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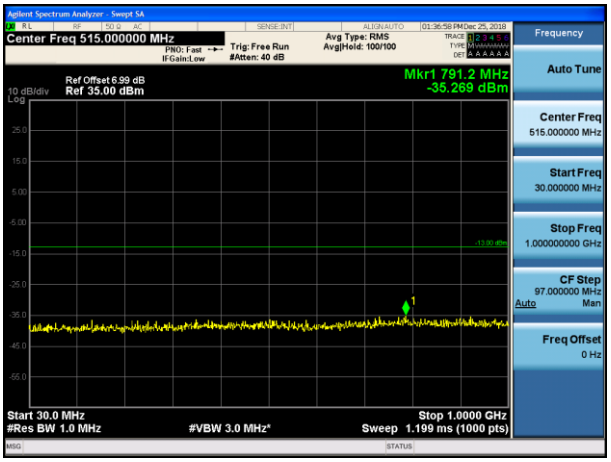	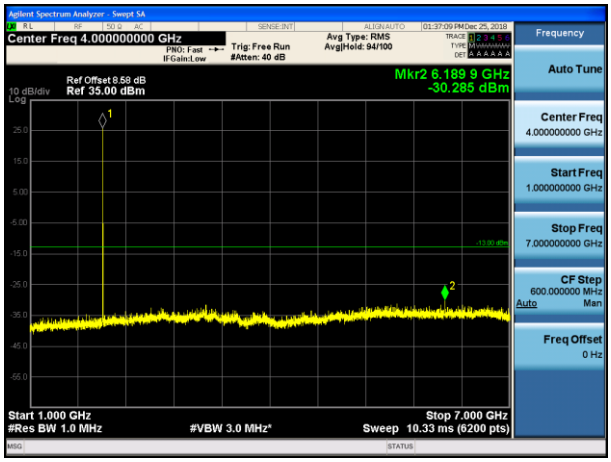

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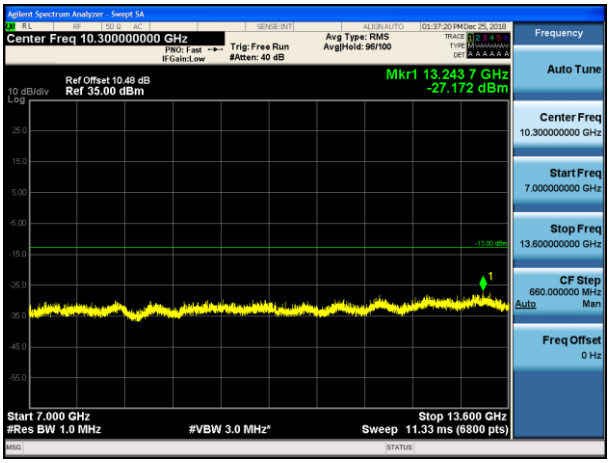	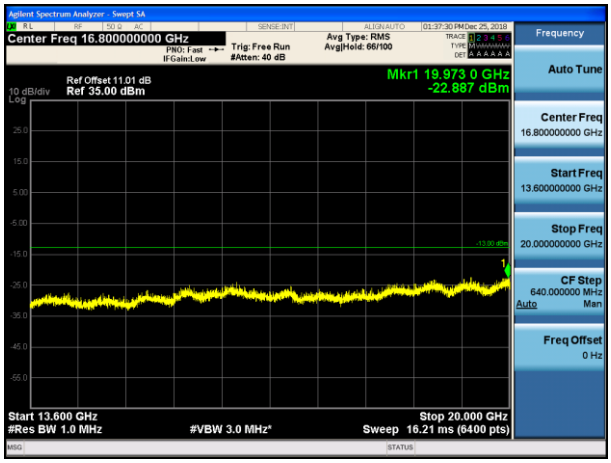

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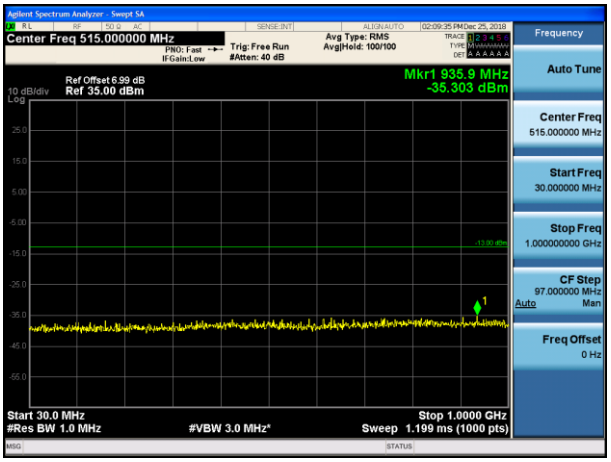	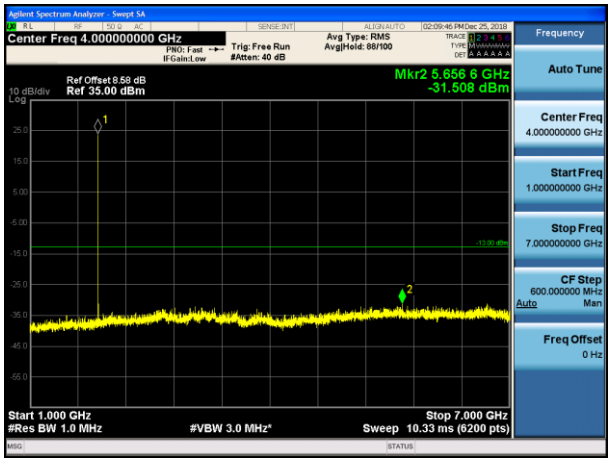

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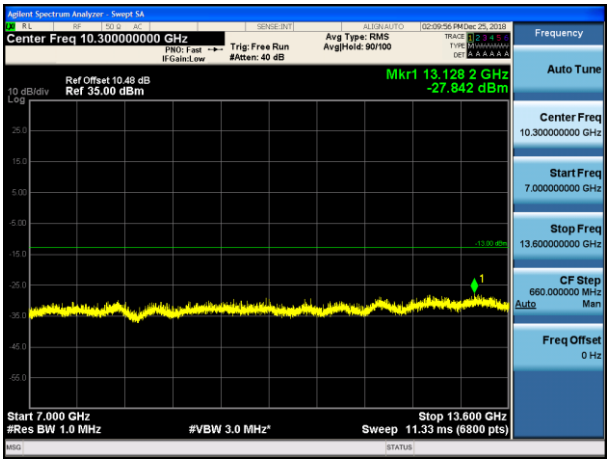	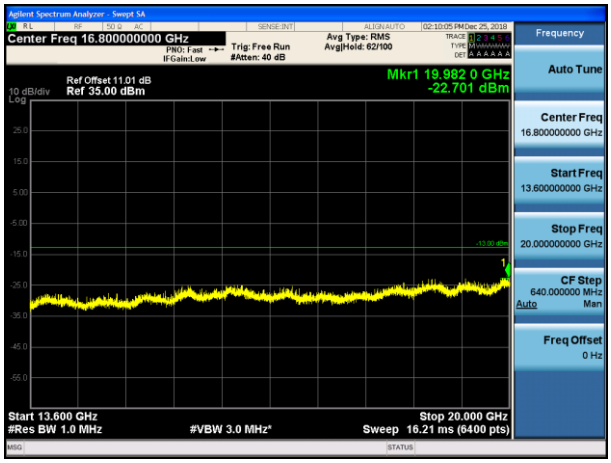

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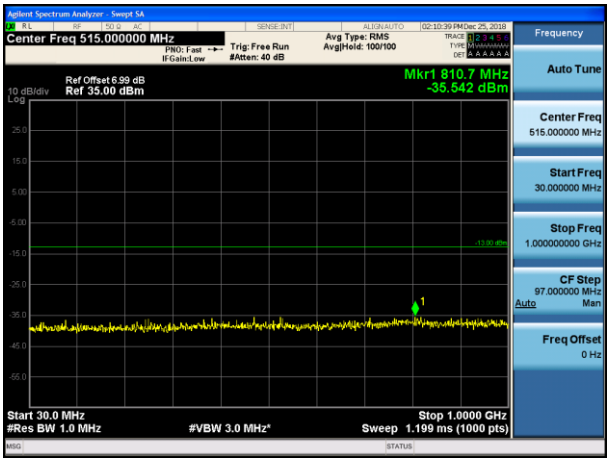	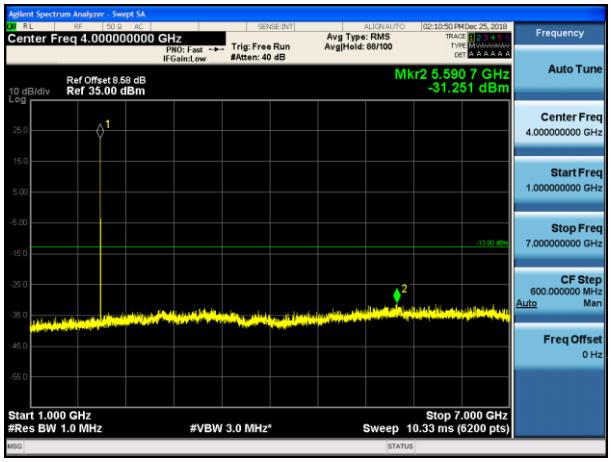

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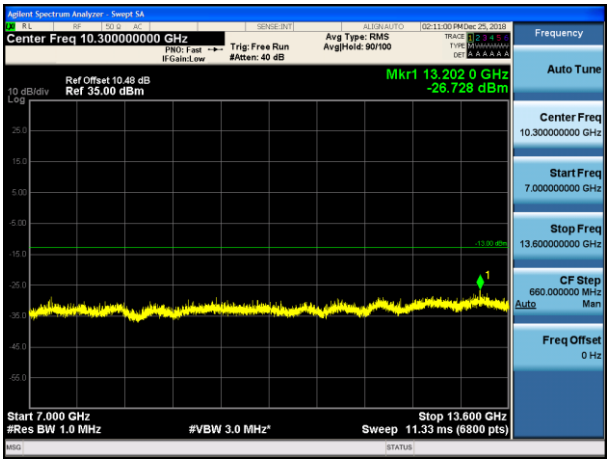	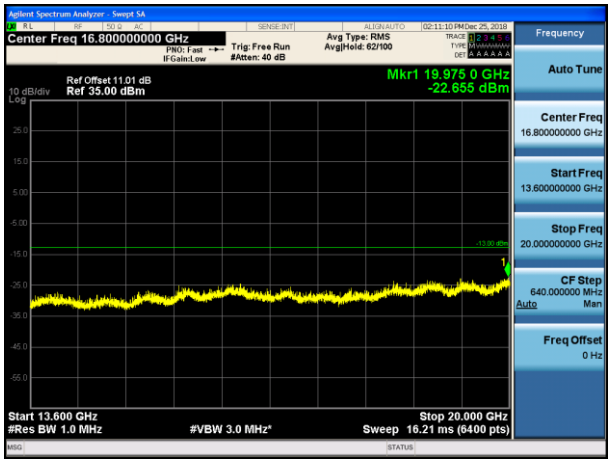

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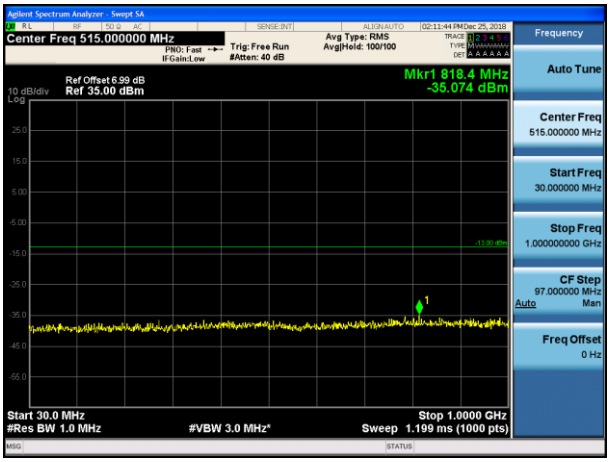	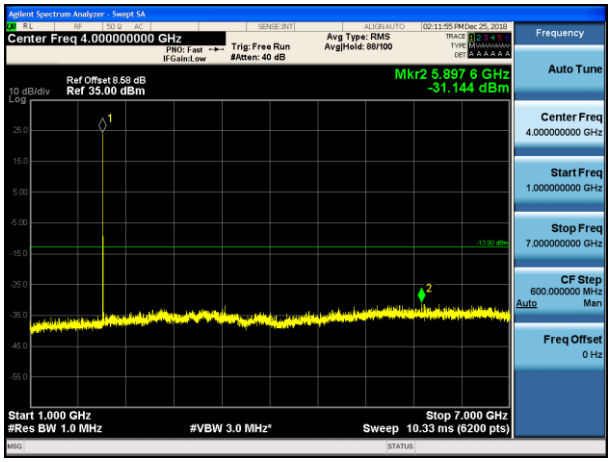

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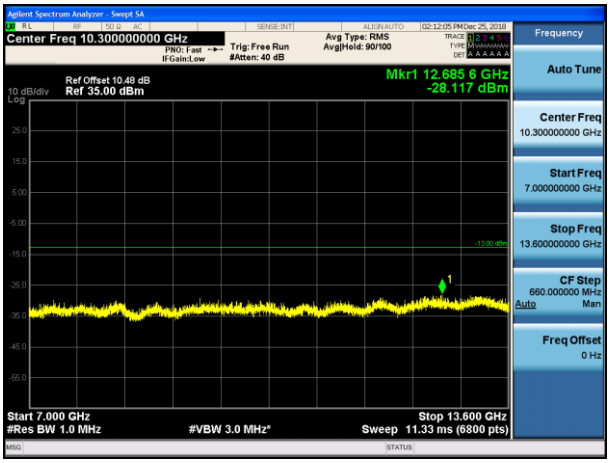	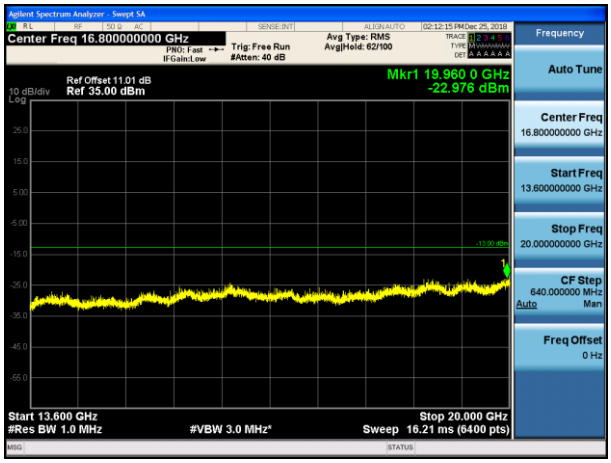

Test Band=WCDMA850/WCDMA1700/WCDMA1900

Test Mode=UMTS

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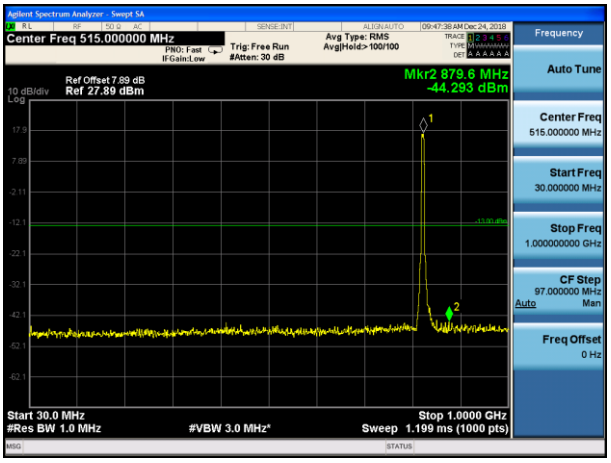	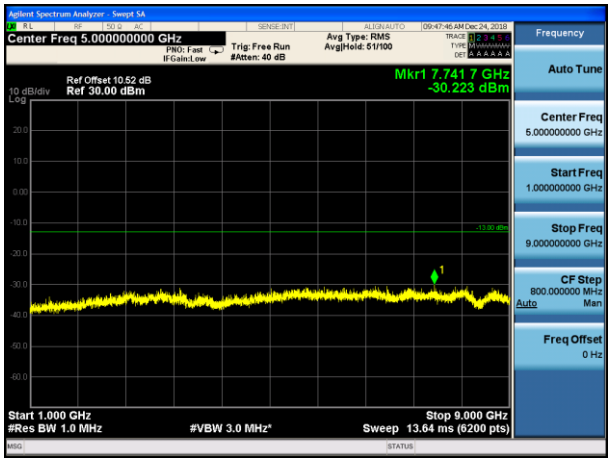

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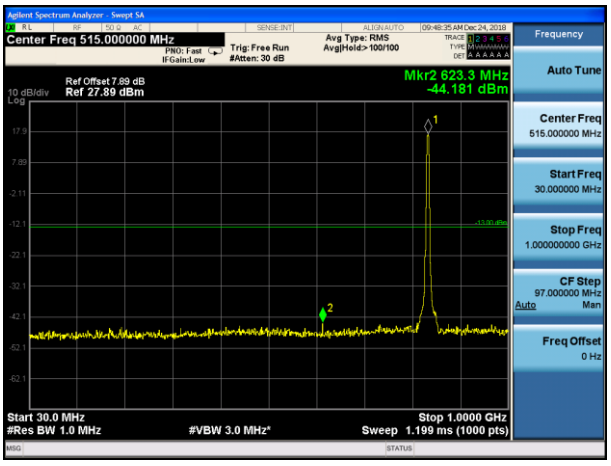	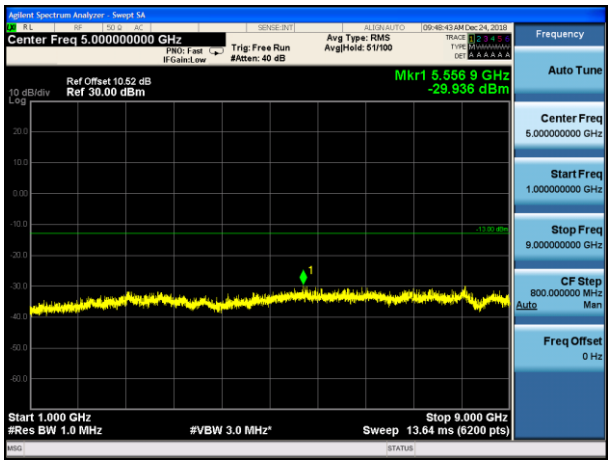

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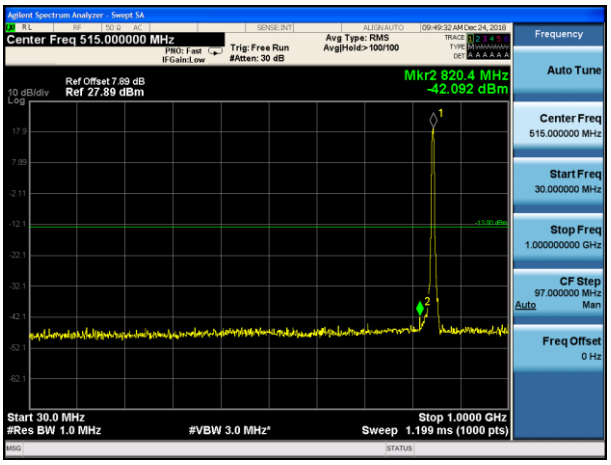	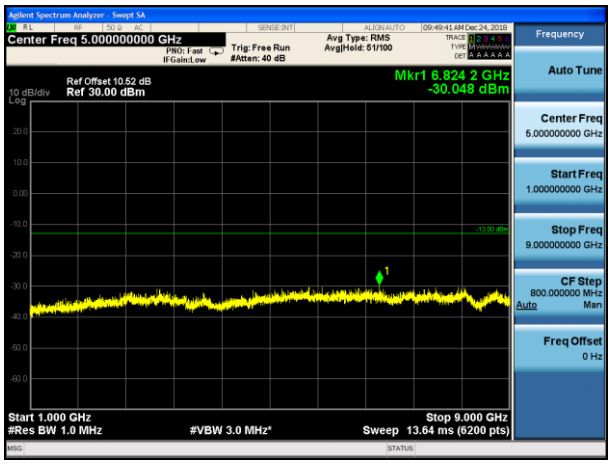

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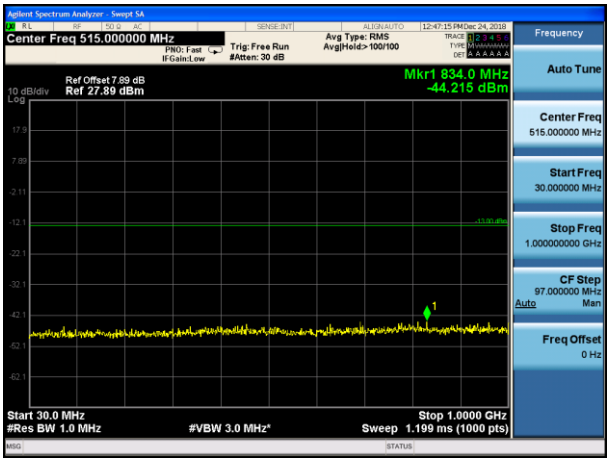	

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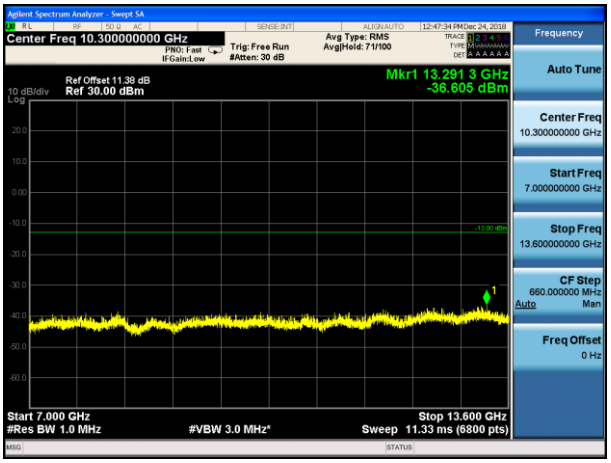	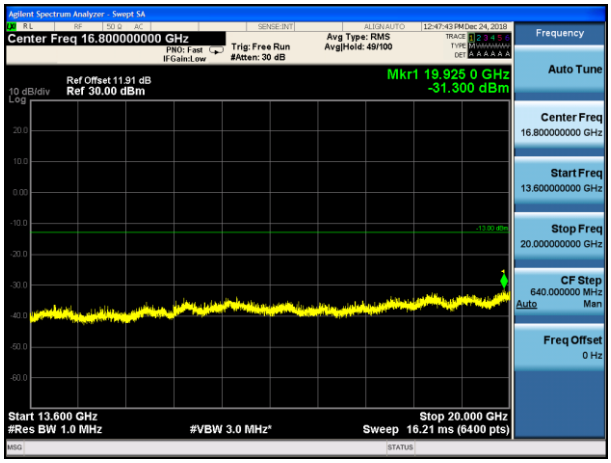

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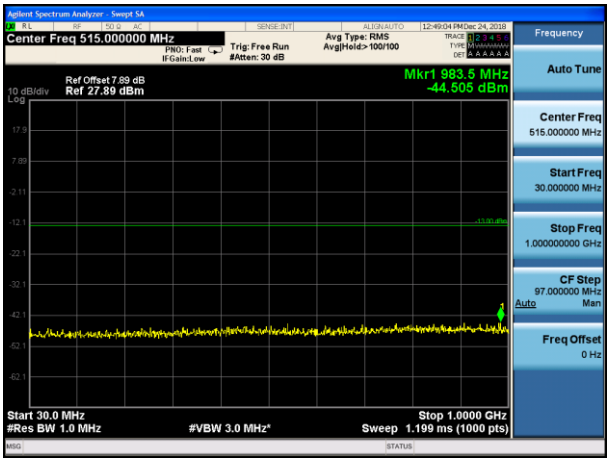	

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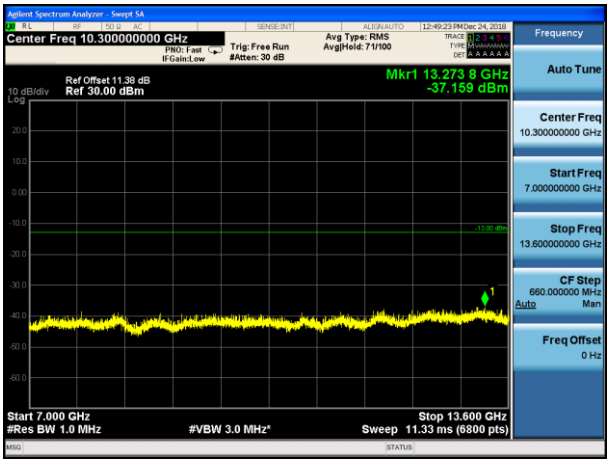	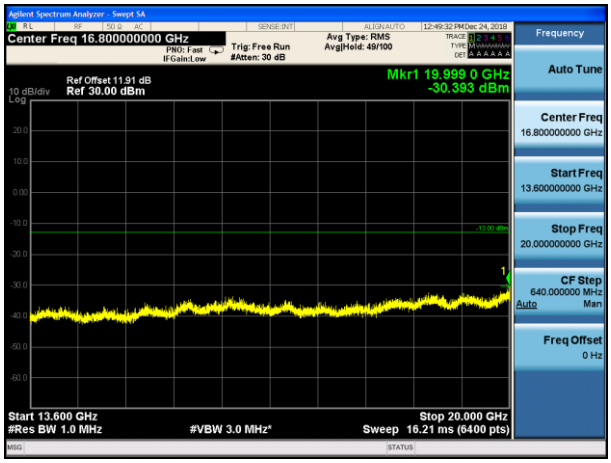

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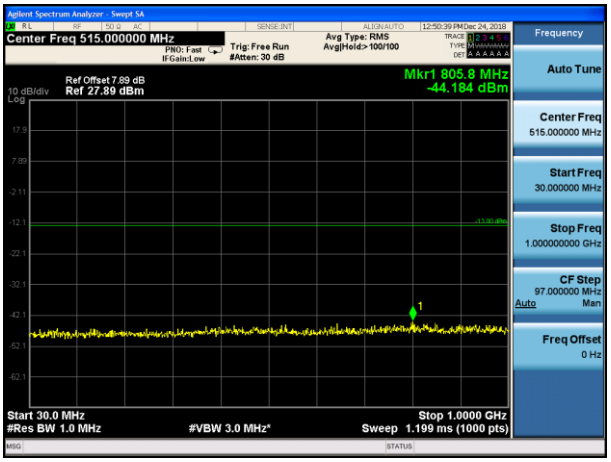	

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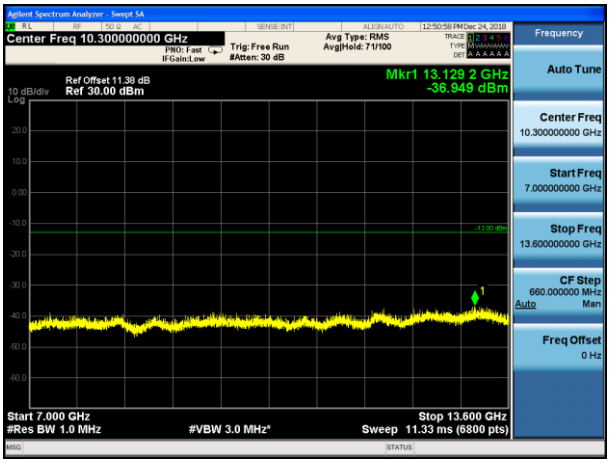	

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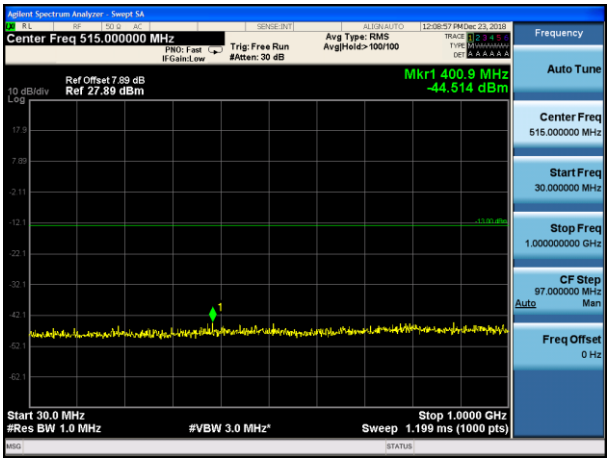	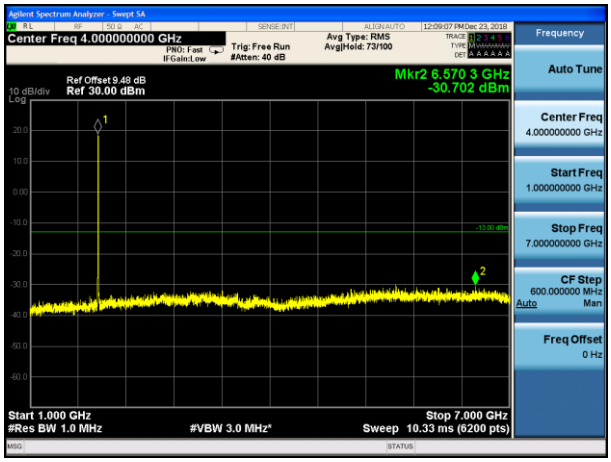

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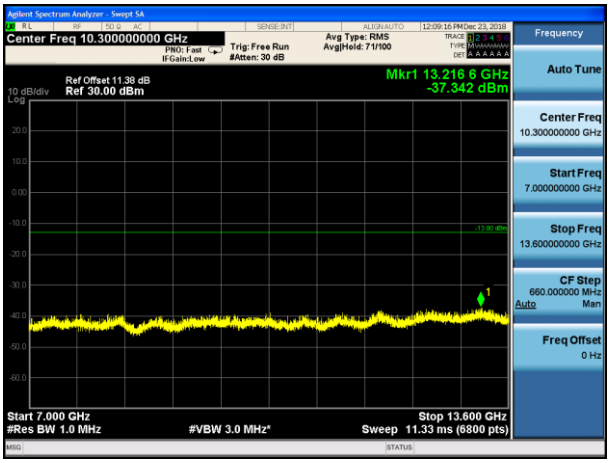	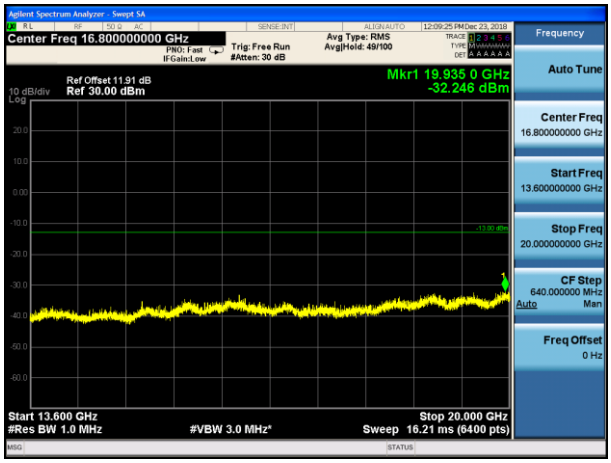

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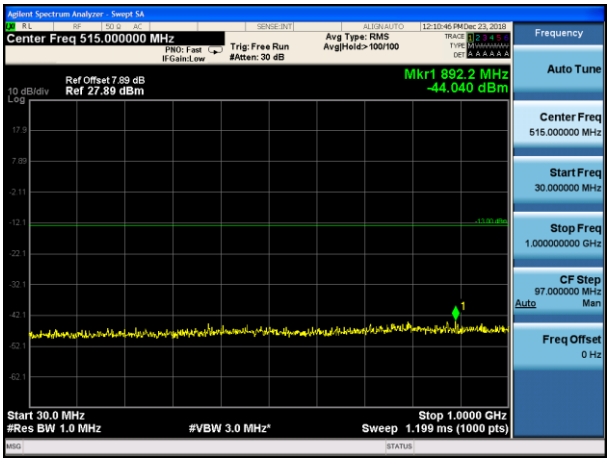	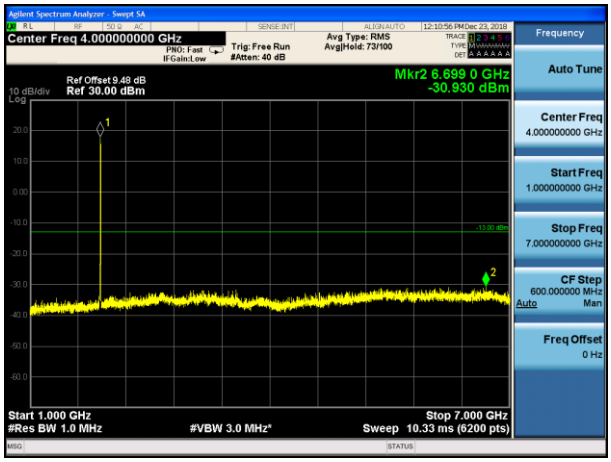

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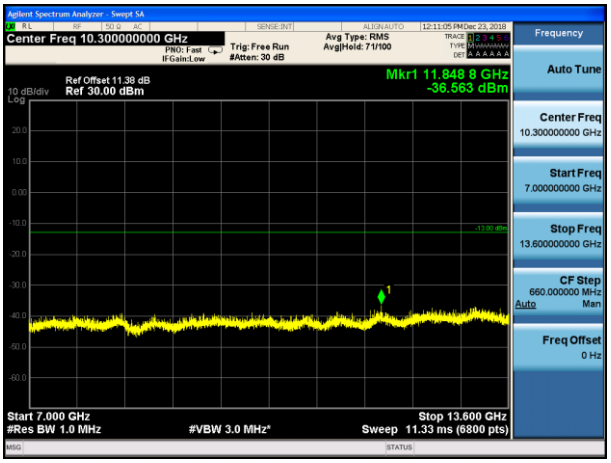	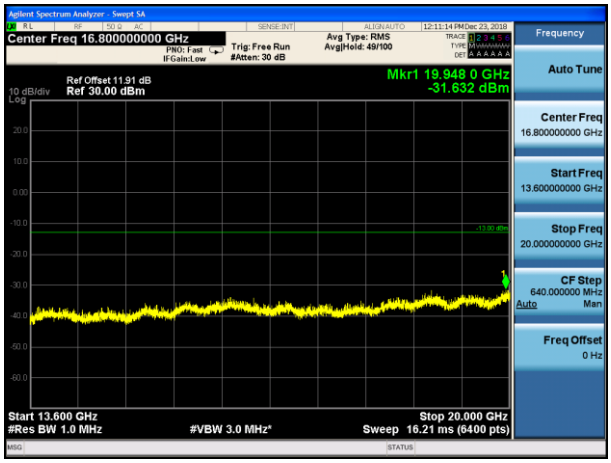

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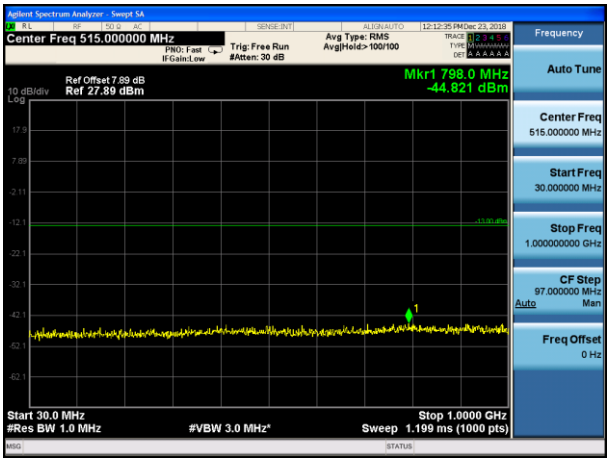	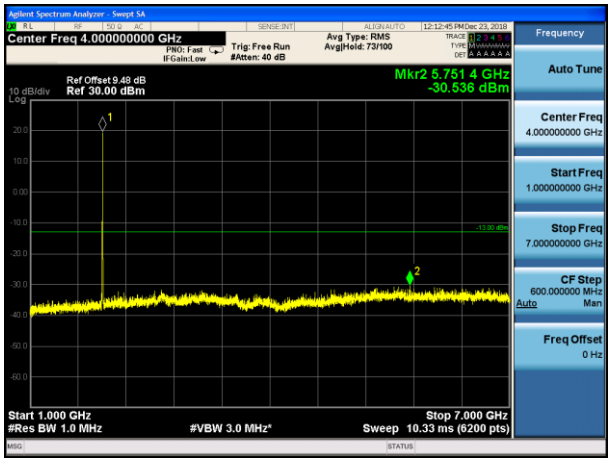

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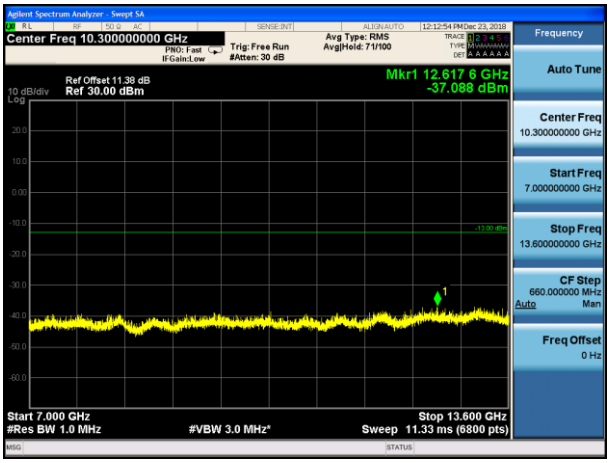
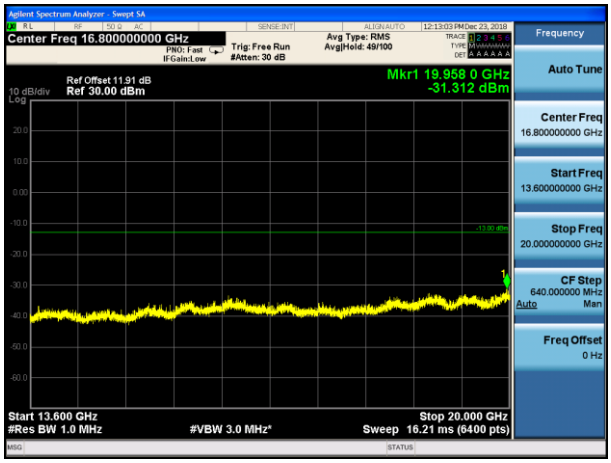
	

Note:1. Below 30MHZ no Spurious found and Above is the worst mode data.

2. As no emission found in standby or receive mode, no recording in this report.

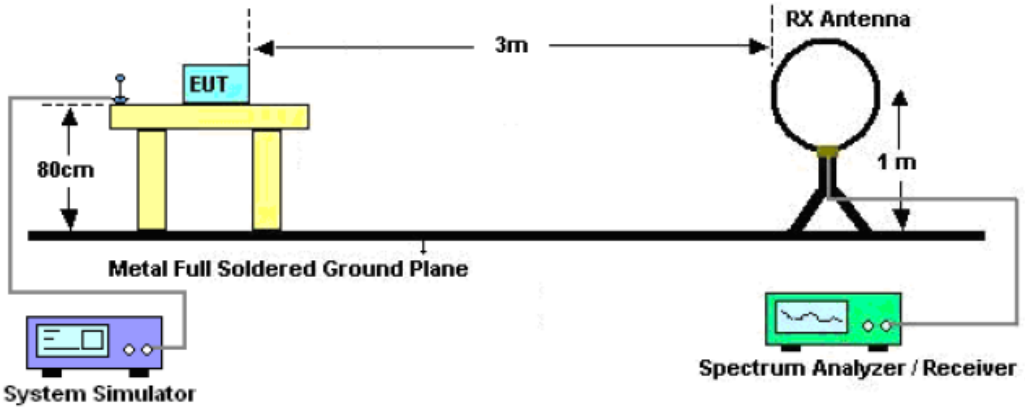
9.2 RADIATED SPURIOUS EMISSION

9.2.1MEASUREMENT METHOD

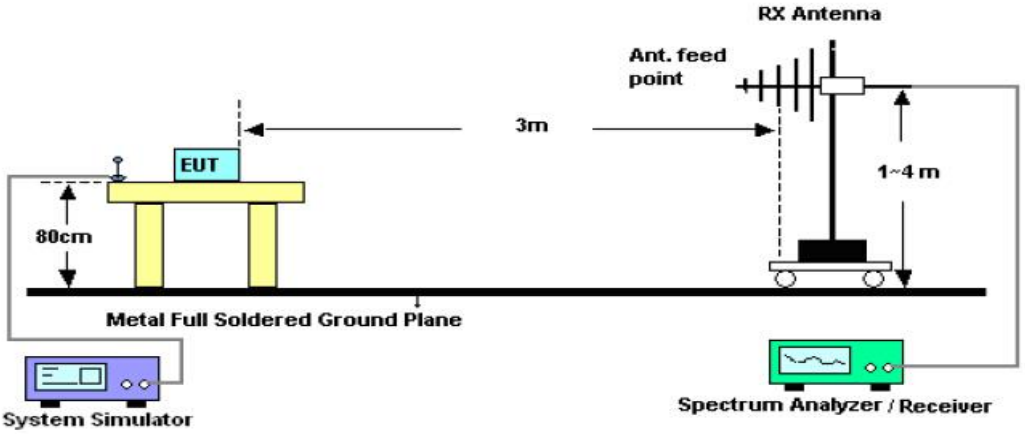
1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

9.2.2 TEST SETUP

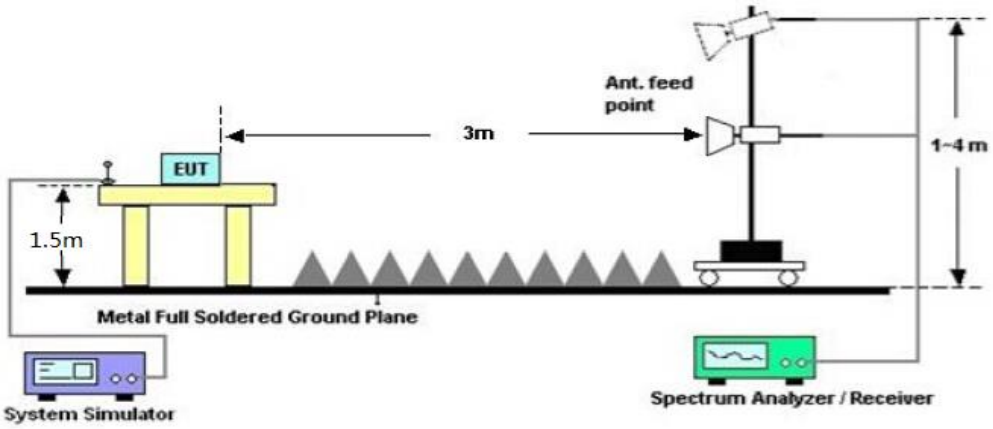
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



9.2.3 PROVISIONS APPLICABLE

(a) On any frequency outside a licensee's frequency block (e.g. A, D, B, etc.) within the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log(P) dB. The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

Note: only result the worst condition of each test mode:

9.2.4 MEASUREMENT RESULT

GSM 850:

The Worst Test Results for Channel 251/848.8 MHz				
Frequency	Emission Level	Limits	Margin	Comment
(MHz)	(dBm)	(dBm)	(dB)	
1967.60	-48.98	-13	-35.98	Horizontal
3456.47	-32.69	-13	-19.69	Horizontal
6722.25	-45.25	-13	-32.25	Horizontal
1967.60	-38.18	-13	-25.18	Vertical
3399.54	-49.66	-13	-36.66	Vertical
6749.64	-32.23	-13	-19.23	Vertical

GSM 850(EDGE 8):

The Worst Test Results for Channel 251/848.8 MHz				
Frequency	Emission Level	Limits	Margin	Comment
(MHz)	(dBm)	(dBm)	(dB)	
1967.60	-50.16	-13	-37.16	Horizontal
3485.45	-39.55	-13	-26.55	Horizontal
6799.64	-48.16	-13	-35.16	Horizontal
1967.60	-36.23	-13	-23.23	Vertical
3464.47	-50.59	-13	-37.59	Vertical
6846.25	-31.44	-13	-18.44	Vertical

PCS 1900:

The Worst Test Results for Channel 810/1909.8MHz				
Frequency	Emission Level	Limits	Margin	Comment
(MHz)	(dBm)	(dBm)	(dB)	
1847.52	-48.88	-13	-35.88	Horizontal
3819.60	-35.64	-13	-22.64	Horizontal
7569.22	-47.11	-13	-34.11	Horizontal
1845.48	-36.33	-13	-23.33	Vertical
3845.12	-47.42	-13	-34.42	Vertical
7644.23	-35.18	-13	-22.18	Vertical

PCS 1900(EDGE):

The Worst Test Results for Channel 810/1909.8MHz				
Frequency	Emission Level	Limits	Margin	Comment
(MHz)	(dBm)	(dBm)	(dB)	
1800.12	-51.44	-13	-38.44	Horizontal
3819.60	-39.36	-13	-26.36	Horizontal
7635.22	-49.49	-13	-36.49	Horizontal
1814.21	-38.35	-13	-25.35	Vertical
3819.60	-47.55	-13	-34.55	Vertical
7631.47	-33.43	-13	-20.43	Vertical

HSPA band II:

The Worst Test Results for Channel 9538/1907.6MHz				
Frequency	Emission Level	Limits	Margin	Comment
(MHz)	(dBm)	(dBm)	(dB)	
1489.55	-45.44	-13	-32.44	Horizontal
3815.20	-30.27	-13	-17.27	Horizontal
7621.02	-49.14	-13	-36.14	Horizontal
1815.42	-31.62	-13	-18.62	Vertical
3815.20	-45.49	-13	-32.49	Vertical
7633.53	-30.2	-13	-17.2	Vertical

HSPA band IV:

The Worst Test Results for Channel 8763/1752.6MHz				
Frequency	Emission Level	Limits	Margin	Comment
(MHz)	(dBm)	(dBm)	(dB)	
1854.15	-49.44	-13	-36.44	Horizontal
3505.20	-35.33	-13	-22.33	Horizontal
7833.46	-49.10	-13	-36.10	Horizontal
1486.22	-38.59	-13	-25.59	Vertical
3505.20	-48.42	-13	-35.42	Vertical
7641.36	-34.19	-13	-21.19	Vertical

HSPA band V:

The Worst Test Results for Channel 4233/846.6MHz				
Frequency	Emission Level	Limits	Margin	Comment
(MHz)	(dBm)	(dBm)	(dB)	
1693.20	-48.33	-13	-35.33	Horizontal
3025.46	-32.85	-13	-19.85	Horizontal
6643.97	-47.48	-13	-34.48	Horizontal
1693.20	-30.16	-13	-17.16	Vertical
315.23	-44.52	-13	-31.52	Vertical
6513.18	-32.15	-13	-19.15	Vertical

RESULT: PASS

Note:

1. Margin = Emission Level -Limit
2. Below 30MHZ no Spurious found and Above is the worst mode data

10. FREQUENCY STABILITY

10.1 MEASUREMENT METHOD

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of R&S CMU200 DIGITAL RADIO COMMUNICATION TESTER.

1 Measure the carrier frequency at room temperature.

2 Subject the EUT to overnight soak at -10℃.

3 With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on channel 661 for PCS 1900 band , channel 190 for GSM 850 band, channel 9400 for UMTS band II and channel 4175 for UMTS band V measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.

4 Repeat the above measurements at 10℃ increments from -10℃ to +50℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.

5 Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.

6 Subject the EUT to overnight soak at +50℃.

7 With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.

8 Repeat the above measurements at 10℃ increments from +50℃ to -10℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.

9 At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

10.2 PROVISIONS APPLICABLE

10.2.1 FOR HAND CARRIED BATTERY POWERED EQUIPMENT

According to the ANSI/TIA-603-E-2016, the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between 3.23VDC and 4.35VDC, with a nominal voltage of 3.8VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress. These voltages represent a tolerance of -10 % and +12.5 %. For the purposes of measuring frequency stability these voltage limits are to be used.

10.2.2 FOR EQUIPMENT POWERED BY PRIMARY SUPPLY VOLTAGE

According to the ANSI/TIA-603-E-2016,the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. For this EUT section 2.1055(d)(1) applies. This requires varying primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment, the normal environment temperature is 20^{o}C.

10.3 MEASUREMENT RESULT

Test Results

Frequency Error vs. Voltage:

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.(V)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM850	GSM	LCH	TN	3.23	10.72	0.013007	±2.5	PASS
			TN	3.80	8.20	0.009949	±2.5	PASS
			TN	4.35	12.66	0.015360	±2.5	PASS
		MCH	TN	3.23	1.61	0.001924	±2.5	PASS
			TN	3.80	1.68	0.002008	±2.5	PASS
			TN	4.35	3.87	0.004626	±2.5	PASS
		HCH	TN	3.23	13.43	0.015822	±2.5	PASS
			TN	3.80	6.33	0.007458	±2.5	PASS
			TN	4.35	2.65	0.003122	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.(V)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM850	EDGE	LCH	TN	3.23	16.69	0.020250	±2.5	PASS
			TN	3.80	18.63	0.022604	±2.5	PASS
			TN	4.35	15.79	0.019158	±2.5	PASS
		MCH	TN	3.23	14.43	0.017248	±2.5	PASS
			TN	3.80	13.08	0.015635	±2.5	PASS
			TN	4.35	11.69	0.013973	±2.5	PASS
		HCH	TN	3.23	18.37	0.021642	±2.5	PASS
			TN	3.80	16.66	0.019628	±2.5	PASS
			TN	4.35	16.50	0.019439	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt. (V)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Verdict
PCS 1900	GSM	LCH	TN	3.23	10.14	0.005480	PASS
			TN	3.80	13.62	0.007361	PASS
			TN	4.35	11.69	0.006318	PASS
		MCH	TN	3.23	8.39	0.004463	PASS
			TN	3.80	13.43	0.007144	PASS
			TN	4.35	11.62	0.006181	PASS
		HCH	TN	3.23	-7.23	-0.003786	PASS
			TN	3.80	-8.14	-0.004262	PASS
			TN	4.35	-2.65	-0.001388	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt. (V)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Verdict
PCS 1900	EDGE	LCH	TN	3.23	-7.97	-0.004308	PASS
			TN	3.80	-3.68	-0.001989	PASS
			TN	4.35	-3.26	-0.001762	PASS
		MCH	TN	3.23	0.16	0.000085	PASS
			TN	3.80	-1.87	-0.000995	PASS
			TN	4.35	-0.94	-0.000500	PASS
		HCH	TN	3.23	-12.75	-0.006676	PASS
			TN	3.80	-9.78	-0.005121	PASS
			TN	4.35	-10.17	-0.005325	PASS

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very samll. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted duing the frequency stability tests is applied. Therefore the device is detemined to remain operating in band over the temperture and voltage range as tested.

Frequency Error vs. Temperature:

Test Band	Test Mode	Test Channel	Test Volt.	Test Tem. (℃)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM850	GSM	LCH	VN	-10	10.72	0.013007	±2.5	PASS
			VN	0	7.43	0.009015	±2.5	PASS
			VN	10	12.14	0.014729	±2.5	PASS
			VN	20	14.46	0.017544	±2.5	PASS
			VN	30	12.01	0.014572	±2.5	PASS
			VN	40	9.43	0.011441	±2.5	PASS
			VN	50	5.75	0.006976	±2.5	PASS
GSM850	GSM	MCH	VN	-10	3.81	0.004554	±2.5	PASS
			VN	0	2.45	0.002929	±2.5	PASS
			VN	10	7.49	0.008953	±2.5	PASS
			VN	20	13.95	0.016675	±2.5	PASS
			VN	30	6.39	0.007638	±2.5	PASS
			VN	40	9.04	0.010806	±2.5	PASS
			VN	50	8.07	0.009646	±2.5	PASS
GSM850	GSM	HCH	VN	-10	6.46	0.007611	±2.5	PASS
			VN	0	7.55	0.008895	±2.5	PASS
			VN	10	6.39	0.007528	±2.5	PASS
			VN	20	4.97	0.005855	±2.5	PASS
			VN	30	6.46	0.007611	±2.5	PASS
			VN	40	3.49	0.004112	±2.5	PASS
			VN	50	8.65	0.010191	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Tem. (℃)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM850	EDGE	LCH	VN	-10	17.85	0.021657	±2.5	PASS
			VN	0	15.50	0.018806	±2.5	PASS
			VN	10	15.17	0.018406	±2.5	PASS
			VN	20	13.79	0.016731	±2.5	PASS
			VN	30	14.30	0.017350	±2.5	PASS
			VN	40	12.59	0.015275	±2.5	PASS
			VN	50	11.85	0.014378	±2.5	PASS
GSM850	EDGE	MCH	VN	-10	14.63	0.017751	±2.5	PASS
			VN	0	14.14	0.017156	±2.5	PASS
			VN	10	11.24	0.013435	±2.5	PASS
			VN	20	13.43	0.016053	±2.5	PASS
			VN	30	12.72	0.015204	±2.5	PASS
			VN	40	13.46	0.016089	±2.5	PASS
			VN	50	11.07	0.013232	±2.5	PASS
GSM850	EDGE	HCH	VN	-10	11.43	0.013662	±2.5	PASS
			VN	0	12.11	0.014475	±2.5	PASS
			VN	10	14.79	0.017679	±2.5	PASS
			VN	20	12.66	0.015133	±2.5	PASS
			VN	30	17.08	0.020123	±2.5	PASS
			VN	40	17.21	0.020276	±2.5	PASS
			VN	50	18.73	0.022066	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Tem. (℃)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Verdict
PCS 1900	GSM	LCH	VN	-10	12.66	0.006843	PASS
			VN	0	16.14	0.008723	PASS
			VN	10	13.30	0.007188	PASS
			VN	20	12.07	0.006524	PASS
			VN	30	13.62	0.007361	PASS
			VN	40	12.40	0.006702	PASS
			VN	50	9.88	0.005340	PASS
PCS 1900	GSM	MCH	VN	-10	10.59	0.005724	PASS
			VN	0	12.01	0.006491	PASS
			VN	10	12.46	0.006628	PASS
			VN	20	17.05	0.009069	PASS
			VN	30	16.27	0.008654	PASS
			VN	40	13.37	0.007112	PASS
			VN	50	15.11	0.008037	PASS
PCS 1900	GSM	HCH	VN	-10	14.40	0.007660	PASS
			VN	0	19.31	0.010271	PASS
			VN	10	16.66	0.008862	PASS
			VN	20	16.98	0.009032	PASS
			VN	30	5.04	0.002639	PASS
			VN	40	4.84	0.002534	PASS
			VN	50	5.23	0.002739	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Tem. (℃)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Verdict
GSM1900	EDGE	LCH	VN	-30	-4.65	-0.002513	PASS
			VN	-20	-6.36	-0.003437	PASS
			VN	-10	-3.68	-0.001989	PASS
			VN	0	-7.01	-0.003789	PASS
			VN	10	-7.26	-0.003924	PASS
			VN	20	-6.39	-0.003454	PASS
			VN	30	-9.10	-0.004918	PASS
			VN	40	-8.52	-0.004605	PASS
			VN	50	-5.81	-0.003140	PASS
GSM1900	EDGE	MCH	VN	-30	1.61	0.000856	PASS
			VN	-20	3.87	0.002059	PASS
			VN	-10	-1.26	-0.000670	PASS
			VN	0	-1.58	-0.000840	PASS
			VN	10	-1.97	-0.001048	PASS
			VN	20	-2.52	-0.001340	PASS
			VN	30	1.13	0.000601	PASS
			VN	40	-2.49	-0.001324	PASS
			VN	50	-1.84	-0.000979	PASS
GSM1900	EDGE	HCH	VN	-30	-13.50	-0.007069	PASS
			VN	-20	-9.65	-0.005053	PASS
			VN	-10	-13.50	-0.007069	PASS
			VN	0	-9.40	-0.004922	PASS
			VN	10	-15.17	-0.007943	PASS
			VN	20	-10.62	-0.005561	PASS
			VN	30	-11.88	-0.006221	PASS
			VN	40	-13.59	-0.007116	PASS
			VN	50	-12.40	-0.006493	PASS

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very samll. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted duing the frequency stability tests is applied. Therefore the device is detemined to remain operating in band over the temperture and voltage range as tested.

Frequency Error vs. Voltage:

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.(V)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA850	UMTS	LCH	TN	3.23	4.49	0.005433	±2.5	PASS
			TN	3.80	2.75	0.003328	±2.5	PASS
			TN	4.35	2.44	0.002953	±2.5	PASS
		MCH	TN	3.23	-0.18	-0.000215	±2.5	PASS
			TN	3.80	2.11	0.002523	±2.5	PASS
			TN	4.35	0.96	0.001148	±2.5	PASS
		HCH	TN	3.23	-2.76	-0.003260	±2.5	PASS
			TN	3.80	0.52	0.000614	±2.5	PASS
			TN	4.35	-0.06	-0.000071	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.(V)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Verdict
WCDMA1700	UMTS	LCH	TN	3.23	16.07	0.009384	PASS
			TN	3.80	15.20	0.008876	PASS
			TN	4.35	16.75	0.009782	PASS
		MCH	TN	3.23	-5.81	-0.003354	PASS
			TN	3.80	-4.23	-0.002442	PASS
			TN	4.35	-3.91	-0.002257	PASS
		HCH	TN	3.23	93.43	0.053309	PASS
			TN	3.80	-18.86	-0.010761	PASS
			TN	4.35	-21.80	-0.012439	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.(V)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Verdict
WCDMA1900	UMTS	LCH	TN	3.23	0.40	0.000216	PASS
			TN	3.80	-1.22	-0.000659	PASS
			TN	4.35	3.57	0.001927	PASS
		MCH	TN	3.23	-2.38	-0.001266	PASS
			TN	3.80	-5.33	-0.002835	PASS
			TN	4.35	-6.59	-0.003505	PASS
		HCH	TN	3.23	305.33	0.160060	PASS
			TN	3.80	450.07	0.235935	PASS
			TN	4.35	111.10	0.058241	PASS

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very samll. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted duing the frequency stability tests is applied. Therefore the device is detemined to remain operating in band over the temperture and voltage range as tested.

Frequency Error vs. Temperature:

Test Band	Test Mode	Test Channel	Test Volt.	Test Tem. (℃)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA850	UMTS	LCH	VN	-10	3.94	0.004768	±2.5	PASS
			VN	0	3.62	0.004380	±2.5	PASS
			VN	10	3.49	0.004223	±2.5	PASS
			VN	20	-3.42	-0.004138	±2.5	PASS
			VN	30	3.48	0.004211	±2.5	PASS
			VN	40	6.06	0.007333	±2.5	PASS
			VN	50	4.78	0.005784	±2.5	PASS
WCDMA850	UMTS	MCH	VN	-10	4.75	0.005679	±2.5	PASS
			VN	0	0.87	0.001040	±2.5	PASS
			VN	10	1.24	0.001483	±2.5	PASS
			VN	20	2.38	0.002846	±2.5	PASS
			VN	30	4.00	0.004782	±2.5	PASS
			VN	40	1.65	0.001973	±2.5	PASS
			VN	50	3.62	0.004328	±2.5	PASS
WCDMA850	UMTS	HCH	VN	-10	2.06	0.002433	±2.5	PASS
			VN	0	0.73	0.000862	±2.5	PASS
			VN	10	1.98	0.002339	±2.5	PASS
			VN	20	1.48	0.001748	±2.5	PASS
			VN	30	-4.44	-0.005245	±2.5	PASS
			VN	40	-1.31	-0.001547	±2.5	PASS
			VN	50	1.22	0.001441	±2.5	PASS

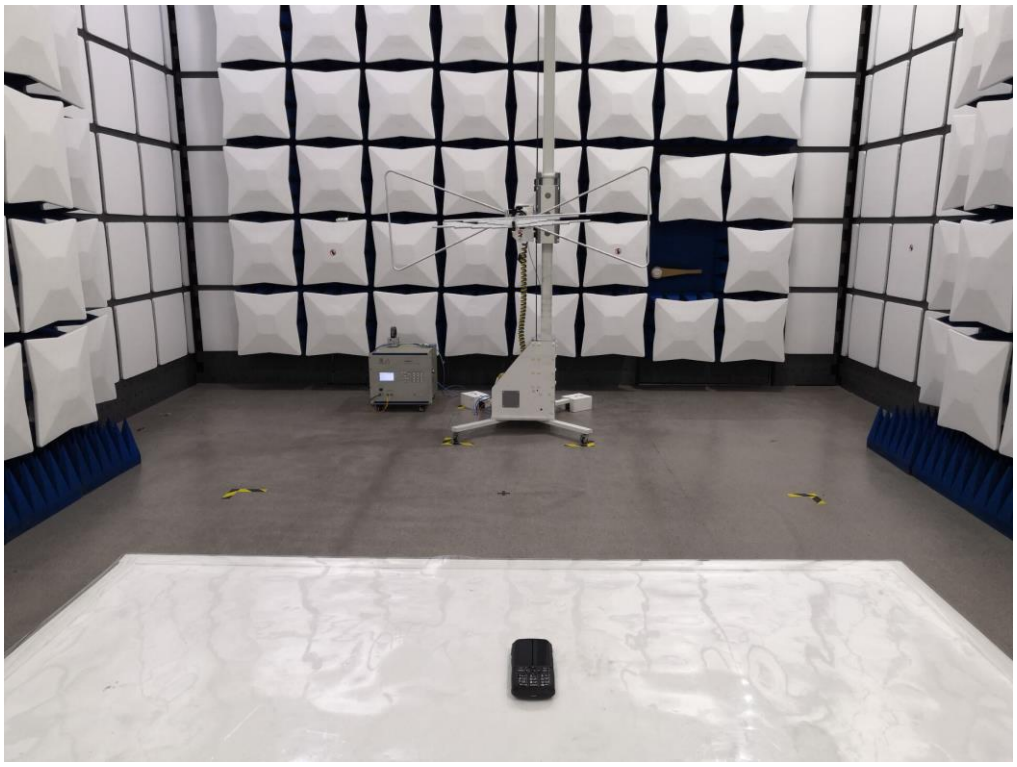
Test Band	Test Mode	Test Channel	Test Volt.	Test Temp. ℃	Freq.Error (Hz)	Freq.vs.rated (ppm)	Verdict
WCDMA1700	UMTS	LCH	VN	-10	17.12	0.009998	PASS
			VN	0	18.08	0.010558	PASS
			VN	10	19.81	0.011569	PASS
			VN	20	15.01	0.008765	PASS
			VN	30	15.99	0.009338	PASS
			VN	40	15.63	0.009128	PASS
			VN	50	16.34	0.009542	PASS
WCDMA1700	UMTS	MCH	VN	-10	16.85	0.009726	PASS
			VN	0	15.58	0.008993	PASS
			VN	10	-3.07	-0.001772	PASS
			VN	20	-1.50	-0.000866	PASS
			VN	30	-3.51	-0.002026	PASS
			VN	40	-5.75	-0.003319	PASS
			VN	50	0.46	0.000266	PASS
WCDMA1700	UMTS	HCH	VN	-10	1.79	0.001021	PASS
			VN	0	-0.15	-0.000086	PASS
			VN	10	-0.96	-0.000548	PASS
			VN	20	-4.90	-0.002796	PASS
			VN	30	96.86	0.055266	PASS
			VN	40	96.79	0.055227	PASS
			VN	50	181.90	0.103789	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Tem. (℃)	Freq.Error (Hz)	Freq.vs.rated (ppm)	Verdict
WCDMA1900	UMTS	LCH	VN	-10	2.81	0.001517	PASS
			VN	0	4.59	0.002478	PASS
			VN	10	0.99	0.000534	PASS
			VN	20	5.49	0.002964	PASS
			VN	30	3.34	0.001803	PASS
			VN	40	2.59	0.001398	PASS
			VN	50	0.93	0.000502	PASS
WCDMA1900	UMTS	MCH	VN	-10	2.73	0.001452	PASS
			VN	0	0.98	0.000521	PASS
			VN	10	-3.40	-0.001809	PASS
			VN	20	-7.22	-0.003840	PASS
			VN	30	-3.75	-0.001995	PASS
			VN	40	-3.74	-0.001989	PASS
			VN	50	-4.73	-0.002516	PASS
WCDMA1900	UMTS	HCH	VN	-10	-2.47	-0.001295	PASS
			VN	0	-2.38	-0.001248	PASS
			VN	10	-2.72	-0.001426	PASS
			VN	20	-4.91	-0.002574	PASS
			VN	30	231.26	0.121231	PASS
			VN	40	106.92	0.056049	PASS
			VN	50	385.65	0.202165	PASS

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very samll. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted duing the frequency stability tests is applied. Therefore the device is detemined to remain operating in band over the temperture and voltage range as tested.

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

RADIATED SPURIOUS EMISSION



RADIATED SPURIOUS ABOVE 1G EMISSION

----END OF REPORT----