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	24.23	20.01	38.5	PASS
		MCH	24.33	20.11	38.5	PASS
		HCH	24.21	20.99	38.5	PASS
Test Band	**Test Mode**	**Test Channel**	**Conducted Power [dBm]**	**EIRP [dBm]**	**Limit [dBm]**	**Verdict**
WCDMA1900	UMTS/TM1	LCH	23.44	24.54	33	PASS
		MCH	23.57	24.67	33	PASS
		HCH	23.39	24.49	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	3.000	13	PASS
		MCH	2.970	13	PASS
		HCH	3.020	13	PASS
WCDMA1900	UMTS/TM1	LCH	3.180	13	PASS
		MCH	3.140	13	PASS
		HCH	3.150	13	PASS

3Appendix_C: Modulation Characteristics

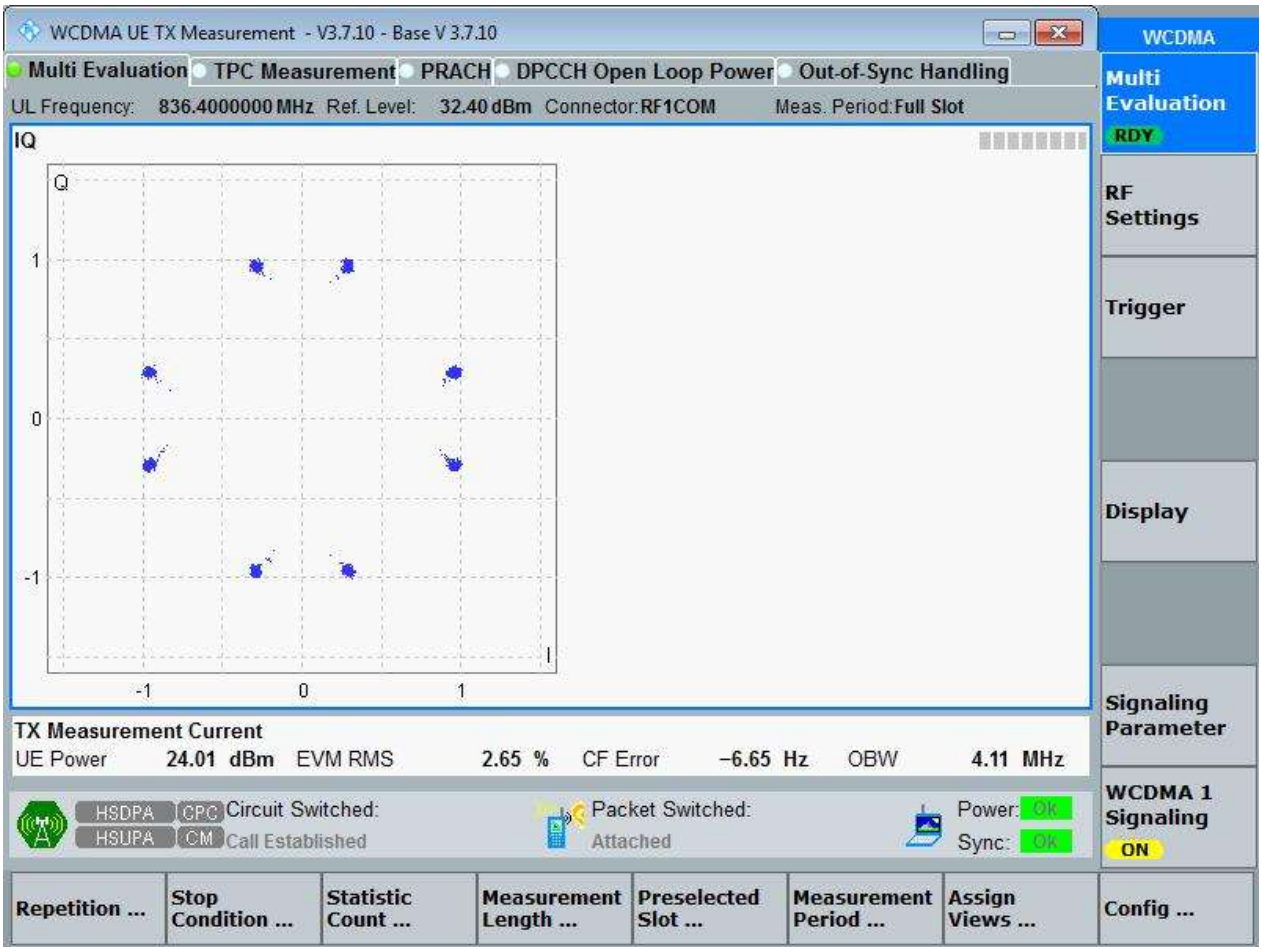
Part I - Test Plots

3.1 For UMTS

3.1.1 Test Band = WCDMA850

3.1.1.1 Test Mode = UMTS/TM1

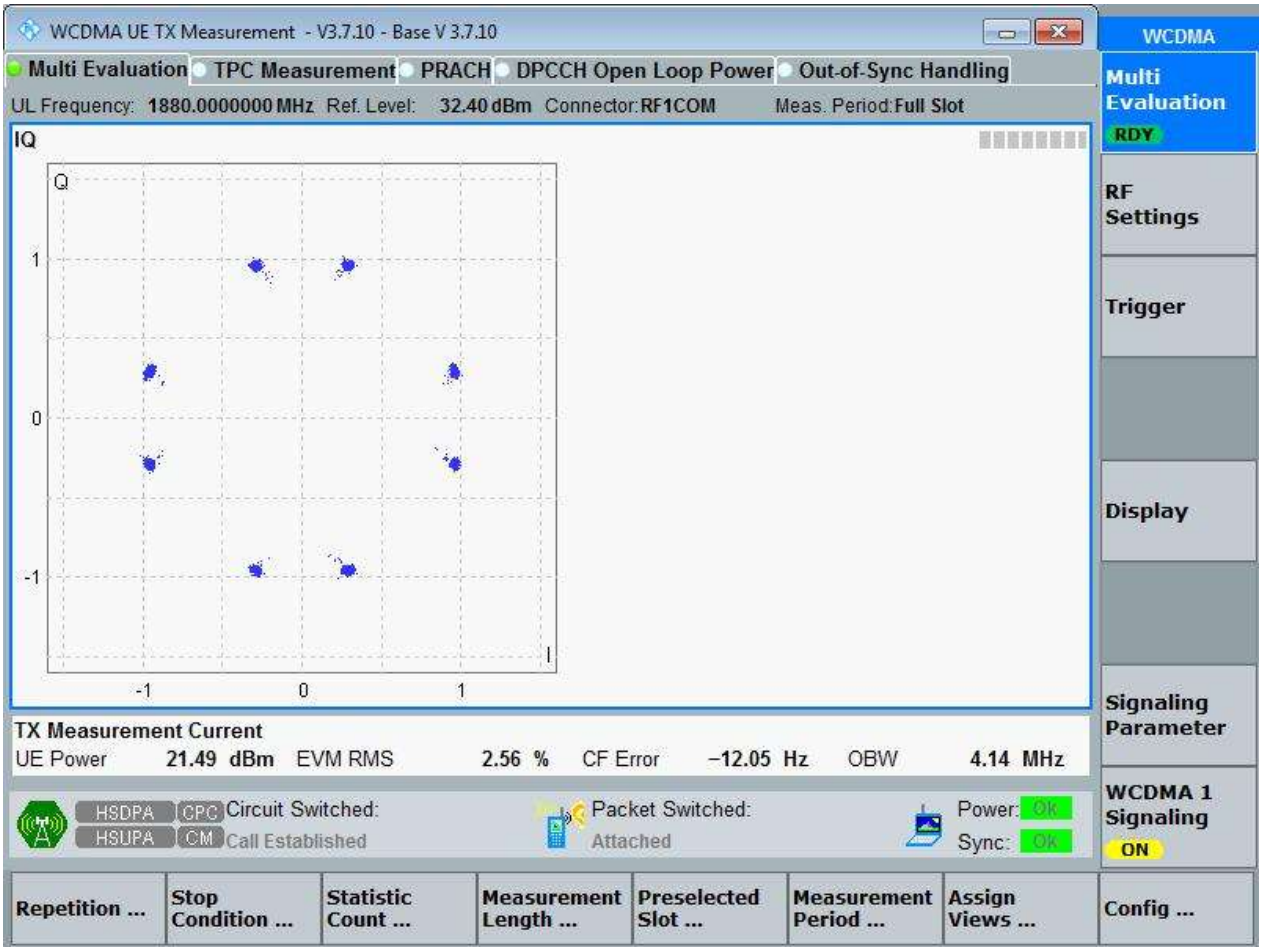
3.1.1.1.1 Test Channel = MCH



3.1.2 Test Band = WCDMA1900

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
WCDMA850	UMTS/TM1	LCH	4.18	4.72	Pass
		MCH	4.18	4.70	Pass
		HCH	4.17	4.68	Pass
WCDMA1900	UMTS/TM1	LCH	4.18	4.70	Pass
		MCH	4.18	4.70	Pass
		HCH	4.18	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

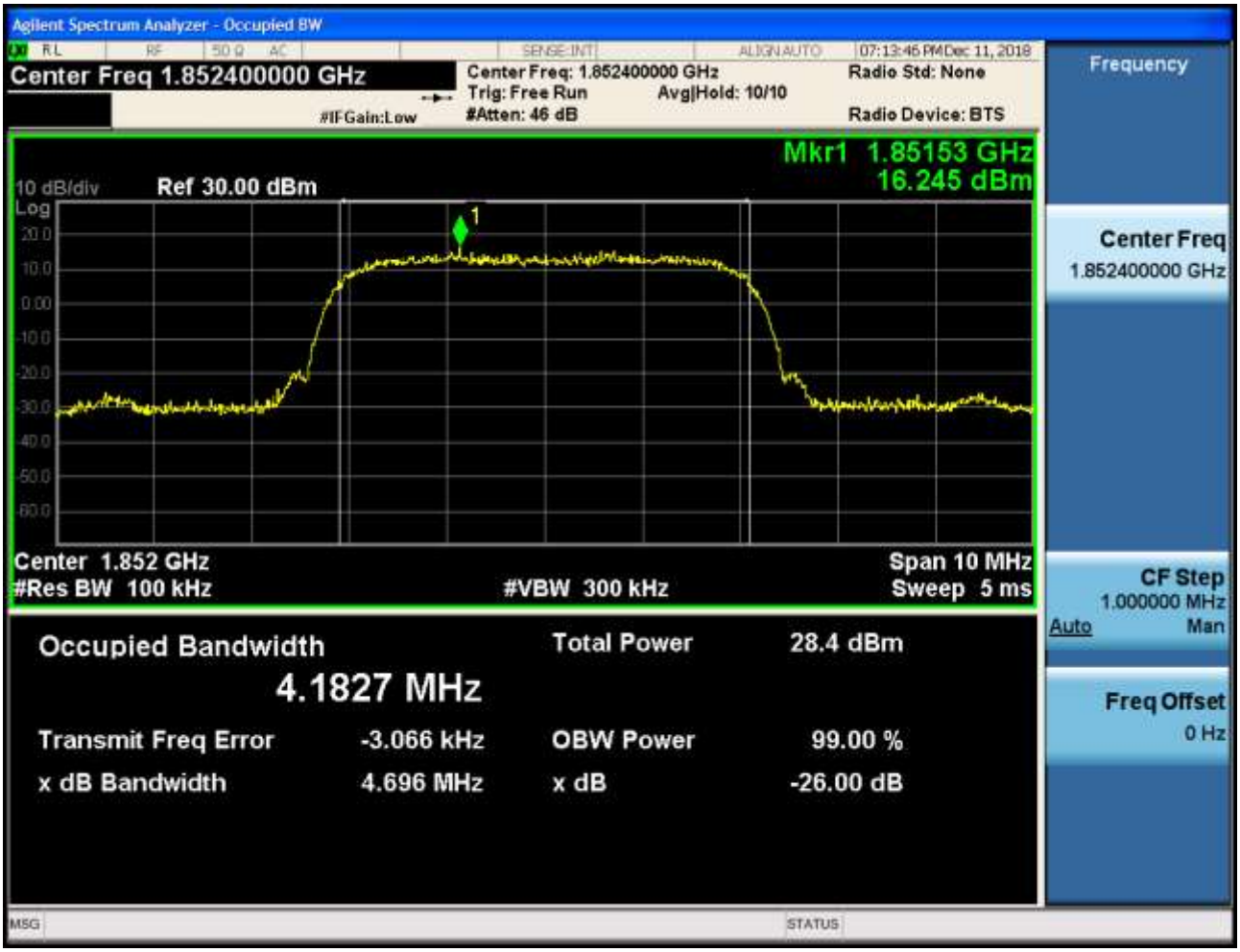
4.1.1.1.2 Test Channel = MCH

4.1.1.1.3 Test Channel = HCH

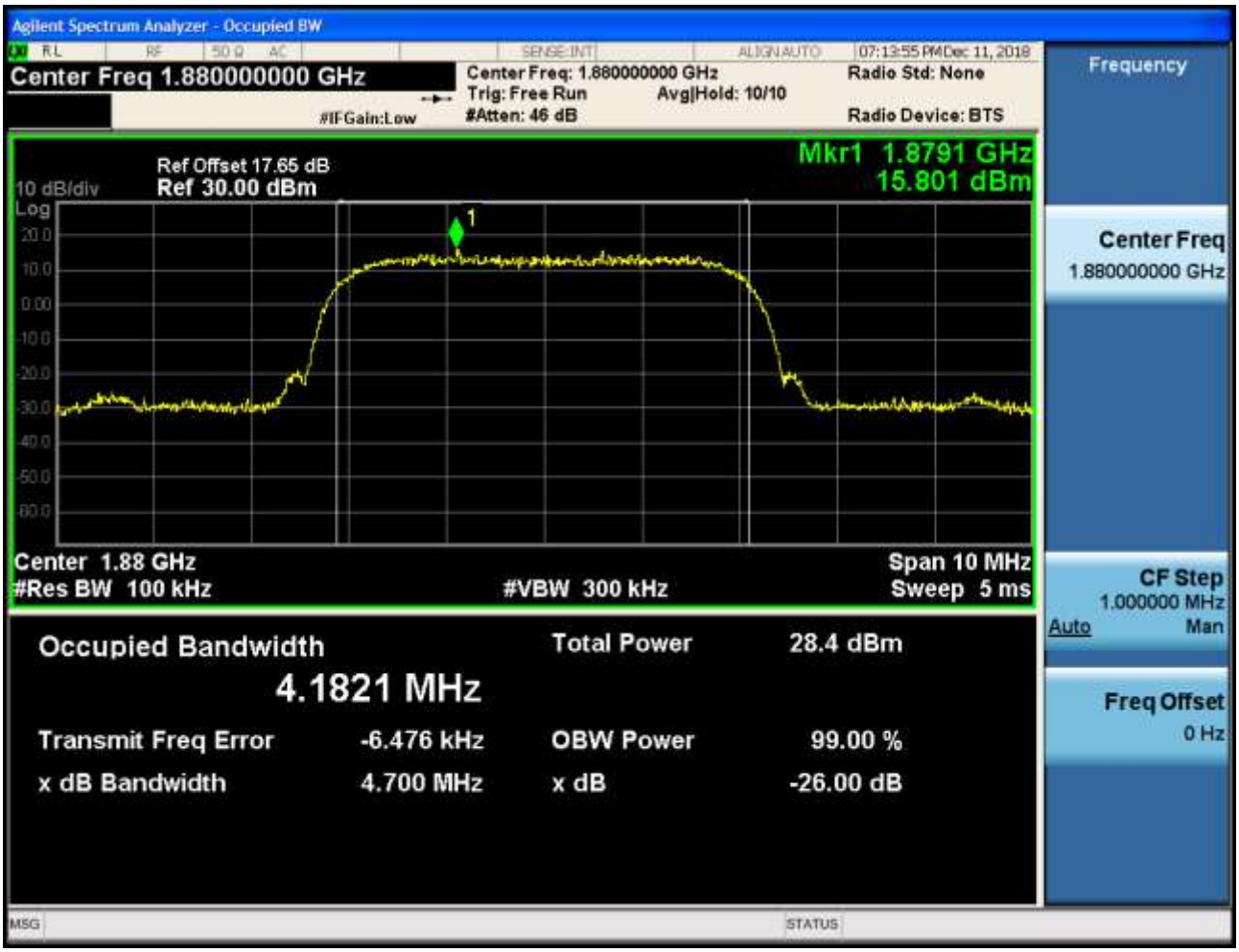
4.1.2 Test Band = WCDMA1900

4.1.2.1 Test Mode = UMTS/TM1

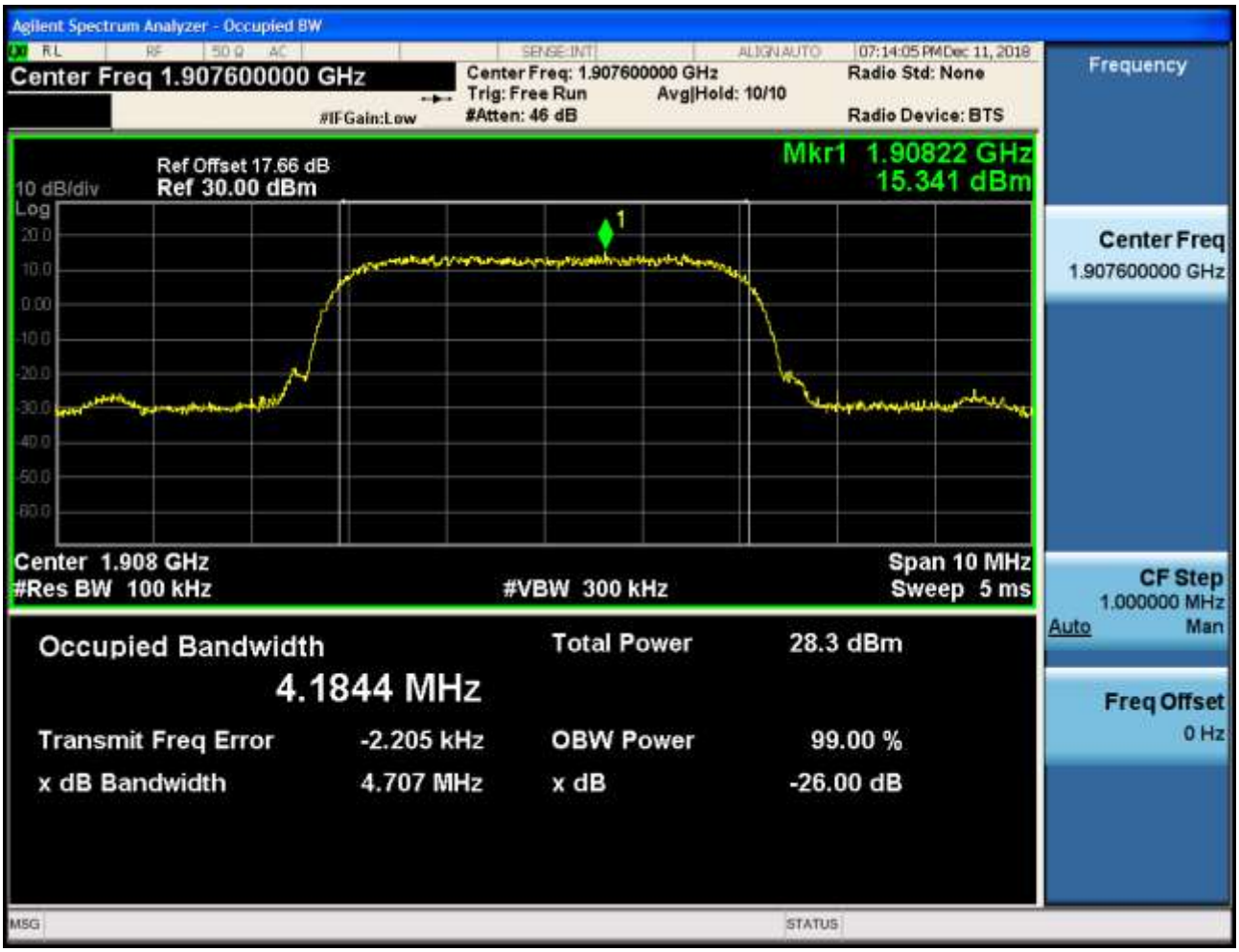
4.1.2.1.1 Test Channel = LCH



4.1.2.1.2 Test Channel = MCH



4.1.2.1.3 Test Channel = HCH



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

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.

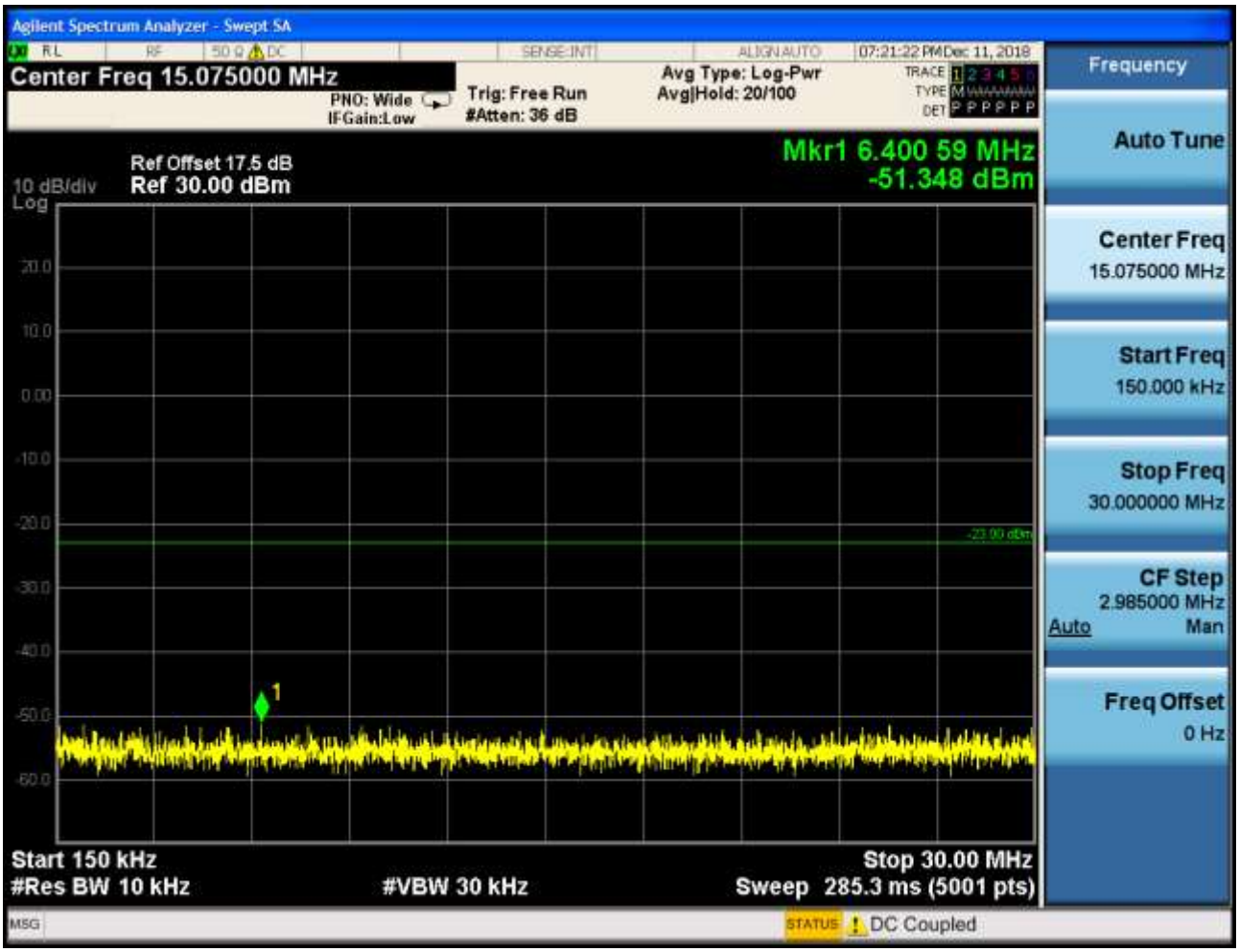
Part I - Test Plots

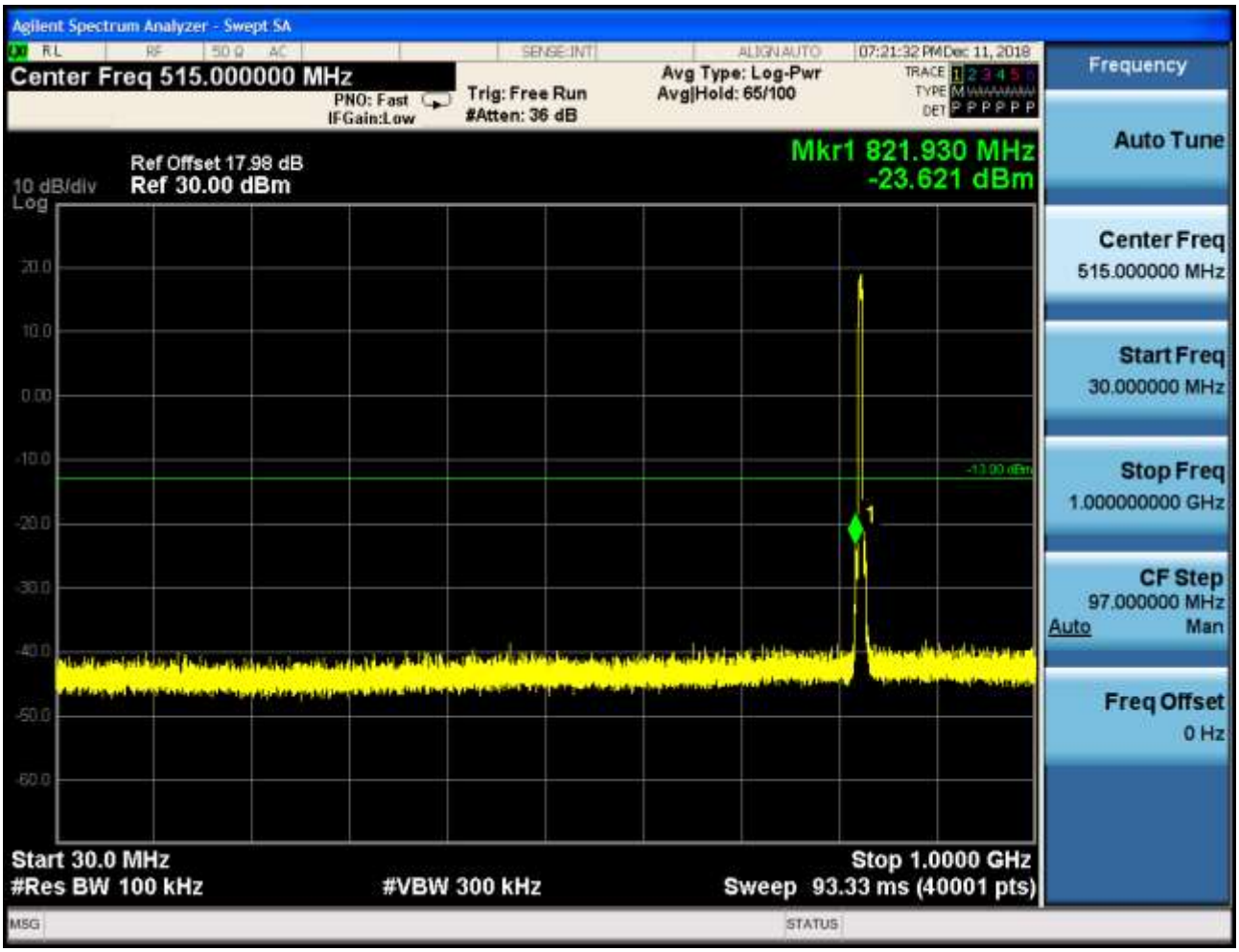
6.1 For UMTS

6.1.1 Test Band = WCDMA850

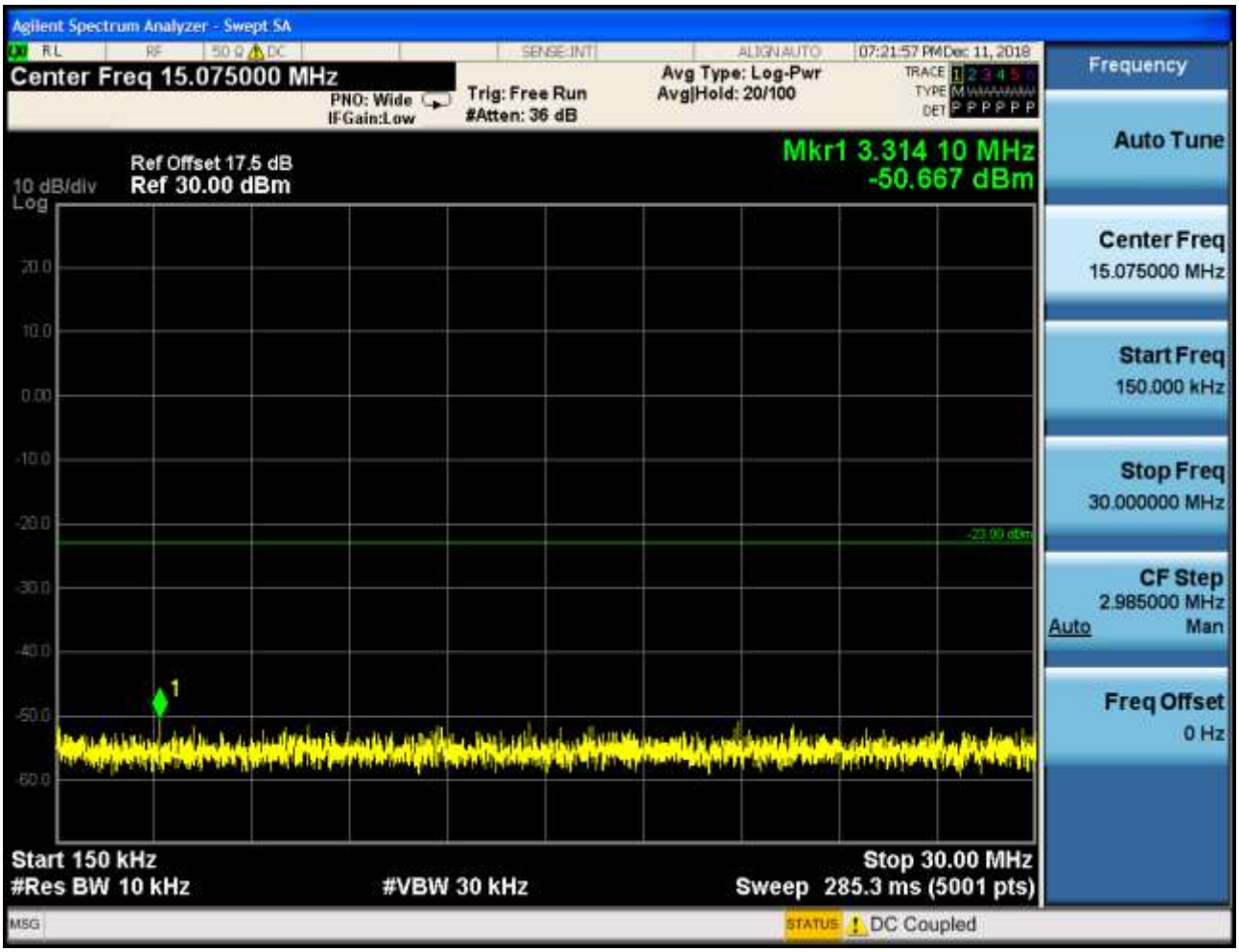
6.1.1.1 Test Mode = UMTS/TM1

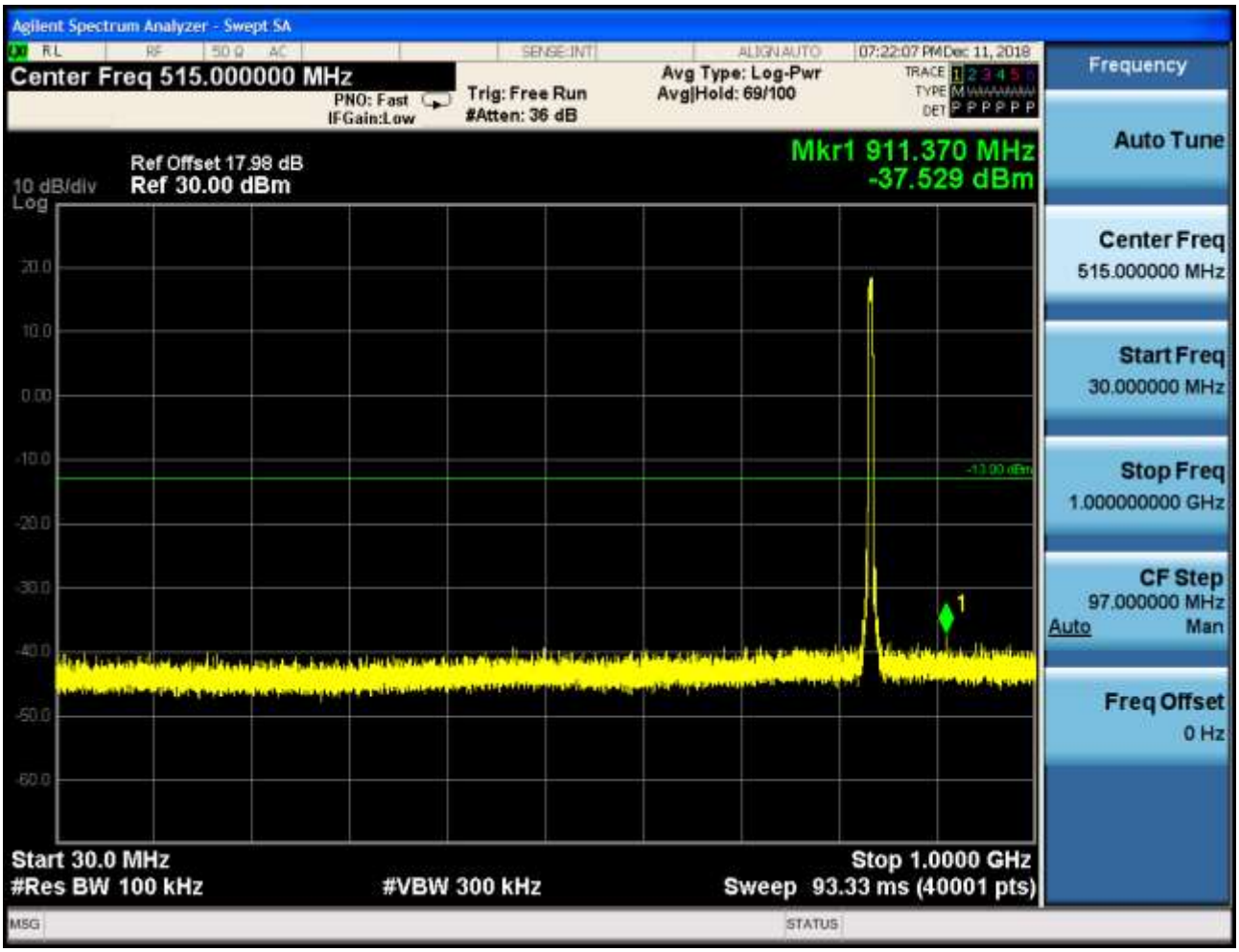
6.1.1.1.1 Test Channel = LCH



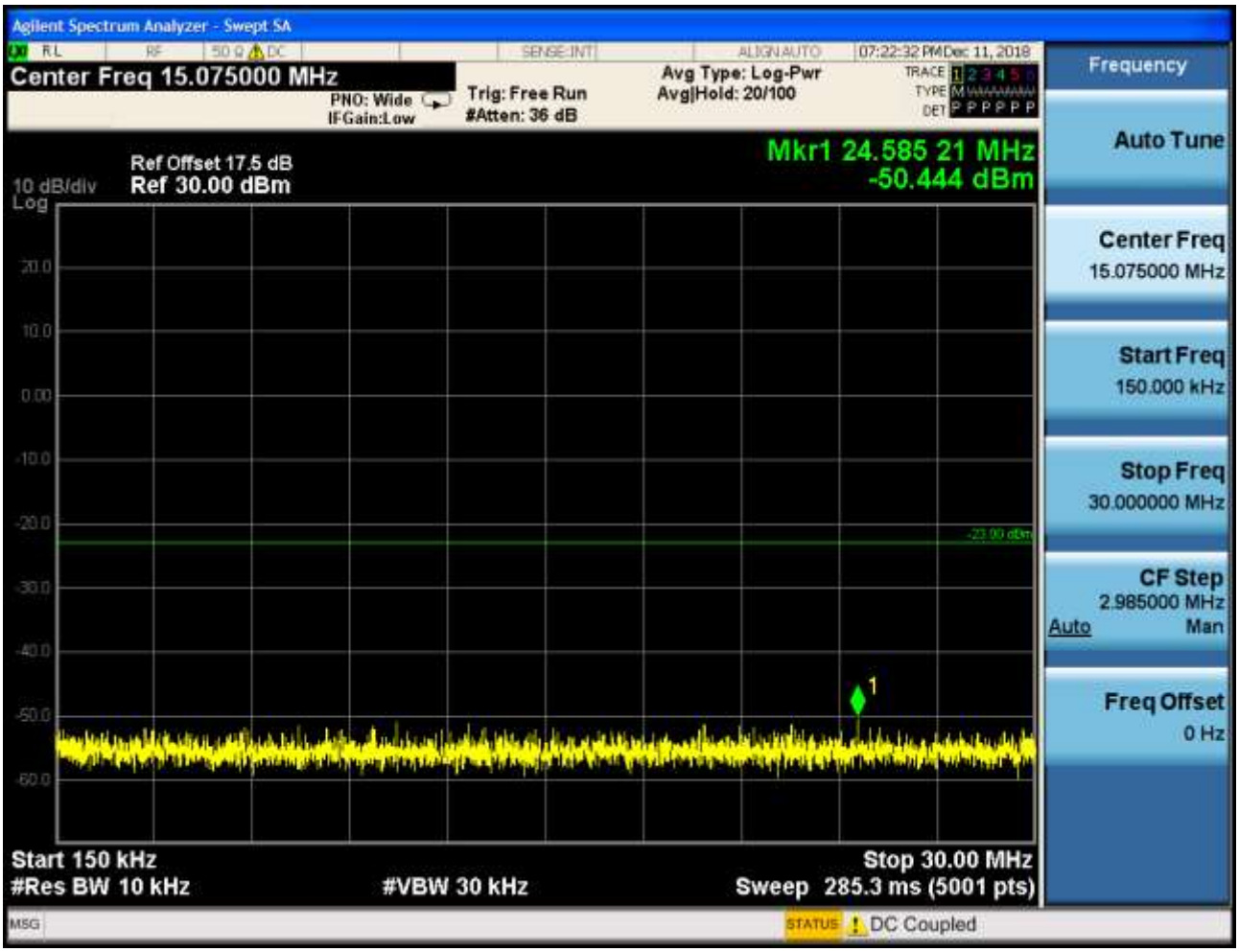


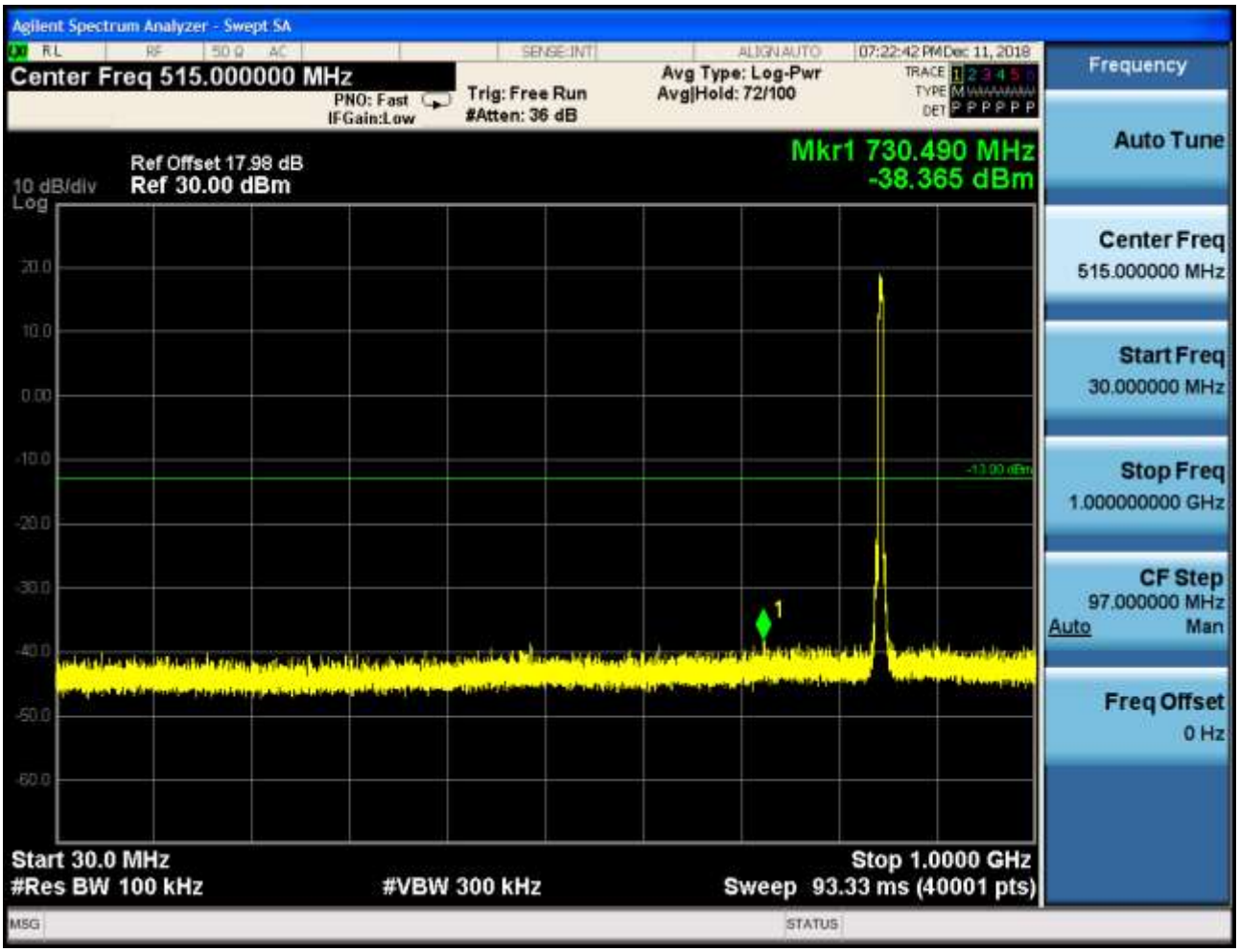
6.1.1.1.2 Test Channel = MCH





6.1.1.1.3 Test Channel = HCH

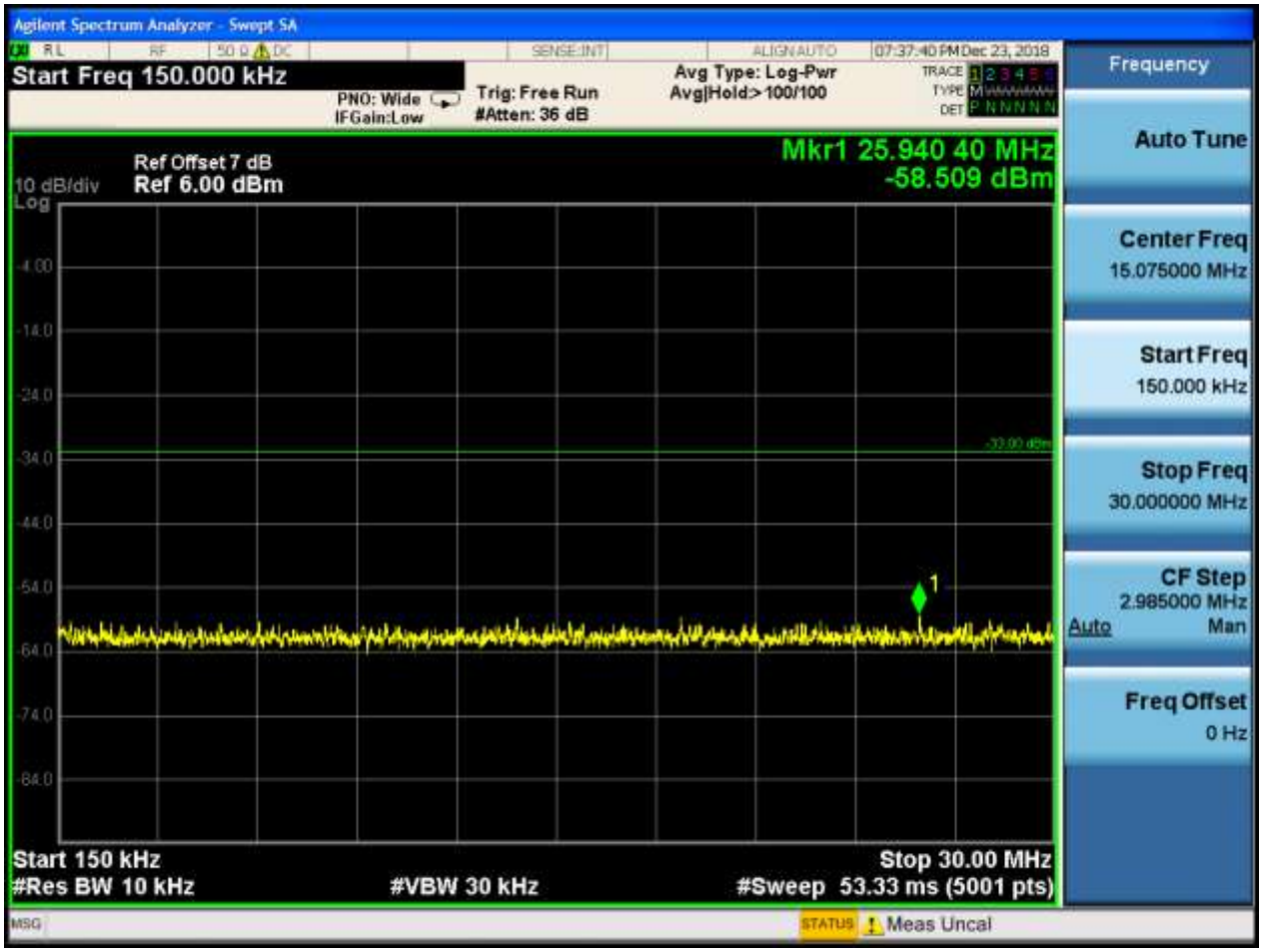




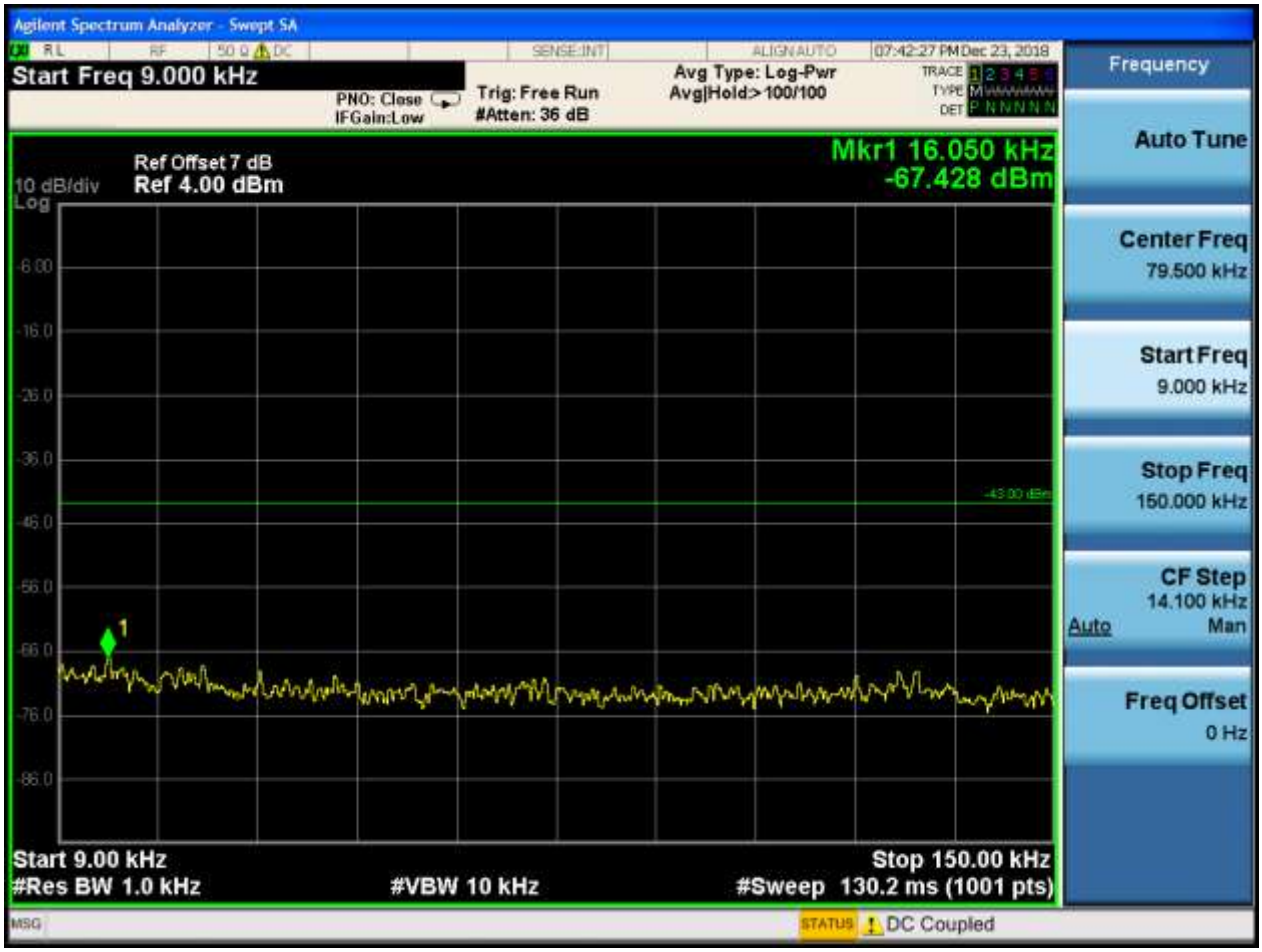
6.1.2 Test Band = WCDMA1900

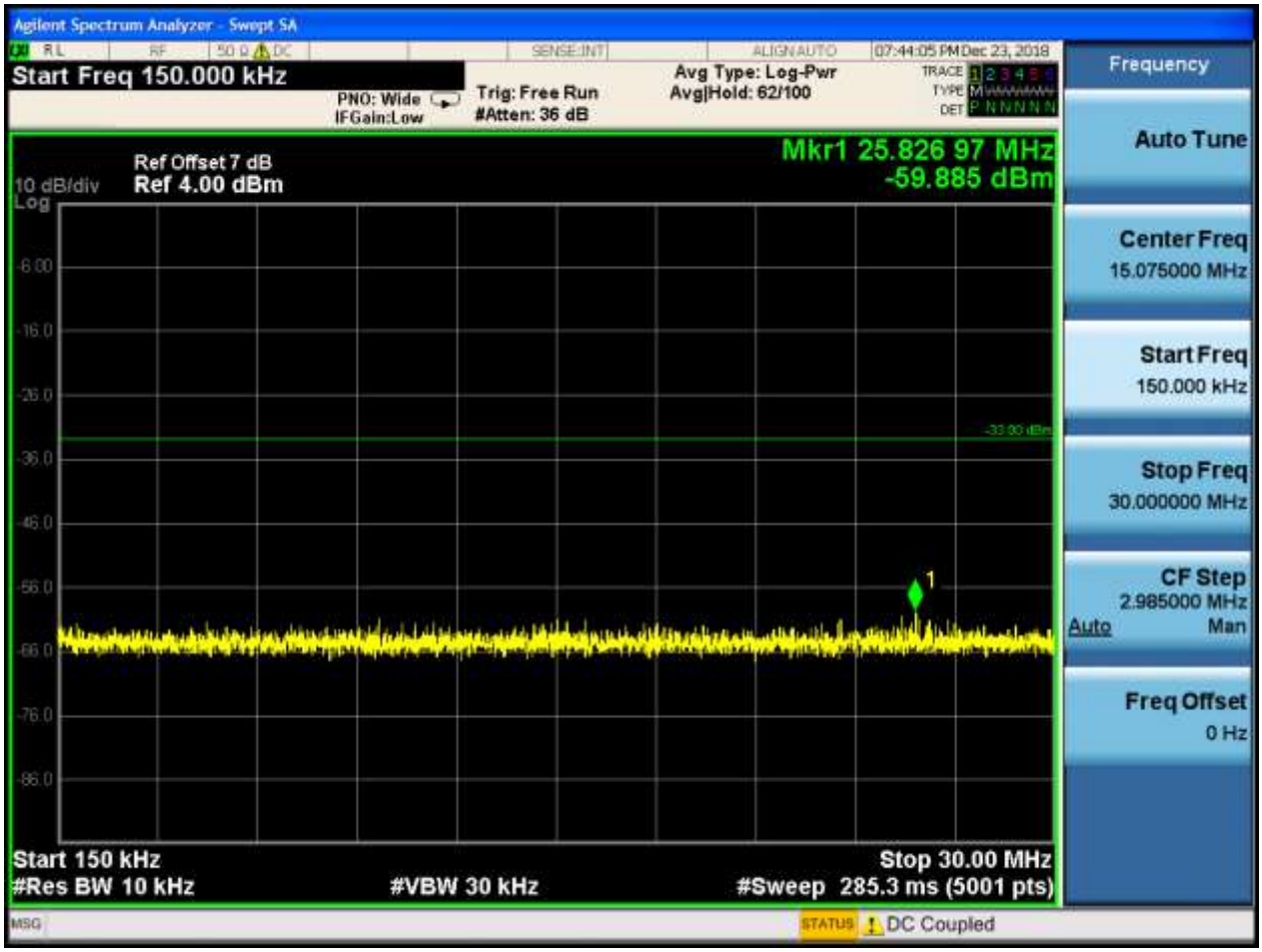
6.1.2.1 Test Mode = UMTS/TM1

6.1.2.1.1 Test Channel = LCH

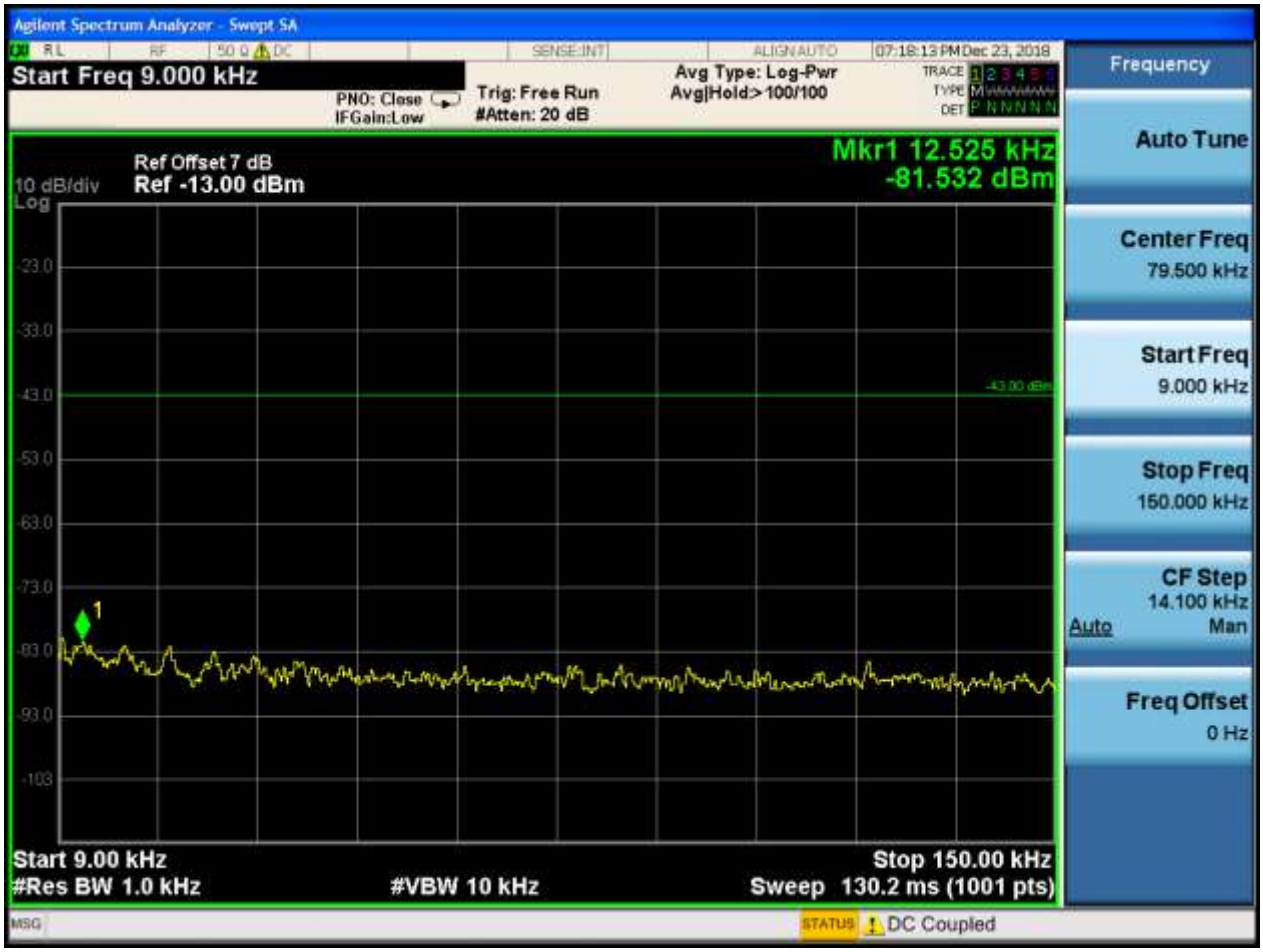


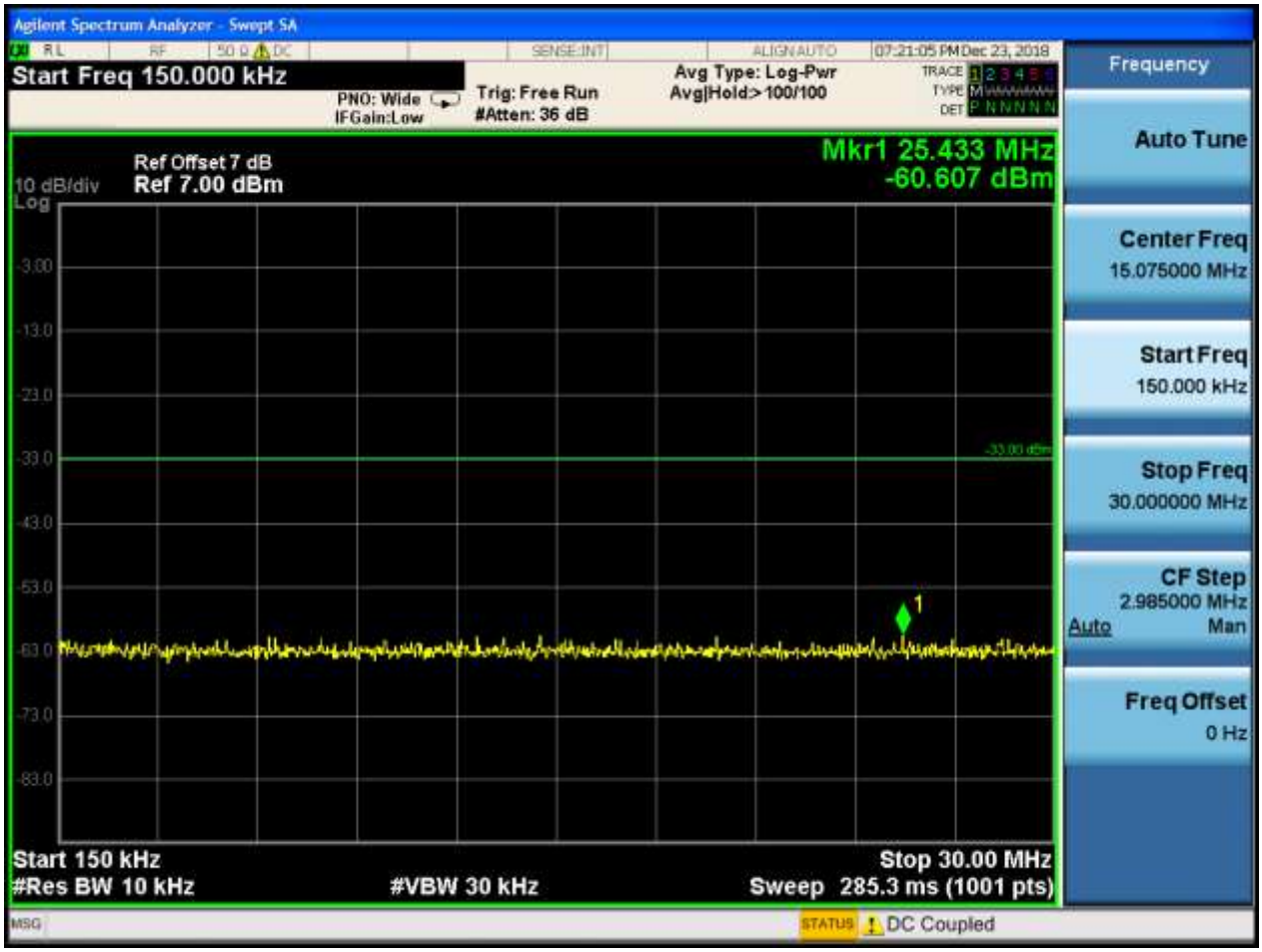
6.1.2.1.2 Test Channel = MCH





6.1.2.1.3 Test Channel = HCH





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

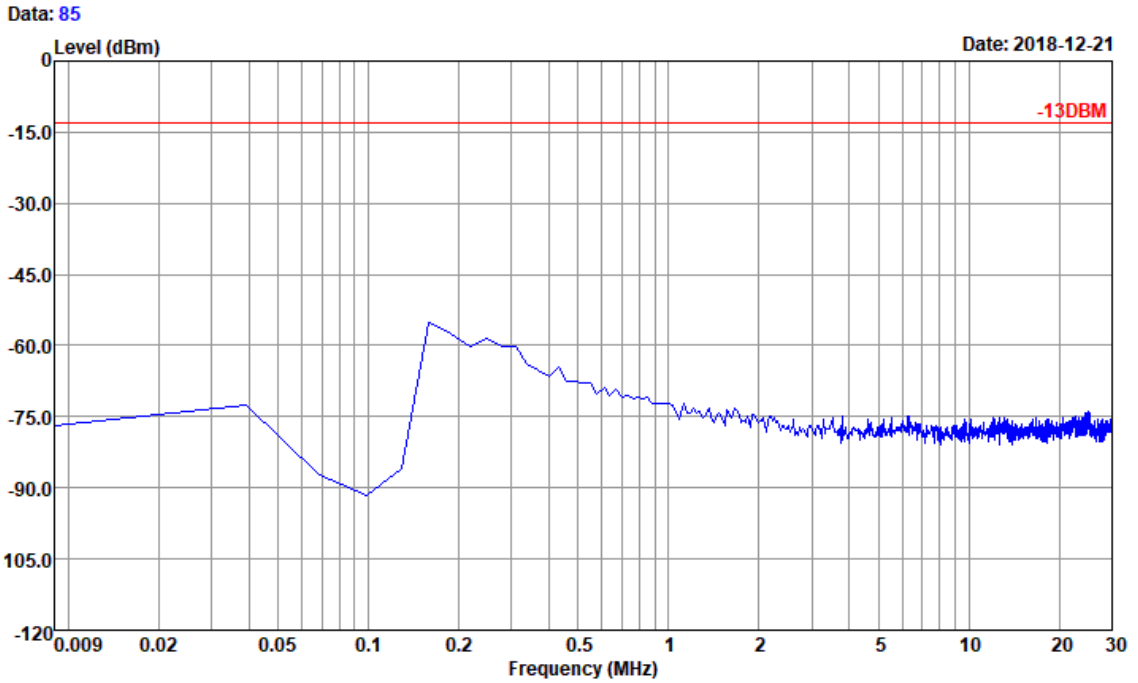
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

7.1 For UMTS

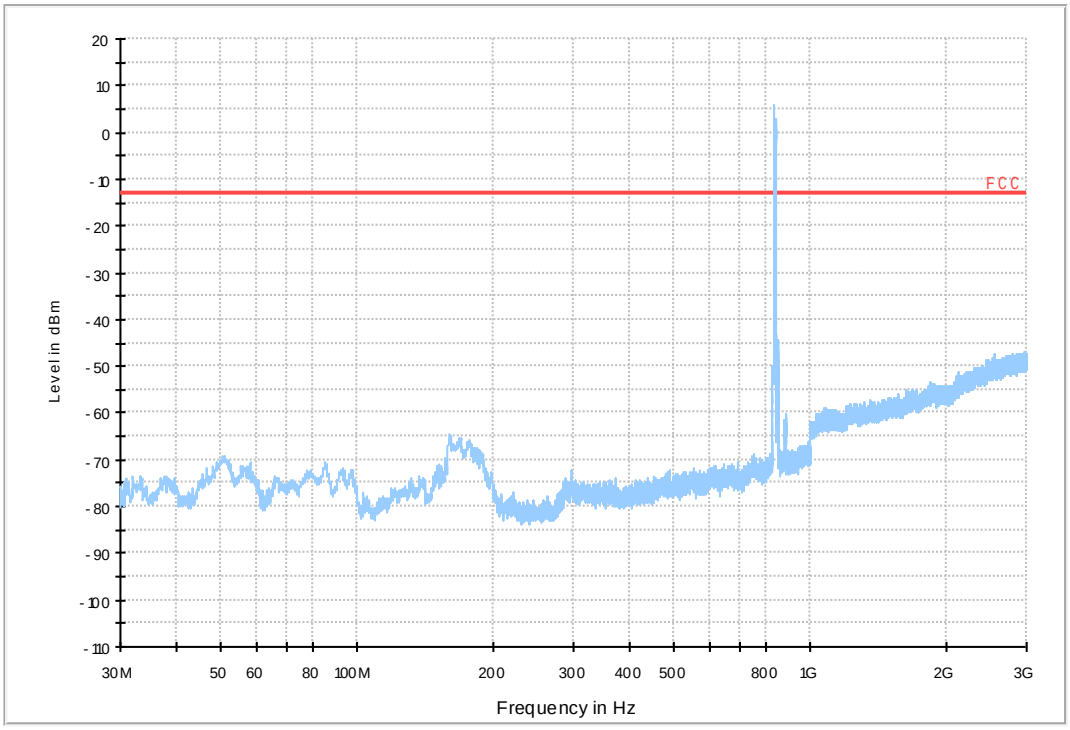
7.1.1 Test Band = WCDMA850

7.1.1.1 Test Mode = UMTS/TM1

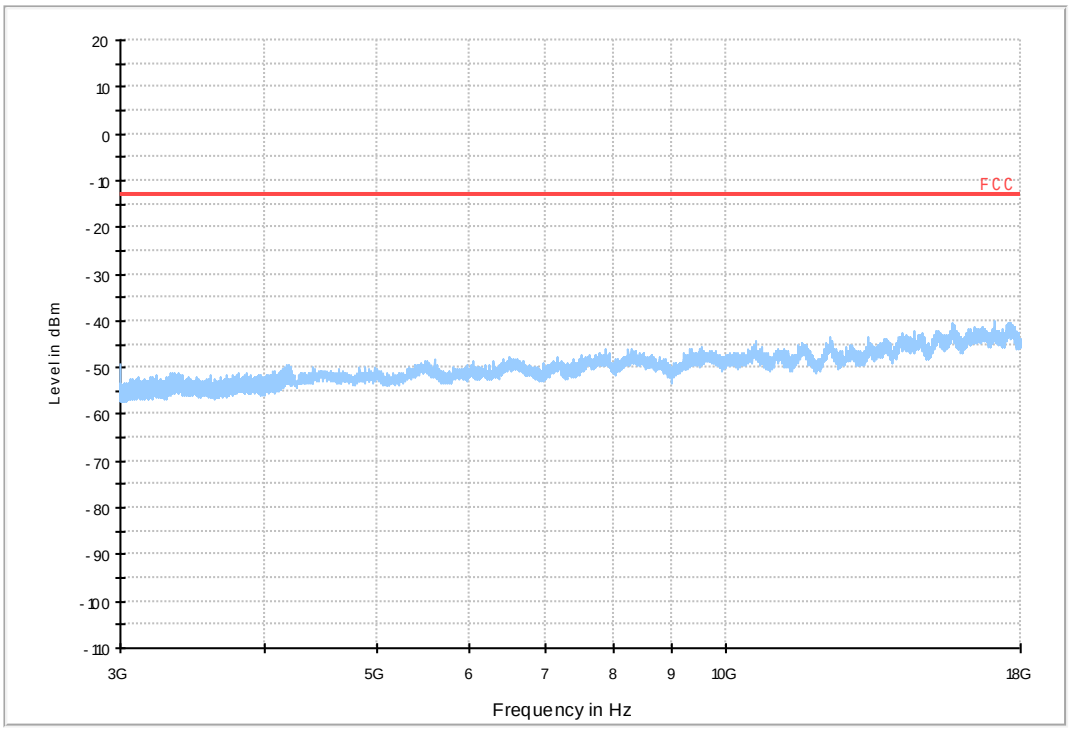


Site : 03CH01-SZ
Condition : -13DBM 9K-30M AMP NEUTRAL
: RBW:9.000KHz VBW:30.000KHz

06 FCC PART 22 WCDMA850_L

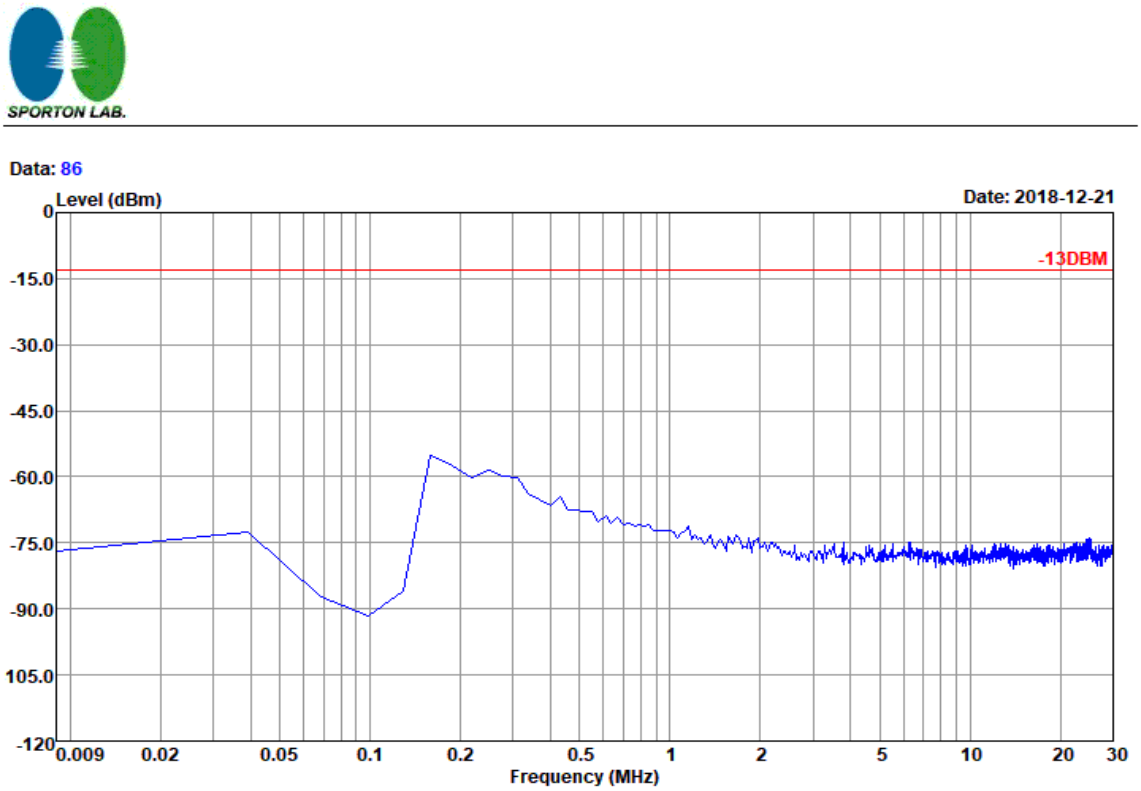


05 FCC PART 22 WCDMA850_H



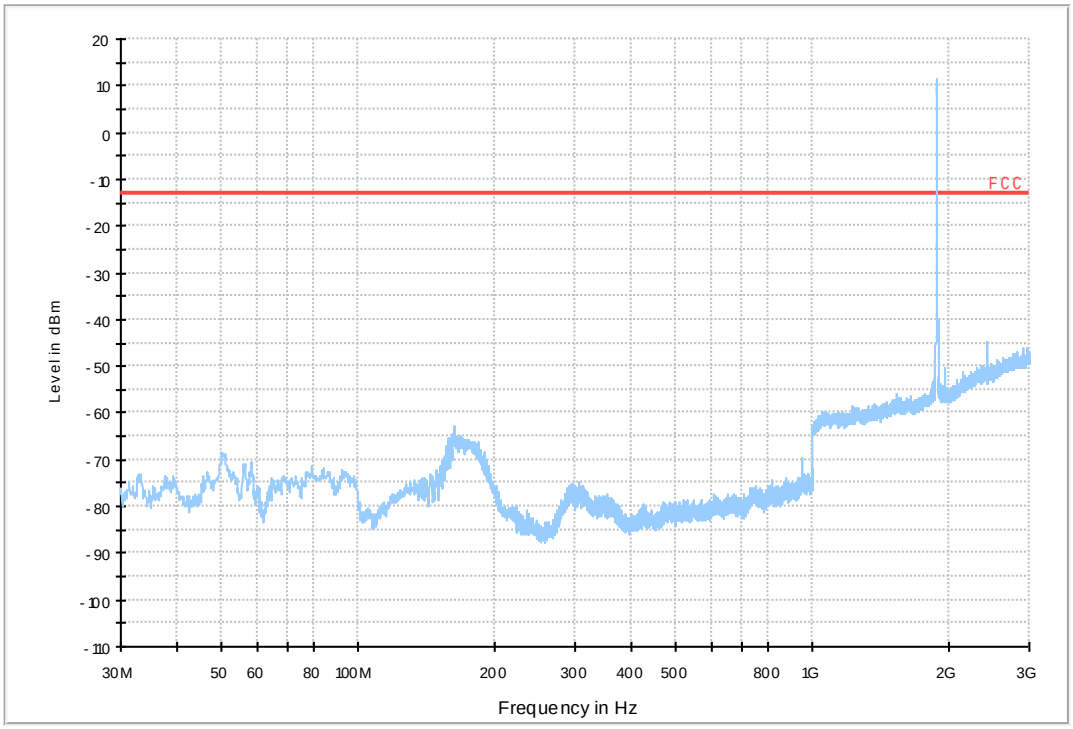
7.1.2 Test Band = WCDMA1900

7.1.2.1 Test Mode = UMTS/TM1

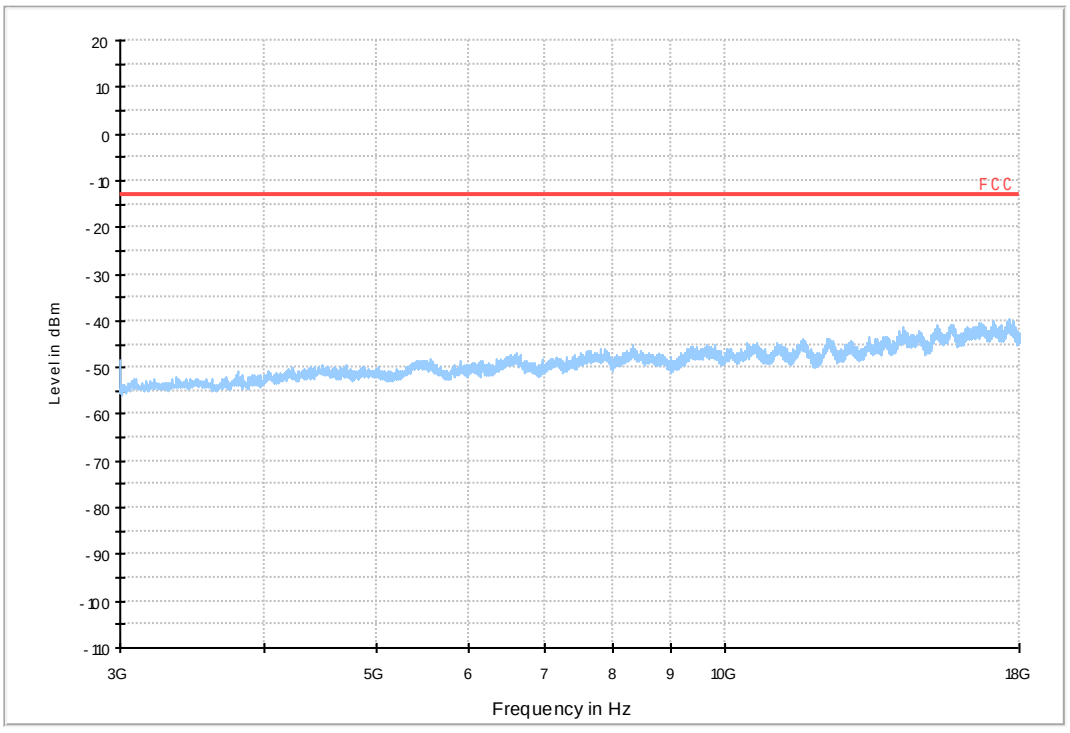


Site : 03CH01-SZ
Condition : -13DBM 9K-30M AMP NEUTRAL
: RBW:9.000KHz VBW:30.000KHz

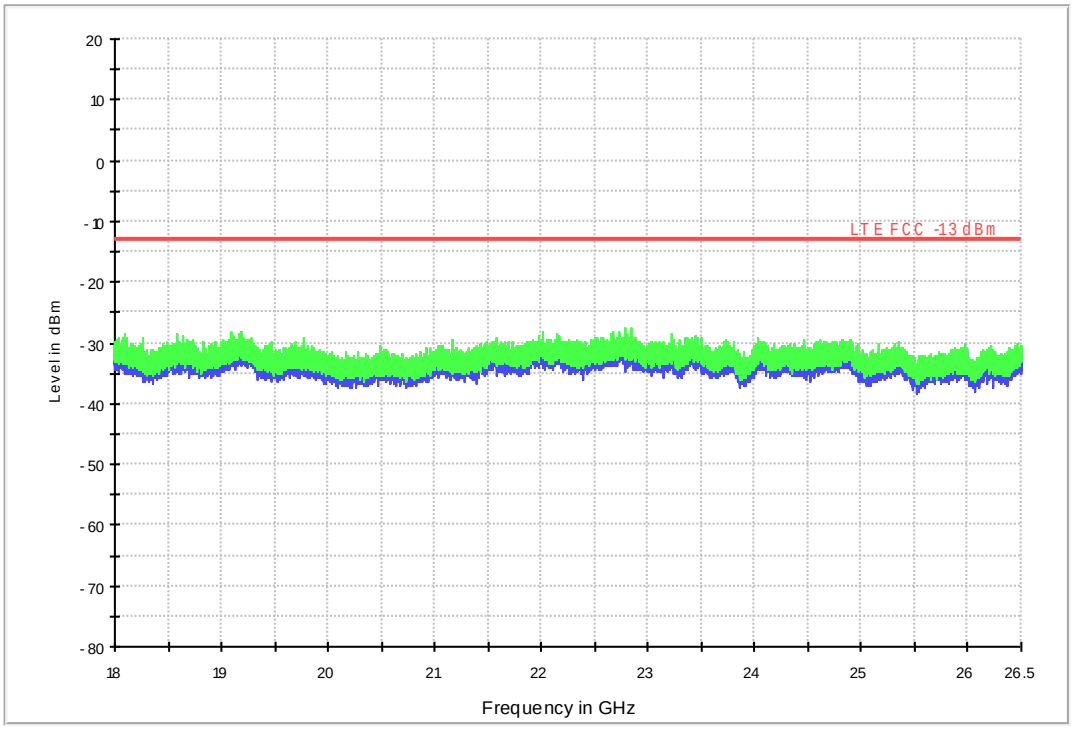
12 FCC PART 24 WCDMA1900_L



11 FCC PART 24 WCDMA1900_H



18G~26.5G RSE-TX-DIRECTOR ABOVE 1.5G PK



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	-10.32114	-0.01249	PASS
				VN	-11.59430	-0.01403	PASS
				VH	-13.58271	-0.01644	PASS
		MCH	TN	VL	-15.28502	-0.01827	PASS
				VN	-14.82725	-0.01773	PASS
				VH	-13.81874	-0.01652	PASS
		HCH	TN	VL	-14.99891	-0.01772	PASS
				VN	-12.49552	-0.01476	PASS
				VH	-14.90593	-0.01761	PASS
WCDMA1900	UMTS/TM1	LCH	TN	VL	-13.98325	-0.00755	PASS
				VN	-8.30412	-0.00448	PASS
				VH	-4.07696	-0.00220	PASS
		MCH	TN	VL	-12.86030	-0.00684	PASS
				VN	-14.54115	-0.00773	PASS
				VH	-17.96722	-0.00956	PASS
		HCH	TN	VL	-15.91444	-0.00755	PASS
				VN	-17.41648	-0.00448	PASS
				VH	-14.17637	-0.00220	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	-9.04799	-0.01095	PASS
				-20	-6.07967	-0.00736	PASS
				-10	-14.29796	-0.01730	PASS
				0	-13.18932	-0.01596	PASS
				10	-8.18253	-0.00990	PASS
				20	-11.59430	-0.01403	PASS
				30	-6.66618	-0.00807	PASS
				40	-15.12766	-0.01831	PASS
				50	-13.49688	-0.01633	PASS
		MCH	VN	-30	-10.16378	-0.01215	PASS
				-20	-11.80172	-0.01411	PASS
				-10	-13.43966	-0.01607	PASS
				0	-14.68420	-0.01756	PASS
				10	-11.52992	-0.01379	PASS
				20	-14.82725	-0.01773	PASS
				30	-15.64980	-0.01871	PASS
				40	-12.03775	-0.01439	PASS
				50	-13.61847	-0.01628	PASS
		HCH	VN	-30	-11.32250	-0.01338	PASS
				-20	-12.24518	-0.01447	PASS
				-10	-16.35790	-0.01933	PASS
				0	-13.69715	-0.01618	PASS
				10	-12.70294	-0.01501	PASS
				20	-12.49552	-0.01476	PASS
				30	-13.40389	-0.01584	PASS
				40	-11.44409	-0.01352	PASS
				50	-13.31091	-0.01573	PASS
WCDMA1900	UMTS/TM1	LCH	VN	-30	-15.42807	-0.00833	PASS
				-20	-14.83440	-0.00801	PASS
				-10	-13.16786	-0.00711	PASS
				0	-9.14812	-0.00494	PASS
				10	-13.51118	-0.00729	PASS
				20	-8.30412	-0.00448	PASS
				30	-11.03640	-0.00596	PASS
				40	-13.55410	-0.00732	PASS
				50	-10.92911	-0.00590	PASS
		MCH	VN	-30	-17.00163	-0.00904	PASS
				-20	-12.78877	-0.00680	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-10	-16.66546	-0.00886	PASS
				0	-16.43658	-0.00874	PASS
				10	-18.38207	-0.00978	PASS
				20	-14.54115	-0.00773	PASS
				30	-18.42499	-0.00980	PASS
				40	-14.10484	-0.00750	PASS
				50	-17.00878	-0.00905	PASS
		HCH	VN	-30	-14.60552	-0.00766	PASS
				-20	-19.28329	-0.01011	PASS
				-10	-16.18624	-0.00849	PASS
				0	-15.60688	-0.00818	PASS
				10	-14.39095	-0.00754	PASS
				20	-17.41648	-0.00913	PASS
				30	-15.04183	-0.00789	PASS
				40	-16.21485	-0.00850	PASS
				50	-14.84871	-0.00778	PASS

END