FCC TEST REPORT

For

Hk Suncon Ltd.

SMART WATCH

Test Model: W9

Additional Model NO.: Polaris smart watch, W10, W11, W12, W13, W14, W15

Prepared for	:	Hk Suncon Ltd.
Address	:	Room1103A ,Jinhua building , Gaofeng road in Dalang,longhua new district ,Baoan, Shenzhen ,China

Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Tel	:	(+86)755-82591330
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Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com

Date of receipt of test sample	:	October 26, 2015
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	October 26, 2015 – November 12, 2015
Date of Report	:	November 12, 2015

FCC TEST REPORT

FCC CFR 47 PART 22 SUBPART H AND PART 24 SUBPART E

Report Reference No.	**:**	**LCS1510261279E**
Date of Issue	:	November 12, 2015
Testing Laboratory Name.....	**:**	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure.....	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name.....	**:**	**Hk Suncon Ltd.**
Address	:	Room1103A ,Jinhua building , Gaofeng road in Dalang,longhua new district ,Baoan, Shenzhen ,China
Test Specification		
Standard	:	FCC CFR 47 PART 2, FCC CFR 47 PART 22 SUBPART H AND PART 24 SUBPART E
Test Report Form No.....	**:**	LCSEMC-1.0
TRF Originator	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF	:	Dated 2011-03

Test Item Description.	**:**	**SMART WATCH**
Trade Mark	:	FIFINE
Test Model	:	W9
Ratings	:	DC 3.8V by Lithium ion polymer battery(2000mAh) Recharged by DC 5V/1A Travel Charger
Result	:	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Dick Su		
Dick Su/ File administrators	Glin Lu/ Technique principal	Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS1510261279E	November 12, 2015 Date of issue

Test Model.....	: W9
EUT.....	: SMART WATCH
Applicant.....	**: Hk Suncon Ltd.**
Address.....	: Room1103A ,Jinhua building , Gaofeng road in Dalang,longhua new district ,Baoan, Shenzhen ,China
Telephone.....	: /
Fax.....	: /
Manufacturer.....	**: Hk Suncon Ltd.**
Address.....	: Room1103A ,Jinhua building , Gaofeng road in Dalang,longhua new district ,Baoan, Shenzhen ,China
Telephone.....	: /
Fax.....	: /
Factory.....	**: Hk Suncon Ltd.**
Address.....	: Room1103A ,Jinhua building , Gaofeng road in Dalang,longhua new district ,Baoan, Shenzhen ,China
Telephone.....	: /
Fax.....	: /

Test Result	**Positive**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	SMART WATCH
Test Model	:	W9
Additional Model		Polaris smart watch, W10, W11, W12, W13, W14, W15
Model Declaration	:	PCB board, structure and internal of the related model(s) are the same, So no additional models were tested.
Hardware Version	:	X201_MB_V2.5
Software Version	:	Fifine w9 v3 20150625
Power Supply	:	DC 3.8V by li-ion battery(2000mAh) Recharged Voltage: DC 5V/1A
EUT Support Radios Application	:	GSM/GPRS/WIFI/Bluetooth/GPS(RX)
2G Band	:	
Support Band	:	☒GSM 900 (EU-Band) ☒DCS 1800 (EU-Band) ☒GSM 850 (U.S.-Band) ☒PCS 1900 (U.S.-Band)
Release Ver.	:	R99
GPRS Class	:	Class 12
Uplink	:	GSM 850: 824.2MHz ~ 848.8MHz PCS 1900: 1850.2MHz ~ 1909.8MHz
Downlink	:	GSM 850: 869.2MHz ~ 893.8MHz PCS 1900: 1930.2MHz ~ 1989.8MHz
Number of Channels	:	GSM 850: 128 / 190 / 251 PCS 1900: 512 / 661 / 810
Type Of Modulation	:	GMSK for GSM/GPRS; EGPRS(Only Downlink)
Antenna Description	:	Internal Antenna, 0 dBi(Max.)
Test PCL/Class	:	GSM/GPRS 850: Level 5 / Class 4 PCS/GPRS 1900: Level 0 / Class 1
Maximum RF Output Power	:	32.71dBm for GSM 850 29.79dBm for PCS 1900

1.2. Support equipment List

Manufacturer	Description	Model	Serial Number	Certificate
Shenzhen Jihongda Power Co.,Ltd	Adapter	JHD-AP006E-050100BB-B	--	DOC

1.3. External I/O

I/O Port Description	Quantity	Cable
SIM Card Slot	1	N/A
TF Card Slot	1	N/A

1.4. Description of Test Facility

CNAS Registration Number. is L4595.

FCC Registration Number. is 899208.

Industry Canada Registration Number. is 9642A-1.

VCCI Registration Number. is C-4260 and R-3804.

ESMD Registration Number. is ARCB0108.

UL Registration Number. is 100571-492.

TUV SUD Registration Number. is SCN1081.

TUV RH Registration Number. is UA 50296516-001

1.5. Statement of The Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

1.6. Measurement Uncertainty

Test Item		Frequency Range	Uncertainty	Note
Radiation Uncertainty	:	9KHz~30MHz	3.10dB	(1)
		30MHz~200MHz	2.96dB	(1)
		200MHz~1000MHz	3.10dB	(1)
		1GHz~26.5GHz	3.80dB	(1)
Conduction Uncertainty	:	150kHz~30MHz	1.63dB	(1)
Power disturbance	:	30MHz~300MHz	1.60dB	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.7. Test environment

All tests were performed under the following environmental conditions:

Condition	**Minimum value**	**Maximum value**
Barometric pressure	86kPa	106kPa
Temperature	15℃	30℃
Relative Humidity	20 %	75 %
Power supply range	±5% of rated voltages	

2. TEST METHODOLOGY

All tests and measurements indicated in this document were performed in accordance with FCC CFR 47 part 2, FCC CFR 47 part 22 subpart H and part 24 subpart E.

Applicable Standards: TIA/EIA603-C. The radiated testing was performed at an antenna-to-EUT distance of 3 meters. All radiated and conducted emissions measurement was performed at Shenzhen LCS Compliance Testing Laboratory Ltd.

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2. Objective

This type approval report is prepared on behalf of **Hk Suncon Ltd.** in accordance with FCC CFR 47 part 2, FCC CFR 47 part 22 subpart H and part 24 subpart E.

The objective is to determine compliance with FCC rules for RF output power, modulation characteristics, occupied bandwidth, spurious emissions at antenna terminal, field strength of spurious radiation, frequency stability, band edge, and conducted and radiated margin.

2.3. General Test Procedures

2.3.1 Conducted Emissions

AC power-line conducted emissions shall be measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

2.3.2 Radiated Emissions

The EUT is placed on a turn table and the turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made.

2.4. Test Mode

GSM / GPRS / 850: Channel Low (CH128), Channel Mid (CH190) and Channel High (CH251) were chosen for full testing. The test PCL(Power Control Level)/Class is level 5/class 4.

PCS / GPRS / 1900: Channel Low (CH512), Channel Mid (CH661) and Channel High (CH810) were chosen for full testing. The test PCL(Power Control Level)/Class is level 0/class 1.

During the testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication Tester (CMU 200) to ensure max power transmission and proper modulation. Three channels (The top channel, the middle channel and the bottom channel) were chosen for testing on both GSM and WCDMA frequency band.

GSM/GPRS/ 850, PCS/GPRS/ 1900, mode have been tested during the test.

The EUT has one GSM card slot(SIM1). The result for GSM card slot(SIM1) is the worst case which was only recorded.

***Note: Only recorded the worst test case in this test report.

3. SYSTEM TEST CONFIGURATION

3.1. Justification

The system was configured for testing in a continuous transmit condition.

3.2. EUT Exercise Software

N/A.

3.3. Special Accessories

N/A.

3.4. Block Diagram/Schematics

Please refer to the related document

3.5. Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

3.6. Test Setup

Please refer to the test setup photo.

4. SUMMARY OF TEST RESULTS

Applied Standard: 47 CFR FCC Part 22 Subpart H, Part 24 Subpart E			
FCC Rules	**Description of Test**		**Result**
§2.1046, §22.913 / §24.232	RF Output Power	Conducted Output Power	Compliant
		Radiated Output Power	
§24.232(d)	Peak-to-Average Ratio		Compliant
§2.1049, §22.905 §22.917, §24.238	Occupied Bandwidth		Compliant
§2.1053 §22.917, §24.238	Spurious Radiated Emissions		Compliant
§2.1051 §22.917, §24.238	Spurious Emissions at Antenna Terminals		Compliant
§22.917, §24.238	Band Edge		Compliant
§2.1055 §22.355, §24.235	Frequency Stability		Compliant
§15.107 / §15.207	AC power line conducted emissions		Compliant
§1.1310, §2.1091	RF Exposure Information		Compliant

5. TEST RESULT

5.1. RF OUTPUT POWER

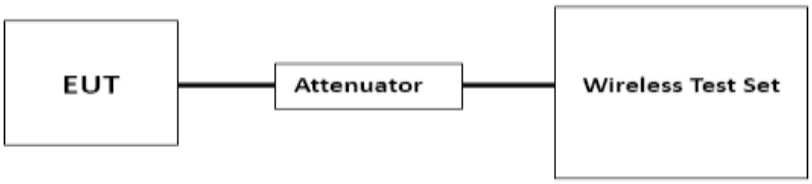
5.1.1. Standard Applicable

According to FCC §2.1046 and §22.913, the maximum effective radiated power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

According to FCC §2.1046 and §24.232, mobile and portable stations are limited to 2 Watts and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

5.1.2. Test Procedures

Conducted method:



Radiated method:

TIA 603-D section 2.2.17

5.1.3. Test Results

Temperature	25°C	Humidity	60%
ATM Pressure:	101.4kPa	Test Engineer	Dick

Conducted Output Power:

Mode	Channel	Frequency (MHz)	RF Output Power (dBm, Average)	Limit (dBm)
GSM 850	128	824.2	32.44	38.45
	190	836.6	**32.71**	38.45
	251	848.8	32.59	38.45
GPRS 850 (1 uplink), GMSK	128	824.2	31.99	38.45
	190	836.6	31.87	38.45
	251	848.8	32.03	38.45
GPRS 850 (2 uplink), GMSK	128	824.2	30.52	38.45
	190	836.6	30.58	38.45
	251	848.8	30.47	38.45
GPRS 850 (4 uplink), GMSK	128	824.2	27.37	38.45
	190	836.6	27.43	38.45
	251	848.8	27.35	38.45

Mode	Channel	Frequency (MHz)	RF Output Power (dBm, Average)	Limit (dBm)
PCS 1900	512	1850.2	29.71	33
	661	1880.0	**29.79**	33
	810	1909.8	29.72	33
GPRS 1900 (1 uplink), GMSK	512	1850.2	29.41	33
	661	1880.0	29.51	33
	810	1909.8	29.47	33
GPRS 1900 (2 uplink), GMSK	512	1850.2	27.80	33
	661	1880.0	27.89	33
	810	1909.8	27.76	33
GPRS 1900 (4 uplink), GMSK	512	1850.2	24.19	33
	661	1880.0	24.26	33
	810	1909.8	24.17	33

***Note: Since the GSM mode has higher power, so the test items below were not performed to GPRS mode.

Radiated Power:

The worst test data as follow:

Mode	Channel	Frequency (MHz)	Test Result		Limit (dBm)
			Max. ERP & EIRP (dBm)	Polarization	
GSM 850	128	824.2	29.51	H	38.45
	190	836.6	29.64	H	38.45
	251	848.8	29.49	H	38.45
	128	824.2	30.98	V	38.45
	190	836.6	**31.15**	V	38.45
	251	848.8	31.10	V	38.45
PCS 1900	512	1850.2	28.21	H	33
	661	1880.0	28.46	H	33
	810	1909.8	28.36	H	33
	512	1850.2	28.81	V	33
	661	1880.0	**28.90**	V	33
	810	1909.8	28.88	V	33

5.2. PEAK-TO-AVERAGE RATIO

5.2.1. Standard Applicable

According to FCC §2.1046 and §24.232(d), the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

5.2.2. Test Procedures

The following steps outline the procedure used to measure the Peak-to-Average Ratio from the EUT.

1) The EUT was connected to Spectrum Analyzer and Base Station via power divider.

2) For GSM/EGPRS operating modes:

a. Set the RBW = 1MHz, VBW = 1MHz, Peak detector in spectrum analyzer.

b. Set EUT in maximum power output, and triggered the burst signal.

c. Measured respectively the Peak level and Mean level, and the deviation was recorded as Peak to Average Ratio.

3) For UMTS operating modes:

a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.

b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

5.2.3. Test Results

Modes	PCS 1900		
Channel	512	661	810
	Low	Mid	High
Frequency(MHz)	1850.2	1880	1909.8
Peak-To-Average Ratio (dB)	0.23	0.14	0.15

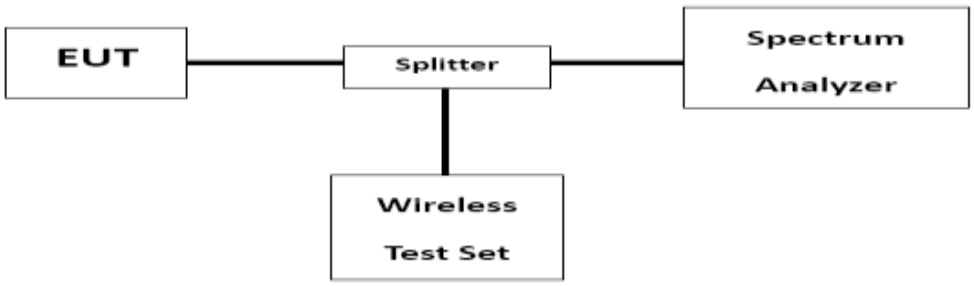
5.3. OCCUPIED BANDWIDTH

5.3.1. Standard Applicable

FCC §2.1049, §22.917, §22.905 and §24.238.

5.3.2. Test Procedures

The RF output of the transmitter was connected to the wireless communication tester and spectrum analyzer through attenuation.



The -26dB & 99% bandwidth was recorded.

5.3.3. Test Results

Temperature	25˚C	Humidity	60%
ATM Pressure:	101.4kPa	Test Engineer	Dick

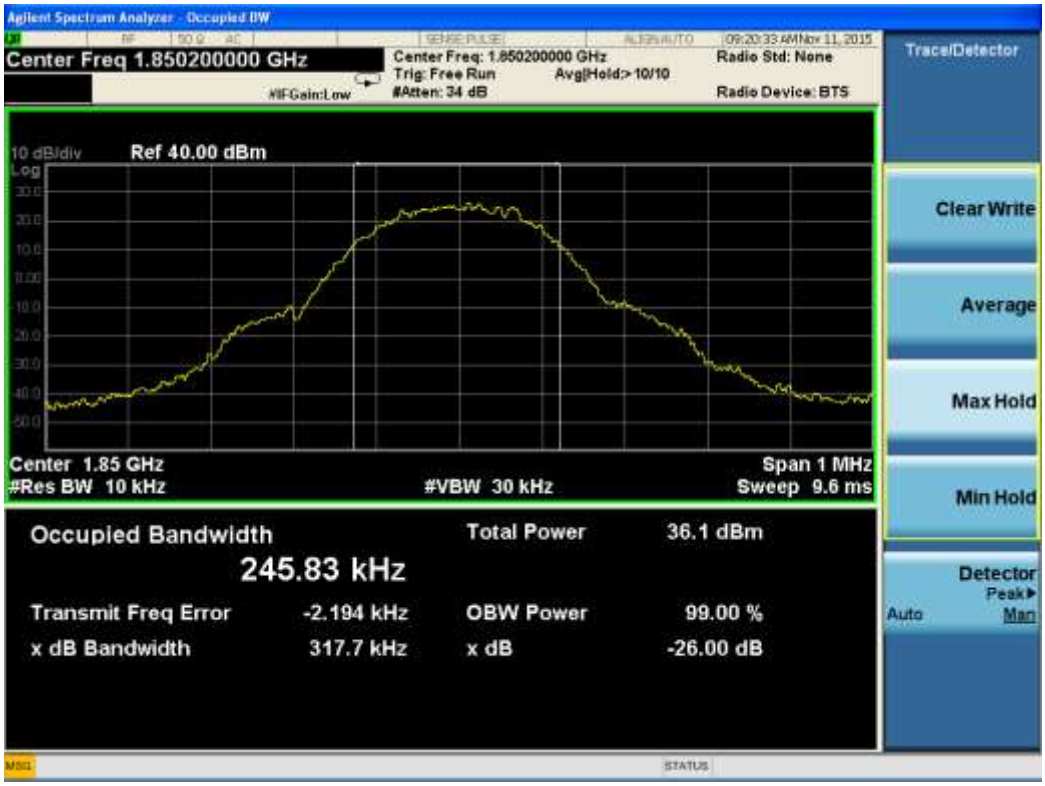
The worst test data as follow:

Mode	Channel	Frequency (MHz)	Emission Bandwidth (-26dBc) (kHz)	Occupied Bandwidth (99%) (kHz)
GSM 850	128	824.2	314.4	247.00
	190	836.6	310.7	244.65
	251	848.8	320.1	247.38

Mode	Channel	Frequency (MHz)	Emission Bandwidth (-26dBc) (kHz)	Occupied Bandwidth (99%) (kHz)
PCS 1900	512	1850.2	317.7	245.83
	661	1880.0	317.5	248.33
	810	1909.8	319.3	249.92

Test Plots For GSM 850

Test Plots For PCS 1900




Agilent Spectrum Analyzer - Occupied BW
Center Freq 1.880000000 GHz
Center Freq: 1.880000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 34 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
09:21:14 AM Nov 11, 2015
Trace/Detector
10 dB/div
Ref 40.00 dBm
Log
Center 1.88 GHz
#Res BW 10 kHz
#VBW 30 kHz
Span 1 MHz
Sweep 9.6 ms
Occupied Bandwidth
248.33 kHz
Total Power
33.7 dBm
Transmit Freq Error
-2.191 kHz
OBW Power
99.00 %
x dB Bandwidth
317.5 kHz
x dB
-26.00 dB
Clear Write
Average
Max Hold
Min Hold
Detector
Peak
Auto
Man
MSG
STATUS


Agilent Spectrum Analyzer - Occupied BW
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Avg|Hold:>10/10
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09:22:08 AM Nov 11, 2015
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Transmit Freq Error
-346 Hz
OBW Power
99.00 %
x dB Bandwidth
319.3 kHz
x dB
-26.00 dB
Clear Write
Average
Max Hold
Min Hold
Detector
Peak
Auto
Man
MSG
STATUS

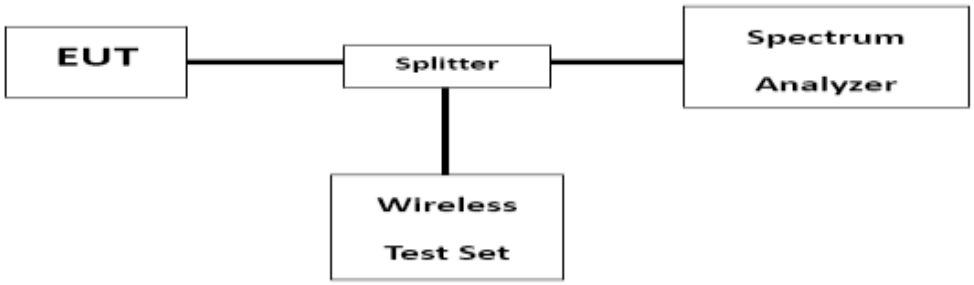
5.4. SPURIOUS AND HARMONIC EMISSION AT ANTENNA TERMINAL

5.4.1. Standard Applicable

FCC §2.1051, §22.917 and §24.238.

5.4.2. Test Procedures

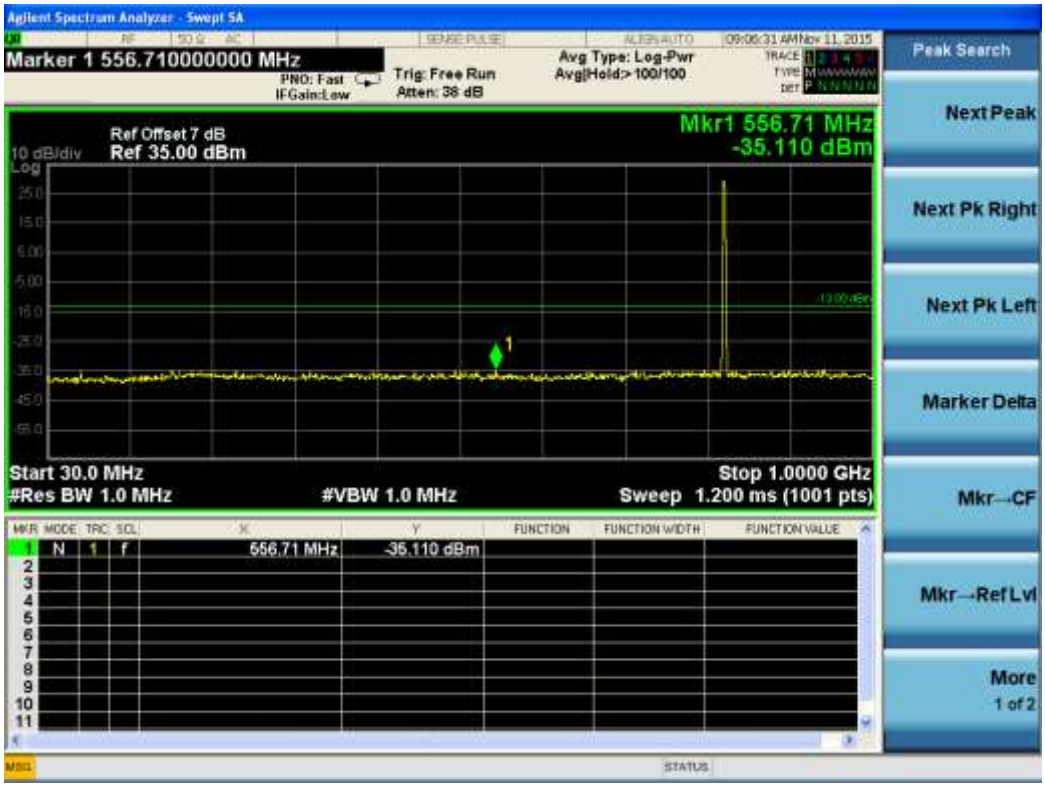
The RF output of the transmitter was connected to the wireless communication tester and spectrum analyzer through attenuation.

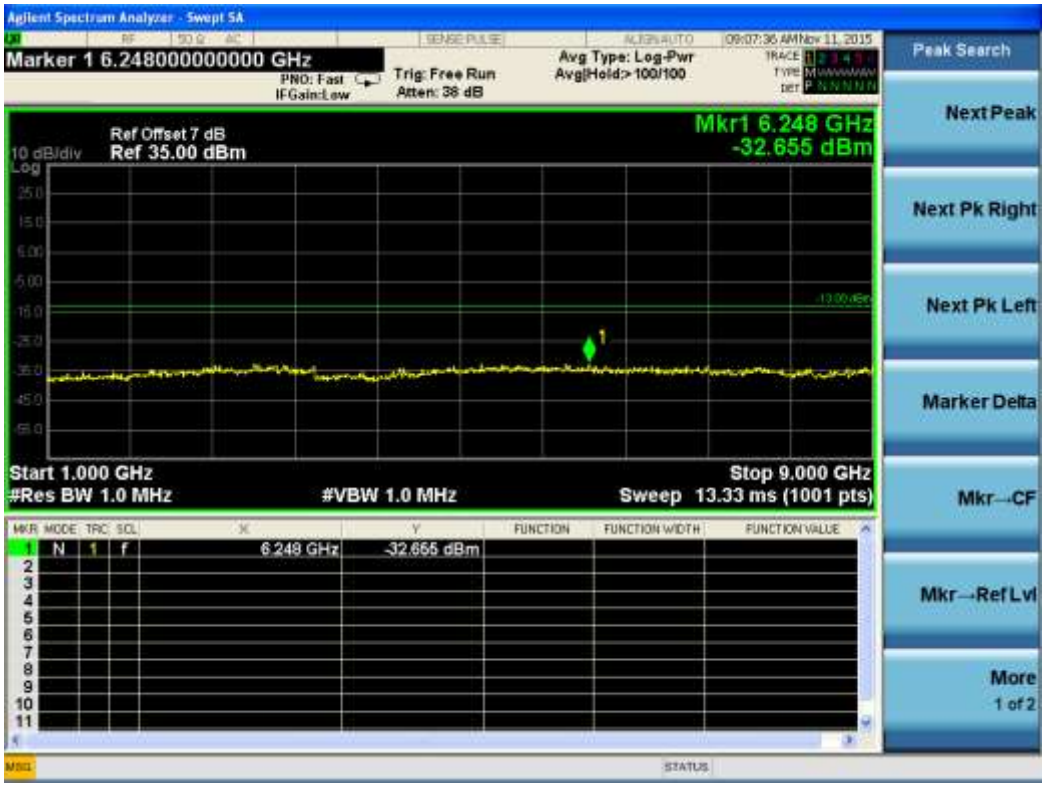


5.4.3. Test Results

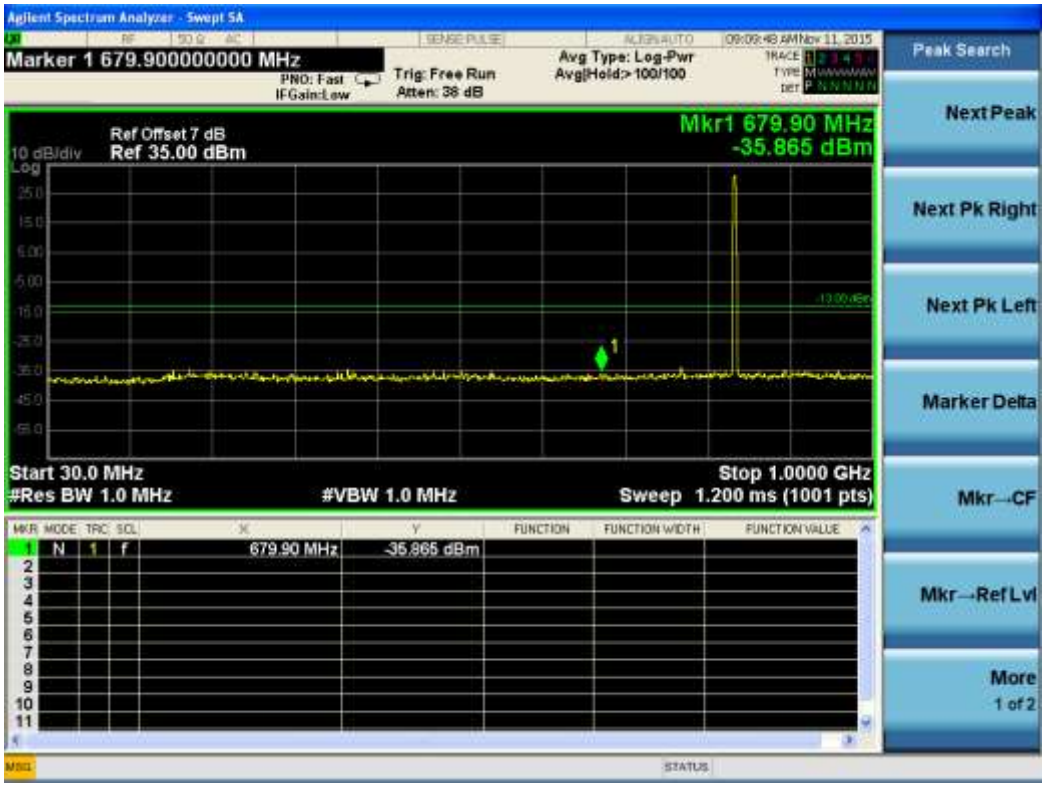
Please refer to the following plots.

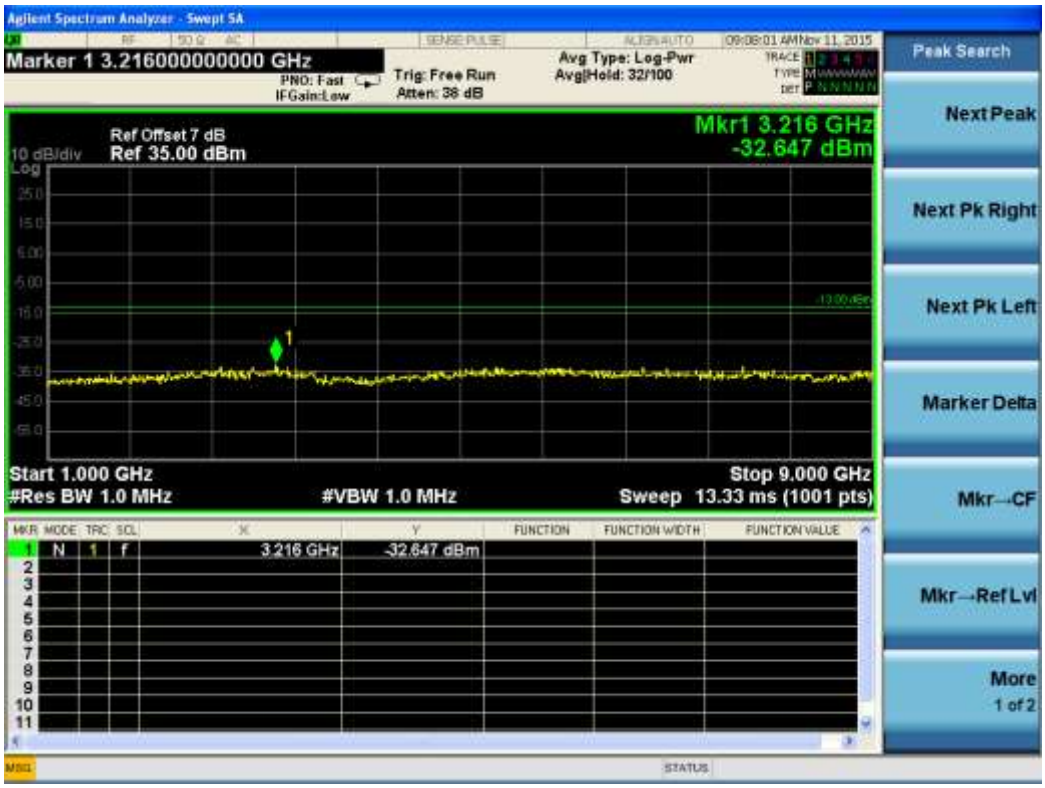
Transmitting Mode, CH 128, GSM 850



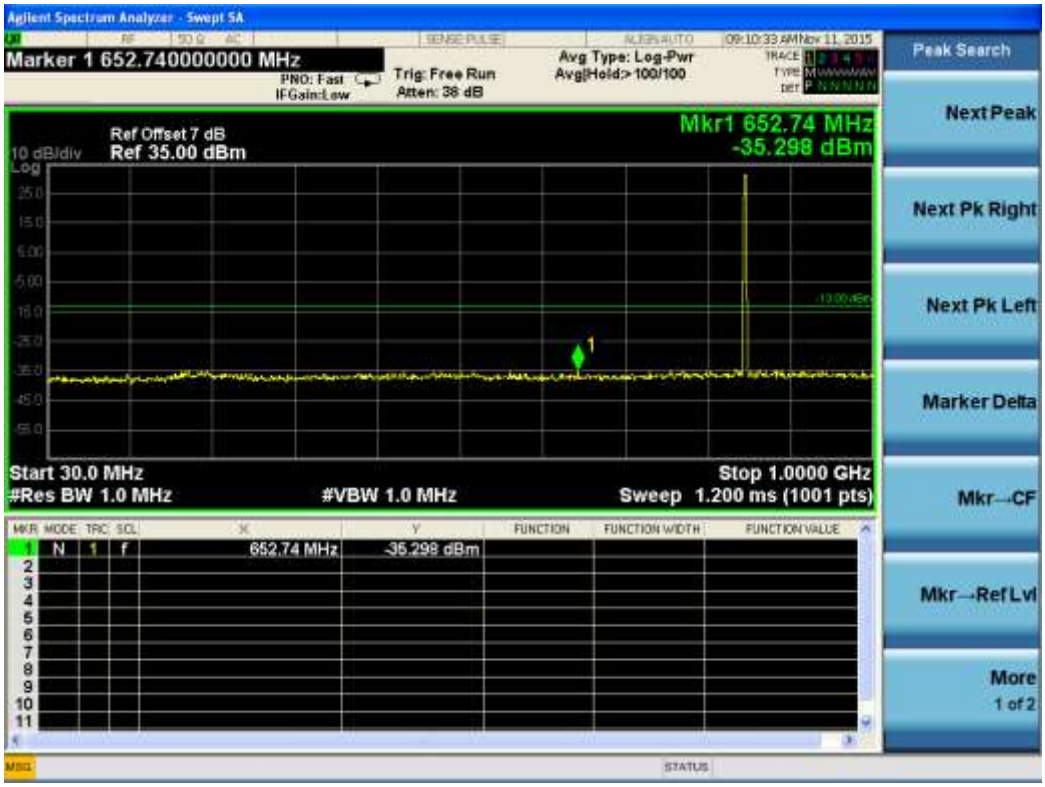


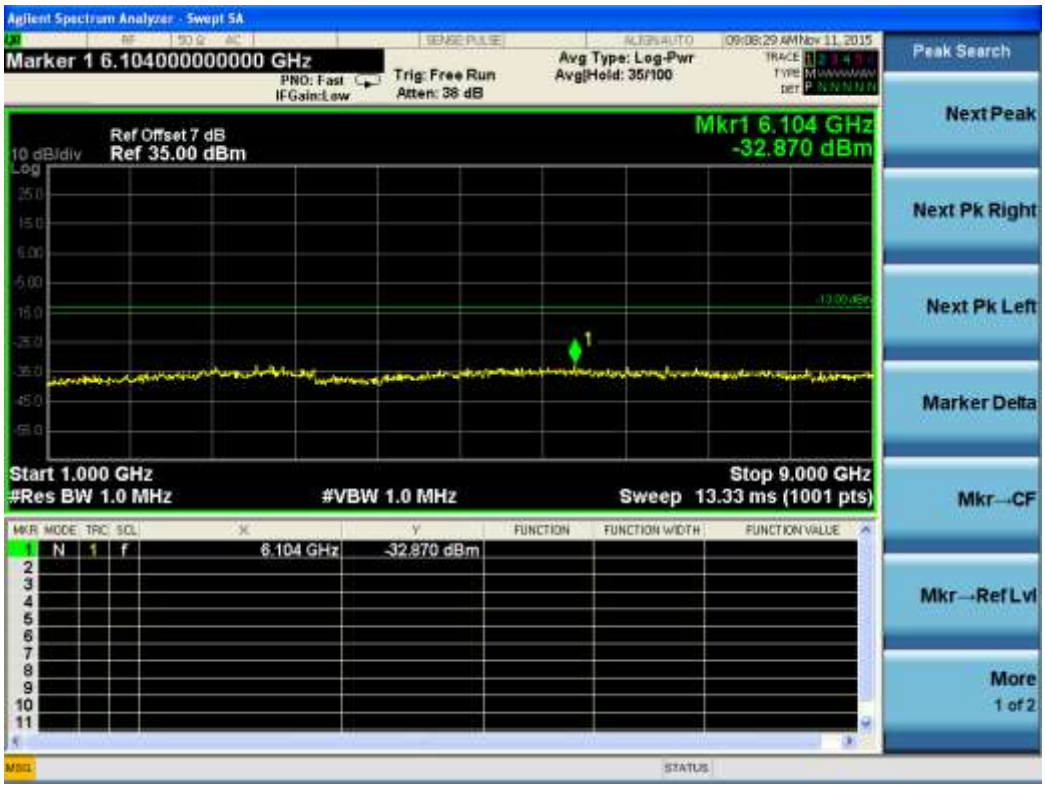
Transmitting Mode, CH 190, GSM 850



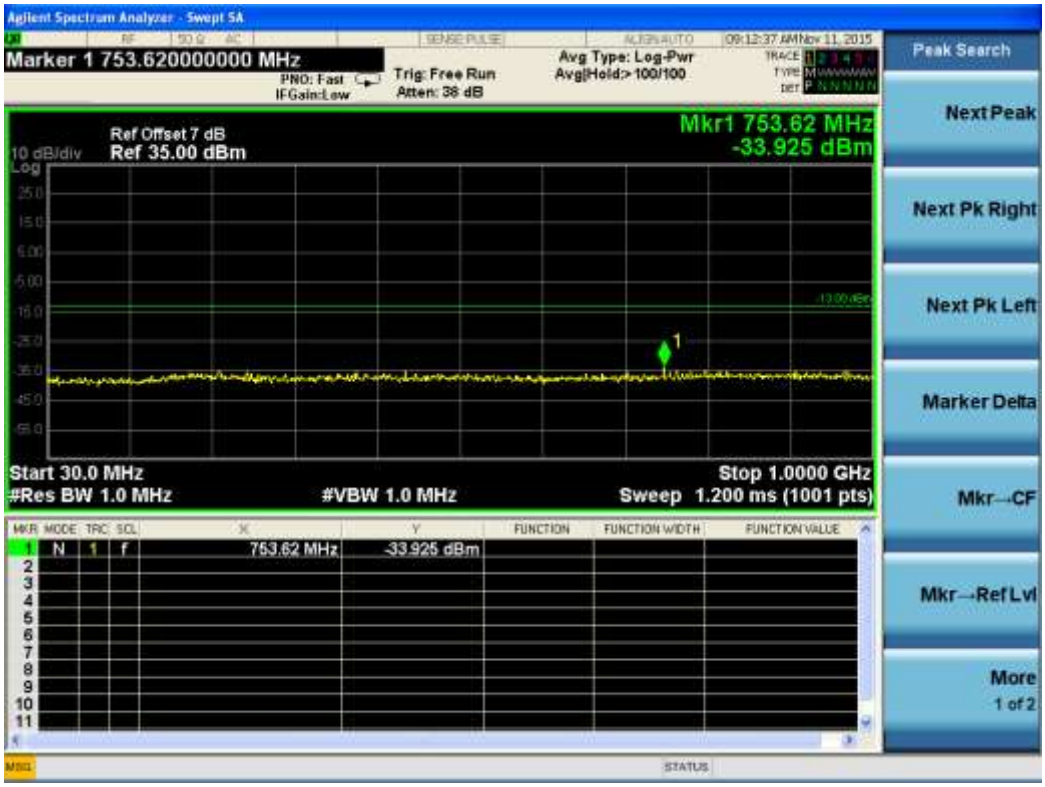


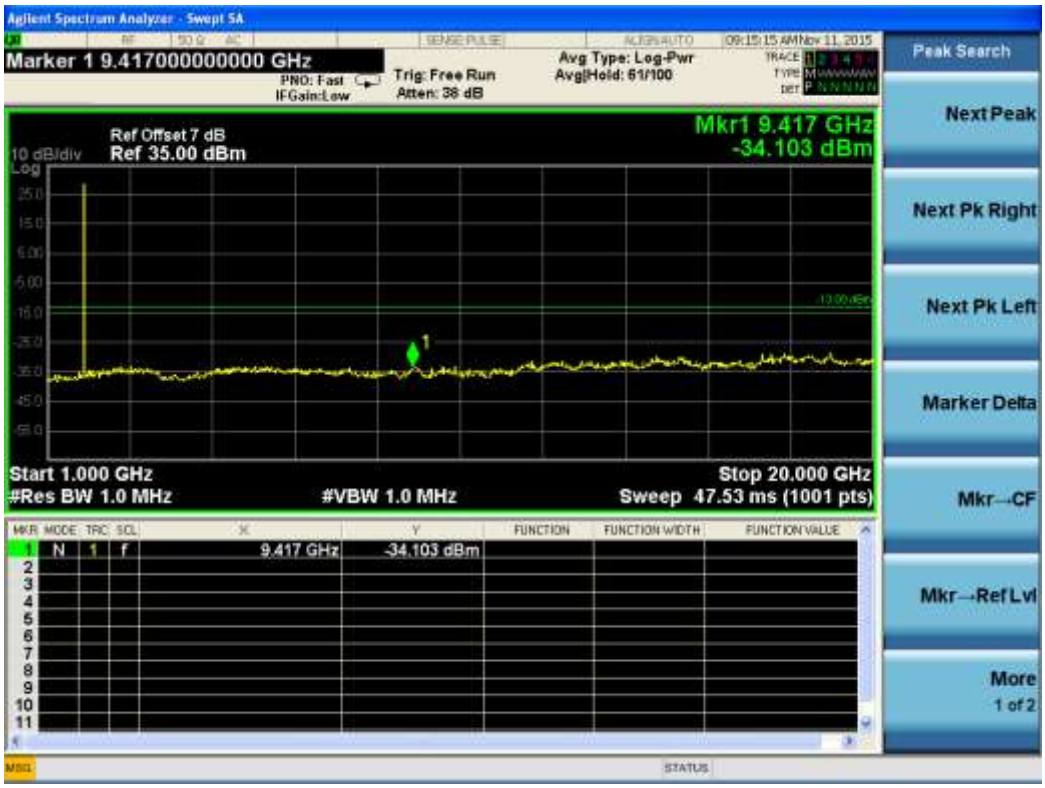
Transmitting Mode, CH 251, GSM 850



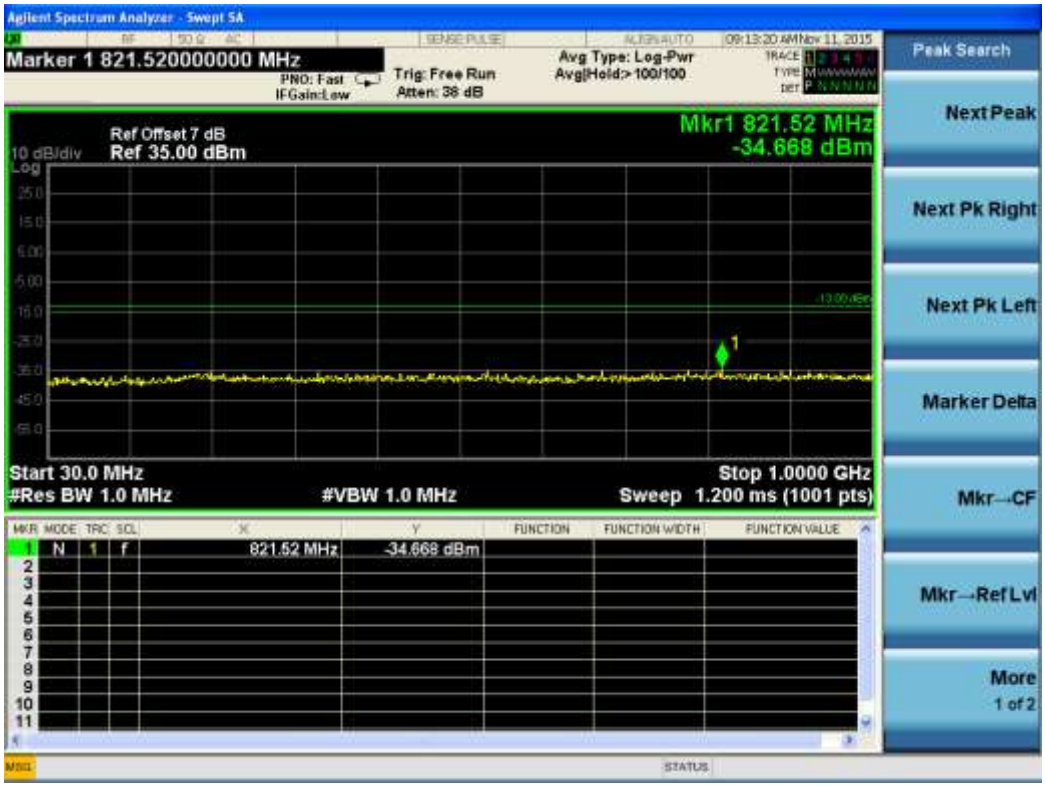


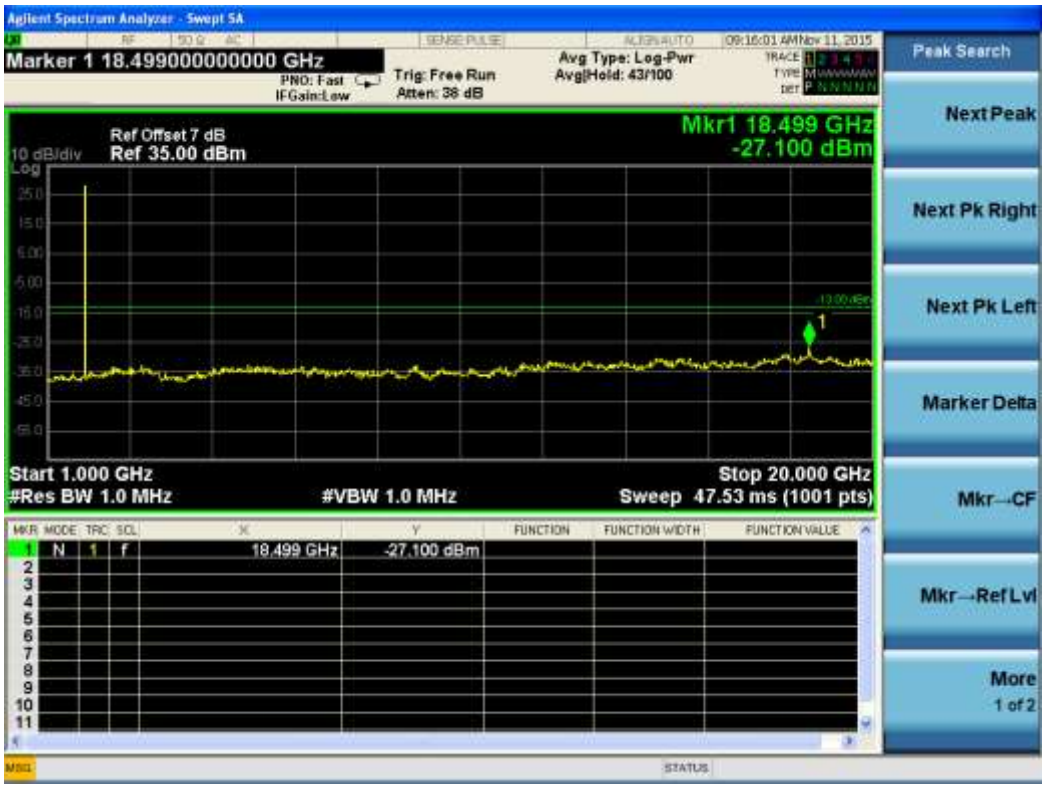
Transmitting Mode, CH 512, PCS 1900



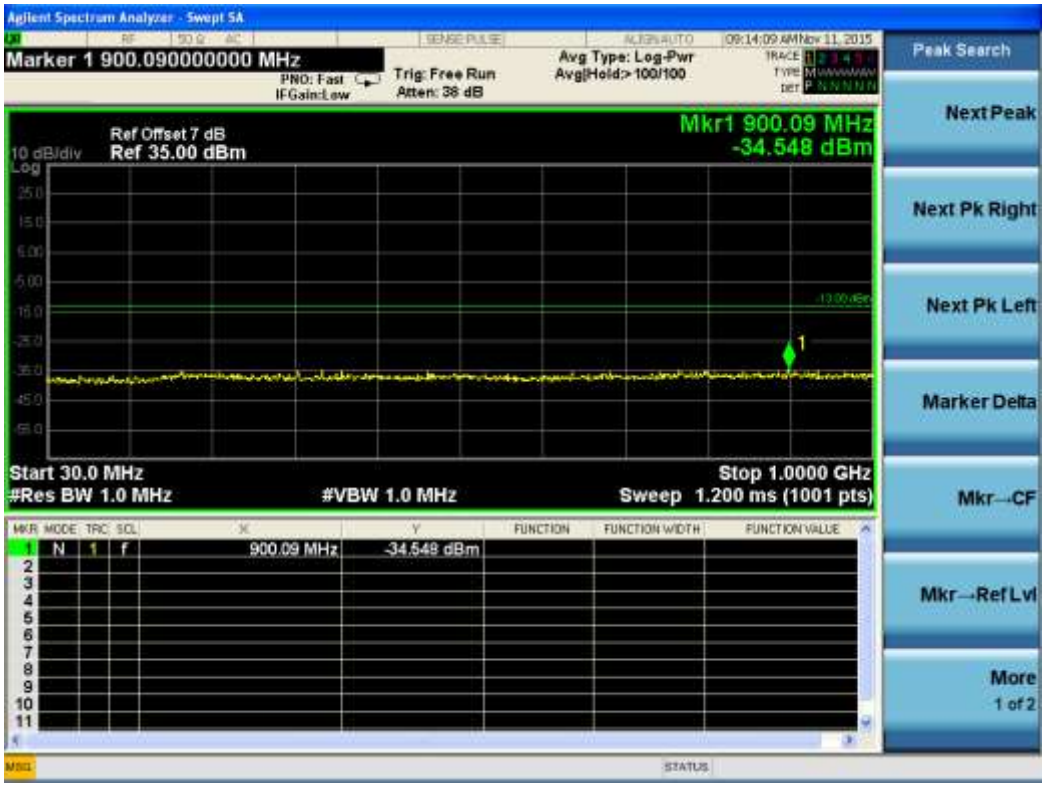


Transmitting Mode, CH 661, PCS 1900

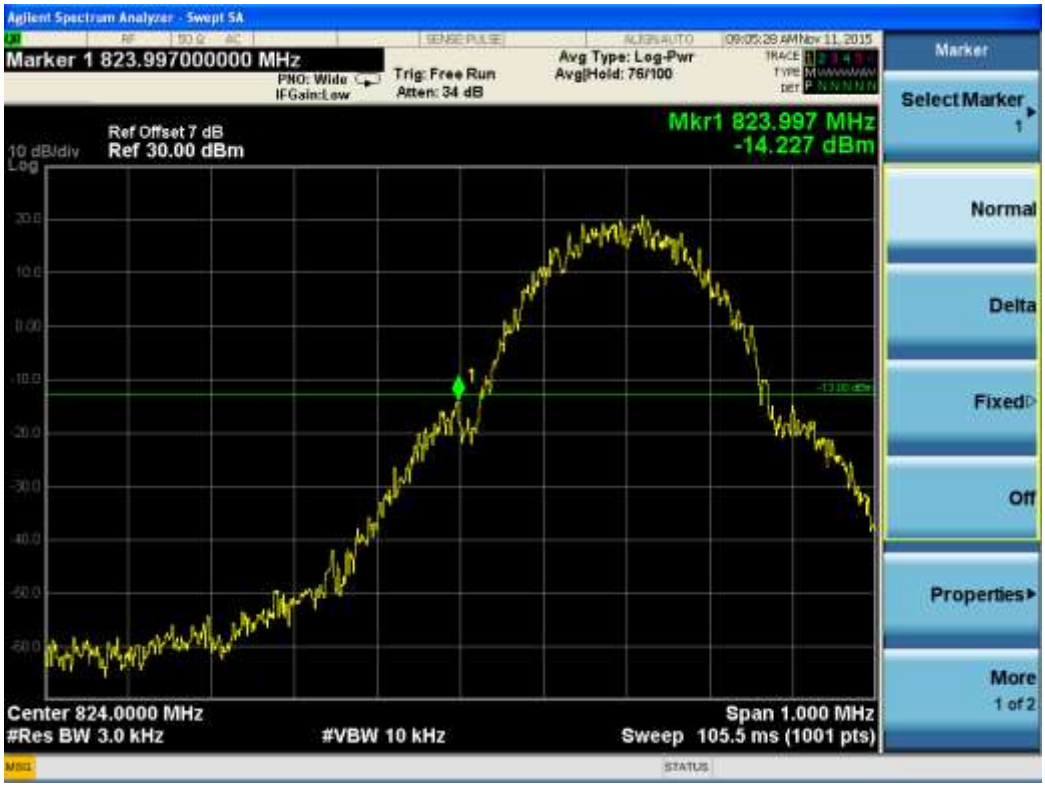




Transmitting Mode, CH 810, PCS 1900



Test Result of Band Edge Emissions, GSM 850



Test Result of Band Edge Emissions, PCS 1900

5.5. RADIATED SPURIOUS EMISSIONS MEASUREMENT

5.5.1. Standard Applicable

FCC §2.1053, §22.917 and §24.238.

5.5.2. Test Procedures

The EUT was placed on a non-conductive, the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

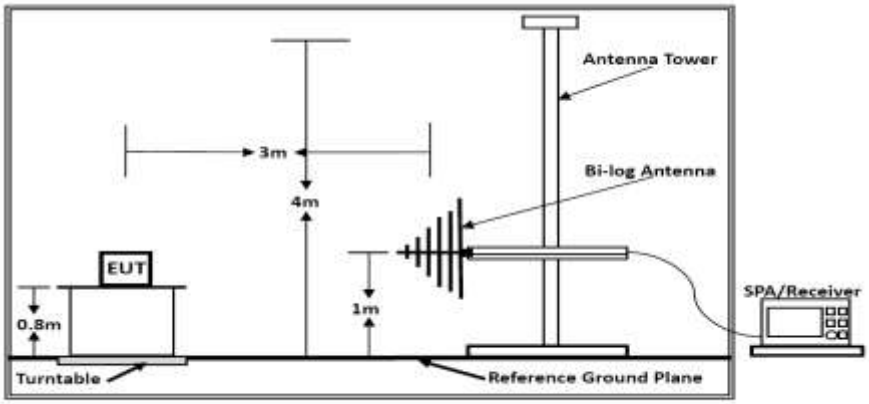
The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission were identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

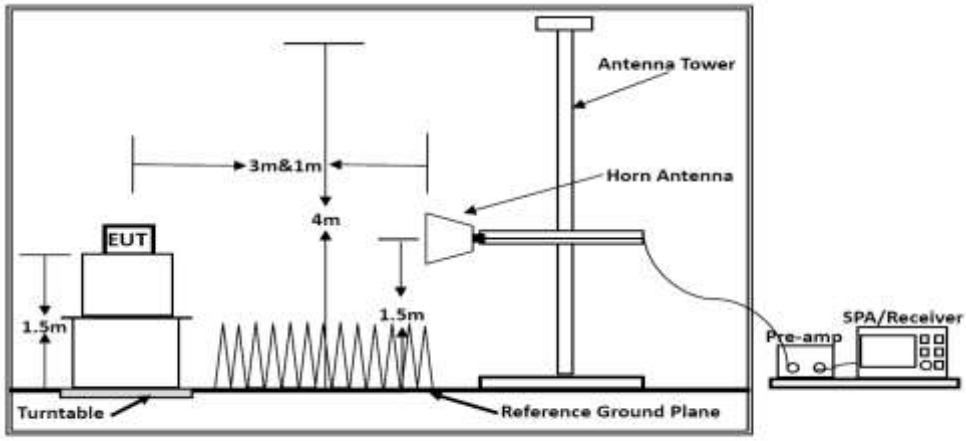
EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

For radiated spurious emissions below 1GHz



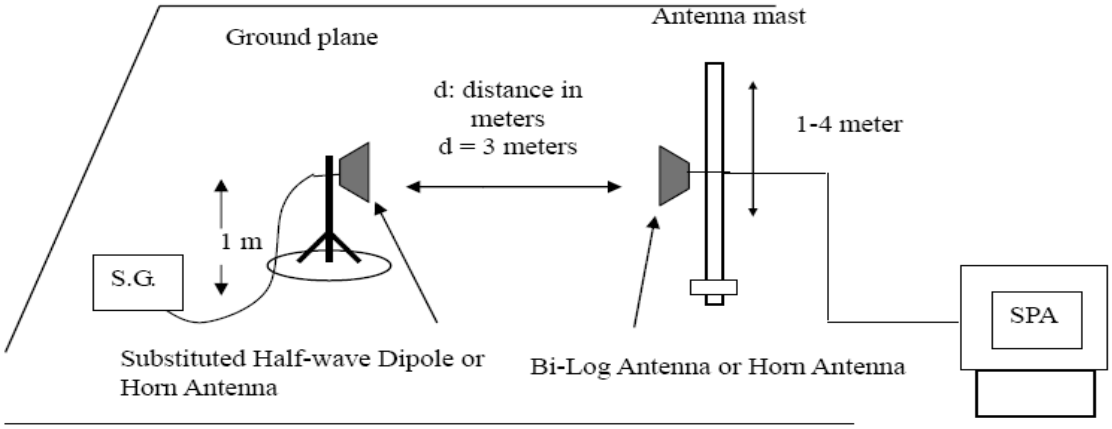
Below 1GHz

For radiated spurious emissions above 1GHz



Above 1GHz

Substituted Method



5.5.3. Test Results

The worst test data as follow:
30MHz~10GHz

The Worst Test Result For GSM 850, CH 128				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
67.65	-70.23	-13	-57.23	H
180.50	-76.15	-13	-63.15	H
685.91	-76.10	-13	-63.10	H
1780.89	-23.34	-13	-10.34	H
2494.94	-35.26	-13	-22.26	H
91.47	-66.16	-13	-53.12	V
182.86	-66.21	-13	-53.21	V
718.83	-76.30	-13	-63.30	V
1644.15	-27.16	-13	-14.16	V
2472.32	-44.24	-13	-31.24	V

The Worst Test Result For GSM 850, CH 190				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
70.48	-65.50	-13	-52.50	H
174.94	-75.32	-13	-62.32	H
674.62	-85.28	-13	-72.28	H
1660.00	-20.51	-13	-7.51	H
2510.69	-29.18	-13	-16.18	H
81.31	-62.85	-13	-49.85	V
182.97	-70.04	-13	-57.04	V
460.46	-70.96	-13	-57.96	V
1662.24	-26.47	-13	-13.47	V
2514.02	-42.94	-13	-29.94	V

The Worst Test Result For GSM 850, CH 251				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
73.60	-69.65	-13	-56.65	H
192.42	-81.13	-13	-68.13	H
671.30	-84.91	-13	-71.91	H
1677.02	-25.81	-13	-12.81	H
2514.42	-33.05	-13	-20.05	H
86.98	-65.99	-13	-52.99	V
185.33	-71.94	-13	-58.94	V
461.85	-72.12	-13	-59.12	V
1661.94	-24.97	-13	-11.97	V
2515.79	-41.54	-13	-28.54	V

30MHz~20GHz

The Worst Test Result For PCS 1900, CH 512				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
92.16	-67.33	-13	-54.33	H
192.63	-72.74	-13	-59.74	H
720.58	-79.58	-13	-66.58	H
1595.04	-27.65	-13	-14.65	H
2568.88	-30.45	-13	-17.45	H
96.00	-67.34	-13	-54.34	V
182.46	-67.89	-13	-54.89	V
713.08	-82.43	-13	-69.43	V
1698.52	-29.27	-13	-16.27	V
2511.27	-40.43	-13	-27.43	V

The Worst Test Result For PCS 1900, CH 661				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
70.42	-69.02	-13	-56.02	H
177.82	-77.41	-13	-64.41	H
685.53	-78.10	-13	-65.10	H
3634.52	-31.99	-13	-18.99	H
5437.22	-32.89	-13	-19.89	H
75.53	-72.06	-13	-59.06	V
166.35	-67.05	-13	-54.05	V
647.95	-80.90	-13	-67.90	V
3610.02	-27.27	-13	-14.27	V
5747.00	-37.86	-13	-24.86	V

The Worst Test Result For PCS 1900, CH 810				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
83.77	-68.02	-13	-55.02	H
190.93	-72.40	-13	-59.40	H
628.33	-82.41	-13	-69.41	H
3827.20	-27.43	-13	-14.43	H
5726.28	-34.52	-13	-21.52	H
85.49	-70.94	-13	-57.94	V
192.15	-67.23	-13	-54.23	V
458.07	-73.84	-13	-60.84	V
3811.71	-27.36	-13	-14.36	V
5715.54	-36.33	-13	-23.33	V

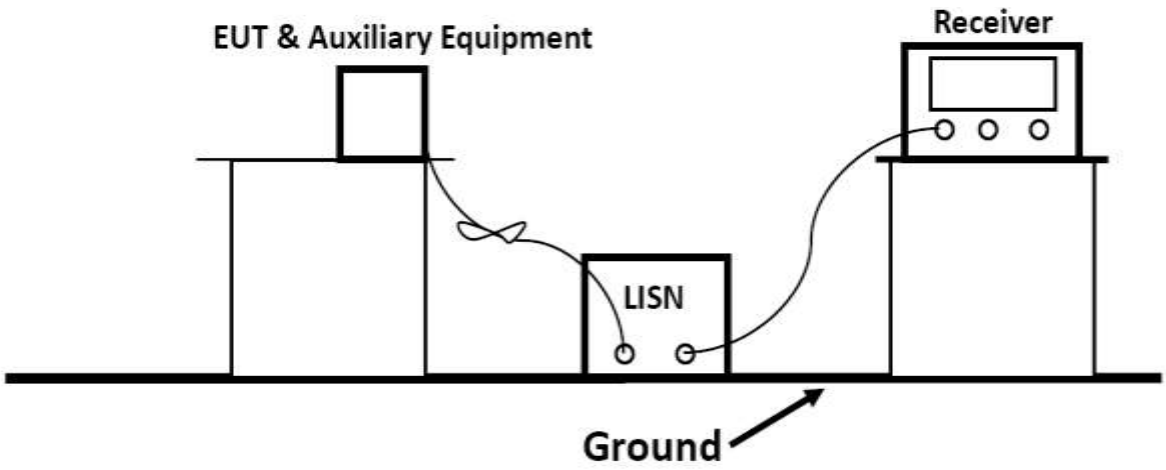
5.6. POWER LINE CONDUCTED EMISSIONS

5.6.1 Standard Applicable

According to §15.107 (a): For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolt (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

5.6.2 Block Diagram of Test Setup

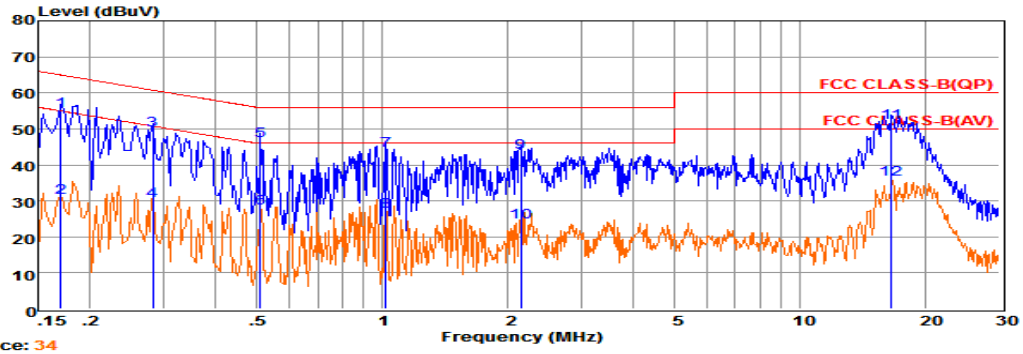


5.6.3 Test Results

PASS.

The test data please refer to following page.

Test Result For Line Power Input AC 240V/60Hz

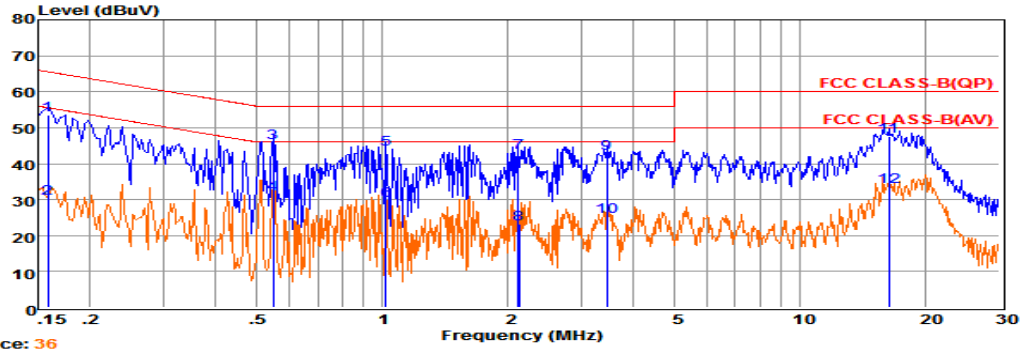


Trace: 34

Env. Ins:	24*/56%
EUT:	3G SMART WATCH
M/N:	W9
Power Rating:	AC 240V/60Hz
Test Mode:	GSM850
Operator:	Dick
Memo:	
Pol:	LINE

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.17034	35.29	9.60	0.02	10.00	54.91	64.94	-10.03	QP
2	0.17044	11.43	9.60	0.02	10.00	31.05	54.94	-23.89	Average
3	0.28178	29.86	9.63	0.03	10.00	49.52	60.76	-11.24	QP
4	0.28188	10.52	9.63	0.03	10.00	30.18	50.76	-20.58	Average
5	0.51007	27.08	9.62	0.04	10.00	46.74	56.00	-9.26	QP
6	0.51017	8.20	9.62	0.04	10.00	27.86	46.00	-18.14	Average
7	1.02109	24.39	9.63	0.05	10.00	44.07	56.00	-11.93	QP
8	1.02209	7.42	9.63	0.05	10.00	27.10	46.00	-18.90	Average
9	2.14392	23.63	9.64	0.05	10.00	43.32	56.00	-12.68	QP
10	2.14492	4.53	9.64	0.05	10.00	24.22	46.00	-21.78	Average
1116	.57318	31.89	9.73	0.11	10.00	51.73	60.00	-8.27	QP
1216	.57418	16.17	9.73	0.11	10.00	36.01	50.00	-13.99	Average

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.



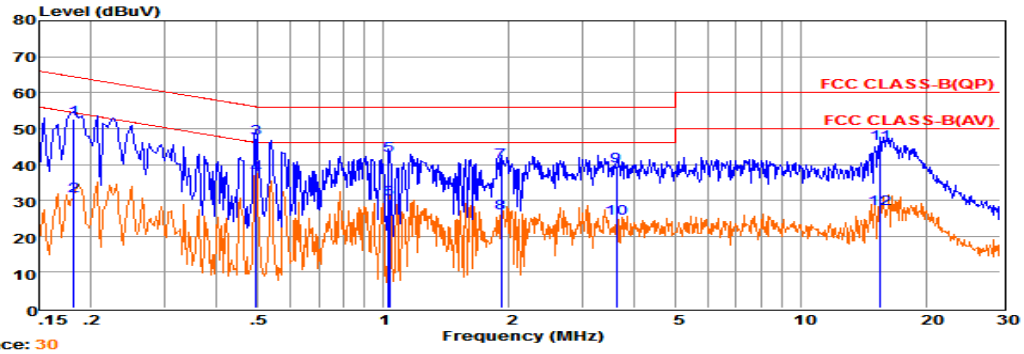
Trace: 36

Env. Ins:	24*/56%
EUT:	3G SMART WATCH
M/N:	W9
Power Rating:	AC 240V/60Hz
Test Mode:	GSM 850
Operator:	Dick
Memo:	
Pol:	NEUTRAL

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.15816	33.81	9.68	0.02	10.00	53.51	65.56	-12.05	QP
2	0.15826	10.52	9.68	0.02	10.00	30.22	55.55	-25.33	Average
3	0.54934	26.24	9.62	0.04	10.00	45.90	56.00	-10.10	QP
4	0.54944	11.80	9.62	0.04	10.00	31.46	46.00	-14.54	Average
5	1.02109	24.45	9.63	0.05	10.00	44.13	56.00	-11.87	QP
6	1.02209	10.12	9.63	0.05	10.00	29.80	46.00	-16.20	Average
7	2.12132	23.55	9.63	0.05	10.00	43.23	56.00	-12.77	QP
8	2.12232	3.63	9.63	0.05	10.00	23.31	46.00	-22.69	Average
9	3.45383	23.18	9.65	0.06	10.00	42.89	56.00	-13.11	QP
10	3.45483	5.55	9.65	0.06	10.00	25.26	46.00	-20.74	Average
1116	.31183	27.82	9.75	0.11	10.00	47.68	60.00	-12.32	QP
1216	.31283	13.60	9.75	0.11	10.00	33.46	50.00	-16.54	Average

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Test Result For Line Power Input AC 120V/60Hz

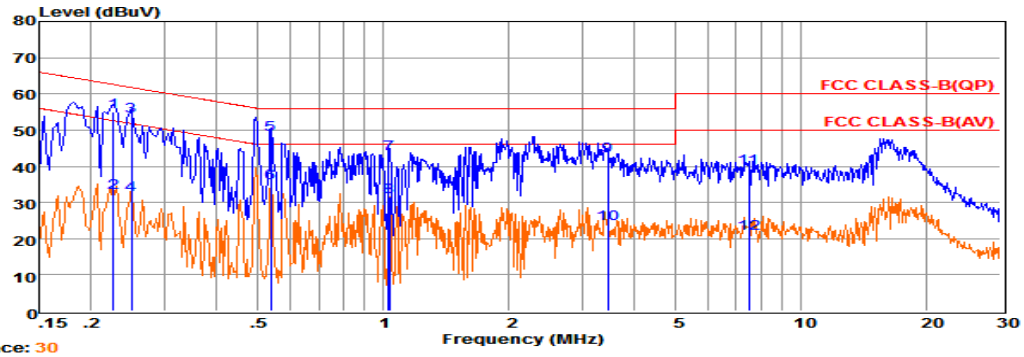


Trace: 30

Env. Ins:	24*/56%
EUT:	3G SMART WATCH
M/N:	W9
Power Rating:	AC 120V/60Hz
Test Mode:	G850 CALL
Operator:	Dick
Memo:	
Pol:	NEUTRAL

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18152	33.13	9.63	0.02	10.00	52.78	64.42	-11.64	QP
2	0.18162	11.71	9.63	0.02	10.00	31.36	54.41	-23.05	Average
3	0.49673	27.74	9.62	0.04	10.00	47.40	56.05	-8.65	QP
4	0.49683	17.44	9.62	0.04	10.00	37.10	46.05	-8.95	Average
5	1.03197	22.74	9.63	0.05	10.00	42.42	56.00	-13.58	QP
6	1.03297	10.76	9.63	0.05	10.00	30.44	46.00	-15.56	Average
7	1.91817	20.93	9.63	0.05	10.00	40.61	56.00	-15.39	QP
8	1.91917	6.68	9.63	0.05	10.00	26.36	46.00	-19.64	Average
9	3.62252	19.75	9.65	0.06	10.00	39.46	56.00	-16.54	QP
10	3.62352	5.14	9.65	0.06	10.00	24.85	46.00	-21.15	Average
1115	.47008	25.85	9.74	0.10	10.00	45.69	60.00	-14.31	QP
1215	.47108	7.73	9.74	0.10	10.00	27.57	50.00	-22.43	Average

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.



Trace: 30

Env. Ins:	24*/56%
EUT:	3G SMART WATCH
M/N:	W9
Power Rating:	AC 120V/60Hz
Test Mode:	G850 CALL
Operator:	Dick
Memo:	
Pol:	LINE

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.22556	35.37	9.63	0.03	10.00	55.03	62.61	-7.58	QP
2	0.22566	13.10	9.63	0.03	10.00	32.76	52.61	-19.85	Average
3	0.24945	34.24	9.63	0.03	10.00	53.90	61.78	-7.88	QP
4	0.24955	12.48	9.63	0.03	10.00	32.14	51.77	-19.63	Average
5	0.53782	29.00	9.62	0.04	10.00	48.66	56.00	-7.34	QP
6	0.53792	15.64	9.62	0.04	10.00	35.30	46.00	-10.70	Average
7	1.03197	23.74	9.63	0.05	10.00	43.42	56.00	-12.58	QP
8	1.03297	11.72	9.63	0.05	10.00	31.40	46.00	-14.60	Average
9	3.45383	22.99	9.65	0.06	10.00	42.70	56.00	-13.30	QP
10	3.45483	4.25	9.65	0.06	10.00	23.96	46.00	-22.04	Average
11	7.48703	19.78	9.68	0.07	10.00	39.53	60.00	-20.47	QP
12	7.48803	1.78	9.68	0.07	10.00	21.53	50.00	-28.47	Average

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Note: Pre-scan all mode and recorded the worst case results in this report (GSM 850)

5.7. FREQUENCY STABILITY OVER TEMPERATURE AND VOLTAGE VARIATIONS

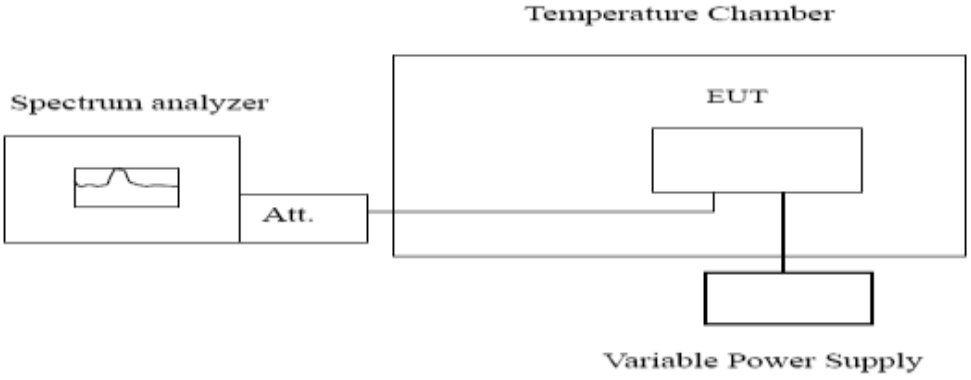
5.7.1. Standard Applicable

FCC §2.1055, §22.355 and §24.235, Frequency Tolerance: ±2.5ppm

5.7.2. Test Procedures

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20℃ operating frequency as reference frequency.

Turn EUT off and set the chamber temperature to –30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached.



5.7.3. Test Results

Pass

The worst test data as follow:

The Worst Test Result For GSM 850, CH 190, f_O = 836.6MHz				
Temperature (℃)	Power Supplied (Vdc)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.7	13	0.015539	±2.5
-20		17	0.02032	±2.5
-10		13	0.015539	±2.5
0		13	0.015539	±2.5
10		16	0.019125	±2.5
20		13	0.015539	±2.5
30		13	0.015539	±2.5
40		16	0.019125	±2.5
50		16	0.019125	±2.5
25	4.07	**18**	**0.021516**	±2.5
25	3.33	15	0.01793	±2.5

The Worst Test Result For PCS 1900, CH 661, f_O = 1880.0MHz				
Temperature (℃)	Power Supplied (Vdc)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	**3.7**	20	0.010638	±2.5
-20		18	0.009574	±2.5
-10		17	0.009043	±2.5
0		18	0.009574	±2.5
10		15	0.007979	±2.5
20		14	0.007447	±2.5

30		17	0.009043	±2.5
40		**21**	**0.011170**	±2.5
50		19	0.010106	±2.5
25	4.07	19	0.010106	±2.5
25	3.33	17	0.009043	±2.5

6. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal Date	Due Date
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	June 18,2015	June 17,2016
Signal analyzer	Agilent	E4448A(External mixers to 40GHz)	US44300469	9kHz~40GHz	July 16,2015	July 15,2016
LISN	MESS Tec	NNB-2/16Z	99079	9KHz-30MHz	June 18,2015	June 17,2016
LISN (Support Unit)	EMCO	3819/2NM	9703-1839	9KHz-30MHz	June 18,2015	June 17,2016
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9KHz-30MHz	June 18,2015	June 17,2016
ISN	SCHAFFNER	ISN ST08	21653	9KHz-30MHz	June 18,2015	June 17,2016
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30M-1GHz 3m	June 18,2015	June 17,2016
Amplifier	SCHAFFNER	COA9231A	18667	9kHz-2GHzz	June 18,2015	June 17,2016
Amplifier	Agilent	8449B	3008A02120	1GHz-26.5GHz	July 16,2015	July 15,2016
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5GHz-40GHz	July 16,2015	July 15,2016
Spectrum Analyzer	Agilent	E4407B	MY41440292	9k-26.5GHz	July 16,2015	July 15,2016
MAX Signal Analyzer	Agilent	N9020A	MY50510140	20Hz~26.5GHz	Oct. 27, 2014	Oct. 26, 2015
Loop Antenna	R&S	HFH2-Z2	860004/001	9k-30MHz	June 18,2015	June 17,2016
By-log Antenna	SCHWARZBECK	VULB9163	9163-470	30MHz-1GHz	June 10,2015	June 09,2016
Horn Antenna	EMCO	3115	6741	1GHz-18GHz	June 10,2015	June 09,2016
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15GHz-40GHz	June 10,2015	June 09,2016
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz-1GHz	June 18,2015	June 17,2016
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz-40GHz	June 18,2015	June 17,2016
Spectrum Meter	R&S	FSP 30	100023	9kHz-30GHz	July 16,2015	July 15,2016
Power Meter	R&S	NRVS	100444	DC-40GHz	June 18,2015	June 17,2016
Power Sensor	R&S	NRV-Z51	100458	DC-30GHz	June 18,2015	June 17,2016
Power Sensor	R&S	NRV-Z32	10057	30MHz-6GHz	June 18,2015	June 17,2016
RF CABLE-1m	JYE Bao	RG142	CB034-1m	20MHz-7GHz	June 18,2015	June 17,2016
RF CABLE-2m	JYE Bao	RG142	CB035-2m	20MHz-1GHz	June 18,2015	June 17,2016
Vector signal Generator	R&S	SMU200A	102098	100kHz~6GHz	June 18,2015	June 17,2016
Signal Generator	R&S	SMR40	10016	10MHz~40GHz	July 16,2015	July 15,2016
Universal Radio Communication Tester	R&S	CMU200	112012	N/A	July 18,2015	July 17,2016
DC power Source	GW	GPC-6030D	C671845	/	June 18,2015	June 17,2016
Temperature & Humidity Chamber	Wuhuan	HTP205	/	/	June 18,2015	June 17,2016
Note: All equipment through GRGT EST calibration						

----------THE END OF REPORT----------