FCC PART 22H, PART 24E

MEASUREMENT AND TEST REPORT

For

GlobalSat WorldCom Corporation

16F., No.186, Jian 1st Rd. Zhonghe Dist., New Taipei City 23553 Taiwan

FCC ID: RID-TR300V

Report Type:	**Product Type:**
Original Report	Personal Tracker

Test Engineer:	Allen Qiao
Report Number:	RTW150805050-00A
Report Date:	2015-08-28
Reviewed By:	Sula Huang RF Leader
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *GlobalSat WorldCom Corporation*'s product, model number: *TR-300V (FCC ID: RID-TR300V)* (the "EUT") in this report was a *Personal Tracker*, which was measured approximately: 68 mm (L) × 46 mm (W) × 18.8 mm (H), rated input voltage: DC3.7V rechargeable Li-ion battery or DC5.0V charging from adapter.

All measurement and test data in this report was gathered from production sample serial number: 002000 (Assigned by applicant). The EUT was received on 2015-08-20.

Objective

This report is prepared on behalf of *GlobalSat WorldCom Corporation* 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 DTS submissions with FCC ID: RID-TR300V.

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, ANSI C63.4-2009.

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

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 Industrial Zone, Tangxia, Dongguan, Guangdong, China
Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communications Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 06, 2015. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009. The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

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.

EUT Exercise Software

N/A

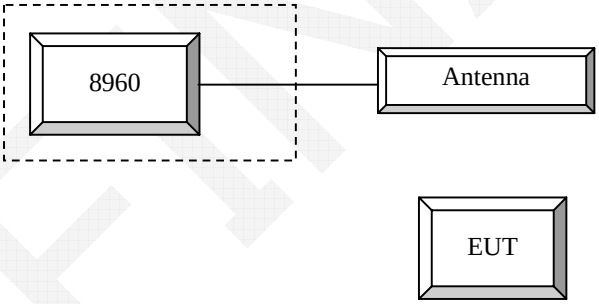
Equipment Modifications

No modification was made to the EUT.

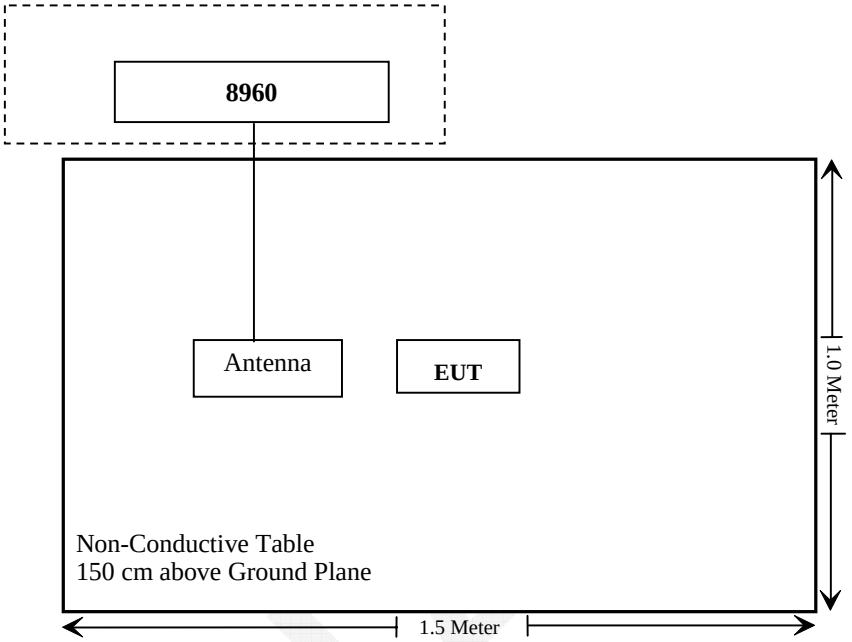
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Agilent	8960 Series10	E5515C	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)	Field Strength of Spurious Radiation	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*

Note:
Compliance*: the requirements have been certified, please refer to the FCC ID: QISMC509.

FCC §1.1310 & §2.1093- RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliant, please refer to the SAR report: RTW150805050-20.

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

Radiated method:

ANSI/TIA 603-D section 2.2.17

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2015-05-09	2016-05-09
Sunol Sciences	Antenna	JB3	A060611-3	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2014-09-01	2015-09-01
R&S	Spectrum Analyzer	FSEM	DE31388	2015-05-09	2016-05-09
ETS LINDGREN	Horn Antenna	3115	000 527 35	2013-09-06	2016-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2015-02-19	2016-02-19
Giga	Signal Generator	1026	320408	2015-05-09	2016-05-09
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
TDK RF	Horn Antenna	HRN-0118	130 084	2013-09-06	2016-09-06

*** 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:	25.7 °C
Relative Humidity:	55%
ATM Pressure:	100.1 kPa

The testing was performed by Allen Qiao on 2015-08-20

ERP & EIRP

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Cellular Band (CDMA 1X)_Middle Channel								
833.490	H	98.29	23.3	0.0	1	22.3	38.5	16.2
833.490	V	90.27	18.4	0.0	1	17.4	38.5	21.1
PCS Band (CDMA 1X)_Middle Channel								
1880.000	H	83.87	12.3	11.7	1.4	22.6	33.0	10.4
1880.000	V	79.21	7.8	11.7	1.4	18.1	33.0	14.9

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 = SG Level - Cable loss + Antenna Gain
3) Margin = Limit-Absolute Level

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

Applicable Standard

FCC § 2.1053, §22.917 and § 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 (TXpwr in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log_{10} (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	100224	2015-05-09	2016-05-09
Sunol Sciences	Antenna	JB3	A060611-3	2014-07-28	2017-07-27
HP	Amplifier	8447E	2434A02181	2014-09-01	2015-09-01
R&S	Spectrum Analyzer	E4440A	SG43360054	2014-12-04	2015-12-04
ETS LINDGREN	Horn Antenna	3115	000 527 35	2012-09-06	2015-09-06
Giga	Signal Generator	1026	320408	2015-05-09	2016-05-09
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
TDK RF	Horn Antenna	HRN-0118	130 084	2012-09-06	2015-09-06

*** 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:	26.5 °C
Relative Humidity:	58 %
ATM Pressure:	100 kPa

The testing was performed by Allen Qiao on 2015-08-20.

EUT Operation Mode: Transmitting (worst case)

Cellular Band (CDMA 1X)

30 MHz-10GHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency:824.700 MHz								
1649.400	H	50.08	-51	10.5	1.5	-42.0	-13.0	29.0
1649.400	V	52.68	-48.9	10.5	1.5	-39.9	-13.0	26.9
2474.100	H	35.68	-62.4	12.9	2.6	-52.1	-13.0	39.1
2474.100	V	36.47	-60.3	12.9	2.6	-50.0	-13.0	37.0
55.220	H	34.75	-60.3	-12.5	0.2	-73.0	-13.0	60.0
55.220	V	41.54	-53.5	-12.5	0.2	-66.2	-13.0	53.2
Frequency:833.490 MHz								
1666.980	H	49.68	-51.4	10.6	1.5	-42.3	-13.0	29.3
1666.980	V	50.82	-50.6	10.6	1.5	-41.5	-13.0	28.5
2500.470	H	34.17	-64.2	13.1	2.8	-53.9	-13.0	40.9
2500.470	V	35.36	-61.7	13.1	2.8	-51.4	-13.0	38.4
55.220	H	35.26	-59.8	-12.5	0.2	-72.5	-13.0	59.5
55.220	V	41.86	-53.2	-12.5	0.2	-65.9	-13.0	52.9
Frequency:848.310 MHz								
1696.620	H	47.79	-53.2	10.8	1.5	-43.9	-13.0	30.9
1696.620	V	48.68	-52.5	10.8	1.5	-43.2	-13.0	30.2
2544.930	H	33.45	-63.2	13.1	2.8	-52.9	-13.0	39.9
2544.930	V	34.76	-62.3	13.1	2.8	-52.0	-13.0	39.0
55.220	H	34.69	-60.4	-12.5	0.2	-73.1	-13.0	60.1
55.220	V	41.23	-53.8	-12.5	0.2	-66.5	-13.0	53.5

PCS Band (CDMA 1X)

30 MHz-20GHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency:1851.250 MHz								
3702.500	H	59.57	-35.2	14.0	2.5	-23.7	-13.0	10.7
3702.500	V	56.39	-37.9	14.0	2.5	-26.4	-13.0	13.4
5553.750	H	54.31	-36.6	14.0	2.2	-24.8	-13.0	11.8
5553.750	V	49.75	-41.7	14.0	2.2	-29.9	-13.0	16.9
55.220	H	34.13	-60.9	-12.5	0.2	-73.6	-13.0	60.6
55.220	V	41.89	-53.2	-12.5	0.2	-65.9	-13.0	52.9
Frequency:1880.000 MHz								
3760.000	H	57.11	-37.2	13.8	2.9	-26.3	-13.0	13.3
3760.000	V	50.37	-42.7	13.8	2.9	-31.8	-13.0	18.8
5640.000	H	52.73	-39	14.0	2.1	-27.1	-13.0	14.1
5640.000	V	48.36	-43.3	14.0	2.1	-31.4	-13.0	18.4
55.220	H	35.03	-60	-12.5	0.2	-72.7	-13.0	59.7
55.220	V	42.58	-52.5	-12.5	0.2	-65.2	-13.0	52.2
Frequency:1908.750 MHz								
3817.500	H	58.67	-35.2	13.6	3.3	-24.9	-13.0	11.9
3817.500	V	53.43	-38.7	13.6	3.3	-28.4	-13.0	15.4
5726.250	H	53.28	-38.6	13.9	2.4	-27.1	-13.0	14.1
5726.250	V	48.97	-42.8	13.9	2.4	-31.3	-13.0	18.3
55.220	H	35.37	-59.7	-12.5	0.2	-72.4	-13.0	59.4
55.220	V	41.39	-53.7	-12.5	0.2	-66.4	-13.0	53.4

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 = SG Level - Cable loss + Antenna Gain
3) Margin = Limit-Absolute Level

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