



## 2 Laboratories Introduction

**Waltek Services Test Group Ltd.** is one of the largest and the most comprehensive third party testing organizations in China, our headquarter located in Shenzhen (CNAS Registration No. L3110, A2LA Certificate Number: 4243.01) and have branches in Foshan (CNAS Registration No. L6478), Dongguan (CNAS Registration No. L9950), Zhongshan, Suzhou (CNAS Registration No. L7754), Ningbo and Hong Kong, Our test capability covered four large fields: safety test. Electronic Magnetic Compatibility(EMC), reliability and energy performance, Chemical test. Meanwhile, Waltek has got recognition as registration and accreditation laboratory from EMSD (Electrical and Mechanical Services Department), and American Energy star, FCC(The Federal Communications Commission), CPSC(Consumer Product Safety Commission), CEC(California energy efficiency), IC(Industry Canada) and ELI(Efficient Lighting Initiative). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as UL, Intertek(ETL-SEMKO), CSA, TÜV Rheinland, TÜV SÜD, etc. As a professional, comprehensive, justice international test organization, we still keep the scientific and rigorous work attitude to help each client satisfy the international standards and assist their product enter into globe market smoothly.

### Waltek Services (Shenzhen) Co., Ltd.

#### A. Accreditations for Conformity Assessment (International)

Country/Region	Accreditation Body	Scope	Note
USA	<b>CNAS</b> (Registration No.: L3110) <b>A2LA</b> (Certificate No.: 4243.01)	FCC ID \ DOC \ VOC	1
Canada		IC ID \ VOC	2
Japan		MIC-T \ MIC-R	-
Europe		EMCD \ RED	-
Taiwan		NCC	-
Hong Kong		OFCA	-
Australia		RCM	-
India	<b>International Services</b>	WPC	-
Thailand		NTC	-
Singapore		IDA	-
Note:			
1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476.			
2. IC Canada Registration No.: 7760A			

#### B. TCBs and Notify Bodies Recognized Testing Laboratory.

Recognized Testing Laboratory of ...	Notify body number
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TUV Rheinland	Optional.
Intertek	
TUV SUD	
SGS	
Phoenix Testlab GmbH	0700
Element Materials Technology Warwick Ltd	0891
Timco Engineering, Inc.	1177
Eurofins Product Service GmbH	0681

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#### 4 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS17S08882 40-6E	2017-08-23	2017-08-24 to 2017-11- 30	2017-12-12	original	-	Valid

## 5 General Information

### 5.1 General Description of E.U.T.

Product:	Smart Phone
Model(s):	G1701
Model Description:	N/A
GSM Band(s):	GSM 850/900/1800/1900MHz
GPRS/EGPRS Class:	12
WCDMA Band(s):	FDD Band I/II/IV/V
CDMA Band(s):	BC0/ BC1
LTE Band(s):	FDD Band 2/4/5/7/12/13/25/26 TDD Band 41
Wi-Fi Specification:	2.4G-802.11b/g/n HT20 5G-802.11a/n HT20
Bluetooth Version:	Bluetooth v4.0 with BLE
GPS:	Support
NFC:	N/A
Hardware Version:	G1701_VER_B
Software Version:	S1_C00_TSV1.0.001.008.171030 user dev-keys
Highest frequency (Exclude Radio):	1.25GHz
Storage Location:	Internal Storage

Note: This EUT has two SIM card slots, and use same one RF module. We found that RF parameters are the same, when we insert the card 1 and card 2. So we usually performed the test under main card slot 1.

### 5.2 Details of E.U.T.

Operation Frequency:	GSM/GPRS/EDGE 850: 824~849MHz PCS/GPRS/EDGE 1900: 1850~1910MHz WCDMA Band II: 1850~1910MHz WCDMA Band V: 824~849MHz WCDMA Band IV:1710~1755MHz CDMA2000 BC0: 824.70~848.31MHz CDMA2000 BC1: 1851.25~1908.75MHz LTE Band 2: 1850~1910MHz LTE Band 4: 1710~1755MHz LTE Band 5: 824~849MHz LTE Band 7: 2500~2570MHz LTE Band 12: 699~716MHz LTE Band 13: 777~787MHz LTE Band 17: 704~716MHz
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	LTE Band 25 1850~1915MHz
	LTE Band 26: 814~849MHz
	LTE Band 41: 2496~2690MHz
	WiFi:
	802.11b/g/n HT20: 2412~2462MHz
	802.11a/ n(HT20): 5150MHz~5250MHz 5725MHz~5850MHz
	Bluetooth: 2402~2480MHz
	NFC:13.56MHz
Max. RF output power:	GSM 850: 32.82dBm
	PCS1900: 29.98dBm
	WCDMA Band II: 22.81dBm
	WCDMA Band V: 22.70dBm
	WCDMA Band IV: 22.81dBm
	CDMA2000 BC 0: 24.64dBm
	CDMA2000 BC 1: 24.47dBm
	LTE Band 2: 23.90dBm
	LTE Band 4: 22.89dBm
	LTE Band 5: 22.95dBm
	LTE Band 7: 21.97dBm
	LTE Band 12: 23.88dBm
	LTE Band 13: 23.73dBm
	LTE Band 17: 22.93dBm
	LTE Band 25: 22.95dBm
	LTE Band 26: 22.98dBm
	LTE Band 41: 22.95dBm
	WiFi(2.4G): 9.49dBm
	WiFi(5G) Band I: 9.52dBm
	WiFi(5G)Band IV: 7.44dBm
	Bluetooth: 2.13dBm
Type of Modulation:	GSM,GPRS: GMSK
	EDGE: GMSK, 8PSK
	WCDMA: BPSK, 16QAM
	CDMA2000:QPSK, 8PSK
	LTE: QPSK, 16QAM
	WiFi: CCK, OFDM
	Bluetooth: GFSK, Pi/4 DQPSK, 8DPSK
	NFC: ASK, 2ASK
Antenna installation:	GSM/WCDMA/CDMA/LTE: internal permanent antenna
	WiFi/Bluetooth: internal permanent antenna
	NFC: Loop antenna
Antenna Gain:	GSM 850: -1.56dBi



	PCS1900: 1.79dBi
	WCDMA Band II: 1.79dBi
	WCDMA Band V: -1.56dBi
	WCDMA Band IV: -0.12dBi
	CDMA2000 BC0: -0.3dBi
	CDMA2000 BC1: -1.9dBi
	LTE Band 2: 1.79dBi
	LTE Band 4: -0.12dBi
	LTE Band 5: -1.56dBi
	LTE Band 7: 3.01dBi
	LTE Band 12: -2.76dBi
	LTE Band 13: -1.28dBi
	LTE Band 17: -2.76dBi
	LTE Band 25: 1.79dBi
	LTE Band 26 -1.56dBi
	LTE Band 41 3.62dBi
	WiFi(2.4G): 2.47dBi
	WiFi(5G): 2.47dBi
	Bluetooth: 2.47dBi
Ratings:	Battery DC 3.85V, 2900mAh
	DC 5V, 2.0A; 9V, 2.0A; 12V, 1.5A charging from adapter 1 (Adapter Input: 100-240V~50/60Hz 0.6A)
	DC 5V, 2.0A charging from adapter 2 (Adapter Input: 100-240V~50/60Hz MAX 0.3A)
Adapter1:	Manufacture: ShenZhen HuaJin Electronics CO.,LTD Model No.: HJ-FC010K7-US
Adapter2:	Manufacture: SHENZHEN HONOR ELECTRONIC CO.,LTD Model No.: ADS-12DA-05 05010E
Type of Emission:	CDMA2000 BC0: 1M20F9W CDMA2000 BC1: 1M30F9W

### 5.3 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
CDMA2000 BC0	Ev-Do Rev.A	824.70 MHz	1013
		836.52 MHz	384
		848.31 MHz	777
CDMA2000 BC1	Ev-Do Rev.A	1851.25 MHz	25
		1880.00 MHz	600
		1908.75 MHz	1175
Remark: This device only supports data communication without Voice.			

## 6 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, Band Edge	22.917 (a) 24.238 (a)	PASS
Frequency Stability	2.1055 22.355 24.235	PASS
Maximum Permissible Exposure (SAR)	1.1307 2.1093	PASS

## 7 Equipment Used during Test

### 7.1 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	2017-08-15	2018-08-14
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	2017-08-15	2018-08-14
3.	Humidity Chamber	GF	GTH-225-40-1P	IAA061213	2017-08-15	2018-08-14
4.	Universal Radio Communication Tester	R&S	CMU 200	112461	2017-08-15	2018-08-14
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	2017-09-15	2018-09-14
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	2017-09-15	2018-09-14
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	2017-08-15	2018-08-14
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	2017-09-15	2018-09-14
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	2017-04-18	2018-04-17
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	669	2017-04-18	2018-04-17
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	2017-09-15	2018-09-14
8	Coaxial Cable (above 1GHz)	Top	1000MHZ- 25GHz	EW02014-7	2017-08-15	2018-08-14
9	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2017-09-15	2018-09-14
10	Universal Radio Communication Tester	R&S	CMU 200	112461	2017-08-15	2018-08-14
11	Signal Generator	R&S	SMR20	100046	2017-09-15	2018-09-14

## 7.2 Measurement Uncertainty

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

## 7.3 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.

## 8 RF OUTPUT POWER

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

### 8.1 EUT Operation

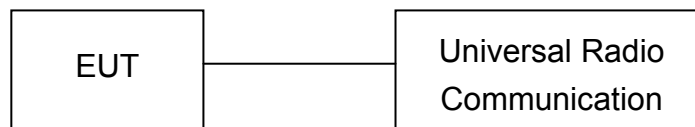
Operating Environment :

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

### 8.2 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 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.

### 8.3 Test Result

Conducted Power(dBm)						
Band	CDMA2000 BC0			CDMA2000 BC1		
Channel	1013	384	777	25	600	1175
Frequency	824.70	836.52	848.31	1851.25	1880.00	1908.75
Ev-Do Rev.A RTAP 153.6kpbs	<b>24.64</b>	24.14	24.32	24.34	23.78	<b>24.47</b>

**Radiated Power(Measured at max. conducted power channel)**

Max. ERP and EIRP

Cellular Band (Part 22H)

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 22H	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dB $\mu$ V)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
CDMA 2000 BC0 Channel 1013										
824.70	87.50	298	1.7	H	16.50	0.20	0.00	16.30	38.45	-22.15
824.70	92.14	123	1.1	V	19.86	0.20	0.00	19.66	38.45	-18.79
CDMA 2000 BC0 Channel 384										
836.52	84.32	57	2.4	H	13.32	0.20	0.00	13.12	38.45	-25.33
836.52	92.61	66	2.0	V	20.33	0.20	0.00	20.13	38.45	-18.32
CDMA 2000 BC0 Channel 777										
848.31	85.07	25	1.4	H	14.07	0.20	0.00	13.87	38.45	-24.58
848.31	92.76	269	2.1	V	20.48	0.20	0.00	20.28	38.45	-18.17

Cellular Band (Part 24E)

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 24E	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dB $\mu$ V)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
CDMA 2000 BC1 Channel 25										
1851.25	79.23	3	2.3	H	5.26	0.31	10.40	15.35	33	-17.65
1851.25	84.03	121	1.1	V	10.75	0.31	10.40	20.84	33	-12.16
CDMA 2000 BC1 Channel 600										
1880.00	79.43	49	1.7	H	5.58	0.31	10.40	15.67	33	-17.33
1880.00	84.75	291	2.0	V	11.63	0.31	10.40	21.72	33	-11.28
CDMA 2000 BC1 Channel 1175										
1908.75	76.65	225	2.4	H	2.92	0.32	10.40	13.00	33	-20.00
1908.75	84.25	266	1.2	V	11.29	0.32	10.40	21.37	33	-11.63



## 9 Peak-to-Average Ratio

Test Requirement:	24.232 (d)
Test Method:	N/A
Test Mode:	Transmitting

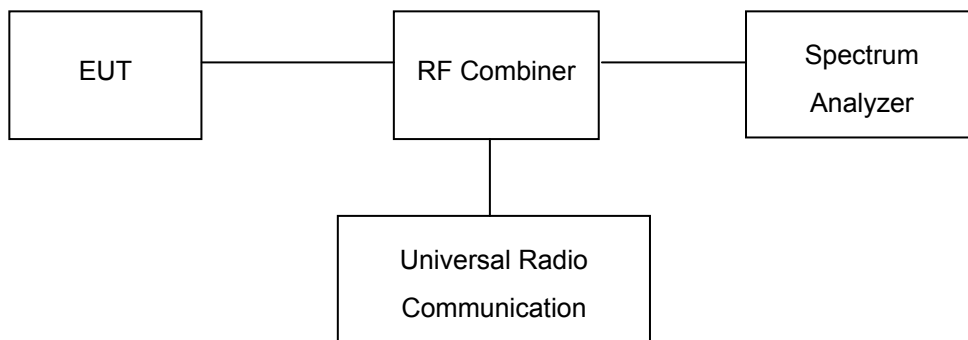
### 9.1 EUT Operation

Operating Environment :

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

### 9.2 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%.



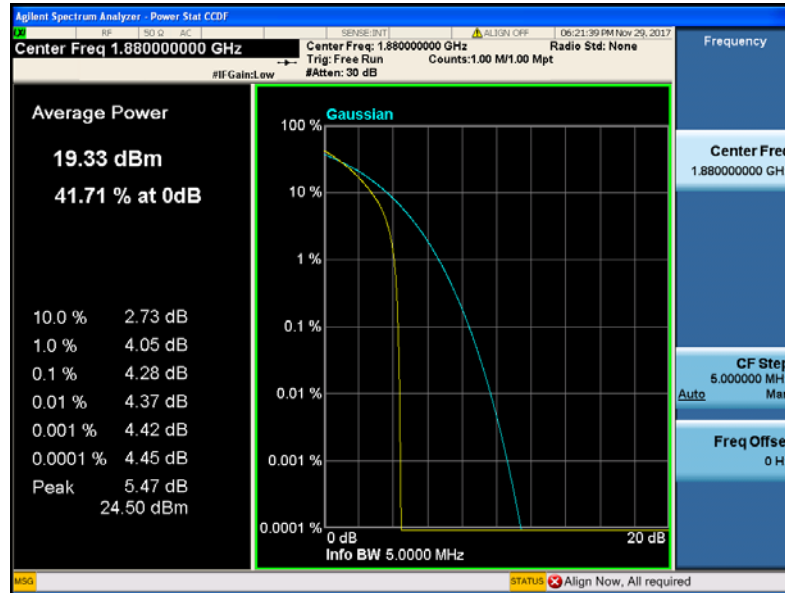
### 9.3 Test Result

Cellular Band (Part 24E)

Mode	CDMA2000 BC1			Limit (dB)
Channel	25	600	1175	
Frequency (MHz)	1851.25	1880.00	1908.75	
Peak-to-Average Ratio (dB)	4.25	4.28	4.21	13

Test Plots (Part 24E)

CDMA 1900 Middle Channel



## 10 BANDWIDTH

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

### 10.1 EUT Operation

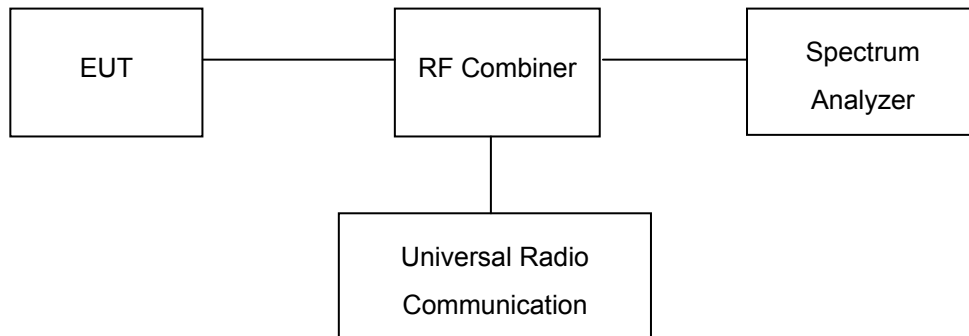
Operating Environment :

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

### 10.2 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.

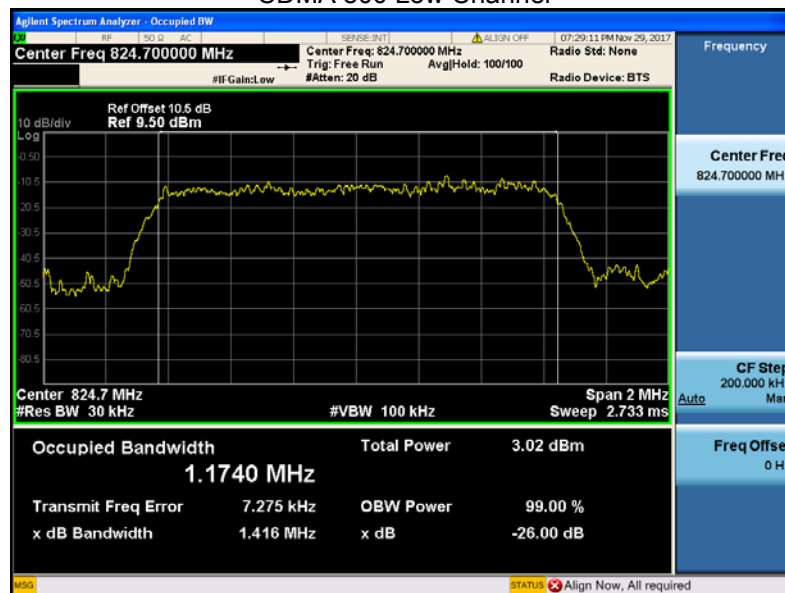


### 10.3 Test Result

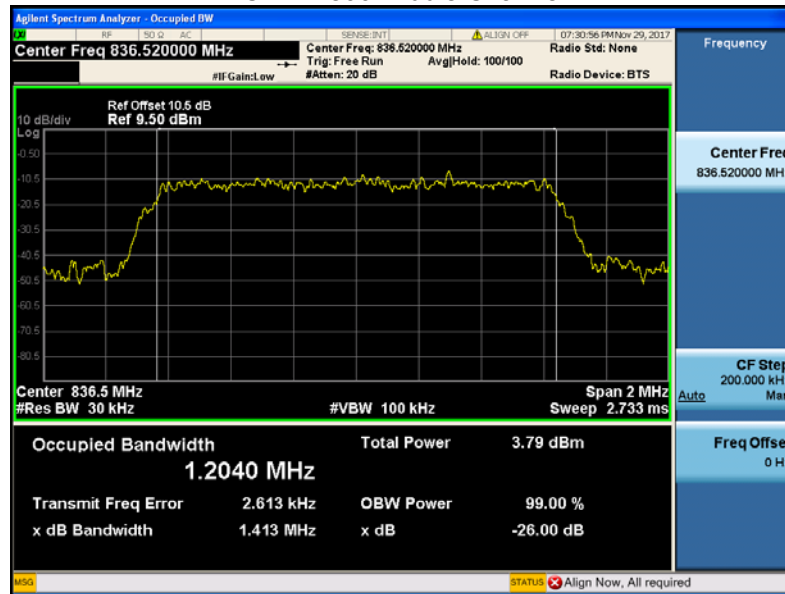
Test Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth(mHz)	26 dB Emission Bandwidth(mHz)
CDMA2000 BC0	1013	824.70	1.17	1.42
	384	836.52	1.20	1.41
	777	848.31	1.18	1.25
CDMA2000 BC1	25	1851.25	1.27	1.42
	600	1880.00	1.23	1.41
	1175	1908.75	1.30	1.78

#### Test Plots

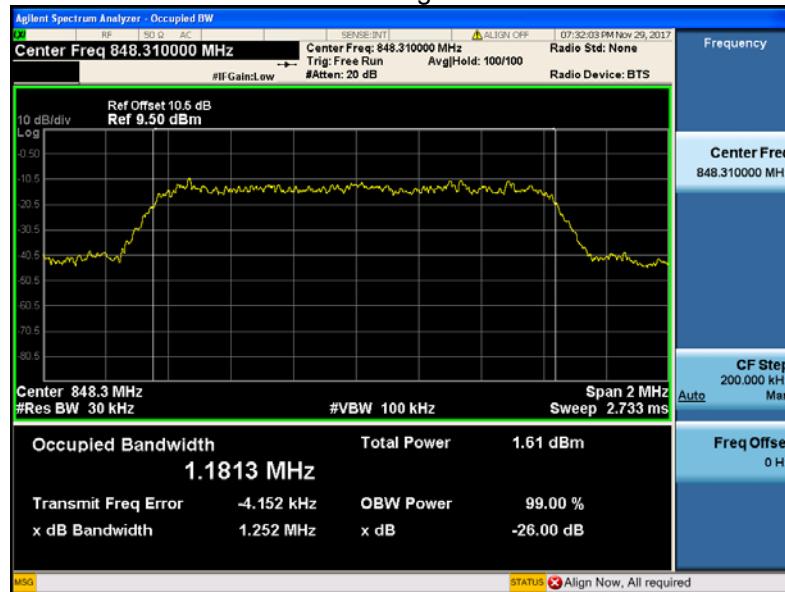
CDMA 800 Low Channel



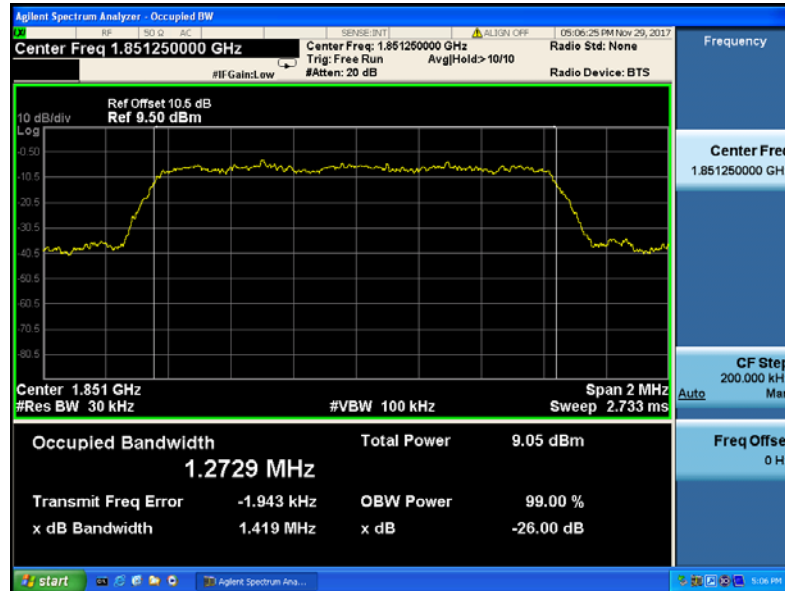
CDMA 800 Middle Channel



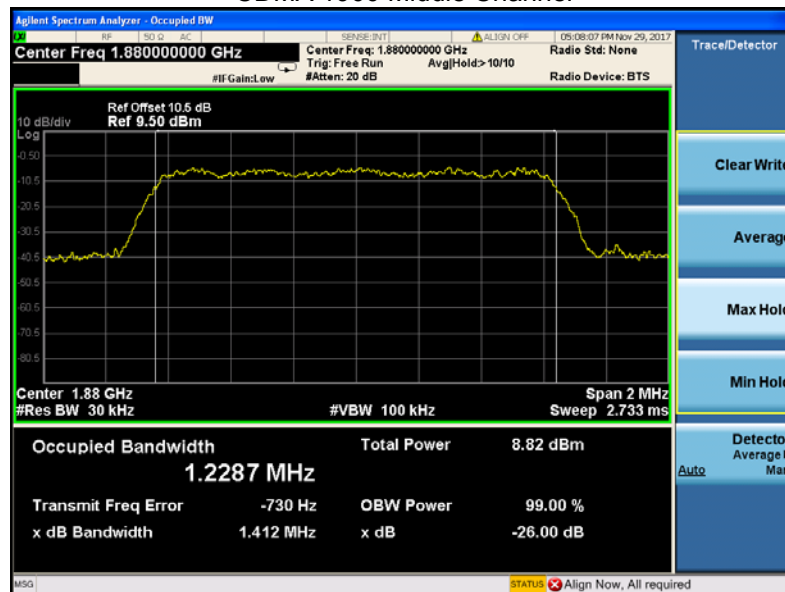
CDMA 800 High Channel



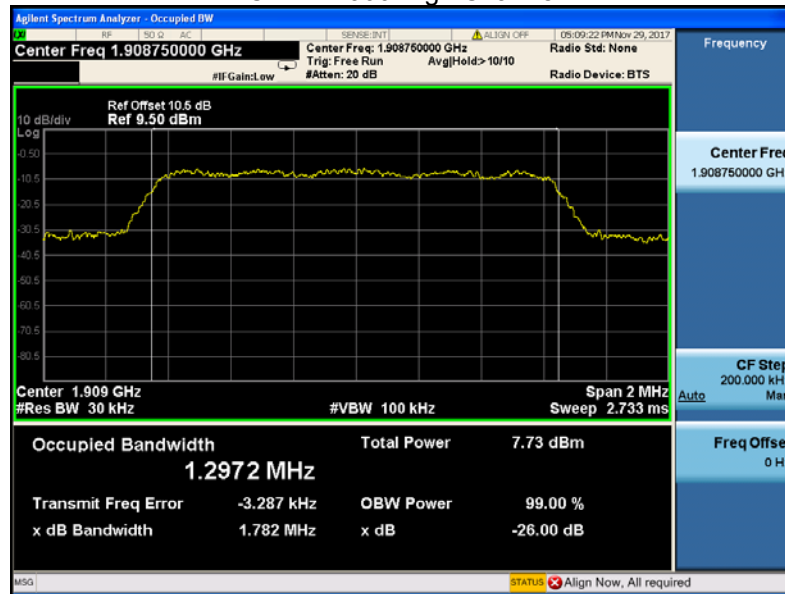
CDMA 1900 Low Channel



CDMA 1900 Middle Channel



CDMA 1900 High Channel



## 11 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

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

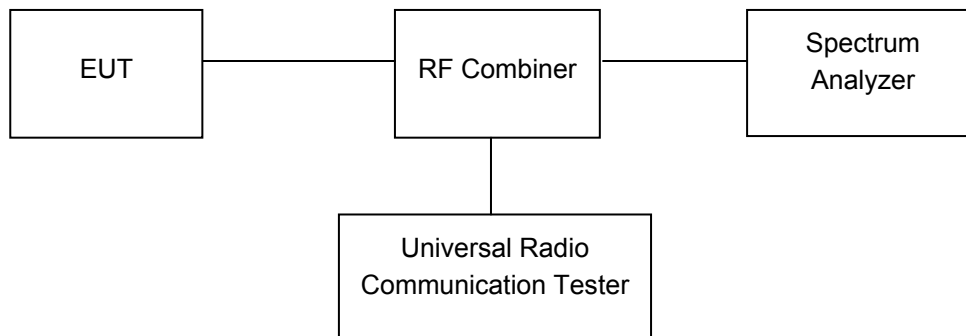
### 11.1 EUT Operation

Operating Environment :

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

### 11.2 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.





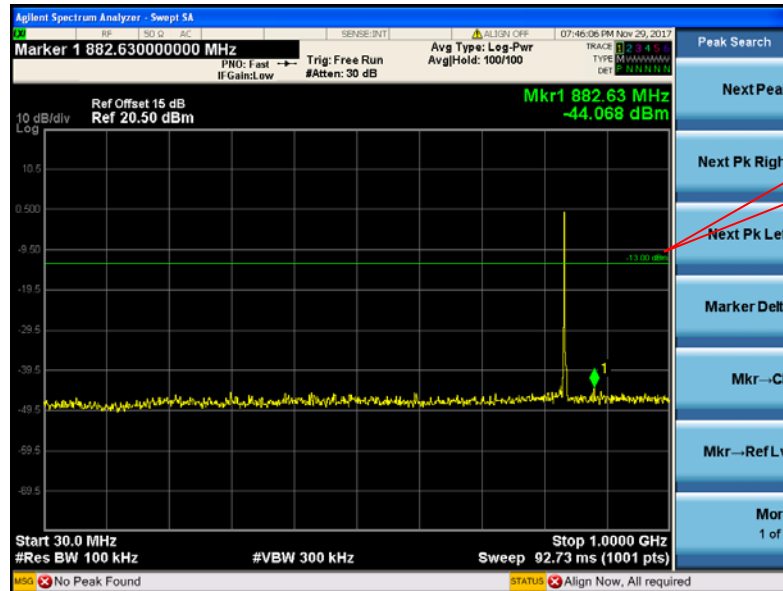
### 11.3 Test Result

Remark: only the worst data were recorded.

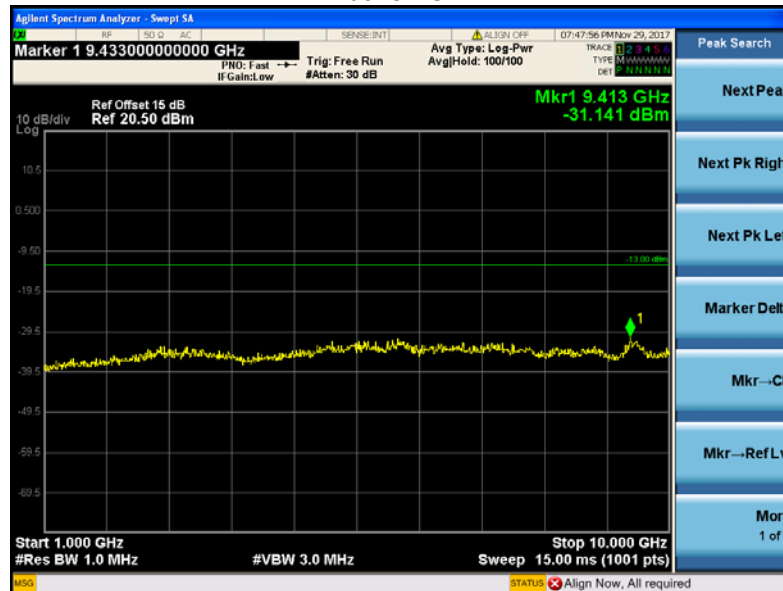
Cellular Band (Part 22H)

CDMA 800 - channel 384

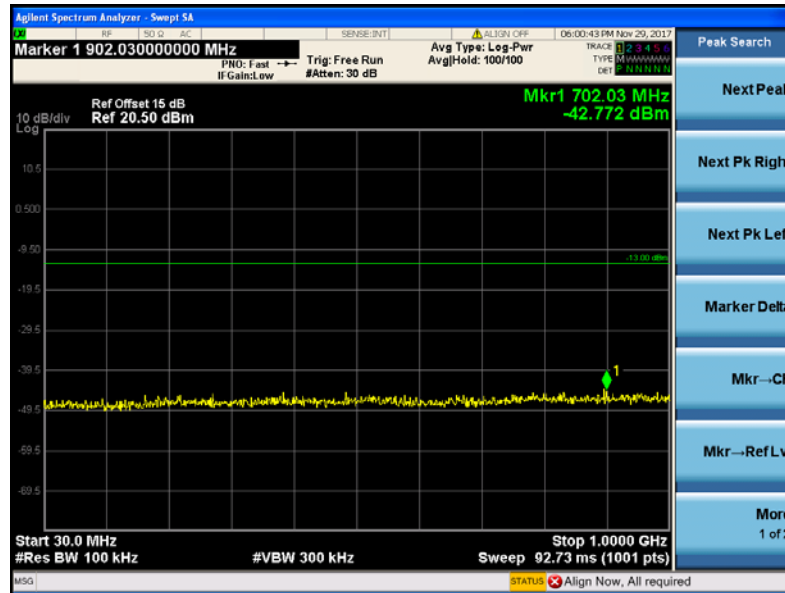
30MHz-1GHz



Above 1GHz

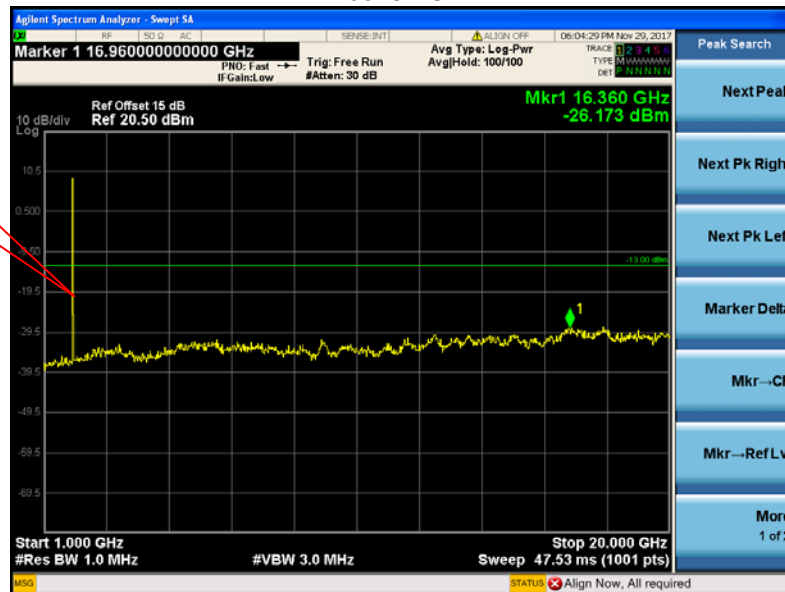


Cellular Band (Part 24E)  
CDMA 1900 - channel 600  
30MHz-1GHz



Above 1GHz

Fundamental



## 12 SPURIOUS RADIATED EMISSIONS

Test Requirement: FCC Part 2.1053,22.917,24.238,27.53(h)

Test Method: TIA/EIA-603-D:2010  
KDB971168 D01 v02r02

Test Mode: Transmitting

### 12.1 EUT Operation

Operating Environment :

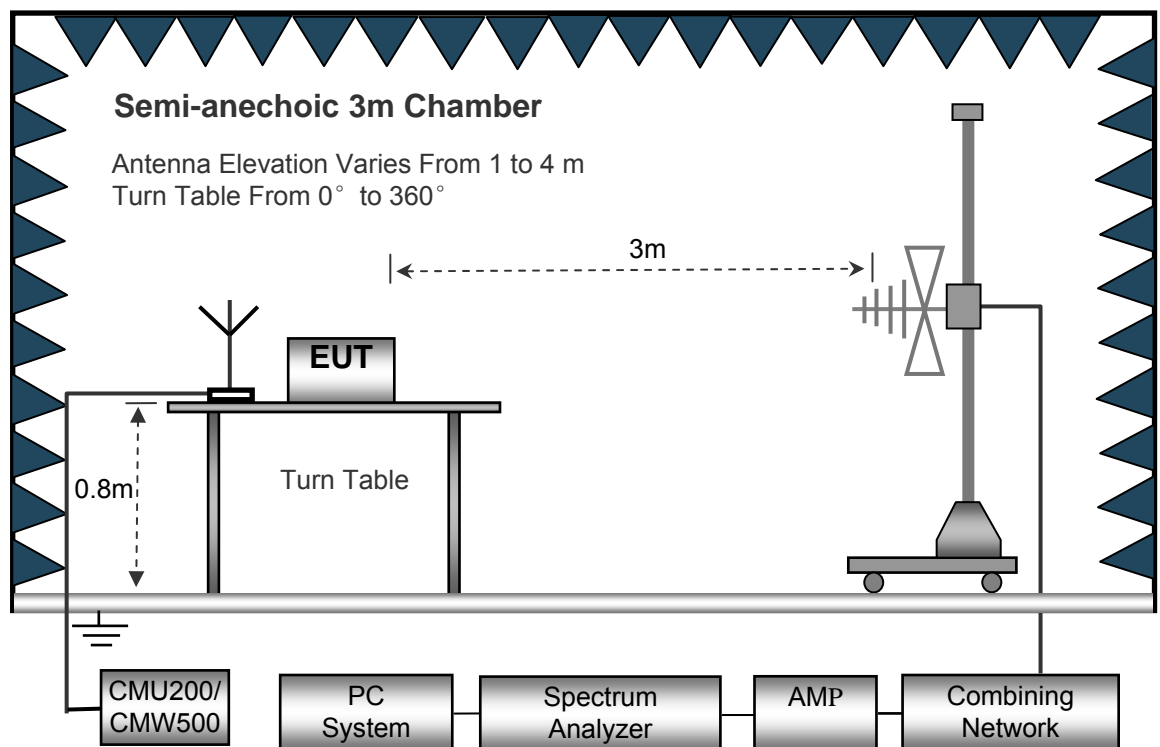
Temperature: 23.5 °C

Humidity: 52.1 % RH

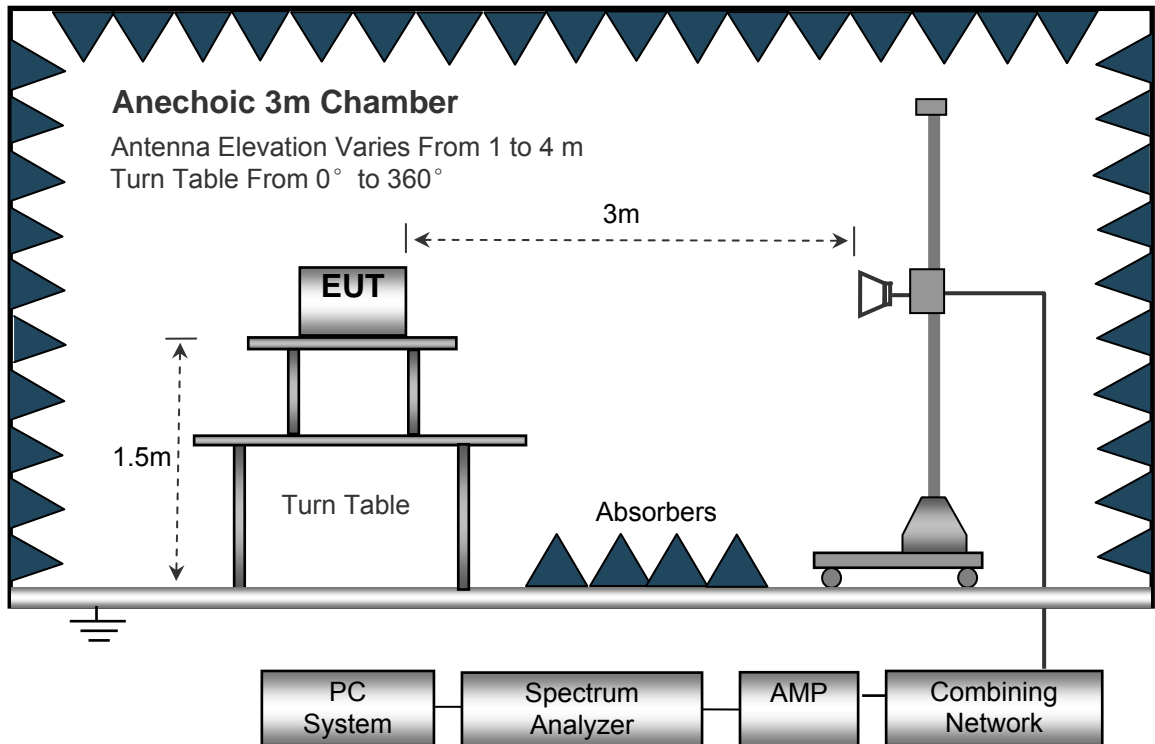
Atmospheric Pressure: 101.2kPa

### 12.2 Test Setup

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



The test setup for emission measurement above 1 GHz.



### 12.3 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

## 12.4 Test Procedure

1. The EUT is placed on a turntable, which is 1.5m 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 =  $10 \lg(\text{TXpwr in Watts}/0.001)$  – the absolute level  
Spurious attenuation limit in dB =  $43 + 10 \text{Log}_{10}(\text{power out in Watts})$
8. Repeat above procedures until the measurements for all frequencies are completed.

## 12.5 Summary of Test Results

For 19.2MHz,

The measurements were more than 20 dB below the limit and not reported.

Remark: Test performed from 30MHz to 10<sup>th</sup> 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)
CDMA 800 Channel 1013										
201.33	41.43	262	1.4	H	-69.08	0.15	0.00	-69.23	-13.00	-56.23
201.33	45.65	318	1.2	V	-61.94	0.15	0.00	-62.09	-13.00	-49.09
1649.40	65.47	293	1.8	H	-48.50	0.30	9.40	-39.40	-13.00	-26.40
1649.40	58.32	298	1.9	V	-55.21	0.30	9.40	-46.11	-13.00	-33.11
2474.10	55.36	337	1.2	H	-58.64	0.43	10.60	-48.47	-13.00	-35.47
2474.10	49.35	110	2.0	V	-60.93	0.43	10.60	-50.76	-13.00	-37.76

### Cellular Band (Part 24E/27)

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)
CDMA 1900 Channel 1175										
201.33	46.67	44	1.2	H	-63.84	0.15	0.00	-63.99	-13.00	-50.99
201.33	39.03	335	2.1	V	-68.56	0.15	0.00	-68.71	-13.00	-55.71
3817.50	65.95	268	1.2	H	-45.59	2.37	12.50	-35.46	-13.00	-22.46
3817.50	59.98	358	1.2	V	-49.83	2.37	12.50	-39.70	-13.00	-26.70
5726.25	53.58	200	1.7	H	-56.03	2.86	12.90	-45.99	-13.00	-32.99
5726.25	44.73	324	1.7	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

## 13 Band Edge Measurement

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

### 13.1 EUT Operation

Operating Environment :

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

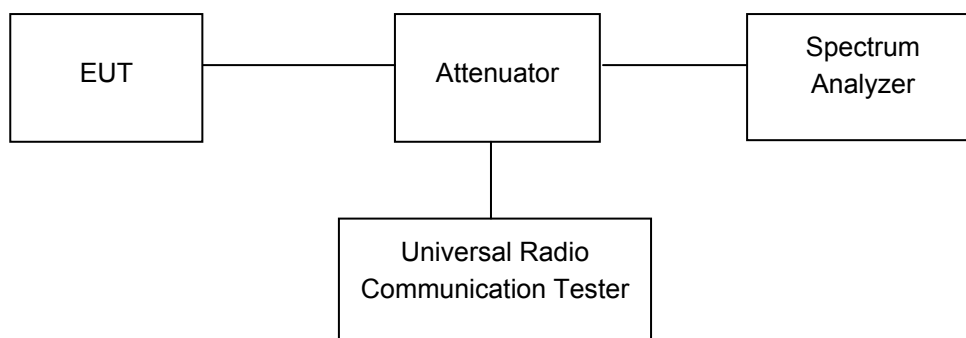
### 13.2 Test Procedure

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



### 13.3 Test Result

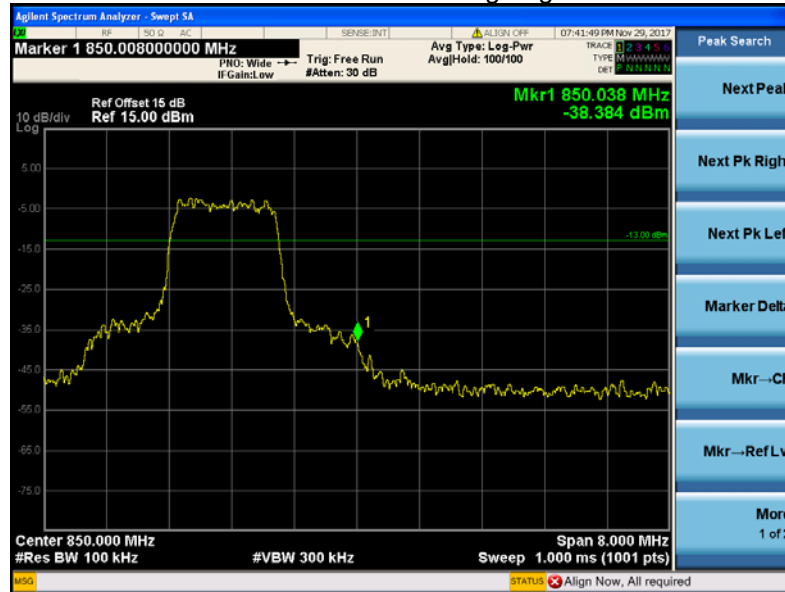
Test plots

Cellular Band (Part 22H)

CDMA 800 band edge-left side



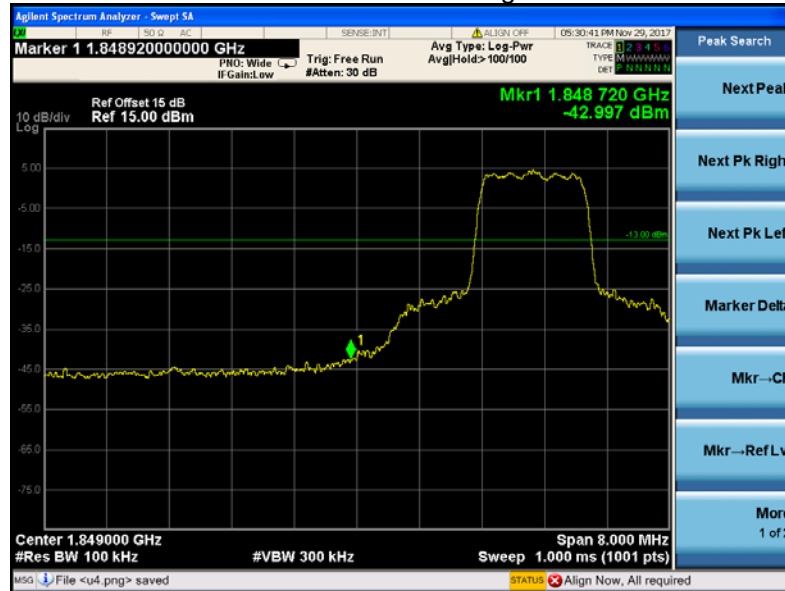
CDMA 800 band edge-right side



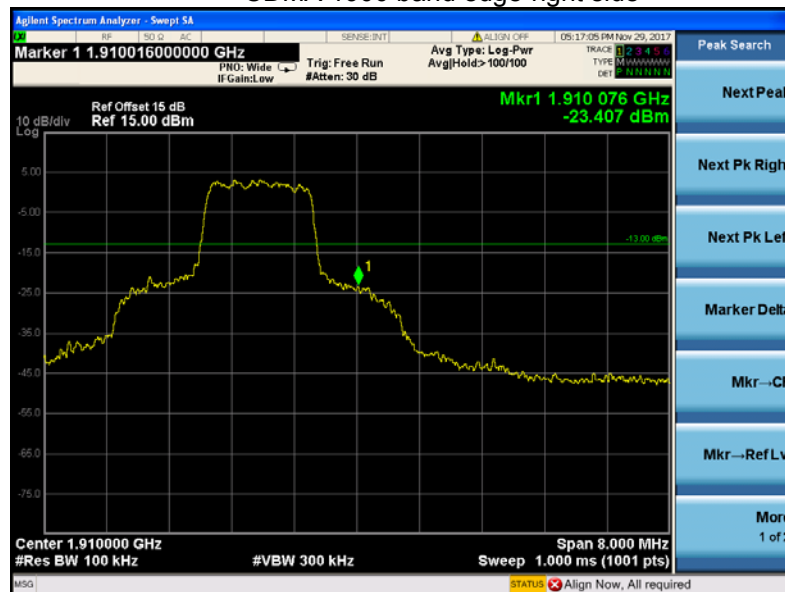


Cellular Band (Part 24E)

CDMA 1900 band edge-left side



CDMA 1900 band edge-right side



## 14 FREQUENCY STABILITY

Test Requirement:	FCC Part 2.1055,22.355,24.235,27.5(h),27.54
Test Method:	TIA/EIA-603-D:2010 KDB971168 D01 v02r02
Test Mode:	Transmitting

### 14.1 EUT Operation

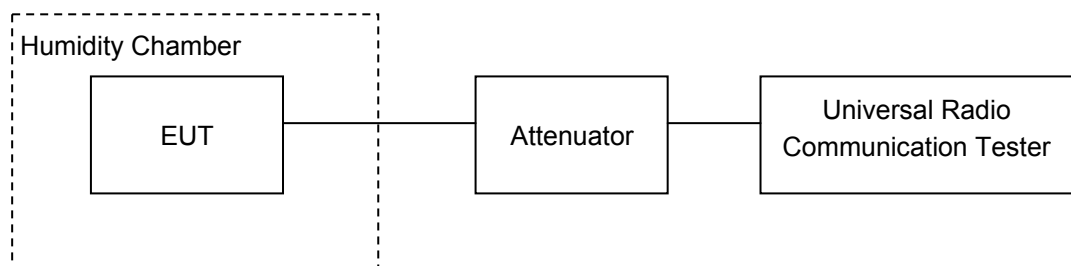
Operating Environment :	
Temperature:	22.9 °C
Humidity:	52.0 % RH
Atmospheric Pressure:	101.3kPa

### 14.2 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.



### 14.3 Test Result

#### Cellular Band (Part 22H)

CDMA 800 Test Frequency:836.52MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.85	-5	-0.0060	2.5
40		2	0.0024	2.5
30		-7	-0.0084	2.5
20		2	0.0020	2.5
10		8	0.0096	2.5
0		2	0.0024	2.5
-10		0	0.0000	2.5
-20		-1	-0.0012	2.5
-30		-5	-0.0060	2.5
20		3.3	-4	-0.0048
20	4.2	2	0.0024	2.5

#### PCS Band (Part 24E)

CDMA 1900 Test Frequency:1880.00MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.85	-9	-0.0048	2.5
40		-2	-0.0011	2.5
30		-1	-0.0005	2.5
20		0	-0.0002	2.5
10		-7	-0.0037	2.5
0		-9	-0.0048	2.5
-10		-1	-0.0005	2.5
-20		-3	-0.0016	2.5
-30		-1	-0.0005	2.5
20		3.3	5	0.0027
20	4.2	6	0.0032	2.5

## **15 RF Exposure**

Remark: refer to SAR test report: WTS17S0888245E.

