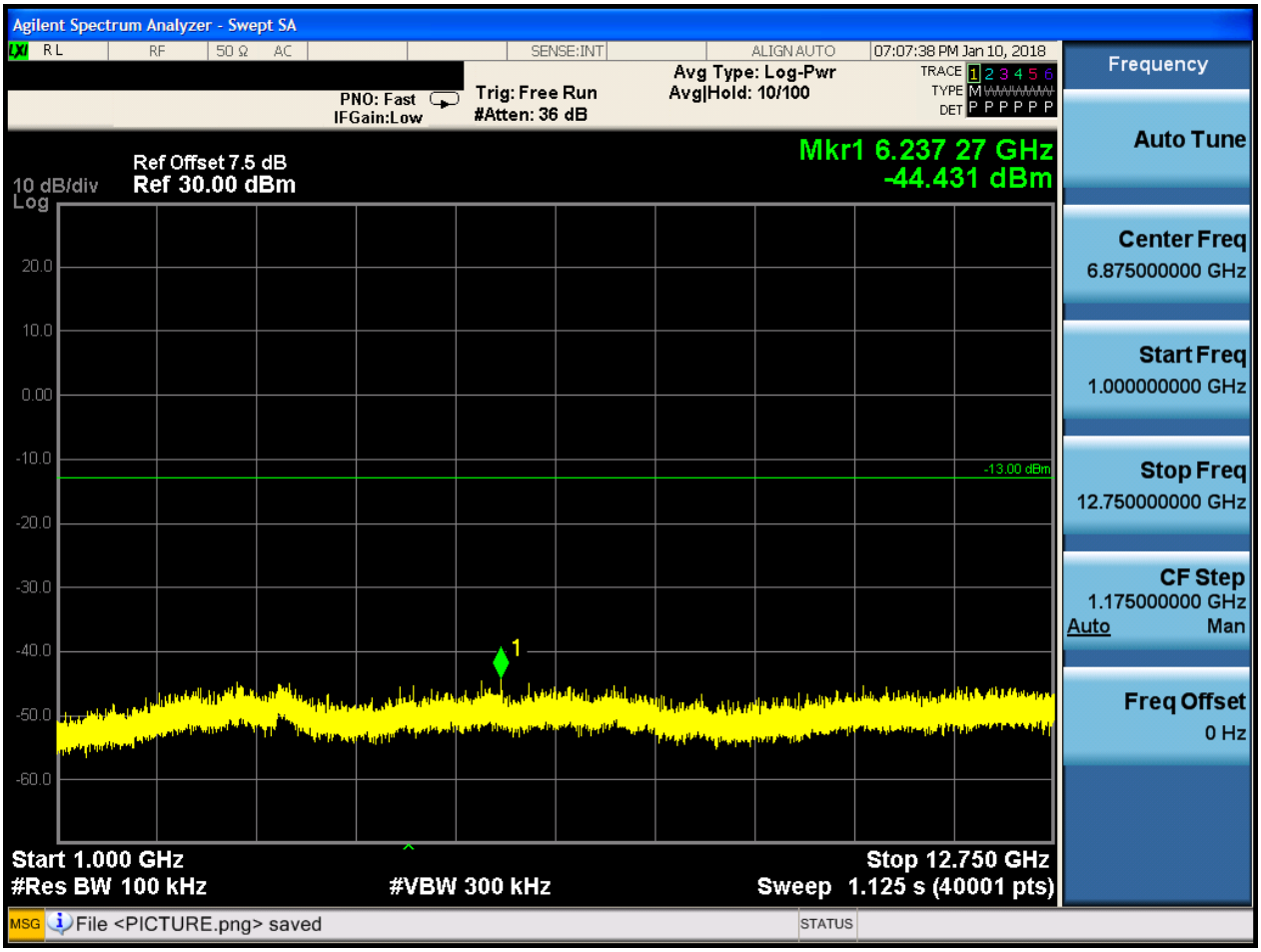
6.1.2.1 Test Mode = UMTS/TM1

6.1.2.1.1 Test Channel = LCH

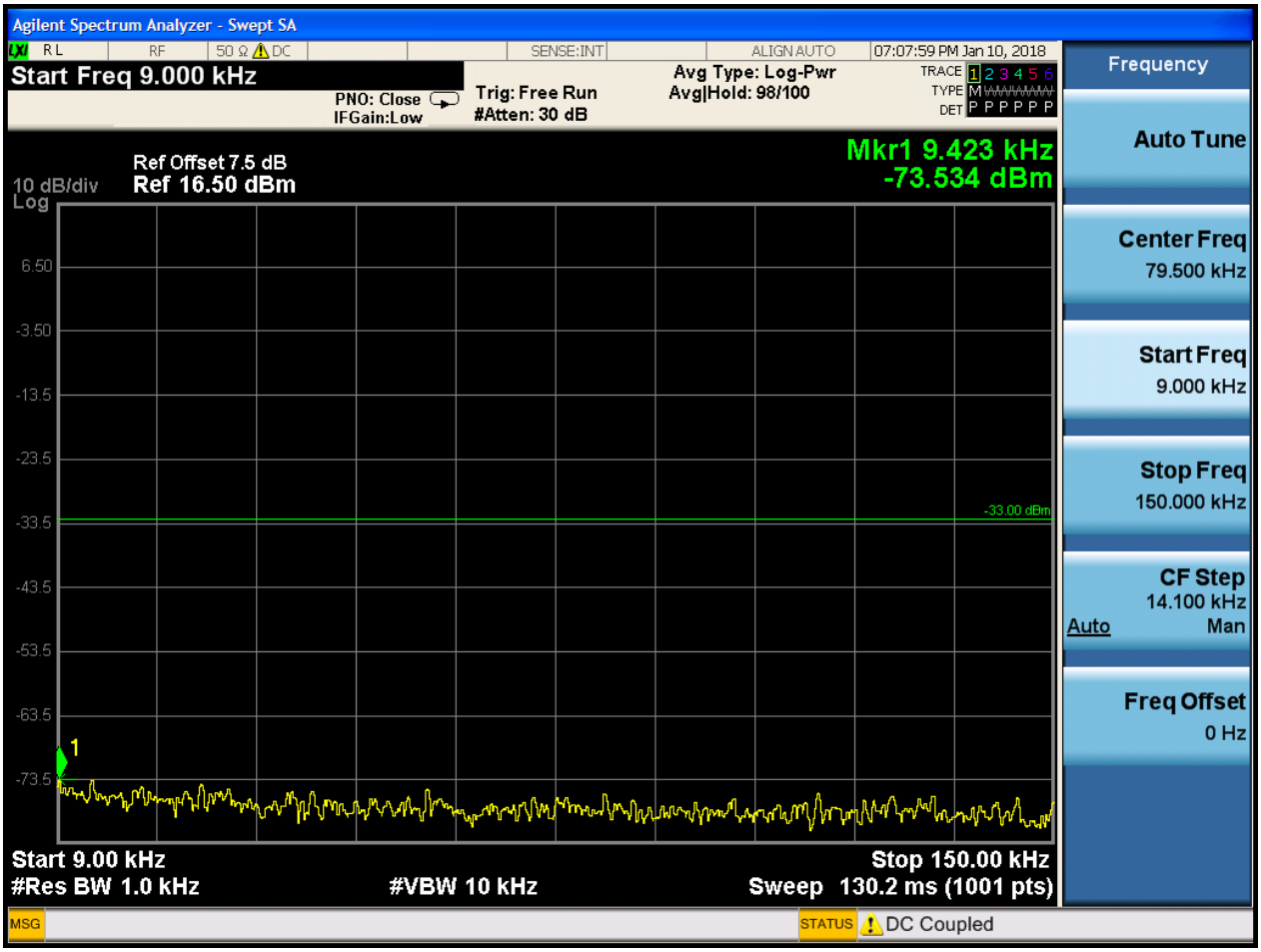


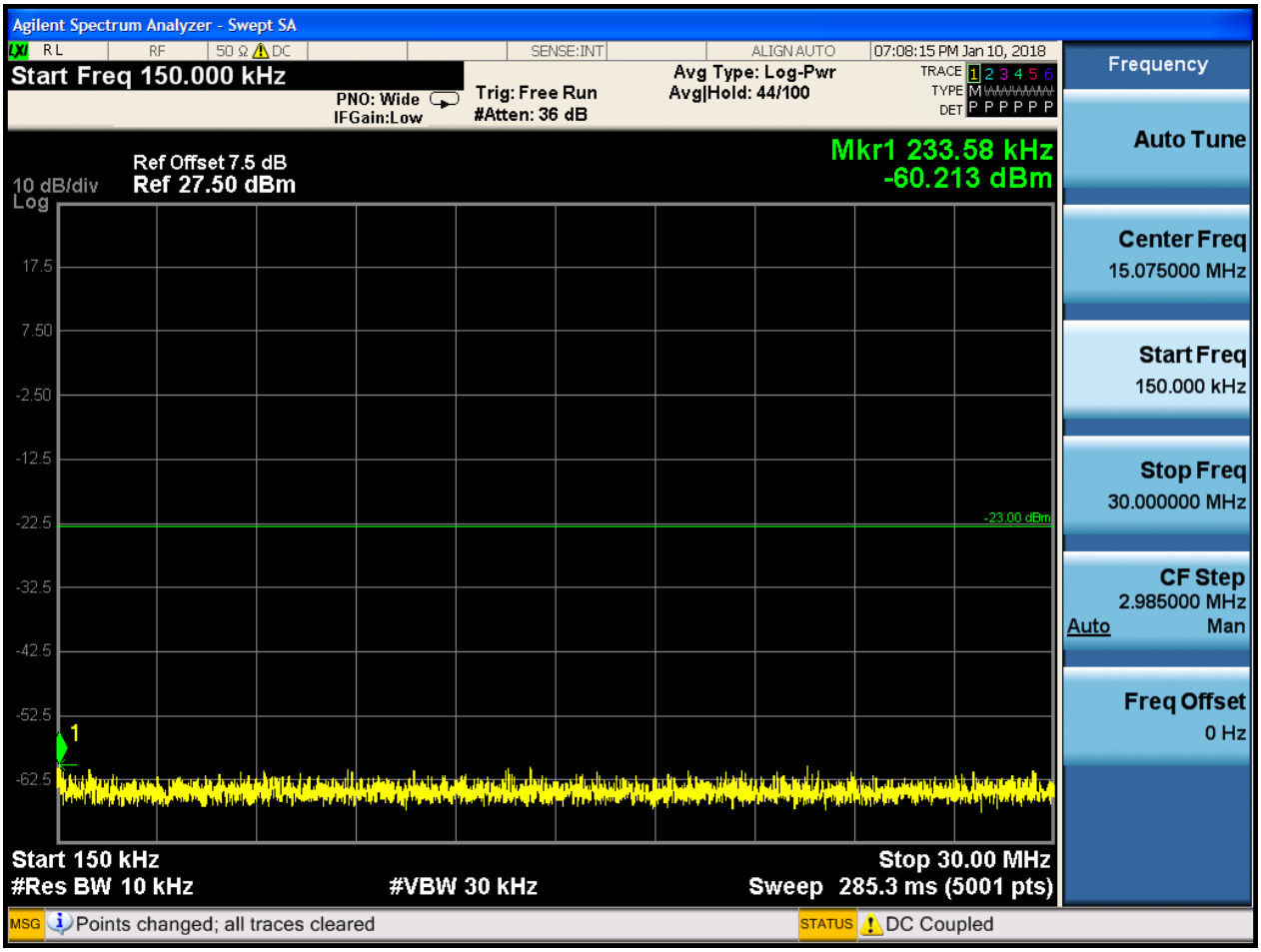


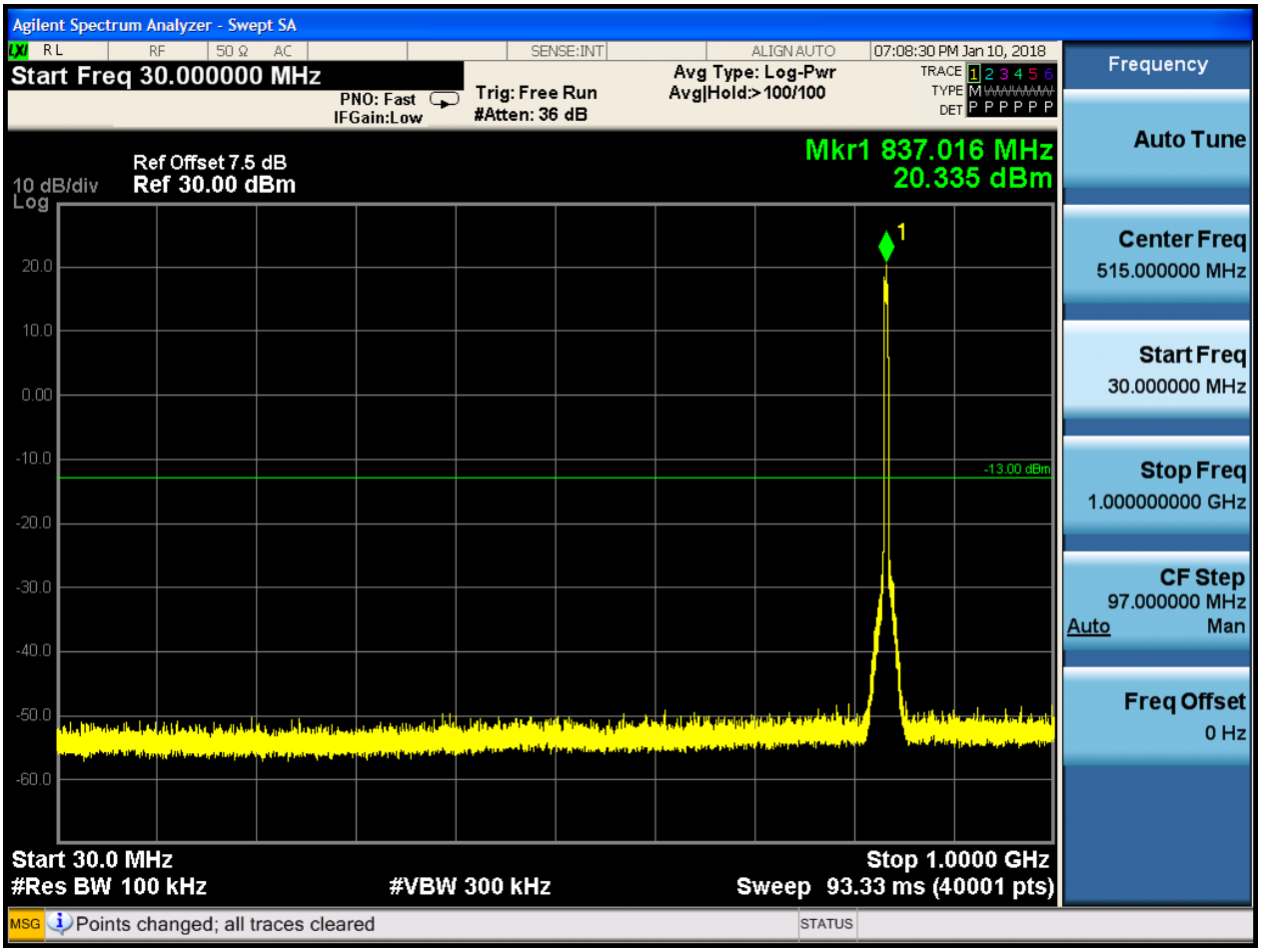


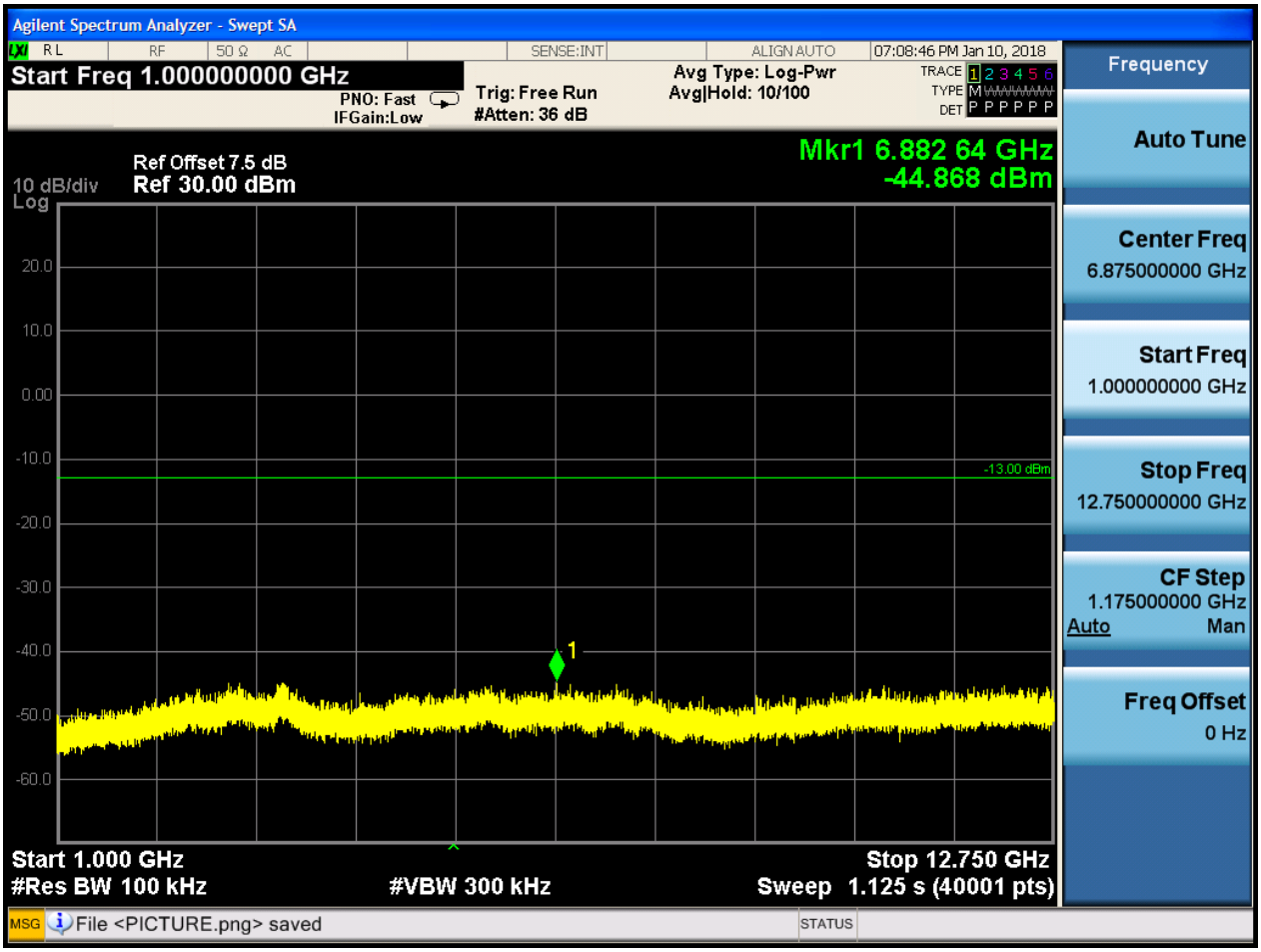


6.1.2.1.2 Test Channel = MCH

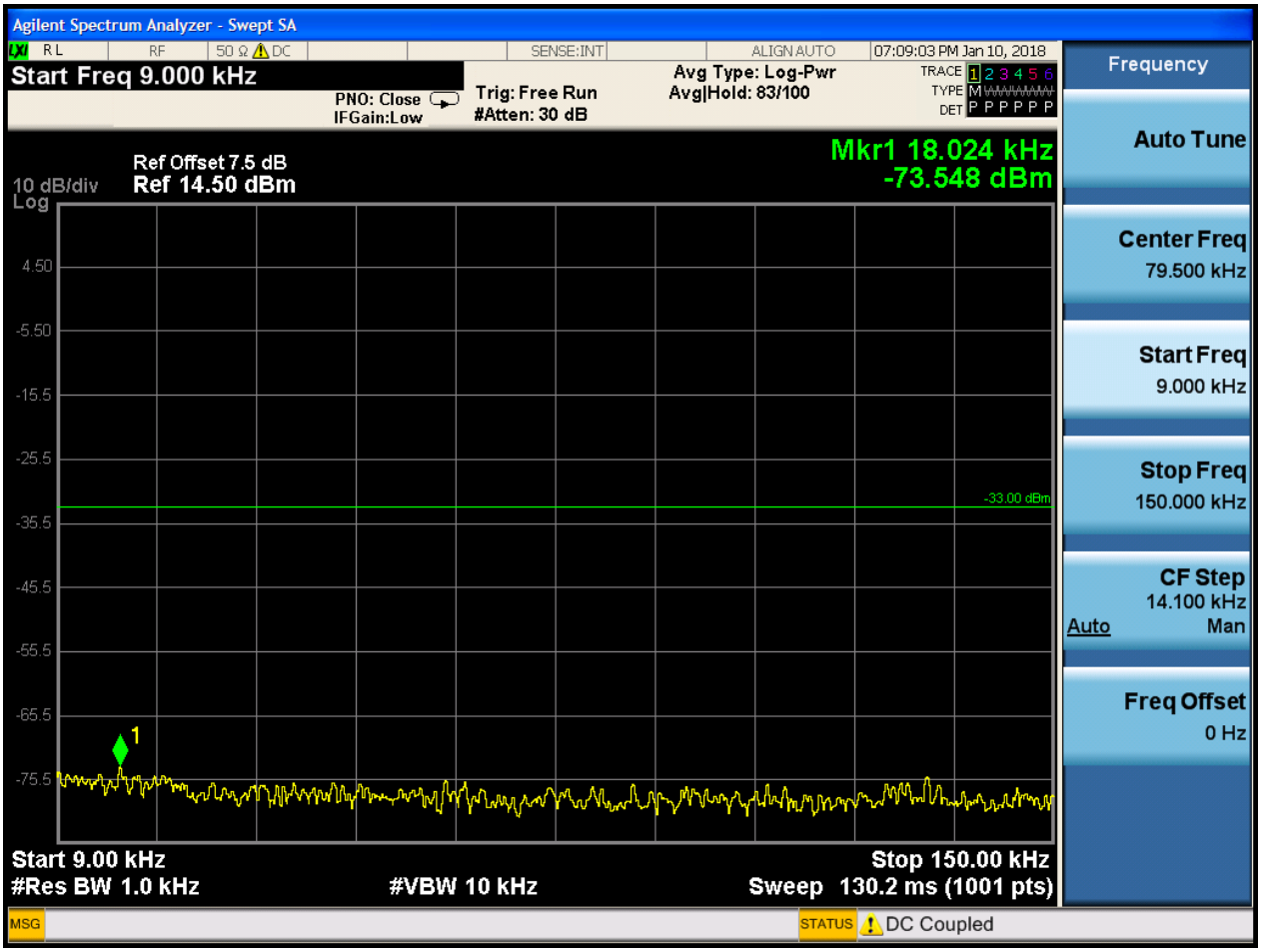


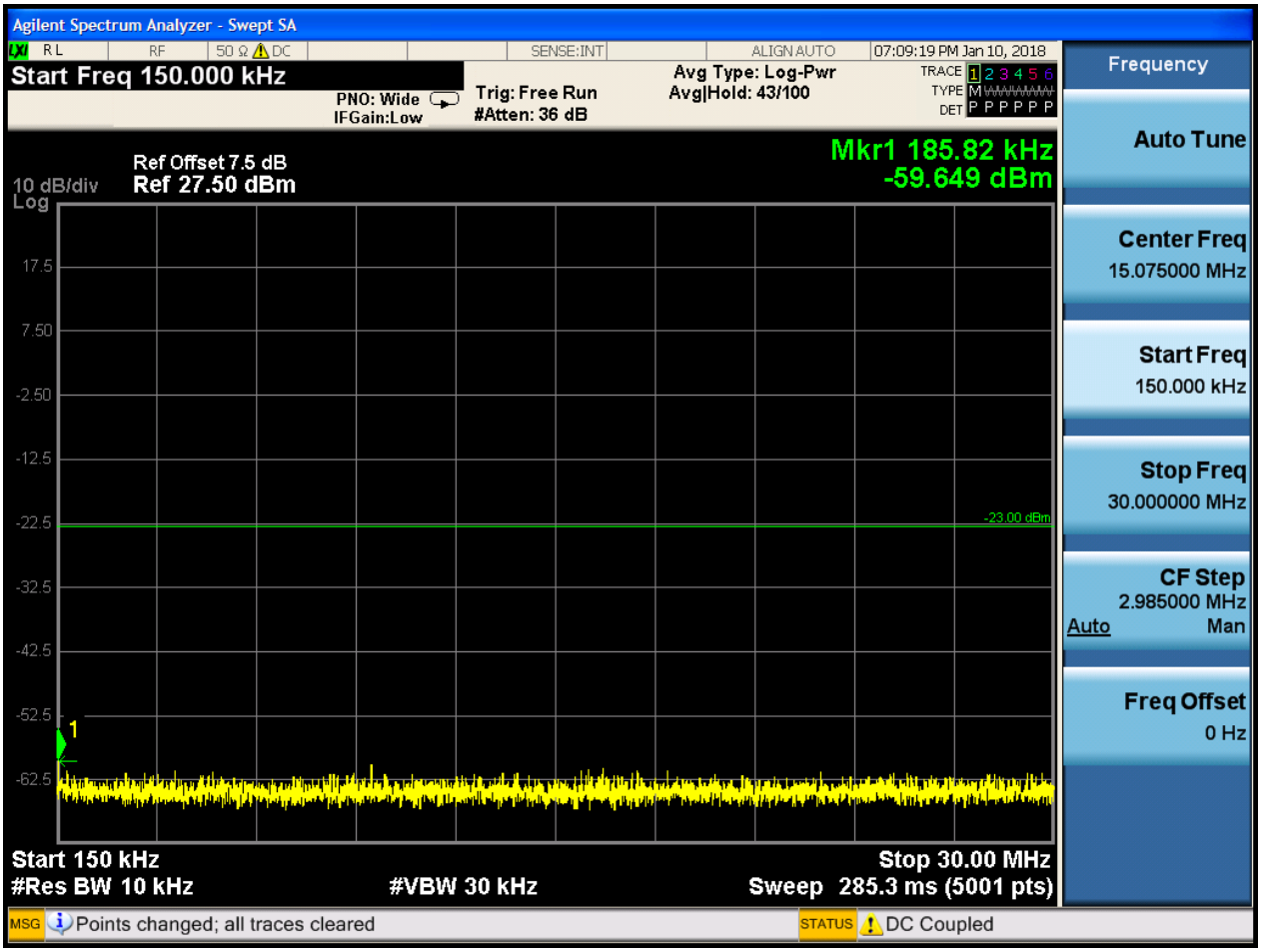


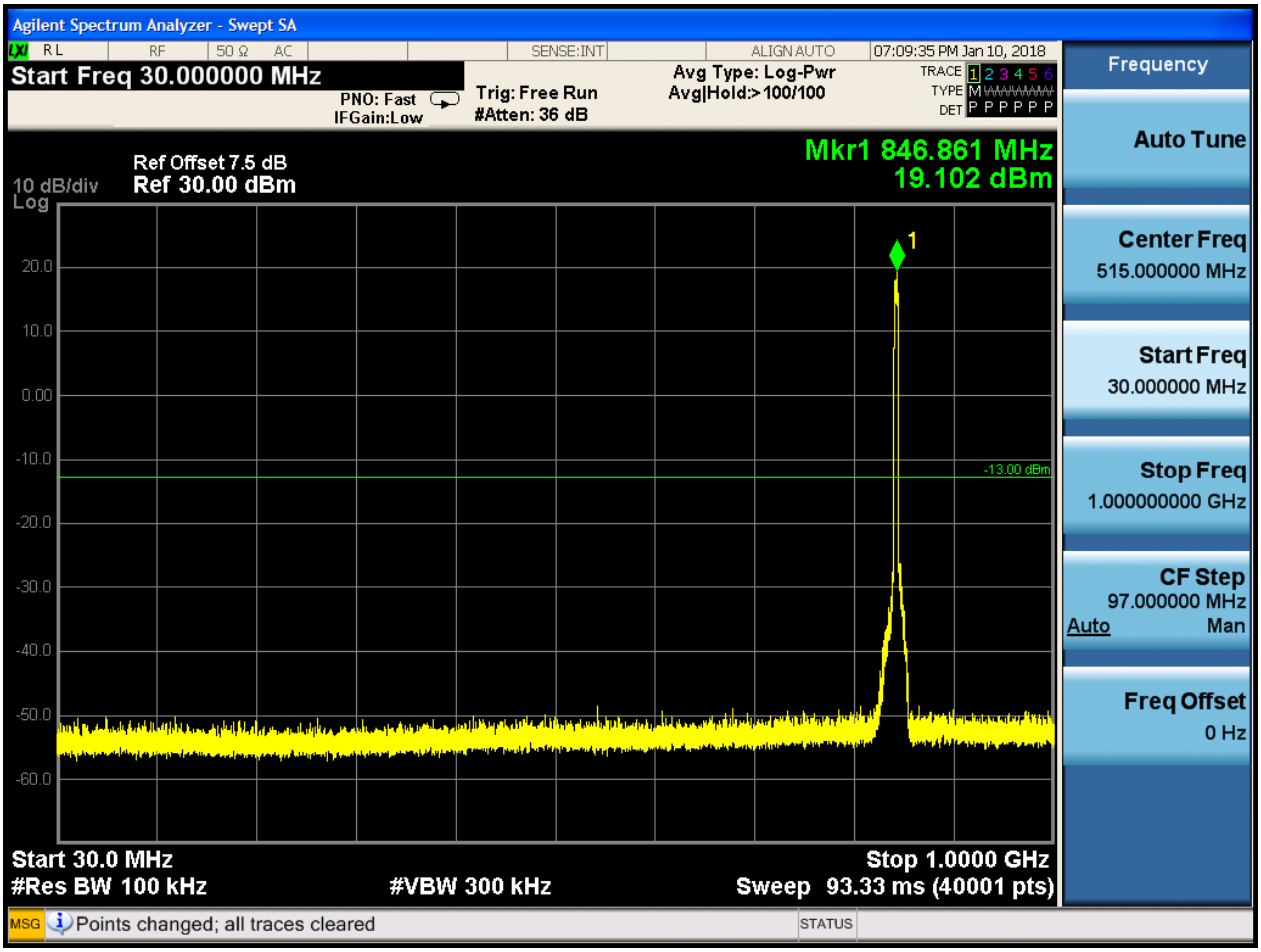


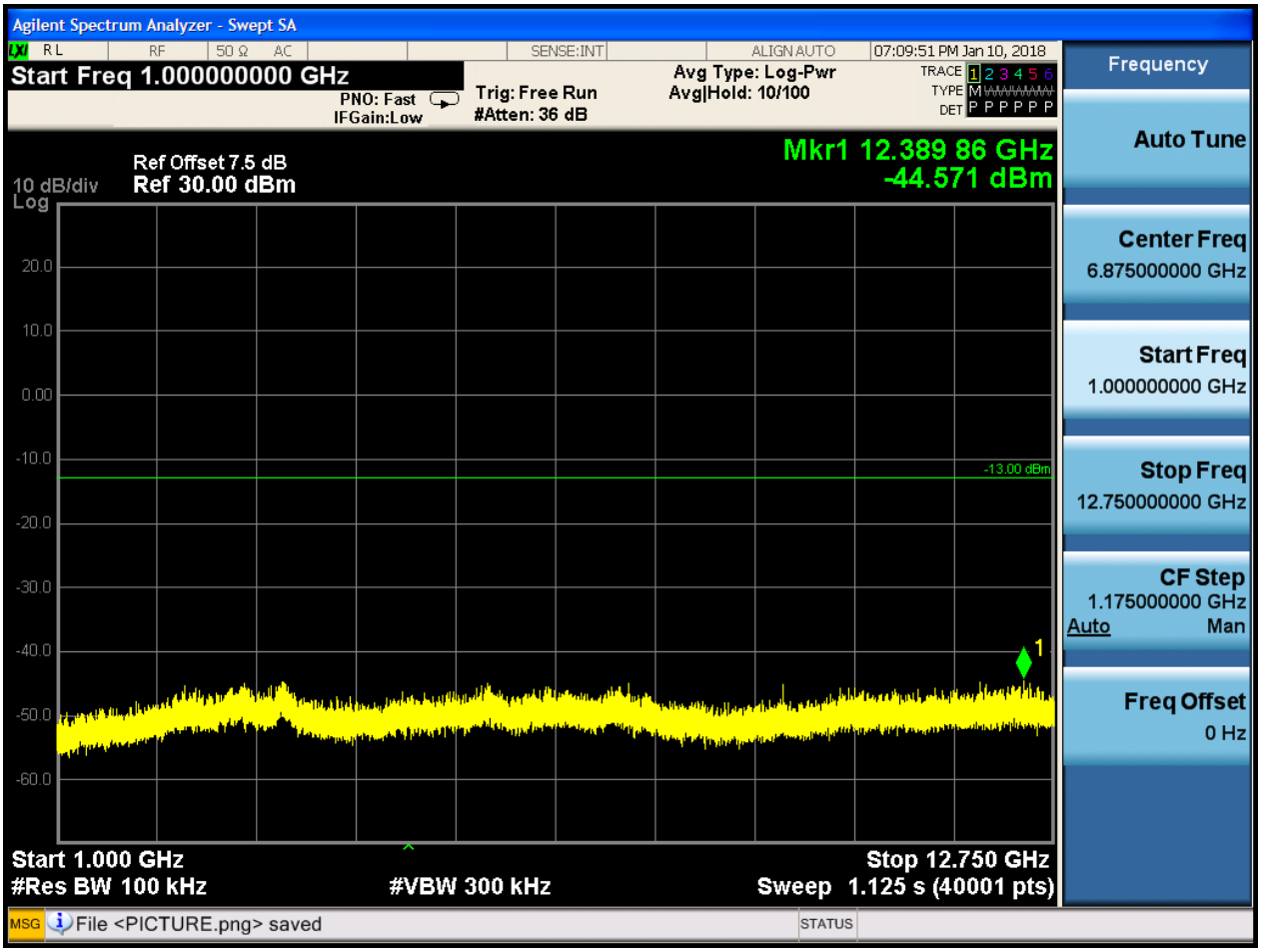


6.1.2.1.3 Test Channel = HCH









7Appendix_G: Field Strength of Spurious Radiation

Note:

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

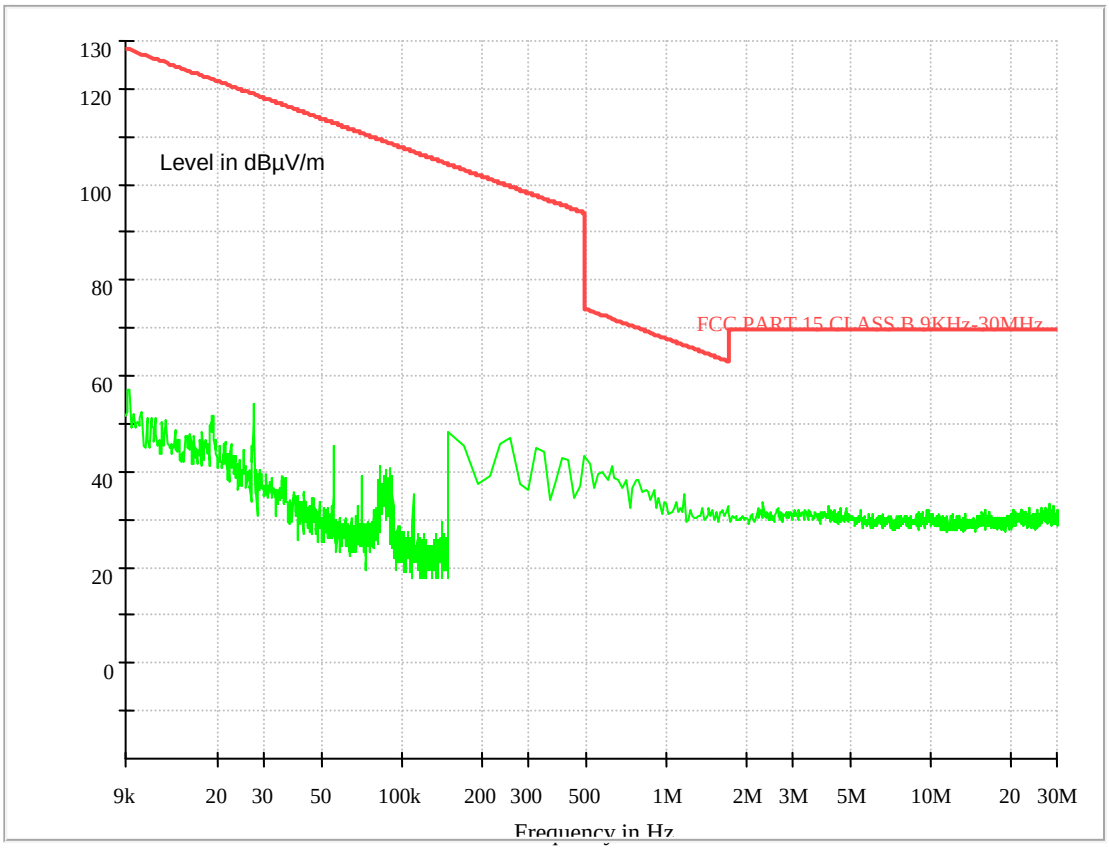
We tested all modes, but the data presented below is the worst case.

Part I - Test Plots

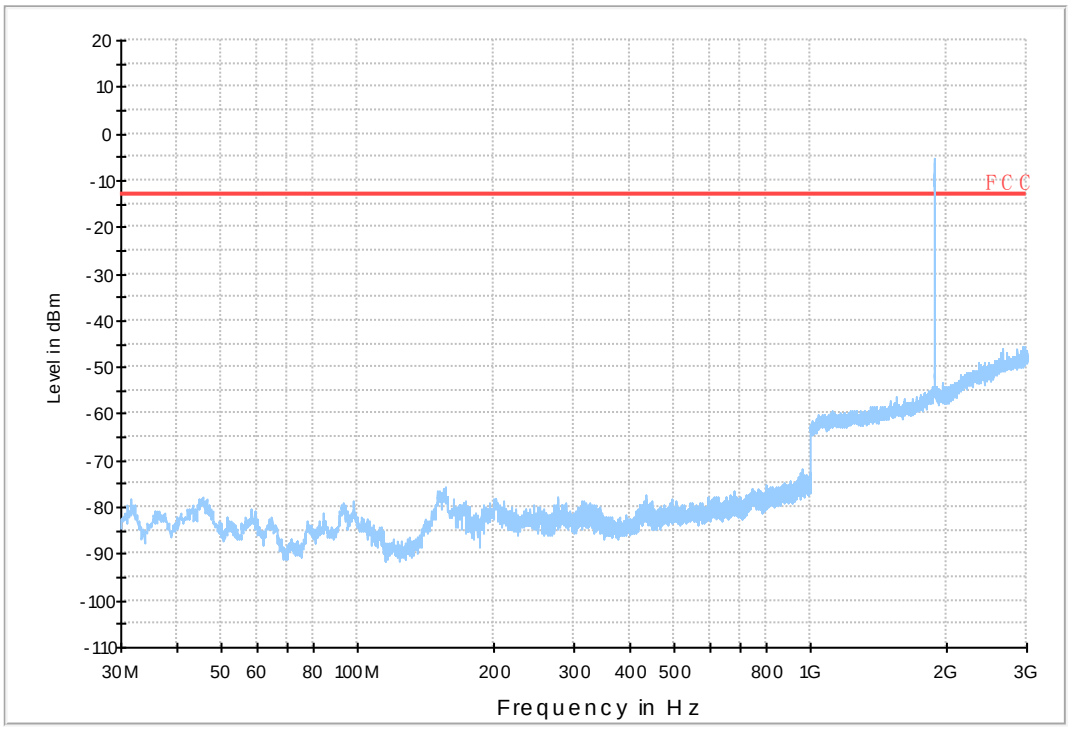
7.1 For UMTS

7.1.1 Test Band = WCDMA1900-Ant1

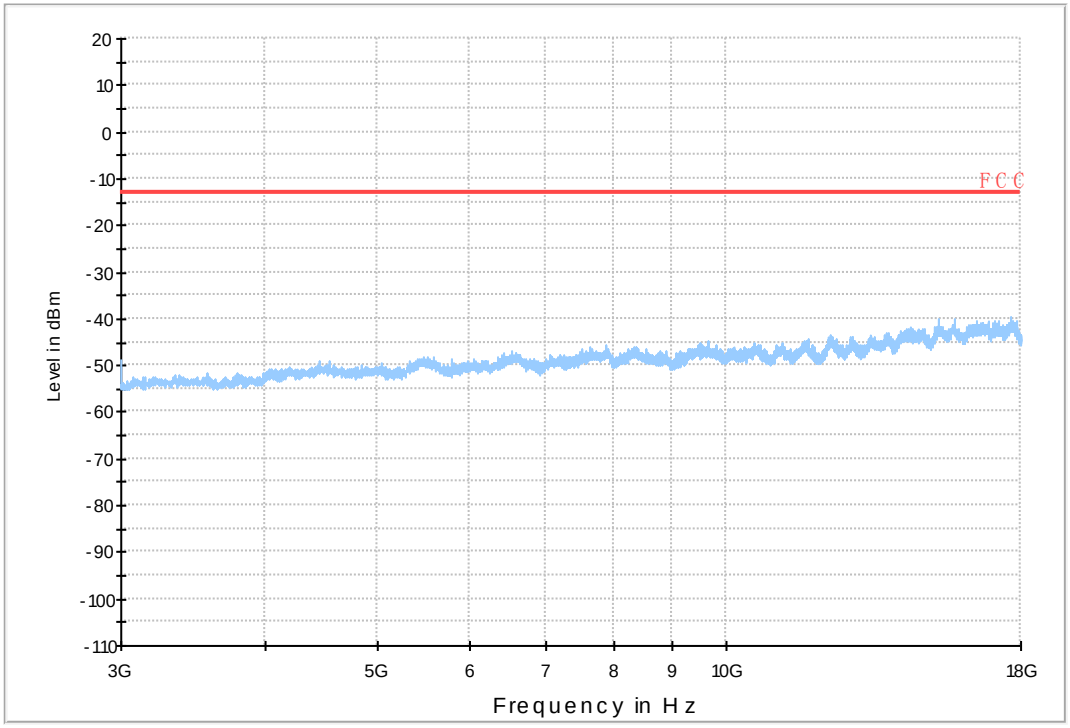
7.1.1.1 Test Mode = UMTS/TM1

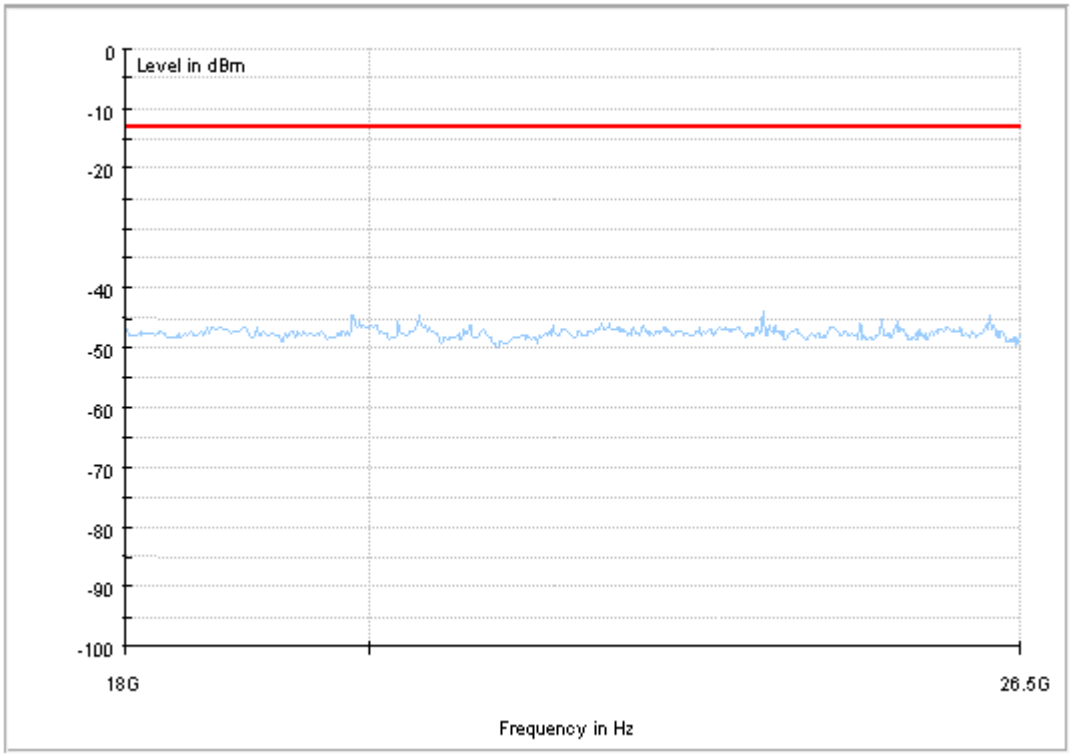


Copy of FCC PART24 WCDMA1900_L



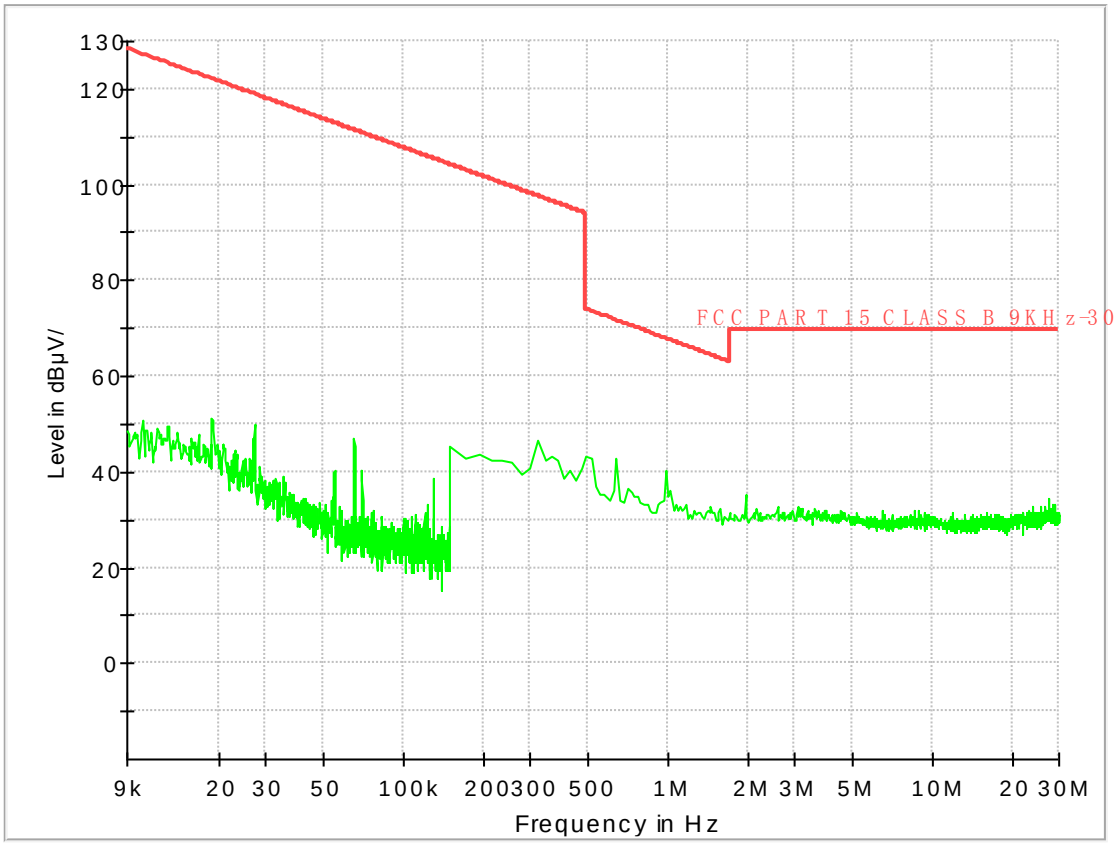
Copy of FCC PART24 WCDMA1900_H



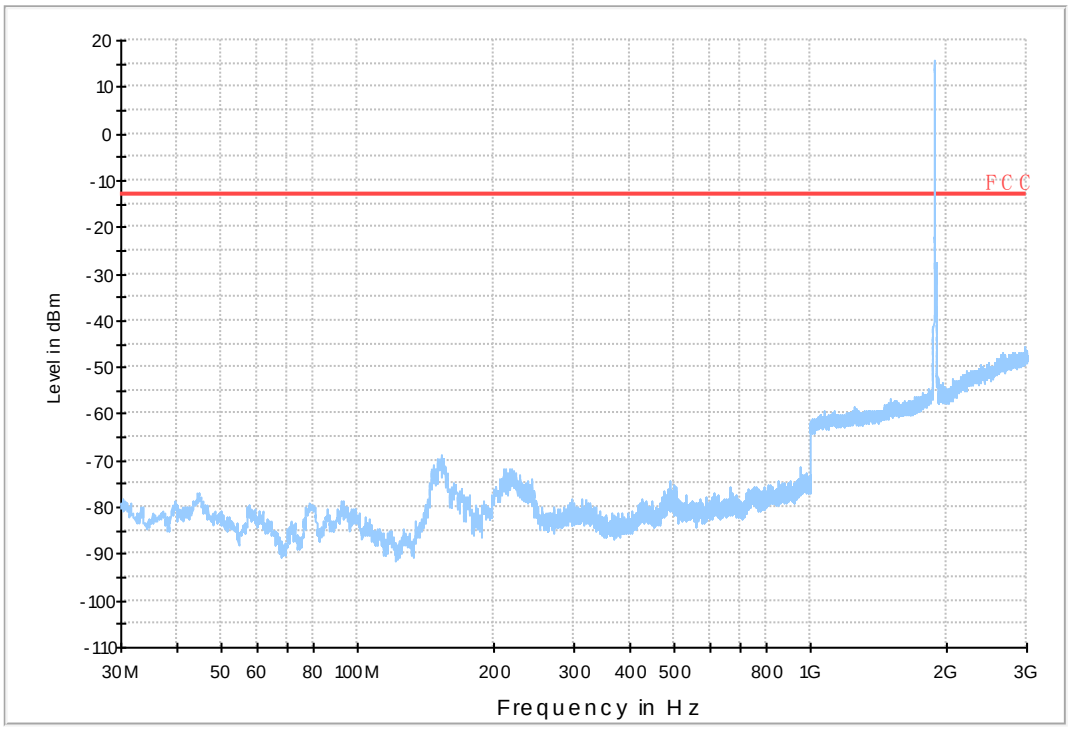


7.1.2 Test Band = WCDMA1900-Ant2

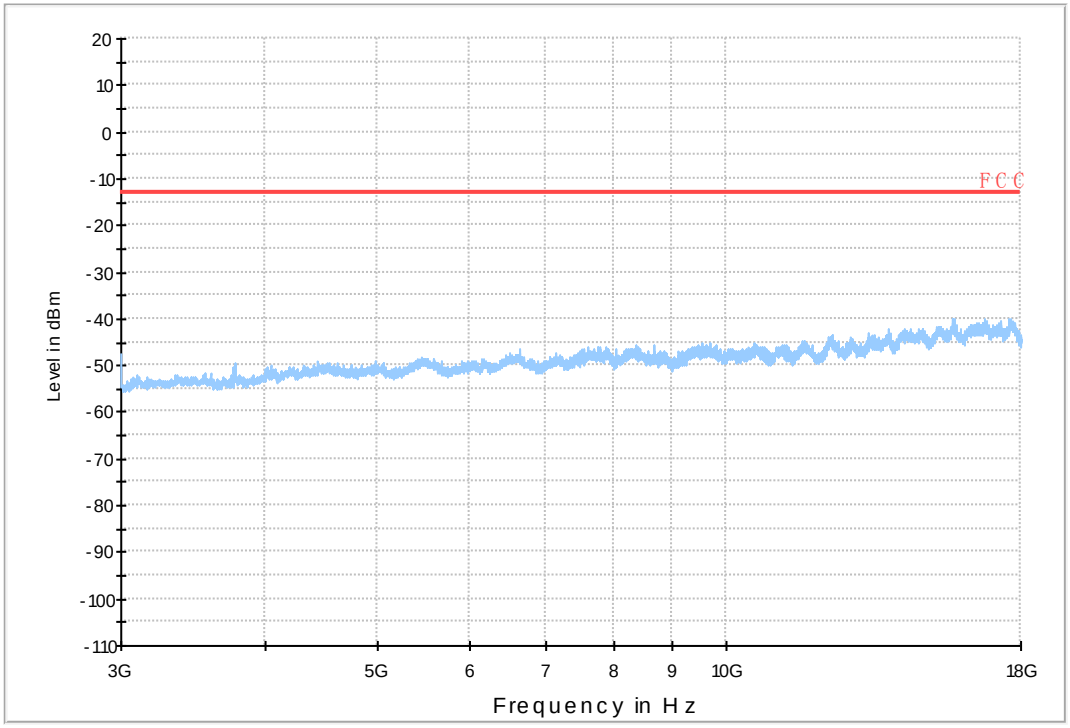
7.1.1.1 Test Mode = UMTS/TM1

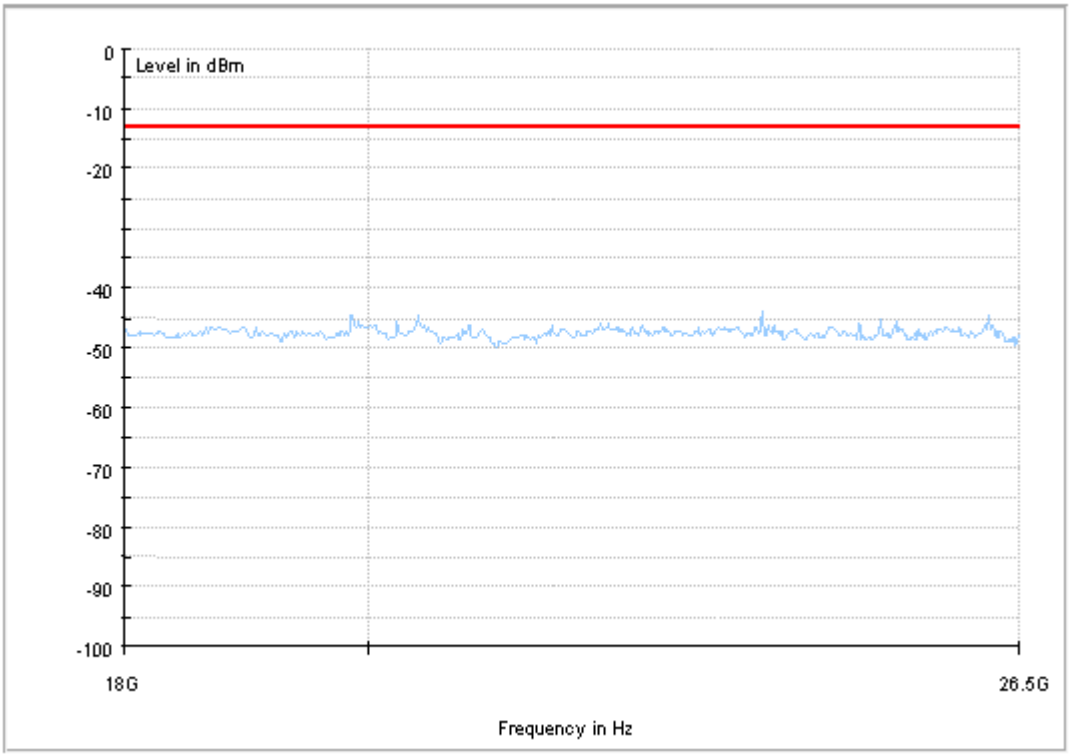


Copy of FCC PART24 WCDMA1900_L



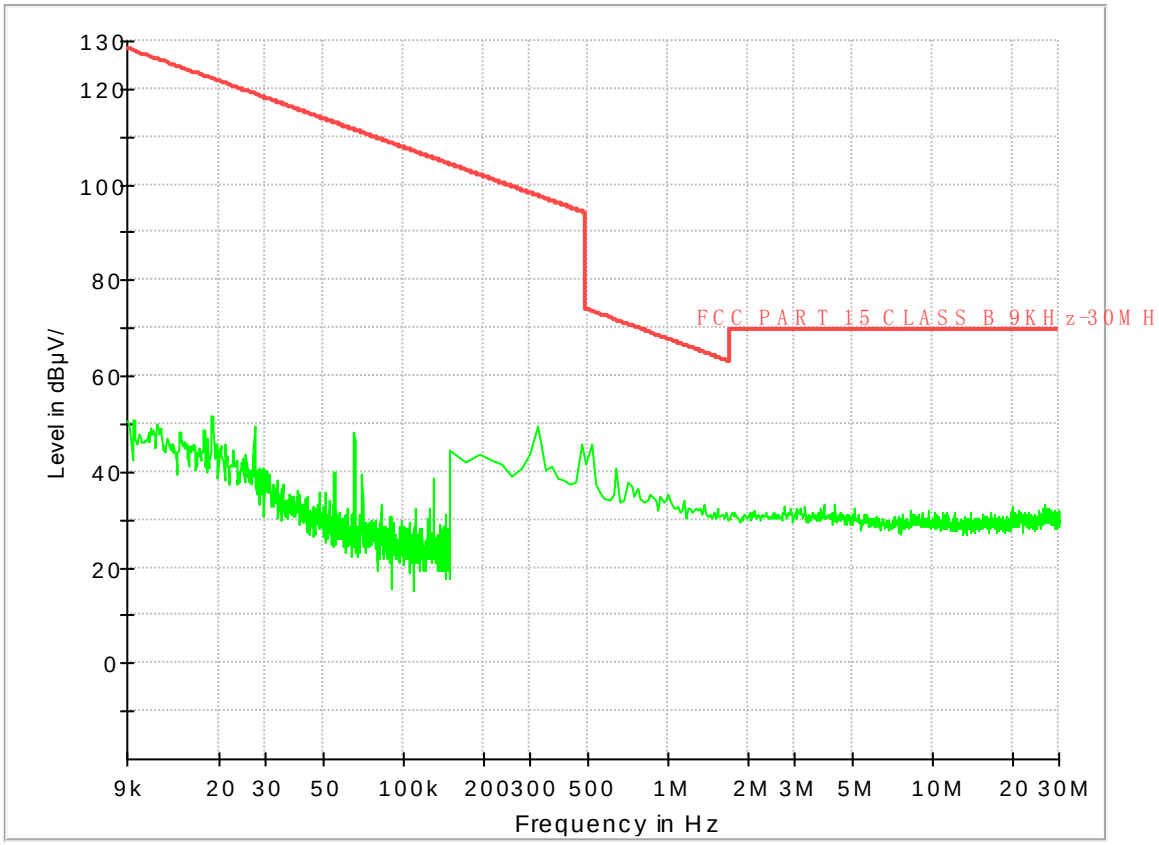
Copy of FCC PART24 WCDMA1900_H



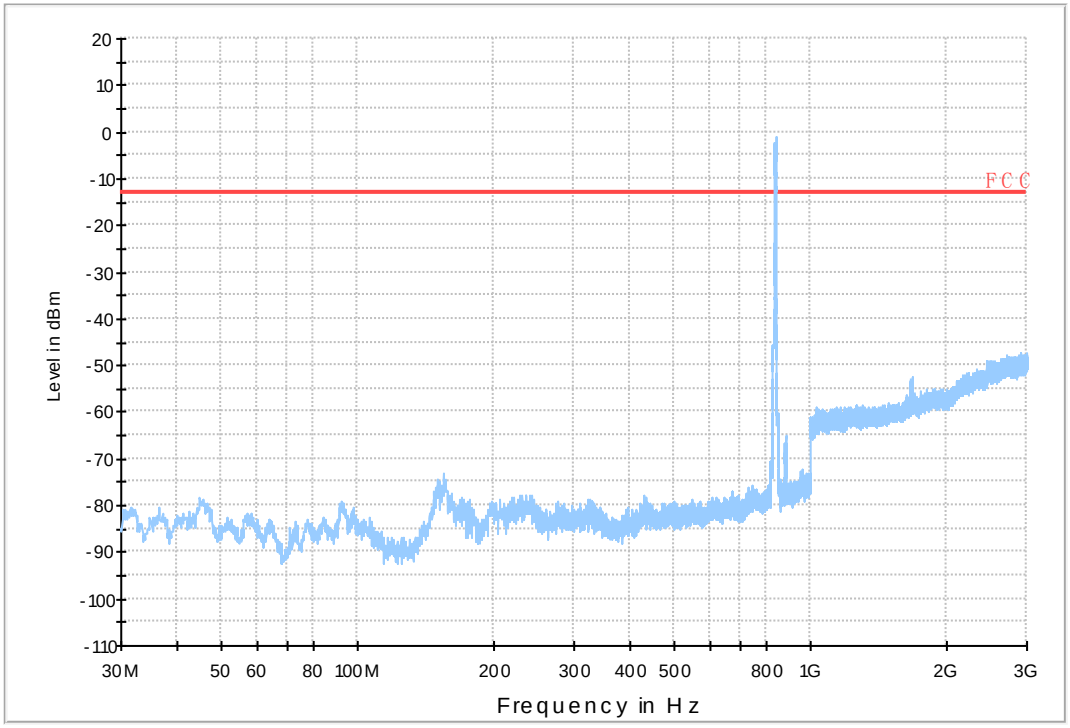


7.1.3 Test Band = WCDMA850-Ant1

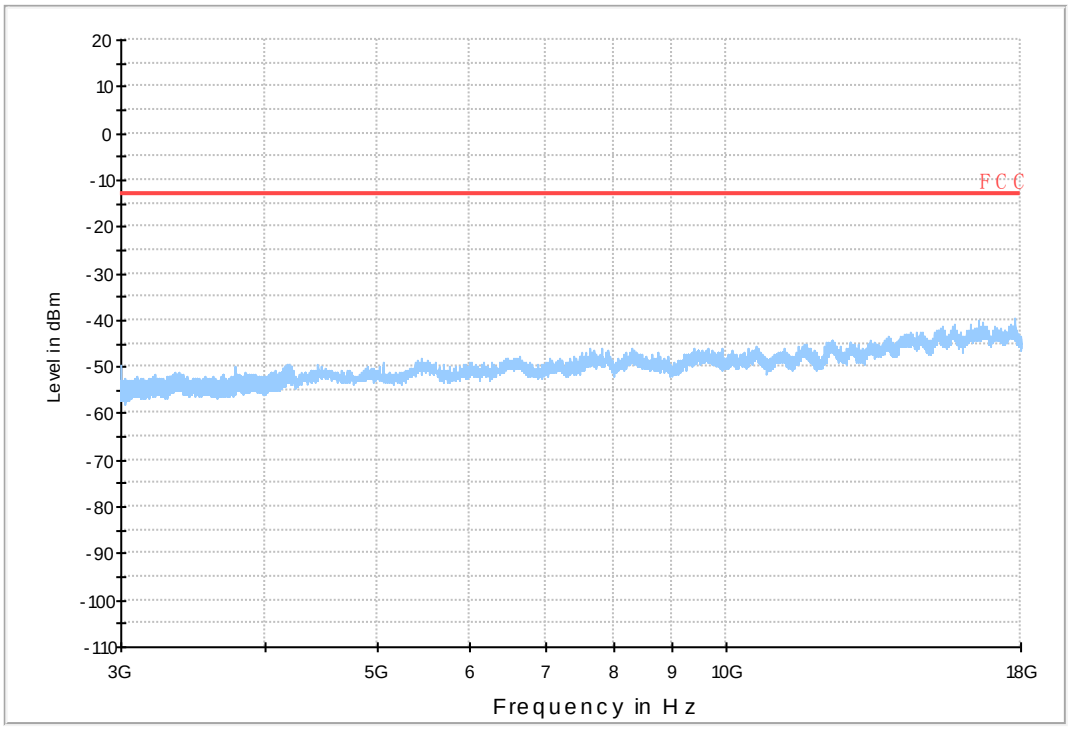
7.1.3.1 Test Mode = UMTS/TM1



Copy of FCC PART22 WCDMA850_L

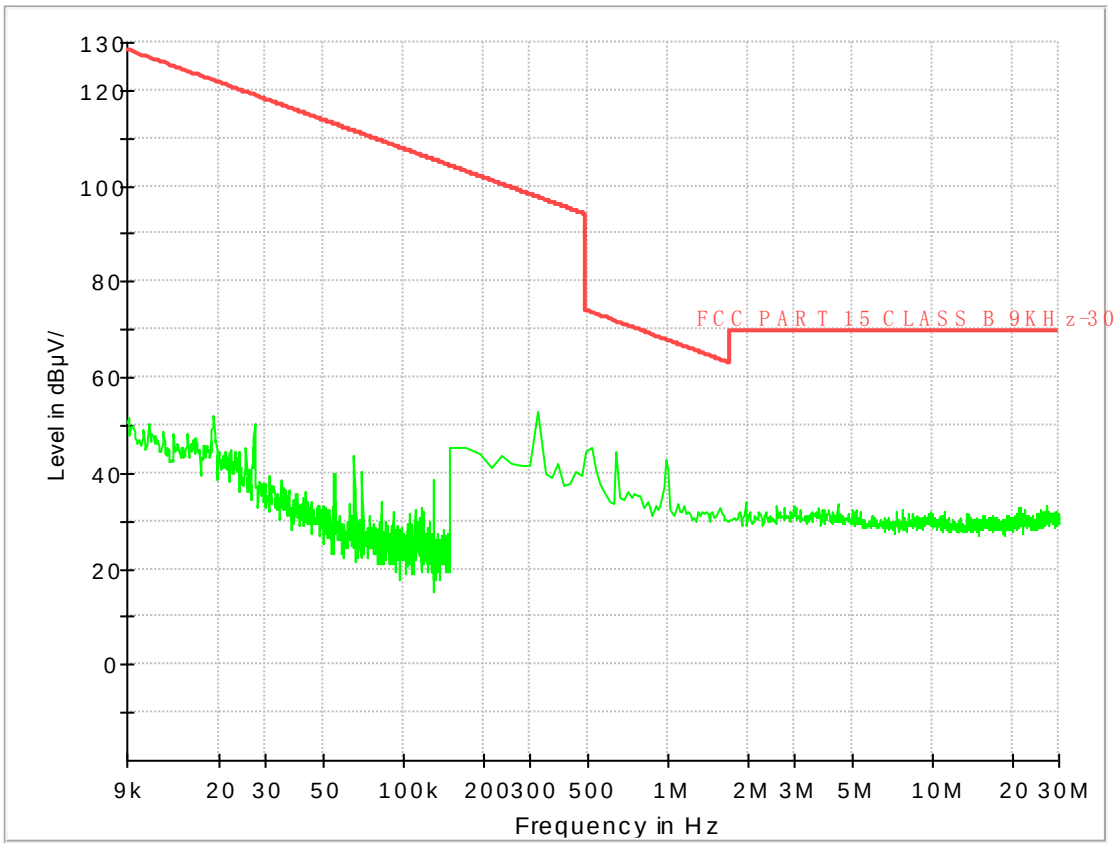


Copy of FCC PART22 WCDMA850_H

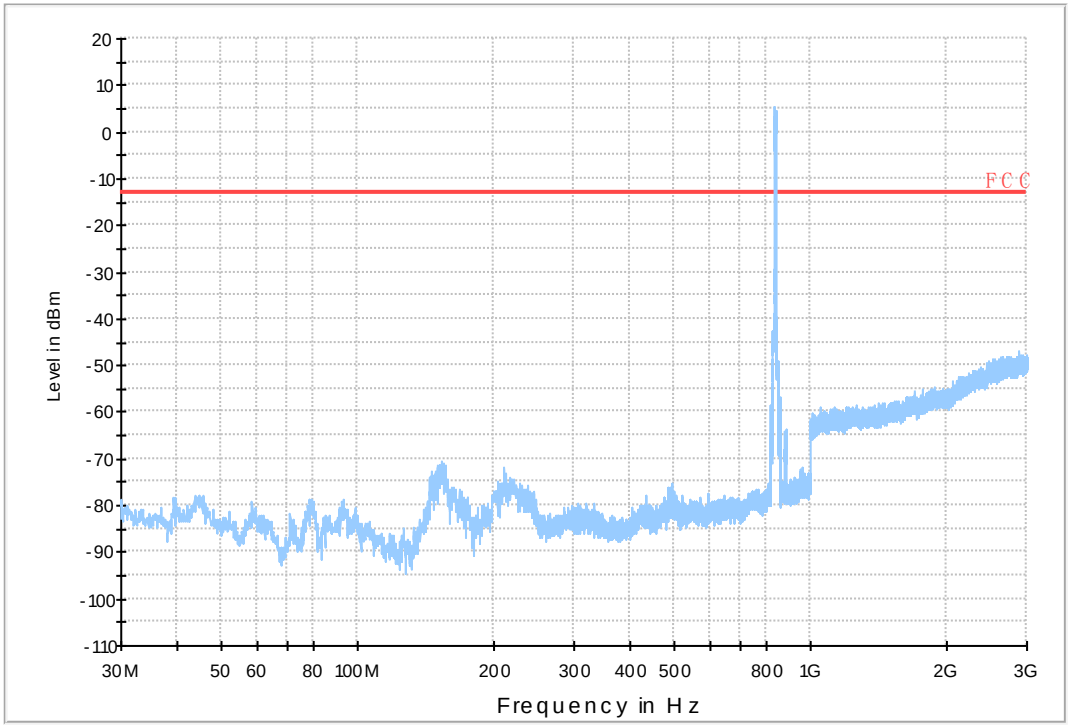


7.1.4Test Band = WCDMA850-Ant2

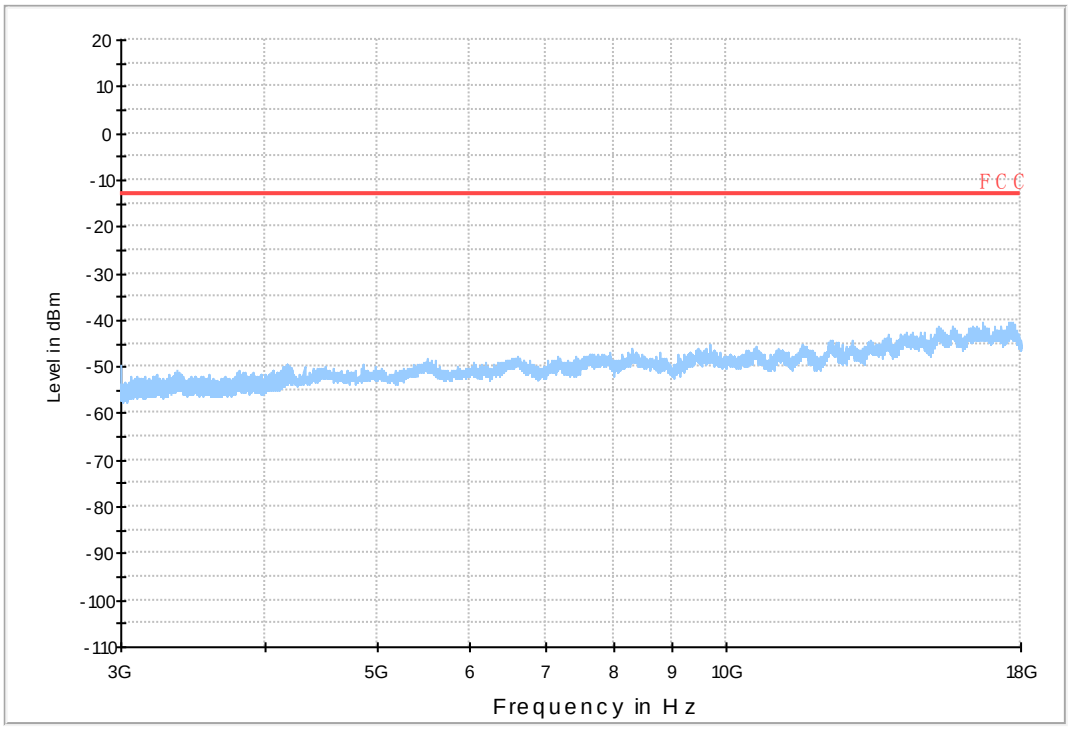
7.1.4.1 Test Mode = UMTS/TM1



Copy of FCC PART22 WCDMA850_L



Copy of FCC PART22 WCDMA850_H



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
WCDMA1900	UMTS/TM1	LCH	TN	VL	7.35	0.00397	PASS
				VN	10.47	0.00565	PASS
				VH	-3.25	-0.00175	PASS
		MCH	TN	VL	6.1	0.00324	PASS
				VN	-3.72	-0.00198	PASS
				VH	0.43	0.00023	PASS
		HCH	TN	VL	1.75	0.00092	PASS
				VN	0.37	0.00019	PASS
				VH	-0.09	-0.00005	PASS
WCDMA850	UMTS/TM1	LCH	TN	VL	5.39	0.00652	PASS
				VN	-1.95	-0.00236	PASS
				VH	-0.03	-0.00004	PASS
		MCH	TN	VL	6.03	0.00721	PASS
				VN	5.04	0.00603	PASS
				VH	4.78	0.00571	PASS
		HCH	TN	VL	6.04	0.00713	PASS
				VN	-3.02	-0.00357	PASS
				VH	-1.85	-0.00219	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
WCDMA1900	UMTS/TM1	LCH	VN	-30	-8.74	-0.00472	PASS
				-20	0.35	0.00019	PASS
				-10	-3.59	-0.00194	PASS
				0	-3.94	-0.00213	PASS
				10	-2.17	-0.00117	PASS
				20	-6.93	-0.00374	PASS
				30	1.72	0.00093	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				40	5.37	0.0029	PASS
				50	-4.07	-0.0022	PASS
		MCH	VN	-30	7.46	0.00397	PASS
				-20	5.43	0.00289	PASS
				-10	6.85	0.00364	PASS
				0	3.19	0.0017	PASS
				10	-1.46	-0.00078	PASS
				20	6.62	0.00352	PASS
				30	1.91	0.00102	PASS
				40	0.21	0.00011	PASS
				50	-2.94	-0.00156	PASS
		HCH	VN	-30	0.23	0.00012	PASS
				-20	-0.99	-0.00052	PASS
				-10	0.14	0.00007	PASS
				0	-1.31	-0.00069	PASS
				10	6.39	0.00335	PASS
				20	4.91	0.00257	PASS
				30	7.16	0.00375	PASS
				40	0.82	0.00043	PASS
				50	6.68	0.0035	PASS
WCDMA850	UMTS/TM1	LCH	VN	-30	4.53	0.00548	PASS
				-20	6.74	0.00816	PASS
				-10	-2.79	-0.00338	PASS
				0	8.97	0.01085	PASS
				10	0.11	0.00013	PASS
				20	-8.51	-0.0103	PASS
				30	-3.88	-0.0047	PASS
				40	1.54	0.00186	PASS
				50	4.68	0.00566	PASS
		MCH	VN	-30	1.36	0.00163	PASS
				-20	-3.19	-0.00381	PASS
				-10	-2.81	-0.00336	PASS
				0	-3.46	-0.00414	PASS
				10	-1.88	-0.00225	PASS
				20	0.17	0.0002	PASS
				30	5.07	0.00606	PASS
				40	-0.99	-0.00118	PASS
				50	3.74	0.00447	PASS
		HCH	VN	-30	2.41	0.00285	PASS
				-20	5.49	0.00648	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-10	-2.27	-0.00268	PASS
				0	-1.33	-0.00157	PASS
				10	5.86	0.00692	PASS
				20	3.51	0.00415	PASS
				30	4.64	0.00548	PASS
				40	4.29	0.00507	PASS
				50	-1.83	-0.00216	PASS

END