



FCC 47 CFR PART 22H and 24E

Test Report

Applicant : GlobalSat WorldCom Corporation

Product Type : Motorcycle / Vehicle Tracker (GSM/DCS/WCDMA)

Trade Name : GlobalSat

Model Number : GTR-388A12

Test Specification : FCC 47 CFR PART 22H
FCC 47 CFR PART 24E
ANSI/TIA-603-D 2010

Application Purpose : Original

Receive Date : Aug. 09, 2016

Test Period : Aug. 11 ~ Aug. 17, 2016

Issue Date : Oct. 21, 2016

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Eoundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Oct. 21, 2016	Initial Issue	Snow Wang

Verification of Compliance

Issued Date: Oct. 21, 2016

Applicant : GlobalSat WorldCom Corporation

Product Type : Motorcycle / Vehicle Tracker (GSM/DCS/WCDMA)

Trade Name : GlobalSat

Model Number : GTR-388A12

FCC ID : RID-GTR-388

EUT Rated Voltage : DC 12V ~ 24V

Test Voltage : DC 9.0V / DC 12V / DC 24V

Applicable Standard : FCC 47 CFR PART 22H
FCC 47 CFR PART 24E
ANSI/TIA-603-D 2010

Application Purpose : Original

Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330
<http://www.atl-lab.com.tw/e-index.htm>



A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By : Fly Lu Reviewed By : Eric Ou Yang
(Manager) (Fly Lu) (Testing Engineer) (Eric Ou Yang)

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1 General Information

1.1. EUT Description

Applicant	GlobalSat WorldCom Corporation 16F., No.186, Jian 1st Rd. Zhonghe Dist., New Taipei City 23553 Taiwan			
Manufacturer	GlobalSat WorldCom Corporation 16F., No.186, Jian 1st Rd. Zhonghe Dist., New Taipei City 23553 Taiwan			
Product Type	Motorcycle / Vehicle Tracker (GSM/DCS/WCDMA)			
Trade Name	GlobalSat			
Model Number	GTR-388A12			
FCC ID	RID-GTR-388			
IMEI No.	358173050000002			
Mode	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
GPRS/EGPRS	850	824.2 ~ 848.8	869.2 ~ 893.8	GMSK/8PSK
	1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8	GMSK/8PSK
WCDMA(RMC12.2K)/ HSDPA/HSUPA	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
	II	1852.4 ~ 1907.6	1932.4 ~ 1987.6	QPSK
	V	826.4 ~ 846.6	871.4 ~ 891.6	QPSK
Channel Control	Auto			
Antenna information	Type		Max. Gain (dBi)	
	Monopole Antenna		GPRS/EGPRS 850	-2.0
			GPRS/EGPRS 1900	-2.0
			WCDMA/ HSDPA/ HSUPA Band II	-2.0
			WCDMA/ HSDPA/ HSUPA Band V	-2.0

Frequency Band	Max. RF Output Power (W)	E.R.P. /E.I.R.P. (W)	
GPRS 850	1.910	1.321	(E.R.P.)
EGPRS 850	1.064	0.406	(E.R.P.)
GPRS 1900	0.849	1.005	(E.I.R.P.)
EGPRS 1900	0.689	0.349	(E.I.R.P.)
WCDMA/ HSDPA/ HSUPA Band II	0.431	0.228	(E.I.R.P.)
WCDMA/ HSDPA/ HSUPA Band V	0.314	0.221	(E.R.P.)

Frequency Band	Occupied Bandwidth (MHz)	Emission Designator
GPRS 850	0.241	241KG7W
EGPRS 850	0.242	242KG7W
GPRS 1900	0.250	250KG7W
EGPRS 1900	0.246	246KG7W
WCDMA/ HSDPA/ HSUPA Band II	4.069	4M07F9W
WCDMA/ HSDPA/ HSUPA Band V	4.080	4M08F9W

1.2. Mode of Operation

ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: GPRS 850 Link Mode
Mode 2: GPRS 1900 Link Mode
Mode 3: EGPRS 850 Link Mode
Mode 4: EGPRS 1900 Link Mode
Mode 5: WCDMA Band II Link Mode
Mode 6: WCDMA Band V Link Mode

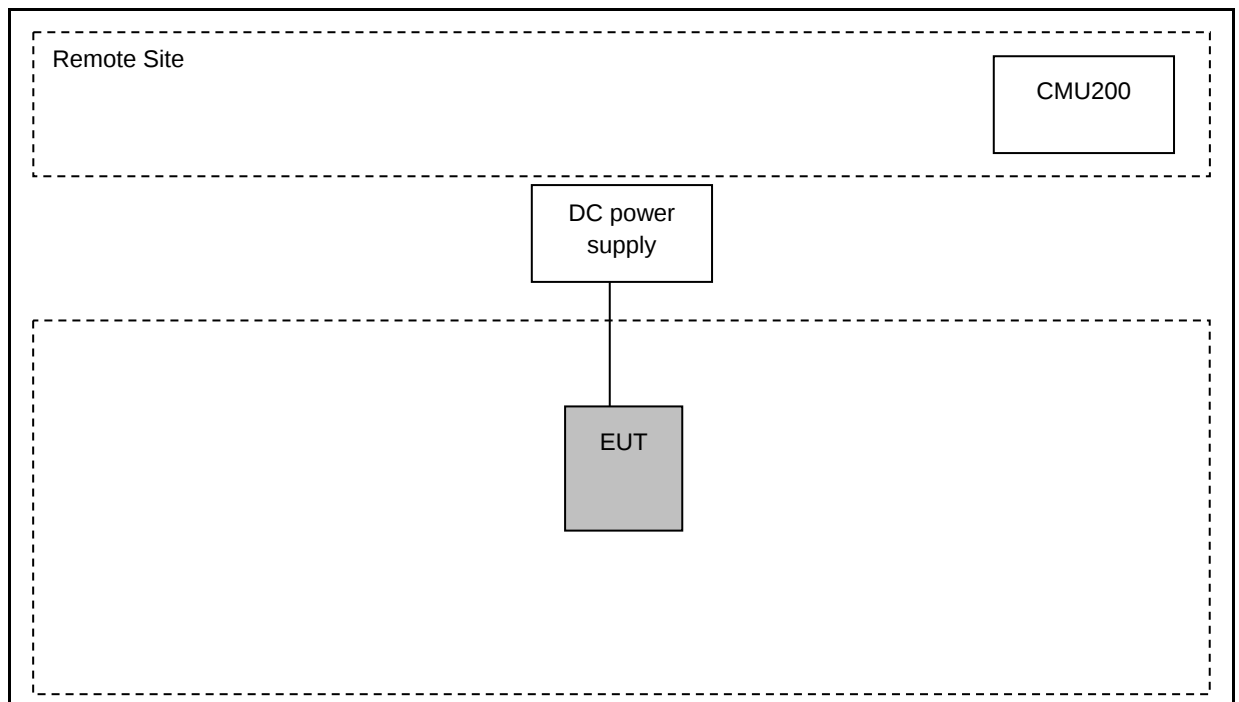
Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

1.3. EUT Exercise Software

1	Setup the EUT and Base Station (CMU200) as shown on 1.4.
2	Turn on the power of all equipment.

1.4. Configuration of Test System Details



1.5. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950



1.6. Summary of Test Result

FCC Rule	Description	Result
§2.1046	Conducted Output Power	Pass
§22.913(a)(2)	Effective Radiated Power	Pass
§24.232(c)	Equivalent Isotropic Radiated Power	Pass
§24.232(d) KDB 971168 D01 (5.7.1)	Peak to average ratio	Pass
§2.1049 §22.917(a) §24.238(a)	Emission Bandwidth & Occupied Bandwidth	Pass
§2.1051 §22.917(a) §24.238(a)	Band Edge Measurement	Pass
§2.1051 §22.917(a) §24.238(a)	Conducted Spurious Emission	Pass
§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	Pass
§2.1055 §22.355 §24.235	Frequency Stability for Temperature & Voltage	Pass



2 Test Results

2.1. RF Output Power Test

■ Limit

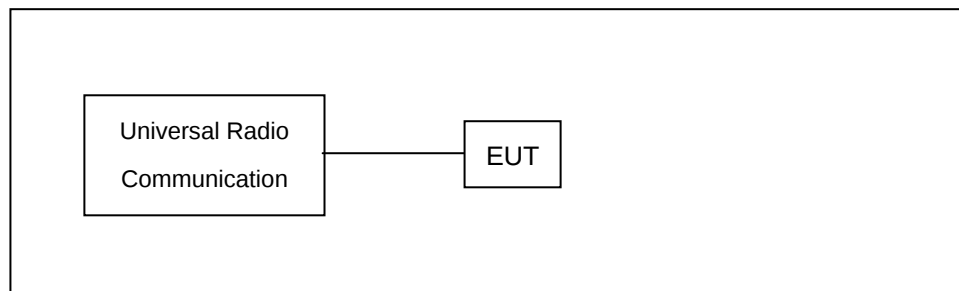
N/A

■ Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Cycle
Universal Radio Communication Tester	R & S	CMU200	112387	02/25/2016	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

■ Test Setup



■ Test Procedure

- The EUT was set up for the maximum power with with simulator.
- Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

■ Uncertainty

The measurement uncertainty is defined as for RF output power measurement is 1.2 dB.



Test Result

Test Item	Conducted Output Power
Date of Test	06/28/2016

Bands	Modulation Type	Data Rate	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
GPRS 850 Multi Class :12 Max Up:4 Max Down:4 Sum:5	GMSK	4Down1Up (Duty Factor 1/8)	824.2	32.60	1.820	32.81	1.910
			836.6	32.54	1.795	32.75	1.884
			848.8	32.42	1.746	32.60	1.820
		3Down2Up (Duty Factor 2/8)	824.2	30.44	1.107	30.65	1.161
			836.6	30.38	1.091	30.54	1.132
			848.8	30.26	1.062	30.43	1.104
		2Down3Up (Duty Factor 3/8)	824.2	28.46	0.701	28.59	0.723
			836.6	28.40	0.692	28.54	0.714
			848.8	28.28	0.673	28.51	0.710
		1Down4Up (Duty Factor 4/8)	824.2	27.03	0.505	27.19	0.524
			836.6	26.97	0.498	27.18	0.522
			848.8	26.85	0.484	27.01	0.502
EGPRS 850 Multi Class :12 Max Up:4 Max Down:4 Sum:5	8PSK	4Down1Up (Duty Factor 1/8)	824.2	27.01	0.502	30.27	1.064
			836.6	26.96	0.497	30.22	1.052
			848.8	26.78	0.476	29.91	0.979
		3Down2Up (Duty Factor 2/8)	824.2	25.36	0.344	28.58	0.721
			836.6	25.31	0.340	28.54	0.714
			848.8	25.13	0.326	28.33	0.681
		2Down3Up (Duty Factor 3/8)	824.2	23.82	0.241	27.01	0.502
			836.6	23.77	0.238	26.96	0.497
			848.8	23.59	0.229	26.83	0.482
		1Down4Up (Duty Factor 4/8)	824.2	22.64	0.184	25.90	0.389
			836.6	22.59	0.182	25.84	0.384
			848.8	22.41	0.174	25.64	0.366

Note: The peak power testing result was used peak detector.

Bands	Modulation Type	Data Rate	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
GPRS 1900 Multi Class :12 Max Up:4 Max Down:4 Sum:5	GMSK	4Down1Up (Duty Factor 1/8)	1850.20	29.16	0.824	29.29	0.849
			1880.00	29.06	0.805	29.20	0.832
			1909.80	29.03	0.800	29.16	0.824
		3Down2Up (Duty Factor 2/8)	1850.20	27.28	0.535	27.49	0.561
			1880.00	27.18	0.522	27.44	0.555
			1909.80	27.15	0.519	27.41	0.551
		2Down3Up (Duty Factor 3/8)	1850.20	25.63	0.366	25.72	0.373
			1880.00	25.53	0.357	25.71	0.372
			1909.80	25.50	0.355	25.61	0.364
		1Down4Up (Duty Factor 4/8)	1850.20	24.06	0.255	24.20	0.263
			1880.00	23.96	0.249	24.19	0.262
			1909.80	23.93	0.247	24.18	0.262
EGPRS 1900 Multi Class :12 Max Up:4 Max Down:4 Sum:5	8PSK	4Down1Up (Duty Factor 1/8)	1850.20	25.19	0.330	28.38	0.689
			1880.00	25.14	0.327	28.35	0.684
			1909.80	25.08	0.322	28.29	0.675
		3Down2Up (Duty Factor 2/8)	1850.20	23.51	0.224	26.71	0.469
			1880.00	23.46	0.222	26.64	0.461
			1909.80	23.40	0.219	26.59	0.456
		2Down3Up (Duty Factor 3/8)	1850.20	21.99	0.158	25.22	0.333
			1880.00	21.94	0.156	25.18	0.330
			1909.80	21.88	0.154	25.05	0.320
		1Down4Up (Duty Factor 4/8)	1850.20	20.94	0.124	24.14	0.259
			1880.00	20.89	0.123	24.13	0.259
			1909.80	20.83	0.121	24.02	0.252

Note: The peak power testing result was used peak detector.

Bands	Modulation Type	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
WCDMA Band II	QPSK	-----	1852.4	23.08	0.203	26.34	0.431
			1880.0	22.84	0.192	26.11	0.408
			1907.6	22.61	0.182	25.88	0.387
HSDPA Band II	QPSK	1	1852.4	22.31	0.170	25.43	0.349
			1880.0	22.09	0.162	25.33	0.341
			1907.6	21.87	0.154	25.07	0.321
		2	1852.4	22.26	0.168	25.42	0.348
			1880.0	22.03	0.160	25.31	0.340
			1907.6	21.79	0.151	24.92	0.310
		3	1852.4	21.79	0.151	25.03	0.318
			1880.0	21.55	0.143	24.68	0.294
			1907.6	21.32	0.136	24.42	0.277
		4	1852.4	21.75	0.150	24.84	0.305
			1880.0	21.51	0.142	24.79	0.301
			1907.6	21.28	0.134	24.57	0.286
HSUPA Band II	QPSK	1	1852.4	21.78	0.151	24.97	0.314
			1880.0	21.54	0.143	24.64	0.291
			1907.6	21.30	0.135	24.42	0.277
		2	1852.4	19.79	0.095	22.91	0.195
			1880.0	19.52	0.090	22.67	0.185
			1907.6	19.26	0.084	22.53	0.179
		3	1852.4	20.76	0.119	23.89	0.245
			1880.0	20.50	0.112	23.63	0.231
			1907.6	20.25	0.106	23.41	0.219
		4	1852.4	19.73	0.094	22.94	0.197
			1880.0	19.46	0.088	22.69	0.186
			1907.6	19.23	0.084	22.37	0.173
		5	1852.4	21.70	0.148	24.94	0.312
			1880.0	21.43	0.139	24.64	0.291
			1907.6	21.17	0.131	24.27	0.267

Note: The peak power testing result was used peak detector.

Bands	Modulation Type	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
WCDMA Band V	QPSK	-----	826.4	23.24	0.211	26.36	0.433
			836.6	23.02	0.200	26.28	0.425
			846.6	22.86	0.193	26.04	0.402
HSDPA Band V	QPSK	1	826.4	22.45	0.176	25.66	0.368
			836.6	22.20	0.166	25.36	0.344
			846.6	22.02	0.159	25.27	0.337
		2	826.4	22.40	0.174	25.56	0.360
			836.6	22.14	0.164	25.40	0.347
			846.6	21.94	0.156	25.09	0.323
		3	826.4	21.93	0.156	25.03	0.318
			836.6	21.66	0.147	24.84	0.305
			846.6	21.47	0.140	24.57	0.286
		4	826.4	21.89	0.155	25.16	0.328
			836.6	21.62	0.145	24.78	0.301
			846.6	21.43	0.139	24.70	0.295
HSUPA Band V	QPSK	1	826.4	21.91	0.155	25.12	0.325
			836.6	21.63	0.146	24.74	0.298
			846.6	21.44	0.139	24.58	0.287
		2	826.4	19.92	0.098	23.18	0.208
			836.6	19.61	0.091	22.82	0.191
			846.6	19.40	0.087	22.53	0.179
		3	826.4	20.89	0.123	24.13	0.259
			836.6	20.59	0.115	23.83	0.242
			846.6	20.39	0.109	23.63	0.231
		4	826.4	19.86	0.097	23.14	0.206
			836.6	19.55	0.090	22.72	0.187
			846.6	19.37	0.086	22.48	0.177
		5	826.4	21.83	0.152	25.07	0.321
			836.6	21.52	0.142	24.79	0.301
			846.6	21.31	0.135	24.45	0.279

Note: The peak power testing result was used peak detector.



2.2. Effective Radiated Power / Equivalent Isotropic Radiated Power Test

■ Limit

For FCC Part 22.913(a)(2): The E.R.P. of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

For FCC Part 24.232(c): The E.I.R.P. of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

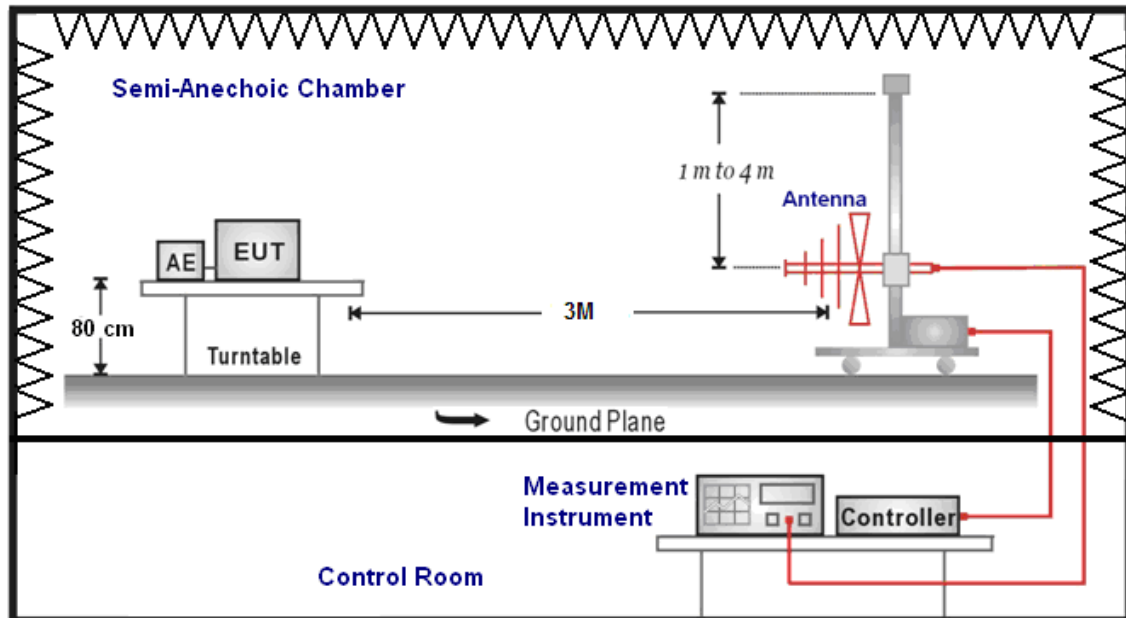
■ Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Cycle
RF Pre-selector	Agilent	N9039A	MY46520256	01/08/2016	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/08/2016	1 year
Pre Amplifier	Agilent	8449B	3008A02237	10/07/2015	1 year
Pre Amplifier	Agilent	8447D	2944A11119	01/11/2016	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	416	09/25/2015	1 year
Sleeve Dipole(CF880) (780-980MHz)	ETS	3126-880	00064344	10/06/2014	2 years
Sleeve Dipole(CF1845) (1695-1995MHz)	ETS	3126-1845	00083335	10/06/2014	2 years
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/06/2016	1 year
Horn Antenna (18~40GHz)	ETS	3116	00086467	09/01/2015	1 year
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/18/2016	1 year
Microwave Cable	EMCI	EMC102-KM-KM- 14000	151001	10/15/2015	1 year
Microwave Cable	EMCI	EMC-104-SM-SM -14000	140202	10/15/2015	1 year
Microwave Cable	EMCI	EMC104-SM-SM- 600	140301	10/15/2015	1 year
Signal Generator	Agilent	E8257D	MY44320425	02/25/2016	1 year
Test Site	ATL	TE01	888001	08/27/2015	1 year

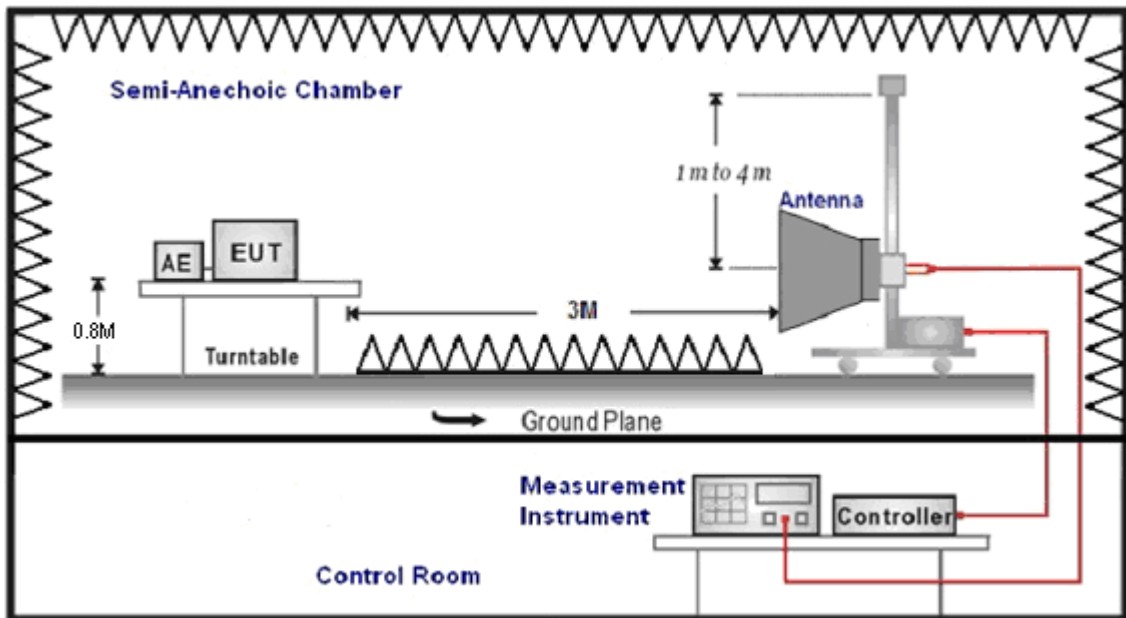
Note: N.C.R. = No Calibration Request.

■ Setup

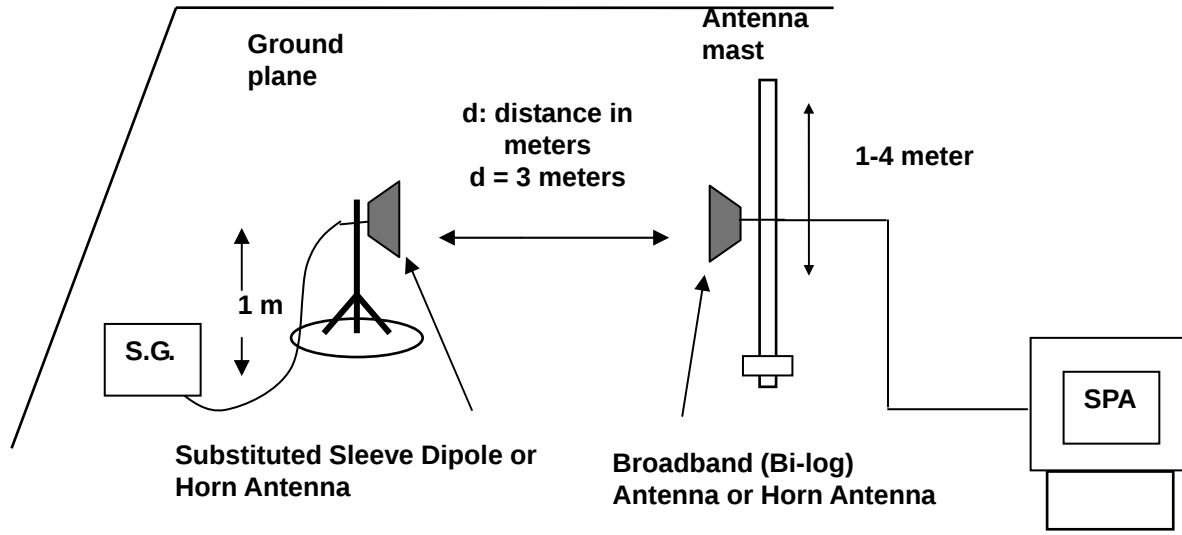
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



■ Test Procedure

- The EUT was set up for the maximum power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RWB and VBW is 5MHz for LTE mode.
- E.I.R.P power measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution antenna (Note:1 & 2) is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G.
- $E.I.R.P. = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$
- $E.R.P. = E.I.R.P. - 2.15 \text{ dB}$

Note: 1. Below 1 GHz Substituted Method Test : Sleeve dipole antenna to Bi-Log Antenna

2. Above 1 GHz Substituted Method Test : Horn antenna to Horn Antenna

■ Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is $\pm 3.072 \text{ dB}$.

■ Test Result

Test Item	E.I.R.P. / E.R.P.
Date of Test	08/11/2016

Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.R.P.		Limit (W)
						(dBm)	(W)	
GPRS 850	GMSK	824.2	H	18.50	11.24	29.74	0.942	< 7
			V	19.73	11.24	30.97	1.250	< 7
		836.6	H	18.47	11.42	29.89	0.975	< 7
			V	19.79	11.42	31.21	1.321	< 7
		848.8	H	17.85	11.60	29.45	0.881	< 7
			V	18.82	11.60	30.42	1.102	< 7
EGPRS 850	8PSK	824.2	H	11.91	11.24	23.15	0.207	< 7
			V	14.70	11.24	25.94	0.393	< 7
		836.6	H	13.01	11.42	24.43	0.277	< 7
			V	14.54	11.43	25.97	0.395	< 7
		848.8	H	12.65	11.59	24.24	0.265	< 7
			V	14.48	11.60	26.08	0.406	< 7

Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.I.R.P.		Limit (W)
						(dBm)	(W)	
GPRS 1900	GMSK	1850.20	H	19.99	9.48	29.47	0.885	< 2
			V	20.54	9.48	30.02	1.005	< 2
		1880.00	H	19.47	9.60	29.07	0.807	< 2
			V	19.99	9.60	29.59	0.910	< 2
		1909.80	H	19.24	9.72	28.96	0.787	< 2
			V	20.26	9.72	29.98	0.995	< 2
EGPRS 1900	8PSK	1850.20	H	13.84	9.48	23.32	0.215	< 2
			V	15.95	9.48	25.43	0.349	< 2
		1880.00	H	13.63	9.60	23.23	0.210	< 2
			V	15.78	9.60	25.38	0.345	< 2
		1909.80	H	13.12	9.72	22.84	0.192	< 2
			V	14.76	9.72	24.48	0.281	< 2

Note: 1. E.R.P./E.I.R.P. = Read Level + Correction factor.

2. For WCDMA and CDMA signals, a peak detector is used with RBW = VBW = 5MHz.

3. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW= 1 MHz.

Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.I.R.P.		Limit
						(dBm)	(W)	
WCDMA Band II	QPSK	1852.4	H	11.30	9.48	20.78	0.120	< 2W
			V	13.78	9.48	23.26	0.212	< 2W
		1880.0	H	12.95	9.60	22.55	0.180	< 2W
			V	13.97	9.60	23.57	0.228	< 2W
		1907.6	H	12.47	9.72	22.19	0.166	< 2W
			V	13.85	9.72	23.57	0.228	< 2W

Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.R.P.		Limit
						(dBm)	(W)	
WCDMA Band V	QPSK	826.4	H	9.40	11.28	20.68	0.117	< 7W
			V	11.33	11.28	22.61	0.182	< 7W
		836.6	H	9.78	11.42	21.20	0.132	< 7W
			V	12.02	11.43	23.45	0.221	< 7W
		846.6	H	10.09	11.57	21.66	0.147	< 7W
			H	11.17	11.55	22.72	0.187	< 7W

Note: 1. E.R.P./E.I.R.P. = Read Level + Correction factor.

2. For WCDMA signals, a peak detector is used with RBW = VBW = 5MHz.

3. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW= 1 MHz.

2.3. Peak to Average Ratio Test

■ Limit

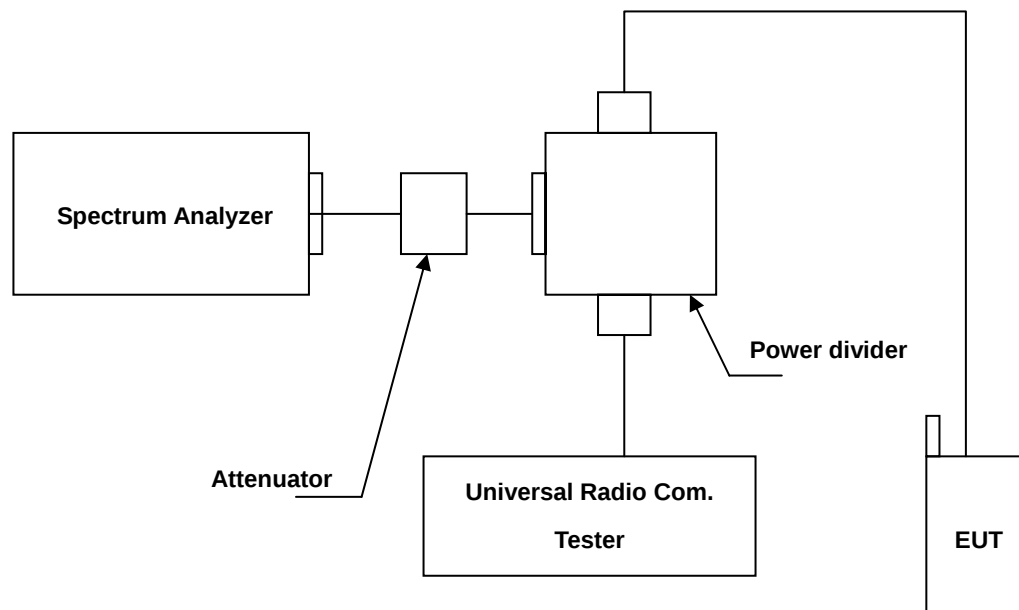
In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

■ Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Cycle
Universal Radio Communication Tester	R & S	CMU200	112387	02/25/2016	1 year
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/14/2015	1 year
Attenuator	Woken	WK0602-10	001	06/06/2016	2 year
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

■ Setup





■ Test Procedure

The measurement is made according to FCC rules:

- Set resolution/measurement bandwidth signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Record the maximum PAPR level associated with a probability of 0.1%.

■ Uncertainty

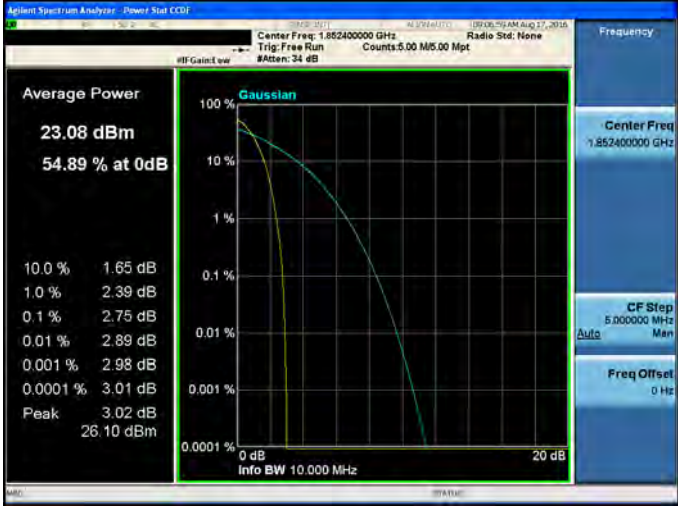
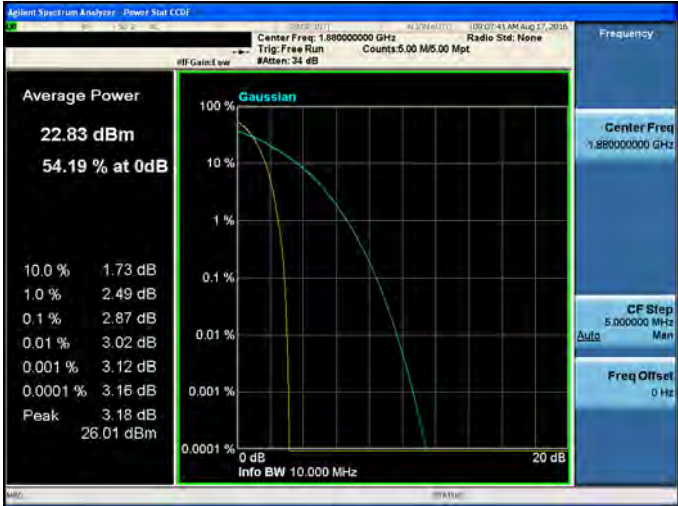
The measurement uncertainty is defined as for Conducted Power measurement is 1.2 dB.

■ Test Result

Test Item	Peak to Average Ratio
Date of Test	08/17/2016

Bands	Channel	Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
WCDMA Band II	9262	1852.4	2.75	< 13
	9400	1880.0	2.87	< 13
	9538	1907.6	3.13	< 13

Test Graphs

Mode 5: WCDMA Band II Link Mode																	
1850.20 MHz	 Agilent Spectrum Analyzer - Power Stat CCG Center Freq: 1.852400000 GHz Trig: Free Run Counts: 5.00 M/5.00 Mpt Radio Std: None #Atten: 34 dB Average Power 23.08 dBm 54.89 % at 0dB <table border="1"> <tr><td>10.0 %</td><td>1.65 dB</td></tr> <tr><td>1.0 %</td><td>2.39 dB</td></tr> <tr><td>0.1 %</td><td>2.75 dB</td></tr> <tr><td>0.01 %</td><td>2.89 dB</td></tr> <tr><td>0.001 %</td><td>2.98 dB</td></tr> <tr><td>0.0001 %</td><td>3.01 dB</td></tr> <tr><td>Peak</td><td>3.02 dB</td></tr> <tr><td></td><td>26.10 dBm</td></tr> </table> 0 dB Info BW 10.000 MHz 20 dB Frequency Center Freq 1.852400000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz	10.0 %	1.65 dB	1.0 %	2.39 dB	0.1 %	2.75 dB	0.01 %	2.89 dB	0.001 %	2.98 dB	0.0001 %	3.01 dB	Peak	3.02 dB		26.10 dBm
10.0 %	1.65 dB																
1.0 %	2.39 dB																
0.1 %	2.75 dB																
0.01 %	2.89 dB																
0.001 %	2.98 dB																
0.0001 %	3.01 dB																
Peak	3.02 dB																
	26.10 dBm																
1880.00 MHz	 Agilent Spectrum Analyzer - Power Stat CCG Center Freq: 1.880000000 GHz Trig: Free Run Counts: 5.00 M/5.00 Mpt Radio Std: None #Atten: 34 dB Average Power 22.83 dBm 54.19 % at 0dB <table border="1"> <tr><td>10.0 %</td><td>1.73 dB</td></tr> <tr><td>1.0 %</td><td>2.49 dB</td></tr> <tr><td>0.1 %</td><td>2.87 dB</td></tr> <tr><td>0.01 %</td><td>3.02 dB</td></tr> <tr><td>0.001 %</td><td>3.12 dB</td></tr> <tr><td>0.0001 %</td><td>3.16 dB</td></tr> <tr><td>Peak</td><td>3.18 dB</td></tr> <tr><td></td><td>26.01 dBm</td></tr> </table> 0 dB Info BW 10.000 MHz 20 dB Frequency Center Freq 1.880000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz	10.0 %	1.73 dB	1.0 %	2.49 dB	0.1 %	2.87 dB	0.01 %	3.02 dB	0.001 %	3.12 dB	0.0001 %	3.16 dB	Peak	3.18 dB		26.01 dBm
10.0 %	1.73 dB																
1.0 %	2.49 dB																
0.1 %	2.87 dB																
0.01 %	3.02 dB																
0.001 %	3.12 dB																
0.0001 %	3.16 dB																
Peak	3.18 dB																
	26.01 dBm																
1909.80 MHz	 Agilent Spectrum Analyzer - Power Stat CCG Center Freq: 1.907800000 GHz Trig: Free Run Counts: 5.00 M/5.00 Mpt Radio Std: None #Atten: 34 dB Average Power 22.61 dBm 52.97 % at 0dB <table border="1"> <tr><td>10.0 %</td><td>1.80 dB</td></tr> <tr><td>1.0 %</td><td>2.69 dB</td></tr> <tr><td>0.1 %</td><td>3.13 dB</td></tr> <tr><td>0.01 %</td><td>3.30 dB</td></tr> <tr><td>0.001 %</td><td>3.41 dB</td></tr> <tr><td>0.0001 %</td><td>3.47 dB</td></tr> <tr><td>Peak</td><td>3.48 dB</td></tr> <tr><td></td><td>26.09 dBm</td></tr> </table> 0 dB Info BW 10.000 MHz 20 dB Frequency Center Freq 1.907800000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz	10.0 %	1.80 dB	1.0 %	2.69 dB	0.1 %	3.13 dB	0.01 %	3.30 dB	0.001 %	3.41 dB	0.0001 %	3.47 dB	Peak	3.48 dB		26.09 dBm
10.0 %	1.80 dB																
1.0 %	2.69 dB																
0.1 %	3.13 dB																
0.01 %	3.30 dB																
0.001 %	3.41 dB																
0.0001 %	3.47 dB																
Peak	3.48 dB																
	26.09 dBm																

2.4. Emission Bandwidth & Occupied Bandwidth Test

■ Limit

The Occupied Bandwidth Limit:

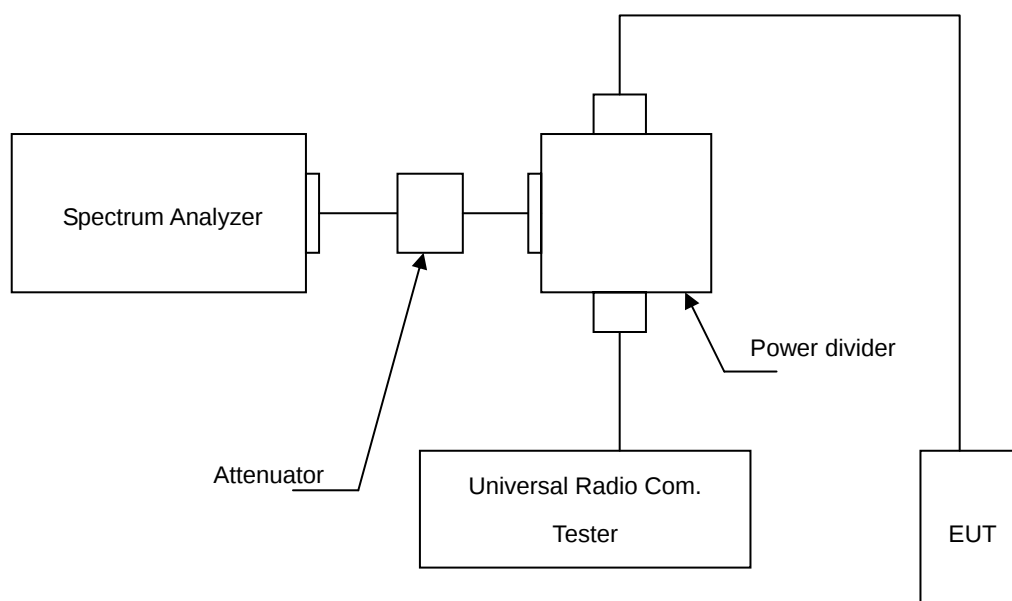
N/A.

■ Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Cycle
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/14/2015	1 year
Universal Radio Communication Tester	R & S	CMU200	112387	02/25/2016	1 year
Attenuator	Woken	WK0602-10	001	06/06/2016	2 year
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

■ Setup



■ Test Procedure

The measurement is made according to FCC rules part 22 and 24:

1. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
2. The occupied bandwidth of middle channel for the highest and lowest RF powers was measured.

■ Uncertainty

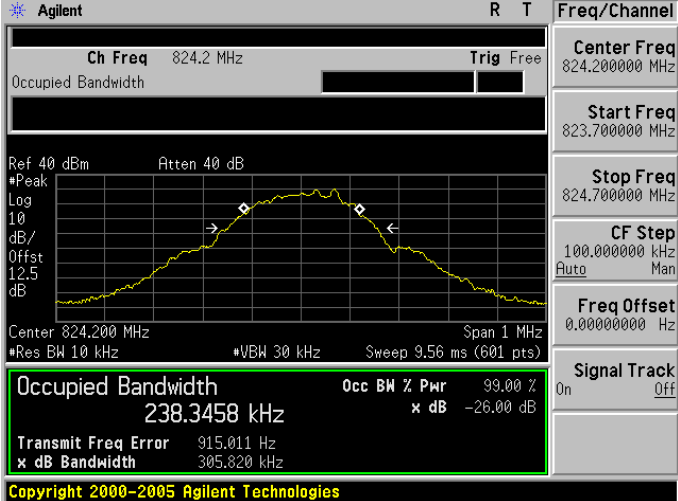
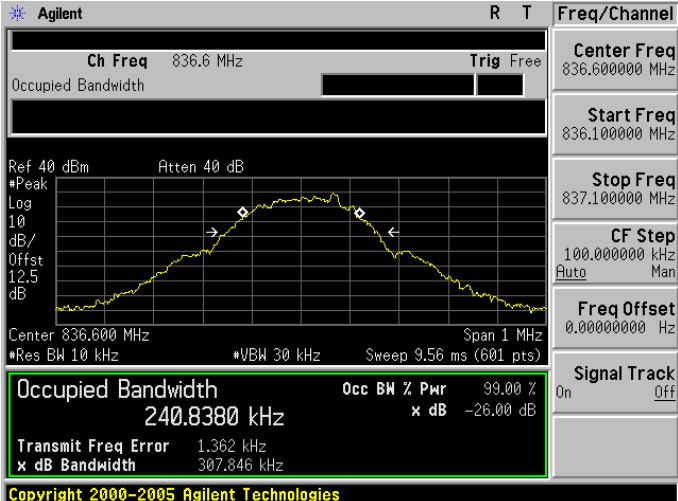
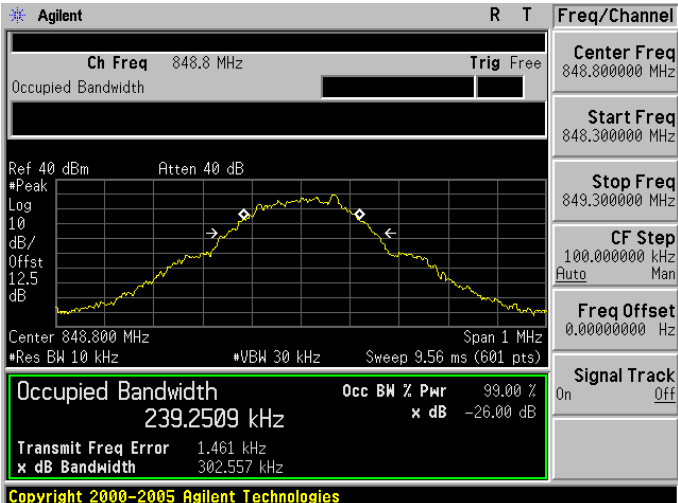
The measurement uncertainty is defined as $\pm 10\text{Hz}$

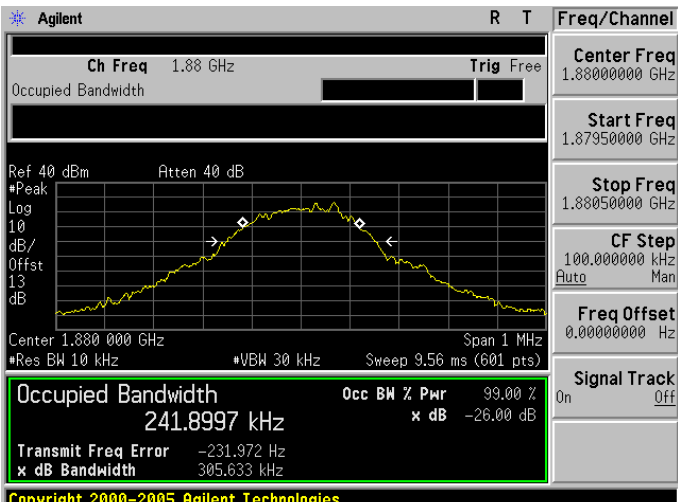
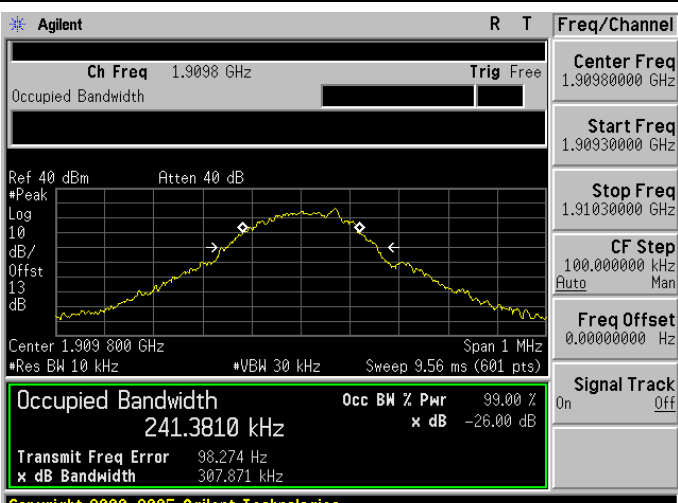
■ Test Result

Test Item	Emission Bandwidth & Occupied Bandwidth
Date of Test	08/16/2016

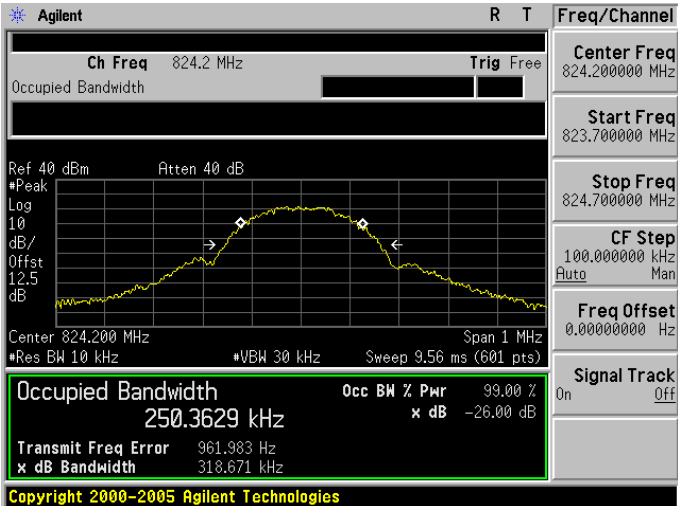
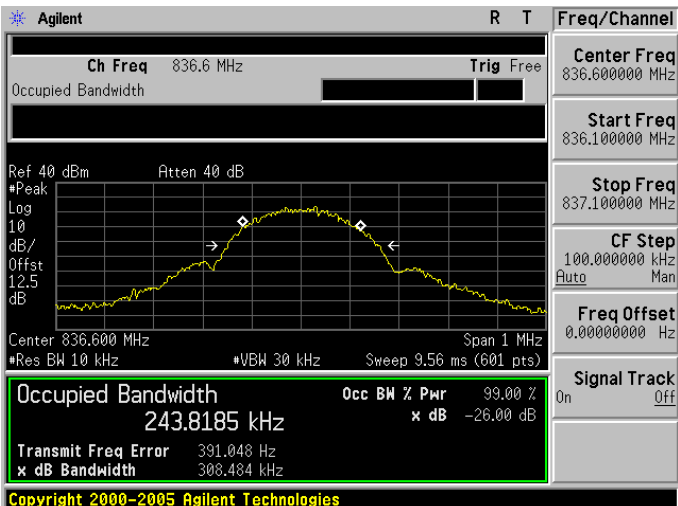
Bands	Channel	Frequency (MHz)	-26dB Bandwidth (kHz)	99% Bandwidth (kHz)	Note
GPRS 850	128	824.2	305.820	238.3458	RBW:10KHz , VBW:30KHz
	190	836.6	307.846	240.8380	RBW:10KHz , VBW:30KHz
	251	848.8	302.557	239.2509	RBW:10KHz , VBW:30KHz
GPRS 1900	512	1850.20	312.383	237.9491	RBW:10KHz , VBW:30KHz
	661	1880.00	305.633	241.8997	RBW:10KHz , VBW:30KHz
	810	1909.80	307.871	241.3810	RBW:10KHz , VBW:30KHz
EGPRS 850	128	824.2	318.671	250.3629	RBW:10KHz , VBW:30KHz
	190	836.6	308.484	243.8185	RBW:10KHz , VBW:30KHz
	251	848.8	316.623	246.7676	RBW:10KHz , VBW:30KHz
EGPRS 1900	512	1850.20	316.093	245.9045	RBW:10KHz , VBW:30KHz
	661	1880.00	310.039	243.3843	RBW:10KHz , VBW:30KHz
	810	1909.80	315.479	242.7117	RBW:10KHz , VBW:30KHz
WCDMA Band II	9262	1852.4	4672	4064.6	RBW:100KHz , VBW:300KHz
	9400	1880.0	4622	4068.6	RBW:100KHz , VBW:300KHz
	9538	1907.6	4646	4064.6	RBW:100KHz , VBW:300KHz
WCDMA Band V	4132	826.4	4631	4079.8	RBW:100KHz , VBW:300KHz
	4183	836.6	4596	4074.0	RBW:100KHz , VBW:300KHz
	4233	846.6	4622	4058.8	RBW:100KHz , VBW:300KHz

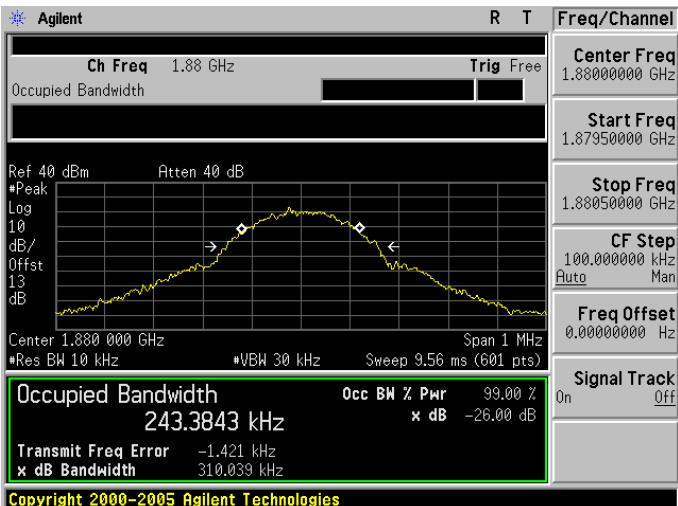
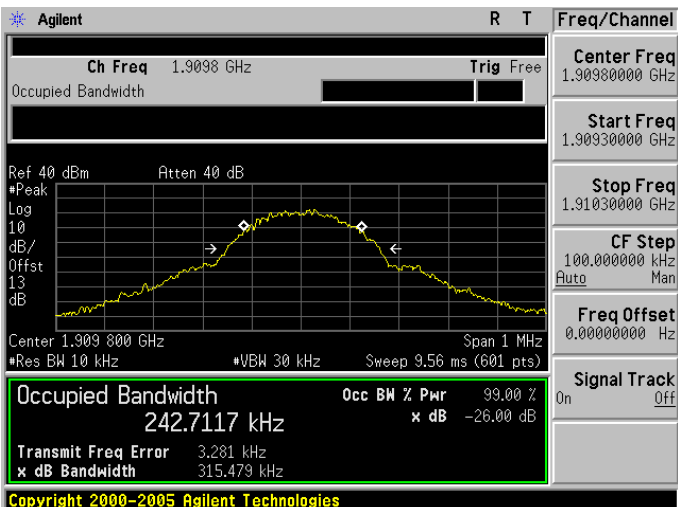
■ Test Graphs

Mode 1: GPRS 850 Link Mode	
824.2 MHz	 Agilent R T Freq/Channel Ch Freq 824.2 MHz Trig Free Occupied Bandwidth Ref 40 dBm Atten 40 dB #Peak Log 10 dB/ Offst 12.5 dB Center 824.200 MHz Span 1 MHz #Res BW 10 kHz #VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 238.3458 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 915.011 Hz x dB Bandwidth 305.820 kHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 824.200000 MHz Start Freq 823.700000 MHz Stop Freq 824.700000 MHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
836.6 MHz	 Agilent R T Freq/Channel Ch Freq 836.6 MHz Trig Free Occupied Bandwidth Ref 40 dBm Atten 40 dB #Peak Log 10 dB/ Offst 12.5 dB Center 836.600 MHz Span 1 MHz #Res BW 10 kHz #VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 240.8380 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 1.362 kHz x dB Bandwidth 307.846 kHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 836.600000 MHz Start Freq 836.100000 MHz Stop Freq 837.100000 MHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
848.8 MHz	 Agilent R T Freq/Channel Ch Freq 848.8 MHz Trig Free Occupied Bandwidth Ref 40 dBm Atten 40 dB #Peak Log 10 dB/ Offst 12.5 dB Center 848.800 MHz Span 1 MHz #Res BW 10 kHz #VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 239.2509 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 1.461 kHz x dB Bandwidth 302.557 kHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 848.800000 MHz Start Freq 848.300000 MHz Stop Freq 849.300000 MHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

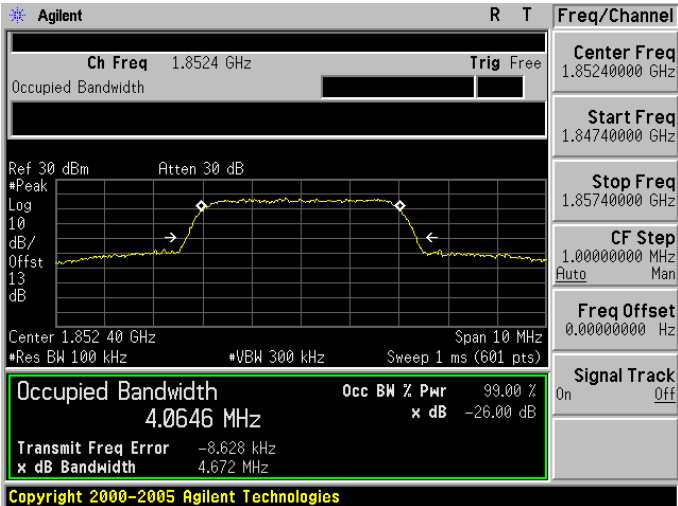
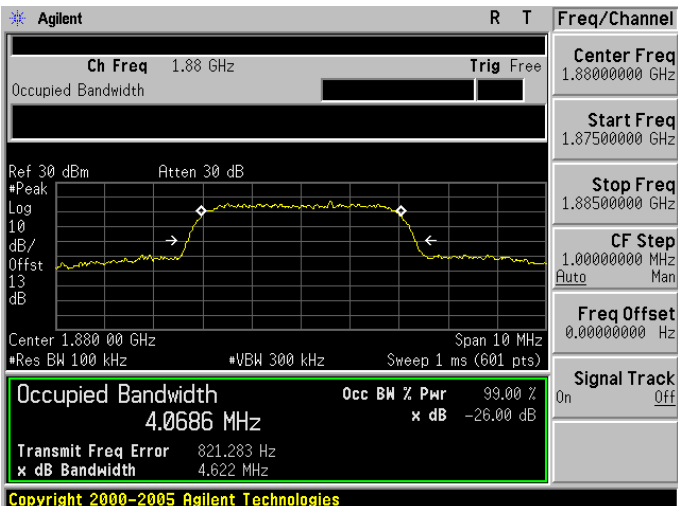
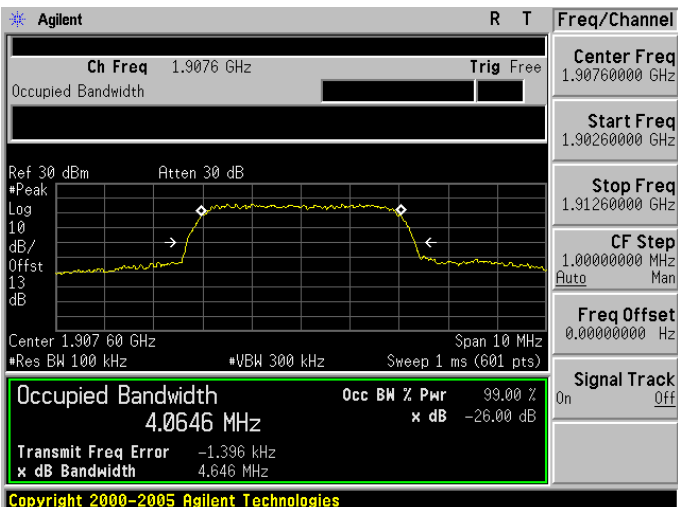
Mode 2: GPRS 1900 Link Mode	
1850.20 MHz	 Copyright 2000-2005 Agilent Technologies
1880.00 MHz	 Copyright 2000-2005 Agilent Technologies
1909.80 MHz	 Copyright 2000-2005 Agilent Technologies



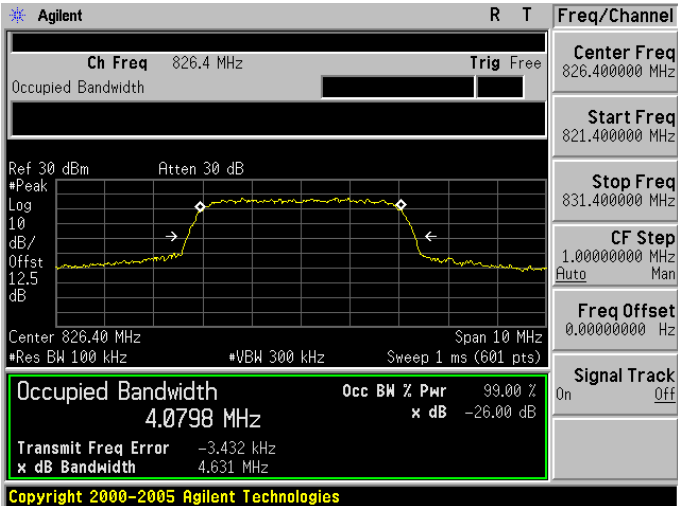
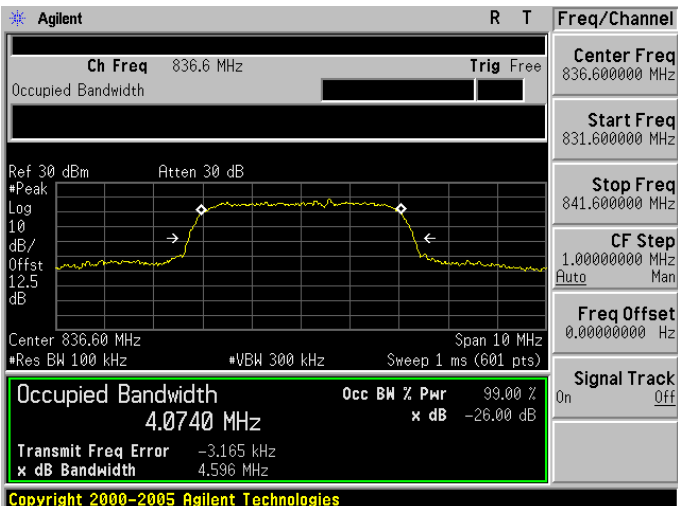
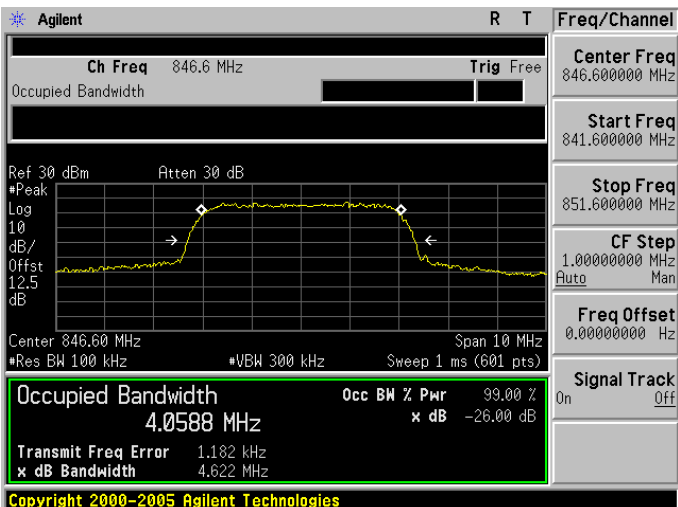
Mode 3: EGPRS 850 Link Mode	
824.2 MHz	 Agilent R T Freq/Channel Ch Freq 824.2 MHz Trig Free Occupied Bandwidth Ref 40 dBm Atten 40 dB Peak Log 10 dB/ Offset 12.5 dB Center 824.200 MHz Span 1 MHz Res BW 10 kHz VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 250.3629 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 961.983 Hz x dB Bandwidth 318.671 kHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 824.200000 MHz Start Freq 823.700000 MHz Stop Freq 824.700000 MHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
836.6 MHz	 Agilent R T Freq/Channel Ch Freq 836.6 MHz Trig Free Occupied Bandwidth Ref 40 dBm Atten 40 dB Peak Log 10 dB/ Offset 12.5 dB Center 836.600 MHz Span 1 MHz Res BW 10 kHz VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 243.8185 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 391.048 Hz x dB Bandwidth 308.484 kHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 836.600000 MHz Start Freq 836.100000 MHz Stop Freq 837.100000 MHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
848.8 MHz	 Agilent R T Freq/Channel Ch Freq 848.8 MHz Trig Free Occupied Bandwidth Ref 40 dBm Atten 40 dB Peak Log 10 dB/ Offset 12.5 dB Center 848.800 MHz Span 1 MHz Res BW 10 kHz VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 246.7676 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 9.209 Hz x dB Bandwidth 316.623 kHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 848.800000 MHz Start Freq 848.300000 MHz Stop Freq 849.300000 MHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

Mode 4: EGPRS 1900 Link Mode	
1850.20 MHz	 Agilent R T Freq/Channel Ch Freq 1.8502 GHz Trig Free Center Freq 1.8502000 GHz Start Freq 1.8497000 GHz Stop Freq 1.8507000 GHz CF Step 100.00000 kHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 40 dBm Atten 40 dB #Peak Log 10 dB/Offst 13 dB Center 1.850 200 GHz Span 1 MHz #Res BW 10 kHz #VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 245.9045 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 1.376 kHz x dB Bandwidth 316.093 kHz Copyright 2000-2005 Agilent Technologies
1880.00 MHz	 Agilent R T Freq/Channel Ch Freq 1.88 GHz Trig Free Center Freq 1.8800000 GHz Start Freq 1.8795000 GHz Stop Freq 1.8805000 GHz CF Step 100.00000 kHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 40 dBm Atten 40 dB #Peak Log 10 dB/Offst 13 dB Center 1.880 000 GHz Span 1 MHz #Res BW 10 kHz #VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 243.3843 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -1.421 kHz x dB Bandwidth 310.039 kHz Copyright 2000-2005 Agilent Technologies
1909.80 MHz	 Agilent R T Freq/Channel Ch Freq 1.9098 GHz Trig Free Center Freq 1.9098000 GHz Start Freq 1.9093000 GHz Stop Freq 1.9103000 GHz CF Step 100.00000 kHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off Ref 40 dBm Atten 40 dB #Peak Log 10 dB/Offst 13 dB Center 1.909 800 GHz Span 1 MHz #Res BW 10 kHz #VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 242.7117 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 3.281 kHz x dB Bandwidth 315.479 kHz Copyright 2000-2005 Agilent Technologies



Mode 5: WCDMA Band II Link Mode	
1850.20 MHz	 Agilent R T Freq/Channel Ch Freq 1.8524 GHz Trig Free Occupied Bandwidth Ref 30 dBm Atten 30 dB #Peak Log 10 dB/ Offst 13 dB Center 1.8524 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 4.0646 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -8.628 kHz x dB Bandwidth 4.672 MHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 1.85240000 GHz Start Freq 1.84740000 GHz Stop Freq 1.85740000 GHz CF Step 1.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
1880.00 MHz	 Agilent R T Freq/Channel Ch Freq 1.88 GHz Trig Free Occupied Bandwidth Ref 30 dBm Atten 30 dB #Peak Log 10 dB/ Offst 13 dB Center 1.8800 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 4.0686 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 821.283 Hz x dB Bandwidth 4.622 MHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 1.88000000 GHz Start Freq 1.87500000 GHz Stop Freq 1.88500000 GHz CF Step 1.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
1909.80 MHz	 Agilent R T Freq/Channel Ch Freq 1.9076 GHz Trig Free Occupied Bandwidth Ref 30 dBm Atten 30 dB #Peak Log 10 dB/ Offst 13 dB Center 1.9076 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 4.0646 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -1.396 kHz x dB Bandwidth 4.646 MHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 1.90760000 GHz Start Freq 1.90260000 GHz Stop Freq 1.91260000 GHz CF Step 1.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off



Mode 6: WCDMA Band V Link Mode	
826.4 MHz	 Agilent R T Freq/Channel Ch Freq 826.4 MHz Trig Free Occupied Bandwidth Ref 30 dBm Atten 30 dB #Peak Log 10 dB/Offst 12.5 dB Center 826.40 MHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 4.0798 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -3.432 kHz x dB Bandwidth 4.631 MHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 826.400000 MHz Start Freq 821.400000 MHz Stop Freq 831.400000 MHz CF Step 1.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
836.6 MHz	 Agilent R T Freq/Channel Ch Freq 836.6 MHz Trig Free Occupied Bandwidth Ref 30 dBm Atten 30 dB #Peak Log 10 dB/Offst 12.5 dB Center 836.60 MHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 4.0740 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -3.165 kHz x dB Bandwidth 4.596 MHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 836.600000 MHz Start Freq 831.600000 MHz Stop Freq 841.600000 MHz CF Step 1.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
846.6 MHz	 Agilent R T Freq/Channel Ch Freq 846.6 MHz Trig Free Occupied Bandwidth Ref 30 dBm Atten 30 dB #Peak Log 10 dB/Offst 12.5 dB Center 846.60 MHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 4.0588 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 1.182 kHz x dB Bandwidth 4.622 MHz Copyright 2000-2005 Agilent Technologies Freq/Channel Center Freq 846.600000 MHz Start Freq 841.600000 MHz Stop Freq 851.600000 MHz CF Step 1.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

2.5. Band Edge Test

■ Limit

The Band Edge Limit:

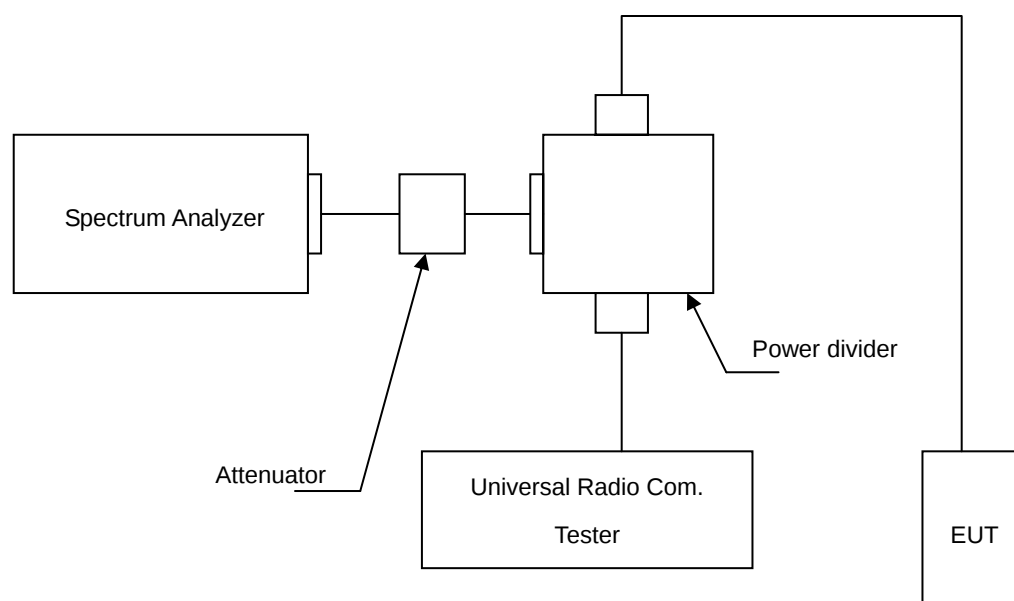
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P)$ dB.

■ Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Cycle
Universal Radio Communication Tester	R & S	CMU200	112387	02/25/2016	1 year
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/14/2015	1 year
Attenuator	Woken	WK0602-10	001	06/06/2016	2 year
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

■ Setup



■ Test Procedure

The measurement is made according to FCC rules part 22 and 24:

1. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
2. The band edge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly BW/100.
3. The band edge setting:
 - a. RB=10 kHz; VB=30 kHz for GSM 850 and PCS 1900.
 - b. RB=51 kHz; VB=160 kHz for WCDMA Band V and WCDMA Band II.

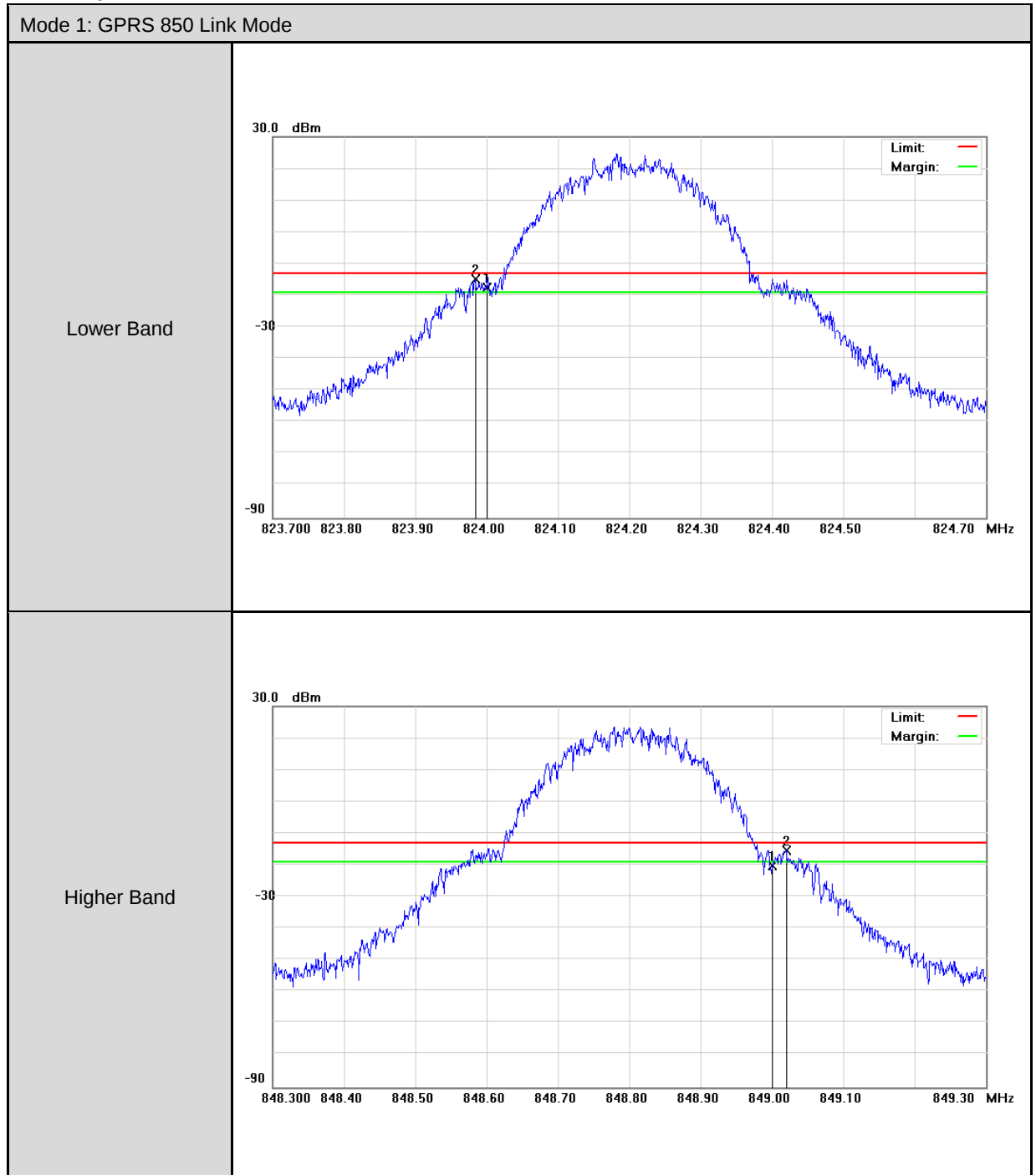
■ Uncertainty

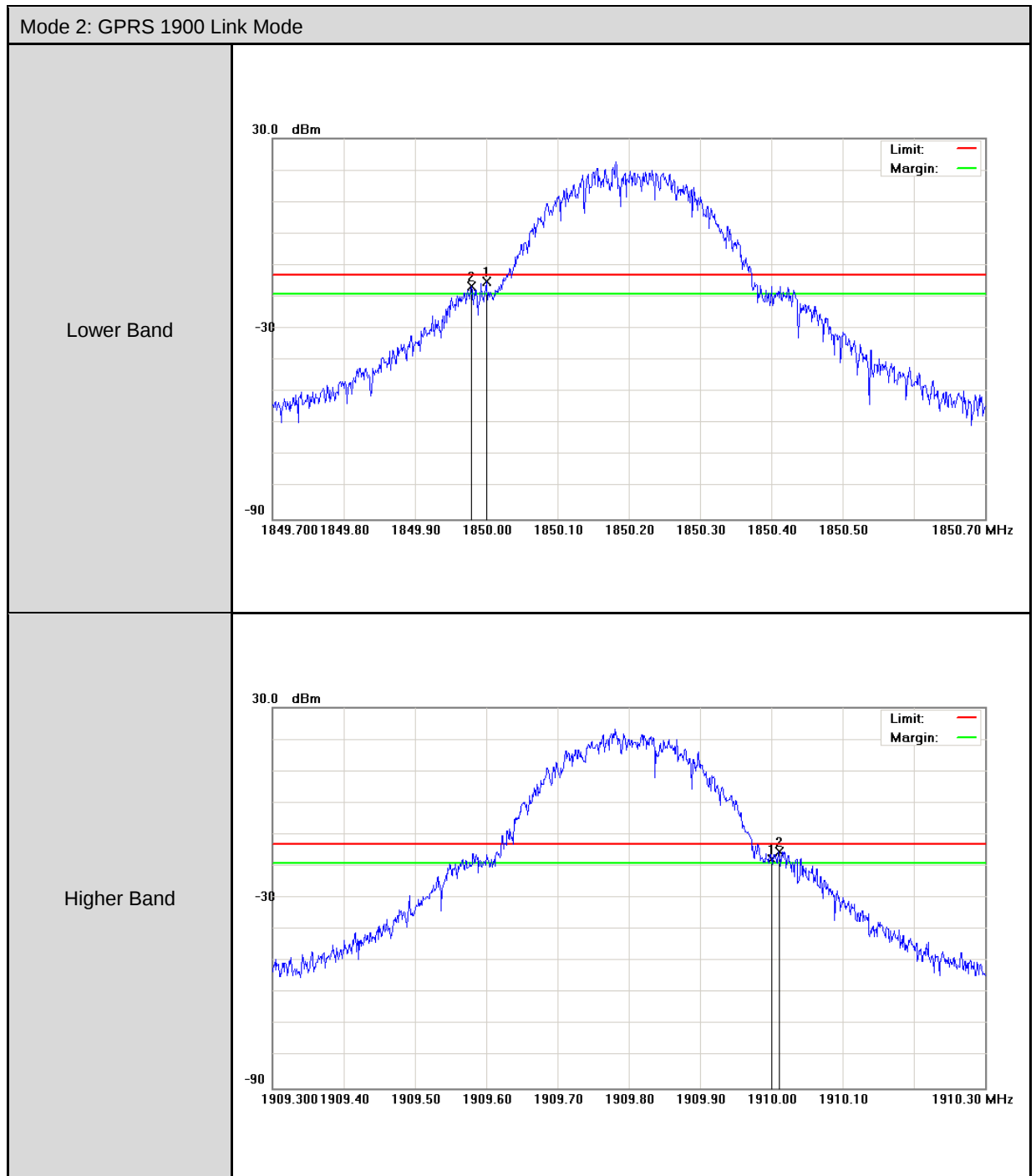
The measurement uncertainty is defined as $\pm 10\text{Hz}$

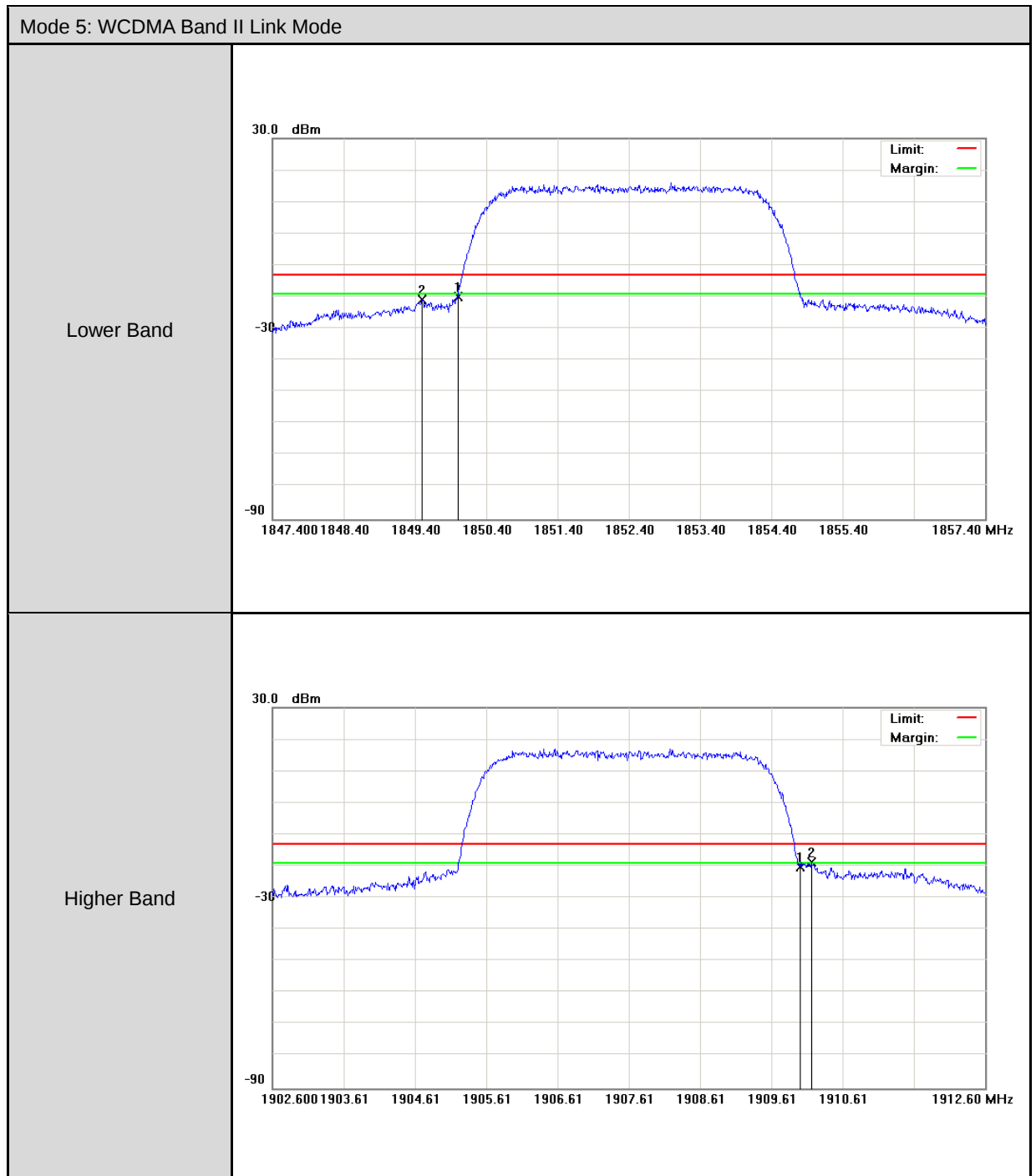
■ Test Result

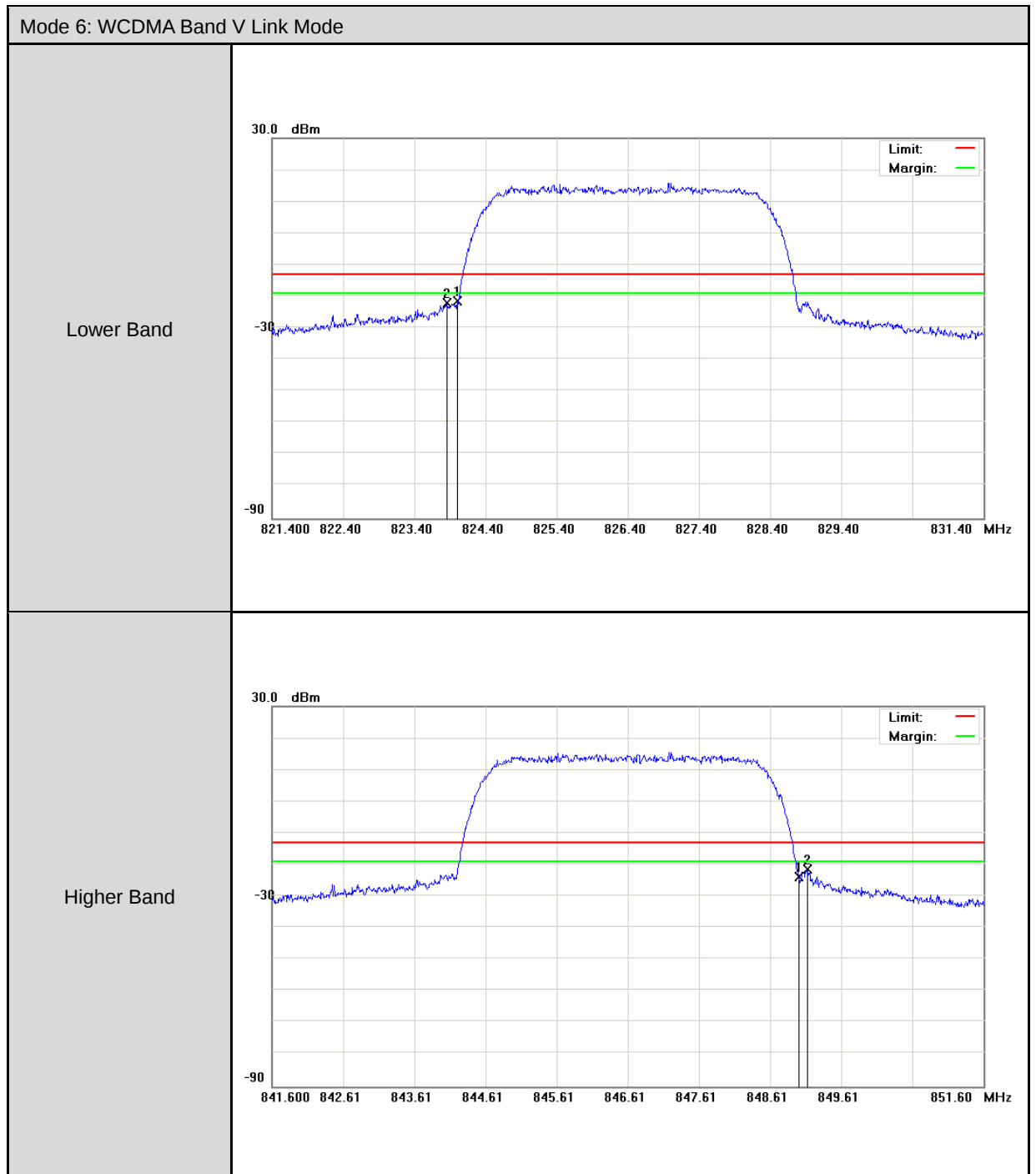
Date of Test		08/16/2016				
Bands		Channel	Frequency (MHz)	Bandwidth (dBm)	Limit (dBm)	Result
GPRS 850	Lower	128	824.0000	-14.78	-13	Pass
	Higher	251	849.0000	-15.53	-13	Pass
GPRS 1900	Lower	512	1850.000	-15.27	-13	Pass
	Higher	810	1910.000	-15.43	-13	Pass
WCDMA Band II	Lower	9262	1850.000	-19.82	-13	Pass
	Higher	9538	1910.000	-18.84	-13	Pass
WCDMA Band V	Lower	4132	824.0000	-21.55	-13	Pass
	Higher	4233	849.0000	-21.52	-13	Pass

Test Graphs









2.6. Conducted Spurious Emission Test

■ Limit

The power of any emission 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.

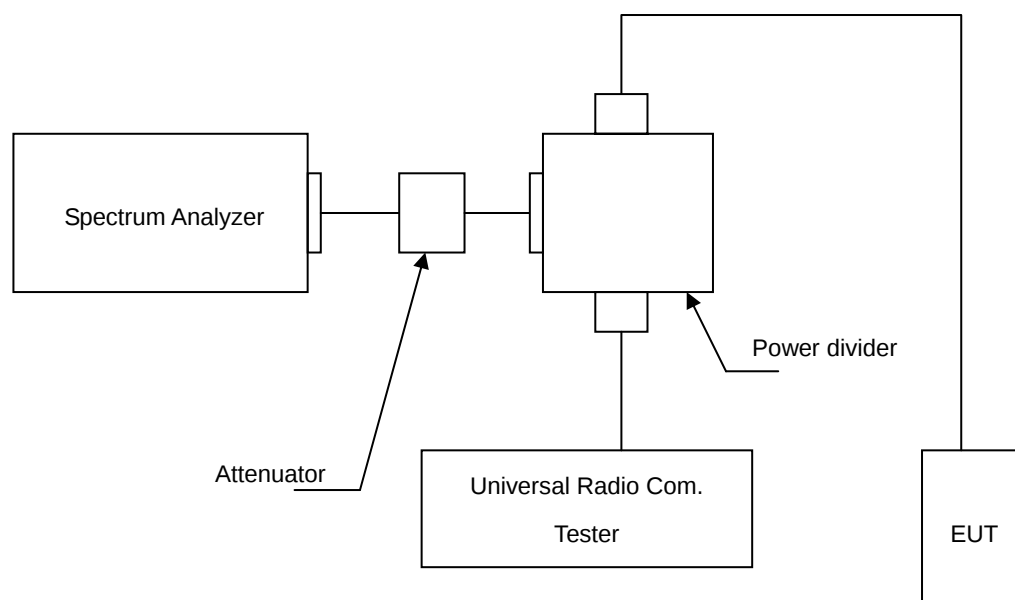
■ Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Cycle
Universal Radio Communication Tester	R & S	CMU200	112387	02/25/2016	1 year
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/14/2015	1 year
Attenuator	Woken	WK0602-10	001	06/06/2016	2 year
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE02	TE02	N.C.R.	-----

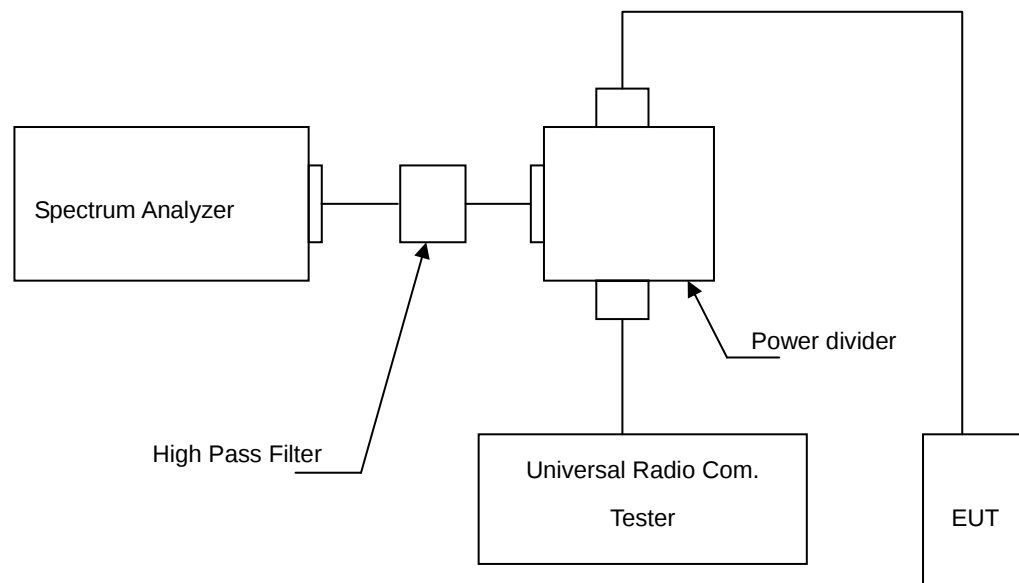
Note: N.C.R. = No Calibration Request.

■ Setup

Below 2.8GHz



Above 2.8GHz



■ Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.

■ Uncertainty

The measurement uncertainty is evaluated as ± 2.24 dB.

■ Test Result

Test Mode	Mode 1 / Mode 2 / Mode 4 / Mode 5
Date of Test	08/16/2016

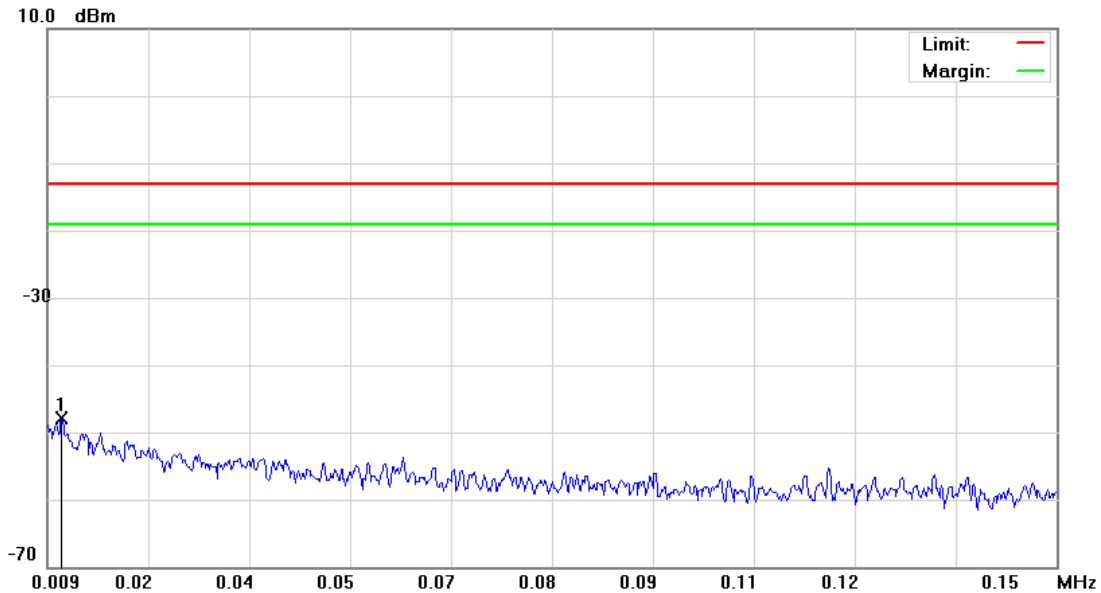


File :GTR-388A12(CH128)

Data :#1

Date: 2016/8/16

Time: 上午 11:02:26



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0110	-78.53	30.57	-47.96	-13.00	-34.96	peak		

*:Maximum data x:Over limit !:over margin



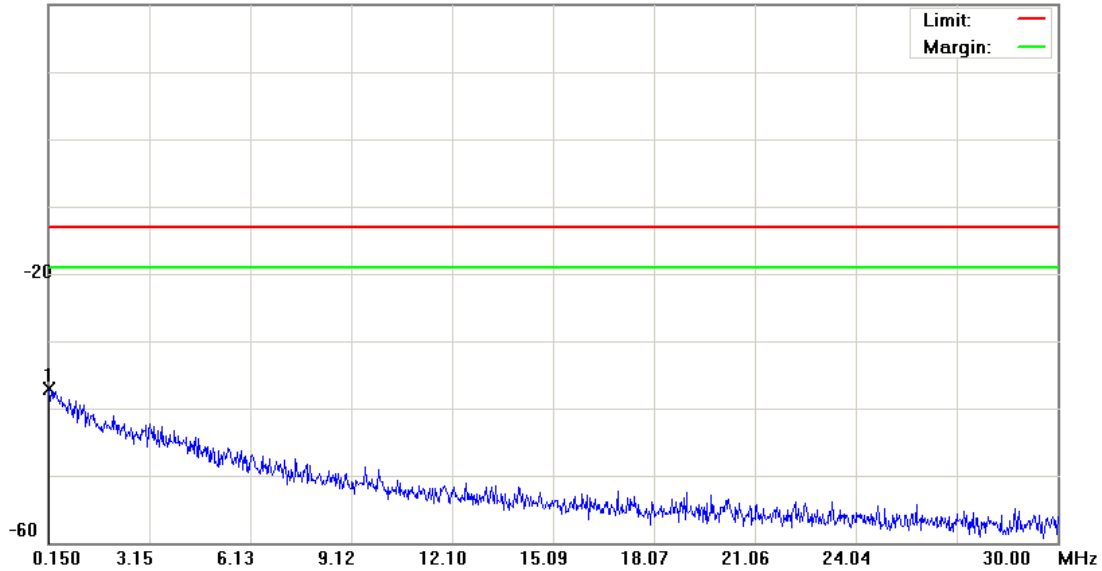
File :GTR-388A12(CH128)

Data :#2

Date: 2016/8/16

Time: 上午 11:02:50

20.0 dBm



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.1798	-67.90	30.75	-37.15	-13.00	-24.15	peak		

*:Maximum data x:Over limit !:over margin

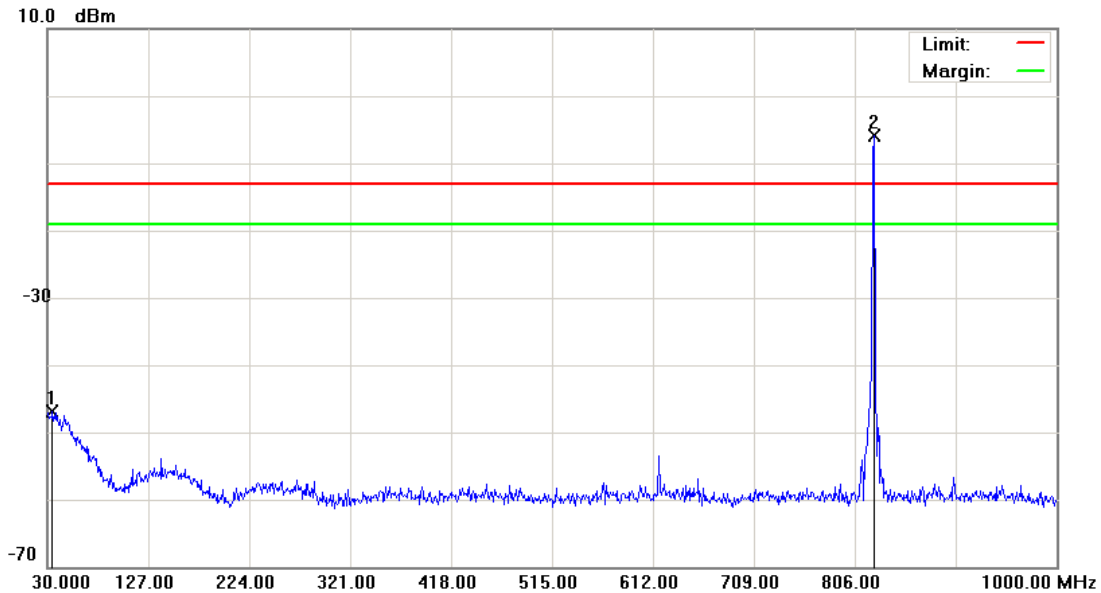


File :GTR-388A12(CH128)

Data :#3

Date: 2016/8/16

Time: 上午 11:03:14



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1		34.8500	-63.52	16.66	-46.86	-13.00	-33.86	peak		
2	*	824.4300	-9.71	3.84	-5.87	-13.00	7.13	peak		Tx

*:Maximum data x:Over limit !:over margin



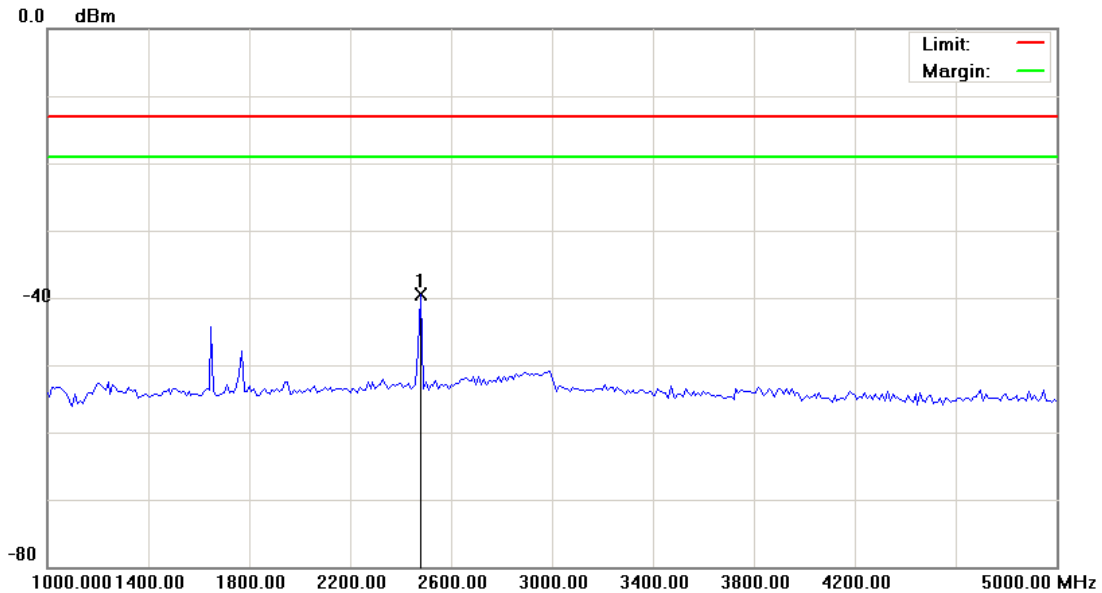
Report Number: 1608FR18

File :GTR-388A12(CH128)

Data :#4

Date: 2016/8/16

Time: 下午 01:32:43



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	2480.000	-43.85	4.43	-39.42	-13.00	-26.42	peak		Comment

*:Maximum data x:Over limit !:over margin



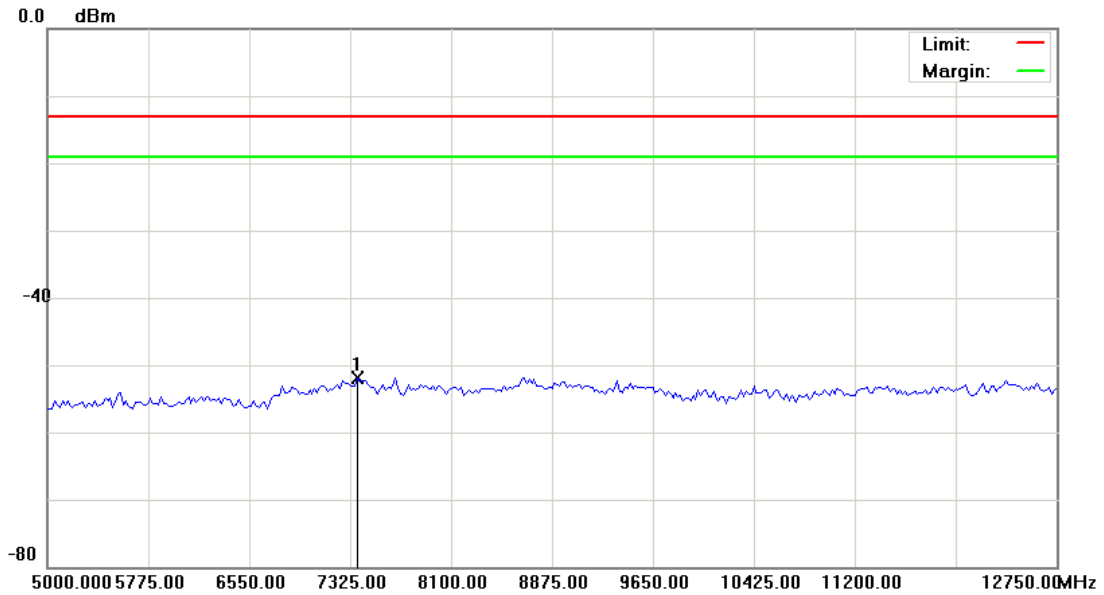
Report Number: 1608FR18

File :GTR-388A12(CH128)

Data :#5

Date: 2016/8/16

Time: 下午 01:33:03



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	7383.125	-56.96	5.14	-51.82	-13.00	-38.82	peak		

*:Maximum data x:Over limit !:over margin

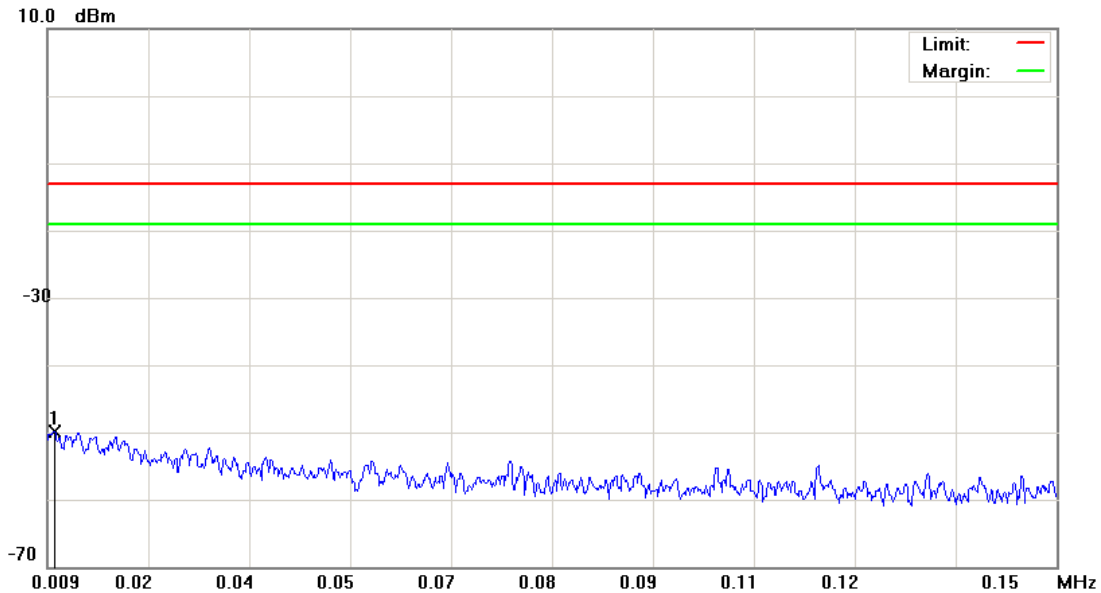


File :GTR-388A12(CH190)

Data :#1

Date: 2016/8/16

Time: 上午 11:05:41



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0100	-80.39	30.58	-49.81	-13.00	-36.81	peak		

*:Maximum data x:Over limit !:over margin



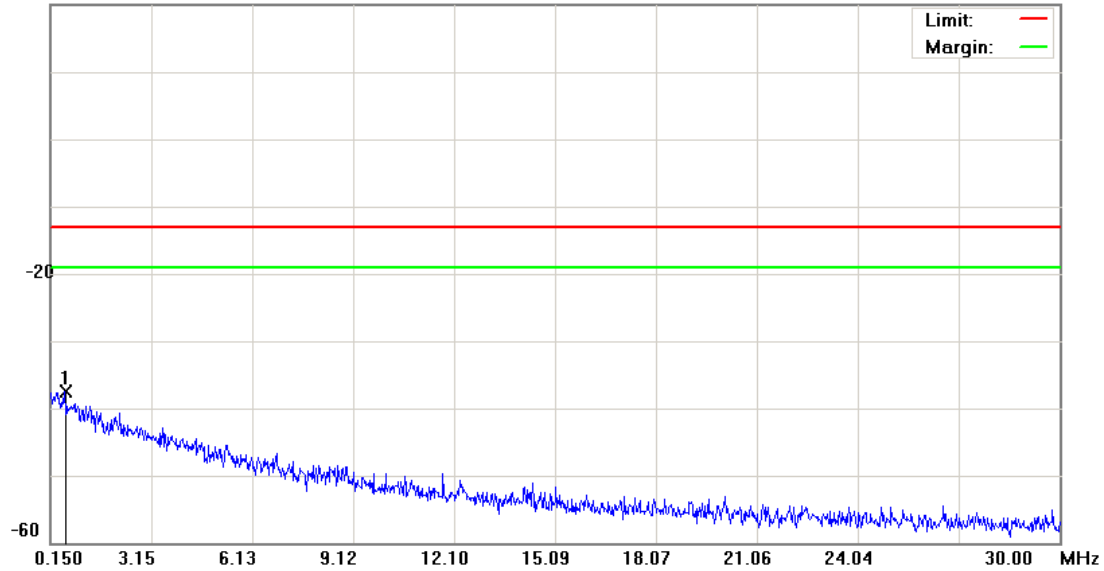
File :GTR-388A12(CH190)

Data :#2

Date: 2016/8/16

Time: 上午 11:06:05

20.0 dBm



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.5680	-69.49	31.97	-37.52	-13.00	-24.52	peak		

*:Maximum data x:Over limit !:over margin

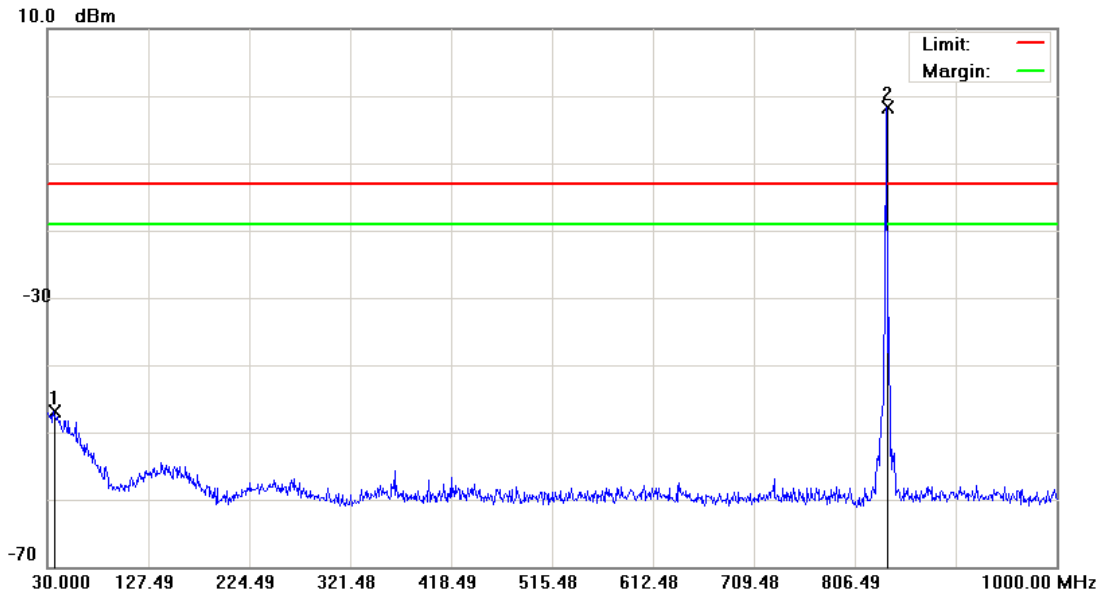


File :GTR-388A12(CH190)

Data :#3

Date: 2016/8/16

Time: 上午 11:06:29



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1		36.3050	-63.42	16.50	-46.92	-13.00	-33.92	peak		
2	*	836.5550	-5.71	3.96	-1.75	-13.00	11.25	peak		Tx

*:Maximum data x:Over limit !:over margin



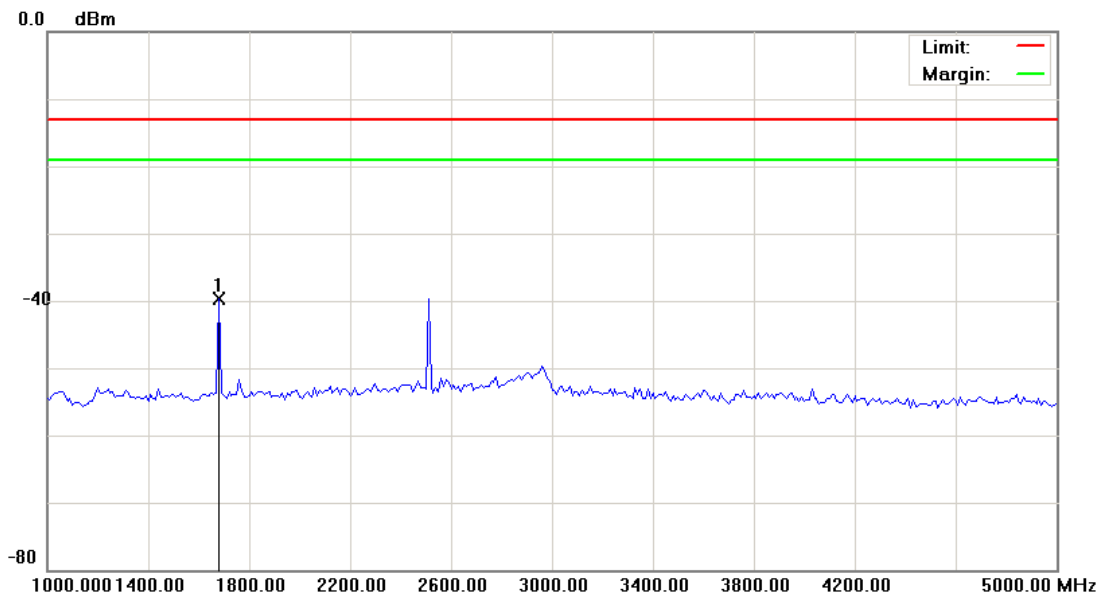
Report Number: 1608FR18

File :GTR-388A12(CH190)

Data :#4

Date: 2016/8/16

Time: 下午 01:33:37



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	1680.000	-44.13	4.47	-39.66	-13.00	-26.66	peak		Comment

*:Maximum data x:Over limit !:over margin



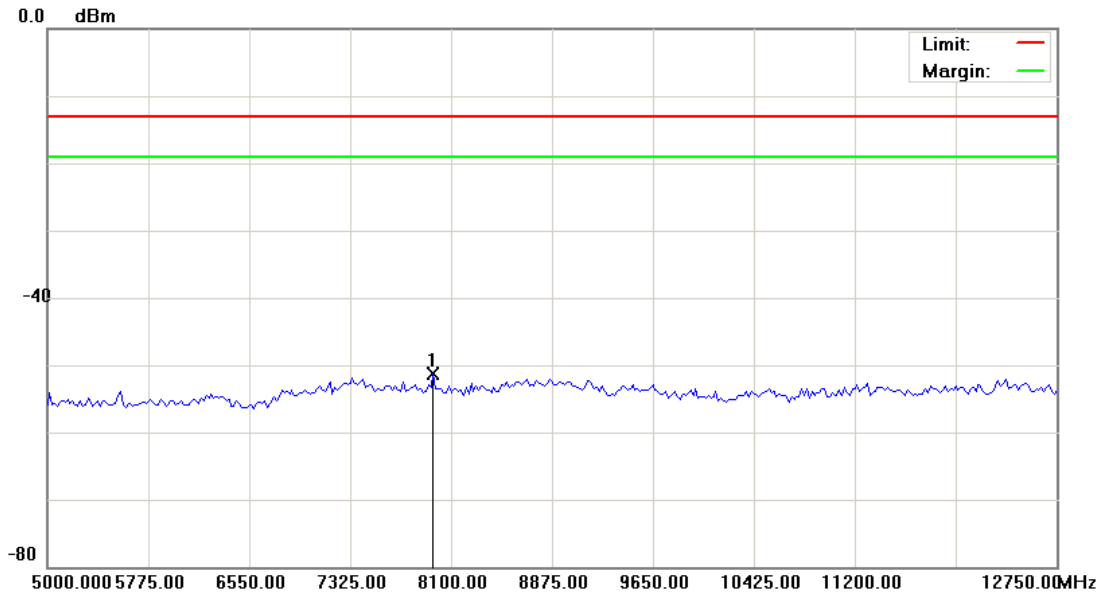
Report Number: 1608FR18

File :GTR-388A12(CH190)

Data :#5

Date: 2016/8/16

Time: 下午 01:33:57



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	7964.375	-56.43	5.16	-51.27	-13.00	-38.27	peak		

*:Maximum data x:Over limit !:over margin

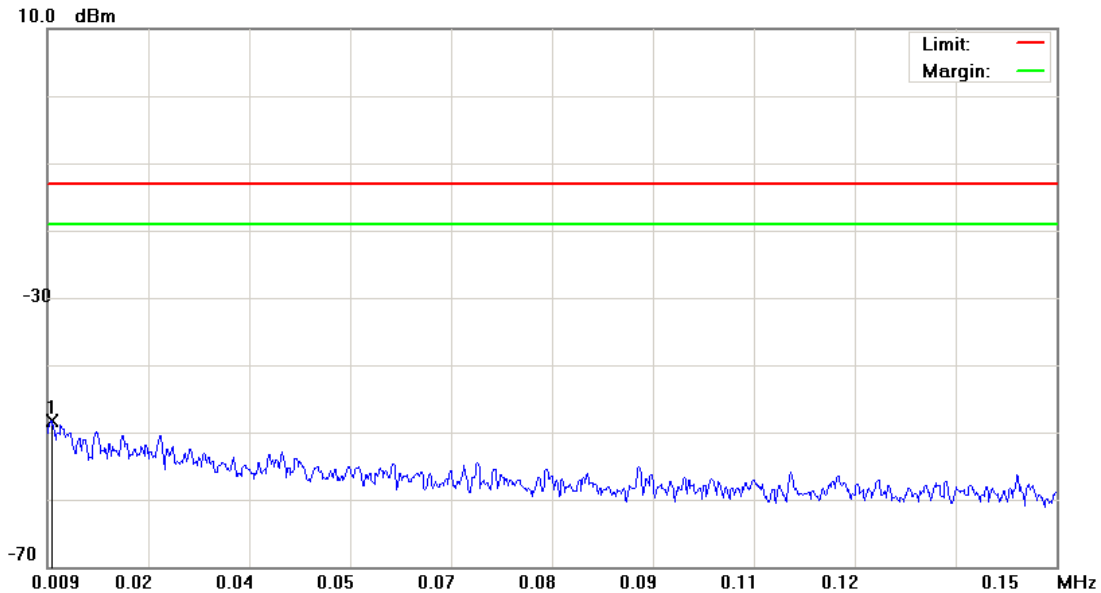


File :GTR-388A12(CH251)

Data :#1

Date: 2016/8/16

Time: 上午 11:08:49



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0095	-78.80	30.58	-48.22	-13.00	-35.22	peak		

*:Maximum data x:Over limit !:over margin



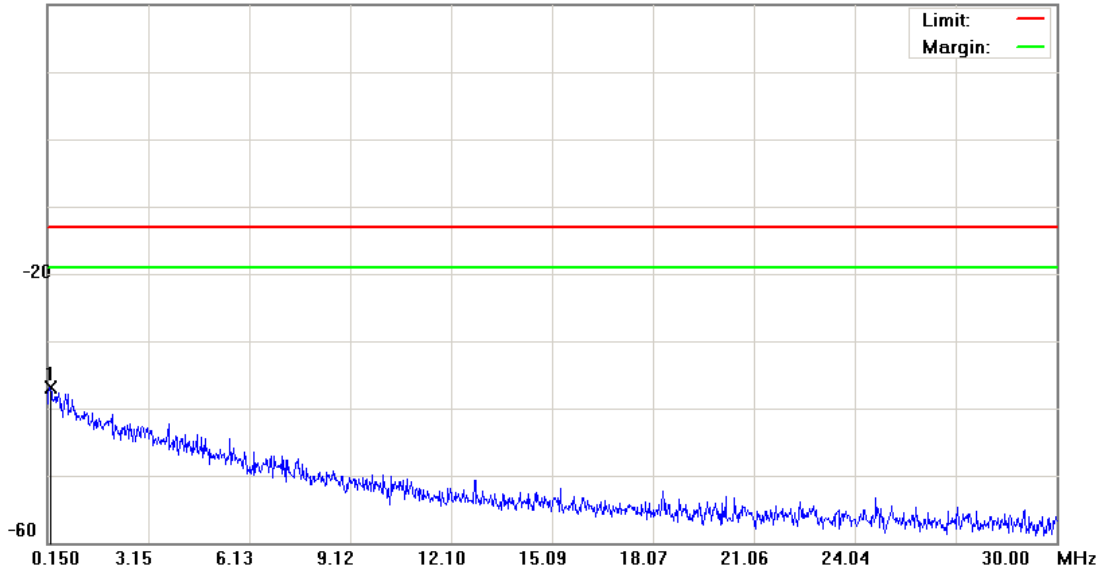
File :GTR-388A12(CH251)

Data :#2

Date: 2016/8/16

Time: 上午 11:09:13

20.0 dBm



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.2246	-68.07	31.12	-36.95	-13.00	-23.95	peak		

*:Maximum data x:Over limit !:over margin

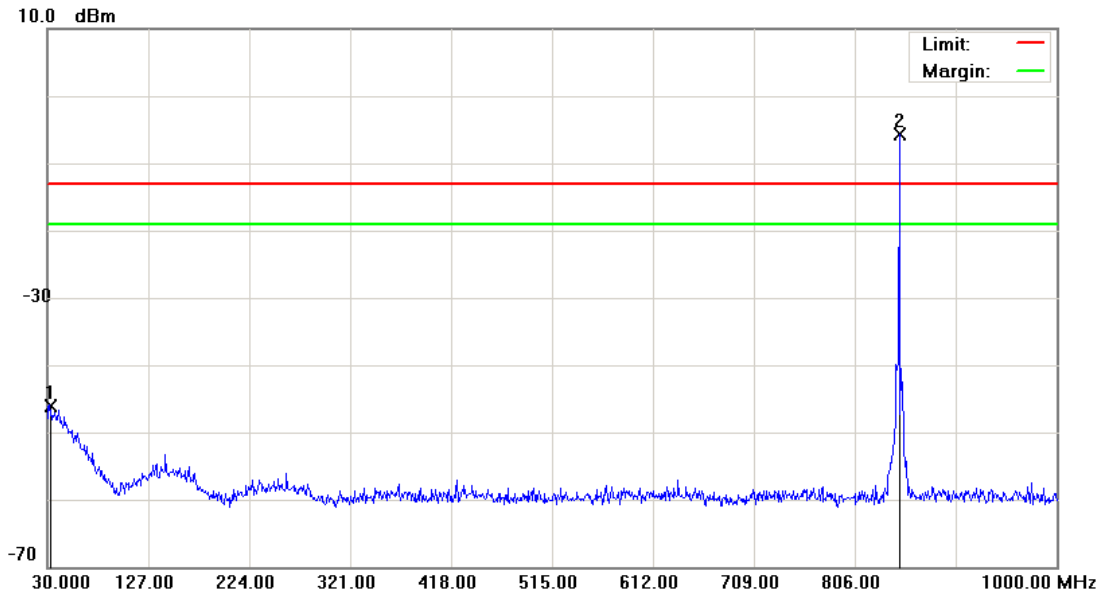


File :GTR-388A12(CH251)

Data :#3

Date: 2016/8/16

Time: 上午 11:09:37



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1		32.4250	-62.94	16.94	-46.00	-13.00	-33.00	peak		
2	*	848.6800	-9.68	3.98	-5.70	-13.00	7.30	peak		Tx

*:Maximum data x:Over limit !:over margin



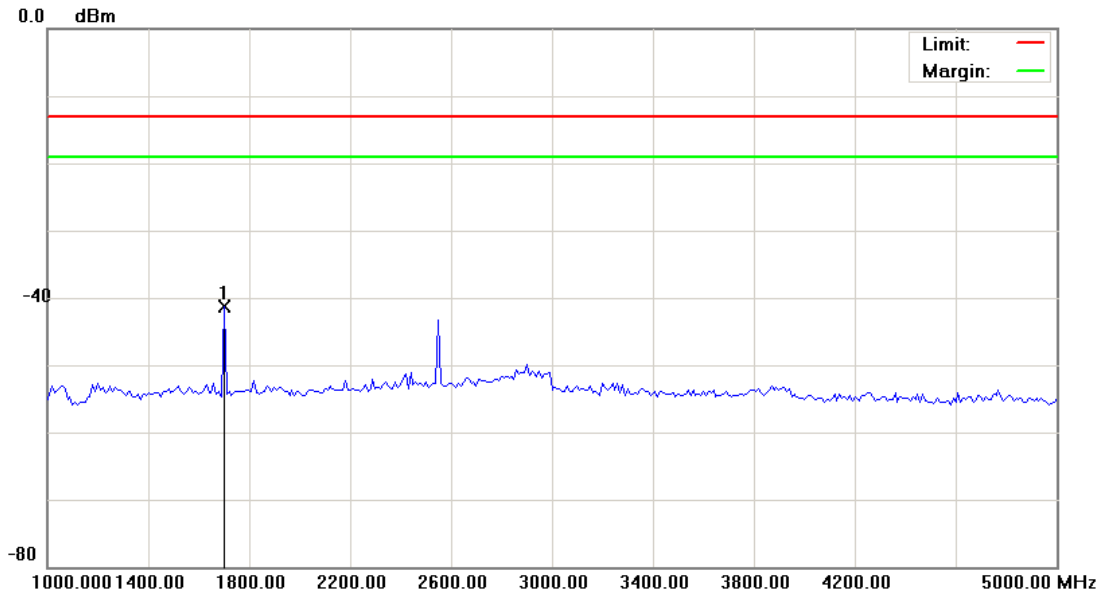
Report Number: 1608FR18

File :GTR-388A12(CH251)

Data :#4

Date: 2016/8/16

Time: 下午 01:34:30



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	1700.000	-45.78	4.48	-41.30	-13.00	-28.30	peak		Comment

*:Maximum data x:Over limit !:over margin



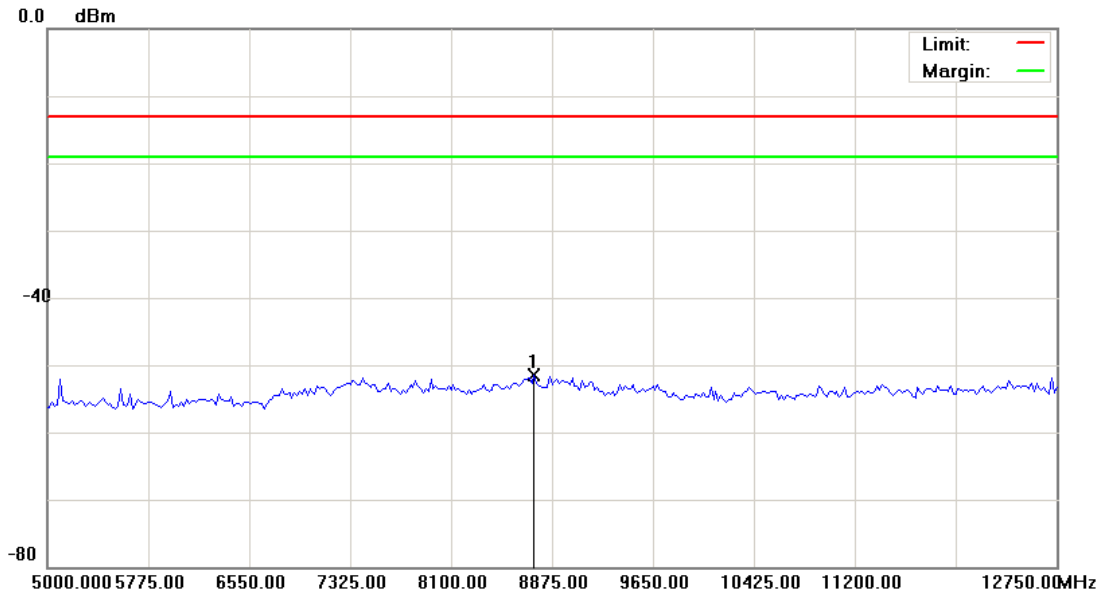
Report Number: 1608FR18

File :GTR-388A12(CH251)

Data :#5

Date: 2016/8/16

Time: 下午 01:34:49



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 850

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	8739.375	-56.52	5.12	-51.40	-13.00	-38.40	peak		

*:Maximum data x:Over limit !:over margin

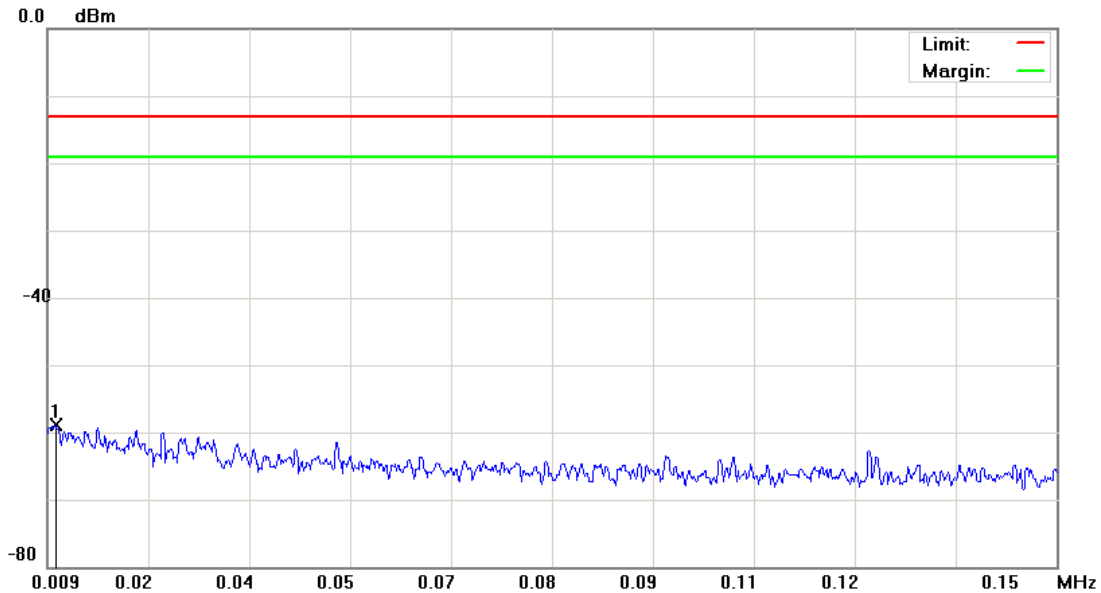


File :GTR-388A12(CH512)

Data :#1

Date: 2016/8/16

Time: 上午 11:17:14



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0101	-70.23	11.34	-58.89	-13.00	-45.89	peak		

*:Maximum data x:Over limit !:over margin

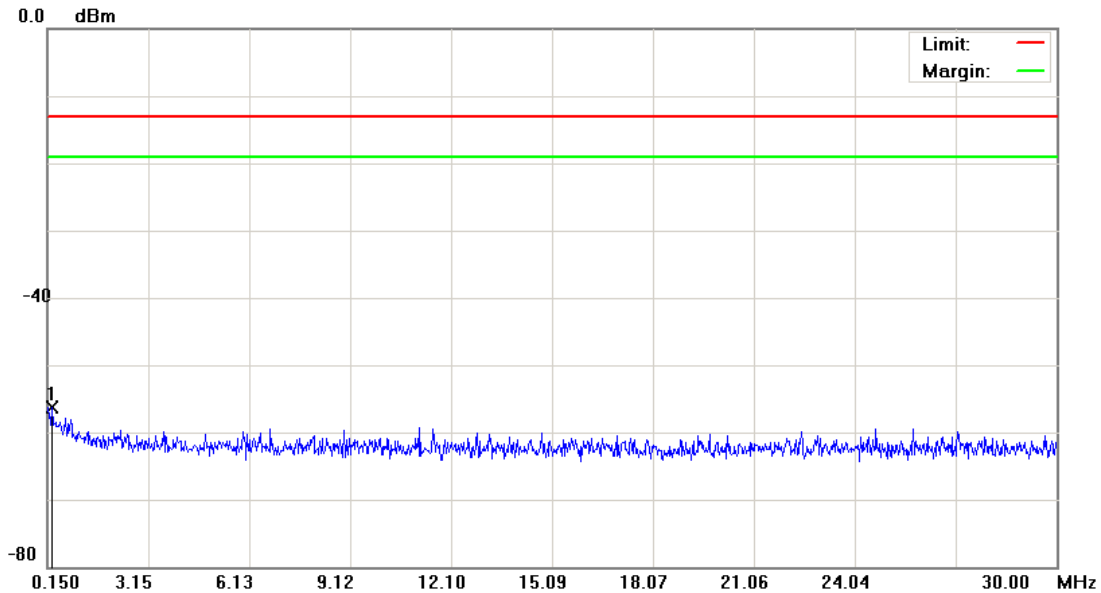


File :GTR-388A12(CH512)

Data :#2

Date: 2016/8/16

Time: 上午 11:17:38



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
Motorcycle/ Vehicle Tracker Quick Start Guide
EUT: (GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.2993	-68.87	12.62	-56.25	-13.00	-43.25	peak		

*:Maximum data x:Over limit !:over margin



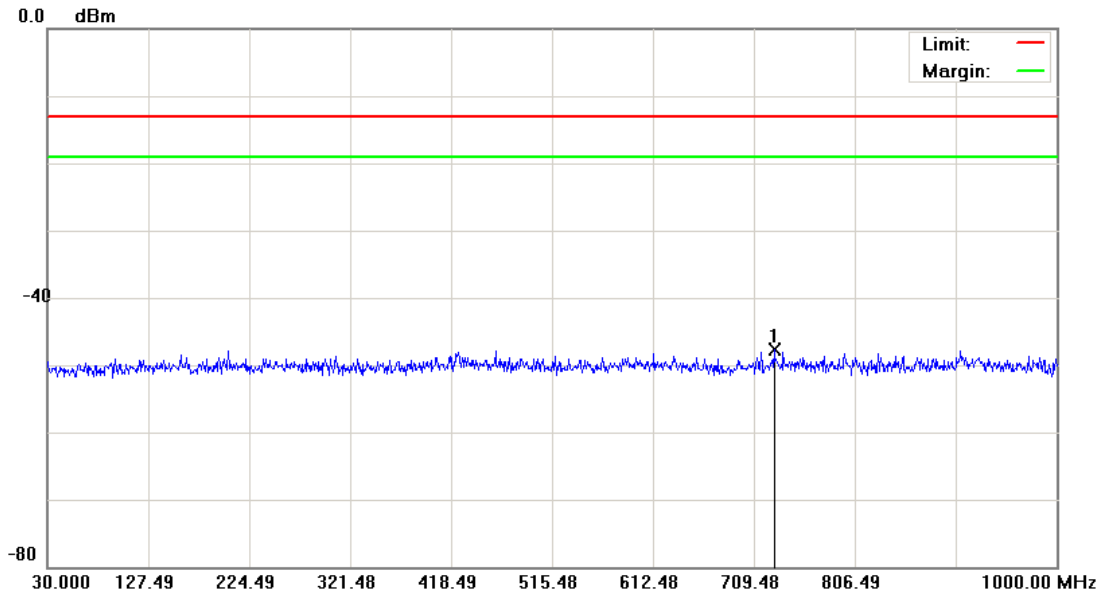
Report Number: 1608FR18

File :GTR-388A12(CH512)

Data :#3

Date: 2016/8/16

Time: 上午 11:18:02



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	728.4000	-60.91	13.15	-47.76	-13.00	-34.76	peak		

*:Maximum data x:Over limit !:over margin

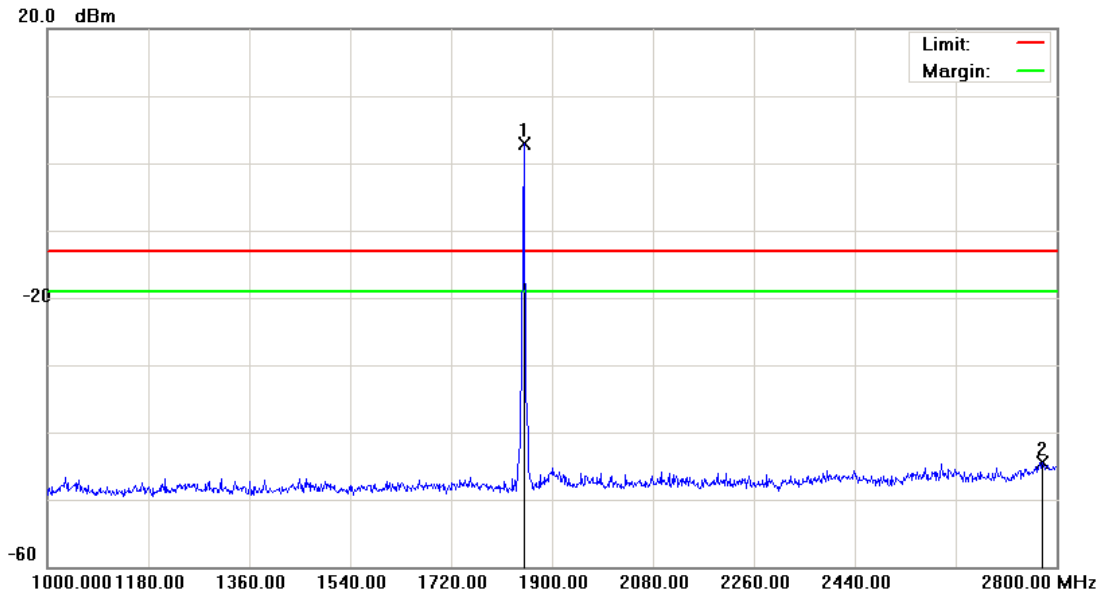


File :GTR-388A12(CH512)

Data :#4

Date: 2016/8/16

Time: 上午 11:24:17



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1	*	1850.500	-1.45	4.26	2.81	-13.00	15.81	peak		Tx
2		2774.800	-50.21	5.81	-44.40	-13.00	-31.40	peak		

*:Maximum data x:Over limit !:over margin



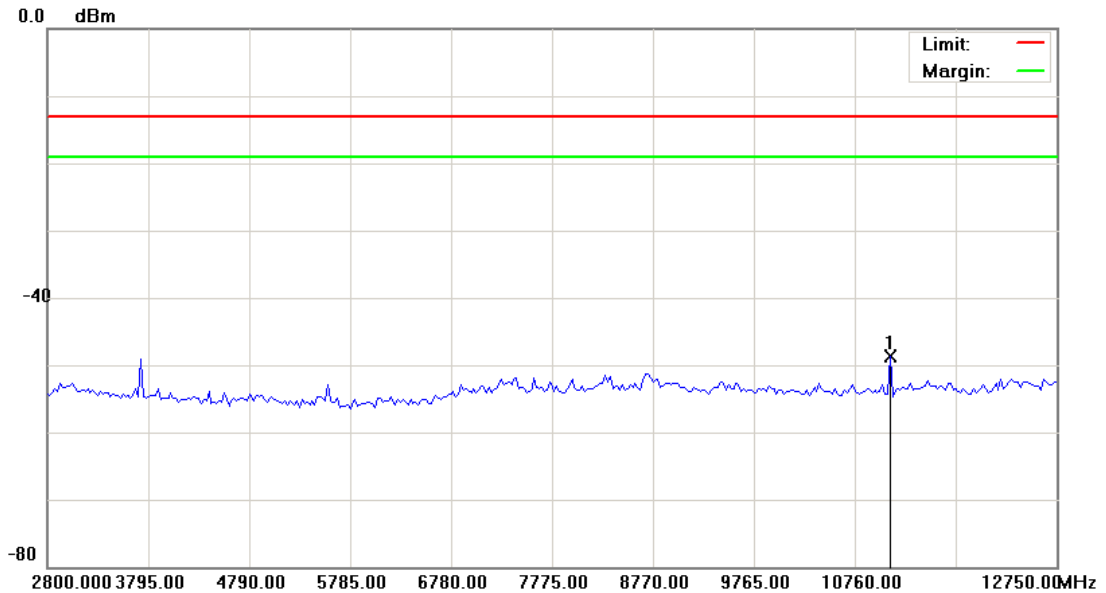
Report Number: 1608FR18

File :GTR-388A12(CH512)

Data :#5

Date: 2016/8/16

Time: 下午 01:46:18



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	11108.250	-53.65	5.01	-48.64	-13.00	-35.64	peak		

*:Maximum data x:Over limit !:over margin



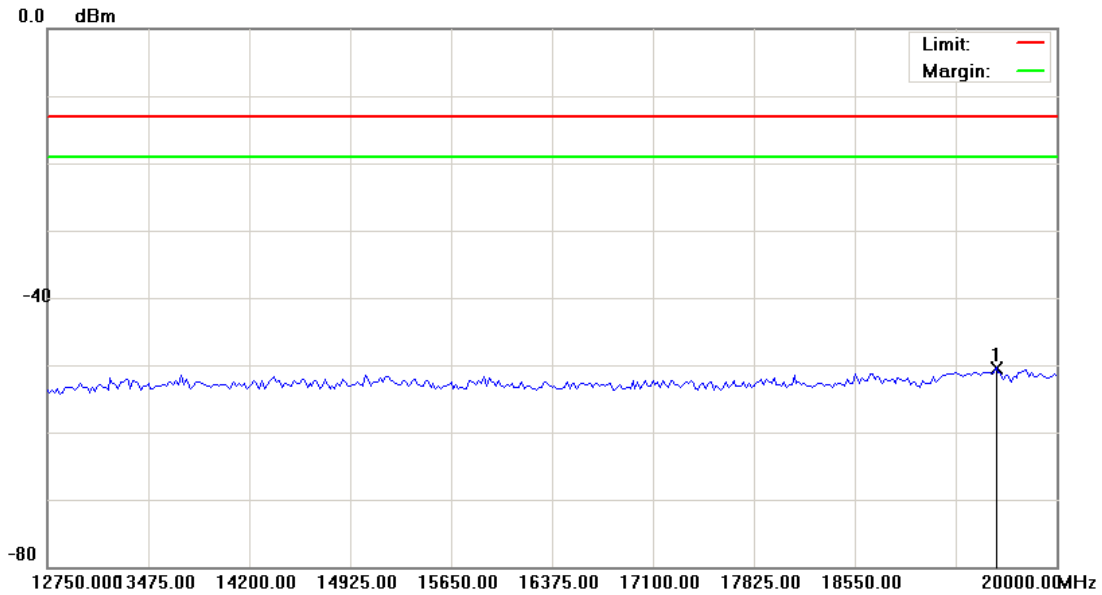
Report Number: 1608FR18

File :GTR-388A12(CH512)

Data :#6

Date: 2016/8/16

Time: 下午 01:46:38



Site: site #1	Polarization: Conducted	Temperature: 26 °C
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 12V	Humidity: 55 %
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide	Distance:	RBW: 1000 KHz VBW: 3000 KHz
(GSM/DCS/WCDMA)		
M/N: GTR-388A12		
Mode: GPRS 1900		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	19565.000	-57.72	7.32	-50.40	-13.00	-37.40	peak		

*:Maximum data x:Over limit !:over margin

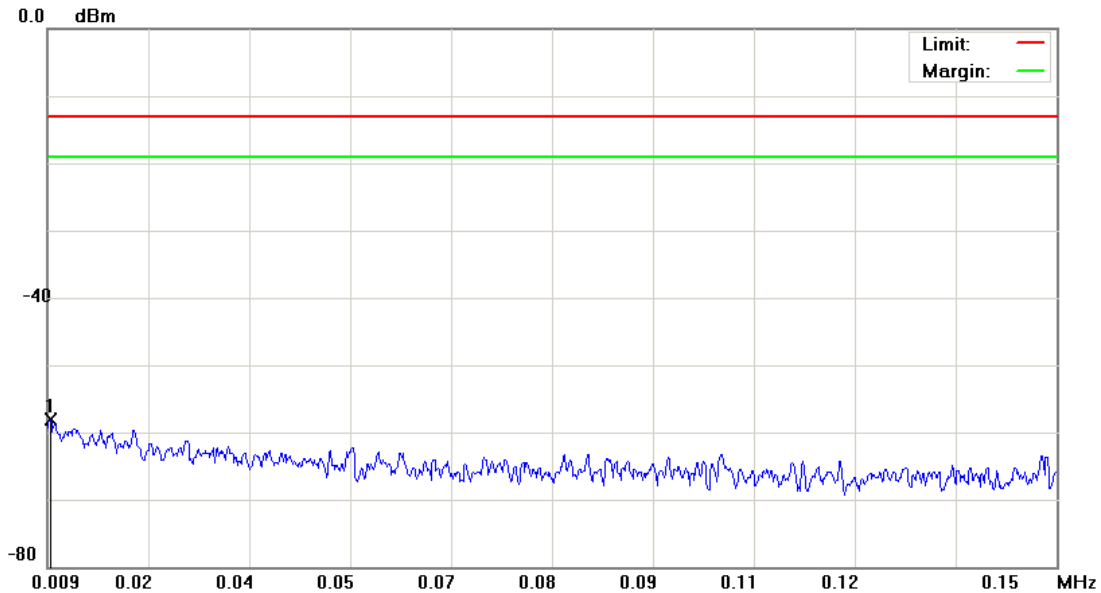


File :GTR-388A12(CH661)

Data :#1

Date: 2016/8/16

Time: 上午 11:19:15



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0094	-69.39	11.33	-58.06	-13.00	-45.06	peak		

*:Maximum data x:Over limit !:over margin

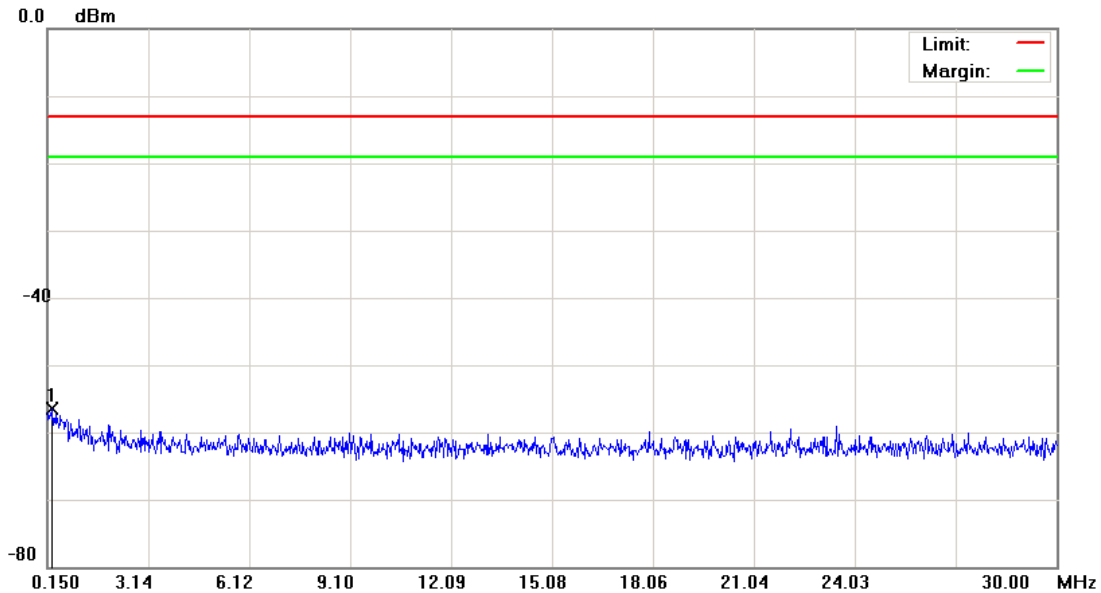


File :GTR-388A12(CH661)

Data :#2

Date: 2016/8/16

Time: 上午 11:19:39



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.2993	-69.14	12.62	-56.52	-13.00	-43.52	peak		

*:Maximum data x:Over limit !:over margin



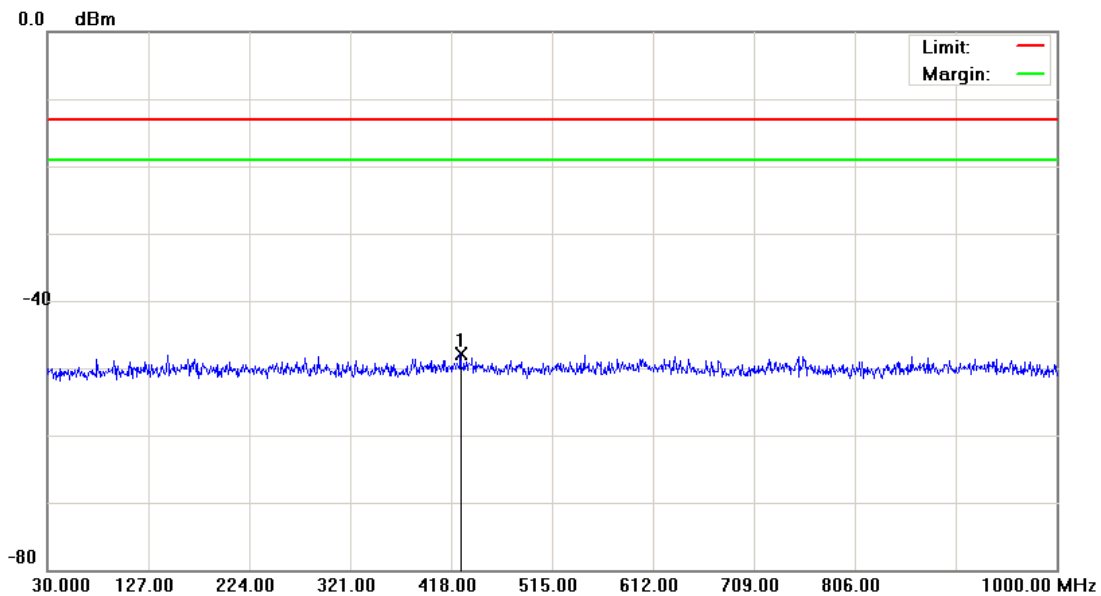
Report Number: 1608FR18

File :GTR-388A12(CH661)

Data :#3

Date: 2016/8/16

Time: 上午 11:20:04



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	427.2150	-61.16	13.24	-47.92	-13.00	-34.92	peak		

*:Maximum data x:Over limit !:over margin

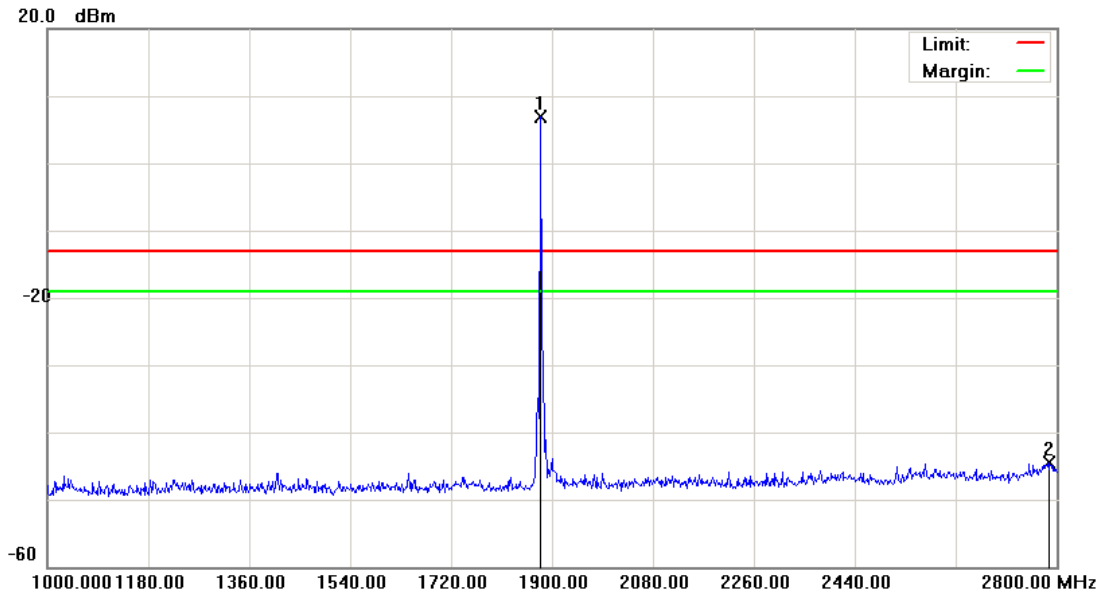


File :GTR-388A12(CH661)

Data :#4

Date: 2016/8/16

Time: 上午 11:25:59



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1	*	1880.200	2.21	4.65	6.86	-13.00	19.86	peak		Tx
2		2787.400	-50.42	5.89	-44.53	-13.00	-31.53	peak		

*:Maximum data x:Over limit !:over margin



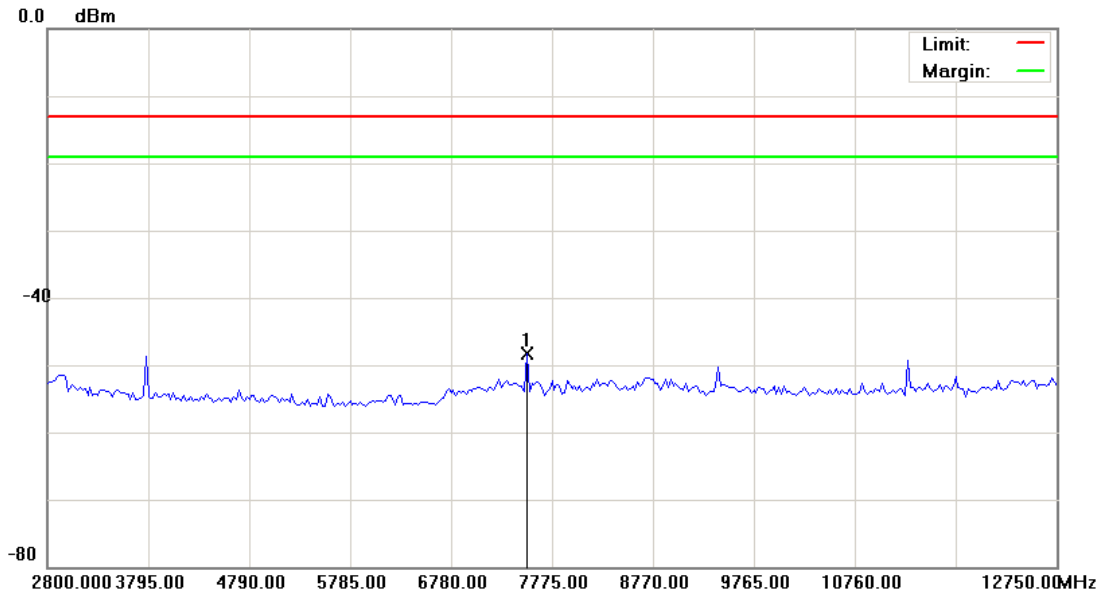
Report Number: 1608FR18

File :GTR-388A12(CH661)

Data :#5

Date: 2016/8/16

Time: 下午 01:48:52



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	7526.250	-53.39	5.05	-48.34	-13.00	-35.34	peak		

*:Maximum data x:Over limit !:over margin



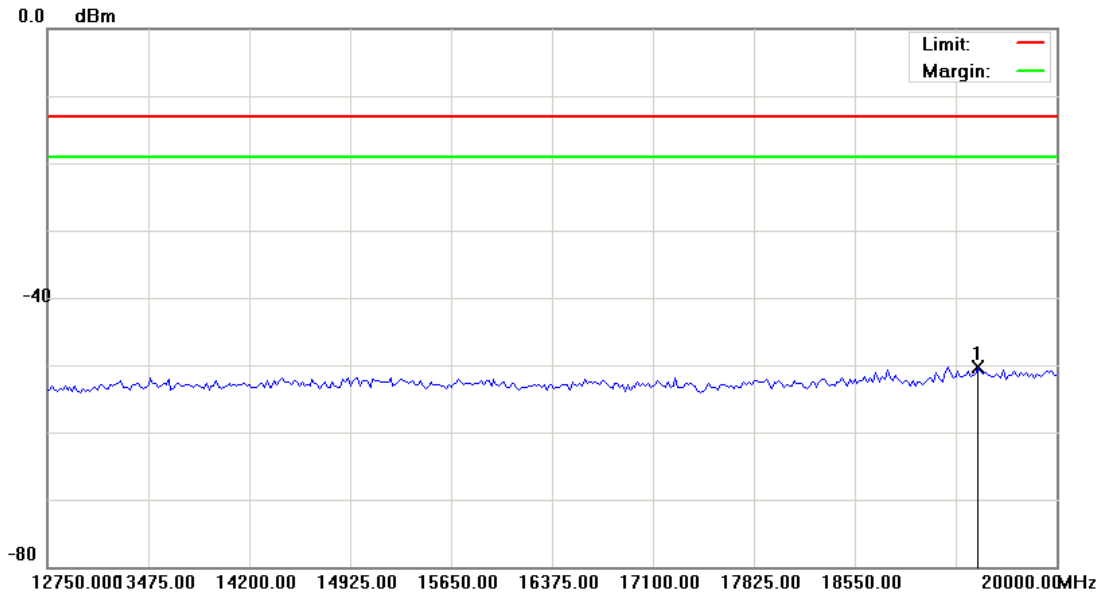
Report Number: 1608FR18

File :GTR-388A12(CH661)

Data :#6

Date: 2016/8/16

Time: 下午 01:49:12



Site: site #1	Polarization: Conducted	Temperature: 26 °C
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 12V	Humidity: 55 %
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide	Distance:	RBW: 1000 KHz VBW: 3000 KHz
(GSM/DCS/WCDMA)		
M/N: GTR-388A12		
Mode: GPRS 1900		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	19438.125	-57.53	7.28	-50.25	-13.00	-37.25	peak		

*:Maximum data x:Over limit !:over margin

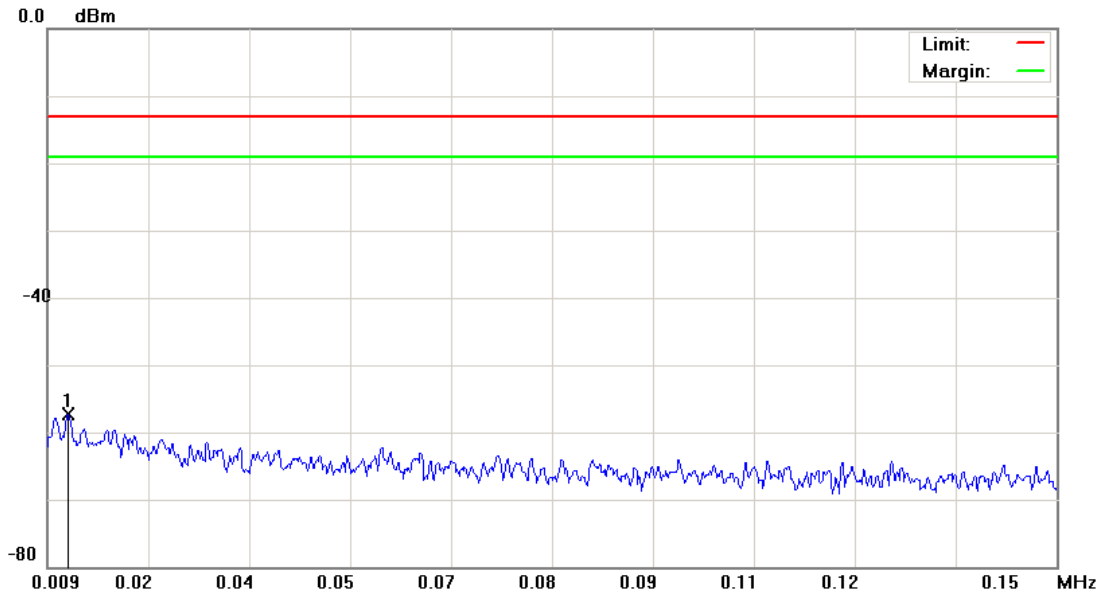


File :GTR-388A12(CH810)

Data :#1

Date: 2016/8/16

Time: 上午 11:21:13



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0120	-68.69	11.36	-57.33	-13.00	-44.33	peak		

*:Maximum data x:Over limit !:over margin



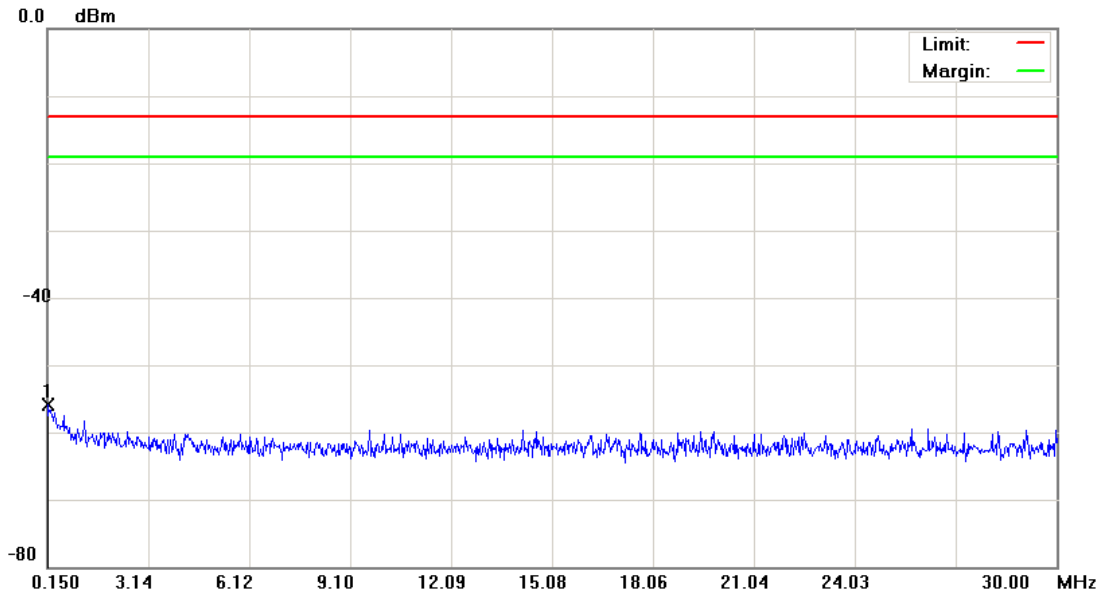
Report Number: 1608FR18

File :GTR-388A12(CH810)

Data :#2

Date: 2016/8/16

Time: 上午 11:21:37



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.1500	-68.30	12.47	-55.83	-13.00	-42.83	peak		

*:Maximum data x:Over limit !:over margin



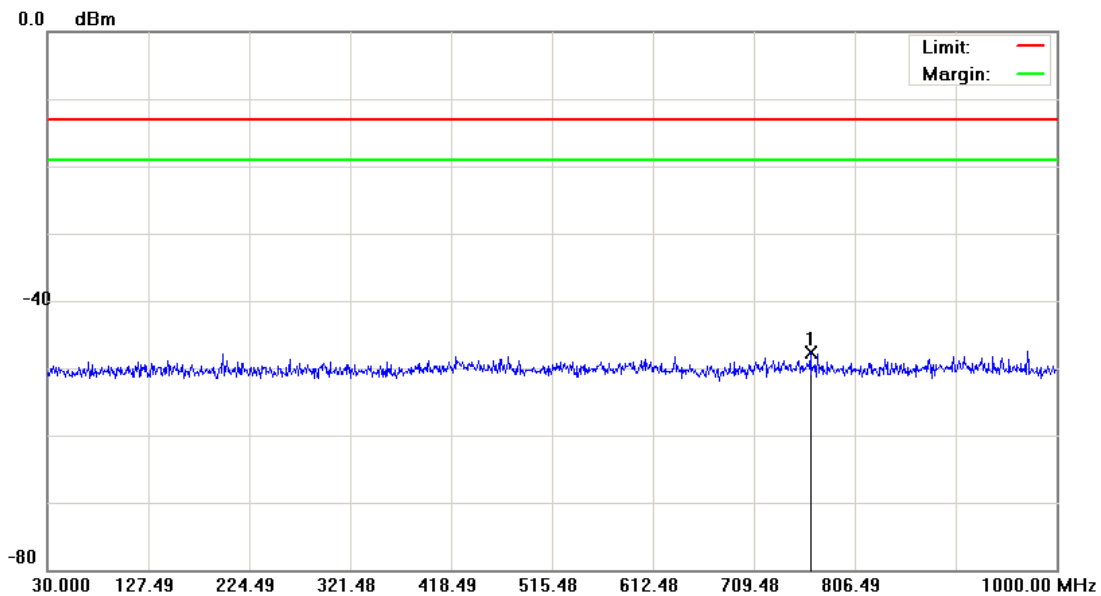
Report Number: 1608FR18

File :GTR-388A12(CH810)

Data :#3

Date: 2016/8/16

Time: 上午 11:22:01



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	763.3200	-60.88	13.15	-47.73	-13.00	-34.73	peak		

*:Maximum data x:Over limit !:over margin

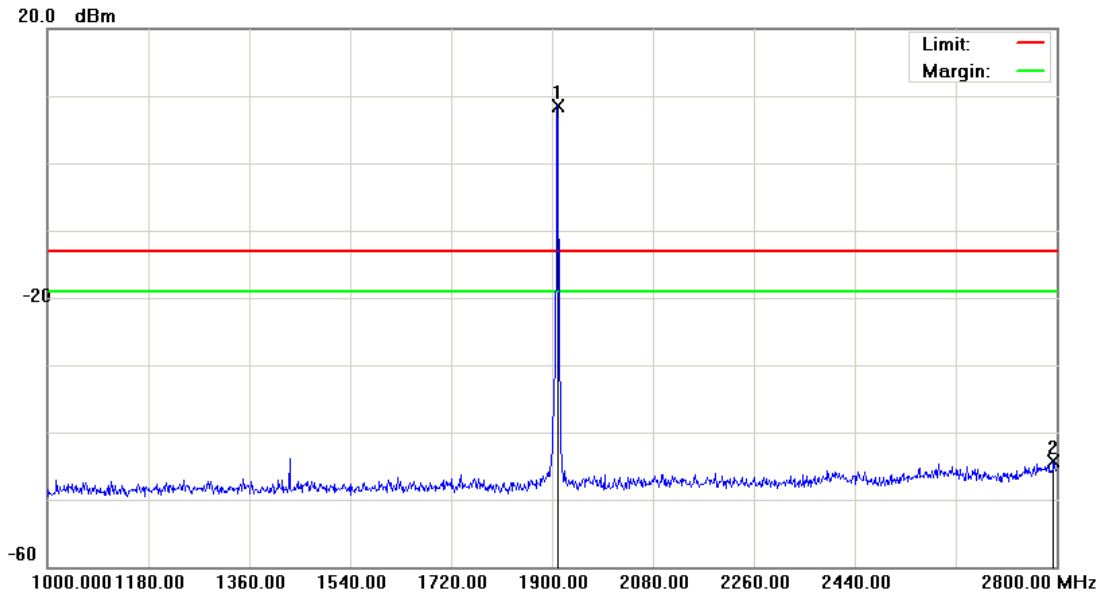


File :GTR-388A12(CH810)

Data :#4

Date: 2016/8/16

Time: 上午 11:27:21



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1	*	1909.900	2.84	5.71	8.55	-13.00	21.55	peak		Tx
2		2794.600	-50.27	5.90	-44.37	-13.00	-31.37	peak		

*:Maximum data x:Over limit !:over margin



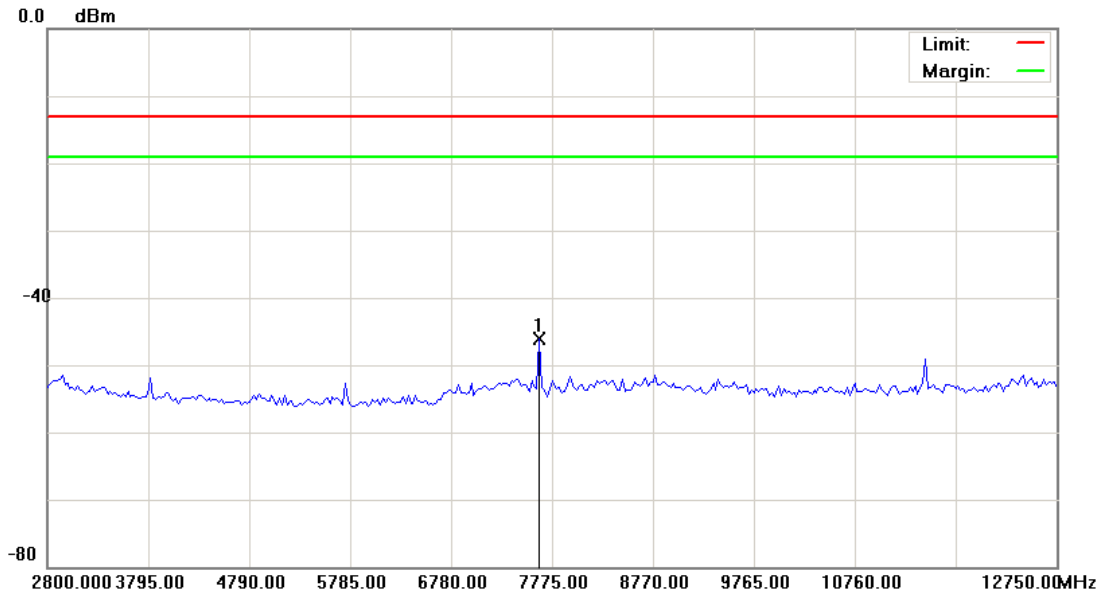
Report Number: 1608FR18

File :GTR-388A12(CH810)

Data :#5

Date: 2016/8/16

Time: 下午 01:49:51



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	7650.625	-51.28	5.10	-46.18	-13.00	-33.18	peak		

*:Maximum data x:Over limit !:over margin



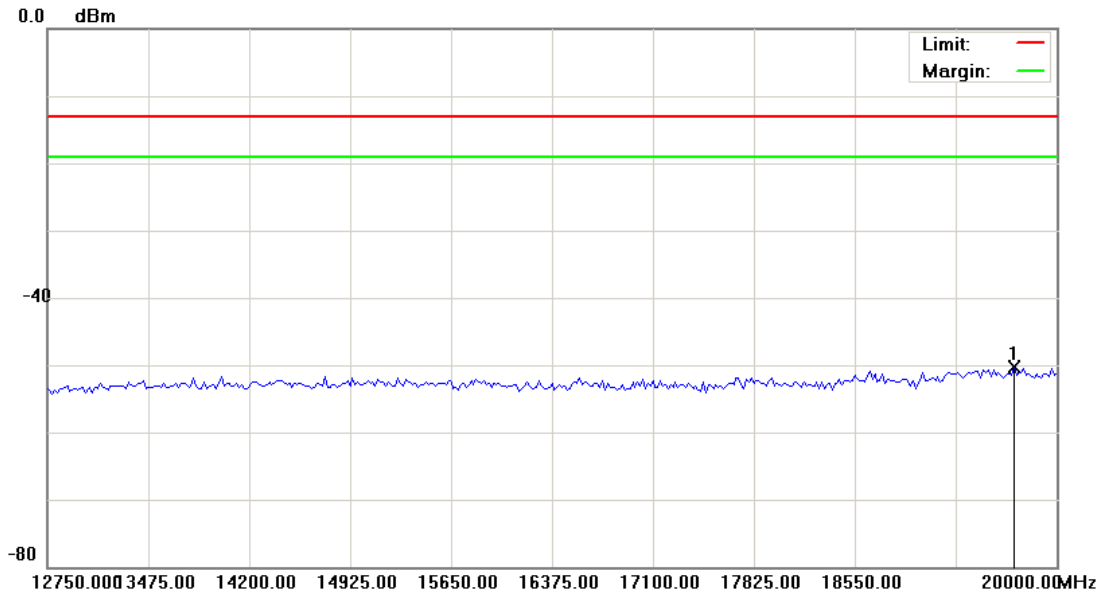
Report Number: 1608FR18

File :GTR-388A12(CH810)

Data :#6

Date: 2016/8/16

Time: 下午 01:50:11



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: GPRS 1900

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	19691.875	-57.56	7.35	-50.21	-13.00	-37.21	peak		

*:Maximum data x:Over limit !:over margin

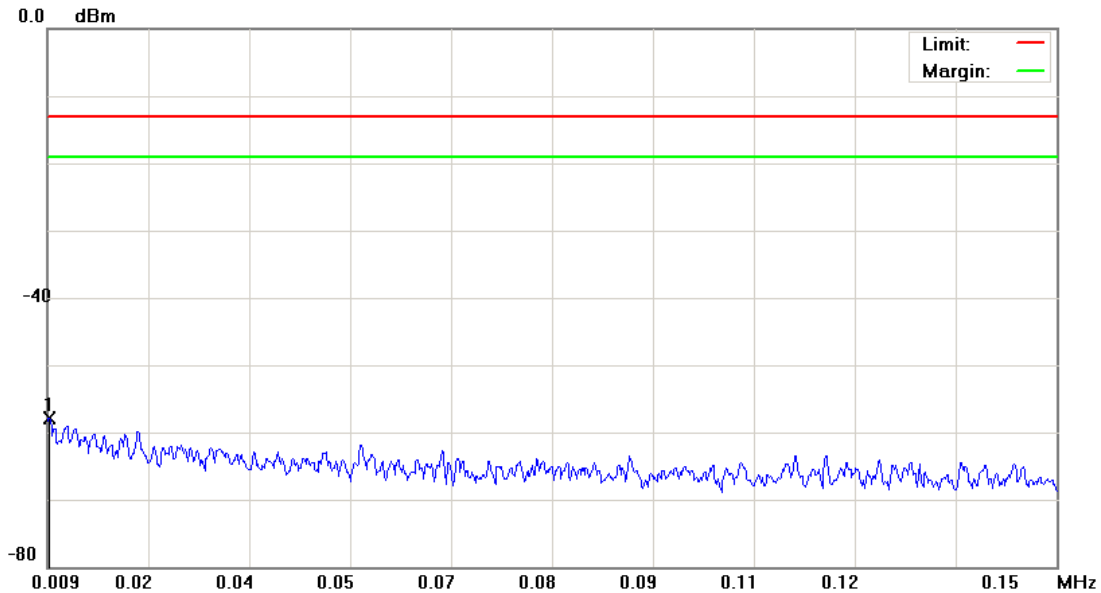


File :GTR-388A12(CH9262)

Data :#1

Date: 2016/8/16

Time: 上午 10:30:10



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0092	-69.14	11.32	-57.82	-13.00	-44.82	peak		

*:Maximum data x:Over limit !:over margin



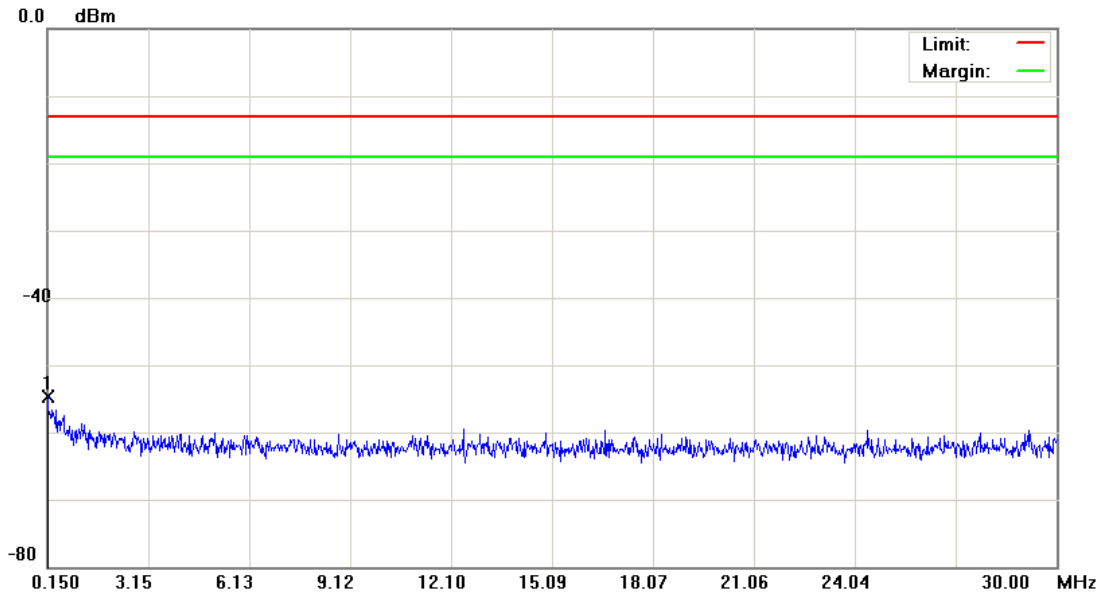
Report Number: 1608FR18

File :GTR-388A12(CH9262)

Data :#2

Date: 2016/8/16

Time: 上午 10:30:34



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.1650	-67.07	12.46	-54.61	-13.00	-41.61	peak		

*:Maximum data x:Over limit !:over margin



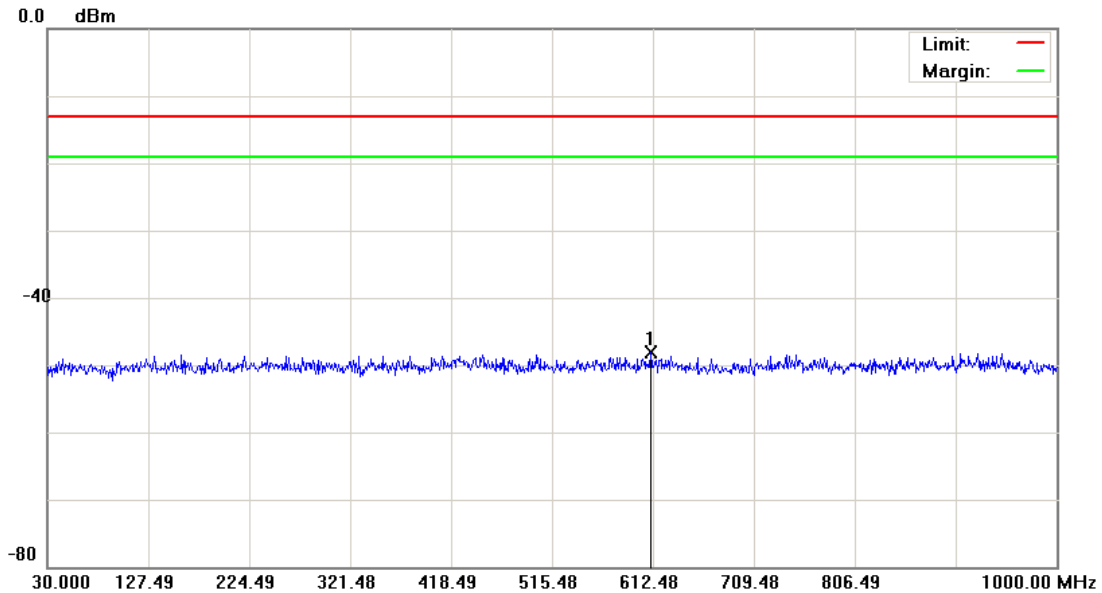
Report Number: 1608FR18

File :GTR-388A12(CH9262)

Data :#3

Date: 2016/8/16

Time: 上午 10:30:58



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	610.0600	-61.34	13.17	-48.17	-13.00	-35.17	peak		

*:Maximum data x:Over limit !:over margin

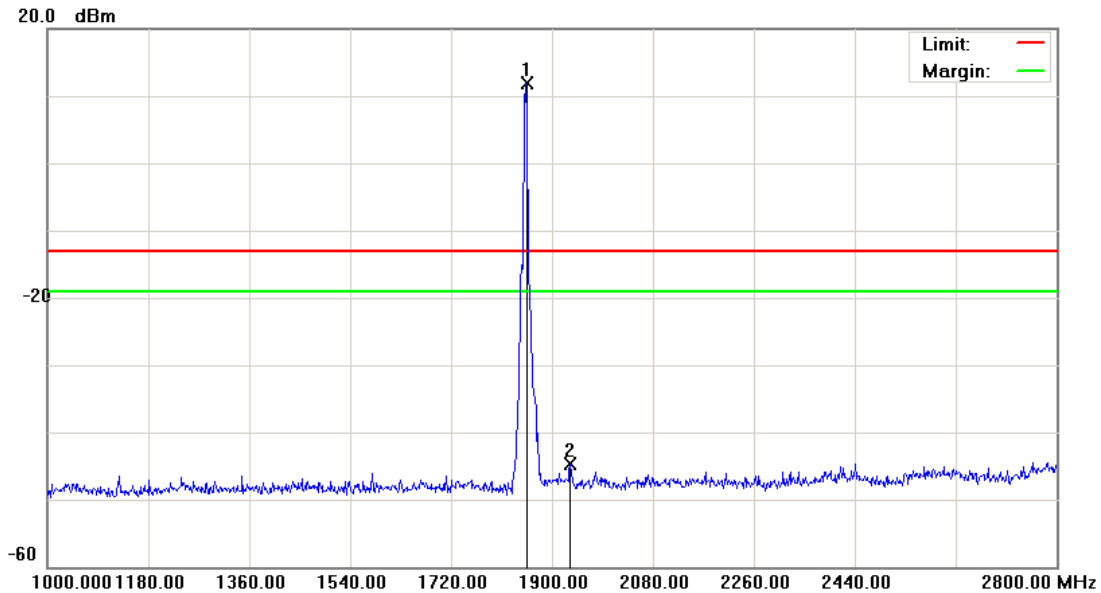


File :GTR-388A12(CH9262)

Data :#4

Date: 2016/8/16

Time: 上午 10:36:24



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)
M/N: GTR-388A12

Power: DC 12V

Humidity: 55 %

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1	*	1854.100	7.64	4.28	11.92	-13.00	24.92	peak		Tx
2		1932.400	-49.35	4.67	-44.68	-13.00	-31.68	peak		

*:Maximum data x:Over limit !:over margin



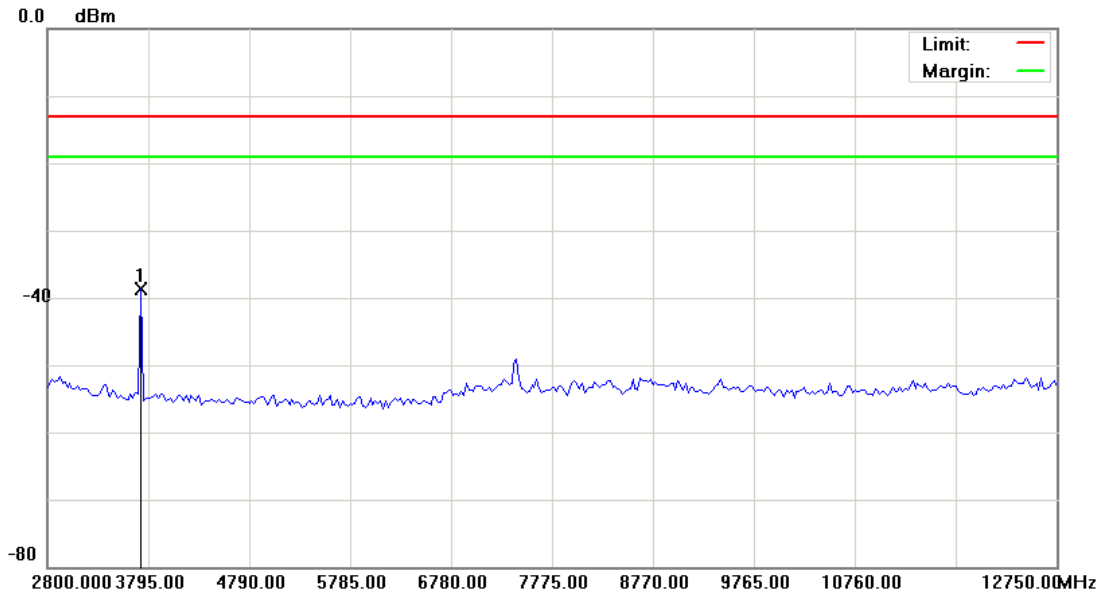
Report Number: 1608FR18

File :GTR-388A12(CH9262)

Data :#5

Date: 2016/8/16

Time: 下午 01:40:35



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)
M/N: GTR-388A12

Power: DC 12V

Humidity: 55 %

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	
1	*	3720.375	-43.56	4.88	-38.68	-13.00	-25.68	peak		

*:Maximum data x:Over limit !:over margin



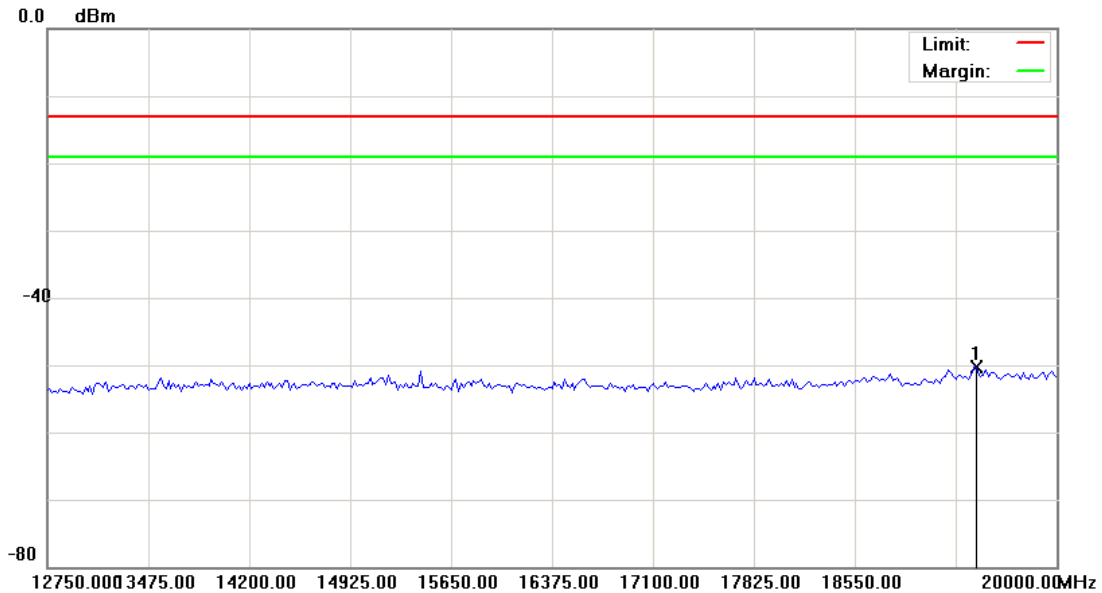
Report Number: 1608FR18

File :GTR-388A12(CH9262)

Data :#6

Date: 2016/8/16

Time: 下午 01:40:54



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	19420.000	-57.61	7.27	-50.34	-13.00	-37.34	peak		

*:Maximum data x:Over limit !:over margin

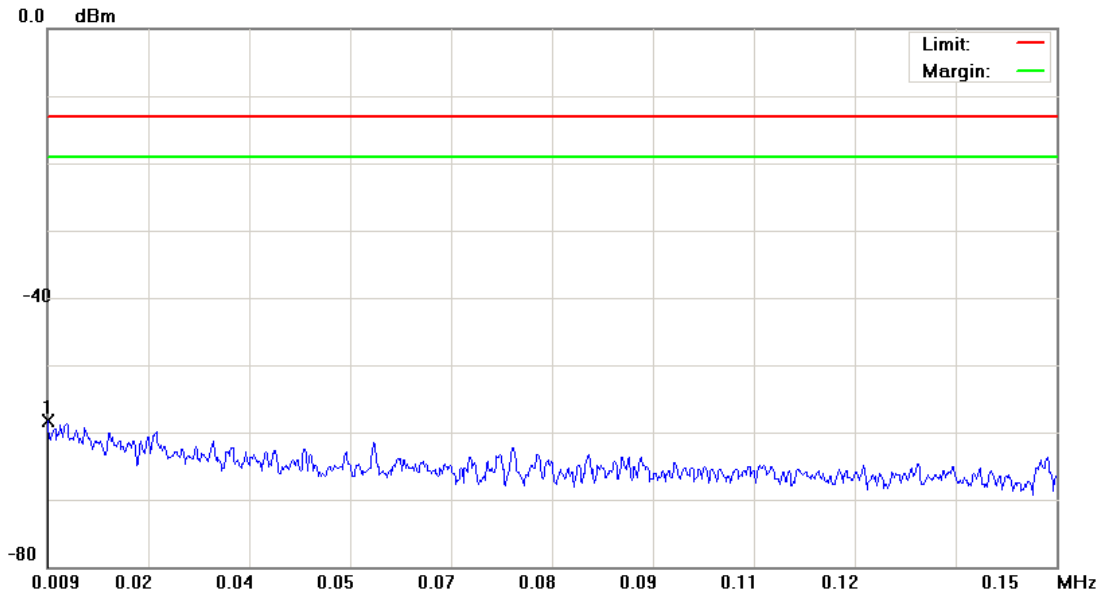


File :GTR-388A12(CH9400)

Data :#1

Date: 2016/8/16

Time: 上午 10:31:57



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)
M/N: GTR-388A12

Power: DC 12V

Humidity: 55 %

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0090	-69.67	11.32	-58.35	-13.00	-45.35	peak		

*:Maximum data x:Over limit !:over margin

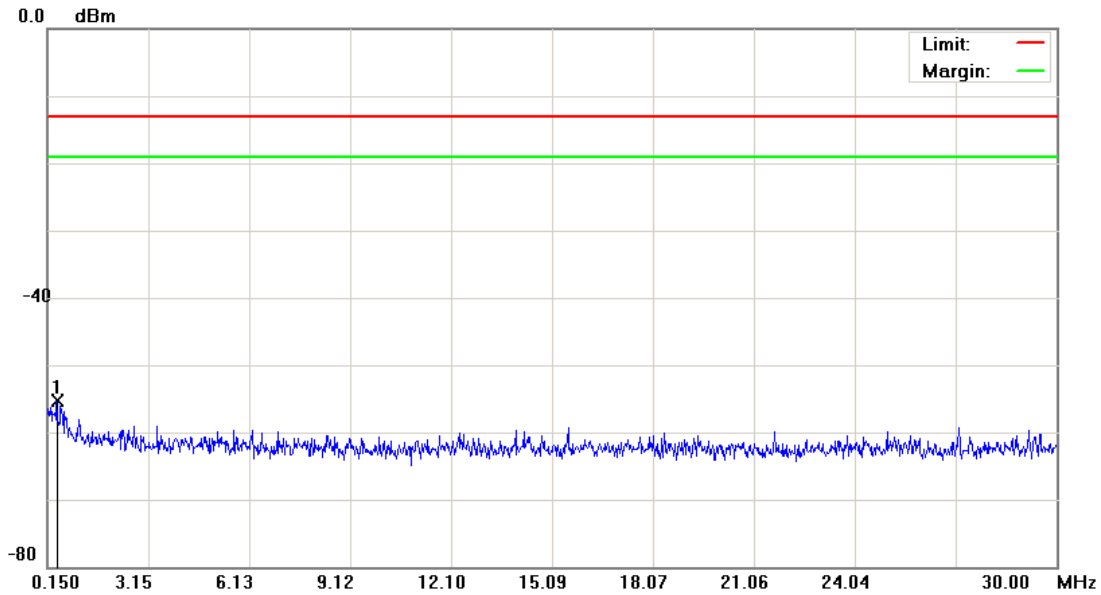


File :GTR-388A12(CH9400)

Data :#2

Date: 2016/8/16

Time: 上午 10:32:21



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
Motorcycle/ Vehicle Tracker Quick Start Guide
EUT: (GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.4336	-68.16	12.82	-55.34	-13.00	-42.34	peak		

*:Maximum data x:Over limit !:over margin



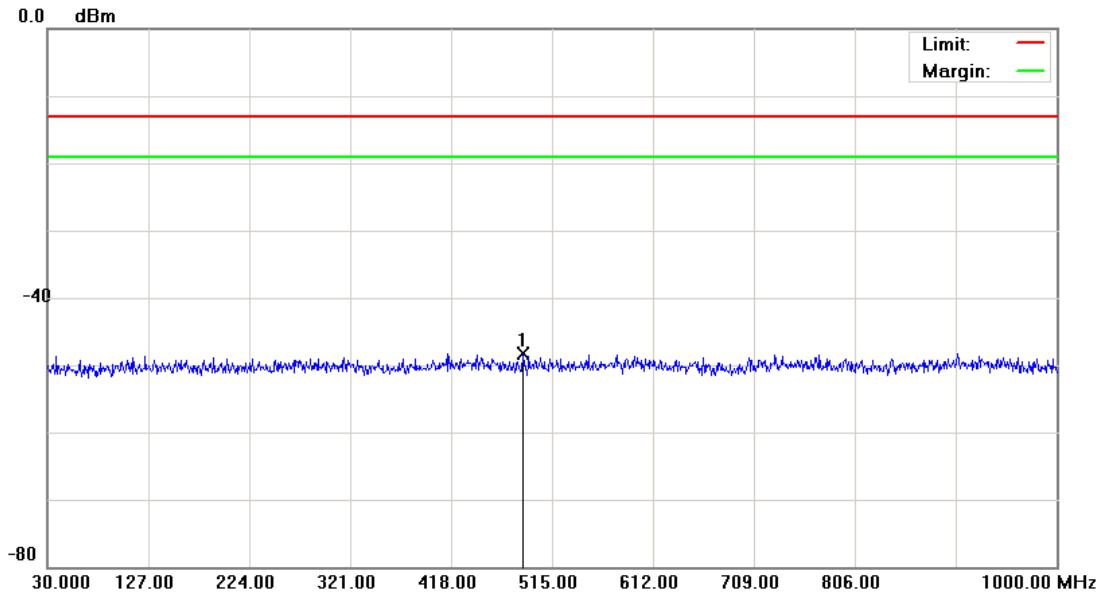
Report Number: 1608FR18

File :GTR-388A12(CH9400)

Data :#3

Date: 2016/8/16

Time: 上午 10:32:45



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	486.8700	-61.46	13.16	-48.30	-13.00	-35.30	peak		

*:Maximum data x:Over limit !:over margin

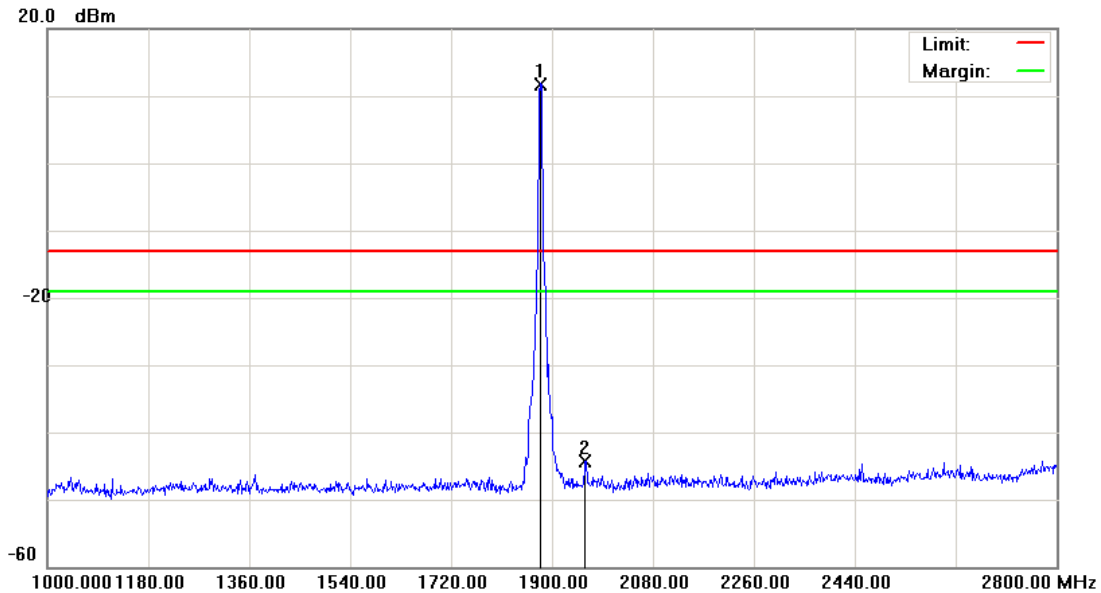


File :GTR-388A12(CH9400)

Data :#4

Date: 2016/8/16

Time: 上午 10:39:13



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)
M/N: GTR-388A12

Power: DC 12V

Humidity: 55 %

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1	*	1878.400	7.19	4.61	11.80	-13.00	24.80	peak		Tx
2		1959.400	-49.02	4.73	-44.29	-13.00	-31.29	peak		

*:Maximum data x:Over limit !:over margin



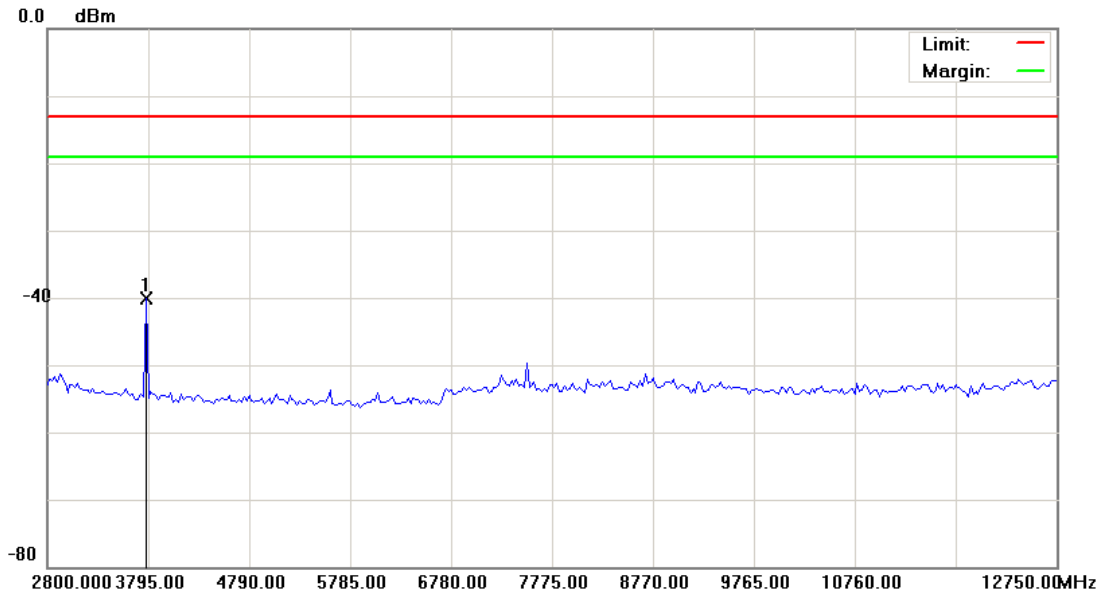
Report Number: 1608FR18

File :GTR-388A12(CH9400)

Data :#5

Date: 2016/8/16

Time: 下午 01:42:09



Site: site #1	Polarization: Conducted	Temperature: 26 °C
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 12V	Humidity: 55 %
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide	Distance:	RBW: 1000 KHz VBW: 3000 KHz
(GSM/DCS/WCDMA)		
M/N: GTR-388A12		
Mode: WCDMA Band II		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	3770.125	-45.10	4.93	-40.17	-13.00	-27.17	peak		

*:Maximum data x:Over limit !:over margin



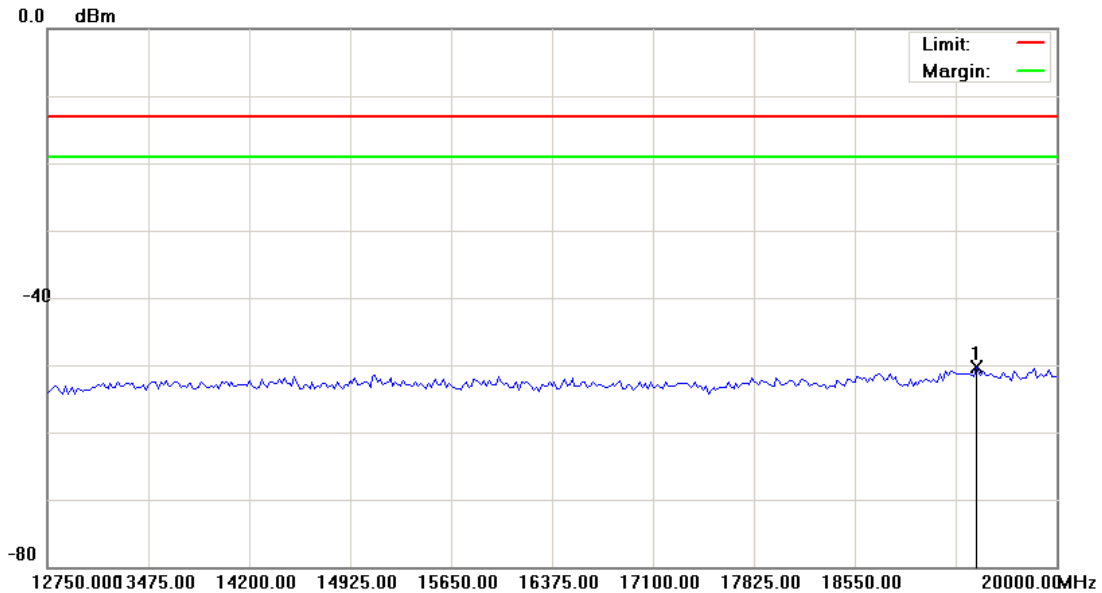
Report Number: 1608FR18

File :GTR-388A12(CH9400)

Data :#6

Date: 2016/8/16

Time: 下午 01:42:29



Site: site #1	Polarization: Conducted	Temperature: 26 °C
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 12V	Humidity: 55 %
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide	Distance:	RBW: 1000 KHz VBW: 3000 KHz
(GSM/DCS/WCDMA)		
M/N: GTR-388A12		
Mode: WCDMA Band II		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	19420.000	-57.58	7.27	-50.31	-13.00	-37.31	peak		

*:Maximum data x:Over limit !:over margin

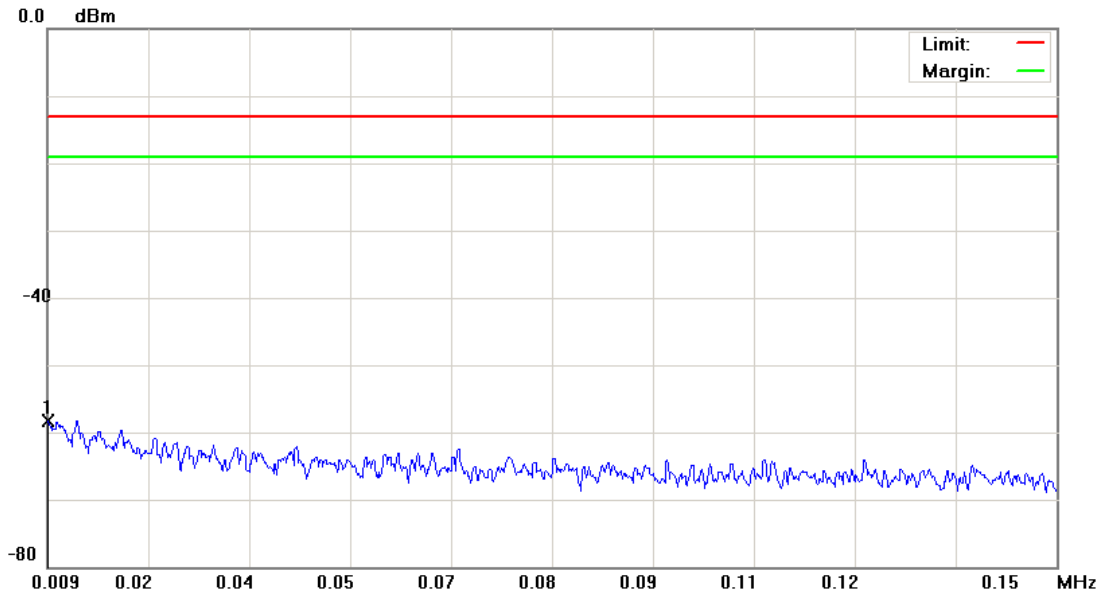


File :GTR-388A12(CH9538)

Data :#1

Date: 2016/8/16

Time: 上午 10:33:26



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0091	-69.55	11.32	-58.23	-13.00	-45.23	peak		

*:Maximum data x:Over limit !:over margin



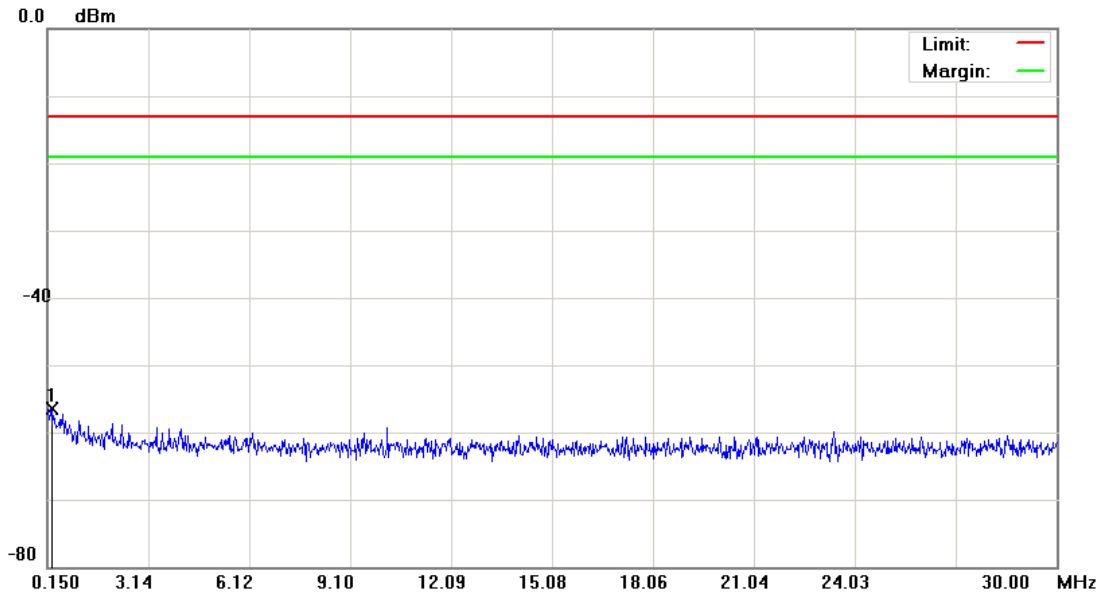
Report Number: 1608FR18

File :GTR-388A12(CH9538)

Data :#2

Date: 2016/8/16

Time: 上午 10:33:50



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	0.2694	-68.96	12.56	-56.40	-13.00	-43.40	peak		Comment

*:Maximum data x:Over limit !:over margin



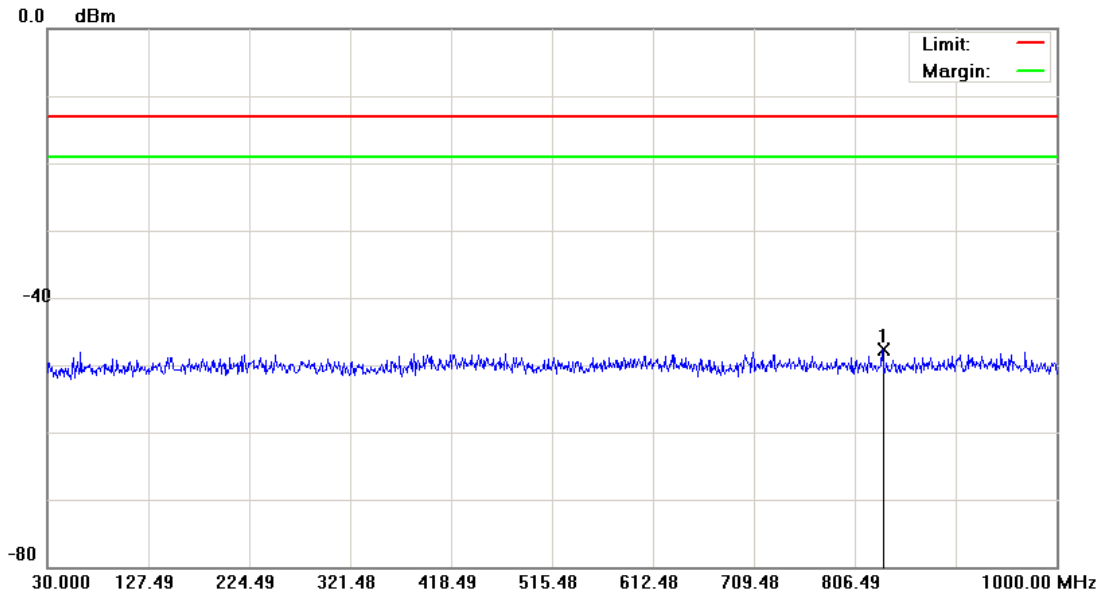
Report Number: 1608FR18

File :GTR-388A12(CH9538)

Data :#3

Date: 2016/8/16

Time: 上午 10:34:14



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	832.6750	-60.91	13.17	-47.74	-13.00	-34.74	peak		Comment

*:Maximum data x:Over limit !:over margin

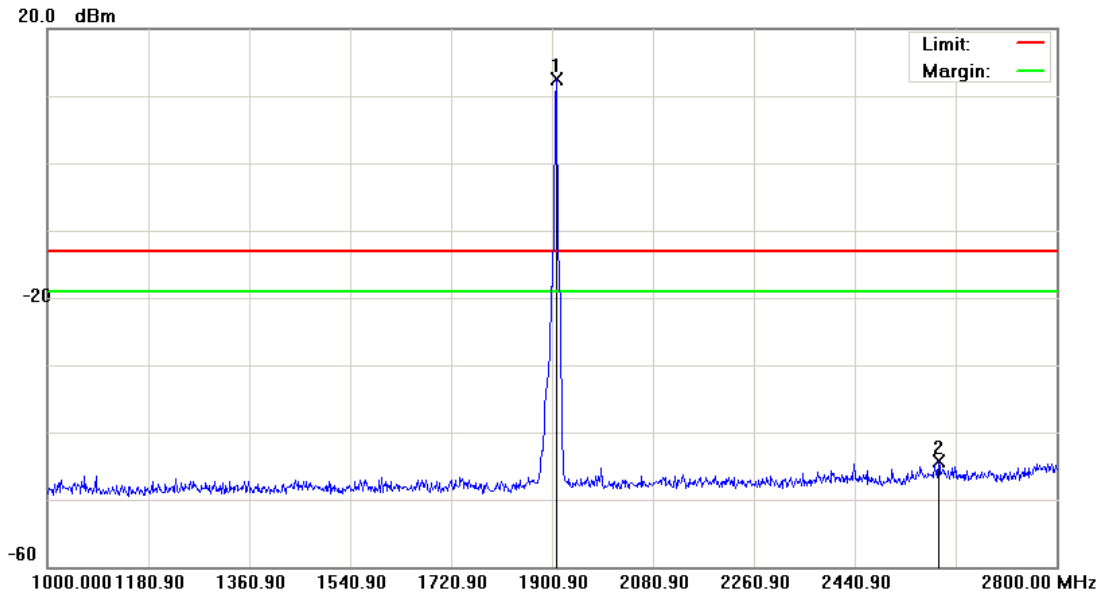


File :GTR-388A12(CH9538)

Data :#4

Date: 2016/8/16

Time: 上午 10:41:42



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)
M/N: GTR-388A12

Power: DC 12V

Humidity: 55 %

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1	*	1909.000	6.77	5.80	12.57	-13.00	25.57	peak		Tx
2		2589.400	-49.69	5.40	-44.29	-13.00	-31.29	peak		

*:Maximum data x:Over limit !:over margin



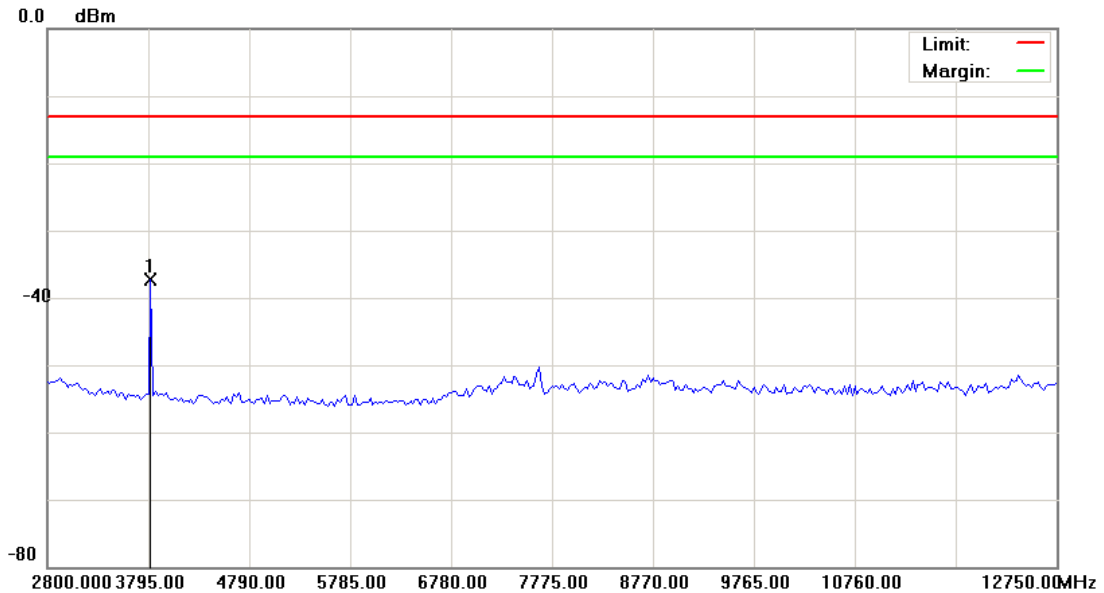
Report Number: 1608FR18

File :GTR-388A12(CH9538)

Data :#5

Date: 2016/8/16

Time: 下午 01:43:00



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	3819.875	-42.26	4.91	-37.35	-13.00	-24.35	peak		

*:Maximum data x:Over limit !:over margin



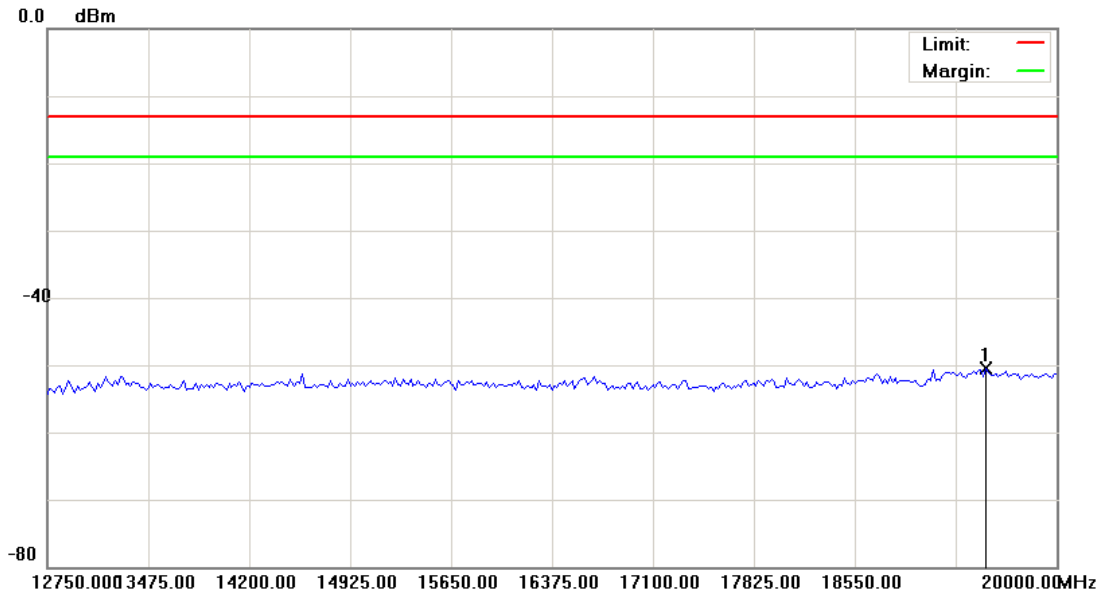
Report Number: 1608FR18

File :GTR-388A12(CH9538)

Data :#6

Date: 2016/8/16

Time: 下午 01:43:20



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band II

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	19492.500	-57.80	7.30	-50.50	-13.00	-37.50	peak		Comment

*:Maximum data x:Over limit !:over margin

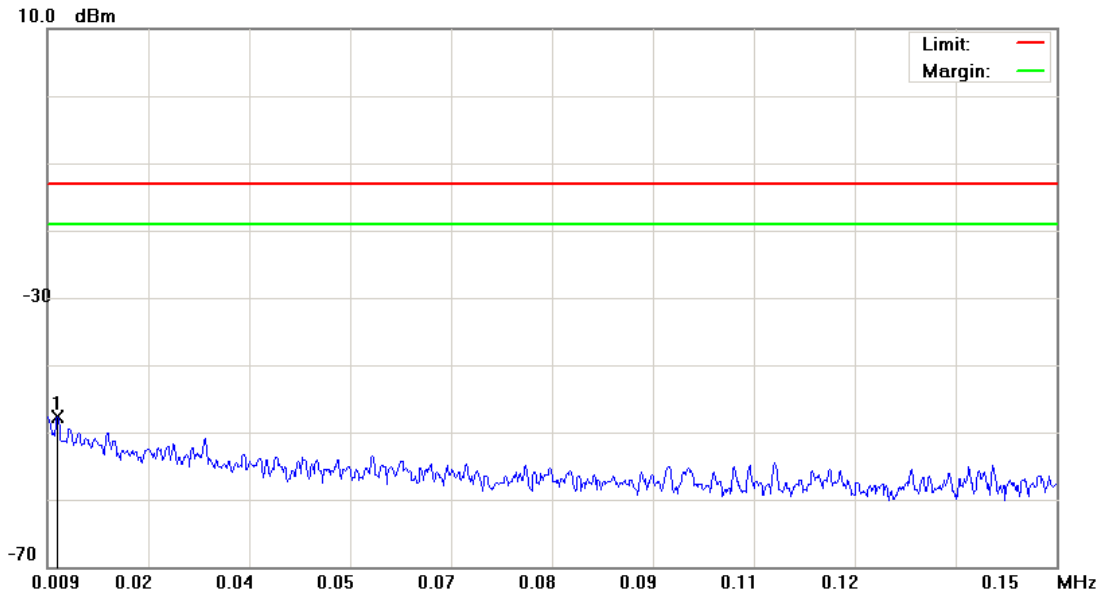


File :GTR-388A12(CH4132)

Data :#1

Date: 2016/8/16

Time: 上午 10:45:37



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0104	-78.26	30.57	-47.69	-13.00	-34.69	peak		

*:Maximum data x:Over limit !:over margin

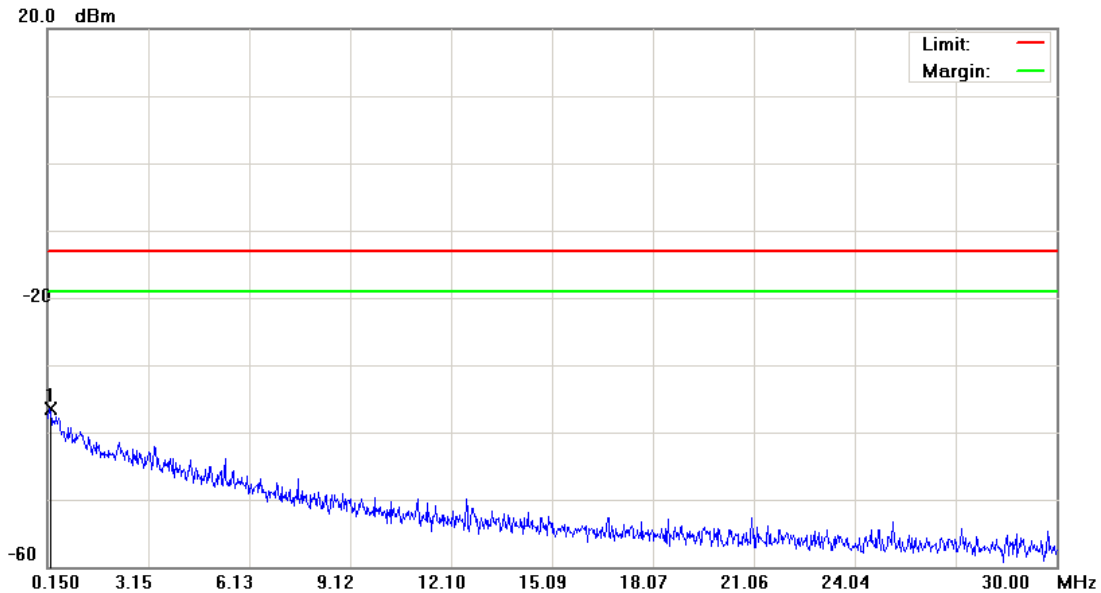


File :GTR-388A12(CH4132)

Data :#2

Date: 2016/8/16

Time: 上午 10:46:01



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.2246	-67.66	31.12	-36.54	-13.00	-23.54	peak		

*:Maximum data x:Over limit !:over margin

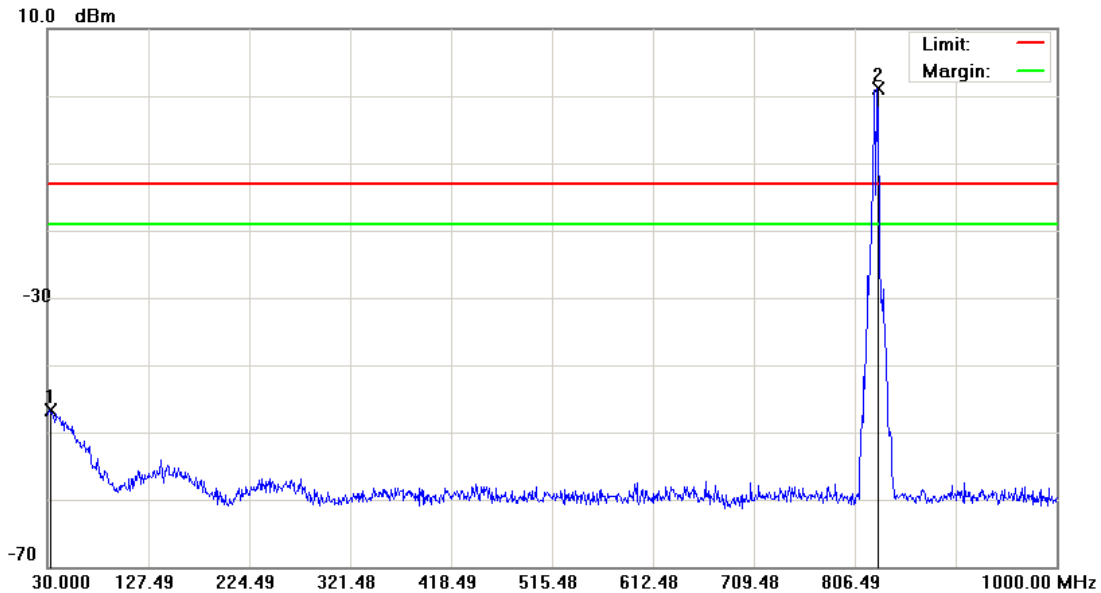


File :GTR-388A12(CH4132)

Data :#3

Date: 2016/8/16

Time: 上午 10:46:25



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1		32.4250	-63.62	16.94	-46.68	-13.00	-33.68	peak		
2	*	827.8250	-2.75	3.87	1.12	-13.00	14.12	peak		Tx

*:Maximum data x:Over limit !:over margin



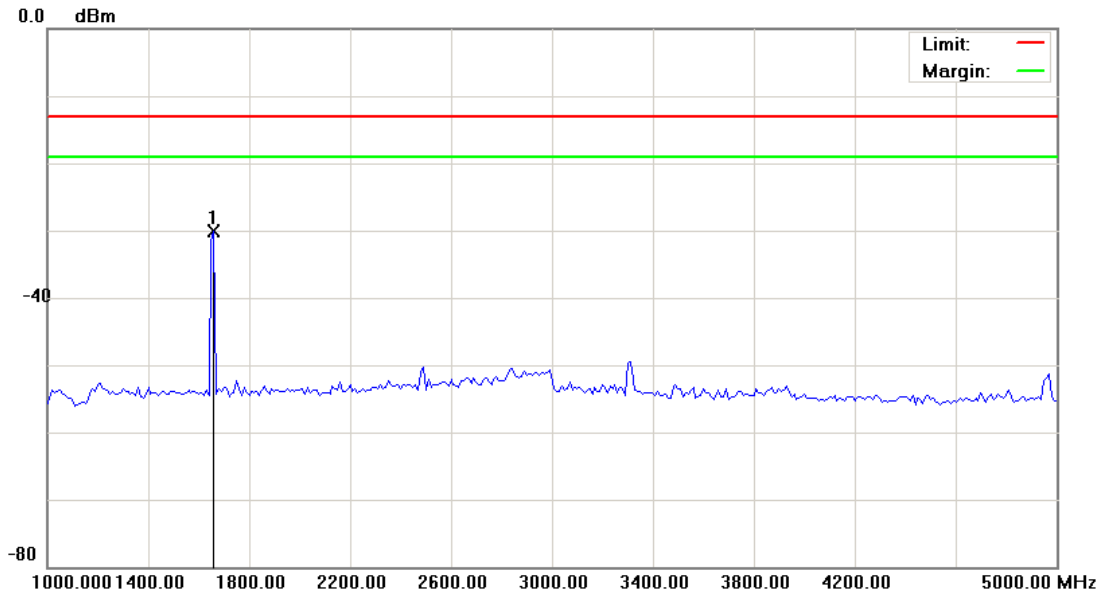
Report Number: 1608FR18

File :GTR-388A12(CH4132)

Data :#4

Date: 2016/8/16

Time: 下午 01:36:13



Site: site #1	Polarization: Conducted	Temperature: 26 °C
Limit: FCC Part 22 conducted(9k-12.75G)	Power: DC 12V	Humidity: 55 %
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide	Distance:	RBW: 1000 KHz VBW: 3000 KHz
(GSM/DCS/WCDMA)		
M/N: GTR-388A12		
Mode: WCDMA Band V		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	1660.000	-34.61	4.46	-30.15	-13.00	-17.15	peak		

*:Maximum data x:Over limit !:over margin



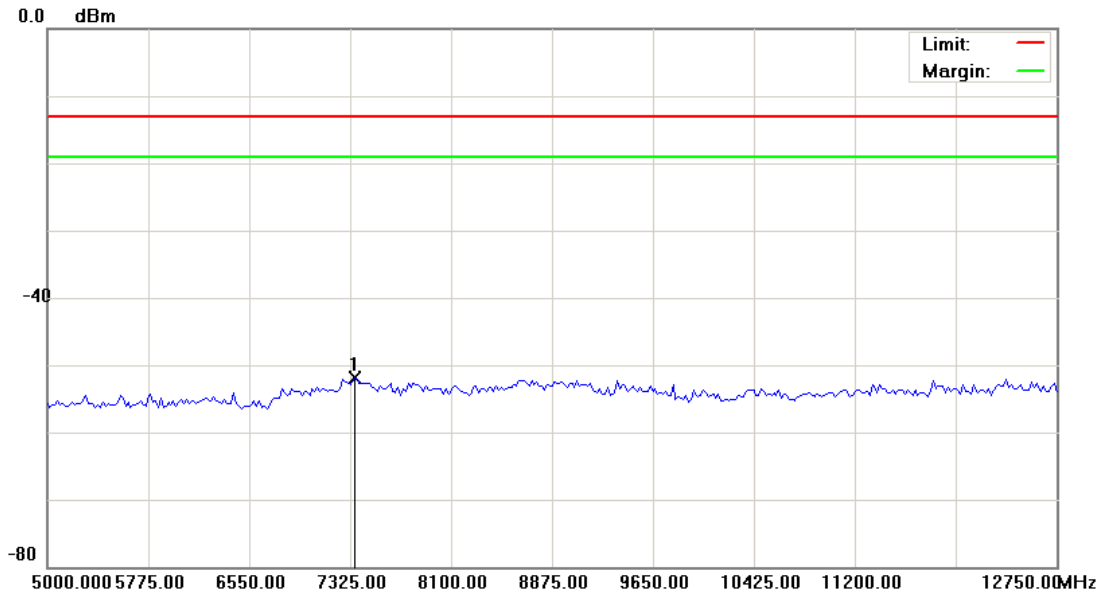
Report Number: 1608FR18

File :GTR-388A12(CH4132)

Data :#5

Date: 2016/8/16

Time: 下午 01:36:32



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	7363.750	-56.94	5.08	-51.86	-13.00	-38.86	peak		Comment

*:Maximum data x:Over limit !:over margin

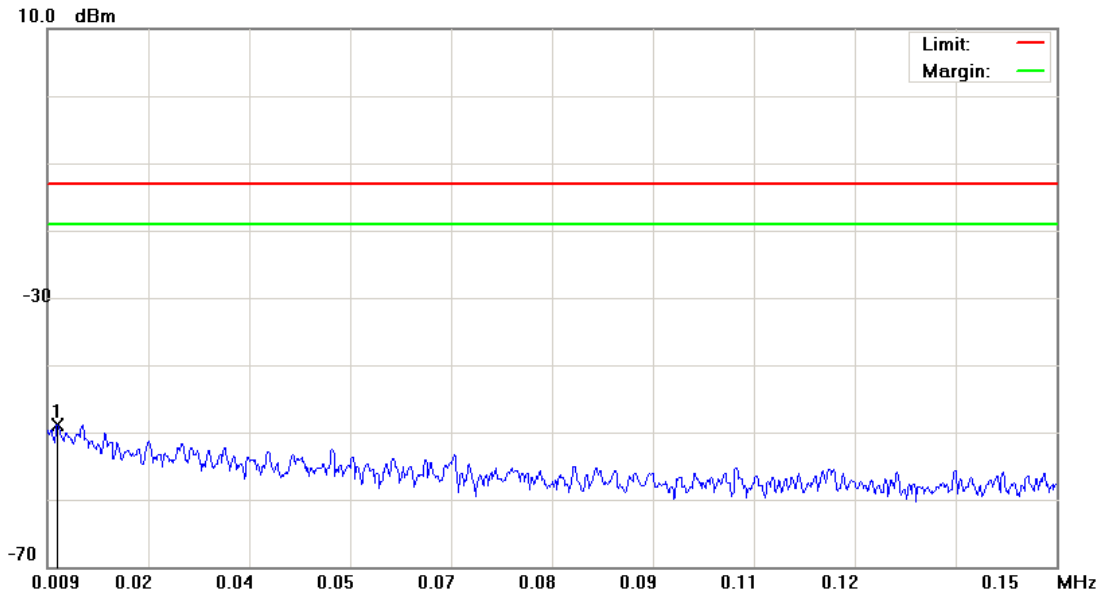


File :GTR-388A12(CH4183)

Data :#1

Date: 2016/8/16

Time: 上午 10:50:27



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0104	-79.45	30.57	-48.88	-13.00	-35.88	peak		

*:Maximum data x:Over limit !:over margin



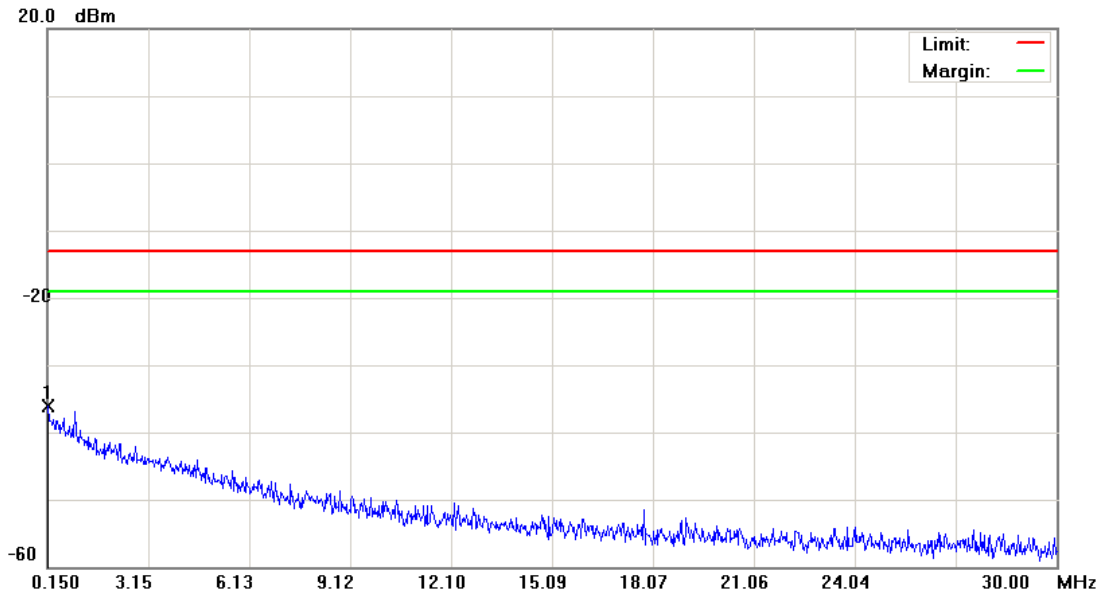
Report Number: 1608FR18

File :GTR-388A12(CH4183)

Data :#2

Date: 2016/8/16

Time: 上午 10:50:51



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	0.1798	-66.81	30.75	-36.06	-13.00	-23.06	peak		Comment

*:Maximum data x:Over limit !:over margin

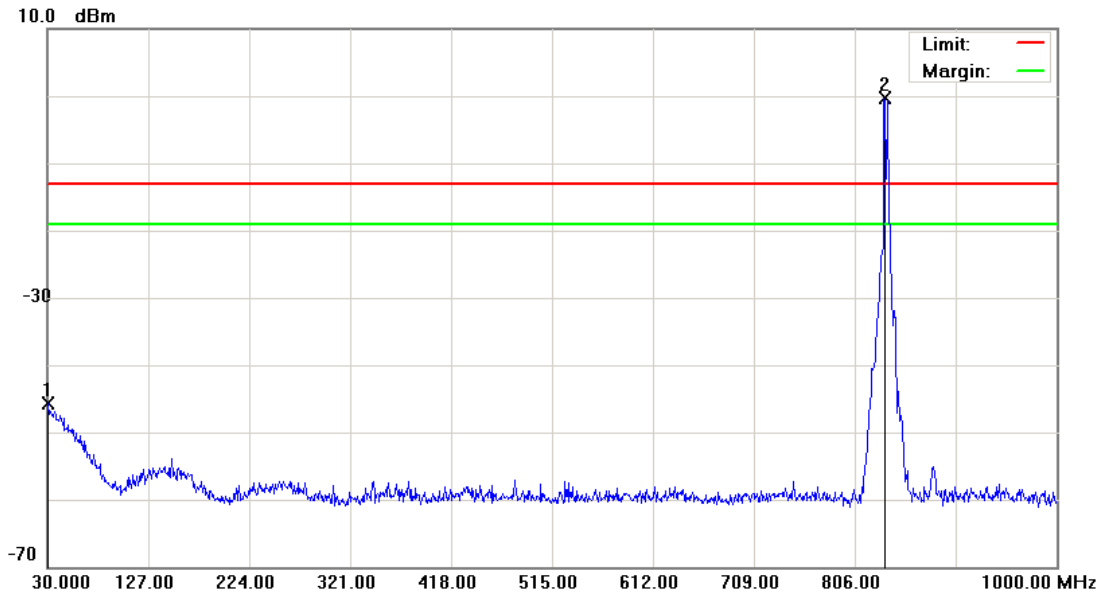


File :GTR-388A12(CH4183)

Data :#3

Date: 2016/8/16

Time: 上午 10:51:16



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1		30.9700	-62.88	17.10	-45.78	-13.00	-32.78	peak		
2	*	834.6150	-4.20	3.95	-0.25	-13.00	12.75	peak		Tx

*:Maximum data x:Over limit !:over margin



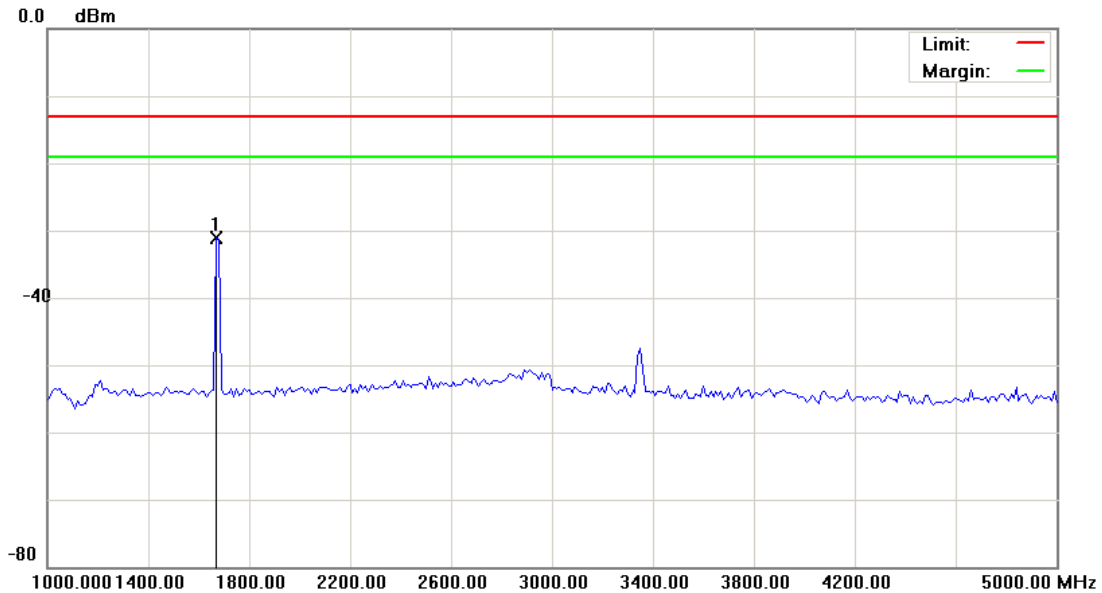
Report Number: 1608FR18

File :GTR-388A12(CH4183)

Data :#4

Date: 2016/8/16

Time: 下午 01:37:06



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)
M/N: GTR-388A12

Power: DC 12V

Humidity: 55 %

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	1670.000	-35.51	4.46	-31.05	-13.00	-18.05	peak		Comment

*:Maximum data x:Over limit !:over margin



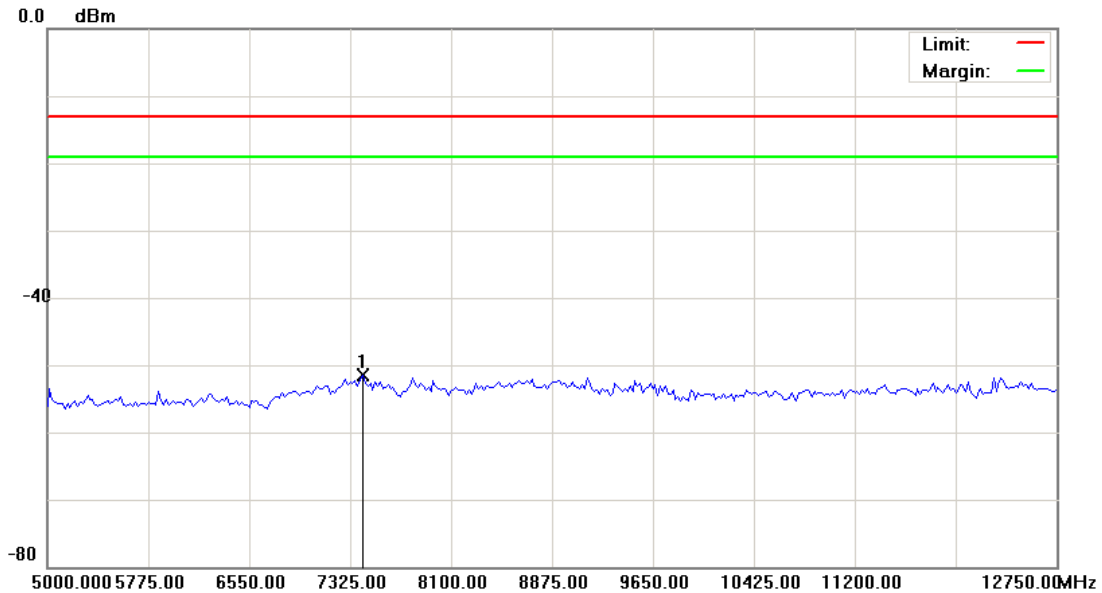
Report Number: 1608FR18

File :GTR-388A12(CH4183)

Data :#5

Date: 2016/8/16

Time: 下午 01:37:26



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)
M/N: GTR-388A12

Power: DC 12V

Humidity: 55 %

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	7421.875	-56.65	5.21	-51.44	-13.00	-38.44	peak		Comment

*:Maximum data x:Over limit !:over margin

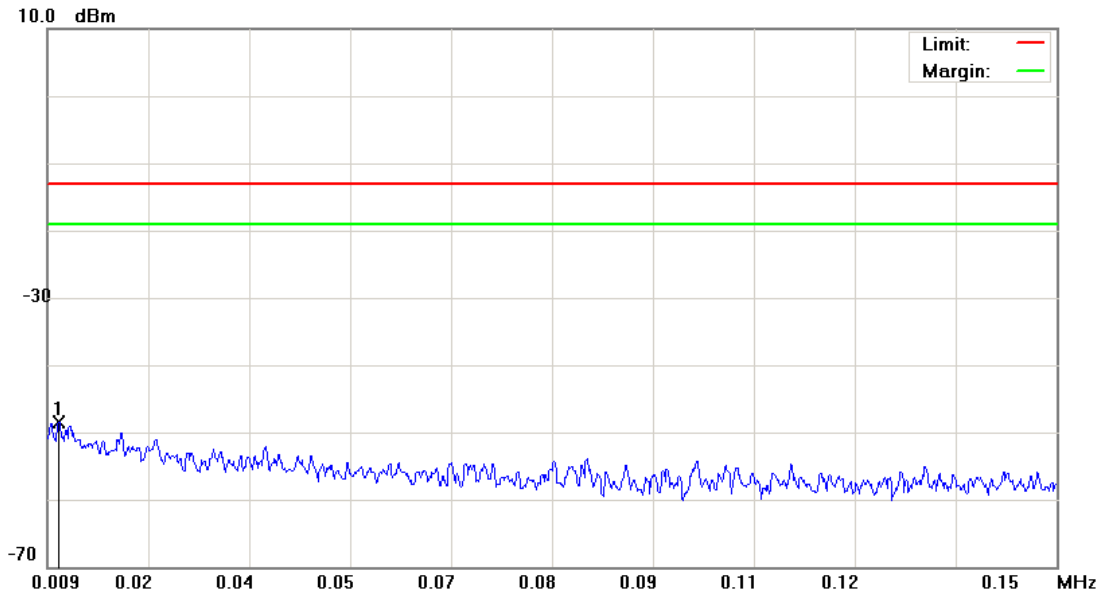


File :GTR-388A12(CH4233)

Data :#1

Date: 2016/8/16

Time: 上午 10:54:31



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1 KHz VBW: 3 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.0106	-79.02	30.57	-48.45	-13.00	-35.45	peak		

*:Maximum data x:Over limit !:over margin



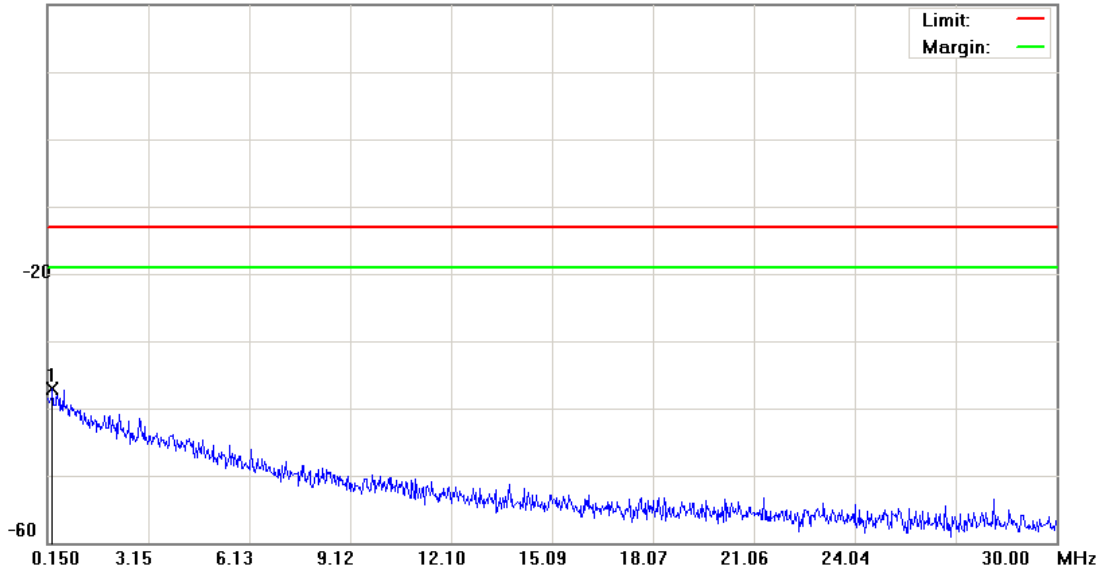
File :GTR-388A12(CH4233)

Data :#2

Date: 2016/8/16

Time: 上午 10:54:55

20.0 dBm



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 10 KHz VBW: 30 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	0.2993	-68.91	31.73	-37.18	-13.00	-24.18	peak		

*:Maximum data x:Over limit !:over margin

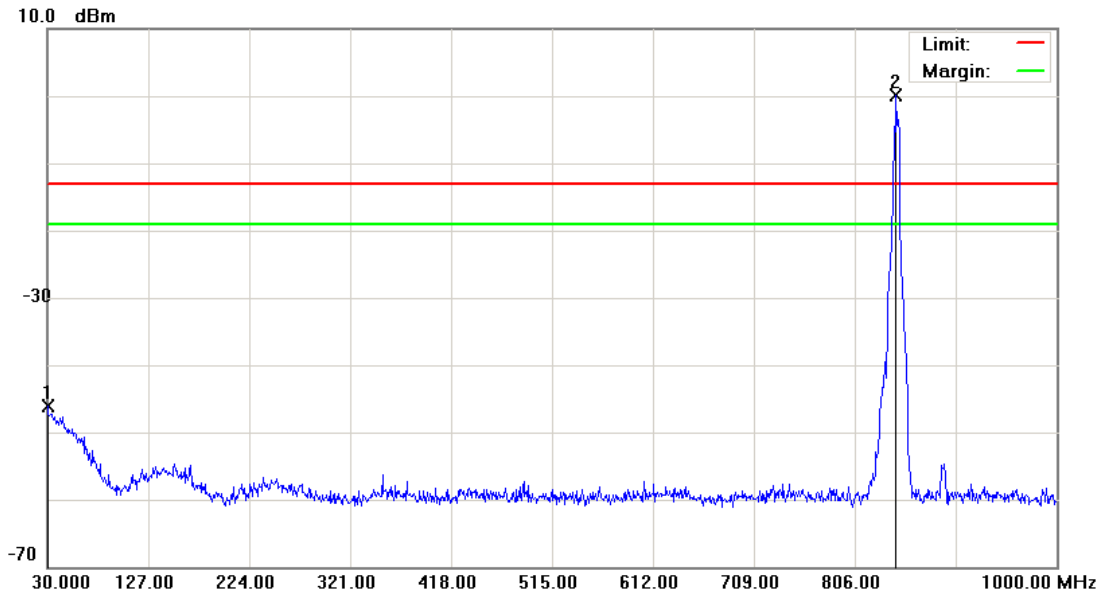


File :GTR-388A12(CH4233)

Data :#3

Date: 2016/8/16

Time: 上午 10:55:20



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 100 KHz VBW: 300 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree	Comment
1		30.0000	-63.35	17.21	-46.14	-13.00	-33.14	peak		
2	*	845.7700	-3.85	3.99	0.14	-13.00	13.14	peak		Tx

*:Maximum data x:Over limit !:over margin

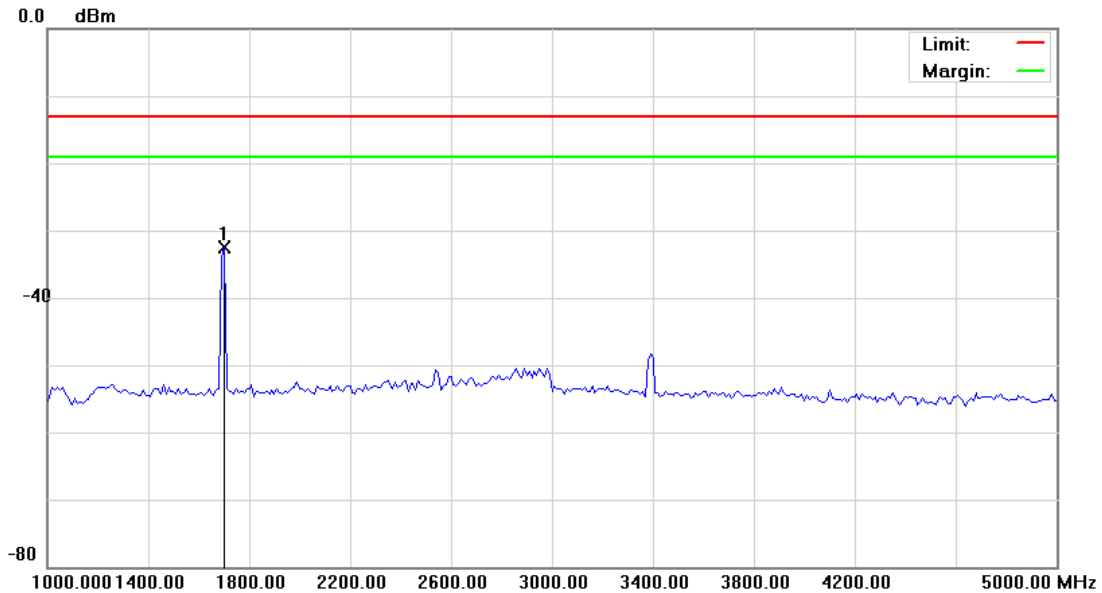


File :GTR-388A12(CH4233)

Data :#4

Date: 2016/8/16

Time: 下午 01:37:57



Site: site #1

Polarization: **Conducted**

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)
M/N: GTR-388A12

Power: DC 12V

Humidity: 55 %

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1	*	1700.000	-36.90	4.48	-32.42	-13.00	-19.42	peak		Comment

*:Maximum data x:Over limit !:over margin



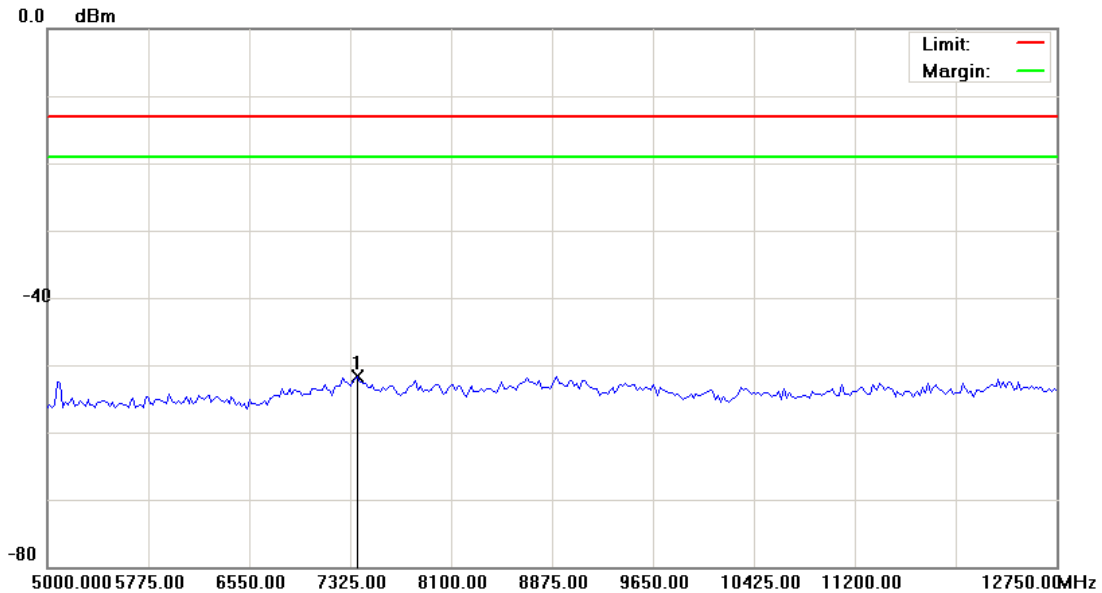
Report Number: 1608FR18

File :GTR-388A12(CH4233)

Data :#5

Date: 2016/8/16

Time: 下午 01:38:16



Site: site #1

Polarization: Conducted

Temperature: 26 °C

Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Motorcycle/ Vehicle Tracker Quick Start Guide
(GSM/DCS/WCDMA)

Power: DC 12V

Humidity: 55 %

M/N: GTR-388A12

Distance:

RBW: 1000 KHz VBW: 3000 KHz

Mode: WCDMA Band V

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	7383.125	-56.85	5.14	-51.71	-13.00	-38.71	peak		

*:Maximum data x:Over limit !:over margin

2.7. Field Strength of Spurious Radiation Test

■ Limit

The power of any emission 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.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

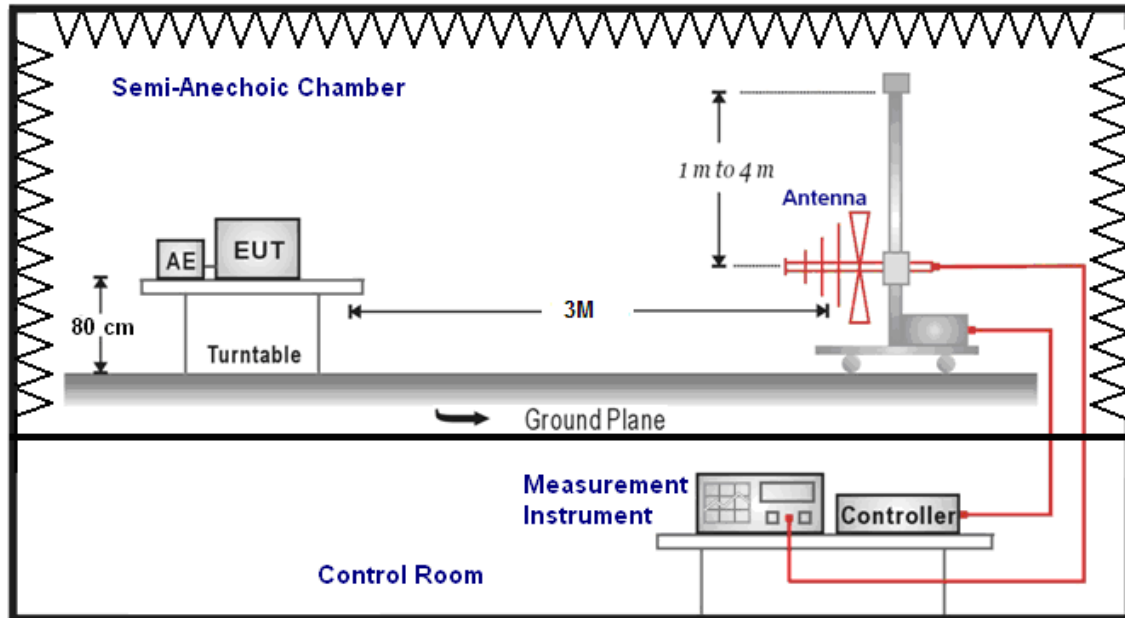
■ Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Cycle
RF Pre-selector	Agilent	N9039A	MY46520256	01/08/2016	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/08/2016	1 year
Pre Amplifier	Agilent	8449B	3008A02237	10/07/2015	1 year
Pre Amplifier	Agilent	8447D	2944A11119	01/11/2016	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	416	09/25/2015	1 year
Sleeve Dipole(CF880) (780-980MHz)	ETS	3126-880	00064344	10/06/2014	2 years
Sleeve Dipole(CF1845) (1695-1995MHz)	ETS	3126-1845	00083335	10/06/2014	2 years
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/06/2016	1 year
Horn Antenna (18~40GHz)	ETS	3116	00086467	09/01/2015	1 year
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/18/2016	1 year
Microwave Cable	EMCI	EMC102-KM-KM-1 4000	151001	10/15/2015	1 year
Microwave Cable	EMCI	EMC-104-SM-SM-1 4000	140202	10/15/2015	1 year
Microwave Cable	EMCI	EMC104-SM-SM-6 00	140301	10/15/2015	1 year
Signal Generator	Agilent	E8257D	MY44320425	02/25/2016	1 year
Test Site	ATL	TE01	888001	08/27/2015	1 year

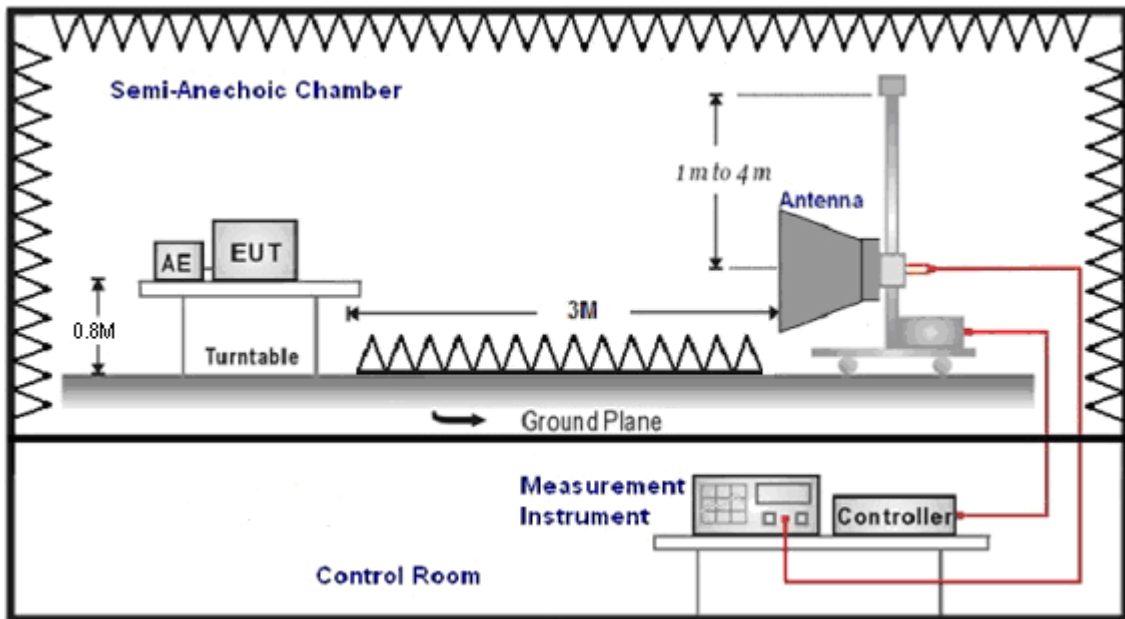
Note: N.C.R. = No Calibration Request.

■ Setup

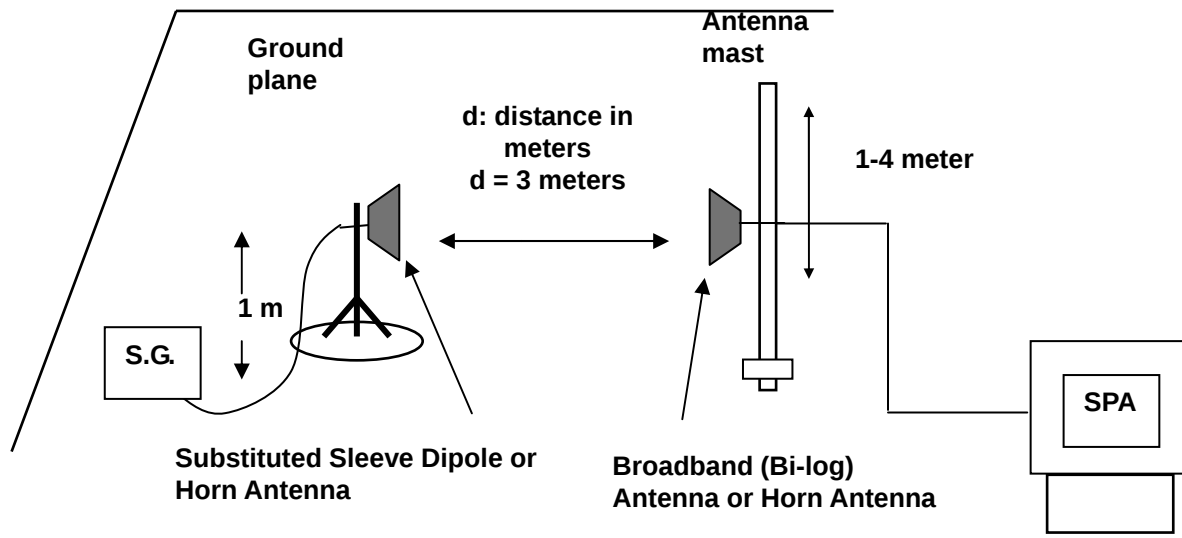
Below 1GHz



Above 1GHz



For Substituted Method Test Set-UP



■ Test Procedure

- The EUT was set up for the maximum power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RWB and VBW is 5MHz for LTE mode.
- E.I.R.P power measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution antenna (Note:1 & 2) is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G.
- $E.I.R.P. = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$
- $E.R.P. = E.I.R.P. - 2.15 \text{ dB}$

Note: 1. Below 1 GHz Substituted Method Test : Sleeve dipole antenna to Bi-Log Antenna

2. Above 1 GHz Substituted Method Test : Horn antenna to Horn Antenna

■ Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is $\pm 3.072 \text{ dB}$.

■ Test Result

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	1	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	824.2 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1648.400	-17.45	-5.44	-22.89	-13.00	-9.89	peak	H
1648.400	-15.17	-5.44	-20.61	-13.00	-7.61	peak	V
3296.800	-40.12	0.18	-39.94	-13.00	-26.94	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	1	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	836.6 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1673.200	-19.72	-5.35	-25.07	-13.00	-12.07	peak	H
1673.200	-15.28	-5.35	-20.63	-13.00	-7.63	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	1	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	848.8 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1697.600	-21.15	-5.28	-26.43	-13.00	-13.43	peak	H
1697.600	-17.87	-5.28	-23.15	-13.00	-10.15	peak	V



Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	2	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	1850.2 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
3700.400	-22.74	1.39	-21.35	-13.00	-8.35	peak	H
7400.800	-33.30	11.52	-21.78	-13.00	-8.78	peak	H
9251.000	-36.68	14.46	-22.22	-13.00	-9.22	peak	H
3700.400	-24.19	1.39	-22.80	-13.00	-9.80	peak	V
7400.800	-35.06	11.52	-23.54	-13.00	-10.54	peak	V
9251.000	-34.39	14.46	-19.93	-13.00	-6.93	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	2	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	1880.0 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
5640.000	-33.04	5.35	-27.69	-13.00	-14.69	peak	H
7520.000	-30.52	12.00	-18.52	-13.00	-5.52	peak	H
9400.000	-37.29	14.98	-22.31	-13.00	-9.31	peak	H
3760.000	-28.10	1.49	-26.61	-13.00	-13.61	peak	V
7520.000	-28.65	12.00	-16.65	-13.00	-3.65	peak	V
9400.000	-38.01	14.98	-23.03	-13.00	-10.03	peak	V



Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	2	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	1909.8 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
5729.400	-32.38	5.58	-26.80	-13.00	-13.80	peak	H
7639.200	-27.51	12.32	-15.19	-13.00	-2.19	peak	H
9549.000	-44.42	15.39	-29.03	-13.00	-16.03	peak	H
3819.600	-30.78	1.58	-29.20	-13.00	-16.20	peak	V
5729.400	-31.79	5.58	-26.21	-13.00	-13.21	peak	V
7639.200	-30.26	12.32	-17.94	-13.00	-4.94	peak	V



Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	5	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	1852.4 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
5557.200	-41.82	5.14	-36.68	-13.00	-23.68	peak	H
7409.600	-36.31	11.55	-24.76	-13.00	-11.76	peak	H
9262.000	-42.72	14.49	-28.23	-13.00	-15.23	peak	H
3704.800	-31.22	1.41	-29.81	-13.00	-16.81	peak	V
7409.600	-35.30	11.55	-23.75	-13.00	-10.75	peak	V
9262.000	-42.63	14.49	-28.14	-13.00	-15.14	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	5	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	1880.0 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
5640.000	-44.58	5.35	-39.23	-13.00	-26.23	peak	H
7520.000	-31.01	12.00	-19.01	-13.00	-6.01	peak	H
9400.000	-45.16	14.98	-30.18	-13.00	-17.18	peak	H
5640.000	-39.98	5.35	-34.63	-13.00	-21.63	peak	V
7520.000	-28.70	12.00	-16.70	-13.00	-3.70	peak	V
9400.000	-43.21	14.98	-28.23	-13.00	-15.23	peak	V



Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	5	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	1907.6 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
3815.200	-48.88	1.57	-47.31	-13.00	-34.31	peak	H
5722.800	-44.80	5.57	-39.23	-13.00	-26.23	peak	H
7630.400	-33.73	12.29	-21.44	-13.00	-8.44	peak	H
3815.200	-38.95	1.57	-37.38	-13.00	-24.38	peak	V
5722.800	-41.83	5.57	-36.26	-13.00	-23.26	peak	V
7630.400	-30.31	12.29	-18.02	-13.00	-5.02	peak	V



Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	6	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	826.4 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1652.800	-23.54	-5.44	-28.98	-13.00	-15.98	peak	H
1652.800	-21.54	-5.44	-26.98	-13.00	-13.98	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	6	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	836.6 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1673.200	-31.82	-5.35	-37.17	-13.00	-24.17	peak	H
1673.200	-30.82	-5.35	-36.17	-13.00	-23.17	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Mode:	6	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Frequency:	846.6 MHz	Date:	08/11/2016

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1692.800	-25.56	-5.30	-30.86	-13.00	-17.86	peak	H
1692.800	-24.17	-5.30	-29.47	-13.00	-16.47	peak	V

2.8. Frequency Stability (Temperature & Voltage Variation) Test

■ Limit

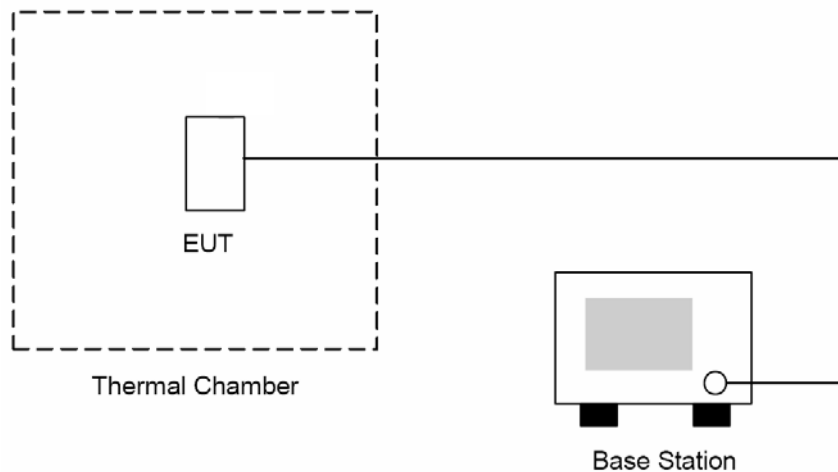
The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

■ Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Cycle
Universal Radio Communication Tester	R & S	CMU200	112387	02/25/2016	1 year
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	04/18/2016	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

■ Setup



■ Test Procedure

The measurement is made according to FCC rules:

1. The EUT and test equipment were set up as shown on the following section.
2. With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was note within one minute.
3. With power OFF, the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
4. The EUT was placed in a temperature chamber at $25 \pm 5^{\circ}\text{C}$ and connected as the following section.
5. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
6. The temperature tests were performed for the worst case.
7. Test data was recorded.

■ Uncertainty

The measurement uncertainty is defined as for Frequency Stability (Temperature Variation) measurement is $\pm 10\text{Hz}$.

Test Result

Date of Test	08/11/2016					
GPRS/EGPRS 850						
Voltage						
Frequency (MHz)	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
836.4	24.00	20	5.47	0.007	±2.5	Pass
	12.00	20	2.43	0.003	±2.5	Pass
	9.00	20	-9.63	-0.012	±2.5	Pass
Temperature						
836.4	12.00	-30	13.2	0.016	±2.5	Pass
	12.00	-20	-4.72	-0.006	±2.5	Pass
	12.00	-10	-2.21	-0.003	±2.5	Pass
	12.00	0	-19.59	-0.023	±2.5	Pass
	12.00	10	4.07	0.005	±2.5	Pass
	12.00	30	-2.34	-0.003	±2.5	Pass
	12.00	40	17.22	0.021	±2.5	Pass
	12.00	50	6.47	0.008	±2.5	Pass
	12.00	60	8.57	0.010	±2.5	Pass

Date of Test	08/11/2016					
GPRS/EGPRS 1900						
Voltage						
Frequency (MHz)	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
1880.0	24.00	20	1.95	0.001	±2.5	Pass
	12.00	20	4.05	0.002	±2.5	Pass
	9.00	20	-16.14	-0.009	±2.5	Pass
Temperature						
1880.0	12.00	-30	8.92	0.005	±2.5	Pass
	12.00	-20	-2.01	-0.001	±2.5	Pass
	12.00	-10	-1.3	-0.001	±2.5	Pass
	12.00	0	-21.32	-0.011	±2.5	Pass
	12.00	10	7.55	0.004	±2.5	Pass
	12.00	30	3.99	0.002	±2.5	Pass
	12.00	40	23.29	0.012	±2.5	Pass
	12.00	50	-0.96	-0.001	±2.5	Pass
	12.00	60	0.42	0.000	±2.5	Pass



Date of Test	08/11/2016					
WCDMA Band II						
Frequency (MHz)	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
1880.0	24.00	20	-2.54	-0.001	±2.5	Pass
	12.00	20	-6.15	-0.003	±2.5	Pass
	9.00	20	-4.89	-0.003	±2.5	Pass
Temperature						
1880.0	12.00	-30	12.8	0.007	±2.5	Pass
	12.00	-20	6.91	0.004	±2.5	Pass
	12.00	-10	-1.25	-0.001	±2.5	Pass
	12.00	0	-11.57	-0.006	±2.5	Pass
	12.00	10	13.79	0.007	±2.5	Pass
	12.00	30	4.36	0.002	±2.5	Pass
	12.00	40	7.65	0.004	±2.5	Pass
	12.00	50	8.93	0.005	±2.5	Pass
	12.00	60	7.03	0.004	±2.5	Pass

Date of Test	08/11/2016					
WCDMA Band V						
Frequency (MHz)	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
836.6	24.00	20	-1.51	-0.002	±2.5	Pass
	12.00	20	-2.51	-0.003	±2.5	Pass
	9.00	20	3.2	0.004	±2.5	Pass
Temperature						
836.6	12.00	-30	4.67	0.006	±2.5	Pass
	12.00	-20	5.87	0.007	±2.5	Pass
	12.00	-10	-7.44	-0.009	±2.5	Pass
	12.00	0	-13.03	-0.016	±2.5	Pass
	12.00	10	-0.64	-0.001	±2.5	Pass
	12.00	30	6.17	0.007	±2.5	Pass
	12.00	40	15.44	0.018	±2.5	Pass
	12.00	50	4.86	0.006	±2.5	Pass
	12.00	60	1.76	0.002	±2.5	Pass