

Reference No.: A07032001 Report No.:FCCA07032001-01

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Date: APR. 12, 2007

Product Name:

Wireless Gun Controller Trimersion

Model No .:

TR101X

Applicant:

3001AD, LLC

430 S. Congress Avenue, Suite #2, Delray Beach, Florida

33445, USA

Date of Receipt:

Mar. 20, 2007

Finished date of Test:

Apr. 11, 2007

Applicable Standards:

47 CFR Part 15, Subpart C

ANSI C63.4:2003

We, Spectrum Research & Testing Laboratory Inc., hereby certify that one sample of the above was tested in our laboratory with positive results according to the above-mentioned standards. The records in the report are an accurate account of the results. Details of the results are given in the subsequent pages of this report.

Tested By :

Date: 4/12

Approved By:

(John Yu)

(Johnson Ho, Director)

of, Date: 2007, 4.12



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1. DOCUMENT POLICY AND TEST STATEMENT

1.1 DOCUMENT POLICY

- The report shall not be reproduced except in full, without the written approval of SRT Lab, Inc.
- The report must not be used by the applicant to claim that the product is endorsed by NVLAP, TÜV, NEMKO and SRT.
- The NVLAP logo applies only to the applicable standards specified in this report.

1.2 TEST STATEMENT

- The test results in the report apply only to the unit tested by SRT Lab.
- There was no deviation from the requirements of test standards during the test.
- AC power source, 120 Vac/60 Hz, was used during the test.

1.3 EUT MODIFICATION

- 1. Layout ground connect to right and some much together with copper cable line.
- 2. IC module ground connect to main PCB ground.
- 3. IC module with EMI absorber RS004SB(10MHz~500MHz).
- 4. Print Circuit with iron cover and cover connect to ground.
- 5. Connected cable with four core inner(KSB9x16x5x2 12x20x5x2)and two outer(RC 16x28x7 25x12x15-M), the cable shielded.
- 6. L change to bead(impedance221) and C used 68p.
- 7. PCB be shielded with fabric net under Video output chip.



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2. DESCRIPTION OF EUT AND TEST MODE

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wireless Gun Controller Trimersion
MODEL NO.	TR101X
POWER REQUIREMENTS	DC 6V, ≤160mA
FREQUENCY BAND	2400 ~ 2483MHz
CARRIER FREQUENCY	CH0:2404~CH3:2478 MHz
CHANNEL SPACING	24.6 MHz
RF OUTPUT POWER	-5dBm
MODULATION TYPE	FSK
DUTY CYCLE	2%
NUMBER OF CHANNEL	4
BIT RATE OF TRANSMISSION	1 Mbps
MODE OF OPERATION	duplex
ANTENNA TYPE	PCB Antenna

2.2 DESCRIPTION OF SUPPORT UNIT

The transmitter part of EUT was tested with a Sony PlayStatation 2 system and configured by the requirement of ANSI C63.4. All interface ports were connected to the appropriate support units via specific cables. The support units and cables are listed below.

DEVICE	BRAND / MAKER	MODEL#	CABLE	
PlayStation 2	SONY	SCPH-75007	1.0m shielded power cord	
TV	Kolin	KLT-230	1.8m shielded AV cable	
Wireless Base Station	Trimersion	TR101	NA	
Head Motion Display	Trimersion	HMD	1.0m shielded cable	

2.3 DESCRIPTION OF TEST MODE

4 channels are provided by EUT. 2 channels of lower and higher were chosen for test.

Channel	Frequency (MHz)
0	2404
3	2478

- 1. Below 1 GHz, the channel 0 were pre-tested in chamber. The channel 0, worst case one, was chosen for conducted and radiated emission test.
- 2. Above 1 GHz, the channel 0 were tested individually.



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3. DESCRIPTION OF APPLIED STANDARDS

The EUT is a kind of wireless product and to be connected with a PC system for normal use. According to the specifications provided by the applicant, it must comply with the requirements of the following standards:

47 CFR Part 15, Subpart C ANSI C63.4:2003

All tests have been performed and recorded as per the above standards.



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4. RADIATED EMISSION TEST

4.1 RADIATED EMISSION LIMIT

FCC Part 15, Subpart B Section 15.209.

FREQUENCY (MHz)	DISTANCE (m)	FIELD STRENGTH (dBμV/m)
30 - 88	3	40.0
88 - 216	3	43.5
216 - 960	3	46.0
Above 960	3	54.0

NOTE:

- 1. In the emission tables above, the tighter limit applies at the band edges.
- 2. Distance refers to the distance between measuring instrument, antenna, and the closest point of any part of the device or system.

FCC Part 15, Section15.35(b) limit of radiated emission for frequency above 1000 MHz

Frequency (MHz)	Class A (dBu	ıV/m) (at 3m)	Class B (dBuV/m) (at 3m)		
Frequency (MHZ)	Peak	Average	Peak	Average	
Above 1000	80.0	60.0	74.0	54.0	

FCC Part 15, Subpart C Section 15.249. The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency (MHz)	Filed Stre Fundan (dBuV/m)	nental	Field Strength of Harmonics (dBuV/m) (at 3m)		
	Peak	Average	Peak	Average	
902-928	114	94	74.0	54.0	
2400-2483.5	114	94	74.0	54.0	
5725-5875	114	94	74.0	54.0	
24000-24250	128	108	88.0	68.0	



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4.2 TEST EQUIPMENT

The following test equipment was used during the radiated emission test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER	9 kHz TO 1 GHz	ROHDE & SCHWARZ	ESCS30/ 830245/012	OCT. 2007 ETC
BI-LOG ANTENNA	25 MHz TO 2 GHz	EMCO	3143/ 9509-1141	SEP. 2007 SRT
SPECTRUM ANALYZER	9 KHz TO 26.5 GHz	HP	8593E/ 3710A03220	MAY 2007 ETC
PRE-AMPLIFIER	1 GHz TO 26.5 GHz	HP	8449B/ 3008A01019	NOV. 2007 ETC
OATS	3 – 10 M MEASUREMENT	SRT	SRT-1	DEC. 2007 SRT
COAXIAL CABLE	25M	SUNCITY	J400/ 25M	AUG. 2007 SRT
FILTER	2 LINE, 30A	FIL.COIL	FC-943/ 869	N/A
FREQUENCY CONVERTER	N/A	APC	AFC-2KBB/ F100030031	AUG. 2007 SRT

- 1. The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.
- 2. The Open Area Test Site (SRT-1) is registered by FCC with No. 90957 and VCCI with No. R-1081.
- 3. The Open Area Test Site (SRT-2) is registered by FCC with No. 98458 and VCCI with No. R-1168.



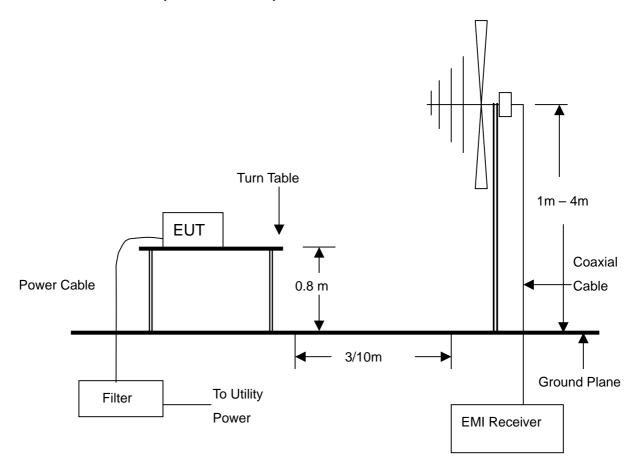
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4.3 TEST SET-UP(30MHz - 1GHz)



- 1. The EUT system was put on a wooden table with 0.8m heights above a ground plane.
- 2. For the actual test configuration, please refer to the photos of testing.



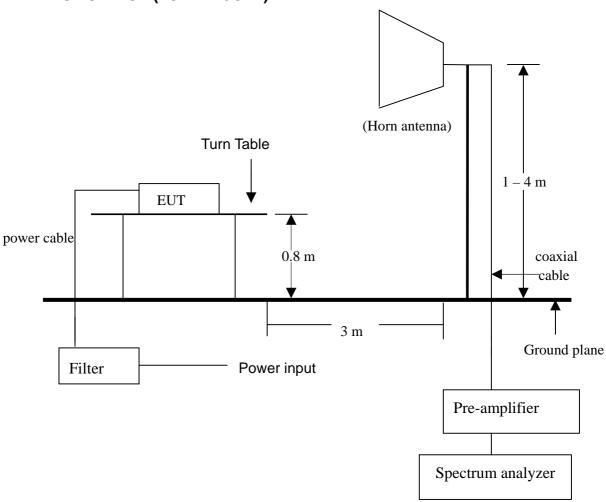
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4.4 TEST SET- UP (1GHz - 25GHz)



- 1. The EUT system was put on a wooden table with 0.8m heights above a ground plane.
- 2. For the actual test configuration, please refer to the photos of testing.



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4.5 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.4 and CISPR 22. The measurements were made at an open area test site with 10 meter measurement distance under 1 GHz and with 3m distance above 1GHz. The frequency spectrum measured started from 30 MHz. Under 1 GHz, all readings were quasi-peak values with 120 kHz resolution bandwidth of the test receiver. Above 1 GHz, the measurements were made at an open area test site with 3 meter measurement distance and all readings were peak or average values with 1 MHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. The cables connected to EUT and support units were moved to find the maximum emission levels for each frequency.

4.6 EUT OPERATING CONDITION

- 4.6.1 Set EUT under transmission condition continuously at a specific channel frequency.
- 4.6.2 Run PS2 program and keeping EUT under operating.



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4.7 RADIATED EMISSION TEST RESULT

Temperature: 20°C Humidity: 70%RH 30 - 1000 MHz Ferquency Range: Test mode: TX(2404MHz) Receiver Detector: Q.P. or AV. Measured Distance: 3m APR. 11, 2007 Tested by: John Yu Tested Date:

Antenna Polarization: Horizontal

	Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	AZ(°)	EL(m)
	300.2145	3.02	13.80	15.3	32.1	46.0	-13.9	56	1.10
	325.9990	3.15	14.55	14.6	32.3	46.0	-13.7	158	1.50
	400.3256	3.60	15.40	14.3	33.3	46.0	-12.7	21	1.10
	550.2365	4.37	19.40	15.2	39.0	46.0	-7.0	145	1.20
	612.3564	4.64	19.44	14.4	38.5	46.0	-7.5	147	1.10
Ī	855.3650	5.60	23.50	14.2	43.3	46.0	-2.7	132	1.20

Antenna Polarization: Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	AZ(°)	EL(m)
191.9950	2.45	10.63	16.2	29.3	43.5	-14.2	250	1.60
289.3650	2.97	12.77	15.2	30.9	46.0	-15.1	135	1.70
315.2350	3.10	14.25	14.3	31.6	46.0	-14.4	245	1.54
360.2145	3.34	15.30	16.3	34.9	46.0	-11.1	125	1.40
612.3654	4.64	19.44	14.4	38.4	46.0	-7.6	145	1.54
850.3250	5.58	23.40	14.6	43.6	46.0	-2.4	160	1.60

NOTE: 1. Measurement uncertainty is less than +/-2dB

- 2. "*": Measurement does not apply for this frequency.
- 3. Emissiom Level = Reading Value + Ant. Factor + Cable Loss
- 4. The field strength of other emission frequencies were very low against the limit.



R.O.C.

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Temperature: 20°C Humidity: 70%RH

Ferquency Range: 30 – 1000 MHz Test mode: TX(2478MHz)
Receiver Detector: Q.P. or AV. Measured Distance: 3m

Receiver Detector: Q.P. or AV. Measured Distance: 3m
Tested by: Tested Date: APR. 11, 2007

Antenna Polarization: Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	AZ(°)	EL(m)
200.2214	2.48	10.00	14.2	26.7	43.5	-16.8	43	1.40
300.2587	3.02	13.80	15.0	31.8	46.0	-14.2	158	1.50
400.2580	3.60	15.40	14.6	33.6	46.0	-12.4	321	1.40
599.3654	4.60	19.20	16.3	40.1	46.0	-5.9	78	1.50
745.2310	5.17	23.10	15.3	43.6	46.0	-2.4	95	1.40
859.3260	5.62	23.58	14.2	43.4	46.0	-2.6	166	1.20

Antenna Polarization: Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	AZ(°)	EL(m)
350.2450	3.27	15.20	14.5	33.0	46.0	-13.0	178	1.60
397.4562	3.58	15.40	13.2	32.2	46.0	-13.8	35	1.74
550.2540	4.37	19.40	14.2	38.0	46.0	-8.0	78	1.66
600.2564	4.60	19.20	14.0	37.8	46.0	-8.2	99	1.50
750.0000	5.19	23.30	14.2	42.7	46.0	-3.3	177	1.60
854.3654	5.60	23.48	14.1	43.2	46.0	-2.8	155	1.56

NOTE: 1. Measurement uncertainty is less than +/-2dB

- 2. "*": Measurement does not apply for this frequency.
- 3. Emissiom Level = Reading Value + Ant. Factor + Cable Loss
- 4. The field strength of other emission frequencies were very low against the limit.



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Temperature: 23°C Humidity: 65%RH Ferquency Range: 1 – 25 GHz Test mode: TX(2404MHz) Receiver Detector: PK. or AV. Measured Distance: 3m APR. 06, 2007 Tested by: John Yu Tested Date:

Antenna Polarization: Horizontal

Frequency (MHz)	Cable Loss	Ant. Fact.		ding uV)	Emis (dBu			Line V/m)	Mar (dBu	gin V/m)	AZ (°)	EL (m)
(IVITIZ)	(dB)	(dB)	PK	AV	PK	AV	PK	AV	PK	AV	()	(111)
2404.00(F)	-25.60	28.03	97.2	79.1	99.6	81.4	N/A	N/A	N/A	N/A	30	1.20
3921.80	-22.22	32.33	41.3	*	51.4	*	74.0	54.0	*	*	*	*
4808.00	-22.04	33.82	42.9	25.4	54.7	37.2	74.0	54.0	-19.3	-16.8	10	1.00
7212.00	-20.70	36.10	44.1	26.4	59.5	41.8	74.0	54.0	-14.5	-12.2	0	1.10
9616.00	-17.64	37.77	*	*	*	*	74.0	54.0	*	*	*	*
12020.00	-15.91	39.17	*	*	*	*	74.0	54.0	*	*	*	*

Antenna Polarization: Vertical

Frequency	Cable Loss	Ant. Fact.		ding uV)	Emis (dBu		Limit (dBu	Line V/m)	Mar (dBu	rgin V/m)	AZ	EL
(MHz)	(dB)	(dB)	PK	AV	PK	AV	PK	AV	PK	AV	(0)	(m)
2404.00(F)	-25.60	28.03	96.1	77.8	98.5	80.2	N/A	N/A	N/A	N/A	20	1.30
2830.40	-24.97	30.07	49.9	31.5	54.97	36.6	74.0	54.0	-19.0	-17.4	30	1.20
4808.00	-22.04	33.82	47.4	30.1	59.2	41.9	74.0	54.0	-14.8	-12.1	0	1.10
7212.00	-20.70	36.10	44.8	26.9	60.2	42.3	74.0	54.0	-13.8	-11.7	0	1.20
9616.00	-17.64	37.77	*	*	*	*	74.0	54.0	*	*	*	*
12020.00	-15.91	39.17	*	*	*	*	74.0	54.0	*	*	*	*

NOTE: 1. Measurement uncertainty is less than +/-2dB

- 2. "*": Measurement does not apply for this frequency.
- 3. Emissiom Level = Reading Value + Ant. Factor + Cable Loss(included Pre-amplifier)
- 4. The field strength of other emission frequencies were very low against the limit.
- 5.(F): The field stregth of fundamental frquency.

Spectrum Research & Testing Lab., Inc. No. 101-10, Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan, Taiwan,

R.O.C.

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Temperature: 23°C Humidity: 65%RH Ferquency Range: 1 – 25GHz Test mode: TX(2478MHz) Receiver Detector: PK. or AV. Measured Distance: 3m APR. 06, 2007 Tested by: John Yu Tested Date:

Antenna Polarization: Horizontal

Frequency	Cable Loss			ding uV)		sion V/m)	Limit (dBu	Line V/m)	Mar (dBu	gin V/m)	AZ	EL
(MHz)	(dB)	(dB)	PK	AV	PK	AV	PK	AV	PK	AV	(o)	(m)
2478.00(F)	-25.52	28.17	80.8	66.9	83.5	69.6	N/A	N/A	N/A	N/A	10	1.10
4956.10	-22.11	33.85	42.7	25.9	54.4	37.6	74.0	54.0	-19.6	-16.4	0	1.00
7434.06	-20.40	36.33	45.5	27.8	61.4	43.7	74.0	54.0	-12.6	-10.3	10	1.10
9912.10	-19.28	37.89	*	*	*	*	74.0	54.0	*	*	*	*
12390.4	-15.4	39.17	*	*	*	*	74.0	54.0	*	*	*	*
2932.40	-24.81	30.6	45.41	*	51.2	*	74.0	54.0	-22.8	*	40	1.20

Antenna Polarization: Vertical

Frequency	Cable Loss	Ant. Fact.		ding uV)		sion V/m)		Line V/m)	Mar (dBu	rgin V/m)	AZ	EL
(MHz)	(dB)	(dB)	PK	AV	PK	AV	PK	AV	PK	AV	(o)	(m)
2478.00(F)	-25.52	28.17	80.7	66.7	83.4	69.4	N/A	N/A	N/A	N/A	0	1.20
4956.10	-22.11	33.85	42.8	28.4	54.5	40.1	74.0	54.0	-19.5	-13.9	20	1.30
7434.06	-20.40	36.33	44.5	28.4	60.4	44.3	74.0	54.0	-13.6	-9.7	15	1.10
9912.10	-17.08	37.97	45.9	28.2	66.9	49.1	74.0	54.0	-7.1	-4.9	10	1.20
12390.4	-16.36	38.90	*	*	*	*	74.0	54.0	*	*	*	*
2779.40	-25.06	29.76	45.4	*	50.1	*	74.0	54.0	-23.9	*	30	1.10

NOTE: 1. Measurement uncertainty is less than +/- 2dB

- 2. "*": Measurement does not apply for this frequency.
- 3. Emissiom Level = Reading Value + Ant. Factor + Cable Loss(included Pre-amplifier))
- 4. The field strength of other emission frequencies were very low against the limit.
- 5.(F):The field stregth of fundamental frquency.



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5. 6 dB Bandwidth

5.1 LIMIT

Frequency Range (MHz)	Min. Limit (kHz)
2400 ~ 2483.5	500

5.2 TEST EQUIPMENT

The following test equipment was used during the test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
CDECTRUM	01:11-701-	ROHDE &	FSP7/	APR. 2008
SPECTRUM	9kHz-7GHz	SCHWARZ	839511/010	R&S

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

5.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

5.4 TEST PROCEDURE

The EUT was operating in hopping mode or could be controlled its channel. Printed out the test result from the spectrum by hard copy function.

5.5 EUT OPERATING CONDITION

Same as section 4.6 of this report.



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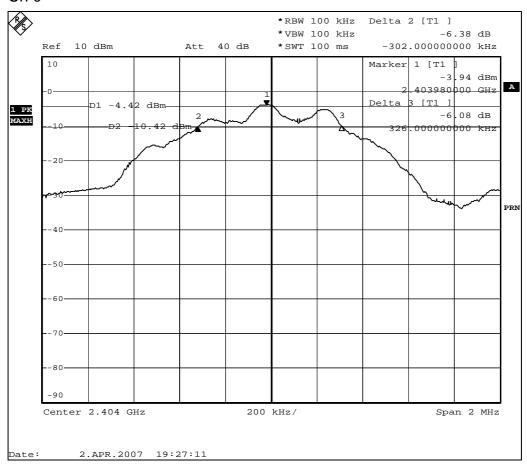
Date: APR. 12, 2007

5.6 TEST RESULT

Temperature:	25°C	Humidity:	65%RH
Spectrum Detector:	PK	Tested by:	John Yu
Test Result:	PASS	Tested Date:	APR. 02, 2007

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	6dB DOWN BW (kHz)
0	2404	628
3	2478	620

Ch 0



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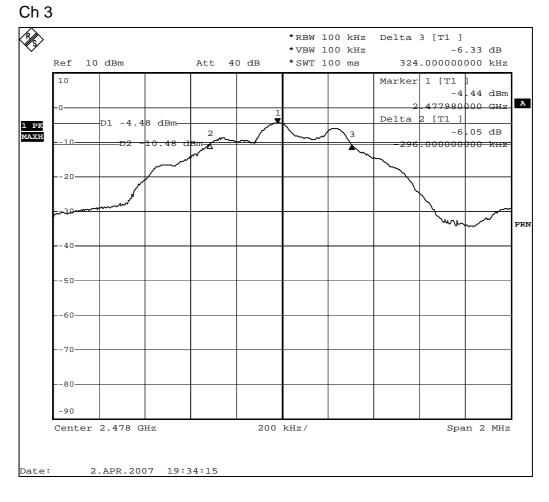
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6. PEAK POWER TEST

6.1 LIMIT

FCC Part15, Subpart C Section 15.247.

Frequency		Limit(w)								
Range (MHz)	Quantity of Hopping Channel	50	25	15	75					
902-928		1(30dBm)	0.125(21dBm)	NA	NA					
2400-2483.5		NA	NA	0.125(21dBm)	1(30dBm)					
5725-	5850	NA	NA	NA	1(30dBm)					

6.2 TEST EQUIPMENT

The following test equipment was used during the test:

Equipment/ Facilities	Specifications	Manufacturer	Model#/ Serial#	Due Date of Cal. & Cal. Center
SPECTRUM	CTRUM 9kHz-7GHz		FSP7/	MAR. 2008
SPECTRUM	9KHZ-7GHZ	SCHWARZ	839511/010	ETC
POWER METER	N/A	BOONTON	4232A/	MAY 2007
POWER METER	IN/A	BOONTON	29001	ETC
	DC-18GHz		51011-EMC/	JUN. 2007
POWER SENSOR	0.3 μ W-100mW	BOONTON	31184	ETC
	50Ω			EIG

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.



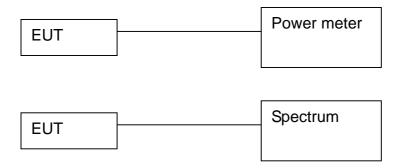
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6.3 TEST SET-UP



The EUT was connected to a spectrum through a 50 Ω RF cable.

6.4 TEST PROCEDURE

The EUT could control its channel.

Printed out the test result from the spectrum by hard copy function.

Recorded the read value of the power meter.

6.5 EUT OPERATING CONDITION

Same as section 4.6 of this report.

6.6 TEST RESULT

Temperature:	25°C	Humidity:	65%RH
Spectrum Detector:	PK	Tested by:	John Yu
Test Result:	PASS	Tested Date:	APR. 02, 2007

Channel Number	Channel Frequency (MHz)	Peak Output Power (dBm)	Peak Power Limit (dBm)
0	2404.0000	-5.19	30
3	2478.0000	-4.63	30

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TEST REPORT

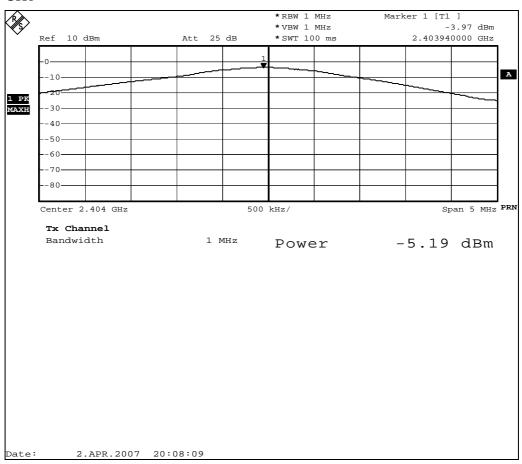
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Spectrum Research & Testing Lab., Inc. No. 101-10, Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan, Taiwan, R.O.C.

TEST REPORT

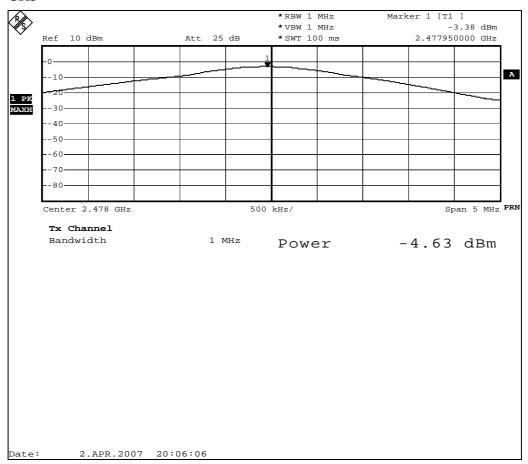
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6. BAND EDGE TEST

7.1 LIMIT

FCC Part15, Subpart C Section 15.247(d). In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

OPERATING PANCE	SPURIOUS EMISSION	LIMIT		
FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	Peak power ration to emission(dBc)	Emission level(dBuV/m)	
	<902	>20	NA	
902-928	>928	>20	NA	
	960-1240	NA	54	
2400-2483.5	<2400	>20	NA	
	>2483.5-2500	NA	54	
	<5350-5460	NA	54	
5725-5850	<5725	>20	NA	
	>5850	>20	NA	



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7.2 TEST EQUIPMENT

The following test equipment was used during the test:

Equipment/ Facilities	Specification	Manufacturer	Model#/ Serial#	Due Date of Cal. & Cal. Center
SPECTRUM	9kHz-7GHz	ROHDE &	FSP7/	APR. 2008
SPECIKOW	9KI 12-7 GI 12	SCHWARZ	839511/010	R&S
EMI TEST	9 kHz TO 2750	ROHDE &	ESCS30/	OCT. 2007
RECEIVER	MHz	SCHWARZ	830245/012	ETC
SPECTRUM	9KHz-26.5GHz	IHP	8953E/	MAY 2007
SPECTRUM			3710A03220	ETC
IPRE-AMPLIFIER	1GHz-26.5GHz	HP	8449B/	NOV. 2007
	Gain:30dB		3008A01019	ETC
BI-LOG	25 MHz TO	EMCO	3142/	FEB. 2008
ANTENNA	2 GHz	EMCO	9701-1124	SRT
LIODNI ANITENNIA	4011- 40 40011-	EMCO	3115/	DEC. 2007
HORN ANTENNA	1GHz to 18GHz	EMCO	9602-4681	ETC
OATS	3 - 10 M	CDT	ODT 4	APR. 2008
	measurement	SRT	SRT-1	SRT

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.



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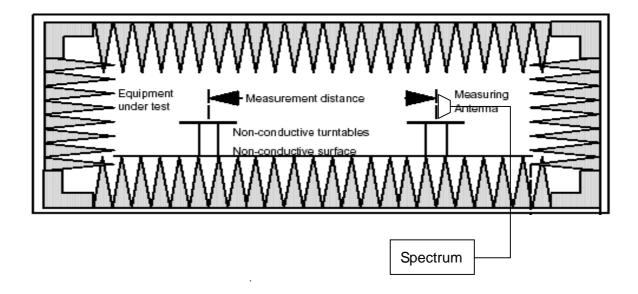
7.3 TEST SET-UP

FOR RF CONDUCTED TEST (dBc)



The EUT was connected to the spectrum through a 50 Ω RF cable.

FOR RADIATED EMISSION TEST



- 1. The EUT system was put on a wooden table with 0.8m heights above a ground plane.
- 2. For the actual test configuration, please refer to the photos of testing.



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7.4 TEST PROCEDURE

The EUT could be controlled its channel.
 Printed out the test result from the spectrum by hard copy function.

2. The EUT was tested according to the requirement of ANSI C63.4 and CISPR 22. The measurements were made at an open area test site with 10 meter measurement distance under 1 GHz and with 3m distance above 1GHz. The frequency spectrum measured started from 30 MHz. Under 1 GHz. All readings were quasi-peak values with 120 kHz resolution bandwidth of the test receiver. Above 1 GHz, the measurements were made at an open area test site with 3 meter measurement distance and all readings were peak and average values with 1 MHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. The cables connected to EUT and support units were moved to find the maximum emission levels for each frequency.

7.5 EUT OPERATING CONDITION

Same as section 4.6 of this report.

7.6 TEST RESULT

Temperature:	25°C	Humidity:	65%RH
Spectrum Detector:	PK & AV	Tested by:	John Yu
Test Result:	PASS	Tested Date:	APR. 02, 2007

Frequency (MHz)	PEAK POWER OUTPUT (dBm)	Emission read Value(dBm)	Result of Band edge (dBc)	Band edge LIMIT (dBc)
<2400	-4.07	-39.31	35.24	>20dBc
>2483.5	-3.72	-48.43	44.71	>20dBc

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TEST REPORT

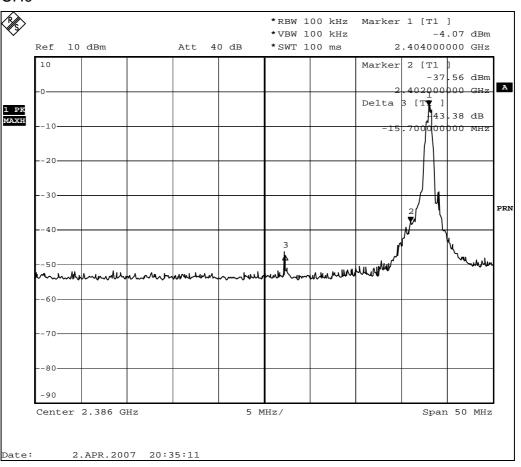
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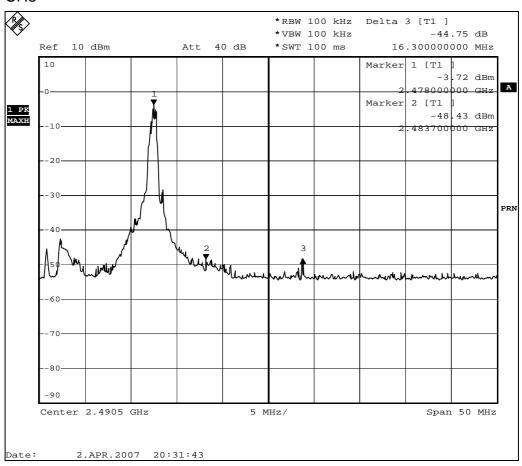
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7. POWER DENSITY TEST

8.1 LIMIT

FCC Part15, Subpart C section15.247

Frequency Range (MHz)	Limit (dBm/kHz)
902-928	
2400-2483.5	8dBm/3kHz
5725-5850	

8.2 TEST EQUIPMENT

The following test equipment was used during the radiated emisssion test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
SPECTRUM	9 kHz-7GHz	ROHDE & SCHWARZ	FSP7/ 839511/010	MAR. 2008 R & S

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

8.3 TEST SET-UP



The EUT was connected to a spectrum through a 50 Ω RF cable.

8.4 TEST PROCEDURE

The EUT was operating in transmitter mode and could be controlled its channel. Printed out the test result from the spectrum by hard copy function.

8.5 EUT OPERATING CONDITION

Same as section 4.6 of this report.

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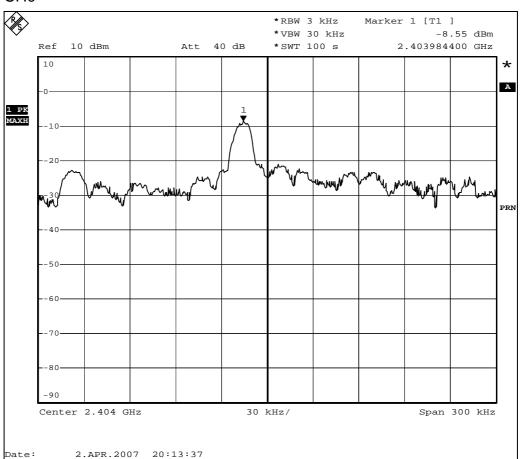
Date: APR. 12, 2007

8.6 TEST RESULT

Temperature:	23°C	Humidity:	65%RH	
Spectrum Detector:	PK.	Tested By:	John Yu	
Tested Result:	Pass			

Channel Number	Channel Frequency (MHz)	RF POWER LEVEL IN 3KHz BW (dBm/3kHz)	MAXIMUM Limit (dBm/3kHz)
0	2404.0000	-8.55	8
3	2478.0000	-8.14	8

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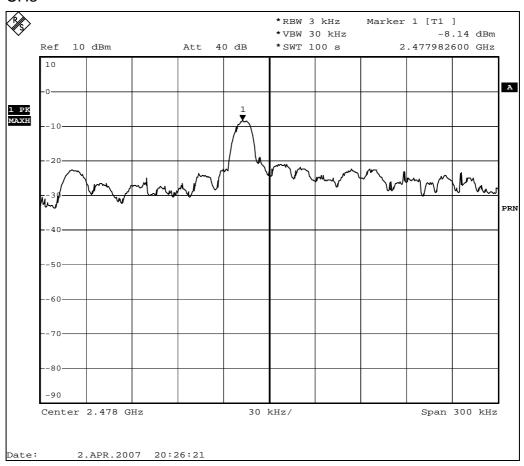
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8. ANTENNA APPLICATION

9.1 Antenna requirement

The EUT's antenna is met the requirement of FCC part15C section15.203 and 15.204.

FCC part15C section15.247 requirement:

Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

9.2 Result

The EUT's antenna used a PCB antenna. The antennas' gain are -1dBi and meets the requirement.



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7. PHOTOS OF TESTING

- Radiated test (3M)







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10. TERMS OF ABBREVIATION

AV.	Average detection
AZ(°)	Turn table azimuth
Correct.	Correction
EL(m)	Antenna height (meter)
EUT	Equipment Under Test
Horiz.	Horizontal direction
LISN	Line Impedance Stabilization Network
NSA	Normalized Site Attenuation
Q.P.	Quasi-peak detection
SRT Lab	Spectrum Research & Testing Laboratory, Inc.
Vert.	Vertical direction