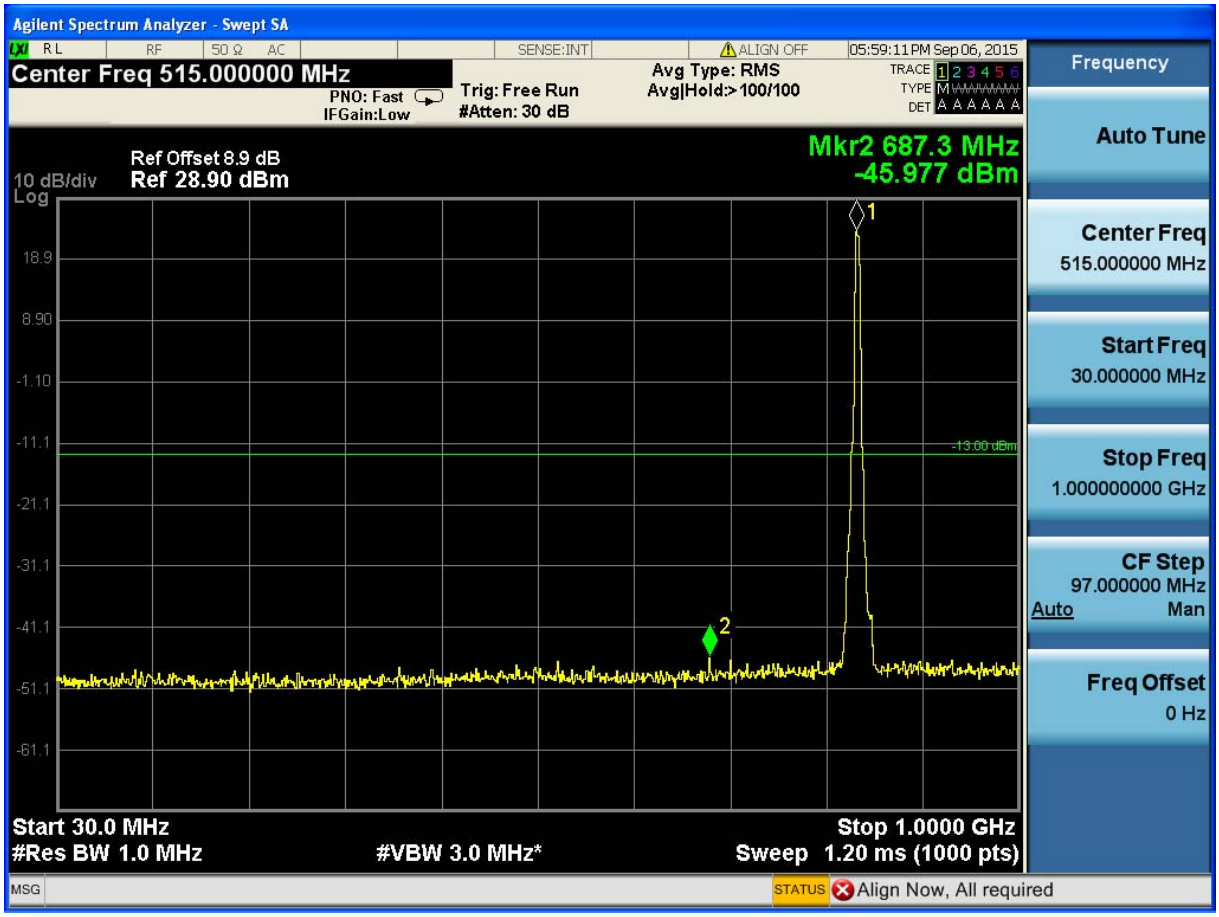
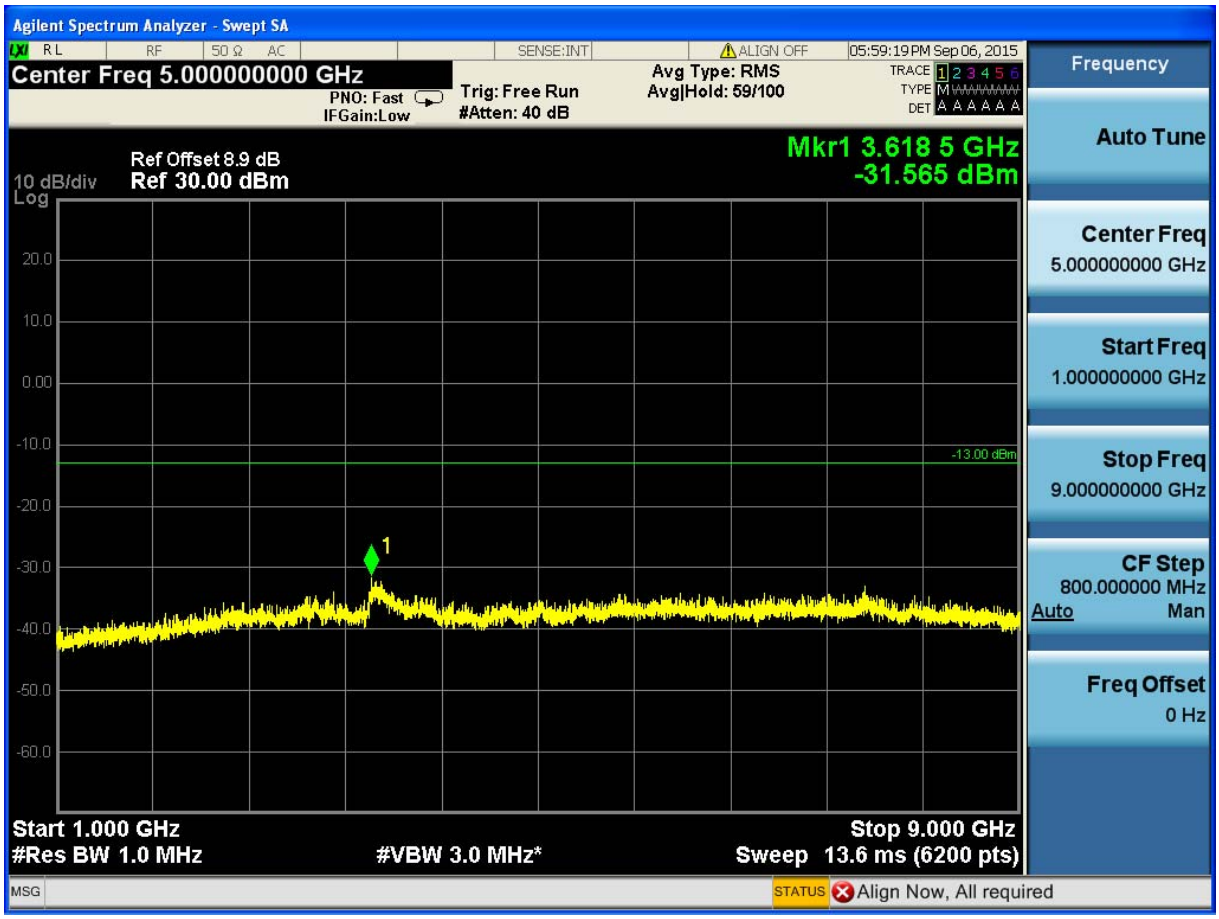
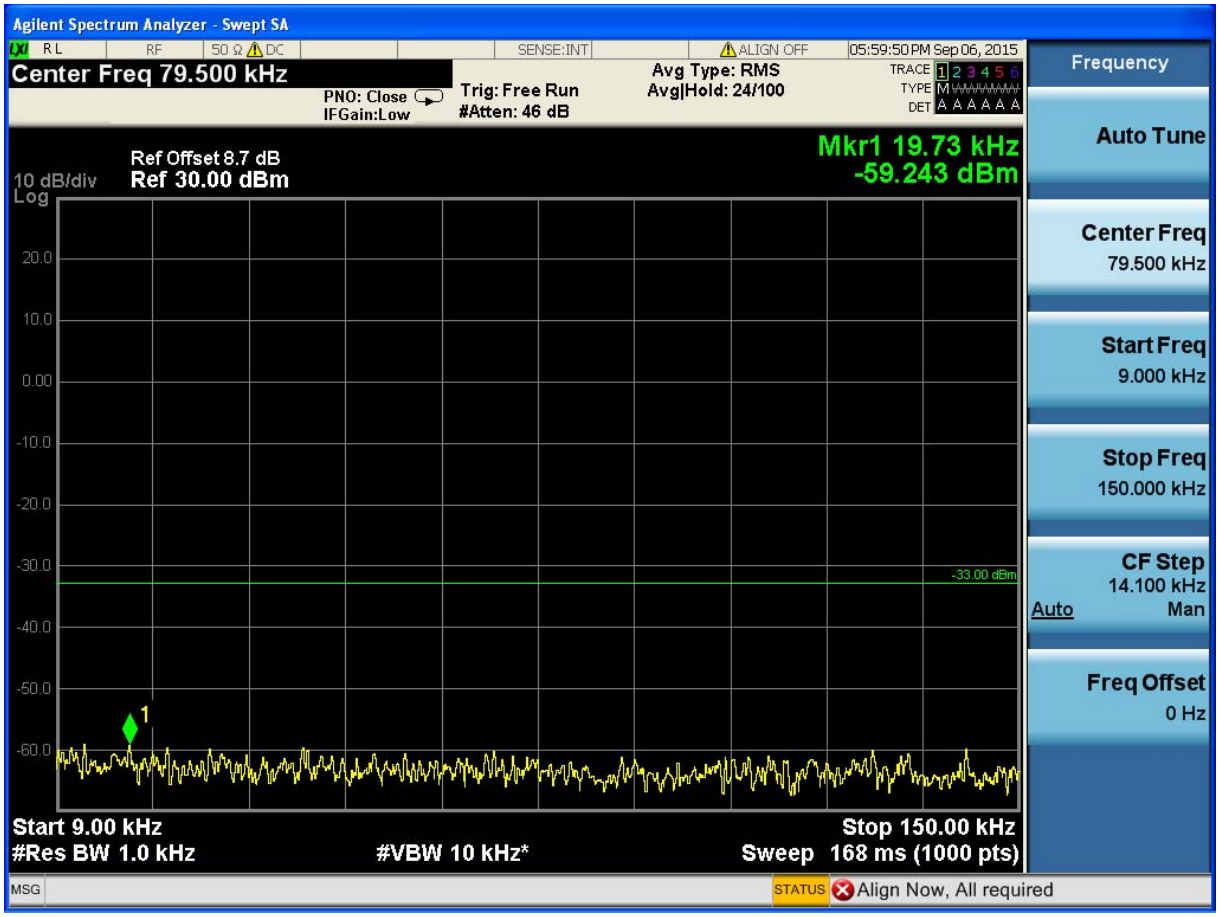


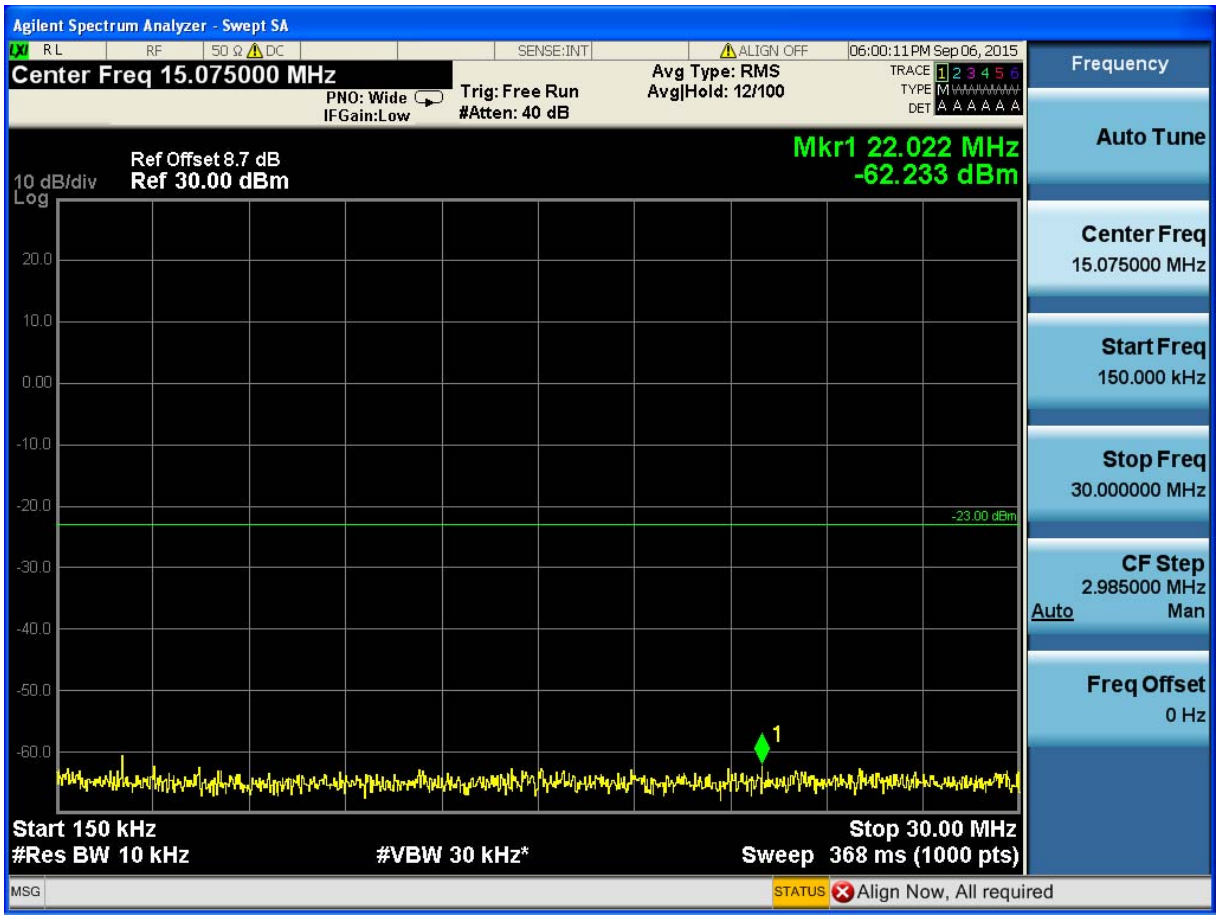
(Plot 4.5.2 B3: Channel 4183: 836.60 MHz @ WCDMA Band V)



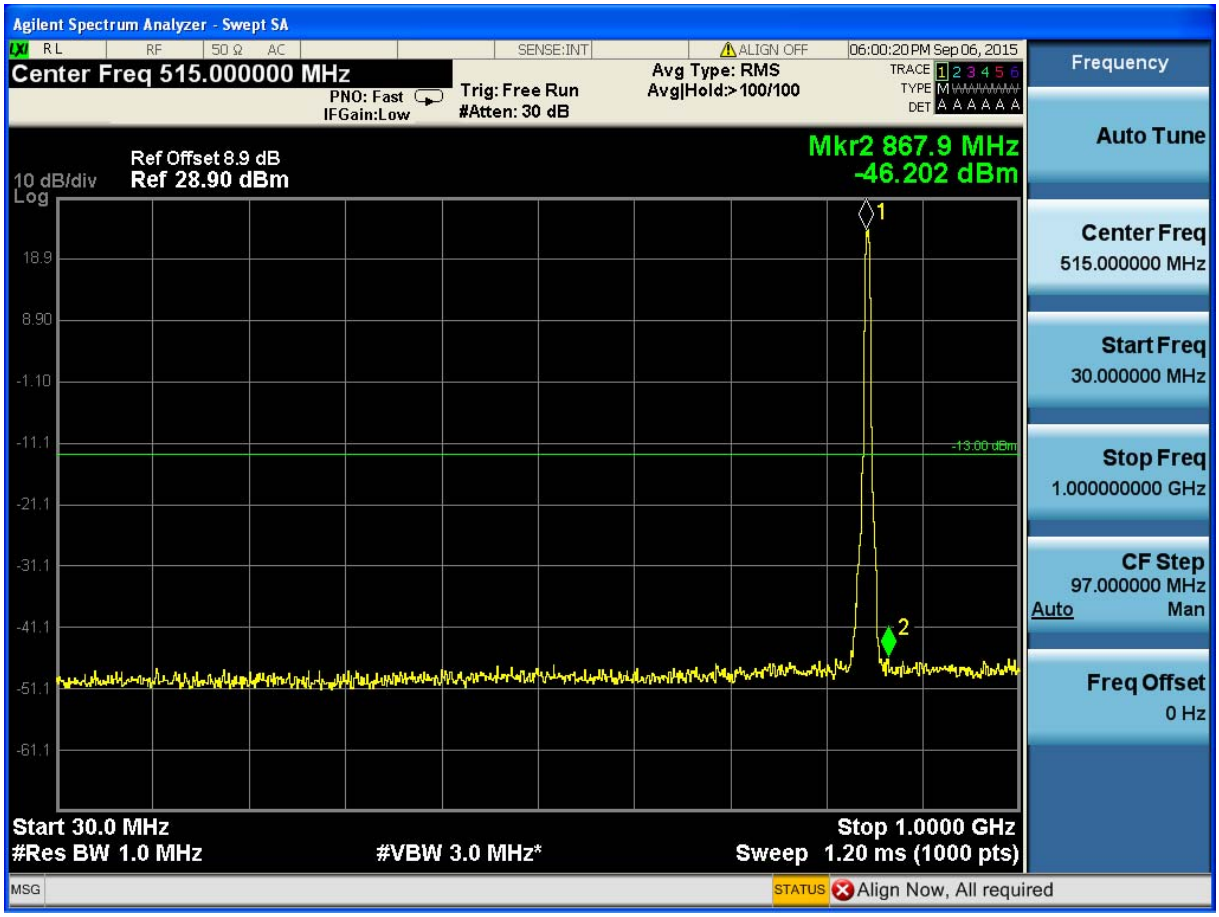
(Plot 4.5.2 B4: Channel 4183: 836.60 MHz @ WCDMA Band V)



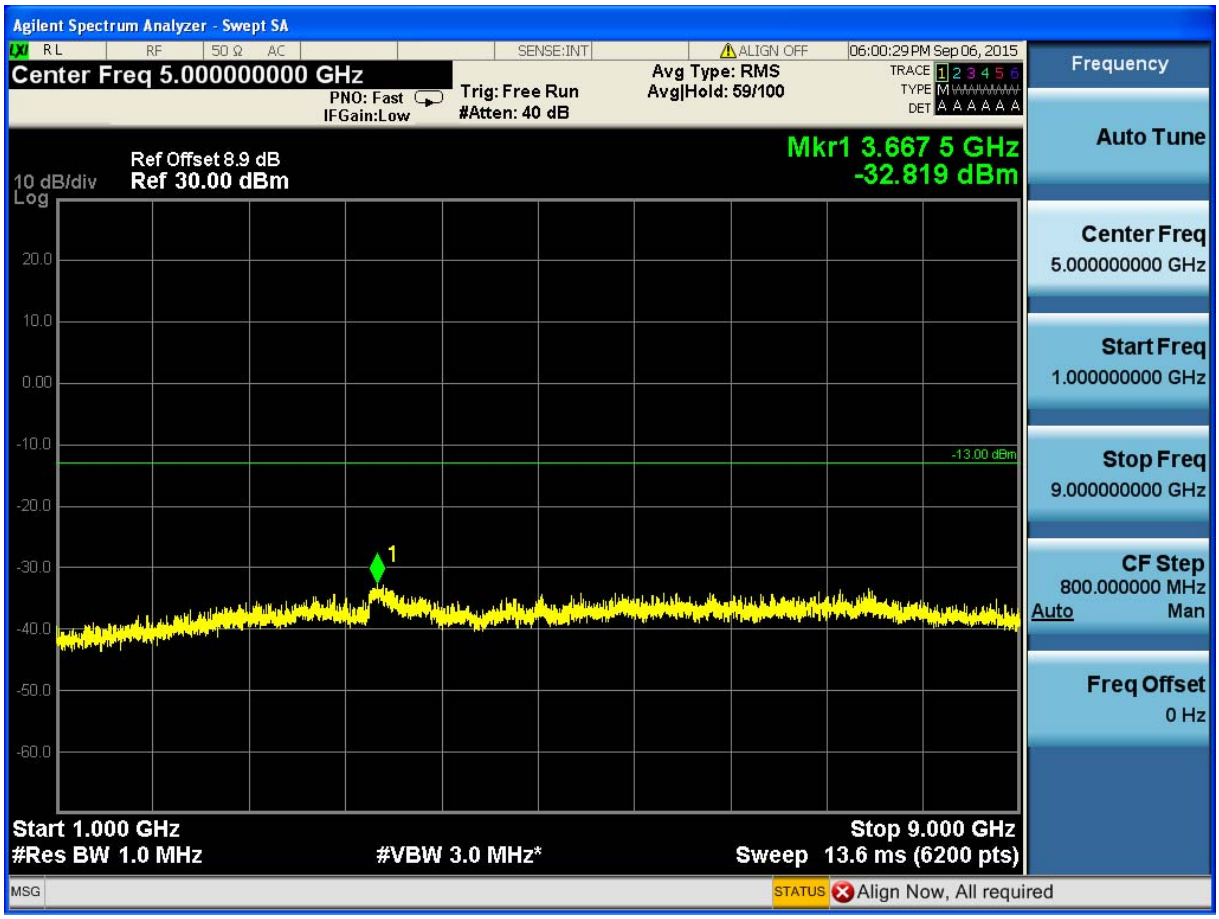
(Plot 4.5.2 C1: Channel 4233: 846.60 MHz @ WCDMA Band V)



(Plot 4.5.2 C2: Channel 4233: 846.60 MHz @ WCDMA Band V)



(Plot 4.5.2 C3: Channel 4233: 846.60 MHz @ WCDMA Band V)



(Plot 4.5.2 C4: Channel 4233: 846.60 MHz @ WCDMA Band V)

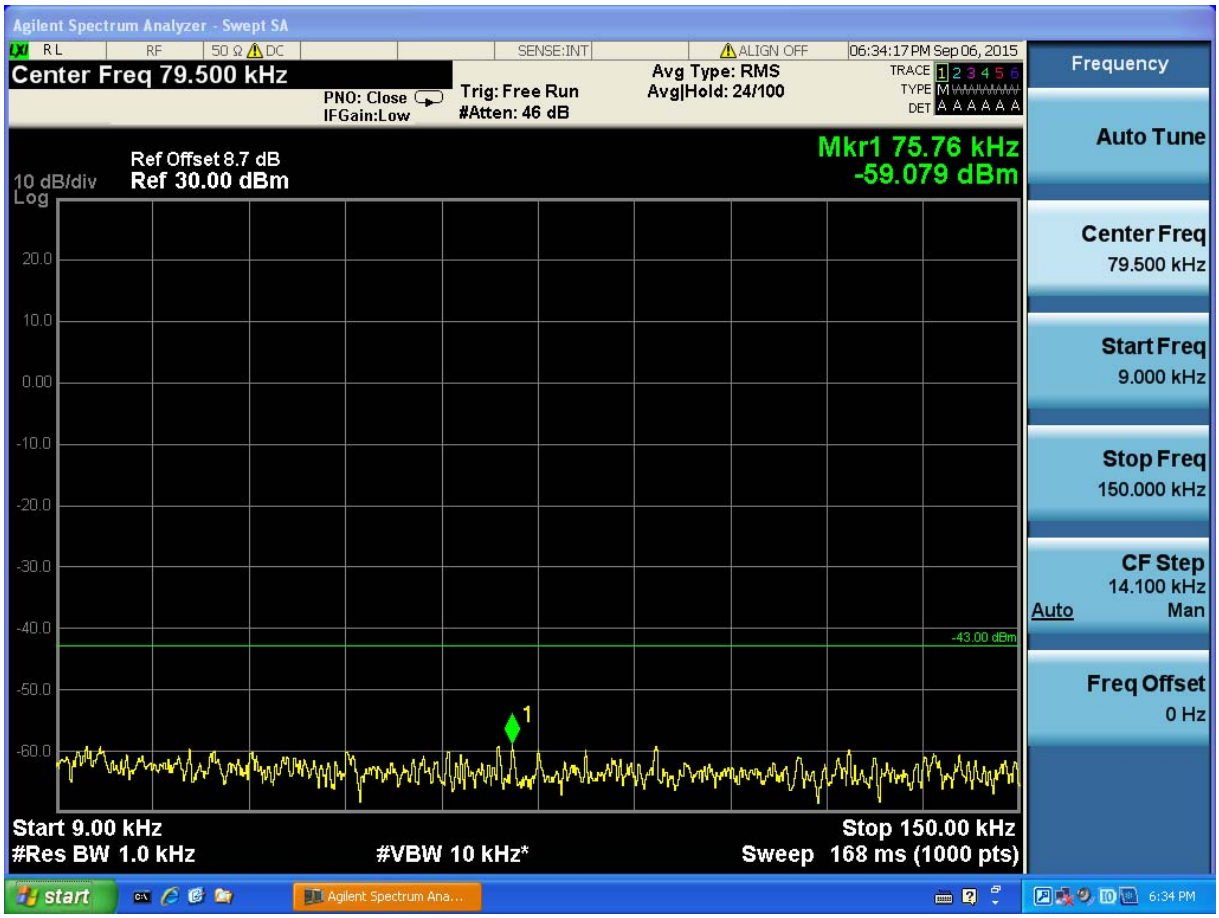
4.5.3 For UMTS/TM1/WCDMA Band IV Test Results

A. Test Verdict

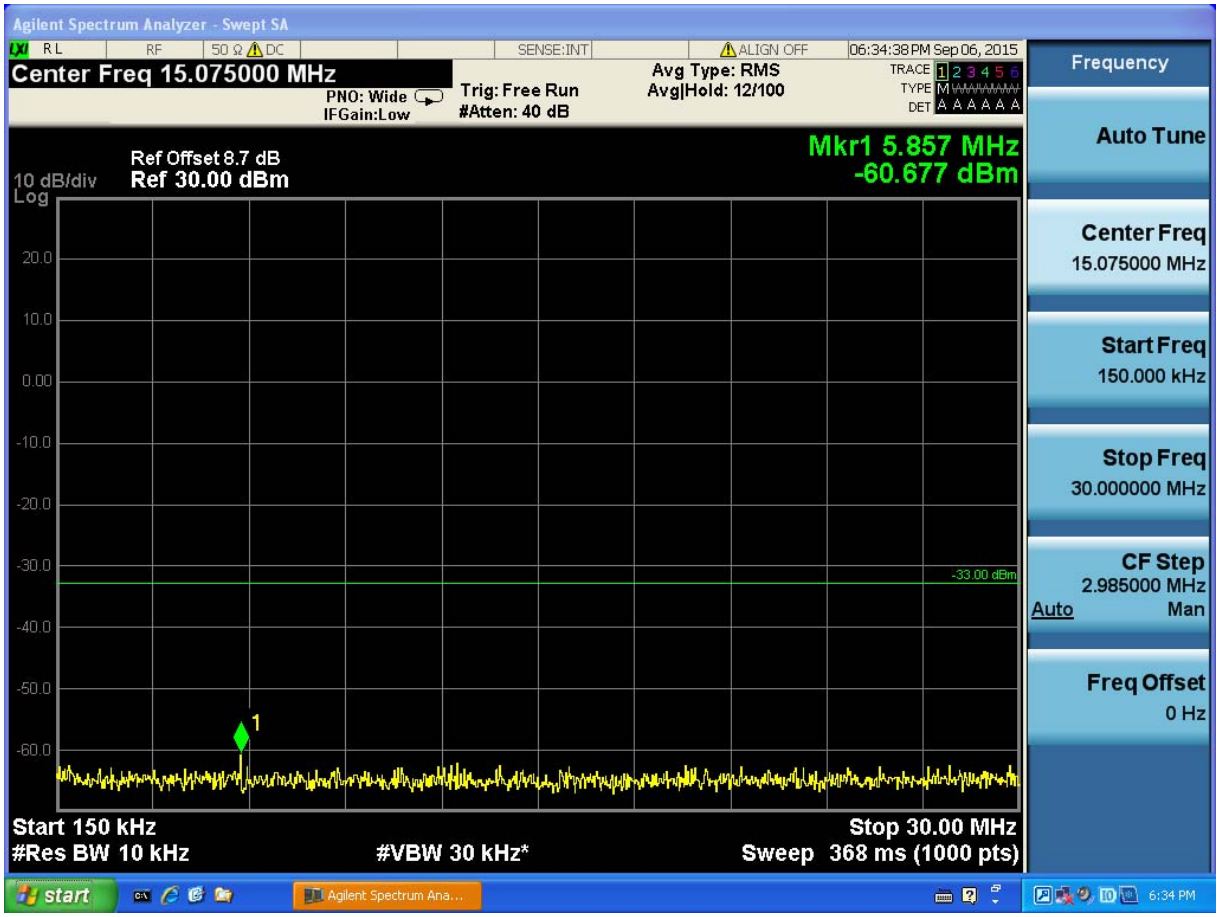
Test Mode/ Channel	Frequency (MHz)	Frequency Range	Refer to Plot	Limit (dBm)	Verdict
UMTS/TM1/WCDMA Band IV /1312	1712.4	9KHz-150KHz	Plot 4.5.3 A1	-13.00	PASS
		150KHz-30MHz	Plot 4.5.3 A2	-13.00	PASS
		30MHz-1GHz	Plot 4.5.3 A3	-13.00	PASS
		1GHz-7GHz	Plot 4.5.3 A4	-13.00	PASS
		7GHz-13.6GHz	Plot 4.5.3 A5	-13.00	PASS
		13.6GHz-20GHz	Plot 4.5.3 A6	-13.00	PASS
UMTS/TM1/WCDMA Band IV /1413	1732.6	9KHz-150KHz	Plot 4.5.3 B1	-13.00	PASS
		150KHz-30MHz	Plot 4.5.3 B2	-13.00	PASS
		30MHz-1GHz	Plot 4.5.3 B3	-13.00	PASS
		1GHz-7GHz	Plot 4.5.3 B4	-13.00	PASS
		7GHz-13.6GHz	Plot 4.5.3 B5	-13.00	PASS
		13.6GHz-20GHz	Plot 4.5.3 B6	-13.00	PASS
UMTS/TM1/WCDMA Band IV /1513	1752.6	9KHz-150KHz	Plot 4.5.3 C1	-13.00	PASS
		150KHz-30MHz	Plot 4.5.3 C2	-13.00	PASS
		30MHz-1GHz	Plot 4.5.3 C3	-13.00	PASS
		1GHz-7GHz	Plot 4.5.3 C4	-13.00	PASS
		7GHz-13.6GHz	Plot 4.5.3 C5	-13.00	PASS
		13.6GHz-20GHz	Plot 4.5.3 C6	-13.00	PASS

Note:
1. In general, the worse case attenuation requirement shown above was applied.
2. *** means that the emission level is too low to be measured or at least 20 dB down than the limit.

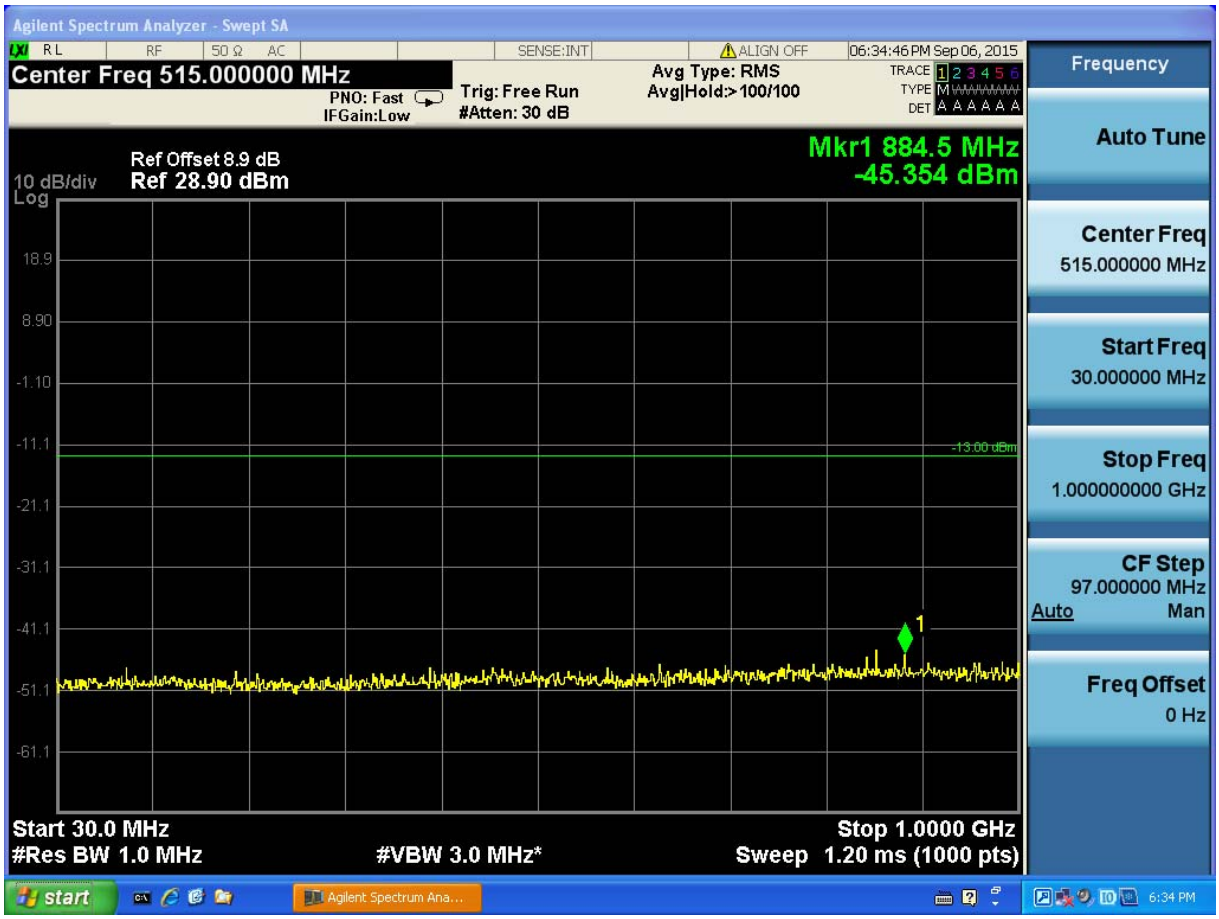
B. Test Plots



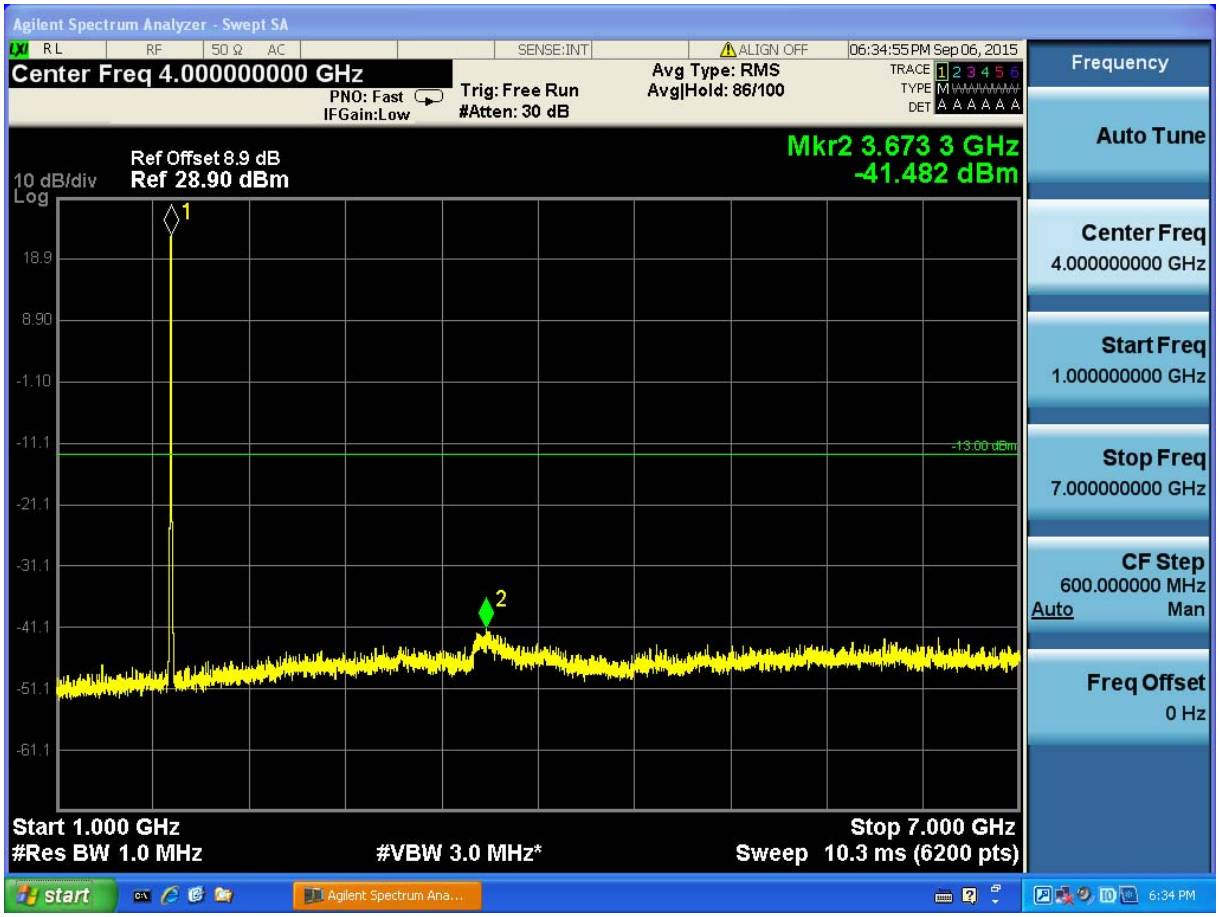
(Plot 4.5.3 A1: Channel 1312: 1712.4MHz @ Traffic WCDMA Band IV)



(Plot 4.5.3 A2: Channel 1312: 1712.4MHz @ Traffic WCDMA Band IV)



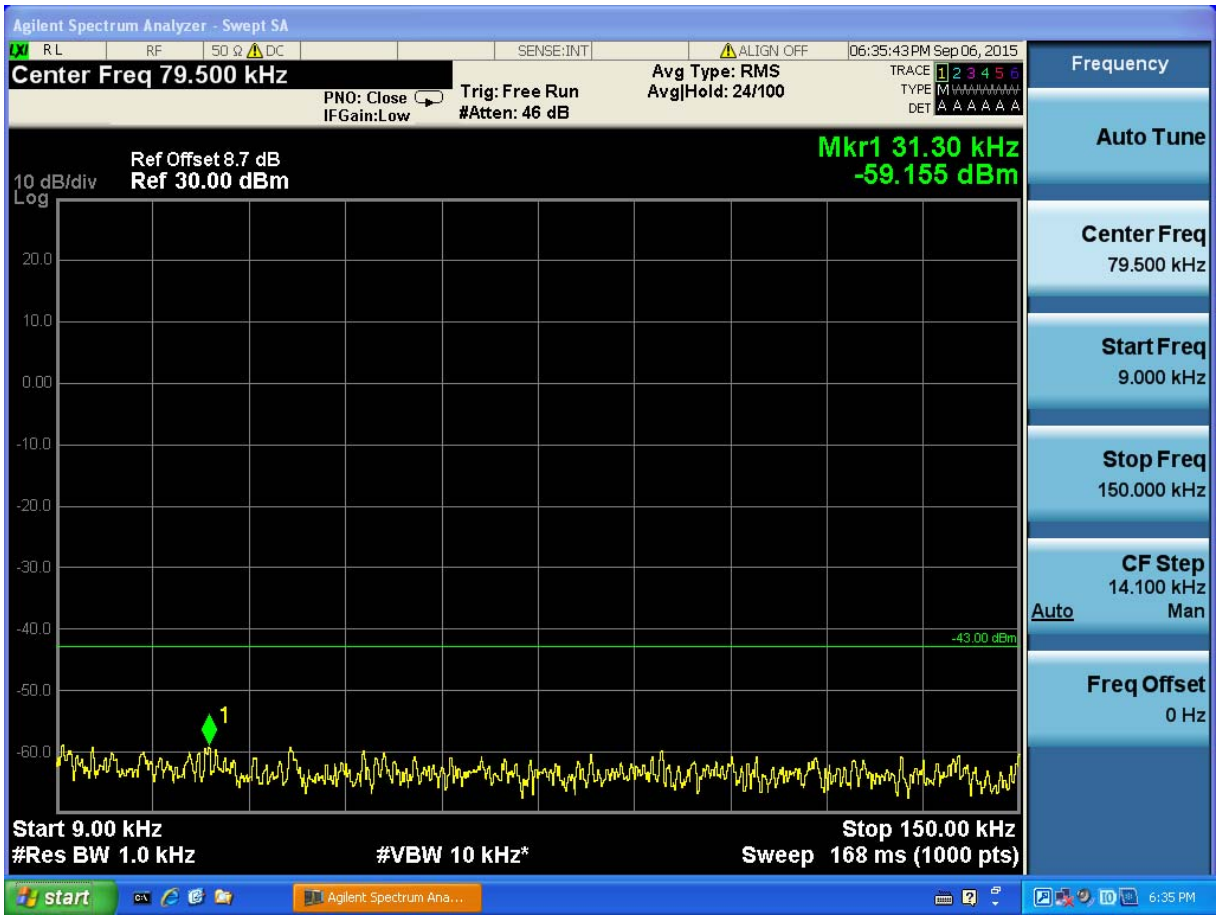
(Plot 4.5.3 A3: Channel 1312: 1712.4MHz @ Traffic WCDMA Band IV)



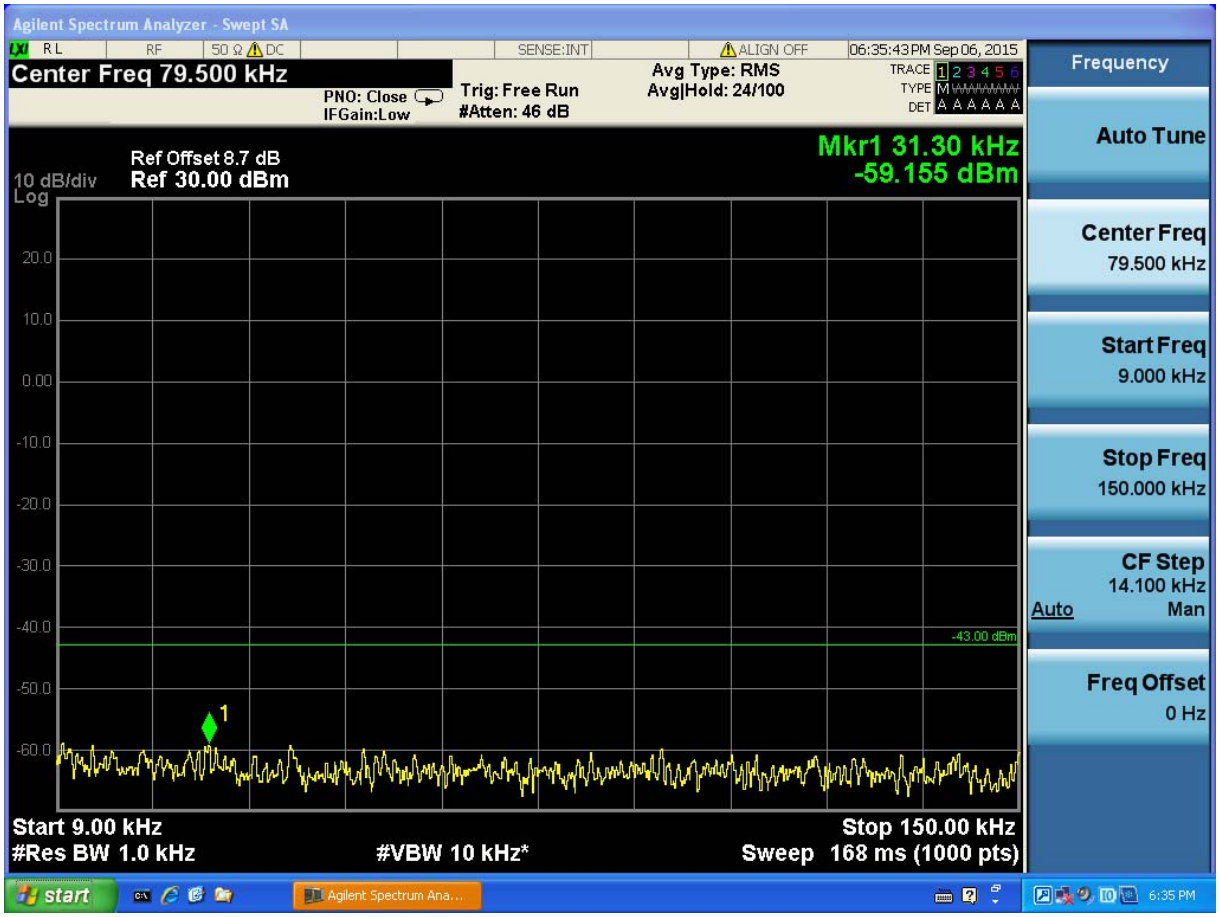
(Plot 4.5.3 A4: Channel 1312: 1712.4MHz @ Traffic WCDMA Band IV)

(Plot 4.5.3 A5: Channel 1312: 1712.4MHz @ Traffic WCDMA Band IV)

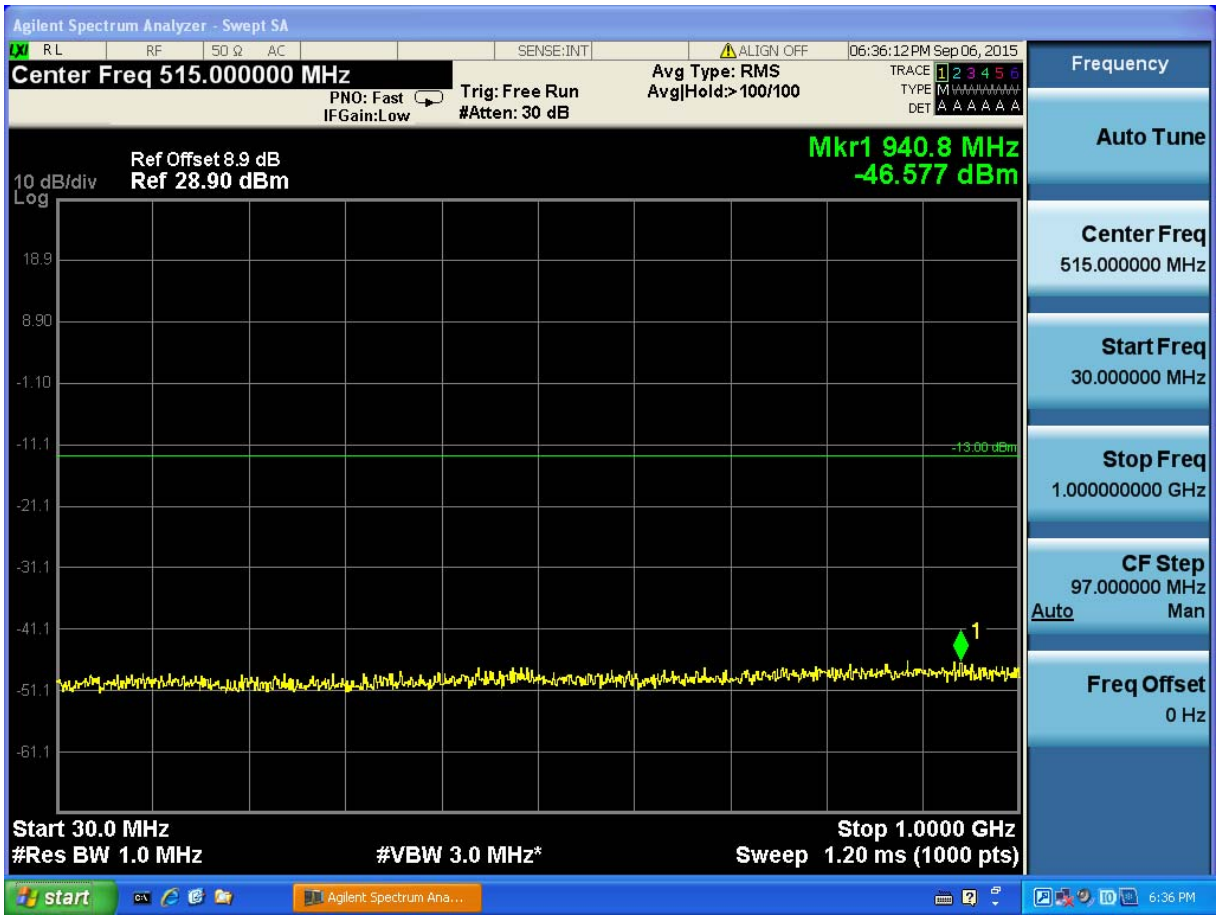
(Plot 4.5.3 A6: Channel 1312: 1712.4MHz @ Traffic WCDMA Band IV)



(Plot 4.5.3 B1: Channel 1413:1732.6MHz @ Traffic WCDMA Band IV)



(Plot 4.5.3 B2: Channel 1413:1732.6MHz @ Traffic WCDMA Band IV)

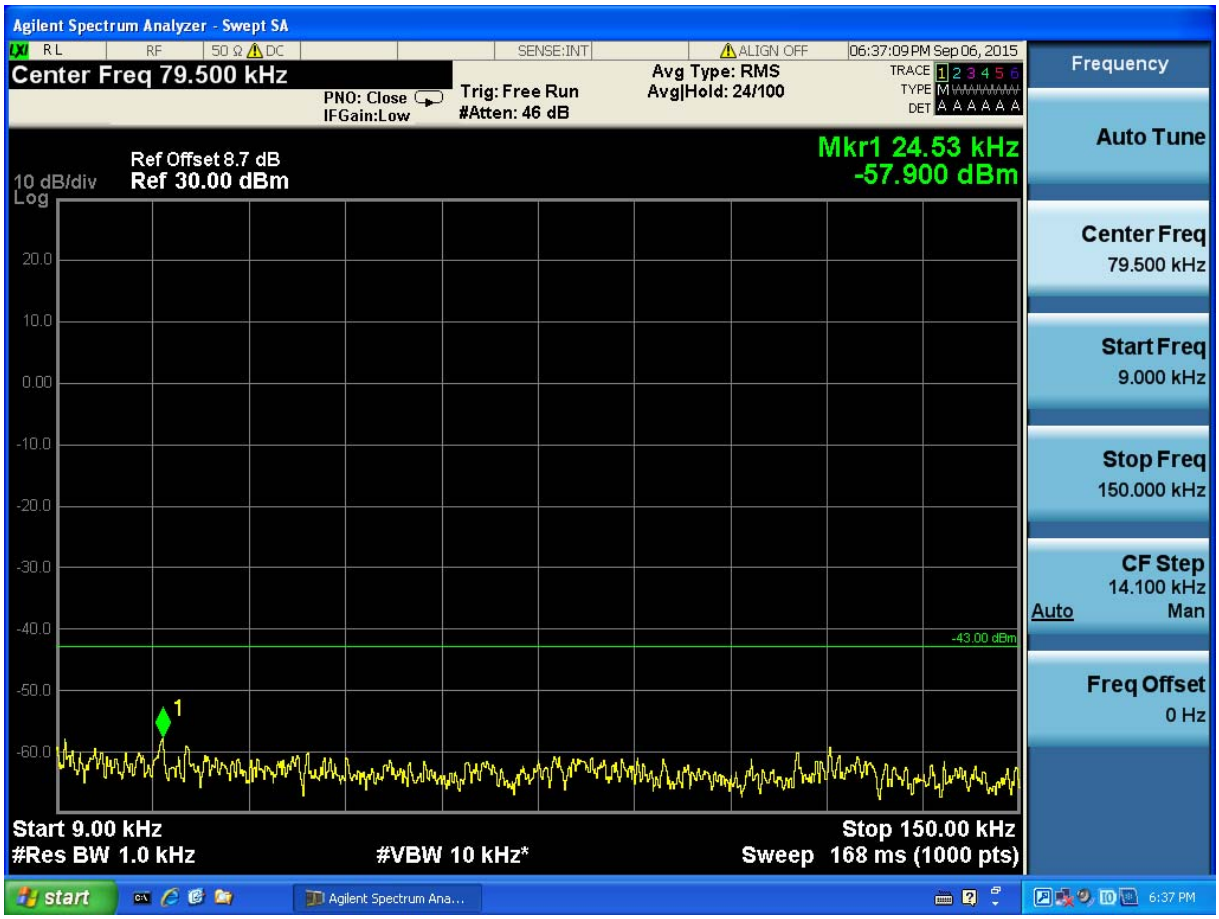


(Plot 4.5.3 B3: Channel 1413:1732.6MHz @ Traffic WCDMA Band IV)

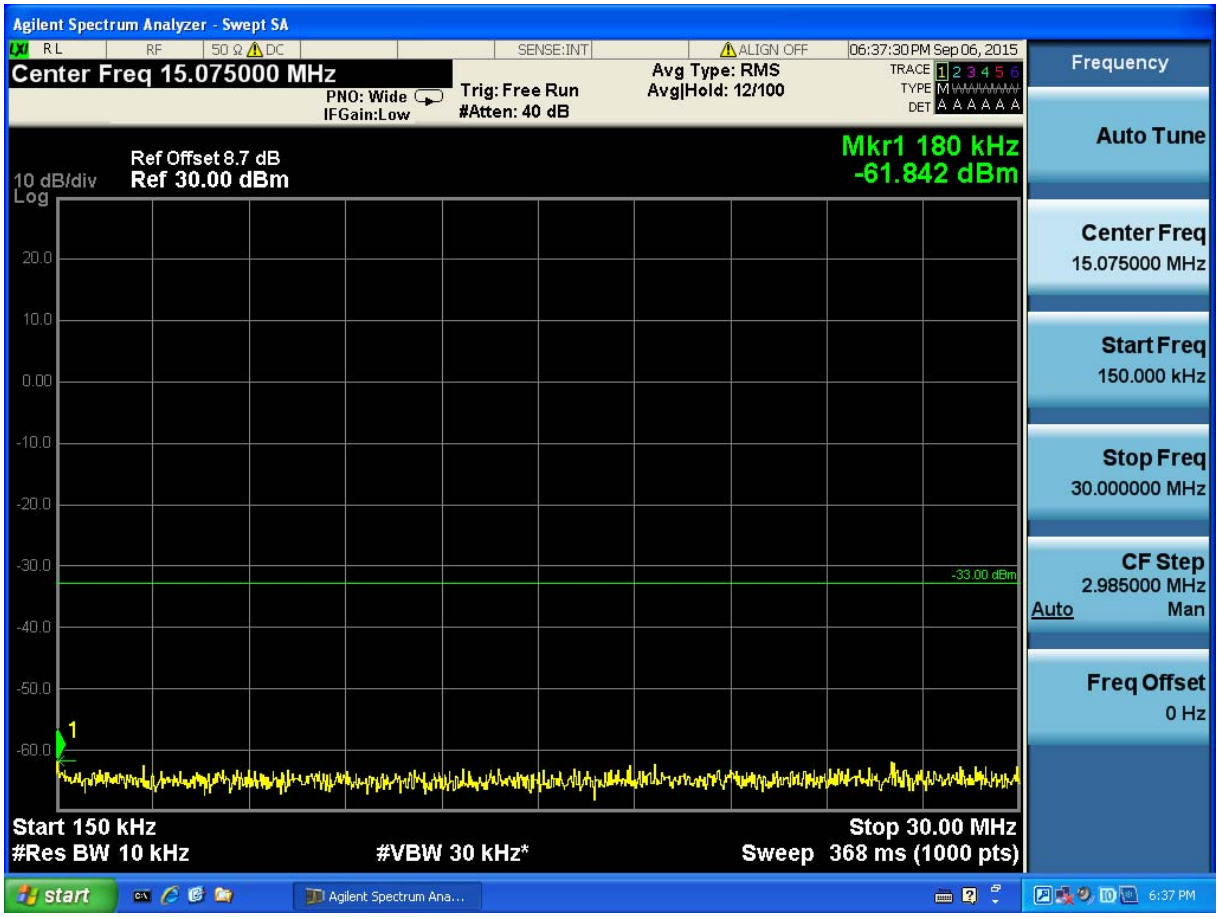
(Plot 4.5.3 B4: Channel 1413:1732.6MHz @ Traffic WCDMA Band IV)

(Plot 4.5.3 B5: Channel 1413:1732.6MHz @ Traffic WCDMA Band IV)

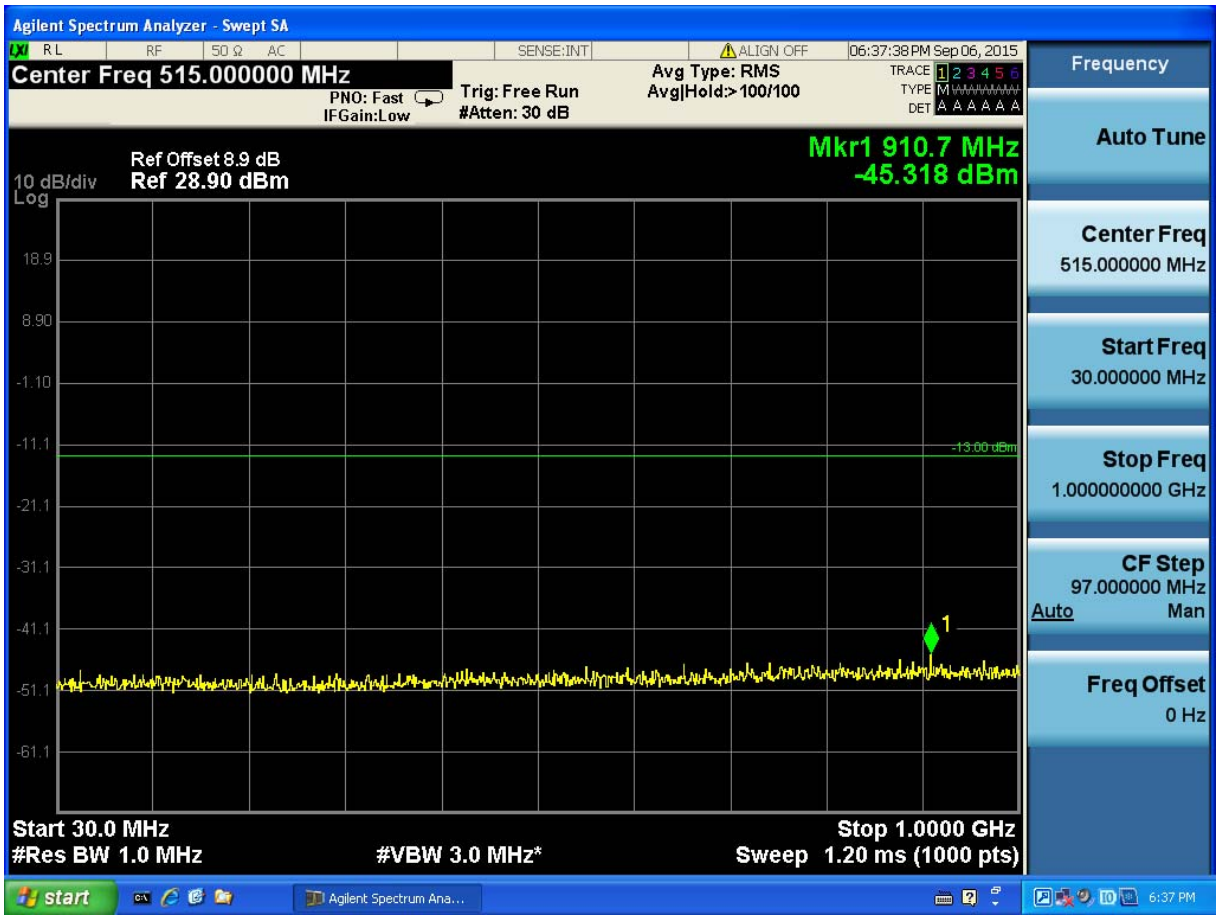
(Plot 4.5.3 B6: Channel 1413:1732.6MHz @ Traffic WCDMA Band IV)



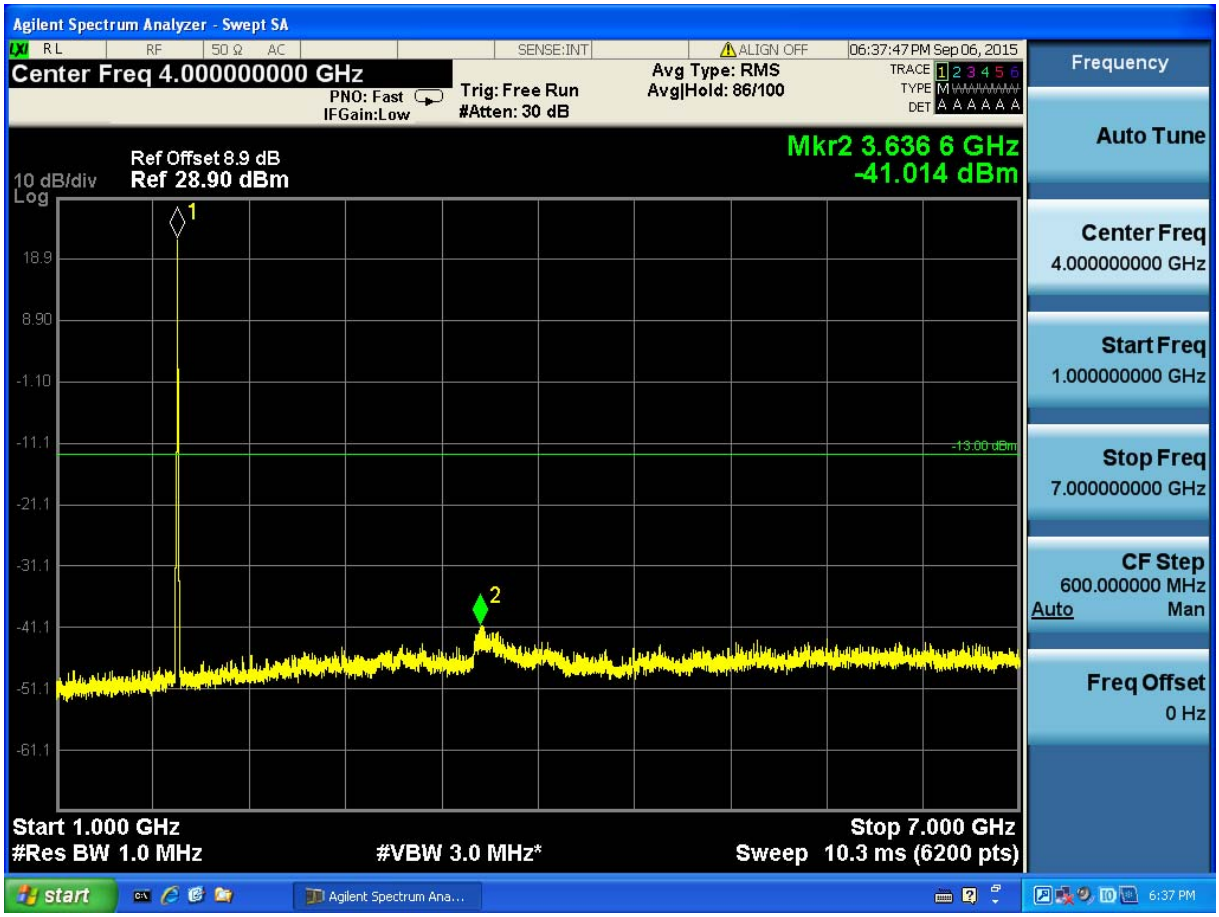
(Plot 4.5.3 C1: Channel 1513: 1752.6MHz @ Traffic WCDMA Band IV)



(Plot 4.5.3 C2: Channel 1513: 1752.6MHz @ Traffic WCDMA Band IV)



(Plot 4.5.3 C3: Channel 1513: 1752.6MHz @ Traffic WCDMA Band IV)



(Plot 4.5.3 C4: Channel 1513: 1752.6MHz @ Traffic WCDMA Band IV)

(Plot 4.5.3 C5: Channel 1513: 1752.6MHz @ Traffic WCDMA Band IV)

(Plot 4.5.3 C6: Channel 1513: 1752.6MHz @ Traffic WCDMA Band IV)

4.6 Frequency Stability Test

TEST APPLICABLE

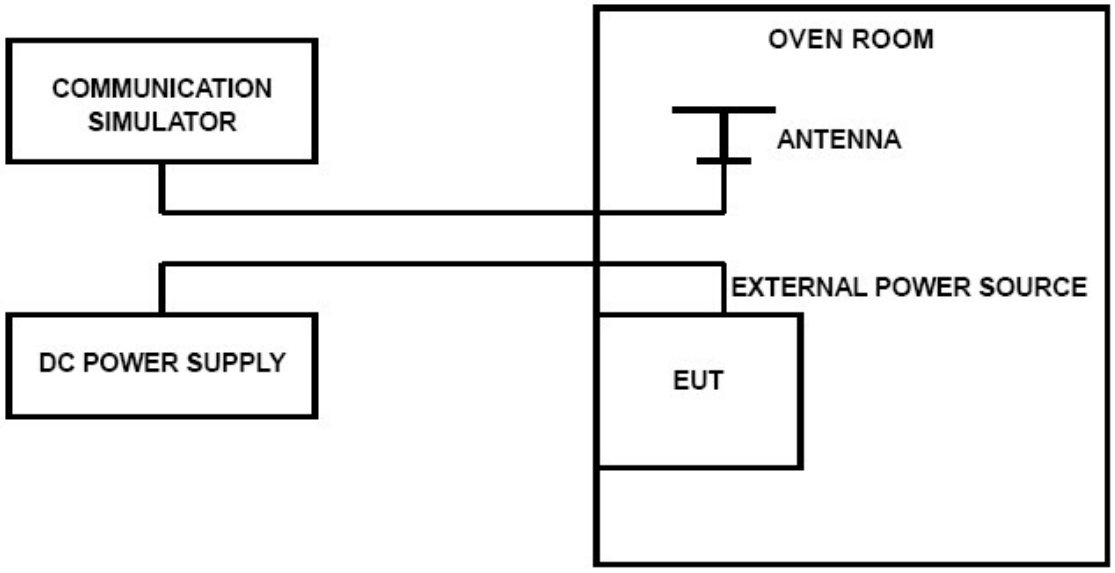
1. According to FCC Part 2 Section 2.1055 (a)(1), the frequency stability shall be measured with variation of ambient temperature from -30℃ to +50℃ centigrade.
2. According to FCC Part 2 Section 2.1055 (E) (2), for battery powered equipment, the frequency stability shall be measured with reducing primary supply voltage to the battery operating end point, which is specified by the manufacture.
3. Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried voltage equipment and the end voltage point was 3.40V.

TEST PROCEDURE

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 CMW500 DIGITAL RADIO COMMUNICATION TESTER.

1. Measure the carrier frequency at room temperature;
2. Subject the EUT to overnight soak at -30℃;
3. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on middle channel of WCDMA Band II/IV/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 -30℃ to +50℃. Allow at least 0.5 hours at each temperature, unpowered, before making measurements;
5. Remeasure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments remeasuring carrier frequency at each voltage. Pause at nominal voltage for 0.5 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 CMW500 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 -30℃. Allow at least 0.5 hours at each temperature, unpowered, before making measurements;
9. At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure;

TEST CONFIGURATION



TEST LIMITS

For Hand carried battery powered equipment

According to the JTC standard 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 3.40VDC and 4.20VDC, with a nominal voltage of 3.70DC. 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.

For equipment powered by primary supply voltage

According to the JTC standard 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.

TEST RESULTS

UMTS/TM1/WCDMA Band II					
DC Power	**Temperature (℃)**	**Frequency error(Hz)**	**Frequency error(ppm)**	**Limit (ppm)**	**Verdict**
3.40	20	-6.61	0.00	2.50	PASS
3.80	20	-5.45	0.00	2.50	PASS
4.20	20	-5.23	0.00	2.50	PASS
3.80	-30	0.78	0.00	2.50	PASS
3.80	-20	-8.47	0.00	2.50	PASS
3.80	-10	-4.39	0.00	2.50	PASS
3.80	0	-8.47	0.00	2.50	PASS
3.80	10	-3.56	0.00	2.50	PASS
3.80	20	-0.55	0.00	2.50	PASS
3.80	30	-1.83	0.00	2.50	PASS
3.80	40	-2.91	0.00	2.50	PASS
3.80	50	-3.69	0.00	2.50	PASS

UMTS/TM1/WCDMA Band IV					
DC Power	**Temperature (℃)**	**Frequency error(Hz)**	**Frequency error(ppm)**	**Limit (ppm)**	**Verdict**
3.40	20	-0.05	0.00	2.50	PASS
3.80	20	5.74	0.00	2.50	PASS
4.20	20	1.57	0.00	2.50	PASS
3.80	-30	2.85	0.00	2.50	PASS
3.80	-20	1.24	0.00	2.50	PASS
3.80	-10	0.69	0.00	2.50	PASS
3.80	0	-0.60	0.00	2.50	PASS
3.80	10	-0.84	0.00	2.50	PASS
3.80	20	1.19	0.00	2.50	PASS
3.80	30	1.16	0.00	2.50	PASS
3.80	40	4.64	0.00	2.50	PASS
3.80	50	2.73	0.00	2.50	PASS

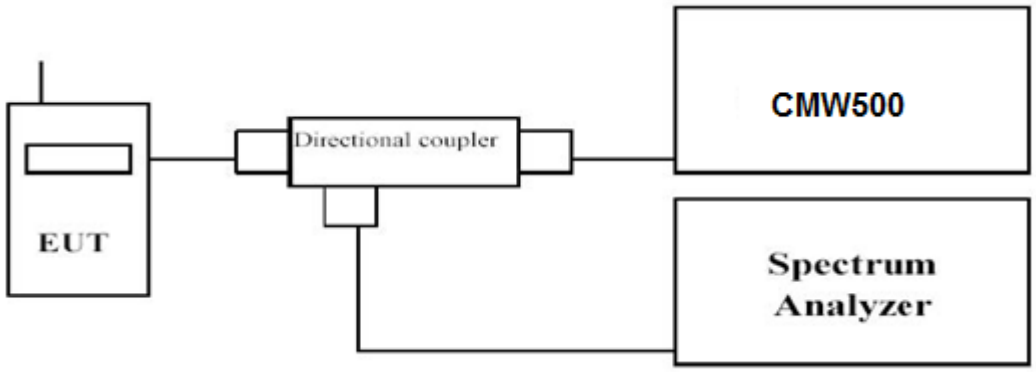
UMTS/TM1/WCDMA Band V					
DC Power	Temperature (℃)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.40	20	-5.05	-0.01	2.50	PASS
3.80	20	-0.87	0.00	2.50	PASS
4.20	20	-3.81	0.00	2.50	PASS
3.80	-30	-5.16	-0.01	2.50	PASS
3.80	-20	-3.23	0.00	2.50	PASS
3.80	-10	-4.59	-0.01	2.50	PASS
3.80	0	-2.06	0.00	2.50	PASS
3.80	10	-3.74	0.00	2.50	PASS
3.80	20	-4.67	-0.01	2.50	PASS
3.80	30	-2.87	0.00	2.50	PASS
3.80	40	-6.06	-0.01	2.50	PASS
3.80	50	-2.67	0.00	2.50	PASS

4.7 Peak-to-Average Ratio (PAR)

LIMIT

The Peak-to-Average Ratio (PAR) of the transmission may not exceed 13 dB.

TEST CONFIGURATION



TEST PROCEDURE

1. Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
2. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
3. Set the number of counts to a value that stabilizes the measured CCDF curve;
4. Set the measurement interval as follows:
   1). for continuous transmissions, set to 1 ms,
   2). for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
5. Record the maximum PAPR level associated with a probability of 0.1%.

TEST RESULTS

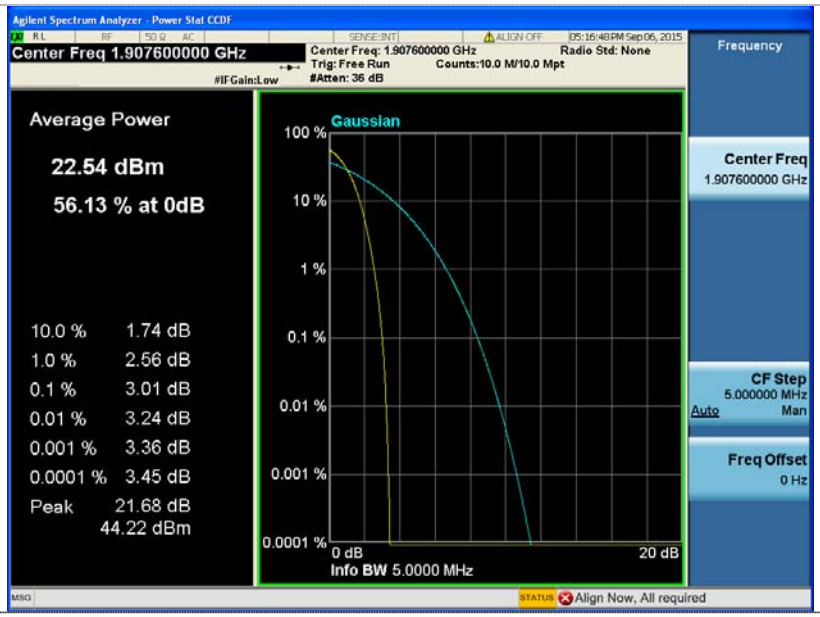
UMTS/TM1/ WCDMA Band II		
Channel Number	**Frequency (MHz)**	**Measured (dB)**
9262	1852.4	3.06
9400	1880.0	3.03
9538	1907.6	3.01

UMTS/TM1/ WCDMA Band IV		
Channel Number	**Frequency (MHz)**	**Measured (dB)**
1312	1712.4	3.03
1413	1732.6	3.04
1513	1752.6	3.05

UMTS/TM1/ WCDMA Band II

Channel 9262

Channel 9400

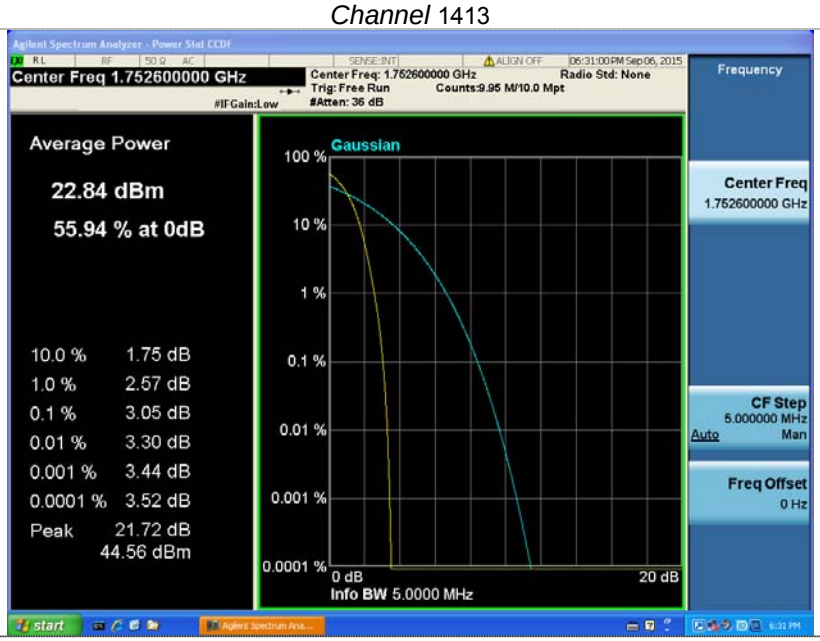


Channel 9538

UMTS/TM1/ WCDMA Band IV

*Channel*1312

Channel 1413



Channel 1513

5 Test Setup Photos of the EUT

Please refer to separated files for Test Setup Photos of the EUT.

6 External Photos of the EUT

Please refer to separated files for External Photos of the EUT.

7 Internal Photos of the EUT

Please refer to separated files for Internal Photos of the EUT.

.....End of Report.....