



TESTING LABORATORY
CERTIFICATE #4820.01



FCC PART 22H, PART 24E MEASUREMENT AND TEST REPORT

For

Interglobe Connection Corp

8228 NW 30th Terrace, Doral, Florida, United States, 33122

FCC ID: 2AC7IEKOW240

Report Type: Original Report	Product Type: Rugged Feature Phone
Report Number:	RDG180903002-00C
Report Date:	2018-09-20
Reviewed By:	Robin Zheng RF Engineer <i>Robin Zheng</i>
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan). This report must not be used by the customer to claim product certification, approval, or endorsement by A2LA* or any agency of the Federal Government. * This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk “*”.

TABLE OF CONTENTS

GENERAL INFORMATION.....	4
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	4
OBJECTIVE	4
RELATED SUBMITTAL(S)/GRANT(S).....	4
TEST METHODOLOGY	4
MEASUREMENT UNCERTAINTY.....	5
TEST FACILITY	5
SYSTEM TEST CONFIGURATION.....	6
JUSTIFICATION	6
EQUIPMENT MODIFICATIONS	6
SUPPORT EQUIPMENT LIST AND DETAILS	6
CONFIGURATION OF TEST SETUP	6
BLOCK DIAGRAM OF TEST SETUP	7
SUMMARY OF TEST RESULTS.....	8
FCC §1.1310 & §2.1093- RF EXPOSURE	9
APPLICABLE STANDARD	9
TEST RESULT	9
FCC §2.1047 - MODULATION CHARACTERISTIC	10
FCC § 2.1046, § 22.913 (A) & § 24.232 (C) - RF OUTPUT POWER.....	11
APPLICABLE STANDARD	11
TEST PROCEDURE	11
TEST EQUIPMENT LIST AND DETAILS.....	12
TEST DATA	12
FCC §2.1049, §22.917, §22.905 & §24.238 - OCCUPIED BANDWIDTH	14
APPLICABLE STANDARD	14
TEST PROCEDURE	14
TEST EQUIPMENT LIST AND DETAILS.....	14
TEST DATA	15
FCC §2.1051, §22.917(A) & §24.238(A) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS	17
APPLICABLE STANDARD	17
TEST PROCEDURE	17
TEST EQUIPMENT LIST AND DETAILS.....	17
TEST DATA	17
FCC §2.1053, §22.917 & §24.238 - SPURIOUS RADIATED EMISSIONS	20
APPLICABLE STANDARD	20
TEST PROCEDURE	20
TEST EQUIPMENT LIST AND DETAILS.....	21
TEST DATA	21
FCC §22.917(A) & §24.238(A)- BAND EDGES.....	23
APPLICABLE STANDARD	23
TEST PROCEDURE	23
TEST EQUIPMENT LIST AND DETAILS.....	23
TEST DATA	23
FCC §2.1055, §22.355 & §24.235 - FREQUENCY STABILITY	26

APPLICABLE STANDARD26
TEST PROCEDURE26
TEST EQUIPMENT LIST AND DETAILS.....27
TEST DATA27

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:		Rugged Feature Phone
EUT Model:		Extreme W240
Rated Input Voltage:		DC3.7V from Li-ion Rechargeable Battery or DC5V from adapter
Adapter Information	Model Name:	LM-NU050100SM
	Input:	AC 100-240V, 50/60Hz 0.2A
	Output:	DC5.0V, 1000mA
External Dimension:		Length (131 mm)*Width (56 mm)*High (19.2 mm)
Serial Number:		180903002
EUT Received Date:		2018.09.06

Objective

This report is prepared on behalf of *Interglobe Connection Corp* in accordance with: Part 2-Subpart J, Part 22-Subpart H, and Part 24-Subpart E of the Federal Communications Commission's rules.

The objective is to determine compliance with FCC Rules for output power, modulation characteristic, occupied bandwidth, spurious emissions at antenna terminal, spurious radiated emission, frequency stability and band edge.

Related Submittal(s)/Grant(s)

FCC Part 15C DSS submissions with FCC ID: 2AC7IEKOW240.

FCC Part 15B JBP submissions with FCC ID: 2AC7IEKOW240.

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part J as well as the following parts:

Part 22 Subpart H - Public Mobile Services

Part 24 Subpart E - Personal Communication Services

Applicable Standards: TIA/EIA 603-D-2010.

All radiated and conducted emissions measurements were performed at Bay Area Compliance Laboratories Corp.(Dongguan).

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Unwanted Emissions, radiated	30MHz ~ 1GHz: 5.85 dB 1G~26.5GHz: 5.23 dB
Unwanted Emissions, conducted	±1.5 dB
Temperature	±1 °C
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062D.

SYSTEM TEST CONFIGURATION

Justification

The EUT was configured for testing according to TIA/EIA-603-D 2010.

The test items were performed with the EUT operating at testing mode.

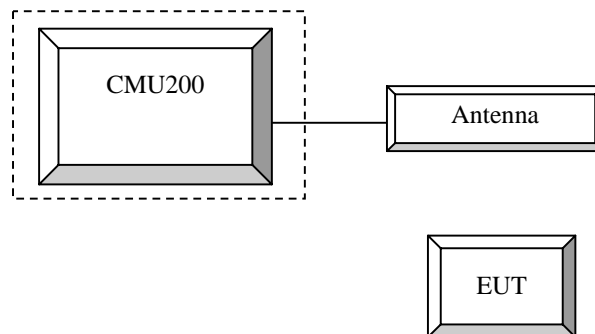
Equipment Modifications

No modification was made to the EUT.

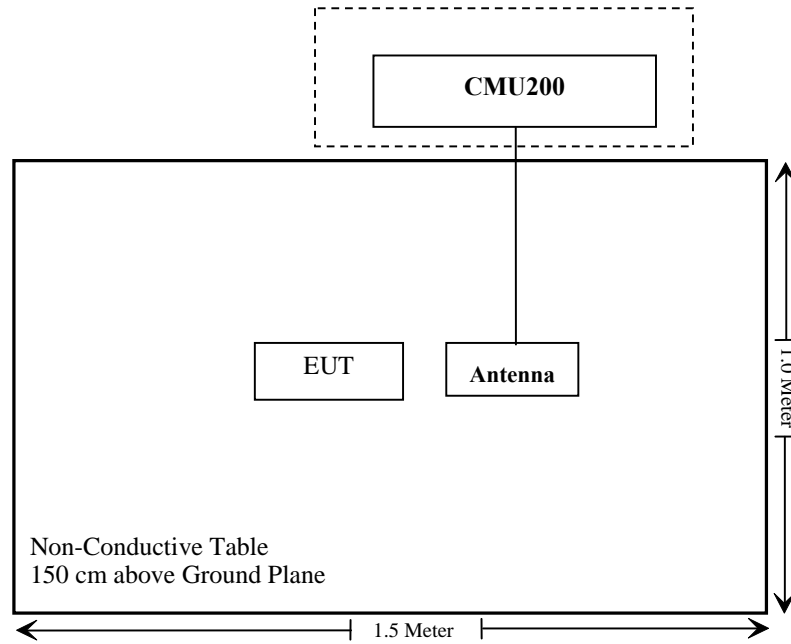
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
R&S	Universal Radio Communication Tester	CMU200	106 891
N/A	ANTENNA	N/A	N/A

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1310, §2.1093	RF Exposure	Compliance
§2.1046; § 22.913 (a); § 24.232 (c);	RF Output Power	Compliance
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905 § 22.917; § 24.238	Occupied Bandwidth	Compliance
§ 2.1051, § 22.917 (a); § 24.238 (a)	Spurious Emissions at Antenna Terminal	Compliance
§ 2.1053 § 22.917 (a); § 24.238 (a)	Spurious Radiation Emissions	Compliance
§ 22.917 (a); § 24.238 (a)	Out of band emission, Band Edge	Compliance
§ 2.1055 § 22.355; § 24.235	Frequency stability vs. temperature Frequency stability vs. voltage	Compliance

FCC §1.1310 & §2.1093- RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliance, please refer to the SAR report: RDG180903002-20.

FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 22H & 24E there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

FCC § 2.1046, § 22.913 (a) & § 24.232 (c) - RF OUTPUT POWER

Applicable Standard

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

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

According to §24.232 (d) Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

Test Procedure

GSM/GPRS/EGPRS

Function: Menu select > GSM Mobile Station > GSM 850/1900
 Press Connection control to choose the different menus
 Press RESET > choose all the reset all settings
 Connection Press Signal Off to turn off the signal and change settings
 Network Support > GSM + GPRS or GSM + EGSM
 Main Service > Packet Data
 Service selection > Test Mode A – Auto Slot Config. off
 MS Signal Press Slot Config Bottom on the right twice to select and change the number of time slots and power setting
 > Slot configuration > Uplink/Gamma
 > 33 dBm for GPRS 850
 > 30 dBm for GPRS 1900
 > 27 dBm for EGPRS 850
 > 26 dBm for EGPRS 1900
 BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel
 Frequency Offset > + 0 Hz
 Mode > BCCH and TCH
 BCCH Level > -85 dBm (May need to adjust if link is not stable)
 BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off
 P0 > 4 dB
 Slot Config > Unchanged (if already set under MS signal)
 TCH > choose desired test channel
 Hopping > Off
 Main Timeslot > 3
 Network Coding Scheme > CS4 (GPRS) and MCS5 (EGPRS)

Bit Stream > 2E9-1 PSR Bit Stream
 AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input
 Connection Press Signal on to turn on the signal and change settings

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100035	2018-08-03	2019-08-03
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
Sunol Sciences	Antenna	JB3	A060611-3	2017-07-21	2019-07-21
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-02	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-02	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-2200-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2018-09-05	2019-09-05
HP	Amplifier	8447F	2443A01912	2018-09-05	2019-09-05
Agilent	Spectrum Analyzer	E4440A	SG43360054	2018-01-04	2019-01-04
TDK RF	Horn Antenna	HRN-0118	130 084	2016-01-05	2019-01-04
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-04
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2018-09-05	2019-09-05
MITEQ	Amplifier	AFS42-00101800-25-S-42	2001271	2018-09-05	2019-09-05
R&S	Universal Radio Communication Tester	CMU200	106 891	2017-12-14	2018-12-14
Agilent	Signal Generator	E8247C	MY43321350	2017-12-11	2018-12-11

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	25.2~26.5 °C
Relative Humidity:	40~54 %
ATM Pressure:	100.3 kPa

* *The testing was performed by Blake Yang & Vito Chen on 2018-09-11.*

Test Result: Compliance

Conducted Output Power

Cellular Band & PCS Band

Band	Channel No.	Conducted Peak Output Power (dBm)				
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot
Cellular	128	31.10	30.92	30.10	28.08	27.18
	190	31.20	31.02	30.05	28.14	27.32
	251	31.30	31.10	30.16	28.29	27.49
PCS	512	29.80	29.78	28.70	26.62	25.90
	661	29.90	29.86	28.77	26.80	26.10
	810	29.80	29.79	28.79	26.76	26.02

ERP & EIRP

Part 22H

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 850 Middle Channel								
836.60	H	95.92	28.04	0.00	0.50	27.54	38.45	10.91
836.60	V	96.23	31.32	0.00	0.50	30.82	38.45	7.63

Part 24E

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
PCS 1900 Middle Channel								
1880.00	H	94.81	22.20	11.66	2.66	31.20	33.00	1.80
1880.00	V	92.01	19.54	11.66	2.66	28.54	33.00	4.46

Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level

FCC §2.1049, §22.917, §22.905 & §24.238 - OCCUPIED BANDWIDTH

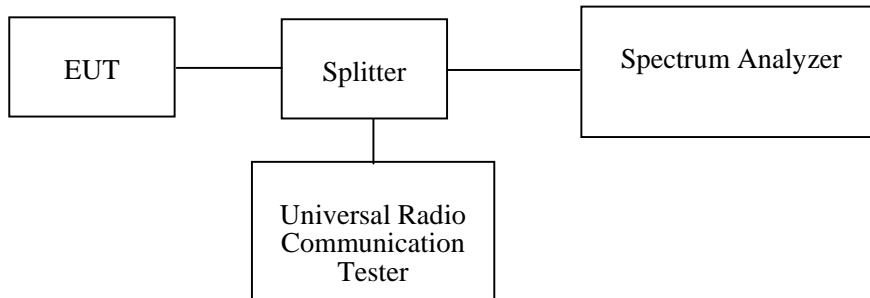
Applicable Standard

FCC §2.1049, §22.917, §22.905, §24.238

Test Procedure

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

The 26 dB & 99% bandwidth was recorded.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESPI	100120	2017-12-11	2018-12-11
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	N/A
R&S	Universal Radio Communication Tester	CMU200	106 891	2017-12-14	2018-12-14
E-Microwave	Two-way Splitter	ODP-1-6-2S	OE0120142	Each Time	N/A

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	28.5 °C
Relative Humidity:	56 %
ATM Pressure:	100.3 kPa

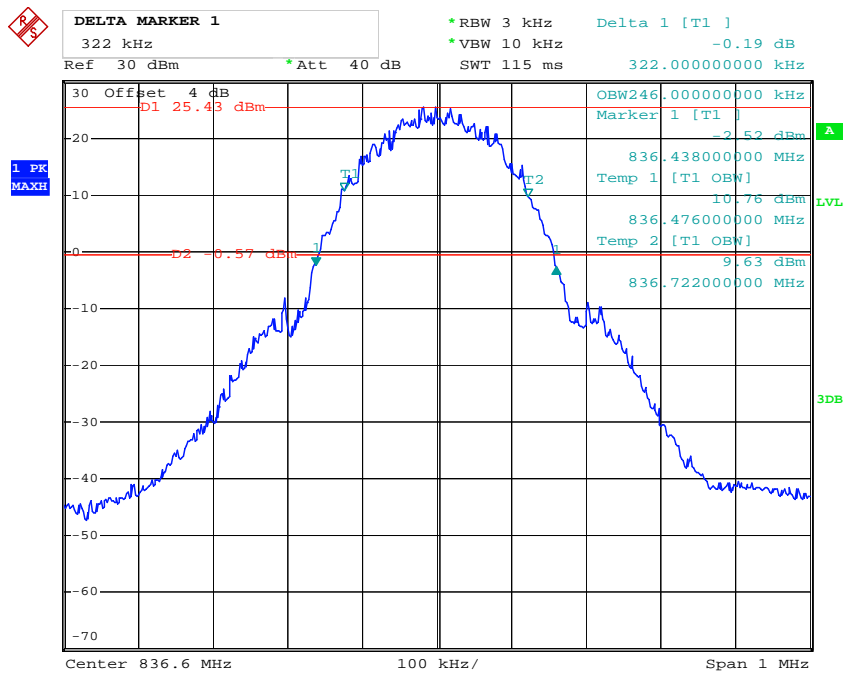
* The testing was performed by Elena Lei on 2018-09-11.

Test Mode: Transmitting

Test Result: Compliance. Please refer to the following table and plots.

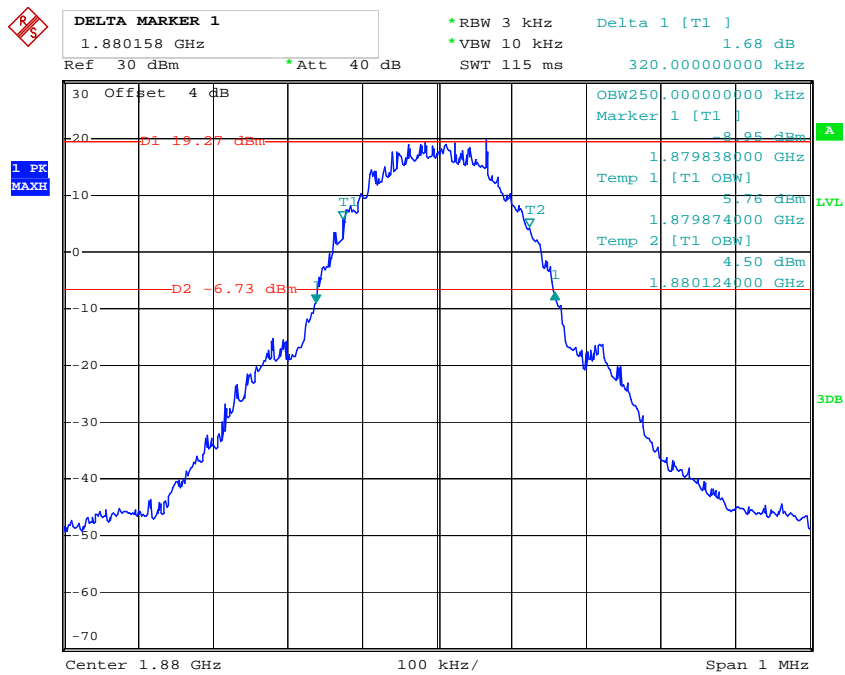
Band	Test Channel	Mode	99% Occupied Bandwidth (MHz)	26 dB Occupied Bandwidth (MHz)
Cellular	M	GSM	0.246	0.322
PCS		PCS	0.250	0.320

GSM 850 Cellular Band



Date: 11.SEP.2018 13:58:22

PCS1900 Cellular Band



Date: 11.SEP.2018 13:42:15

FCC §2.1051, §22.917(a) & §24.238(a) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

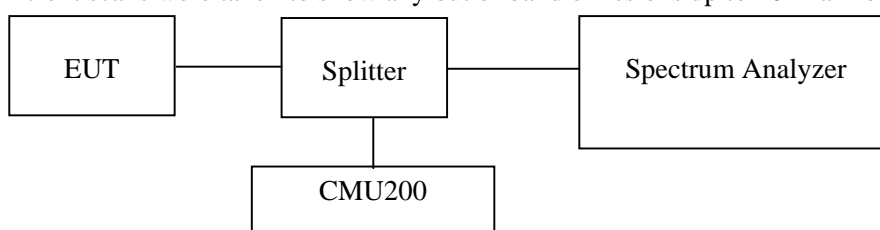
Applicable Standard

FCC §2.1051, §22.917(a) , §24.238(a).

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200256	2018-01-04	2019-01-04
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	N/A
narda	Attenuator	6dB	04270	2018-09-06	2019-09-06
Unknown	Attenuator	UNAT-3+	15529	2018-09-06	2019-09-06
R&S	Universal Radio Communication Tester	CMU200	106 891	2017-12-14	2018-12-14
E-Microwave	Two-way Splitter	ODP-1-6-2S	OE0120142	Each Time	N/A

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

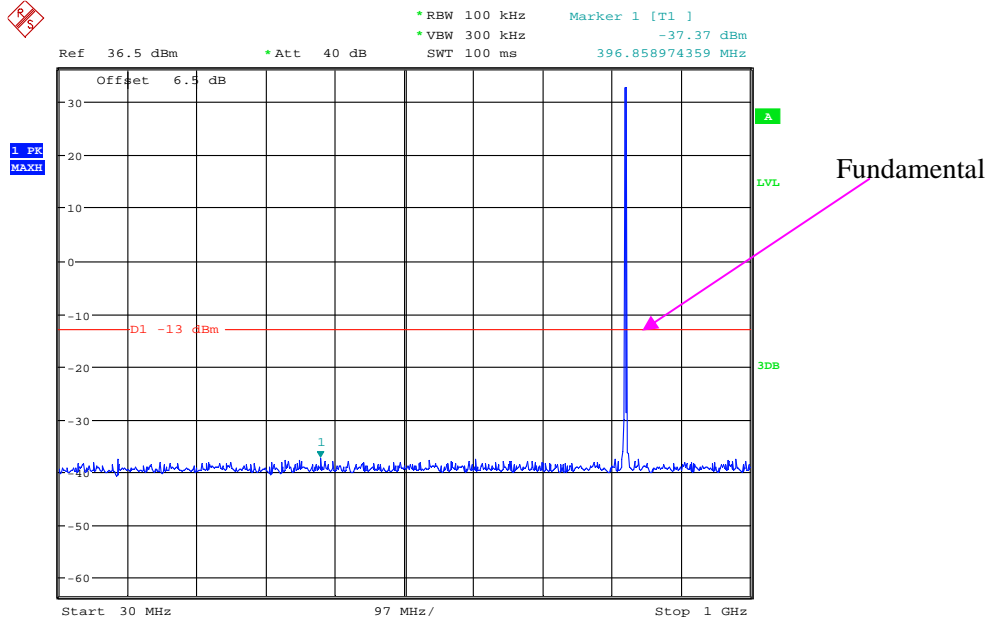
Environmental Conditions

Temperature:	28.5 °C
Relative Humidity:	56 %
ATM Pressure:	100.3 kPa

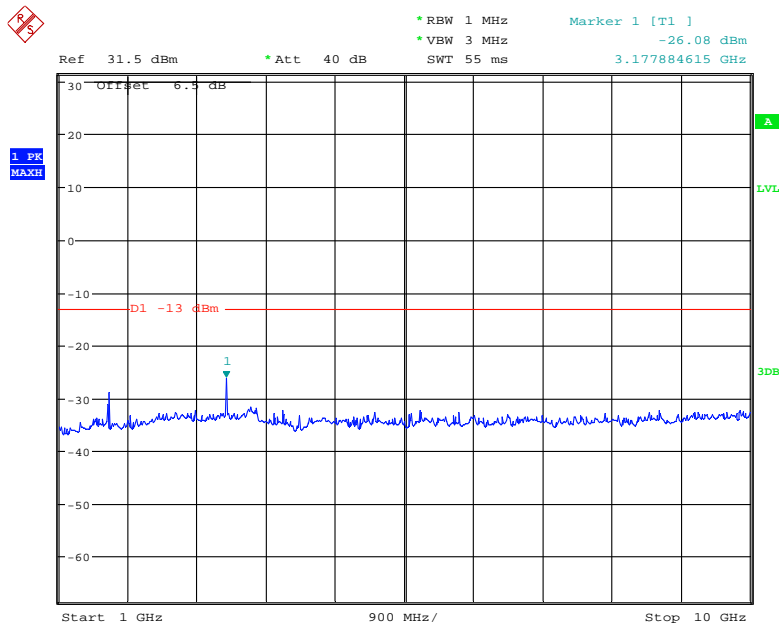
* The testing was performed by Elena Lei on 2018-09-11.

Test Result: Compliance. Please refer to the following plots.

GSM850_Middle Channel

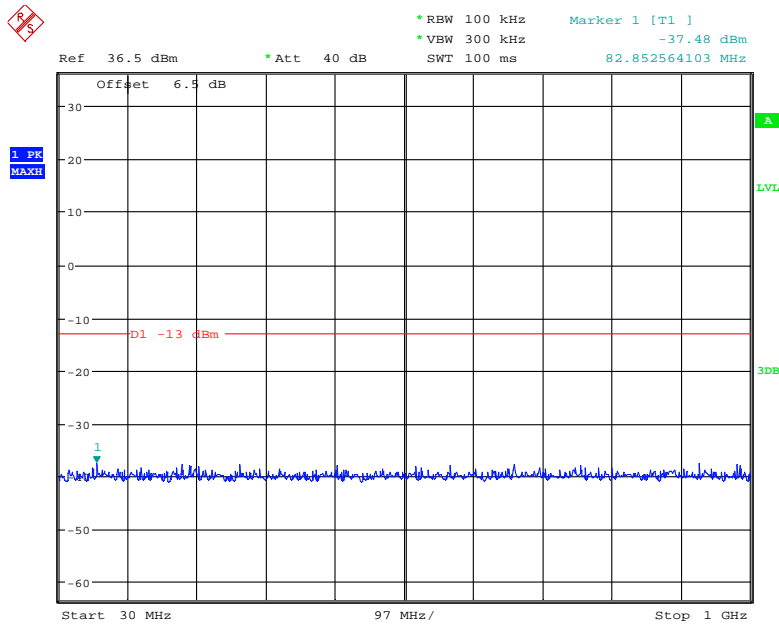


Date: 11.SEP.2018 17:19:03



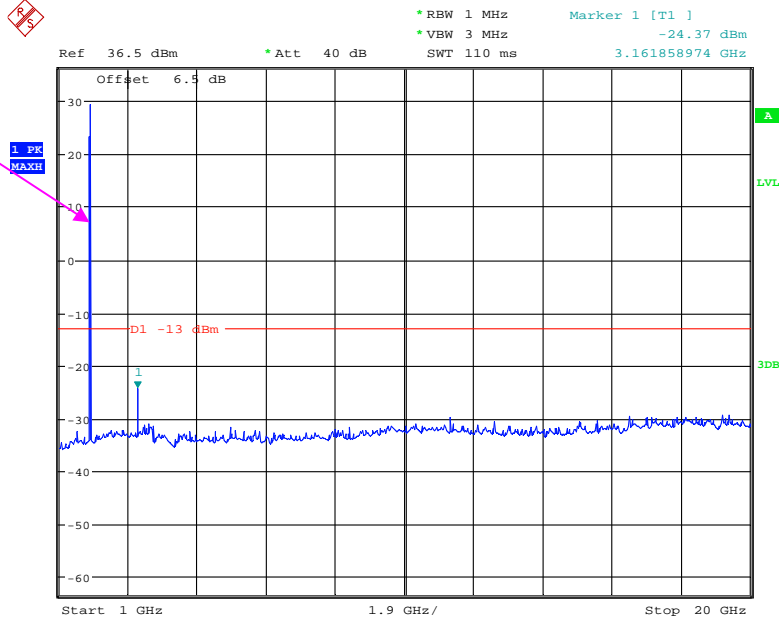
Date: 11.SEP.2018 17:16:18

PCS 1900_ Middle Channel



Date: 11.SEP.2018 17:20:47

Fundamental



Date: 11.SEP.2018 17:21:27

FCC §2.1053, §22.917 & §24.238 - SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053, §22.917, § 24.238.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

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.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

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 = $43 + 10 \text{Log}_{10}(\text{power out in Watts})$

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100035	2018-08-03	2019-08-03
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
Sunol Sciences	Antenna	JB3	A060611-3	2017-07-21	2019-07-21
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-02	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-02	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-2200-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2018-09-05	2019-09-05
HP	Amplifier	8447F	2443A01912	2018-09-05	2019-09-05
Agilent	Spectrum Analyzer	E4440A	SG43360054	2018-01-04	2019-01-04
TDK RF	Horn Antenna	HRN-0118	130 084	2016-01-05	2019-01-04
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-04
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2016-11-18	2019-11-18
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-02 1304	2016-11-18	2019-11-18
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-2.4J2.4J-50	C-0700-02	2018-06-27	2019-06-27
MITEQ	Amplifier	AFS42-00101800- 25-S-42	2001271	2018-09-05	2019-09-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2018-06-27	2019-06-27
Sinoscite	Band-stop filter	BSF824-862MS- 1438-001	1438001	2018-06-16	2019-06-16
Sinoscite	Band-stop filter	BSF1850-1910MS- 0935V2	0935V2	2018-06-16	2019-06-16
R&S	Universal Radio Communication Tester	CMU200	106 891	2017-12-14	2018-12-14
Agilent	Signal Generator	E8247C	MY43321350	2017-12-11	2018-12-11

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	25.2~26.5 °C
Relative Humidity:	40~54 %
ATM Pressure:	100.3 kPa

* The testing was performed by Blake Yang & Vito Chen on 2018-09-11.

Test Result: Compliance.

EUT Operation Mode: Transmitting

Cellular Band (PART 22H)

30 MHz-10 GHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM850, Frequency:836.600 MHz								
1673.200	H	76.42	-37.79	10.6	0.73	-27.9	-13.0	14.9
1673.200	V	80.33	-34.48	10.6	0.73	-24.6	-13.0	11.6
2509.800	H	60.32	-52.7	13.1	1.25	-40.8	-13.0	27.8
2509.800	V	61.76	-51.29	13.1	1.25	-39.4	-13.0	26.4
3346.400	H	52.83	-57.83	13.8	1.61	-45.6	-13.0	32.6
3346.400	V	54.76	-55.95	13.8	1.61	-43.7	-13.0	30.7
705.120	H	44.02	-52.37	0.0	0.39	-52.8	-13.0	39.8
125.230	V	46.16	-55.51	0.0	0.22	-55.7	-13.0	42.7

PCS Band (PART 24E)

30 MHz-20 GHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM1900, Frequency:1880.000 MHz								
3760.000	H	72.38	-36.42	13.8	1.63	-24.3	-13.0	11.3
3760.000	V	73.93	-34.74	13.8	1.63	-22.6	-13.0	9.6
5640.000	H	56.08	-49.95	14.0	1.31	-37.2	-13.0	24.2
5640.000	V	57.35	-48.56	14.0	1.31	-35.9	-13.0	22.9
375.320	H	45.18	-58.91	0.0	0.36	-59.3	-13.0	46.3
80.440	V	46.44	-56.15	0.0	0.18	-56.3	-13.0	43.3

Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level

FCC §22.917(a) & §24.238(a)- BAND EDGES

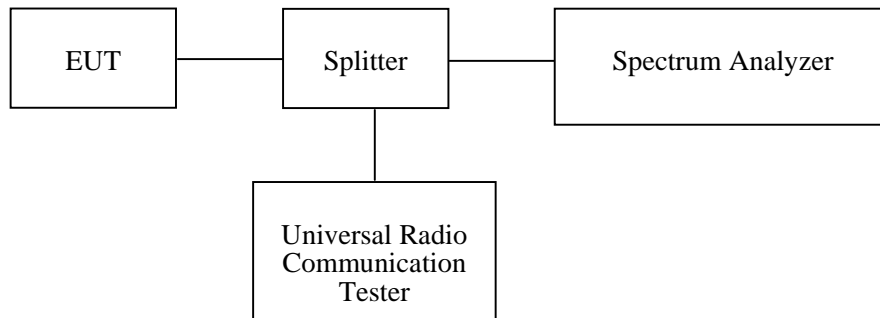
Applicable Standard

FCC § 2.1053, §22.917, § 24.238.

Test Procedure

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

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



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESPI	100120	2017-12-11	2018-12-11
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	N/A
R&S	Universal Radio Communication Tester	CMU200	106 891	2017-12-14	2018-12-14
E-Microwave	Two-way Splitter	ODP-1-6-2S	OE0120142	Each Time	N/A

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

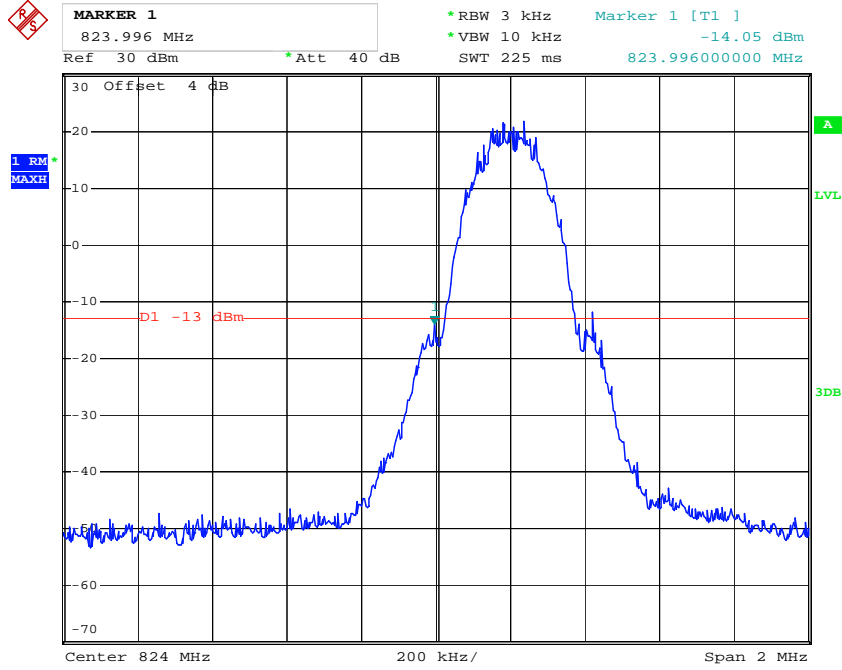
Temperature:	28.5 °C
Relative Humidity:	56 %
ATM Pressure:	100.3 kPa

* The testing was performed by Elena Lei on 2018-09-11.

Test Mode: Transmitting

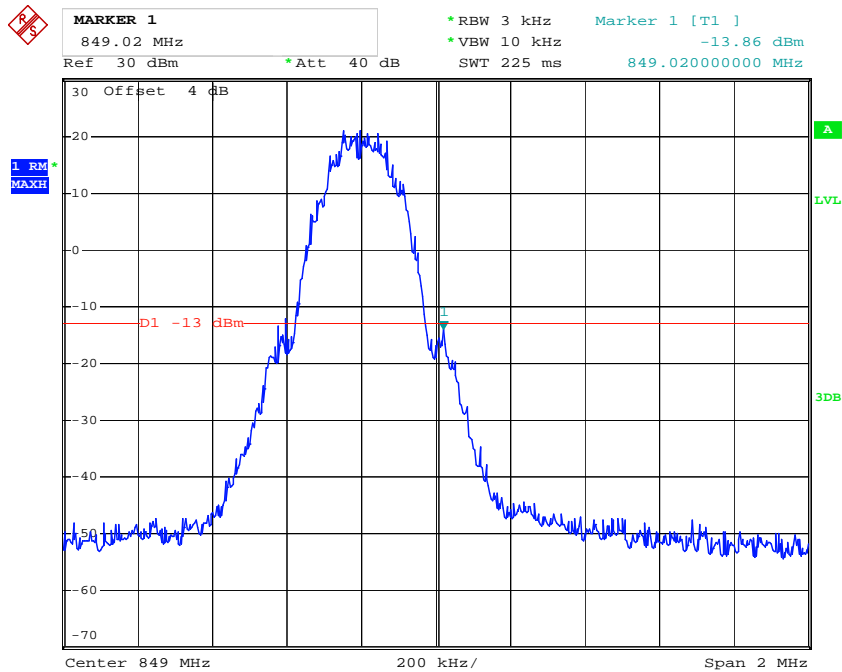
Test Result: Compliance. Please refer to the following plots.

GSM 850, Left Band Edge



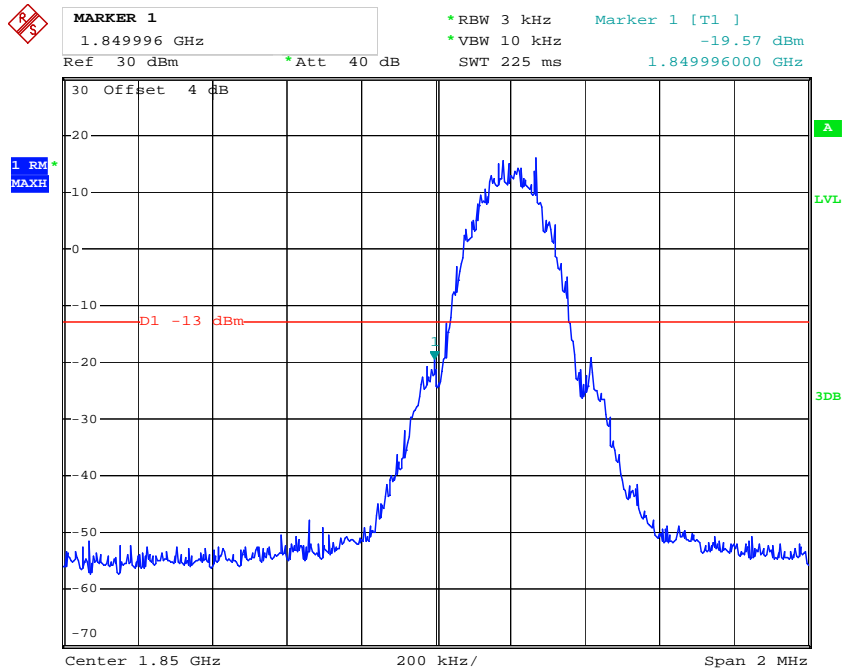
Date: 11.SEP.2018 14:01:28

GSM 850, Right Band Edge



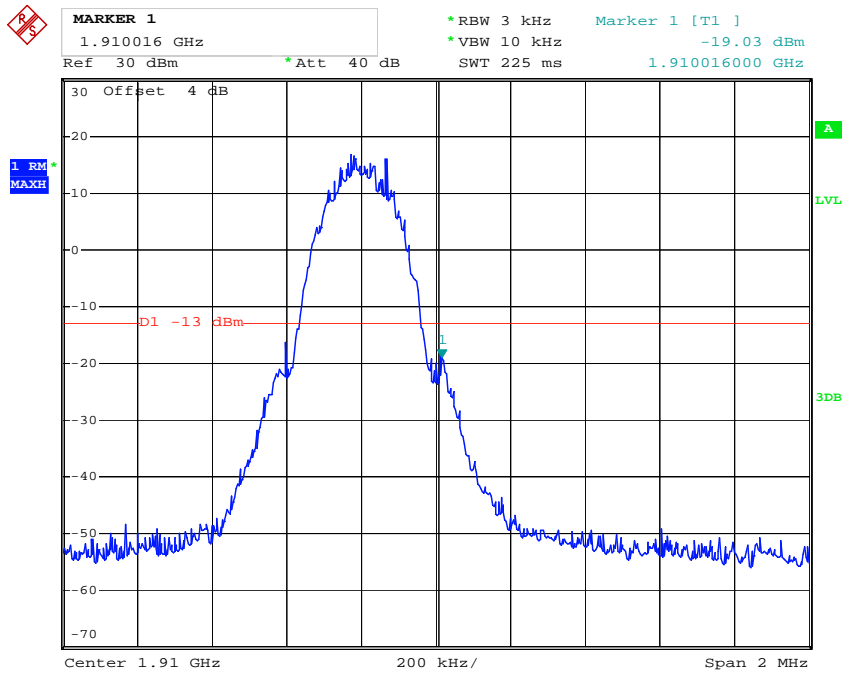
Date: 11.SEP.2018 14:02:44

GSM 1900, Left Band Edge



Date: 11.SEP.2018 13:52:05

GSM 1900, Right Band Edge



Date: 11.SEP.2018 13:53:05

FCC §2.1055, §22.355 & §24.235 - FREQUENCY STABILITY

Applicable Standard

FCC § 2.1055 (a), § 2.1055 (d), §22.355, §24.235

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile > 3 watts (ppm)	Mobile ≤ 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

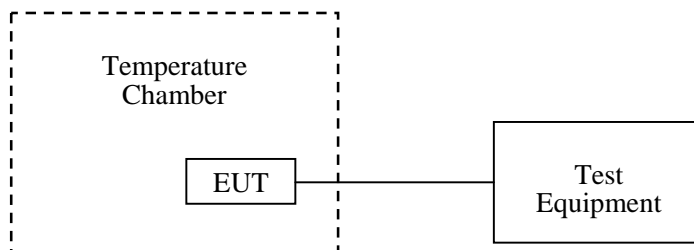
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

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: An external variable DC power supply was connected to the battery terminals of the equipment under test. The voltage was set from 85% to 115% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the battery end point. The output frequency was recorded for each battery voltage.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Universal Radio Communication Tester	CMU200	106 891	2017-12-14	2018-12-14
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	N/A
narda	Attenuator	6dB	04270	2018-09-06	2019-09-06
Dongzhixu	High Temperature Test Chamber	DP1000	201105083-4	2017-08-25	2019-08-25
UNI-T	Multimeter	UT39A	M130199938	2018-07-24	2019-07-24
Pro instrument	DC Power Supply	pps3300	3300012	N/A	N/A

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	28.5 °C
Relative Humidity:	56 %
ATM Pressure:	100.3 kPa

* *The testing was performed by Elena Lei on 2018-09-11.*

Test Result: Compliance.

Cellular Band (Part 22H)

GMSK, Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
°C	V _{DC}	Hz	ppm	ppm
-30	3.7	-21	-0.025102	2.5
-20		-28	-0.033469	
-10		-54	-0.064547	
0		-45	-0.053789	
10		-36	-0.043031	
20		-47	-0.056180	
30		-25	-0.029883	
40		-41	-0.049008	
50		-23	-0.027492	
20		3.6	-21	
20	4.2	-48	-0.057375	

PCS Band (Part 24E)

GMSK, Middle Channel, $f_c = 1880.0$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Results
°C	V _{DC}	Hz	ppm	
-30	3.7	-110	-0.058511	Pass
-20		-121	-0.064362	
-10		-85	-0.045213	
0		-67	-0.035638	
10		-101	-0.053723	
20		-124	-0.065957	
30		-86	-0.045745	
40		-88	-0.046809	
50		-94	-0.050000	
20		3.6	-74	
20	4.2	-106	-0.056383	

******* END OF REPORT *******