ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 90

OF

Product Name:	**Motorcycle alarm lock with pagering system**
Brand / Marketing Name:	**BULLY**
Model Name:	**S-808**
FCC ID:	**WXS-SUPERSUN-808**
Report Number:	**ER-2008-A0012**
Issue Date:	**Nov. 28, 2008**
FCC Rule Part:	**CFR 47 PART 90**
Prepared for:	**Super Sun Precision Ind. Co., Ltd** **No.29, Lane488, Sec.2Hsing Jen Road, Chung Li City, Tao Yuan, Taiwan**
Prepared by:	**SGS Taiwan Ltd.** **No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.**

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VERIFICATION OF COMPLIANCE

Applicant:	Super Sun Precision Ind. Co., Ltd No.29, Lane488, Sec.2Hsing Jen Road, Chung Li City, Tao Yuan, Taiwan
Product Name:	Motorcycle alarm lock with pagering system
FCC ID Number:	WXS-SUPERSUN-808
Brand / Marketing Name:	BULLY
Model No.:	S-808
Model Difference:	N/A
File Number:	ER-2008-A0012
Date of test:	Nov. 10, 2008 ~Nov. 26, 2008
Date of EUT Received:	Nov. 6, 2008

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA-603-C-2004 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Part 90.

The test results of this report relate only to the tested sample identified in this report.

Test By:	Aron Hsieh	***Date:***	Nov. 28, 2008
	Aron Hsieh / Sr. Engineer		
Prepared By:	Alex Hsieh	***Date:***	Nov. 28, 2008
	Alex Hsieh / Sr. Engineer		
Approved By	Vincent Su	***Date:***	Nov. 28, 2008
	Vincent Su / Manager		

Version

Version No.	Date	Description
00	Nov. 28, 2008	Initial creation of document
01	Dec. 12, 2008	Revise page 16 value to ERP and insert RX photo

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1. GENERAL INFORMATION

1.1. Product Description

Product Name:	Motorcycle alarm lock with pagering system
Brand / Marketing Name:	BULLY
Model Name:	S-808
Model Difference:	N/A
Power Supply:	9 Vdc battery
Frequency Range:	451.35 MHz
Channel number:	1 channel
Modulation Technology:	FSK
Type of Emission	F1D
Antenna Designation:	Monople Antenna

1.2. Test Methodology

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4 (2003) and FCC CFR 47.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

1.3. Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003. FCC Registration Number are: 990257 and 236194, Canada Registration Number: 4620A-1

The 10 m Open Area Test Sites located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 29, Pau-Tou-Tsuo Valley Chia-Pau Tsuen, Linkou Hsiang, Taipei county, which is constructed and calibrated to meet the CISPR 22/EN 55022 requirements. SGS Site No. 1(3 &10 meters) and FCC Registration Number: 94644.

All equipment is calibrated externally and traceable to SI (International System of Unit).

1.4. Special Accessories

Not available for this EUT intended for grant.

1.5. Equipment Modifications

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

The EUT (Transmitter) was operated in the engineering mode to fix the Tx frequency which was for the purpose of the measurements.

2.3. Configuration of Tested System

Fig. 2-1 Configuration of Tested System (Fixed Channel)

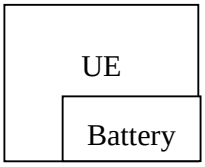


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	N/A	N/A	N/A	N/A	N/A	N/A

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a) §90.205(h)	RF Power Output	Compliant
§2.1046(a) §90.205(h)	ERP measurement	Compliant
§2.1047(d) §2.1049(h) §90.207(e)	99% Occupied Bandwidth & Type of Emission	Compliant
§90.209(3)	Bandwidth Limitation	Compliant
§2.1051 §2.1053 §90.210(c)	Emission Masks (Spurious Emissions at Antenna Ter-minals, Field Strength of Spurious Radiated)	Compliant
§90.212	Scrambling devices and digital voice modulation.	N/A
§2.1055(a)(1)(b) §90.213(a)	Frequency Stability vs. Temperature	Compliant
§90.214(a)	Transient Frequency Behavior	Compliant
§90.217(a)	Exemption from technical standards.	N/A
§15.107;§15.207	AC Power Line Conducted Emission	N/A

4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

EUT staying in continuous transmitting mode. Frequency 451.35MHz with rated data rate were chosen for full testing.

5. Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2009
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2008	07/03/2009
Spectrum Analyzer	R&S	FSP 40	100034	02/22/2008	02/21/2009
Bi-log Antenna	SCHWAZBECK	VULB9160	9160-3158	11/29/2007	11/28/2009
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	05/09/2008	05/10/2010
Pre-Amplifier	HP	8447F	3113A06892	01/05/2008	01/04/2009
Pre-Amplifier	HP	8449B	3008A01973	01/05/2008	01/04/2009
Signal Generator	R&S	SMR40	100210	01/22/2008	01/21/2010
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	01/05/2008	01/04/2009
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	01/05/2008	01/04/2009
Site NSA	SGS	966 chamber	N/A	10/01/2008	09/30/2009
Attenuator	Mini-Circuit	BW-S20W5	N/A	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2008	07/04/2009
Dipole Antenna	SCHWAZBECK	VHAP	908/909	07/10/2008	07/09/2010
Dipole Antenna	SCHWAZBECK	UHAP	891/892	07/10/2008	07/09/2010
Horn antenna	SCHWAZBECK	BBHA 9120D	673	05/09/2008	05/10/2010
Signal Generator	Agilent	E4438C	MY45093613	05/22/2008	05/21/2009

6. RF POWER OUTPUT MEASUREMENT

6.1. Standard Applicable

According to FCC §2.1046.

According to 90.205(h) 450-470MHz. The maximum allowable station effective radiated power (ERP) is dependent upon the station antenna HAAT and required service area and will be authorized in accordance with table 2. (I.e. 2W for service area leass than 3Km.)

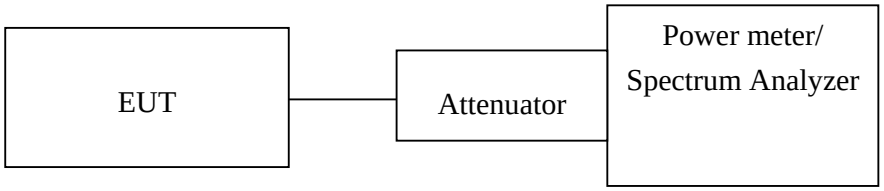
TABLE 2—450–470 MHz—MAXIMUM ERP/REFERENCE HAAT FOR A SPECIFIC SERVICE AREA RADIUS

	Service area radius (km)									
	3	8	13	16	24	32	40[4]	48[4]	64[4]	80[4]
Maximum ERP (w)[1]	2	100	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500
Up to reference HAAT (m)[3]	15	15	15	27	63	125	250	410	950	2700

[1] Maximum ERP indicated provides for a 39 dBu signal strength at the edge of the service area per FCC Report R–6602, Fig. 29 (See §73.699, Fig. 10 b).
[2] Maximum ERP of 500 watts allowed. Signal strength at the service area contour may be less than 39 dBu.
[3] When the actual antenna HAAT is greater than the reference HAAT, the allowable ERP will be reduced in accordance with the following equation: $ERP_{allow} = ERP_{max} \times (HAAT_{ref}/HAAT_{actual})^2$.
[4] Applications for this service area radius may be granted upon specific request with justification and must include a technical demonstration that the signal strength at the edge of the service area does not exceed 39 dBu.

Specification limit: 2W maximum.

6.2. Test Set-up:



Note: *Measurement setup for testing on Antenna connector*

6.3. Measurement Procedure

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading.

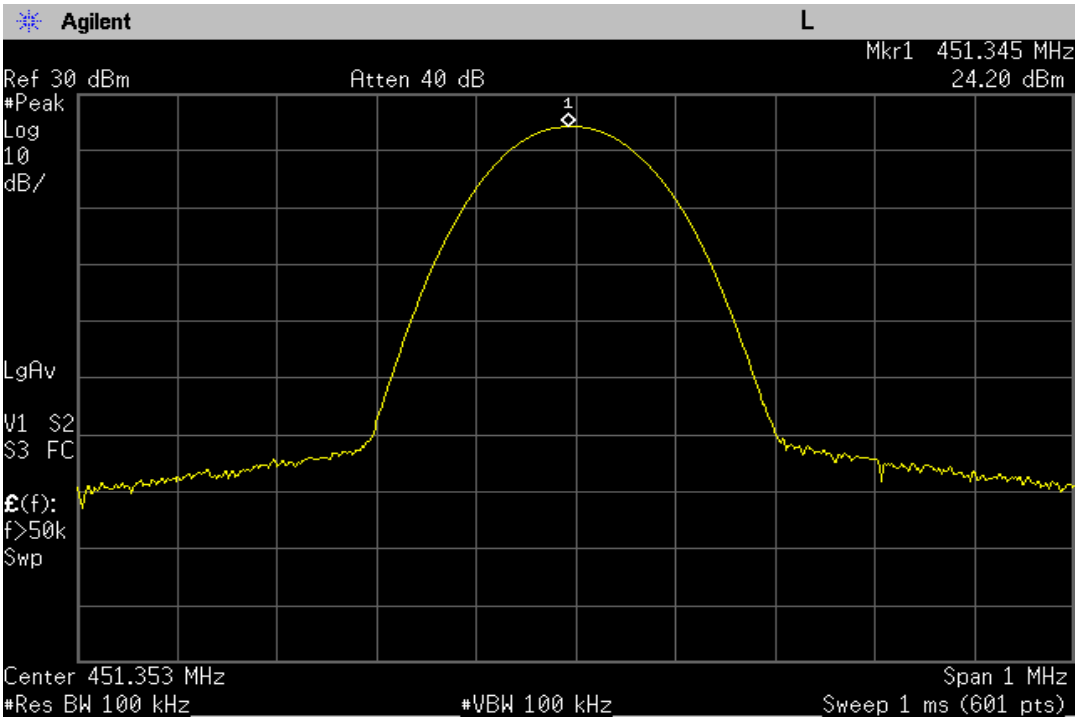
6.4. Measurement Equipment Used:

Refer to Section 5

6.5. Measurement Result

Frequency (MHz)	Power Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
451.345	24.2	0.5	24.7

TEST PLOT



7. ERP MEASUREMENT

7.1 Standard Applicable

According to FCC §2.1046

According to 90.205(h) 450-470MHz. The maximum allowable station effective radiated power (ERP) is dependent upon the station antenna HAAT and required service area and will be authorized in accordance with table 2. (I.e. 2W for service area less than 3Km.)

TABLE 2—450–470 MHz—MAXIMUM ERP/REFERENCE HAAT FOR A SPECIFIC SERVICE AREA RADIUS

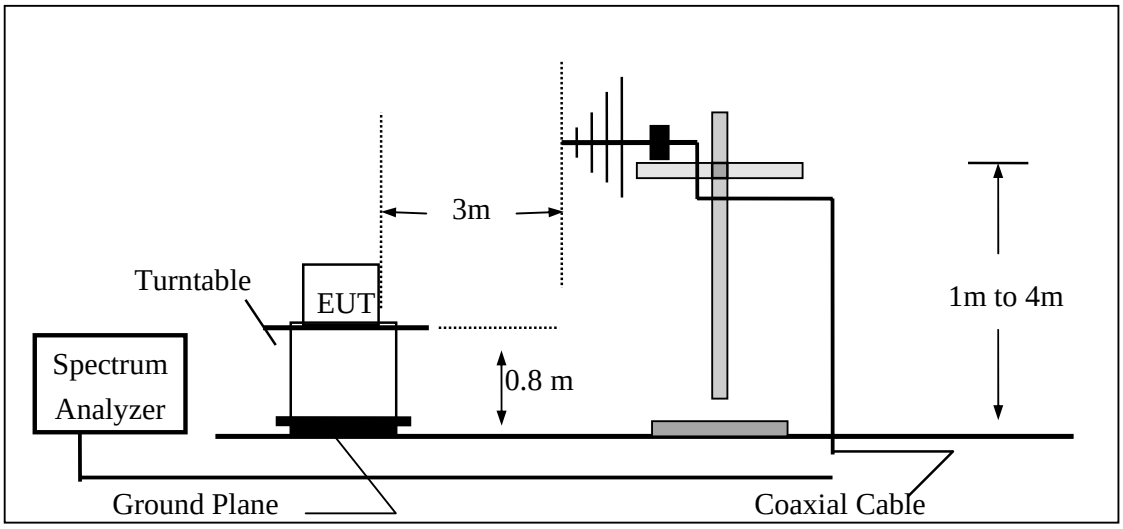
	Service area radius (km)									
	3	8	13	16	24	32	40[4]	48[4]	64[4]	80[4]
Maximum ERP (w)[1]	2	100	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500
Up to reference HAAT (m)[3]	15	15	15	27	63	125	250	410	950	2700

[1] Maximum ERP indicated provides for a 39 dBu signal strength at the edge of the service area per FCC Report R–6602, Fig. 29 (See §73.699, Fig. 10 b).
[2] Maximum ERP of 500 watts allowed. Signal strength at the service area contour may be less than 39 dBu.
[3] When the actual antenna HAAT is greater than the reference HAAT, the allowable ERP will be reduced in accordance with the following equation: $ERP_{allow} = ERP_{max} \times (HAAT_{ref}/HAAT_{actual})^2$.
[4] Applications for this service area radius may be granted upon specific request with justification and must include a technical demonstration that the signal strength at the edge of the service area does not exceed 39 dBu.

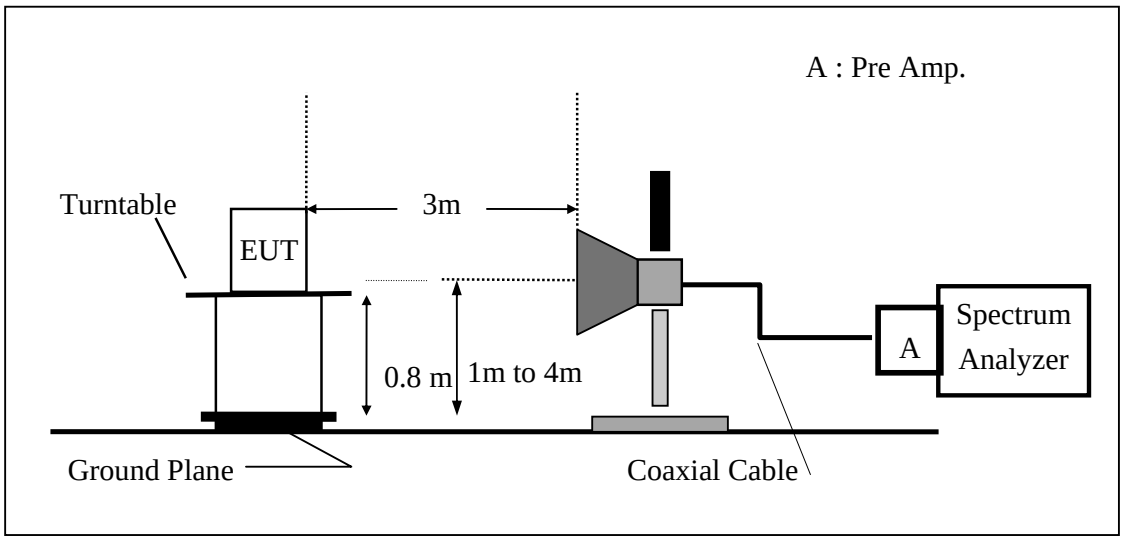
Specification limit: 2W maximum.

7.2 Test Set-up:

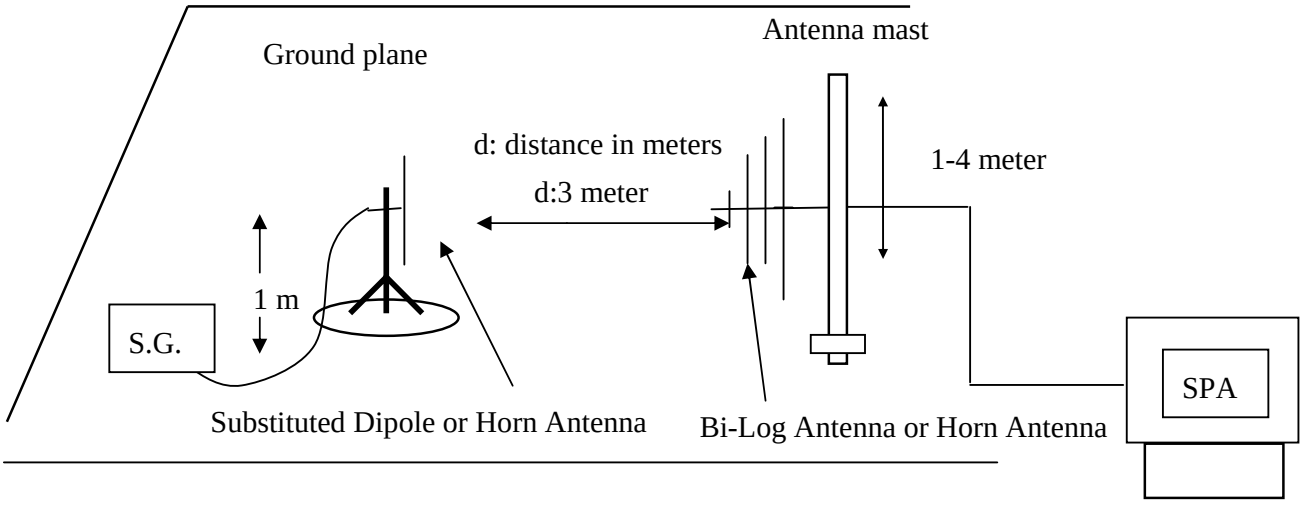
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



(C) Substituted Method Test Set-UP



7.3 Measurement Procedure

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, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.

ERP in frequency band below 1GHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

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

7.4 Measurement Equipment Used:

Refer to Section 5

7.5 Measurement Result

Result Next Page

Radiated Spurious Emission Measurement Result:

Operation Mode	: ERP POWER	Test Date:	Nov. 25, 2008
Fundamental Frequency	: 451.318 MHz	Test By:	Arno
Temperature	: 25℃	Humidity	: 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)	Safe Margin (dBm)
451.3	109.29	V	-0.62	-6.43	1.8	-8.85	33	-41.85

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)	Safe Margin (dBm)
451.3	117.58	H	7.46	-7.70	1.80	-2.04	33.00	-35.04

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

5 Peak detector was used during test.

3 The result basic equation calculation is as follows:

8. TYPE OF EMISSION

8.1 Standard Applicable

According to §FCC 2.1049.

According to §FCC 90.207(e) For non-voice paging operations, only A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, or G2D emissions will be authorized.

8.2 Result:

EUT uses F1D emission Type

9. BANDWIDTH LIMITATION MEASUREMENT

9.1 Standard Applicable

According to §FCC 90.209 (3) For all other types of emissions, the maximum authorized bandwidth shall not be more than that normally authorized for voice operations.

According to §FCC 90.209 (5) Unless specified elsewhere, channel spacings and bandwidths that will be authorized in the following frequency bands are given in the following table.

Frequency band (MHz)	Channel spacing (kHz)	Authorized bandwidth (kHz)
Below 25[2].		
25–50	20	20
72–76	20	20
150–174	[1]7.5	[1,3]20/11.25/6
216–2205 ..... 6[5]	6.25	20/11.25/
220–222	5	4
406–512[2]	[1]6.25	[13]20/11.25/6
806–809/851–854	12.5	20
809–824/854–869	25	20
896–901/935–940	12.5	13.6
902–928[4].		
929–930	25	20
1427–1432[5]	12.5	12.5
2450–2483.52[2].		
Above 2500[2].		

1) For stations authorized on or after August 18, 1995.

3) Operations using equipment using a 25 kHz bandwidth will be authorized a 20 kHz bandwidth. Operations using equipment designed to operate with a 12.5 kHz channel bandwidth will be authorized an 11.25 kHz bandwidth. Operations using equipment designed to operate with a 6.25 kHz channel bandwidth will be authorized a 6 kHz bandwidth.

Specification limit: 20.0kHz.

9.2 Test Set-up:

Refer to Section 6.2

9.3 Measurement Procedure

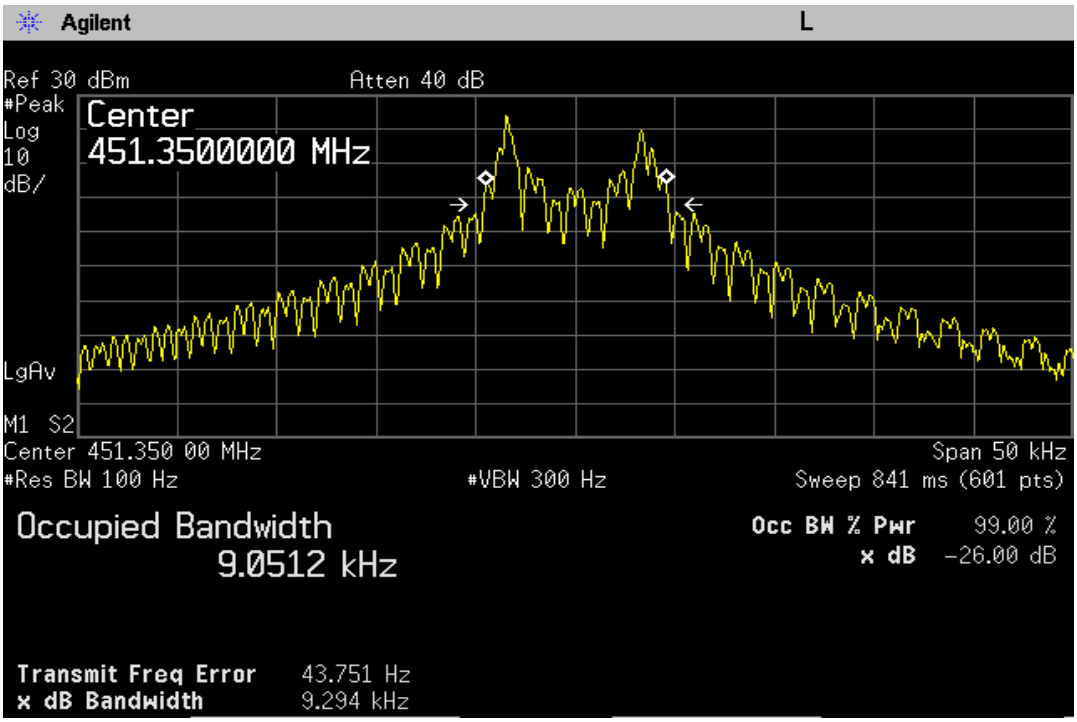
The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW, turn on 99% bandwidth function, the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

9.4 Measurement Equipment Used:

Refer to Section 5

9.5 Measurement Result:

Bandwidth is 9.294 kHz



10. EMISSION MASKS MEASUREMENT

10.1 Standard Applicable

According to §FCC 90.210 (c) Emission Mask C. For transmitters that are not equipped with an audio low-pass filter, the power of any emission must be attenuated below the un-modulated carrier output power (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 5 kHz, but not more than 10 kHz: At least 83 log (fd/5) dB;

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 10 kHz, but not more than 250 percent of the authorized bandwidth: At least 29 log (fd\2\/11) dB or 50 dB, whichever is the lesser attenuation;

(3) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

Specification limit: Specified as above..

10.2 Test Setup

Measurement Procedure

CODUCTED EMISSION

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW, turn on 99% bandwidth function, the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

Radiated EMISSION

Refer to Section 7.2

10.3 Measurement Equipment Used

Refer to Section 5.

10.4 Measurement Result

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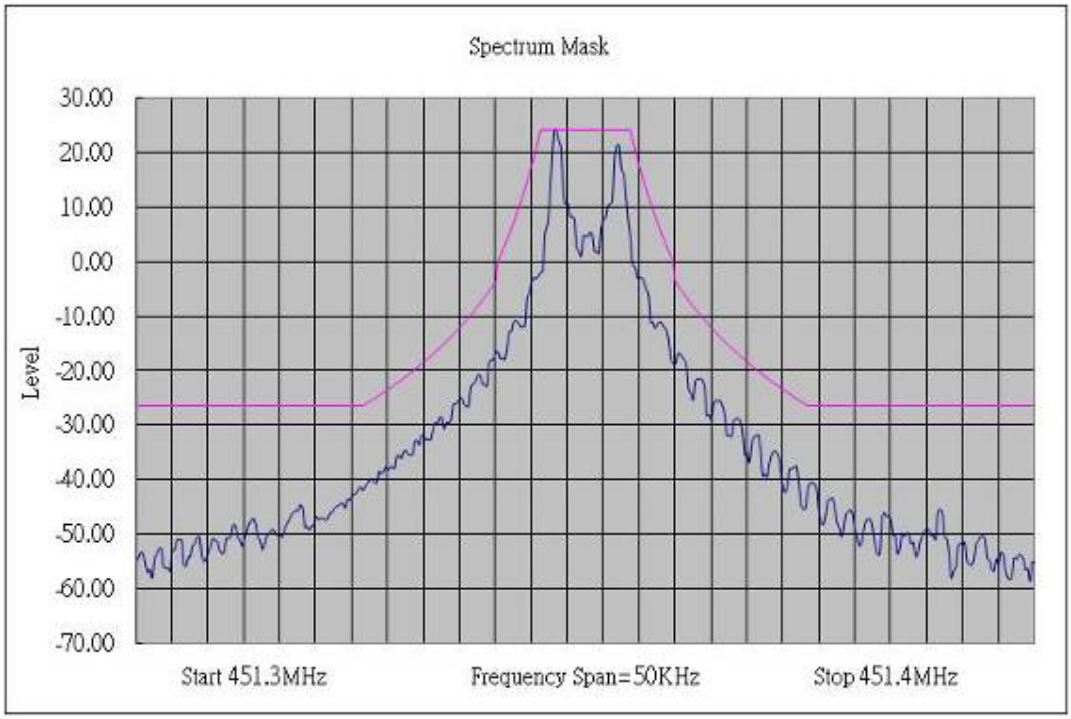
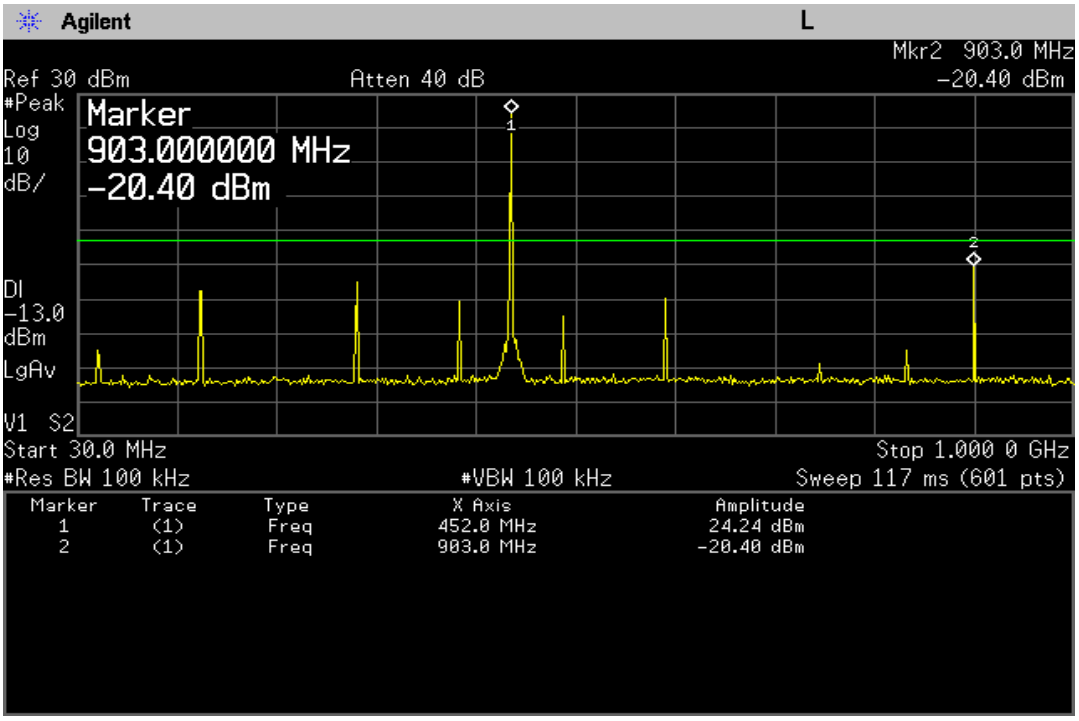
MASK

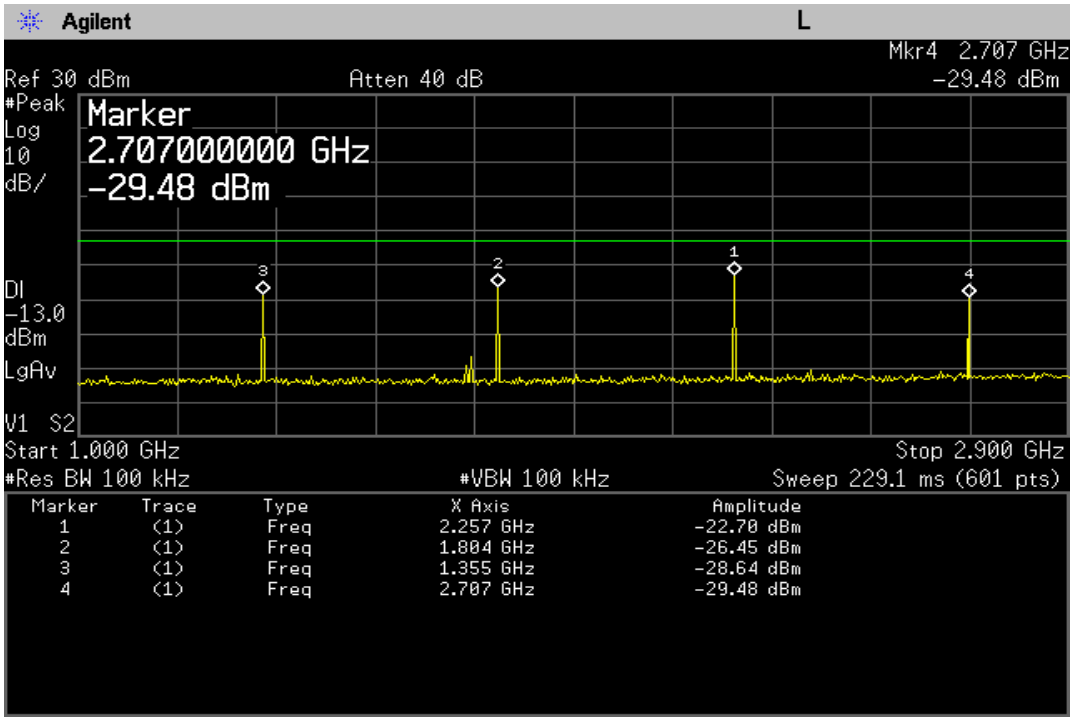


EMISSION(Conducted)

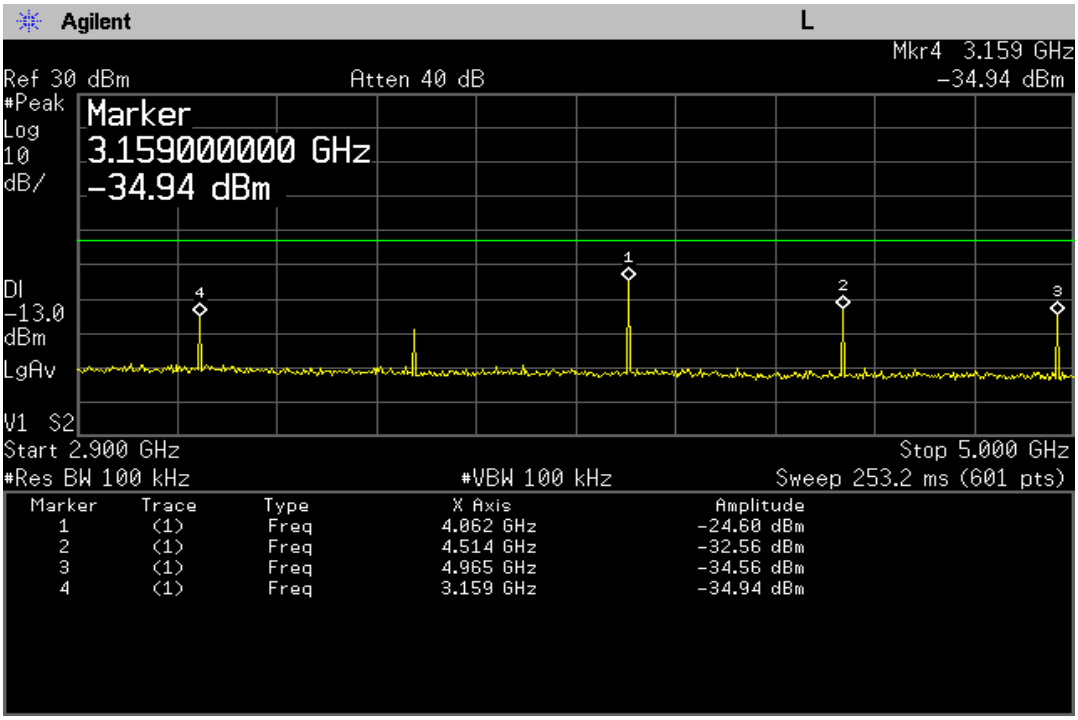
30MHz-1GHz



1GHz-2.9GHz



2.9GHz-5GHz



EMISSION(Radiated)

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
902.6	71.32	V	-30.54	-7.95	2.58	-41.08	-13.00	-28.08
1353.9	72.76	V	-42.85	7.97	2.37	-37.25	-13.00	-24.25
1805.2	82.78	V	-32.97	9.77	3.72	-26.93	-13.00	-13.93
2256.5	76.94	V	-37.70	10.20	4.19	-31.69	-13.00	-18.69
2707.8	75.66	V	-37.79	10.67	4.65	-31.77	-13.00	-18.77

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
902.6	77.55	H	-25.15	-7.95	2.58	-35.69	-13.00	-22.69
1353.9	85.96	H	-29.51	7.97	2.37	-23.92	-13.00	-10.92
1805.2	91.33	H	-24.20	9.77	3.72	-18.15	-13.00	-5.15
2256.5	82.64	H	-31.65	10.20	4.19	-25.64	-13.00	-12.64
2707.8	79.6	H	-33.53	10.67	4.65	-27.51	-13.00	-14.51

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

The emission behaviors belong to narrowband spurious emission.

Remark"---" means that the emission level is too low to be measured

The result basic equation calculation is as follows:

ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Peak detector was used during test.

The result basic equation calculation is as follows:

11. CRAMBLING DEVICES AND DIGITAL VOICE MODULATIONMEA MEASUREMENT

Not applicable.

Specification limit: Not applicable.

12. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

12.1. Standard Applicable

According to 90.213(a) Unless noted elsewhere, transmitters used in the services governed by this part must have a minimum frequency stability as specified in the following table.

MINIMUM FREQUENCY STABILITY

[Parts per million (ppm)]

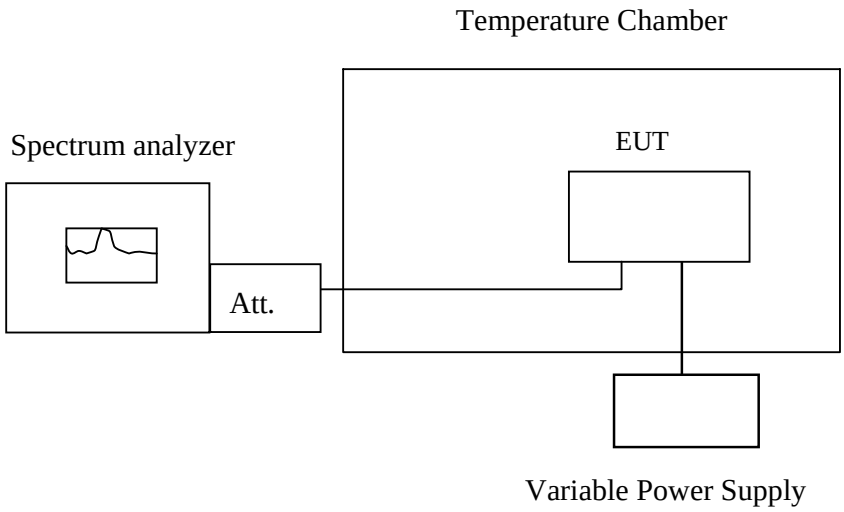
Frequency range (MHz)	Fixed and base stations	Mobile stations	
		Over 2 watts output power	2 watts or less output power
Below 25	[1,2,3] 100	100	200
25–50	20	20	50
72–76	5	.....	50
150–174	[5,11] 5	[6] 5	[4,6] 50
216–220	1.0	.....	1.0
220–222 [12]	0.1	1.5	1.5
421–512	[7,11,14] 2.5	[8] 5	[8] 5
806–809	[14] 1.0	1.5	1.5
809–824	[14] 1.5	2.5	2.5
851–854	1.0	1.5	1.5
854–869	1.5	2.5	2.5
896–901	[14] 0.1	1.5	1.5
902–928	2.5	2.5	2.5
902–928 [13]	2.5	2.5	2.5
929–930	1.5	.....	.....
935–940	0.1	1.5	1.5
1427–1435	[9] 300	300	300
Above 2450 [10]	.....	.....	.....

8) In the 421-512 MHz band, mobile stations designed to operate with a 12.5 kHz channel bandwidth must have a frequency stability of 2.5 ppm. Mobile stations designed to operate with a 6.25 kHz channel bandwidth must have a frequency stability of 1.0 ppm.

(b) For the purpose of determining the frequency stability limits, the power of a transmitter is considered to be the maximum rated output power as specified by the manufacturer.

Specification limit: 5 ppm

12.2. Test Set-up:



Note : Measurement setup for testing on Antenna connector

12.3. Measurement Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25^{o}C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –30^{o}C. After the temperature stabilized for approximately 30 minutes re-corded the frequency. Repeat step measure with 10^{o}C increased per stage until the highest temperature of +50^{o}C reached.

12.4. Measurement Equipment Used:

Refer to section 5

12.5. Measurement Result

Reference Frequency: 451.35MHz @ 20℃				
Limit: +/- 5 ppm = 2255.9 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
9.0	-30	451.34813	575	2255.9
9.0	-20	451.34785	292	2255.9
9.0	-10	451.34783	275	2255.9
9.0	0	451.34803	467	2255.9
9.0	10	451.34788	325	2255.9
9.0	20	451.34756	0	2255.9
9.0	30	451.34705	-508	2255.9
9.0	40	451.34665	-908	2255.9
9.0	50	451.34597	-1592	2255.9

Reference Frequency: 451.35MHz @ 20℃				
Limit: +/- 5 ppm = 2255.9 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
7.650	20	451.34782	262	2255.9
9.0	20	451.34756	0	2255.9

13. TRANDIENT FREQUENCY BEHAVIOR MEASUREMENT

13.1. Standard Applicable

According to 90.214Transmitters designed to operate in the 150-174 MHz and 421-512 MHz

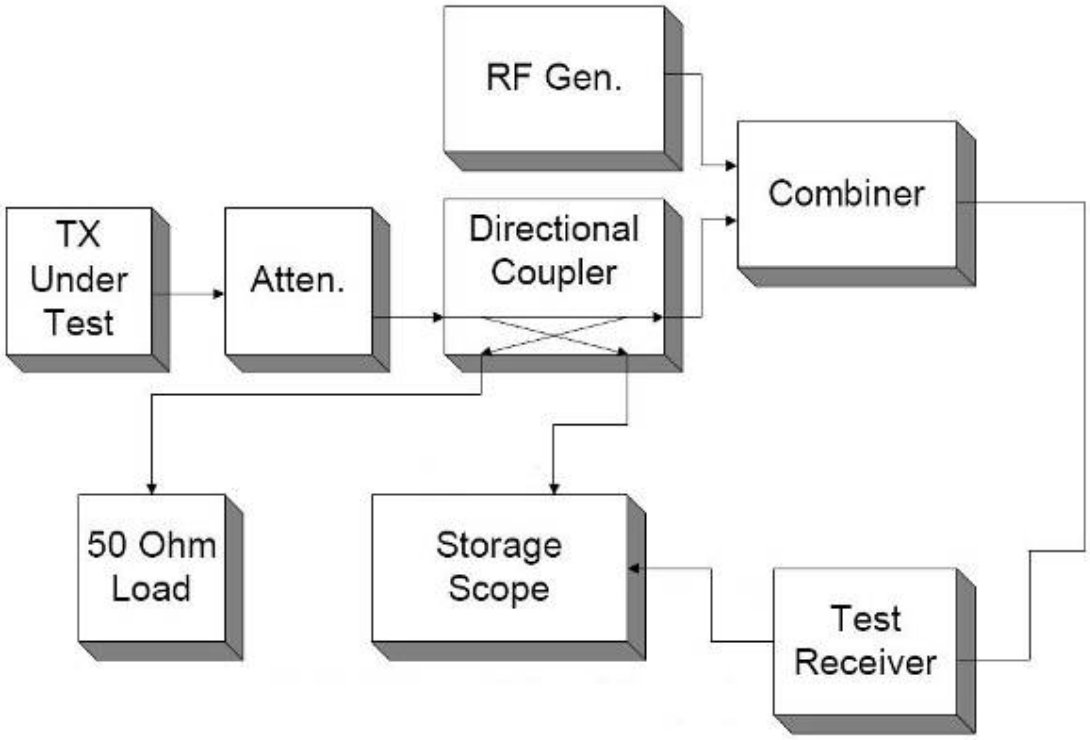
frequency bands must maintain transient frequencies within the maximum frequency difference limits during the time intervals indicated:

Time intervals [1,2]	Maximum frequency difference [3]	All equipment	
		150 to 174 MHz	421 to 512 MHz
Transient Frequency Behavior for Equipment Designed to Operate on 25 kHz Channels			
t_1 [4]	±25.0 kHz	5.0 ms	10.0 ms
t_2	±12.5 kHz	20.0 ms	25.0 ms
t_3 [4]	±25.0 kHz	5.0 ms	10.0 ms
Transient Frequency Behavior for Equipment Designed to Operate on 12.5 kHz Channels			
t_1 [4]	±12.5 kHz	5.0 ms	10.0 ms
t_2	±6.25 kHz	20.0 ms	25.0 ms
t_3 [4]	±12.5 kHz	5.0 ms	10.0 ms
Transient Frequency Behavior for Equipment Designed to Operate on 6.25 kHz Channels			
t_1 [4]	±6.25 kHz	5.0 ms	10.0 ms
t_2	±3.125 kHz	20.0 ms	25.0 ms
t_3 [4]	±6.25 kHz	5.0 ms	10.0 ms

[1] t_{on} is the instant when a 1 kHz test signal is completely suppressed, including any capture time due to phasing.
t_1 is the time period immediately following t_{on}.
t_2 is the time period immediately following t_1.
t_3 is the time period from the instant when the transmitter is turned off until t_{off}.
t_{off} is the instant when the 1 kHz test signal starts to rise.
[2] During the time from the end of t_2 to the beginning of t_3, the frequency difference must not exceed the limits specified in § 90.213.
[3] Difference between the actual transmitter frequency and the assigned transmitter frequency.
[4] If the transmitter carrier output power rating is 6 watts or less, the frequency difference during this time period may exceed the maximum frequency difference for this time period.

Specification limit: +/- 12.5 kHz during time period t2

13.2. Test Set-up



13.3. Measurement Procedure

Turn on the transient and observe the stored display.the trace should be maintained within the allowed divisions after the end of t2 and remain within it until the the end of the trace.see the figure in the appropriate standards sections

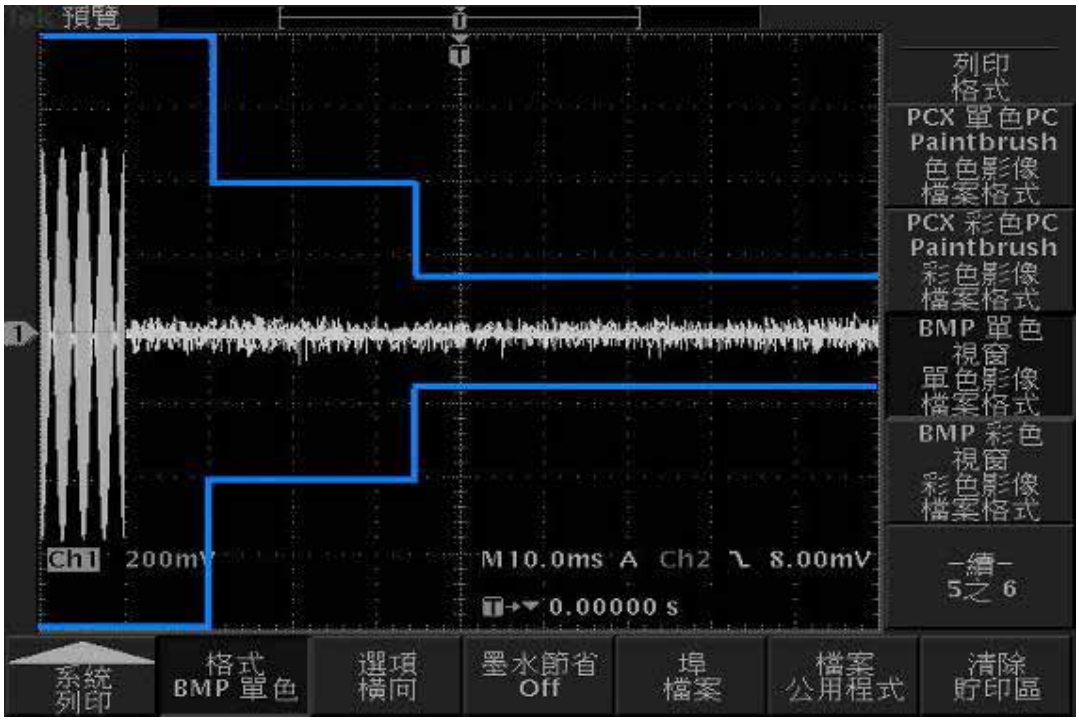
13.4. Measurement Equipment Used:

Refer to Section 5

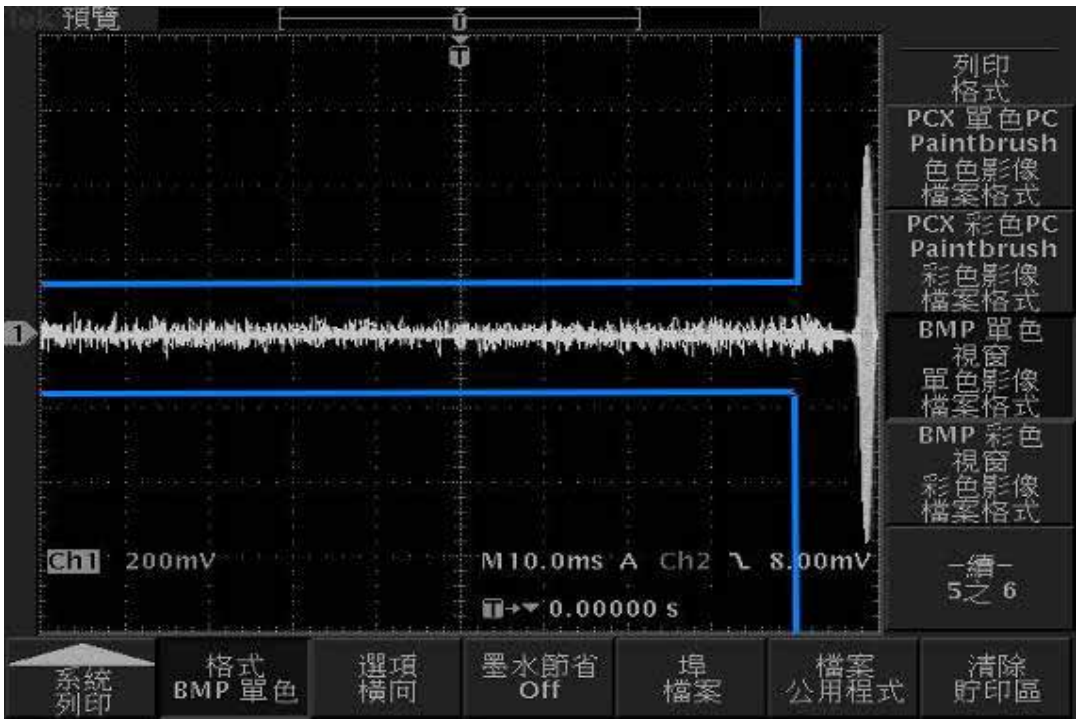
13.5. Measurement Result

Result Next Page

ON TIME



OFF TIME



14. EXEMPTION FROM TECHNICAL STANDARDS

Not applicable.

Specification limit: Not applicable.

15. AC POWER LINE CONDUCTED EMISSION TEST

15.1. Standard Applicable

According to §15.207. The emission value for frequency within 150KHz to 30MHz shall not exceed criteria of below chart.

Frequency range MHz	Limits dB(uV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note 1.The lower limit shall apply at the transition frequencies 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

15.2. EUT Setup

1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.4-2001.
2. The EUT was plug-in DC power adaptort and was placed on the center of the back edge on the test table. The peripherals like earphone was placed on the side of the EUT. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
3. The Power adaptor was connected with 110Vac/60Hz power source.

15.3. Measurement Procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

15.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
EMI Test Receiver	R&S	ESCS30	828985/004	09/16/2008	09/15/2009
LISN	Rolf-Heine	NNB-2/16Z	99012	02/18/2008	02/17/2009
LISN	Rolf-Heine	NNB-2/16Z	99013	04/28/2008	04/27/2009
LISN	FCC	FCC-LISN-50/250-25-2-01	04034	02/18/2008	02/17/2009
LISN	MESSTEC	LN-KFZ/200	02/10163	09/15/2008	09/14/2009
Transient Limiter	R&S	ESH3Z2	357.8810.52	05/19/2008	05/18/2009
50Ohms terminator	N/A	EMC-049-1	N/A	06/04/2008	06/03/2009
Coaxial Cables	N/A	WK CE Cable	N/A	11/30/2008	11/29/2009

15.5. Measurement Result:

EUT for Battery N/A