

**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

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**NO. 199, CHUNG SHENG ROAD,
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d.b.a.

COMPLIANCE CERTIFICATION SERVICES



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TEST DATA

- Emission Bandwidth Plot
- Radiated Emission Worksheet for Average Measurement

1. VERIFICATION OF COMPLIANCE

COMPANY NAME: SHAN YEUN CO., LTD.
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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.

2. Product Description

Fundamental Frequency	298 MHz
Power Source	12V
Transmitting Time	Periodic \leq 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
SCHWARZB ECK	VULB 9160	Antenna (30-2000 MHz)	05/2002
H.P.	8447D	Amplifier	05/2002
MITEQ	NSP2600-44	Amplifier(1-26GHz)	10/2002

7. POWERLINE RFI LIMIT

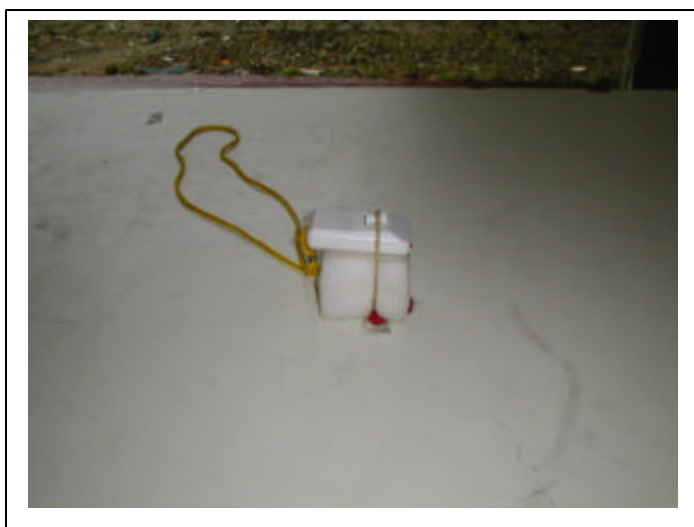
CONNECTED TO AC POWER LINE	SECTION 15.207
CARRIER CURRENT SYSTEM IN THE FREQUENCY RANGE OF 450 KHZ TO 30 MHz	SECTION 15.205 AND SECTION 15.209, 15.221, 15.223, 15.225 OR 15.227, AS APPROPRIATE.
BATTERY POWER	NO REQUIRED.

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

9. SYSTEM TEST CONFIGURATION

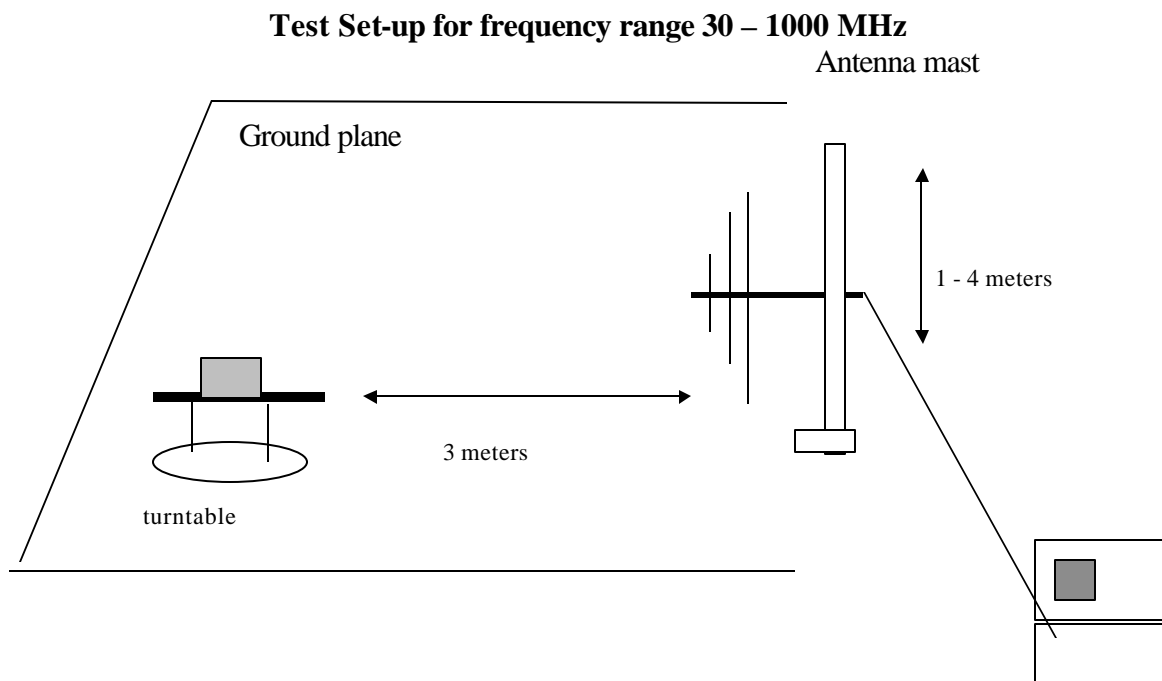
Use a block of foam and combined it with EUT wrapping rubber band around it. This way it can test X.Y, and Z axis. To activate continuous transmission, place a small plastic block between rubber band and EUT push button.



Radiated Open Site Test Set-up

10. Test Procedure

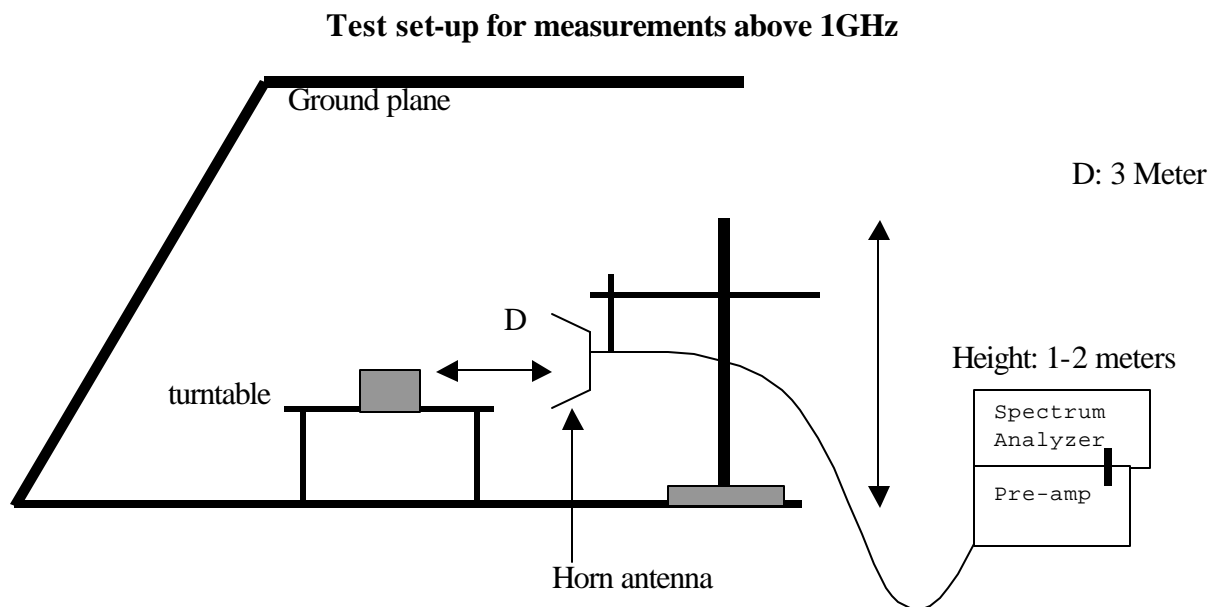
Radiated Emissions, 15.231(4)(b)



preamplifier/spectrum analyzer

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.



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

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



Date 16.Nov.'01 Time 09:45:08

Ref.Lvl Delta

80.00 dBμV

-0.15 dB

464.4 kHz

TRG

Res.Bw
TG.Lvl

CF.Stp

120 kHz [imp]
Off

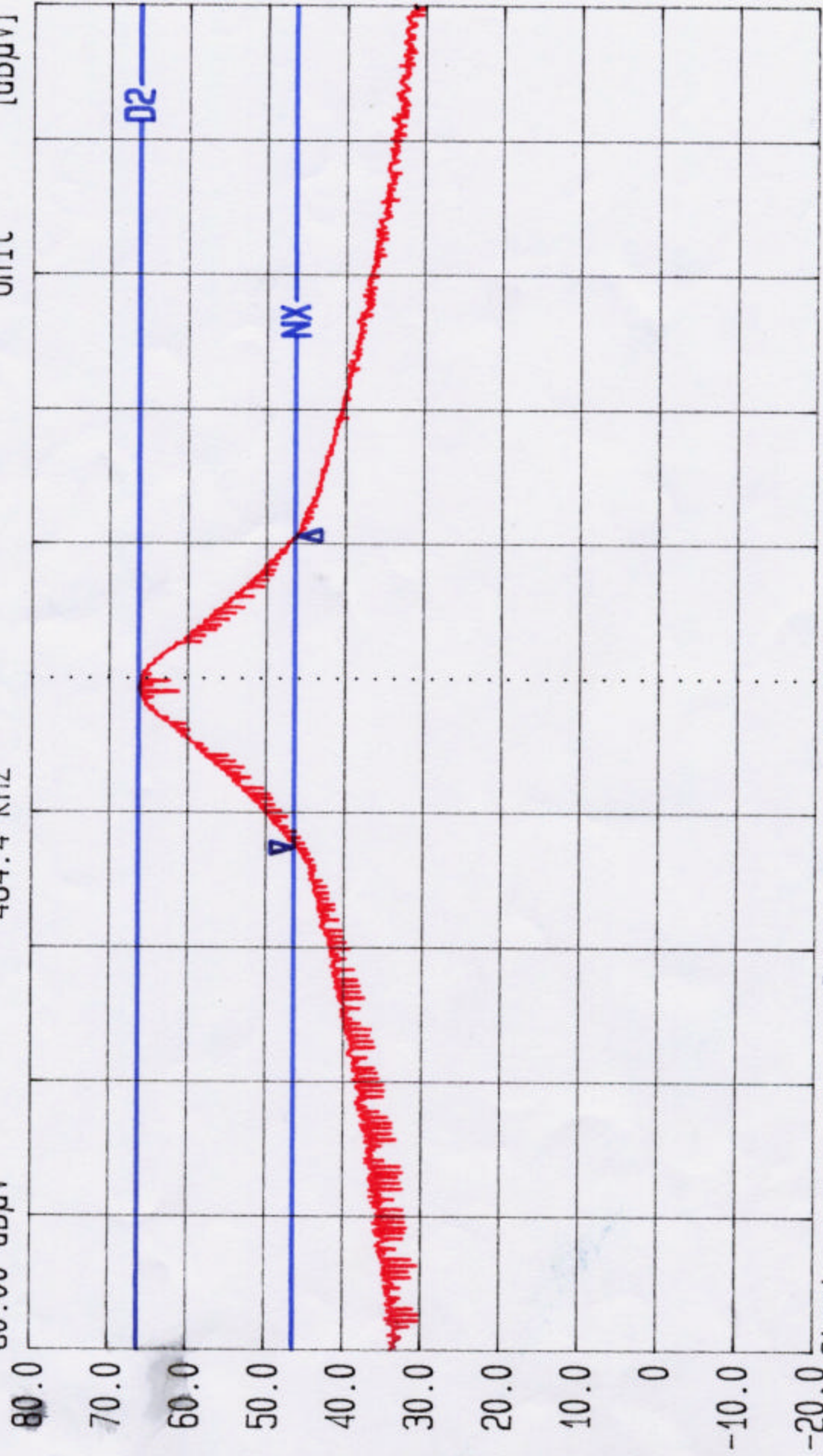
200.000 kHz

Vid.Bw

RF.Att

300 kHz

10 dB
[dBμV]



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

[illegible]



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

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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