F C C -

TEST REPORT

REPORT NO.: 44828A

FCC listed testlab
acc. to Section 2.948 of the FCC - Rules

in compliance with the requirements of
ANSI C63.4 - 2003

Product	**:**	Toy Go Car
Product Class	**:**	Low Power Communication Device Transmitter
Brand Name	**:**	-
Model	**:**	#4892-49MHzT
Applicant	**:**	WELBIG COMPANY

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LABORATORY - REPORT

APPLICANT:	WELBIG COMPANY
ADDRESS:	Flat C, 20/F., Gold King Industrial Building 35-41 Tai Lin Pai Road Kwai Chung, N.T. Hong Kong
DATE OF SAMPLE RECEIVED:	2006-03-23
DATE OF TESTING:	2006-03-24 to 2006-03-28

DESCRIPTION OF SAMPLE:

Product:	Toy Go Car
Product class:	Low Power Communication Device Transmitter
Model number:	#4892-49MHzT
Rating:	DC 3V ('AA' Size Battery x 2)

INVESTIGATIONS REQUESTED:	Measurements to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart C - Intentional Radiators
RESULTS:	See the attached test sheets
CONCLUSIONS:	From the measurement data obtained, the tested sample was considered to have COMPLIED with the requirements for the relevant clauses of Federal Communications Commission Rules as specified above.

INTERNATIONAL ELECTRICAL CERTIFICATION CENTRE LTD. IECC 國際電器認證中心有限公司

Authorized Signature

Test Location

International Electrical Certification Centre Ltd.
Unit 602-605, 31 Lok Yip Road, On Lok Tsuen, Fanling, N.T., Hong Kong

Summary of Test Results

Radiated Emission:

Test result: O.K.
Test data: See attached data sheet

Conducted Emission:

Test result: N.A.
Test data: N.A.

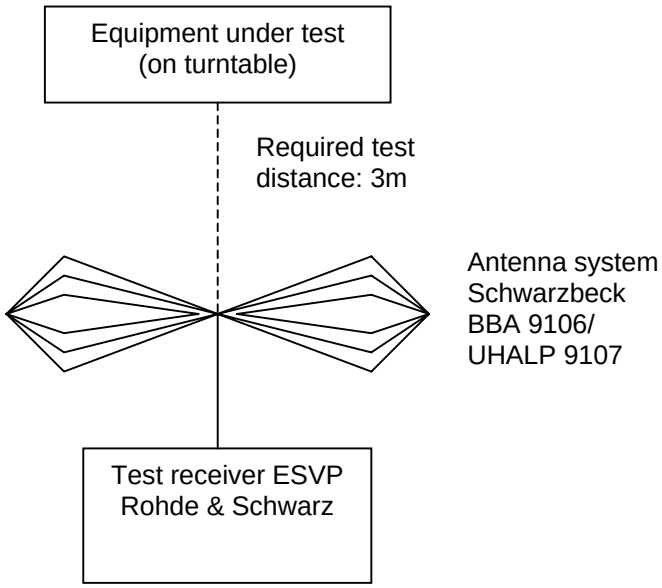
Measurement of Emissions within Band Edges

Test result: O.K.
Test data: See attached data sheet

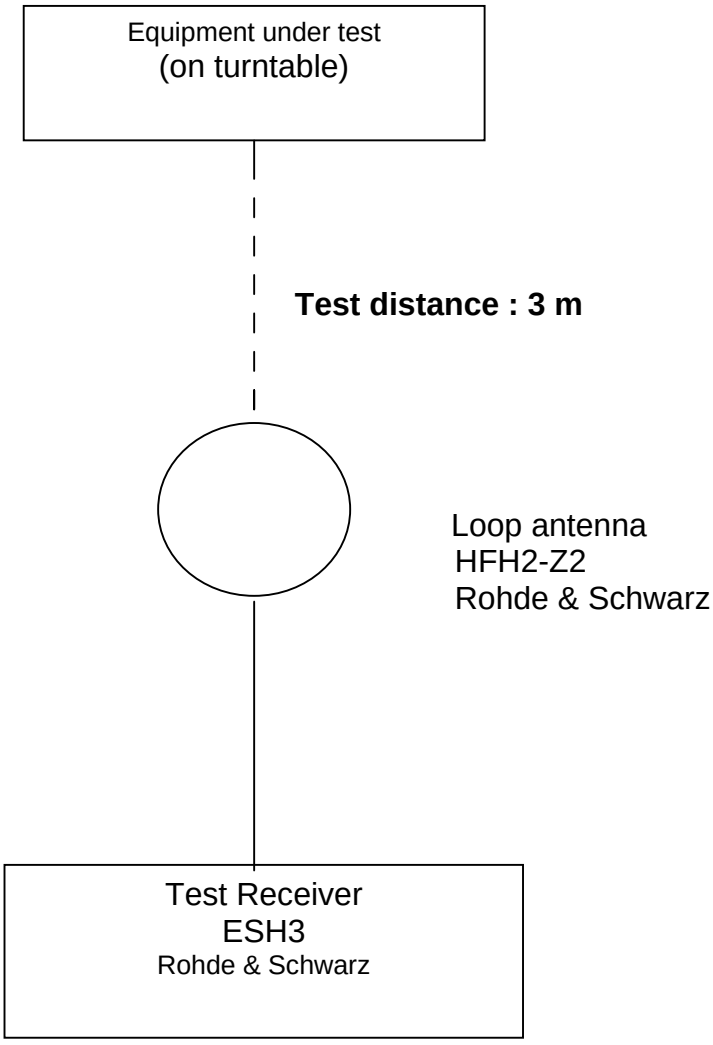
TEST EQUIPMENT LIST

Equipment	Manufacturer	Model	Serial No.	Remark
Test Receiver	Rohde & Schwarz	ESVP	860688/022	20MHz – 1,300 MHz
Test Receiver	Rohde & Schwarz	ESH 3	892580/006	9KHz – 30MHz
Antenna	Schaffner	CBL6111C	2791	30MHz – 1000MHz
Antenna	Schwarzbeck	BBA 9106 / UHALP 9107	--	30MHz – 1000MHz
Antenna Mast System	Schwarzbeck	AM9104	--	Max. 4 meters height
Loop Antenna	Rohde & Schwarz	HFH2-Z2	871336/48	9KHz-30MHz
Turntable with Controller	Drehtisch	DT312	--	ϕ120 cm
Spectrum Analyzer with Q. Peak	Advantest	R3132	140101852	9KHz – 3GHz

Radiated Emission Test Procedure (> 30MHz)



Radiated Emission Test Procedure (9kHz – 30MHz)



Radiated Emission

Date: 2006-03-29

Measurement of Radiated Emissions
FCC Part 15 Subpart C (15.209)

IECC Ref: 44828A
Model: #4892-49MHzT
Applicant: WELBIG COMPANY

Test Equipment
Receiver: ESVP Rohde & Schwarz
Antenna: Schaffner CBL6111C

Sample No.: 1

Set under test: Toy Go Car
Connected sets: -
Operating mode: Operate

	Frequency (MHz)	Horz. Reading dB(µV)	Vert. Reading dB(µV)	Antenna Factor (dB)	Horiz. Test Result dB(µV/m)	Vert. Test Result dB(µV/m)	Limit dB(µV/m)
Peak	49.86	66	70	8.2	74.2	78.2	100.0
Av. **	49.86	61	65	8.2	69.2	73.2	80.0
Harm. 2	99.72	26	31	10.1	36.1	41.1	43.5
Harm. 3	149.58	< 16	< 16	11.2	< 27.2	< 27.2	43.5
Harm. 4	199.44	17	< 16	9.1	26.1	< 25.1	43.5
Harm. 5	249.3	17	< 16	12.5	29.5	< 28.5	46.0
Harm. 6	299.16	< 16	< 16	13.6	< 29.6	< 29.6	46.0
Harm. 7	349.02	< 16	< 16	14.9	< 30.9	< 30.9	46.0
Harm. 8	398.88	< 16	< 16	16.3	< 32.3	< 32.3	46.0
Harm. 9	448.74	< 16	< 16	17.1	< 33.1	< 33.1	46.0
Harm. 10	498.6	< 16	< 16	17.8	< 33.8	< 33.8	46.0
Harm. 11	548.46	< 16	< 16	19.2	< 35.2	< 35.2	46.0
Harm. 12	598.32	< 16	< 16	20.0	< 36.0	< 36.0	46.0
Harm. 13	648.18	< 16	< 16	20.2	< 36.2	< 36.2	46.0
Harm. 14	698.04	< 16	< 16	20.8	< 36.8	< 36.8	46.0
Harm. 15	747.9	< 16	< 16	21.4	< 37.4	< 37.4	46.0
Harm. 16	797.76	< 16	< 16	22.1	< 38.1	< 38.1	46.0
Harm. 17	847.62	< 16	< 16	22.9	< 38.9	< 38.9	46.0
Harm. 18	897.48	< 16	< 16	22.6	< 38.6	< 38.6	46.0
Harm. 19	947.34	< 16	< 16	23.8	< 39.8	< 39.8	46.0

Remark: All frequencies in the required range have been scanned and only those significant and representative readings are reported above.
All emissions not reported above are all well below the limit.

Note: 1. Unless otherwise indicated, the recorded readings are in quasi-peak values.

2. ** Calculation of radiation (average) :

Formula :
Duty cycle = (N1L1 + N2L2 + … + Nn-1Ln-1 + NnLn) / 100 or T
where N1 is number of type 1 pluse, L1 is length of type 1 pulse, etc.
T is the period of the pulse train (if less than 100 ms)

According to the time domain plots shown in page 10 & 11 :
Duty cycle of the EUT = (4x1.52 + 40x0.52) / 47.4 = 0.567
Av correction factor = 20 x log(0.567) dB
= - 4.92 dB

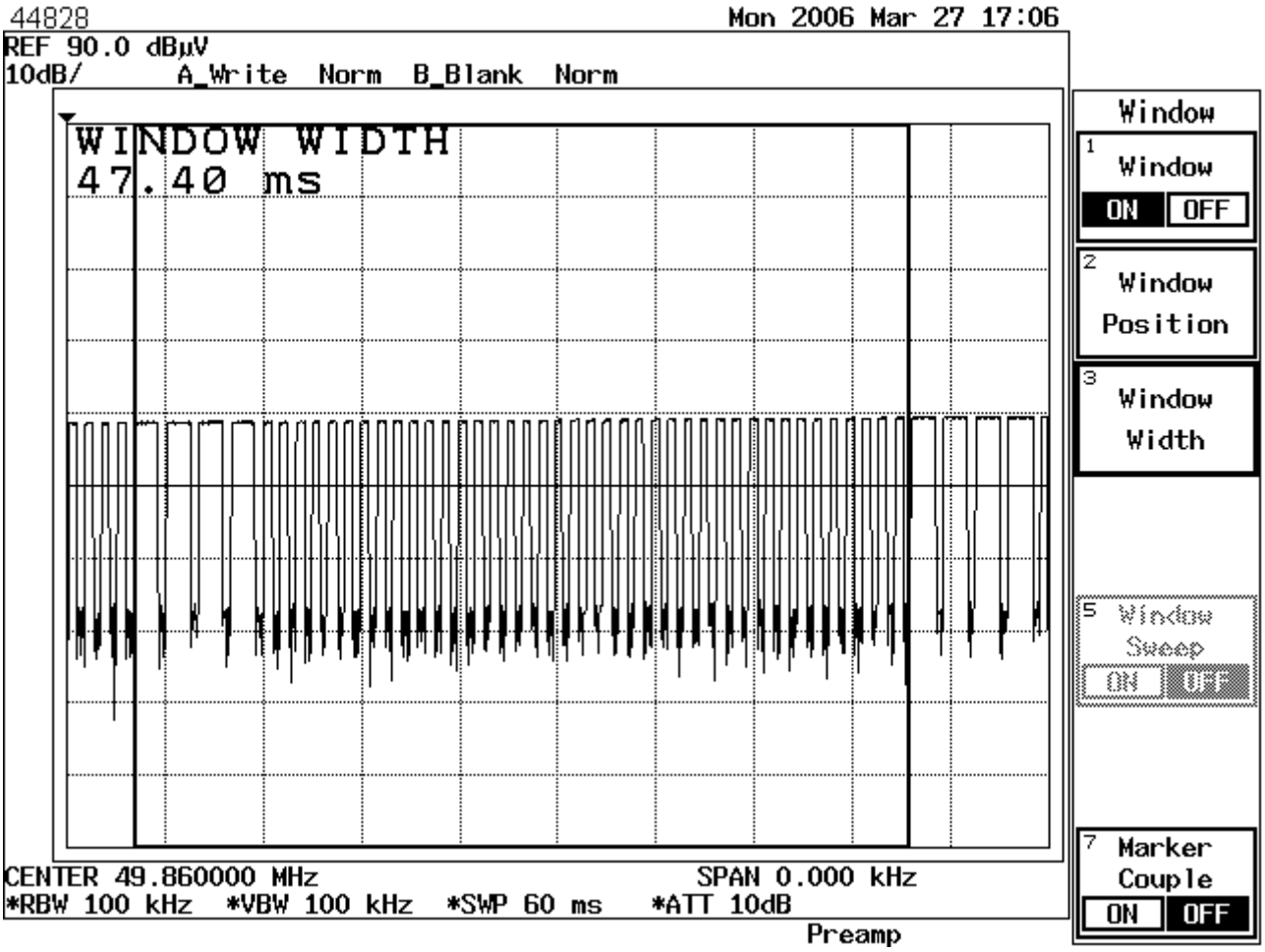
Radiation (average) = Radiation (peak) + Av correction factor

Radiation (average) of the EUT (Horizontal) = 66 - 4.92 dB(µV/m) = 61 dB(µV/m)
Radiation (average) of the EUT (Vertical) = 70 - 4.92 dB(µV/m) = 65 dB(µV/m)

3. The measurement is conducted with the sample placed on the turnable in 3 orthogonal planes.

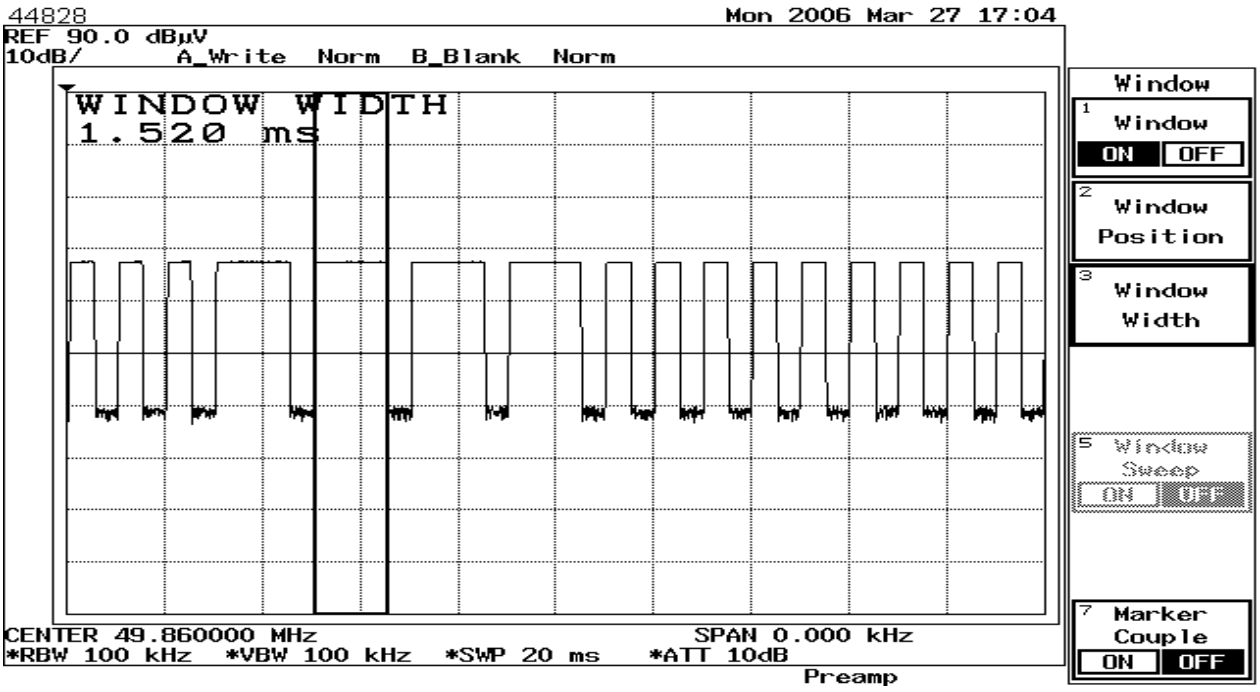
Interference Radiation

Transmitter Emission – Time Domain Plot

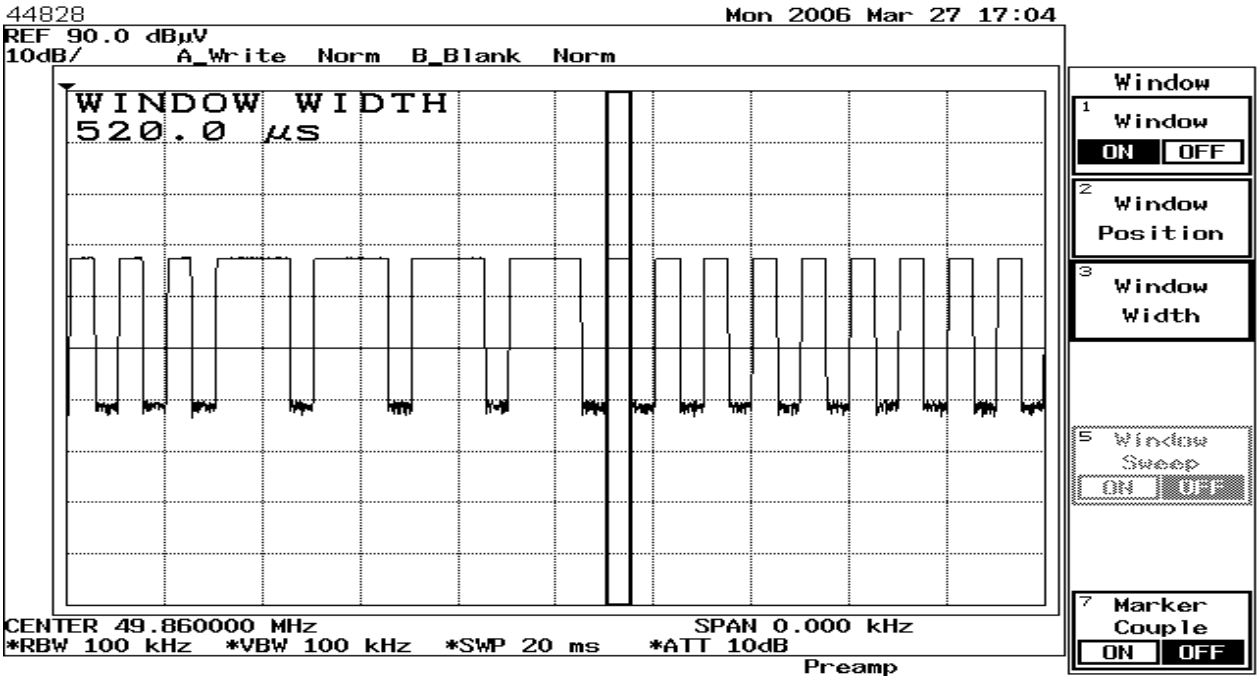


Pulse cycle period = 47.4 ms

Transmitter Emission – Time Domain Plot



Pulse width = 1.52 ms (total number of pulse : 4)



Pulse width = 0.52 ms (total number of pulse : 40)

Notes for Radiated Emission Measurement

1. **Measurement facility:**
   Measurement facility located at Fanling (Hong Kong), placed on file with the FCC Pursuant to Section 2.948 of the FCC Rules (FCC Registration No. : 97774).

2. **Distance between the EUT and measuring antenna:**
   3 meters.

3. **Measuring instrumentations:**
   Rohde & Schwarz ESH3 Test Receiver (9kHz – 30MHz), ESVP Test Receiver (20 - 1300 MHz) with a CISPR weighting QP detector, 6 dB bandwidth set at 120 KHz.

4. **Measuring antenna:**
   Broad-band antenna for the frequency range 30 - 1000 MHz, connected with 10 meters coaxial cable. Cable loss of the coaxial cable included in the Antenna Factor for measurement data. The antenna is capable of measuring both horizontal and vertical polarizations. The antenna was raised from 1 to 4 meters to find out the maximum emission level from the EUT.

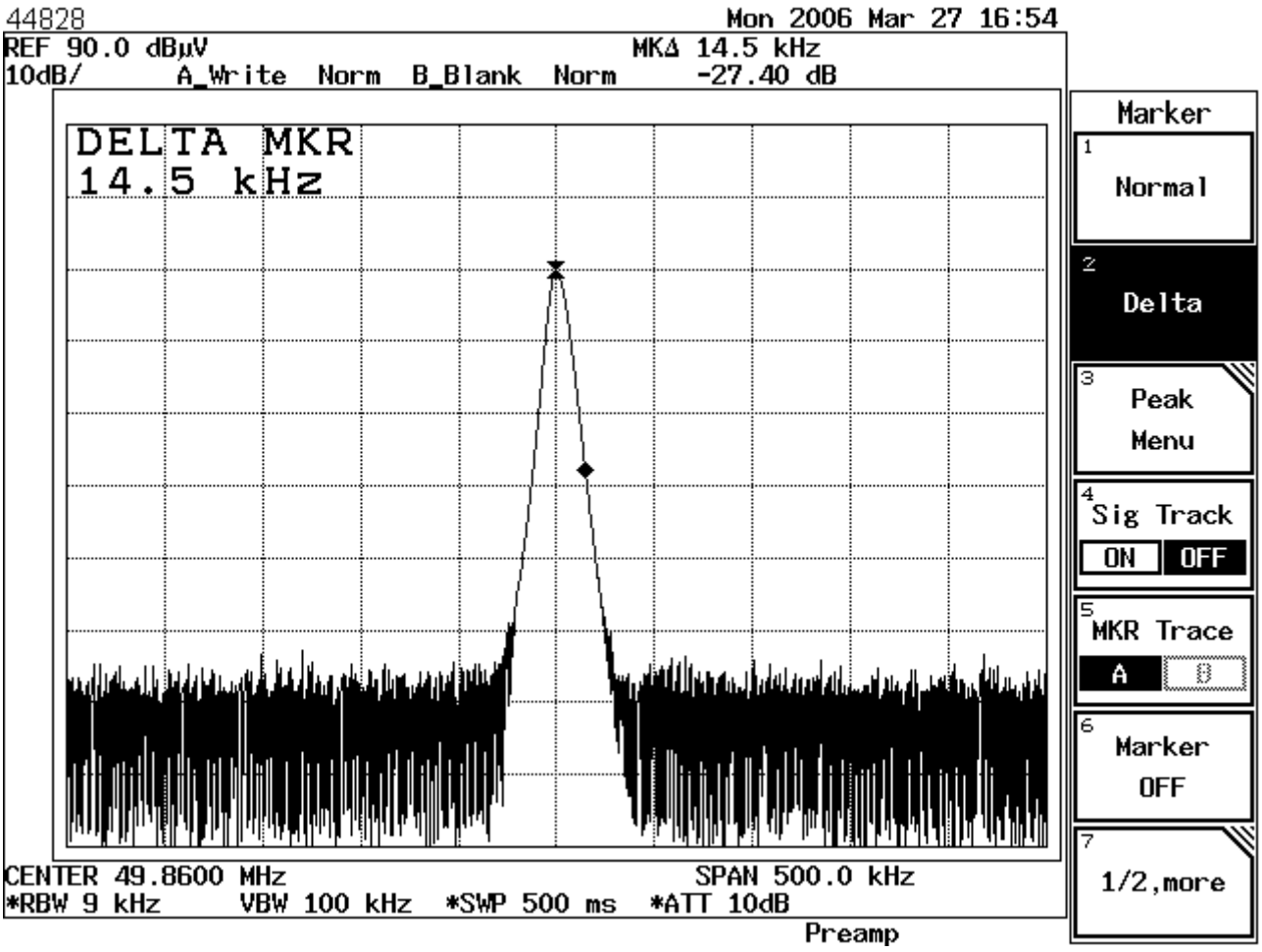
   Loop antenna for the frequency range 9kHz - 30MHz, connected with 10 meters coaxial cable. Cable loss of the coaxial cable included in the measurement data. The center of the loop 1 m above the ground plane, positioned with its plane vertical at the specified distance and rotated about its vertical axis and placed horizontal for maximum response at each azimuth about the EUT.

5. **Frequency range scanned:**
   The frequency ranges 9kHz - 30MHz, 30 - 1000 MHz have been scanned. Readings of the highest emissions relating to the limit were reported as above.

6. **Arrangement of EUT:**
   During the test, the sample was placed on a turn table and operated under various modes at rated supply voltage. The table is 0.8 meter above ground and can rotate 360 degrees to determine the position of the maximum emission level.

7. **Measuring Procedure:**
   In **accordance** with the relevant sections of the American National Standards Institute (ANSI) C63.4-2003 'Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9KHz to 40GHz'.

Measurement Data of Emissions within Band Edges



Result : The field strength of any emission within the operation band did not exceed 80 dB(µV/m) for average value or 100 dB(µV/m) for peak value. Refer to page 9 for the recorded value for the emission at the fundamental frequency.

Notes for Measurement of Emissions within Band Edges

1. **Measurement facility:**
   Measurement facility located at Fanling (Hong Kong) placed on file with the FCC Pursuant to Section 2.948 of the FCC Rules.

2. **Measuring instrumentations:**
   Spectrum Analyzer: Advantest R3132

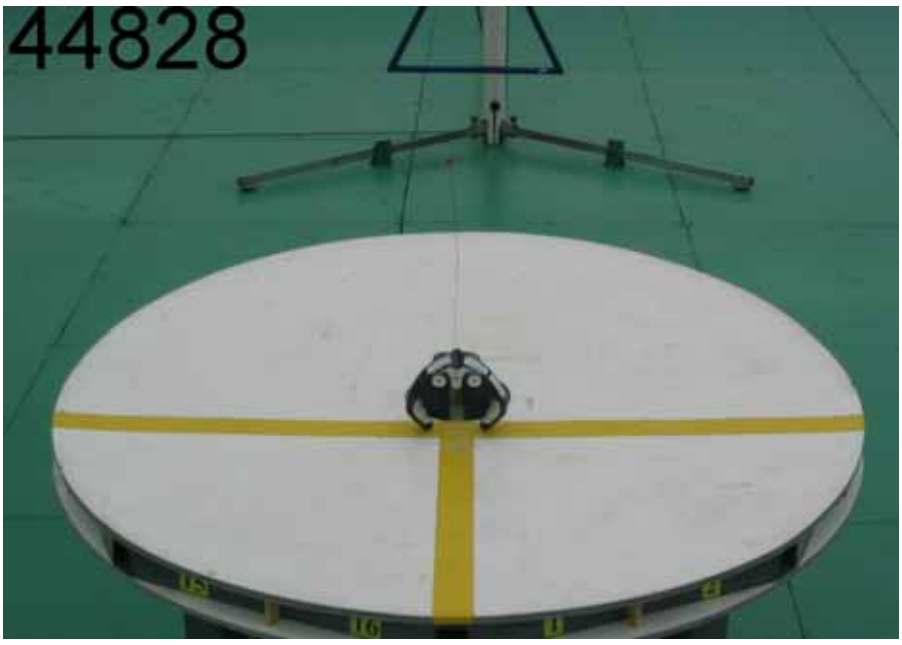
3. **Frequency range scanned:**
   The frequency range acc. to FCC rules and regulations part 15 subpart C - Intentional Radiators.

4. **Arrangement of EUT:**
   During the test, the sample was operated.

5. **Measuring Procedure:**
   In accordance with the relevant sections of American National Standards Institute (ANSI) C63.4 - 2003 'Methods of Measurement od Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz'.

Photographs

Radiated Emission Test setup



Sample Construction Details

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