Appendix for Test report

Content

1Appendix_A: Effective Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Freq. [MHz]	Meas. Level [dBm]	Substitution Antenna Type	SGP [dBm]	Substitution Gain [dBi]	Cable Loss [dB]	Substitution Level (ERP) [dBm]	FCC limit [dBm]	Result
GSM850	GSM/TM1	823.2	31.8	Dipole Ant.	35.34	-2.75	0.6	31.99	38.5	Pass
		837.0	32.3	Dipole Ant.	35.57	-2.87	0.6	32.1	38.5	Pass
		848.8	32.61	Dipole Ant.	35.86	-2.85	0.6	32.41	38.5	Pass
	GSM/TM2	823.2	25.1	Dipole Ant.	29.25	-2.75	0.6	25.9	38.5	Pass
		837.0	25.2	Dipole Ant.	29.47	-2.87	0.6	26	38.5	Pass
		848.8	25.16	Dipole Ant.	29.41	-2.85	0.6	25.96	38.5	Pass
WCDMA850	UMTS/TM1	826.4	23.92	Dipole Ant.	27.07	-2.75	0.6	23.72	38.5	Pass
		836.4	23.86	Dipole Ant.	26.13	-2.87	0.6	23.66	38.5	Pass
		846.6	23.91	Dipole Ant.	26.16	-2.85	0.6	23.71	38.5	Pass

Note: a, For getting the ERP (Efficient Radiated Power) in substitution method, the following formula should be taken to calculate it,

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

b, SGP=Signal Generator Level

Test Band	Test Mode	Freq. [MHz]	Meas. Level [dBm]	Substitution Antenna Type	SGP [dBm]	Substitution Gain [dBi]	Cable Loss [dB]	Substitution Level (ERP) [dBm]	FCC limit [dBm]	Result
GSM1900	GSM/TM1	1850.2	31.71	Horn Ant.	28.01	4.5	1	31.51	33	Pass
		1880	31.75	Horn Ant.	28.33	4.5	1	31.83	33	Pass
		1909.8	31.7	Horn Ant.	27.7	4.8	1	31.5	33	Pass
	GSM/TM2	1850.2	25.26	Horn Ant.	23.93	4.5	1	27.43	33	Pass
		1880	25.28	Horn Ant.	23.58	4.5	1	27.08	33	Pass
		1909.8	25.26	Horn Ant.	22.26	4.8	1	27.06	33	Pass
WCDMA1900	UMTS/TM1	1852.4	25.73	Horn Ant.	22.29	4.5	1	25.79	33	Pass
		1880	25.86	Horn Ant.	22.42	4.5	1	25.92	33	Pass
		1907.6	25.94	Horn Ant.	21.94	4.8	1	25.74	33	Pass

Test Band	Test Mode	Freq. [MHz]	Meas. Level [dBm]	Substitution Antenna Type	SGP [dBm]	Substitution Gain [dBi]	Cable Loss [dB]	Substitution Level (ERP) [dBm]	FCC limit [dBm]	Result
WCDMA1700	UMTS/TM1	1712.4	26.03	Horn Ant.	22.33	4.5	1	25.83	30	Pass
		1732.4	25.1	Horn Ant.	22.4	4.5	1	25.9	30	Pass
		1752.6	26.05	Horn Ant.	22.37	4.8	1	25.17	30	Pass

Note: a, For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

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

b, SGP=Signal Generator Level

Peak-to-Average Ratio

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
GSM1900	GSM/TM1	LCH	0.18	13	PASS
		MCH	0.18	13	PASS
		HCH	0.19	13	PASS
	GSM/TM2	LCH	2.16	13	PASS
		MCH	2.11	13	PASS
		HCH	3.04	13	PASS
Test Band	**Test Mode**	**Test Channel**	**Measured[dB]**	**Limit [dB]**	**Verdict**
WCDMA1900	UMTS/TM1	LCH	2.26	13	PASS
		MCH	3.59	13	PASS
		HCH	3.48	13	PASS
WCDMA1700	UMTS/TM1	LCH	2.82	13	PASS
		MCH	3.39	13	PASS
		HCH	2.18	13	PASS

2Appendix_B: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [kHz]	Emission Bandwidth [kHz]	Verdict
GSM850	GSM/TM1	LCH	242.91	311.78	Pass
		MCH	246.93	321.26	Pass
		HCH	244.52	315.03	Pass
	GSM/TM2	LCH	248.89	313.49	Pass
		MCH	242.18	306.84	Pass
		HCH	241.99	313.66	Pass
GSM1900	GSM/TM1	LCH	243.88	317.32	Pass
		MCH	243.17	314.70	Pass
		HCH	244.08	316.10	Pass
	GSM/TM2	LCH	241.85	314.70	Pass
		MCH	244.10	316.60	Pass
		HCH	242.26	315.16	Pass

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
WCDMA850	UMTS/TM1	LCH	3.15	4.67	Pass
		MCH	3.15	4.66	Pass
		HCH	3.16	4.66	Pass
WCDMA1900	UMTS/TM1	LCH	3.15	4.66	Pass
		MCH	3.15	4.67	Pass
		HCH	3.16	4.67	Pass
WCDMA1700	UMTS/TM1	LCH	3.16	4.66	Pass
		MCH	3.16	4.67	Pass
		HCH	3.15	4.67	Pass

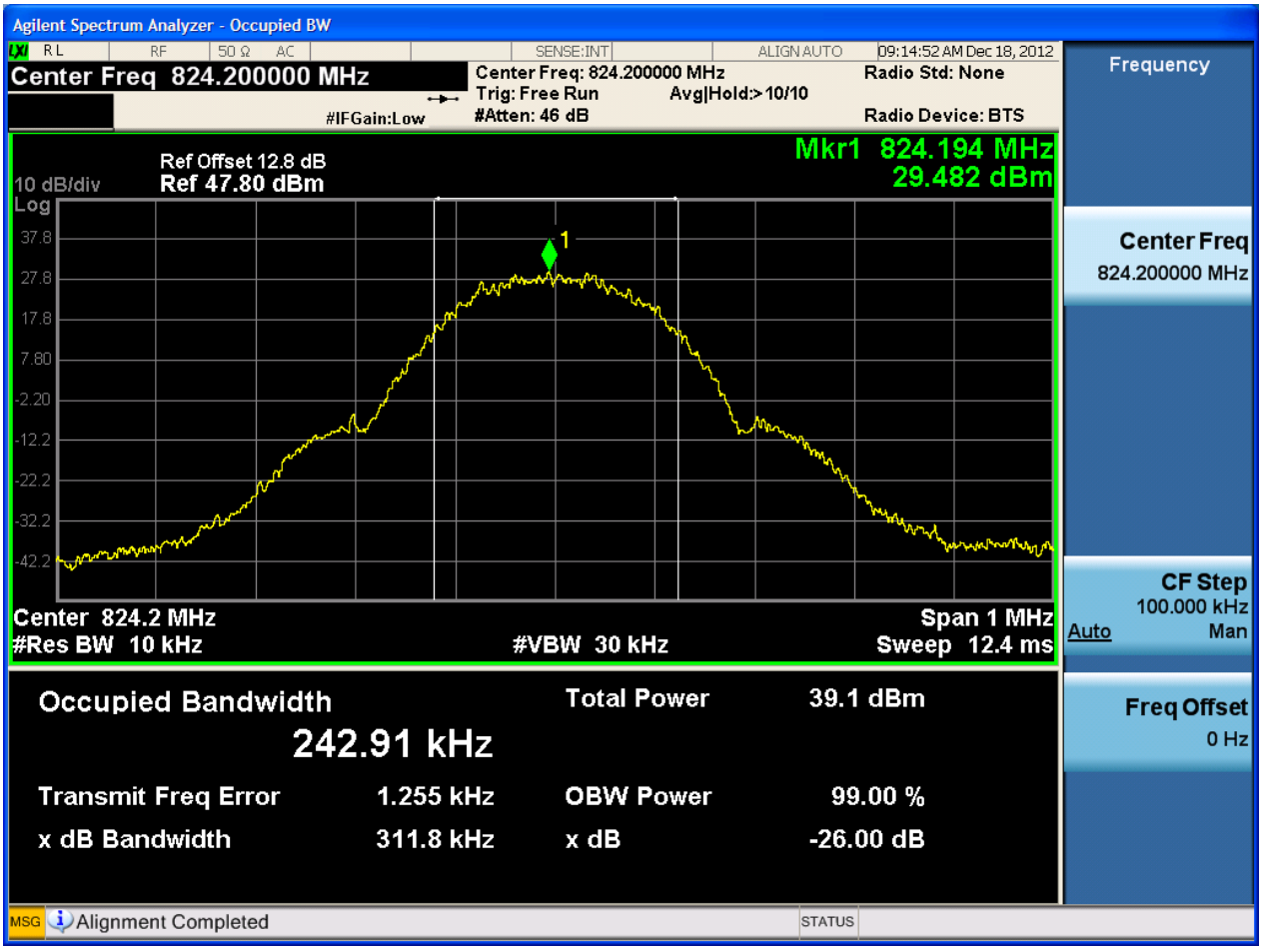
Part II - Test Plots

2.1 For GSM

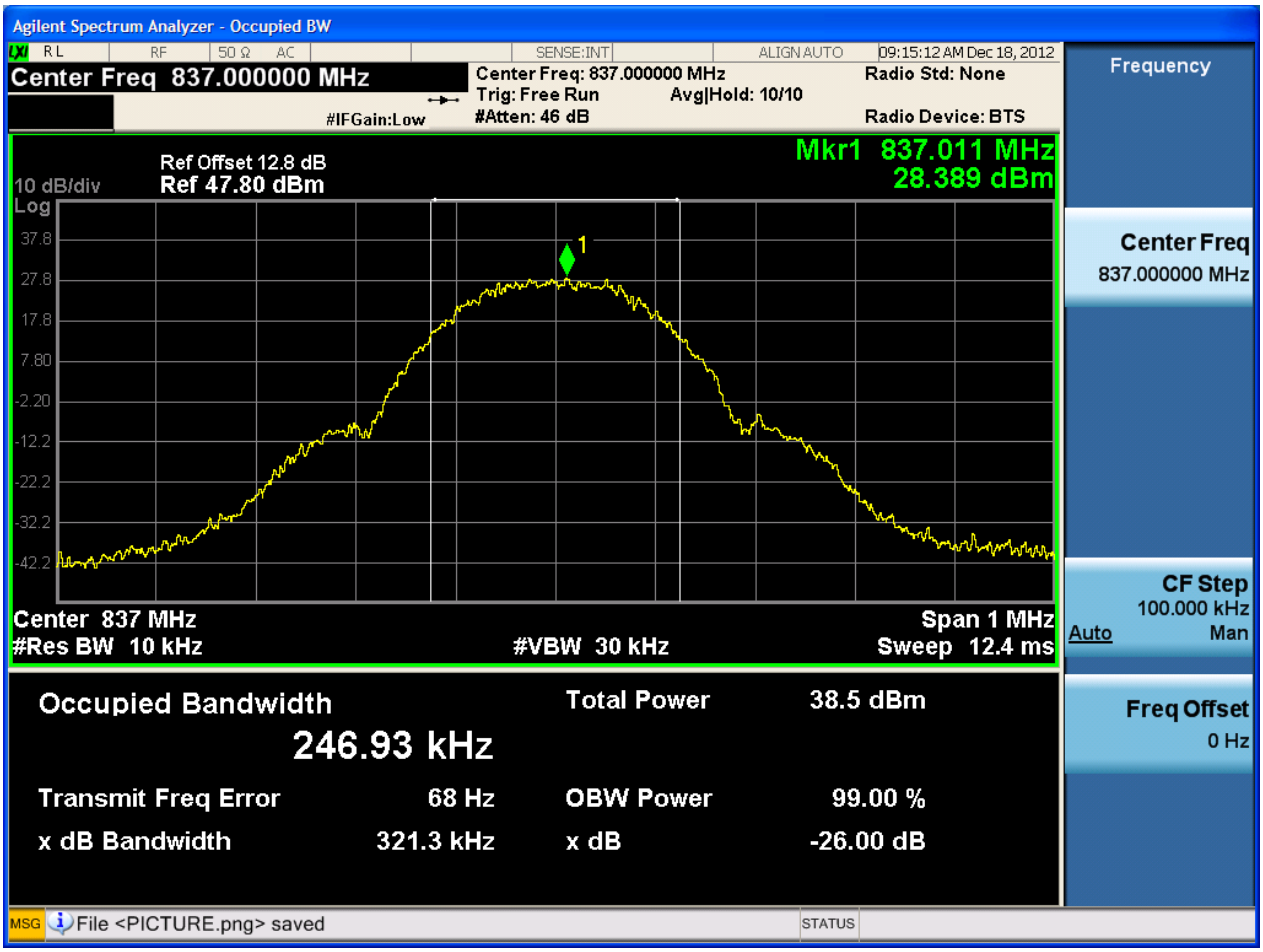
2.1.1 Test Band = GSM850

2.1.1.1 Test Mode = GSM/TM1

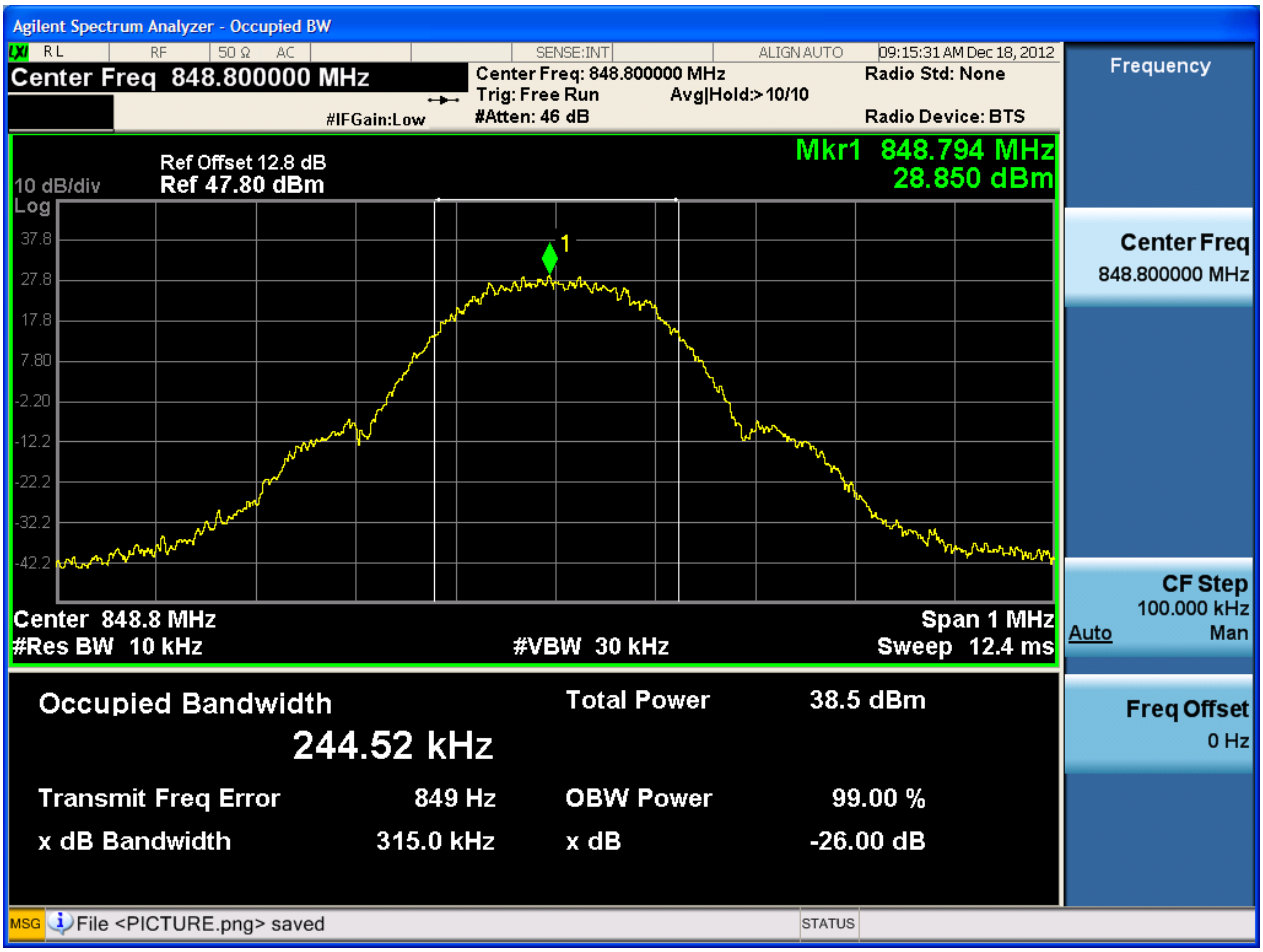
2.1.1.1.1 Test Channel = LCH



2.1.1.1.2 Test Channel = MCH

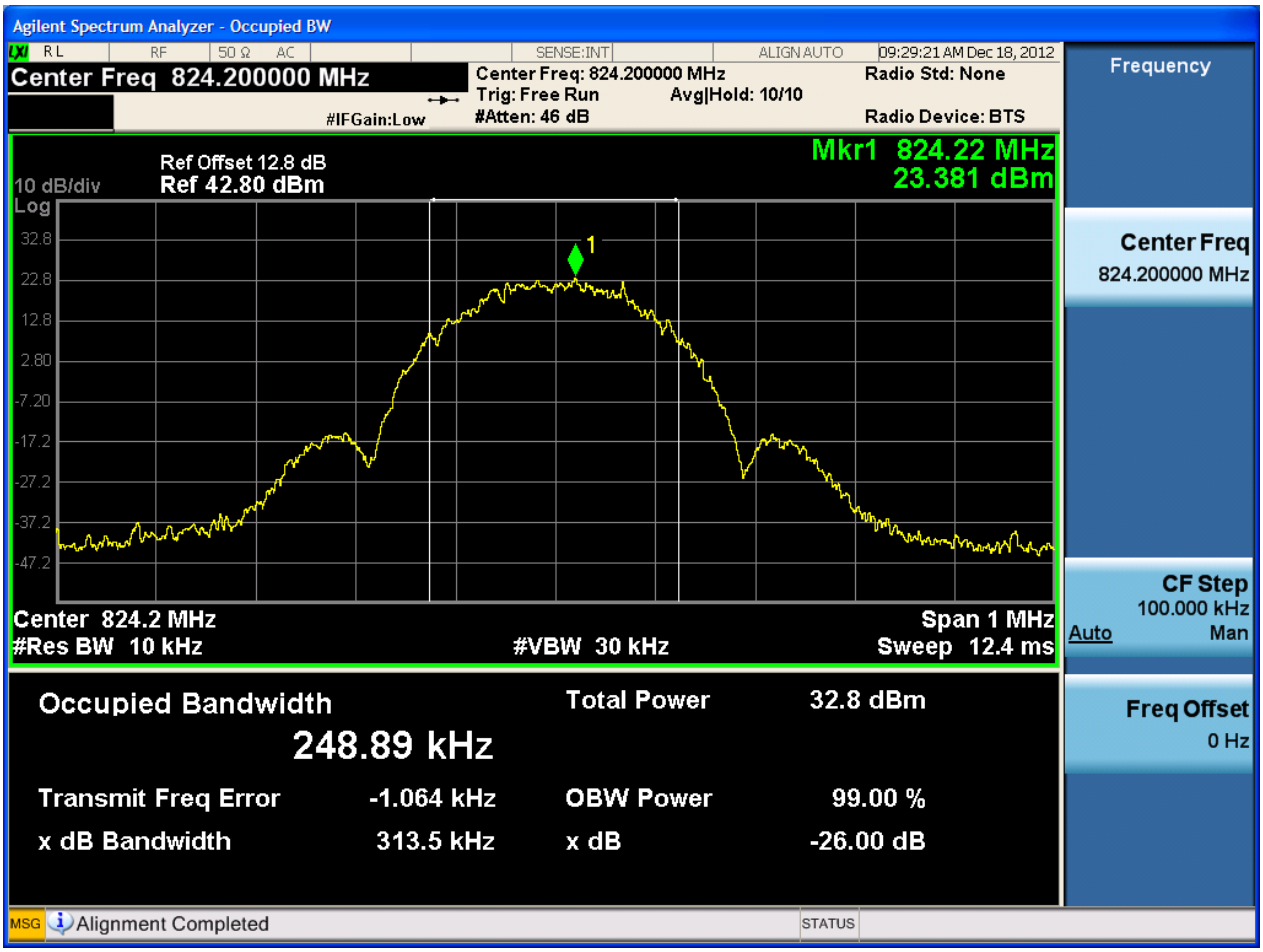


2.1.1.1.3 Test Channel = HCH

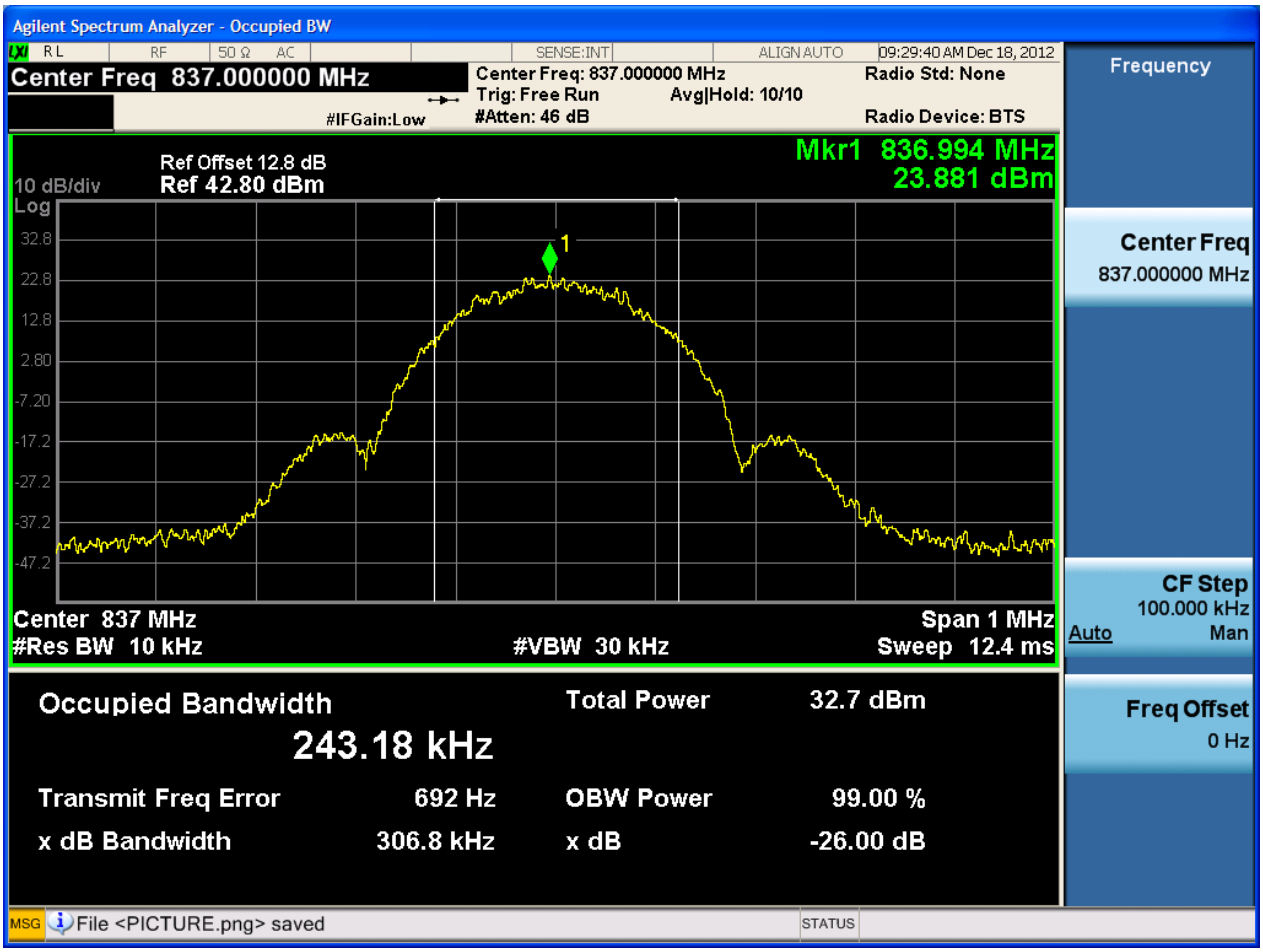


2.1.1.2 Test Mode = GSM/TM2

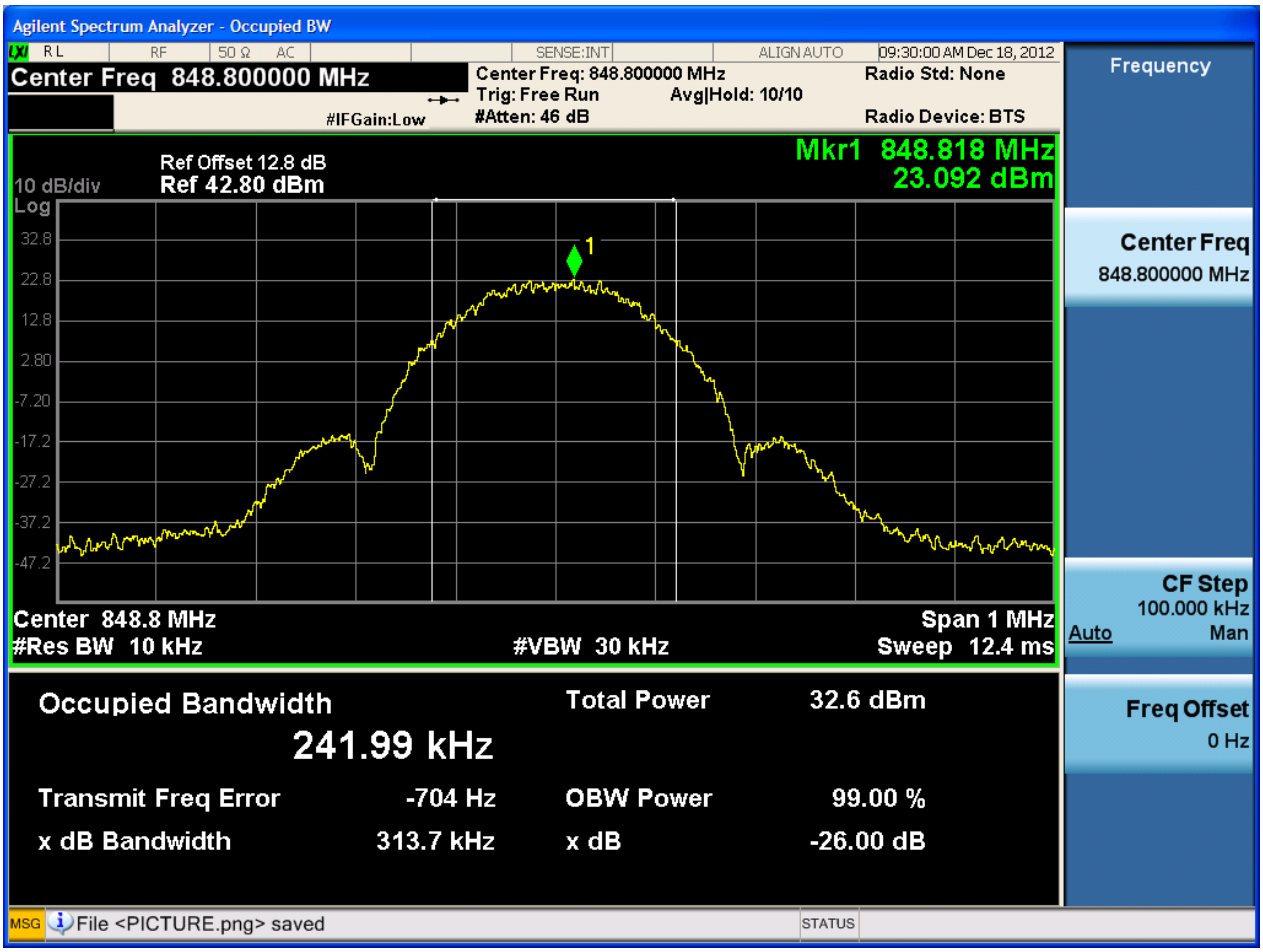
2.1.1.2.1 Test Channel = LCH



2.1.1.2.2 Test Channel = MCH



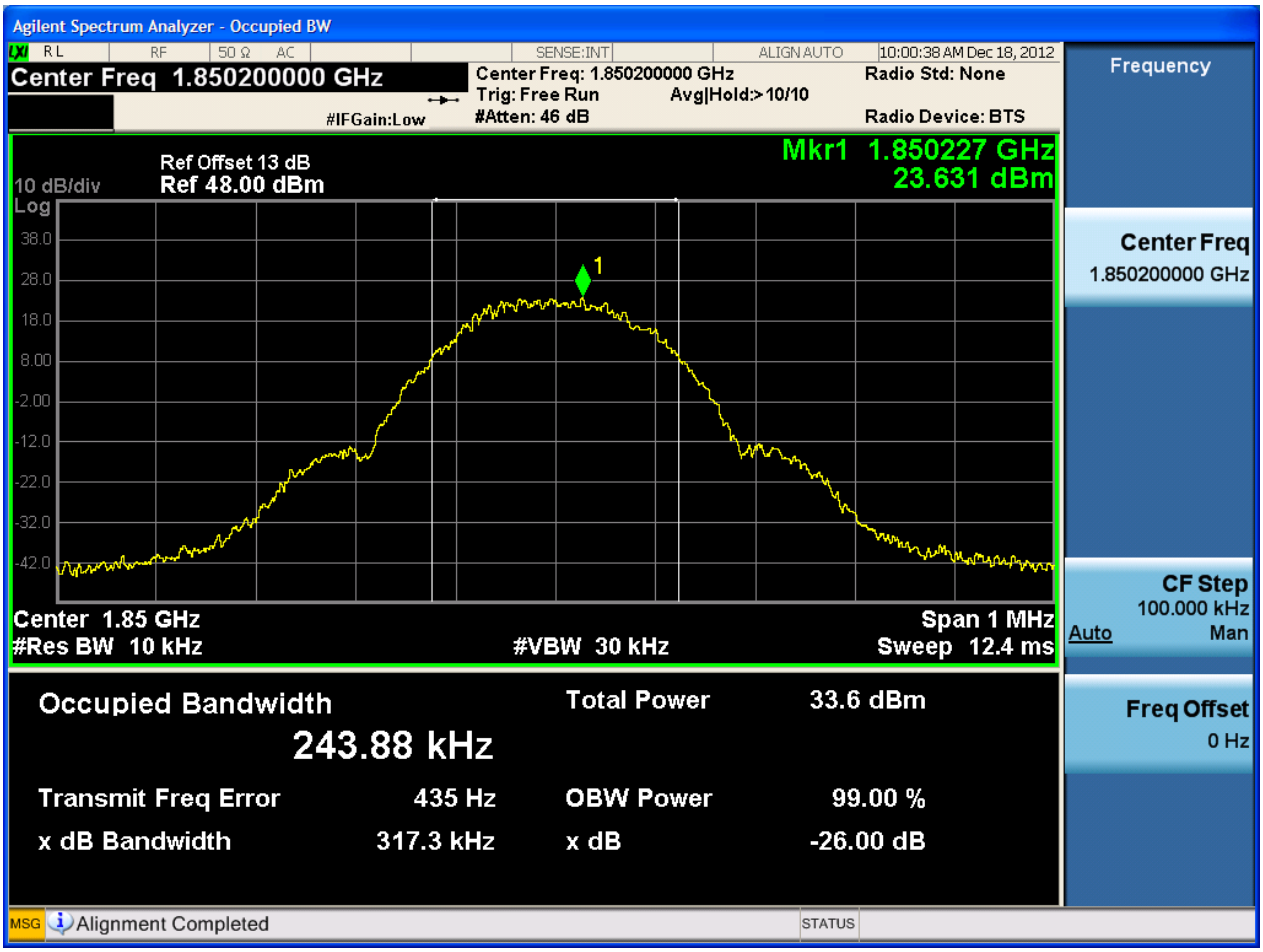
2.1.1.2.3 Test Channel = HCH



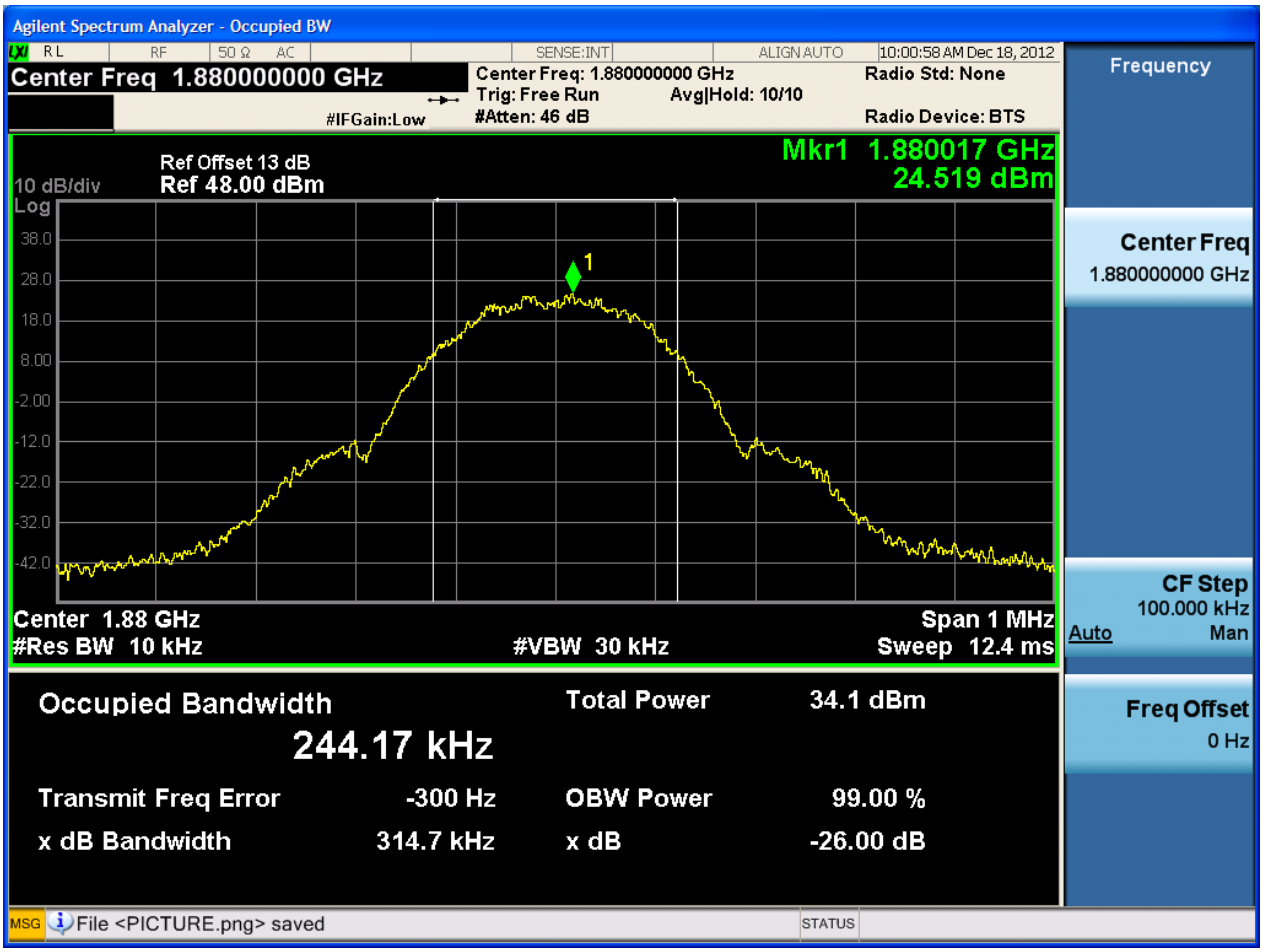
2.1.2 Test Band = GSM1900

2.1.2.1 Test Mode = GSM/TM1

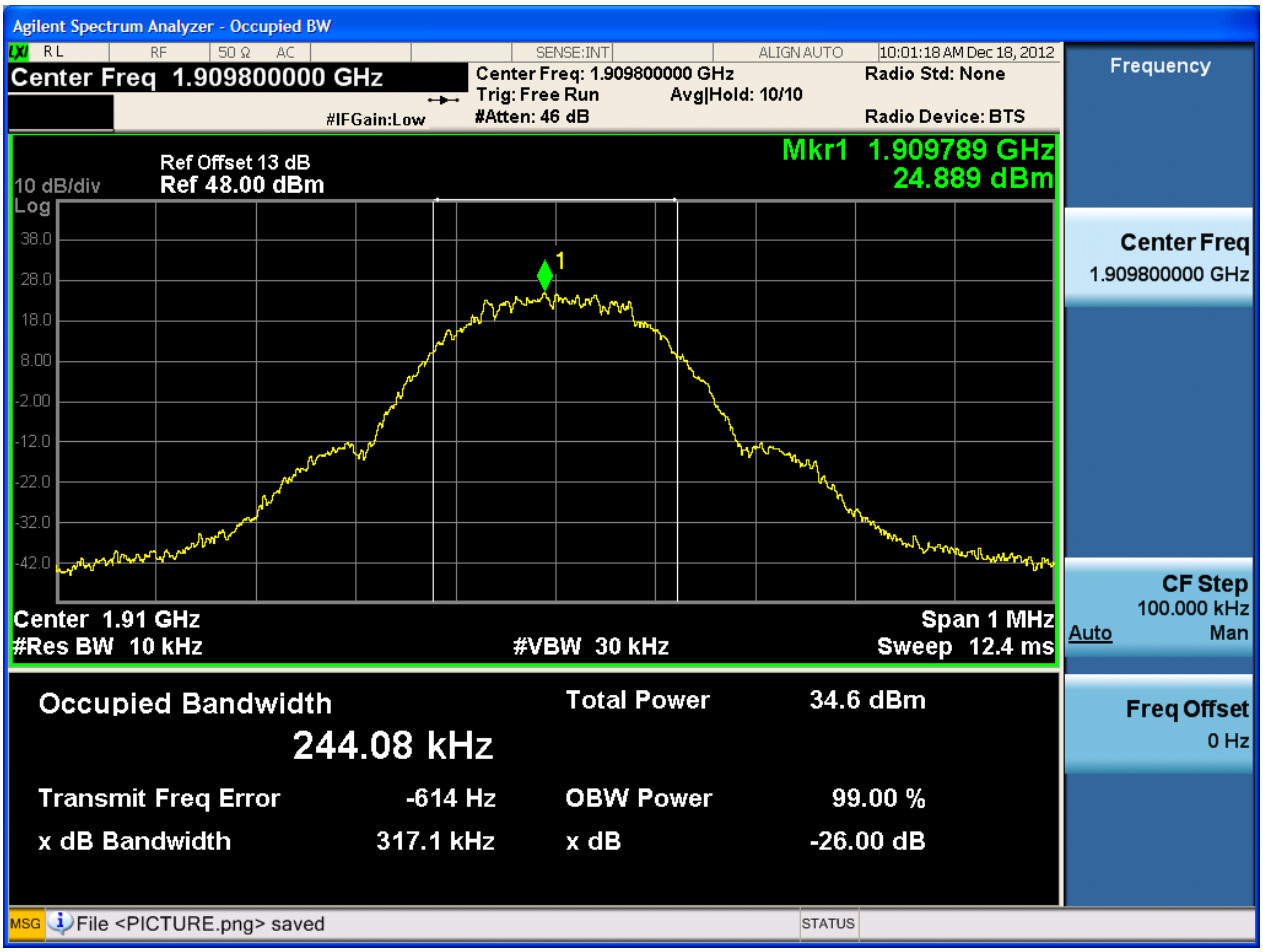
2.1.2.1.1 Test Channel = LCH



2.1.2.1.2 Test Channel = MCH

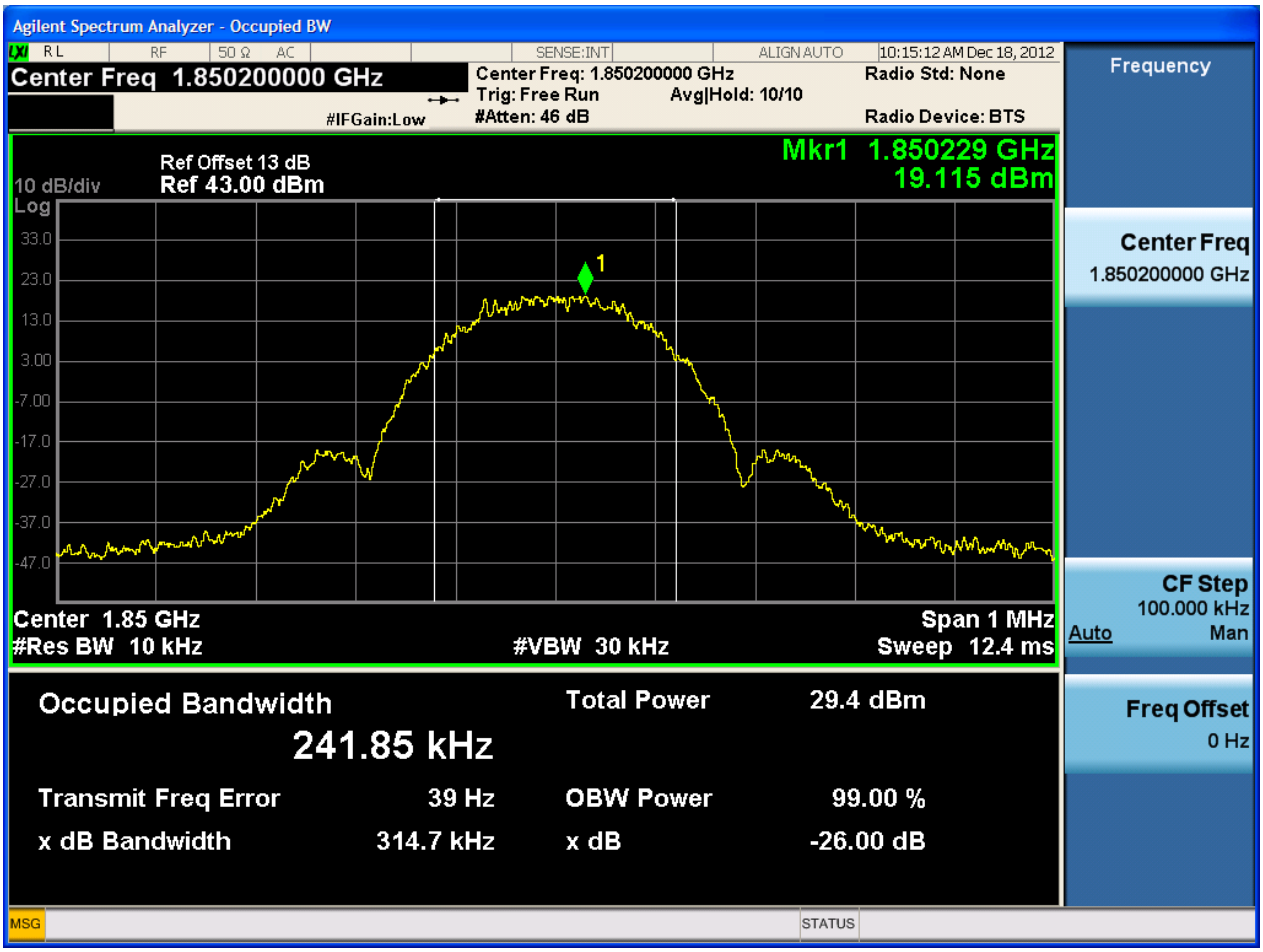


2.1.2.1.3 Test Channel = HCH

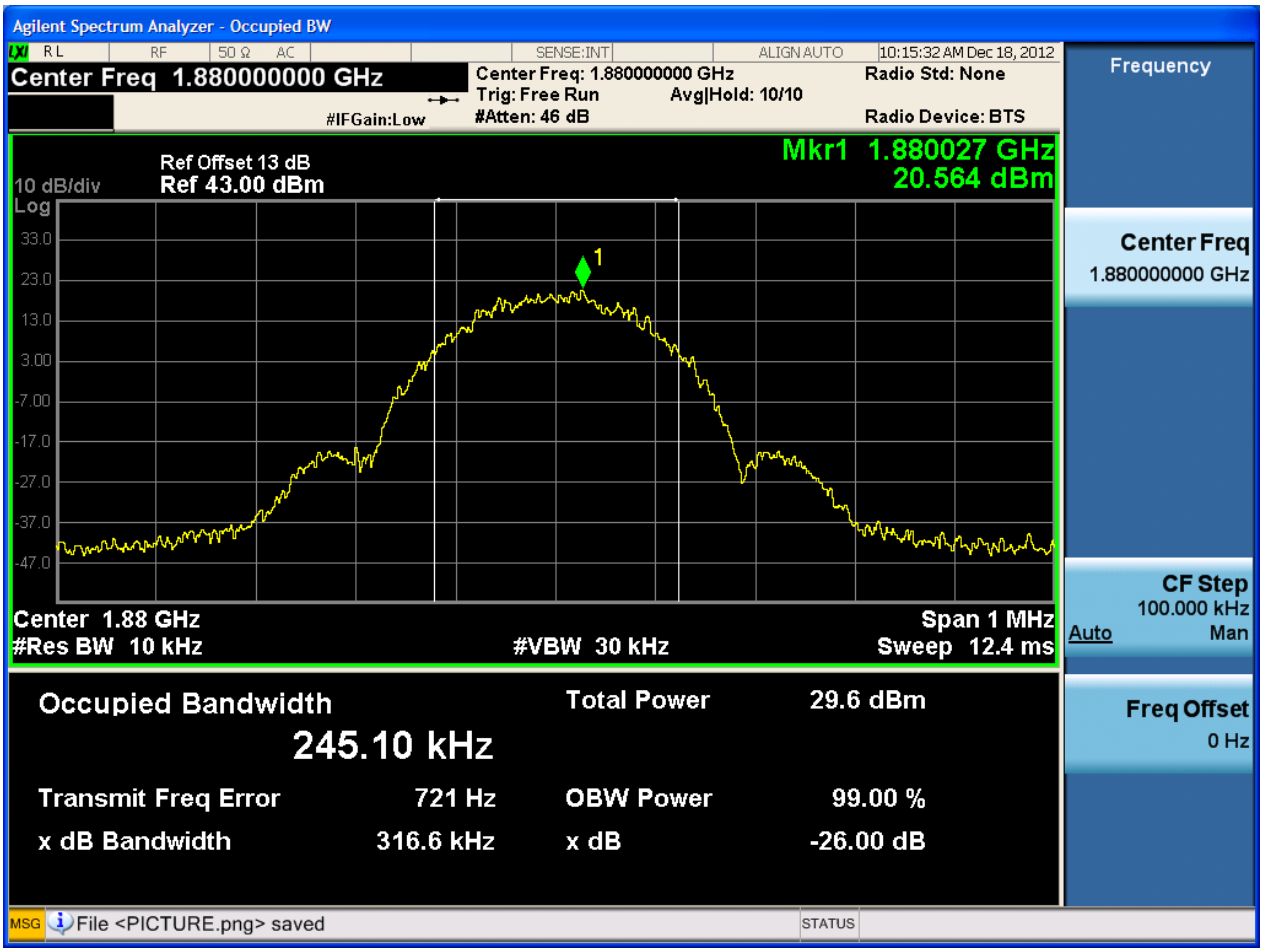


2.1.2.2 Test Mode = GSM/TM2

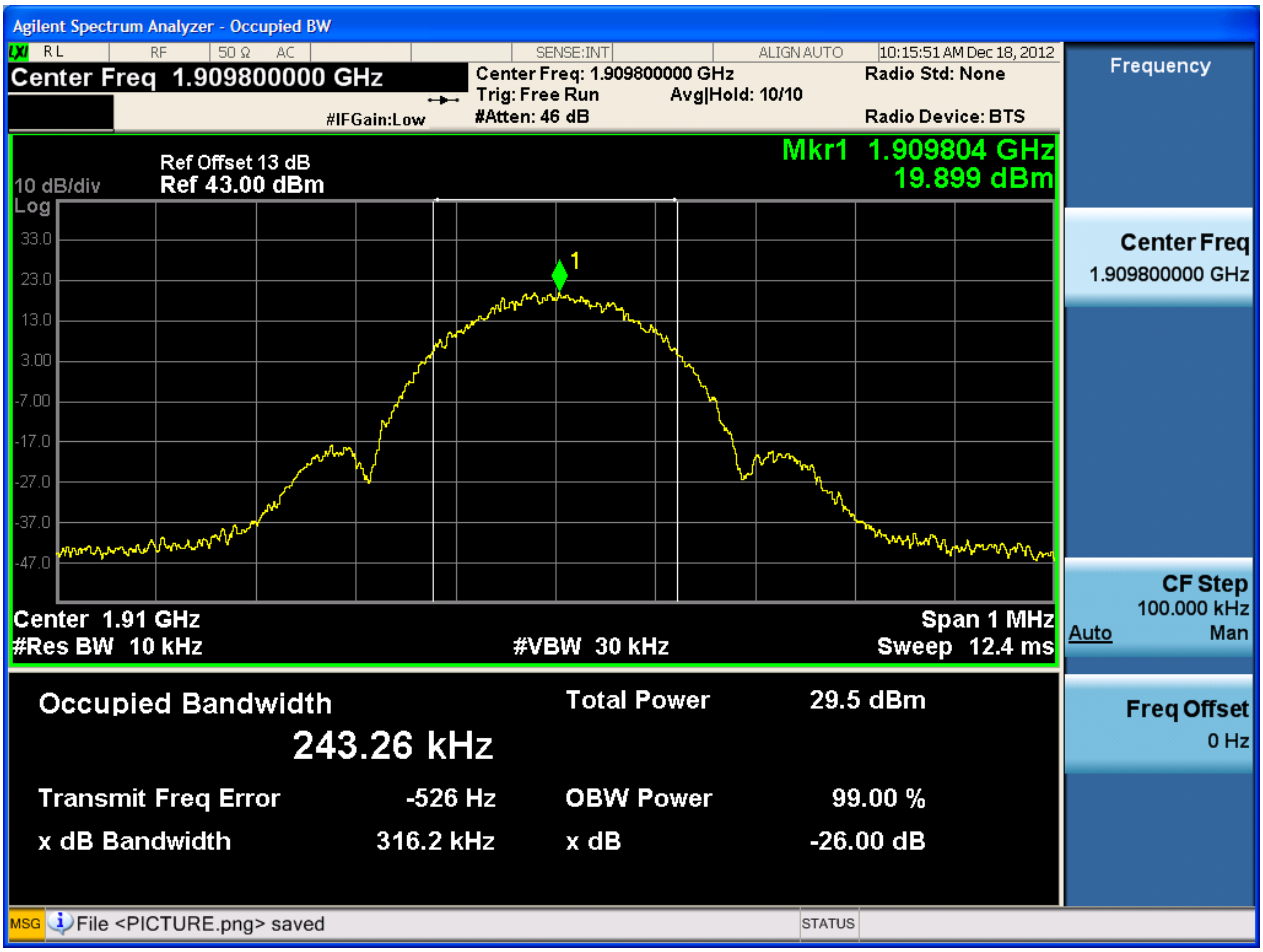
2.1.2.2.1 Test Channel = LCH



2.1.2.2.2 Test Channel = MCH



2.1.2.2.3 Test Channel = HCH

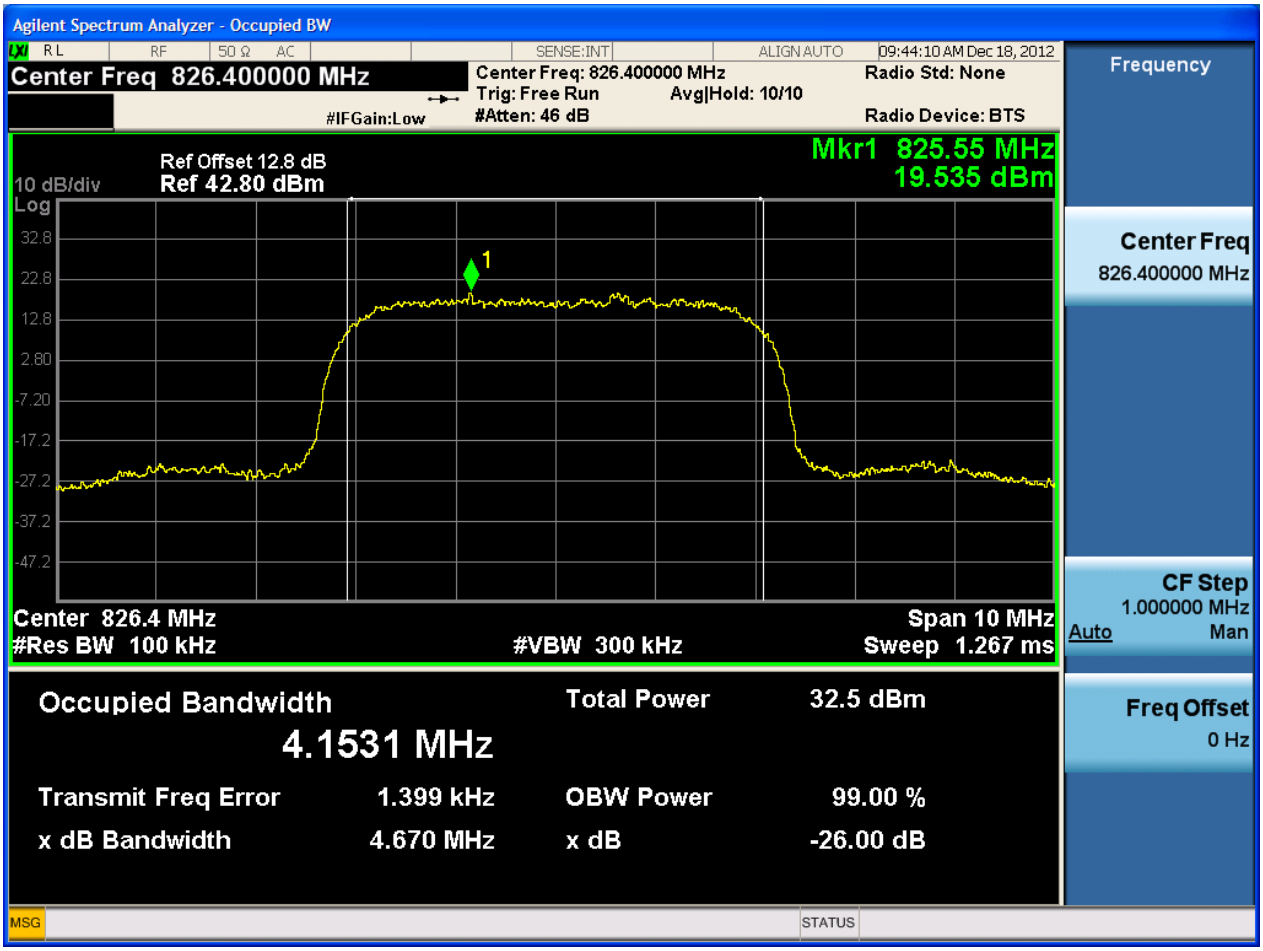


2.2 For UMTS

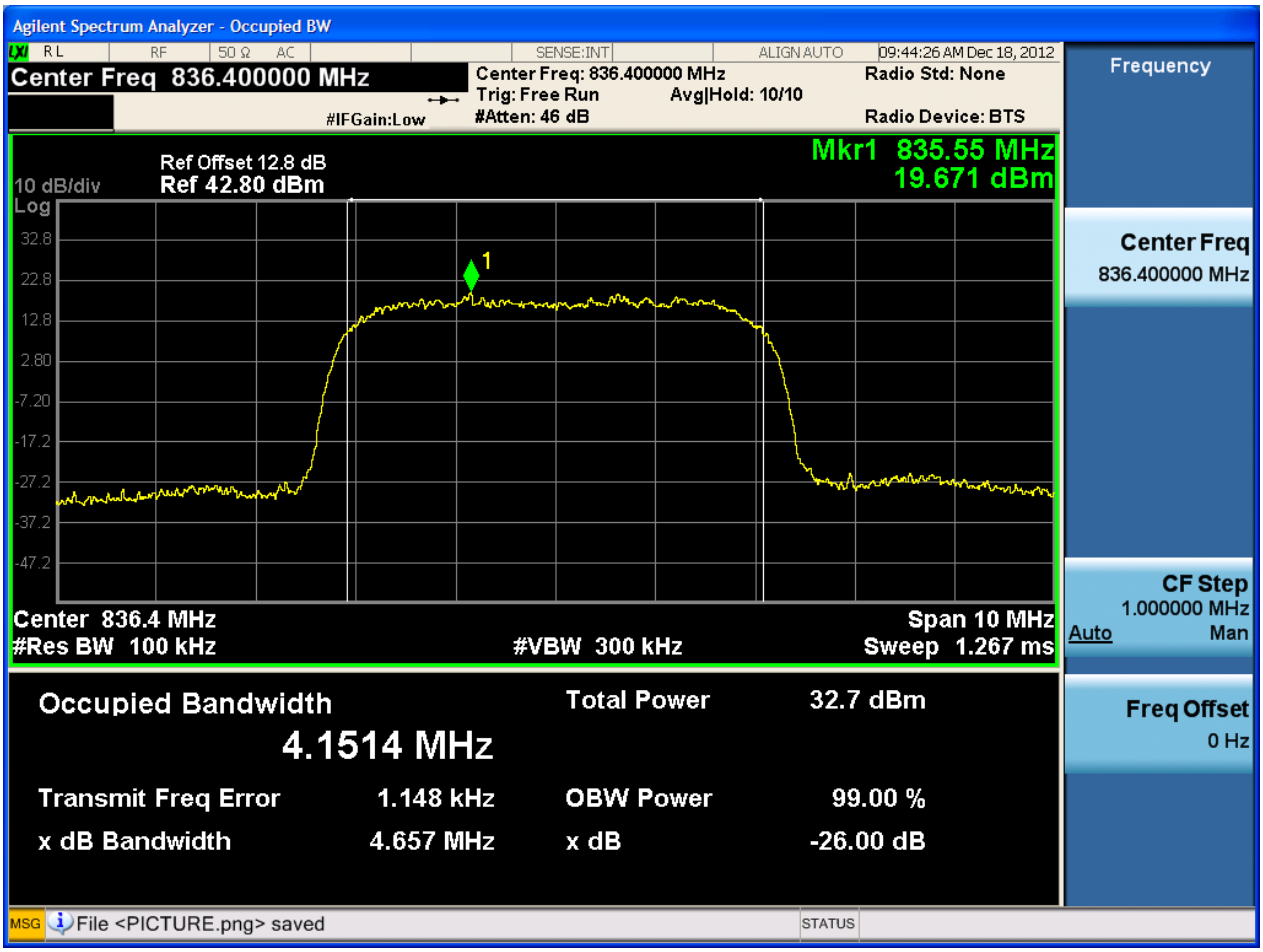
2.2.1 Test Band = WCDMA850

2.2.1.1 Test Mode = UMTS/TM1

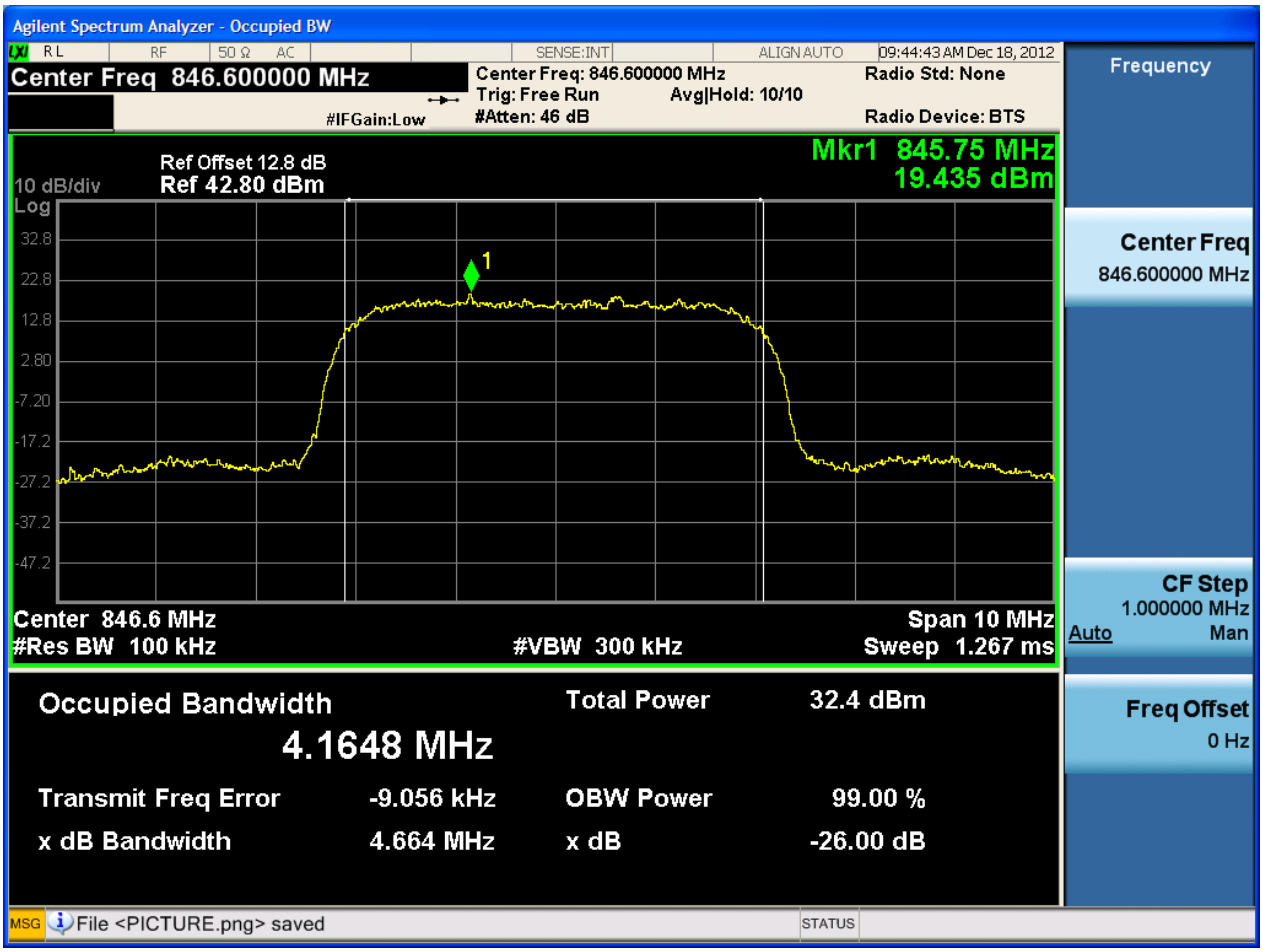
2.2.1.1.1 Test Channel = LCH



2.2.1.1.2 Test Channel = MCH



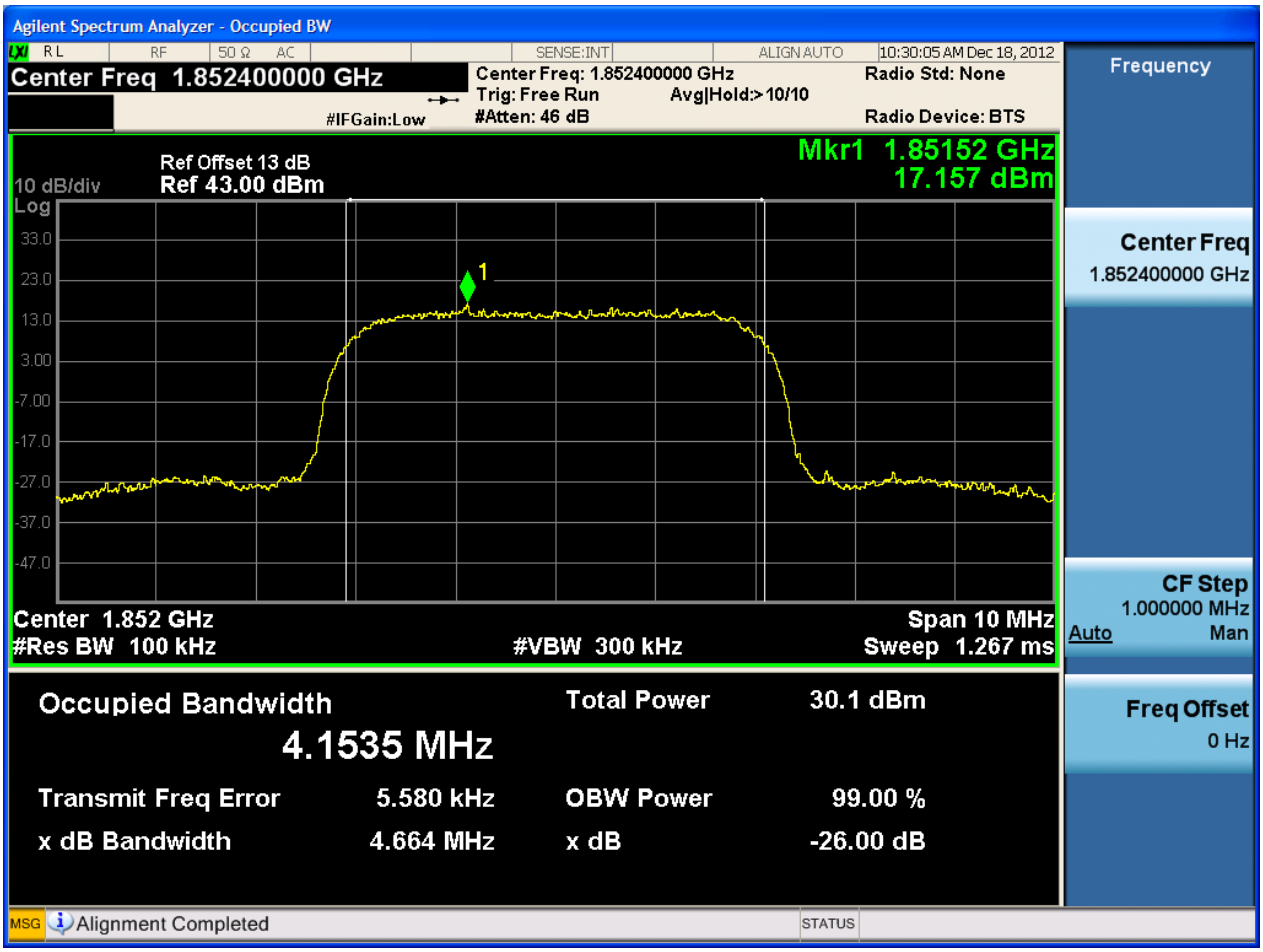
2.2.1.1.3 Test Channel = HCH



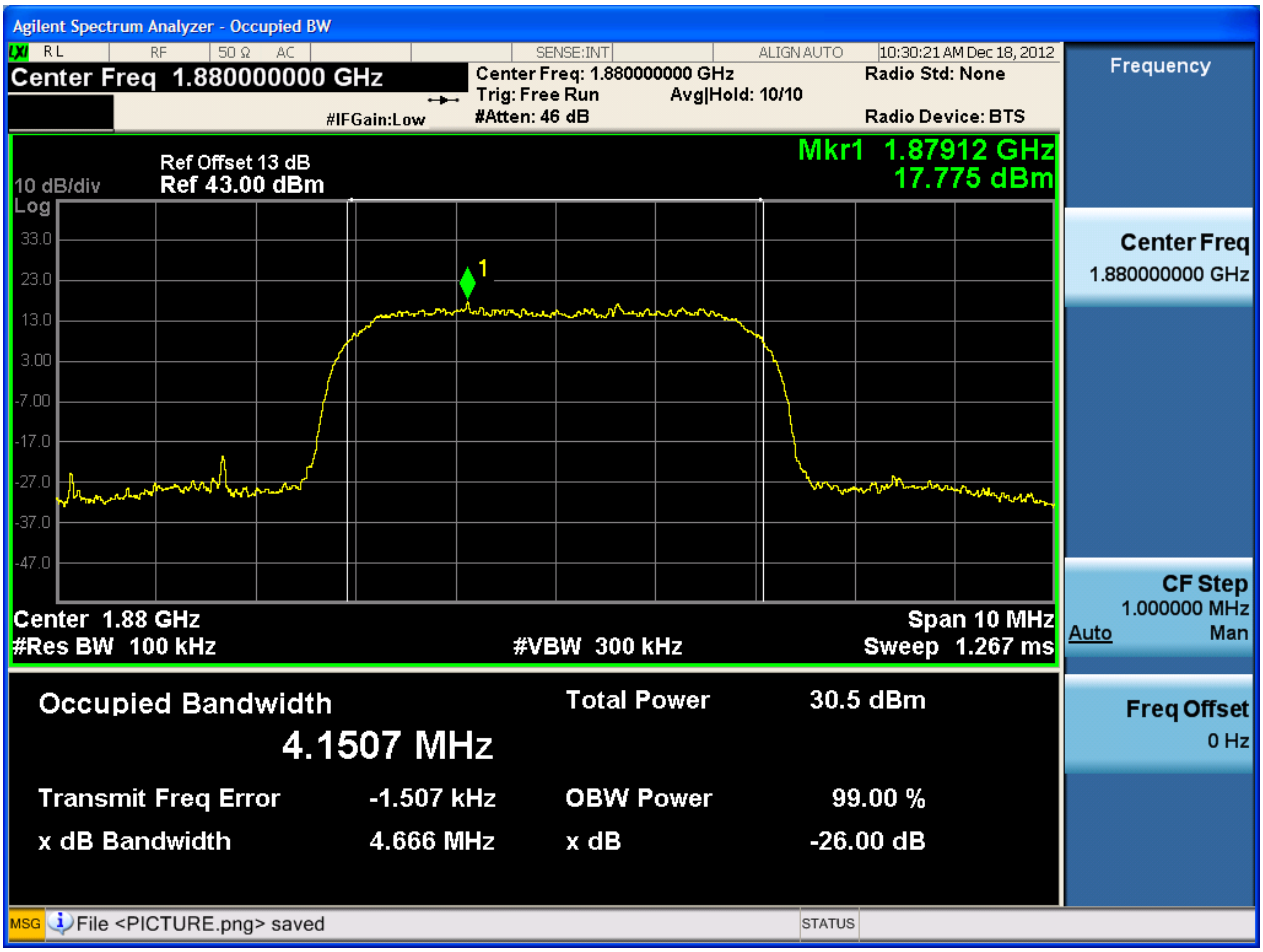
2.2.2 Test Band = WCDMA1900

2.2.2.1 Test Mode = UMTS/TM1

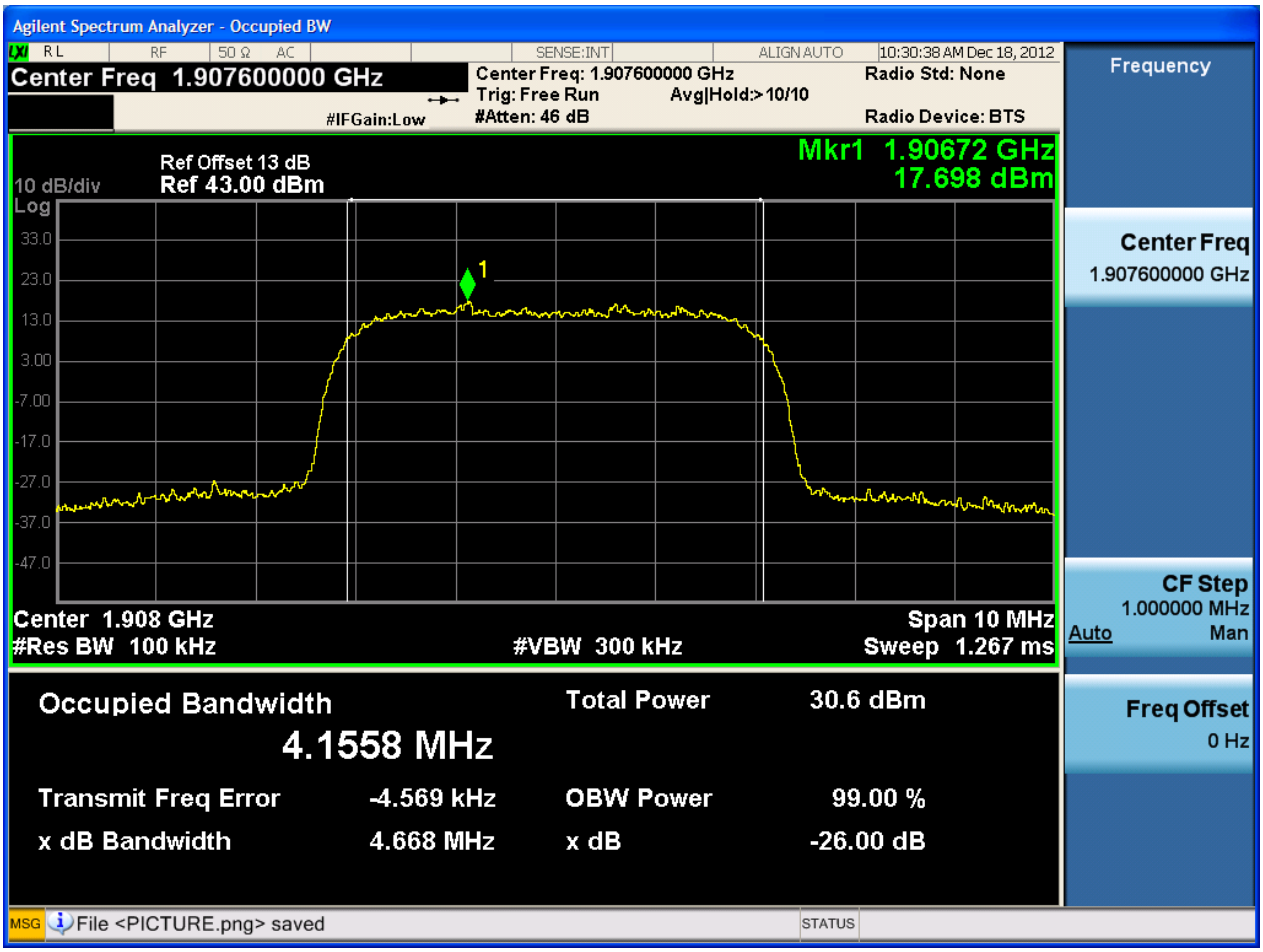
2.2.2.1.1 Test Channel = LCH



2.2.2.1.2 Test Channel = MCH



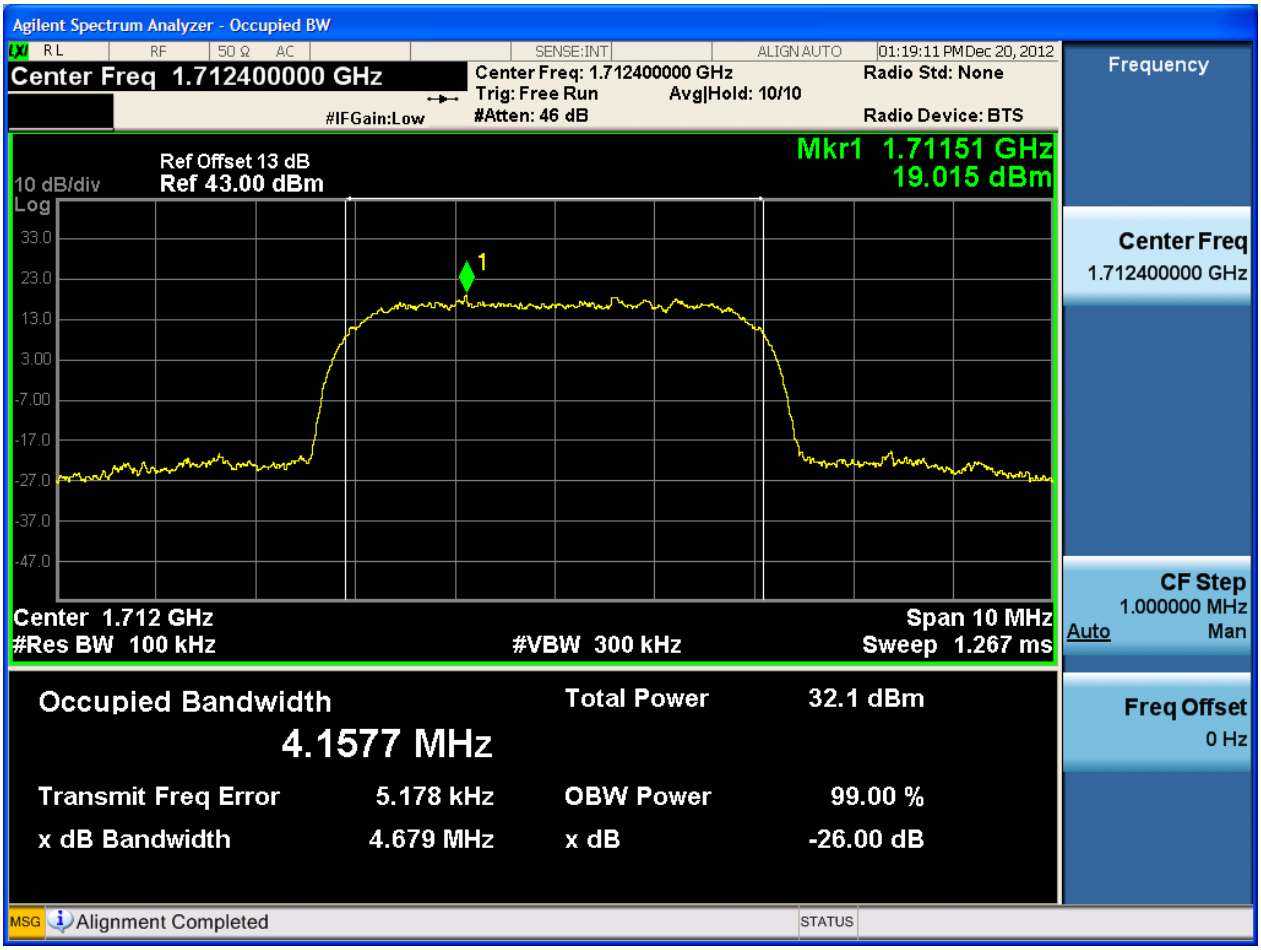
2.2.2.1.3 Test Channel = HCH



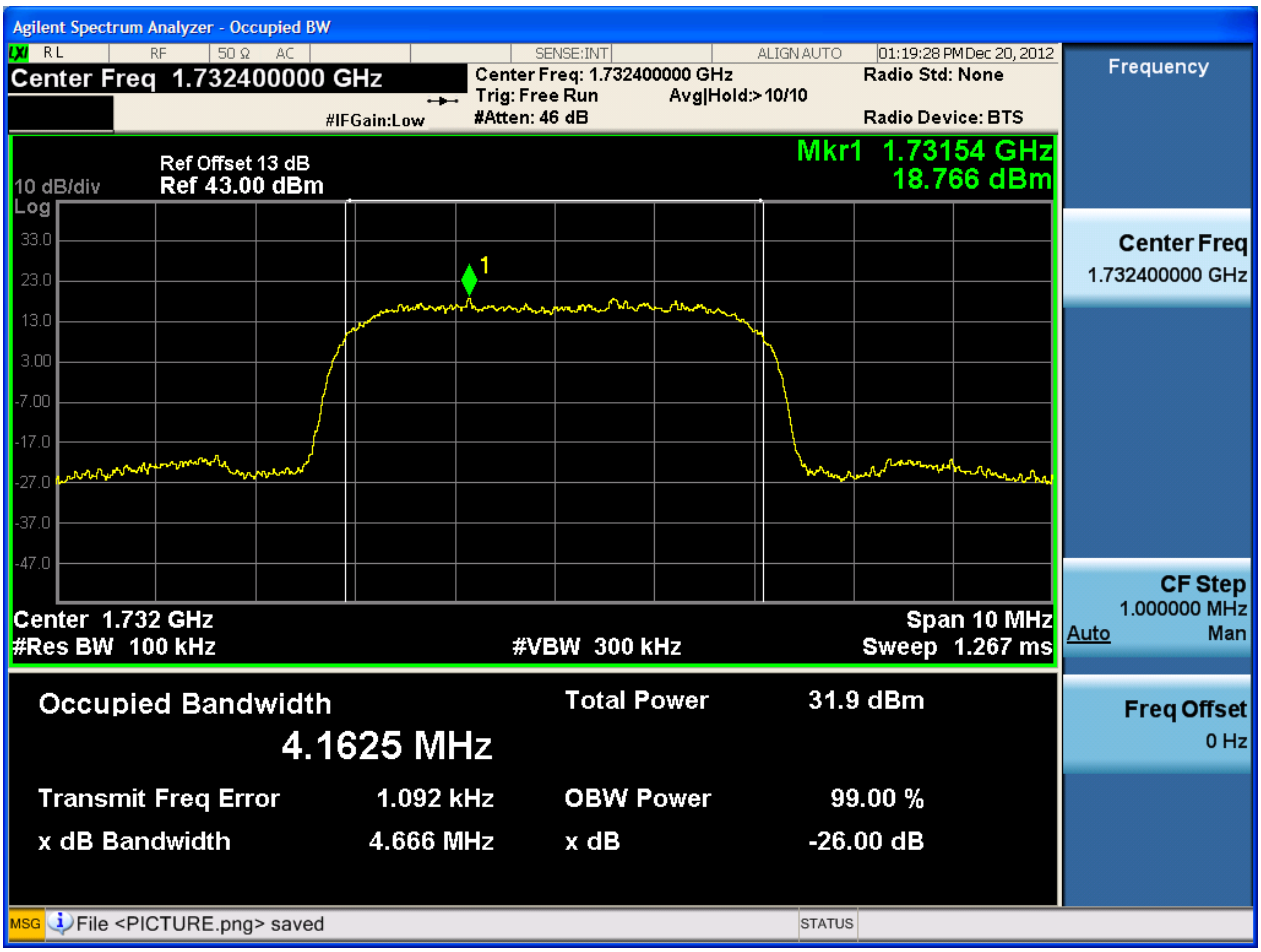
2.2.3 Test Band = WCDMA1700

2.2.2.1 Test Mode = UMTS/TM1

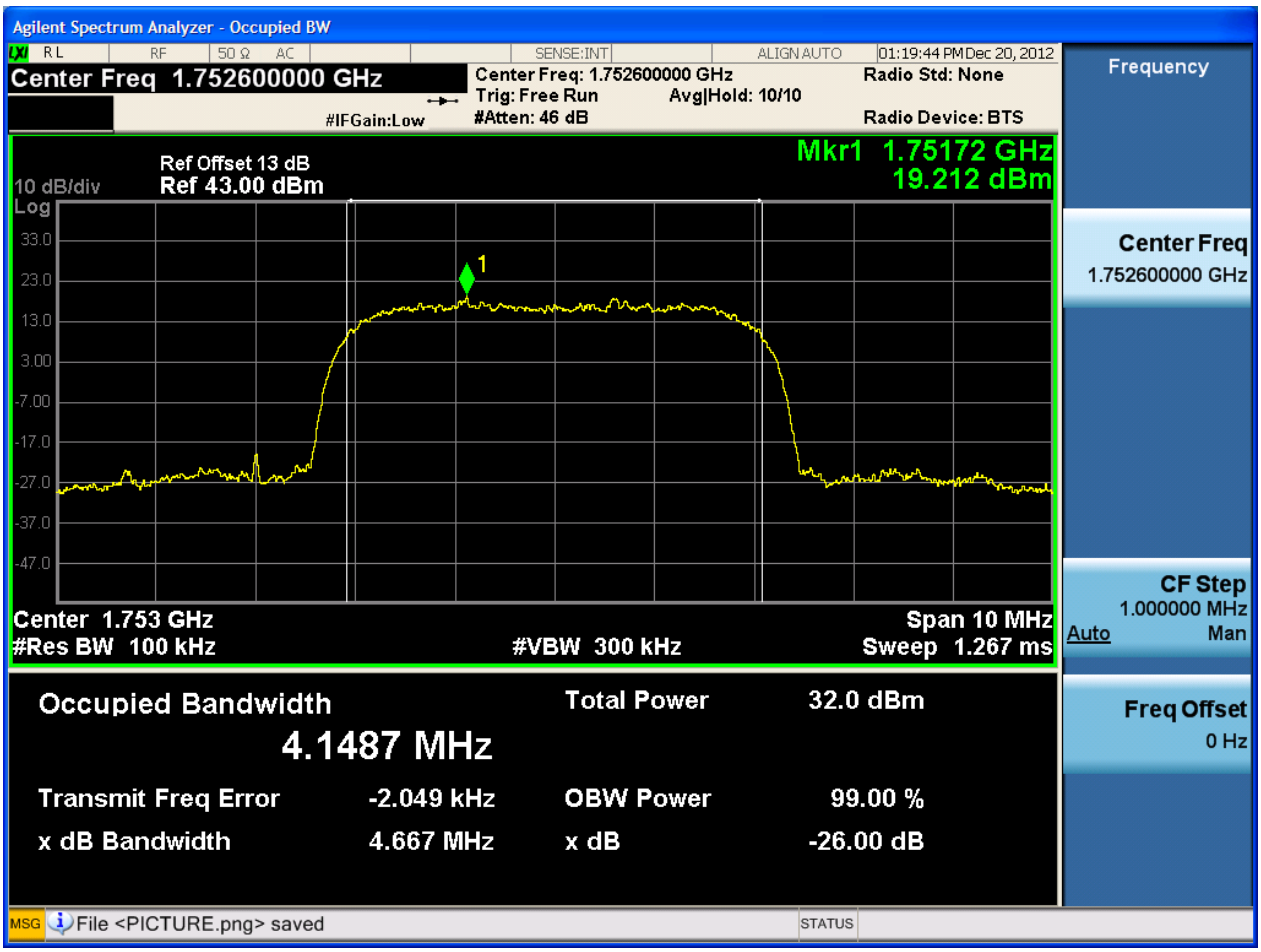
2.2.2.1.1 Test Channel = LCH



2.2.2.1.2 Test Channel = MCH



2.2.2.1.3 Test Channel = HCH



3Appendix_C: Band Edges Compliance

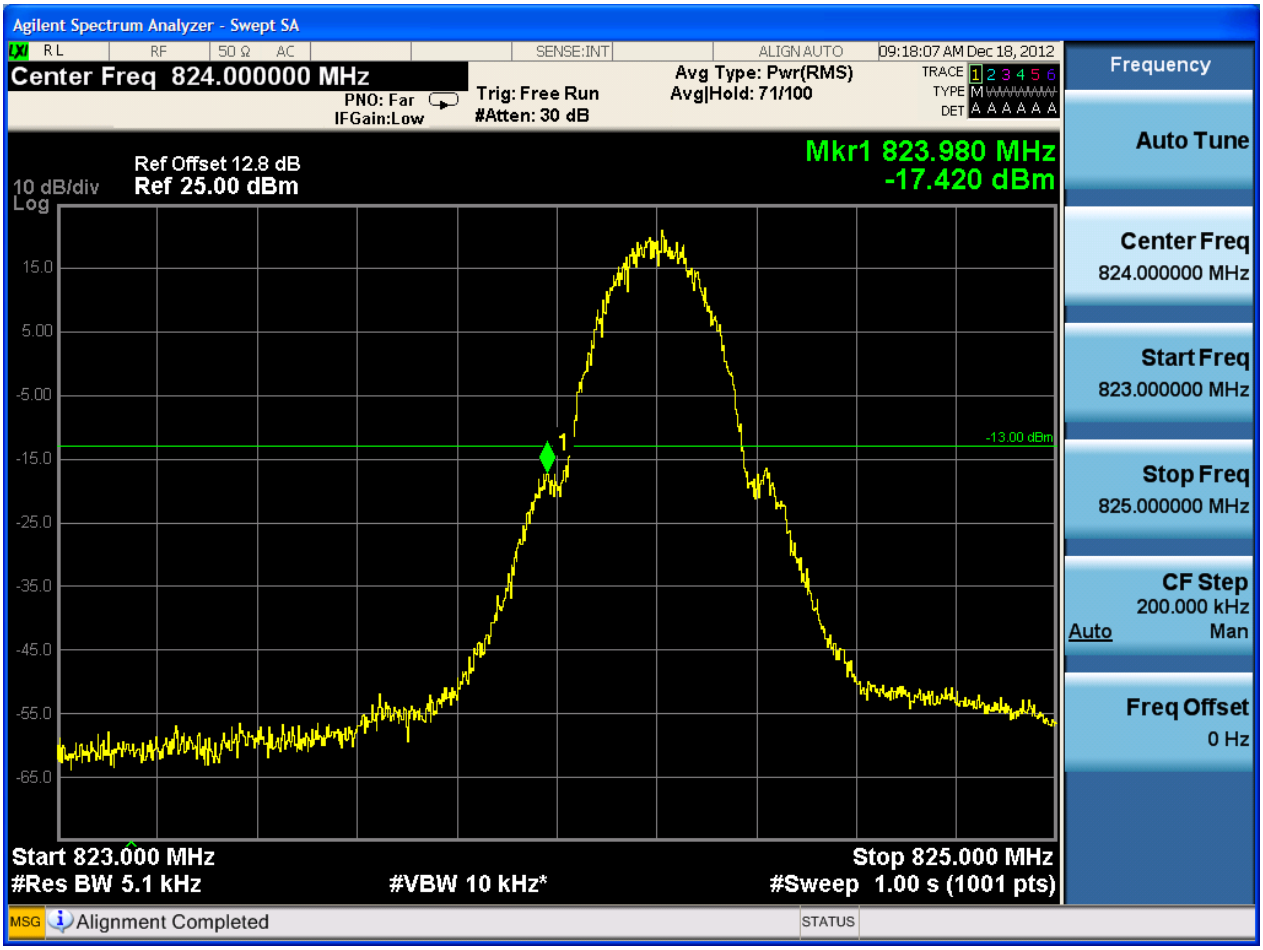
Part I - Test Plots

3.1 For GSM

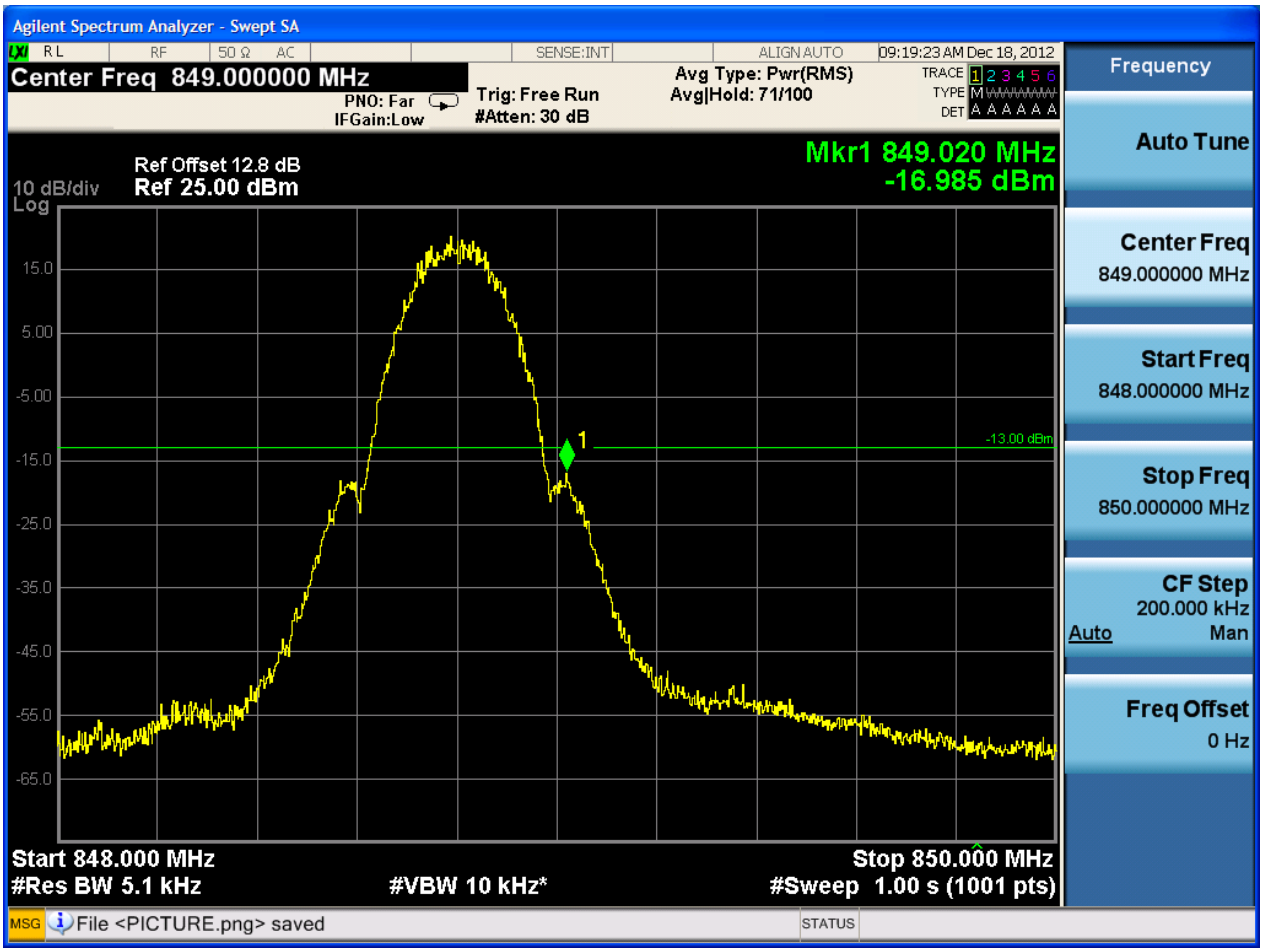
3.1.1 Test Band = GSM850

3.1.1.1 Test Mode = GSM/TM1

3.1.1.1.1 Test Channel = LCH

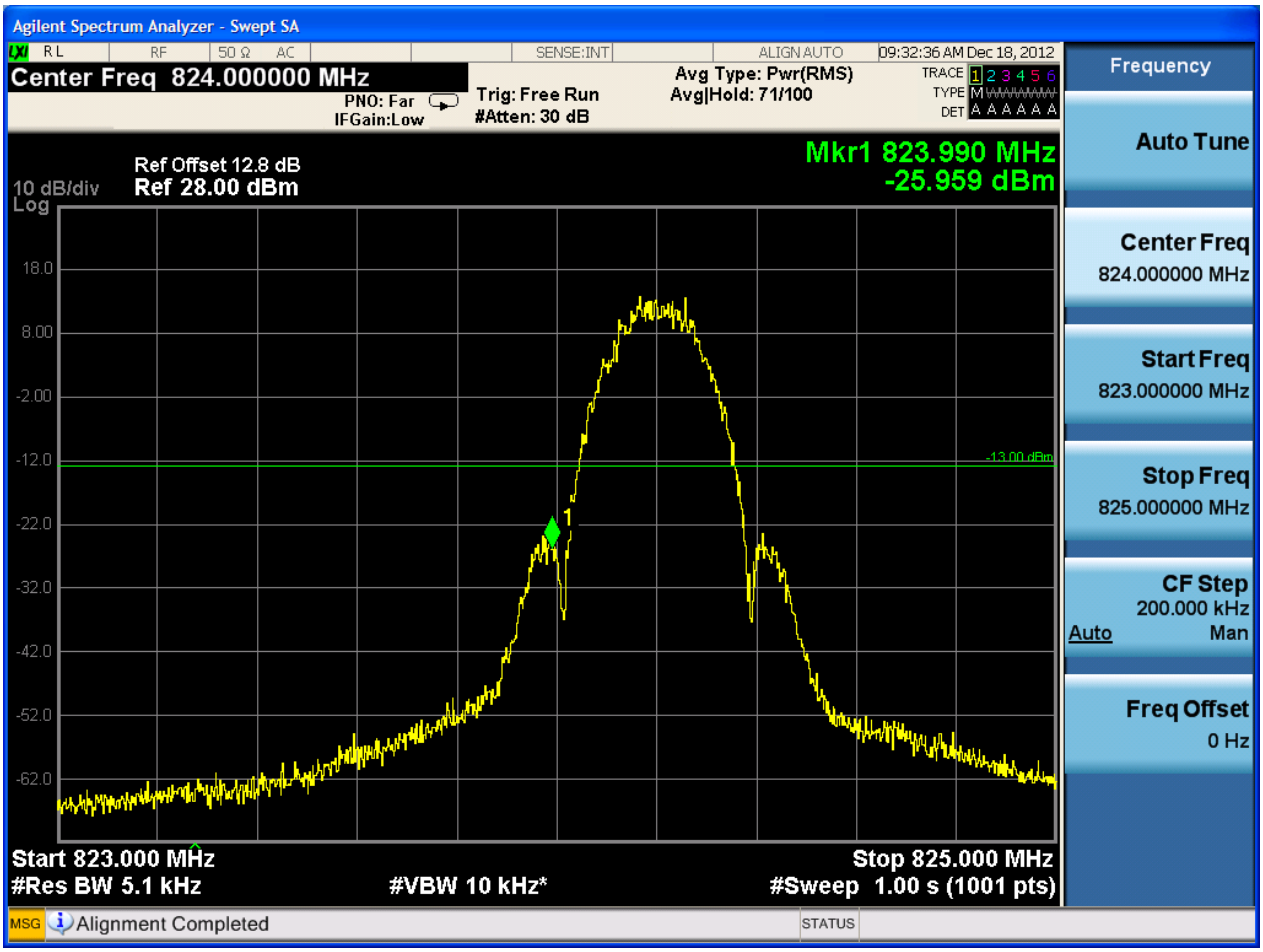


3.1.1.1.2 Test Channel = HCH

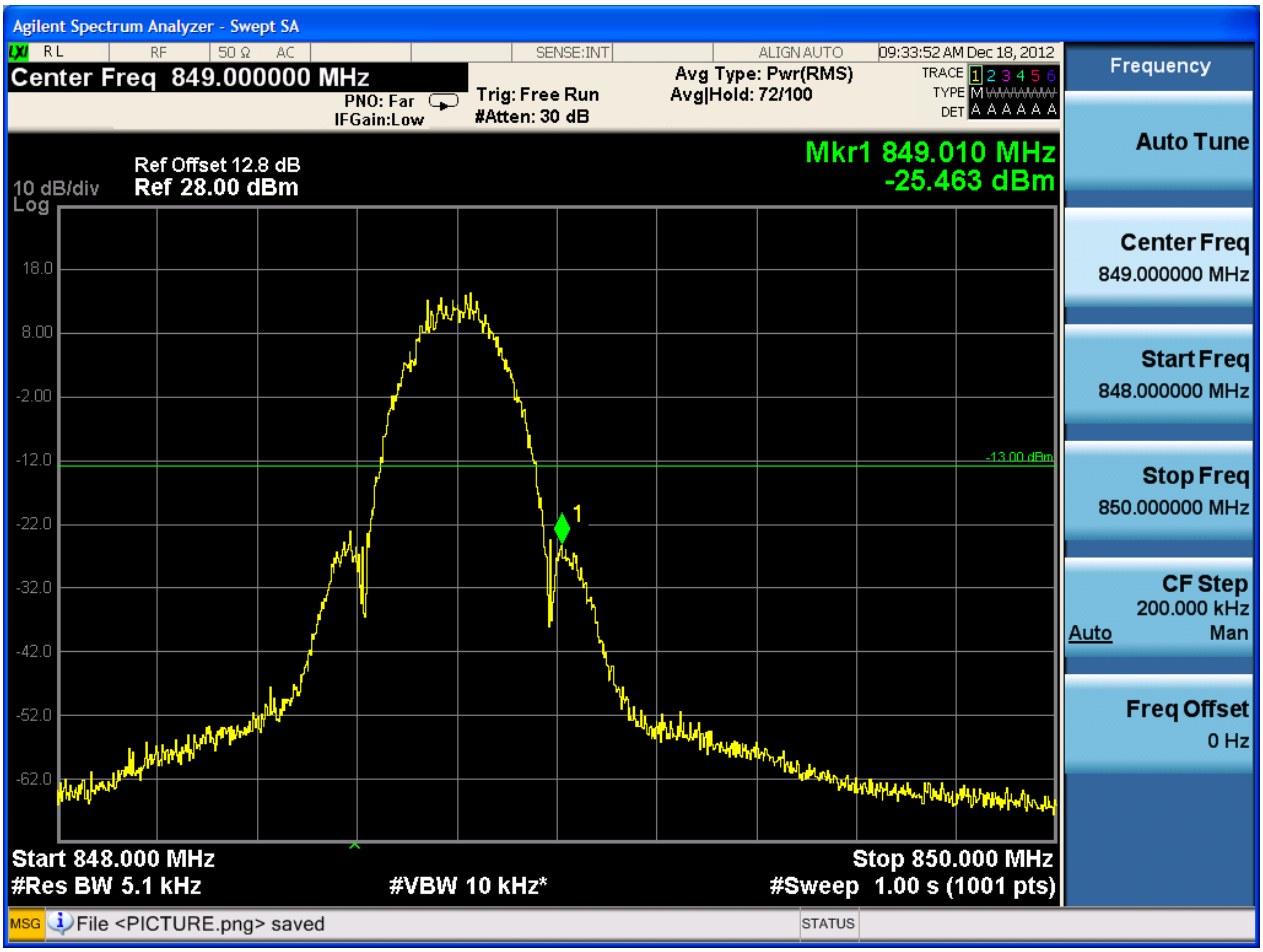


3.1.1.2 Test Mode = GSM/TM2

3.1.1.2.1 Test Channel = LCH



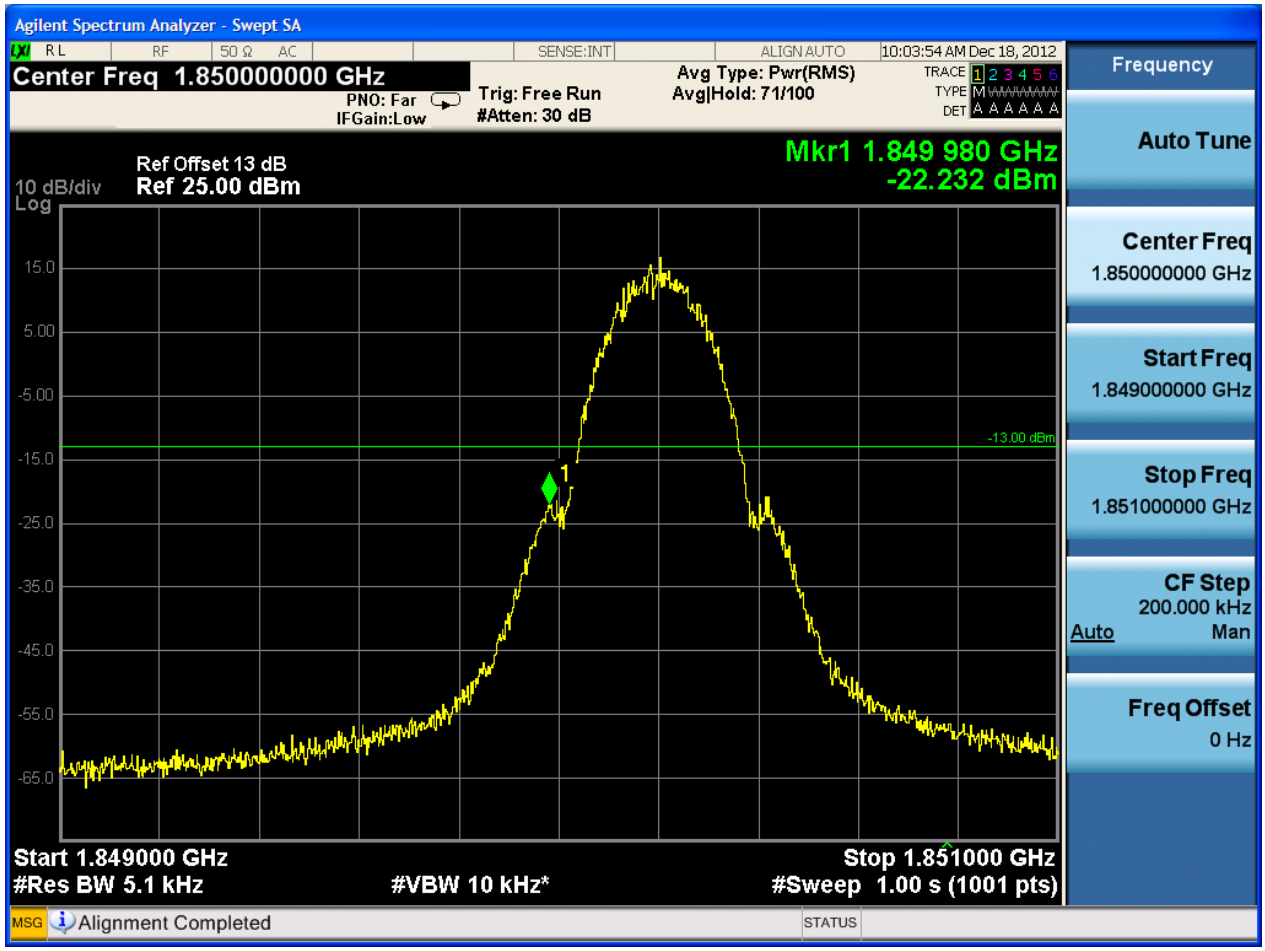
3.1.1.2.2 Test Channel = HCH



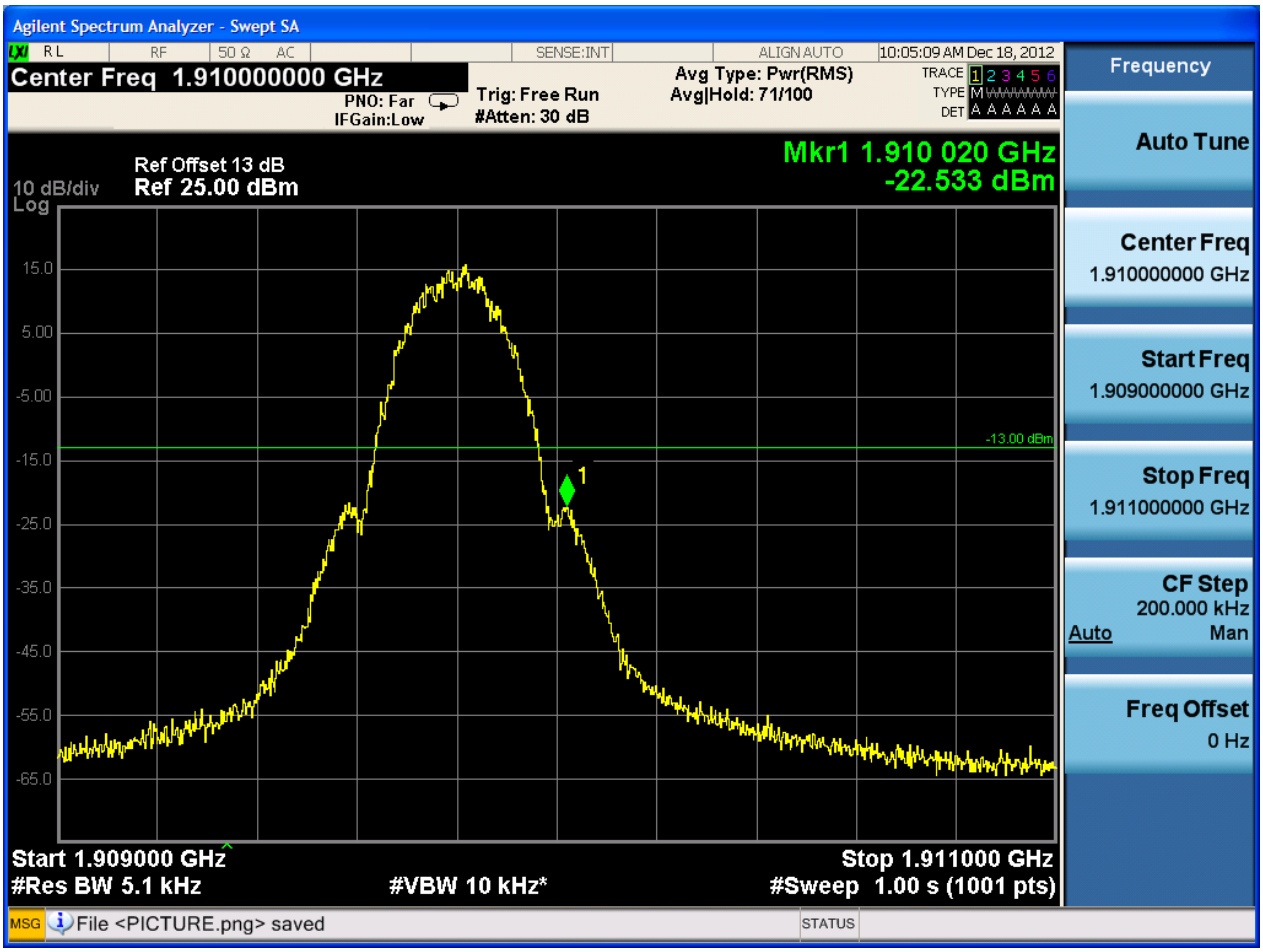
3.1.2 Test Band = GSM1900

3.1.2.1 Test Mode = GSM/TM1

3.1.2.1.1 Test Channel = LCH

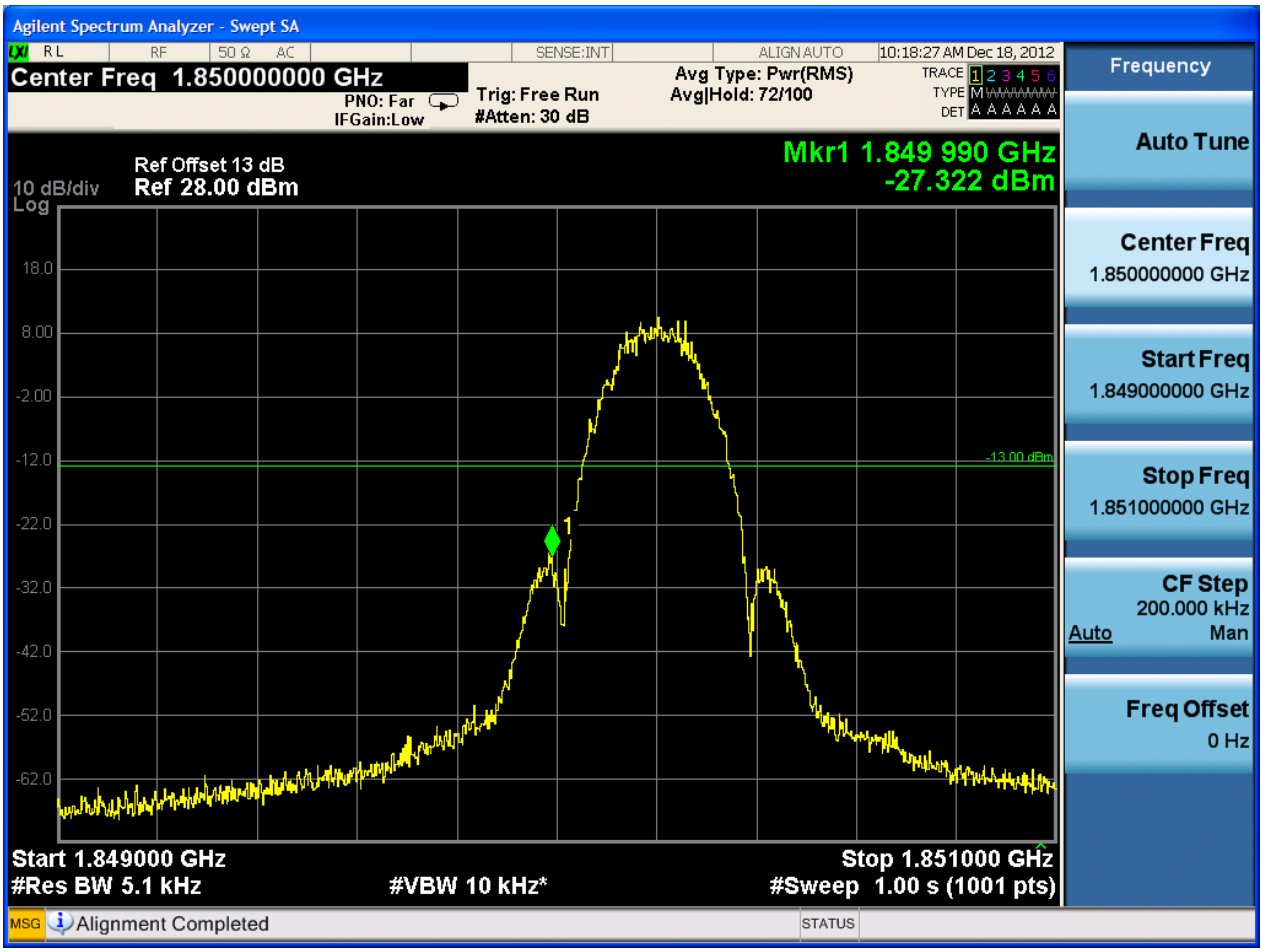


3.1.2.1.2 Test Channel = HCH

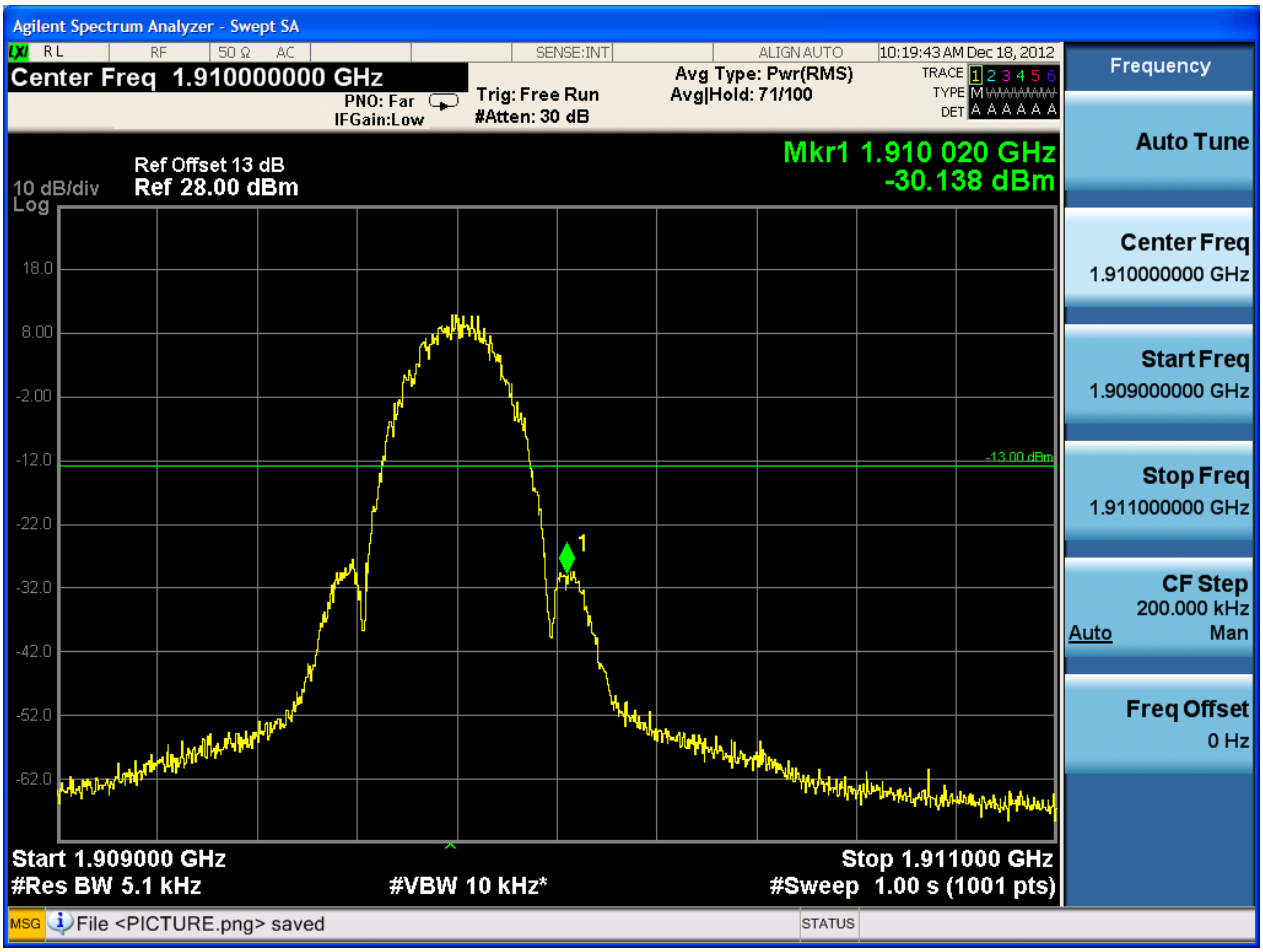


3.1.2.2 Test Mode = GSM/TM2

3.1.2.2.1 Test Channel = LCH



3.1.2.2.2 Test Channel = HCH

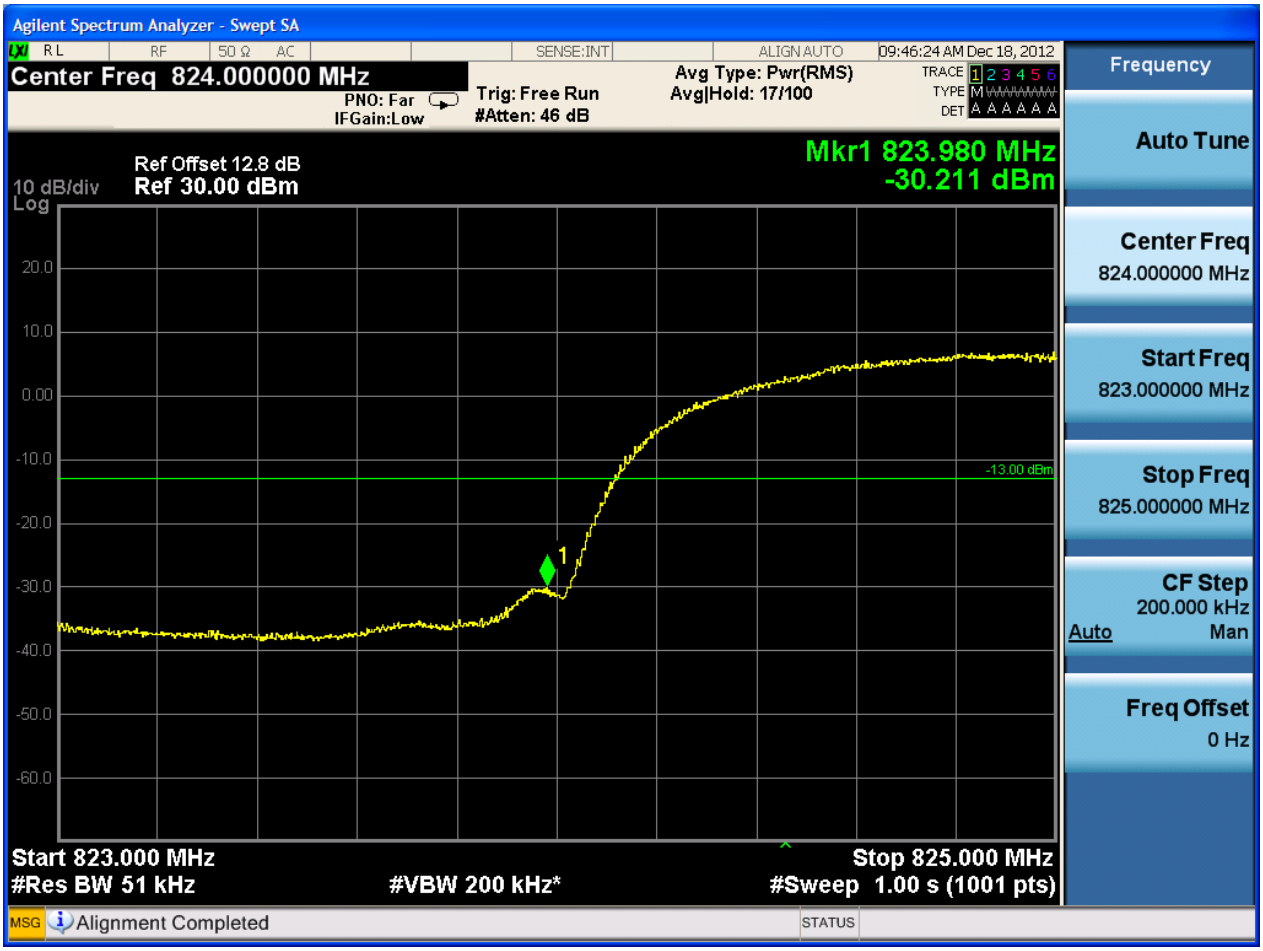


3.2 For UMTS

3.2.1 Test Band = WCDMA850

3.2.1.1 Test Mode = UMTS/TM1

3.2.1.1.1 Test Channel = LCH

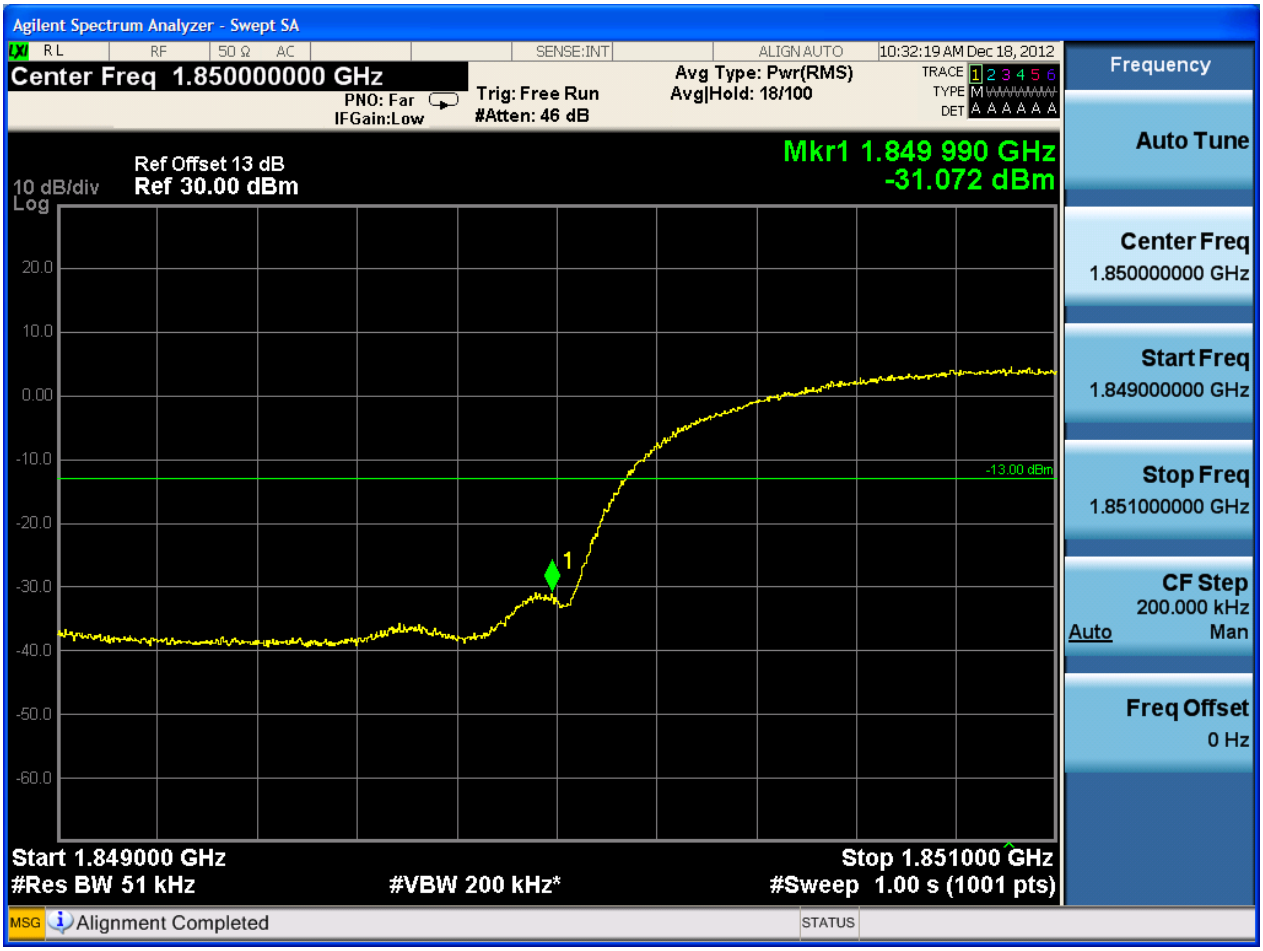


3.2.1.1.2 Test Channel = HCH

3.2.2 Test Band = WCDMA1900

3.2.2.1 Test Mode = UMTS/TM1

3.2.2.1.1 Test Channel = LCH

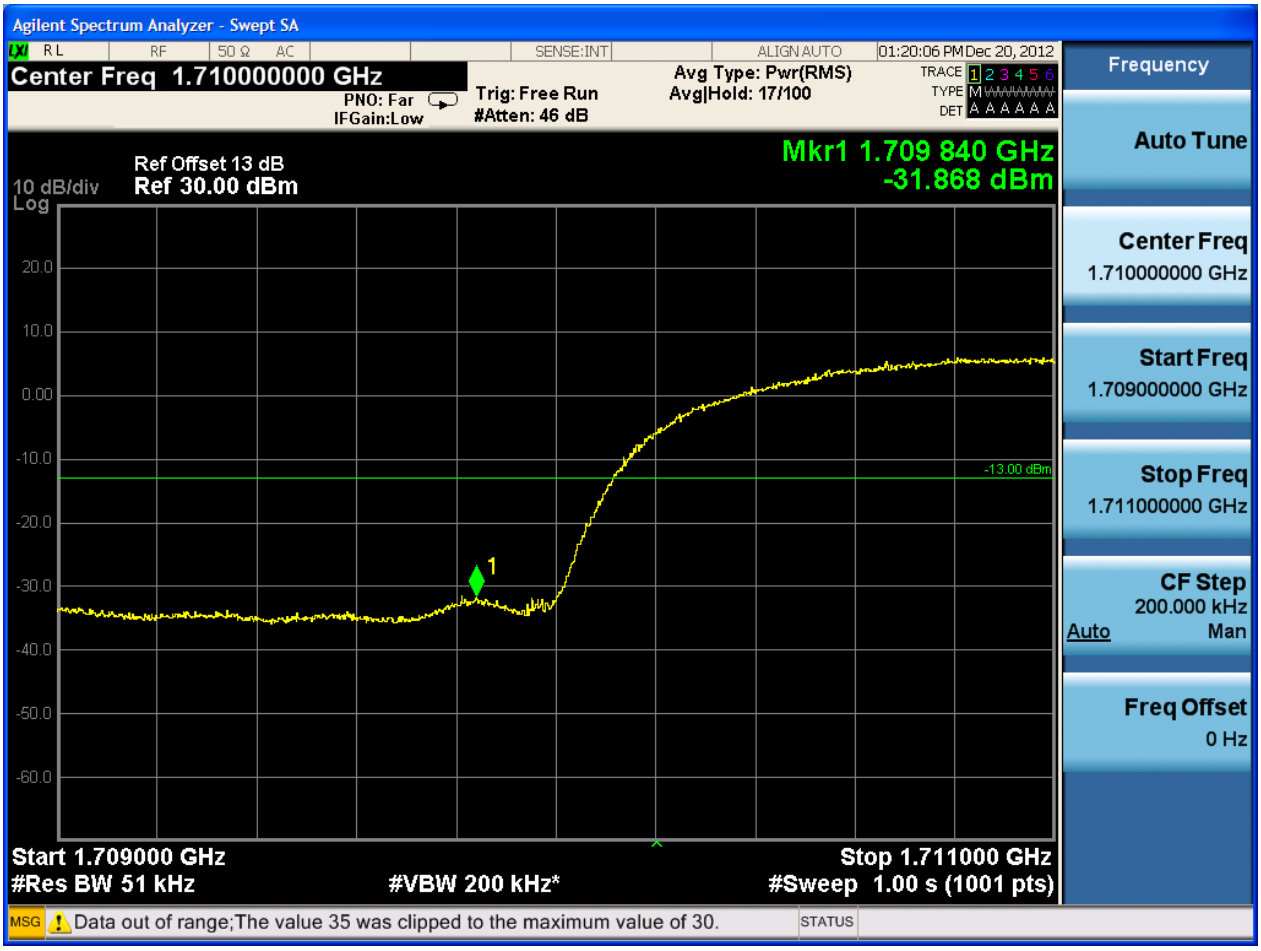


3.2.2.1.2 Test Channel = HCH

3.2.3 Test Band = WCDMA1700

3.2.2.1 Test Mode = UMTS/TM1

3.2.2.1.1 Test Channel = LCH



3.2.2.1.2 Test Channel = HCH

4Appendix_D: 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.

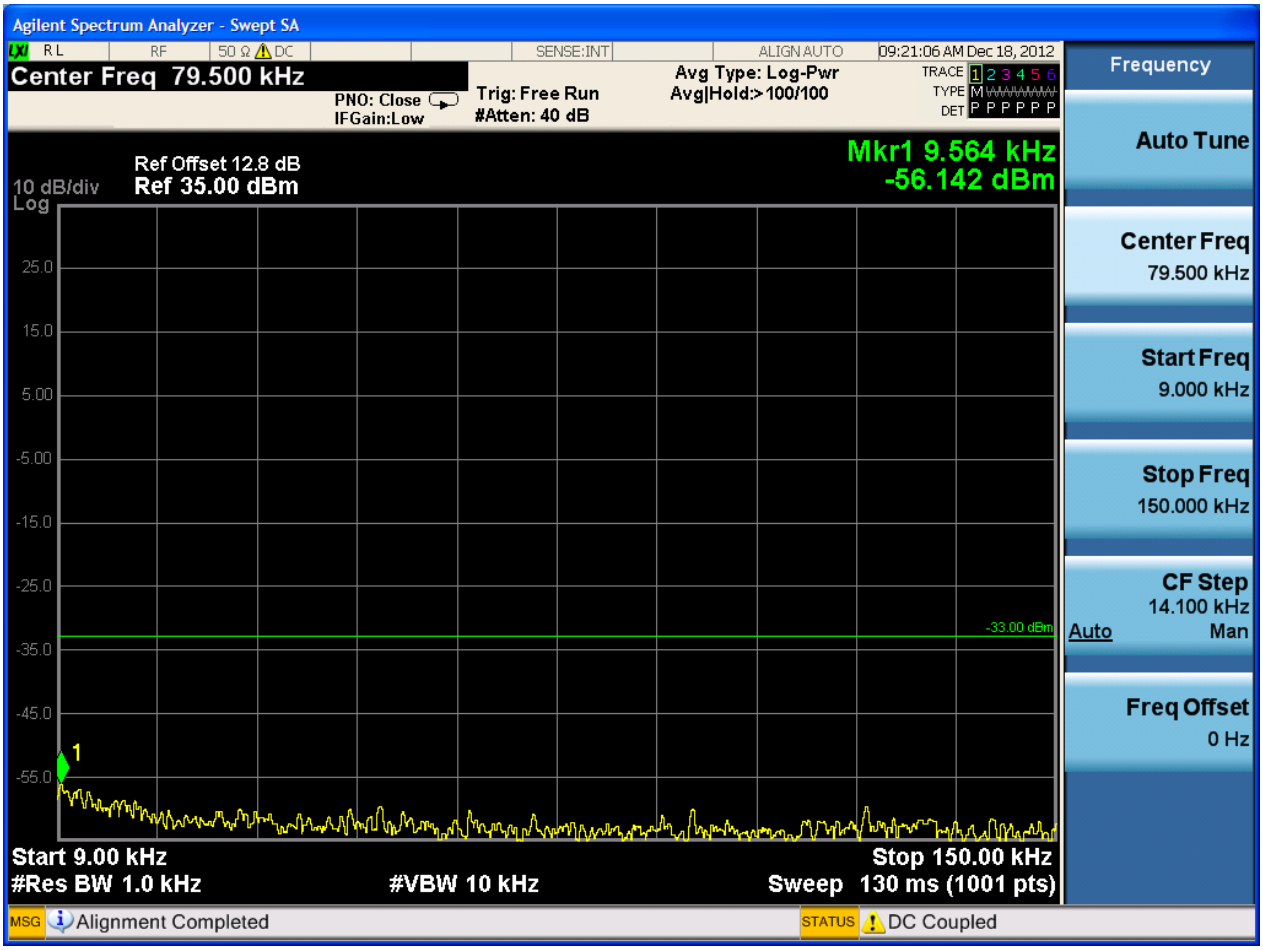
Part I - Test Plots

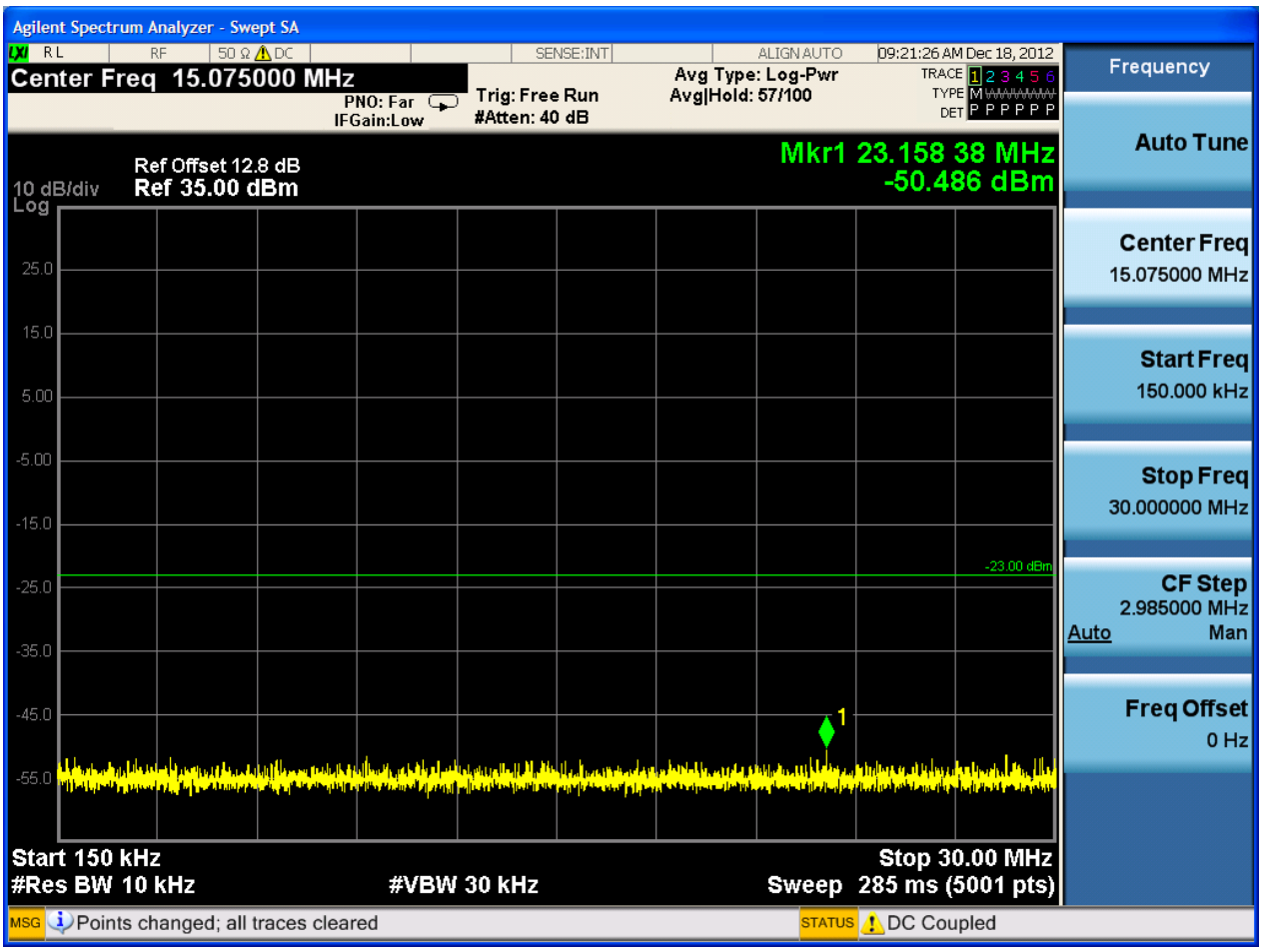
4.1 For GSM

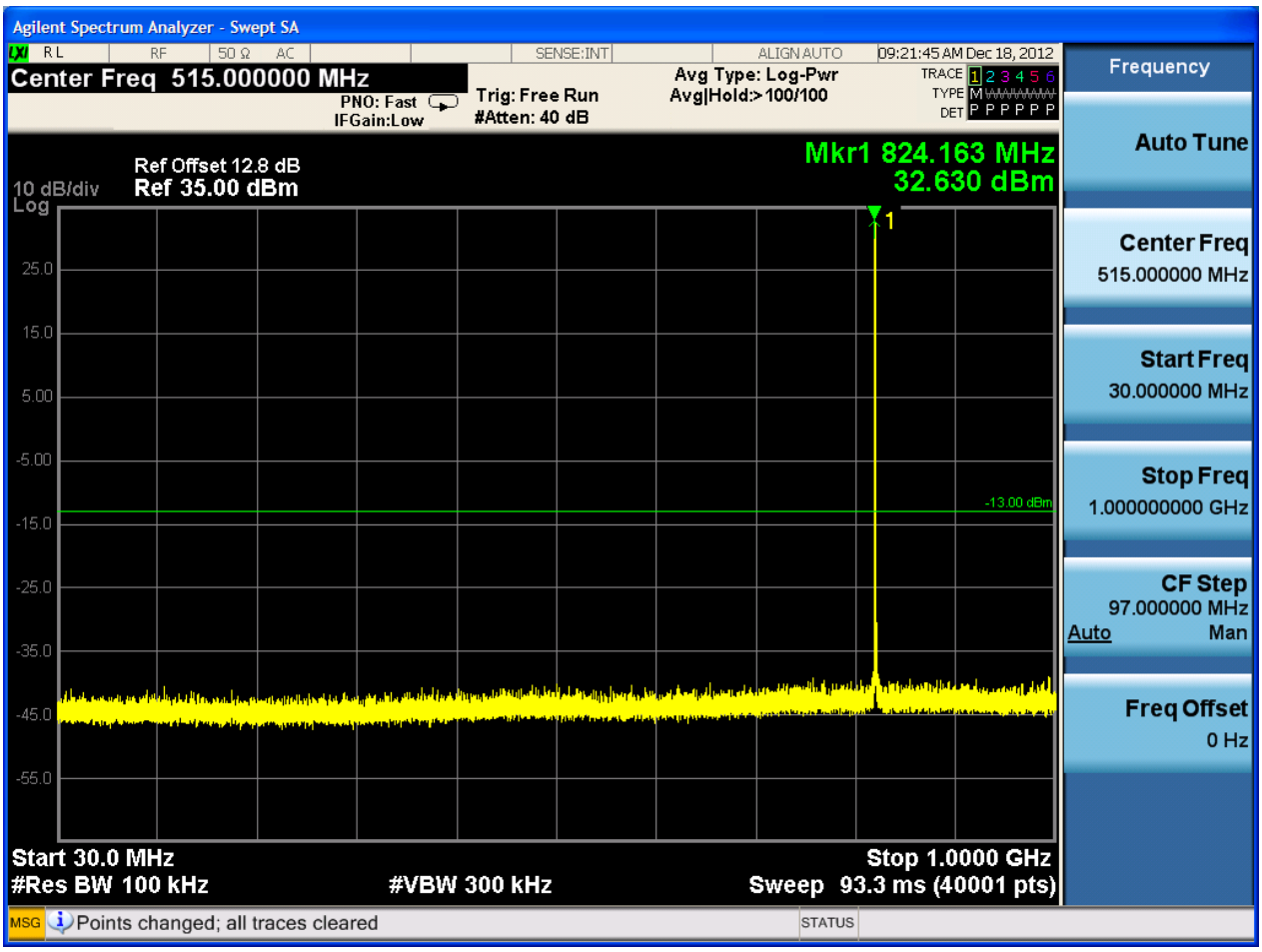
4.1.1 Test Band = GSM850

4.1.1.1 Test Mode = GSM/TM1

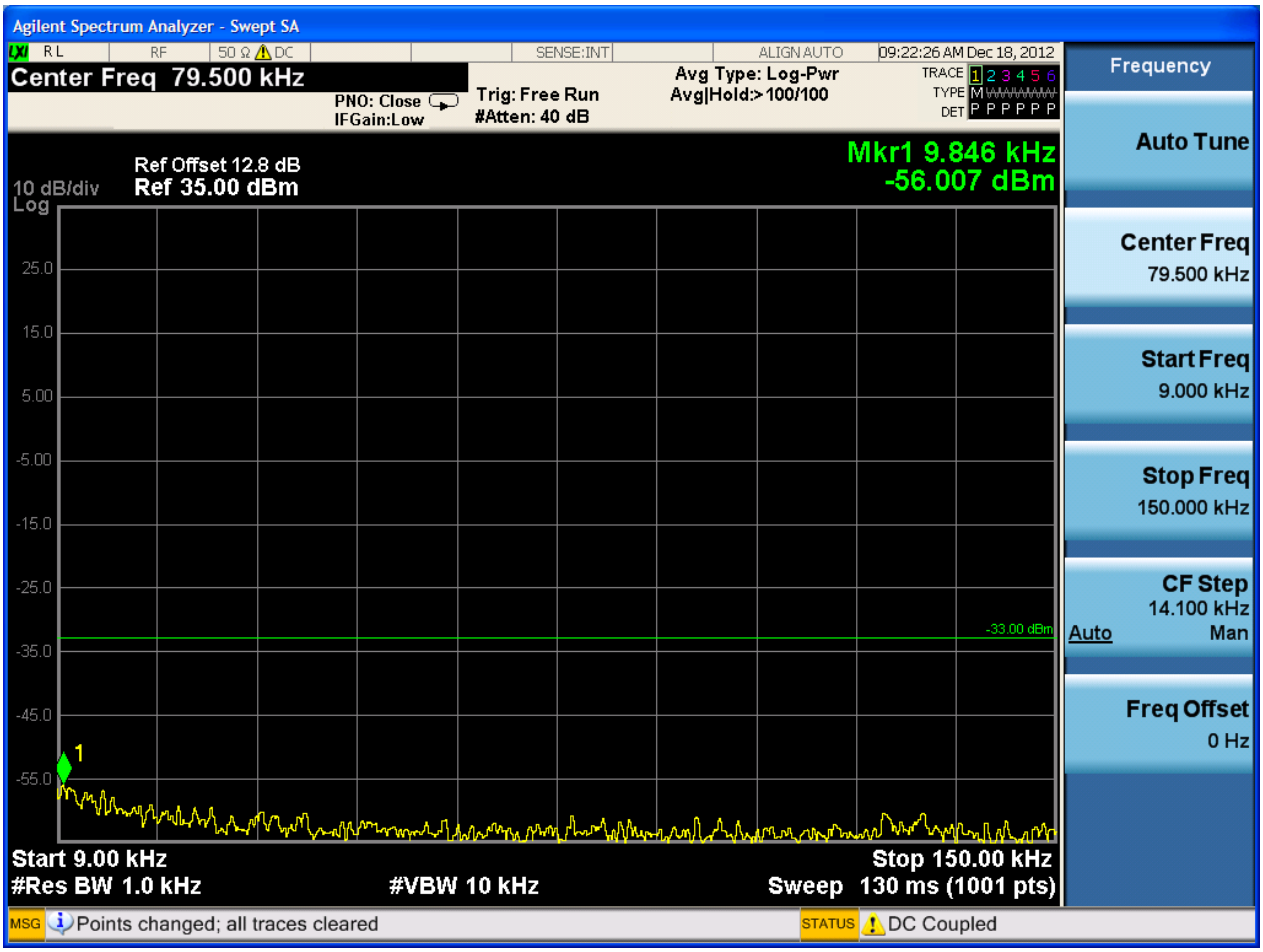
4.1.1.1.1 Test Channel = LCH

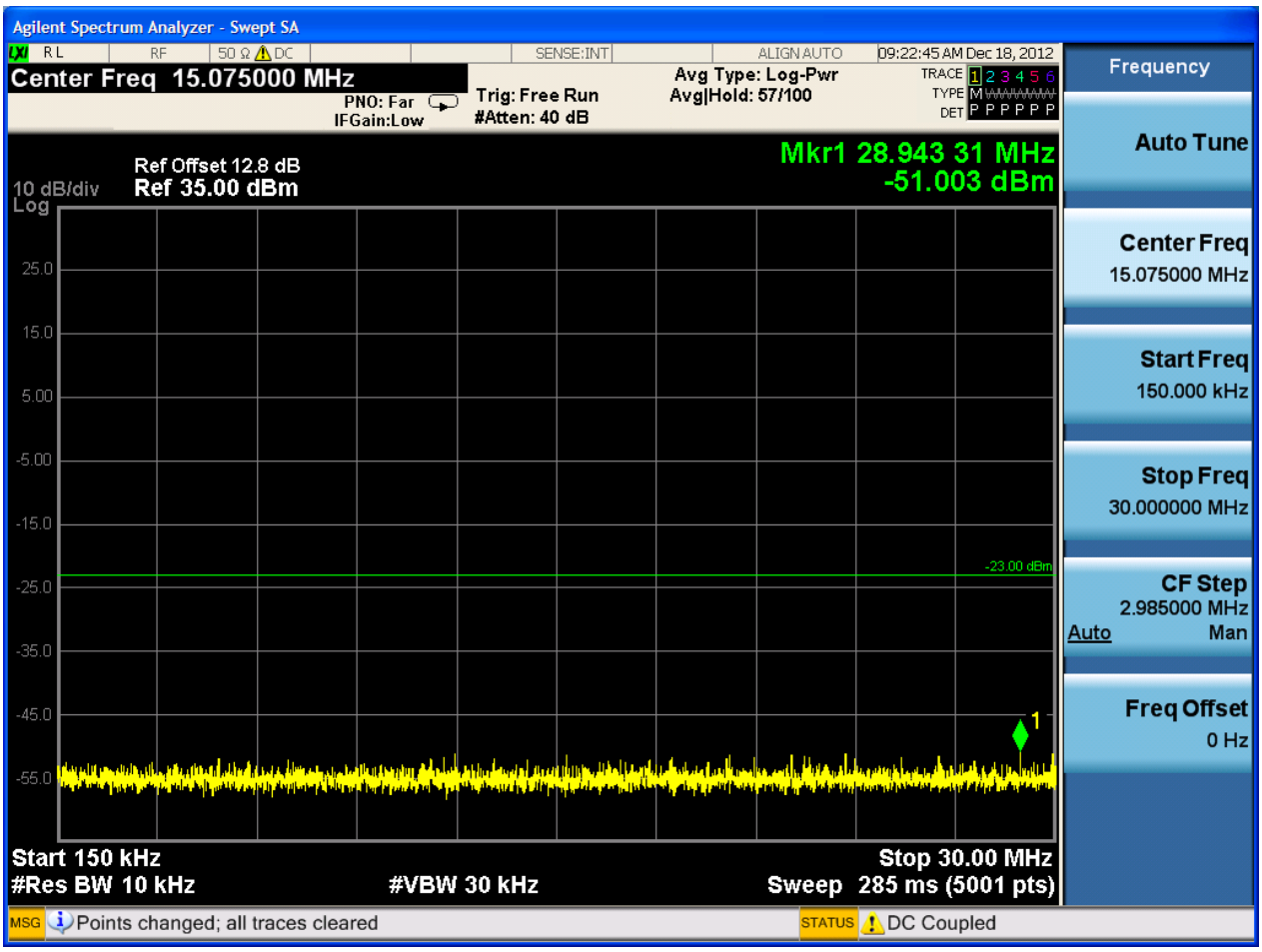


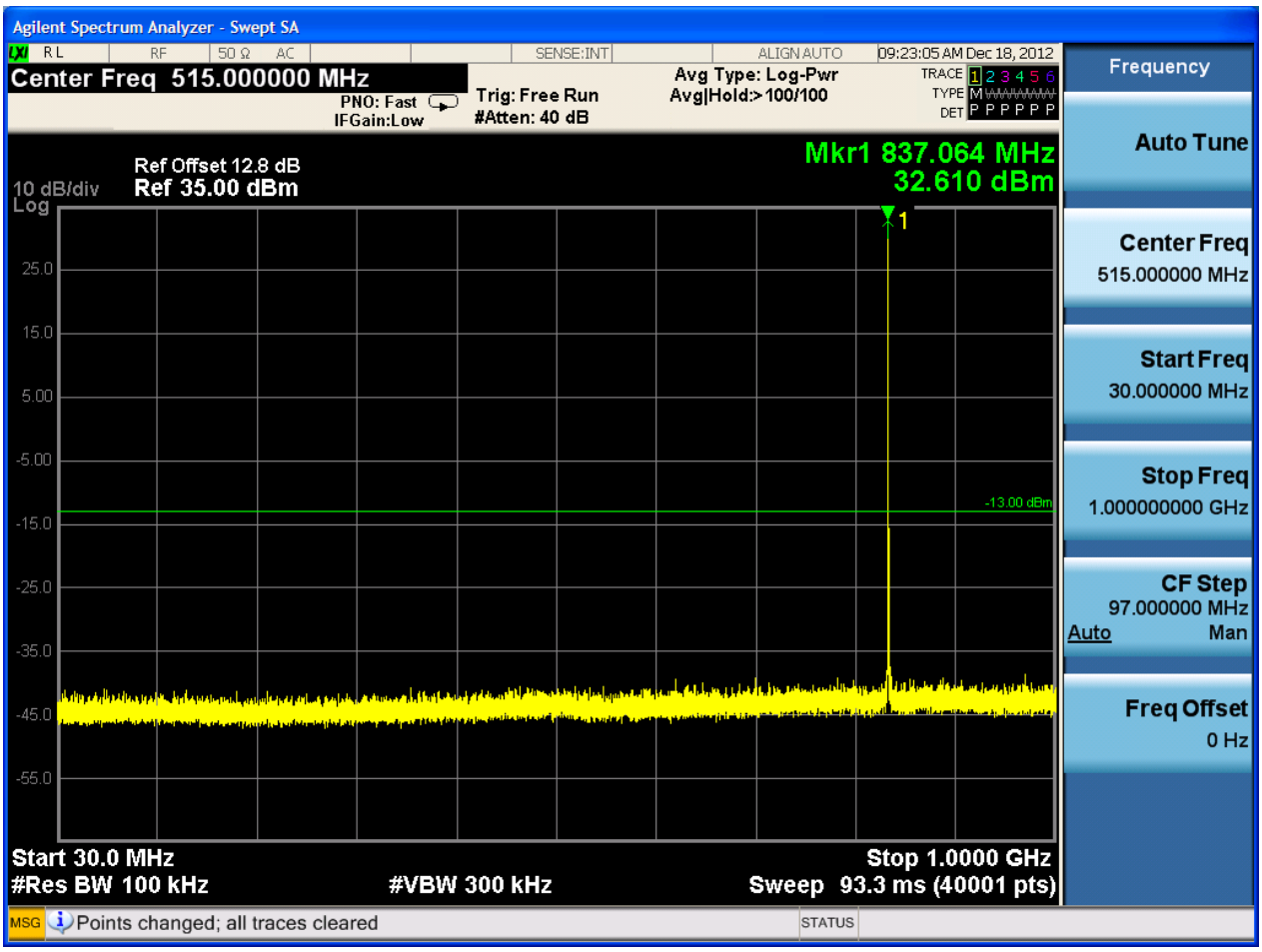


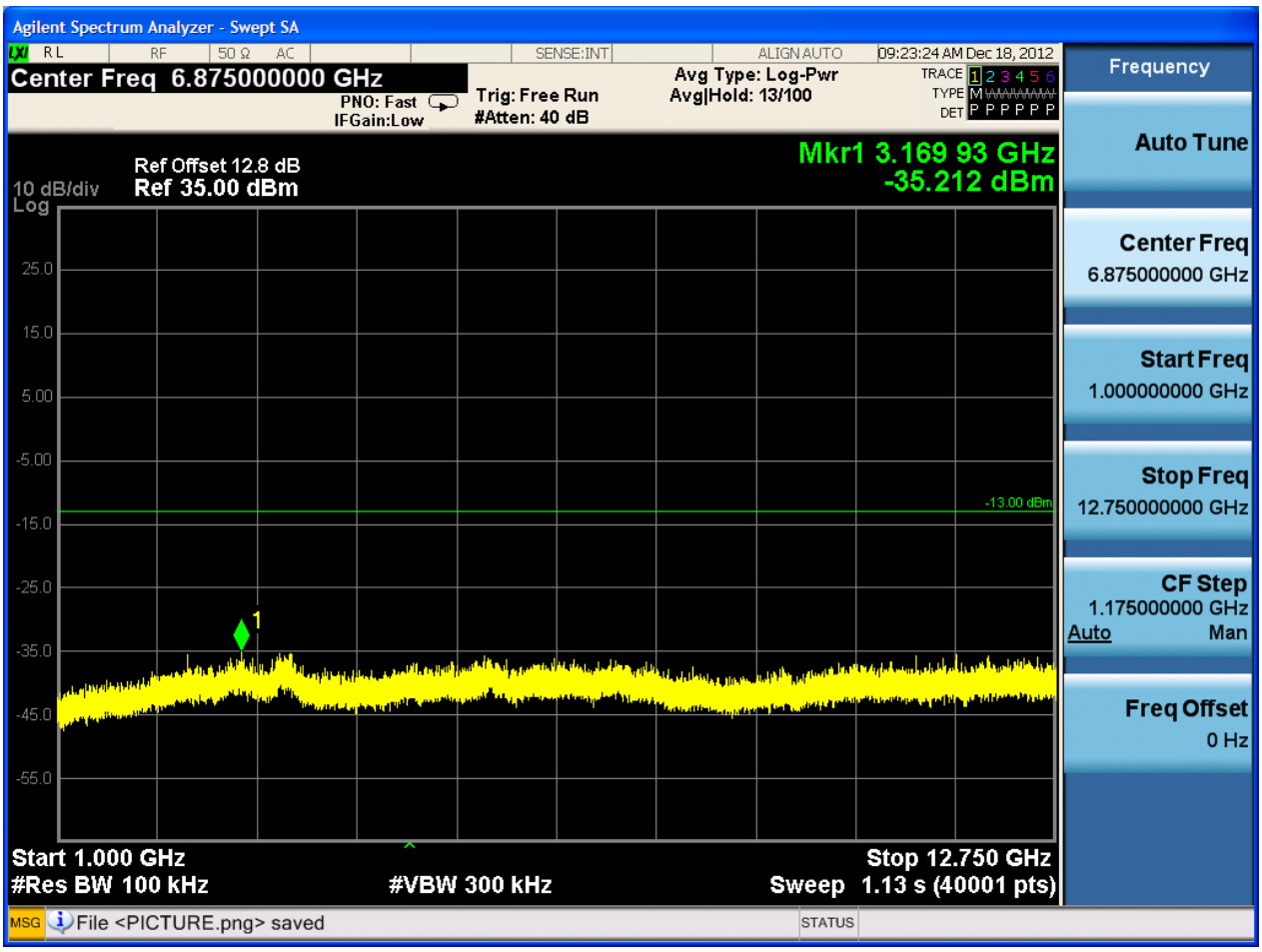


4.1.1.1.2 Test Channel = MCH

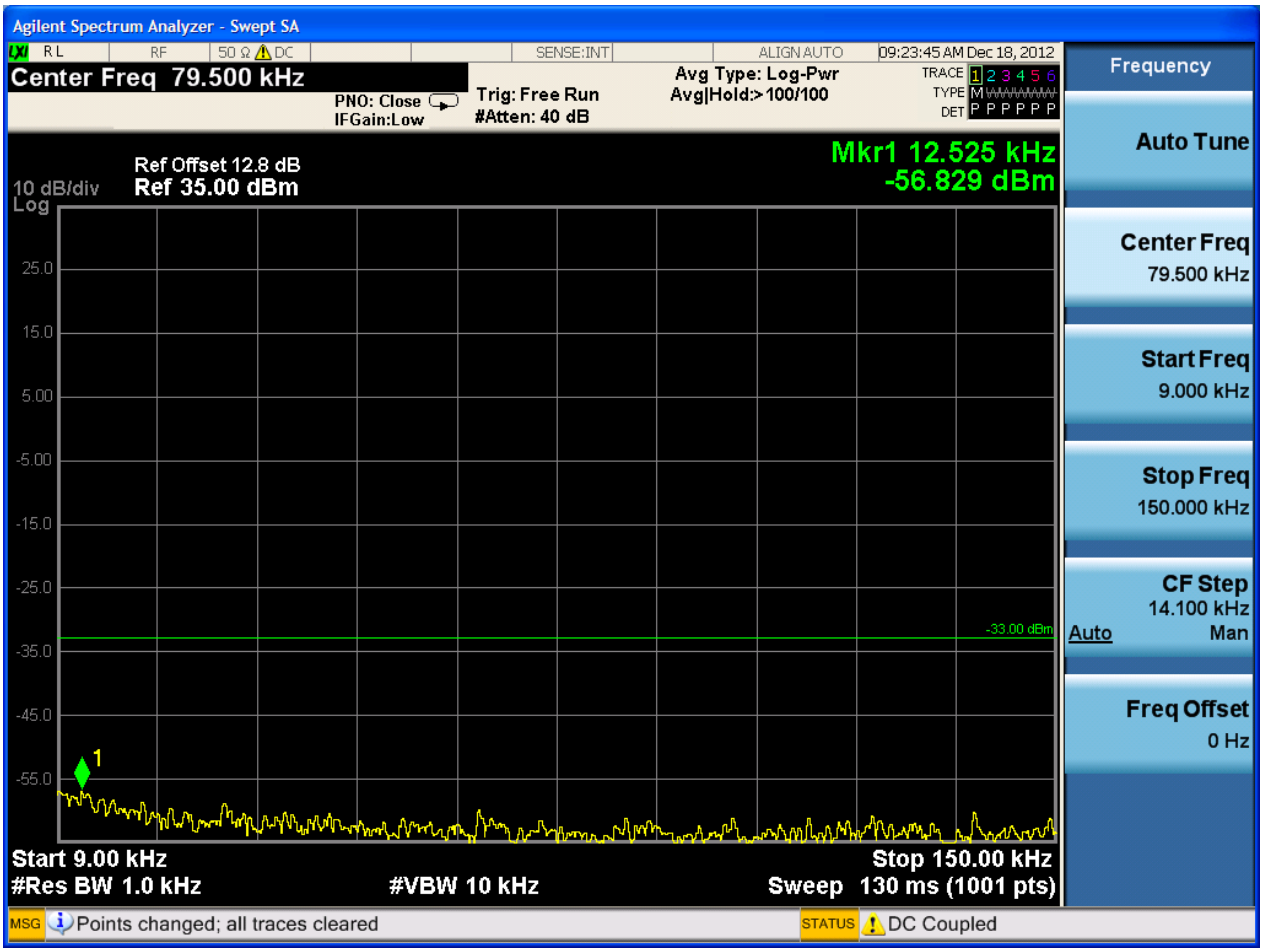


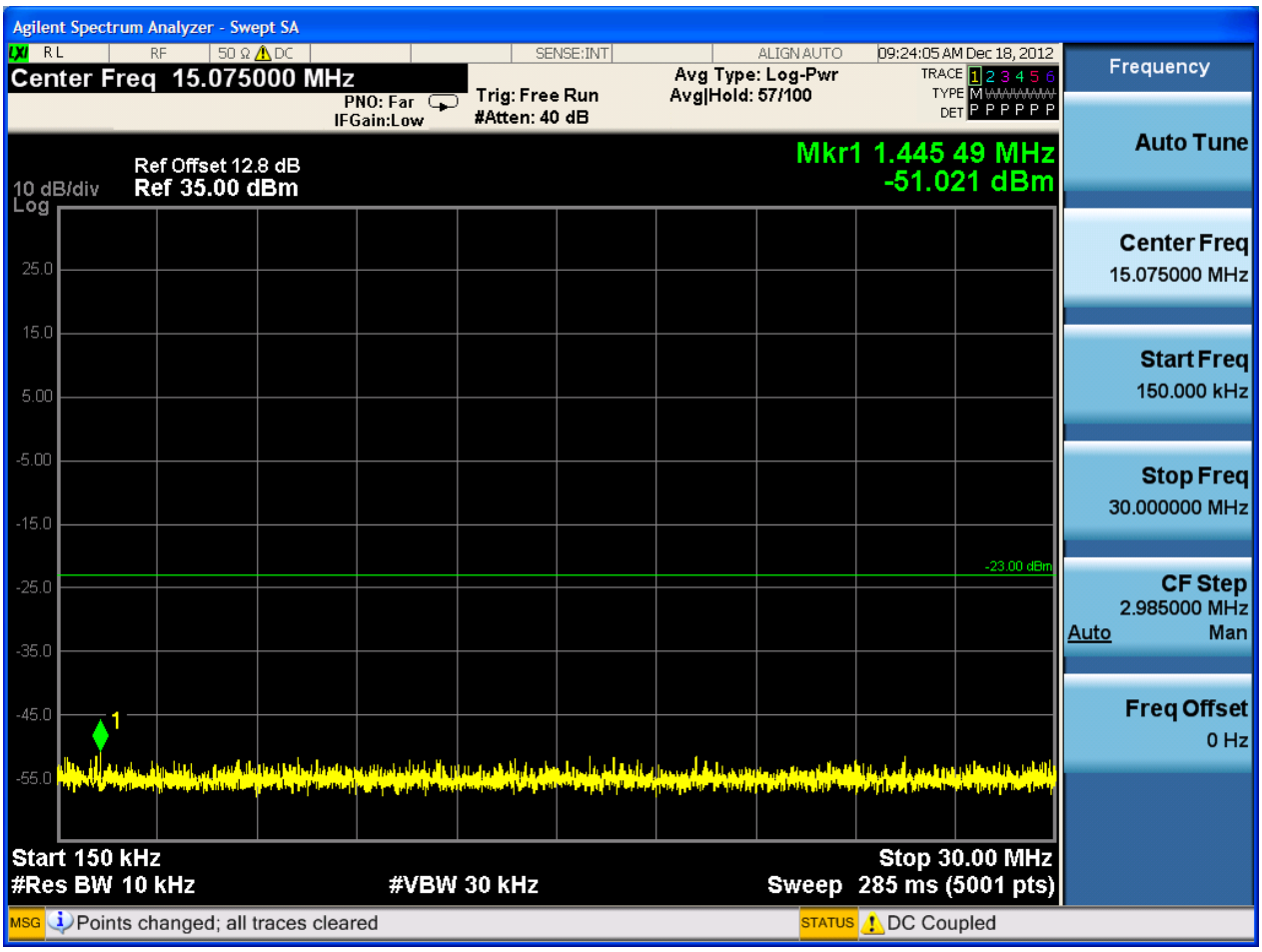


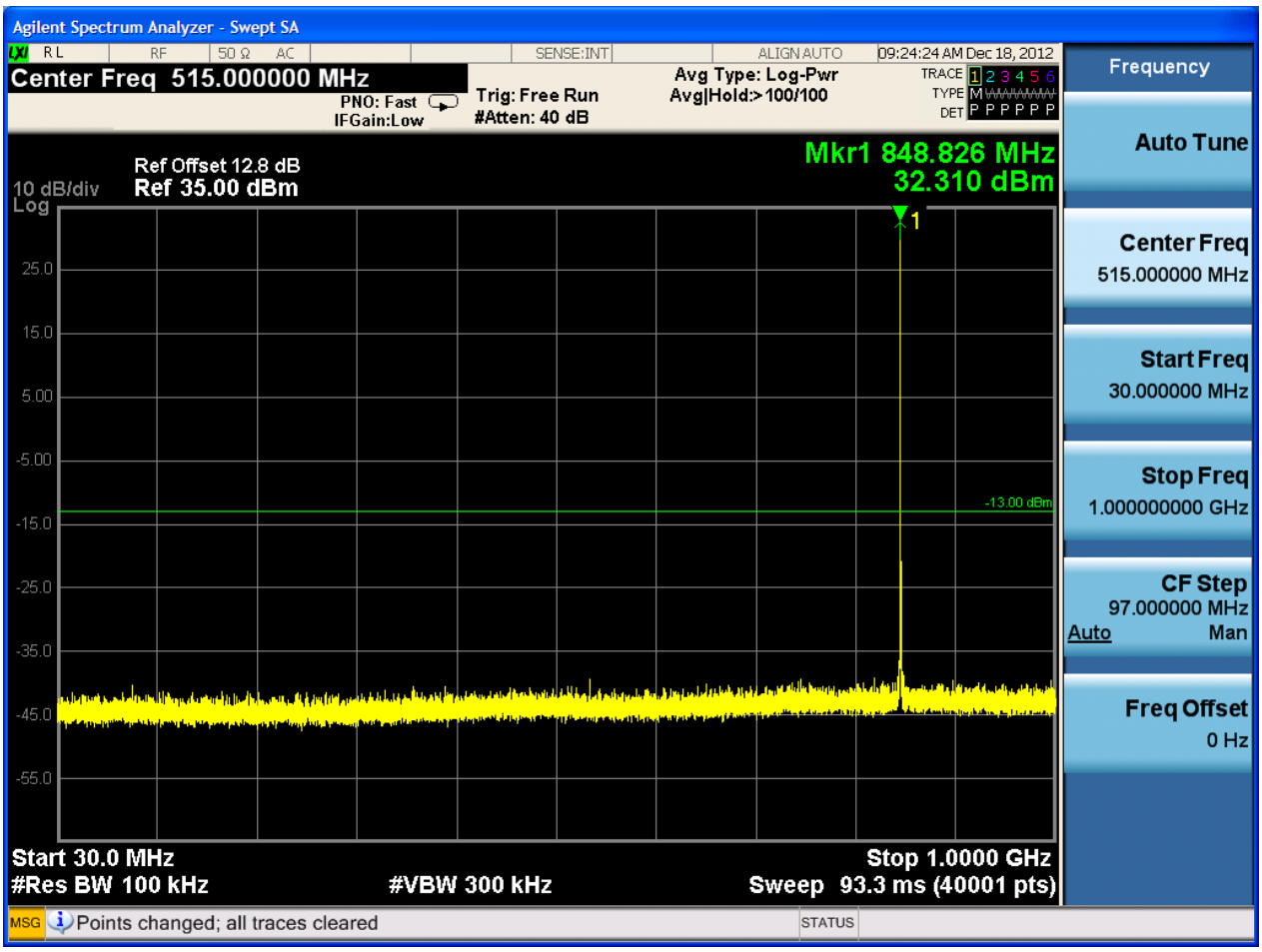


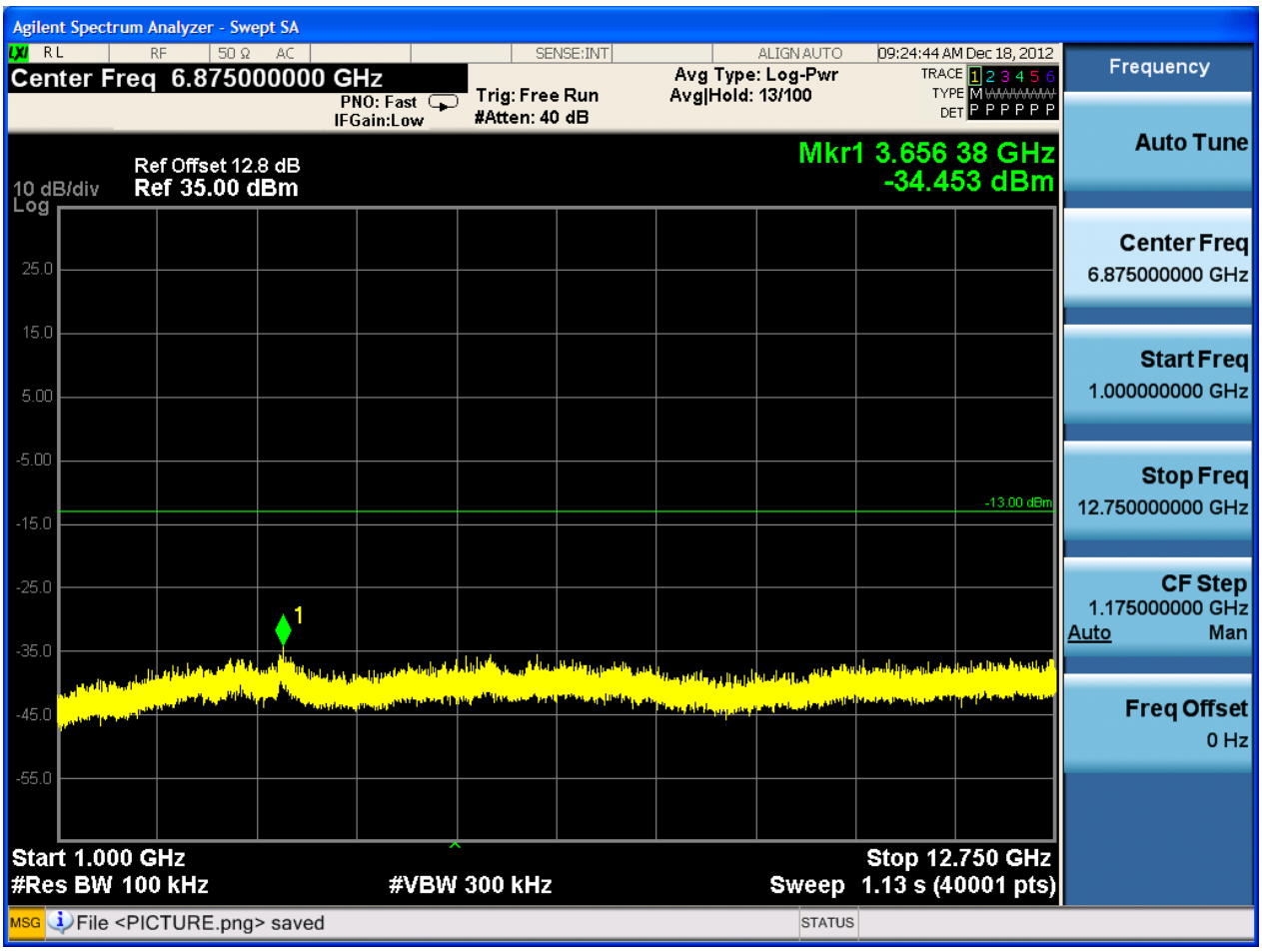


4.1.1.1.3 Test Channel = HCH



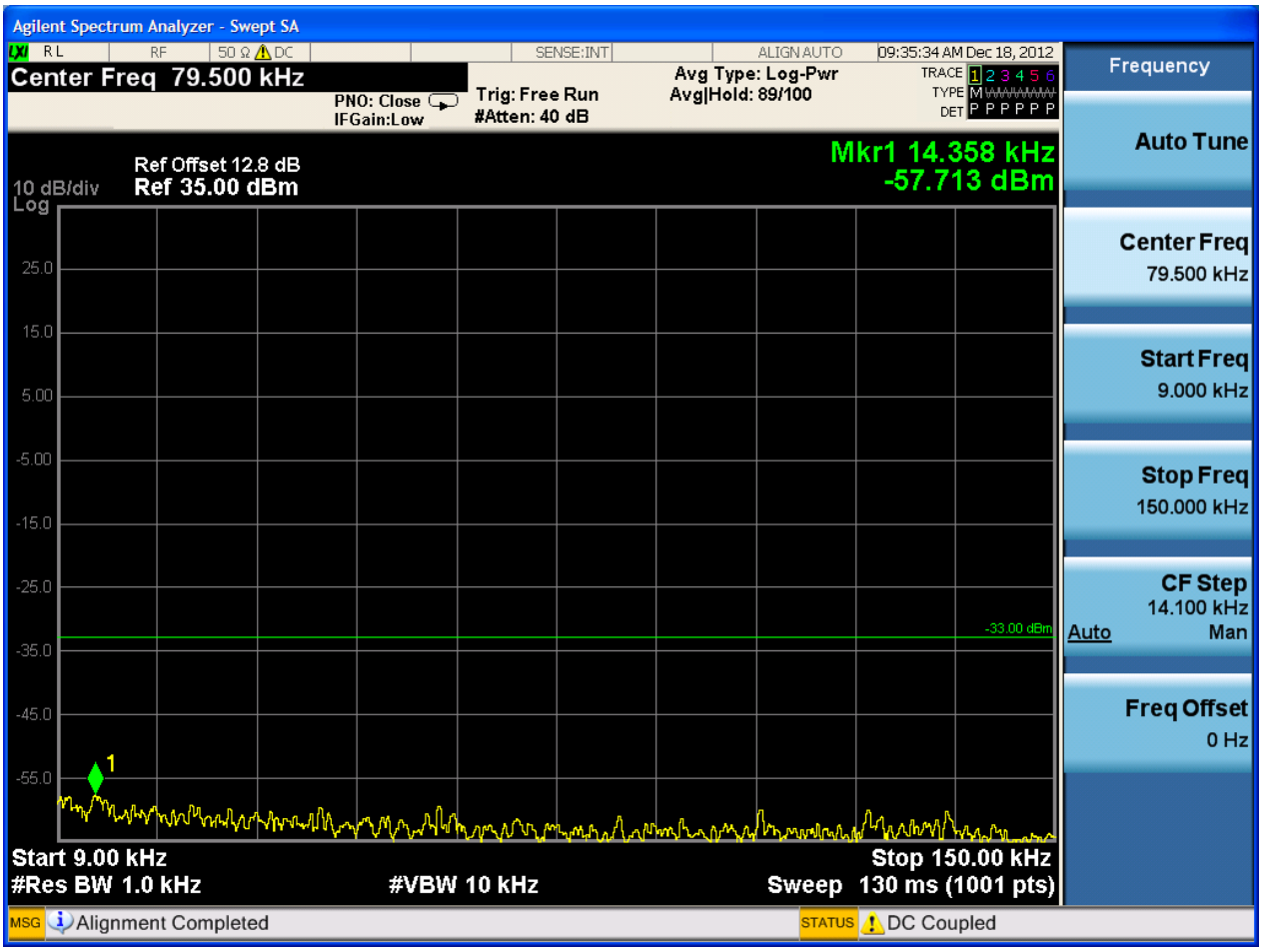


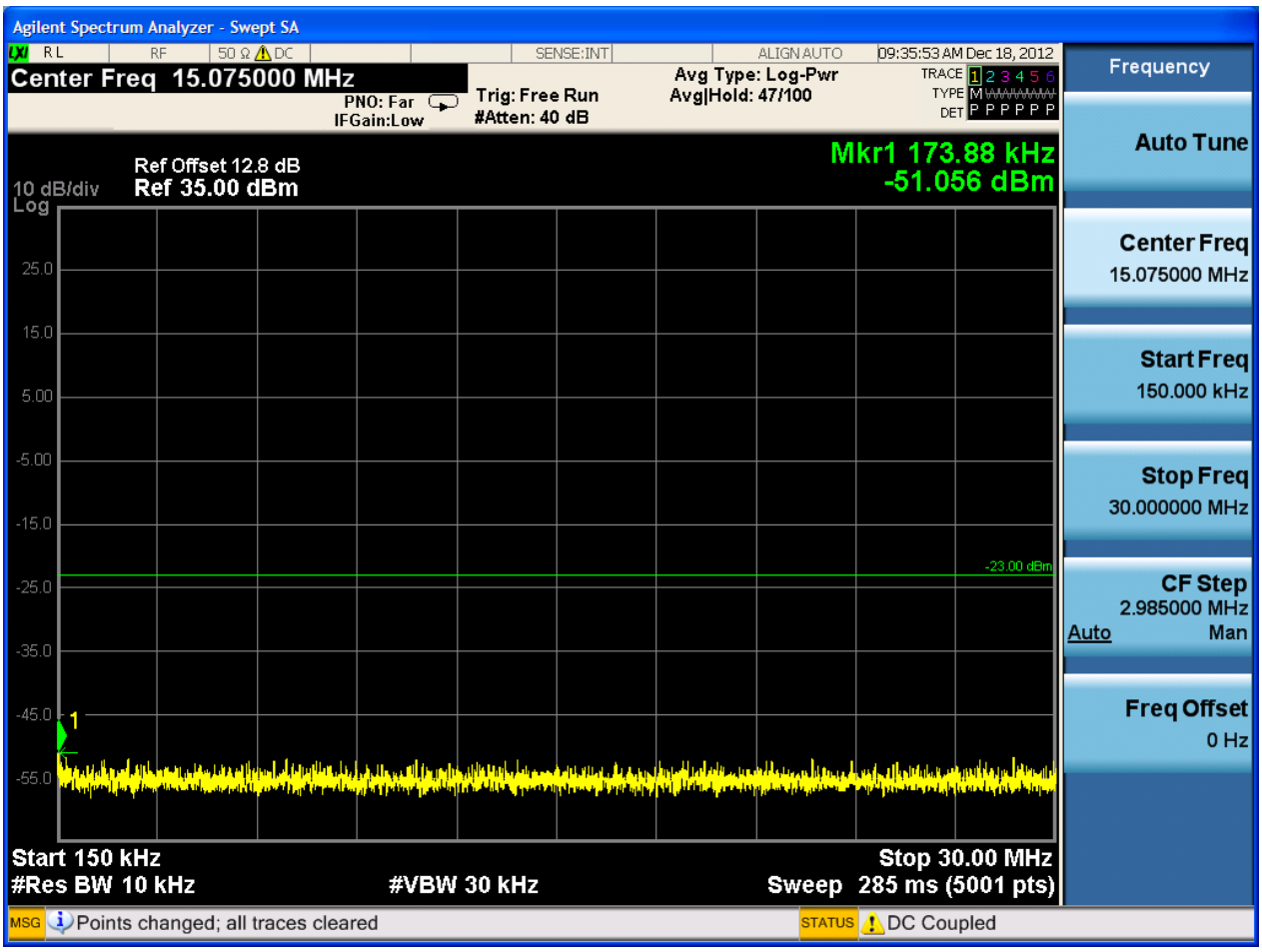


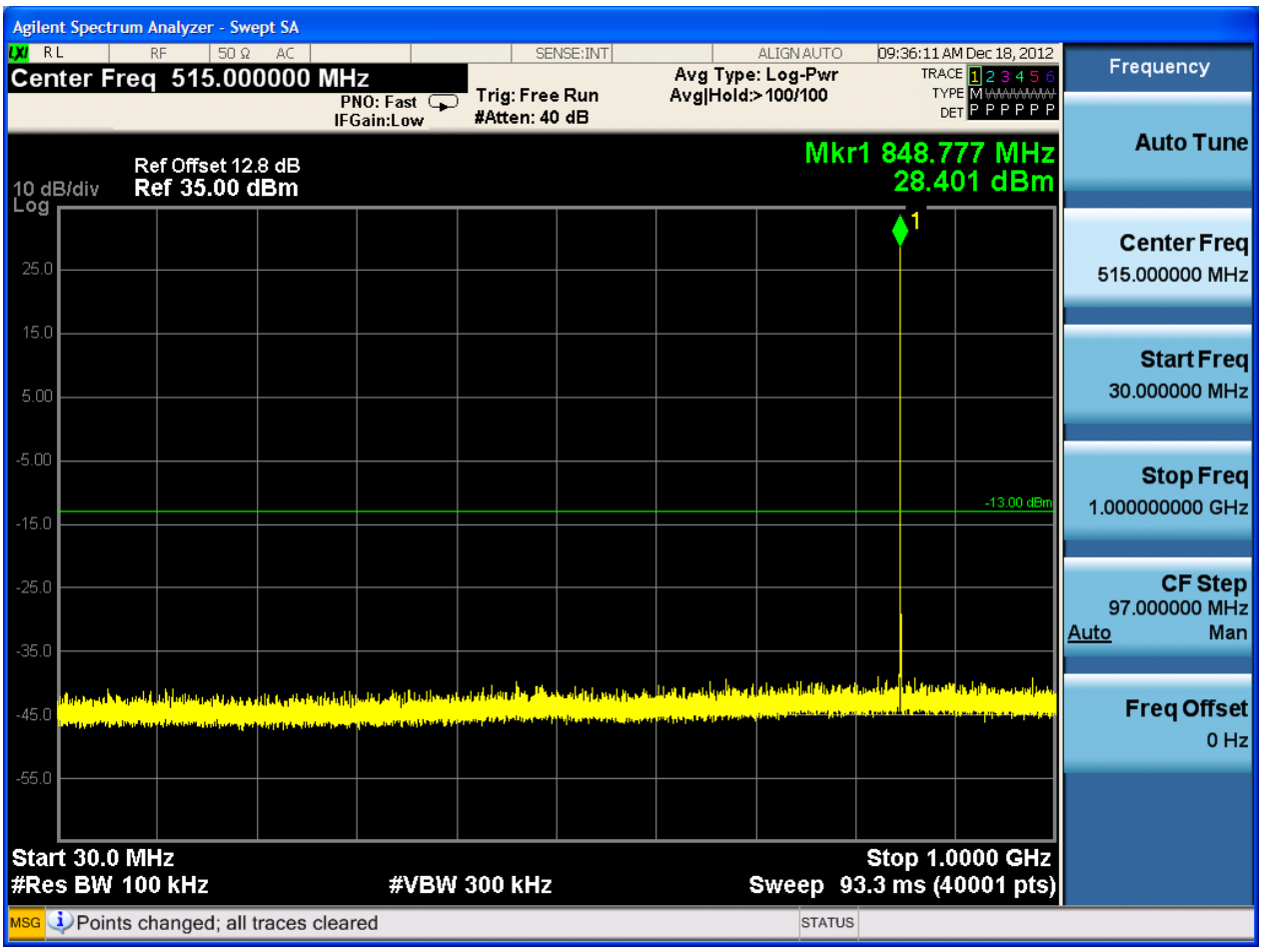


4.1.1.2 Test Mode = GSM/TM2

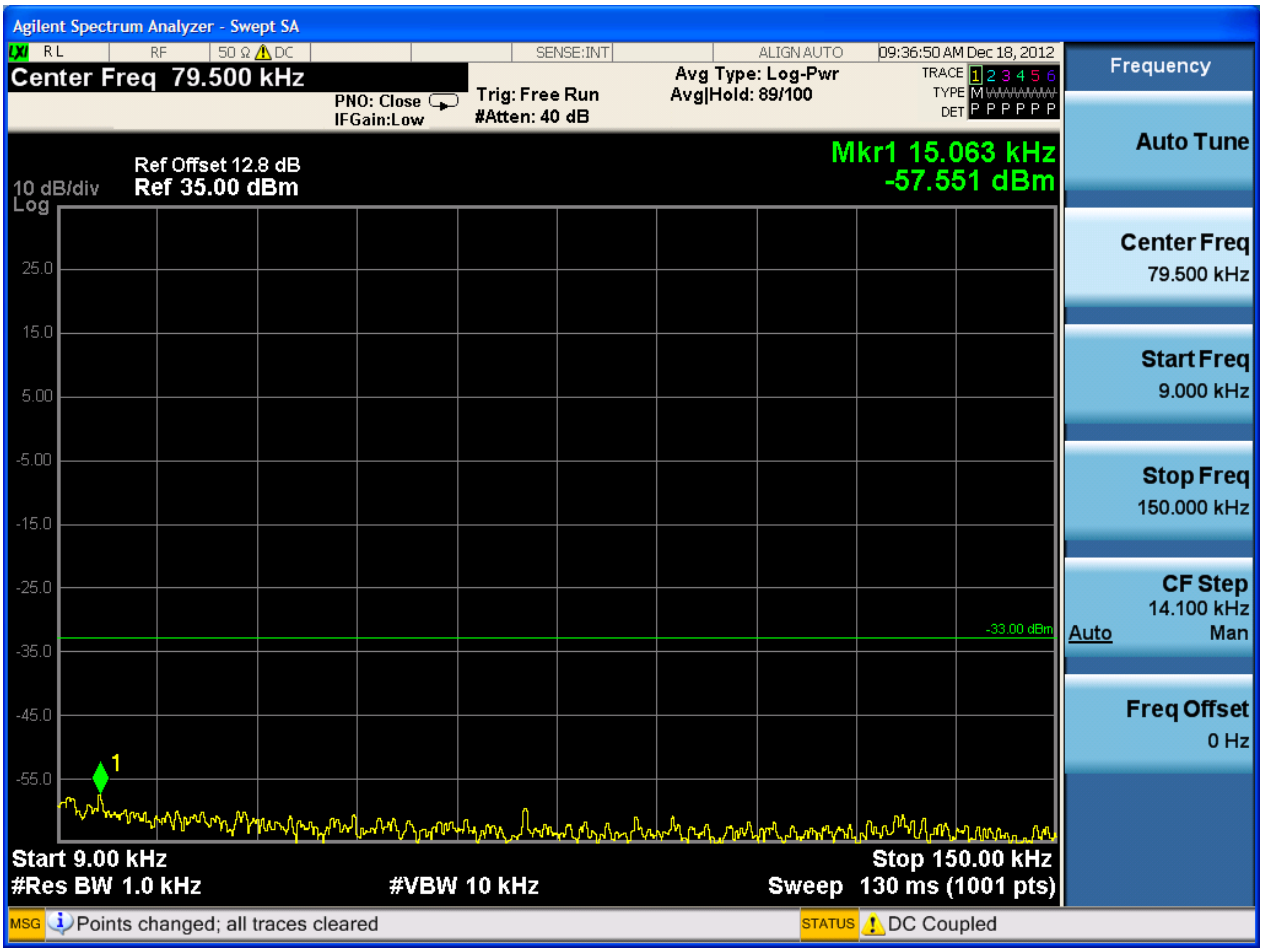
4.1.1.2.1 Test Channel = LCH

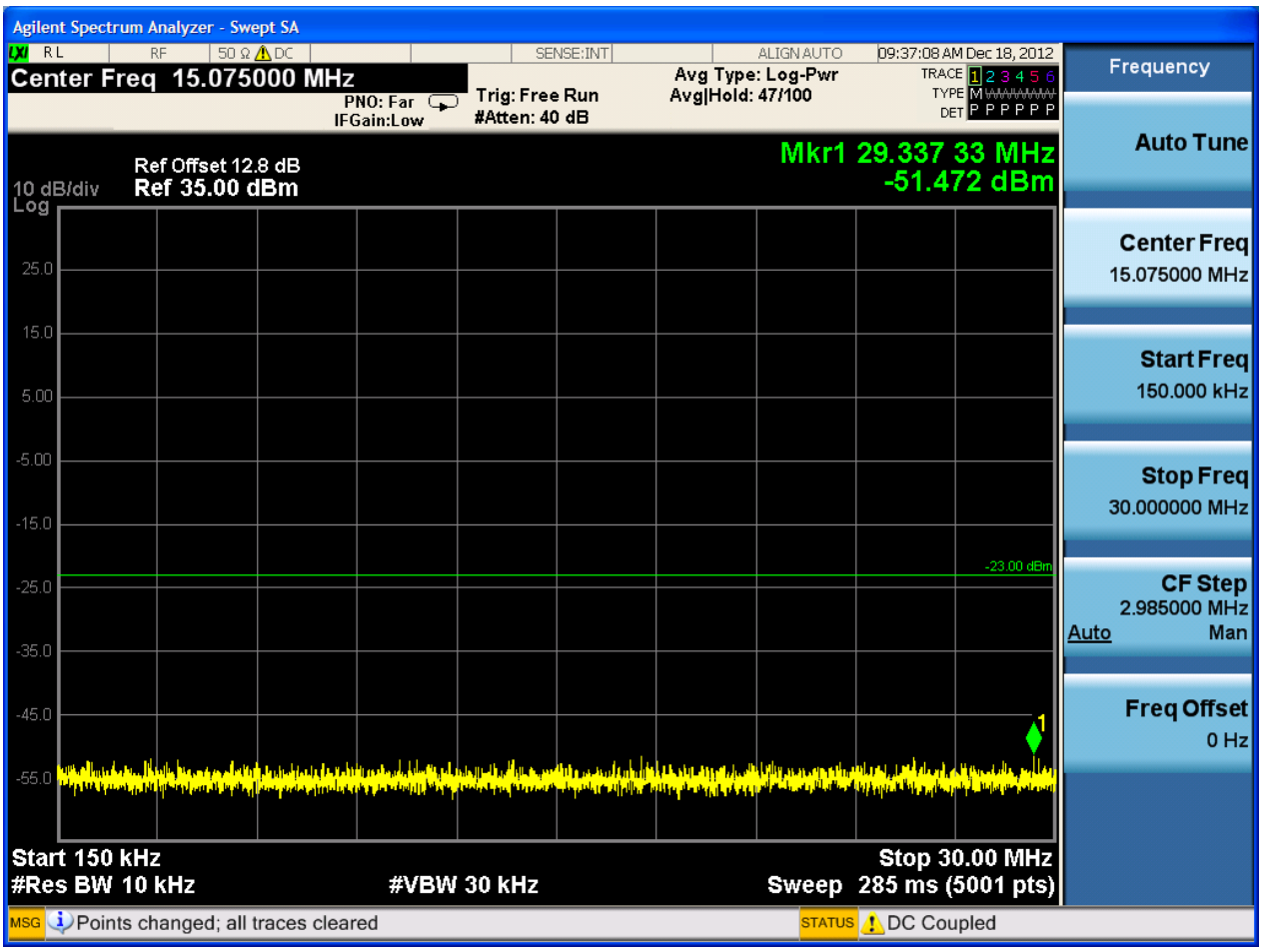


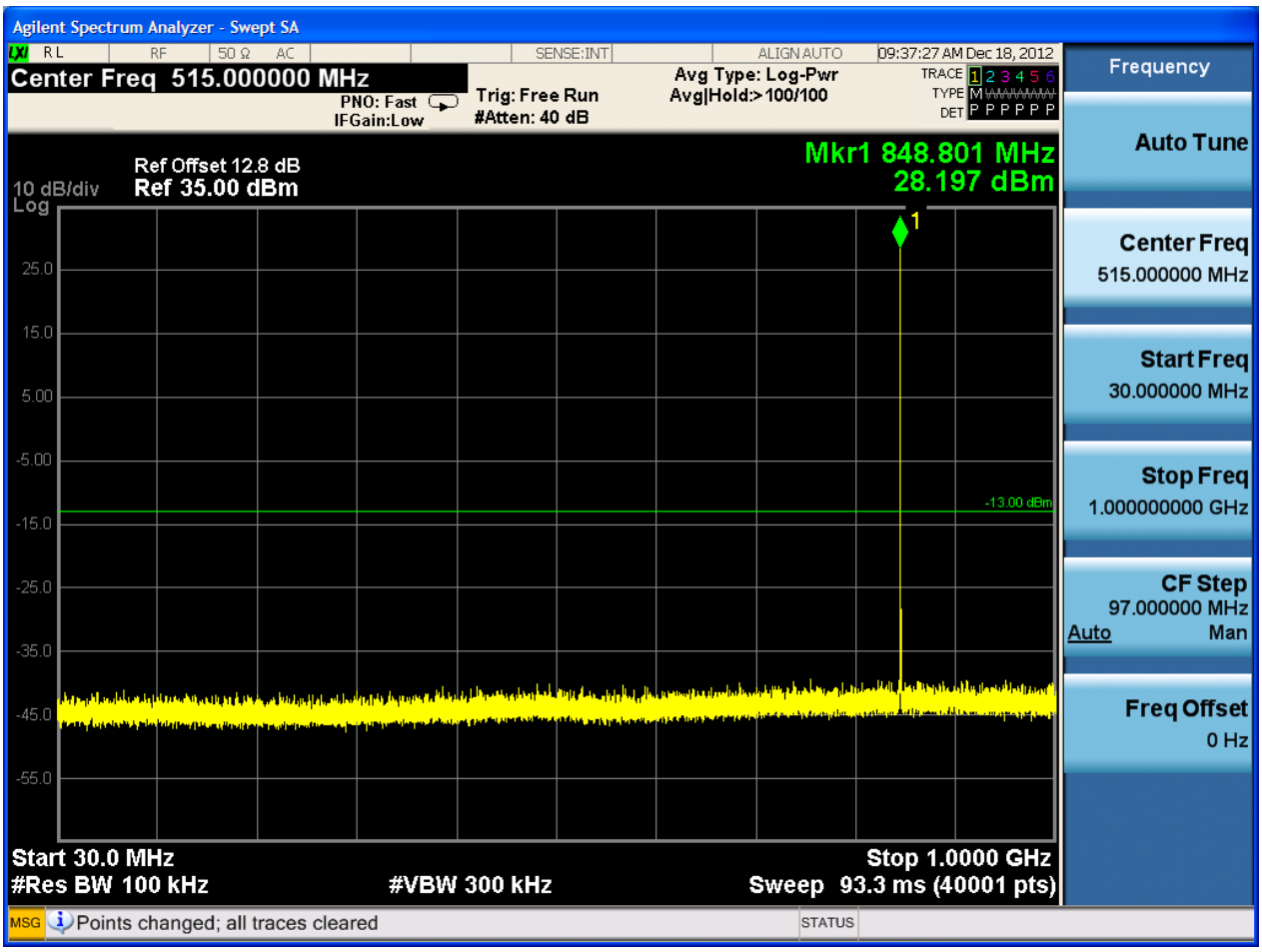


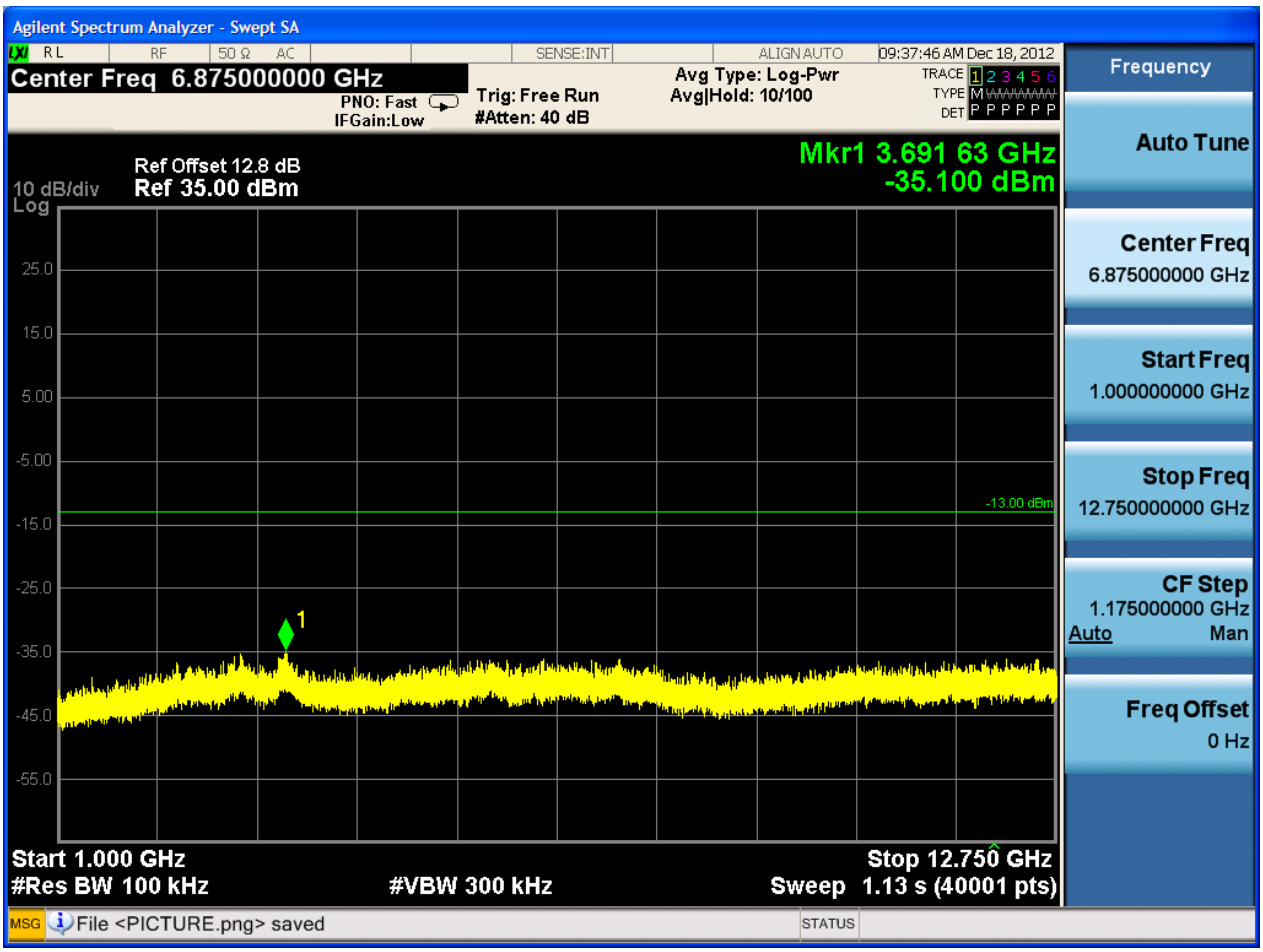


4.1.1.2.2 Test Channel = MCH

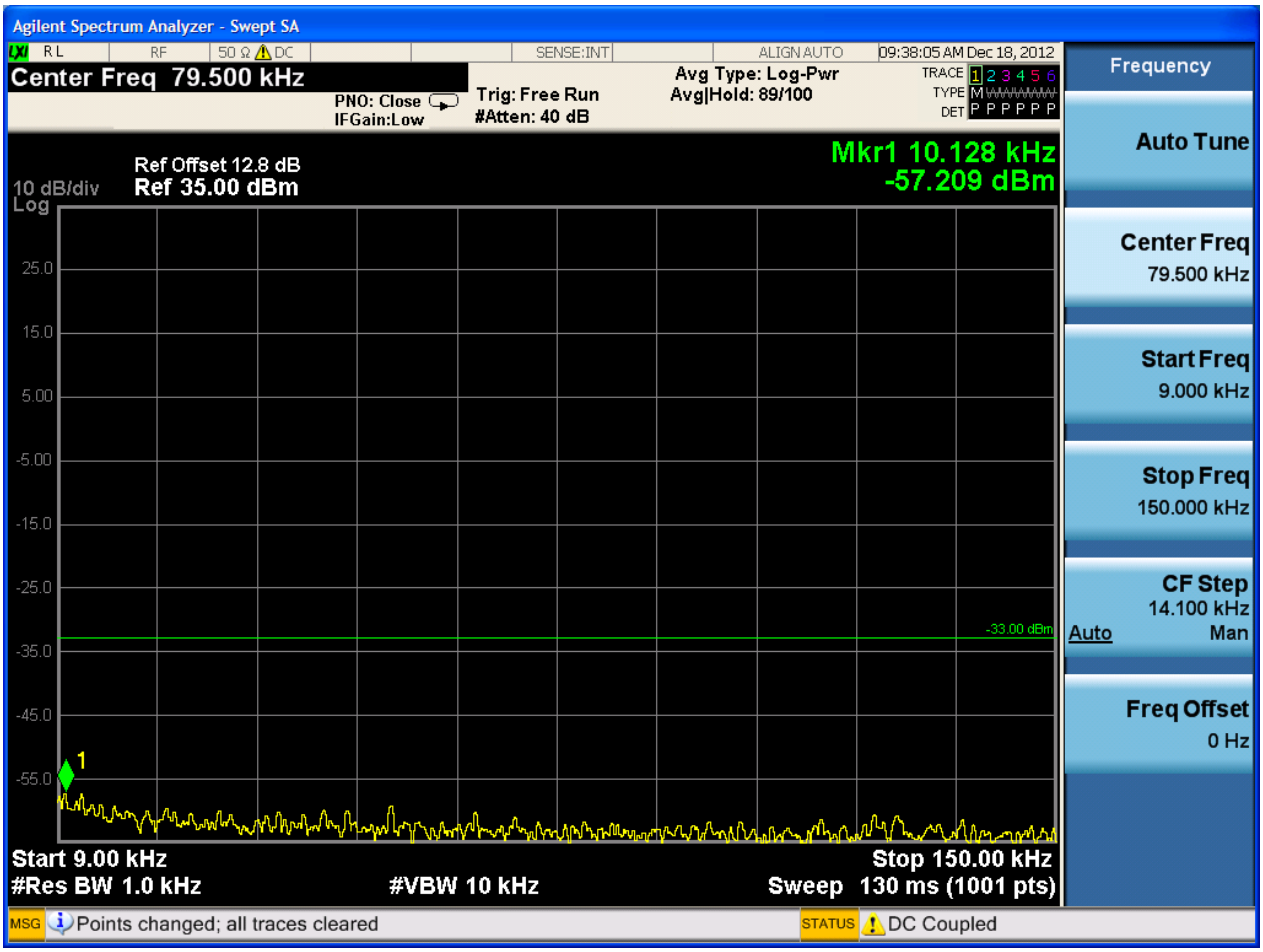


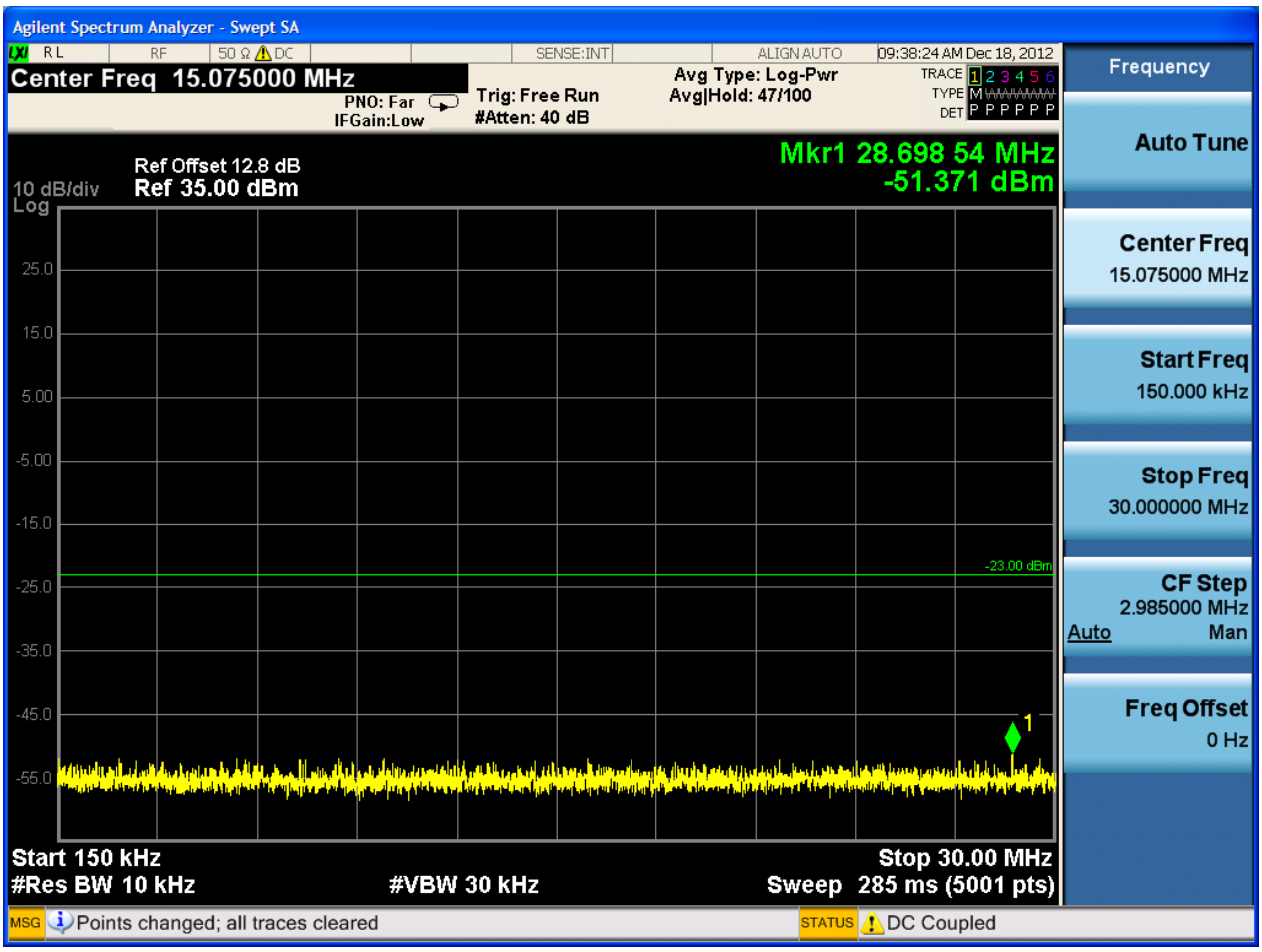


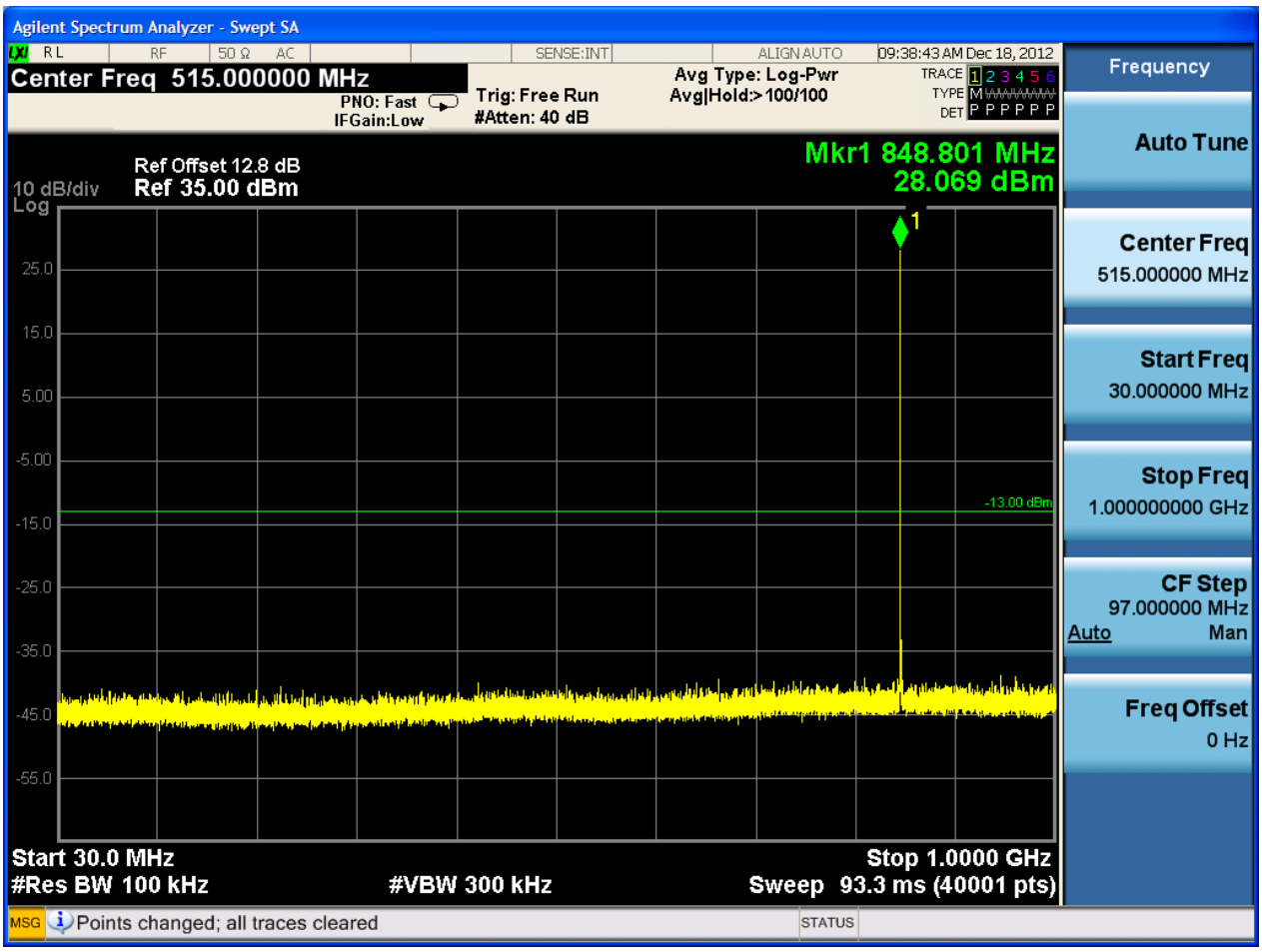


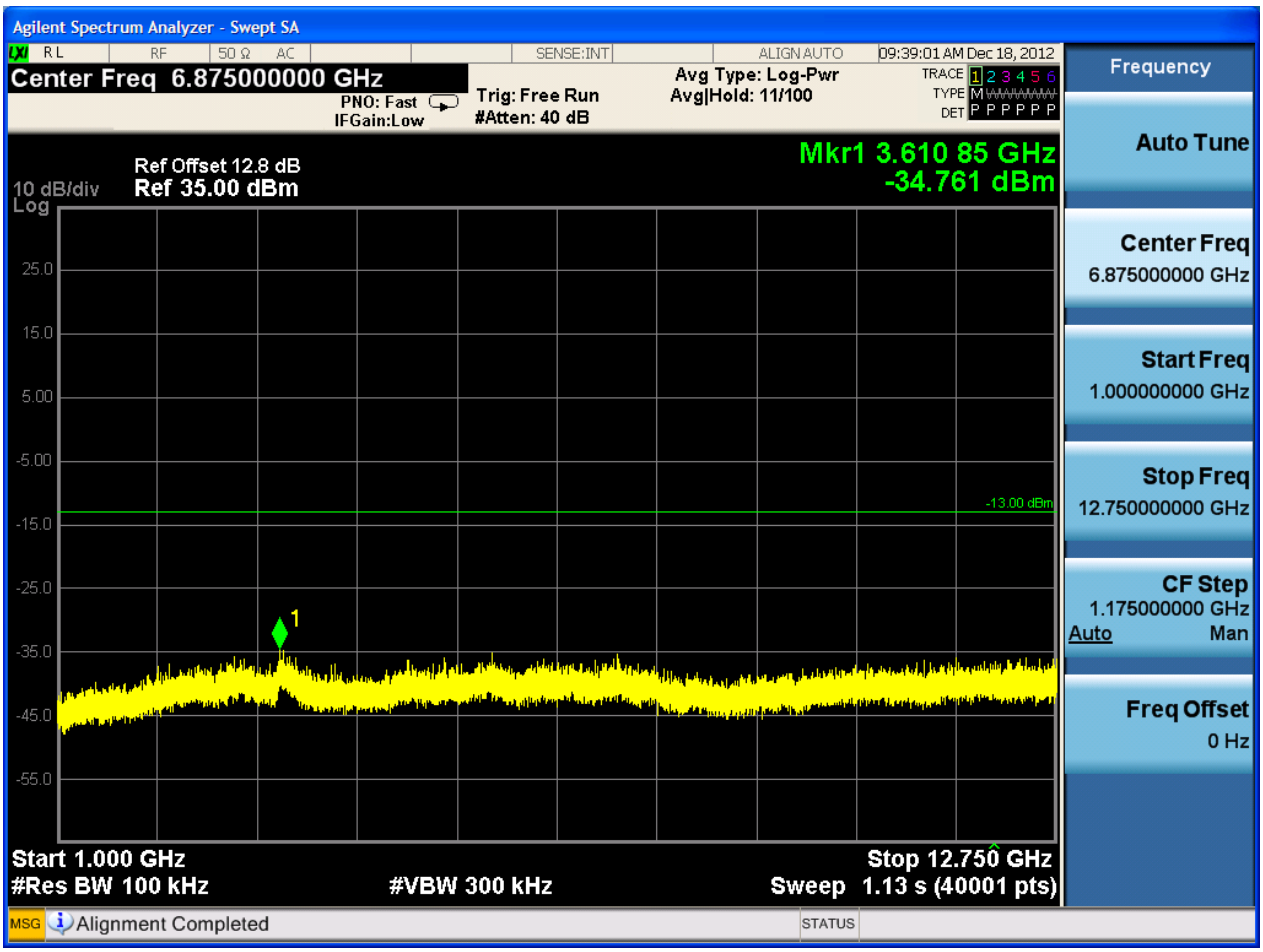


4.1.1.2.3 Test Channel = HCH





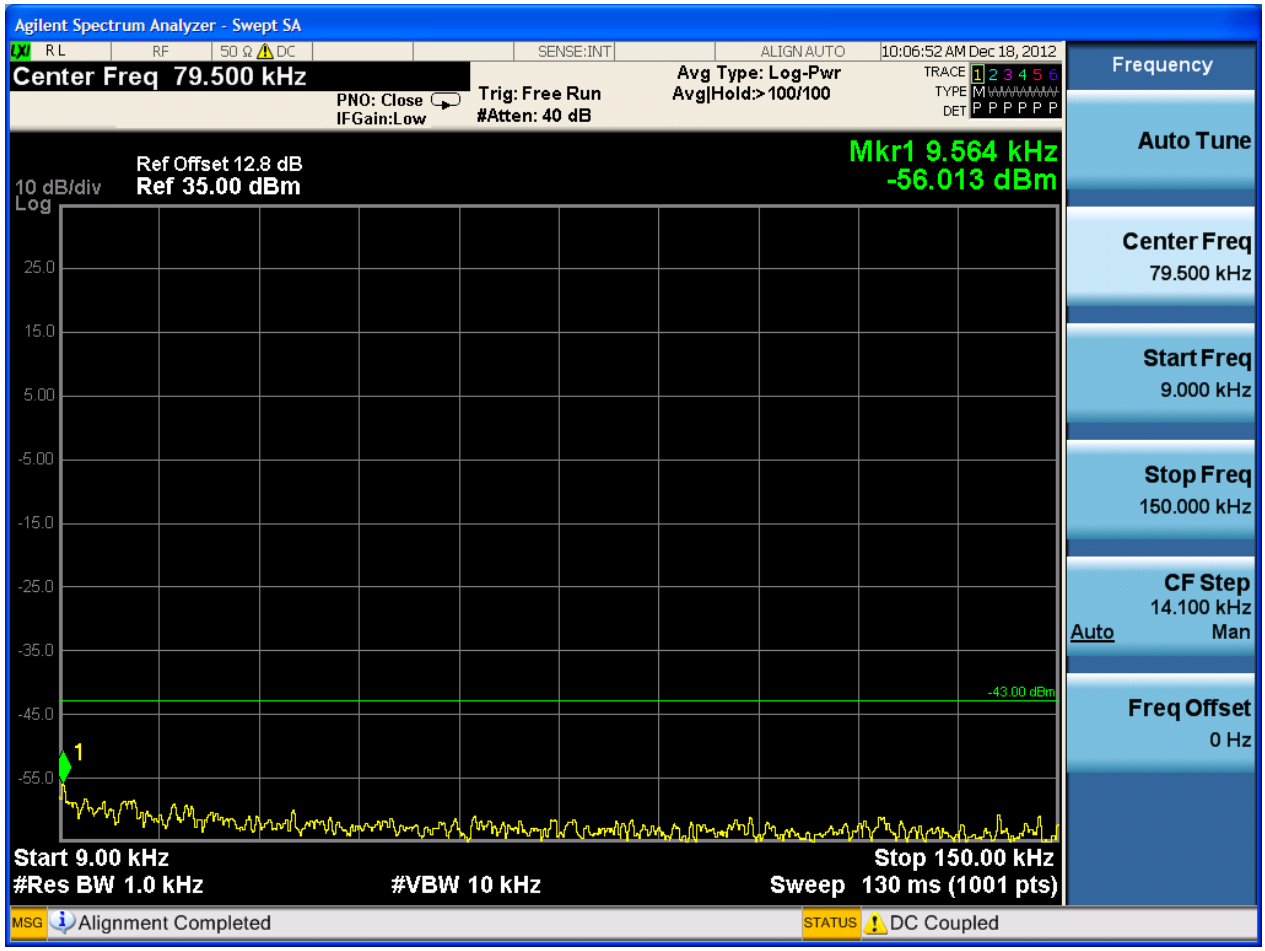


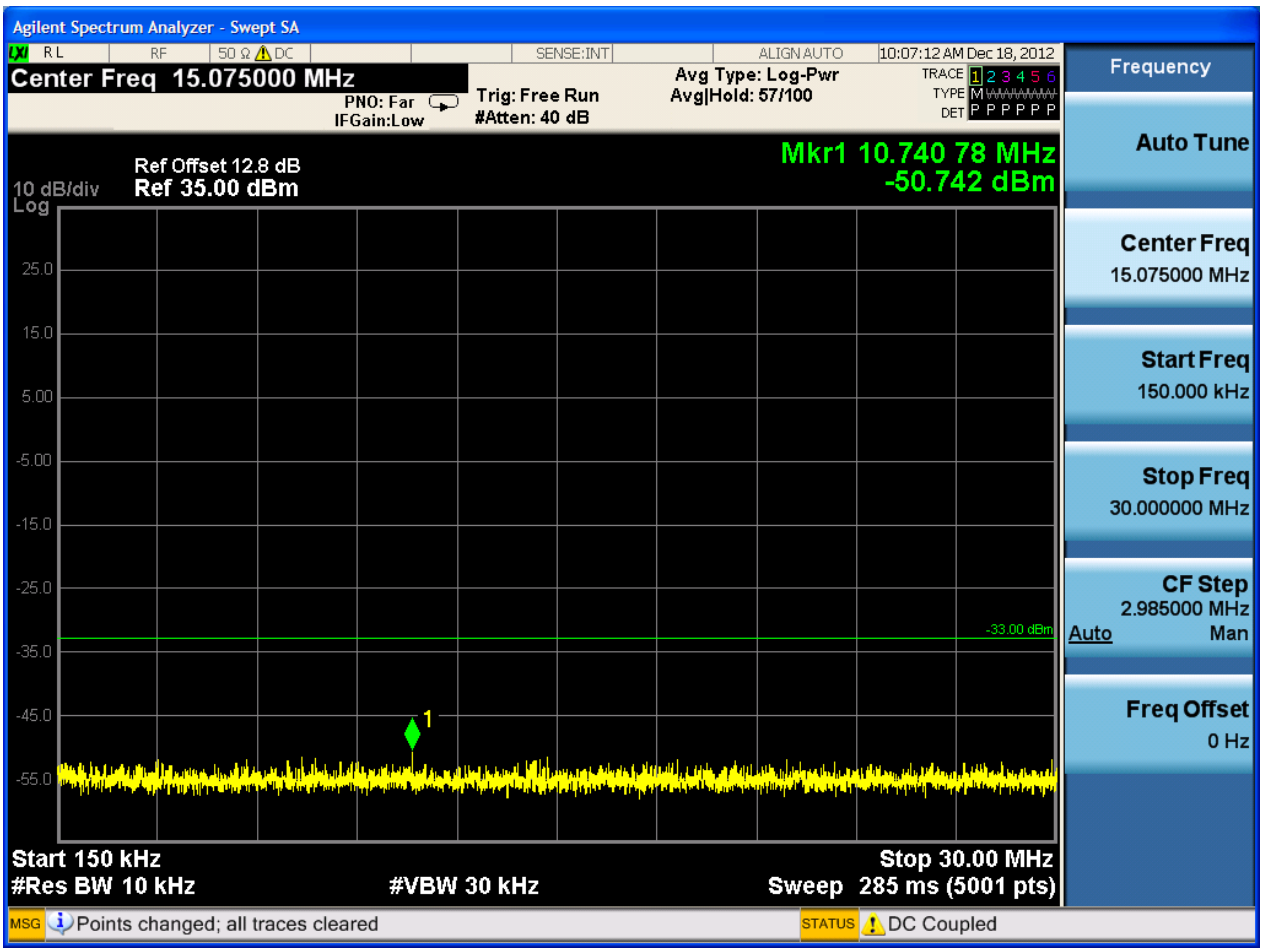


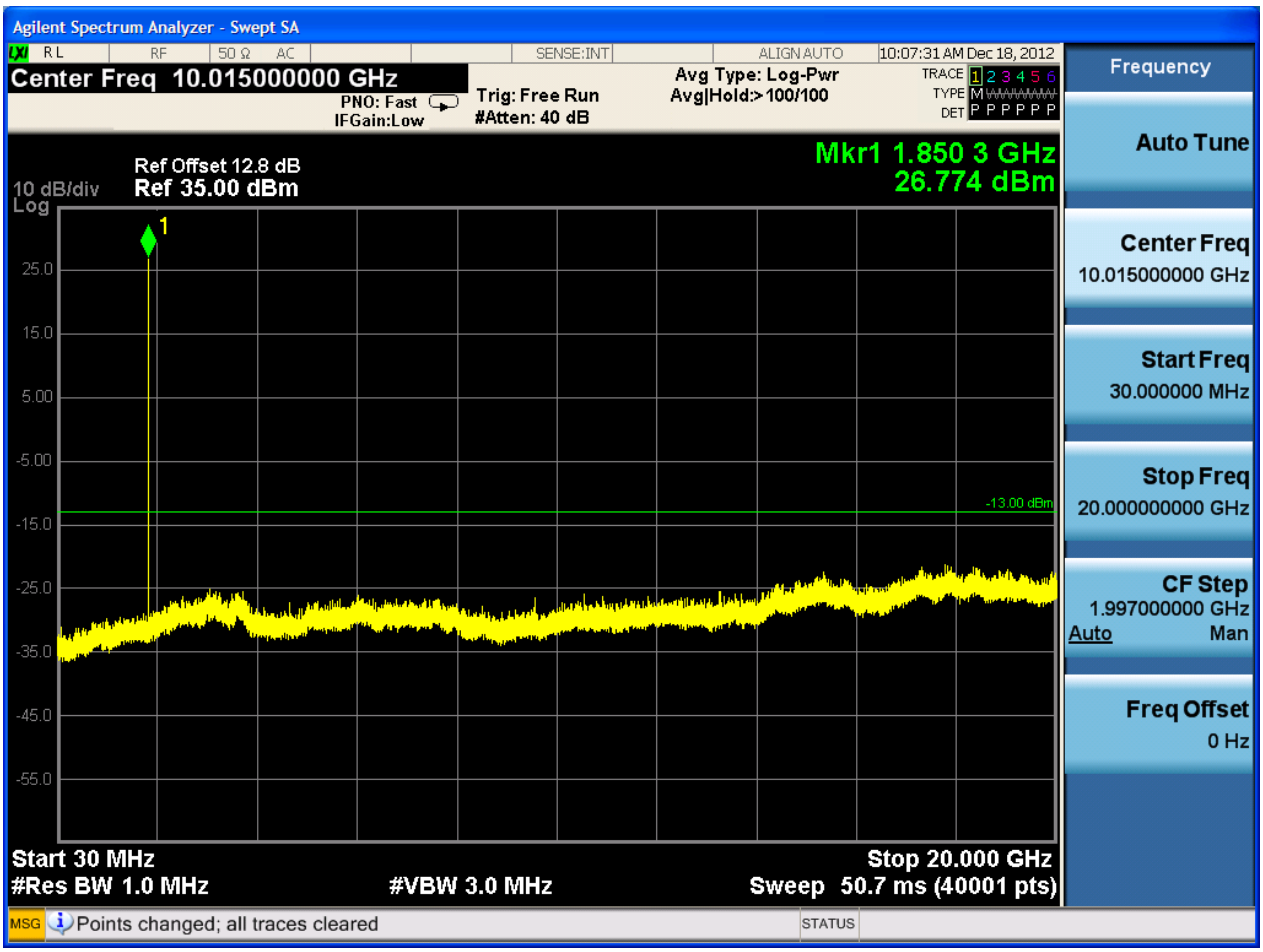
4.1.2 Test Band = GSM1900

4.1.2.1 Test Mode = GSM/TM1

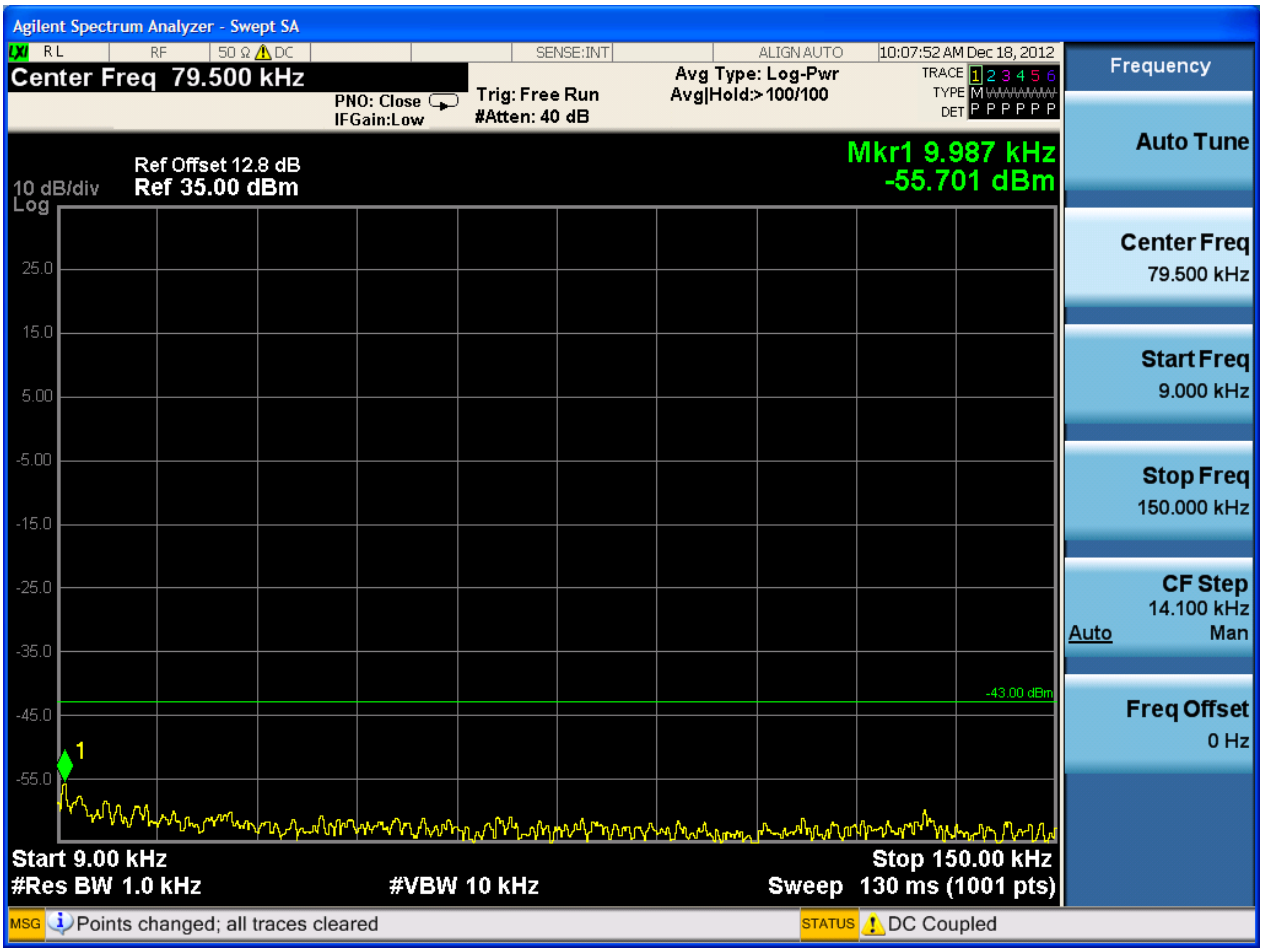
4.1.2.1.1 Test Channel = LCH

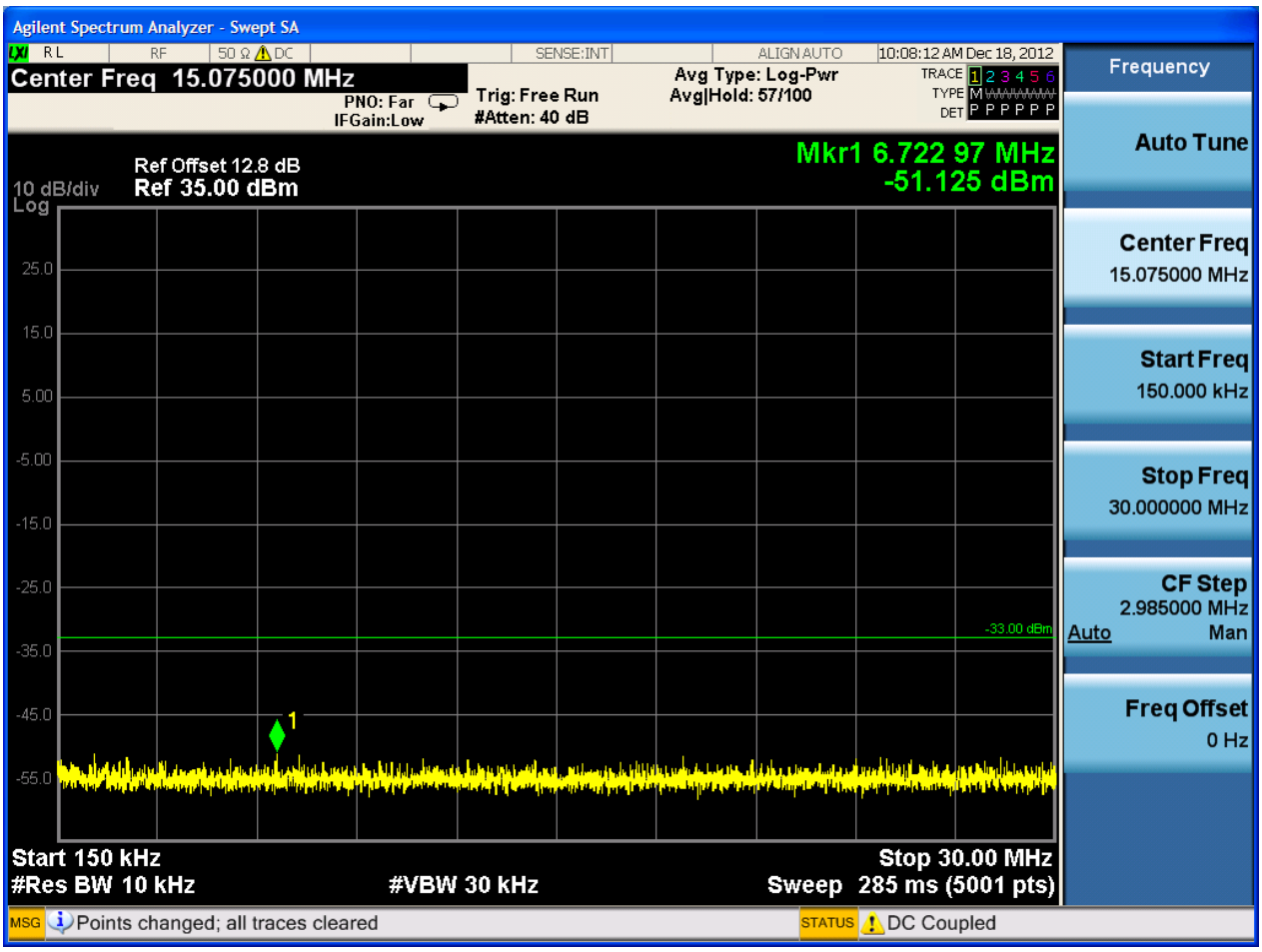


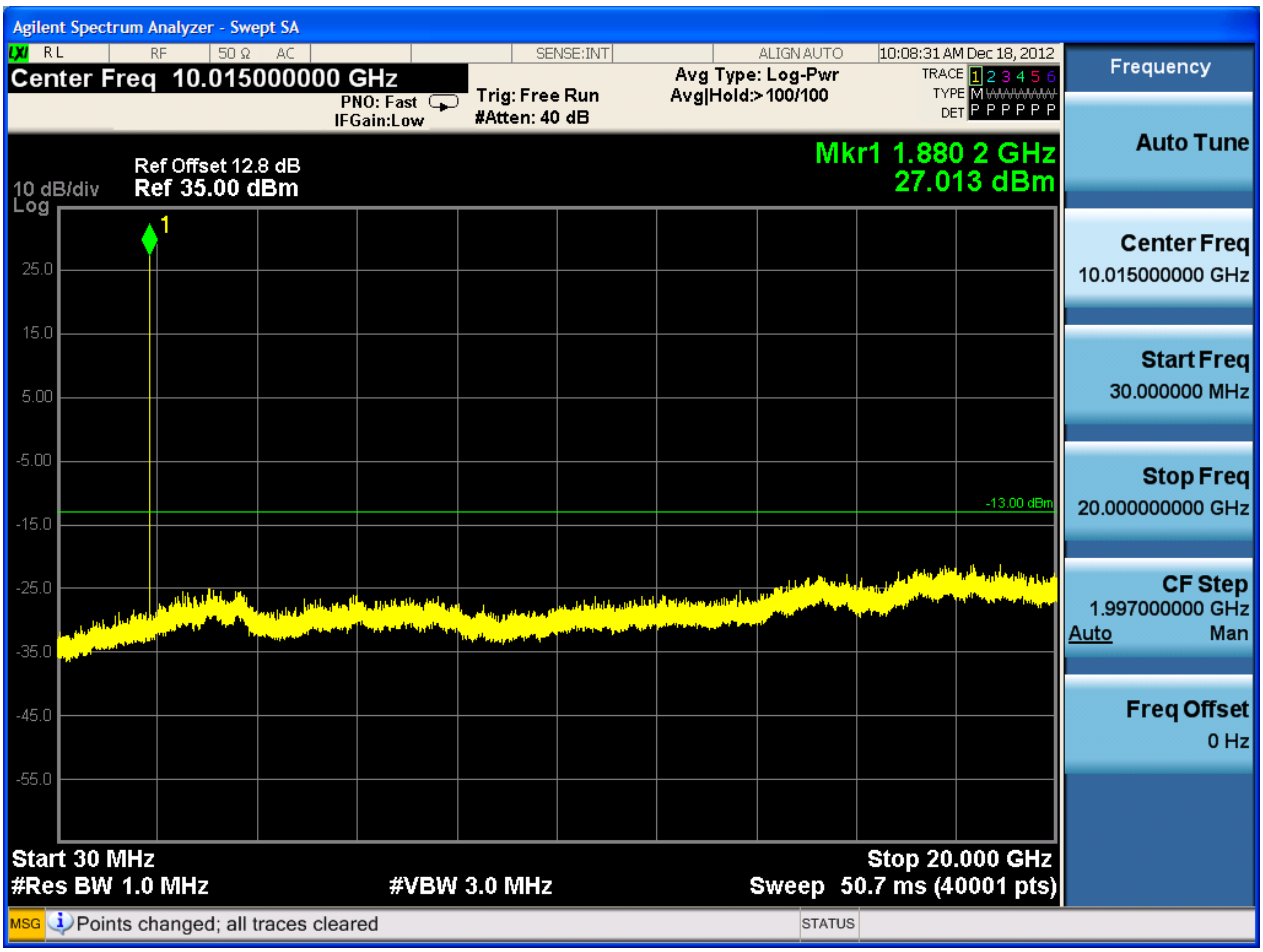




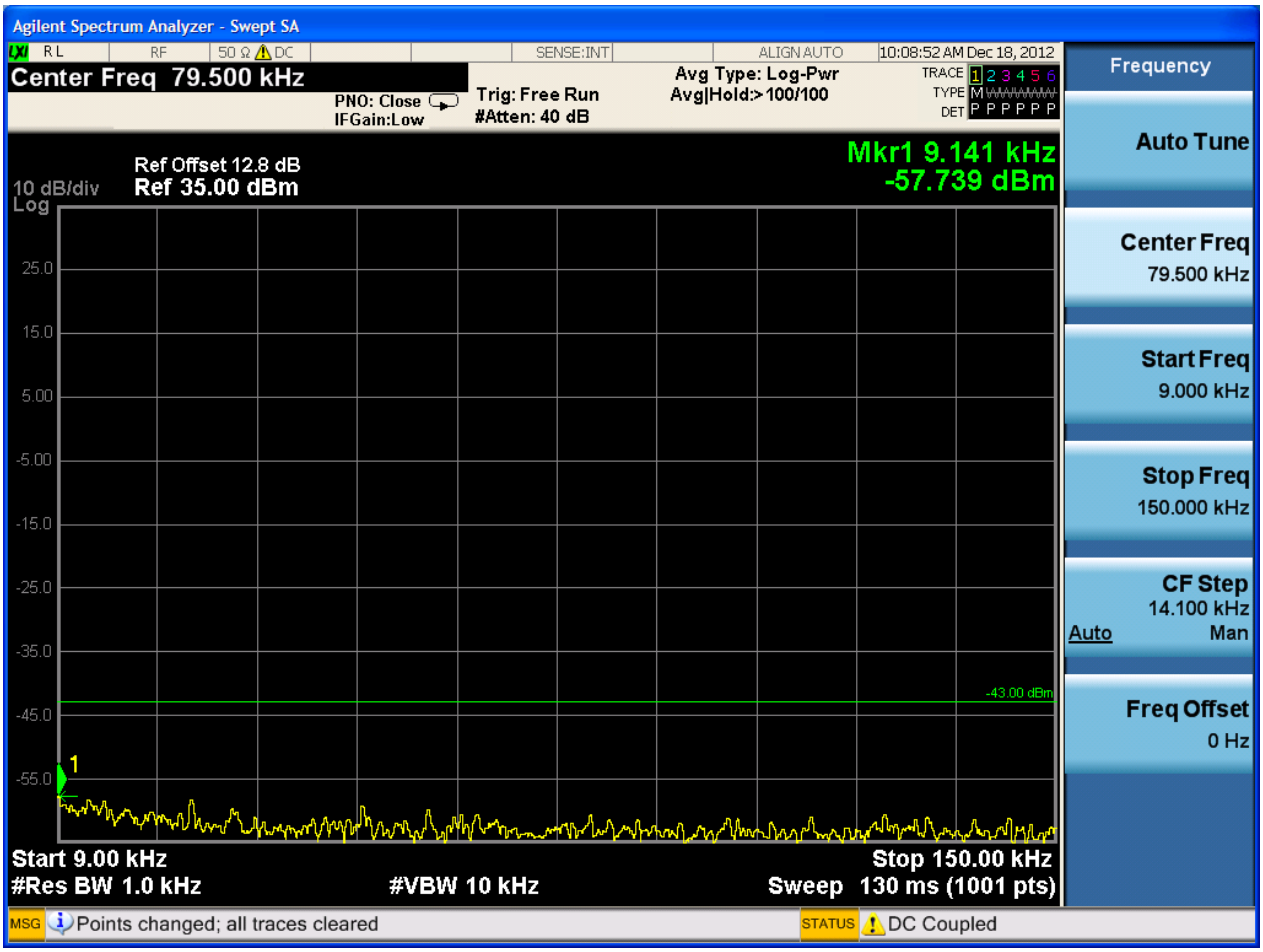
4.1.2.1.2 Test Channel = MCH

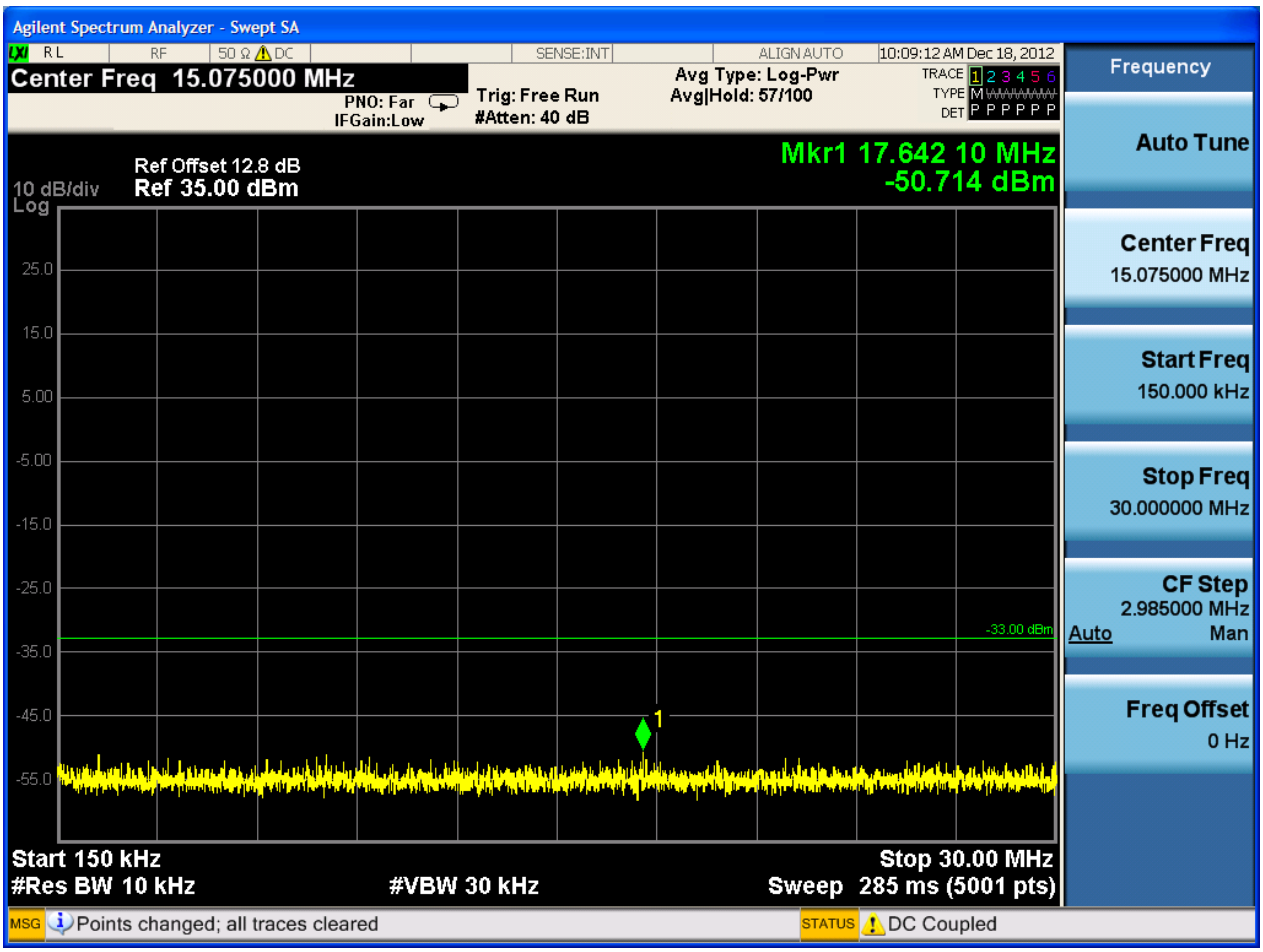


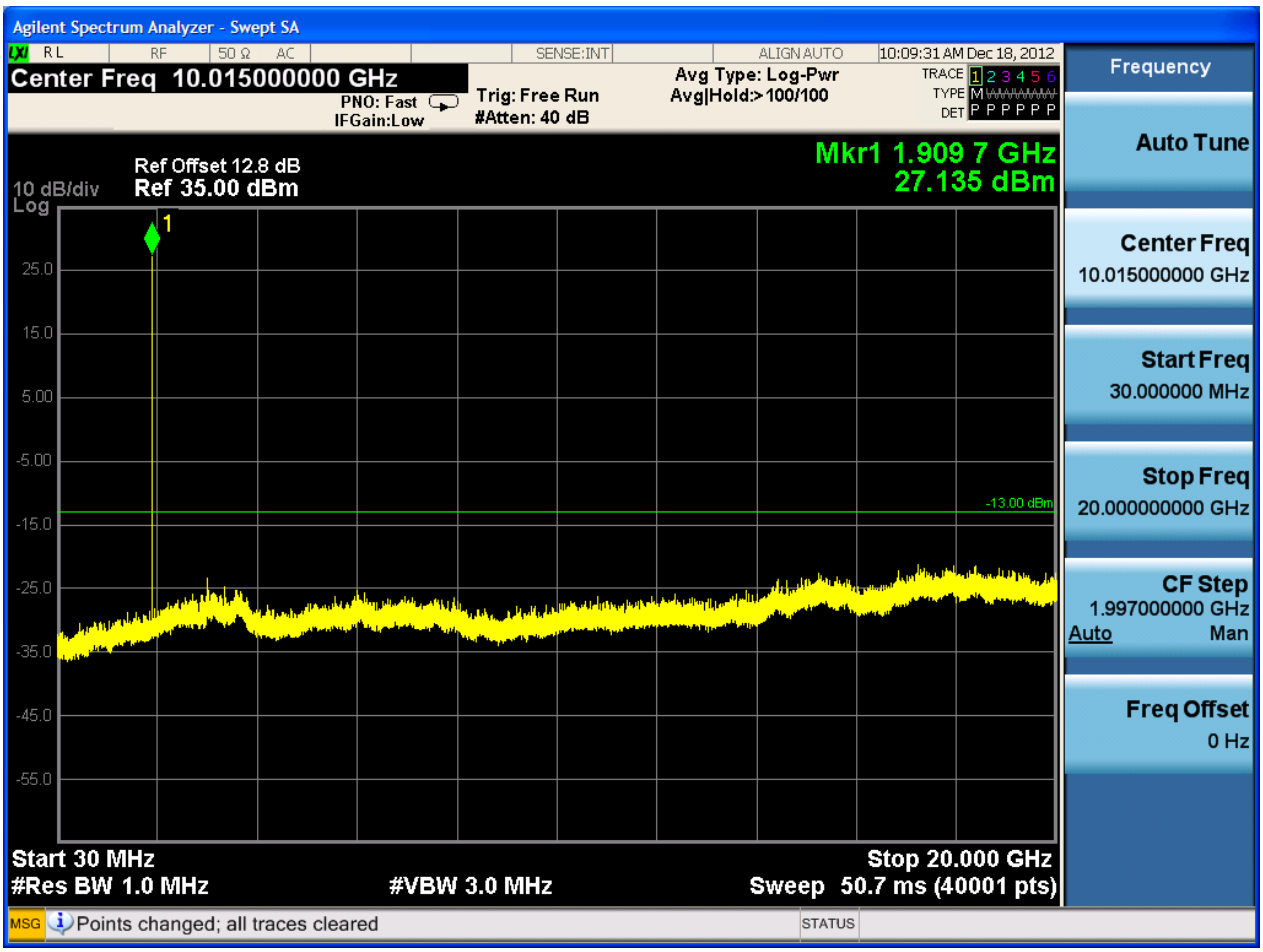




4.1.2.1.3 Test Channel = HCH

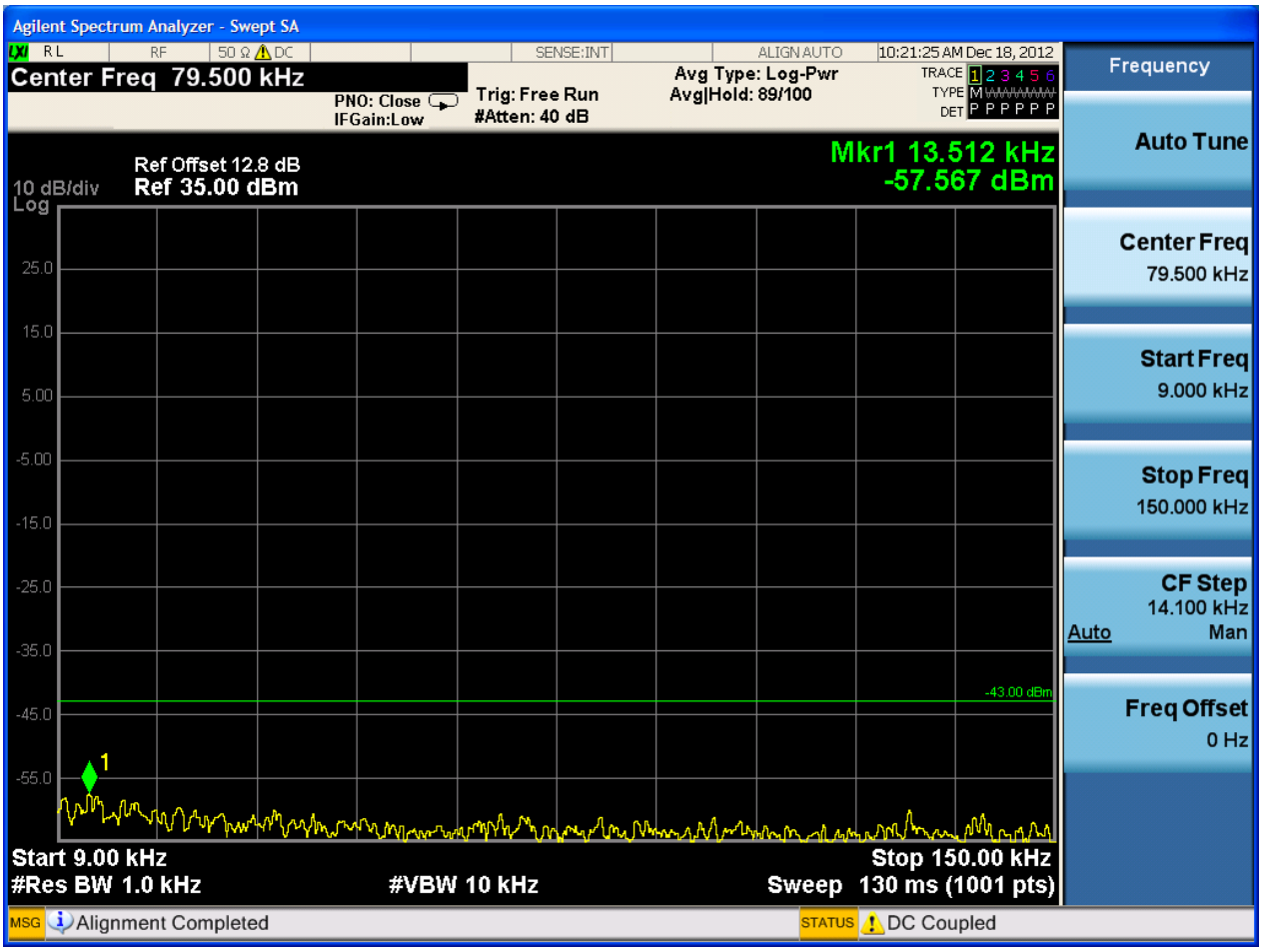


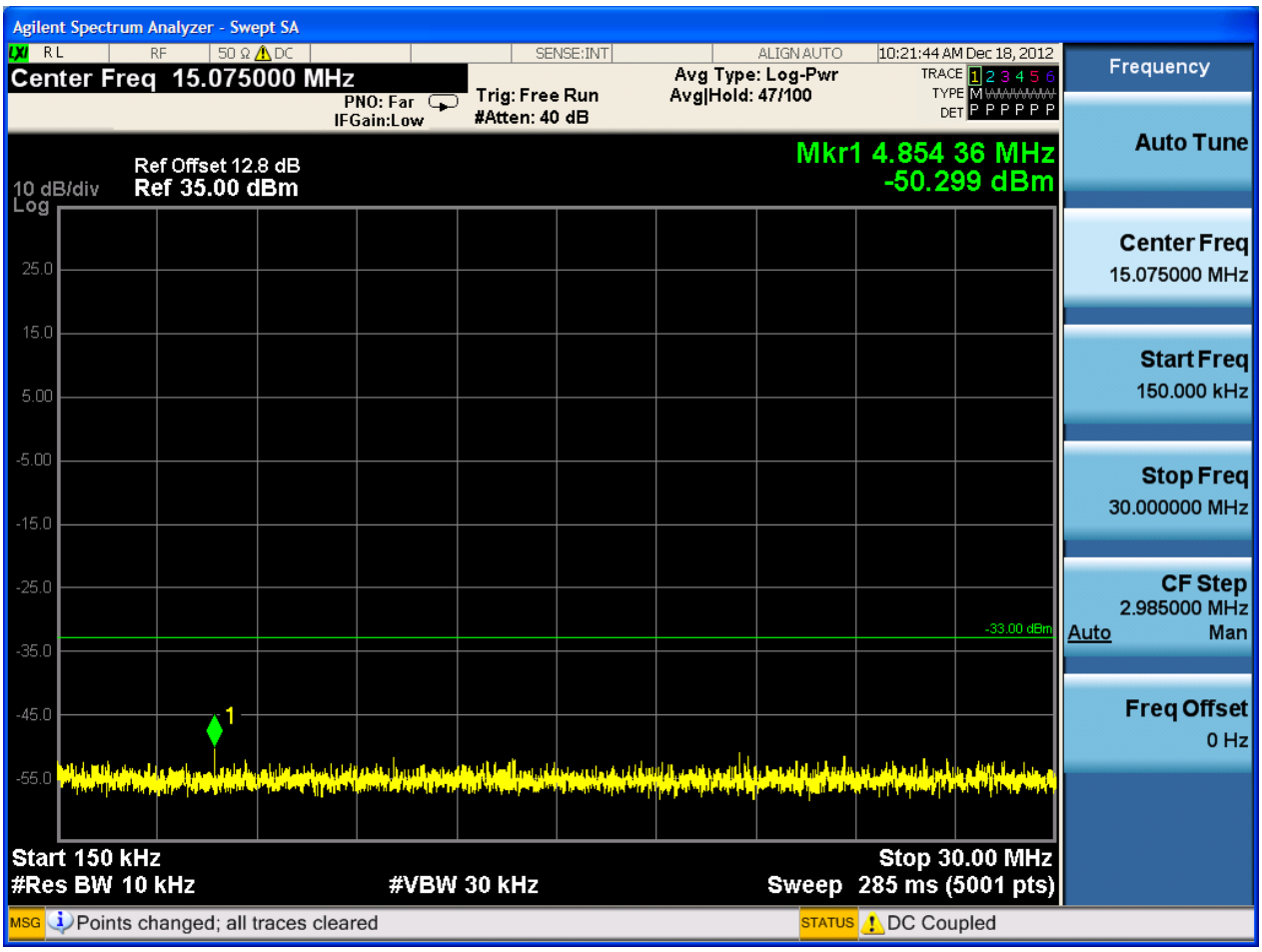


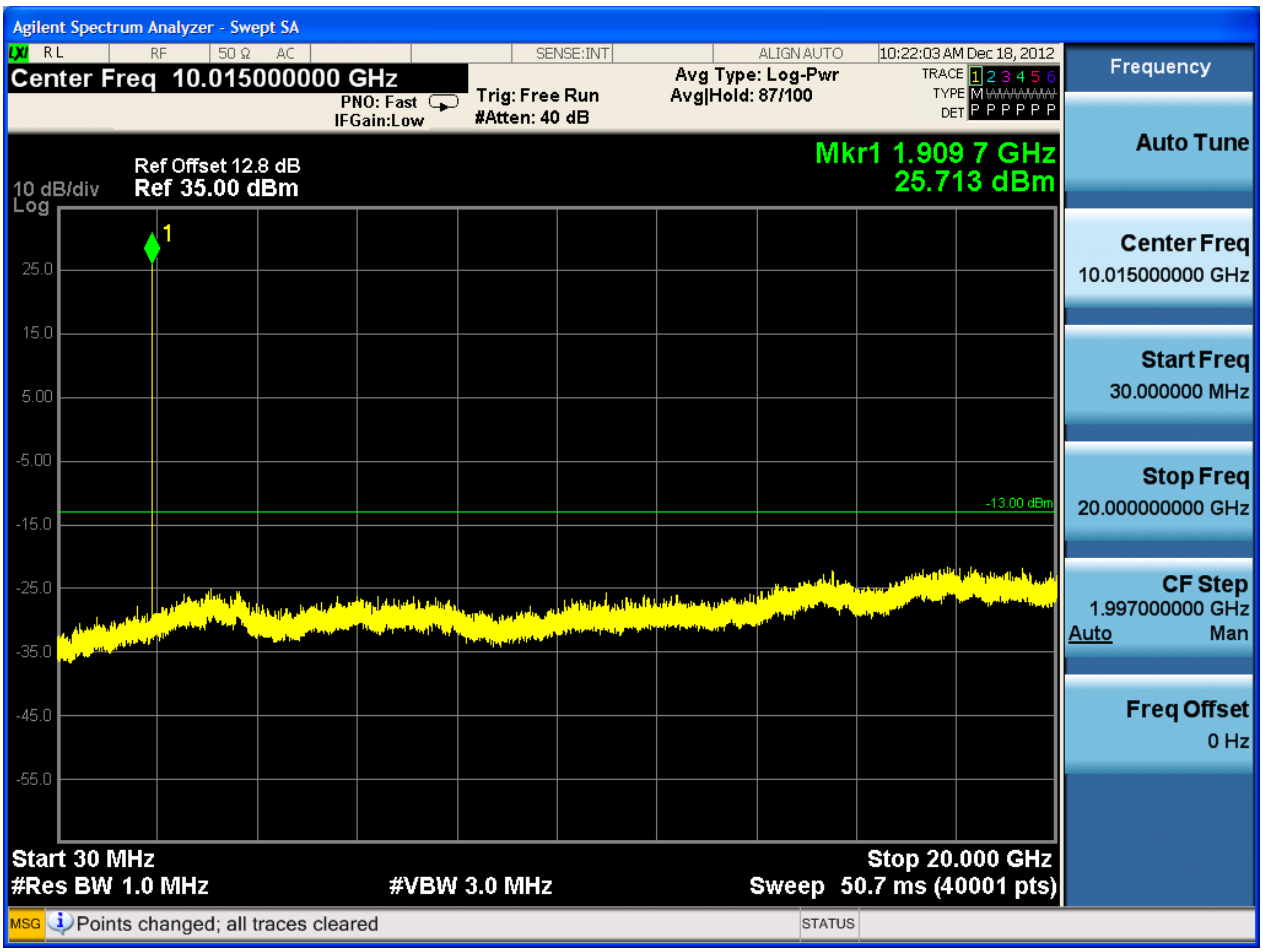


4.1.2.2 Test Mode = GSM/TM2

4.1.2.2.1 Test Channel = LCH







4.1.2.2.2 Test Channel = MCH