FCC 47 CFR PART 22H and 24E

Product Type	:	Rugged Tablet Computer
Applicant	:	AAEON Technology. Inc.
Address	:	5F, No. 135, Lane 235, Pao Chiao Rd.,Taiwan, ROC
Trade Name	:	AAEON
Model Number	:	xxxRTC-700y-TAxx-WBGz-xxxx
Test Specification	:	FCC 47 CFR PART 22H: Oct, 2011 FCC 47 CFR PART 24E: Oct, 2011 ANSI/TIA-603-C-2004
Application Purpose	:	Original
Receive Date	:	May 30, 2012
Issue Date	:	Jul. 12, 2012

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade City,
Taoyuan County 334, Taiwan R.O.C.
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Taiwan Accreditation Foundation accreditation number: 1330

Revision History

Rev.	Issue Date	Revisions	Revised By
00	Jul. 12, 2012	Initial Issue	

Verification of Compliance

Issued Date: 07/12/2012

Product Type	:	Rugged Tablet Computer
Applicant	:	AAEON Technology. Inc.
Address	:	5F, No. 135, Lane 235, Pao Chiao Rd.,Taiwan, ROC
Trade Name	:	AAEON
Model Number	:	xxxRTC-700y-TAxx-WBGz-xxxx
FCC ID	:	OHBRTC700RAWBGH
EUT Rated Voltage	:	DC 12V, 2A
Test Voltage	:	120 Vac / 60 Hz
Applicable Standard	:	FCC 47 CFR PART 22H: Oct, 2011 FCC 47 CFR PART 24E: Oct, 2011 ANSI/TIA-603-C-2004
Application Purpose	:	Original
Test Result	:	Complied
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade City Taoyuan County 334, Taiwan R.O.C. Tel：+886-3-2710188 / Fax：+886-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 http://www.atl-lab.com.tw/e-index.htm

The above equipment was tested by A Test Lab Techno Corp. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2009 and the energy emitted by the sample tested as described in this report is in compliance with the requirements of FCC Rules Part 22H, Part 24E.
The test results of this report relate only to the tested sample identified in this report.

Approved By	:		Reviewed By	:	
(Manager)		(Murphy Wang)	(Testing Engineer)		(Fly Lu)

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1 General Information

1.1. EUT Description

Applicant		AAEON Technology. Inc.			
Applicant Address		5F, No. 135, Lane 235, Pao Chiao Rd.,Taiwan, ROC			
Manufacturer		AAEON Technology. Inc.			
Manufacturer Address		5F, No. 135, Lane 235, Pao Chiao Rd.,Taiwan, ROC			
Product Type		Rugged Tablet Computer			
Trade Name		AAEON			
Model Number		xxxRTC-700y-TAxx-WBGz-xxxx (x is for marketing purpose) 1. xxx=TF-(TF: Toxic Free) or blank 2. xx=SD (S: sunlight readable, D: Digitizer) or blank 3. xxxx=SW revision, ex: 1110=rev1, x:0~9 (y=R or A(R:Virgo,A:Aries)) (z is blank or H,blank means without 3G function;H means with 3G function)			
FCC ID		OHBRTC700RAWBGH			
Module Used		Huawei, EM820W			
Mode	WCDMA/ HSDPA/ HSUPA/ HSPA +	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			
Type of Antenna		PCB Antenna			
Antenna Gain (dBi)		WCDMA/ HSDPA/ HSUPA/ HSPA + Band II : 2.0 dBi WCDMA/ HSDPA/ HSUPA/ HSPA + Band V : 2.0 dBi			
Max. RF Output power		WCDMA/ HSDPA/ HSUPA/ HSPA + Band II : 26.42 dBm / 0.439 W WCDMA/ HSDPA/ HSUPA/ HSPA + Band V : 26.33 dBm / 0.430 W			
Max. ERP/EIRP		WCDMA/ HSDPA/ HSUPA/ HSPA + Band II : 25.03 dBm / 0.318 W WCDMA/ HSDPA/ HSUPA/ HSPA + Band V : 25.42 dBm / 0.348 W			
Emission Designator		WCDMA/ HSDPA/ HSUPA/ HSPA + Band II : 4M18F9W WCDMA/ HSDPA/ HSUPA/ HSPA + Band V : 4M20F9W			
Component					
Power Adapter		L.T.E., LTE24E-S2-2 I/P: 100-240VAC, 50/60Hz, 1A O/P: 12VDC, 2A Cable in: Non-Shielded, 1.8m, Detachable at Power Adaptor Cable out: Non-Shielded, 1.8m, Non-Detachable at Power Adaptor			

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: TF-RTC-700R-TA-WBG-1110 _ WCDMA Band II Link
Mode 2: TF-RTC-700R-TA-WBG-1110 _ WCDMA Band V Link
Mode 3: TF-RTC-700A-TA-WBGH-1110 _ WCDMA Band II Link
Mode 4: TF-RTC-700A-TA-WBGH-1110 _ WCDMA Band V Link
Mode 5: TF-RTC-700R-TA-WBG-1110_Receive Mode

Note: 1. 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.

2. 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.

3. TF-RTC-700R-TA-WBG-1110 and TF-RTC-700A-TA-WBGH-1110 differ from each other in case material. After our engineering evaluation, TF-RTC-700A-TA-WBGH-1110 only needs to test the worst case of Field Strength of Spurious Radiation from TF-RTC-700R-TA-WBG-1110.

Tested System Details

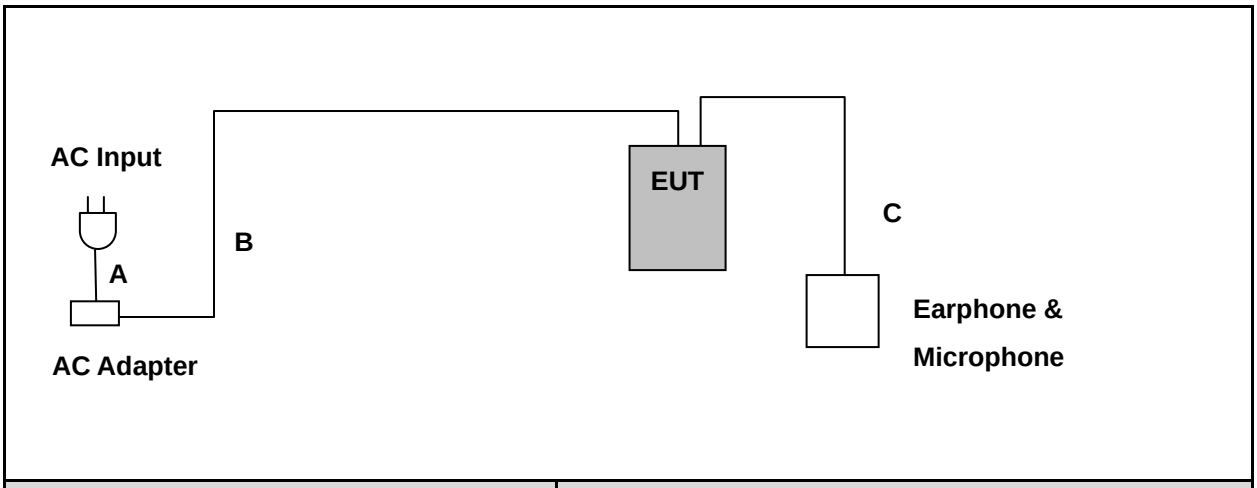
The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model Number	Serial Number	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	109369	Non-Shielded, 1.8m

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



Signal Cable Type		Signal Cable Description
A	AC Power Cable	Non-Shielded, 1.8 m
B	DC Power Cable	Non-Shielded, 1.8 m
C	Earphone & Microphone Cable	Non-Shielded, 1.8 m

1.5. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

1.6. Summary of Test Result

Description	FCC Rule	IC Rule	Limit	Result
Conducted Output Power	§2.1046	N/A	N/A	Pass
Effective Radiated Power	§22.913(a)(2)	RSS-132(4.4) SRSP-503(5.1.3)	< 7 Watts for FCC (<6.3 Watts for IC)	Pass
Equivalent Isotropic Radiated Power	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	< 2 Watts	Pass
Occupied Bandwidth	§2.1049 §22.917(a) §24.238(a)	RSS-Gen (4.6.1)	N/A	Pass
Band Edge Measurement	§2.1051 §22.917(a) §24.238(a)	RSS-132 (4.5.1)RSS-133 (6.5.1)	< $43+10\log_{10}$(P[Watts])	Pass
Conducted Spurious Emission	§2.1051 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	< $43+10\log_{10}$(P[Watts])	Pass
Field Strength of Spurious Radiation	§2.1053 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1) RSS-Gen (4.10)	< $43+10\log_{10}$(P[Watts])	Pass
Frequency Stability for Temperature & Voltage	§2.1055 §22.355 §24.235	RSS-132(4.3) RSS-133(6.3)	< 2.5 ppm	Pass

2 RF Output Power Test

2.1. Limit

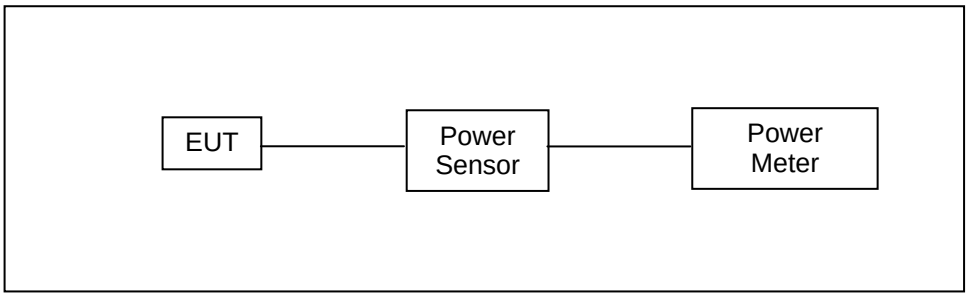
N/A

2.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMU200	109369	08/10/2010	(2)
Single Channel PK Power Sensor	Agilent	N1911A	MY45101619	12/15/2011	(1)
Wideband Power Meter	Agilent	N1921A	MY45241957	12/15/2011	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

2.3. Test Setup



2.4. Test Procedure

The measurement is made according to ANSI/TIA-603-C-2004 as follows:

1. The transmitter output was connected to power meter and base station through power divider.
2. Set base station for EUT at GSM 850: PCL=5 and PCS 1900: PCL=0.
3. Set base station for EUT at WCDMA Band V and WCDMA Band II, power level was set to maximum.
4. Select lowest, middle, and highest channels for each band.

2.5. Uncertainty

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

2.6. Test Result

Model Number	TF-RTC-700R-TA-WBG-1110					
Test Item	RF Output Power					
Date of Test	06/05/2012			Test Site	TE05	
Bands	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
			(dBm)	(W)	(dBm)	(W)
WCDMA Band II	-----	1852.4	23.24	0.211	26.31	0.428
		1880.0	23.35	0.216	**26.42**	**0.439**
		1907.6	23.24	0.211	26.31	0.428
HSDPA Band II	1	1852.4	23.22	0.210	26.29	0.426
		1880.0	23.21	0.209	26.28	0.425
		1907.6	23.22	0.210	26.29	0.426
	2	1852.4	23.20	0.209	26.27	0.424
		1880.0	23.20	0.209	26.27	0.424
		1907.6	23.21	0.209	26.28	0.425
	3	1852.4	22.75	0.188	25.82	0.382
		1880.0	22.68	0.185	25.75	0.376
		1907.6	22.70	0.186	25.77	0.378
	4	1852.4	22.72	0.187	25.79	0.379
		1880.0	22.68	0.185	25.75	0.376
		1907.6	22.69	0.186	25.76	0.377
HSUPA Band II	1	1852.4	22.36	0.172	25.43	0.349
		1880.0	22.60	0.182	25.67	0.369
		1907.6	22.30	0.170	25.37	0.344
	2	1852.4	20.37	0.109	23.44	0.221
		1880.0	20.57	0.114	23.64	0.231
		1907.6	20.26	0.106	23.33	0.215
	3	1852.4	21.34	0.136	24.41	0.276
		1880.0	21.59	0.144	24.66	0.292
		1907.6	21.31	0.135	24.38	0.274
	4	1852.4	20.32	0.108	23.39	0.218
		1880.0	20.57	0.114	23.64	0.231
		1907.6	20.29	0.107	23.36	0.217
	5	1852.4	22.33	0.171	25.40	0.347
		1880.0	22.55	0.180	25.62	0.365
		1907.6	22.25	0.168	25.32	0.340

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

Model Number	TF-RTC-700R-TA-WBG-1110					
Test Item	RF Output Power					
Date of Test	06/05/2012			Test Site	TE05	
Bands	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
			(dBm)	(W)	(dBm)	(W)
HSPA + Band II	1	1852.4	21.50	0.141	24.57	0.286
		1880.0	21.84	0.153	24.91	0.310
		1907.6	21.37	0.137	24.44	0.278
	2	1852.4	19.51	0.089	22.58	0.181
		1880.0	19.81	0.096	22.88	0.194
		1907.6	19.33	0.086	22.40	0.174
	3	1852.4	20.48	0.112	23.55	0.226
		1880.0	20.83	0.121	23.90	0.245
		1907.6	20.38	0.109	23.45	0.221
	4	1852.4	19.46	0.088	22.53	0.179
		1880.0	19.81	0.096	22.88	0.194
		1907.6	19.36	0.086	22.43	0.175
	5	1852.4	21.47	0.140	24.54	0.284
		1880.0	21.79	0.151	24.86	0.306
		1907.6	21.32	0.136	24.39	0.275

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

Model Number	TF-RTC-700R-TA-WBG-1110					
Test Item	RF Output Power					
Date of Test	06/05/2012			Test Site	TE05	
Bands	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
			(dBm)	(W)	(dBm)	(W)
WCDMA Band V	-----	826.4	23.27	0.212	26.28	0.425
		836.4	23.32	0.215	**26.33**	**0.430**
		846.4	23.23	0.210	26.24	0.421
HSDPA Band V	1	826.4	23.15	0.207	26.16	0.413
		836.4	23.25	0.211	26.26	0.423
		846.4	23.23	0.210	26.24	0.421
	2	826.4	23.13	0.206	26.14	0.411
		836.4	23.21	0.209	26.22	0.419
		846.4	23.22	0.210	26.23	0.420
	3	826.4	22.64	0.184	25.65	0.367
		836.4	22.73	0.187	25.74	0.375
		846.4	22.72	0.187	25.73	0.374
	4	826.4	22.63	0.183	25.64	0.366
		836.4	22.74	0.188	25.74	0.375
		846.4	22.71	0.187	25.72	0.373
HSUPA Band V	1	826.4	22.88	0.194	25.89	0.388
		836.4	22.00	0.158	25.01	0.317
		846.4	22.90	0.195	25.91	0.390
	2	826.4	20.86	0.122	23.87	0.244
		836.4	19.98	0.100	22.99	0.199
		846.4	20.87	0.122	23.88	0.244
	3	826.4	21.84	0.153	24.85	0.305
		836.4	20.98	0.125	23.99	0.251
		846.4	21.88	0.154	24.89	0.308
	4	826.4	20.84	0.121	23.85	0.243
		836.4	19.98	0.100	22.99	0.199
		846.4	20.90	0.123	23.91	0.246
	5	826.4	22.84	0.192	25.85	0.385
		836.4	21.95	0.157	24.96	0.313
		846.4	22.86	0.193	25.87	0.386

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

Model Number	TF-RTC-700R-TA-WBG-1110					
Test Item	RF Output Power					
Date of Test	06/05/2012			Test Site	TE05	
Bands	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
			(dBm)	(W)	(dBm)	(W)
HSPA + Band V	1	826.4	22.50	0.178	25.51	0.356
		836.4	20.68	0.117	23.69	0.234
		846.4	22.58	0.181	25.59	0.362
	2	826.4	20.48	0.112	23.49	0.223
		836.4	18.66	0.073	21.67	0.147
		846.4	20.55	0.114	23.56	0.227
	3	826.4	21.46	0.140	24.47	0.280
		836.4	19.66	0.092	22.67	0.185
		846.4	21.56	0.143	24.57	0.286
	4	826.4	20.46	0.111	23.47	0.222
		836.4	18.66	0.073	21.67	0.147
		846.4	20.58	0.114	23.59	0.229
	5	826.4	22.46	0.176	25.47	0.352
		836.4	20.63	0.116	23.64	0.231
		846.4	22.54	0.179	25.55	0.359

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

3 Effective Radiated Power / Equivalent Isotropic Radiated Power Test

3.1. Limit

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

For FCC Part 24.232(b): The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

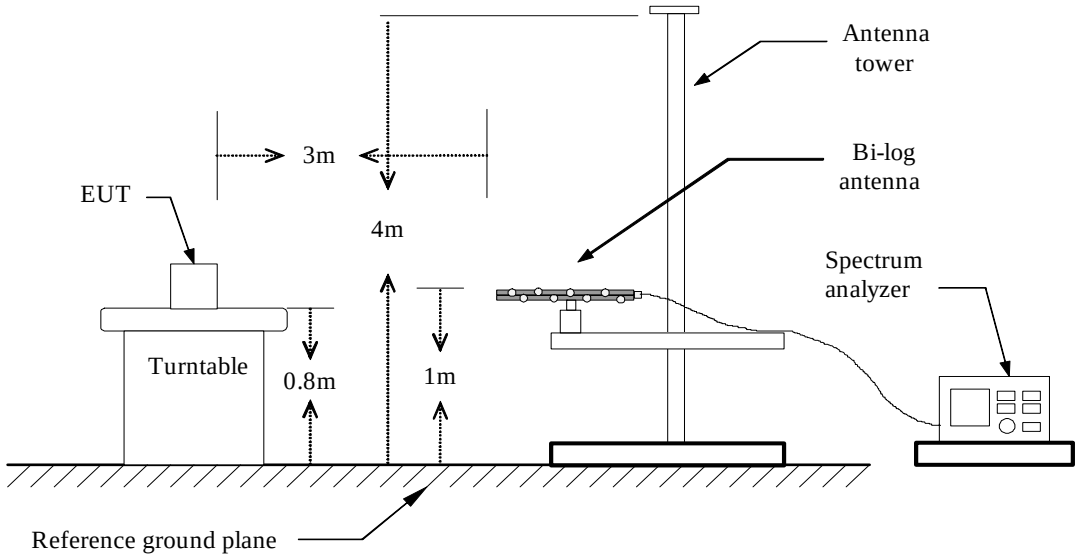
3.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/16/2012	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/16/2012	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/22/2012	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/22/2012	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	07/29/2011	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/29/2011	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/28/2011	(1)
Test Site	ATL	TE01	888001	12/20/2011	(1)

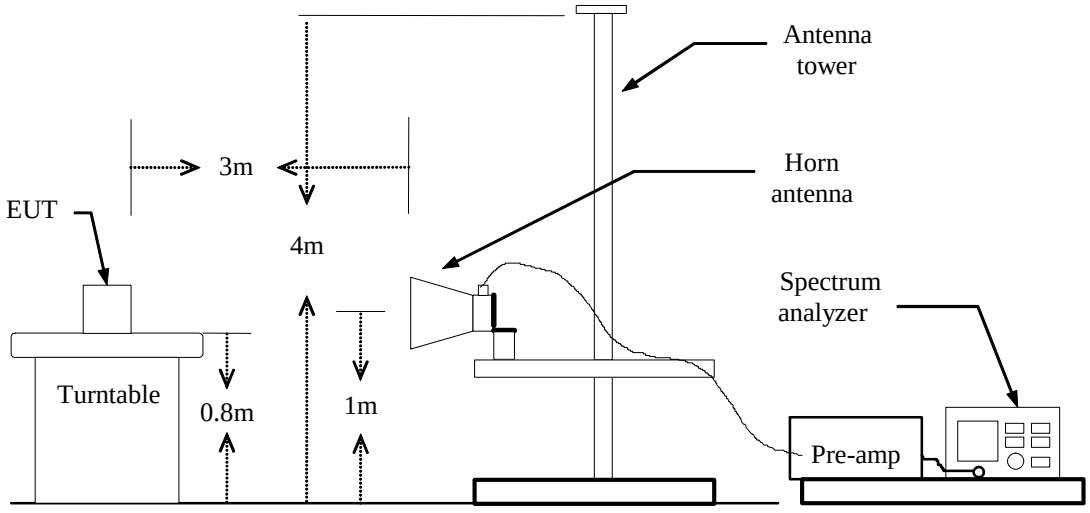
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

3.3. Setup

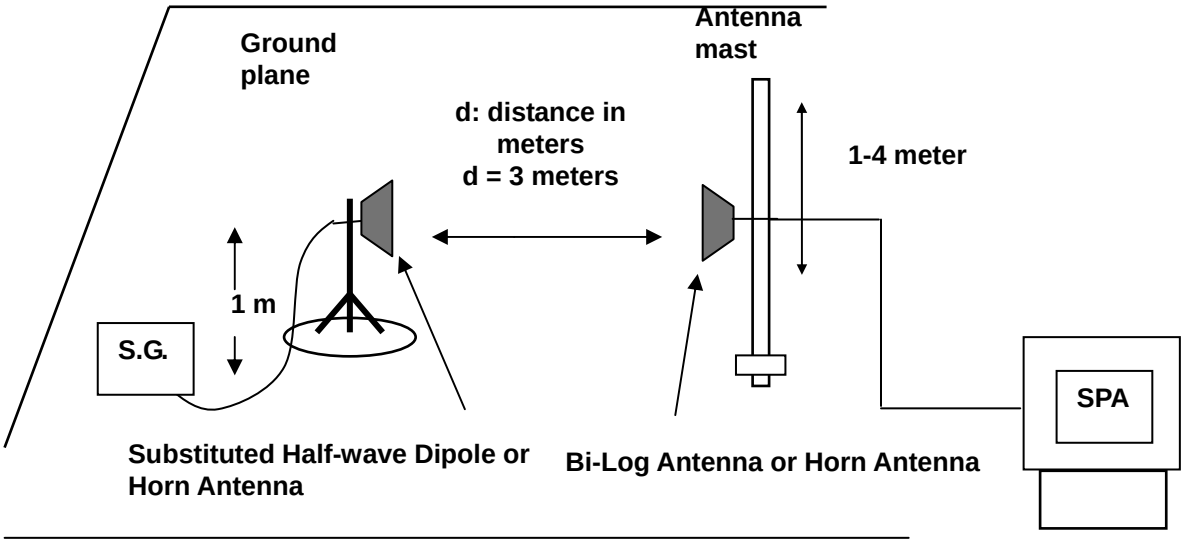
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



3.4. Test Procedure

The measurement is made according to ANSI/TIA-603-C-2004 as follows:

The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.

During the measurement of the EUT, the resolution bandwidth was set to 3MHz and the average bandwidth was set to 3MHz. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna. The reading was recorded and the field strength (E in dBuV/m) was calculated.

ERP in frequency band 824-849MHz, and EIRP in frequency band 1851.25 –1910MHz were measured using a substitution method. The EUT was replaced by half-wave dipole (824-849MHz) or horn antenna (1851.25-1910MHz) connected to a signal generator. The spectrum analyzer reading was recorded and ERP/EIRP was calculated as follows:

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

3.5. Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is ± 3.072 dB.

3.6. Test Result

Model Number	TF-RTC-700R-TA-WBG-1110						
Test Item	ERP/EIRP						
Test Mode	Mode 1						
Date of Test	06/05/2012			Test Site	TE01		
Bands	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction factor (dBm)	EIRP		Limit
					(dBm)	(W)	
WCDMA Band II	1852.4	H	13.63	10.50	24.13	0.259	< 2W
		V	16.22	8.36	24.58	0.287	< 2W
	1880.0	H	11.86	10.51	22.37	0.173	< 2W
		V	16.46	8.57	**25.03**	**0.318**	< 2W
	1907.6	H	12.21	10.52	22.73	0.187	< 2W
		V	14.96	8.78	23.74	0.237	< 2W

Model Number	TF-RTC-700R-TA-WBG-1110						
Test Item	ERP/EIRP						
Test Mode	Mode 2						
Date of Test	06/05/2012			Test Site	TE01		
Bands	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction factor (dBm)	ERP		Limit
					(dBm)	(W)	
WCDMA Band V	826.4	H	11.52	11.97	23.49	0.223	< 7W
		V	12.88	11.30	24.18	0.262	< 7W
	836.4	H	14.08	11.34	**25.42**	**0.348**	< 7W
		V	11.67	12.06	23.73	0.236	< 7W
	846.4	H	10.21	12.35	22.56	0.180	< 7W
		V	13.39	11.42	24.81	0.303	< 7W

Note: 1. ERP/EIRP = 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.

4 Occupied Bandwidth Test

4.1. Limit

The Occupied Bandwidth Limit:

N/A.

The Band Edge Limit:

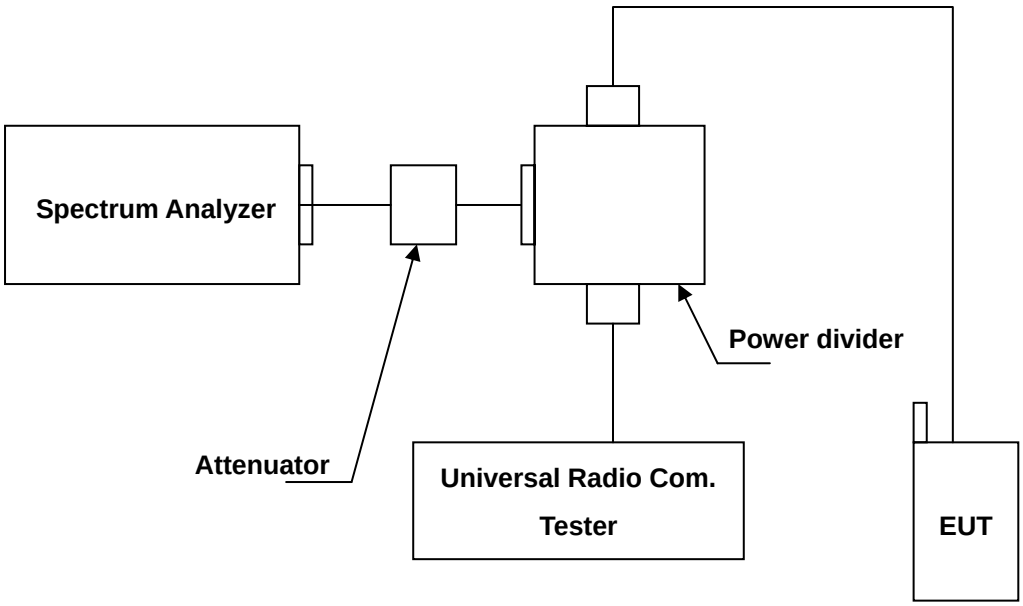
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

4.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/10/2012	(1)
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMU200	109369	08/10/2010	(2)
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

4.3. Setup



4.4. 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.
3. 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.
4. The band edge setting:
   a. RB=10 kHz; VB=30 kHz for GSM 850 and PCS 1900.
   b. RB=100 kHz; VB=300 kHz for WCDMA Band V and WCDMA Band II.

4.5. Uncertainty

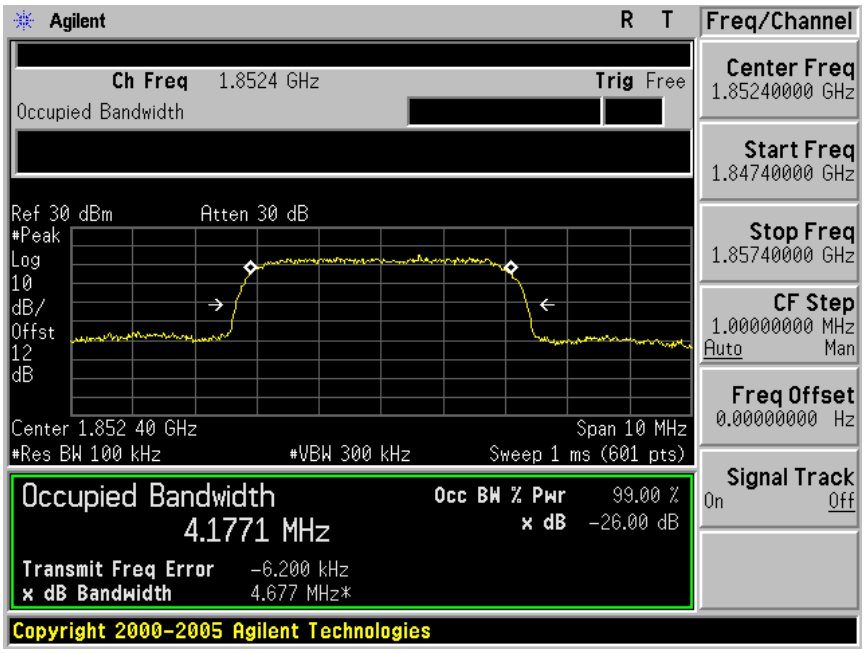
The measurement uncertainty is defined as ± 10Hz

4.6. Test Result

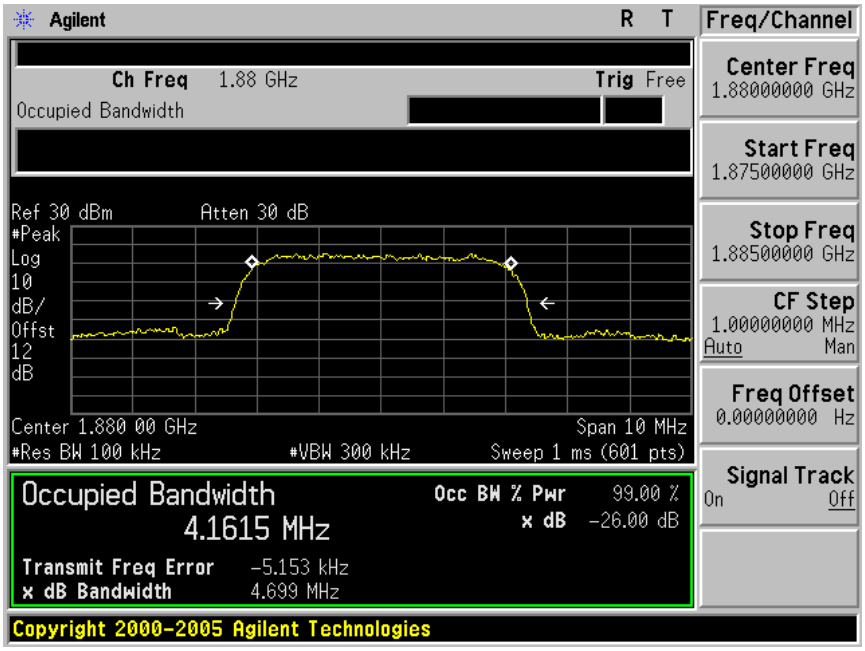
99% Occupied Bandwidth

Model Number	TF-RTC-700R-TA-WBG-1110			
Test Item	Occupied Bandwidth			
Test Mode	Mode 1			
Date of Test	06/05/2012		Test Site	TE05
Channel No.	Frequency (MHz)	99% Bandwidth (MHz)	Note	
9262	1852.4	4.1771	RBW:100kHz , VBW:300kHz	
9400	1880.0	4.1615	RBW:100kHz , VBW:300kHz	
9538	1907.6	4.1661	RBW:100kHz , VBW:300kHz	

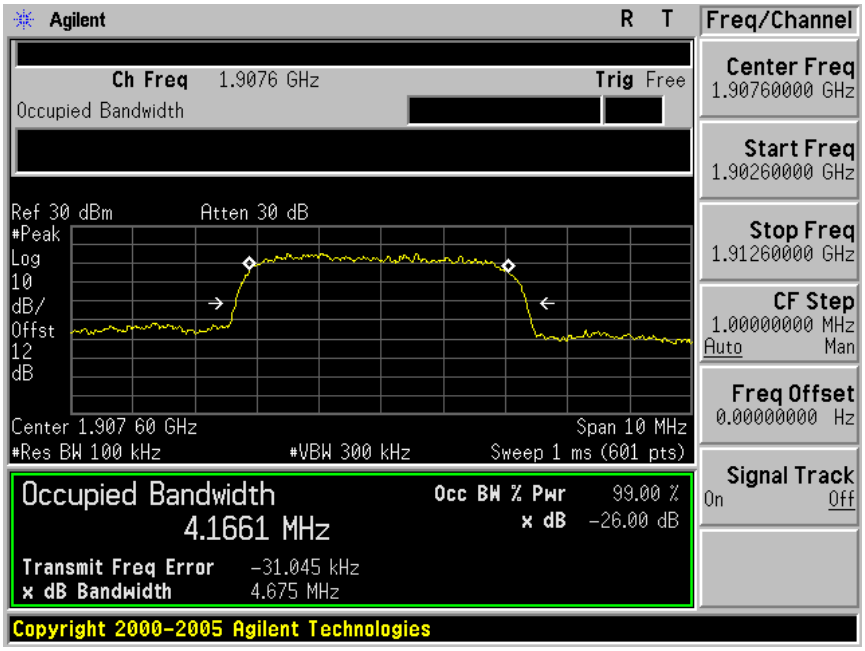
Channel 9262



Channel 9400

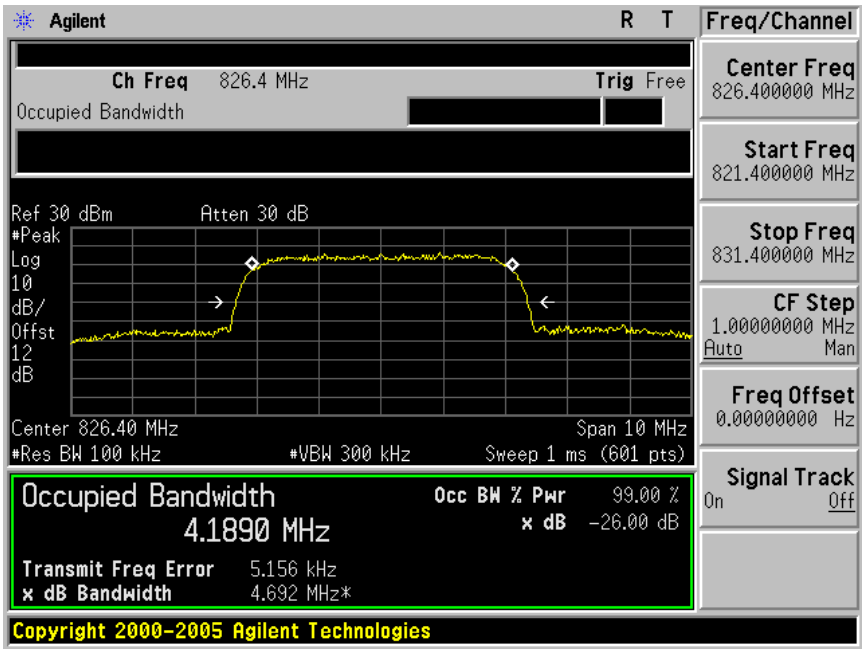


Channel 9538

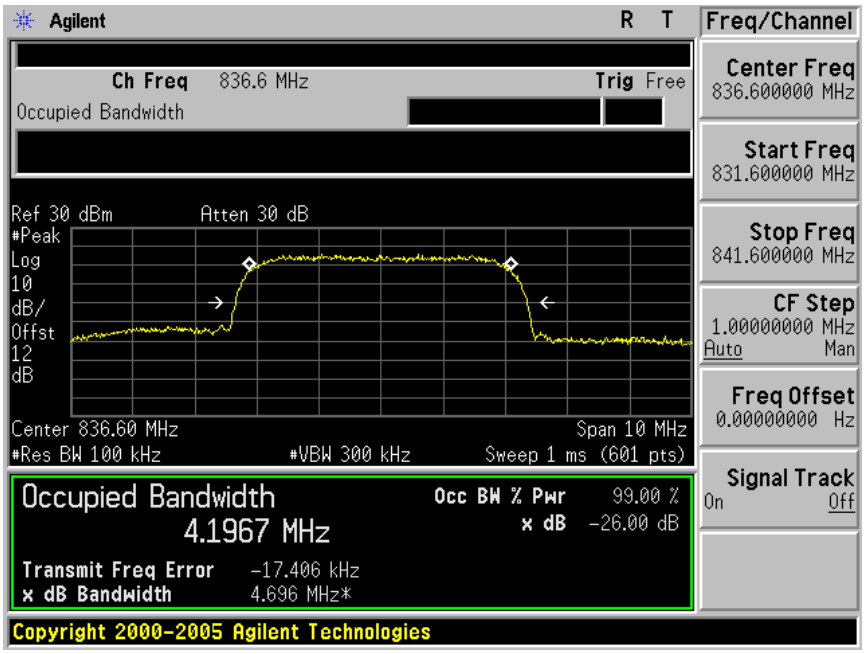


Model Number	TF-RTC-700R-TA-WBG-1110			
Test Item	Occupied Bandwidth			
Test Mode	Mode 2			
Date of Test	06/05/2012		Test Site	TE05
Channel No.	Frequency (MHz)	99% Bandwidth (kHz)	Note	
4132	826.4	4.1890	RBW:100kHz , VBW:300kHz	
4182	836.4	4.1967	RBW:100kHz , VBW:300kHz	
4233	846.4	4.1861	RBW:100kHz , VBW:300kHz	

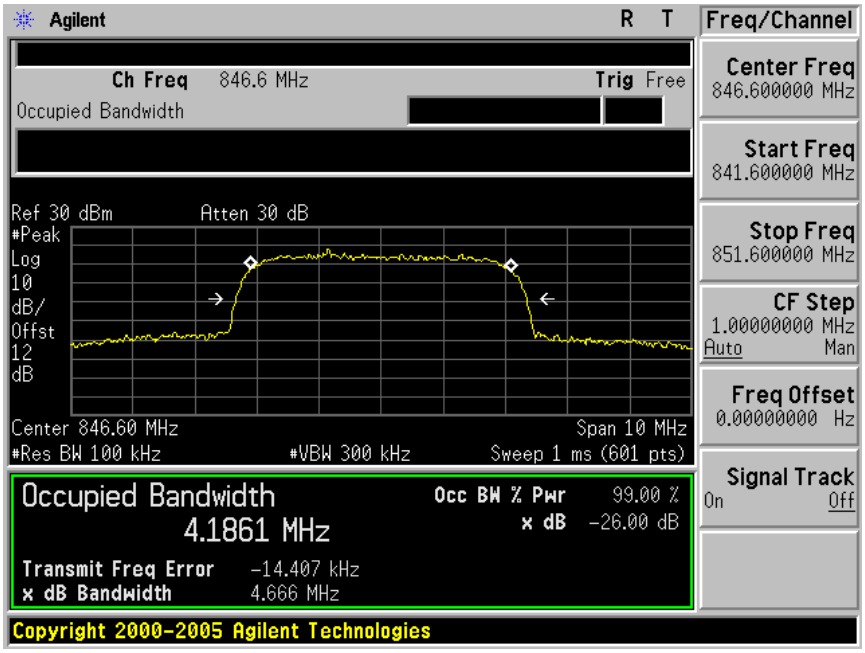
Channel 4132



Channel 4182



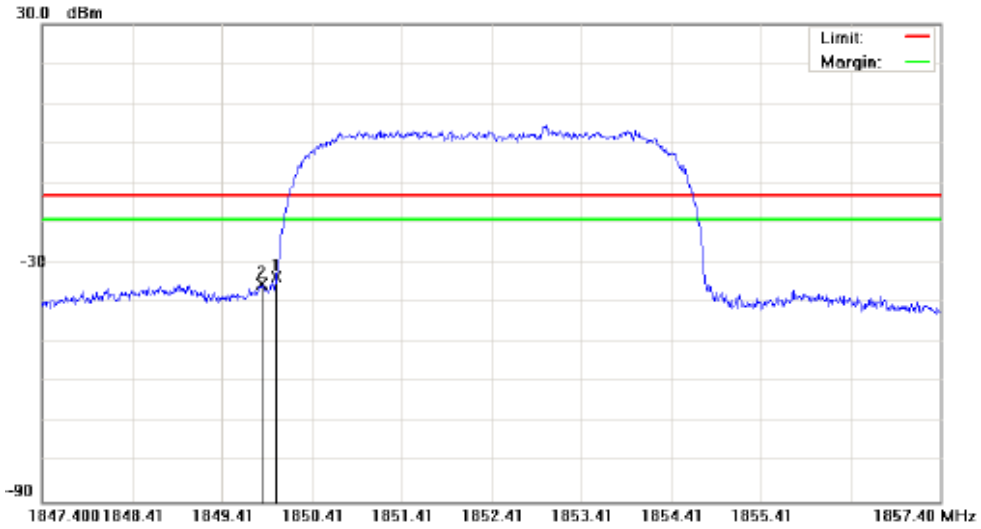
Channel 4233



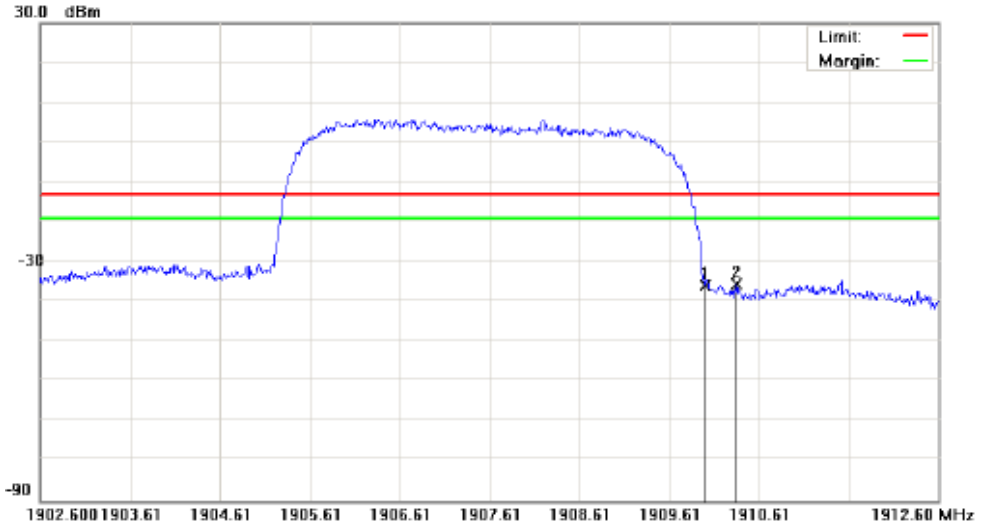
Band Edge

Model Number	TF-RTC-700R-TA-WBG-1110				
Test Item	Band Edge				
Test Mode	Mode 1				
Date of Test	06/05/2012		Test Site	TE05	
Band	Channel	Frequency (MHz)	Bandwidth (dBm)	Limit (dBm)	Result
Lower	9262	1850.000	-33.53	-13	Pass
Higher	9538	1910.000	-35.90	-13	Pass

Lower Band

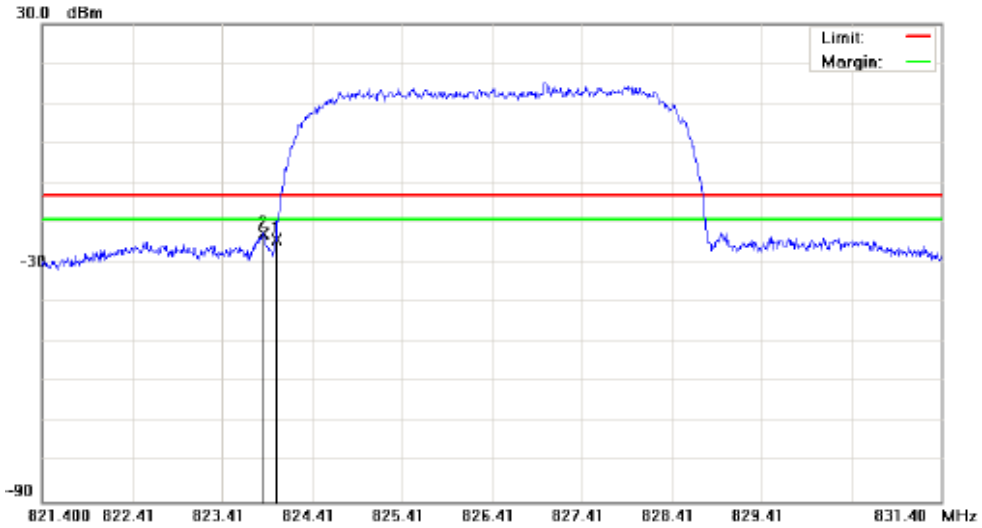


Higher Band

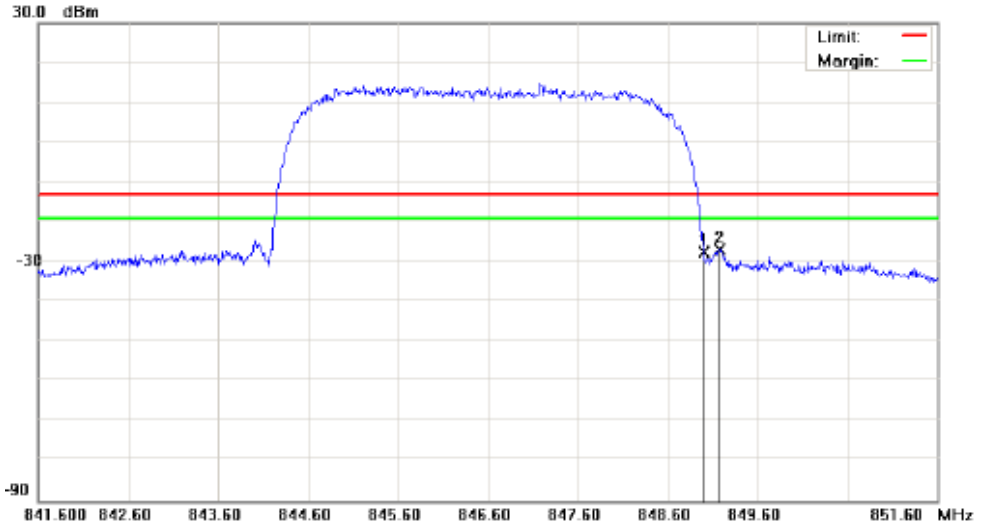


Model Number	TF-RTC-700R-TA-WBG-1110				
Test Item	Band Edge				
Test Mode	Mode 2				
Date of Test	06/05/2012		Test Site	TE05	
Band	Channel	Frequency (MHz)	Bandwidth (dBm)	Limit (dBm)	Result
Lower	4132	824.0000	-24.24	-13	Pass
Higher	4233	849.0000	-24.38	-13	Pass

Lower Band



Higher Band



5 Conducted Spurious Emission Test

5.1. 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 + 10log(P) dB.

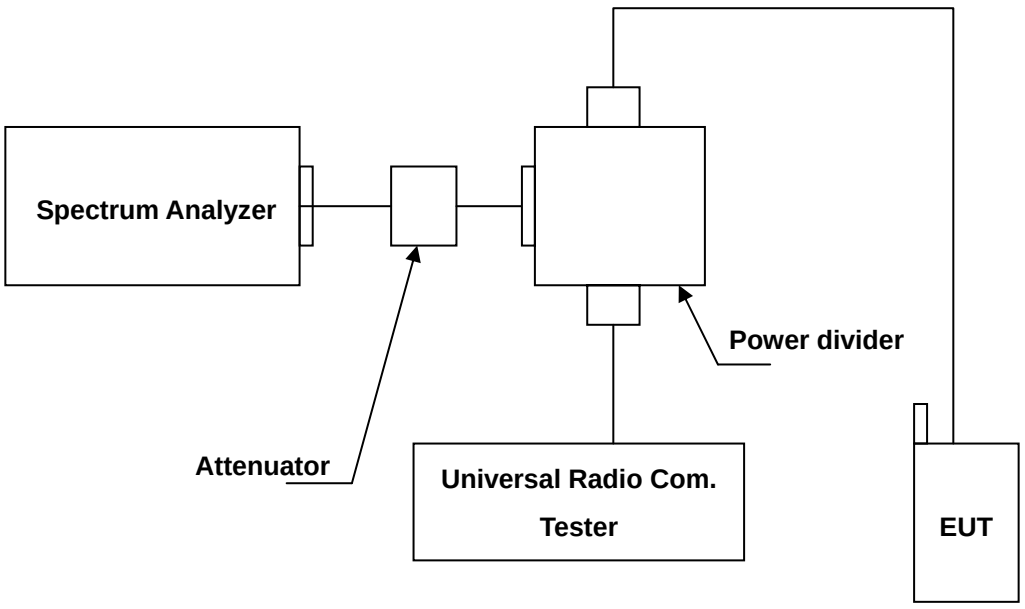
5.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/10/2012	(1)
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMU200	109369	08/10/2010	(2)
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

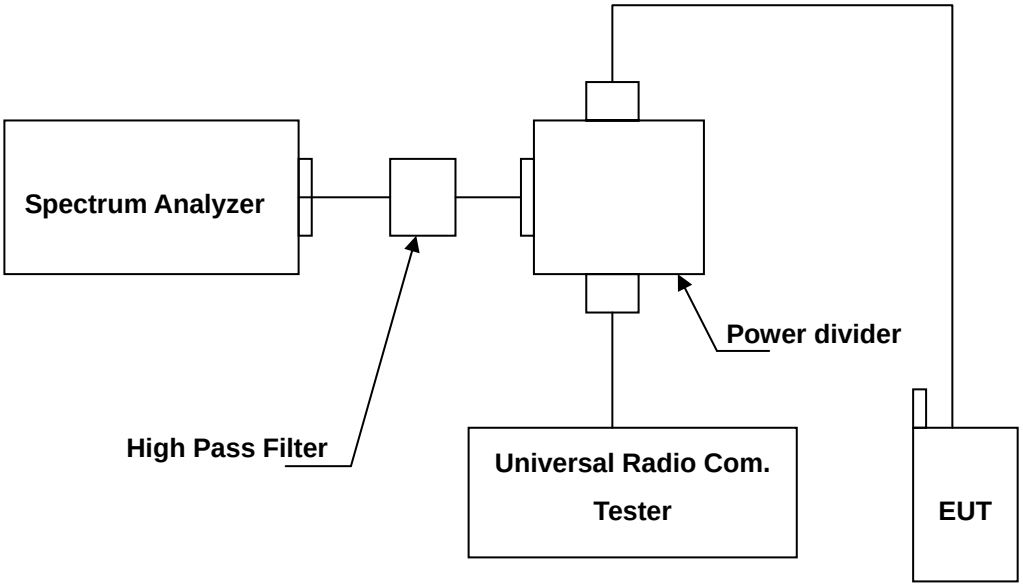
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

5.3. Setup

Below 2.8GHz



Above 2.8GHz



5.4. 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.
4. Test setting at GSM 850 RB>100 kHz, VB>100 kHz; PCS 1900 RB>1MHz, VB>1MHz.

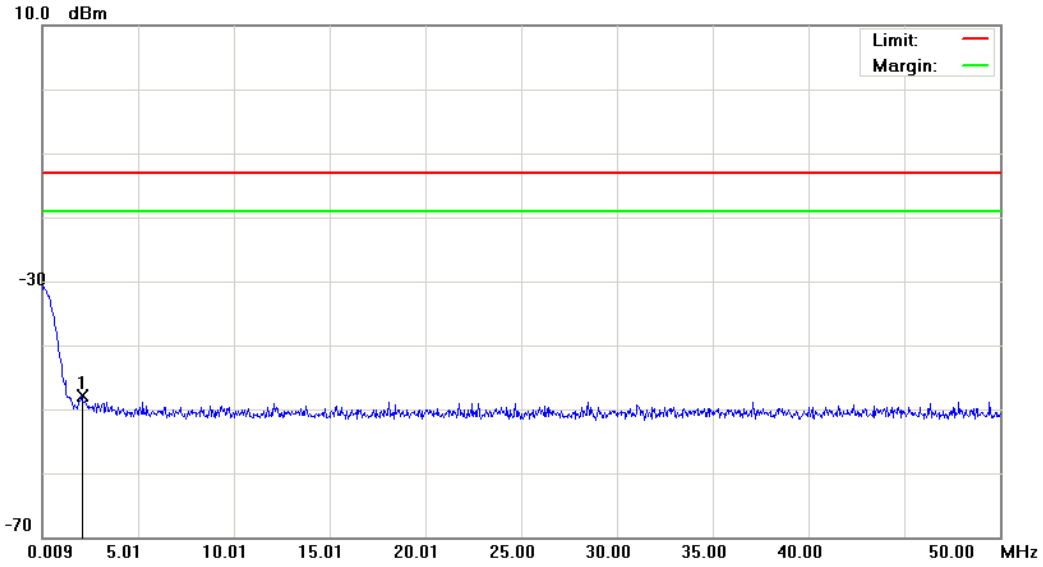
5.5. Uncertainty

The measurement uncertainty is evaluated as ± 2.24 dB.

5.6. Test Result

Model Number	TF-RTC-700R-TA-WBG-1110		
Test Item	Conducted Emission		
Test Mode	Mode 1 / Mode 2		
Date of Test	06/04/2012	Test Site	TE05

File:RTC-700R(CH9262) Data :#1 Date: 2012/6/4 Time: 下午 02:56:50



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

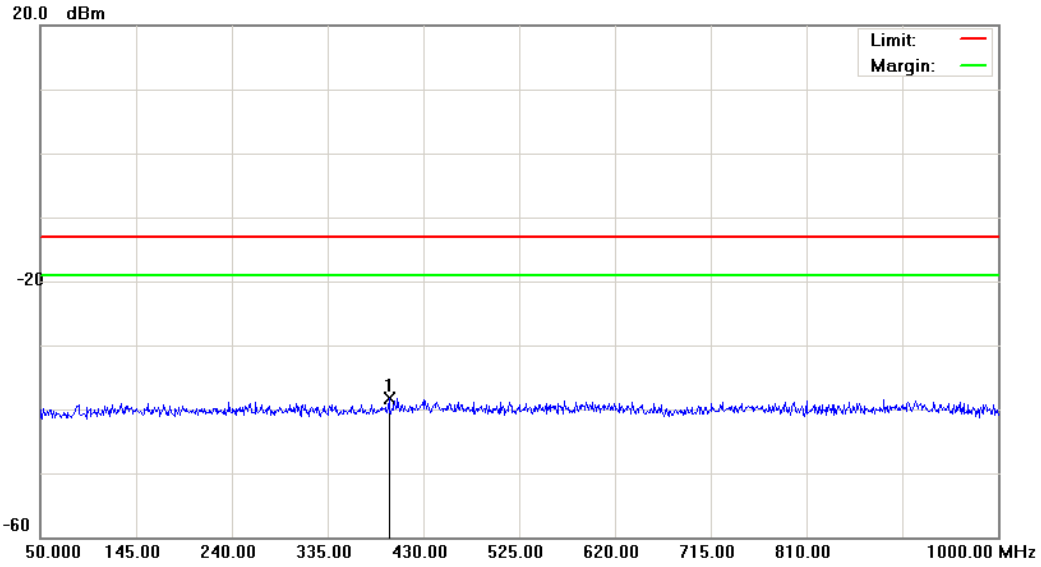
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0836	-61.07	13.17	-47.90	-13.00	-34.90	peak			

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

File:RTC-700R(CH9262) Data :#2 Date: 2012/6/4 Time: 下午 02:57:15



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

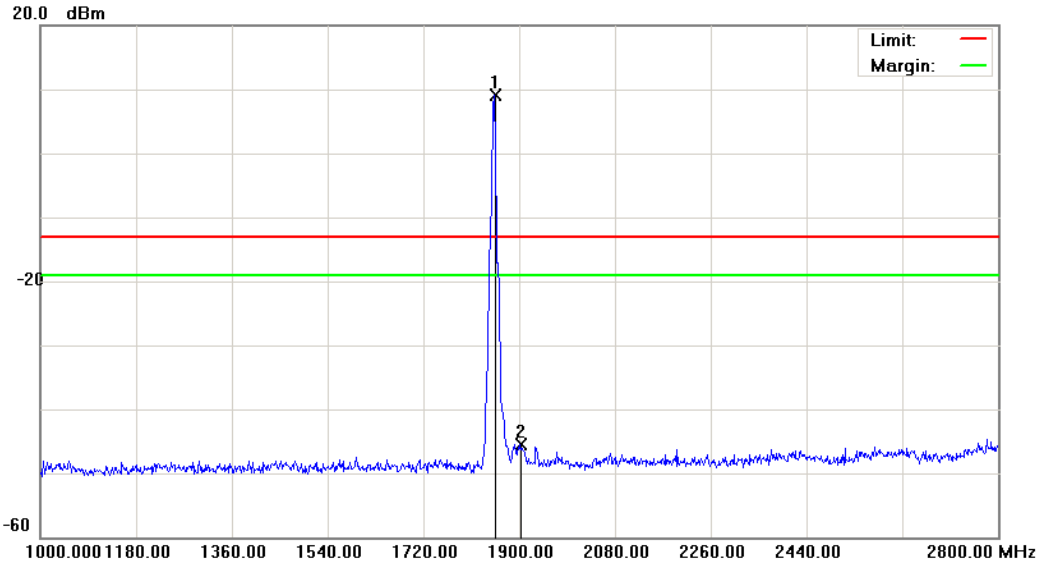
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	396.2750	-51.47	13.23	-38.24	-13.00	-25.24	peak			

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

File:RTC-700R(CH9262) Data :#3 Date: 2012/6/4 Time: 下午 03:02:16



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

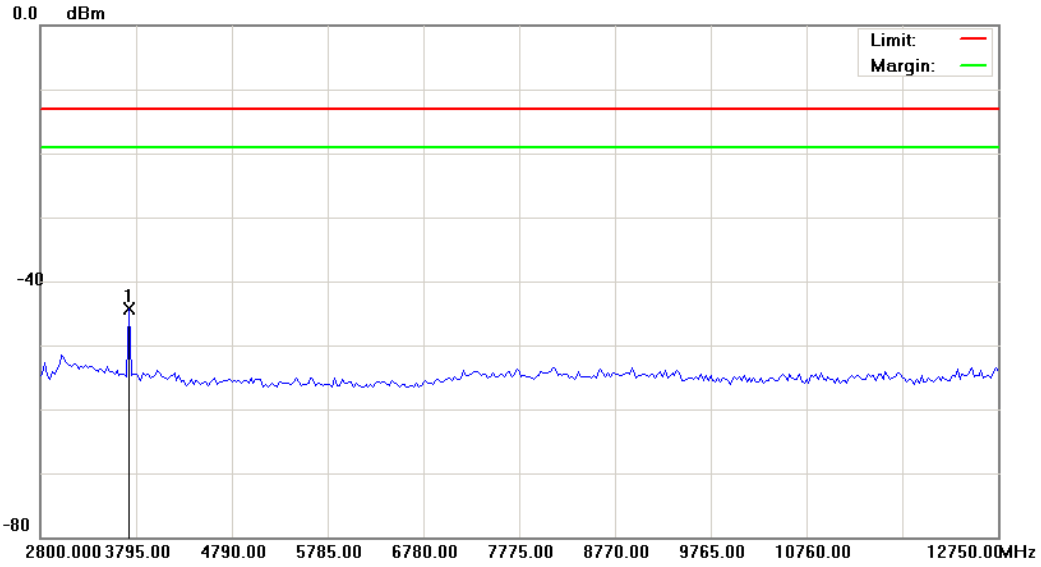
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1854.100	4.86	4.28	9.14	-13.00	22.14	peak			Tx
2		1902.700	-51.89	6.38	-45.51	-13.00	-32.51	peak			

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

File:RTC-700R(CH9262) Data :#4 Date: 2012/6/4 Time: 下午 03:25:16



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

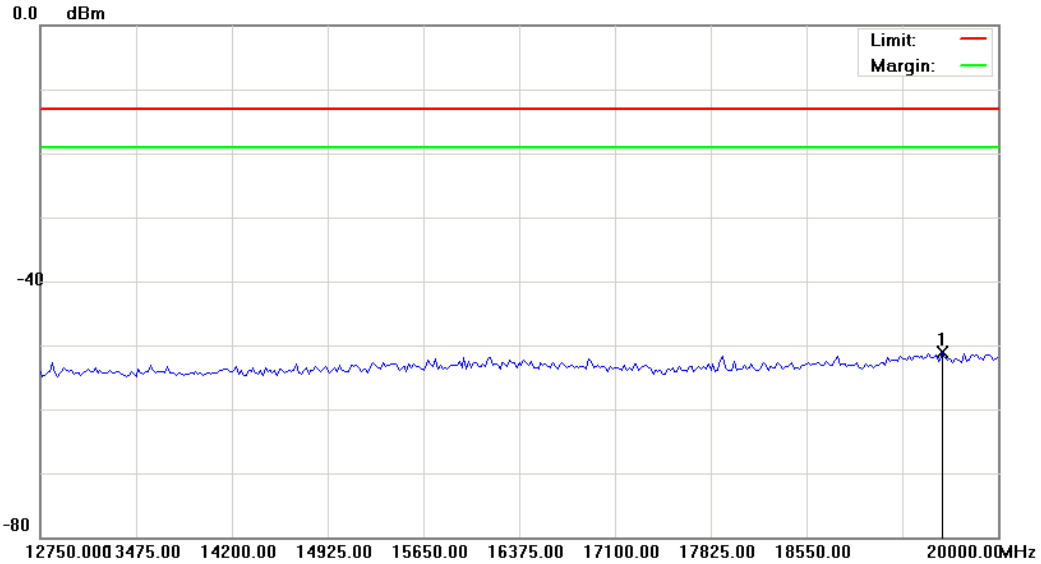
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3720.375	-49.19	4.88	-44.31	-13.00	-31.31	peak			

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

File:RTC-700R(CH9262) Data :#5 Date: 2012/6/4 Time: 下午 03:25:38



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

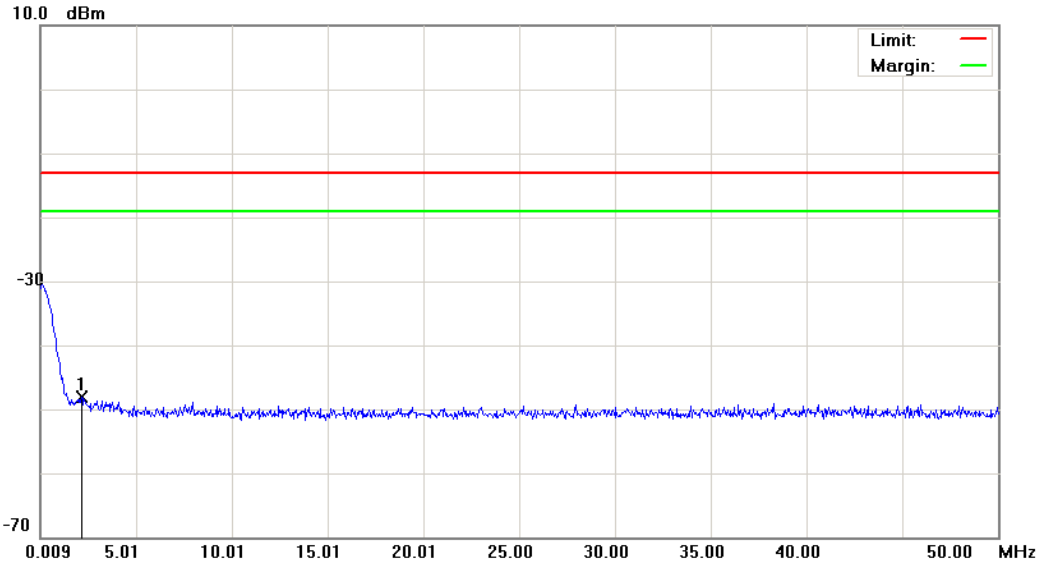
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	19583.125	-58.51	7.32	-51.19	-13.00	-38.19	peak			

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

File:RTC-700R(CH9400) Data :#1 Date: 2012/6/4 Time: 下午 02:58:18



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

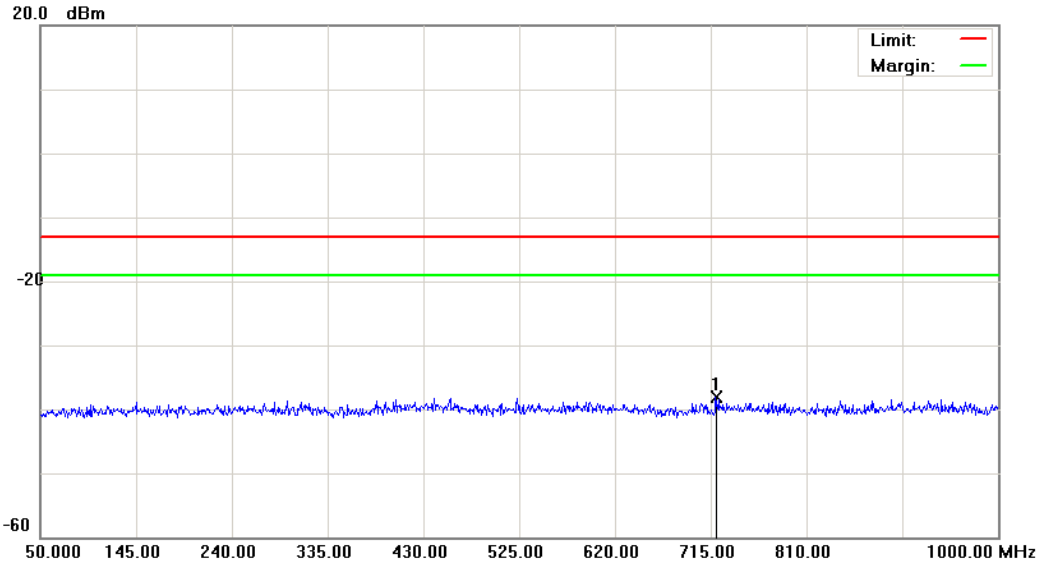
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.1585	-61.17	13.12	-48.05	-13.00	-35.05	peak			

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

File:RTC-700R(CH9400) Data :#2 Date: 2012/6/4 Time: 下午 02:58:42



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

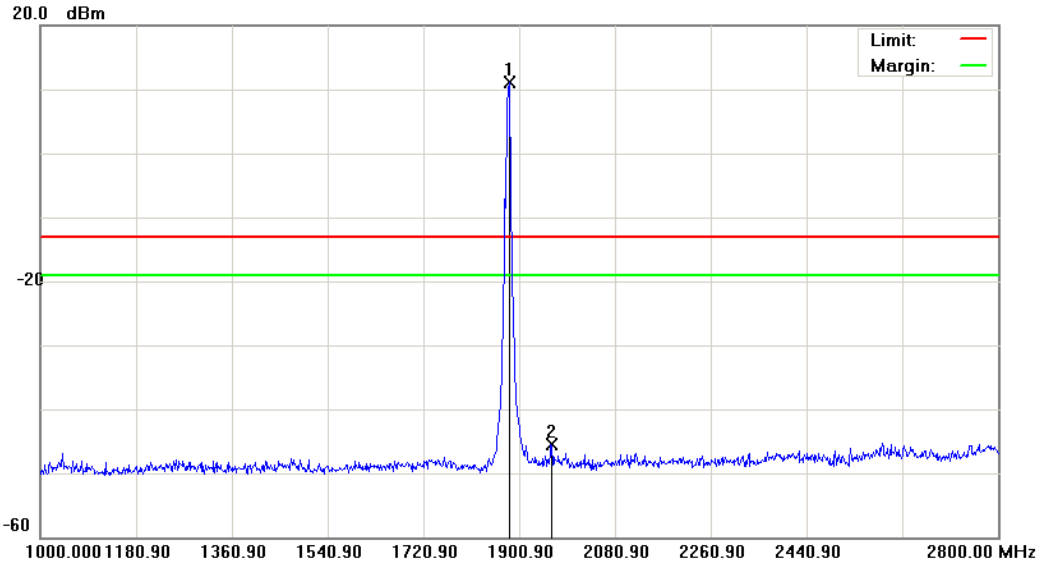
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	720.2250	-51.32	13.13	-38.19	-13.00	-25.19	peak			

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

File:RTC-700R(CH9400) Data :#3 Date: 2012/6/4 Time: 下午 03:03:37



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

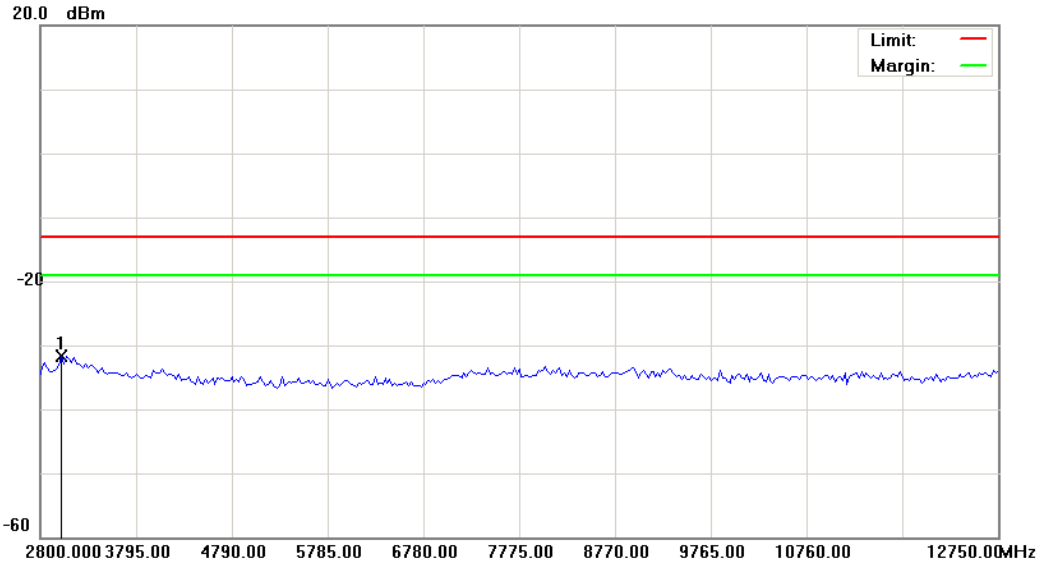
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1882.000	6.31	4.83	11.14	-13.00	24.14	peak			Tx
2		1960.300	-50.28	4.73	-45.55	-13.00	-32.55	peak			

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

File:RTC-700R(CH9400) Data :#4 Date: 2012/6/4 Time: 下午 03:26:51



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

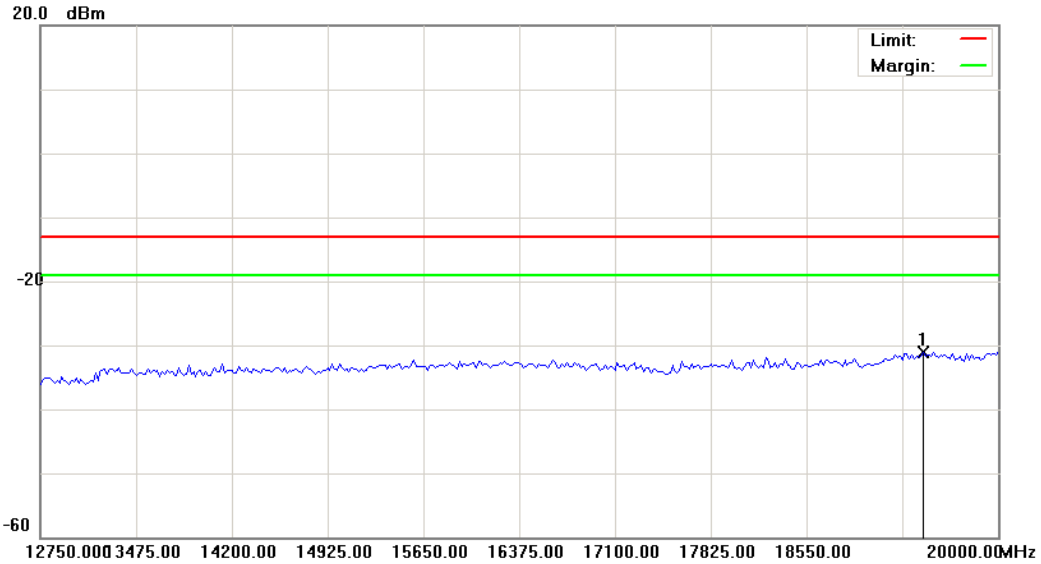
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3023.875	-37.24	5.48	-31.76	-13.00	-18.76	peak			

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

File:RTC-700R(CH9400) Data :#5 Date: 2012/6/4 Time: 下午 03:27:13



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

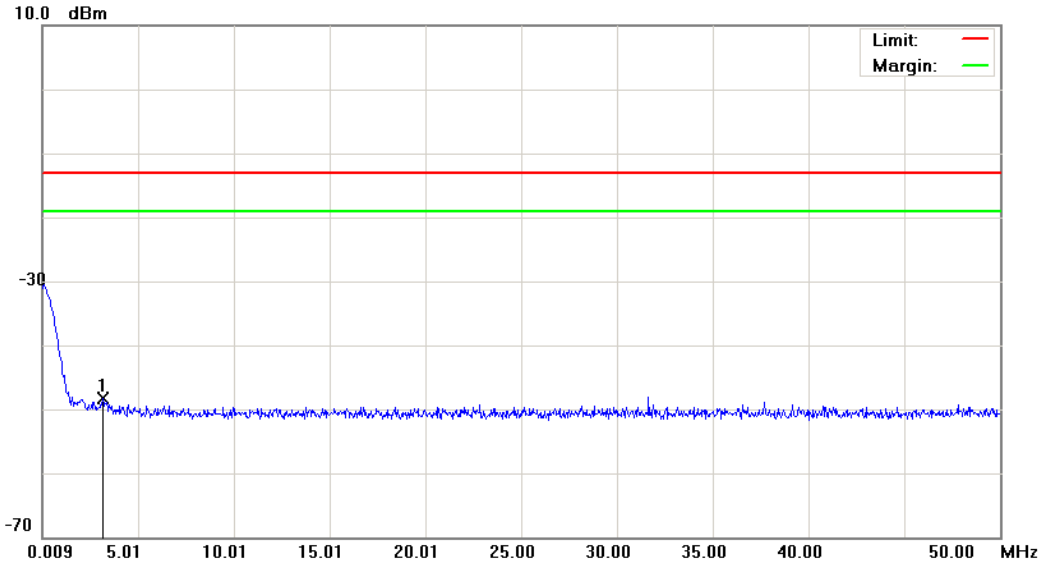
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	19438.125	-38.32	7.28	-31.04	-13.00	-18.04	peak			

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

File:RTC-700R(CH9538) Data :#1 Date: 2012/6/4 Time: 下午 02:59:39



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

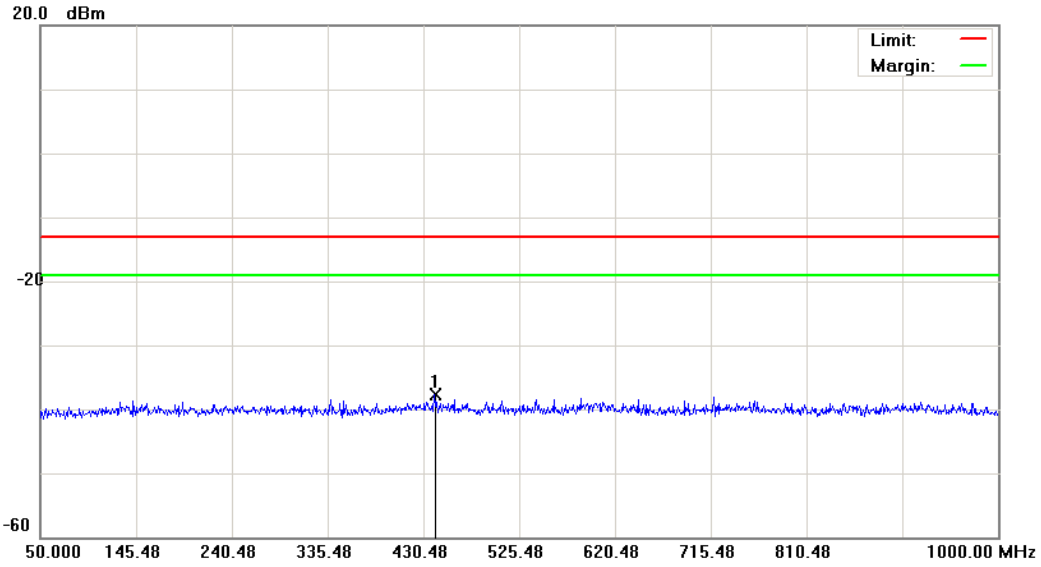
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3.1583	-61.35	13.05	-48.30	-13.00	-35.30	peak			

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

File:RTC-700R(CH9538) Data :#2 Date: 2012/6/4 Time: 下午 03:00:03



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

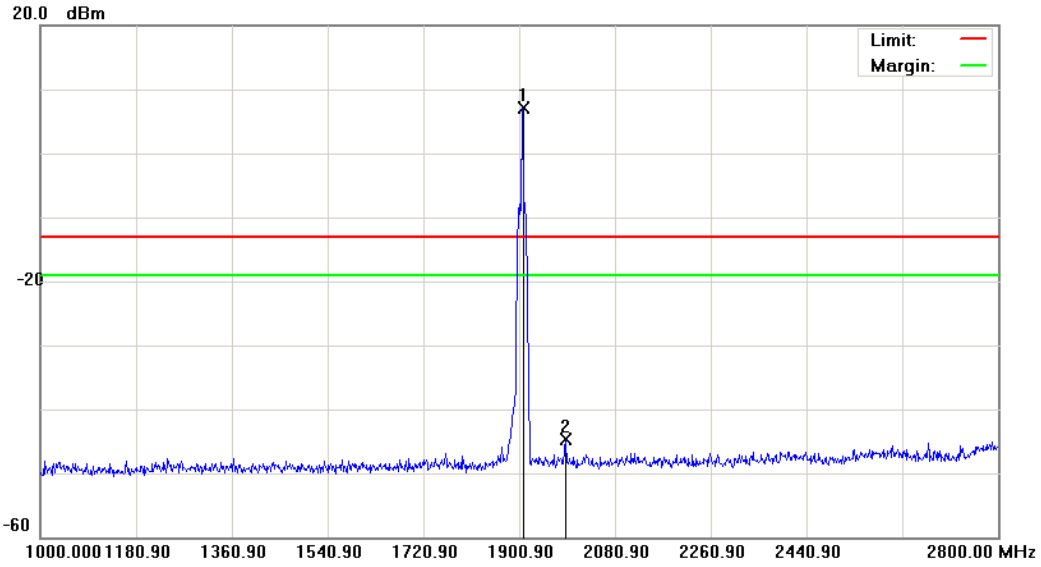
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	440.9250	-50.99	13.20	-37.79	-13.00	-24.79	peak			

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

File:RTC-700R(CH9538) Data :#3 Date: 2012/6/4 Time: 下午 03:06:52



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

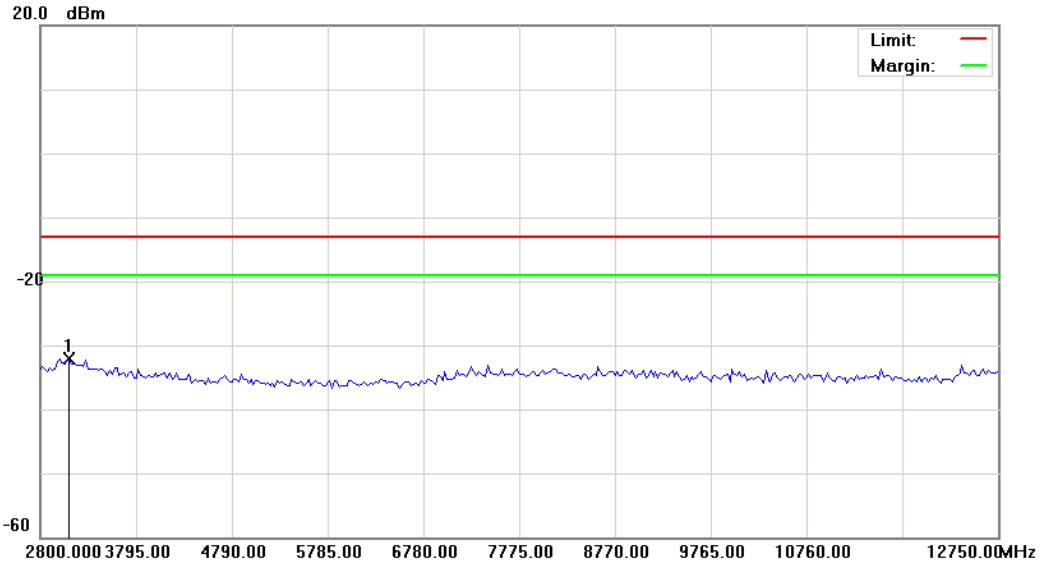
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1906.300	1.15	6.05	7.20	-13.00	20.20	peak			Tx
2		1987.300	-49.34	4.67	-44.67	-13.00	-31.67	peak			

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

File:RTC-700R(CH9538) Data :#4 Date: 2012/6/4 Time: 下午 03:28:04



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

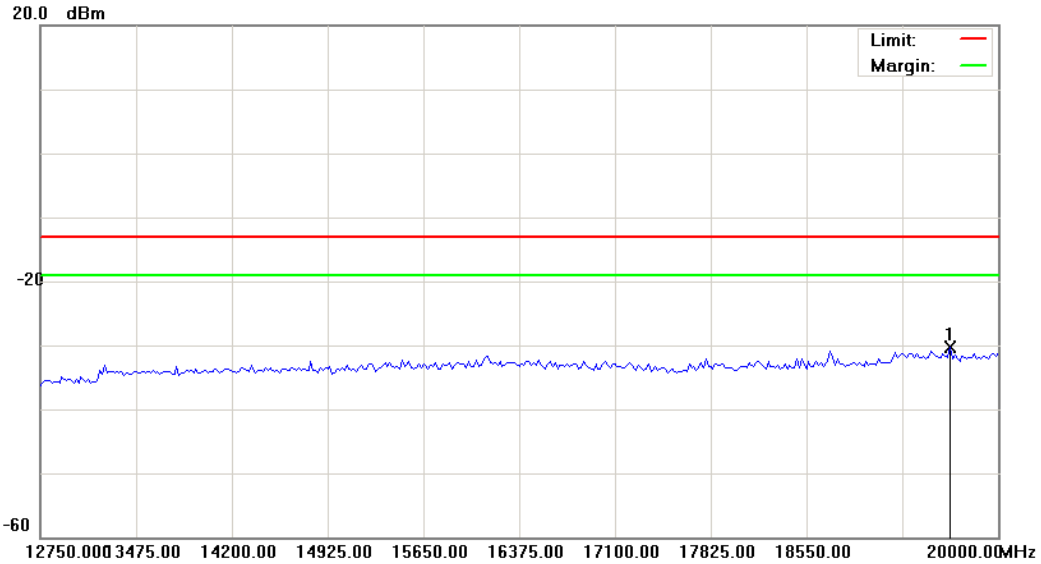
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3098.500	-37.47	5.32	-32.15	-13.00	-19.15	peak			

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

File:RTC-700R(CH9538) Data :#5 Date: 2012/6/4 Time: 下午 03:28:26



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 1
Note:

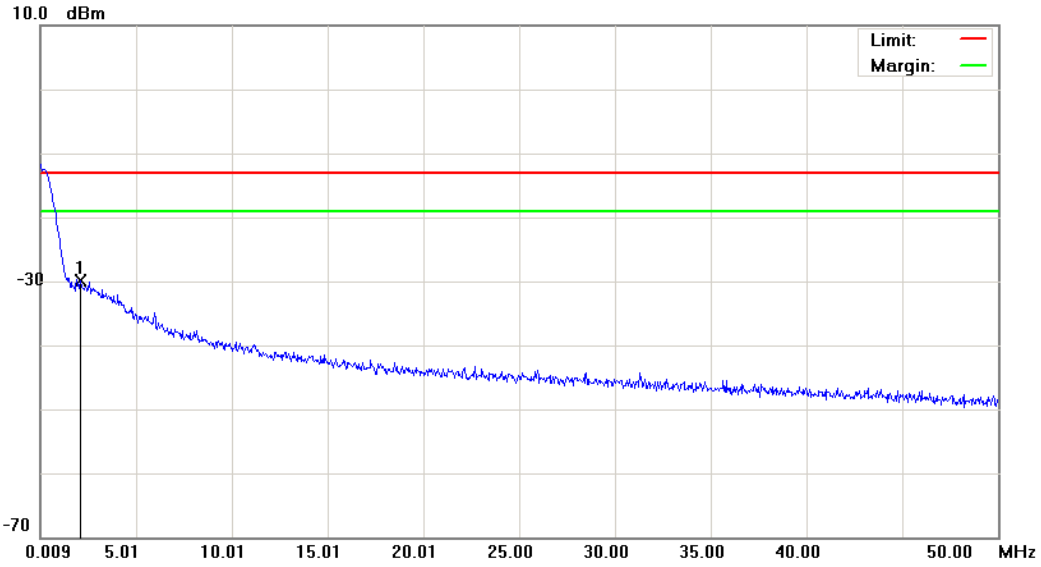
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	19637.500	-37.70	7.34	-30.36	-13.00	-17.36	peak			

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

File:RTC-700R(CH4132) Data :#1 Date: 2012/6/4 Time: 下午 03:10:14



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

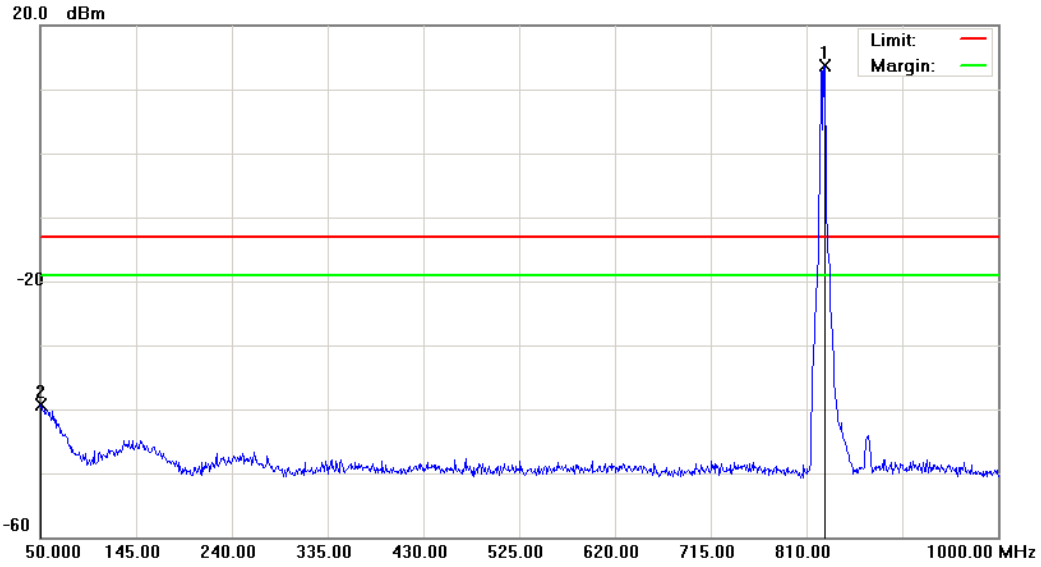
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.1086	-61.49	31.54	-29.95	-13.00	-16.95	peak			

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

File:RTC-700R(CH4132) Data :#2 Date: 2012/6/4 Time: 下午 03:10:39



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

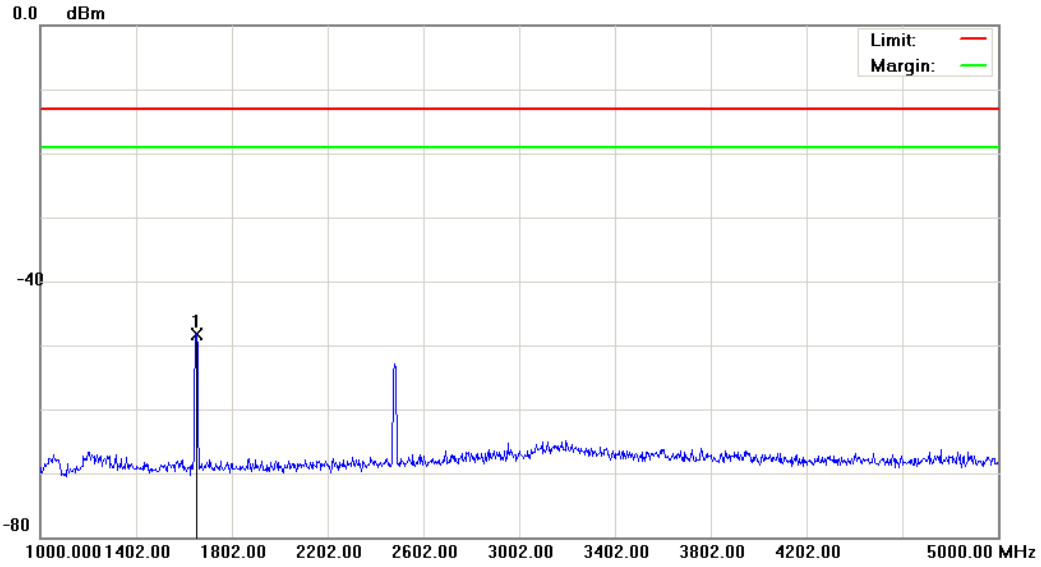
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	827.5750	9.90	3.87	13.77	-13.00	26.77	peak			Tx
2		50.9500	-53.87	14.52	-39.35	-13.00	-26.35	peak			

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

File:RTC-700R(CH4132) Data :#3 Date: 2012/6/4 Time: 下午 03:20:33



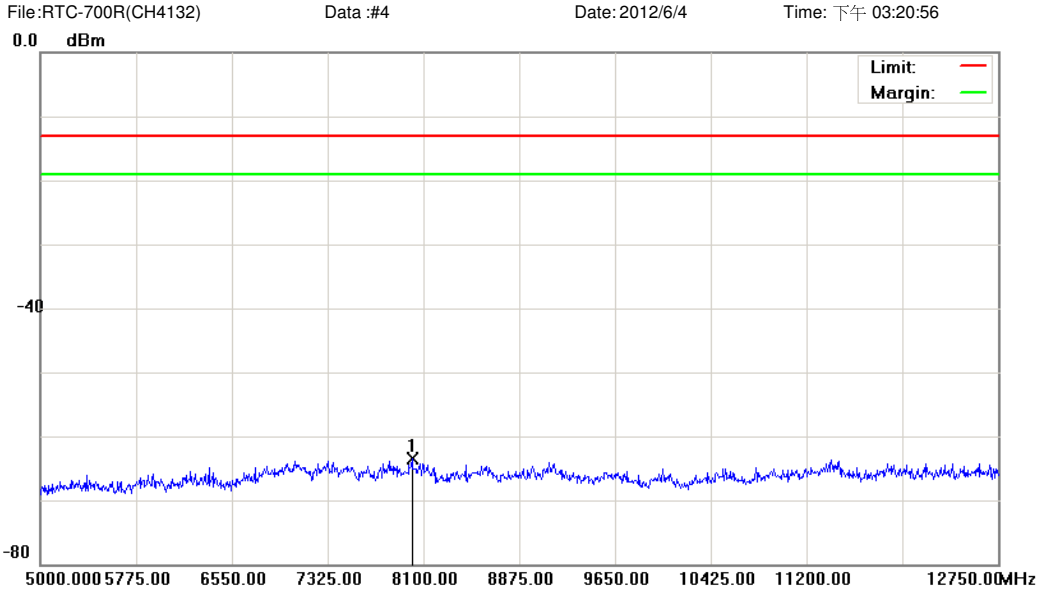
Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1650.000	-52.68	4.45	-48.23	-13.00	-35.23	peak			

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



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

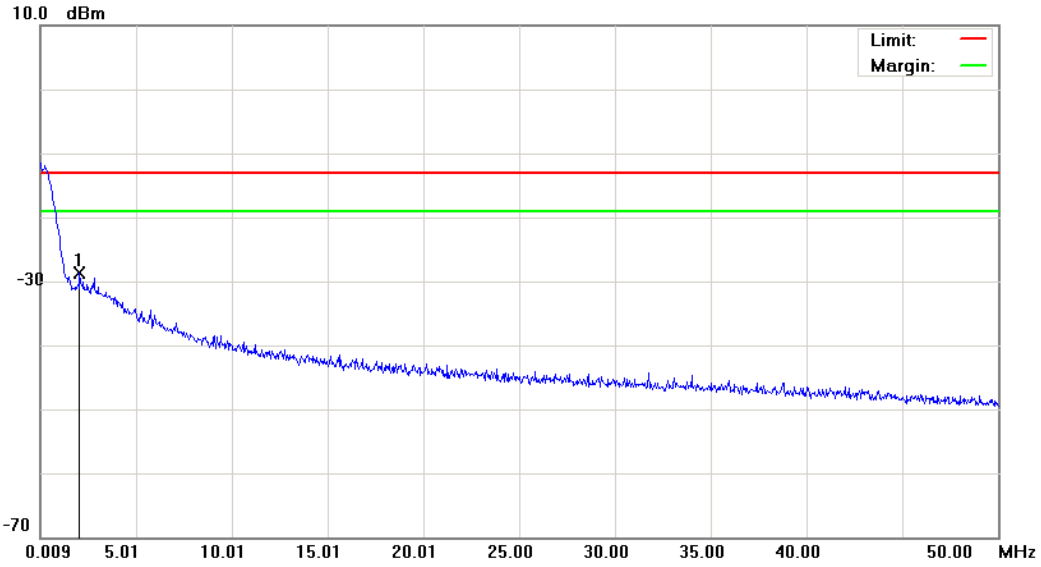
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	8007.000	-68.93	5.53	-63.40	-13.00	-50.40	peak			

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

File:RTC-700R(CH4183) Data :#1 Date: 2012/6/4 Time: 下午 03:13:48



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

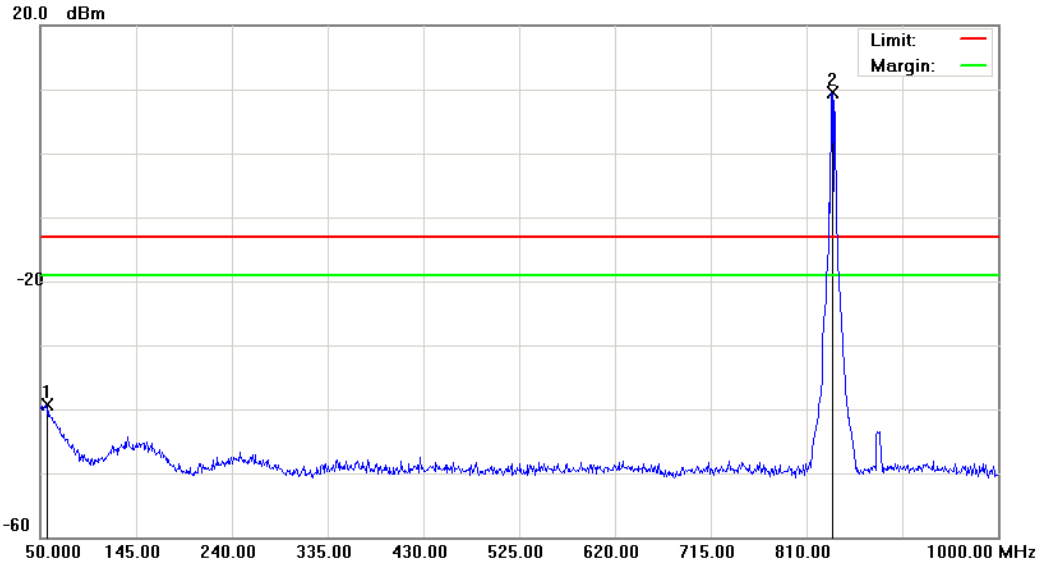
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0586	-60.10	31.45	-28.65	-13.00	-15.65	peak			

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

File:RTC-700R(CH4183) Data :#2 Date: 2012/6/4 Time: 下午 03:14:12



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

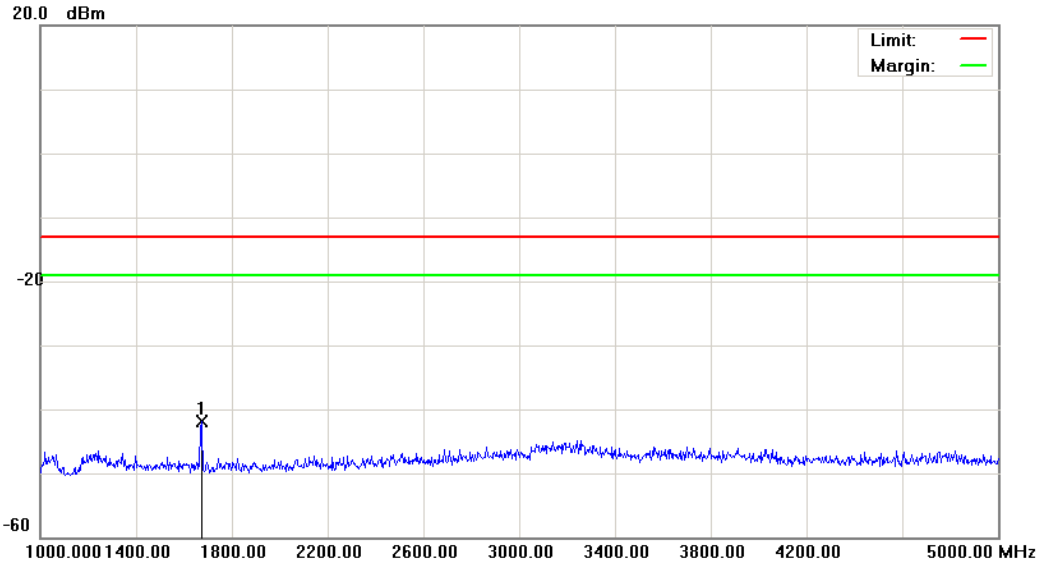
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		56.1750	-52.89	13.59	-39.30	-13.00	-26.30	peak			
2	*	835.1750	5.47	3.95	9.42	-13.00	22.42	peak			Tx

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

File:RTC-700R(CH4183) Data :#3 Date: 2012/6/4 Time: 下午 03:21:37



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

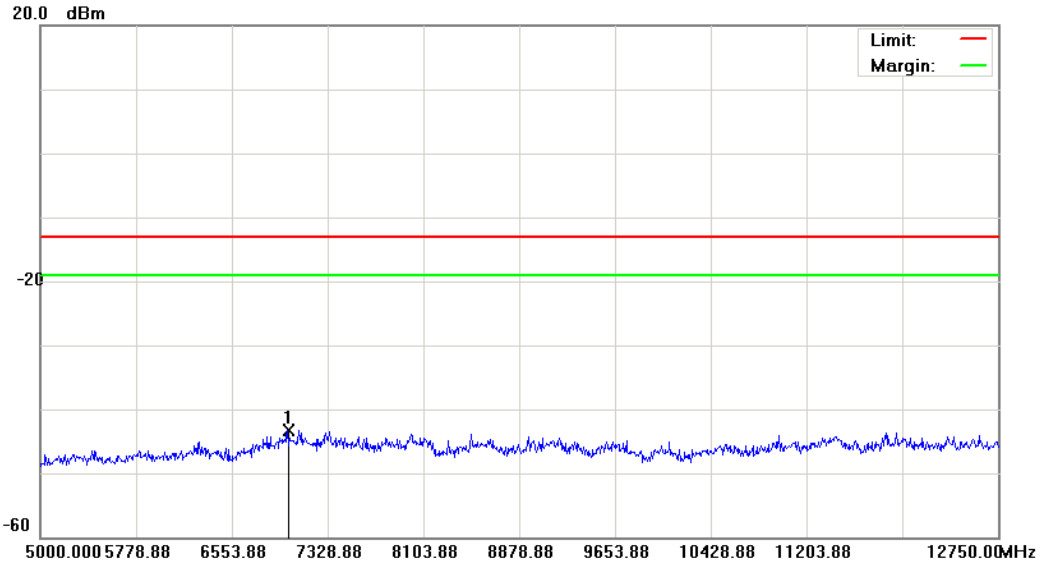
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1672.000	-46.36	4.46	-41.90	-13.00	-28.90	peak			

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

File:RTC-700R(CH4183) Data :#4 Date: 2012/6/4 Time: 下午 03:22:01



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

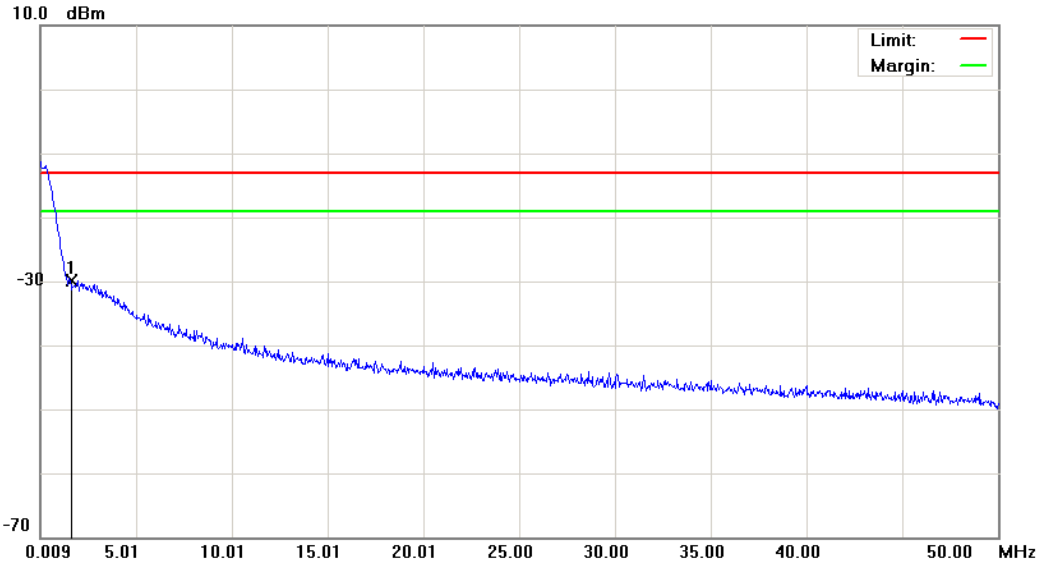
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	7003.375	-48.17	4.91	-43.26	-13.00	-30.26	peak			

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

File:RTC-700R(CH4233) Data :#1 Date: 2012/6/4 Time: 下午 03:15:28



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

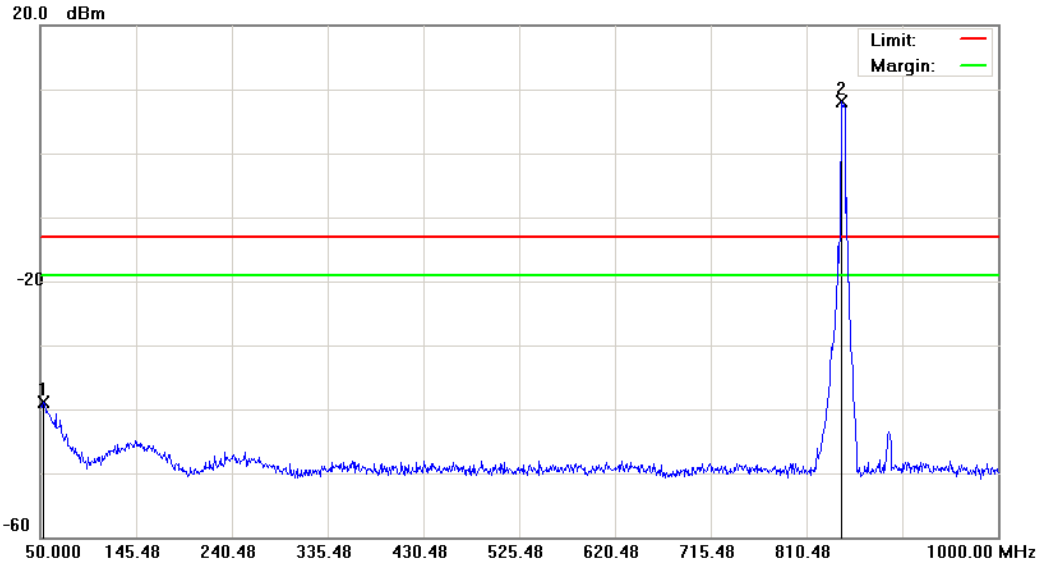
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1.5837	-61.14	31.26	-29.88	-13.00	-16.88	peak			

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

File:RTC-700R(CH4233) Data :#2 Date: 2012/6/4 Time: 下午 03:15:52



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

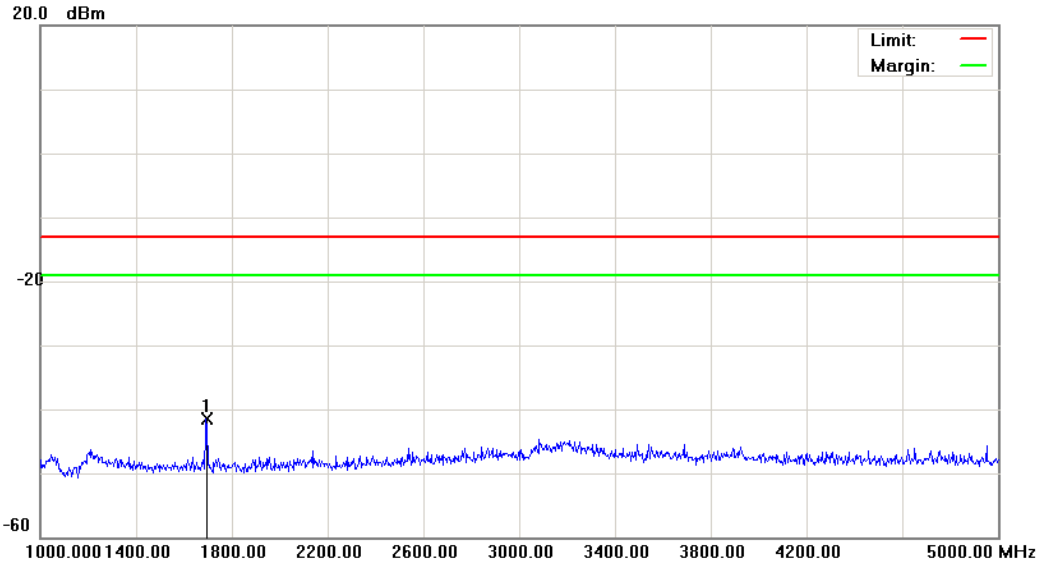
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		52.8500	-53.11	14.19	-38.92	-13.00	-25.92	peak			
2	*	844.6750	4.07	3.99	8.06	-13.00	21.06	peak			Tx

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

File:RTC-700R(CH4233) Data :#3 Date: 2012/6/4 Time: 下午 03:22:44



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

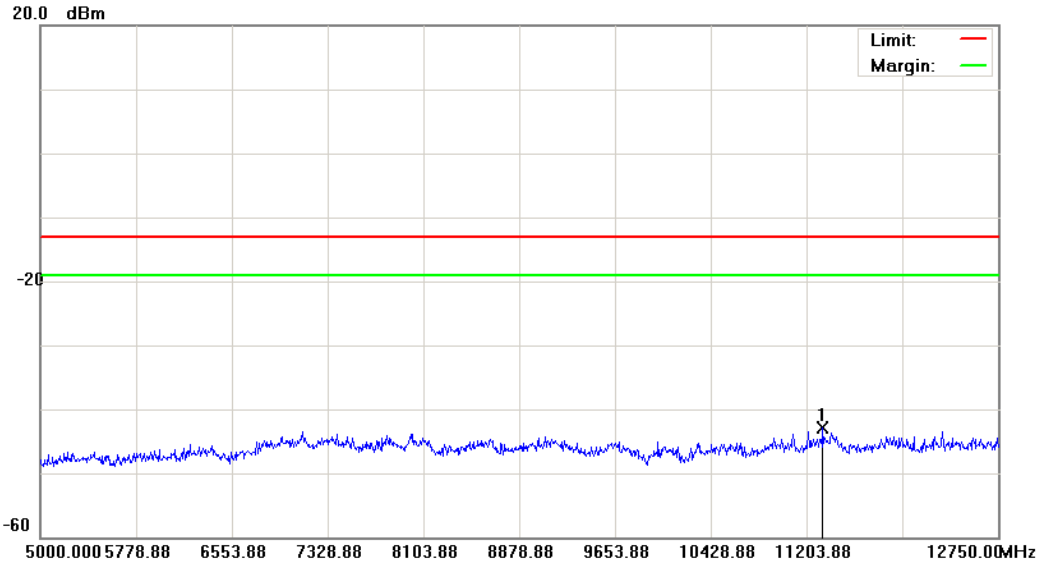
Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1694.000	-46.06	4.48	-41.58	-13.00	-28.58	peak			

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

File:RTC-700R(CH4233) Data :#4 Date: 2012/6/4 Time: 下午 03:23:08



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Rugged Tablet Computer
M/N: TF-RTC-700R-TA-WBG-1110
Mode: 2
Note:

Polarization: ***Conducted po***
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 kHz VBW: 1000 kHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	11331.750	-47.92	5.12	-42.80	-13.00	-29.80	peak			

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

6 Field Strength of Spurious Radiation Test

6.1. 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 + 10log(P) dB.

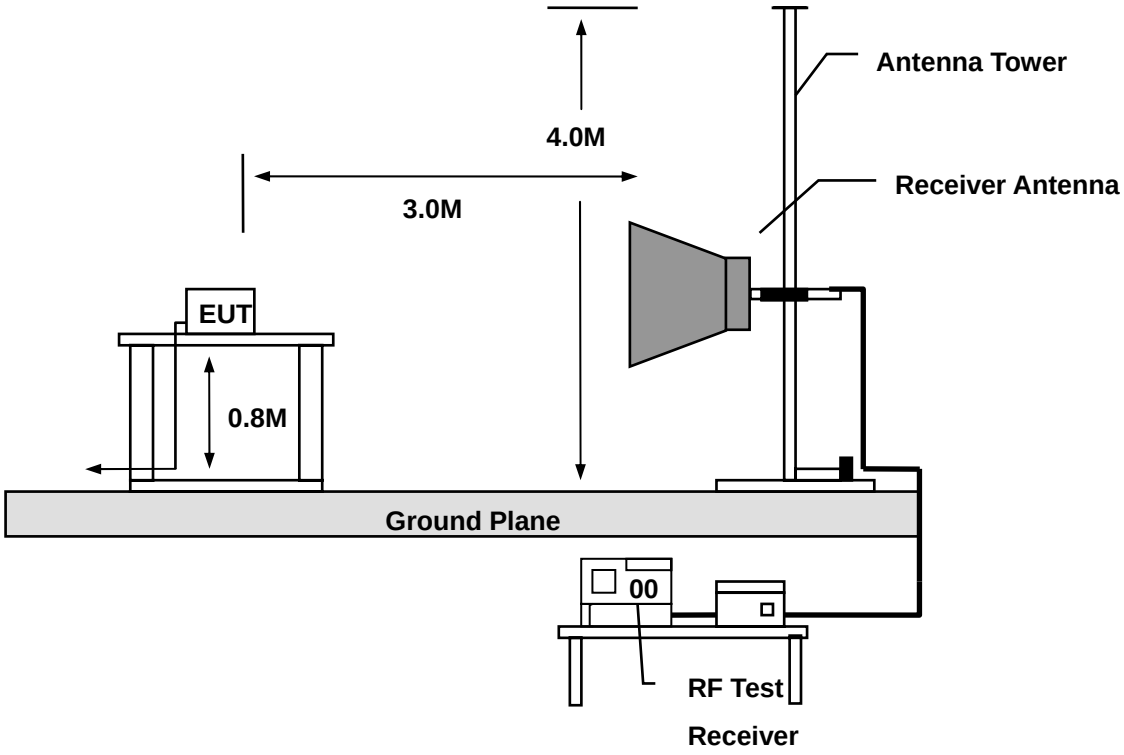
It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

6.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/16/2012	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/16/2012	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/22/2012	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/22/2012	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	07/29/2011	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/29/2011	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/28/2011	(1)
Test Site	ATL	TE01	888001	12/20/2011	(1)

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

6.3. Setup



6.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 30 MHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on tree orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (mode VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 26.5 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro colts per meter (dBuV/m).

The actual field is intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

(2) Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

6.5. Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is ± 3.072 dB.

6.6. Test Result

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	TF-RTC-700R-TA-WBG-1110	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	06/05/2012
Frequency:	1852.4 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
137.5000	-70.50	-4.77	-75.27	-13.00	-62.27	peak	H
203.0000	-80.44	2.26	-78.18	-13.00	-65.18	peak	H
335.0000	-80.56	-0.65	-81.21	-13.00	-68.21	peak	H
497.0000	-69.55	6.79	-62.76	-13.00	-49.76	peak	H
639.0000	-76.68	6.87	-69.81	-13.00	-56.81	peak	H
820.5000	-80.00	11.92	-68.08	-13.00	-55.08	peak	H
3976.000	-70.26	16.39	-53.87	-13.00	-40.87	peak	H
5752.000	-72.06	22.37	-49.69	-13.00	-36.69	peak	H
7564.000	-71.77	29.26	-42.51	-13.00	-29.51	peak	H
137.5000	-68.17	10.31	-57.86	-13.00	-44.86	peak	V
200.0000	-79.34	10.15	-69.19	-13.00	-56.19	peak	V
350.0000	-79.99	1.81	-78.18	-13.00	-65.18	peak	V
497.0000	-76.75	2.69	-74.06	-13.00	-61.06	peak	V
591.5000	-71.68	6.81	-64.87	-13.00	-51.87	peak	V
854.5000	-80.77	11.54	-69.23	-13.00	-56.23	peak	V
3328.000	-69.40	18.45	-50.95	-13.00	-37.95	peak	V
5308.000	-69.97	23.47	-46.50	-13.00	-33.50	peak	V
7372.000	-72.49	26.25	-46.24	-13.00	-33.24	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	TF-RTC-700R-TA-WBG-1110	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	06/05/2012
Frequency:	1880.0 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
137.5000	-72.44	-4.77	-77.21	-13.00	-64.21	peak	H
214.5000	-77.70	0.12	-77.58	-13.00	-64.58	peak	H
355.0000	-77.66	-0.11	-77.77	-13.00	-64.77	peak	H
497.0000	-68.64	6.79	-61.85	-13.00	-48.85	peak	H
639.0000	-78.34	6.87	-71.47	-13.00	-58.47	peak	H
843.5000	-79.81	12.26	-67.55	-13.00	-54.55	peak	H
3412.000	-69.81	15.20	-54.61	-13.00	-41.61	peak	H
5512.000	-70.71	21.73	-48.98	-13.00	-35.98	peak	H
7612.000	-71.14	29.30	-41.84	-13.00	-28.84	peak	H
137.5000	-67.51	10.31	-57.20	-13.00	-44.20	peak	V
300.0000	-78.77	2.71	-76.06	-13.00	-63.06	peak	V
497.0000	-77.04	2.69	-74.35	-13.00	-61.35	peak	V
639.0000	-78.02	8.64	-69.38	-13.00	-56.38	peak	V
737.0000	-79.54	10.54	-69.00	-13.00	-56.00	peak	V
852.0000	-80.10	11.50	-68.60	-13.00	-55.60	peak	V
3364.000	-69.11	18.67	-50.44	-13.00	-37.44	peak	V
5356.000	-70.44	23.48	-46.96	-13.00	-33.96	peak	V
7336.000	-72.45	26.17	-46.28	-13.00	-33.28	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	TF-RTC-700R-TA-WBG-1110	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	06/05/2012
Frequency:	1907.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
137.5000	-73.23	-4.77	-78.00	-13.00	-65.00	peak	H
201.5000	-80.32	2.61	-77.71	-13.00	-64.71	peak	H
355.0000	-78.11	-0.11	-78.22	-13.00	-65.22	peak	H
497.0000	-67.91	6.79	-61.12	-13.00	-48.12	peak	H
670.0000	-79.67	7.08	-72.59	-13.00	-59.59	peak	H
859.5000	-79.28	13.00	-66.28	-13.00	-53.28	peak	H
3052.000	-68.30	14.09	-54.21	-13.00	-41.21	peak	H
5560.000	-71.93	21.85	-50.08	-13.00	-37.08	peak	H
7636.000	-70.87	29.31	-41.56	-13.00	-28.56	peak	H
137.5000	-68.01	10.31	-57.70	-13.00	-44.70	peak	V
300.5000	-80.35	2.67	-77.68	-13.00	-64.68	peak	V
497.0000	-76.82	2.69	-74.13	-13.00	-61.13	peak	V
632.5000	-79.27	8.72	-70.55	-13.00	-57.55	peak	V
768.5000	-80.11	11.10	-69.01	-13.00	-56.01	peak	V
877.0000	-80.34	11.00	-69.34	-13.00	-56.34	peak	V
3316.000	-68.84	18.38	-50.46	-13.00	-37.46	peak	V
5272.000	-71.84	23.47	-48.37	-13.00	-35.37	peak	V
7420.000	-71.90	26.34	-45.56	-13.00	-32.56	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	TF-RTC-700R-TA-WBG-1110	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	06/05/2012
Frequency:	826.4 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
98.5000	-71.35	-1.52	-72.87	-13.00	-59.87	peak	H
167.5000	-72.29	-4.39	-76.68	-13.00	-63.68	peak	H
355.0000	-78.42	-0.11	-78.53	-13.00	-65.53	peak	H
426.0000	-76.22	3.58	-72.64	-13.00	-59.64	peak	H
497.0000	-68.88	6.79	-62.09	-13.00	-49.09	peak	H
714.0000	-80.03	7.33	-72.70	-13.00	-59.70	peak	H
2920.000	-68.44	13.65	-54.79	-13.00	-41.79	peak	H
5248.000	-70.64	20.89	-49.75	-13.00	-36.75	peak	H
7288.000	-71.61	28.52	-43.09	-13.00	-30.09	peak	H
137.5000	-67.70	10.31	-57.39	-13.00	-44.39	peak	V
214.5000	-76.86	7.30	-69.56	-13.00	-56.56	peak	V
355.0000	-79.92	2.11	-77.81	-13.00	-64.81	peak	V
497.0000	-78.49	2.69	-75.80	-13.00	-62.80	peak	V
639.0000	-78.18	8.64	-69.54	-13.00	-56.54	peak	V
719.0000	-80.27	10.83	-69.44	-13.00	-56.44	peak	V
3316.000	-68.78	18.38	-50.40	-13.00	-37.40	peak	V
5716.000	-71.65	23.17	-48.48	-13.00	-35.48	peak	V
7696.000	-70.78	26.45	-44.33	-13.00	-31.33	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	TF-RTC-700R-TA-WBG-1110	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	06/05/2012
Frequency:	836.4 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
92.5000	-67.47	-0.43	-67.90	-13.00	-54.90	peak	H
157.0000	-78.24	0.49	-77.75	-13.00	-64.75	peak	H
355.0000	-77.45	-0.11	-77.56	-13.00	-64.56	peak	H
497.0000	-68.50	6.79	-61.71	-13.00	-48.71	peak	H
605.5000	-79.10	7.87	-71.23	-13.00	-58.23	peak	H
760.5000	-79.46	9.11	-70.35	-13.00	-57.35	peak	H
3688.000	-70.30	15.85	-54.45	-13.00	-41.45	peak	H
6304.000	-72.80	24.93	-47.87	-13.00	-34.87	peak	H
7864.000	-73.45	29.50	-43.95	-13.00	-30.95	peak	H
137.5000	-67.70	10.31	-57.39	-13.00	-44.39	peak	V
207.5000	-78.70	9.25	-69.45	-13.00	-56.45	peak	V
300.0000	-79.95	2.71	-77.24	-13.00	-64.24	peak	V
449.0000	-79.38	1.56	-77.82	-13.00	-64.82	peak	V
568.0000	-78.01	4.99	-73.02	-13.00	-60.02	peak	V
737.0000	-76.80	10.54	-66.26	-13.00	-53.26	peak	V
3700.000	-70.33	19.93	-50.40	-13.00	-37.40	peak	V
5824.000	-70.98	23.01	-47.97	-13.00	-34.97	peak	V
7360.000	-72.99	26.22	-46.77	-13.00	-33.77	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	TF-RTC-700R-TA-WBG-1110	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	06/05/2012
Frequency:	846.4 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
137.5000	-68.07	10.31	-57.76	-13.00	-44.76	peak	H
201.5000	-76.94	9.97	-66.97	-13.00	-53.97	peak	H
299.0000	-79.60	2.63	-76.97	-13.00	-63.97	peak	H
497.0000	-77.52	2.69	-74.83	-13.00	-61.83	peak	H
639.0000	-77.91	8.64	-69.27	-13.00	-56.27	peak	H
773.0000	-79.07	11.17	-67.90	-13.00	-54.90	peak	H
3292.000	-67.90	18.23	-49.67	-13.00	-36.67	peak	H
5692.000	-71.42	23.21	-48.21	-13.00	-35.21	peak	H
7552.000	-72.70	26.49	-46.21	-13.00	-33.21	peak	H
93.0000	-67.59	-0.52	-68.11	-13.00	-55.11	peak	V
169.5000	-71.28	-5.94	-77.22	-13.00	-64.22	peak	V
355.0000	-77.94	-0.11	-78.05	-13.00	-65.05	peak	V
497.0000	-68.63	6.79	-61.84	-13.00	-48.84	peak	V
639.0000	-76.67	6.87	-69.80	-13.00	-56.80	peak	V
773.0000	-80.38	9.81	-70.57	-13.00	-57.57	peak	V
3328.000	-68.64	14.95	-53.69	-13.00	-40.69	peak	V
5416.000	-71.51	21.42	-50.09	-13.00	-37.09	peak	V
7420.000	-71.73	28.94	-42.79	-13.00	-29.79	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	TF-RTC-700A-TA-WBGH-1110	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	3	Date:	06/27/2012
Frequency:	1852.4 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
92.5000	-68.37	-0.43	-68.80	-13.00	-55.80	peak	H
168.5000	-73.54	-5.17	-78.71	-13.00	-65.71	peak	H
426.0000	-73.77	3.58	-70.19	-13.00	-57.19	peak	H
497.0000	-71.55	6.79	-64.76	-13.00	-51.76	peak	H
639.0000	-78.18	6.87	-71.31	-13.00	-58.31	peak	H
893.0000	-81.73	13.76	-67.97	-13.00	-54.97	peak	H
3868.000	-70.42	16.20	-54.22	-13.00	-41.22	peak	H
5668.000	-72.02	22.15	-49.87	-13.00	-36.87	peak	H
7312.000	-72.30	28.59	-43.71	-13.00	-30.71	peak	H
92.5000	-66.60	-4.73	-71.33	-13.00	-58.33	peak	V
137.5000	-69.67	10.31	-59.36	-13.00	-46.36	peak	V
200.0000	-81.34	10.15	-71.19	-13.00	-58.19	peak	V
377.5000	-81.69	1.74	-79.95	-13.00	-66.95	peak	V
591.5000	-73.18	6.81	-66.37	-13.00	-53.37	peak	V
719.5000	-79.87	10.85	-69.02	-13.00	-56.02	peak	V
3244.000	-69.53	17.93	-51.60	-13.00	-38.60	peak	V
5152.000	-71.99	23.46	-48.53	-13.00	-35.53	peak	V
7108.000	-71.67	25.72	-45.95	-13.00	-32.95	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	TF-RTC-700A-TA-WBGH-1110	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	4	Date:	06/27/2012
Frequency:	826.4 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
92.5000	-68.85	-0.43	-69.28	-13.00	-56.28	peak	H
167.5000	-74.29	-4.39	-78.68	-13.00	-65.68	peak	H
355.0000	-80.42	-0.11	-80.53	-13.00	-67.53	peak	H
497.0000	-70.38	6.79	-63.59	-13.00	-50.59	peak	H
615.5000	-80.61	7.75	-72.86	-13.00	-59.86	peak	H
767.0000	-81.71	9.47	-72.24	-13.00	-59.24	peak	H
2800.000	-69.13	13.24	-55.89	-13.00	-42.89	peak	H
5152.000	-72.43	20.58	-51.85	-13.00	-38.85	peak	H
7228.000	-71.98	28.32	-43.66	-13.00	-30.66	peak	H
92.5000	-65.99	-4.73	-70.72	-13.00	-57.72	peak	V
137.5000	-68.20	10.31	-57.89	-13.00	-44.89	peak	V
214.5000	-77.86	7.30	-70.56	-13.00	-57.56	peak	V
355.0000	-81.42	2.11	-79.31	-13.00	-66.31	peak	V
568.0000	-78.44	4.99	-73.45	-13.00	-60.45	peak	V
671.5000	-80.54	9.49	-71.05	-13.00	-58.05	peak	V
3220.000	-69.49	17.79	-51.70	-13.00	-38.70	peak	V
5920.000	-72.45	22.87	-49.58	-13.00	-36.58	peak	V
7516.000	-72.37	26.50	-45.87	-13.00	-32.87	peak	V

Standard:	RSS-Gen	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	TF-RTC-700R-TA-WBG-1110	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	5	Date:	06/05/2012
		Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
3244.000	38.79	2.75	41.54	74.00	-32.46	peak	H
5105.500	36.61	8.81	45.42	74.00	-28.58	peak	H
6712.000	36.24	13.78	50.02	74.00	-23.98	peak	H
3040.000	39.35	2.29	41.64	74.00	-32.36	peak	V
4697.500	36.67	7.57	44.24	74.00	-29.76	peak	V
6737.500	35.95	13.86	49.81	74.00	-24.19	peak	V

7 Frequency Stability (Temperature Variation) Test

7.1. Limit

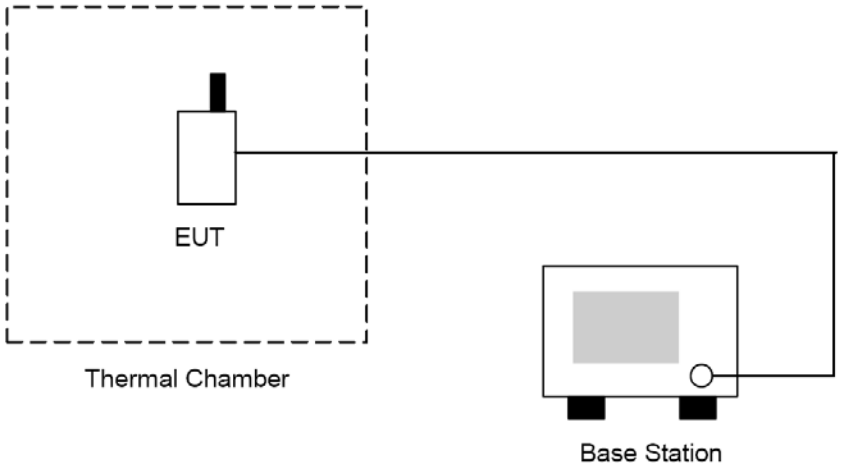
The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center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

7.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMU200	109369	08/10/2010	(2)
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	08/24/2011	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

7.3. Setup



7.4. Test Procedure

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

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℃ 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℃ 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 temperature tests were performed for the worst case.
5. Test data was recorded.

7.5. Uncertainty

The measurement uncertainty is defined as for Frequency Stability (Temperature Variation) measurement is ± 10Hz.

7.6. Test Result

Model Number	TF-RTC-700R-TA-WBG-1110			
Test Item	Frequency Stability (Temperature Variation)			
Test Mode	Mode 1			
Date of Test	06/05/2012		Test Site	TE05
Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
-30	10	0.005	±2.5	Pass
-20	11	0.006	±2.5	Pass
-10	13	0.007	±2.5	Pass
0	6	0.003	±2.5	Pass
10	12	0.006	±2.5	Pass
20	7	0.004	±2.5	Pass
30	-10	-0.005	±2.5	Pass
40	8	0.004	±2.5	Pass
50	-13	-0.007	±2.5	Pass

Model Number	TF-RTC-700R-TA-WBG-1110			
Test Item	Frequency Stability (Temperature Variation)			
Test Mode	Mode 2			
Date of Test	06/05/2012		Test Site	TE05
Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
-30	3	0.004	±2.5	Pass
-20	4	0.005	±2.5	Pass
-10	9	0.011	±2.5	Pass
0	8	0.010	±2.5	Pass
10	5	0.006	±2.5	Pass
20	2	0.002	±2.5	Pass
30	4	0.005	±2.5	Pass
40	6	0.007	±2.5	Pass
50	7	0.008	±2.5	Pass

8 Frequency Stability (Voltage Variation) Test

8.1. Limit

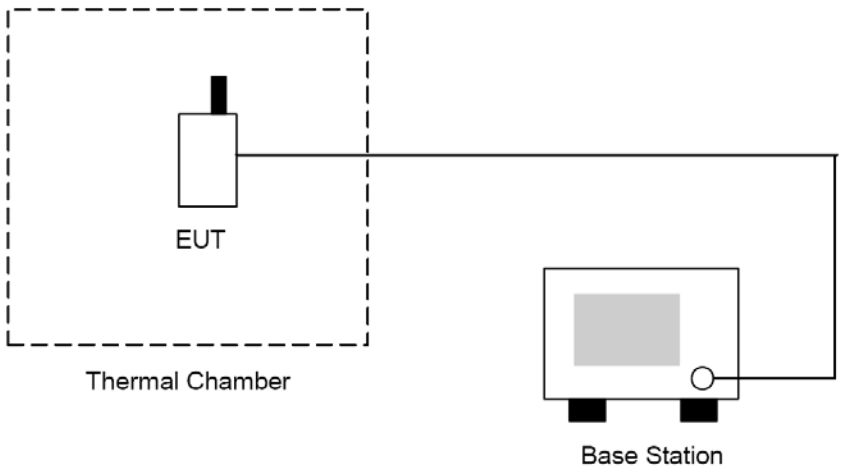
The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center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

8.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMU200	109369	08/10/2010	(2)
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	08/24/2011	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

8.3. Setup



8.4. Test Procedure

1. The EUT was placed in a temperature chamber at 255 ℃ and connected as the following section.
2. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

8.5. Uncertainty

The measurement uncertainty is defined as for Frequency Stability (Voltage Variation) measurement is ± 10Hz.

8.6. Test Result

Model Number	TF-RTC-700R-TA-WBG-1110				
Test Item	Frequency Stability (Voltage Variation)				
Test Mode	Mode 1				
Date of Test	06/05/2012		Test Site	TE05	
Level	Voltage [Vdc]	Deviation [Hz]	Deviation [ppm]	Limit [ppm]	Result
Battery full point	8.51	9	0.005	±2.5	Pass
Normal	7.40	5	0.003	±2.5	Pass
Battery cut-off point	6.29	8	0.004	±2.5	Pass

Model Number	TF-RTC-700R-TA-WBG-1110				
Test Item	Frequency Stability (Voltage Variation)				
Test Mode	Mode 2				
Date of Test	06/05/2012		Test Site	TE05	
Level	Voltage [Vdc]	Deviation [Hz]	Deviation [ppm]	Limit [ppm]	Result
Battery full point	8.51	8	0.010	±2.5	Pass
Normal	7.40	5	0.006	±2.5	Pass
Battery cut-off point	6.29	4	0.005	±2.5	Pass