ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
CERTIFICATION TO FCC PART 15 REQUIREMENTS

for

INTENTIONAL RADIATOR

Wireless Personal Pager

MODEL NO: RPP-330

TRADE NAME: SHANTEX

FCC ID NO: KPG-RPP330

REPORT NO: 01E9853

ISSUE DATE: November 26, 2001

Prepared for
SHAN YEUN CO., LTD.
35, Lane 646, Sec. 2, Bin Hai Road Su-Ao, I-Lan,
Taiwan, R. O. C.

Prepared by
COMPLIANCE ENGINE ERING SERVICES, INC.
NO. 199, CHUNG SHENG ROAD,
HSIN TIEN CITY, TAIPEI,
TAIWAN, R. O. C.

d.b.a.
COMPLIANCE CERTIFICATION SERVICES

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TEST DATA

- Emission Bandwidth Plot
- Radiated Emission Worksheet for Average Measurement

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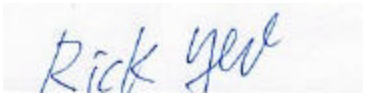
1. VERIFICATION OF COMPLIANCE

COMPANY NAME:	SHAN YEUN CO., LTD. 35, Lane 646, Sec. 2, Bin Hai Road Su-Ao, I-Lan, Taiwan, R. O. C.
CONTACT PERSON:	Winship Chen
TELEPHONE NO.:	886-3-990-7711
EUT DESCRIPTION:	Wireless Personal Pager
MODEL NAME/NUMBER:	RPP-330
FCC ID:	KPG-RPP330
DATE TESTED:	November 15 & November 16, 2001
REPORT NUMBER:	01E9853

TYPE OF EQUIPMENT	SECURITY EQUIPMENT (INTENTIONAL RADIATOR)
EQUIPMENT TYPE	Wireless Personal Pager
MEASUREMENT PROCEDURE	ANSI C63.4 / 1992
LIMIT TYPE	CERTIFICATION
FCC RULE	CFR 47, PART 15

The above equipment was tested by Compliance Engineering Services, Inc. for compliance with the requirements set forth in the FCC CFR 47, PART 15. The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties. **Warning** : This document reports conditions under which testing was conducted and results of tests performed. This document may not be altered or revised in any way unless done so by Compliance Engineering Services, Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Engineering Services, Inc. will constitute fraud and shall nullify the document.



RICK YEO / EMC MANAGER
COMPLIANCE ENGINEERING SERVICES, INC.

COMPLIANCE ENGINEERING SERVICES, INC. TEL: (02)2217-0894 FAX: (02)2217-1254
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2. Product Description

Fundamental Frequency	**298 MHz**
Power Source	**12V**
Transmitting Time	**Periodic < 5 seconds**
Associated Receiver	**Model Name: RPP-330 / (DoC)**

3. Test Facility

The open area test sites and conducted measurement facilities used to collect the radiated data are located at No. 199, Chung Sheng Road, Hsin Tien City, Taipei, Taiwan, R.O.C. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

4. Measurement Standards

The site is constructed and calibrated in conformance with the requirements of ANSI C63.4/1992.

5. Test Methodology

For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 KHz, up to at least the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. (CFR 47 Section 15.33)

6. Measurement Equipment Used

Manufacturer	Model Number	Description	Cal Due Date
R & S	DSAI-D 804.8932.52	Spectrum Analyzer (20Hz – 5GHz)	10/2002
R & S	ESBI-RF/1005.4300.52	Spectrum Analyzer (20Hz – 5GHz)	10/2002
H.P.	8595EM	Spectrum Analyzer (9KHz – 6.5GHz)	01/2002
EMCO	3115	Antenna (1-18GHz)	02/2002
SCHWARZBECK	VULB 9160	Antenna (30-2000 MHz)	05/2002
H.P.	8447D	Amplifier	05/2002
MITEQ	NSP2600-44	Amplifier(1-26GHz)	10/2002

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7. POWERLINE RFI LIMIT

CONNECTED TO AC POWER LINE	SECTION 15.207
CARRIER CURRENT SYSTEM IN THE FREQUENCY RANGE OF 450 kHZ TO 30 MHz	SECTION 15.205 AND SECTION 15.209, 15.221, 15.223, 15.225 OR 15.227, AS APPROPRIATE.
BATTERY POWER	NO REQUIRED.

8. RADIATED EMISSION LIMITS

GENERAL REQUIREMENTS	SECTION 15.209
RESTRICTED BANDS OF OPERATION	SECTION 15.205
PERIODIC OPERATION IN THE BAND 40.66 -40.70 MHz AND ABOVE 70 MHz.	SECTION 15.231

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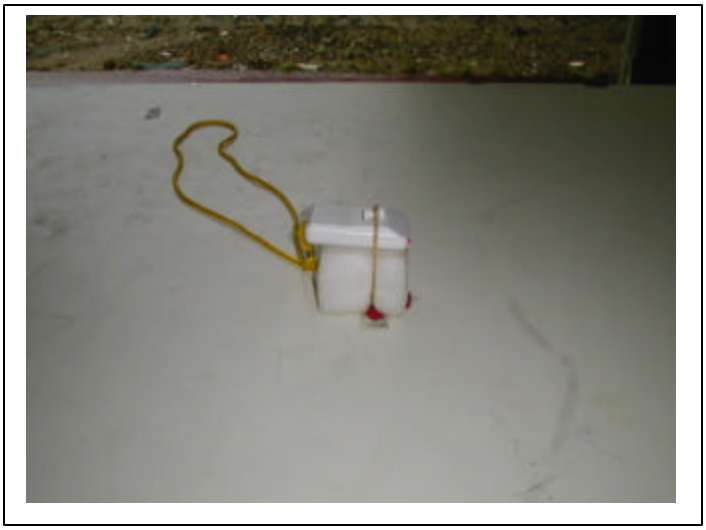
9. SYSTEM TEST CONFIGURATION

Use a block of foam and combined it with EUT wrapping rubber band around it. This way it can test X.Y, and Z axis. To activate continuous transmission, place a small plastic block between rubber band and EUT push button.



Radiated Open Site Test Set-up

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10. Test Procedure
Radiated Emissions, 15.231(4)(b)

Test Set-up for frequency range 30 – 1000 MHz

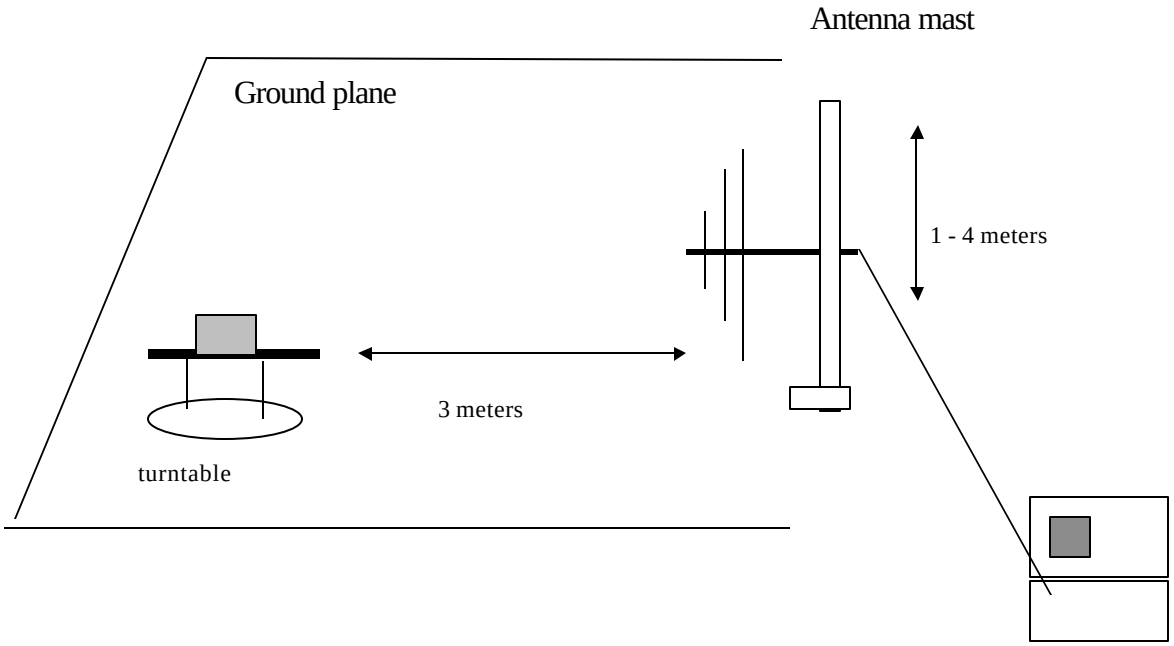

Fig. 1

1. The EUT was placed on a wooden table on the outdoor ground plane. The search antenna was placed 3-meters from the EUT.

2. The turntable was slowly rotated to locate the direction of maximum emission at each emission falling in the restricted bands of 15.205. The EUT was moved throughout the XY, XZ, and YZ planes to maximize emissions received by the search antenna.

3. Once maximum direction was determined, the search antenna was raised and lowered in both vertical and horizontal polarizations. The maximum readings so obtained are recorded in the data listed below.

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Test set-up for measurements above 1GHz

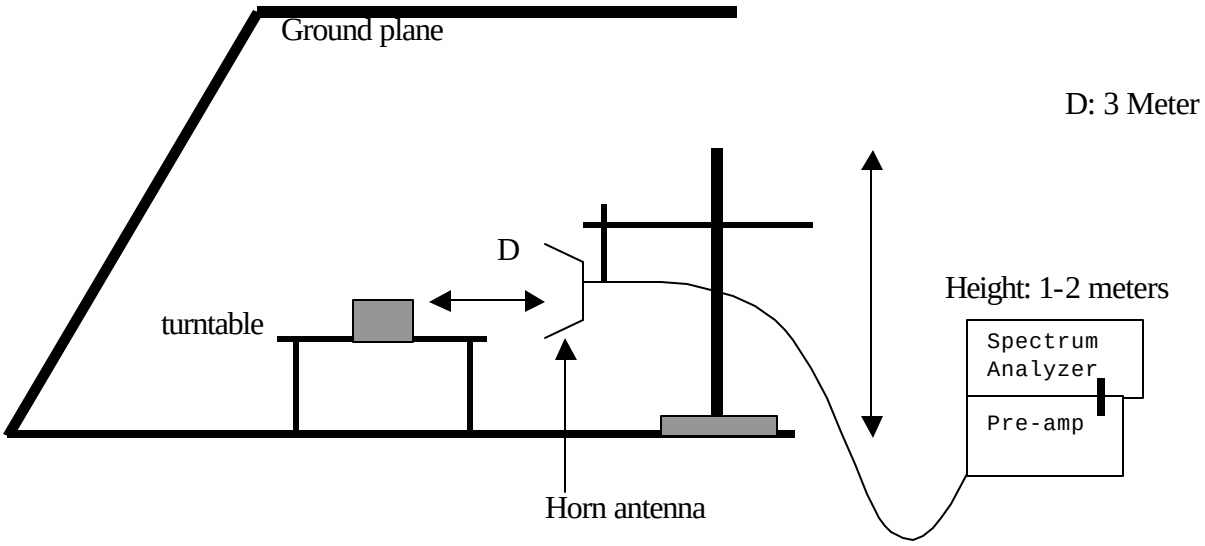

FIG. 2

1. The EUT was placed on a wooden table on the outdoor ground plane. The search antenna was placed 3-meters from the EUT. The EUT antenna was mounted vertically as per normal installation.

2. The turntable was slowly rotated to locate the direction of maximum emission at each emission falling in the restricted bands of 15.205. The EUT was moved throughout the XY, XZ, and YZ planes to maximize emissions received by the search antenna.

3. Once maximum direction was determined, the search antenna was raised and lowered in both vertical and horizontal polarizations. The maximum readings so obtained are recorded in the data listed below.

11. Equipment Modifications

To achieve compliance to FCC Section 15.231 technical limits, the following change(s) were made during compliance testing:

NONE

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12. TEST RESULT

Powerline RFI Class B	Eut	Radiated Emission Limits	Eut
SECTION 15.207		SECTION 15.209	X
SECTION 15.205, 15.209, 15.221, 15.223, x 15.225 OR 15.227		SECTION 15.205	
BATTERY POWER	X	SECTION 15.231 (b)	X
		SECTION 15.231 (e)	

12.1 Maximum Modulation Percentage (M%)

Not Applicable

12.2 The Emissions Bandwidth

The bandwidth of the emissions were investigated per 15.231(c)

Center Frequency	Measured	Limits
298 MHz	**464.4 kHz < (refer to plot)**	**298X0.25%=745 kHz**

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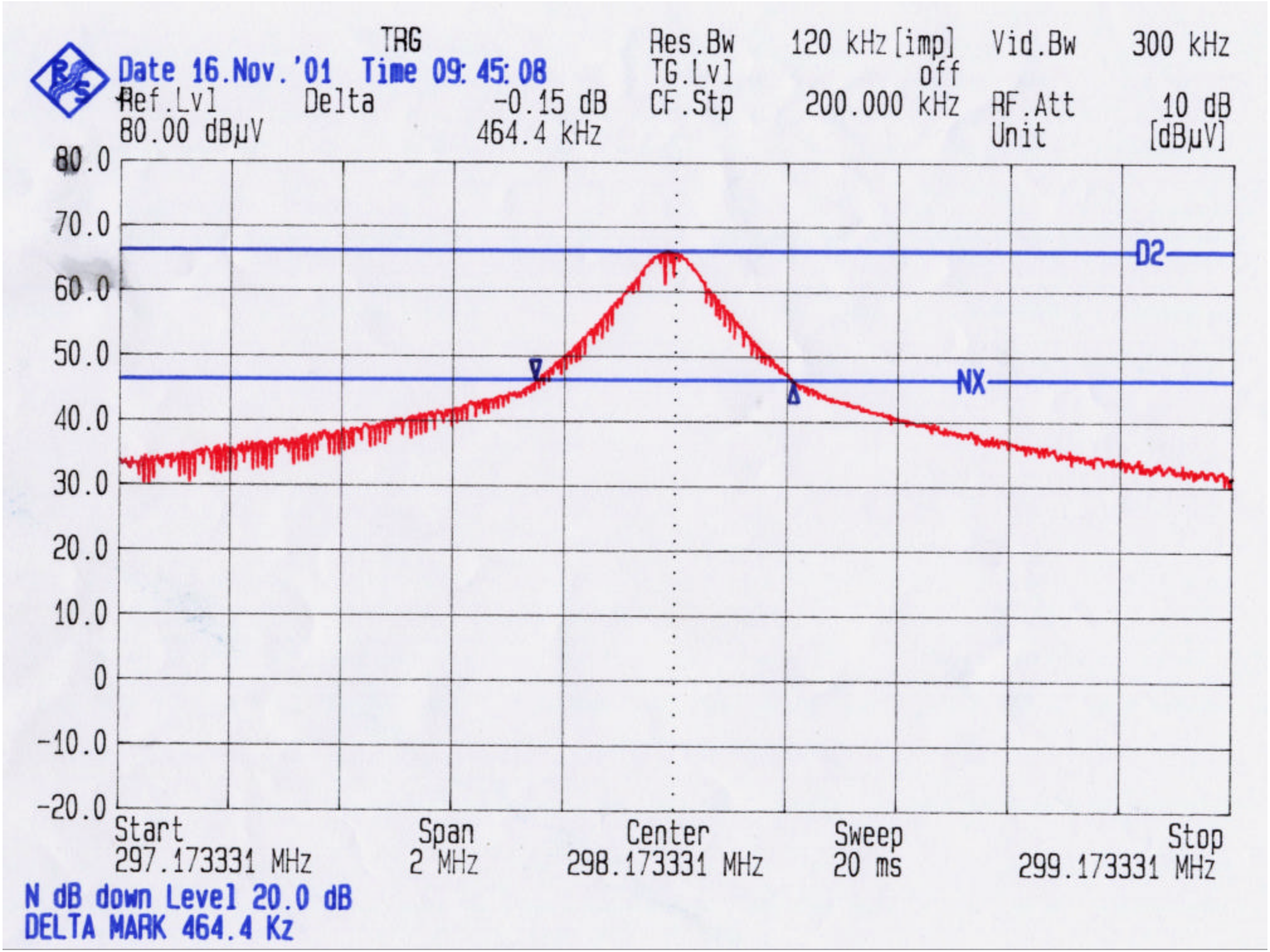
TRG
Res.Bw 120 kHz [imp]
Vid.Bw 300 kHz
Date 16.Nov.'01 Time 09:45:08
TG.Lvl off
Ref.Lvl Delta -0.15 dB
CF.Stp 200.000 kHz
RF.Att 10 dB
80.00 dBµV 464.4 kHz
Unit [dBµV]
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0
-10.0
-20.0
D2
NX
Start 297.173331 MHz
Span 2 MHz
Center 298.173331 MHz
Sweep 20 ms
Stop 299.173331 MHz
N dB down Level 20.0 dB
DELTA MARK 464.4 Kz

COMPLIANCE Certification Services
FCC, VCCI, CISPR, CE, AUSTEL, NZ
UL, CSA, TUV, BSMI, DHHS, NVLAP
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PHONE: 02-2217-0894 FAX: 02-2217-1254

Project #:	01E9853
Report #:	9853D1
Date& Time:	2001/11/16
Test Engr:	VINCE CHIANG

Company:	SHAN YEUN CO., LTD.
EUT Description:	RPP-330 (Alarm TX / 298 MHz)
Test Configuration :	EUT ONLY
Type of Test:	FCC 15.231(b)
Mode of Operation:	NORMAL MODE

(●) D-Site

M% = ((t1+t2+t3+..)/T) * 100% = **100 %**

Av Reading = Pk Reading + 20*log(M%)

20*log(M%) = 0

	Freq. (MHz)	Pk Rdg (dBuV)	Av Rdg (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Level (dBuV/m)	Limit FCC_B	Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)
X	298.23	59.74	59.74	13.17	2.23	26.12	49.02	74.56	-25.54	3mV	180	1.00
	596.48	38.50	38.50	19.08	3.24	26.57	34.25	54.56	-20.31	3mV	270	1.00
	894.74	27.72	27.72	22.48	4.07	26.84	27.43	54.56	-27.13	3mV	0	1.20
Y	298.22	72.36	72.36	13.17	2.23	26.12	61.64	74.56	-12.92	3mV	0	1.00
	596.46	39.38	39.38	19.08	3.24	26.57	35.13	54.56	-19.43	3mV	180	1.10
	894.73	24.75	24.75	22.48	4.07	26.84	24.46	54.56	-30.10	3mV	270	1.20
Z	298.22	72.49	72.49	13.17	2.23	26.12	61.77	74.56	-12.79	3mV	0	1.00
	596.46	35.44	35.44	19.08	3.24	26.57	31.19	54.56	-23.37	3mV	90	1.00
	894.69	24.22	24.22	22.48	4.07	26.84	23.93	54.56	-30.63	3mV	180	1.20
X	298.25	79.87	79.87	13.17	2.23	26.12	69.15	74.56	-5.41	3mH	180	1.00
	596.52	32.95	32.95	19.08	3.24	26.57	28.70	54.56	-25.86	3mH	180	1.10
	894.50	27.41	27.41	22.48	4.07	26.84	27.12	54.56	-27.44	3mH	90	1.20
Y	298.20	71.85	71.85	13.17	2.23	26.12	61.13	74.56	-13.43	3mH	270	1.00
	596.42	30.41	30.41	19.08	3.24	26.57	26.16	54.56	-28.40	3mH	270	1.00
	894.38	23.66	23.66	22.48	4.07	26.84	23.37	54.56	-31.19	3mH	180	1.10
Z	298.24	72.77	72.77	13.17	2.23	26.12	62.05	74.56	-12.51	3mH	0	1.00
	596.46	35.62	35.62	19.08	3.24	26.57	31.37	54.56	-23.19	3mH	0	1.00
	894.40	24.95	24.95	22.48	4.07	26.84	24.66	54.56	-29.90	3mH	0	1.20
	Total data #: 18											

COMPLIANCE Certification Services

FCC, VCCI, CISPR, CE, AUSTEL, NZ
UL, CSA, TUV, BSMI, DHHS, NVLAP

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Hsin Tien City, Taipei, Taiwan, R.O.C.
PHONE: 02-2217-0894 FAX: 02-2217-1254

Project #:	01E9853
Report #:	9826D5
Date& Time:	2001/11/15
Test Engr:	Vince Chiang

Company:	SHAN YEUN CO., LTD.
EUT Description:	RPP-330 (Alarm TX / 298 MHz)
Test Configuration :	EUT ONLY
Type of Test:	FCC 15.231(b)/FCC 15.209
Mode of Operation:	NORMAL MODE

(•) D-Site ( ) E-Site 6 Worst Data

Freq. (MHz)	Pk Rdg (dBuV)	Av Rdg (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Level (dBuV/m)	Limit FCC_B	Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)	Mark (P/Q/A)
1193	**44.81**	**44.81**	**24.6**	**3.3**	**39.85**	**32.93**	**54.0**	**-21.07**	**1mV**	**0**	**1.0**	**P**
1491	**44.57**	**44.57**	**25.4**	**3.8**	**39.77**	**34.03**	**54.0**	**-19.97**	**1mV**	**0**	**1.0**	**P**
1192	**47.75**	**47.75**	**24.6**	**3.3**	**39.85**	**35.87**	**54.0**	**-18.13**	**1mH**	**0**	**1.0**	**P**
1491	**41.73**	**41.73**	**25.4**	**3.8**	**39.77**	**31.19**	**54.0**	**-22.81**	**1mH**	**0**	**1.0**	**P**

Total data #:4 P(Peak): RBW=VBW=1MHz