TEST REPORT

Reference No.	:	WTS15S1239697E
FCC ID	:	2AG9H-BNKCAR01
Applicant.....	:	Bunker360 LLC
Address.....	:	80 SW 8th Street Suite 2000 Miami FL 33130, USA
Manufacturer	:	Bunker360 LLC
Address.....	:	80 SW 8th Street Suite 2000 Miami FL 33130, USA
Product Name.....	:	CarKit
Model No.	:	BNK-CAR01
Standards.....	:	FCC CFR47 Part 22 Subpart H:2015 FCC CFR47 Part 24 Subpart E:2015
Date of Receipt sample	:	Dec. 15, 2015
Date of Test.....	:	Dec. 15, 2015 - Jan. 16, 2016
Date of Issue.....	:	Jan. 18, 2016
Test Result.....	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:
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Compiled by:

Zero Zhou / Test Engineer

Approved by:

Philo Zhong / Manager

2 Test Summary

Test Items	Test Requirement	Result
RF Output Power	2.1046 22.913 (a) 24.232 (c)	PASS
Peak-to-Average Ratio	24.232 (d)	PASS
Bandwidth	2.1049 22.905 22.917 24.238	PASS
Spurious Emissions at Antenna Terminal	2.1051 22.917 (a) 24.238 (a)	PASS
Field Strength of Spurious Radiation	2.1053 22.917 (a) 24.238 (a)	PASS
Out of band emission	22.917 (a) 24.238 (a)	PASS
Frequency Stability	2.1055 22.355 24.235	PASS
RF Exposure	1.1307 2.1093	PASS

3 Contents

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4 General Information

4.1 General Description of E.U.T.

Product Name	: CarKit
Model No.	: BNK-CAR01
Model Description	: N/A
GSM Band(s)	: GSM 850/1900MHz
GPRS Class	: 12
WCDMA Band(s)	: N/A
Wi-Fi Specification	: N/A
Bluetooth Version	: N/A
GPS	: Support
NFC	: N/A
Hardware Version	: BNK-CAR01_V2.0
Software Version	: BNK-CAR01_V1.2

4.2 Details of E.U.T.

Operation Frequency	: GPRS 850: 824~849MHz GPRS1900: 1850~1910MHz
Max. RF output power	: GPRS 850: 32.82dBm GPRS1900: 30.07dBm
Type of Modulation	GPRS: GMSK
Antenna installation	: GPRS: internal permanent antenna
Antenna Gain	: GPRS 850: 0dBi GPRS1900: 0dBi
Technical Data	: Battery DC 12V
Type of Emission	: GPRS850: 248KGXW, GPRS1900: 247KGXW

4.3 Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Support Band	Test Mode	Channel Frequency	Channel Number
GSM 850	GPRS	824.2 MHz	128
		836.6 MHz	190
		848.8 MHz	251
PCS 1900	GPRS	1850.2 MHz	512
		1880.0 MHz	661
		1909.8 MHz	810
Remark: All mode(s) were tested and the worst data was recorded.			

4.4 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 7760A-1**

  Waltek Services(Shenzhen) Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration number 7760A, October 15, 2015.

- **FCC Test Site 1#– Registration No.: 880581**

  Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 880581, April 29, 2014.

- **FCC Test Site 2#– Registration No.: 328995**

  Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 328995, December 3, 2014.

5 Equipment Used during Test

5.1 Equipments List

RF Conducted Test						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMC Analyzer (9k~26.5GHz)	Agilent	E7405A	MY45114943	Aug.15,2015	Aug.14,2016
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	Aug.15,2015	Aug.14,2016
3.	Humidity Chamber	GF	GTH-225-40-1P	IAA061213	Aug.15,2015	Aug.14,2016
4.	Universal Radio Communication Tester	R&S	CMU 200	112461	Apr.10,2015	Apr.09,2016
3m Semi-anechoic Chamber for Radiated Emissions						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	EMC Analyzer	Agilent	E7405A	MY45114943	Sep.15,2015	Sep.14,2016
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	Sep.15,2015	Sep.14,2016
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	Apr.18,2015	Apr.17,2016
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	Sep.15,2015	Sep.14,2016
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	Apr.18,2015	Apr.17,2016
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	669	Apr.18,2015	Apr.17,2016
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Mar.17,2015	Mar.16,2016
8	Coaxial Cable (above 1GHz)	Top	1000MHz-25GHz	EW02014-7	Apr.09,2015	Apr.08,2016
9	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	Sep.15,2015	Sep.14,2016
10	Universal Radio Communication Tester	R&S	CMU 200	112461	Apr.10,2015	Apr.09,2016
11	Signal Generator	R&S	SMR20	100046	Sep.15,2015	Sep.14,2016

5.2 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	± 1 x 10^{-6}
RF Power	± 1.0 dB
RF Power Density	± 2.2 dB
Radiated Spurious Emissions test	± 5.03 dB (Bilog antenna 30M~1000MHz)
	± 5.47 dB (Horn antenna 1000M~25000MHz)
Conducted Spurious Emissions test	± 3.64 dB (AC mains 150KHz~30MHz)

5.3 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

6 RF OUTPUT POWER

Test Requirement:	FCC Part 2.1046,22.913 (a),24.232 (c)
Test Method:	ANSI C63.4:2009, TIA/EIA-603-D:2010
	KDB971168 D01 v02r02
Test Mode:	Transmitting

6.1 EUT Operation

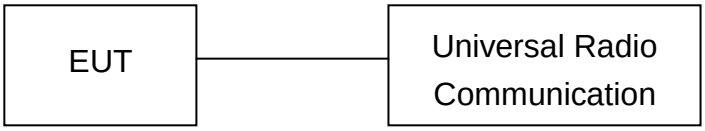
Operating Environment **:**

Temperature:	22.5 °C
Humidity:	52.1 % RH
Atmospheric Pressure:	101.2kPa

6.2 Test Procedure

Conducted method:

The RF output of the transmitter was connected to the wireless test set and the spectrum analyzer through sufficient attenuation.



Radiated method:

1. The setup of EUT is according with per TIA/EIA Standard 603D and ANSI C63.4 measurement procedure.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

6.3 Test Result

Conducted Power

GSM - Burst Average Power (dBm)						
Band	GSM850			PCS1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880	1909.8
GPRS (1 slot)	**32.82**	32.75	32.56	29.33	29.63	**30.07**
GPRS (2 slots)	31.74	31.84	31.86	28.62	28.91	28.98
GPRS (3 slots)	29.69	29.81	29.87	26.64	27.06	27.29
GPRS (4 slots)	28.4	28.56	28.62	25.31	25.79	26.16

Radiated Power(Measured at max. conducted power channel)

ERP and EIRP

Cellular Band (Part 22H)

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 22H Part 24E	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
GSM 850 Channel 128										
824.20	91.72	93	2.2	H	24.69	0.20	0.00	24.49	38.45	-13.96
824.20	97.72	316	1.9	V	30.62	0.20	0.00	30.42	38.45	-8.03

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 22H Part 24E	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
GSM 850 Channel 190										
836.60	93.78	127	1.8	H	26.75	0.20	0.00	26.55	38.45	-11.90
836.60	97.15	193	1.6	V	30.05	0.20	0.00	29.85	38.45	-8.60

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 22H Part 24E	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
GSM 850 Channel 251										
848.80	93.30	24	2.2	H	26.27	0.20	0.00	26.07	38.45	-12.38
848.80	97.04	192	1.0	V	29.94	0.20	0.00	29.74	38.45	-8.71

Cellular Band (Part 24E)

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 22H Part 24E	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
PCS 1900 Channel 512										
1850.20	87.61	147	1.7	H	13.64	0.31	10.40	23.73	33	-9.27
1850.20	92.74	129	1.1	V	19.46	0.31	10.40	29.55	33	-3.45

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 22H Part 24E	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
PCS 1900 Channel 661										
1880.00	86.31	164	1.9	H	12.46	0.31	10.40	22.55	33	-10.45
1880.00	92.52	212	1.7	V	19.40	0.31	10.40	29.49	33	-3.51

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 22H Part 24E	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
PCS 1900 Channel 810										
1909.80	86.23	218	1.0	H	12.50	0.32	10.40	22.58	33	-10.42
1909.80	92.10	315	2.2	V	19.14	0.32	10.40	29.22	33	-3.78

7 Peak-to-Average Ratio

Test Requirement: 24.232 (d)

Test Method: N/A

Test Mode: Transmitting

7.1 EUT Operation

Operating Environment **:**

Temperature: 22.5 °C

Humidity: 52.3% RH

Atmospheric Pressure: 101.2kPa

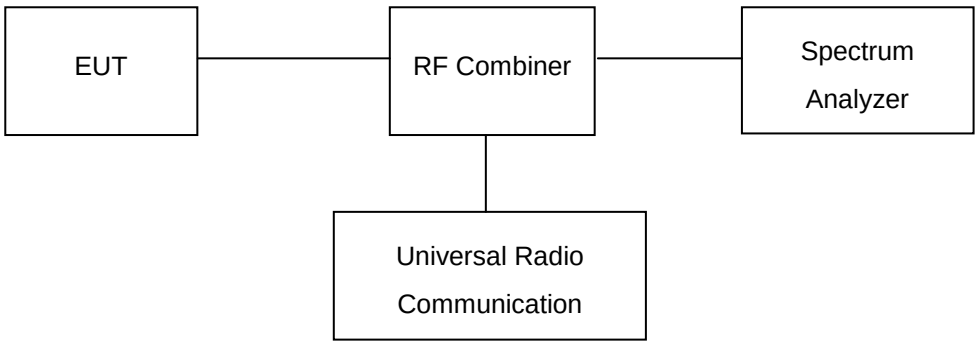
7.2 Test Procedure

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.

2. Set EUT to transmit at maximum output power.

3. When the duty cycle is less than 98%, then signal gating will be implemented on the spectrum analyzer by triggering from the system simulator.

4. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer. Record the maximum PAPR level associated with a probability of 0.1%.



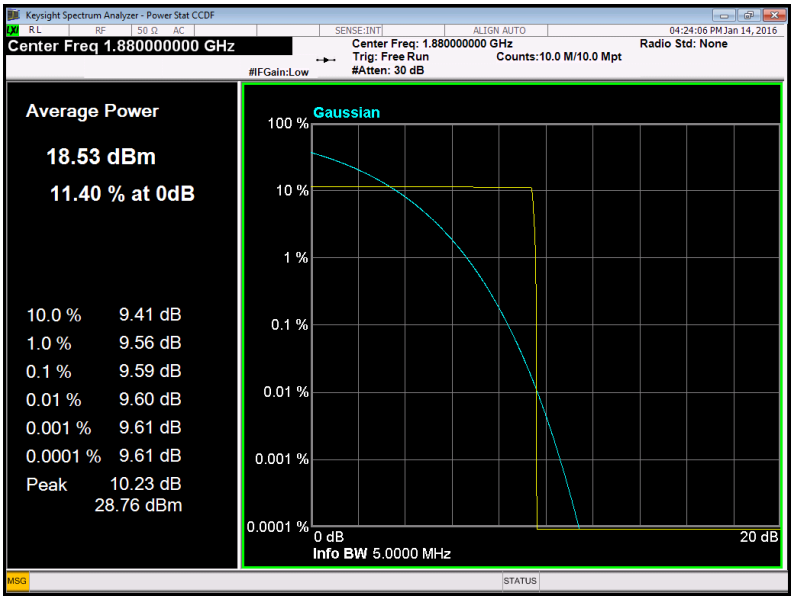
7.3 Test Result

PCS Band (Part 24E)

Mode	GPRS 1900		
Channel	512.00	661.00	810.00
Frequency (MHz)	1850.20	1880.00	1909.80
Peak-to-Average Ratio (dB)	9.58	9.59	9.57

Test Plots (Part 24E)

PCS1900 Middle Channel



8 BANDWIDTH

Test Requirement:	FCC Part 2.1049,22.917,22.905,24.238
Test Method:	ANSI C63.4:2009, TIA/EIA-603-D:2010
	KDB971168 D01 v02r02
Test Mode:	Transmitting

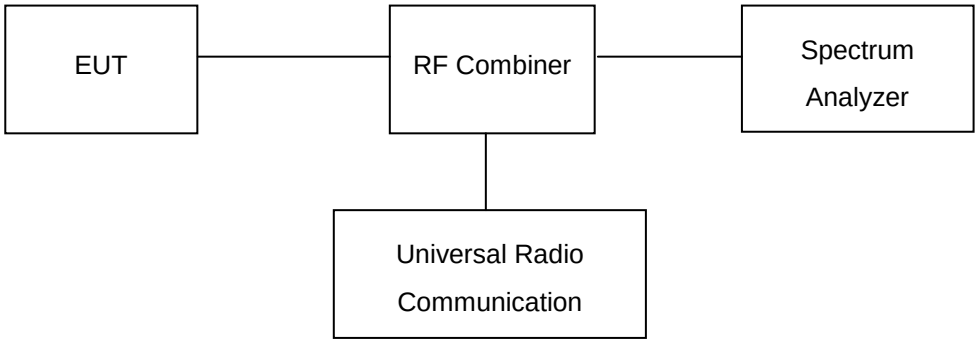
8.1 EUT Operation

Operating Environment **:**

Temperature:	22.5 °C
Humidity:	52.3% RH
Atmospheric Pressure:	101.2kPa

8.2 Test Procedure

The RF output of the transmitter was connected to the wireless test set and the spectrum analyzer through sufficient attenuation.
The resolution bandwidth of the spectrum analyzer was set at 3 kHz (Cellular /PCS) and the 26 dB & 99%bandwidth was recorded.



8.3 Test Result

Cellular Band (Part 22H)

Test Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth(kHz)	26 dB Emission Bandwidth(kHz)
GPRS 850	128	824.2	248.36	313.40
	190	836.6	248.44	313.40
	251	848.8	248.43	313.43

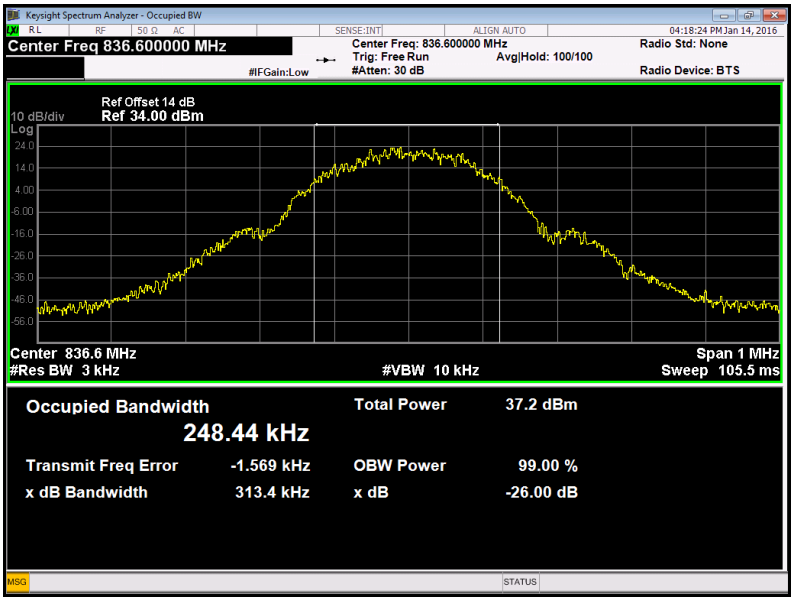
Cellular Band (Part 24E)

Test Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth(kHz)	26 dB Emission Bandwidth(kHz)
GPRS 1900	512	1850.2	246.74	317.67
	661	1880.0	246.72	317.70
	810	1909.8	246.78	317.67

Test Plots

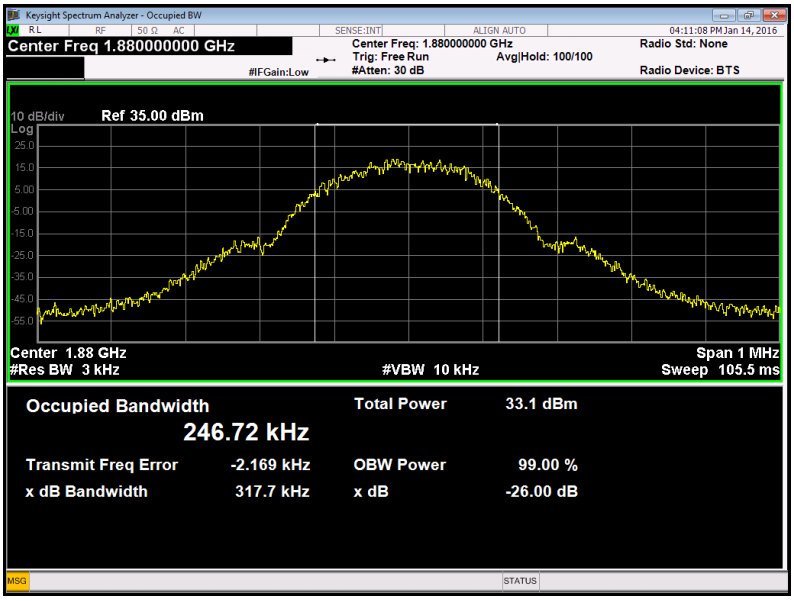
Cellular Band (Part 22H)

GPRS 850



Cellular Band (Part 24E)

GPRS 1900



9 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Test Requirement:	FCC Part 2.1051,22.917(a),24.238(a)
Test Method:	ANSI C63.4:2009, TIA/EIA-603-D:2010
	KDB971168 D01 v02r02
Test Mode:	Transmitting

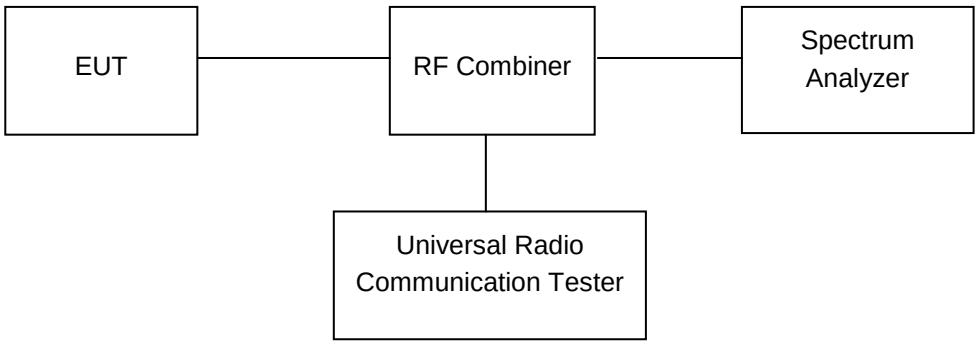
9.1 EUT Operation

Operating Environment **:**

Temperature:	23.5 °C
Humidity:	52.1 % RH
Atmospheric Pressure:	101.3kPa

9.2 Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonics.



9.3 Test Result

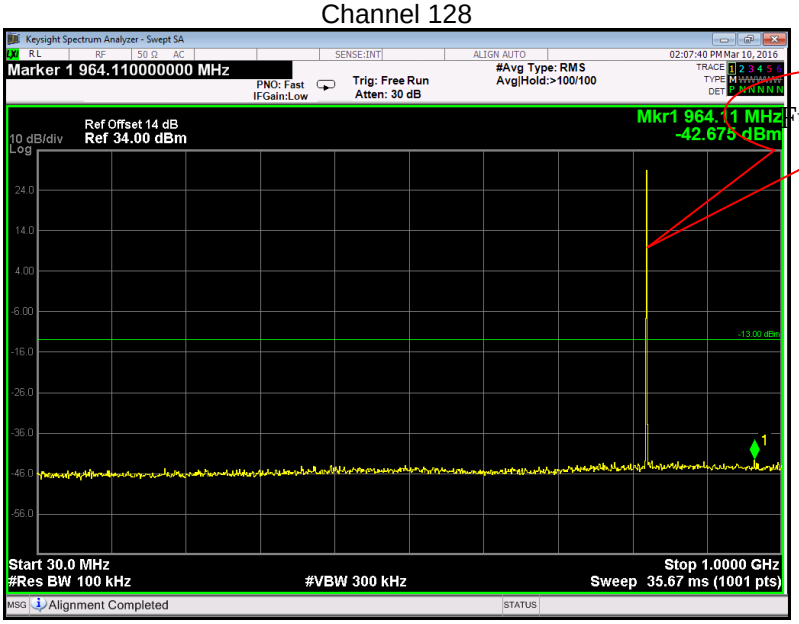
Remark: only the worst data were recorded.

Cellular Band (Part 22H)

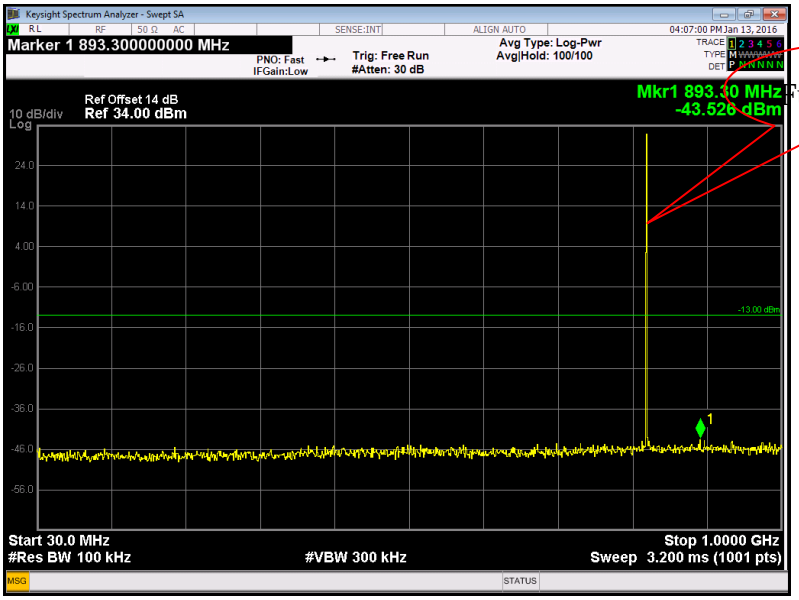
GPRS 850

30MHz-1GHz

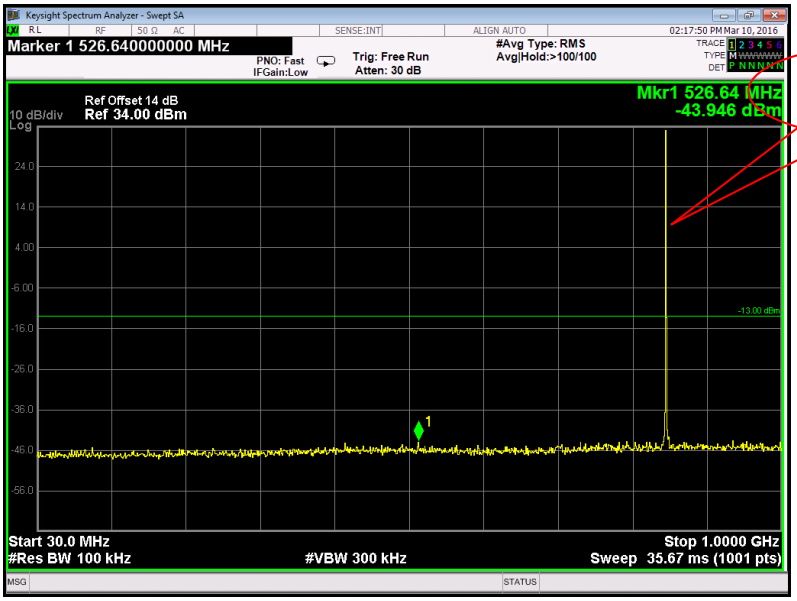
Channel 128



Channel 190

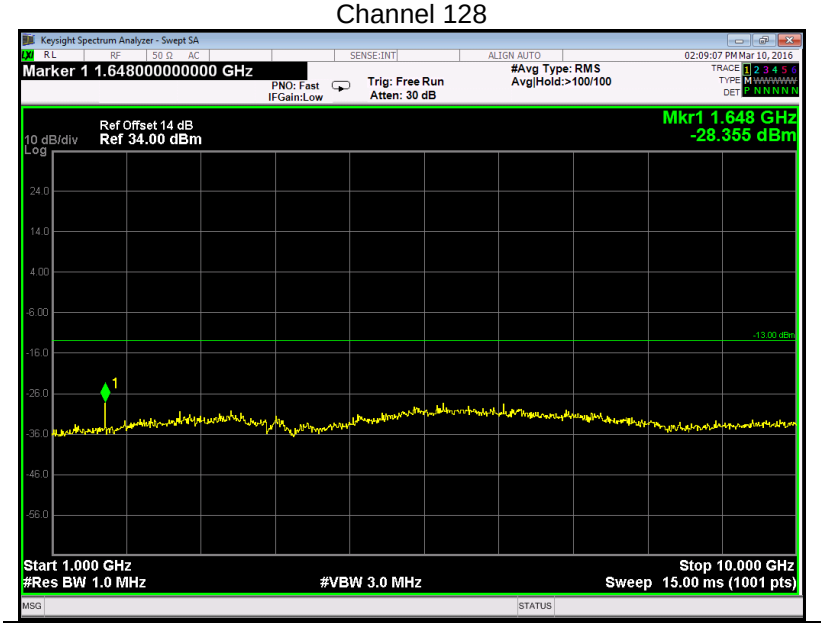


Channel 251



Above 1GHz

Channel 128



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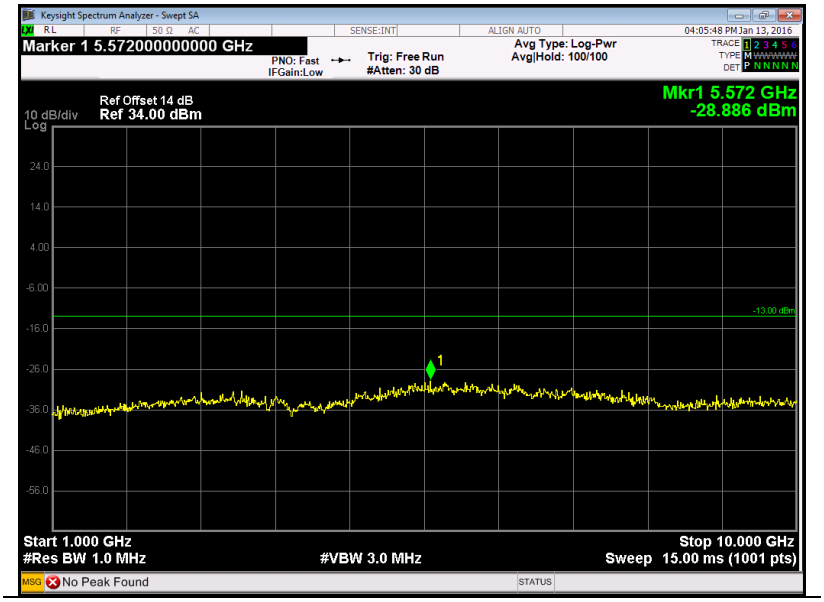
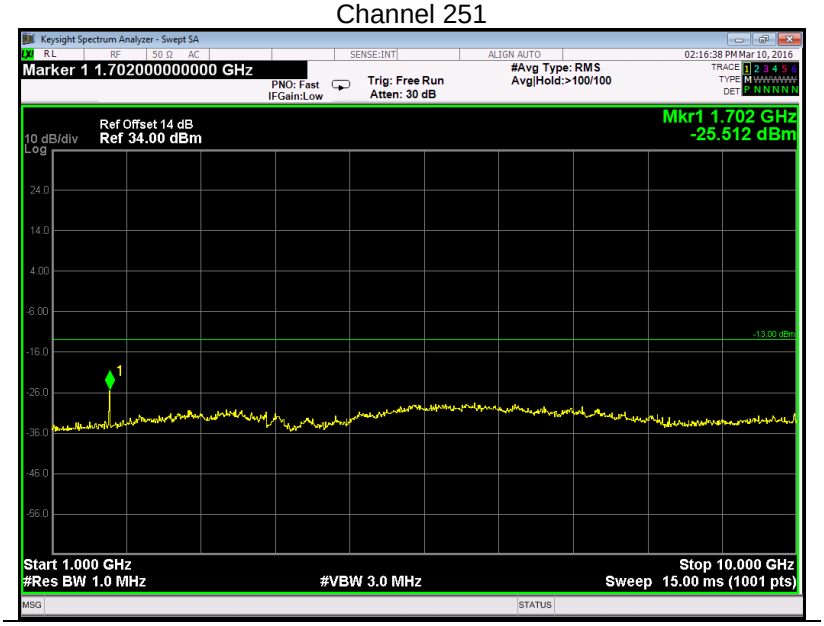


Channel 251

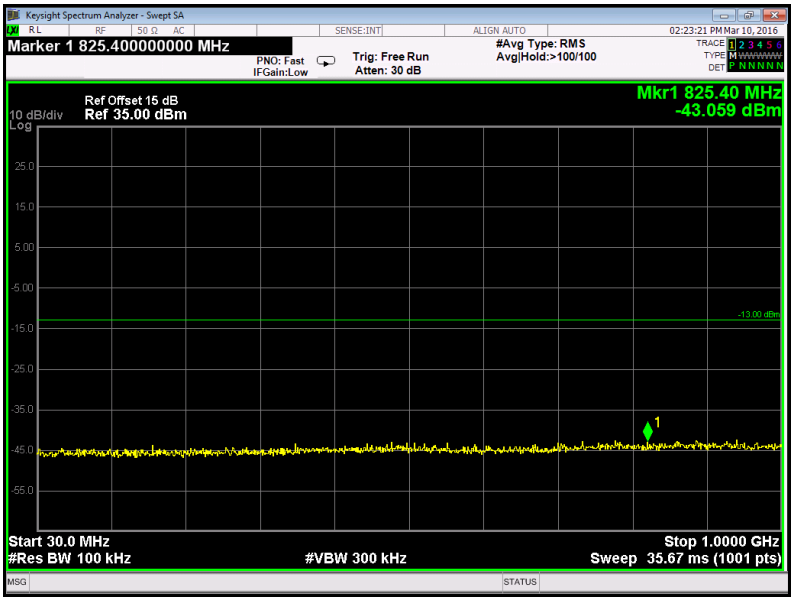


PCS Band (Part 24E)

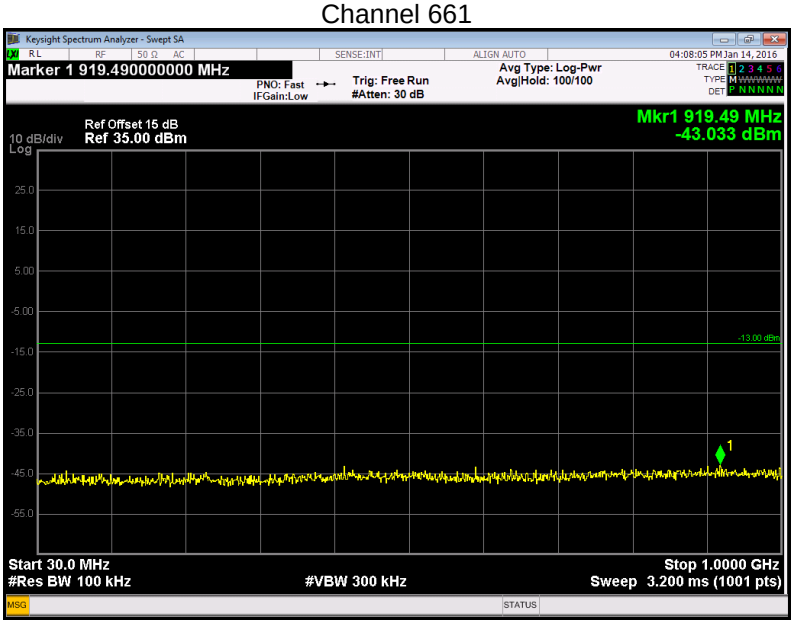
GPRS 1900

30MHz-1GHz

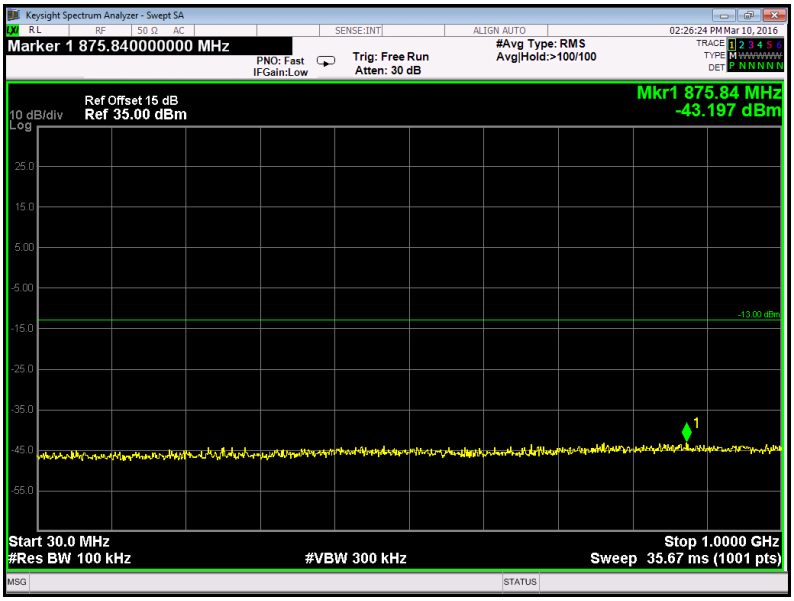
Channel 512



Channel 661



Channel 810

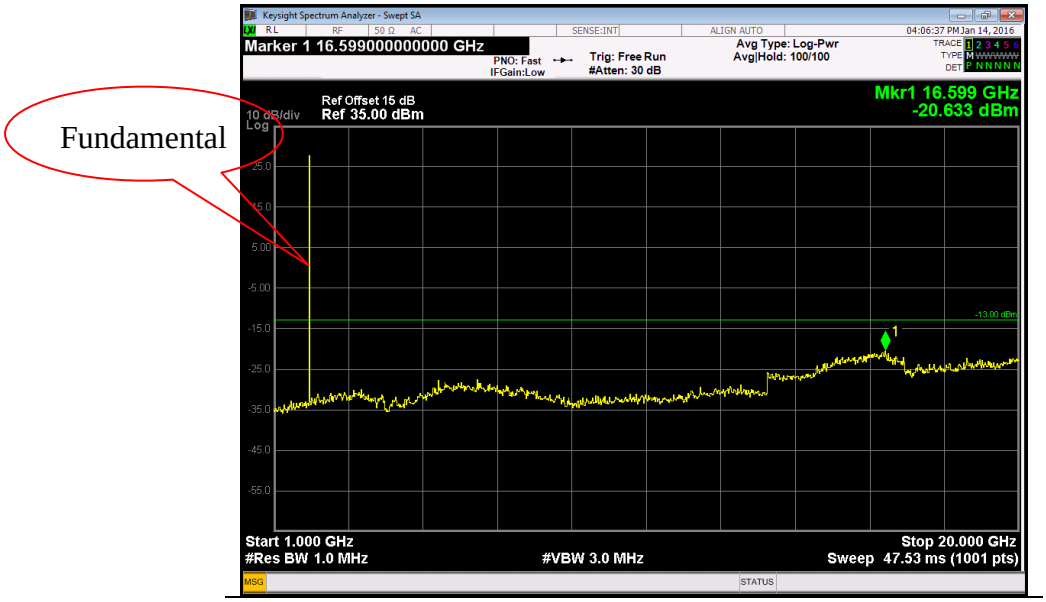


Above 1GHz

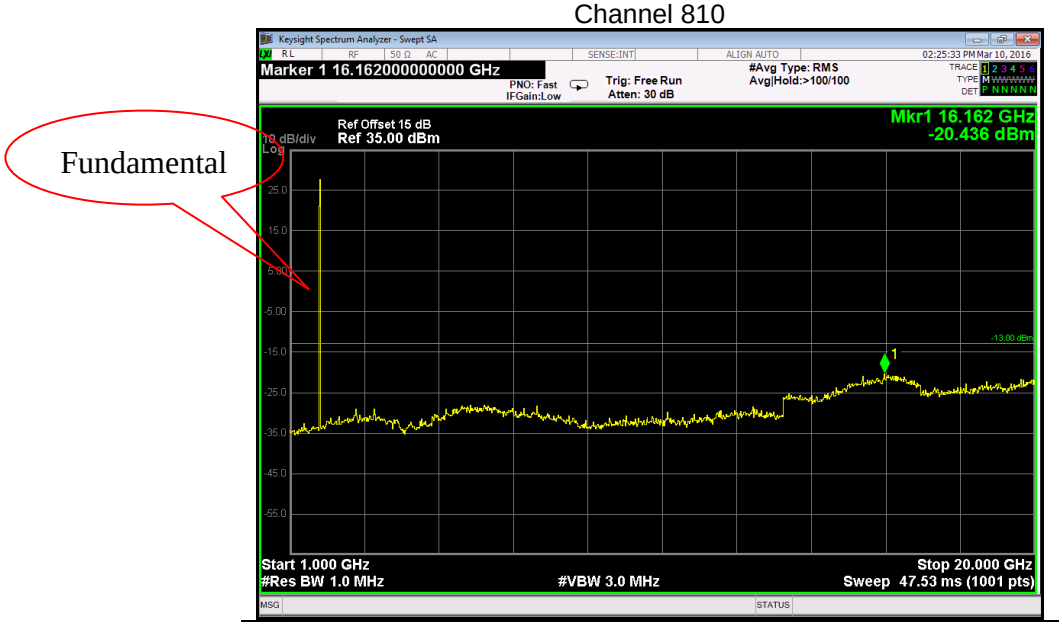
Channel 512

Fundamental

Channel 661



Channel 810



10 SPURIOUS RADIATED EMISSIONS

Test Requirement:	FCC Part 2.1053,22.917,24.238.
Test Method:	ANSI C63.4:2009, TIA/EIA-603-D:2010
	KDB971168 D01 v02r02
Test Mode:	Transmitting

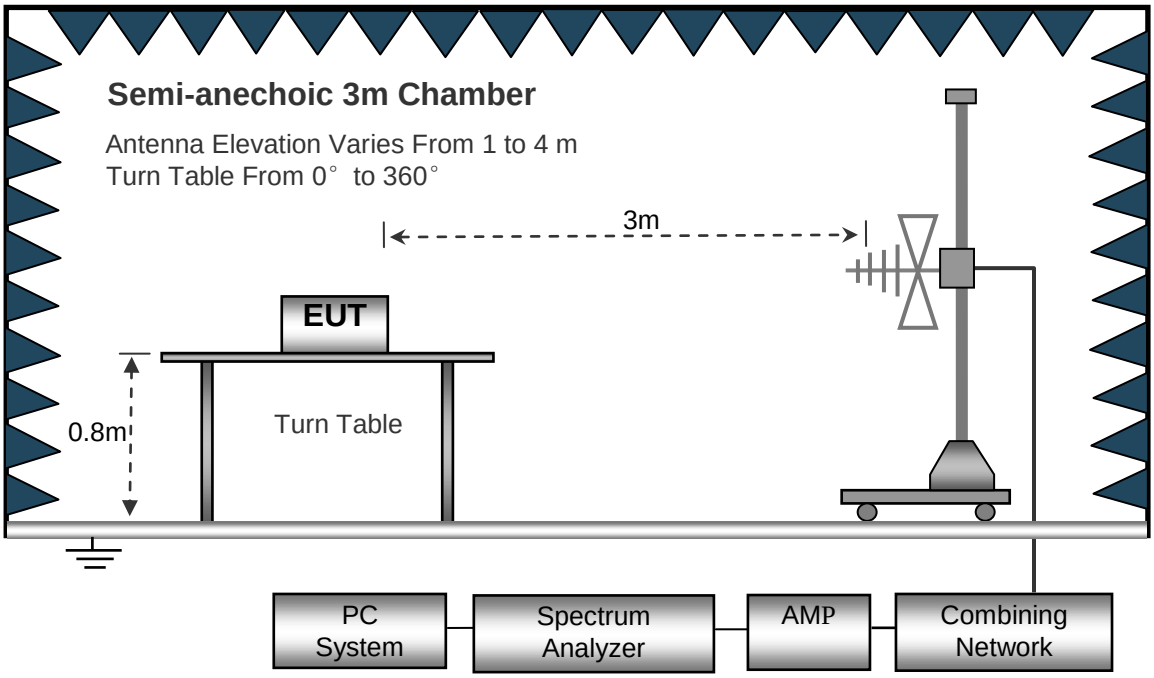
10.1 EUT Operation

Operating Environment **:**

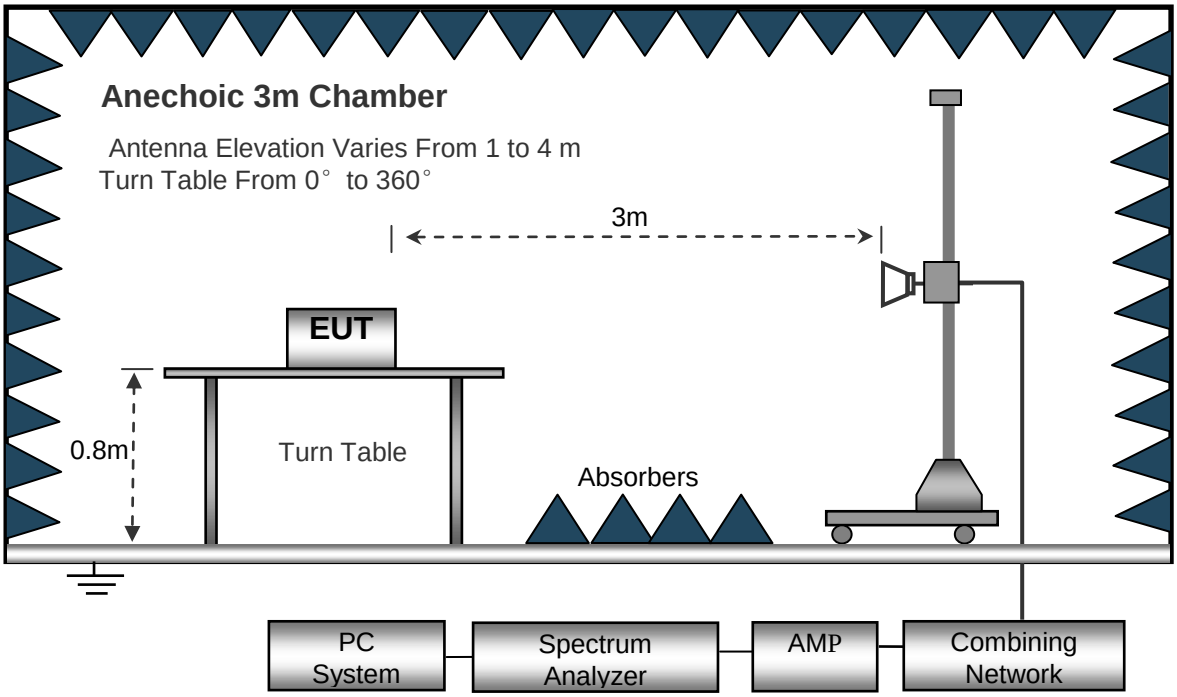
Temperature:	23.5 °C
Humidity:	52.1 % RH
Atmospheric Pressure:	101.2kPa

10.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4.
The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



10.3 Spectrum Analyzer Setup

30MHz ~ 1GHz

Sweep Speed ..... Auto
Detector ..... PK
Resolution Bandwidth..... 100kHz
Video Bandwidth..... 300kHz

Above 1GHz

Sweep Speed ..... Auto
Detector ..... PK
Resolution Bandwidth..... 1MHz
Video Bandwidth..... 3MHz
Detector ..... Ave.
Resolution Bandwidth..... 1MHz
Video Bandwidth..... 10Hz

10.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from 30MHz up to the tenth harmonic of the highest fundamental frequency.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.
7. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.
   Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001) – the absolute level
   Spurious attenuation limit in dB = 43 + 10 Log10 (power out in Watts)
8. Repeat above procedures until the measurements for all frequencies are completed.

10.5 Summary of Test Results

Remark: Test performed from 30MHz to 10th harmonics with low/middle/high channels, only the worst data were recorded.

Cellular Band (Part 22H)

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Result	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
GSM 850 Channel 128										
201.33	41.76	238	1.1	H	-68.75	0.15	0.00	-68.90	-13.00	-55.90
201.33	47.68	78	1.0	V	-59.91	0.15	0.00	-60.06	-13.00	-47.06
1648.40	67.39	4	1.1	H	-46.58	0.30	9.40	-37.48	-13.00	-24.48
1648.40	59.00	9	1.8	V	-54.53	0.30	9.40	-45.43	-13.00	-32.43
2472.60	56.12	240	1.2	H	-57.88	0.43	10.60	-47.71	-13.00	-34.71
2472.60	49.46	178	1.2	V	-60.82	0.43	10.60	-50.65	-13.00	-37.65

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Result	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
GSM 850 Channel 190										
201.33	41.72	359	1.1	H	-68.79	0.15	0.00	-68.94	-13.00	-55.94
201.33	46.93	39	1.4	V	-60.66	0.15	0.00	-60.81	-13.00	-47.81
1673.20	67.19	241	1.9	H	-46.78	0.30	9.40	-37.68	-13.00	-24.68
1673.20	56.73	306	1.0	V	-56.80	0.30	9.40	-47.70	-13.00	-34.70
2509.80	57.47	6	1.0	H	-56.53	0.43	10.60	-46.36	-13.00	-33.36
2509.80	49.45	77	1.6	V	-60.83	0.43	10.60	-50.66	-13.00	-37.66

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Result	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
GSM 850 Channel 251										
201.33	41.77	125	1.0	H	-68.74	0.15	0.00	-68.89	-13.00	-55.89
201.33	46.99	153	2.1	V	-60.60	0.15	0.00	-60.75	-13.00	-47.75
1697.60	67.48	183	1.0	H	-46.49	0.30	9.40	-37.39	-13.00	-24.39
1697.60	59.68	236	2.2	V	-53.85	0.30	9.40	-44.75	-13.00	-31.75
2546.40	55.95	264	2.0	H	-58.05	0.43	10.60	-47.88	-13.00	-34.88
2546.40	49.39	334	1.5	V	-60.89	0.43	10.60	-50.72	-13.00	-37.72

PCS Band (Part 24E)

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Result	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
PCS 1900 Channel 512										
201.33	46.42	276	2.1	H	-64.09	0.15	0.00	-64.24	-13.00	-51.24
201.33	39.67	330	1.3	V	-67.92	0.15	0.00	-68.07	-13.00	-55.07
3700.40	65.95	339	1.6	H	-45.59	2.37	12.50	-35.46	-13.00	-22.46
3700.40	59.98	20	1.8	V	-49.83	2.37	12.50	-39.70	-13.00	-26.70
5550.60	53.58	14	1.1	H	-56.03	2.86	12.90	-45.99	-13.00	-32.99
5550.60	44.73	121	1.8	V	-64.15	2.86	12.90	-54.11	-13.00	-41.11

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Result	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
PCS 1900 Channel 661										
201.33	46.87	206	1.2	H	-63.64	0.15	0.00	-63.79	-13.00	-50.79
201.33	40.82	255	1.0	V	-66.77	0.15	0.00	-66.92	-13.00	-53.92
3760.00	65.95	191	1.3	H	-45.59	2.37	12.50	-35.46	-13.00	-22.46
3760.00	59.98	298	2.1	V	-49.83	2.37	12.50	-39.70	-13.00	-26.70
5640.00	53.58	292	1.0	H	-56.03	2.86	12.90	-45.99	-13.00	-32.99
5640.00	44.73	194	1.8	V	-64.15	2.86	12.90	-54.11	-13.00	-41.11

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Result	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
PCS 1900 Channel 810										
201.33	46.09	293	2.0	H	-64.42	0.15	0.00	-64.57	-13.00	-51.57
201.33	39.62	274	1.5	V	-67.97	0.15	0.00	-68.12	-13.00	-55.12
3819.60	65.95	122	1.3	H	-45.59	2.37	12.50	-35.46	-13.00	-22.46
3819.60	59.98	232	1.7	V	-49.83	2.37	12.50	-39.70	-13.00	-26.70
5729.40	53.58	208	1.7	H	-56.03	2.86	12.90	-45.99	-13.00	-32.99
5729.40	44.73	262	1.3	V	-64.15	2.86	12.90	-54.11	-13.00	-41.11

Note: 1) Absolute Level = SG Level - Cable loss + Antenna Gain

2) Margin = Limit- Absolute Level

11 Band Edge Measurement

Test Requirement:	FCC Part 2.1051,22.917(a),24.238(a)
Test Method:	ANSI C63.4:2009, TIA/EIA-603-D:2010
	KDB971168 D01 v02r02
Test Mode:	Transmitting

11.1 EUT Operation

Operating Environment **:**

Temperature:	23.5 °C
Humidity:	52.3 % RH
Atmospheric Pressure:	101.3kPa

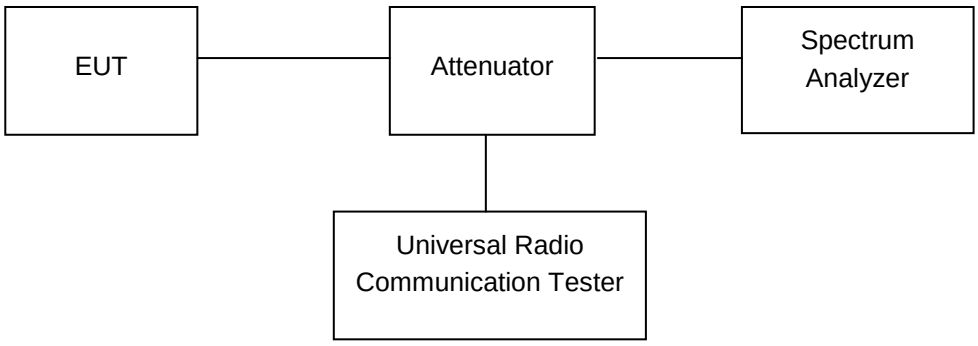
11.2 Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

According to FCC Part 22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to FCC Part 24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

The center of the spectrum analyzer was set to block edge frequency

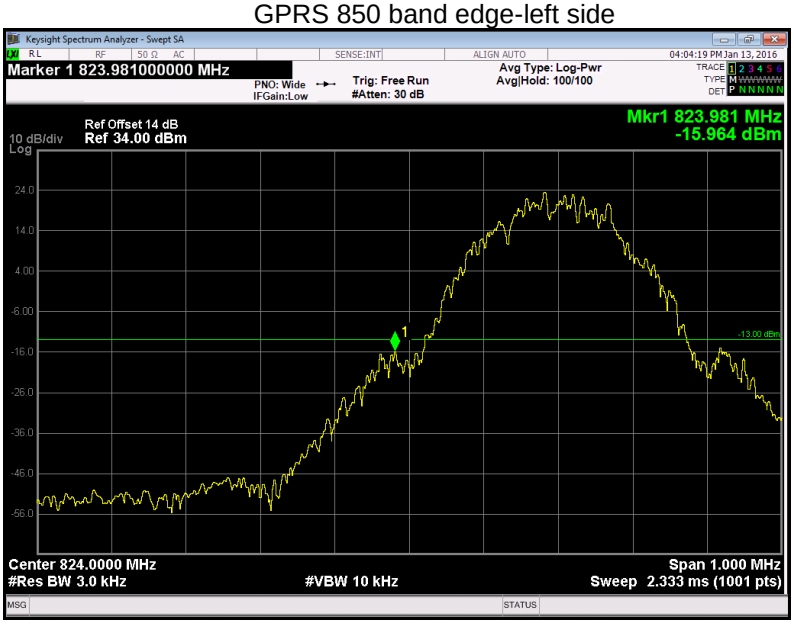


11.3 Test Result

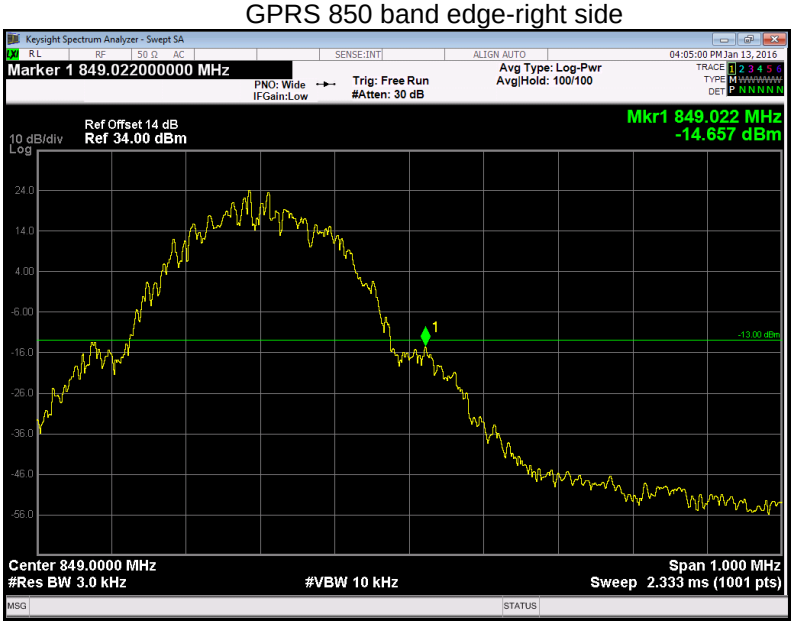
Test plots

Cellular Band (Part 22H)

GPRS 850 band edge-left side

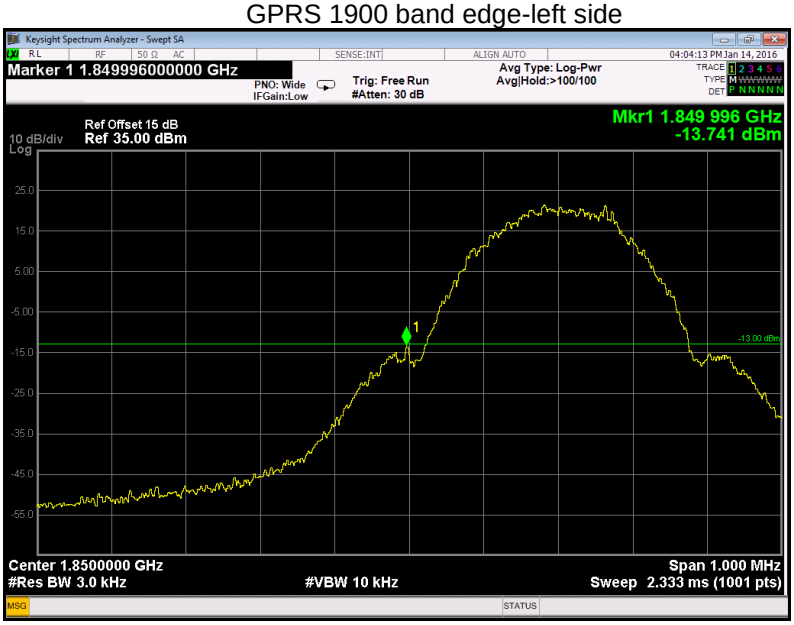


GPRS 850 band edge-right side

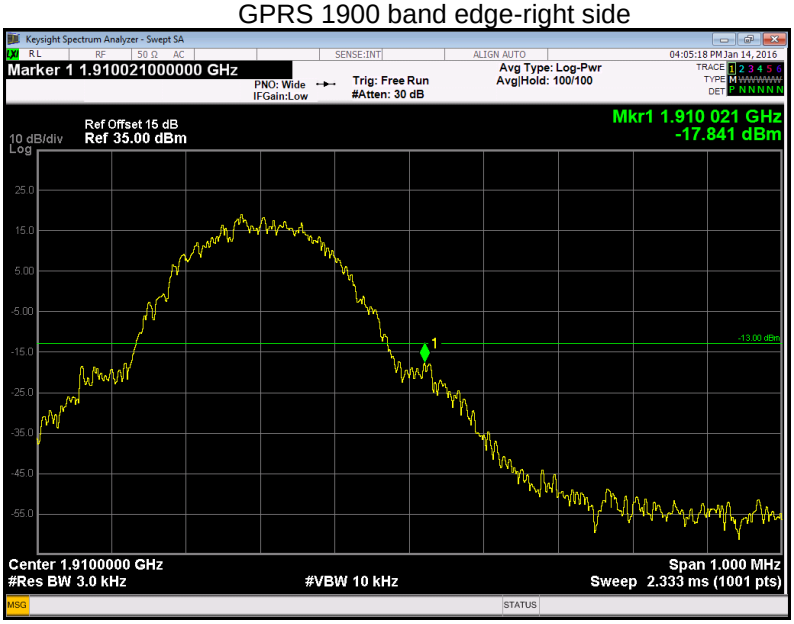


Cellular Band (Part 24E)

GPRS 1900 band edge-left side



GPRS 1900 band edge-right side



12 FREQUENCY STABILITY

Test Requirement:	FCC Part 2.1055,22.355,24.235
Test Method:	ANSI C63.4:2009, TIA/EIA-603-D:2010
	KDB971168 D01 v02r02
Test Mode:	Transmitting

12.1 EUT Operation

Operating Environment **:**

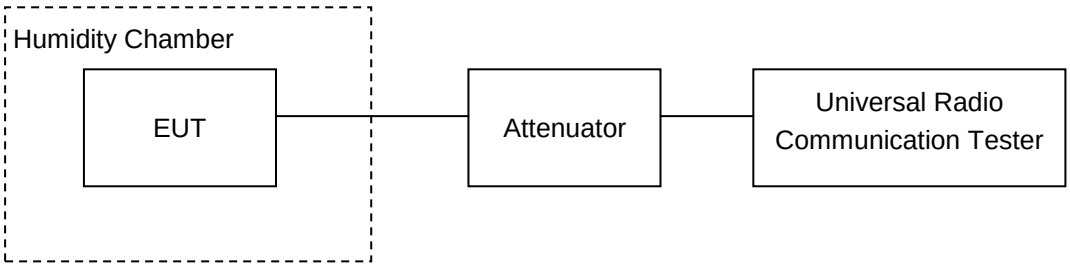
Temperature:	22.9 °C
Humidity:	52.0 % RH
Atmospheric Pressure:	101.3kPa

12.2 Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



12.3 Test Result

Cellular Band (Part 22H)

GPRS 850 Test Frequency:836.6MHz				
Temperature (℃)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	7	0.0084	2.5
40		1	0.0012	2.5
30		5	0.0060	2.5
20		4	0.0048	2.5
10		0	0.0000	2.5
0		-4	-0.0048	2.5
-10		11	0.0131	2.5
-20		10	0.0120	2.5
-30		-3	-0.0036	2.5
20	3.3	10	0.0120	2.5
20	4.2	7	0.0084	2.5

PCS Band (Part 24E)

GPRS 1900 Test Frequency:1880.0MHz				
Temperature (℃)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	-9	-0.0048	2.5
40		-8	-0.0043	2.5
30		1	0.0005	2.5
20		-5	-0.0027	2.5
10		-4	-0.0021	2.5
0		-8	-0.0043	2.5
-10		1	0.0005	2.5
-20		-6	-0.0032	2.5
-30		2	0.0011	2.5
20	3.3	4	0.0021	2.5
20	4.2	-6	-0.0032	2.5

13 RF Exposure

Test Requirement: FCC Part 1.1307

Evaluation Method: FCC Part 2.1091

13.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

13.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

13.3 MPE Calculation Method

$$\text{E (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)
P = Peak RF output power (W)
G = EUT Antenna numeric gain (numeric)
d = Separation distance between radiator and human body (m)
The formula can be changed to

$$\boldsymbol{Pd} = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

GPRS 850

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm2)	Limit of Power Density (mW/cm2)
0.00	1.000	32.82	1914.26	0.380820	0.566

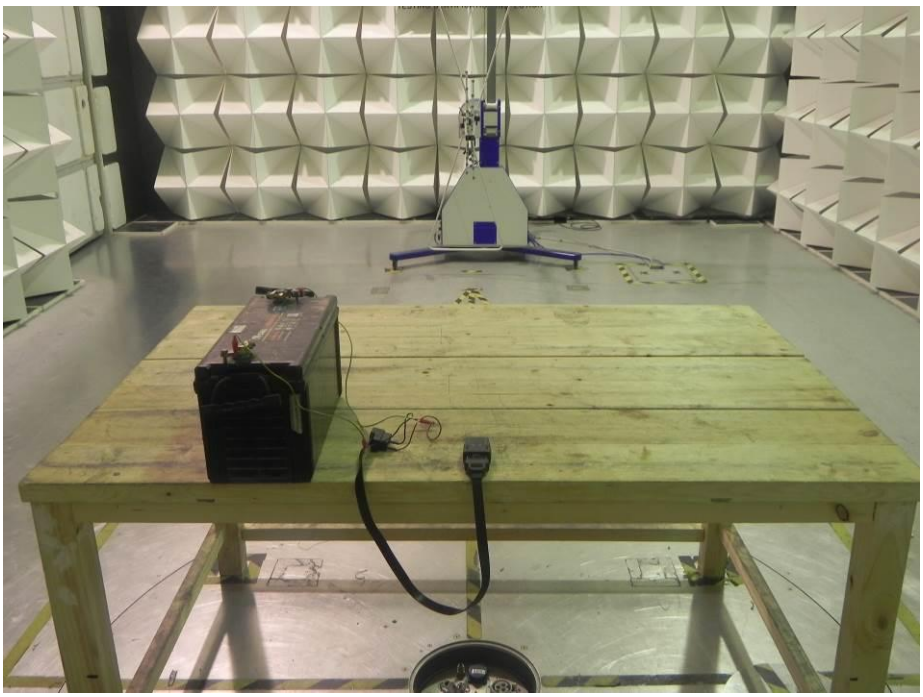
GPRS 1900

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm2)	Limit of Power Density (mW/cm2)
0.00	1.000	30.07	1016.25	0.202171	1

14 Photographs – Model BNK-CAR01 Test Setup

14.1 Radiated Emission

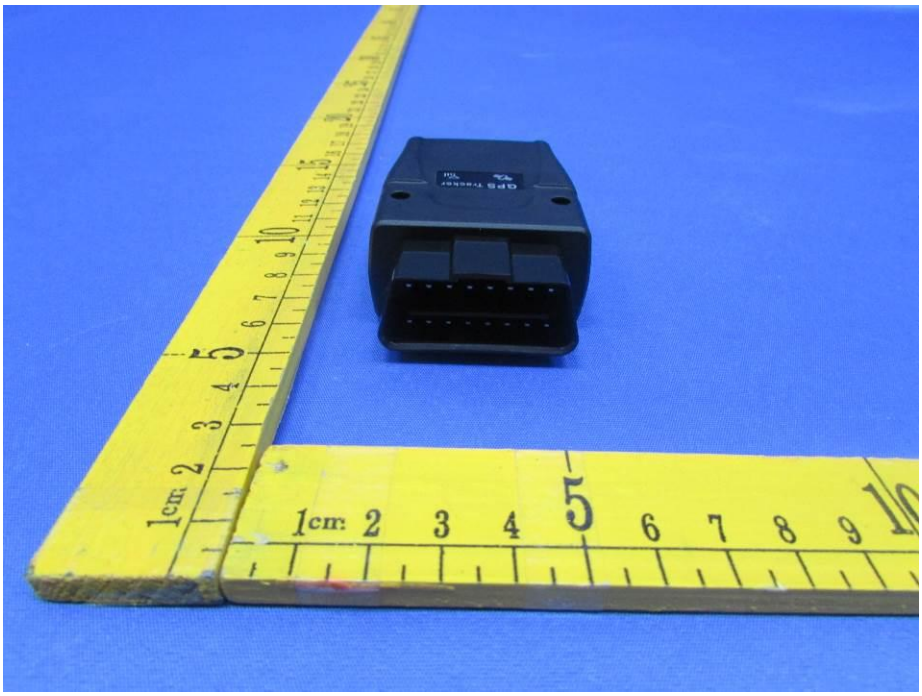
Test frequency from 30MHz to 1GHz at Test Site 2#

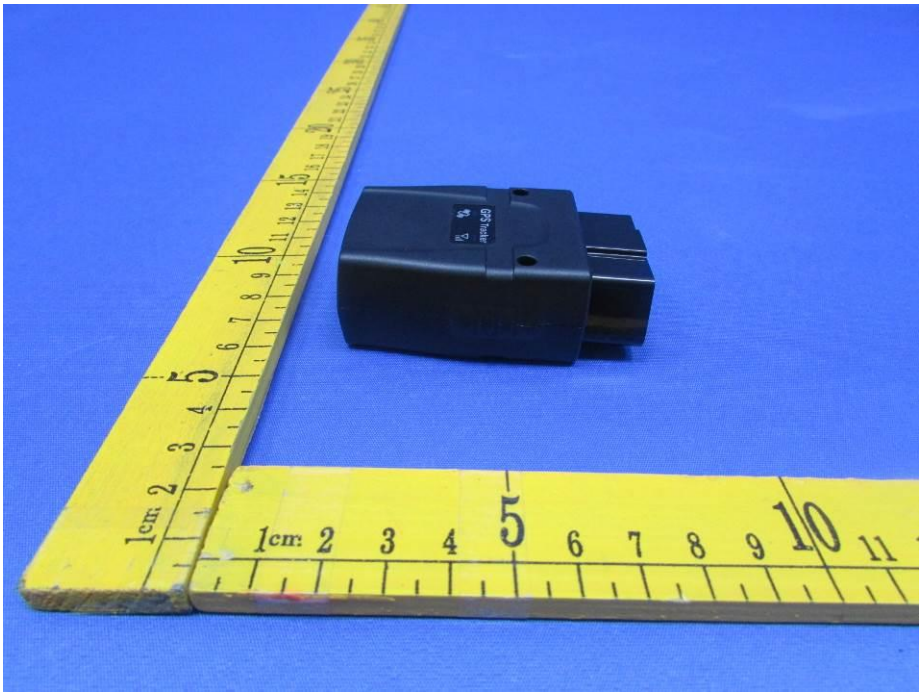


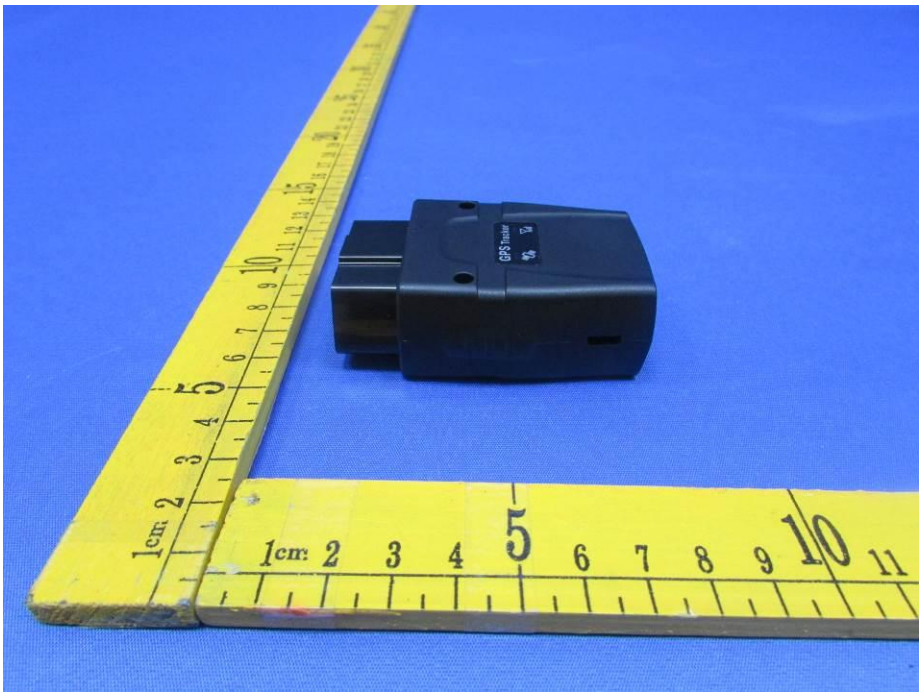
Test frequency above 1GHz at Test Site 1#

15 Photographs - Constructional Details

15.1 Model BNK-CAR01 –External View

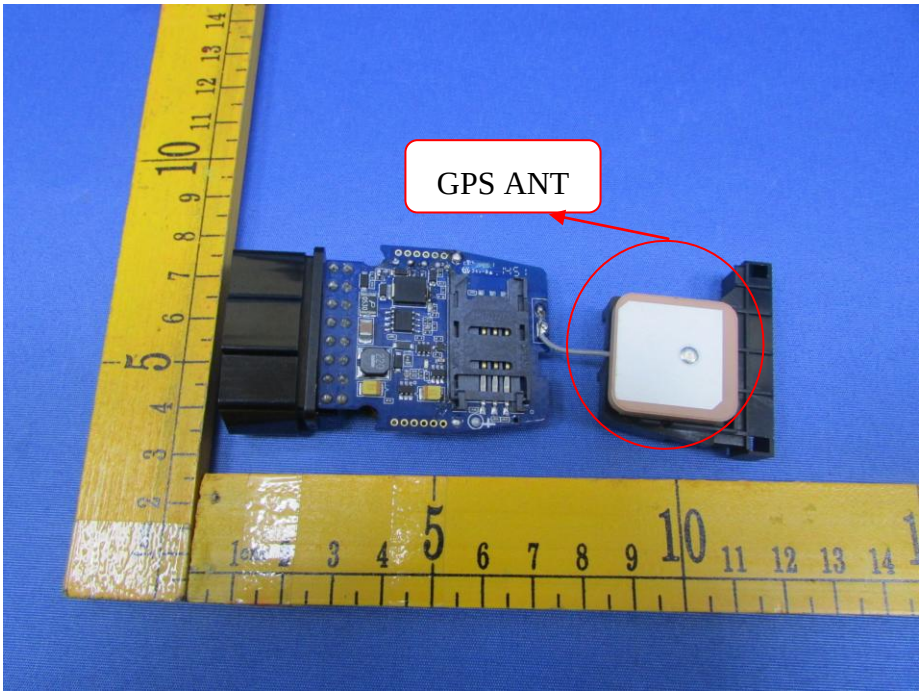


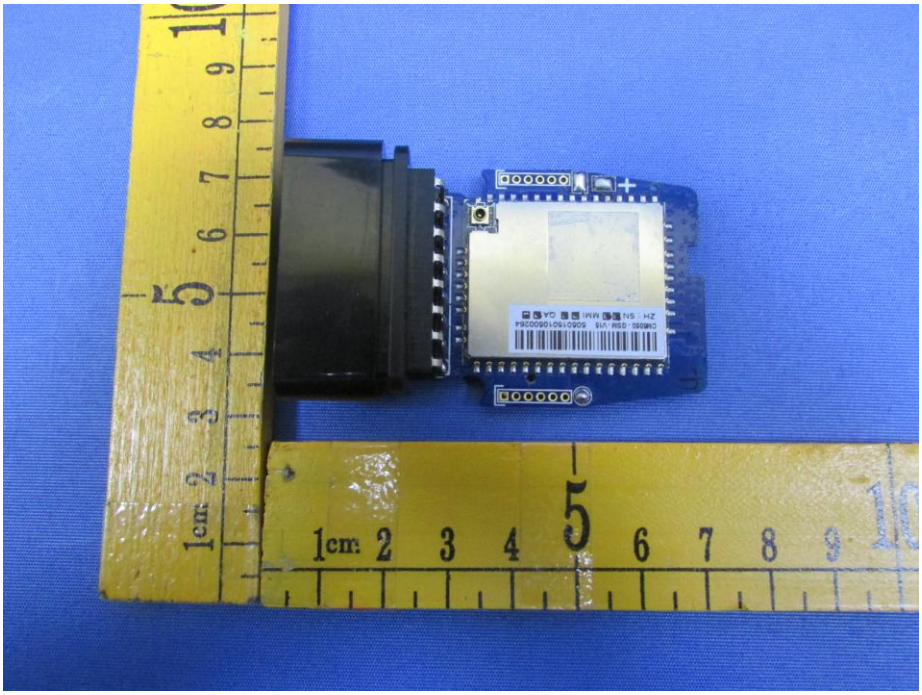




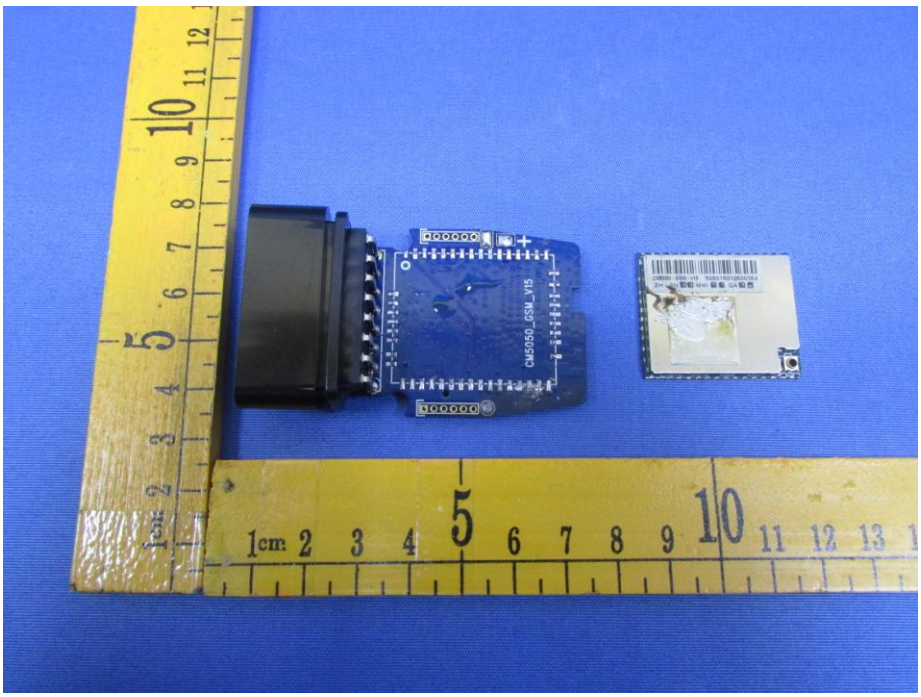

IMEI:354188048556349

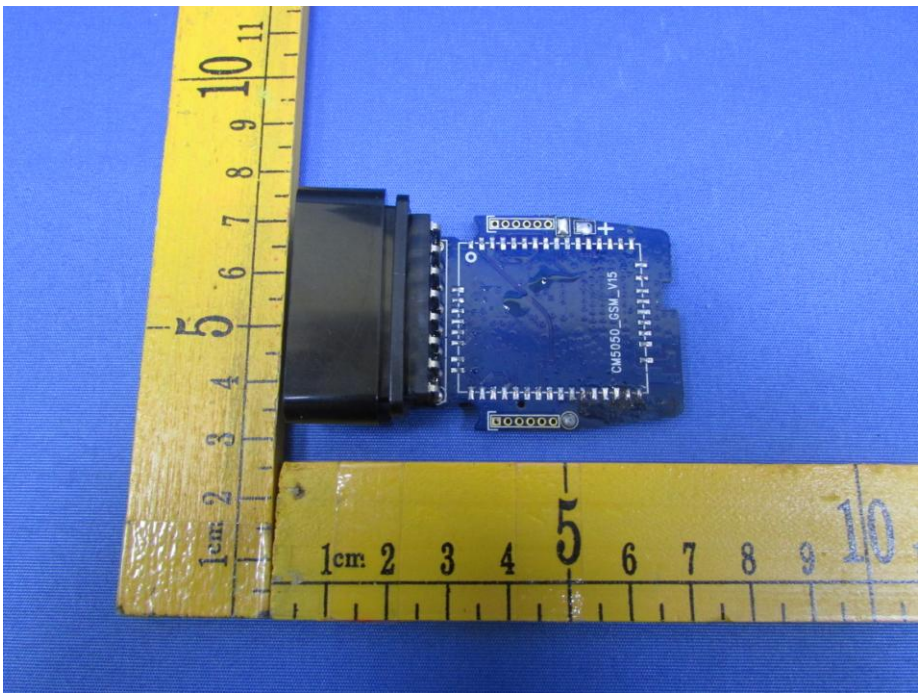
15.2 Model BNK-CAR01 – Internal View

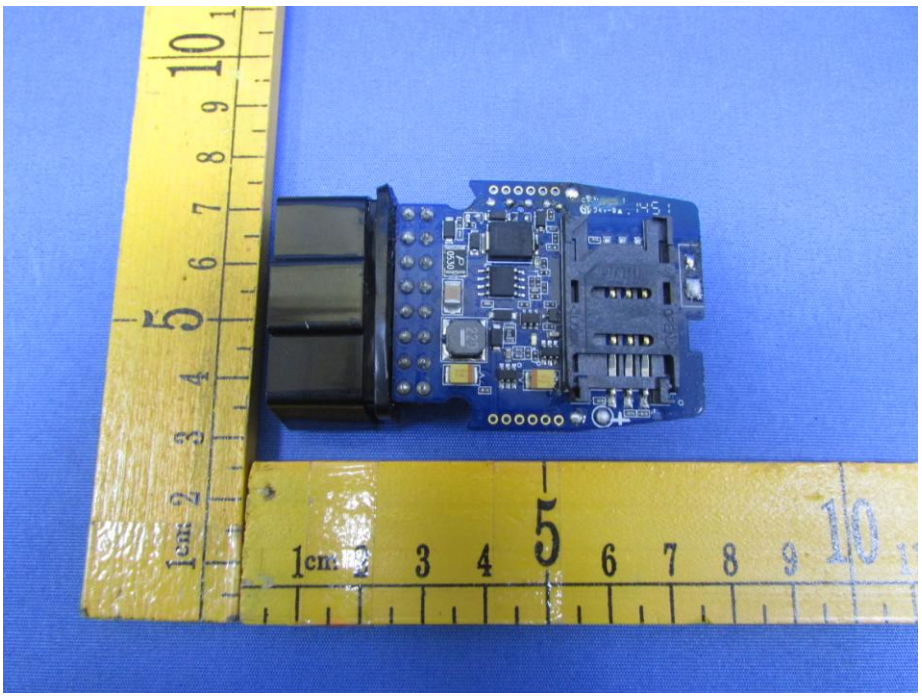


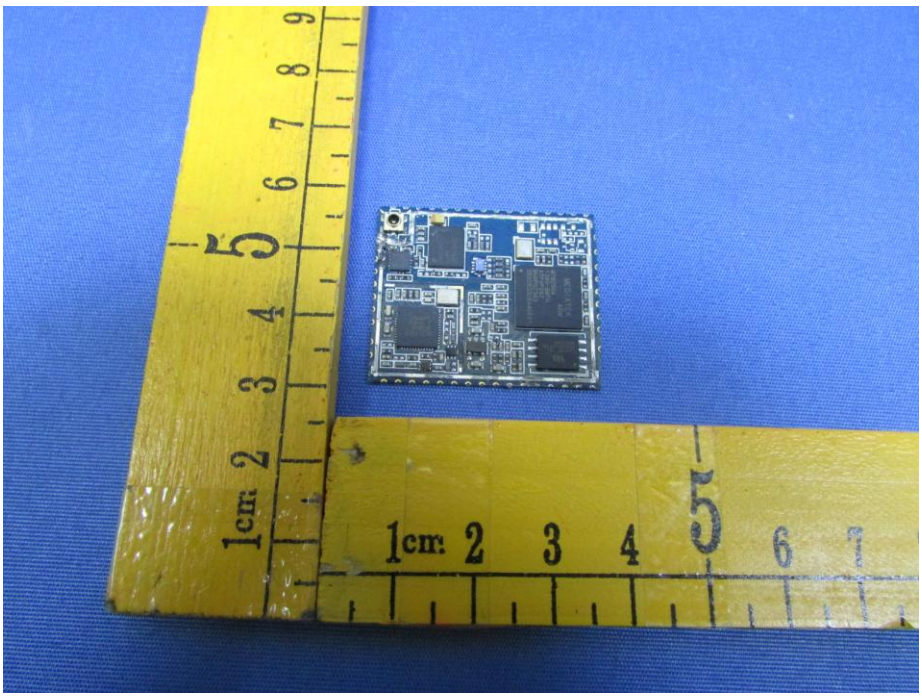


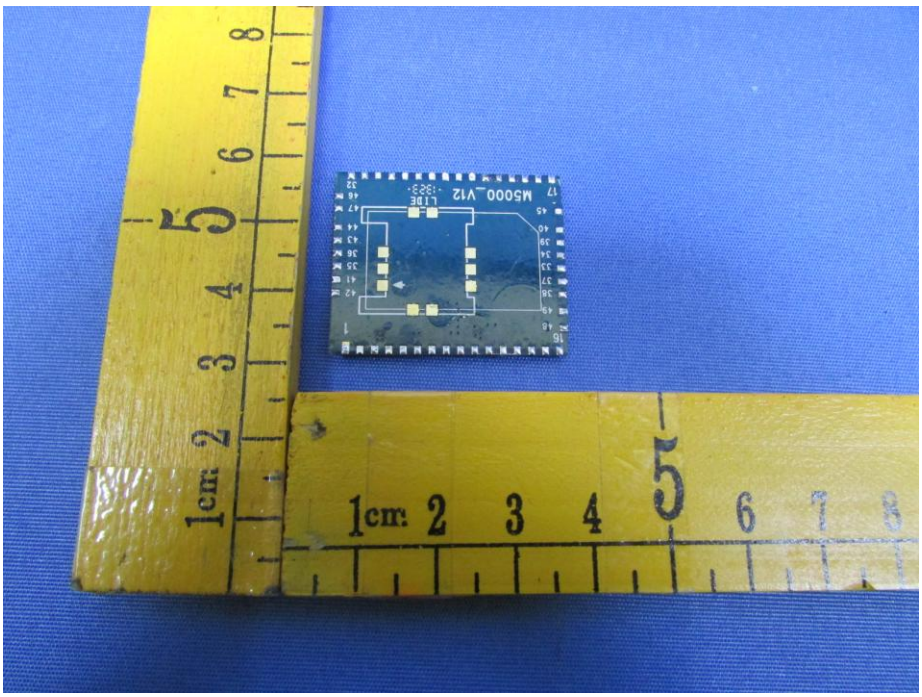

GSM/GPRS ANT

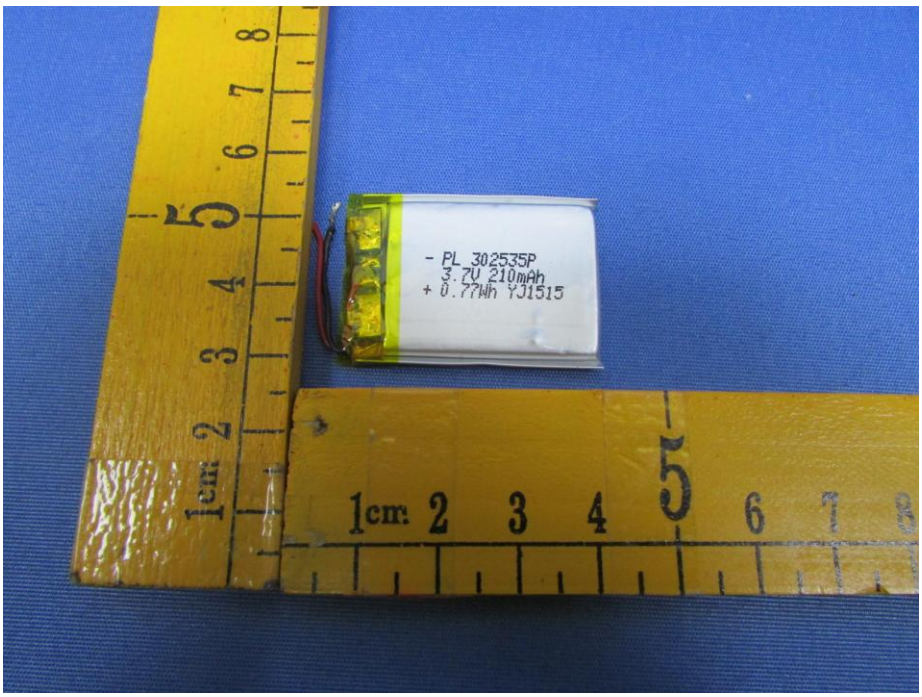


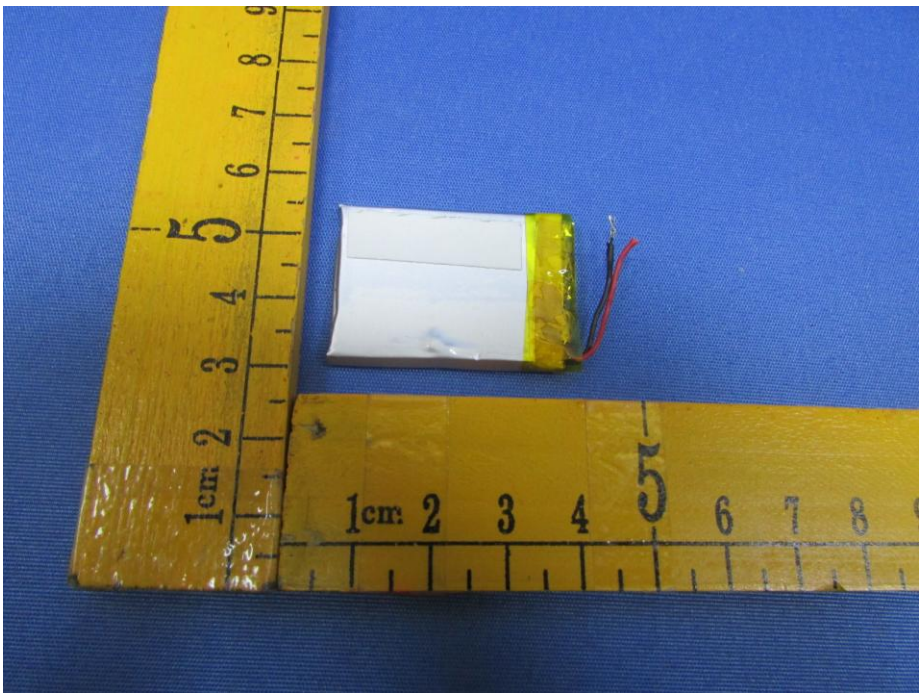

CM5050_GSM_V15











====== End of Report ======