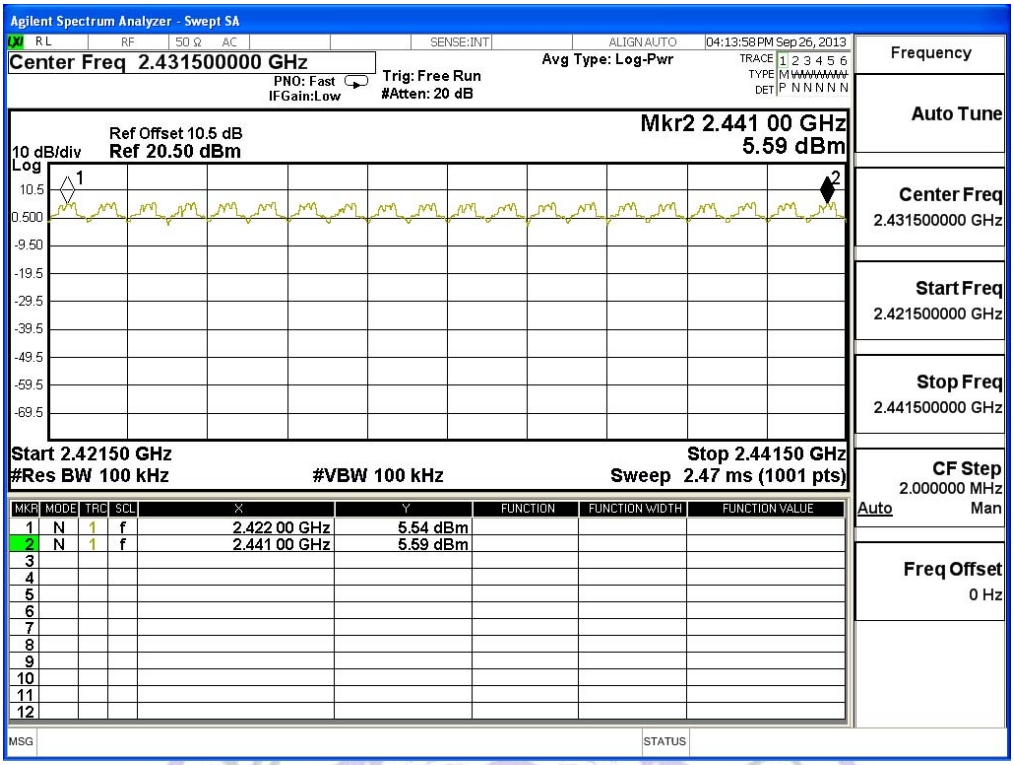
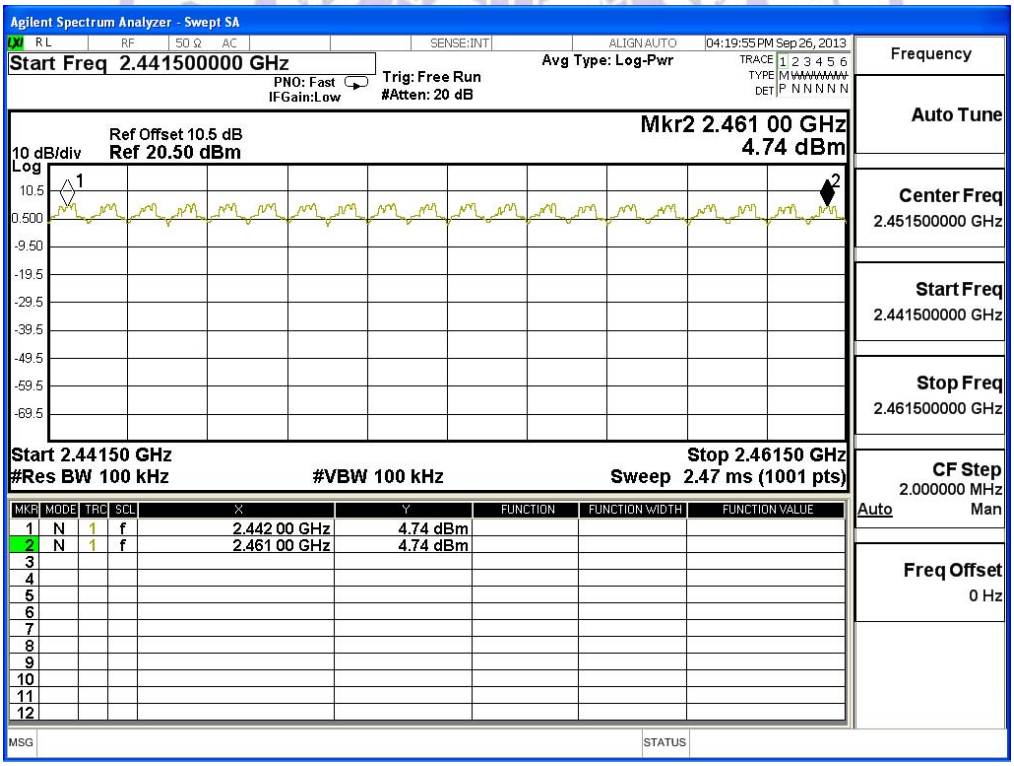
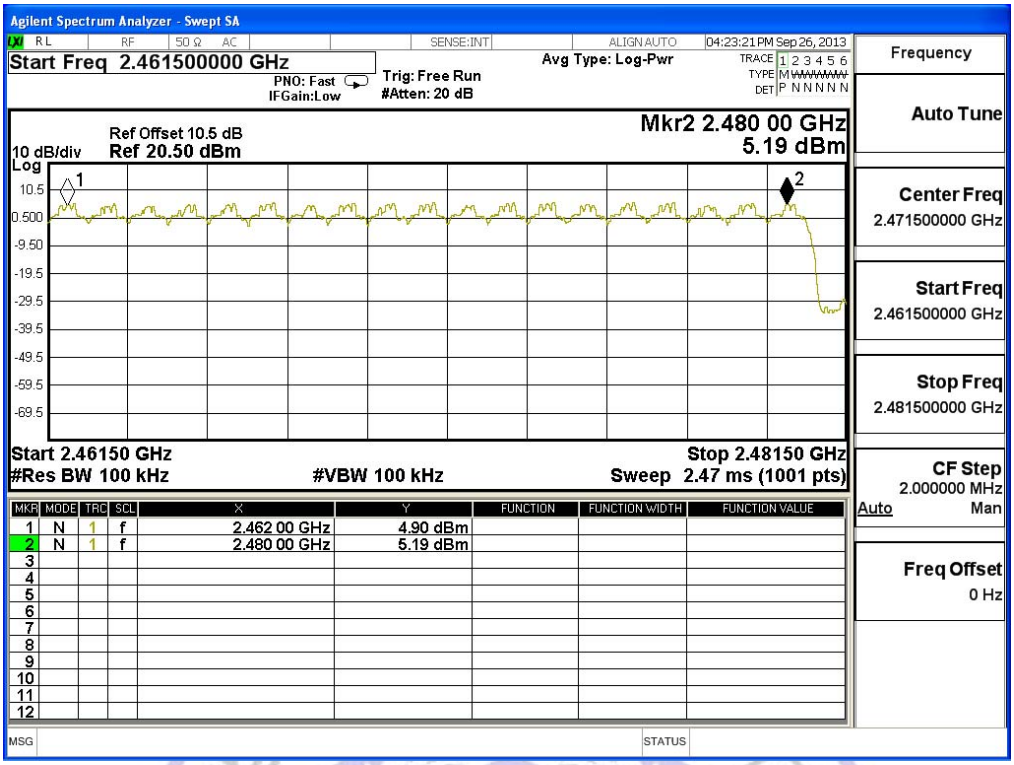
2422 - 2441 MHz



2442 - 2461 MHz

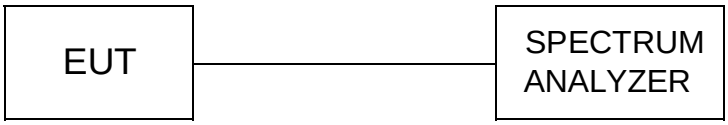


2462 - 2480 MHz



4.8. Time Of Occupancy(Dwell Time)

TEST CONFIGURATION



TEST PROCEDURE

According to ANSI C63.10: 2009.

The EUT must have its hopping function enabled.

Use the following spectrum analyzer settings:

Span = zero span, centered on a hopping channel

RBW = 1MHz

VBW ≧ RBW

Sweep = as necessary to capture the entire dwell time per hopping channel

Detector function = peak

Trace = max hold

If possible, use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation.

LIMIT

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

TEST RESULTS

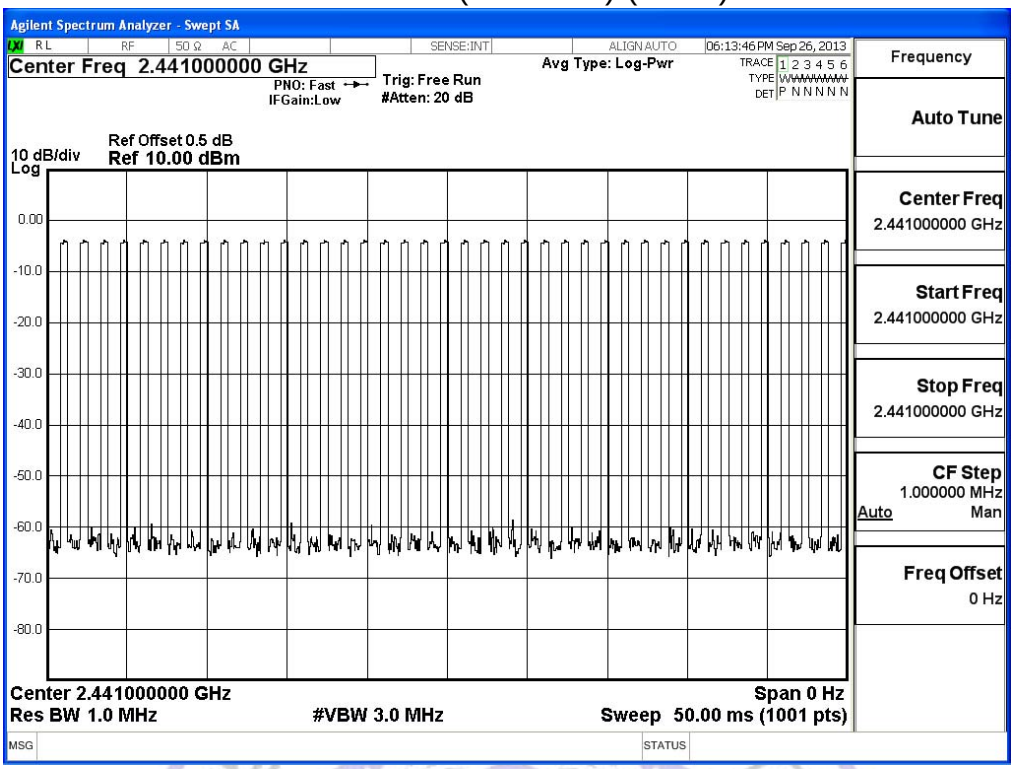
Product	:	3G WCDMA+GSM Smart Phone
Test Item	:	Time of Occupancy (Dwell Time)
Test Site	:	TR-8
Test Mode	:	Transmitter-3Mbps(8DPSK_DH1)

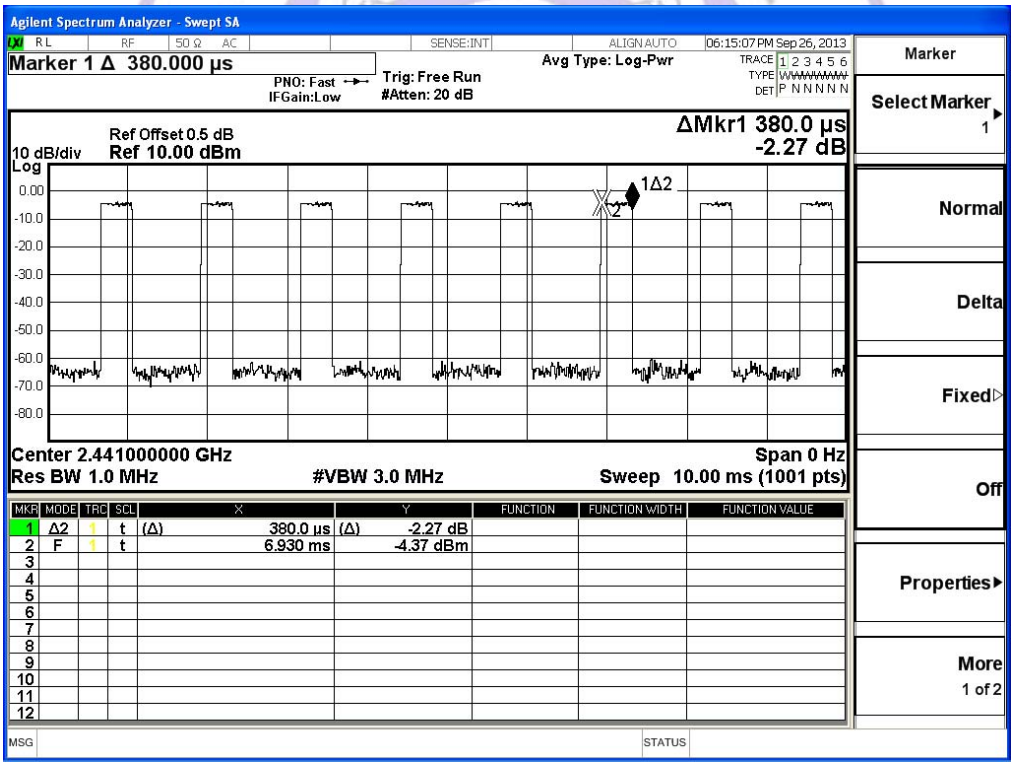
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	121.60	< 400	Pass

Test Time Period: 0.4*79=31.6sec, Hopping Times Within 1sec: 40/50msec=800 hops/sec.

- 2441MHz, The Maximum Occupancy Time Within 31.6sec: [(380.00 μs*800)/79]*31.6 =121.60msec

Channel 39 (2441MHz)-(3DH1)





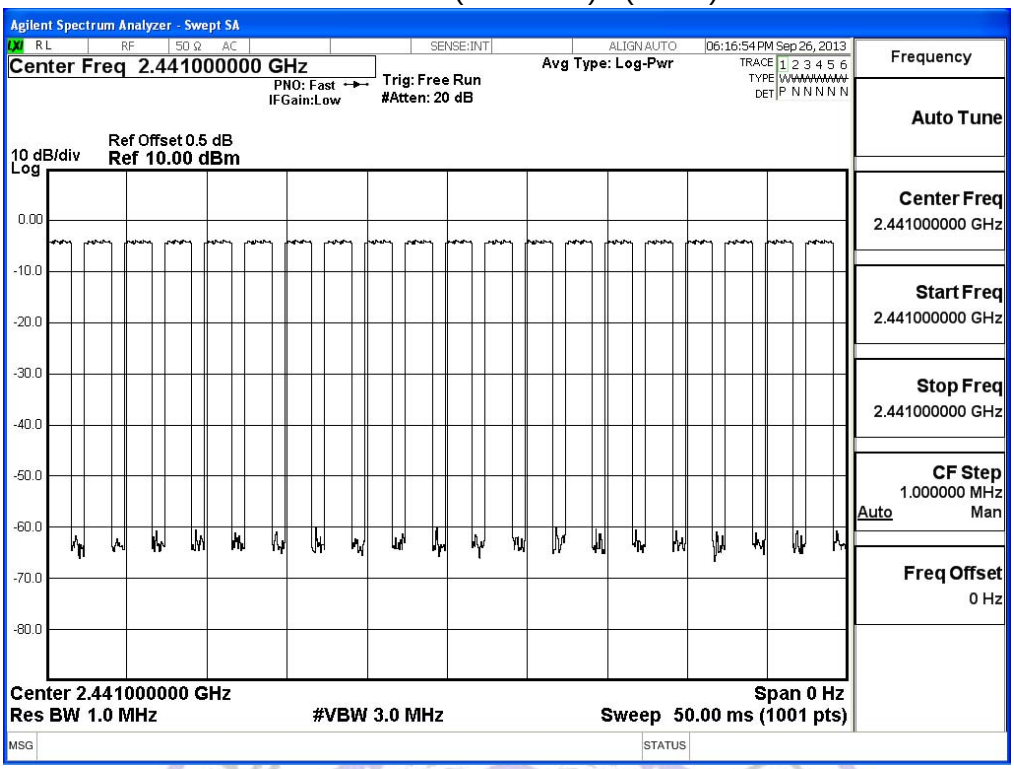
Product	:	3G WCDMA+GSM Smart Phone
Test Item	:	Time of Occupancy (Dwell Time)
Test Site	:	TR-8
Test Mode	:	Transmitter-3Mbps(8DPSK_DH3)

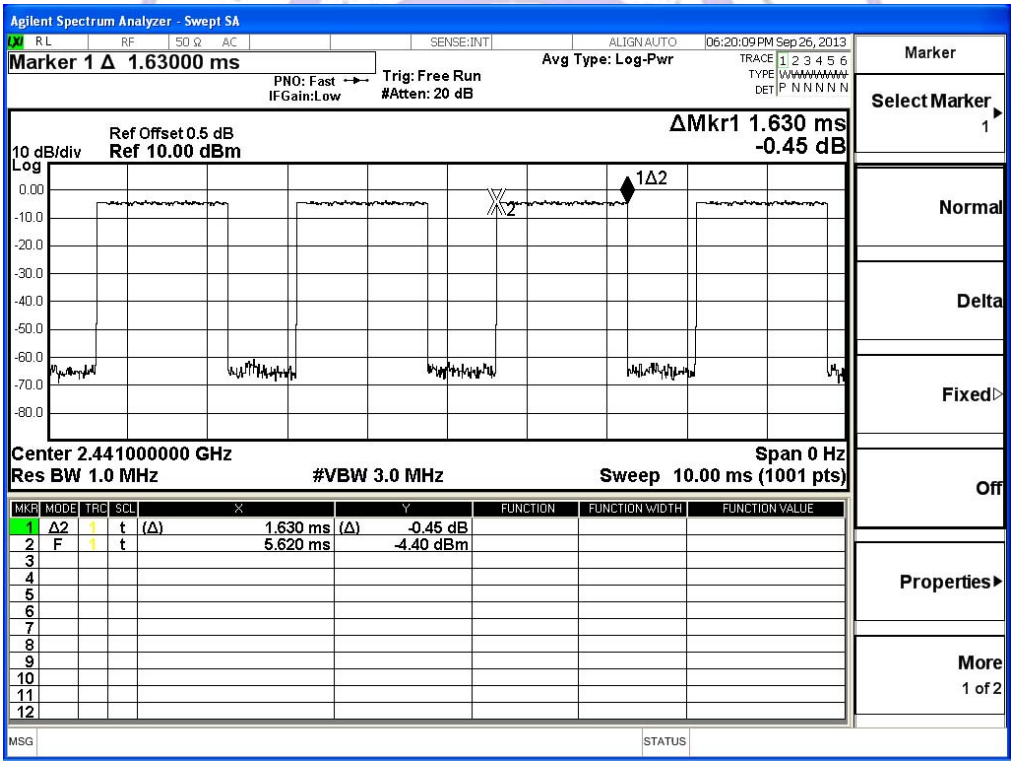
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	260.80	< 400	Pass

Test Time Period: 0.4*79=31.6sec, Hopping Times Within 1sec: 20/50msec=400hops/sec.

- 2441MHz, The Maximum Occupancy Time Within 31.6sec: [(1.63 ms*400)/79]*31.6=260.80msec

Channel 39 (2441MHz) - (3DH3)





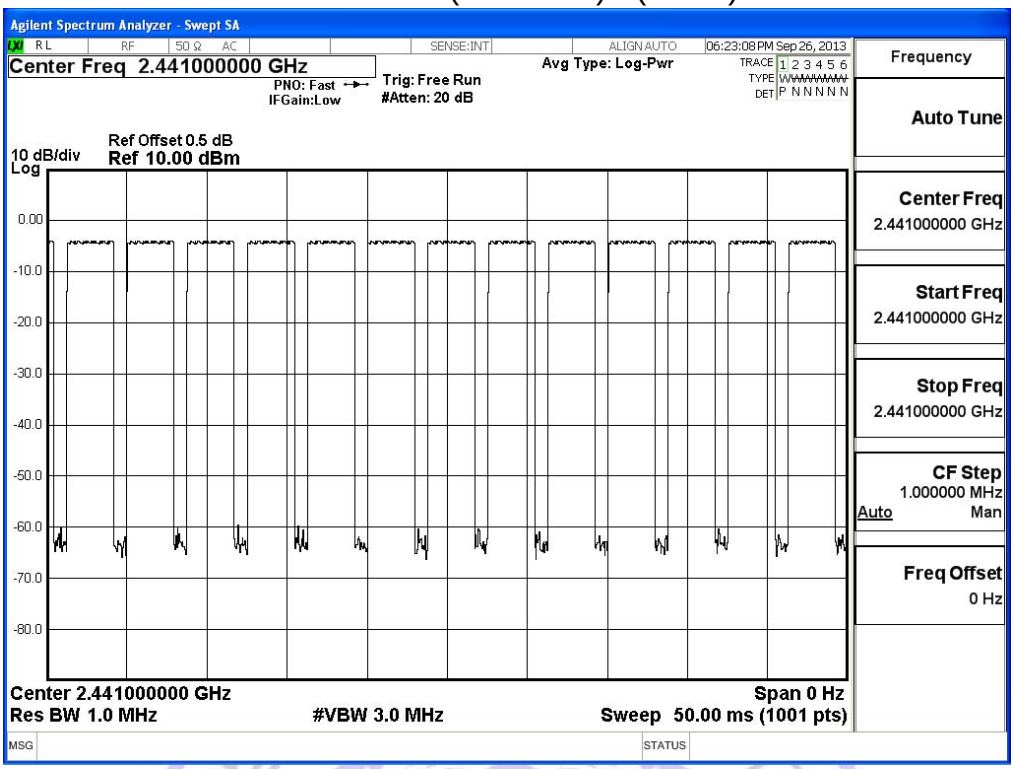
Product	:	3G WCDMA+GSM Smart Phone
Test Item	:	Time of Occupancy (Dwell Time)
Test Site	:	TR-8
Test Mode	:	Transmitter-3Mbps(8DPSK_DH5)

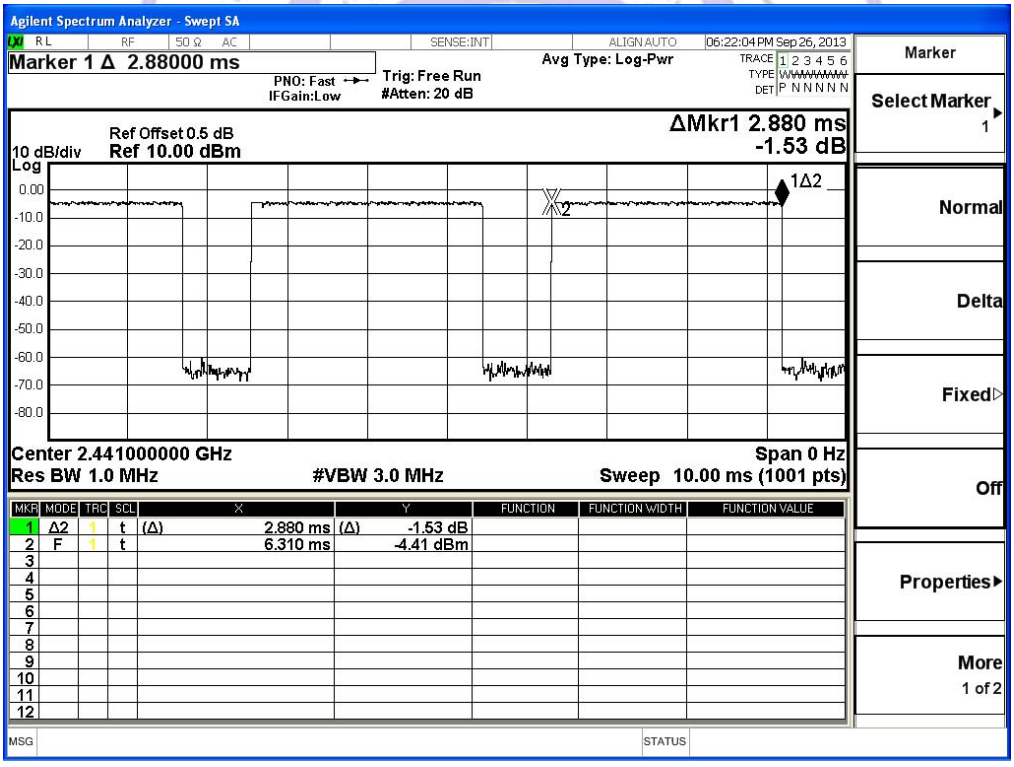
Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
39	2441	322.56	< 400	Pass

Test Time Period: 0.4*79=31.6sec, Hopping Times Within 1sec: 14/50msec=280 hops/sec.

- 2441MHz, The Maximum Occupancy Time Within 31.6sec: [(2.88ms*280)/79]*31.6= 322.56msec

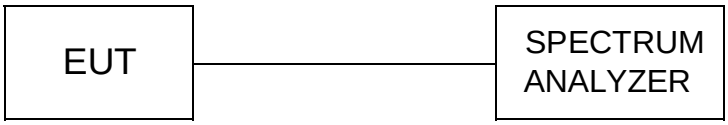
Channel 39 (2441MHz) - (3DH5)





4.9. Spurious RF Conducted Emissions

TEST CONFIGURATION



TEST PROCEDURE

According to ANSI C63.10: 2009.

The EUT must have its hopping function enabled.

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.

RBW = 100KHz, VBW ≧ RBW, Sweep =auto, Detector function = peak, Trace = max hold

Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded. The level displayed must comply with the limit specified in this section.

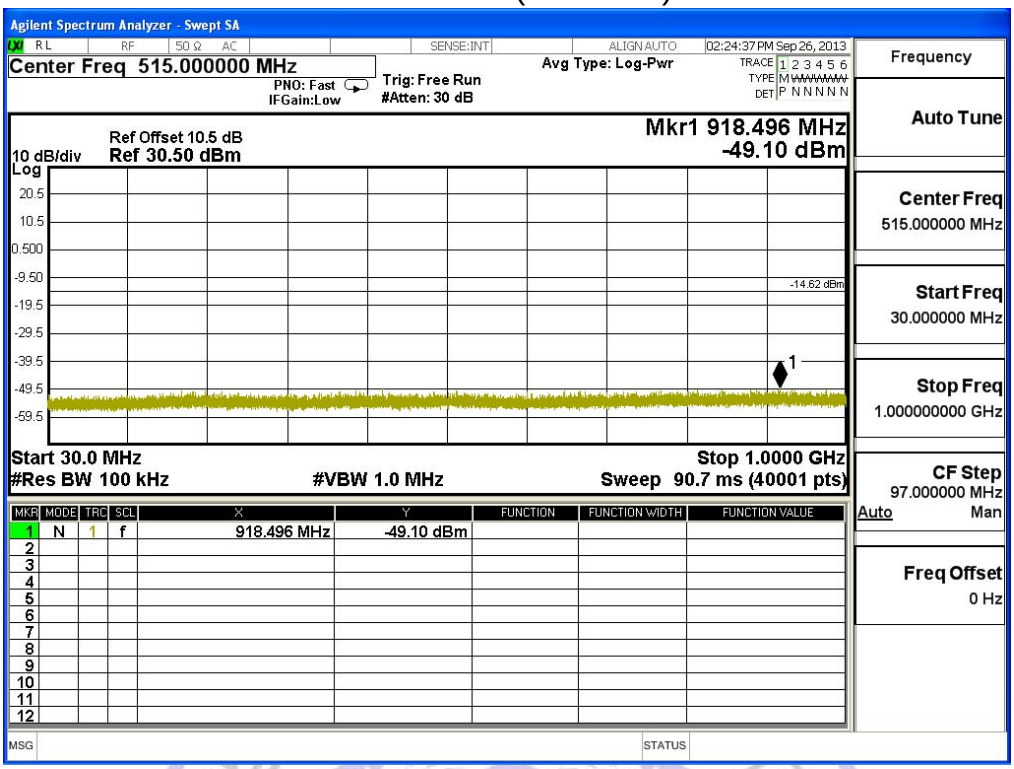
LIMIT

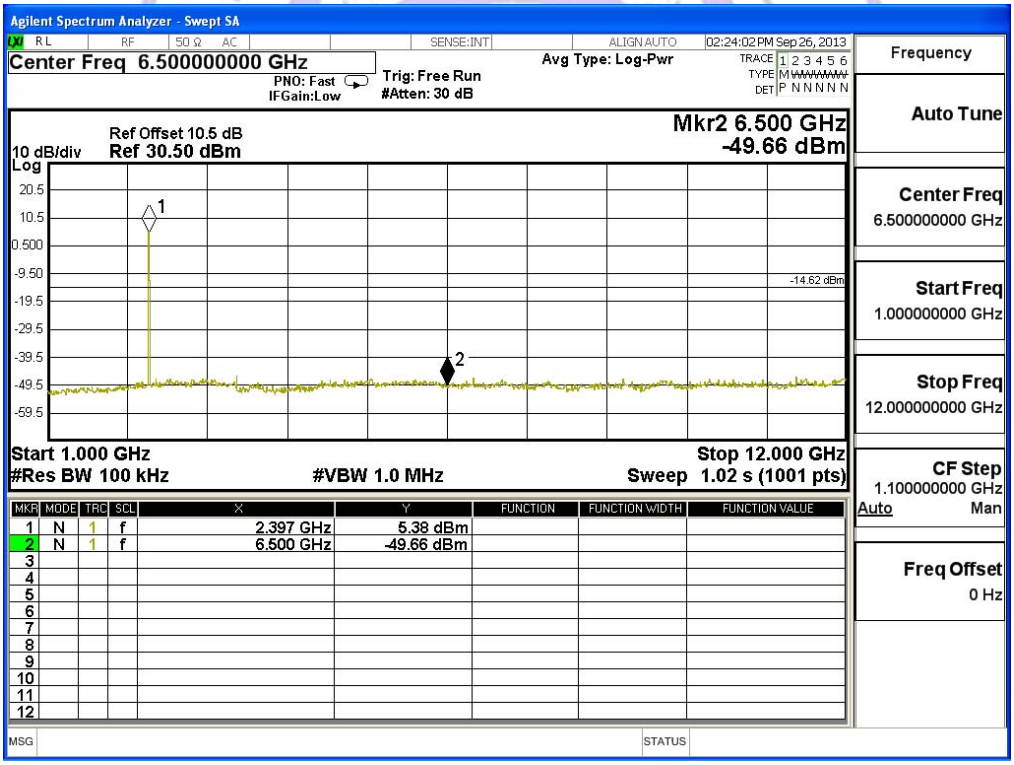
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) of FCC part 15 is not required.

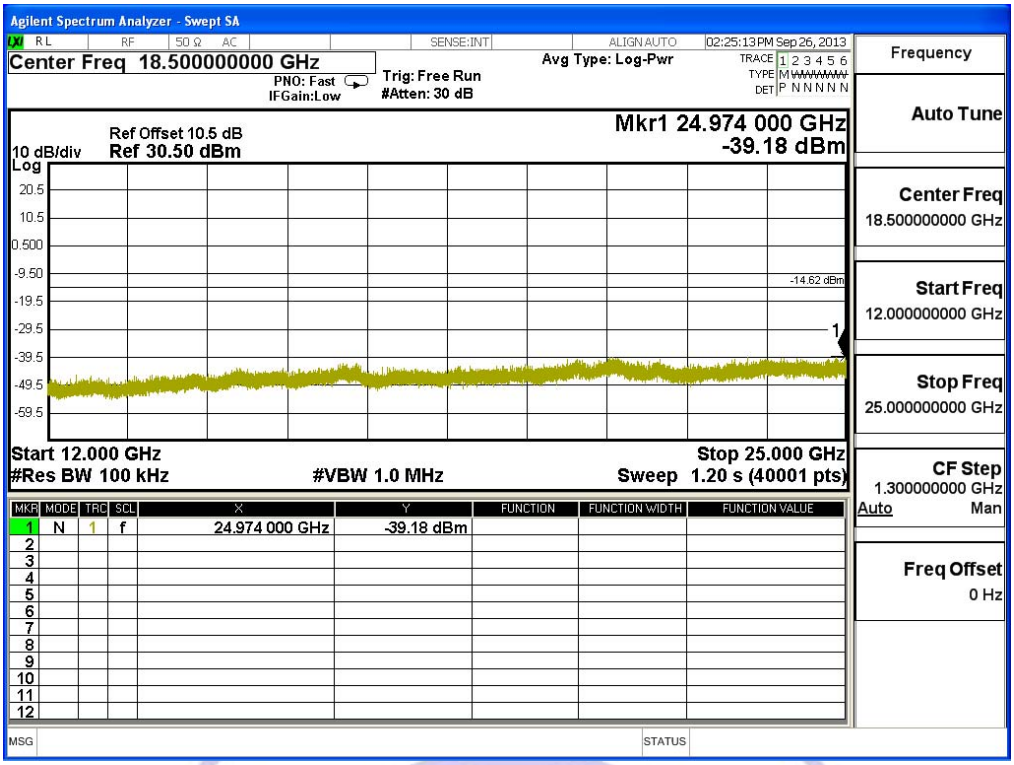
TEST RESULT

Product	:	3G WCDMA+GSM Smart Phone
Test Item	:	Spurious RF Conducted Emissions
Test Mode	:	Mode 1: Transmitter-1Mbps(GFSK_DH5)

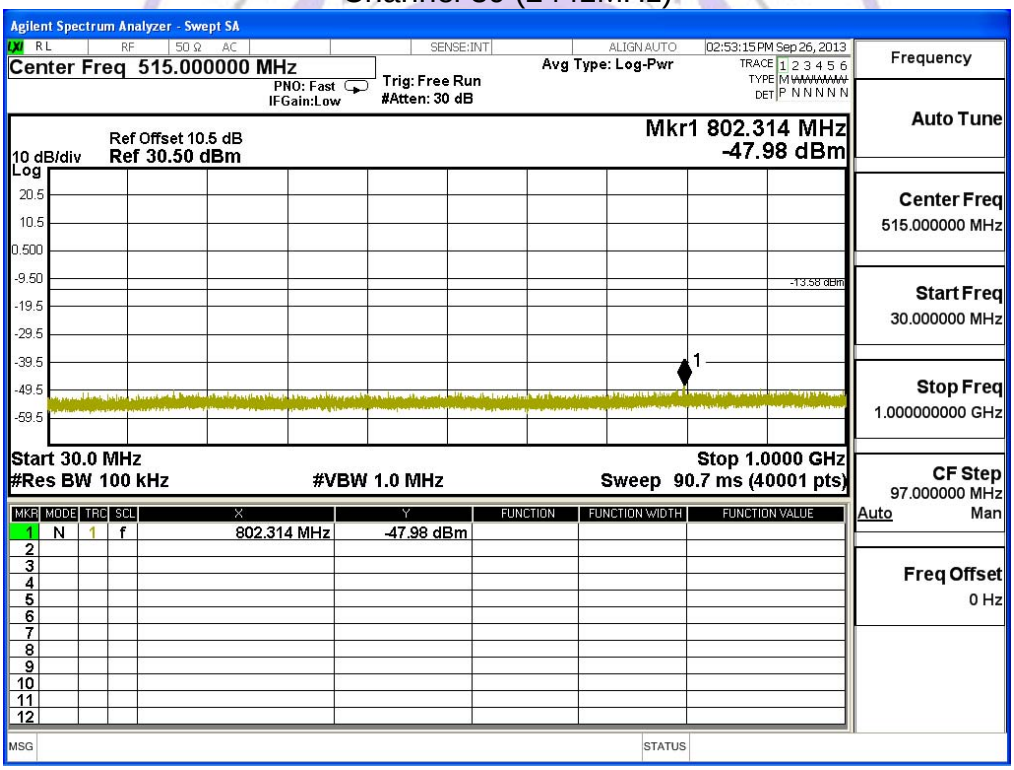
Channel 00 (2402MHz)

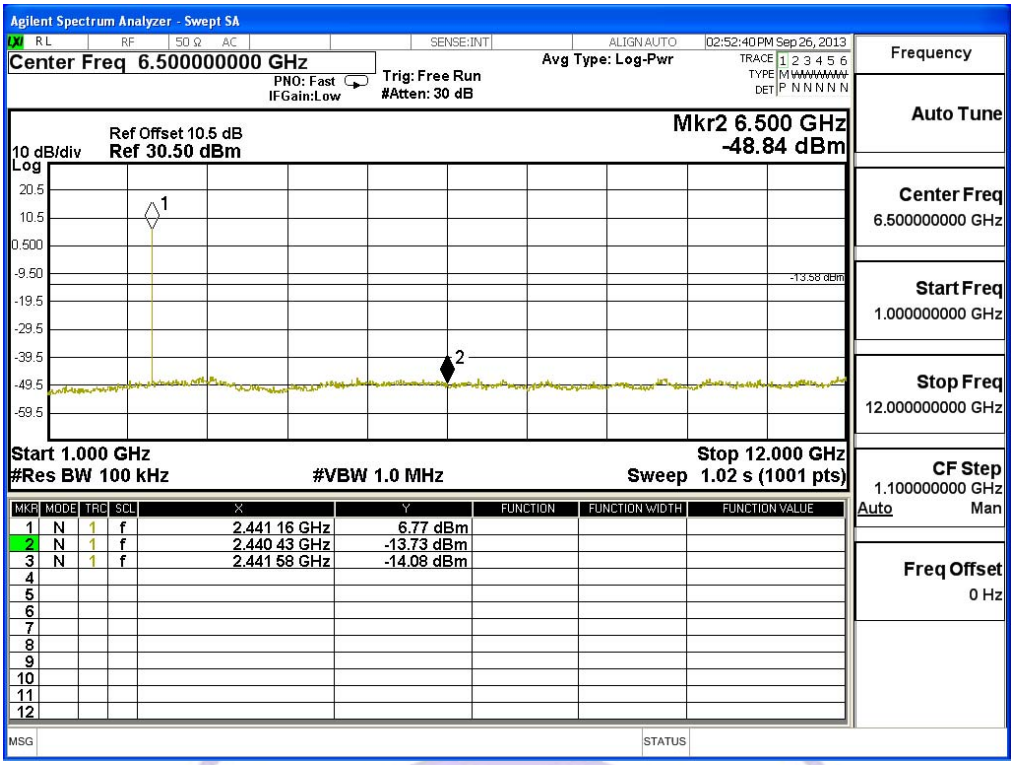


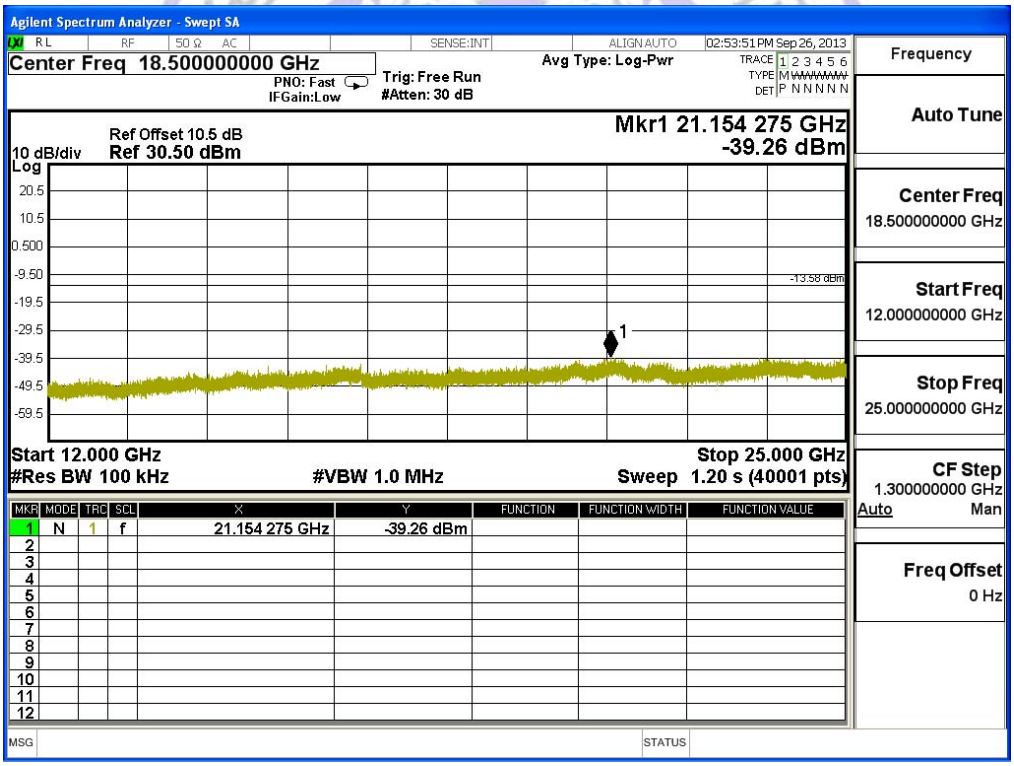




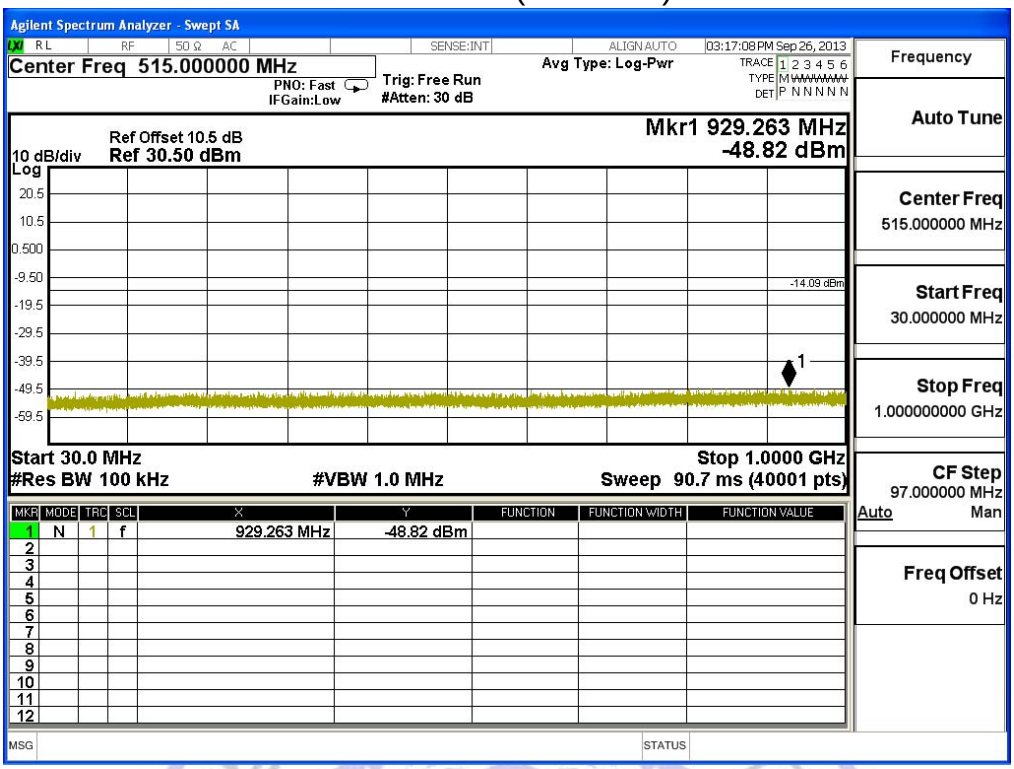
Channel 39 (2441MHz)

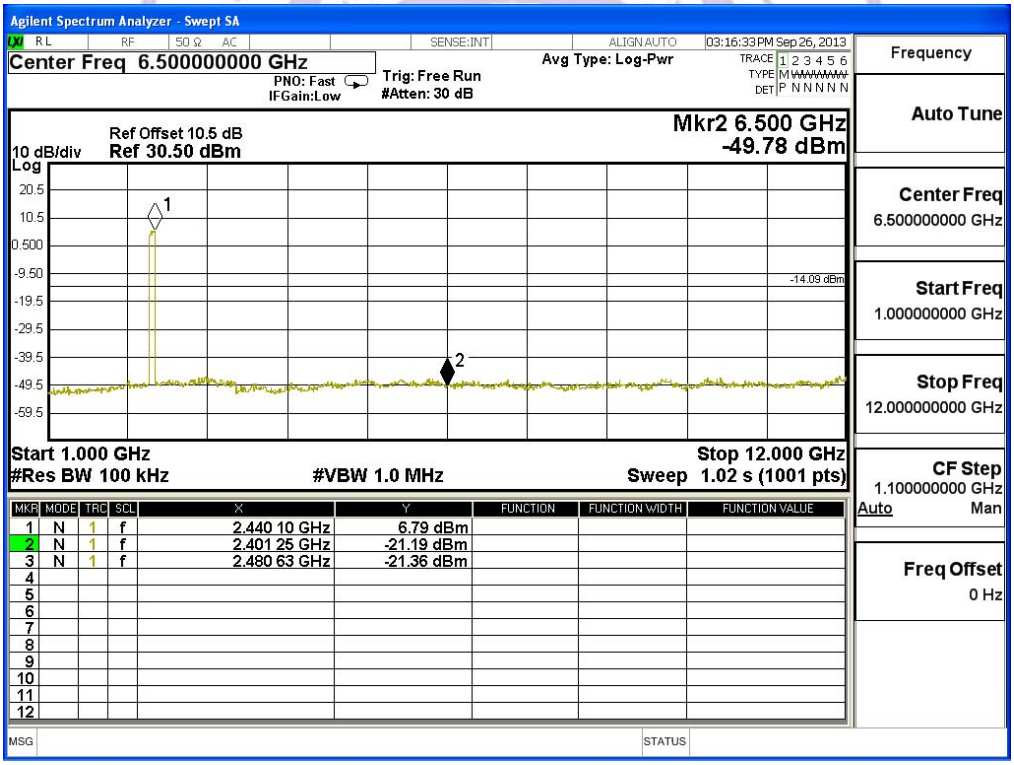


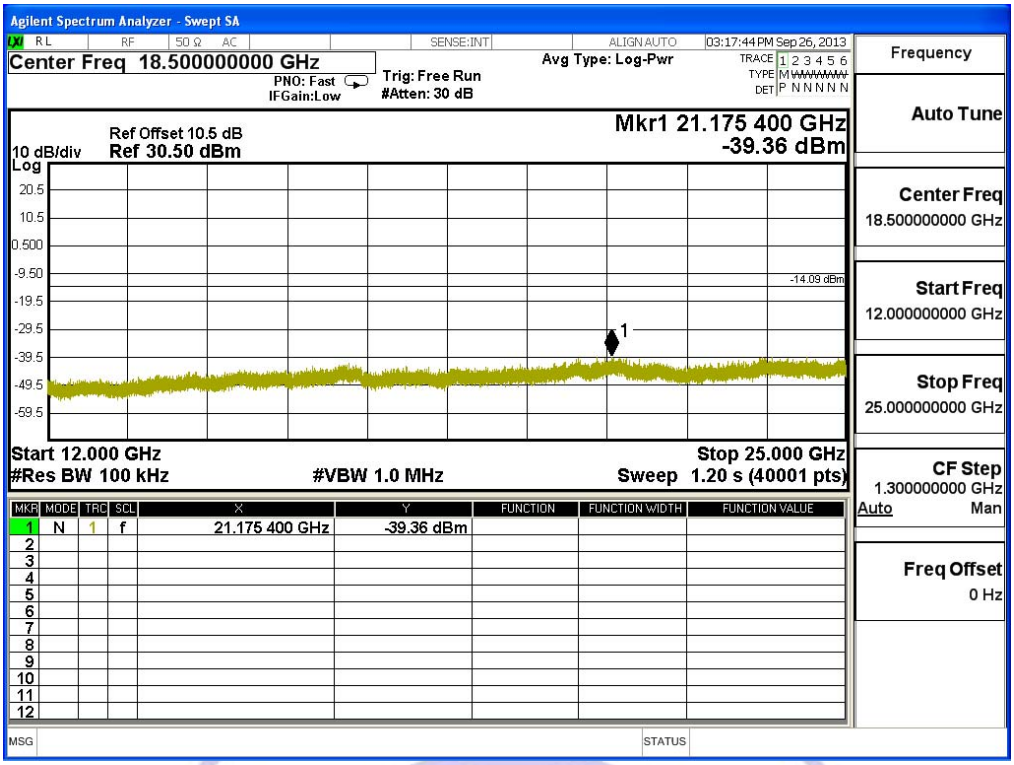

Agilent Spectrum Analyzer - Swept SA
Center Freq 6.500000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
02:52:40 PM Sep 26, 2013
Ref Offset 10.5 dB
10 dB/div Ref 30.50 dBm
Mkr2 6.500 GHz
-48.84 dBm
-13.58 dBm
Start 1.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 12.000 GHz
Sweep 1.02 s (1001 pts)
1 N 1 f 2.441 16 GHz 6.77 dBm
2 N 1 f 2.440 43 GHz -13.73 dBm
3 N 1 f 2.441 58 GHz -14.08 dBm
Frequency
Auto Tune
Center Freq 6.500000000 GHz
Start Freq 1.000000000 GHz
Stop Freq 12.000000000 GHz
CF Step 1.100000000 GHz
Auto Man
Freq Offset 0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 18.500000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
02:53:51 PM Sep 26, 2013
Ref Offset 10.5 dB
10 dB/div Ref 30.50 dBm
Mkr1 21.154 275 GHz
-39.26 dBm
-13.58 dBm
Start 12.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 25.000 GHz
Sweep 1.20 s (40001 pts)
1 N 1 f 21.154 275 GHz -39.26 dBm
Frequency
Auto Tune
Center Freq 18.500000000 GHz
Start Freq 12.000000000 GHz
Stop Freq 25.000000000 GHz
CF Step 1.300000000 GHz
Auto Man
Freq Offset 0 Hz

Channel 78 (2480MHz)

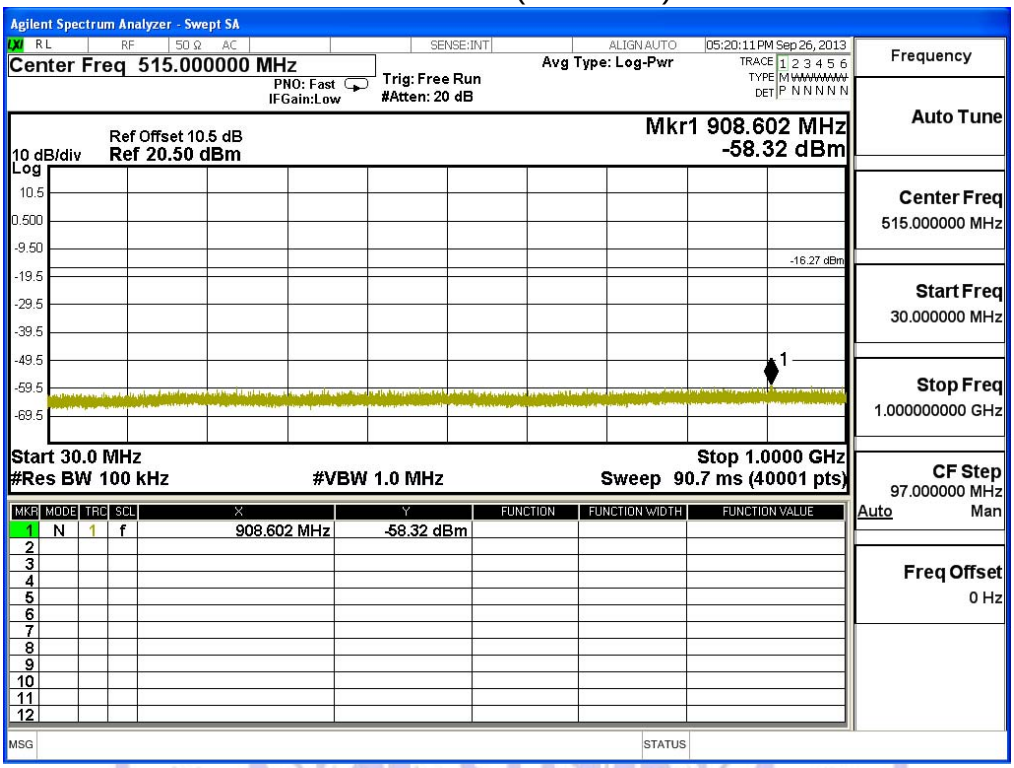


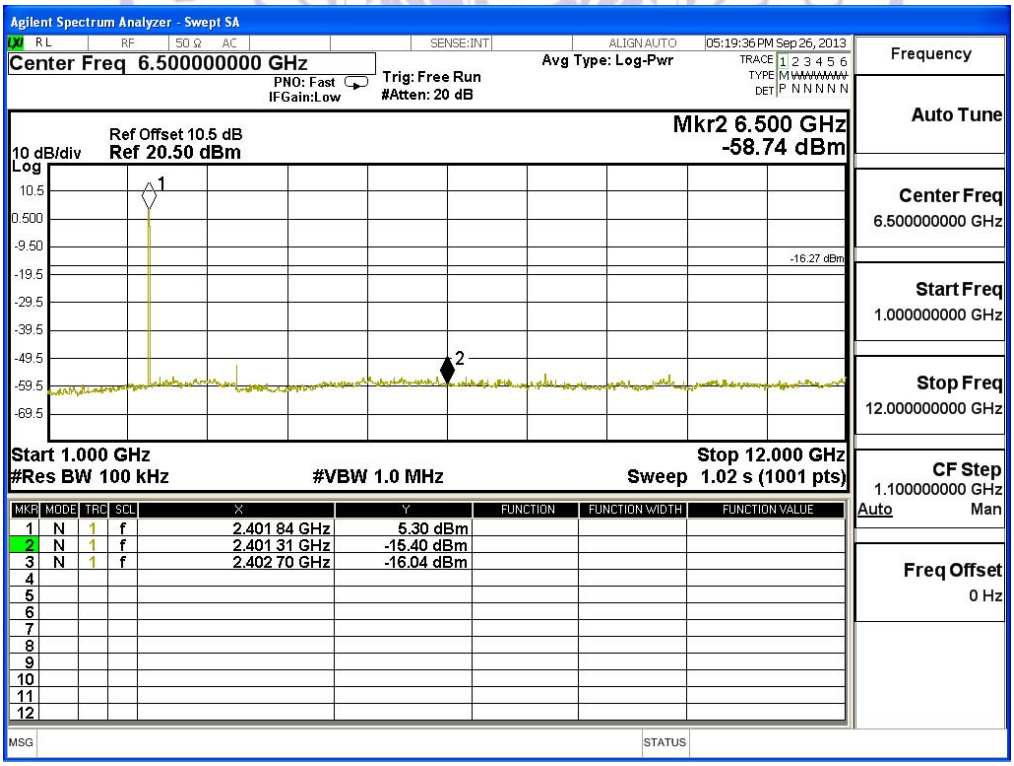


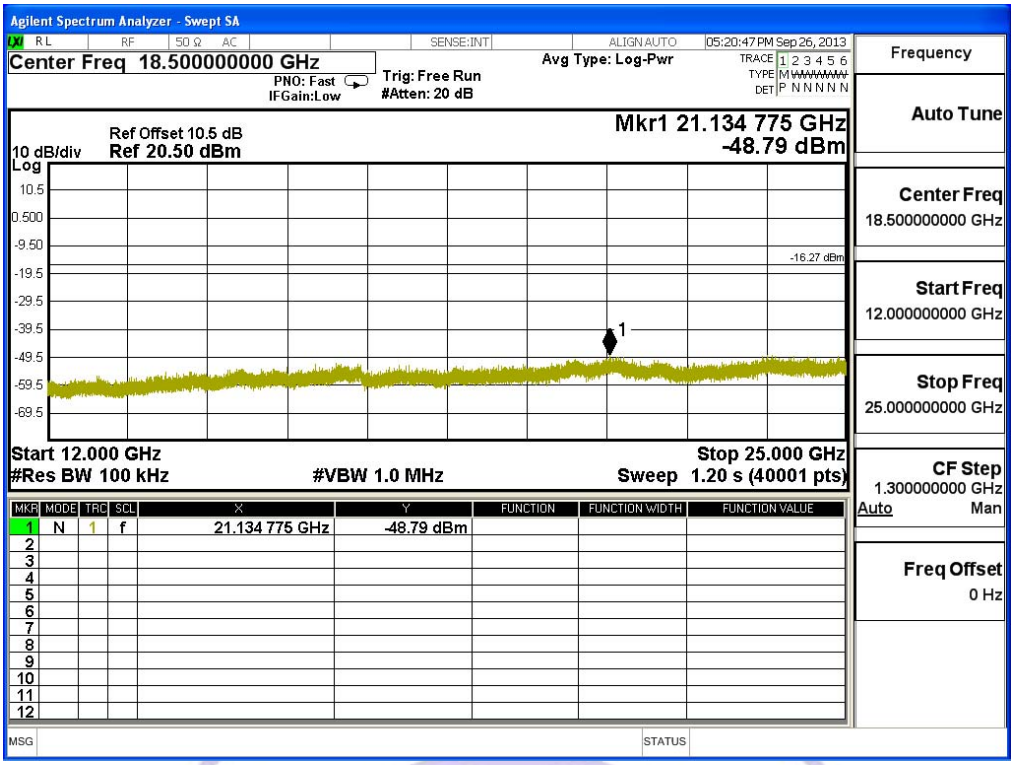


Product	:	3G WCDMA+GSM Smart Phone
Test Item	:	Spurious RF Conducted Emissions
Test Mode	:	Mode 2: Transmitter-2Mbps(Pi/4 DQPSK_DH5)

Channel 00 (2402MHz)







Channel 39 (2441MHz)