

EXHIBIT 4

Test Report

Test Report

TTEMC-F98039

APPLICATION FOR CERTIFICATION
On Behalf of
Yeun Yah Industrial Co., Ltd.
Wireless Amplifier
(Transmitter)

Model : YH6001

FCC ID : NQCYH6001

Prepared for : Yeun Yah Industrial Co., Ltd.
10F, No. 4, Lane 163, Hsin Yi Rd.,
Pan Chiao City, Taipei Hsien, Taiwan, R.O.C.

Prepared By : Taiwan Tokin EMC Eng. Corp.
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APPENDIX (Shape of Fundamental Frequency)

TEST REPORT CERTIFICATION

Applicant : Yeun Yah Industrial Co., Ltd.
Manufacturer : Yeun Yah Industrial Co., Ltd.
FCC ID : NQCYH6001
EUT Description : Wireless Amplifier (Transmitter)
 (A) MODEL NO. : YH6001
 (B) SERIAL NO. : N/A
 (C) POWER SUPPLY : DC 9V

Measurement Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C OCTOBER 1996 AND
FCC / ANSI C63.4-1992

The device described above was tested by TAIWAN TOKIN EMC ENG. CORP. to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C limits both radiated and conducted emissions.

The measurement results are contained in this test report and TAIWAN TOKIN EMC ENG. CORP. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits. TAIWAN TOKIN EMC ENG. CORP. recommends that this data can be submitted for FCC certification purposes if a 6dB margin below FCC limits is obtained. This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Taiwan Tokin EMC Eng. corp.

Date of Test : Mar. 16, 1998

Prepared by : _____
(CHERRY WANG)

Test Engineer : _____
(ALLEN WANG)

Approve & Authorized Signer : _____
(JACKIE DENG)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description : Wireless Amplifier (Transmitter)

Model Number : YH6001

FCC ID : NQCYH6001

Applicant : Yeun Yah Industrial Co., Ltd.
10F, No. 4, Lane 163, Hsin Yi Rd.,
Pan Chiao City, Taipei Hsien, Taiwan, R.O.C.

Manufacturer : Yeun Yah Industrial Co., Ltd.
7F, No. 4, Lane 163, Hsin Yi Rd.,
Pan Chiao City, Taipei Hsien, Taiwan, R.O.C.

Fundamental Frequency : 173.6505MHz

Microphone : Yeun Yah, M/N WM-601
Cable: Unshielded, Detachable, 0.8m

Date of Test : Mar. 16, 1998

1.2. Description of Test Facility

Site Description (No. 2 Open Site)	:	Jul. 15, 1996 Re-file on Federal Communication Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, U.S.A.
Name of Firm	:	Taiwan Tokin EMC Eng. Corp.
Site Location	:	No. 53-11, Tin-Fu Tsun, Lin-Kou, Taipei Hsien, Taiwan, R.O.C.
NVLAP Code	:	200077-0

2. POWERLINE CONDUCTED TEST

2.1. Test Equipment

The following test equipments are used during the power line conducted tests :

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESH3	893044/015	Aug.01, 97'	1 Year
2.	L.I.S.N. # 1	Kyoritsu	KMW-407	8-855-9	May.01, 97'	1 Year
3.	L.I.S.N. # 2	Kyoritsu	KMW-407	8-881-13	May.01, 97'	1 Year

2.2. Block Diagram of Test Setup

This unit is battery operated, so no conductive emissions were performed according to FCC part 15 section 15.207.

3. RADIATED EMISSION TEST

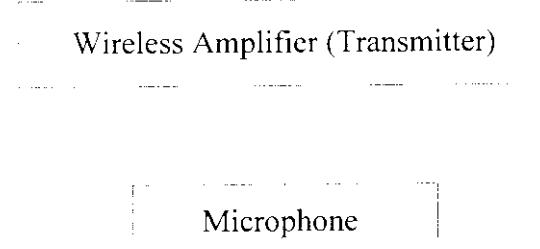
3.1. Test Equipment

The following test equipments are used during the radiated emission tests :

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde&Schwarz	ESVP	893202/001	Aug.04, 97'	1 Year
2.	Broadband Antenna	Chase	VBA6106A	1240	Jan. 14, 98'	1 Year
3.	Broadband Antenna	Schwarzbeck	UHALP 9108-A	0139	Jun.16, 97'	1 Year

3.2. Test Setup

3.2.1. Block Diagram of connection between EUT and simulators



3.2.2. Open Field Test Site Setup Diagram

ANTENNA TOWER

ANTENNA ELEVATION VARYS FROM 1METER TO 4 METER

3 METERS

EUT

0.8
METER

TURN TABLE

GROUND PLANE

3.3. Section 15.209 Radiated Emission Limits

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMITS	
MHz	Meters	uV/M	dBuV/M
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0

Remark : (1) Emission level (dBuV/M) = 20 log Emission level (uV/M)
 (2) The tighter limit applies at the edge between two frequency bands.
 (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3.4. EUT Configuration

The configuration of EUT is installed on RF field strength measurement to meet the commission requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

3.5.1. Setup the EUT as shown on 3.2

3.5.2. Turn on the power of all equipments.

3.5.3. The Wireless Amplifier (EUT) was emit the working frequency with data code during testing.

3.6. Test Procedure

The EUT is placed on a turn which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) and dipole antenna are used as a receiving antenna. The horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, the relative positions of equipments must be changed according to ANSI C63.4-1992 on radiated measurement.

The bandwidth setting on the field strength meter (R&S TEST RECEIVER ESVP) was 120KHz.

The frequency range from 30MHz to 1000MHz was checked.

All the test results are listed in section 3.7.

3.7. Radiated Emission Noise Measurement Results

The frequency spectrum from 30 MHz to 1000MHz is investigated. All the emissions not reported below are too low against the FCC part 15 subpart C limit.

Date of Test : Mar. 16, 1998 Temerature : 16 °C
 EUT : Wireless Amplifier (Transmitter) Humidity : 69 %
 Fundamental Frequency : 173.6505MHz

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBuV	Emission Level Horizontal dBuV/m	Limits dBuV/m	Margin dBuV/m
43.440	18.88	1.85	8.60	29.33	40.00	10.67
57.908	12.88	2.20	5.80	20.88	40.00	19.12
72.374	12.10	2.35	5.10	19.55	40.00	20.45
86.844	15.45	2.53	4.80	22.78	40.00	17.22
115.773	18.94	2.93	7.70	29.57	43.50	13.93
130.242	20.14	3.17	10.50	33.81	43.50	9.69
144.717	20.85	3.39	7.50	31.74	43.50	11.76
*159.185	21.28	3.57	9.60	34.45	43.50	9.05
173.656	21.71	3.78	3.20	28.69	43.50	14.81
188.127	21.84	3.92	-3.30	22.46	43.50	21.04
202.599	22.27	4.08	-2.50	23.85	43.50	19.65
217.063	22.24	4.22	-5.90	20.56	46.00	25.44
245.999	22.93	4.54	-5.40	22.07	46.00	23.93
289.402	25.66	4.99	-6.30	24.35	46.00	21.65
303.869	13.61	5.19	-6.00	12.80	46.00	33.20
332.812	14.00	5.43	-6.60	12.83	46.00	33.17
361.746	15.20	5.78	-6.30	14.68	46.00	31.32
376.210	16.20	5.85	-5.90	16.15	46.00	29.85
405.150	17.15	6.10	-6.20	17.05	46.00	28.95

Remark : 1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 159.185MHz with corrected signal level of 34.45dBuV/m (limit is 43.5dBuV/m) when the antenna was at horizontal polarization and was at 1.8m high and the turn table was at 340°.
 3. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

Date of Test : Mar. 16, 1998 Temerature : 16 °C
 EUT : Wireless Amplifier (Transmitter) Humidity : 69 %
 Fundamental Frequency : 173.6505MHz

Frequency MHz	Antenna Factor	Cable Loss dB	Meter Reading Vertical dBuV	Emission Level Vertical dBuV/m	Limits dBuV/m	Margin dBuV/m
43.442	16.99	1.85	3.00	21.84	40.00	18.16
57.913	13.65	2.20	- 2.90	12.95	40.00	27.05
86.850	15.89	2.53	- 3.70	14.72	40.00	25.28
108.545	17.06	2.87	- 3.50	16.43	43.50	27.07
115.771	18.42	2.93	2.20	23.55	43.50	19.95
130.241	19.70	3.17	1.20	24.07	43.50	19.43
144.713	18.88	3.39	- 0.09	22.18	43.50	21.32
*159.183	21.82	3.57	2.00	27.39	43.50	16.11
173.655	22.01	3.78	- 1.60	24.19	43.50	19.31
188.133	20.74	3.92	- 5.10	19.56	43.50	23.94
202.601	21.24	4.08	- 3.70	21.62	43.50	21.88
217.074	23.27	4.22	- 5.90	21.59	46.00	24.41
231.545	21.85	4.35	- 6.00	20.20	46.00	25.80
246.009	22.82	4.58	- 5.40	22.00	46.00	24.00
303.864	14.16	5.19	- 7.00	12.35	46.00	33.65
318.345	14.28	5.34	- 6.40	13.22	46.00	32.78
347.282	15.03	5.57	- 6.60	14.00	46.00	32.00
376.210	15.19	5.85	- 5.70	15.34	46.00	30.66
419.620	16.11	6.22	- 6.30	16.03	46.00	29.97

Remark : 1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 159.183MHz with corrected signal level of 27.39dBuV/m (limit is 43.5dBuV/m) when the antenna was at vertical polarization and was at 2.0m high and the turn table was at 135° .
 3. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.