

THRU Lab & Engineering.

RM1105,11FL, ACE TECHNO TOWER

197-22, GURO-DONG GURO-GU SEOUL KOREA

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Test Report

Product Name: MP3 PLAYER

FCC ID: QPJTMP-701G

Applicant:

Telewin Inc.

65-5, Sosabon 2-Dong Sosagu

Bucheon, Kyungki-Do

Korea 422-232

Date Receipt: 10/26/2004

Date Tested: 11/02/2004

APPLICANT: Telewin Inc.

FCCID: QPJTMP-701G

REPORT #: THRU-411001

COVER SHEET

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TEST EQUIPMENT LIST

DEVICE	MODEL	MFGR	SERNO	DUE.CAL
EMI Test Receiver	ESVS 10	Rohde & Schwarz	830489/001	2005.04.07.
Spectrum Analyzer	8566B	Hewlett Packard	2311A02394	2005.04.07.
Spectrum Display	85662A	Hewlett Packard	2542A12429	2005.04.07.
Quasi-Peak Adapter	85650A	Hewlett Packard	2521A00887	2005.04.07.
RF Preselector	85685A	Hewlett Packard	2648A00504	2005.04.07.
Pre-Amplifier	8449B	Hewlett Packard	3008A00375	2005.04.07.
Pre-Amplifier	8447F	Hewlett Packard	3113A05367	2005.04.07.
Spectrum Monitor	EZM	Rohde & Schwarz	862304/007	2005.04.07.
Bico-Antenna	94455-1	Eaton	977	2005.03.17.
Log-Periodic Antenna	3146	EMCO	2051	2005.03.17.
Dipole Antenna	TDA25/1/2	Electro Metrics	176/200/200	2005.03.17.
Horn Antenna	SAS-571	A.H Systems	414	2005.03.17.
Spectrum Analyzer	R3261C	Advantest	71720189	2005.04.07.
LISN	KNW-242	Kyoritsu	8-923-2	2004.07.17.
LISN	8012-50-R-24	Solar	8379121	2004.07.17.
Loop Ant	6507	EMCO	1435	2004.10.06.
Signal Generator	SMS	Rohde & Schwarz	872165/100	2005.04.07.
Modulation Analyzer	8901B	Hewlett Packard	3438A05094	2005.04.07.
Frequency Counter	CMC251	Tektronic	CMC-251TW52489	2005.04.07.

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TEST PROCEDURE

GENERAL: This report shall NOT be reproduced except in full without the written approval of Thrulab & Engineering. Shielded interface cables were used in all cases except for cables connecting to the telephone line and the power cords. A test program was run which filled the screen with H's and also with the modem dialing out. Peripherals were turned on and operating.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-1992 using a HEWLETT PACKARD spectrum analyzer with a preselector. The bandwidth of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz. The ambient temperature of the UUT was 20°C with a humidity of 70%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Preselector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

Freq (MHz)	METER READING + ACF = FS
33	20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

ANSI STANDARD C63.4-1992 10.1.7 MEASUREMENT PROCEDURES: The UUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The UUT was placed in a manner that was representative of the way the EUT would be used. If the EUT had any peripherals, they were attached and placed in a similar manner. The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes. In addition, in the event of the test being for a computer set up, the modem and printer positions were swapped and cables were manipulated as much as possible. The monitor was not moved, as that would not represent a typical situation configuration.

The situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSIC63.4-1992 with the EUT 40 cm from the vertical ground wall.

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NAME OF TEST: RADIATED SPURIOUS EMISSIONS

RULES PART NO.: 15.109(a) - Class B Computing Device

REQUIREMENTS:	30-88 MHz	40.0 dBuV/m measured at 3 meters
	88-216 MHz	43.5 dbuV/m
	216-960 MHz	46.0 dbuV/m
	ABOVE 960 MHz	54.0 dbuV/m

TEST

CONFIGURATION:	Toshiba Notebook	MODEL: Statellite Pro 4280
	MOUSE	Model: JPC2057
	HP PRINTER	Model: C2605
	Modem	Model: SM1200A1
	Speaker	Model: RP-SP10
	Monitor	Model: SyncMaster500P

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TEST DATA:

No	Emission Frequency (MHz)	Meter Reading dBuV	Ant. Polaritry	Correction Factor dB	Cable Loss dB	Field Strength (dBuv/m)	Margin (dBuv)	Limit (dBuv/m)
1	35.88	9.4	H	12.9	0.8	23.1	-16.9	40.0
2	59.96	10.6	H	7.4	1.1	19.1	-20.9	40.0
3	67.80	13.2	V	5.9	1.2	20.3	-19.7	40.0
4	96.08	15.0	V	10.9	1.6	27.5	-16.0	43.5
5	100.17	14.2	V	11.2	1.6	27.0	-16.5	43.5
6	128.88	6.8	H	12.5	1.9	21.2	-22.3	43.5
7	144.09	5.0	H	15.8	2.1	22.8	-20.7	43.5
8	191.90	8.9	H	14.0	2.5	25.4	-18.1	43.5
9	334.20	4.3	H	16.3	3.7	24.2	-21.8	46.0
10	403.60	5.9	V	15.5	4.2	25.7	-20.3	46.0
11	429.00	8.3	H	15.9	4.4	28.6	-17.4	46.0
12	468.80	6.2	V	19.9	4.7	30.8	-15.2	46.0
13	501.50	7.4	V	18.1	4.9	30.5	-15.5	46.0
14	533.80	8.9	H	17.9	5.1	31.9	-14.1	46.0
15	668.40	10.1	H	20.9	6.0	37.0	-9.0	46.0
16	680.60	8.9	V	21.2	6.1	36.2	-9.8	46.0

TEST PROCEDURE: ANSI STANDARD C63.4-1992. The spectrum was scanned from 30 to 1000 MHz. The unit was measured at ThruLab & Engineering 389 Jeam-Rhi HyangNam-Myum HwaSung Kyoungki-do Korea

TEST RESULTS: THE UNIT DOES MEET THE FCC REQUIREMENTS.

PERFORMED BY: S.W.Ahn

DATE: 11/02/2004

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APPLICANT: Telewin Inc.

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NAME OF TEST: POWER LINE CONDUCTED INTERFERENCE

RULES PART NO.: 15.107

REQUIREMENTS:

	QUASI-PEAK	AVERAGE
.15 - 0.5 MHz	66-56 dBuV	56-46 dBuV
0.5 - 5.0	56	46
5.0 - 30.	60	50

TEST PROCEDURE: ANSI STANDARD C63.4-1992. The spectrum was scanned from .15 to 30 MHz.

THE HIGHEST EMISSION READ FOR LINE 1 WAS 36.2 dBuV @ 2.426 MHz.

THE HIGHEST EMISSION READ FOR LINE 2 WAS 37.2 dBuV @ 0.236 MHz.

THE ATTACHED GRAPHS REPRESENT THE EMISSIONS READ FOR POWERLINE CONDUCTED FOR THIS DEVICE.

TEST RESULTS: Both lines were observed. The measurements indicate that the unit DOES appear to meet the FCC requirements for this class of equipment.

TEST RESULTS: THE UNIT DOES MEET THE FCC REQUIREMENTS.

PERFORMED BY: S.W.Ahn

DATE: 11/02/2004

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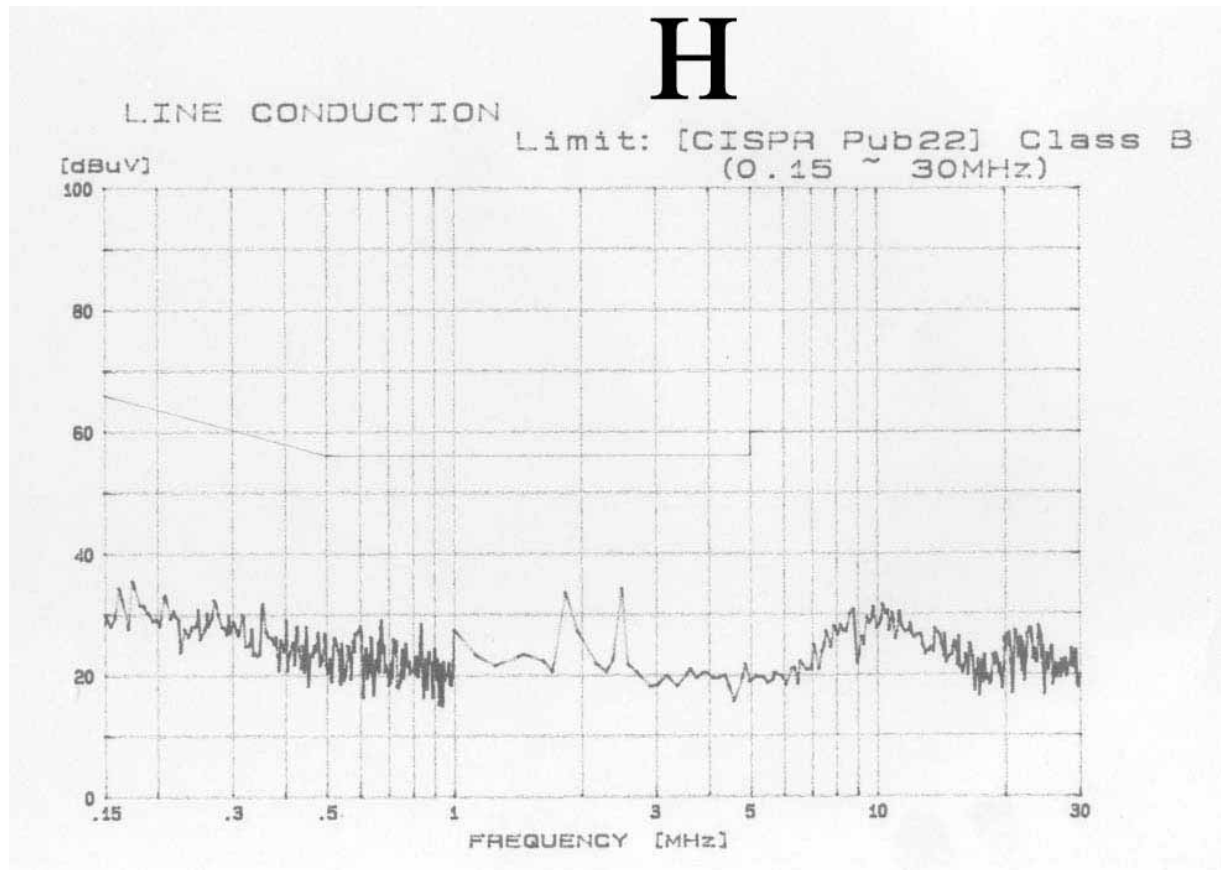
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