



World Standardization Certification & Testing CO., LTD
World Standardization Safety and EMC Testing Centre

FCC ID TEST REPORT

for

PS3 Wireless Controller with Mini Keyboard

MODEL: 2833

FCC ID: TAZ2833

Test Report Number: WSCT10110355E-3

Issued Date: December 04, 2010

Issued for

Front Electronics (H.K.) Ltd.

**Rm 2919, Asia Trade Centre, 79 Lei Muk Road, Kwai Chung, New
Territories, Hong Kong**

Issued By:

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Revision History Of Report

Rev.	Issue No.	Revisions	Effect Page	Revised By
00	WSCT10110355E-3	Initial Issue	ALL	Kallen Wang



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1 TEST CERTIFICATION

Product: PS3 Wireless Controller with Mini Keyboard
Model: 2833
Applicant: **Front Electronics (H.K.) Ltd.**
Rm 2919, Asia Trade Centre, 79 Lei Muk Road, Kwai Chung, New Territories,
Hong Kong
Factory: **Alliance Sales & Distribution Inc. Shenzhen Representative Office**
Rm. 505,5/F, Fu Er Yuan Jian Business Center, Zone 25, Baoan District,
Shenzhen, China
Trade Mark: N/A
Tested: December 04, 2010
Test Voltage: AC 120V/60Hz
Applicable Standards: FCC Part 15: Subpart B
ANSI C63.4:2003

Deviation from Applicable Standard

None

The above equipment has been tested by World Standardization Certification & Testing Co., Ltd., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By: 

Date: 2010-12-04

(Davis Zhou)

Check By: 

Date: 2010-12-04

(Kelly Wu)

Approved By: 

Date: 2010-12-04

(Kallen Wang)

2 TEST RESULT SUMMARY

Standard	Item	Result
FCC Part 15 SubpartB:	Conducted emission Test	PASS
	Radiation Emission Test	PASS

Note: 1. The test result judgment is decided by the limit of test standard
2. The information of measurement uncertainty is available upon the customer's request.



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3 EUT DESCRIPTION

Product	PS3 Wireless Controller with Mini Keyboard
Trade Mark	N/A
Model	2833
Applicant	Front Electronics (H.K.) Ltd.
EUT Type	<input checked="" type="checkbox"/> Engineering Sample. <input type="checkbox"/> Product Sample, <input type="checkbox"/> Mass Product Sample.
Serial Number	N/A
Antenna Type	Integral Antenna
EUT Power Rating	AC 120V/60Hz
Temperature Range(Operating)	+15 ~+ 35℃

Note: N/A stand for no applicable.

I/O PORT

I/O PORT TYPES	Q'TY	TESTED WITH
N/A	N/A	N/A

Models difference

N/A

4 TEST METHODOLOGY

4.1. DECISION OF FINAL TEST MODE

The EUT was tested together with the below additional components, and configuration, which produced the worst emission levels, was selected and recorded in this report.

The following test mode was recorder in this report.

Test item	Test mode
Conducted emission Test	Normal Operation
Radiation Emission Test	Normal Operation

4.2. EUT SYSTEM OPERATION

1. Set up EUT with the support equipments.
2. Make sure the EUT work normally during the test.

5 SETUP OF EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF SUPPORT UNITS

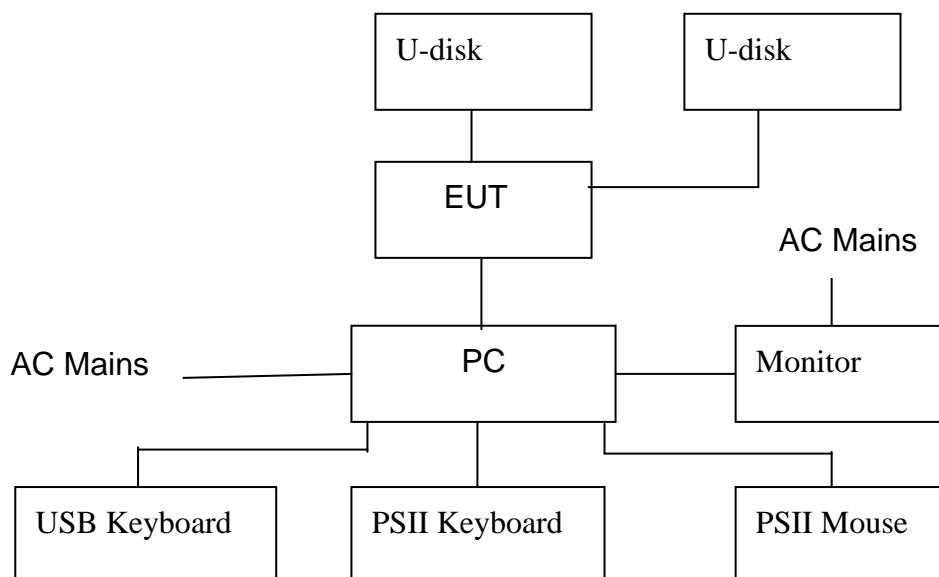
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Equipment	Model No.	Serial No.	FCC ID	Trade Name	Data Cable	Power Cord
1	PC	dx2700	CNG7140T7P	N/A	HP	N/A	Unshielded 1.4m
2	Monitor	HPL1706V	CND74535YZ	N/A	HP	Unshielded 1.6m	Unshielded 1.4m
3	PSII Keyboard	SK-2880	435302-AA1	N/A	HP	N/A	Unshielded 1.2m
4	Mouse	N/A	N/A	N/A	HP	N/A	Unshielded 1.2m
5	USB Keyboard	N/A	N/A	N/A	LIEHU	N/A	Unshielded 1.2m
6	U-disk	N/A	N/A	N/A	N/A	N/A	N/A

Note:

- 1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2) Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

5.2. CONFIGURATION OF SYSTEM UNDER TEST



(EUT: PS3 Wireless Controller with Mini Keyboard)

6 FACILITIES AND ACCREDITATIONS

6.1. FACILITIES

All measurement facilities used to collect the measurement data are located at

**Building A, Baoshi Road, Baoshi Science & Technology Park, Bao'an District,
Shenzhen, Guangdong, China**

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

6.2. ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	FCC (certificate registration number is131628) TIMCO (certificate registration number is Q2001)
Japan	VCCI (certificate registration number is C-2912, R-2662)
Germany	TUV Rheinland
Canada	INDUSTRY CANADA (certificated registration number is 46405-7700)

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.wsct.org.cn>

6.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency		Uncertainty
Conducted emissions	9kHz~30MHz		+/- 3.59dB
Radiated emissions	Horizontal	30MHz ~ 200MHz	+/- 4.77dB
		200MHz ~1000MHz	+/- 4.93dB
	Vertical	30MHz ~ 200MHz	+/- 5.04dB
		200MHz ~1000MHz	+/- 4.93dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

7 TEST REQUIREMENTS

7.1. CONDUCTED EMISSION MEASUREMENT

7.1.1. LIMITS

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

NOTE:

- (1) The lower limit shall apply at the transition frequencies.
- (2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
- (3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

7.1.2. TEST INSTRUMENTS

Conducted Emission Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCI	100005	09/24/2011
LISN	AFJ	LS16	16010222119	09/24/2011
LISN(EUT)	Mestec	AN3016	04/10040	09/24/2011

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).
2. N.C.R = No Calibration Request.

7.1.3. TEST PROCEDURES

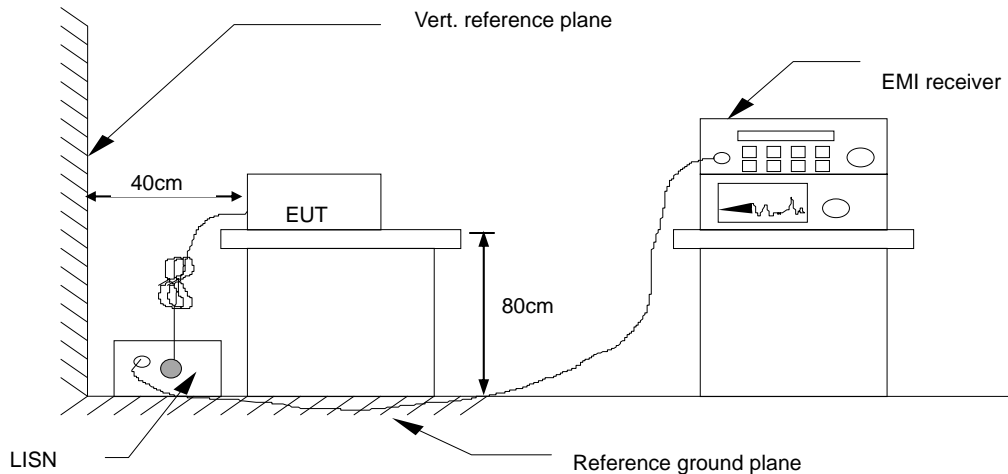
The EUT was put on a wooden table which was 0.8metre high above the ground and connected to the AC mains through a Artificial Mains Network (A.M.N). The mains lead in excess of 1 m separating the EUT from the AMN was folded back and forth parallel to the lead so as to form a bundle with a length of 0.3m to 0.4m. The EUT was kept 0.4m from any other earthed conducting surface. Both sides of AC line were checked to find out the maximum conducted emission levels according to the test procedure during conducted emission test.

The bandwidth of the test receiver (ESCI) was set at 9KHz.

The frequency range from 150 KHz to 30 MHz was investigated.

The test data of the worst-case condition(s) was recorded.

7.1.4. TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

7.1.5. Test Result

Model No.	2833	6dB Bandwidth	10 KHz
Environmental Conditions	26° C, 60% RH	Test Mode	Normal Operation
Detector Function	Peak / Quasi-peak/AV	Test Result	Pass
Test By	Davis Zhou		

NOTE: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).

2. “---” denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.

Freq. = Emission frequency in MHz

Reading level(dBuV) = Receiver reading

Corr. Factor (dB) = Attenuator Factor+ Cable loss

Level (dBuV) = Reading level(dBuV) + Corr. Factor (dB)

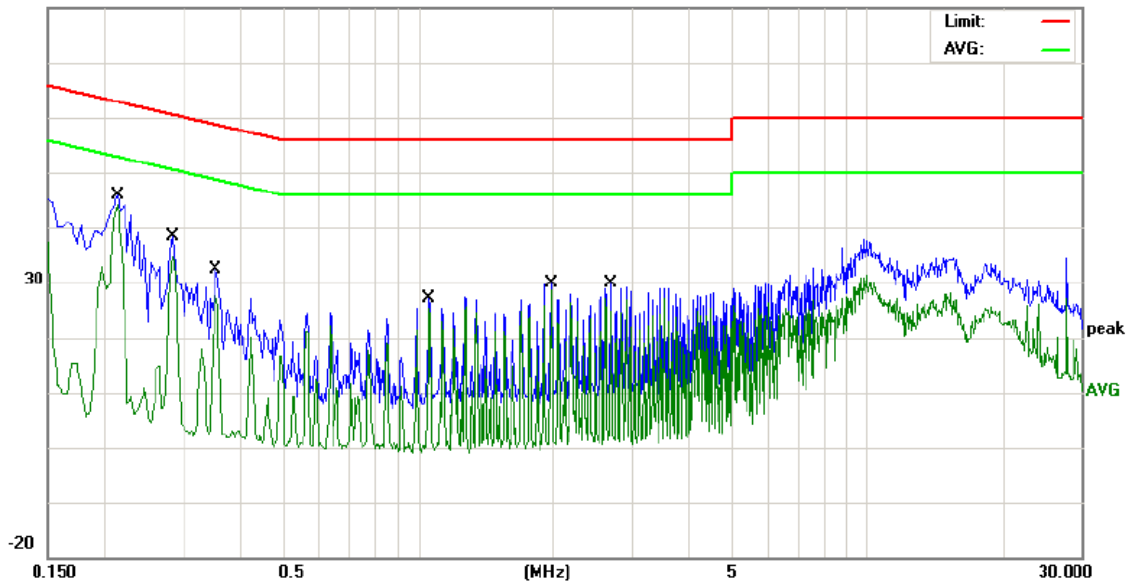
Limit (dBuV) = Limit stated in standard

Margin (dB) = Level (dBuV) – Limits (dBuV)

Q.P.=Quasi-Peak

Conducted Emission Measurement

File :Front Data :#17 Date: 2010/12/03 Time: 20:19:38



Site: 843 Shielded Room Phase: **L1** Temperature: 26
 Limit: FCC Part 15 B Conduction(QP) Power: AC 120V/60Hz Humidity: 60 %
 EUT: PS3 Wireless Controller with Mini Keyboard
 M/N: 2833
 Mode: Normal Operation
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2140	33.81	10.74	44.55	63.04	-18.49	QP	
2	*	0.2140	33.22	10.74	43.96	53.04	-9.08	AVG	
3		0.2860	24.82	10.85	35.67	60.64	-24.97	QP	
4		0.2860	23.02	10.85	33.87	50.64	-16.77	AVG	
5		0.3540	19.23	10.78	30.01	58.87	-28.86	QP	
6		0.3540	17.08	10.78	27.86	48.87	-21.01	AVG	
7		1.0620	15.29	10.25	25.54	56.00	-30.46	QP	
8		1.0620	14.85	10.25	25.10	46.00	-20.90	AVG	
9		1.9860	18.14	10.28	28.42	56.00	-27.58	QP	
10		1.9860	17.73	10.28	28.01	46.00	-17.99	AVG	
11		2.6940	17.68	10.33	28.01	56.00	-27.99	QP	
12		2.6940	15.56	10.33	25.89	46.00	-20.11	AVG	

*:Maximum data x:Over limit !:over margin

(Reference Only)

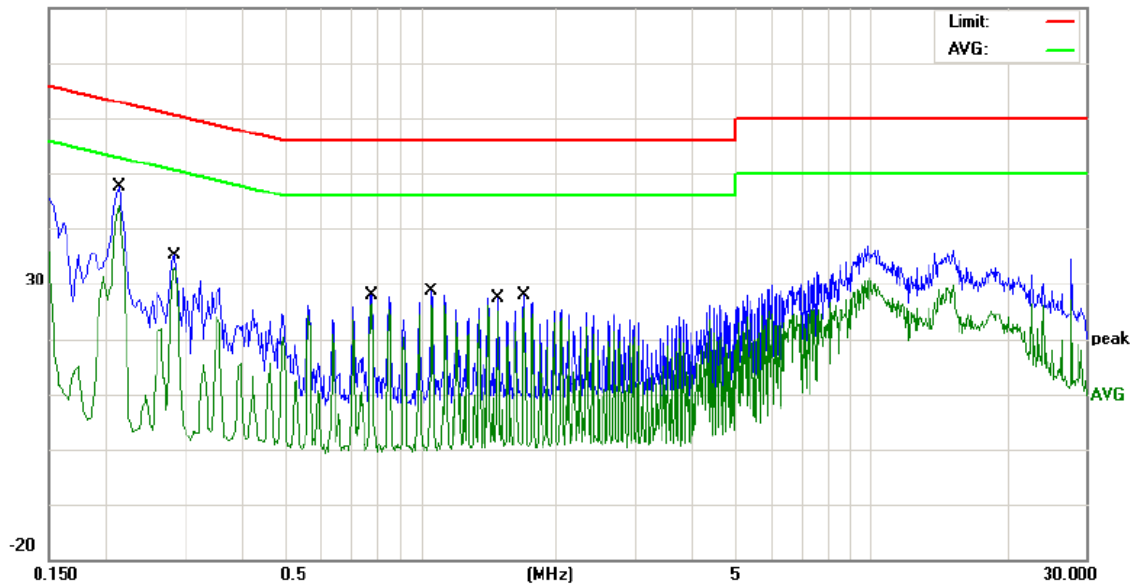
Conducted Emission Measurement

File :Front
 80.0 dBuV

Data :#16

Date: 2010/12/03

Time: 20:12:00



Site: 843 Shielded Room

Phase: N

Temperature: 26

Limit: FCC Part 15 B Conduction(QP)

Power: AC 120V/60Hz

Humidity: 60 %

EUT: PS3 Wireless Controller with Mini Keyboard

M/N: 2833

Mode: Normal Operation

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2140	34.88	10.74	45.62	63.04	-17.42	QP	
2	*	0.2140	32.92	10.74	43.66	53.04	-9.38	AVG	
3		0.2860	21.99	10.85	32.84	60.64	-27.80	QP	
4		0.2860	21.28	10.85	32.13	50.64	-18.51	AVG	
5		0.7820	16.07	10.38	26.45	56.00	-29.55	QP	
6		0.7820	15.46	10.38	25.84	46.00	-20.16	AVG	
7		1.0620	16.59	10.25	26.84	56.00	-29.16	QP	
8		1.0620	16.22	10.25	26.47	46.00	-19.53	AVG	
9		1.4900	15.73	10.26	25.99	56.00	-30.01	QP	
10		1.4900	14.33	10.26	24.59	46.00	-21.41	AVG	
11		1.7020	15.96	10.27	26.23	56.00	-29.77	QP	
12		1.7020	15.29	10.27	25.56	46.00	-20.44	AVG	

*:Maximum data x:Over limit !:over margin

◁Reference Only



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7.2. Radiation Emission Test

7.2.1. Limits

Maximum permissible level of Radiated Emission measured at 3 meter

FREQUENCY (MHz)	dBuV/m (At 3m)	
	Class B	
30~88	40.00	
88~216	43.50	
216~960	46.00	
960~1000	54.00	
>1000	PK:74.00	AV:54.00

NOTE: (1) The lower limit shall apply at the transition frequencies.

(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

7.2.2. TEST INSTRUMENT

966 Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	100005	09/24/2011
Spectrum Analyzer	R&S	FSU	100114	09/24/2011
Pre Amplifier	H.P.	HP8447E	2945A02715	09/24/2011
Pre-Amplifier	Compliance	PAM0118	1360976	09/24/2011
Bilog Antenna	SUNOL Sciences	JB3	A021907	09/24/2011
Horn Antenna	Compliance	CE18000	001	09/24/2011
Cable	TIME MICROWAVE	LMR-400	N-TYPE04	09/24/2011
Cable	TIME MICROWAVE	--	--	09/24/2011
System-Controller	CCS	N/A	N/A	N.C.R
Turn Table	CCS	N/A	N/A	N.C.R
Antenna Tower	CCS	N/A	N/A	N.C.R

7.2.3. Test procedure

The EUT was placed on a turn table which was 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. At the frequency band of 30MHz to 1GHz,The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 to 4 m for horizontal and vertical polarizations. The broadband antenna (calibrated by dipole antenna) was used as a receiving antenna. At the frequency band of 1GHz to 25GHz,The measuring antenna moved from 1 to 4 m for horizontal and vertical polarization. The horn antenna was used as a receiving antenna.

The resolution bandwidth and video bandwidth of the test receiver was 120 KHz and 300KHz for Quasi-peak detection at frequency below 1GHz.

The resolution bandwidth and video bandwidth of the test receiver was 1MHz and 3MHz for Peak emission measurement above 1GHz .

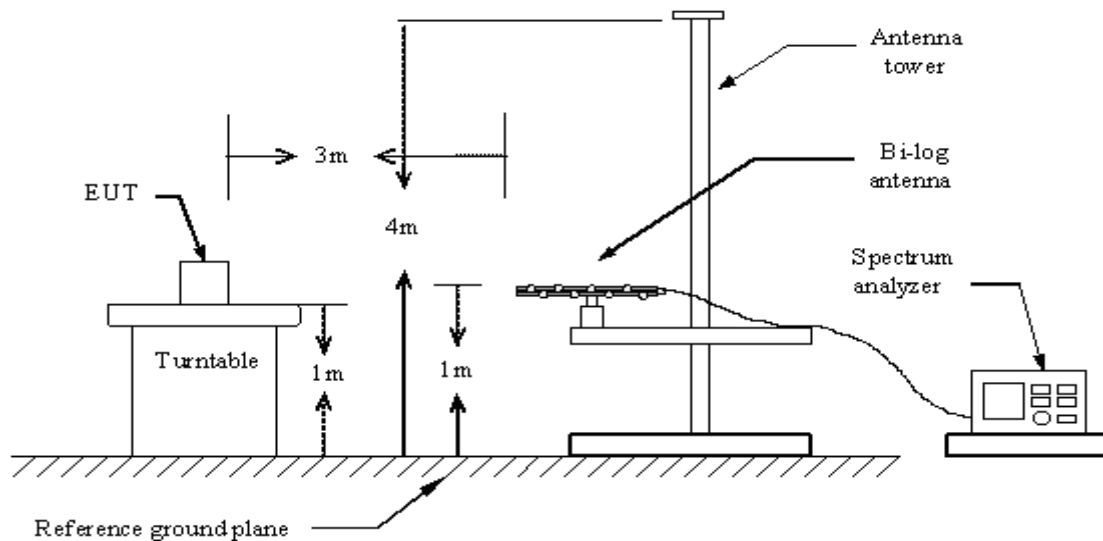
The resolution bandwidth of the test receiver was 1MHz and the video bandwidth are 10Hz for Average emission measurement above 1GHz .

The EUT was tested in Chamber Site.

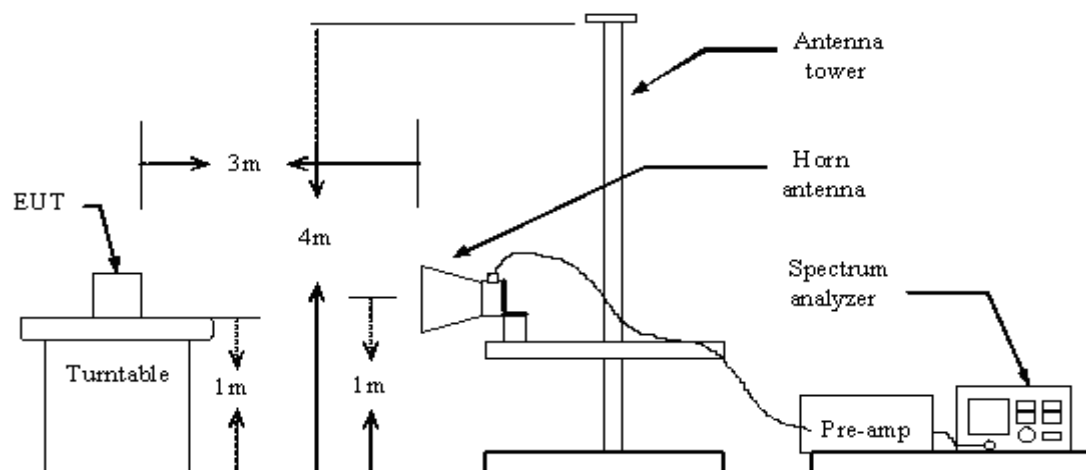
The test data of the worst case condition(s) was reported on the following pages.

7.2.4 Test setup diagram

Below 1GHz



Above 1GHz





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7.2.5.Test Result

Model No.	2833	Test Mode	Normal Operation
Environmental Conditions	26° C, 55% RH	6dB Bandwidth	120 KHz
Antenna Pole	Vertical / Horizontal	Antenna Distance	3m
Detector Function	Peak / Quasi-peak	Test Result	Pass

Frequency MHz	Emission Level dBV/m	Over Limits dB	Limits dBV/m	Note	Polarity	Result
288.02	37.35	-8.65	46.00	QP	H	PASS
300.42	38.50	-7.5	46.00	QP	H	PASS
367.54	37.40	-8.6	46.00	QP	H	PASS
431.58	35.50	-10.5	46.00	QP	H	PASS
802.12	34.89	-11.11	46.00	QP	H	PASS
1236.5	52.40	-21.6	74.00	PK	H	PASS
1236.5	--	--	54.00	AV	H	PASS
217.21	26.47	-19.53	46.00	QP	V	PASS
335.50	28.80	-11.2	40.00	QP	V	PASS
367.50	31.70	-14.3	46.00	QP	V	PASS
501.42	29.49	-16.51	46.00	QP	V	PASS
802.12	35.20	-10.8	46.00	QP	V	PASS
1236.5	41.30	-32.7	74.00	PK	V	PASS
1236.5	--	--	54.00	AV	V	PASS

- Notes:
1. The readings were Quasi-Peak values below 1GHz.
 - 2.The readings were Peak values + Average values above1GHz
 3. Emission Level = Antenna Factor + Cable Loss + Meter Reading-Preamp factor
 4. For measurements above 1 GHz, the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.