RADIO TEST REPORT

according to

47 CFR FCC Part 90

Equipment	:	**data transceiver (data radio)**
Model No.	:	**7350UE5, 52-7350UE5**
Brand Name	:	**AES Corporation**
Filing Type	:	**New Application**
Applicant	:	**AES Corporation** 285 Newburv Street Peabodv Massachusetts 01960 USA
FCC ID	:	**L9N-7350UE5**
Manufacturer	:	**Hermes Electronics Co., Ltd** No 185-1, 4th FL, 38th Road, Taichung Industrial Park (407) Taiwan
Received Date	:	Dec. 25, 2009
Final Test Date	:	Jan. 13, 2010

Statement

The test result in this report refers exclusively to the presented test model / sample.
Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI / TIA 603-C:2004, 47 CFR FCC Part 90, ANSI C63.4-2003**.
The test equipment used to perform the test is calibrated and traceable to NML/ROC.

Testing Laboratory
1190

SPORTON International Inc.

6F, No. 106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

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History of this test report

Original Issue Date: Jan. 06, 2009

Report No.: FH9D0843

■ No additional attachment.

□ Additional attachment were issued as following record:

Attachment No.	Issue Date	Description

CERTIFICATE OF COMPLIANCE

according to

47 CFR FCC Part 90

Equipment : data transceiver (data radio)

Model No. : 7350UE5, 52-7350UE5

Brand Name : AES Corporation

Applicant : AES Corporation
285 Newburv Street Peabodv
Massachusetts 01960 USA

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Dec. 25, 2009 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Wayne Hsu 2010.1.22
Wayne Hsu

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

1 General Description of Equipment under Test

1.1 Basic Description of Equipment under Test

This product is a FM UHF PTT Transceiver radio . It is used to wireless voice transceiver. The used modulation technique is FM. For other technique information, please reference section " Features of Equipment under Test ".

1.2 Features of Equipment under Test

ITEMS	DESCRIPTION
Type of Modulation	DPSK
Type of Equipment	Mobile
Type of Emission	5K6G1D
Operating Frequency	406~470MHz
Channel Space Bandwidth	12.5kHz
ERP Output Power	1.34 W
Conducted Output Power	7.762 W
Function Type	Transmitter
Power Rating (DC/AC, Voltage)	DC12V
Consumption	1.6A
Temperature Range (Operating)	-20 ~ 50℃

1.3 Table for Supporting Units

Ant.	Brand Name	Model No.	Antenna Type	Connector	Gain (dBi)
A	AUTO LTD.	73-0053NX	Vertical Antenna	BNC	4.00

Note:

1. According FCC KDB license modular approval notice: EUT is generic licensed modules without specific antennas as certified for use only in final products operating in mobile. Maximum antenna gain is 4.8dBi to ensure compliance with RF exposure limits and radio service-rule ERP limits.
2. The antenna of EUT is supporting units.

2 Test Configuration of the Equipment under Test

2.1 Description of the Test

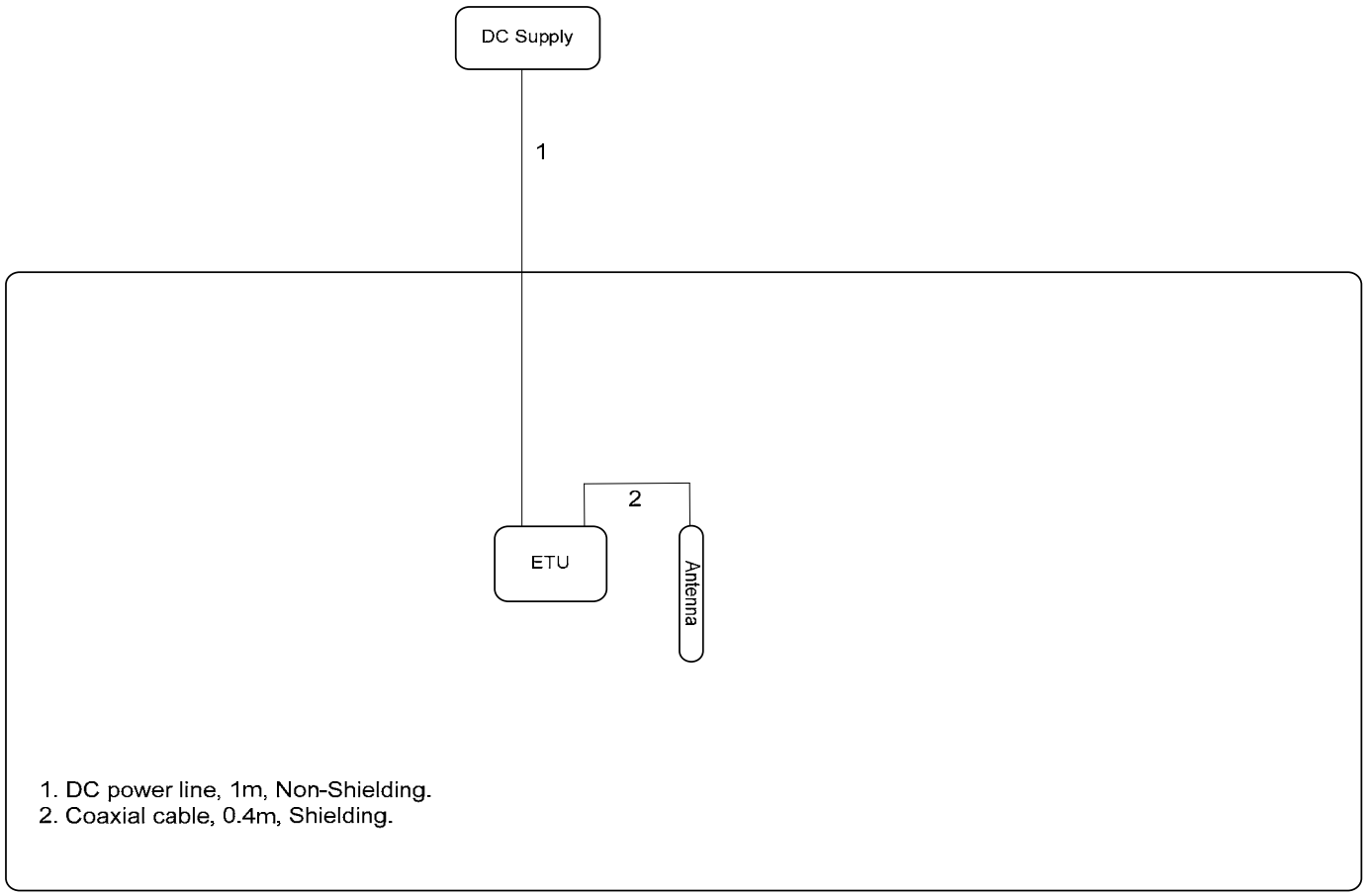
a. During testing, the equipment was placed on a non-conducting support.
b. The following test modes were performed:
c. 406MHz / 450MHz / 470MHz
d. The EUT has been programmed to continuously transmit or receive during testing. The used peripherals as well as the configuration fulfill the requirements of ANSI C63.4:2003.
e. The configuration is operated in a manner which tends to maximize its emission characteristics in a typical application.
f. 3 meters measurement distance of semi-fully chamber was used in this test.
g. For all test, the following modes were tested:
Mode 1 is 12.5 kHz bandwidth

2.2 Frequency Range Investigated

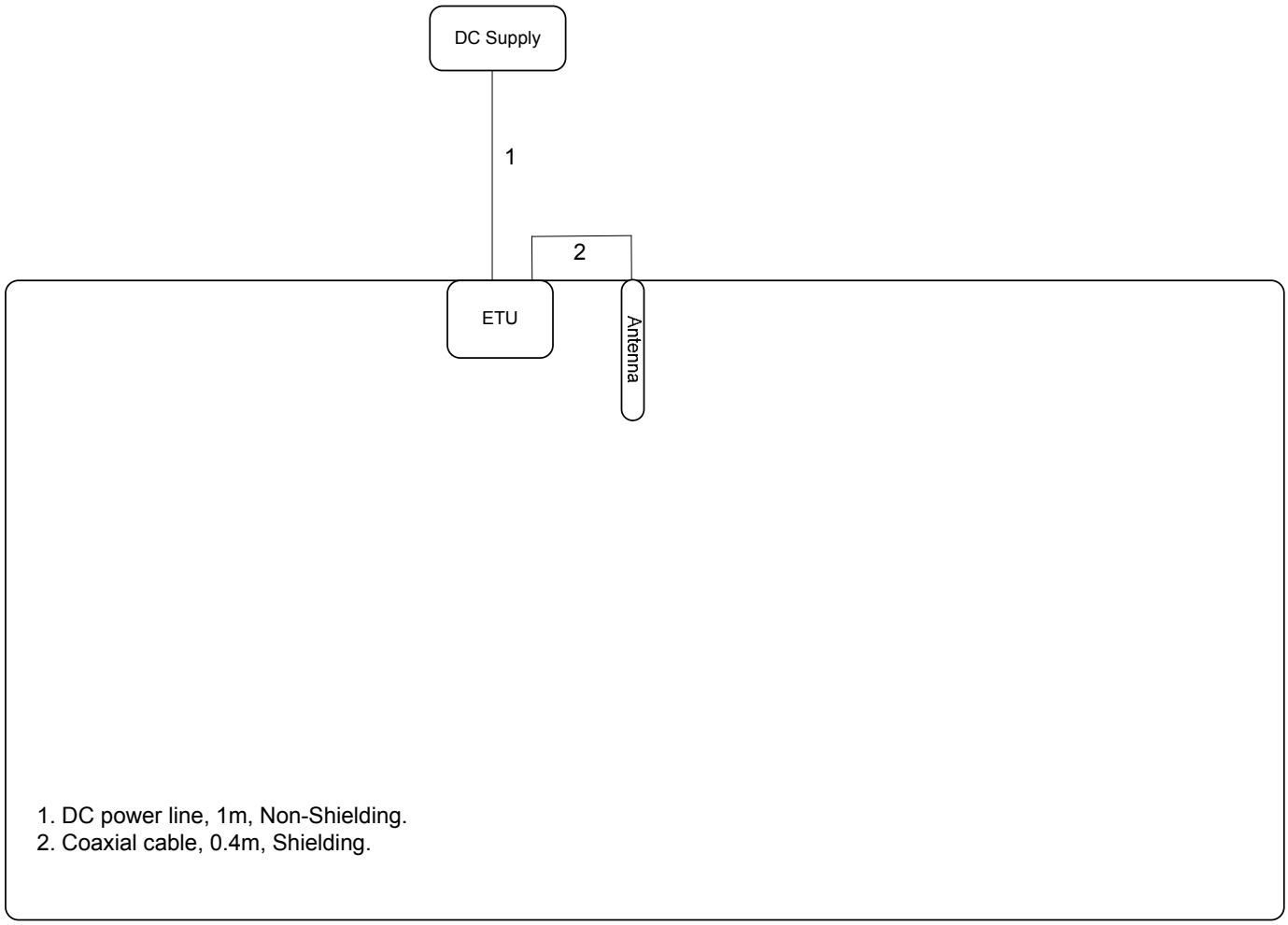
a. Radiated emission test: from 30 MHz to 10th harmonic of the highest operating frequency or 40GHz, whichever is lower

2.3 Connection Diagram of Test System

For radiated emissions below 1 GHz



For radiated emissions above 1GHz



2.4 Test Software

Test software for frequency control was provided. Before testing, the notebook computer was used to control frequency of EUT. Then leave away notebook computer during test.

3 Test Location and Standards

3.1 Test Location

Test Location : Sporton Hwa Ya Testing Building

Address : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
Tel: +886 3 327 3456 Fax: +886 3 318 0055

Test Site No. : TH01-HY, 03CH02-HY

3.2 Test Conditions

Normal Voltage	: 12VDC from DC Power Supply
Extreme Voltage	: NA
Normal Temperature	: 20 ℃
Extreme Temperature	: -20 ℃ and 50 ℃

3.3 Standards for Methods of Measurement

Here is the list of the standards followed in this test report.

ANSI C63.4-2003

TIA/EIA-603-C:2004

47 CFR Part 90

4 List of Measurements

4.1 Summary of the Test Results

Applied Standard: 47 CFR Part 90, Part 2			
Paragraph	**FCC Rule**	**Description of Test**	**Result**
5.1	2.1047(a)(b) 2.1033(c)	Modulation Characteristics	Pass
5.2	90.213	Transmitter Frequency Stability	Pass
5.3	90.205	Transmitter Output Power	Pass
5.4	90.210	Transmitter Spectrum Mask	Pass
5.5	90.210	Transmitter Spurious Radiated Emission	Pass
5.6	90.210	Transmitter Spurious Conducted Emission	Pass
5.7	90.214	Transient Frequency Behavior of Transmitter	Pass
5.8	FCC 15B	Receiver Radiated Spurious Emission	Pass

5 Test Result

5.1 Modulation Characteristics

5.1.1 Necessary Bandwidth

DPSK

12.5kHz Mode

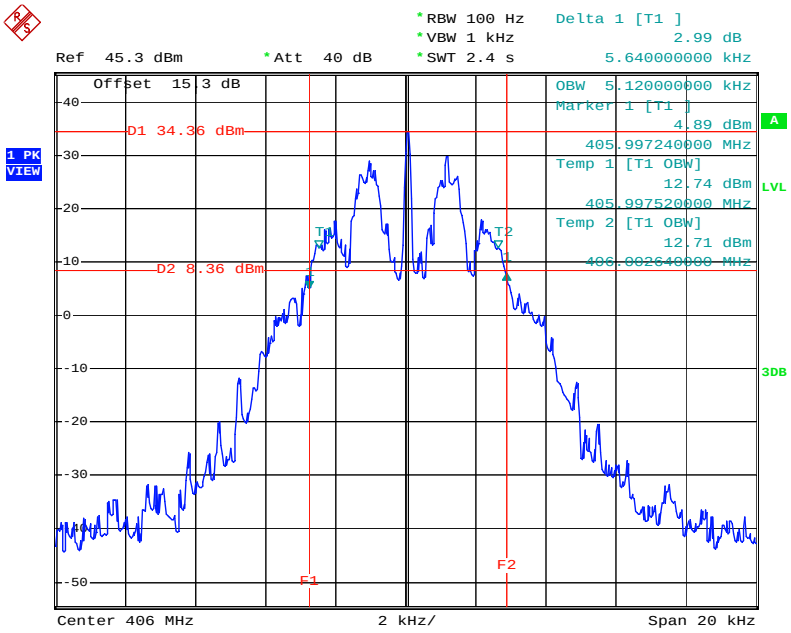
Part 2.1033(c) (4) Type of Emission: 5K6G1D

Part 90.209

12.5kHz mode

Frequency (MHz)	26dB Bandwidth (kHz)	99% Occupied Bandwidth (kHz)	Max. Limit (kHz)	Test Result
406	5.64	5.12	11.25	**Complies**
450	6.76	5.60	11.25	**Complies**
470	5.72	5.16	11.25	**Complies**

12.5kHz Mode 26 dB Bandwidth Plot on Low Channel



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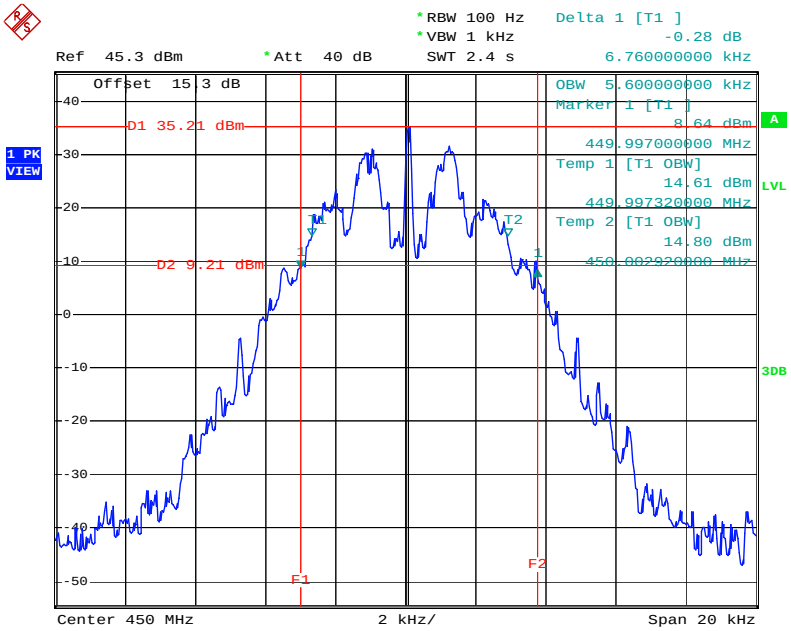
12.5kHz Mode 26 dB Bandwidth Plot on Middle Channel



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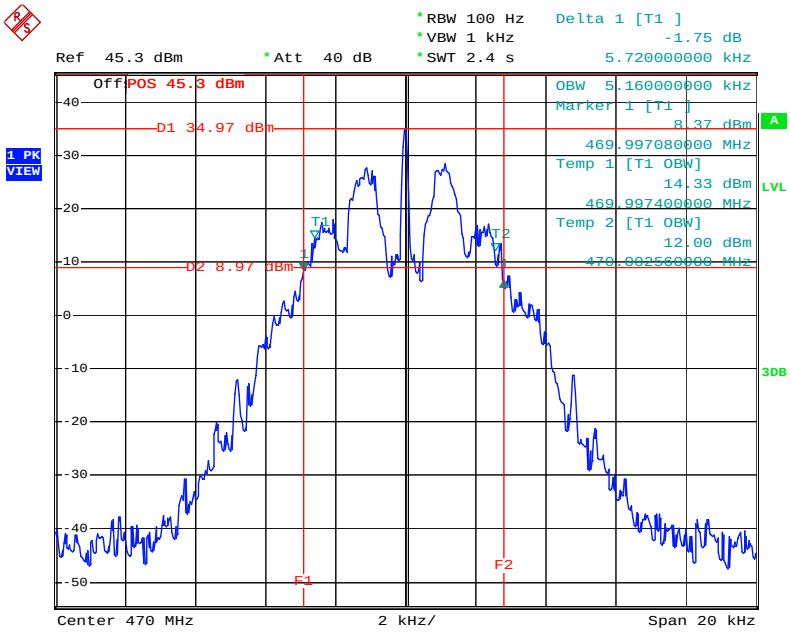
12.5kHz Mode 26 dB Bandwidth Plot on High Channel



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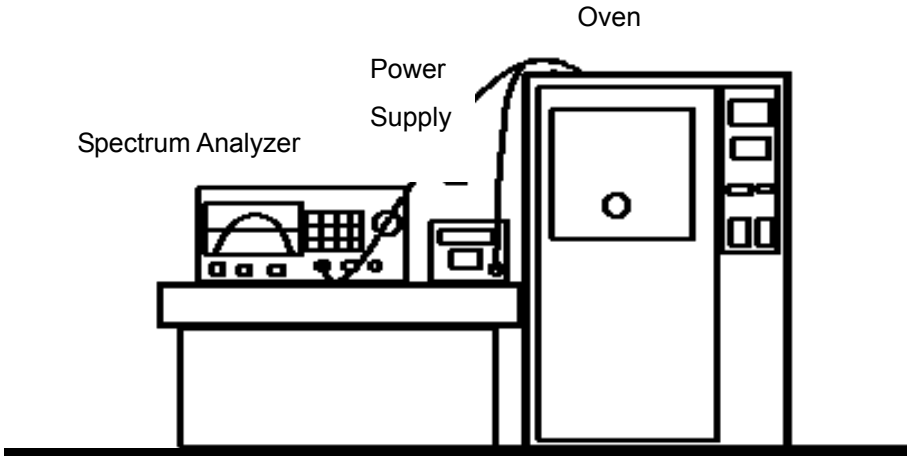
5.2 Transmitter Frequency Stability

5.2.1 Test Procedures

1. The transmitter output is connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to 1kHz and VBW to 1kHz.
3. Use peak detector mode, Max-hold and search the peak of trace 1.
4. According to the part 2.1055(d)(1), the supply voltage has to be changed from 85 to 115 percent of the nominal value.
5. According to the part 2.1055(a)(1), extreme temperature has to be changed from -20℃ to 50℃.
6. Read the frequency of the carrier and calculate the deviation.

5.2.2 Test Setup Layout



5.2.3 Test Result

- Modulation Type: Un-Modulated Carrier (CW)
- Temperature: 28°C
- Relative Humidity: 58 %

Mode 1 Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	**450**
13.8	450.0008013
10.2	450.0004803
Max. Deviation (MHz)	**0.000801**
Max. Deviation (ppm)	**1.78**
Limit (ppm)	**2.5 (Mobile ; Authorized Bandwidth 11.25kHz)**

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(℃)	**450**
-20	450.0009615
-10	450.0009231
0	449.9995192
10	450.0009230
20	449.9995192
30	450.0004807
40	450.0004800
50	450.0005570
60	450.0009740
Max. Deviation (MHz)	**0.000974**
Max. Deviation (ppm)	**2.16**
Limit (ppm)	**2.5 (Mobile ; Authorized Bandwidth 11.25kHz)**

5.3 Transmitter Output Power

5.3.1 Test Procedures

Transmitter Radiated Output Power

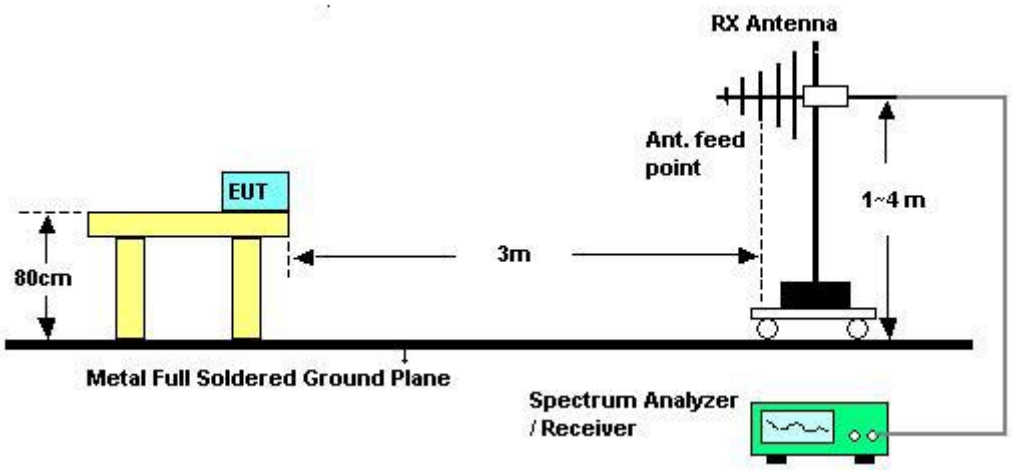
1. The EUT was placed on the top of the turntable in semi-anechoic chamber.
2. The test shall be made in the transmitting mode. Antenna tower was scan (from 1 M to 4 M) and the turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The receiving Horn antenna was placed 0.5 meters far away from the turntable.
4. The receiving antenna was fixed on the same height with the EUT to find maximum suspected emissions. Recorded suspected value is indicated as Read Level (Raw).
5. Replace the EUT by standard antenna and feed the RF port by signal generator.
6. Adjust the frequency of the signal generator to the suspected emission and slightly rotate the turntable to locate the position with maximum reading.
7. Adjust the power level of the signal generator to reach the same reading with Read Level (Raw).
8. The level of the spurious emission is the power level of (7) plus the gain of the standard antenna in dBd and minus the loss of the cable used between the signal generator and the standard antenna.

Transmitter Conducted Output Power

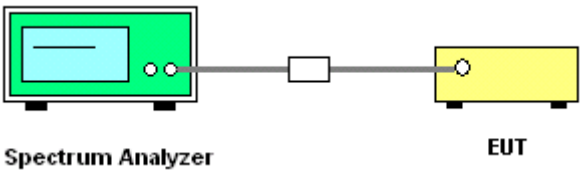
1. The transmitter output is connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to1MHz and VBW to 3MHz.
3. Record the Conducted Output Power.

5.3.2 Test Setup Layout

Transmitter Radiated Output Power



Transmitter Conducted Output Power



5.3.3 Test Result

- Temperature: 26°C
- Relative Humidity: 52 %

Mode 1

Frequency (MHz)	ERP Output Power (W)	Limits (W)
406	1.34	Power limit FCC90.261 20 watts
450	0.66	Power limit FCC90.261 20 watts
470	1.02	Power limit FCC90.261 20 watts

Note: ERP = EIRP Output Power – 2.15dB

Mode 1

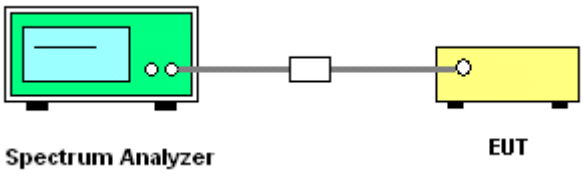
Frequency (MHz)	Conducted Output Power (W)	Limits (W)
406	7.12853	-
450	7.762471	-
470	5.688529	-

5.4 Transmitter Spectrum Mask

5.4.1 Test Procedures

4. The transmitter output is connected to the spectrum analyzer through an attenuator.
5. Set RBW of spectrum analyzer to 300Hz and VBW to 1kHz.
6. Mark the frequency with maximum peak power as the center of the display of the spectrum
7. Set the span to 120kHz and the sweep time to Auto.
8. Record the power spectral and compare to the Mask.

5.4.2 Test Setup Layout



5.4.3 Test Result：See spectrum analyzer plots below

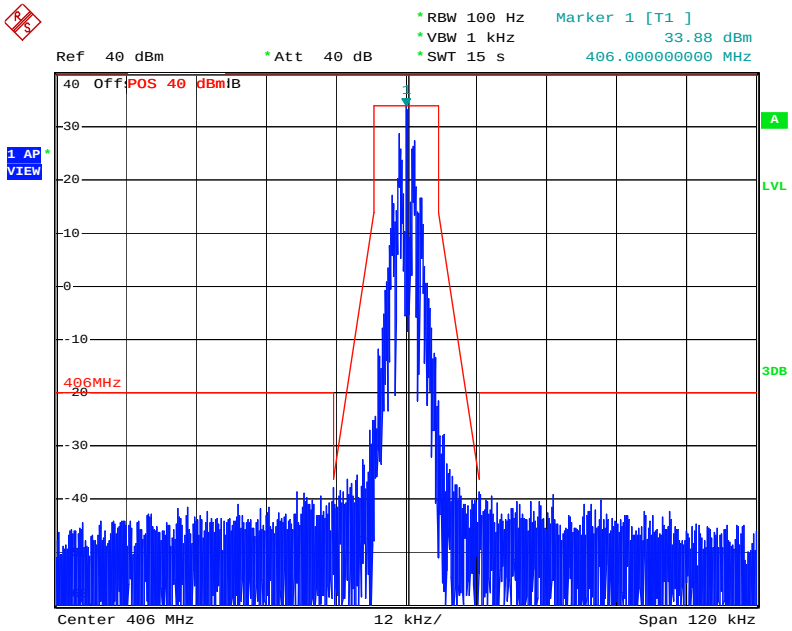
- Temperature: 28°C
- Relative Humidity: 58 %

Mode 1

Frequency (MHz)	Result	Limits Mask
406	Pass	D
450	Pass	D
470	Pass	D

Mode 1

406MHz：



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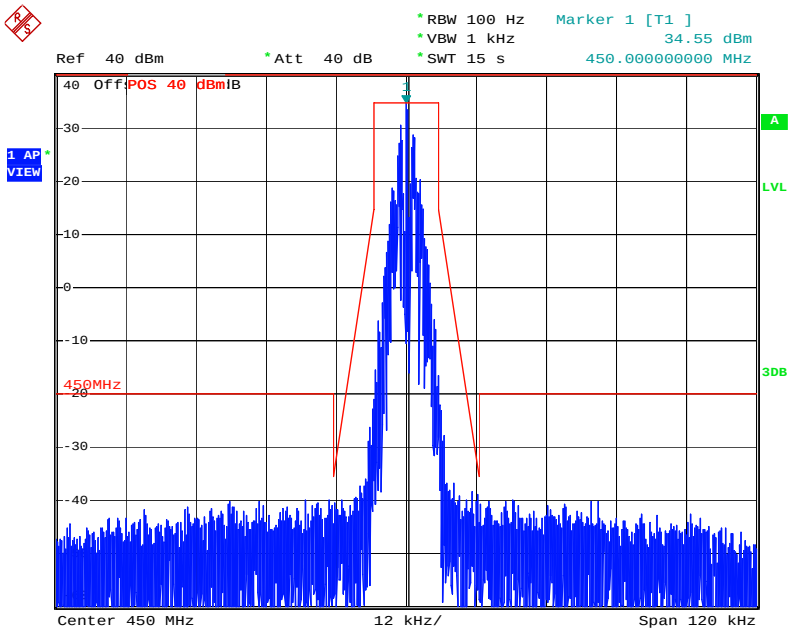
450MHz：



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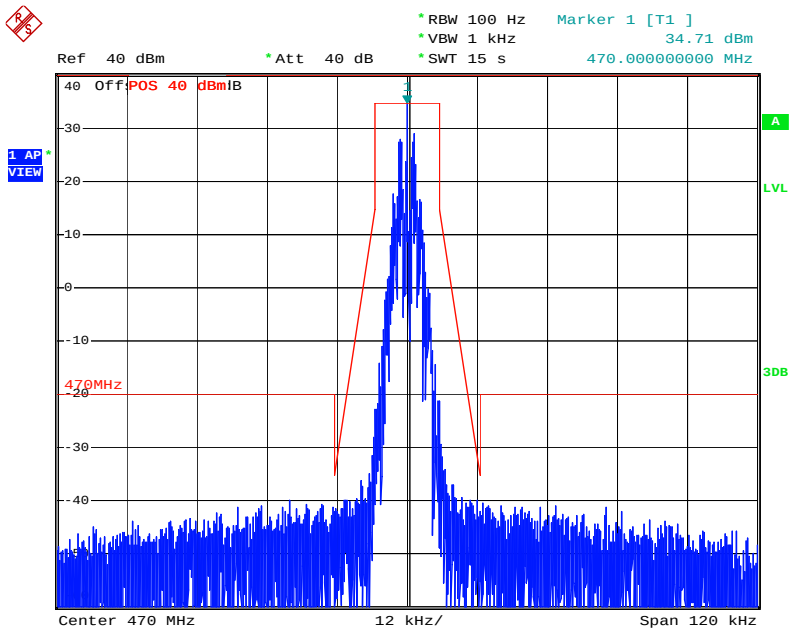
470MHz：



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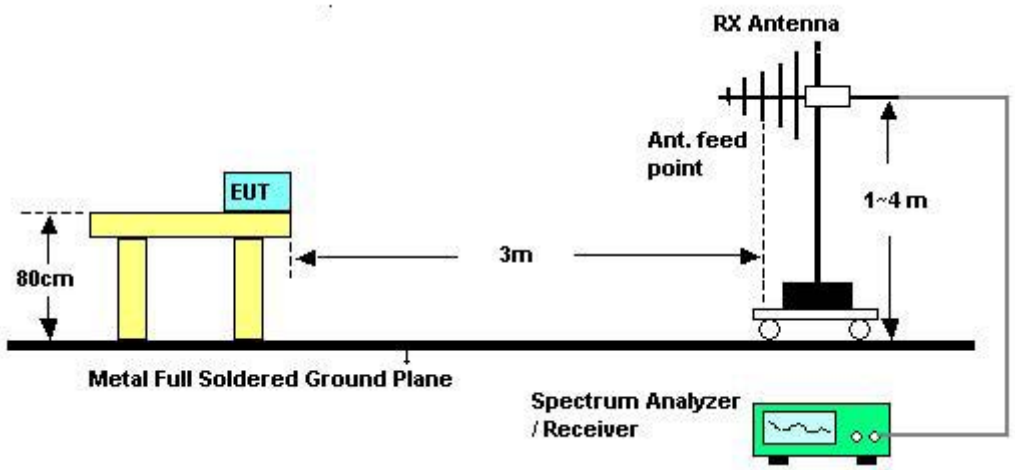
5.5 Transmitter Spurious Radiated Emission

5.5.1 Test Procedures

1. Configure the EUT according to ANSI C63.4.
2. The EUT was placed on the top of the turn table 0.8 meter above ground.
3. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turn table.
4. Power on the EUT and all the supporting units.
5. The turn table was rotated 360 degrees to determine the position of the highest radiation.
6. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
7. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.
8. Adjust the spectrum analyzer for the following settings:
   1) Resolution Bandwidth = 10 kHz for spurious emissions below 1 GHz and 1 MHz for spurious emissions above 1GHz.
   2) Video Bandwidth = 300 kHz for spurious emissions below 1 GHz, and 3 MHz for spurious emissions above 1 GHz.
   3) Sweep Speed slow enough to maintain measurement calibration.
   4) Detector Mode = Positive Peak.
9. Remove the transmitter and replace it with a broadband substitution antenna.
10. With the substitution antennas at horizontally polarized and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading (item 7) . This should be done carefully repeating the adjustment of the test antenna and generator output.
11. Pd(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi). Pd is the dipole equivalent power and Pg is the generator output power into the substitution antenna.
12. Radiated spurious emissions attenuation in dB 43 + 10 $\log_{10}$ (power out in Watts).

5.5.2 Test Setup Layout



5.5.3 Test Results and Limit

Mode 1

Test Mode	406MHz.	**Temperature**	26 deg. C	**Tested By**	Billy
ERP Power (P)	1.34 W	**Humidity**	52%		

Radiated spurious emissions attenuation limit is 44.27 dB below fundamental carrier power (43 + 10 $\log_{10}$ (1.34))

Emission Frequency MHz	Ant. Polarity	Attenuation below fundamental carrier (dB)	Limit below fundamental carrier power (dB)
812.00	V	52.14	44.27
1218.00	V	51.79	44.27
1624.00	H	50.37	44.27
2030.00	V	50.01	44.27
2436.00	V	54.35	44.27
2842.00	H	54.47	44.27
3248.00	H	46.42	44.27
3654.00	V	47.13	44.27
4060.00	H	49.22	44.27

Test Mode	450MHz.	**Temperature**	26 deg. C	**Tested By**	Billy
ERP Power (P)	0.66 W	**Humidity**	52%		

Radiated spurious emissions attenuation limit is 41.20 dB below fundamental carrier power (43 + 10 $\log_{10}$ (0.66))

Emission Frequency MHz	Ant. Polarity	Attenuation below fundamental carrier (dB)	Limit below fundamental carrier power (dB)
900.00	H	50.06	41.20
1350.00	V	49.96	41.20
1800.00	V	51.11	41.20
2250.00	H	49.97	41.20
2700.00	V	50.11	41.20
3150.00	V	49.09	41.20
3600.00	H	42.01	41.20
4050.00	H	44.16	41.20
4500.00	V	43.60	41.20

Test Mode	470MHz.	**Temperature**	26 deg. C	**Tested By**	Billy
ERP Power (P)	1.02W	**Humidity**	52%		

Radiated spurious emissions attenuation limit is 43.09 dB below fundamental carrier power (43 + 10 $\log_{10}$ (1.02))

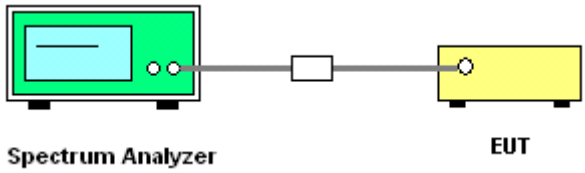
Emission Frequency MHz	Ant. Polarity	Attenuation below fundamental carrier (dB)	Limit below fundamental carrier power (dB)
940.00	V	47.71	43.09
1410.00	V	51.49	43.09
1880.00	H	49.91	43.09
2350.00	V	52.09	43.09
2820.00	H	44.19	43.09
3290.00	H	46.01	43.09
3760.00	V	46.16	43.09
4230.00	H	47.40	43.09
4700.00	V	48.38	43.09

5.6 Transmitter Spurious Conducted Emission

5.6.1 Test Procedures

1. The transmitter output is connected to the spectrum analyzer through an attenuator
2. Adjust the spectrum analyzer for the following settings:
   1) Resolution Bandwidth = 10 kHz for spurious emissions below 1 GHz,
      and 1 MHz for spurious emissions above 1GHz.
   2) Video Bandwidth = 300 kHz for spurious emissions below 1 GHz, and
      3 MHz for spurious emissions above 1 GHz.
   3) Sweep Speed slow enough to maintain measurement calibration. Detector Mode = Positive Peak.
3. Limits=P (dBm)+10log(P(W)) = -13dBm

5.6.2 Test Setup Layout



5.6.3 Test Results and Limit

Mode 1

Test Mode	406MHz.	**Temperature**	26 deg. C	**Tested By**	Billy
Limit	-13 dBm	**Humidity**	52%		

Emission Frequency (MHz)	Worst Spurious Emission (dBm)	Limit (dBm)
811.812	-22.24	-13

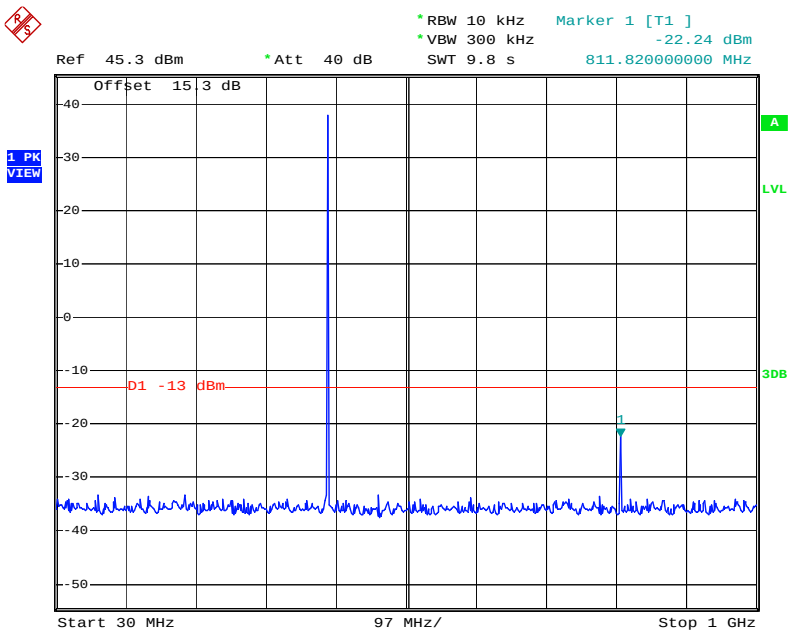
Test Mode	450MHz.	**Temperature**	26 deg. C	**Tested By**	Billy
Limit	-13 dBm	**Humidity**	52%		

Emission Frequency (MHz)	Worst Spurious Emission (dBm)	Limit (dBm)
1344	-23.63	-13

Test Mode	470MHz.	**Temperature**	26 deg. C	**Tested By**	Billy
Limit	-13 dBm	**Humidity**	52%		

Emission Frequency (MHz)	Worst Spurious Emission (dBm)	Limit (dBm)
1408	-21.12	-13

406MHz：



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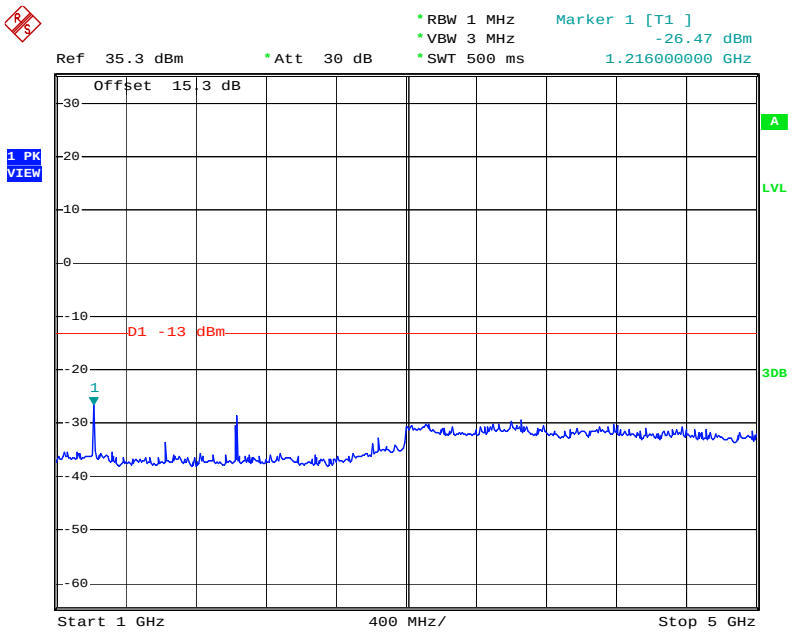

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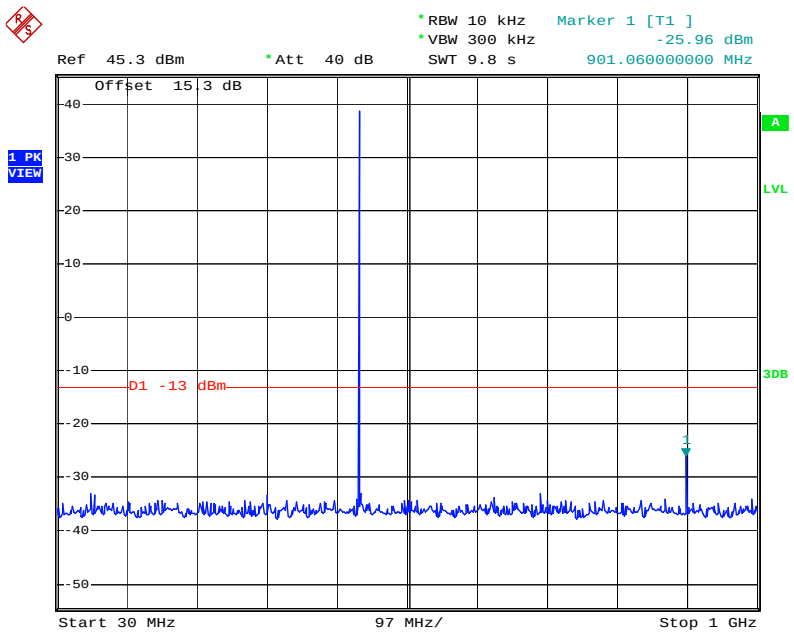
450MHz：



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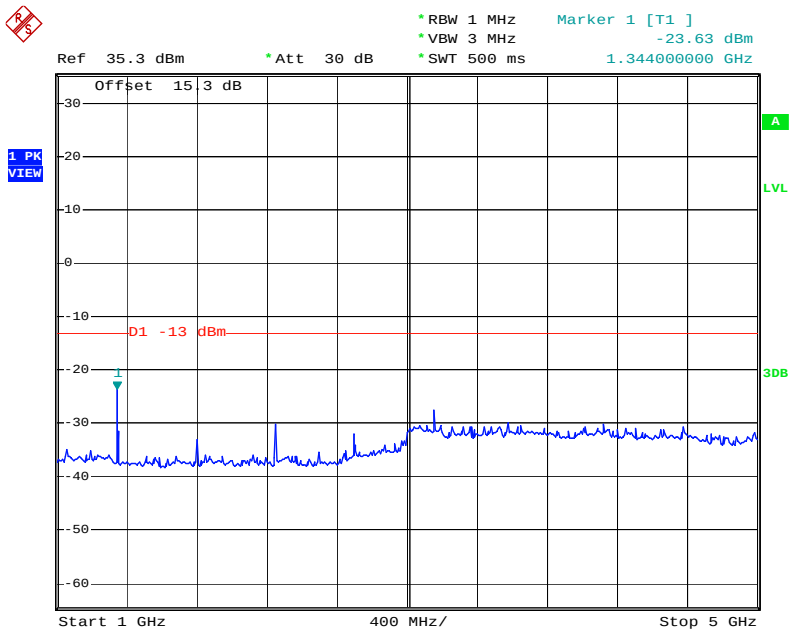

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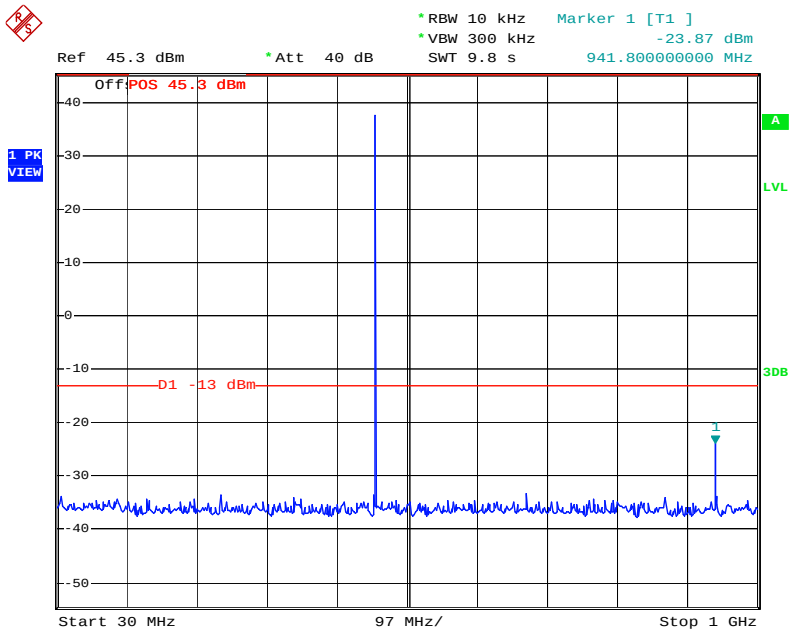
470MHz：



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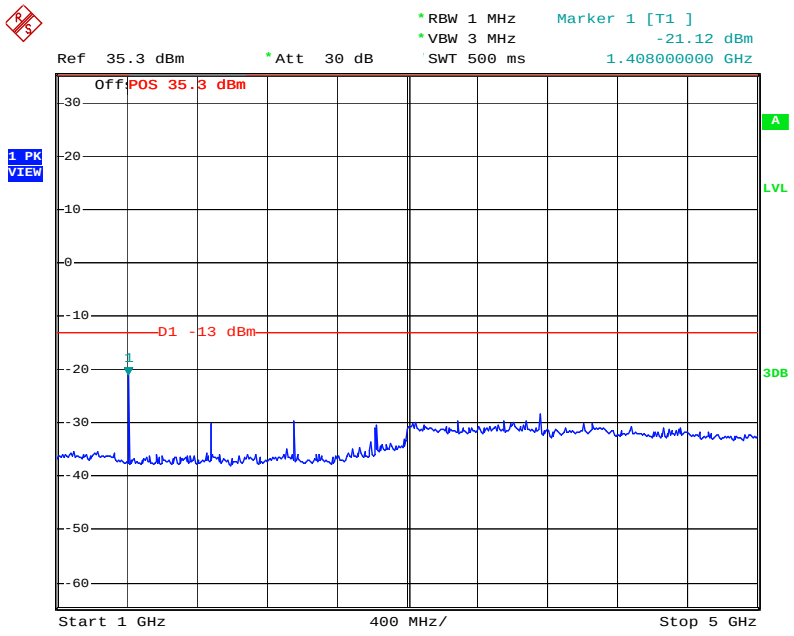

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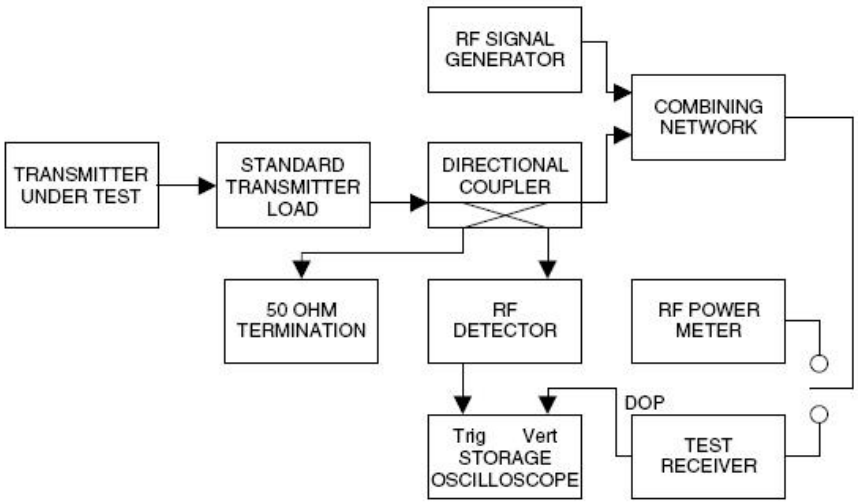
5.7 Transient Frequency Behavior of Transmitter

5.7.1 Test Procedures

1. SG to the assigned transmitter frequency and modulate it with a 1 kHz tone at ±25 kHz deviation and set its output level to below 30dB of EUT signal level to receiver.
2. Set the horizontal sweep rate on the storage oscilloscope to 10 ms per division and adjust the display to continuously view the 1000 Hz tone from the DOP. Adjust the vertical amplitude control of the oscilloscope to display the 1000 Hz at ±4 divisions vertically centered on the display.
3. Transmitter on and observe the stored display. The output at the DOP, due to the change in the ratio of power between the signal generator input power and the transmitter output power will, because of the capture effect of the test receiver, produce a change in display: For the first part of the sweep it will show the 1 kHz test signal. Then once the receiver's demodulator has been captured by the transmitter power, the display will show the frequency difference from the assigned frequency to the actual transmitter frequency versus time. The instant when the 1 kHz test signal is completely suppressed (including any capture time due to phasing) is considered to be *ton* . The trace should be maintained within the allowed divisions during the period *t*1 and *t*2 . See the figure in the appropriate standards section.
4. During the time from the end of *t*2 to the beginning of t3 the frequency difference should not exceed the limits set by the FCC in 47 CFR 90.214 and outlined in 3.2.2. The allowed limit is equal to the transmitter frequency times its FCC frequency tolerance times ±4 display divisions divided by 25 kHz. For example, at a transmitter assigned frequency of 500 MHz and a frequency tolerance of 5 ppm. This would be 500 MHz times 5 ppm times ±4 divisions divided by 25 kHz. This equals ±0.4 divisions in this example. Greater vertical sensitivity may be required to view this accurately
5. Adjust the oscilloscope trigger controls so it will trigger on a decreasing magnitude from the RF peak detector, at 1 division from the right side of the display, when the transmitter is turned off. Set the controls to store the display. The moment when the 1 kHz test signal starts to rise is considered to provide *toff*

5.7.2 Test Setup Layout

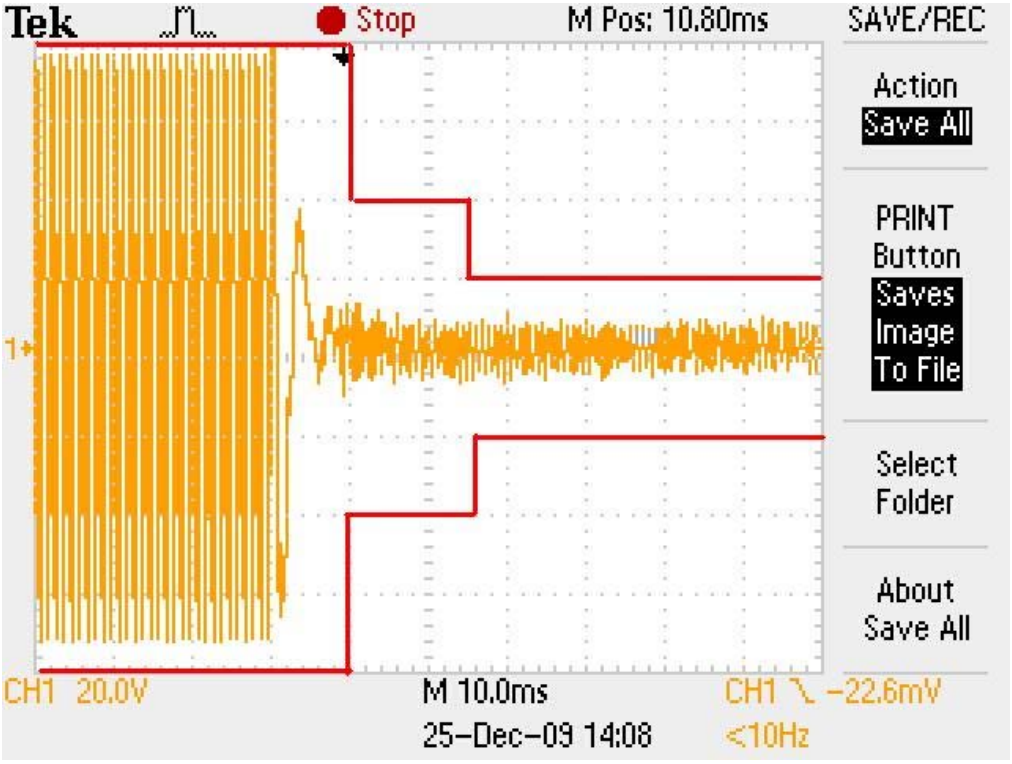


5.7.3 Test Result : please see the spectrum plot after the table

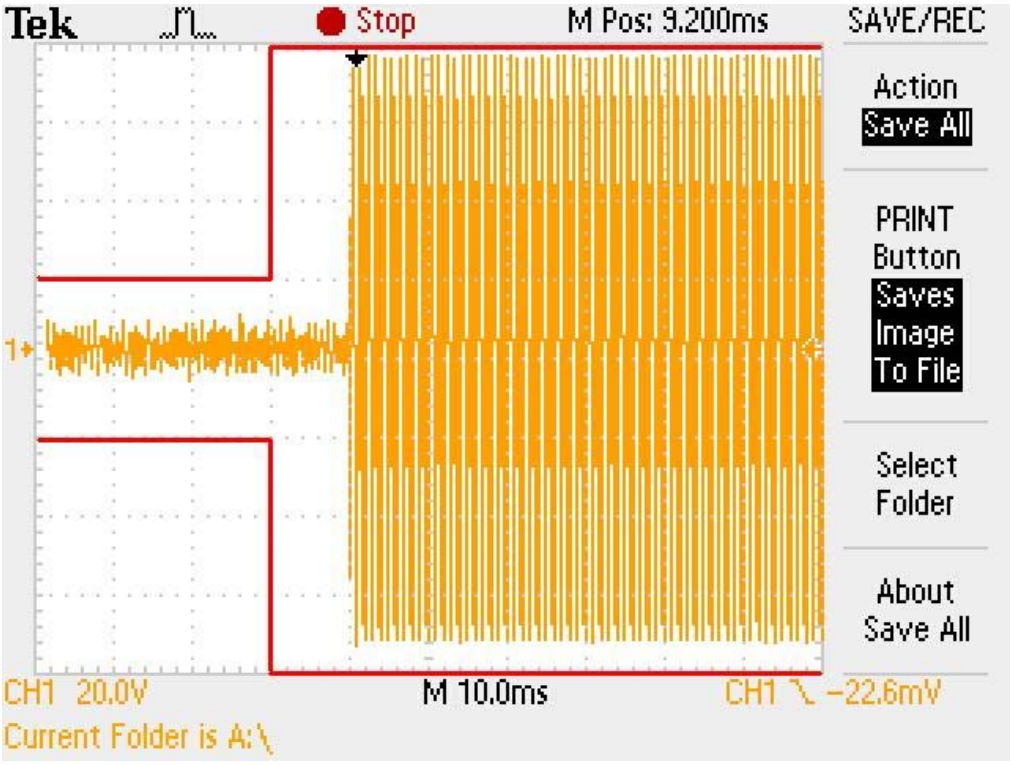
- Temperature: 28°C
- Relative Humidity: 58 %

Time Interval (ms)	Deviation (kHz)	Frequency Stability ppm	Result
10 (t1)	12.5	-	Pass
25 (t2)	6.25	-	Pass
10 (t3)	12.5	-	Pass
t_{on}	default	5	Pass

Mode 1: t1, t2



Mode 1 t3

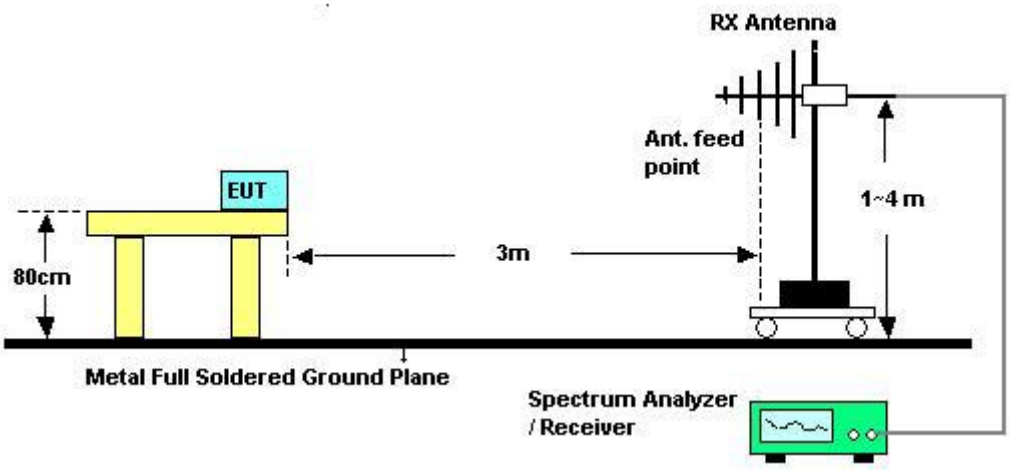


5.8 Receiver Radiated Spurious Emission

5.8.1 Test Procedures

1. Configure the EUT according to ANSI C63.4.
2. The EUT was placed on the top of the turn table 0.8 meter above ground.
3. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turn table.
4. Power on the EUT and all the supporting units.
5. The turn table was rotated 360 degrees to determine the position of the highest radiation.
6. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
7. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.
8. Adjust the spectrum analyzer for the following settings:
   1) Resolution Bandwidth = 100 kHz for spurious emissions below 1 GHz and 1 MHz for spurious emissions above 1GHz.
   2) Video Bandwidth = 300 kHz for spurious emissions below 1 GHz, and 3 MHz for spurious emissions above 1 GHz.
   3) Sweep Speed slow enough to maintain measurement calibration.
   4) Detector Mode = Positive Peak.

5.8.2 Test Setup Layout



5.8.3 Test Results and Limit

Test results in different receiver frequency are not deviation. Therefore we only record low channel data in this report.

Mode 1

Test Mode	470MHz.	**Temperature**	26 deg. C	**Tested By**	Billy
Limit	FCC 15.105/ RSS-GEN	**Humidity**	52%		

Emission Frequency MHz	Ant. Polarity	Field strength dBuV/m	Limit dBuV/m
432.1	V	29.5	46
432.1	H	31.6	46
864.3	V	35.6	46
864.3	H	41.5	46
1314.0	V	31.4	54
1314.0	H	32.2	54
1720.0	V	37.5	54
1720.0	H	36.5	54
2210.0	V	49.8	54
2210.0	H	46.1	54

6 List of Measuring Equipments Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSU26.5	100015	20Hz ~ 26.5GHz	Oct. 29, 2009	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jul. 31, 2009	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100666	DC ~ 30GHz	Aug. 05, 2009	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jul. 31, 2009	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 13, 2009	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-S	MAB0103-001	N/A	Aug. 06, 2009	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2009	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2009	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 25, 2009	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	Jul. 12, 2009*	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is two year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP40	100305/040	9 kHz - 40GHz	Feb. 04, 2009	Radiation (03CH02-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30 MHz - 1 GHz 3m	May 11, 2009	Radiation (03CH02-HY)
Amplifier	Agilent	8447D	2944A11146	100 kHz – 1.3 GHz	Jul. 07, 2009	Radiation (03CH02-HY)
Amplifier	Agilent	8449B	3008A02373	1GHz – 26.5 GHz	Jul. 16, 2009	Radiation (03CH02-HY)
Horn Antenna	ETS-LINDGREN	3117	00091920	1GHz~18GHz	Oct. 22, 2009	Radiation (03CH02-HY)
RF Cable-R03m	Jye Bao	RG142	CB020	30 MHz - 1 GHz	Dec. 16, 2009	Radiation (03CH02-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX106	03CH02-HY	1GHz~40GHz	Dec. 16, 2009	Radiation (03CH02-HY)
Bilog Antenna	SCHAFFNER	CBL61128	2723	30 MHz - 2 GHz	Nov. 30, 2009	Radiation (03CH02-HY)
Turn Table	HD	DS 420	420/649/00	0 - 360 degree	N/A	Radiation (03CH02-HY)
Antenna Mast	HD	MA 240	240/559/00	1 m - 4 m	N/A	Radiation (03CH02-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	Jul. 28, 2008*	Radiation (03CH02-HY)

Note: Calibration Interval of instruments listed above is two year.

7 TEST LOCATION

SHIJR	ADD	:	6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C.
	TEL	:	886-2-2696-2468
	FAX	:	886-2-2696-2255
HWA YA	ADD	:	No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
	TEL	:	886-3-327-3456
	FAX	:	886-3-318-0055
LINKOU	ADD	:	No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C
	TEL	:	886-2-2601-1640
	FAX	:	886-2-2601-1695
DUNGHU	ADD	:	No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C.
	TEL	:	886-2-2631-4739
	FAX	:	886-2-2631-9740
JUNGHE	ADD	:	7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C.
	TEL	:	886-2-8227-2020
	FAX	:	886-2-8227-2626
NEIHU	ADD	:	4Fl., No. 339, Hsin Hu 2nd Rd., Taipei 114, Taiwan, R.O.C.
	TEL	:	886-2-2794-8886
	FAX	:	886-2-2794-9777
JHUBEI	ADD	:	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.
	TEL	:	886-3-656-9065
	FAX	:	886-3-656-9085

8 TAF CERTIFICATE OF ACCREDITATION

Certificate No. : L1190-090318

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.

EMC & Wireless Communications Laboratory

No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	:	ISO/IEC 17025:2005
Accreditation Number	:	1190
Originally Accredited	:	December 15, 2003
Effective Period	:	January 10, 2007 to January 09, 2010
Accredited Scope	:	Testing Field, see described in the Appendix
Specific Accreditation Program	:	Accreditation Program for Designated Testing Laboratory for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory Accreditation Program for BSMI Mutual Recognition Arrangment with Foreign Authorities

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : March 18, 2009

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The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix