FCC 47 CFR PART 22H and 24E

Test Report

Product Type	:	Wireless module
Applicant	:	Telit Communications S.p.A.
Address	:	Viale Stazione di Prosecco 5/b, Trieste, 34010, Italy
Trade Name	:	Telit
Model Number	:	HC864-AUTO
Test Specification	:	FCC 47 CFR PART 22H: Oct, 2011 FCC 47 CFR PART 24E: Oct, 2011 CANADA RSS-132 ISSUE 2: Sep., 2005 CANADA RSS-133 ISSUE 5: Feb., 2009 Canada RSS-Gen ISSUE 3: Dec., 2010 ANSI/TIA-603-C-2004
Application Purpose	:	Original
Receive Date	:	Nov. 06, 2012
Test Period	:	Nov. 07 ~ Nov. 30, 2012
Issue Date	:	Jan. 22, 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	Dec. 05, 2012	Initial Issue	
01	Jan. 22, 2013	Add DTM results.	Joyce Liao

Verification of Compliance

Issued Date: 01/22/2013

Product Type	:	Wireless module
Applicant	:	Telit Communications S.p.A.
Address	:	Viale Stazione di Prosecco 5/b, Trieste, 34010, Italy
Trade Name	:	Telit
Model Number	:	HC864-AUTO
FCC ID	:	RI7HC864-AUTO
EUT Rated Voltage	:	DC 3.8V
Test Voltage	:	DC 3.8V
Applicable Standard	:	FCC 47 CFR PART 22H: Oct, 2011 FCC 47 CFR PART 24E: Oct, 2011 CANADA RSS-132 ISSUE 2: Sep., 2005 CANADA RSS-133 ISSUE 5: Feb., 2009 Canada RSS-Gen ISSUE 3: Dec., 2010 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)

TABLE OF CONTENTS

1 General Information

1.1. EUT Description

Applicant		Telit Communications S.p.A.			
Applicant Address		Viale Stazione di Prosecco 5/b, Trieste, 34010, Italy			
Manufacturer		Telit Communications S.p.A.			
Manufacturer Address		Via Stazione di Prosecco, 5/B 34010 Sgonico Italy			
Product Type		Wireless module			
Trade Name		Telit			
Model Number		HC864-AUTO			
FCC ID		RI7HC864-AUTO			
Mode	GSM/GPRS/ EGPRS/DTM	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
		850	824.2 ~ 848.8	869.2 ~ 893.8	GMSK/8PSK
		1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8	GMSK/8PSK
	WCDMA/ 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			
Type of Antenna		Dipole Antenan			
Antenna Gain (dBi)		GSM/GPRS/EGPRS/DTM 850 : 2.0 dBi			
		GSM/GPRS/EGPRS/DTM 1900 : 2.0 dBi			
		WCDMA/ HSDPA/ HSUPA Band II : 2.0 dBi			
		WCDMA/ HSDPA/ HSUPA Band V : 2.0 dBi			
Max. RF Output power		GSM/GPRS/DTM 850 : 32.86 dBm / 1.932 W			
		EGPRS/DTM 850 : 30.64 dBm / 1.159 W			
		GSM/GPRS 1900 : 29.67 dBm / 0.927 W			
		EGPRS 1900 : 28.77 dBm / 0.753 W			
		WCDMA/ HSDPA/ HSUPA Band II : 27.91 dBm / 0.618 W			
		WCDMA/ HSDPA/ HSUPA Band V : 27.38 dBm / 0.547 W			
Max. ERP/EIRP		GSM/GPRS/DTM 850 : 30.45 dBm / 1.109 W			
		EGPRS/DTM 850 : 29.55 dBm / 0.902 W			
		GSM/GPRS 1900 : 28.22 dBm / 0.664 W			
		EGPRS 1900 : 28.13 dBm / 0.650 W			
		WCDMA/ HSDPA/ HSUPA Band II : 25.80 dBm / 0.380 W			
		WCDMA/ HSDPA/ HSUPA Band V : 24.96 dBm / 0.313 W			
Emission Designator		GSM/GPRS 850 : 241KGXW			
		EGPRS 850 : 246KG7W			
		GSM/GPRS 1900 : 239KGXW			
		EGPRS 1900 : 249KG7W			
		WCDMA/ HSDPA/ HSUPA Band II : 4M15F9W			
		WCDMA/ HSDPA/ HSUPA Band V : 4M15F9W			

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:

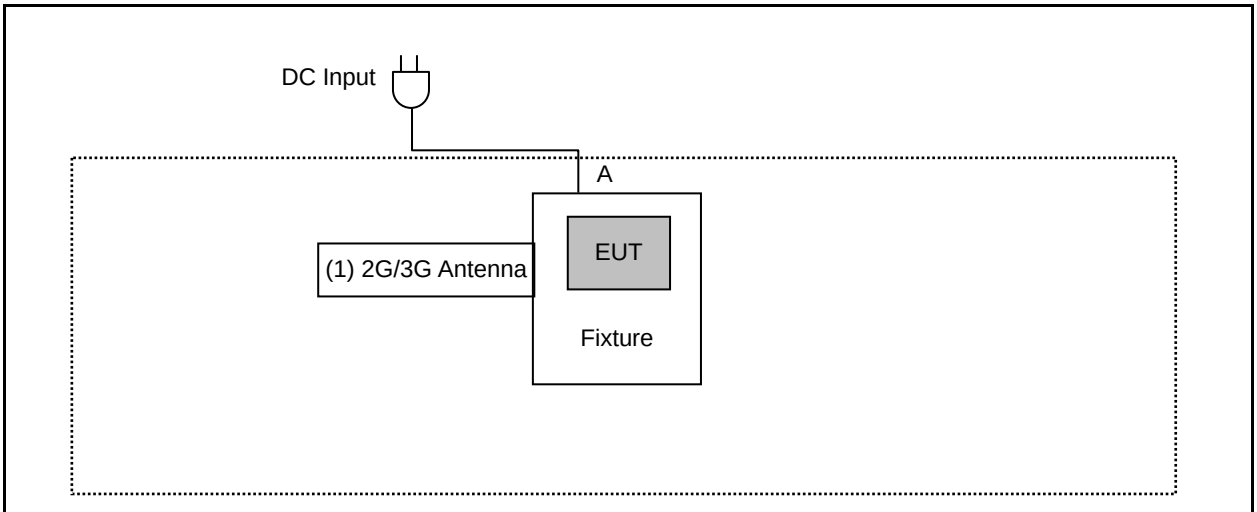
Test Mode
Mode 1: GSM 850 Link Mode
Mode 2: GSM 1900 Link Mode
Mode 3: EGPRS 850 Link Mode
Mode 4: EGPRS 1900 Link Mode
Mode 5: WCDMA Band II Link Mode
Mode 6: WCDMA Band V Link Mode
Mode 7: Receive Link Mode

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.

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	DC Power Cable	Non-Shielded, 3.0m

Devices Description					
Product		Manufacturer	Model Number	Serial Number	Power Cord
(1)	2G/3G Antenna	HANKOOK ANTENNA CO., LTD.	TB-800/1900-SMA	N/A	N/A

1.5. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	23
Humidity (%RH)	25-75	55.2
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+10log$_{10}$(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+10log$_{10}$(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+10log$_{10}$(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

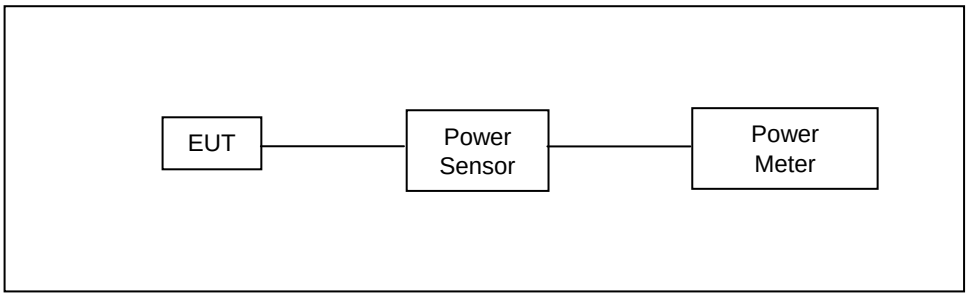
N/A

2.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	R & S	CMU200	109369	08/07/2012	(2)
Single Channel PK Power Sensor	Agilent	N1911A	MY45101619	12/15/2011	(2)
Wideband Power Meter	Agilent	N1921A	MY45241957	12/15/2011	(2)
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	HC864-AUTO						
Test Item	RF Output Power						
Date of Test	11/07/2012			Test Site		TE05	
Bands	Modulation Type	Data Rate	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
GSM 850	GMSK	-----	824.2	32.48	1.770	**32.86**	**1.932**
			836.6	32.32	1.706	32.71	1.866
			848.8	32.37	1.726	32.76	1.888
GRRS 850 Multi Class :33 Max Up:4 Max Down:5 Sum:6	GMSK	4Down1Up (Duty Factor 1/8)	824.2	32.41	1.742	**32.81**	**1.910**
			836.6	32.37	1.726	32.66	1.845
			848.8	32.39	1.734	32.74	1.879
		3Down2Up (Duty Factor 2/8)	824.2	30.53	1.130	30.78	1.197
			836.6	30.58	1.143	30.71	1.178
			848.8	30.56	1.138	30.81	1.205
		2Down3Up (Duty Factor 3/8)	824.2	29.25	0.841	29.50	0.891
			836.6	29.27	0.845	29.40	0.871
			848.8	29.31	0.853	29.56	0.904
		1Down4Up (Duty Factor 4/8)	824.2	27.86	0.611	28.11	0.647
			836.6	27.81	0.604	27.94	0.622
			848.8	27.87	0.612	28.12	0.649
EGPRS 850 Multi Class :33 Max Up:4 Max Down:5 Sum:6	8PSK	4Down1Up (Duty Factor 1/8)	824.2	27.25	0.531	30.45	1.109
			836.6	27.41	0.551	30.61	1.151
			848.8	27.44	0.555	**30.64**	**1.159**
		3Down2Up (Duty Factor 2/8)	824.2	27.01	0.502	30.21	1.050
			836.6	27.14	0.518	30.34	1.081
			848.8	27.15	0.519	30.35	1.084
		2Down3Up (Duty Factor 3/8)	824.2	25.91	0.390	29.11	0.815
			836.6	26.04	0.402	29.24	0.839
			848.8	26.05	0.403	29.25	0.841
		1Down4Up (Duty Factor 4/8)	824.2	24.88	0.308	28.08	0.643
			836.6	24.94	0.312	28.14	0.652
			848.8	24.96	0.313	28.16	0.655
DTM 850 (GSM+ GPRS) Multi Class :11 Max Up:3 Max Down:2 Sum:5	GMSK	2Down3Up (Duty Factor 3/8)	824.2	29.24	0.839	29.44	0.879
			836.6	29.14	0.820	29.44	0.879
			848.8	29.14	0.820	29.44	0.879
DTM 850 (GSM+ EGPRS) Multi Class :11 Max Up:3 Max Down:2 Sum:5	GMSK+ 8PSK	2Down3Up (Duty Factor 3/8)	824.2	25.60	0.363	30.39	1.094
			836.6	25.60	0.363	30.51	1.125
			848.8	25.60	0.363	30.55	1.135

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

Model Number	HC864-AUTO						
Test Item	RF Output Power						
Date of Test	11/07/2012			Test Site		TE05	
Bands	Modulation Type	Data Rate	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
GSM 1900	GMSK	-----	1850.20	29.46	0.883	**29.67**	**0.927**
			1880.00	29.10	0.813	29.31	0.853
			1909.80	29.21	0.834	29.45	0.881
GRRS 1900 Multi Class :33 Max Up:4 Max Down:5 Sum:6	GMSK	4Down1Up (Duty Factor 1/8)	1850.20	29.23	0.838	**29.42**	**0.875**
			1880.00	28.94	0.783	29.08	0.809
			1909.80	28.89	0.774	29.03	0.800
		3Down2Up (Duty Factor 2/8)	1850.20	28.94	0.783	29.15	0.822
			1880.00	28.83	0.764	29.04	0.802
			1909.80	29.21	0.834	29.28	0.847
		2Down3Up (Duty Factor 3/8)	1850.20	27.85	0.610	28.06	0.640
			1880.00	27.62	0.578	27.83	0.607
			1909.80	27.96	0.625	28.17	0.656
		1Down4Up (Duty Factor 4/8)	1850.20	27.01	0.502	27.22	0.527
			1880.00	26.75	0.473	26.96	0.497
			1909.80	27.08	0.511	27.29	0.536
EGPRS 1900 Multi Class :33 Max Up:4 Max Down:5 Sum:6	8PSK	4Down1Up (Duty Factor 1/8)	1850.20	25.57	0.361	**28.77**	**0.753**
			1880.00	25.24	0.334	28.44	0.698
			1909.80	25.49	0.354	28.69	0.740
		3Down2Up (Duty Factor 2/8)	1850.20	25.07	0.321	28.27	0.671
			1880.00	24.81	0.303	28.01	0.632
			1909.80	24.97	0.314	28.17	0.656
		2Down3Up (Duty Factor 3/8)	1850.20	24.54	0.284	27.74	0.594
			1880.00	24.28	0.268	27.48	0.560
			1909.80	24.48	0.281	27.68	0.586
		1Down4Up (Duty Factor 4/8)	1850.20	23.62	0.230	26.82	0.481
			1880.00	23.34	0.216	26.54	0.451
			1909.80	23.48	0.223	26.68	0.466
DTM 1900 (GSM+ GPRS) Multi Class :11 Max Up:3 Max Down:2 Sum:5	GMSK	2Down3Up (Duty Factor 3/8)	1850.20	27.20	0.525	27.30	0.537
			1880.00	27.20	0.525	27.30	0.537
			1909.80	27.50	0.562	27.30	0.537
DTM 1900 (GSM+ EGPRS) Multi Class :11 Max Up:3 Max Down:2 Sum:5	GMSK+ 8PSK	2Down3Up (Duty Factor 3/8)	1850.20	24.10	0.257	27.30	0.537
			1880.00	24.10	0.257	27.30	0.537
			1909.80	24.30	0.269	27.80	0.603

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

Model Number	HC864-AUTO						
Test Item	RF Output Power						
Date of Test	11/07/2012			Test Site		TE05	
Bands	Modulation Type	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
WCDMA Band II	QPSK	-----	1852.4	23.62	0.230	**27.91**	**0.618**
			1880.0	23.94	0.248	27.36	0.545
			1907.6	23.75	0.237	26.98	0.499
HSDPA Band II	QPSK	1	1852.4	23.51	0.224	26.08	0.406
			1880.0	23.77	0.238	26.22	0.419
			1907.6	23.65	0.232	26.34	0.431
		2	1852.4	23.50	0.224	26.07	0.405
			1880.0	23.75	0.237	26.20	0.417
			1907.6	23.65	0.232	26.34	0.431
		3	1852.4	23.02	0.200	25.59	0.362
			1880.0	23.29	0.213	25.74	0.375
			1907.6	23.17	0.207	25.86	0.385
		4	1852.4	23.01	0.200	25.58	0.361
			1880.0	23.25	0.211	25.70	0.372
			1907.6	23.16	0.207	25.85	0.385
HSUPA Band II	QPSK	1	1852.4	22.13	0.163	24.82	0.303
			1880.0	22.39	0.173	25.08	0.322
			1907.6	22.28	0.169	24.97	0.314
		2	1852.4	20.06	0.101	22.75	0.188
			1880.0	20.33	0.108	23.02	0.200
			1907.6	20.23	0.105	22.92	0.196
		3	1852.4	21.12	0.129	23.81	0.240
			1880.0	21.37	0.137	24.06	0.255
			1907.6	21.24	0.133	23.93	0.247
		4	1852.4	20.09	0.102	22.78	0.190
			1880.0	20.34	0.108	23.03	0.201
			1907.6	20.23	0.105	22.92	0.196
		5	1852.4	22.07	0.161	24.76	0.299
			1880.0	22.34	0.171	25.03	0.318
			1907.6	22.20	0.166	24.89	0.308

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

Model Number	HC864-AUTO						
Test Item	RF Output Power						
Date of Test	11/07/2012			Test Site		TE05	
Bands	Modulation Type	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
WCDMA Band V	QPSK	-----	826.4	23.67	0.233	**27.38**	**0.547**
			836.6	23.84	0.242	27.33	0.541
			846.6	23.75	0.237	27.36	0.545
HSDPA Band V	QPSK	1	826.4	23.35	0.216	26.77	0.475
			836.6	23.64	0.231	27.06	0.508
			846.6	23.51	0.224	26.93	0.493
		2	826.4	23.34	0.216	26.76	0.474
			836.6	23.62	0.230	27.04	0.506
			846.6	23.51	0.224	26.93	0.493
		3	826.4	22.86	0.193	26.28	0.425
			836.6	23.16	0.207	26.58	0.455
			846.6	23.03	0.201	26.45	0.442
		4	826.4	22.85	0.193	26.27	0.424
			836.6	23.12	0.205	26.54	0.451
			846.6	23.02	0.200	26.44	0.441
HSUPA Band V	QPSK	1	826.4	22.48	0.177	25.90	0.389
			836.6	22.65	0.184	26.07	0.405
			846.6	22.60	0.182	26.02	0.400
		2	826.4	20.42	0.110	23.84	0.242
			836.6	20.59	0.115	24.01	0.252
			846.6	20.55	0.114	23.97	0.249
		3	826.4	21.46	0.140	24.88	0.308
			836.6	21.62	0.145	25.04	0.319
			846.6	21.57	0.144	24.99	0.316
		4	826.4	20.45	0.111	23.87	0.244
			836.6	20.61	0.115	24.03	0.253
			846.6	20.55	0.114	23.97	0.249
		5	826.4	22.42	0.175	25.84	0.384
			836.6	22.59	0.182	26.01	0.399
			846.6	22.53	0.179	25.95	0.394

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.

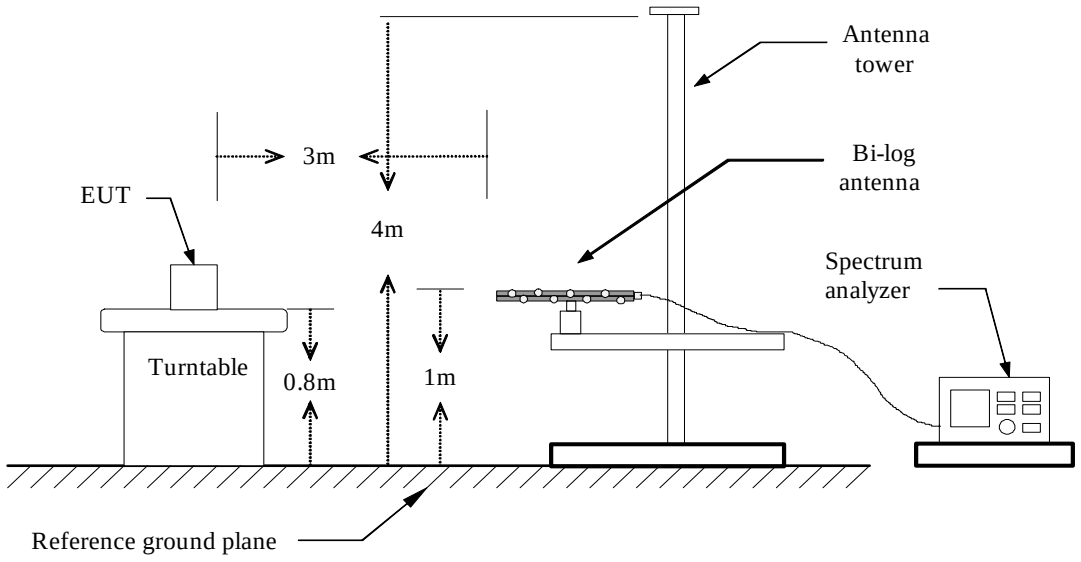
3.2. Test Instruments

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	06/29/2012	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/15/2012	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/21/2012	(1)
Test Site	ATL	TE01	888001	12/20/2011	(1)

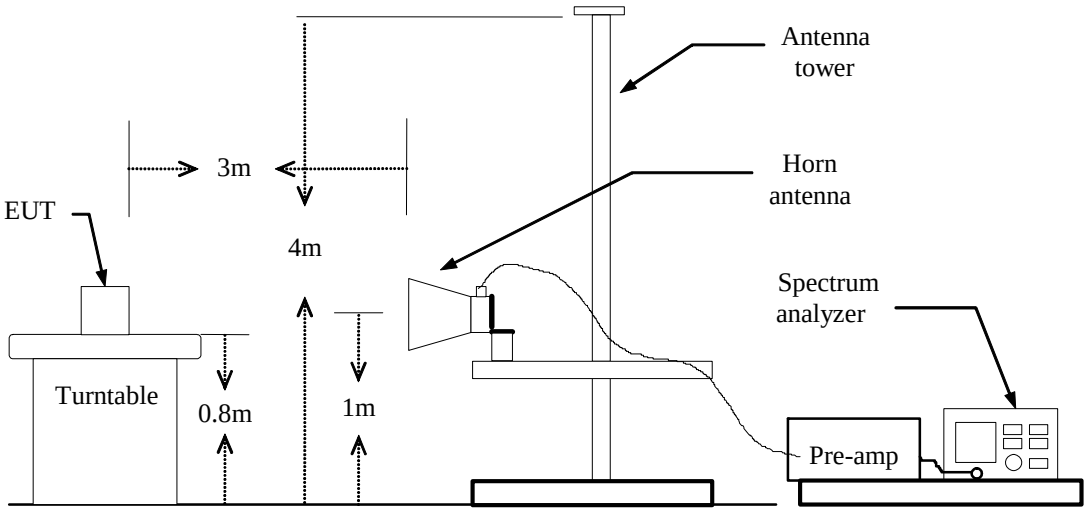
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

3.3. Setup

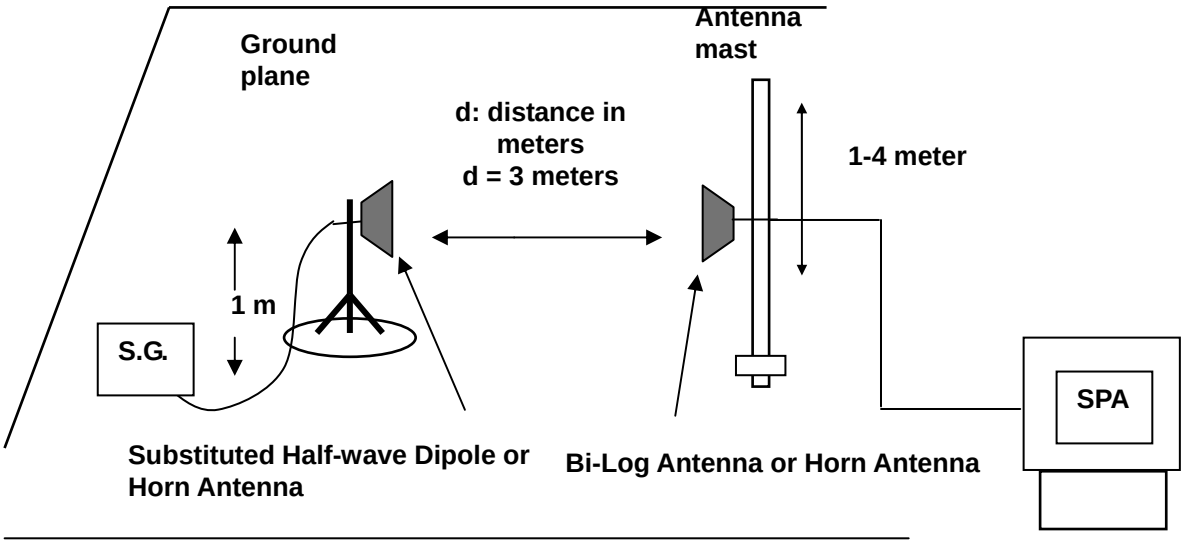
Below 1 GHz



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	HC864-AUTO							
Test Item	ERP/EIRP							
Date of Test	11/21/2012					Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	ERP		Limit
						(dBm)	(W)	
GSM 850	GMSK	824.2	H	17.73	11.95	29.68	0.929	< 7W
			V	19.01	11.29	30.30	1.072	< 7W
		836.6	H	18.50	11.34	29.84	0.964	< 7W
			V	19.08	11.34	30.42	1.102	< 7W
		848.8	H	18.35	11.47	29.82	0.959	< 7W
			V	18.98	11.47	**30.45**	**1.109**	< 7W
EGPRS 850	8PSK	824.2	H	18.06	11.29	29.35	0.861	< 7W
			V	18.02	11.29	29.31	0.853	< 7W
		836.6	H	17.42	11.34	28.76	0.752	< 7W
			V	18.21	11.34	**29.55**	**0.902**	< 7W
		848.8	H	17.91	11.47	29.38	0.867	< 7W
			V	18.05	11.47	29.52	0.895	< 7W

Model Number	HC864-AUTO							
Test Item	ERP/EIRP							
Date of Test	11/21/2012					Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	EIRP		Limit
						(dBm)	(W)	
GSM 1900	GMSK	1850.20	H	16.10	11.39	27.49	0.561	< 2W
			V	16.75	11.39	28.14	0.652	< 2W
		1880.00	H	15.36	11.65	27.01	0.502	< 2W
			V	16.57	11.65	**28.22**	**0.664**	< 2W
		1909.80	H	14.44	11.91	26.35	0.432	< 2W
			V	15.38	11.90	27.28	0.535	< 2W
EGPRS 1900	8PSK	1850.20	H	16.13	11.39	27.52	0.565	< 2W
			V	16.74	11.39	**28.13**	**0.650**	< 2W
		1880.00	H	15.17	11.65	26.82	0.481	< 2W
			V	15.71	11.65	27.36	0.545	< 2W
		1909.80	H	13.63	11.90	25.53	0.357	< 2W
			V	14.65	11.90	26.55	0.452	< 2W

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.

Model Number	HC864-AUTO							
Test Item	ERP/EIRP							
Date of Test	11/21/2012					Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	EIRP		Limit
						(dBm)	(W)	
WCDMA Band II	QPSK	1852.4	H	12.44	11.42	23.86	0.243	< 2W
			V	14.38	11.42	**25.80**	**0.380**	< 2W
		1880.0	H	12.45	11.63	24.08	0.256	< 2W
			V	13.47	11.64	25.11	0.324	< 2W
		1907.6	H	11.39	11.87	23.26	0.212	< 2W
			V	13.22	11.87	25.09	0.323	< 2W

Model Number	HC864-AUTO							
Test Item	ERP/EIRP							
Date of Test	11/21/2012					Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	ERP		Limit
						(dBm)	(W)	
WCDMA Band V	QPSK	826.4	H	12.96	11.30	24.26	0.267	< 7W
			V	13.65	11.31	**24.96**	**0.313**	< 7W
		836.6	H	12.52	11.34	23.86	0.243	< 7W
			V	12.93	11.34	24.27	0.267	< 7W
		846.6	H	12.13	11.42	23.55	0.226	< 7W
			V	12.70	11.42	24.12	0.258	< 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:

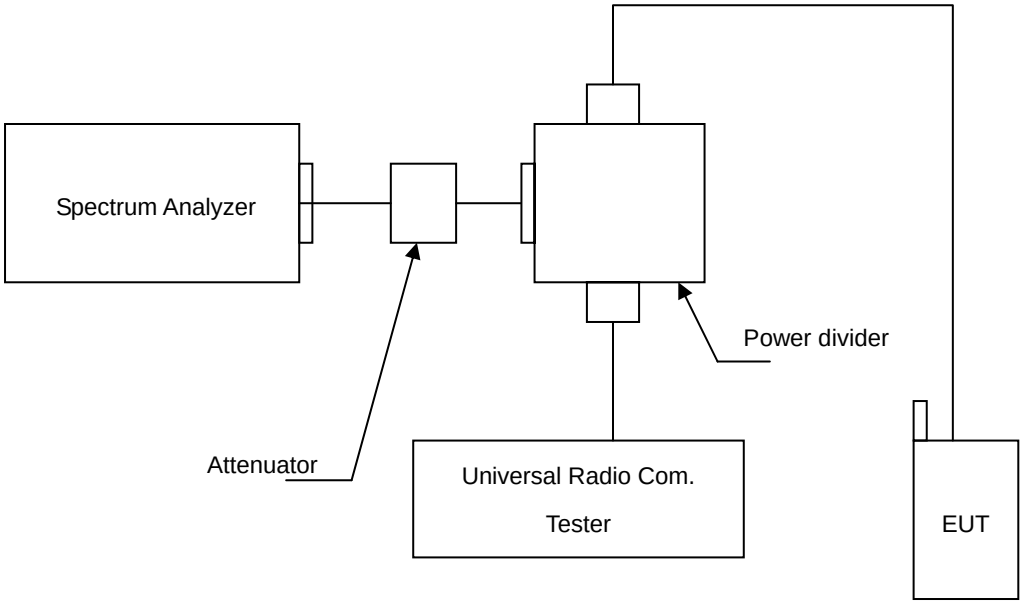
N/A.

4.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	R & S	CMU200	109369	08/07/2012	(2)
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/10/2012	(1)
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.

4.5. Uncertainty

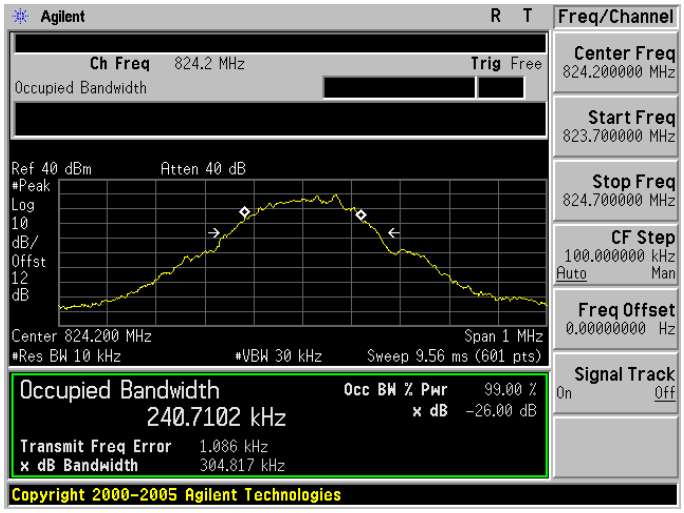
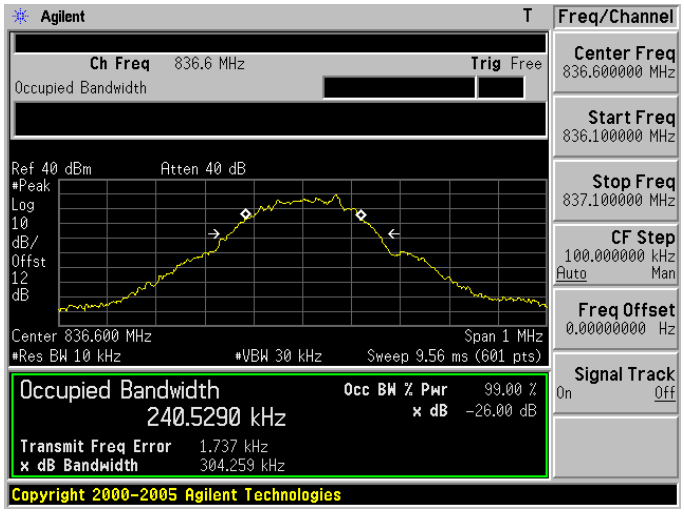
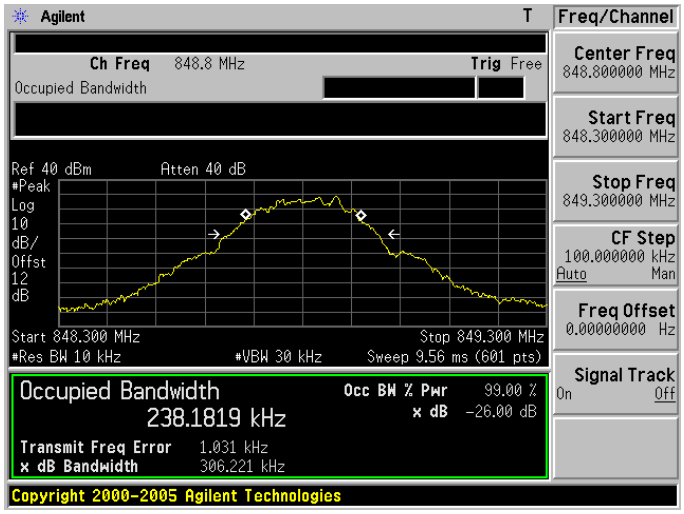
The measurement uncertainty is defined as ± 10Hz

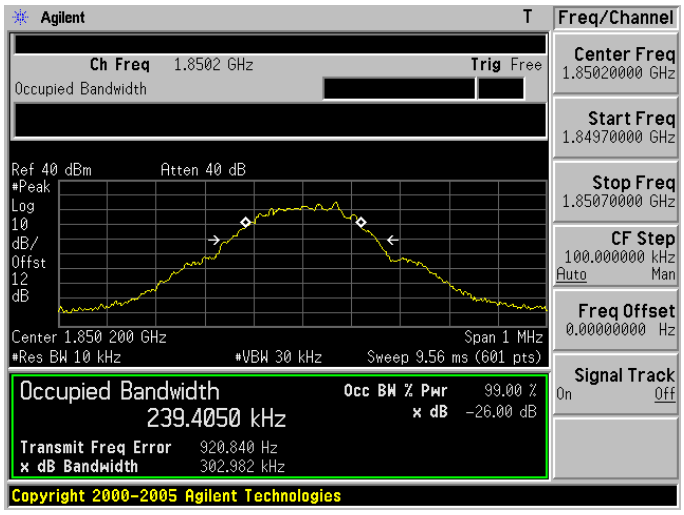
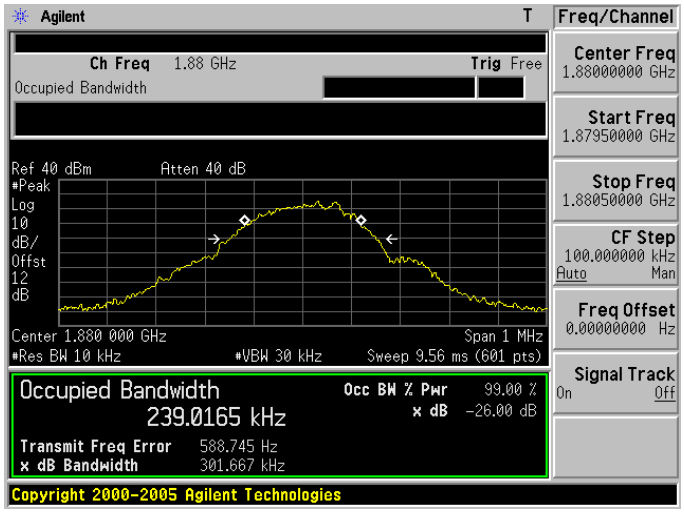
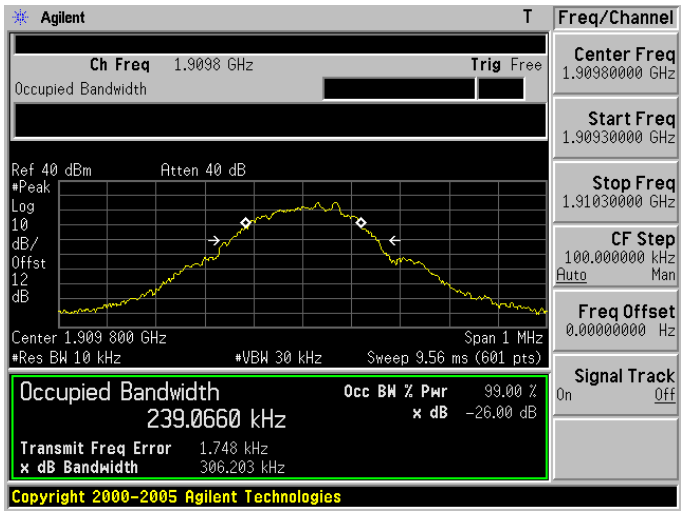
4.6. Test Result

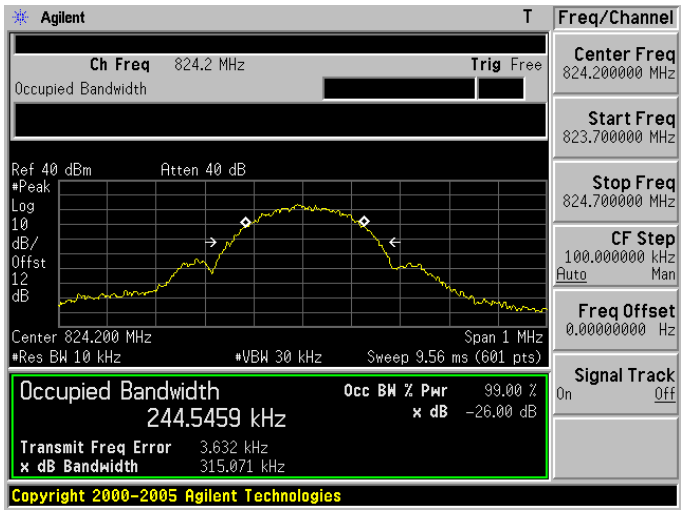
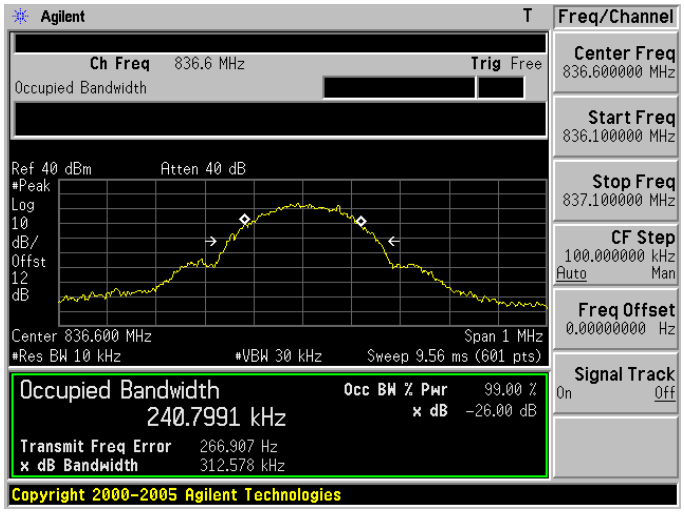
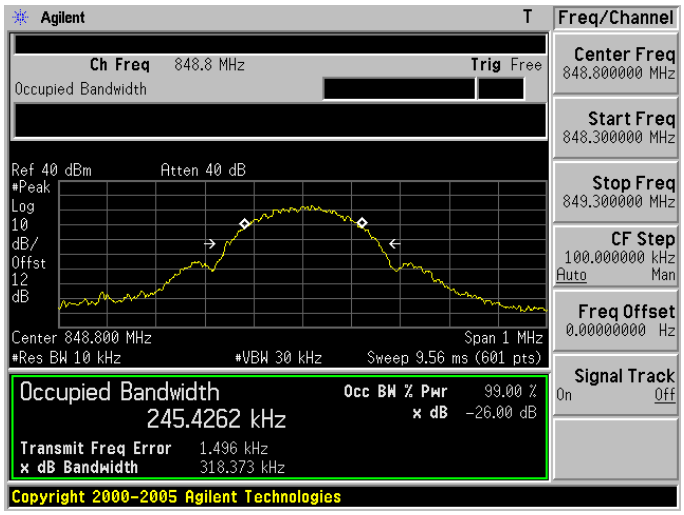
Model Number	HC864-AUTO				
Test Item	Occupied Bandwidth				
Date of Test	11/16/2012			Test Site	TE05
Bands	Channel	Frequency (MHz)	99% Bandwidth (kHz)	Note	
GSM 850	128	824.2	240.7102	RBW:10KHz , VBW:30KHz	
	190	836.6	240.5290	RBW:10KHz , VBW:30KHz	
	251	848.8	238.1819	RBW:10KHz , VBW:30KHz	
GSM 1900	512	1850.20	239.4050	RBW:10KHz , VBW:30KHz	
	661	1880.00	239.0165	RBW:10KHz , VBW:30KHz	
	810	1909.80	239.0660	RBW:10KHz , VBW:30KHz	
GPRS 850	128	824.2	244.5459	RBW:10KHz , VBW:30KHz	
	190	836.6	240.7991	RBW:10KHz , VBW:30KHz	
	251	848.8	245.4262	RBW:10KHz , VBW:30KHz	
GPRS 1900	512	1850.20	243.2497	RBW:10KHz , VBW:30KHz	
	661	1880.00	245.7923	RBW:10KHz , VBW:30KHz	
	810	1909.80	248.5446	RBW:10KHz , VBW:30KHz	

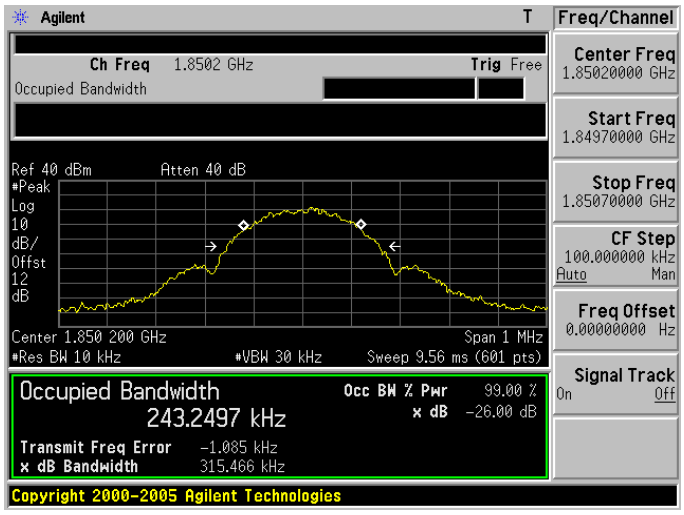
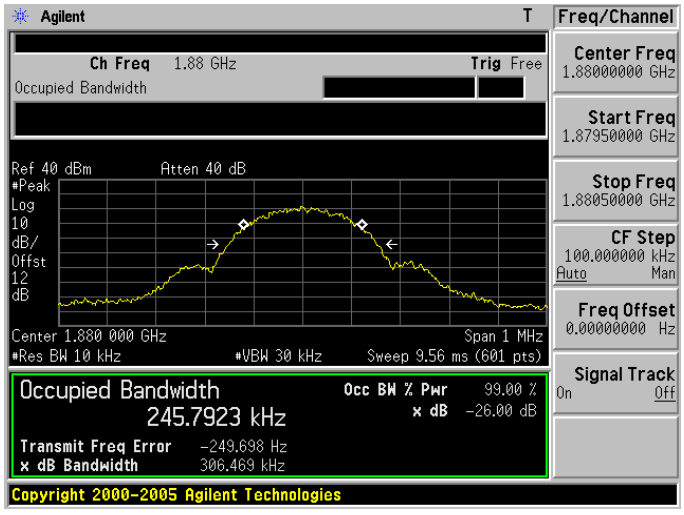
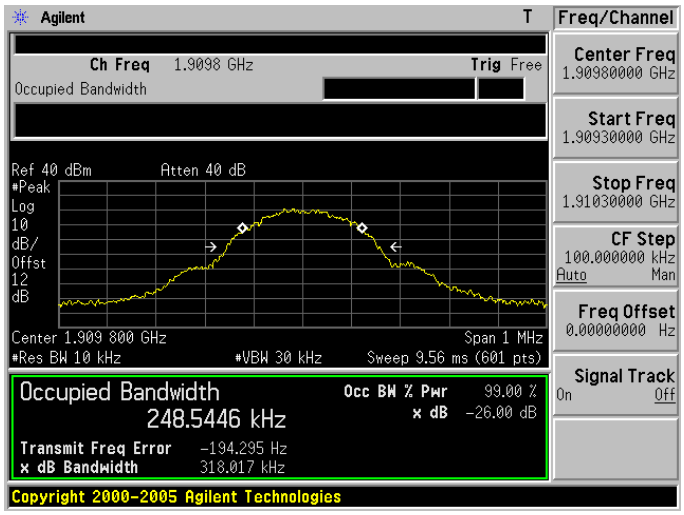
Model Number	HC864-AUTO				
Test Item	Occupied Bandwidth				
Date of Test	11/16/2012			Test Site	TE05
Bands	Channel	Frequency (MHz)	99% Bandwidth (MHz)	Note	
WCDMA Band II	9262	1852.4	4.1476	RBW:100KHz , VBW:300KHz	
	9400	1880.0	4.1533	RBW:100KHz , VBW:300KHz	
	9538	1907.6	4.1324	RBW:100KHz , VBW:300KHz	
WCDMA Band V	4132	826.4	4.1183	RBW:100KHz , VBW:300KHz	
	4183	836.6	4.1335	RBW:100KHz , VBW:300KHz	
	4233	846.6	4.1481	RBW:100KHz , VBW:300KHz	

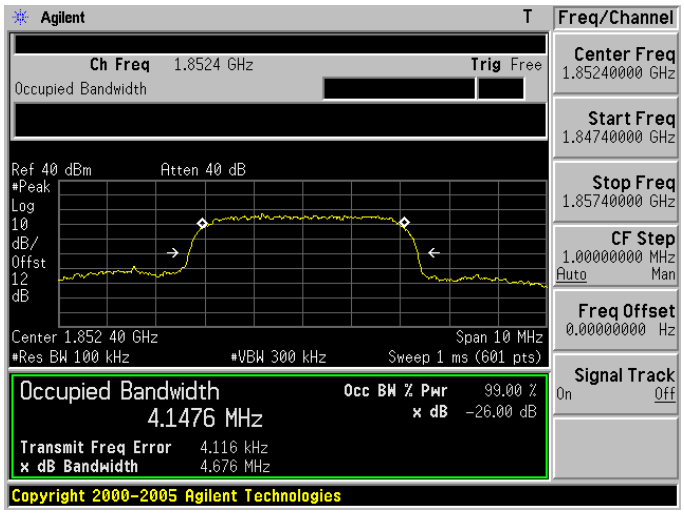
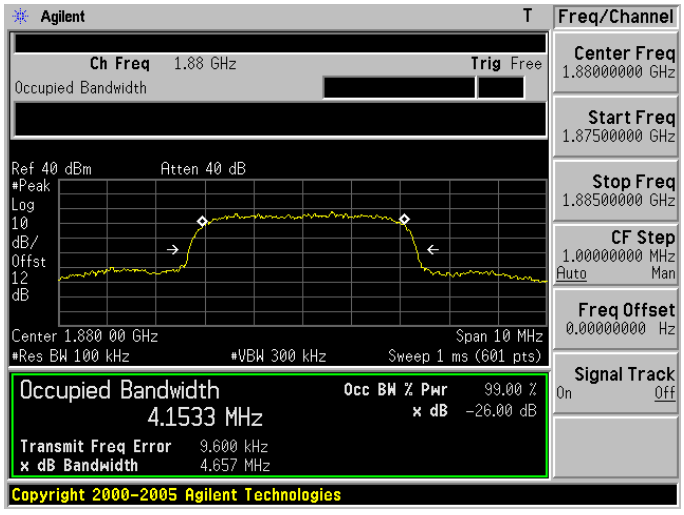
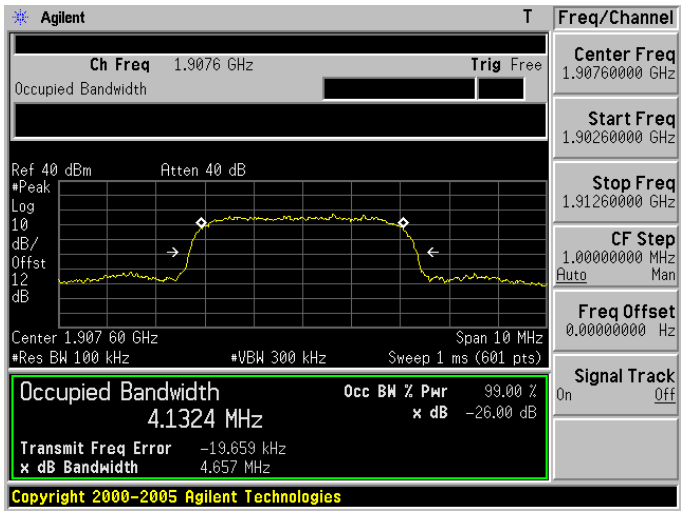
4.7. Test Graphs

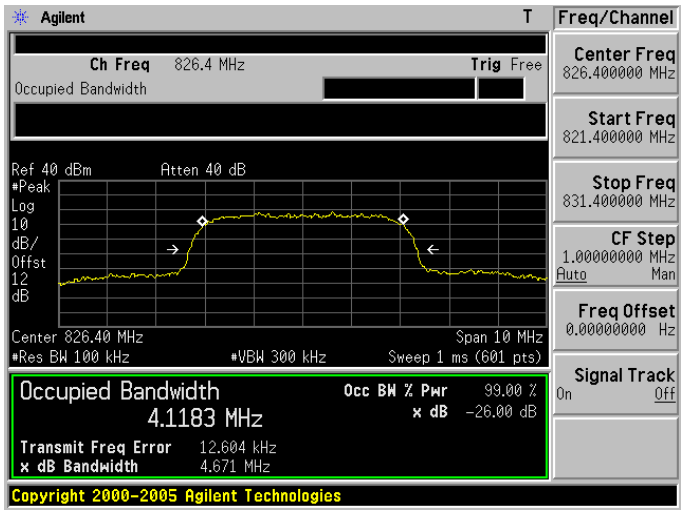
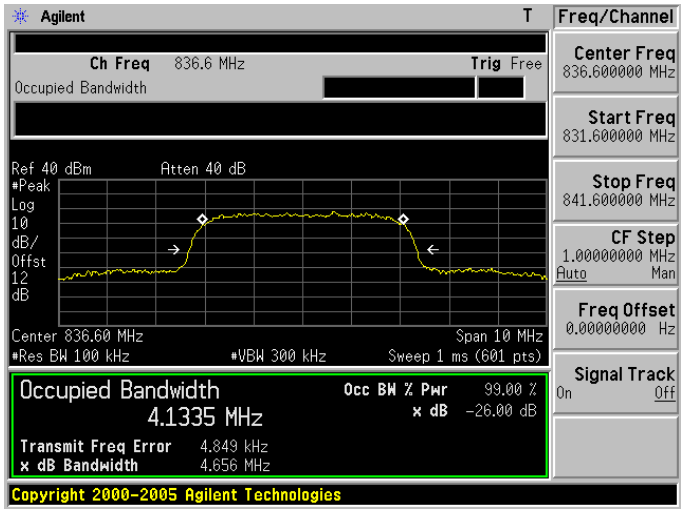
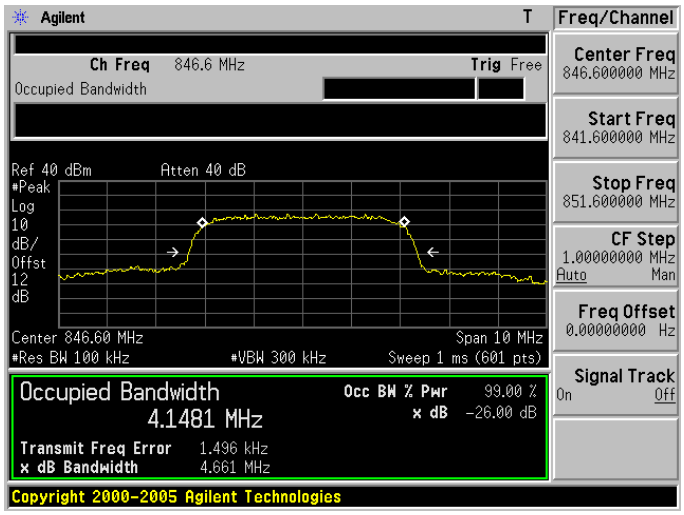
Mode 1: GSM 850 Link Mode	
824.2 MHz	
836.6 MHz	
848.8 MHz	

Mode 2: GSM 1900 Link Mode	
1850.20 MHz	
1880.00 MHz	
1909.80 MHz	

Mode 3: EGPRS 850 Link Mode	
824.2 MHz	
836.6 MHz	
848.8 MHz	

Mode 4: EGPRS 1900 Link Mode	
1850.20 MHz	
1880.00 MHz	
1909.80 MHz	

Mode 5: WCDMA Band II Link Mode	
1850.20 MHz	
1880.00 MHz	
1909.80 MHz	

Mode 6: WCDMA Band V Link Mode	
826.4 MHz	
836.6 MHz	
846.6 MHz	

5 Band Edge Test

5.1. Limit

The Band Edge Limit:

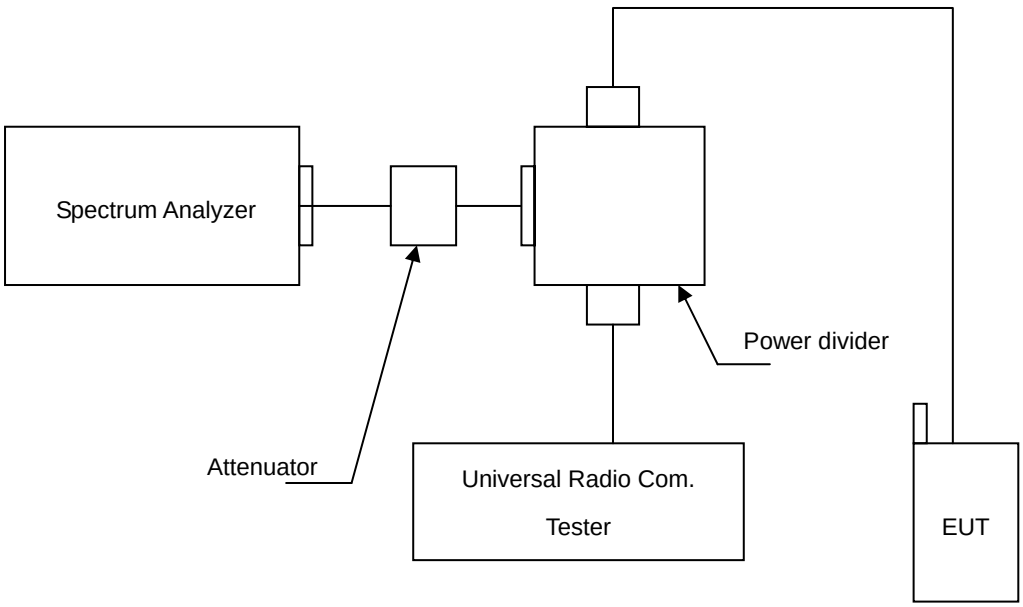
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

5.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	R & S	CMU200	109369	08/07/2012	(2)
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/10/2012	(1)
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



5.4. Test Procedure

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

3. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
4. 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.
5. 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.

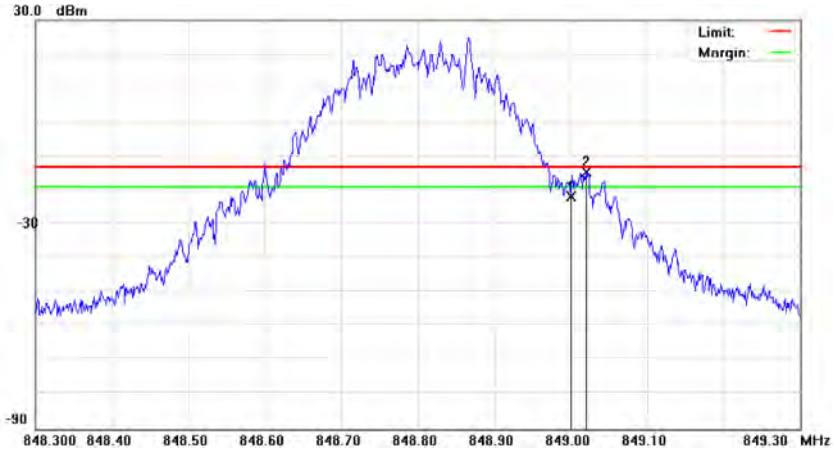
5.5. Uncertainty

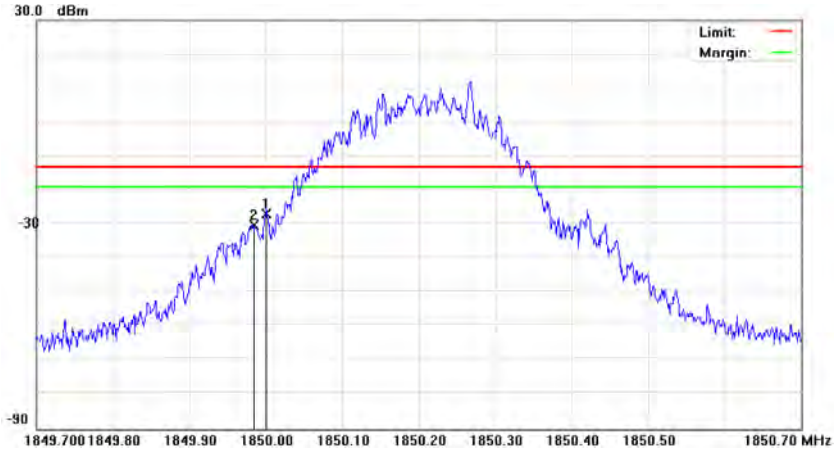
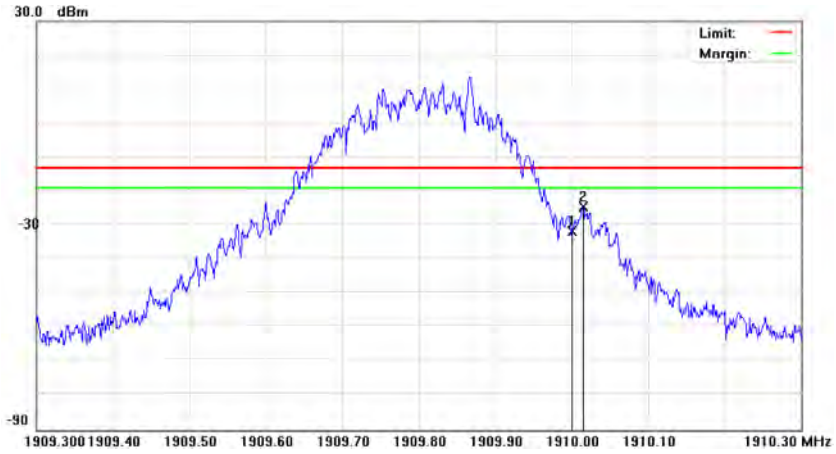
The measurement uncertainty is defined as ± 10Hz

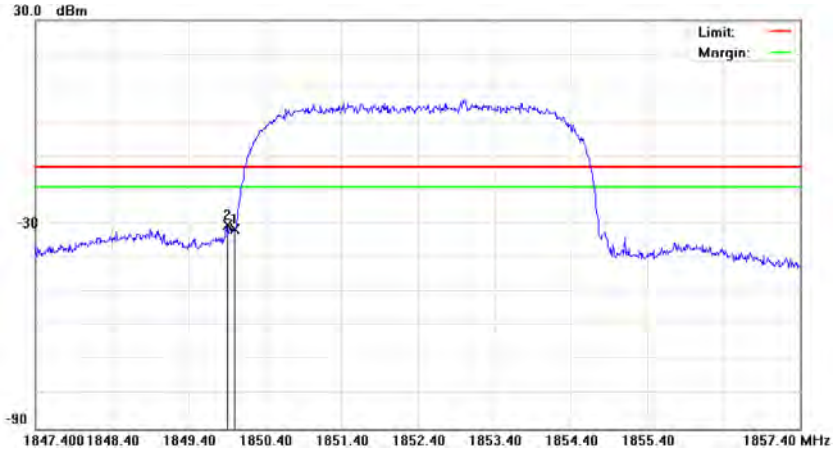
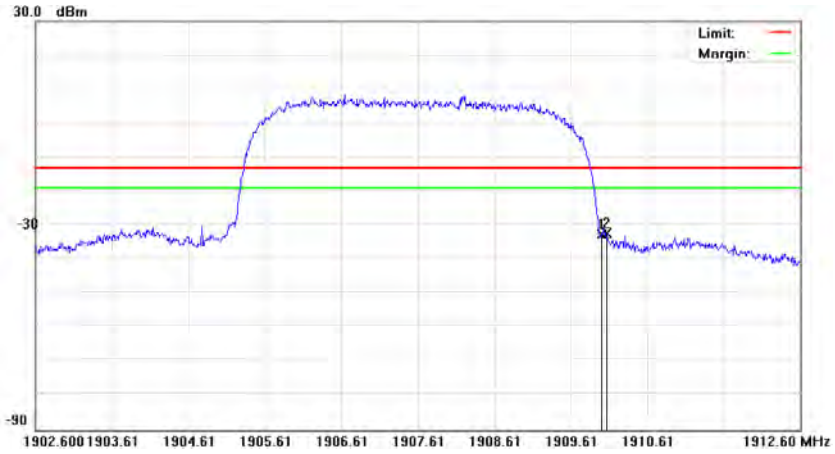
5.6. Test Result

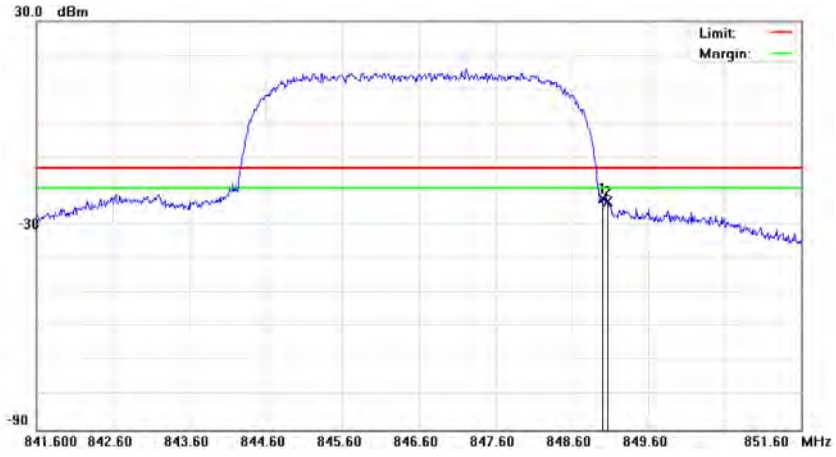
Model Number		HC864-AUTO				
Test Item		Band Edge				
Date of Test		11/16/2012			Test Site	TE05
Bands		Channel	Frequency (MHz)	Bandwidth (dBm)	Limit (dBm)	Result
GSM 850	Lower	128	824.0000	-16.28	-13	Pass
	Higher	251	849.0000	-14.66	-13	Pass
GSM 1900	Lower	512	1850.000	-26.79	-13	Pass
	Higher	810	1910.000	-24.31	-13	Pass
WCDMA Band II	Lower	9262	1850.000	-30.30	-13	Pass
	Higher	9538	1910.000	-32.12	-13	Pass
WCDMA Band V	Lower	4132	824.0000	-20.99	-13	Pass
	Higher	4233	849.0000	-22.01	-13	Pass

5.7. Test Graphs

Mode 1: GSM 850 Link Mode	
Lower Band	
Higher Band	

Mode 2: GSM 1900 Link Mode	
Lower Band	
Higher Band	

Mode 5: WCDMA Band II Link Mode	
Lower Band	
Higher Band	

Mode 6: WCDMA Band V Link Mode	
Lower Band	
Higher Band	

6 Conducted Spurious Emission 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.

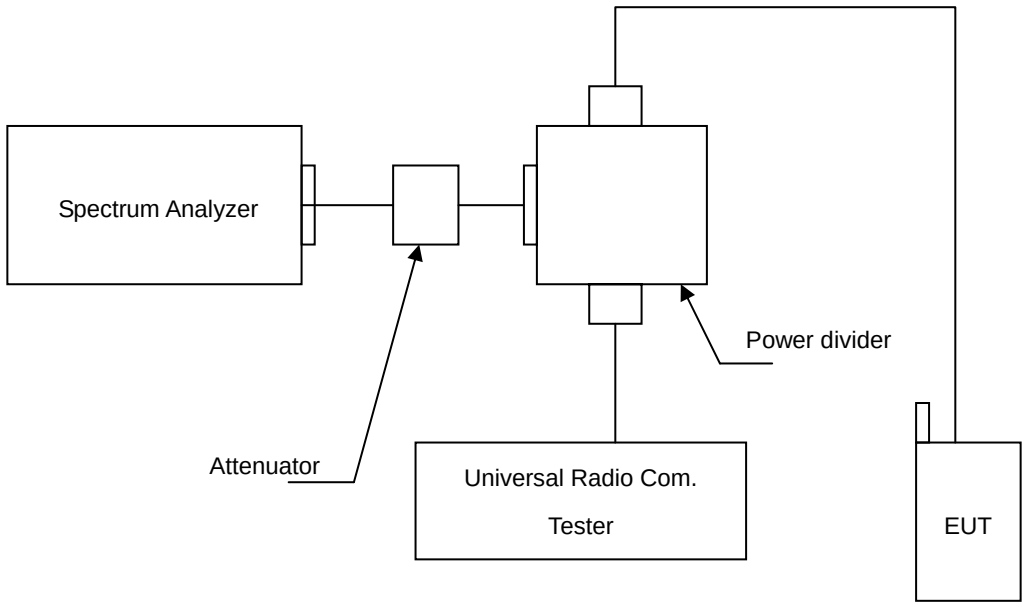
6.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	R & S	CMU200	109369	08/07/2012	(2)
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/10/2012	(1)
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

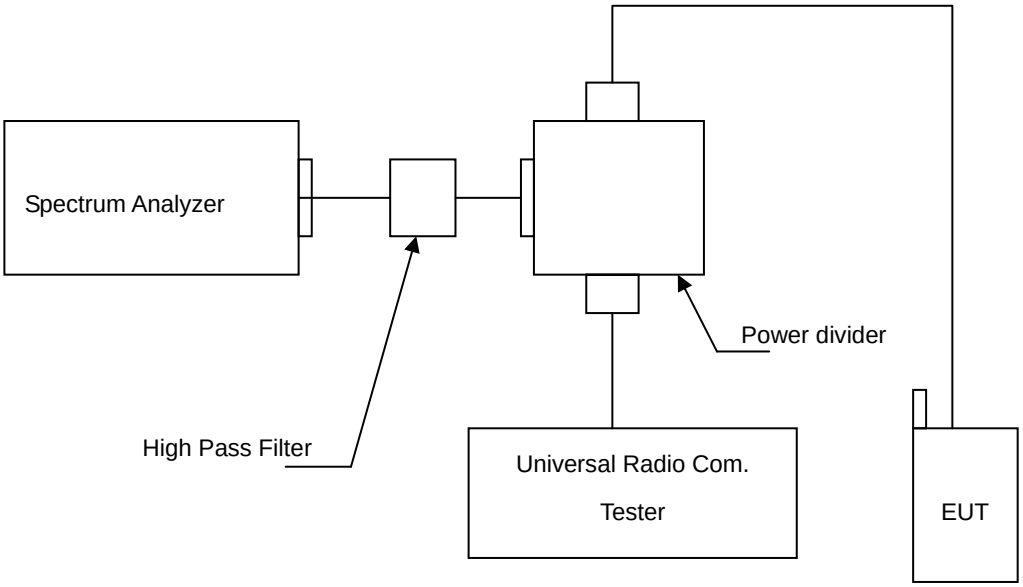
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

6.3. Setup

Below 2.8GHz



Above 2.8GHz



6.4. Test Procedure

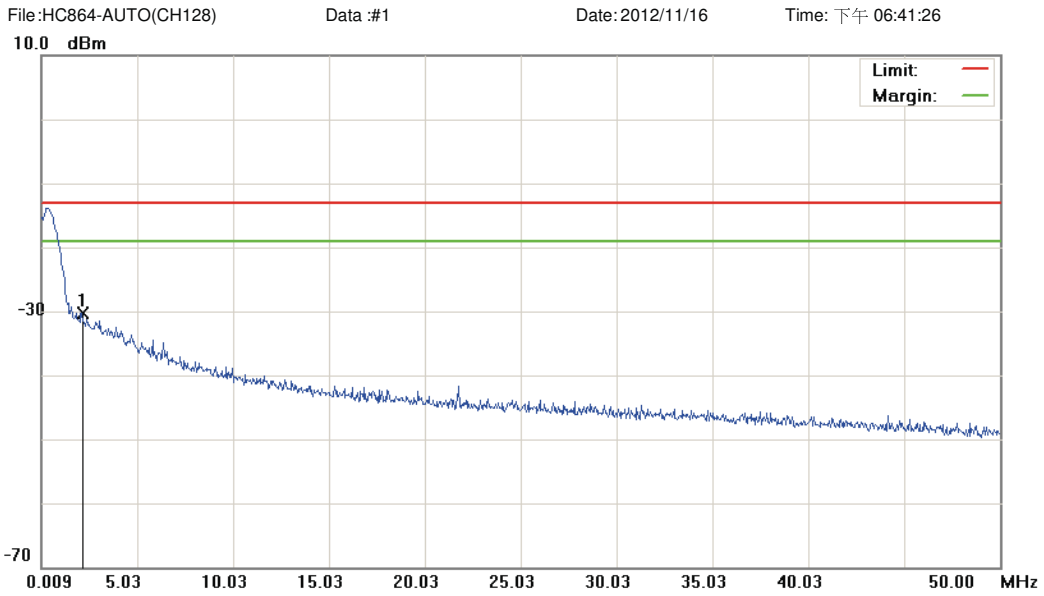
1. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.
4. Test setting at GSM 850 RB>100 kHz, VB>100 kHz; PCS 1900 RB>1MHz, VB>1MHz.

6.5. Uncertainty

The measurement uncertainty is evaluated as ± 2.24 dB.

6.6. Test Result

Model Number	HC864-AUTO		
Test Item	Conducted Spurious Emission		
Test Mode	Mode 1 / Mode 2 / Mode 4 / Mode 5		
Date of Test	11/16/2012	Test Site	TE05



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 850
Note: CH Low

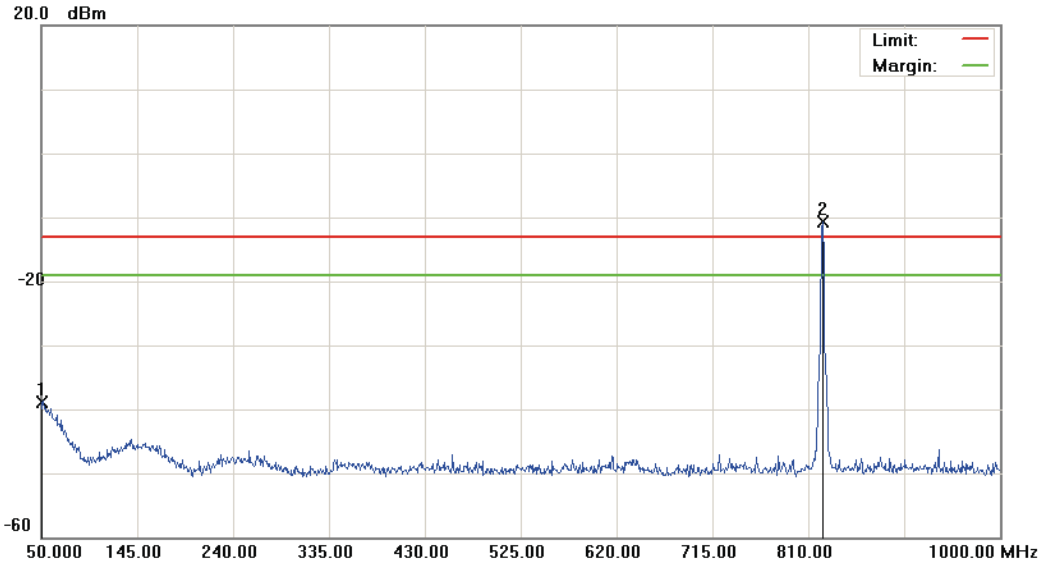
Polarization: Conducted po
Power: DC 3.8V
Distance:

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	*	2.1335	-61.68	31.47	-30.21	-13.00	-17.21	peak			

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

File:HC864-AUTO(CH128) Data :#2 Date: 2012/11/16 Time: 下午 06:41:50



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 850
Note: CH Low

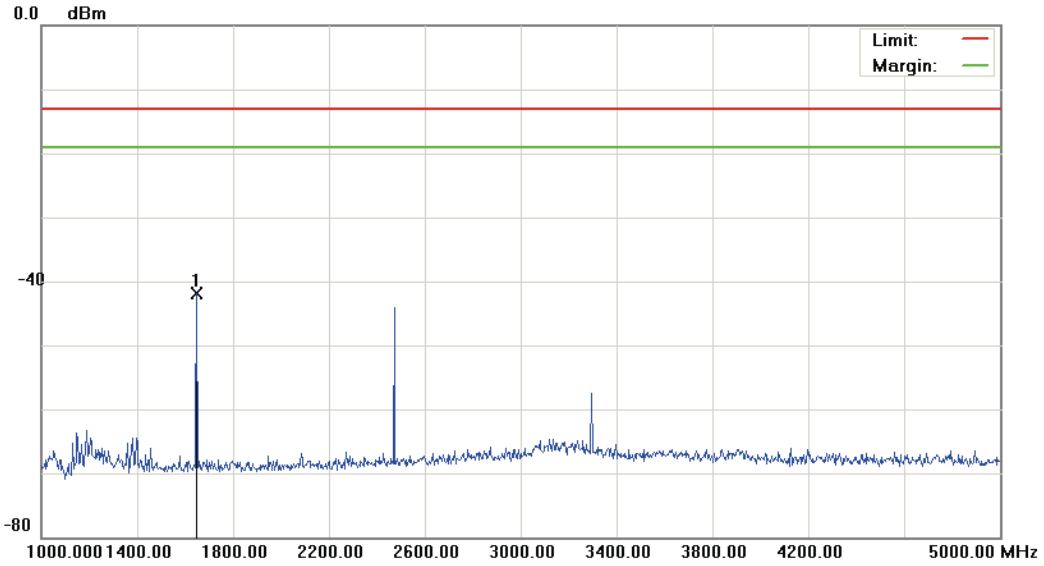
Polarization: Conducted po
Power: DC 3.8V
Distance:

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		50.0000	-53.66	14.69	-38.97	-13.00	-25.97	peak			
2	*	824.2500	-14.56	3.84	-10.72	-13.00	2.28	peak			Tx

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

File:HC864-AUTO(CH128) Data :#3 Date: 2012/11/16 Time: 下午 06:56:22



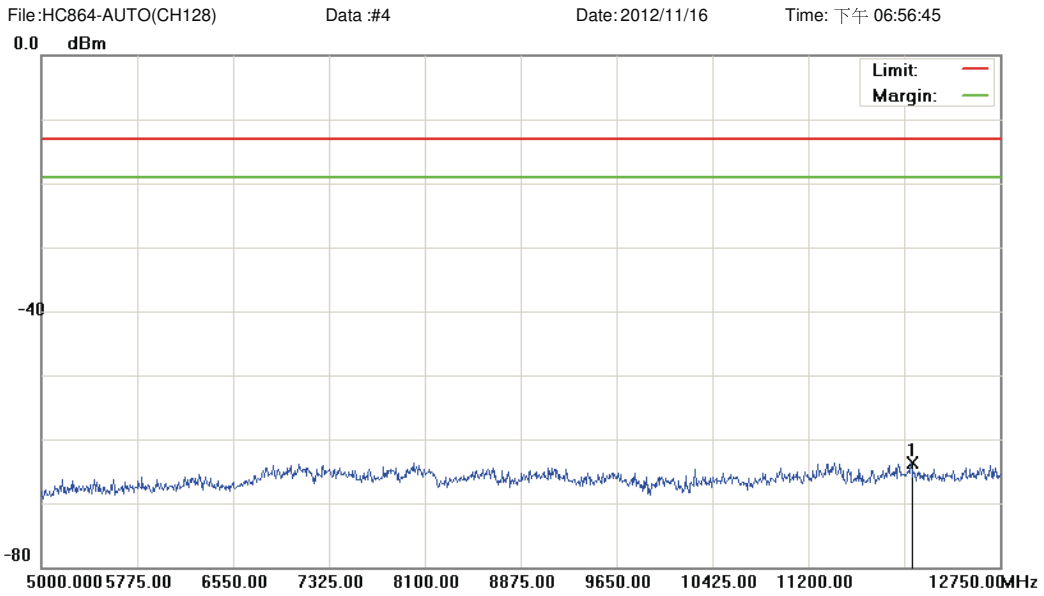
Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 850
Note: CH Low

Polarization: *Conducted po*
Power: DC 3.8V
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	*	1648.000	-46.41	4.45	-41.96	-13.00	-28.96	peak			

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



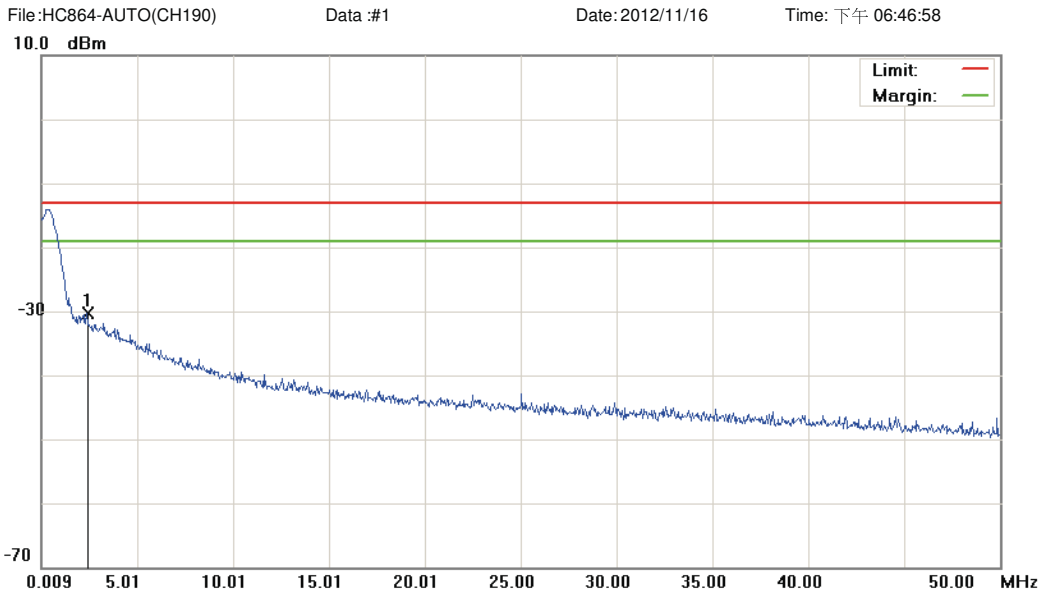
Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 850
Note: CH Low

Polarization: *Conducted po*
Power: DC 3.8V
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	*	12033.125	-68.70	5.09	-63.61	-13.00	-50.61	peak			

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



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 850
Note: CH Middle

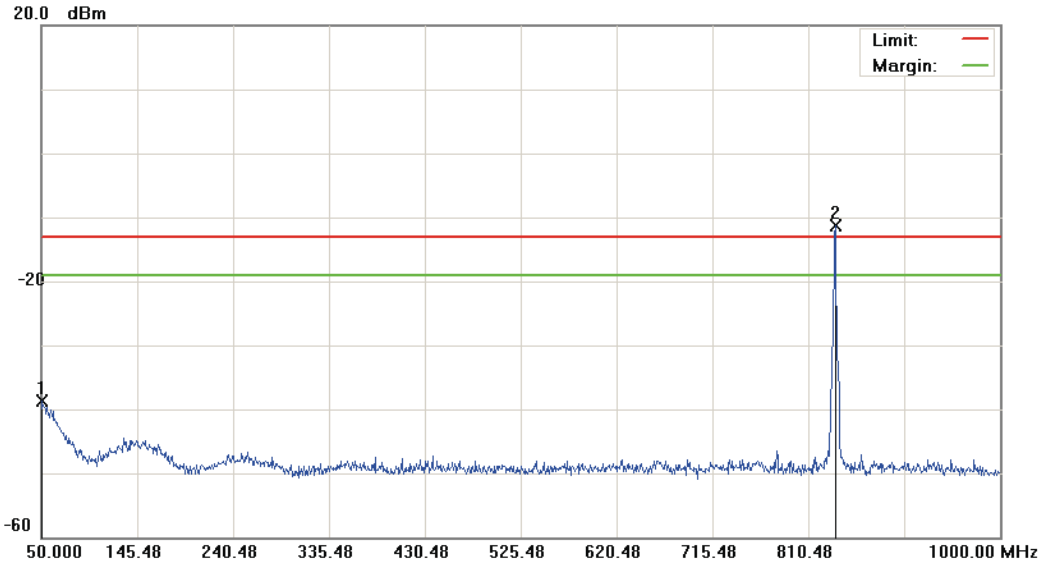
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	2.3835	-61.20	30.88	-30.32	-13.00	-17.32	peak			

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

File:HC864-AUTO(CH190) Data :#2 Date: 2012/11/16 Time: 下午 06:47:22

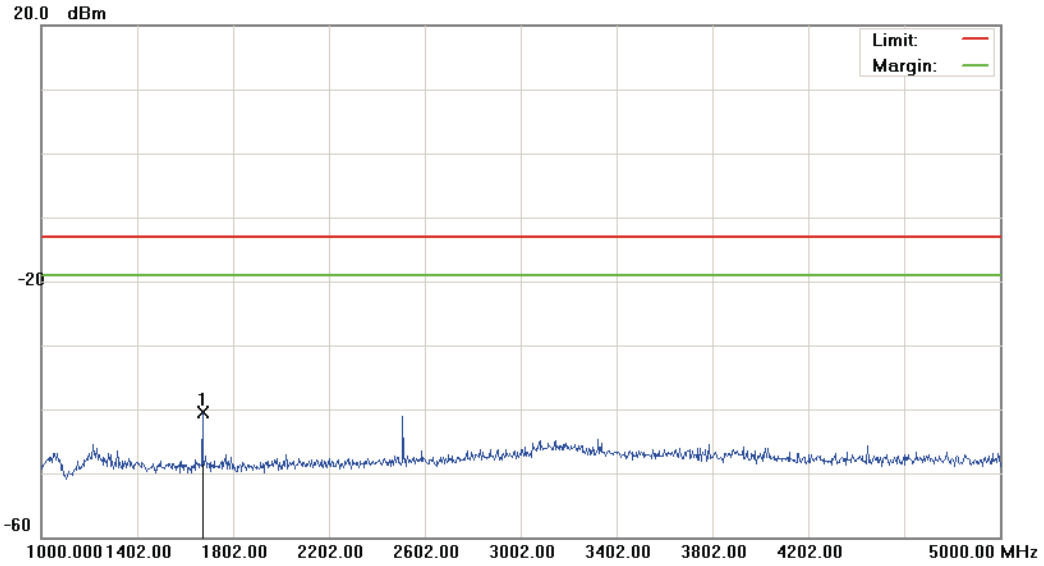


Site: : RF Conducted	Polarization: *Conducted po*	Temperature: 23 ℃
Limit: FCC Part 22 conducted(9k-12.75G)	Power: DC 3.8V	Humidity: 55.2 %
EUT: Wireless module	Distance:	RBW: 1000 KHz VBW: 1000 KHz
M/N: HC864-AUTO		
Mode: GSM 850		
Note: CH Middle		

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		50.4750	-53.29	14.61	-38.68	-13.00	-25.68	peak			
2	*	836.6000	-15.32	3.96	-11.36	-13.00	1.64	peak			Tx

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

File:HC864-AUTO(CH190) Data :#3 Date: 2012/11/16 Time: 下午 06:57:22

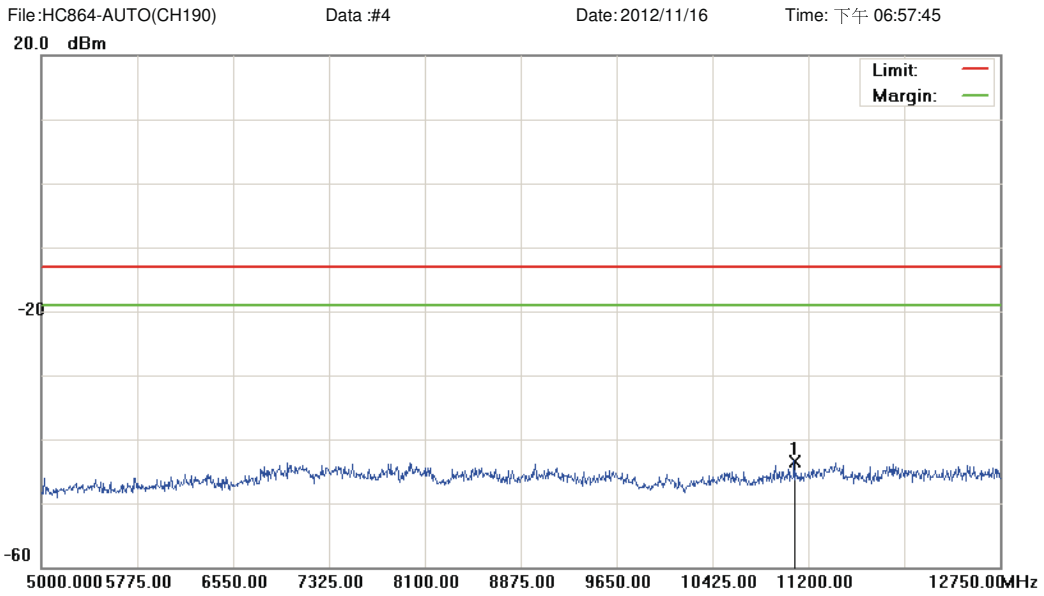


Site:	: RF Conducted	Polarization:	*Conducted po*
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V
EUT:	Wireless module	Distance:	
M/N:	HC864-AUTO		
Mode:	GSM 850		
Note:	CH Middle		

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	*	1674.000	-44.94	4.46	-40.48	-13.00	-27.48	peak			

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



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 850
Note: CH Middle

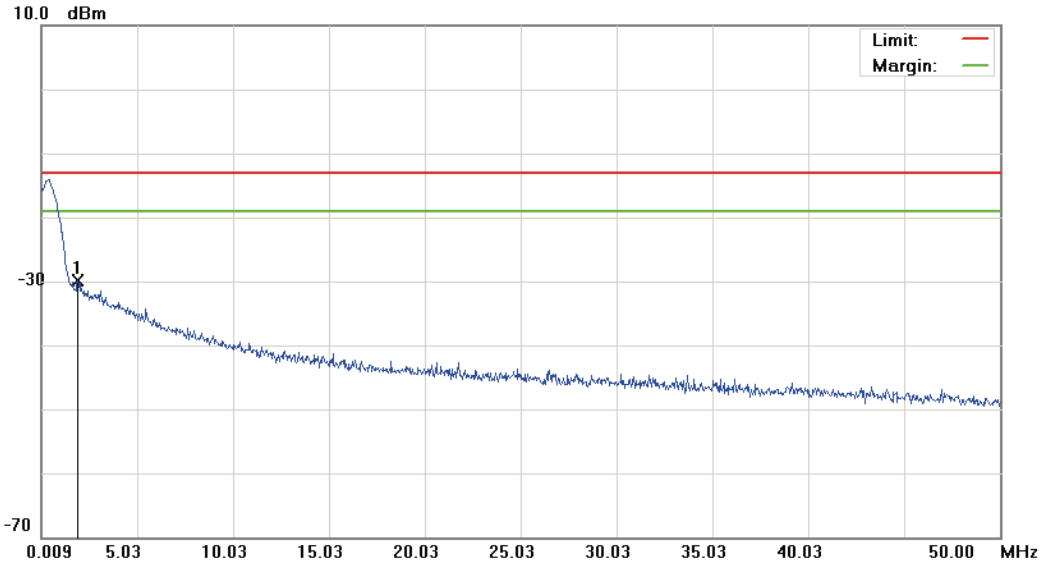
Polarization: Conducted po
Power: DC 3.8V
Distance:

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	*	11087.625	-48.54	5.14	-43.40	-13.00	-30.40	peak			

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

File:HC864-AUTO(CH251) Data :#1 Date: 2012/11/16 Time: 下午 06:52:20



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 850
Note: CH High

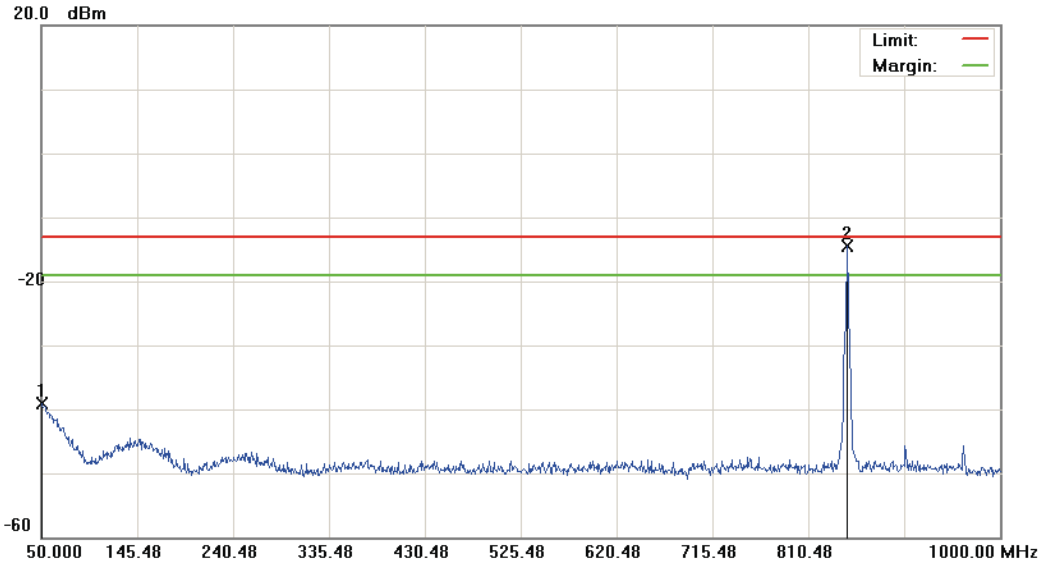
Polarization: Conducted po
Power: DC 3.8V
Distance:

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	*	1.9087	-61.14	31.20	-29.94	-13.00	-16.94	peak			

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

File:HC864-AUTO(CH251) Data :#2 Date: 2012/11/16 Time: 下午 06:52:44



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 850
Note: CH High

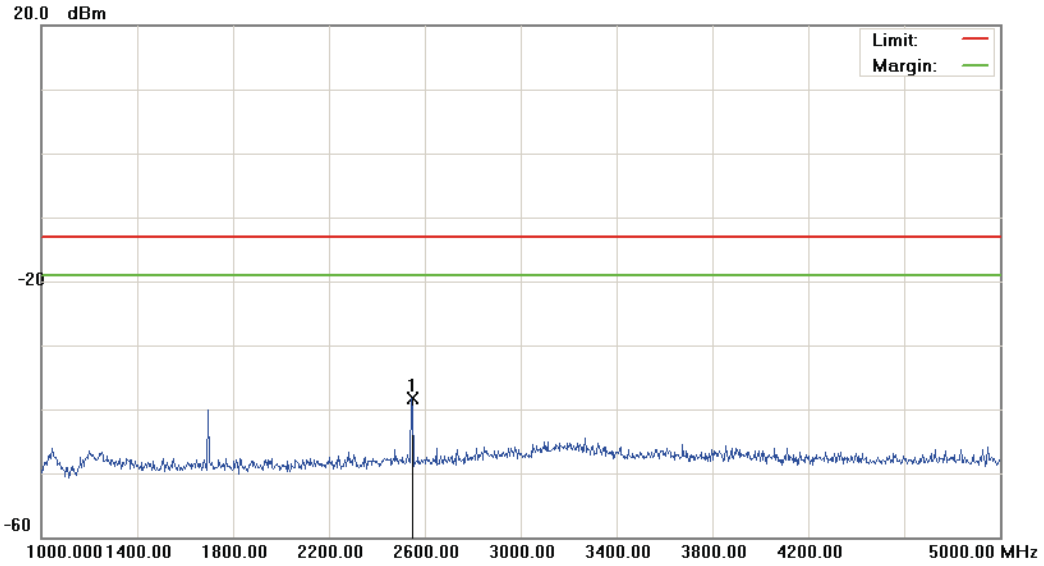
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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		50.4750	-53.79	14.61	-39.18	-13.00	-26.18	peak			
2	*	848.4750	-18.57	3.98	-14.59	-13.00	-1.59	peak			Tx

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

File:HC864-AUTO(CH251) Data :#3 Date: 2012/11/16 Time: 下午 06:58:40



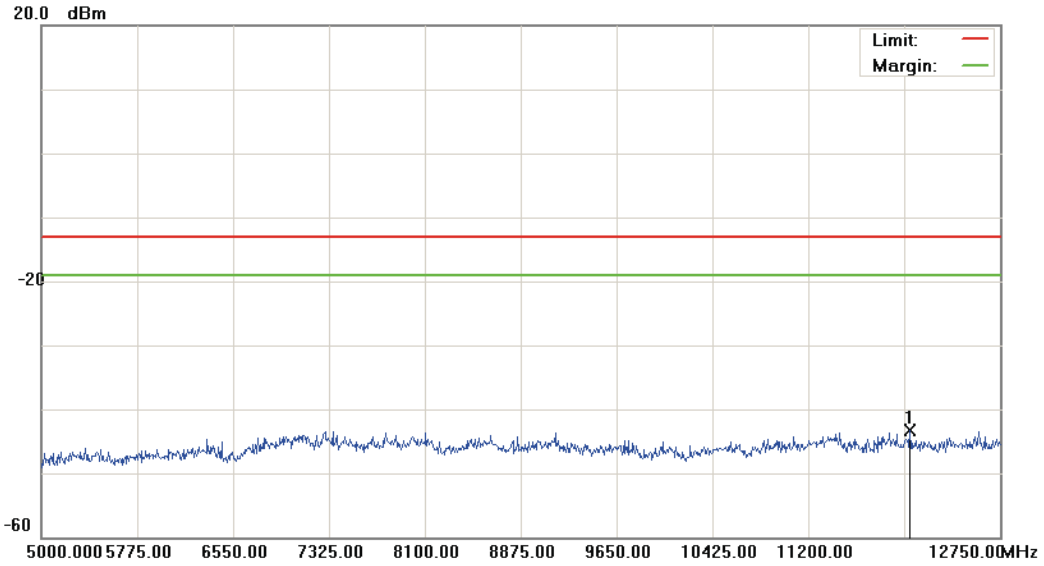
Site:	: RF Conducted	Polarization:	*Conducted po*
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V
EUT:	Wireless module	Distance:	
M/N:	HC864-AUTO		
Mode:	GSM 850		
Note:	CH High		

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	*	2546.000	-42.68	4.45	-38.23	-13.00	-25.23	peak			

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

File:HC864-AUTO(CH251) Data :#4 Date: 2012/11/16 Time: 下午 06:59:03



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 850
Note: CH High

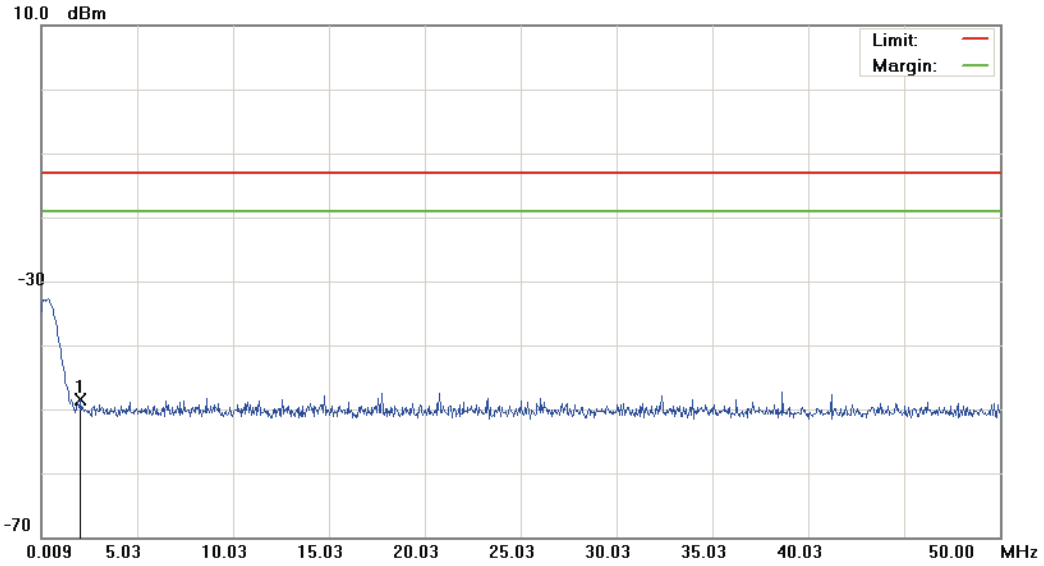
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	12021.500	-48.47	5.21	-43.26	-13.00	-30.26	peak			

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

File:HC864-AUTO(CH512) Data :#1 Date: 2012/11/16 Time: 下午 05:09:48



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH Low

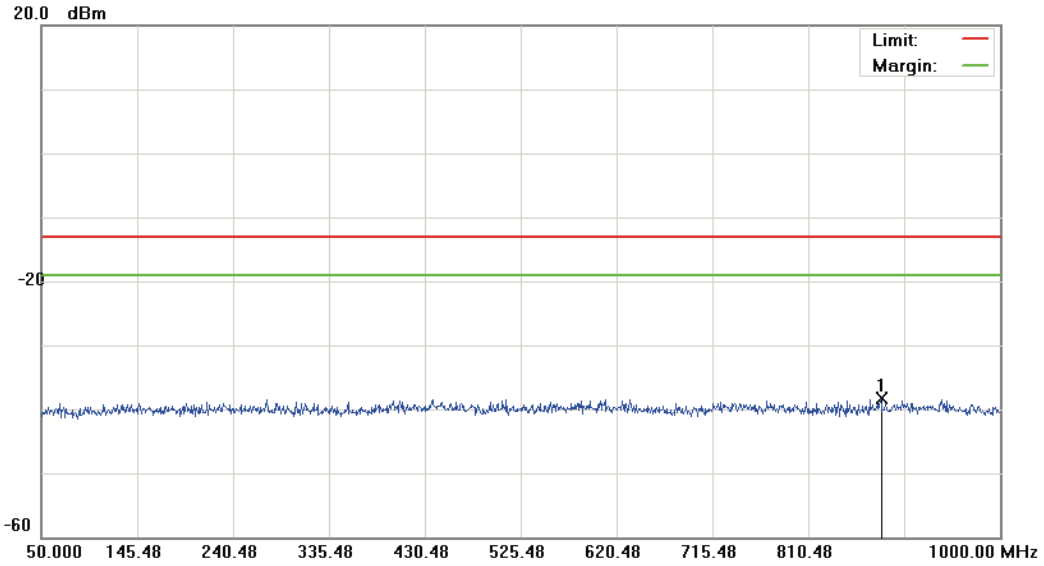
Polarization: Conducted po
Power: DC 3.8V
Distance:

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	-61.65	13.18	-48.47	-13.00	-35.47	peak			

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

File:HC864-AUTO(CH512) Data :#2 Date: 2012/11/16 Time: 下午 05:10:12



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH Low

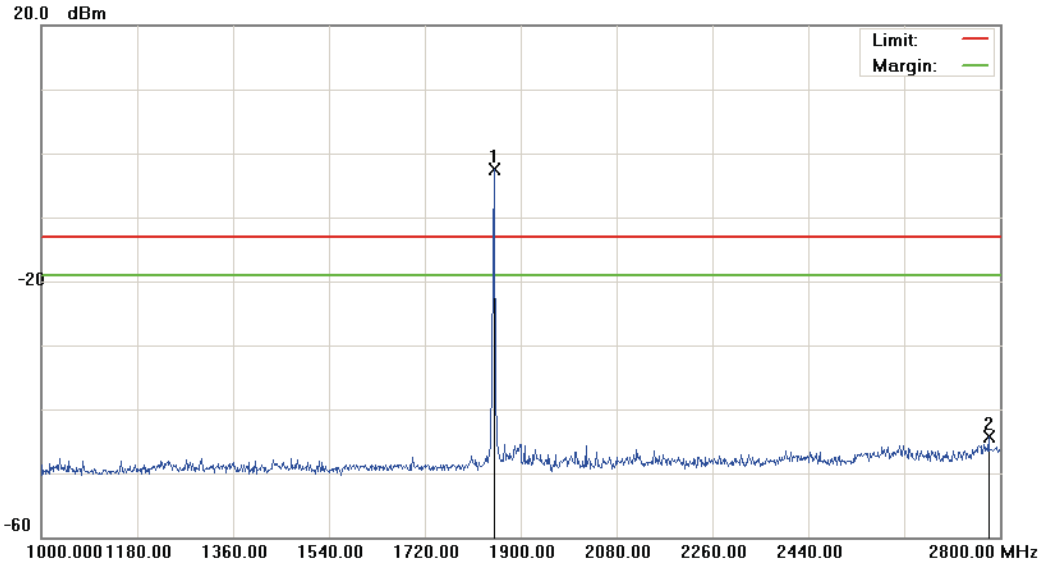
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	881.7250	-51.58	13.20	-38.38	-13.00	-25.38	peak			

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

File:HC864-AUTO(CH512) Data :#3 Date: 2012/11/16 Time: 下午 07:19:04

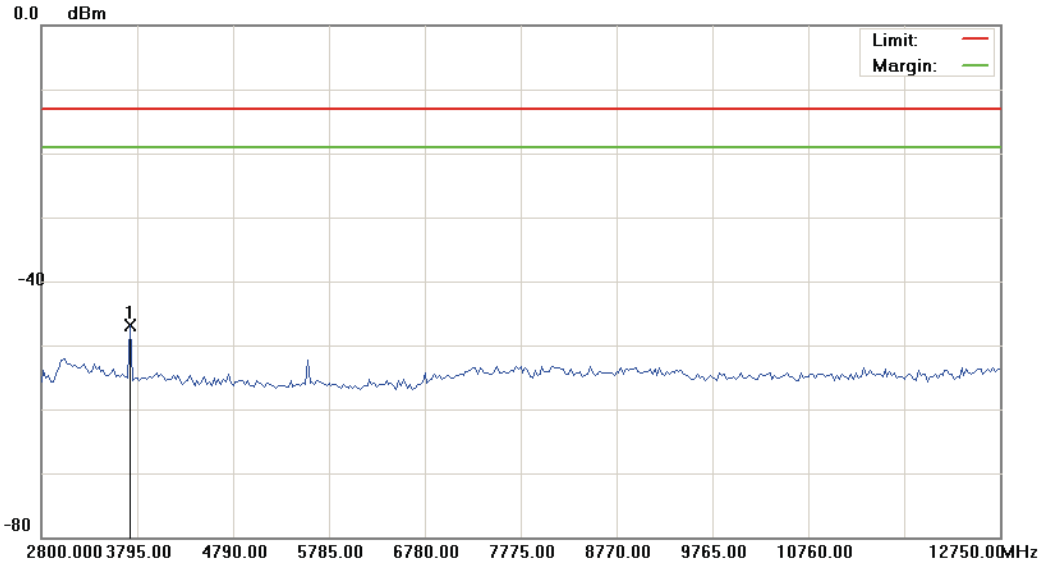


Site:	: RF Conducted	Polarization:	*Conducted po*
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V
EUT:	Wireless module	Distance:	
M/N:	HC864-AUTO		
Mode:	GSM 1900		
Note:	CH Low		

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	*	1850.500	-6.67	4.26	-2.41	-13.00	10.59	peak			Tx
2		2779.300	-50.18	5.87	-44.31	-13.00	-31.31	peak			

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

File:HC864-AUTO(CH512) Data :#4 Date: 2012/11/16 Time: 下午 07:29:57



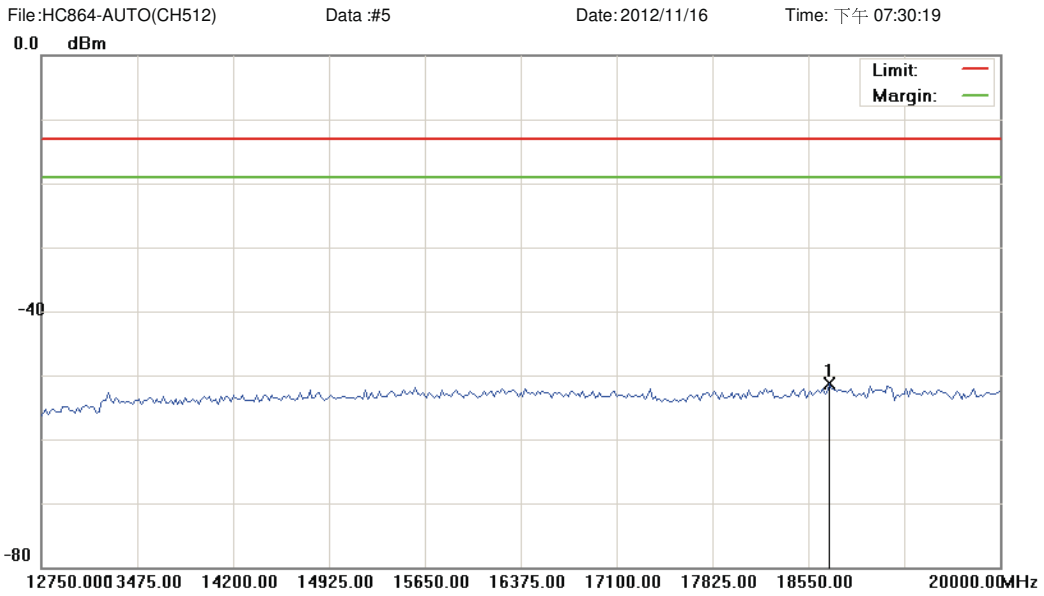
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH Low

Polarization: *Conducted po*
Power: DC 3.8V
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	-51.68	4.88	-46.80	-13.00	-33.80	peak			

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



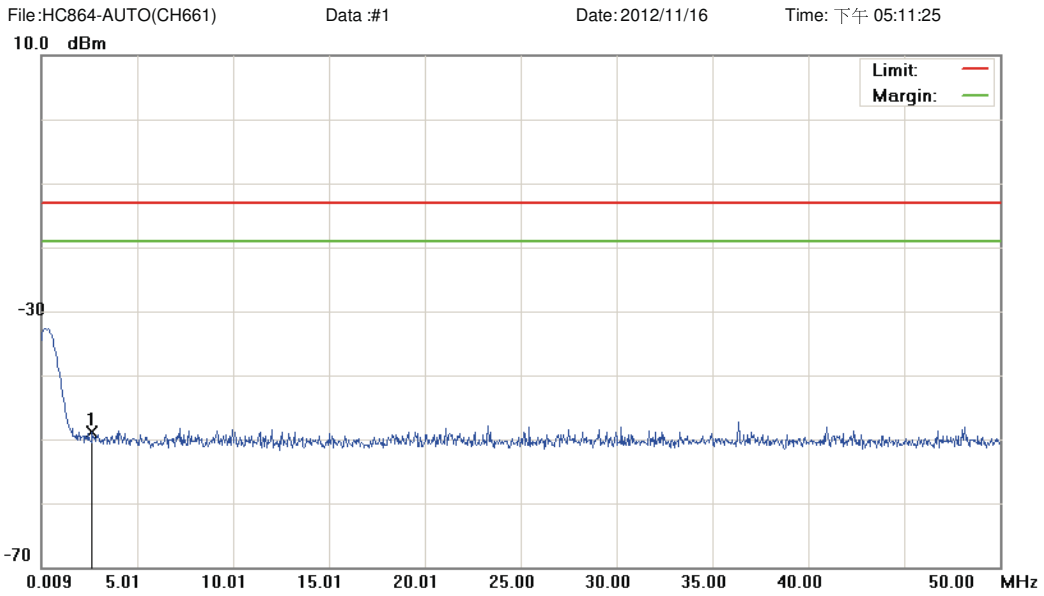
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH Low

Polarization: Conducted po
Power: DC 3.8V
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	*	18713.125	-58.42	7.07	-51.35	-13.00	-38.35	peak			

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



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH Middle

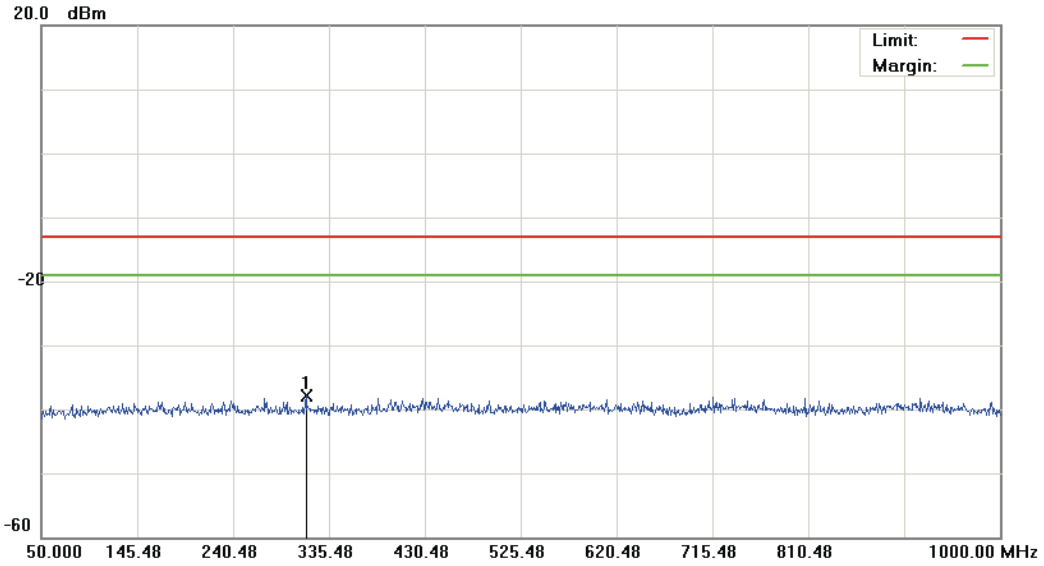
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	2.6585	-61.79	12.80	-48.99	-13.00	-35.99	peak			

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

File:HC864-AUTO(CH661) Data :#2 Date: 2012/11/16 Time: 下午 05:11:49



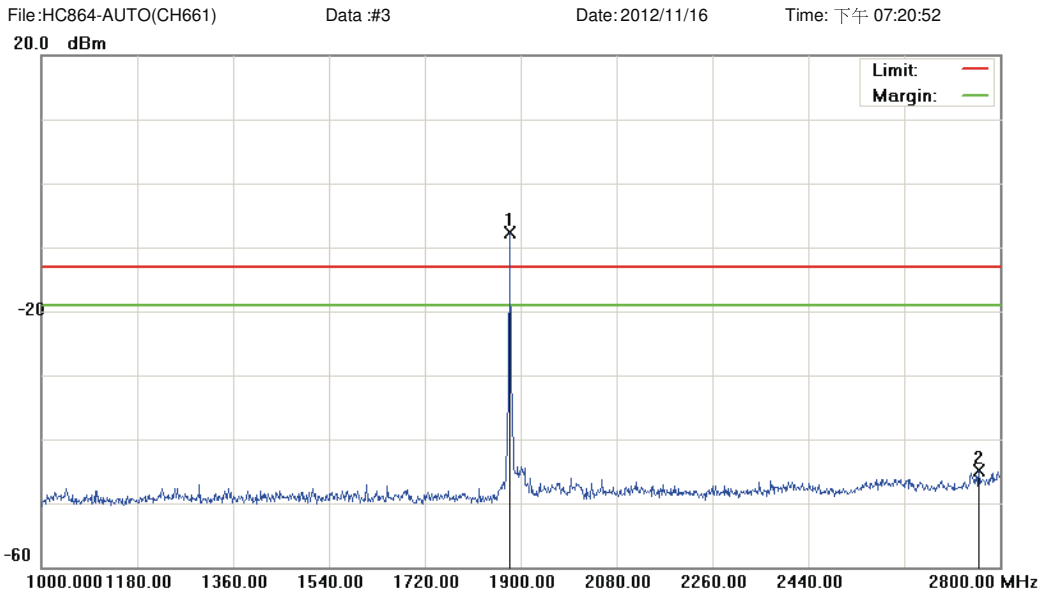
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH Middle

Polarization: *Conducted po*
Power: DC 3.8V
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	*	312.2000	-51.15	13.22	-37.93	-13.00	-24.93	peak			

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



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH Middle

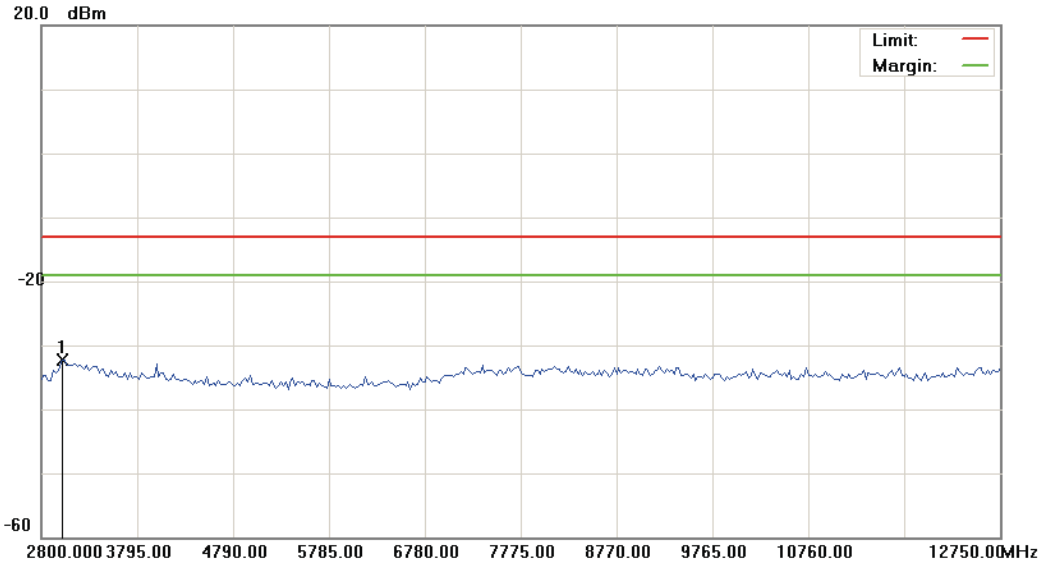
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	1880.200	-12.44	4.65	-7.79	-13.00	5.21	peak			Tx
2		2760.400	-50.48	5.61	-44.87	-13.00	-31.87	peak			

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

File:HC864-AUTO(CH661) Data :#4 Date: 2012/11/16 Time: 下午 07:31:02



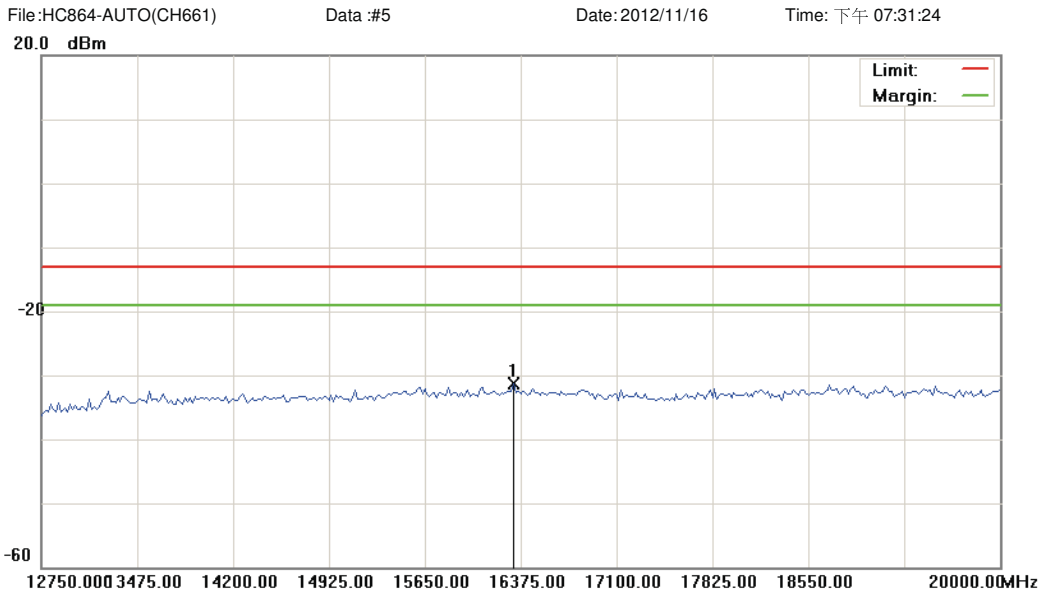
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH Middle

Polarization: *Conducted po*
Power: DC 3.8V
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	-37.83	5.48	-32.35	-13.00	-19.35	peak			

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



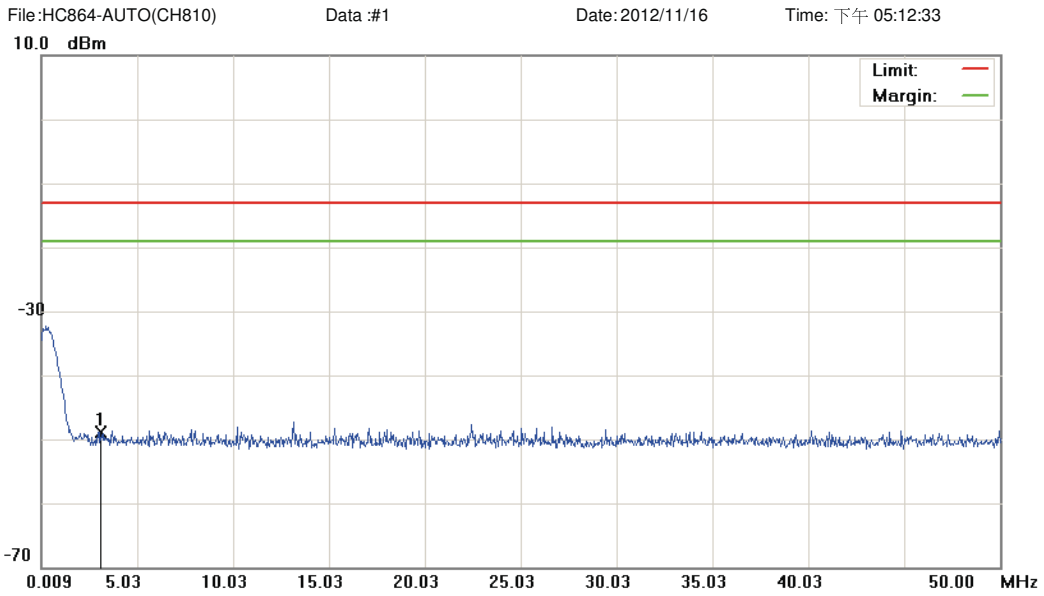
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH Middle

Polarization: Conducted po
Power: DC 3.8V
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	*	16320.625	-37.73	6.39	-31.34	-13.00	-18.34	peak			

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



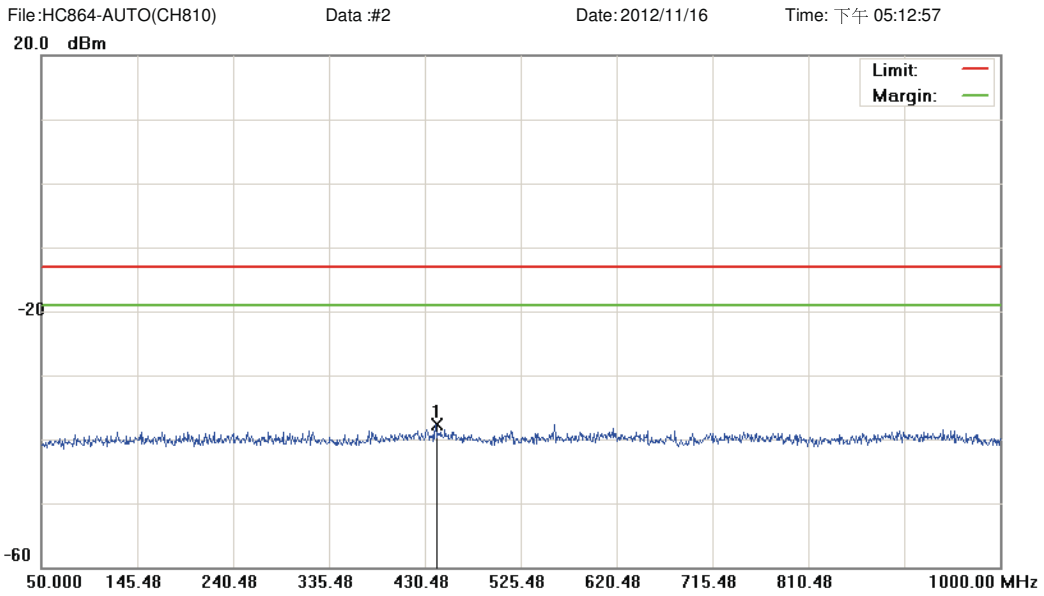
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH High

Polarization: Conducted po
Power: DC 3.8V
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	*	3.0834	-61.82	13.01	-48.81	-13.00	-35.81	peak			

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



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH High

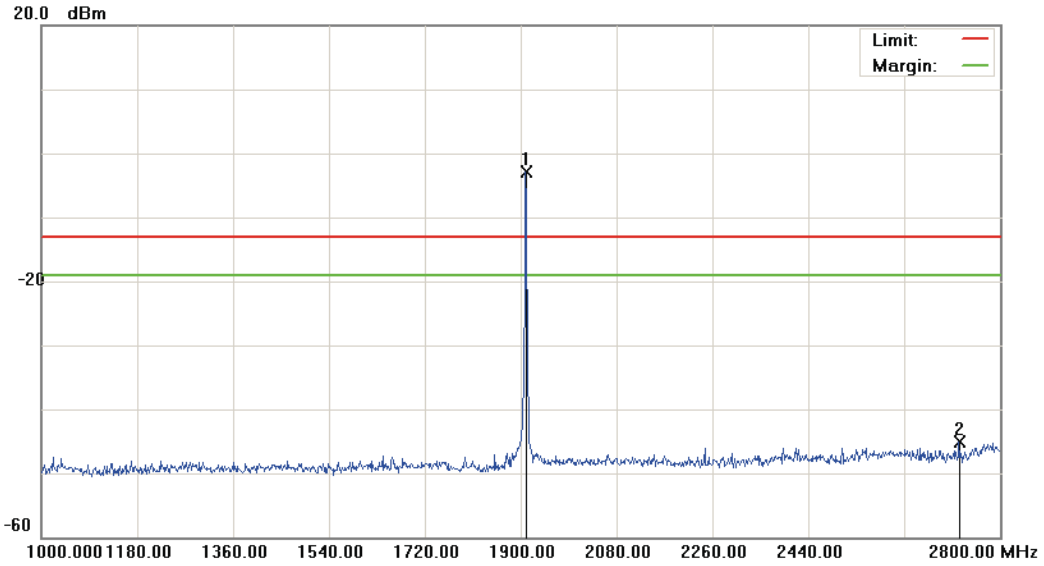
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	-50.83	13.20	-37.63	-13.00	-24.63	peak			

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

File:HC864-AUTO(CH810) Data :#3 Date: 2012/11/16 Time: 下午 07:23:33

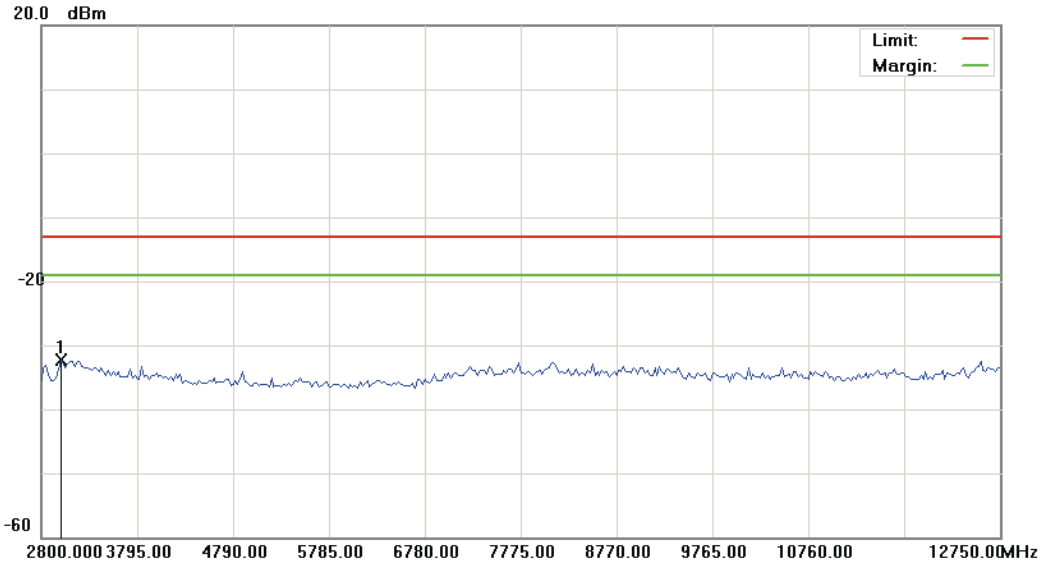


Site: : RF Conducted	Polarization: *Conducted po*	Temperature: 23 ℃
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 3.8V	Humidity: 55.2 %
EUT: Wireless module	Distance:	RBW: 1000 KHz VBW: 1000 KHz
M/N: HC864-AUTO		
Mode: GSM 1900		
Note: CH High		

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	*	1909.900	-8.67	5.71	-2.96	-13.00	10.04	peak			Tx
2		2723.500	-49.82	4.80	-45.02	-13.00	-32.02	peak			

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

File:HC864-AUTO(CH810) Data :#4 Date: 2012/11/16 Time: 下午 07:32:25



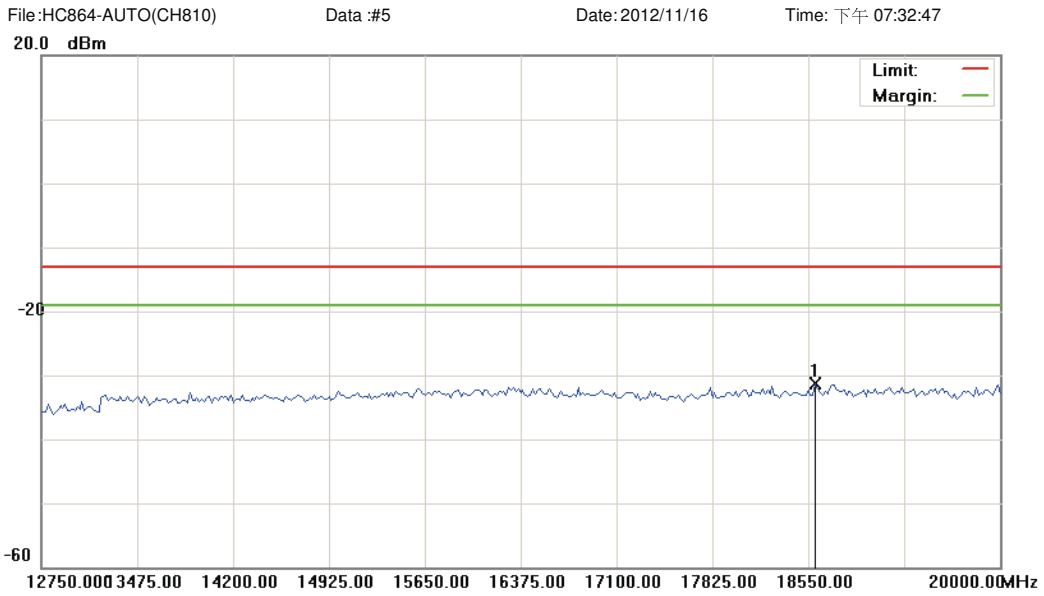
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH High

Polarization: *Conducted po*
Power: DC 3.8V
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	*	2999.000	-37.85	5.48	-32.37	-13.00	-19.37	peak			

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



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: GSM 1900
Note: CH High

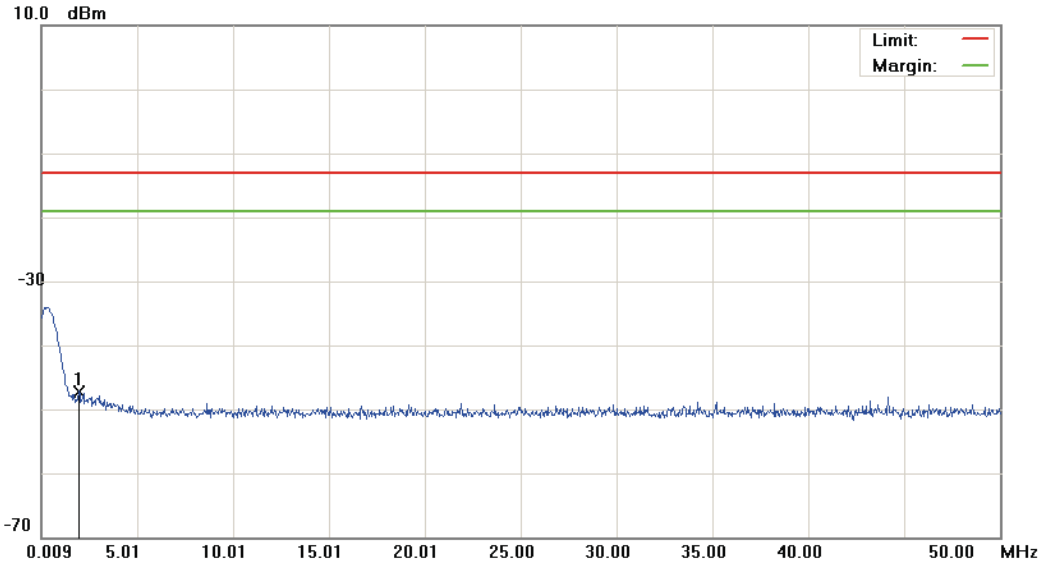
Polarization: Conducted po
Power: DC 3.8V
Distance:

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	*	18604.375	-38.41	7.04	-31.37	-13.00	-18.37	peak			

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

File:HC864-AUTO(CH9262) Data :#1 Date: 2012/11/16 Time: 下午 05:16:57



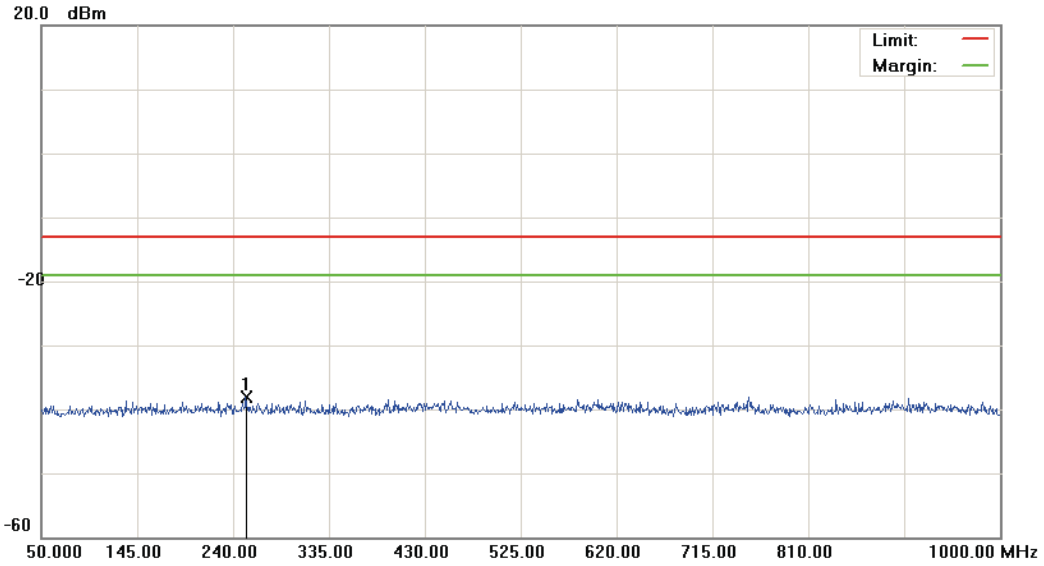
Site:	: RF Conducted	Polarization:	*Conducted po*
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V
EUT:	Wireless module	Distance:	
M/N:	HC864-AUTO		
Mode:	WCDMA Band II		
Note:	CH Low		

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	*	1.9585	-60.28	13.08	-47.20	-13.00	-34.20	peak			

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

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

File:HC864-AUTO(CH9262) Data :#2 Date: 2012/11/16 Time: 下午 05:17:21



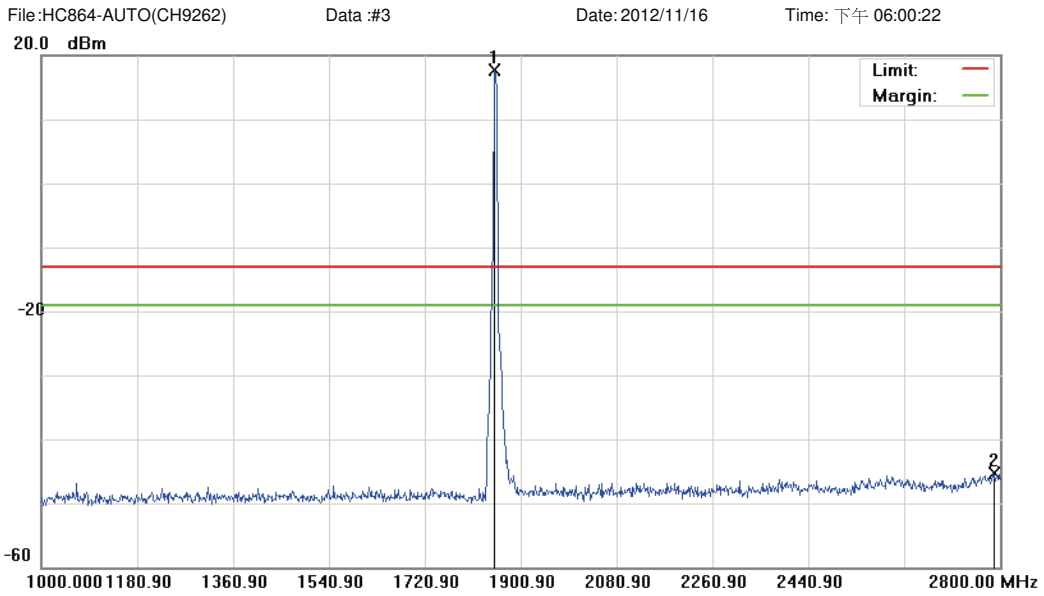
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH Low

Polarization: Conducted po
Power: DC 3.8V
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	*	252.8250	-51.38	13.28	-38.10	-13.00	-25.10	peak			

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



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH Low

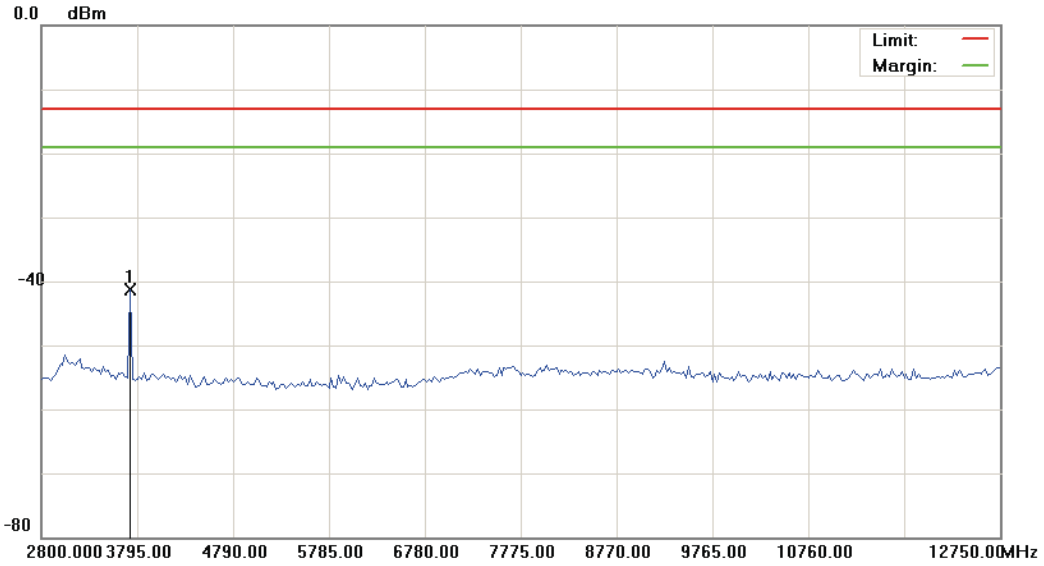
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	1851.400	13.54	4.26	17.80	-13.00	30.80	peak			Tx
2		2788.300	-51.14	5.89	-45.25	-13.00	-32.25	peak			

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

File:HC864-AUTO(CH9262) Data :#4 Date: 2012/11/16 Time: 下午 07:05:34



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH Low

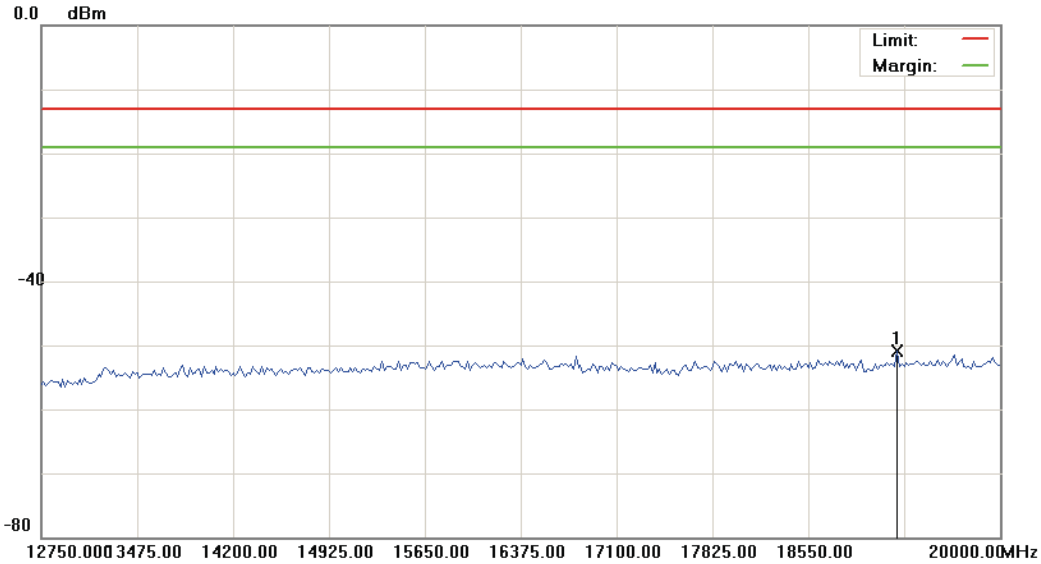
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	-46.16	4.88	-41.28	-13.00	-28.28	peak			

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

File:HC864-AUTO(CH9262) Data :#5 Date: 2012/11/16 Time: 下午 07:05:55



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH Low

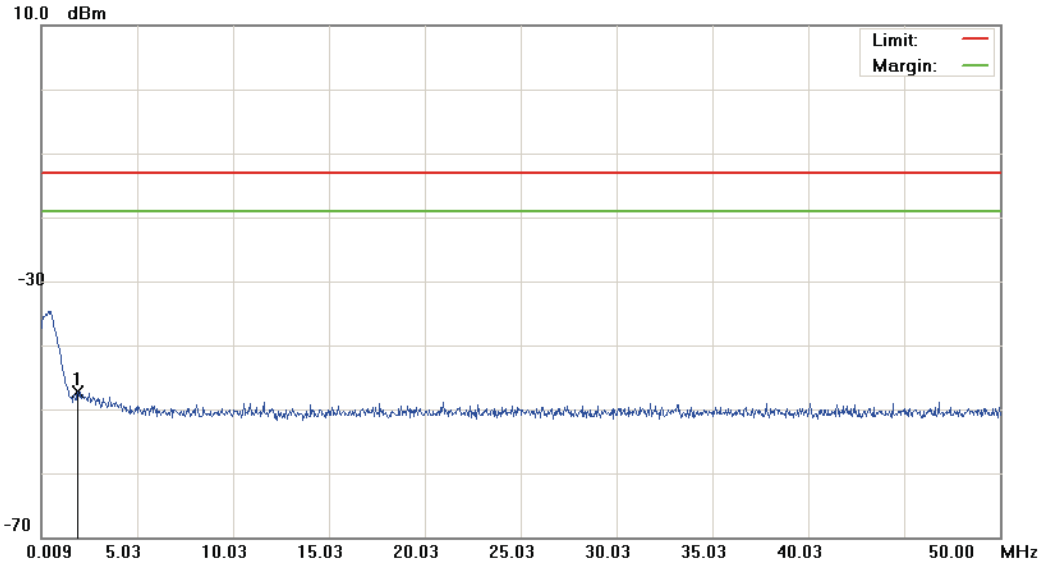
Polarization: Conducted po
Power: DC 3.8V
Distance:

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	*	19220.625	-58.07	7.22	-50.85	-13.00	-37.85	peak			

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

File:HC864-AUTO(CH9400) Data :#1 Date: 2012/11/16 Time: 下午 05:32:27

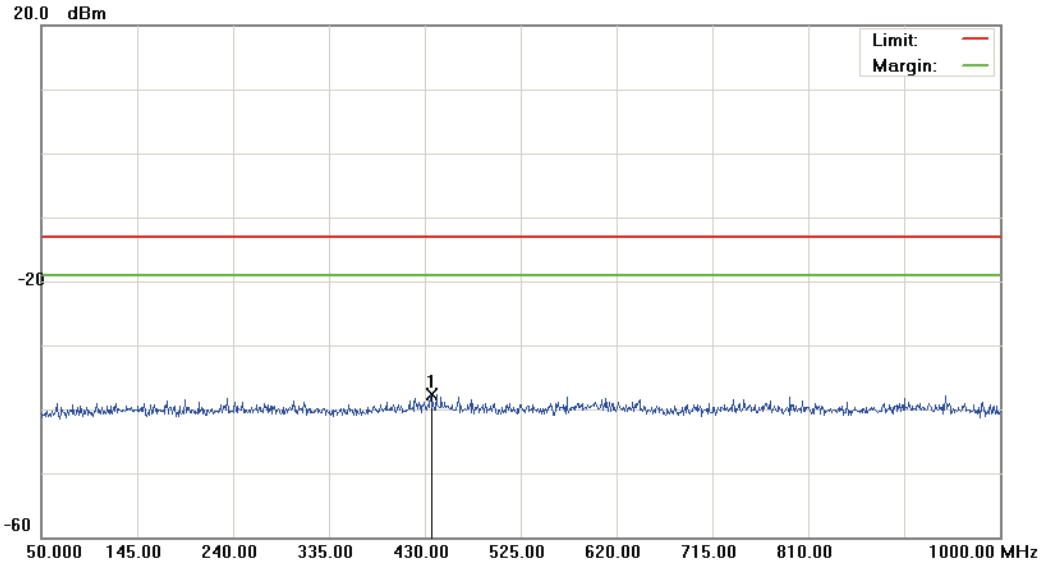


Site: : RF Conducted	Polarization: *Conducted po*	Temperature: 23 ℃
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 3.8V	Humidity: 55.2 %
EUT: Wireless module	Distance:	RBW: 1000 KHz VBW: 1000 KHz
M/N: HC864-AUTO		
Mode: WCDMA Band II		
Note: CH Middle		

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	*	1.9087	-60.18	12.95	-47.23	-13.00	-34.23	peak			

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

File:HC864-AUTO(CH9400) Data :#2 Date: 2012/11/16 Time: 下午 05:32:51



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH Middle

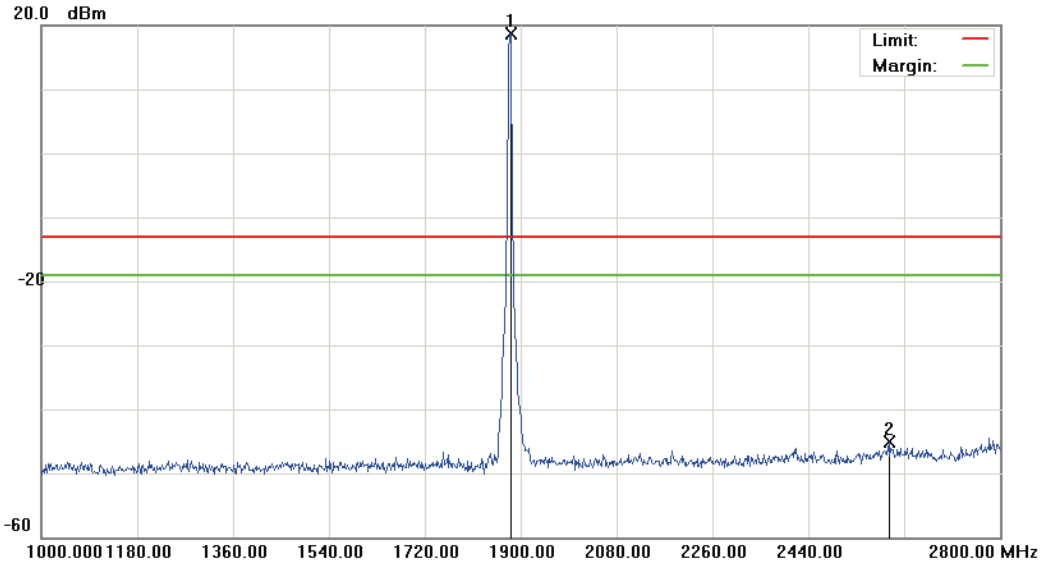
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	436.1750	-50.90	13.24	-37.66	-13.00	-24.66	peak			

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

File:HC864-AUTO(CH9400) Data :#3 Date: 2012/11/16 Time: 下午 06:01:42

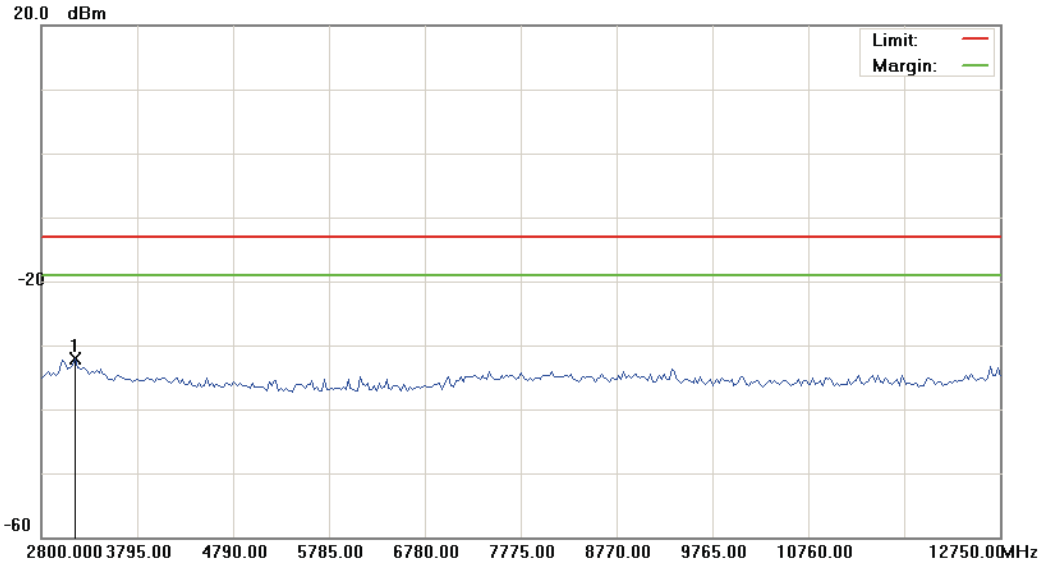


Site:	: RF Conducted	Polarization:	*Conducted po*
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V
EUT:	Wireless module	Distance:	
M/N:	HC864-AUTO		
Mode:	WCDMA Band II		
Note:	CH Middle		

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	13.84	4.83	18.67	-13.00	31.67	peak			Tx
2		2593.000	-50.52	5.42	-45.10	-13.00	-32.10	peak			

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

File:HC864-AUTO(CH9400) Data :#4 Date: 2012/11/16 Time: 下午 07:06:31



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH Middle

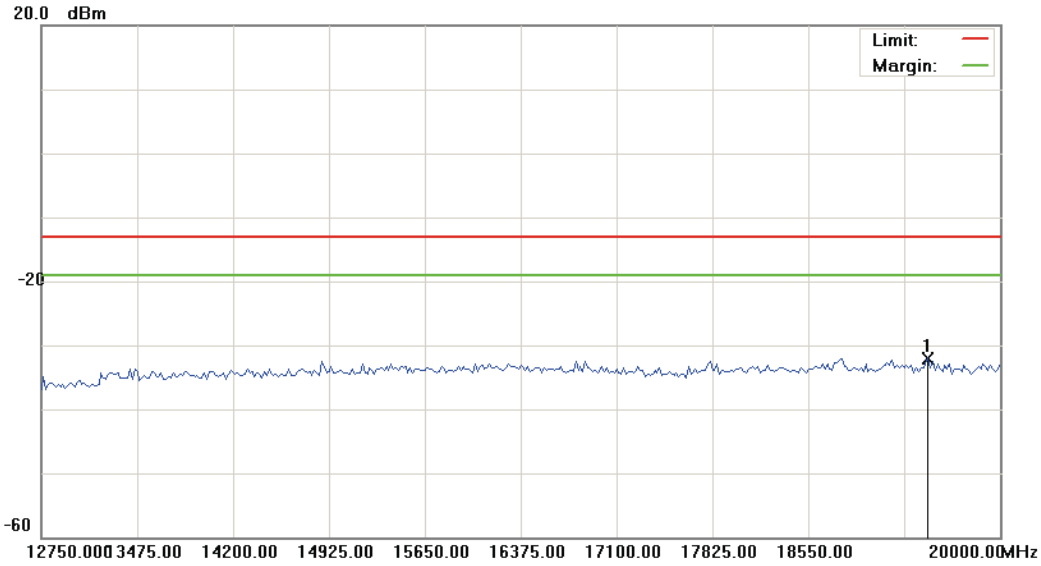
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	3148.250	-37.40	5.27	-32.13	-13.00	-19.13	peak			

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

File:HC864-AUTO(CH9400) Data :#5 Date: 2012/11/16 Time: 下午 07:06:53



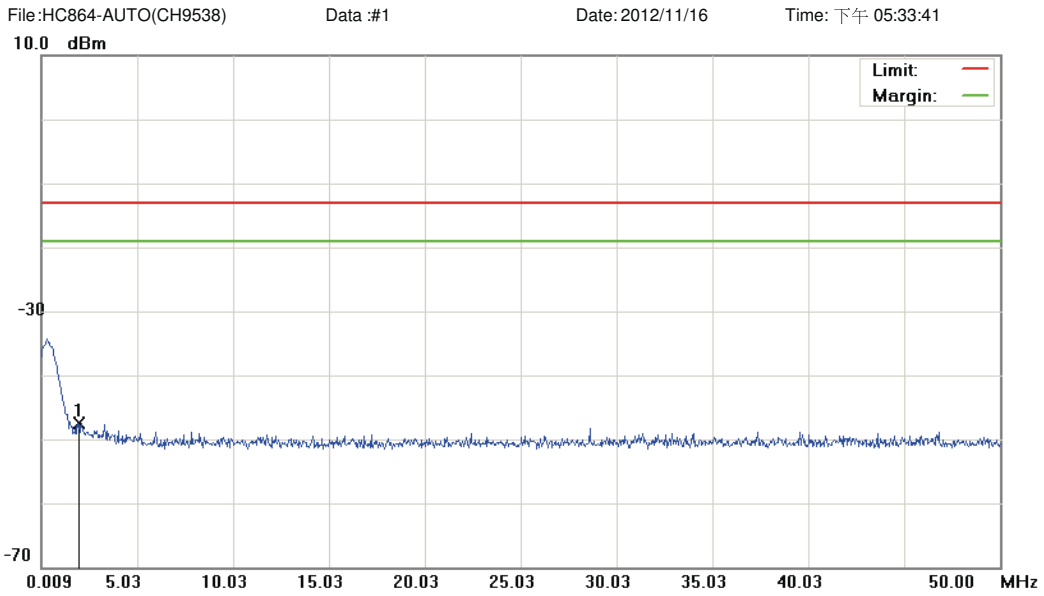
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH Middle

Polarization: *Conducted po*
Power: DC 3.8V
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	*	19456.250	-39.28	7.28	-32.00	-13.00	-19.00	peak			

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



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH High

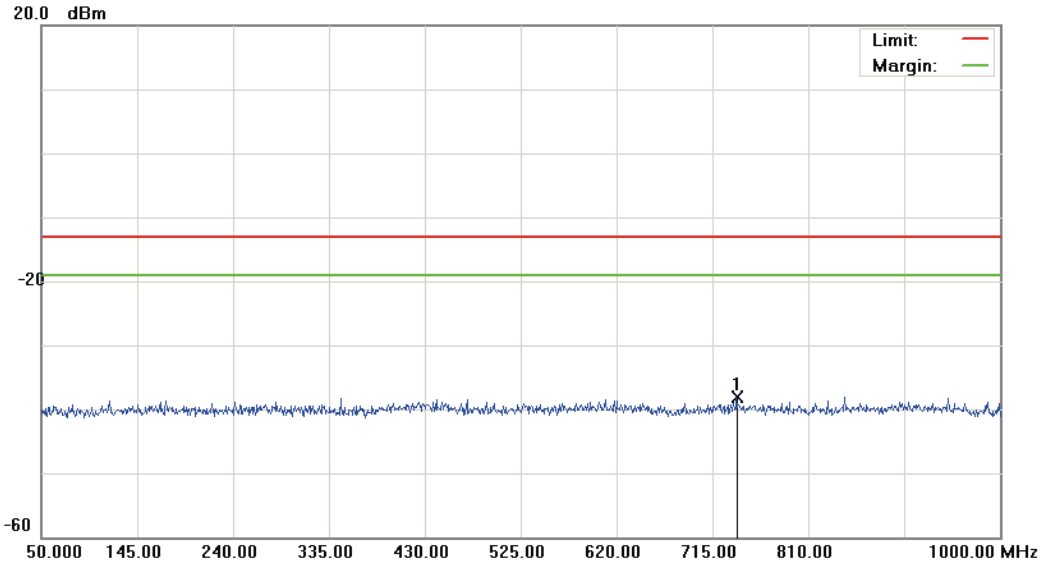
Polarization: Conducted po
Power: DC 3.8V
Distance:

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	*	1.9336	-60.44	13.01	-47.43	-13.00	-34.43	peak			

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

File:HC864-AUTO(CH9538) Data :#2 Date: 2012/11/16 Time: 下午 05:34:05



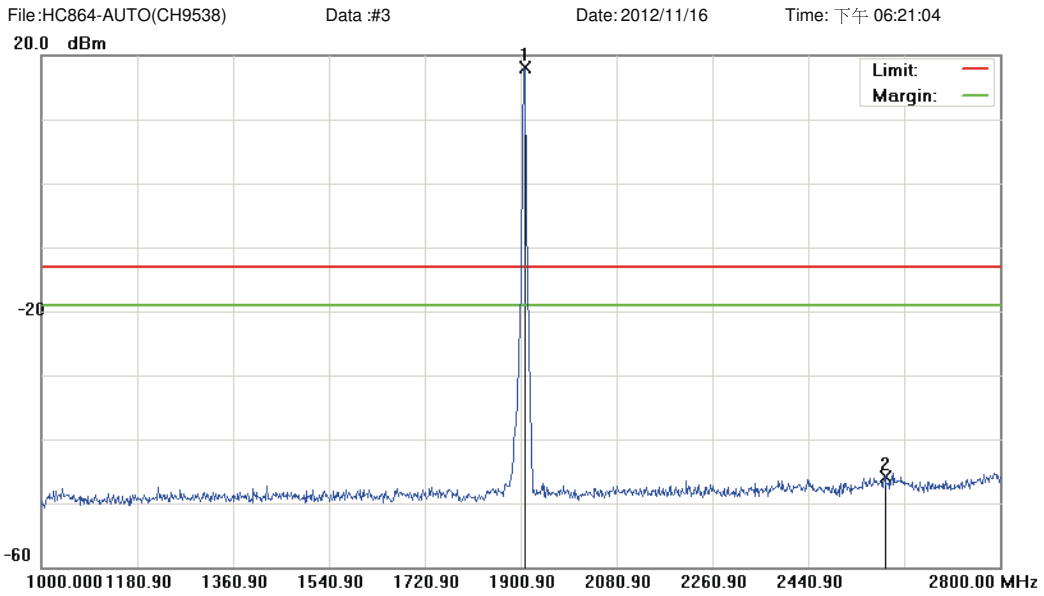
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH High

Polarization: Conducted po
Power: DC 3.8V
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	*	739.2250	-51.20	13.15	-38.05	-13.00	-25.05	peak			

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



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH High

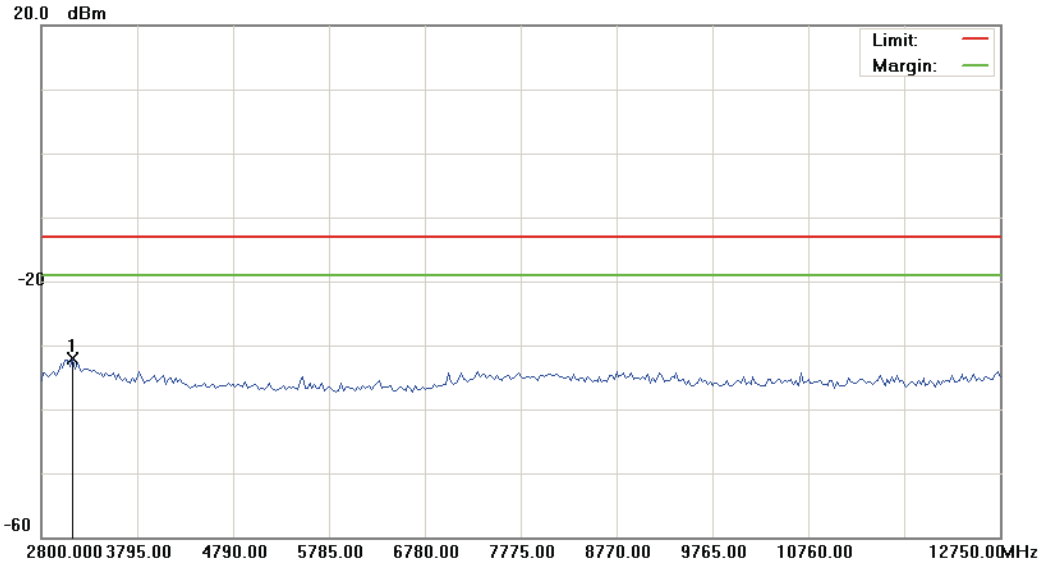
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	12.04	6.05	18.09	-13.00	31.09	peak			Tx
2		2584.000	-51.17	5.37	-45.80	-13.00	-32.80	peak			

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

File:HC864-AUTO(CH9538) Data :#4 Date: 2012/11/16 Time: 下午 07:07:28



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH High

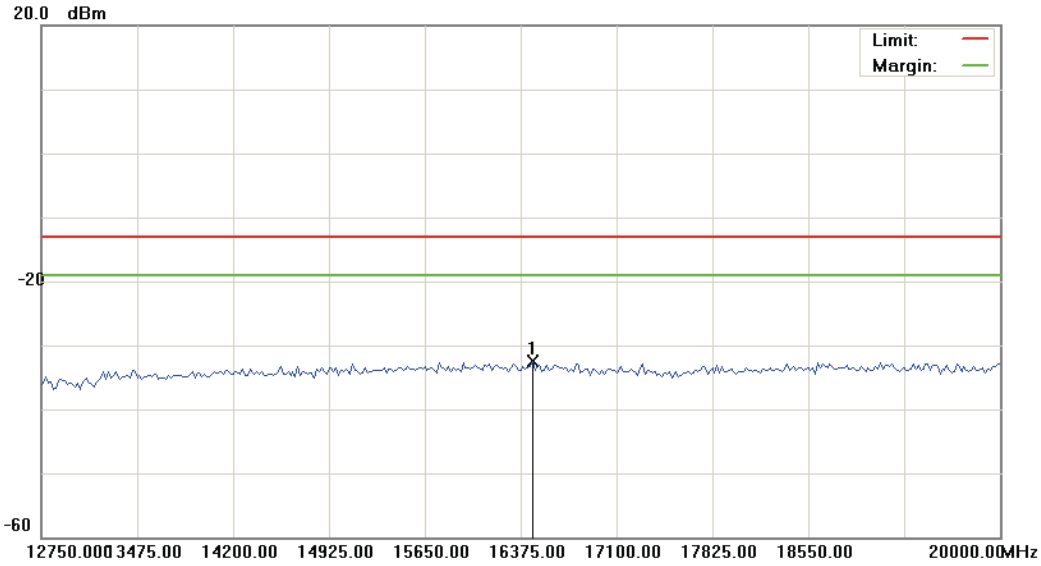
Polarization: Conducted po
Power: DC 3.8V
Distance:

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	*	3123.375	-37.33	5.30	-32.03	-13.00	-19.03	peak			

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

File:HC864-AUTO(CH9538) Data :#5 Date: 2012/11/16 Time: 下午 07:07:50



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band II
Note: CH High

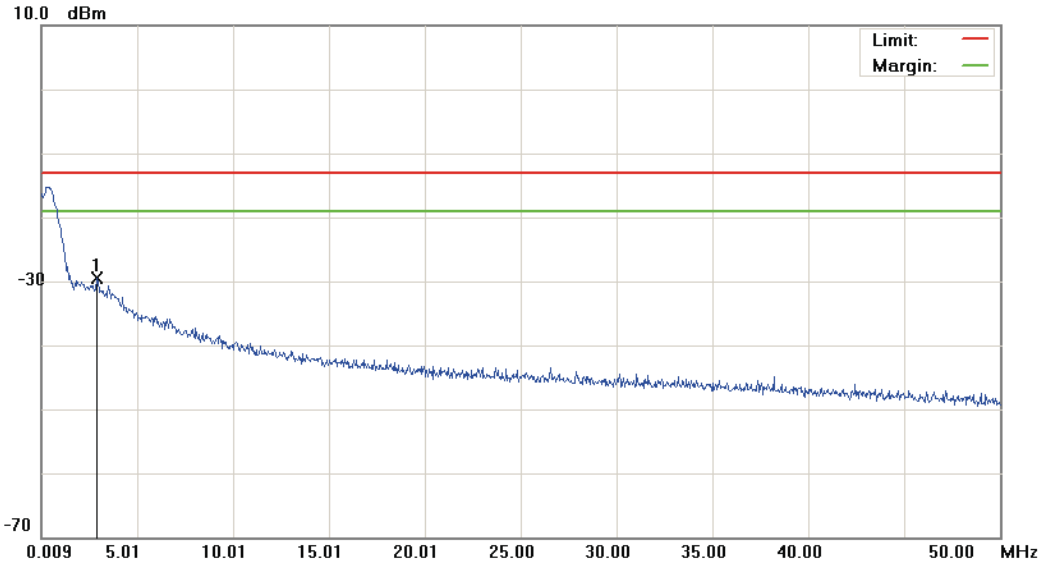
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	16465.625	-38.90	6.43	-32.47	-13.00	-19.47	peak			

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

File:HC864-AUTO(CH4132) Data :#1 Date: 2012/11/16 Time: 下午 06:29:25



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH Low

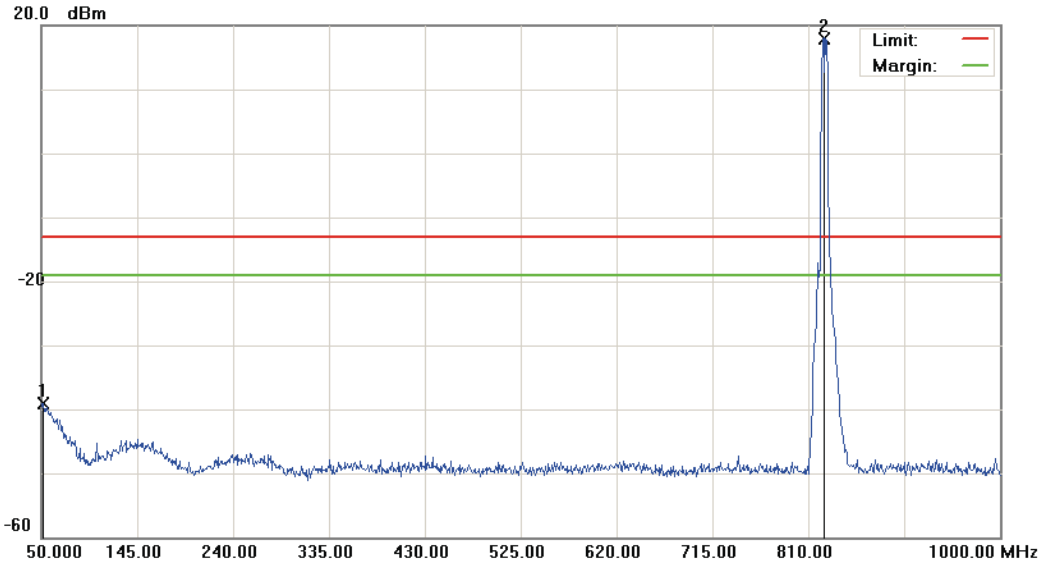
Polarization: Conducted po
Power: DC 3.8V
Distance:

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	*	2.9085	-60.19	30.72	-29.47	-13.00	-16.47	peak			

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

File:HC864-AUTO(CH4132) Data :#2 Date: 2012/11/16 Time: 下午 06:29:49



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH Low

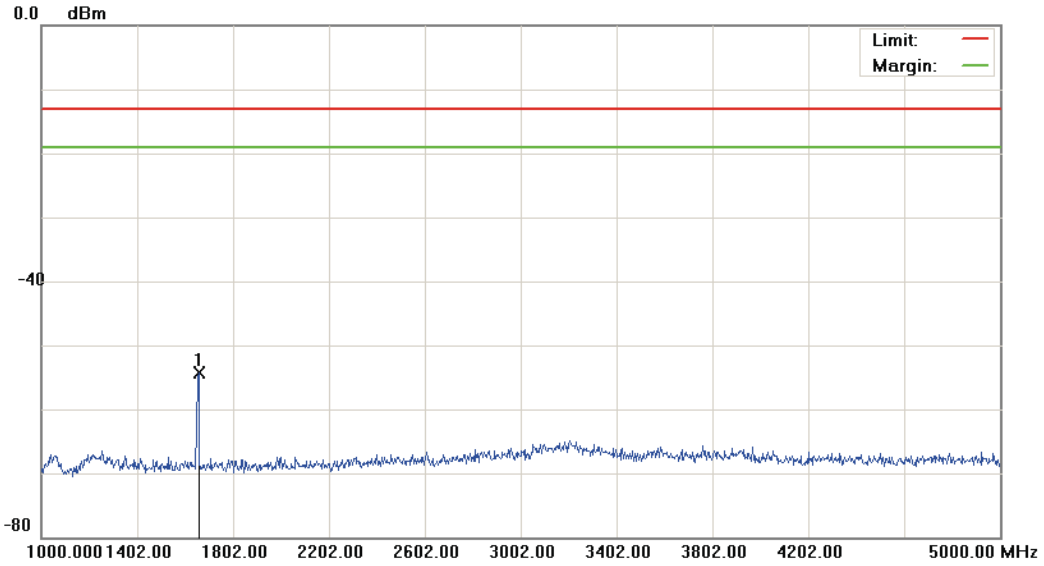
Polarization: Conducted po
Power: DC 3.8V
Distance:

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		51.4250	-53.48	14.44	-39.04	-13.00	-26.04	peak			
2	*	825.2000	14.16	3.84	18.00	-13.00	31.00	peak			Tx

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

File:HC864-AUTO(CH4132) Data :#3 Date: 2012/11/16 Time: 下午 07:00:50



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH Low

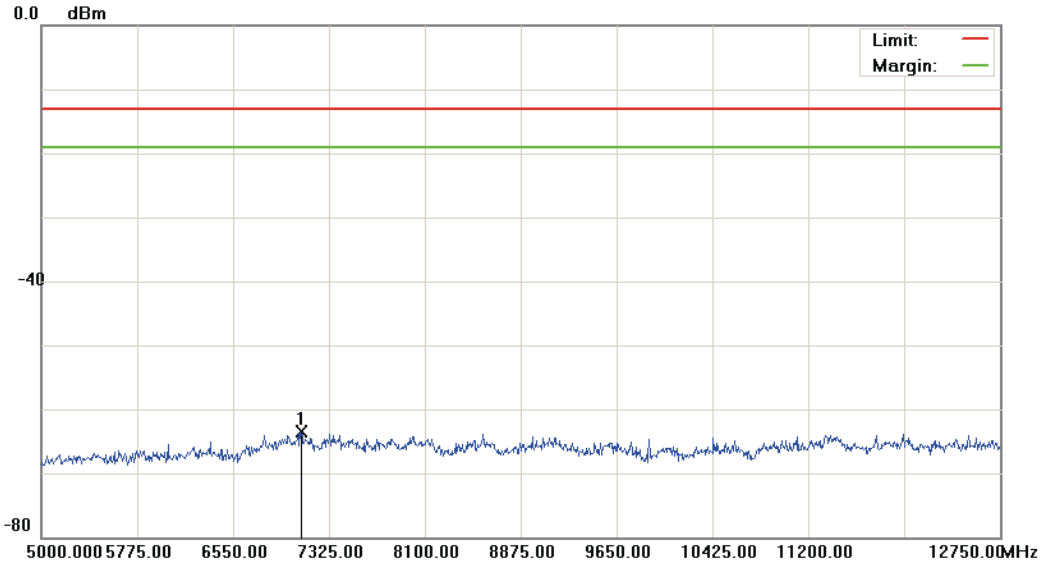
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	1656.000	-58.74	4.45	-54.29	-13.00	-41.29	peak			

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

File:HC864-AUTO(CH4132) Data :#4 Date: 2012/11/16 Time: 下午 07:01:13



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH Low

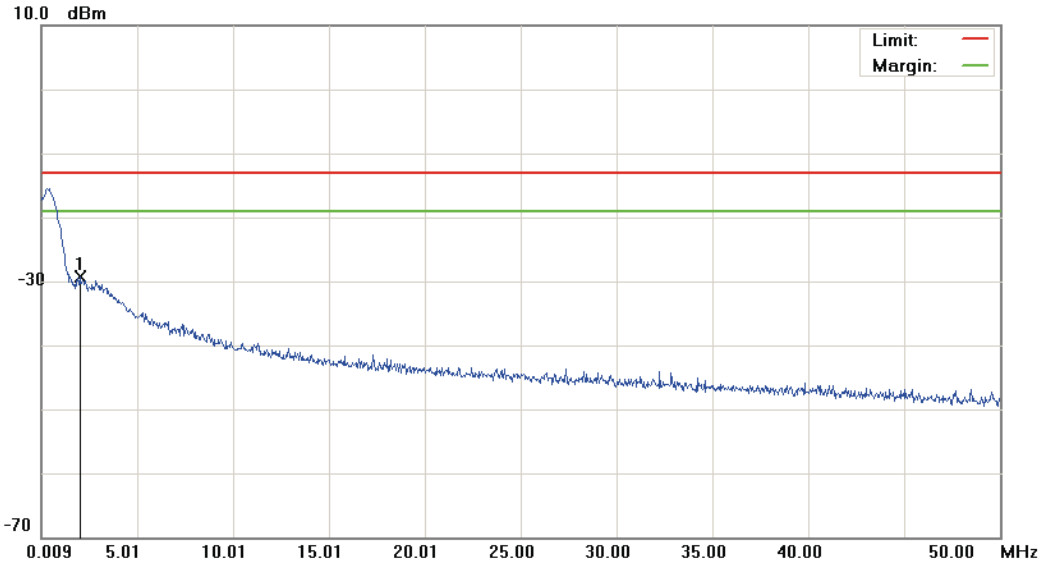
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	7096.375	-68.49	5.07	-63.42	-13.00	-50.42	peak			

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

File:HC864-AUTO(CH4183) Data :#1 Date: 2012/11/16 Time: 下午 06:32:38



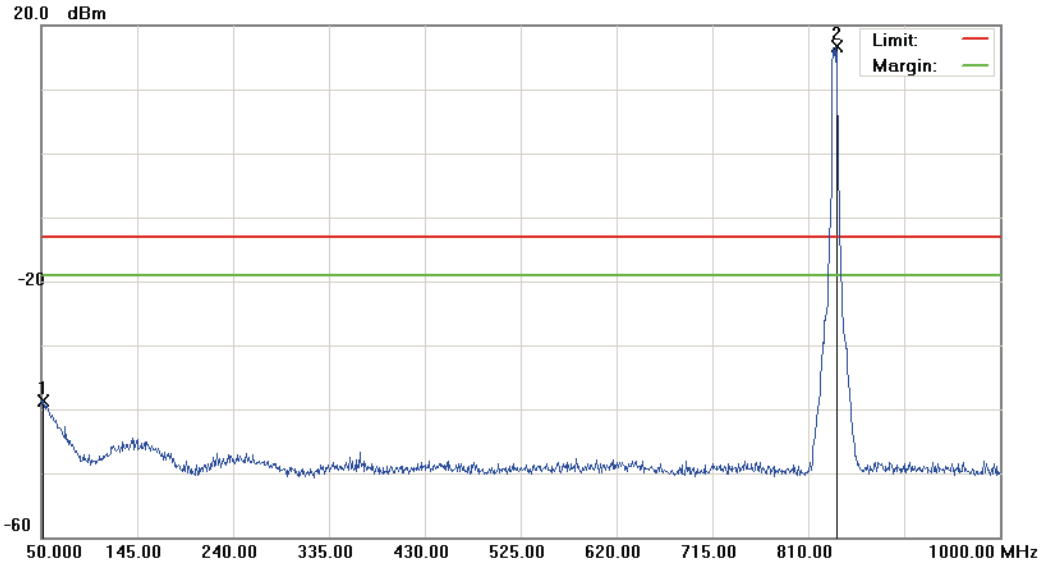
Site:	: RF Conducted	Polarization:	*Conducted po*
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V
EUT:	Wireless module	Distance:	
M/N:	HC864-AUTO		
Mode:	WCDMA Band V		
Note:	CH Middle		

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	*	2.0085	-60.71	31.37	-29.34	-13.00	-16.34	peak			

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

File:HC864-AUTO(CH4183) Data :#2 Date: 2012/11/16 Time: 下午 06:33:02



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH Middle

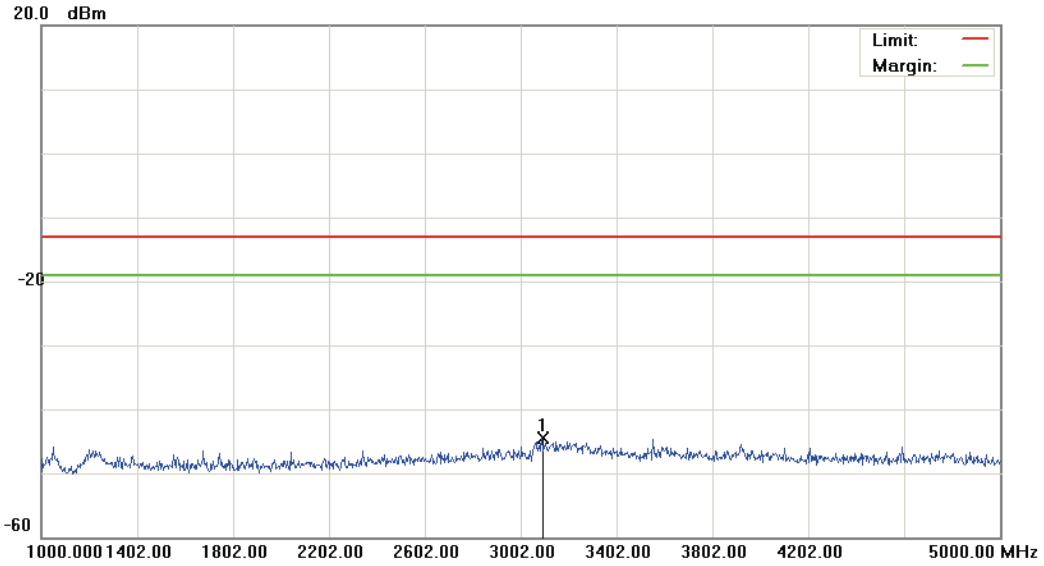
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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		51.4250	-53.05	14.44	-38.61	-13.00	-25.61	peak			
2	*	838.0250	12.65	3.97	16.62	-13.00	29.62	peak			Tx

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

File:HC864-AUTO(CH4183) Data :#3 Date: 2012/11/16 Time: 下午 07:01:49



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH Middle

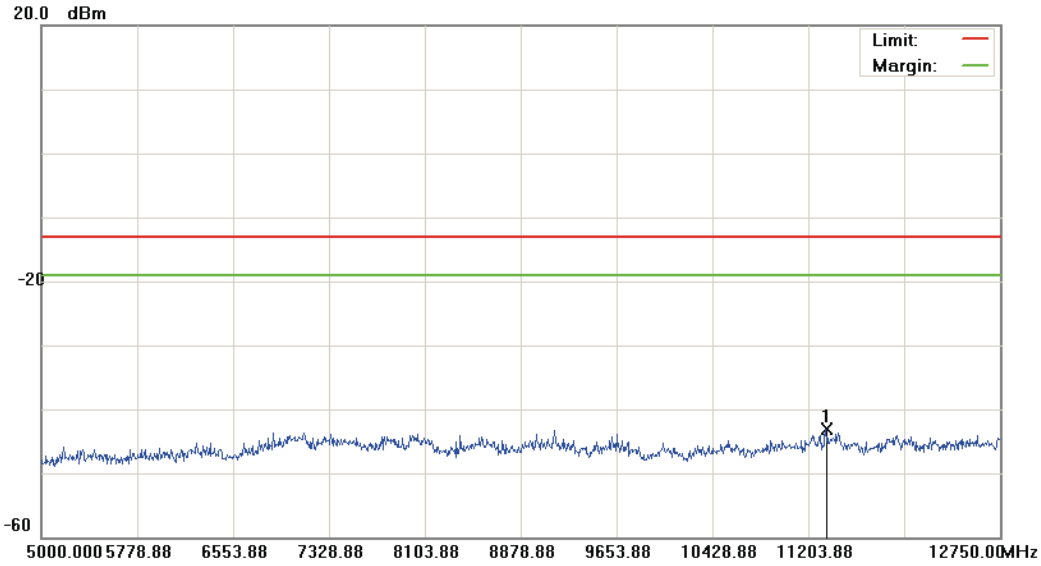
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	3090.000	-49.00	4.51	-44.49	-13.00	-31.49	peak			

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

File:HC864-AUTO(CH4183) Data :#4 Date: 2012/11/16 Time: 下午 07:02:12



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH Middle

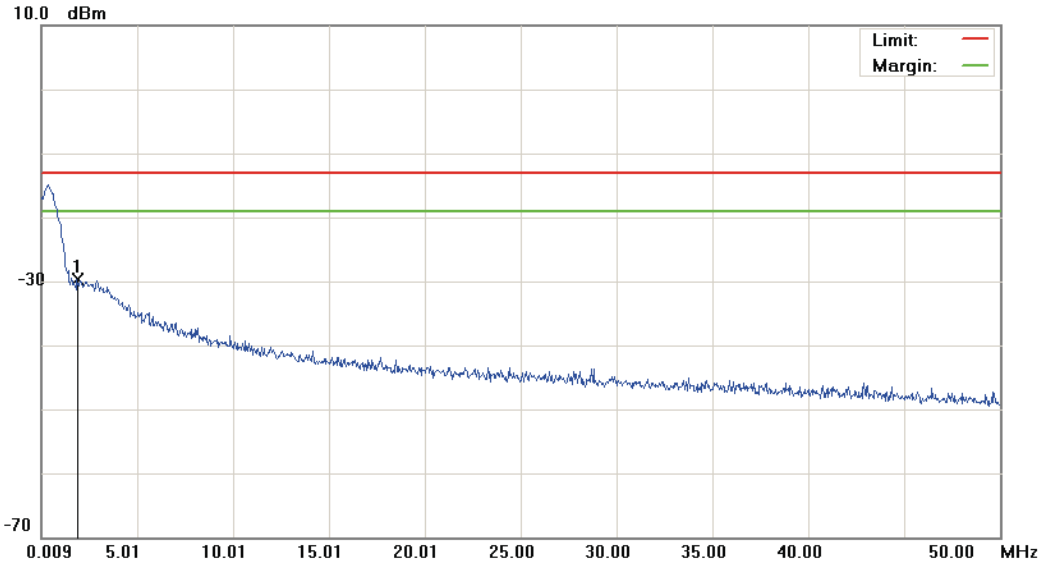
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	11343.375	-48.39	5.24	-43.15	-13.00	-30.15	peak			

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

File:HC864-AUTO(CH4233) Data :#1 Date: 2012/11/16 Time: 下午 06:36:24



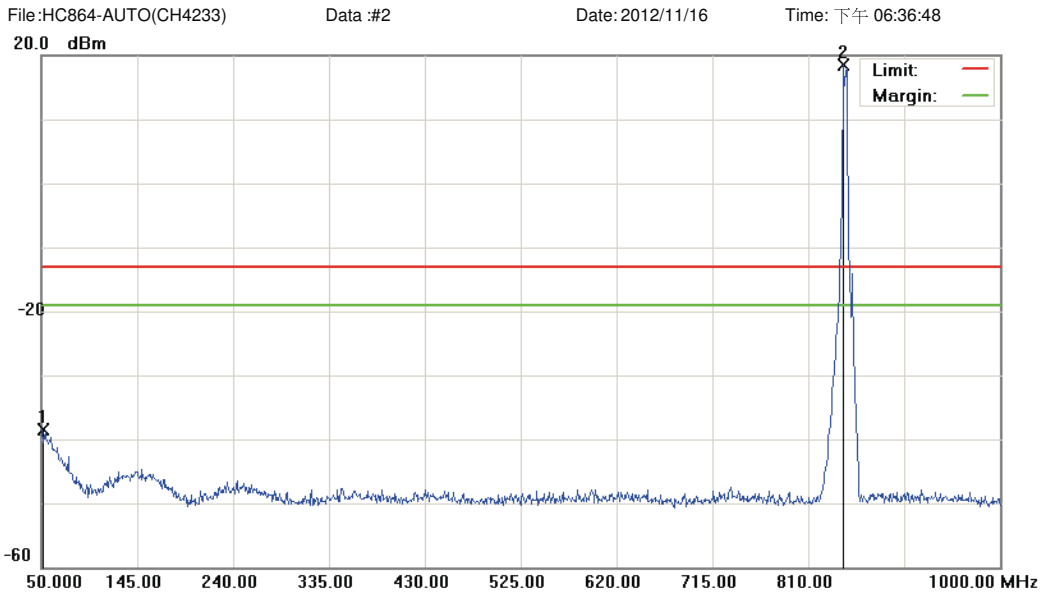
Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH High

Polarization: Conducted po
Power: DC 3.8V
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	*	1.8836	-60.87	31.17	-29.70	-13.00	-16.70	peak			

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



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH High

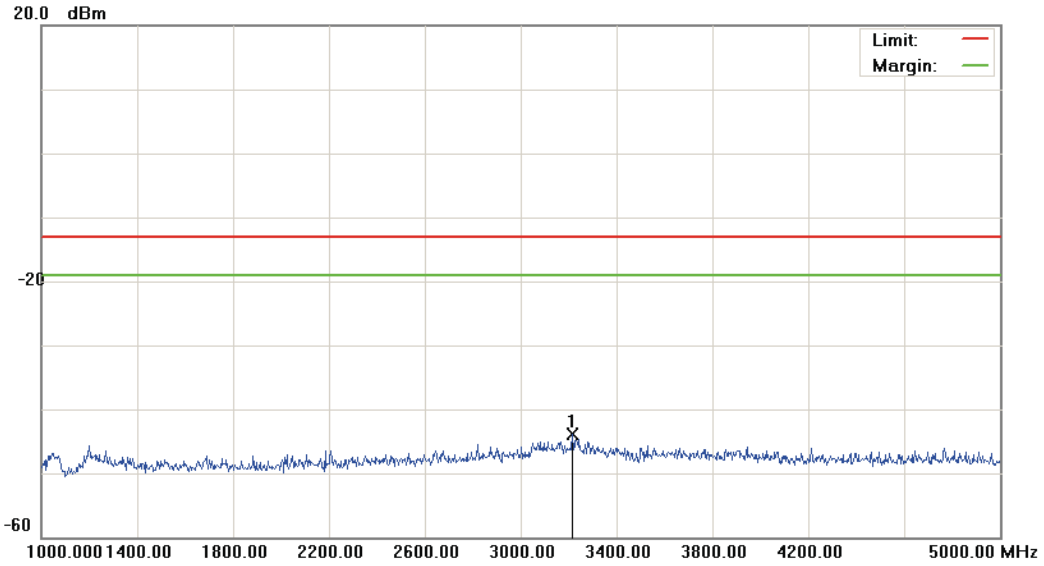
Polarization: Conducted po
Power: DC 3.8V
Distance:

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		51.4250	-52.89	14.44	-38.45	-13.00	-25.45	peak			
2	*	845.1500	14.56	3.99	18.55	-13.00	31.55	peak			Tx

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

File:HC864-AUTO(CH4233) Data :#3 Date: 2012/11/16 Time: 下午 07:02:48



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH High

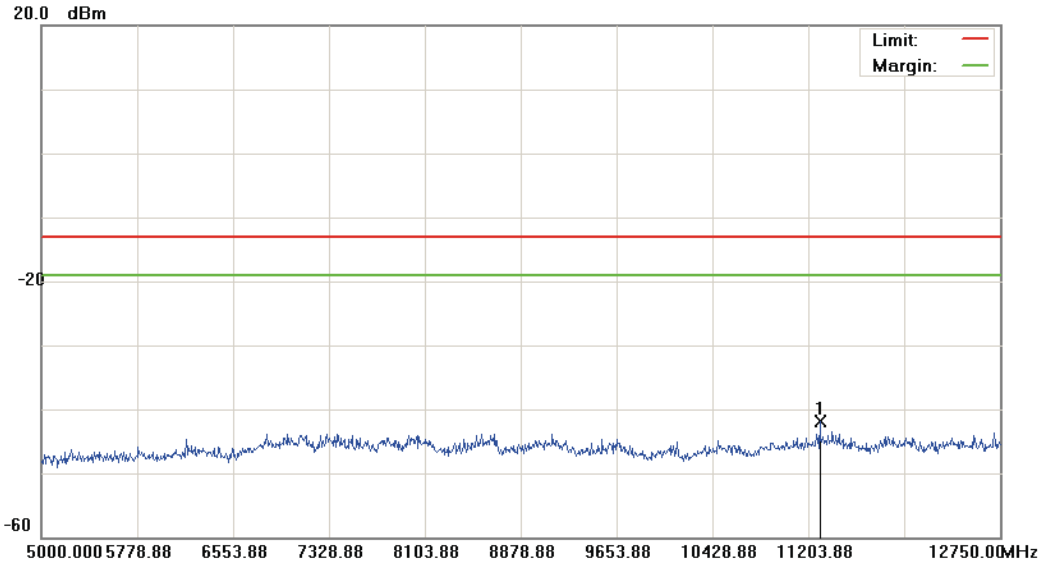
Polarization: *Conducted po*
Power: DC 3.8V
Distance:

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	*	3216.000	-48.57	4.67	-43.90	-13.00	-30.90	peak			

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

File:HC864-AUTO(CH4233) Data :#4 Date: 2012/11/16 Time: 下午 07:03:11



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HC864-AUTO
Mode: WCDMA Band V
Note: CH High

Polarization: *Conducted po*
Power: DC 3.8V
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	*	11293.000	-46.78	4.85	-41.93	-13.00	-28.93	peak			

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

7 Field Strength of Spurious Radiation Test

7.1. 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.

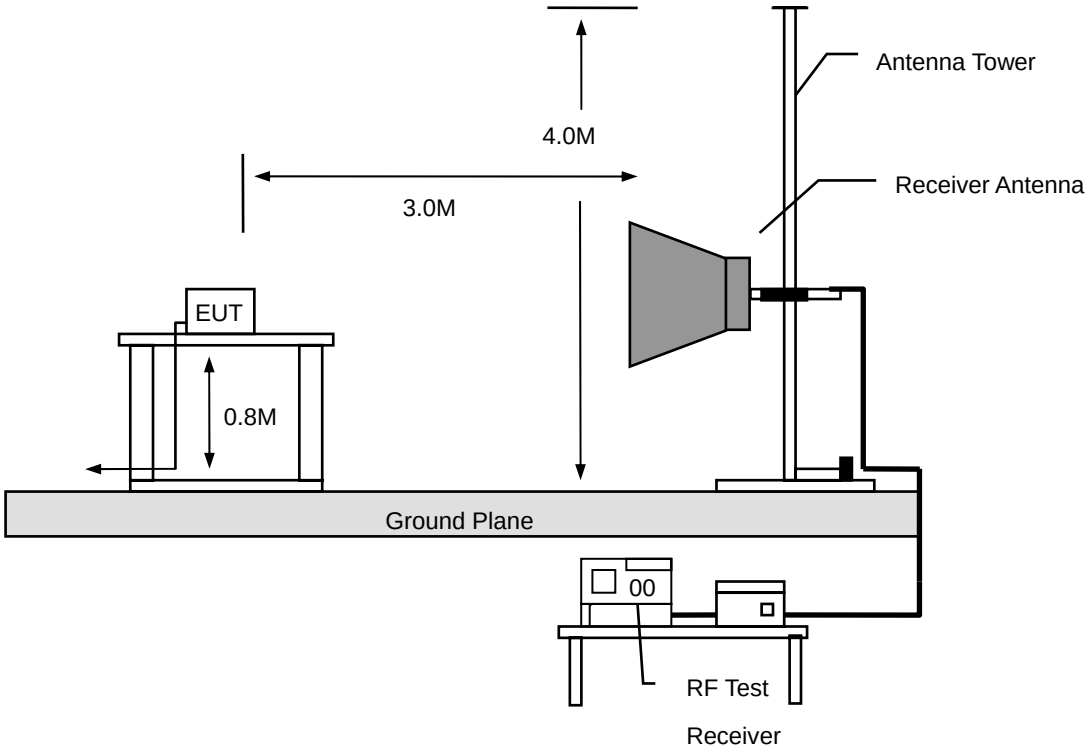
It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

7.2. 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	06/29/2012	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/15/2012	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/21/2012	(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.

7.3. Setup



7.4. 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

7.5. Uncertainty

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

7.6. Test Result

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	1	Date:	11/21/2012
Frequency:	824.2 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
126.0000	-66.03	-5.04	-71.07	-13.00	-58.07	peak	H
260.0000	-61.86	-4.34	-66.20	-13.00	-53.20	peak	H
390.0000	-72.16	1.66	-70.50	-13.00	-57.50	peak	H
520.0000	-75.89	7.65	-68.24	-13.00	-55.24	peak	H
670.5000	-71.06	7.10	-63.96	-13.00	-50.96	peak	H
786.0000	-76.88	10.50	-66.38	-13.00	-53.38	peak	H
2572.000	-68.78	16.65	-52.13	-13.00	-39.13	peak	H
4684.000	-72.46	22.06	-50.40	-13.00	-37.40	peak	H
6556.000	-71.89	30.71	-41.18	-13.00	-28.18	peak	H
115.0000	-75.94	2.67	-73.27	-13.00	-60.27	peak	V
234.0000	-66.75	1.48	-65.27	-13.00	-52.27	peak	V
370.0000	-74.37	2.03	-72.34	-13.00	-59.34	peak	V
490.0000	-75.33	2.57	-72.76	-13.00	-59.76	peak	V
632.0000	-69.84	8.72	-61.12	-13.00	-48.12	peak	V
766.5000	-69.06	11.07	-57.99	-13.00	-44.99	peak	V
2740.000	-68.55	18.35	-50.20	-13.00	-37.20	peak	V
4672.000	-70.81	26.52	-44.29	-13.00	-31.29	peak	V
7180.000	-71.75	30.76	-40.99	-13.00	-27.99	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	1	Date:	11/21/2012
Frequency:	836.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
126.0000	-65.49	-5.04	-70.53	-13.00	-57.53	peak	H
260.0000	-60.59	-4.34	-64.93	-13.00	-51.93	peak	H
390.0000	-69.95	1.66	-68.29	-13.00	-55.29	peak	H
490.0000	-75.42	6.36	-69.06	-13.00	-56.06	peak	H
602.5000	-78.11	7.91	-70.20	-13.00	-57.20	peak	H
819.5000	-79.48	11.91	-67.57	-13.00	-54.57	peak	H
2596.000	-69.67	16.71	-52.96	-13.00	-39.96	peak	H
4708.000	-72.41	22.19	-50.22	-13.00	-37.22	peak	H
7300.000	-72.81	33.33	-39.48	-13.00	-26.48	peak	H
115.0000	-65.57	2.67	-62.90	-13.00	-49.90	peak	V
220.0000	-71.75	5.29	-66.46	-13.00	-53.46	peak	V
360.0000	-76.22	2.43	-73.79	-13.00	-60.79	peak	V
490.0000	-77.95	2.57	-75.38	-13.00	-62.38	peak	V
644.5000	-72.54	8.79	-63.75	-13.00	-50.75	peak	V
787.0000	-75.16	11.48	-63.68	-13.00	-50.68	peak	V
2740.000	-69.16	18.35	-50.81	-13.00	-37.81	peak	V
4720.000	-72.88	26.61	-46.27	-13.00	-33.27	peak	V
7084.000	-71.32	30.65	-40.67	-13.00	-27.67	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	1	Date:	11/21/2012
Frequency:	848.8 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
88.0000	-69.79	-0.68	-70.47	-13.00	-57.47	peak	H
234.0000	-66.88	-1.38	-68.26	-13.00	-55.26	peak	H
390.0000	-70.66	1.66	-69.00	-13.00	-56.00	peak	H
520.0000	-74.26	7.65	-66.61	-13.00	-53.61	peak	H
624.5000	-76.13	7.51	-68.62	-13.00	-55.62	peak	H
802.5000	-76.39	11.32	-65.07	-13.00	-52.07	peak	H
2692.000	-67.74	16.96	-50.78	-13.00	-37.78	peak	H
4684.000	-71.63	22.06	-49.57	-13.00	-36.57	peak	H
7168.000	-71.93	33.04	-38.89	-13.00	-25.89	peak	H
115.0000	-61.67	2.67	-59.00	-13.00	-46.00	peak	V
234.0000	-67.14	1.48	-65.66	-13.00	-52.66	peak	V
390.0000	-68.11	1.49	-66.62	-13.00	-53.62	peak	V
520.0000	-76.85	3.11	-73.74	-13.00	-60.74	peak	V
637.5000	-75.78	8.65	-67.13	-13.00	-54.13	peak	V
791.0000	-72.46	11.60	-60.86	-13.00	-47.86	peak	V
2740.000	-69.10	18.35	-50.75	-13.00	-37.75	peak	V
4684.000	-71.47	26.53	-44.94	-13.00	-31.94	peak	V
7312.000	-73.56	30.89	-42.67	-13.00	-29.67	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	2	Date:	11/21/2012
Frequency:	1850.2 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
129.0000	-73.39	13.37	-60.02	-13.00	-47.02	peak	H
260.0000	-64.54	-1.56	-66.10	-13.00	-53.10	peak	H
390.0000	-69.88	1.49	-68.39	-13.00	-55.39	peak	H
520.0000	-75.65	3.11	-72.54	-13.00	-59.54	peak	H
728.0000	-77.36	10.72	-66.64	-13.00	-53.64	peak	H
850.0000	-78.85	11.49	-67.36	-13.00	-54.36	peak	H
2908.000	-69.10	19.57	-49.53	-13.00	-36.53	peak	H
5284.000	-73.07	27.54	-45.53	-13.00	-32.53	peak	H
7552.000	-72.53	31.01	-41.52	-13.00	-28.52	peak	H
130.0000	-74.41	14.37	-60.04	-13.00	-47.04	peak	V
260.0000	-64.61	-1.56	-66.17	-13.00	-53.17	peak	V
390.0000	-67.05	1.49	-65.56	-13.00	-52.56	peak	V
550.0000	-77.69	4.31	-73.38	-13.00	-60.38	peak	V
732.0000	-77.61	10.63	-66.98	-13.00	-53.98	peak	V
875.0000	-80.17	11.07	-69.10	-13.00	-56.10	peak	V
2800.000	-69.59	18.79	-50.80	-13.00	-37.80	peak	V
4684.000	-71.08	26.53	-44.55	-13.00	-31.55	peak	V
7072.000	-72.76	30.64	-42.12	-13.00	-29.12	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	2	Date:	11/21/2012
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
155.5000	-63.99	0.01	-63.98	-13.00	-50.98	peak	H
260.0000	-60.74	-4.34	-65.08	-13.00	-52.08	peak	H
430.0000	-72.65	3.67	-68.98	-13.00	-55.98	peak	H
546.0000	-78.83	8.12	-70.71	-13.00	-57.71	peak	H
728.0000	-75.67	7.78	-67.89	-13.00	-54.89	peak	H
850.0000	-77.89	12.56	-65.33	-13.00	-52.33	peak	H
2932.000	-69.37	17.57	-51.80	-13.00	-38.80	peak	H
5728.000	-72.38	26.97	-45.41	-13.00	-32.41	peak	H
7876.000	-72.57	33.70	-38.87	-13.00	-25.87	peak	H
130.5000	-73.51	14.09	-59.42	-13.00	-46.42	peak	V
260.0000	-65.67	-1.56	-67.23	-13.00	-54.23	peak	V
390.0000	-68.32	1.49	-66.83	-13.00	-53.83	peak	V
520.0000	-78.04	3.11	-74.93	-13.00	-61.93	peak	V
728.0000	-77.22	10.72	-66.50	-13.00	-53.50	peak	V
850.0000	-79.93	11.49	-68.44	-13.00	-55.44	peak	V
2992.000	-69.82	20.17	-49.65	-13.00	-36.65	peak	V
5884.000	-72.30	27.79	-44.51	-13.00	-31.51	peak	V
7588.000	-72.93	30.96	-41.97	-13.00	-28.97	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	2	Date:	11/21/2012
Frequency:	1909.8 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
126.0000	-66.28	-5.04	-71.32	-13.00	-58.32	peak	H
260.0000	-60.91	-4.34	-65.25	-13.00	-52.25	peak	H
430.0000	-72.49	3.67	-68.82	-13.00	-55.82	peak	H
580.0000	-78.02	7.60	-70.42	-13.00	-57.42	peak	H
780.0000	-78.60	10.19	-68.41	-13.00	-55.41	peak	H
936.0000	-78.92	14.84	-64.08	-13.00	-51.08	peak	H
2908.000	-69.78	17.51	-52.27	-13.00	-39.27	peak	H
4732.000	-71.32	22.32	-49.00	-13.00	-36.00	peak	H
7456.000	-72.37	33.69	-38.68	-13.00	-25.68	peak	H
129.0000	-73.39	13.37	-60.02	-13.00	-47.02	peak	V
260.0000	-64.54	-1.56	-66.10	-13.00	-53.10	peak	V
390.0000	-69.88	1.49	-68.39	-13.00	-55.39	peak	V
520.0000	-75.65	3.11	-72.54	-13.00	-59.54	peak	V
728.0000	-77.36	10.72	-66.64	-13.00	-53.64	peak	V
850.0000	-78.85	11.49	-67.36	-13.00	-54.36	peak	V
2908.000	-69.10	19.57	-49.53	-13.00	-36.53	peak	V
5284.000	-73.07	27.54	-45.53	-13.00	-32.53	peak	V
7552.000	-72.53	31.01	-41.52	-13.00	-28.52	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	5	Date:	11/21/2012
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
126.0000	-66.74	-5.04	-71.78	-13.00	-58.78	peak	H
260.0000	-61.77	-4.34	-66.11	-13.00	-53.11	peak	H
430.0000	-72.07	3.67	-68.40	-13.00	-55.40	peak	H
598.0000	-78.01	7.90	-70.11	-13.00	-57.11	peak	H
720.0000	-76.72	7.49	-69.23	-13.00	-56.23	peak	H
920.0000	-79.50	14.74	-64.76	-13.00	-51.76	peak	H
2884.000	-68.75	17.45	-51.30	-13.00	-38.30	peak	H
5500.000	-72.18	26.05	-46.13	-13.00	-33.13	peak	H
7600.000	-72.44	33.76	-38.68	-13.00	-25.68	peak	H
129.0000	-72.88	13.37	-59.51	-13.00	-46.51	peak	V
260.0000	-66.02	-1.56	-67.58	-13.00	-54.58	peak	V
390.0000	-69.72	1.49	-68.23	-13.00	-55.23	peak	V
520.0000	-75.34	3.11	-72.23	-13.00	-59.23	peak	V
680.0000	-78.69	9.56	-69.13	-13.00	-56.13	peak	V
840.0000	-78.83	11.35	-67.48	-13.00	-54.48	peak	V
3028.000	-69.01	20.39	-48.62	-13.00	-35.62	peak	V
5572.000	-71.56	27.83	-43.73	-13.00	-30.73	peak	V
7852.000	-73.09	30.60	-42.49	-13.00	-29.49	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	5	Date:	11/21/2012
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
126.0000	-65.64	-5.04	-70.68	-13.00	-57.68	peak	H
260.0000	-61.37	-4.34	-65.71	-13.00	-52.71	peak	H
430.0000	-72.03	3.67	-68.36	-13.00	-55.36	peak	H
520.0000	-74.56	7.65	-66.91	-13.00	-53.91	peak	H
720.0000	-74.52	7.49	-67.03	-13.00	-54.03	peak	H
936.0000	-79.67	14.84	-64.83	-13.00	-51.83	peak	H
3076.000	-67.92	17.94	-49.98	-13.00	-36.98	peak	H
6304.000	-72.65	29.53	-43.12	-13.00	-30.12	peak	H
8380.000	-72.44	33.37	-39.07	-13.00	-26.07	peak	H
132.5000	-72.35	13.01	-59.34	-13.00	-46.34	peak	V
260.0000	-65.04	-1.56	-66.60	-13.00	-53.60	peak	V
390.0000	-69.23	1.49	-67.74	-13.00	-54.74	peak	V
520.0000	-75.23	3.11	-72.12	-13.00	-59.12	peak	V
728.0000	-76.40	10.72	-65.68	-13.00	-52.68	peak	V
858.0000	-79.42	11.59	-67.83	-13.00	-54.83	peak	V
2836.000	-68.21	19.05	-49.16	-13.00	-36.16	peak	V
5236.000	-72.23	27.46	-44.77	-13.00	-31.77	peak	V
7408.000	-72.08	30.99	-41.09	-13.00	-28.09	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	5	Date:	11/21/2012
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
126.0000	-67.12	-5.04	-72.16	-13.00	-59.16	peak	H
260.0000	-61.15	-4.34	-65.49	-13.00	-52.49	peak	H
390.0000	-69.70	1.66	-68.04	-13.00	-55.04	peak	H
520.0000	-73.67	7.65	-66.02	-13.00	-53.02	peak	H
680.0000	-76.17	7.02	-69.15	-13.00	-56.15	peak	H
840.0000	-77.29	12.10	-65.19	-13.00	-52.19	peak	H
3484.000	-69.75	19.04	-50.71	-13.00	-37.71	peak	H
5488.000	-72.59	25.99	-46.60	-13.00	-33.60	peak	H
7468.000	-73.19	33.71	-39.48	-13.00	-26.48	peak	H
130.5000	-74.06	14.09	-59.97	-13.00	-46.97	peak	V
260.0000	-65.73	-1.56	-67.29	-13.00	-54.29	peak	V
390.0000	-68.34	1.49	-66.85	-13.00	-53.85	peak	V
520.0000	-75.92	3.11	-72.81	-13.00	-59.81	peak	V
680.0000	-78.07	9.56	-68.51	-13.00	-55.51	peak	V
813.0000	-79.00	11.49	-67.51	-13.00	-54.51	peak	V
2884.000	-69.34	19.39	-49.95	-13.00	-36.95	peak	V
5092.000	-72.28	27.25	-45.03	-13.00	-32.03	peak	V
7492.000	-72.60	31.07	-41.53	-13.00	-28.53	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	6	Date:	11/21/2012
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
84.0000	-69.83	-2.07	-71.90	-13.00	-58.90	peak	H
246.0000	-62.71	-3.36	-66.07	-13.00	-53.07	peak	H
390.0000	-72.36	1.66	-70.70	-13.00	-57.70	peak	H
538.5000	-75.98	8.20	-67.78	-13.00	-54.78	peak	H
737.5000	-76.11	8.10	-68.01	-13.00	-55.01	peak	H
958.0000	-80.38	14.83	-65.55	-13.00	-52.55	peak	H
2596.000	-69.52	16.71	-52.81	-13.00	-39.81	peak	H
4732.000	-72.25	22.32	-49.93	-13.00	-36.93	peak	H
7060.000	-72.17	32.78	-39.39	-13.00	-26.39	peak	H
84.0000	-67.80	-7.57	-75.37	-13.00	-62.37	peak	V
225.0000	-69.66	3.75	-65.91	-13.00	-52.91	peak	V
390.0000	-69.92	1.49	-68.43	-13.00	-55.43	peak	V
491.5000	-74.45	2.59	-71.86	-13.00	-58.86	peak	V
671.5000	-73.50	9.49	-64.01	-13.00	-51.01	peak	V
940.5000	-86.44	12.73	-73.71	-13.00	-60.71	peak	V
2896.000	-67.93	19.48	-48.45	-13.00	-35.45	peak	V
4768.000	-71.79	26.69	-45.10	-13.00	-32.10	peak	V
7216.000	-71.38	30.79	-40.59	-13.00	-27.59	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	6	Date:	11/21/2012
Frequency:	836.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
126.0000	-64.81	-5.04	-69.85	-13.00	-56.85	peak	H
245.5000	-63.93	-3.25	-67.18	-13.00	-54.18	peak	H
368.5000	-74.76	0.35	-74.41	-13.00	-61.41	peak	H
458.0000	-75.60	4.55	-71.05	-13.00	-58.05	peak	H
589.0000	-78.88	7.76	-71.12	-13.00	-58.12	peak	H
773.0000	-78.86	9.81	-69.05	-13.00	-56.05	peak	H
2644.000	-69.65	16.84	-52.81	-13.00	-39.81	peak	H
4756.000	-71.37	22.45	-48.92	-13.00	-35.92	peak	H
7024.000	-72.01	32.70	-39.31	-13.00	-26.31	peak	H
84.0000	-65.70	-7.57	-73.27	-13.00	-60.27	peak	V
220.0000	-72.29	5.29	-67.00	-13.00	-54.00	peak	V
390.0000	-70.78	1.49	-69.29	-13.00	-56.29	peak	V
531.5000	-79.35	3.78	-75.57	-13.00	-62.57	peak	V
733.0000	-78.67	10.63	-68.04	-13.00	-55.04	peak	V
951.0000	-86.02	12.55	-73.47	-13.00	-60.47	peak	V
2812.000	-68.49	18.88	-49.61	-13.00	-36.61	peak	V
4720.000	-72.38	26.61	-45.77	-13.00	-32.77	peak	V
6916.000	-72.27	30.33	-41.94	-13.00	-28.94	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	6	Date:	11/21/2012
Frequency:	846.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
84.0000	-70.59	-2.07	-72.66	-13.00	-59.66	peak	H
200.0000	-73.86	2.95	-70.91	-13.00	-57.91	peak	H
350.0000	-76.63	-0.26	-76.89	-13.00	-63.89	peak	H
458.0000	-73.68	4.55	-69.13	-13.00	-56.13	peak	H
612.5000	-77.82	7.80	-70.02	-13.00	-57.02	peak	H
775.0000	-79.65	9.92	-69.73	-13.00	-56.73	peak	H
3088.000	-69.68	17.99	-51.69	-13.00	-38.69	peak	H
4708.000	-71.74	22.19	-49.55	-13.00	-36.55	peak	H
6676.000	-72.22	31.23	-40.99	-13.00	-27.99	peak	H
84.0000	-67.49	-7.57	-75.06	-13.00	-62.06	peak	V
245.5000	-66.85	-0.33	-67.18	-13.00	-54.18	peak	V
350.0000	-76.29	1.81	-74.48	-13.00	-61.48	peak	V
491.5000	-74.77	2.59	-72.18	-13.00	-59.18	peak	V
616.5000	-79.39	8.64	-70.75	-13.00	-57.75	peak	V
776.0000	-79.83	11.21	-68.62	-13.00	-55.62	peak	V
2848.000	-69.54	19.13	-50.41	-13.00	-37.41	peak	V
4756.000	-70.81	26.66	-44.15	-13.00	-31.15	peak	V
7168.000	-72.26	30.75	-41.51	-13.00	-28.51	peak	V

Standard:	RSS-Gen	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HC864-AUTO	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	7	Date:	11/30/2012
		Test By:	Fly Lu

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2555.500	38.26	4.77	43.03	74.00	-30.97	peak	H
4034.500	36.74	9.22	45.96	74.00	-28.04	peak	H
6023.500	35.29	15.95	51.24	74.00	-22.76	peak	H
3397.000	36.38	6.78	43.16	74.00	-30.84	peak	V
4621.000	36.80	11.19	47.99	74.00	-26.01	peak	V
6253.000	34.32	16.65	50.97	74.00	-23.03	peak	V

8 Frequency Stability (Temperature & Voltage Variation) Test

8.1. Limit

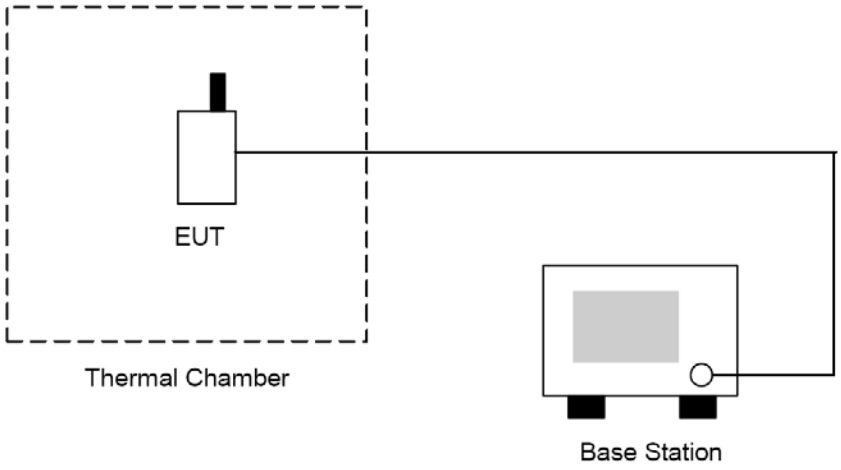
The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center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

8.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	R & S	CMU200	109369	08/07/2012	(2)
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	08/07/2012	(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

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 EUT was placed in a temperature chamber at 25±5 ℃ 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.

8.5. Uncertainty

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

8.6. Test Result

Model Number	HC864-AUTO					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 1					
Date of Test	11/21/2012				Test Site	TE05
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-20	-21	-0.025	±2.5	Pass
Normal	3.80	-10	-36	-0.043	±2.5	Pass
Normal	3.80	0	-44	-0.053	±2.5	Pass
Normal	3.80	10	-19	-0.023	±2.5	Pass
Battery full point	4.20	20	-20	-0.024	±2.5	Pass
Normal	3.80	20	-15	-0.018	±2.5	Pass
Battery cut-off point	3.40	20	-9	-0.011	±2.5	Pass
Normal	3.80	30	-13	-0.016	±2.5	Pass
Normal	3.80	40	-15	-0.018	±2.5	Pass
Normal	3.80	50	-23	-0.027	±2.5	Pass
Normal	3.80	55	-24	-0.029	±2.5	Pass

Model Number	HC864-AUTO					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 2					
Date of Test	11/21/2012				Test Site	TE05
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-20	13	0.007	±2.5	Pass
Normal	3.80	-10	-10	-0.005	±2.5	Pass
Normal	3.80	0	-6	-0.003	±2.5	Pass
Normal	3.80	10	-9	-0.005	±2.5	Pass
Battery full point	4.20	20	16	0.009	±2.5	Pass
Normal	3.80	20	-15	-0.008	±2.5	Pass
Battery cut-off point	3.40	20	-9	-0.005	±2.5	Pass
Normal	3.80	30	8	0.004	±2.5	Pass
Normal	3.80	40	6	0.003	±2.5	Pass
Normal	3.80	50	9	0.005	±2.5	Pass
Normal	3.80	55	11	0.006	±2.5	Pass

Note: This device operating temperature range is -20℃ ~ +55℃.

Model Number	HC864-AUTO					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 5					
Date of Test	11/21/2012				Test Site	TE05
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-20	31	0.016	±2.5	Pass
Normal	3.80	-10	22	0.012	±2.5	Pass
Normal	3.80	0	27	0.014	±2.5	Pass
Normal	3.80	10	37	0.020	±2.5	Pass
Battery full point	4.20	20	-15	-0.008	±2.5	Pass
Normal	3.80	20	22	0.012	±2.5	Pass
Battery cut-off point	3.40	20	-34	-0.018	±2.5	Pass
Normal	3.80	30	28	0.015	±2.5	Pass
Normal	3.80	40	13	0.007	±2.5	Pass
Normal	3.80	50	16	0.009	±2.5	Pass
Normal	3.80	55	32	0.017	±2.5	Pass

Model Number	HC864-AUTO					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 6					
Date of Test	11/21/2012				Test Site	TE05
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-20	-19	-0.023	±2.5	Pass
Normal	3.80	-10	-11	-0.013	±2.5	Pass
Normal	3.80	0	-5	-0.006	±2.5	Pass
Normal	3.80	10	10	0.012	±2.5	Pass
Battery full point	4.20	20	-18	-0.022	±2.5	Pass
Normal	3.80	20	-8	-0.010	±2.5	Pass
Battery cut-off point	3.40	20	-12	-0.014	±2.5	Pass
Normal	3.80	30	16	0.019	±2.5	Pass
Normal	3.80	40	-9	-0.011	±2.5	Pass
Normal	3.80	50	-13	-0.016	±2.5	Pass
Normal	3.80	55	-15	-0.018	±2.5	Pass

Note: This device operating temperature range is -20℃ ~ +55℃.