

THRU Lab & Engineering.

477-6, Hager-Ri, Yoju-Up, Yoju-Gun
Kyunggi-Do, 469-803, Korea
T820318835092F820318835169 email thrukang@kornet.net

Test Report

Product Name: SLIM VIBE ONLY PAGER(Receiver)

FCCID: QBT-LB7001

Applicant:
Lee Technology Korea Co., Ltd.

3rd FL #499-2 Sang 3-dong, Wonmi-gu,
Bucheon-city, Kyungki-do,
KOREA

Date Receipt: 03/05/2008

Date Tested: 03/06/2008

APPLICANT: Lee Technology Korea Co., Ltd.
FCCID #: QBT-LB7001
REPORT #:THRU-803001

COVER SHEET

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EMC Equipment List

No	Description	Manufacturer	Model No.	Serial No.	Due Cal.	Used
1	Test Receiver	Rohde & Schwarz	ESHS 10	862970/018	2008.05.01	<input checked="" type="checkbox"/>
2	Test Receiver	Rohde & Schwarz	ESVS 10	826008/014	2008.06.12	<input type="checkbox"/>
3	Spectrum Analyzer	Hewlett Packard	8566B	2311A02394	2008.06.13	<input checked="" type="checkbox"/>
4	Spectrum Display	Hewlett Packard	85662A	2542A12429	2008.06.13	<input checked="" type="checkbox"/>
5	Quasi-peak Adapter	Hewlett Packard	85650A	2521A00887	2008.06.13	<input type="checkbox"/>
6	RF Preselector	Hewlett Packard	85685A	2648A00504	2008.06.13	<input type="checkbox"/>
7	Preamplifier	Hewlett Packard	8447F	2805A02570	2008.05.28	<input type="checkbox"/>
8	Preamplifier	A.H. Systems	PAM-0118	164	2008.05.08	<input type="checkbox"/>
9	Biconical Antenna	Eaton Corp.	94455-1	0977	2008.04.01	<input type="checkbox"/>
10	Biconical Antenna	EMCO	3104C	9111-2468	2008.06.07	<input checked="" type="checkbox"/>
11	Log Periodic Antenn	EMCO	3146	2051	2008.05.11	<input checked="" type="checkbox"/>
12	Horn Antenna	A.H. Systems	SAS-571	414	2008.03.17	<input type="checkbox"/>
13	Loop Antenna	Rohde & Schwarz	HFH2-Z2.335.4711.5	826532/006	2009.01.31	<input type="checkbox"/>
14	Dipole Antenna	Rohde & Schwarz	VHAP	574	2008.12.12	<input type="checkbox"/>
15	Dipole Antenna	Rohde & Schwarz	VHAP	575	2008.12.12	<input type="checkbox"/>
16	Dipole Antenna	Rohde & Schwarz	UHAP	546	2008.12.12	<input type="checkbox"/>
17	Dipole Antenna	Rohde & Schwarz	UHAP	547	2008.12.12	<input type="checkbox"/>
18	Signal Generator	Hewlett Packard	8673D	2708A00448	2008.06.12	<input type="checkbox"/>
19	Spectrum Analyzer	Advantest Corp.	R3261C	61720208	2008.06.12	<input type="checkbox"/>
20	LISN	EMCO	3825/2	9111-1912	2008.12.12	<input type="checkbox"/>
21	LISN	Kyoritsu	KNW-242	8-923-2	2009.05.23	<input checked="" type="checkbox"/>
22	Modulation Analyzer	Hewlett Packard	8901B	3438A05094	2008.05.25	<input type="checkbox"/>

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23	Waveform Generator	Hewlett Packard	33120A	US34001190	2008.05.21	<input type="checkbox"/>
24	Audio analyzer	Hewlett Packard	8903B	3011A12915	2008.05.21	<input type="checkbox"/>
25	Digital Oscilloscope	Tektronix	TDS 340A	B012287	2008.06.13	<input type="checkbox"/>

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TEST PROCEDURE

GENERAL: This report shall NOT be reproduced except in full without the written approval of of THRU &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 simulated a normal data transmission on a network.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-2003 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 7.1°C with a humidity of 65%.

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 C63.4-2003 10.1.7 MEASUREMENT PROCEDURES: The unit under test was placed on a table 80 cm high and with dimensions of 1m by 1.5m. 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.

The situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSIC63.4-2003 10.1.7 with the EUT 40 cm from the vertical ground wall.

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NAME OF TEST: RADIATION INTERFERENCE

RULES PART NUMBER: 15.109, 15.33(b)(3)

REQUIREMENTS:	30 to 88 MHz:	40.0 dBuV/M @ 3 METERS
	88 to 216 MHz:	43.5 dBuV/M
	216 to 960 MHz:	46.0 dBuV/M
	ABOVE 960 MHz:	54.0 dBuV/M

TEST RESULTS: A search was made of the spectrum from 30 to 1000 MHz and the measurements indicate that the unit DOES meet the FCC requirements.

TEST DATA:

* Tuning Frequency : 450.3750MHz

No	Emission Frequency (MHz)	Meter Reading dBuV/m	Ant. Polarity	Correction Factor dB	Cable Loss dB	Field Strength (dBuV/m)	Margin (dBuv)	Limit (dBuv/m)
1	48.30	15.4	H	11.2	1.0	27.6	-12.4	40.0
2	95.60	13.6	H	10.9	1.6	26.0	-17.5	43.5
3	143.60	10.4	V	15.7	2.1	28.1	-15.4	43.5
4	191.00	11.0	V	13.8	2.4	27.2	-16.3	43.5
5	238.90	8.7	V	11.3	3.0	23.0	-23.0	46.0
6	286.40	10.8	H	17.6	3.3	31.7	-14.3	46.0
7	334.00	8.6	H	16.3	3.7	28.6	-17.4	46.0
8	381.60	7.8	H	15.1	4.1	27.0	-19.0	46.0
9	429.40	6.2	V	15.9	4.4	26.5	-19.5	46.0
10	858.00	5.2	V	23.3	7.1	35.5	-10.5	46.0

SAMPLE CALCULATION: FSdBuV/m = MR(dBuV) + ACFdB.

TEST PROCEDURE: ANSI STANDARD C63.4-2003 using a Hewlett Packard Model 8566B spectrum analyzer, a Hewlett Packard Model 85685A Pre-selector, a Hewlett Packard Model 85650A Quasi-Peak adapter, and an appropriate antenna - see the test equipment list. The bandwidth of spectrum analyzer was 100 kHz with an appropriate sweep speed. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported.

PERFORMED BY: Kyoung Moon Choi

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NAME OF TEST: RADIATION INTERFERENCE

RULES PART NUMBER: 15.109, 15.33(b)(3)

REQUIREMENTS:	30 to 88 MHz:	40.0 dBuV/M @ 3 METERS
	88 to 216 MHz:	43.5 dBuV/M
	216 to 960 MHz:	46.0 dBuV/M
	ABOVE 960 MHz:	54.0 dBuV/M

TEST RESULTS: A search was made of the spectrum from 30 to 1000 MHz and the measurements indicate that the unit DOES meet the FCC requirements.

TEST DATA:

* Tuning Frequency : 457.5750MHz

No	Emission Frequency (MHz)	Meter Reading dBuV/m	Ant. Polarity	Correction Factor dB	Cable Loss dB	Field Strength (dBuV/m)	Margin (dBuv)	Limit (dBuv/m)
1	48.90	12.7	V	11.1	1.0	24.8	-15.2	40.0
2	97.20	16.4	H	11.0	1.6	29.0	-14.5	43.5
3	146.00	13.2	H	16.1	2.1	31.3	-12.2	43.5
4	194.30	10.4	H	14.7	2.5	27.5	-16.0	43.5
5	242.90	10.9	V	11.5	3.0	25.5	-20.5	46.0
6	291.10	10.3	V	17.6	3.4	31.2	-14.8	46.0
7	339.64	9.6	V	15.8	3.7	29.1	-16.9	46.0
8	388.00	5.6	H	15.2	4.1	24.9	-21.1	46.0
9	436.70	7.4	V	16.1	4.5	27.9	-18.1	46.0
10	873.40	4.8	V	23.6	7.2	35.5	-10.5	46.0

SAMPLE CALCULATION: FSdBuV/m = MR(dBuV) + ACFdB.

TEST PROCEDURE: ANSI STANDARD C63.4-2003 using a Hewlett Packard Model 8566B spectrum analyzer, a Hewlett Packard Model 85685A Pre-selector, a Hewlett Packard Model 85650A Quasi-Peak adapter, and an appropriate antenna - see the test equipment list. The bandwidth of spectrum analyzer was 100 kHz with an appropriate sweep speed. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported.

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NAME OF TEST: RADIATION INTERFERENCE

RULES PART NUMBER: 15.109, 15.33(b)(3)

REQUIREMENTS:	30 to 88 MHz:	40.0 dBuV/M @ 3 METERS
	88 to 216 MHz:	43.5 dBuV/M
	216 to 960 MHz:	46.0 dBuV/M
	ABOVE 960 MHz:	54.0 dBuV/M

TEST RESULTS: A search was made of the spectrum from 30 to 1000 MHz and the measurements indicate that the unit DOES meet the FCC requirements.

TEST DATA:

* Tuning Frequency : 467.8250MHz

No	Emission Frequency (MHz)	Meter Reading dBuV/m	Ant. Polarity	Correction Factor dB	Cable Loss dB	Field Strength (dBuV/m)	Margin (dBuv)	Limit (dBuv/m)
1	50.00	13.2	H	10.9	1.0	25.1	-14.9	40.0
2	50.00	14.9	V	10.9	1.0	26.8	-13.2	40.0
3	99.80	10.6	H	11.2	1.6	23.4	-20.1	43.5
4	149.40	12.4	H	16.6	2.1	31.1	-12.4	43.5
5	198.40	10.2	V	15.7	2.5	28.4	-15.1	43.5
6	248.60	8.5	V	11.8	3.1	23.4	-22.6	46.0
7	298.10	7.1	V	16.5	3.4	27.0	-19.0	46.0
8	396.84	10.2	H	15.4	4.2	29.8	-16.2	46.0
9	447.00	5.4	V	16.3	4.5	26.3	-19.7	46.0
10	894.00	6.2	V	23.5	7.3	37.0	-9.0	46.0

SAMPLE CALCULATION: FSdBuV/m = MR(dBuV) + ACFdB.

TEST PROCEDURE: ANSI STANDARD C63.4-2003 using a Hewlett Packard Model 8566B spectrum analyzer, a Hewlett Packard Model 85685A Pre-selector, a Hewlett Packard Model 85650A Quasi-Peak adapter, and an appropriate antenna - see the test equipment list. The bandwidth of spectrum analyzer was 100 kHz with an appropriate sweep speed. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported.

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APPLICANT: Lee Technology Korea Co., Ltd.

MODEL #: QBT-LB7001

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 C63.4-2003. The spectrum was scanned from .15 to 30 MHz.

TEST DATA:

THE HIGHEST EMISSION READ FOR LINE 1 WAS 34.6dBuV @ 0.150MHz

THE HIGHEST EMISSION READ FOR LINE 2 WAS 31.9dBuV @ 0.156MHz

THE GRAPHS ON THE FOLLOWING PAGE REPRESENT THE EMISSIONS TAKEN 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.

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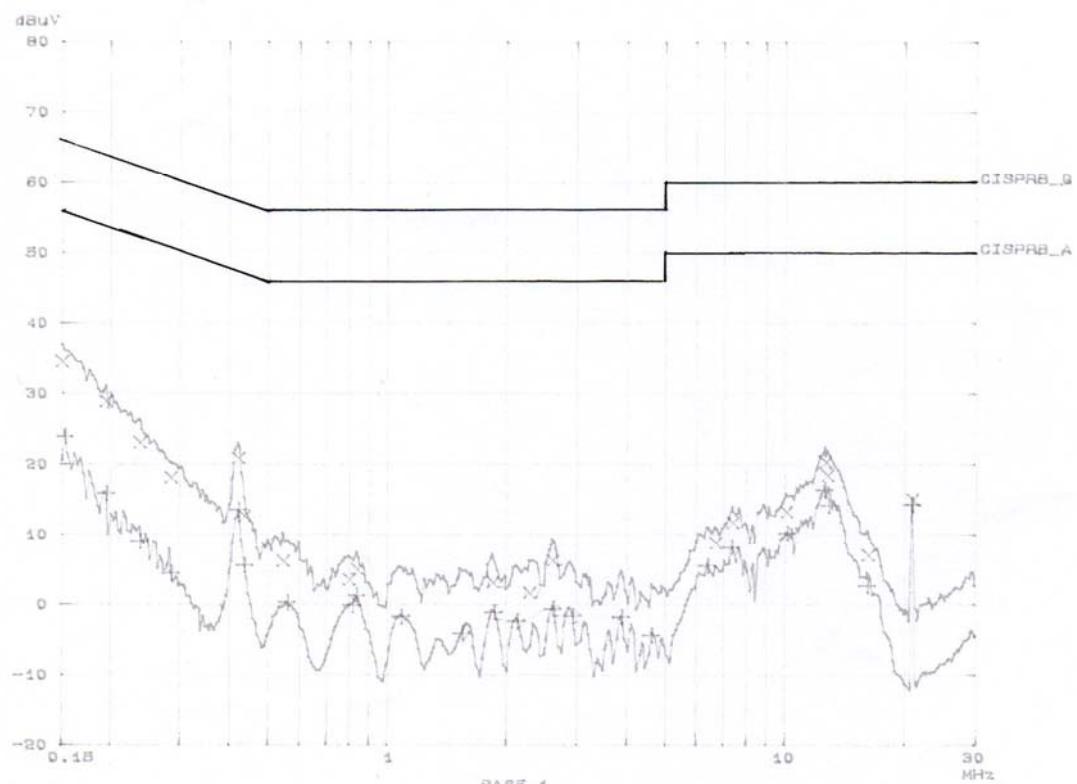
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H

CONDUCTED EMISSION

EUT: LEETEK
Op Cond: H
Operator: THRU
Test Spec: KN22B

Scan Settings (2 Ranges)
Frequencies Receiver Settings
Start Stop Step IF BW Detector M-Time Atten Preamp SpAgs
150K 3M 3K 10K PK+AV 10ms AUTO LN ON 60dB
3M 30M 9K 10K PK+AV 10ms AUTO LN ON 60dB
Final Measurement: x GP / + AV
Meas Time: 1 s.
Subranges: 25
Add Margin: 80dB.



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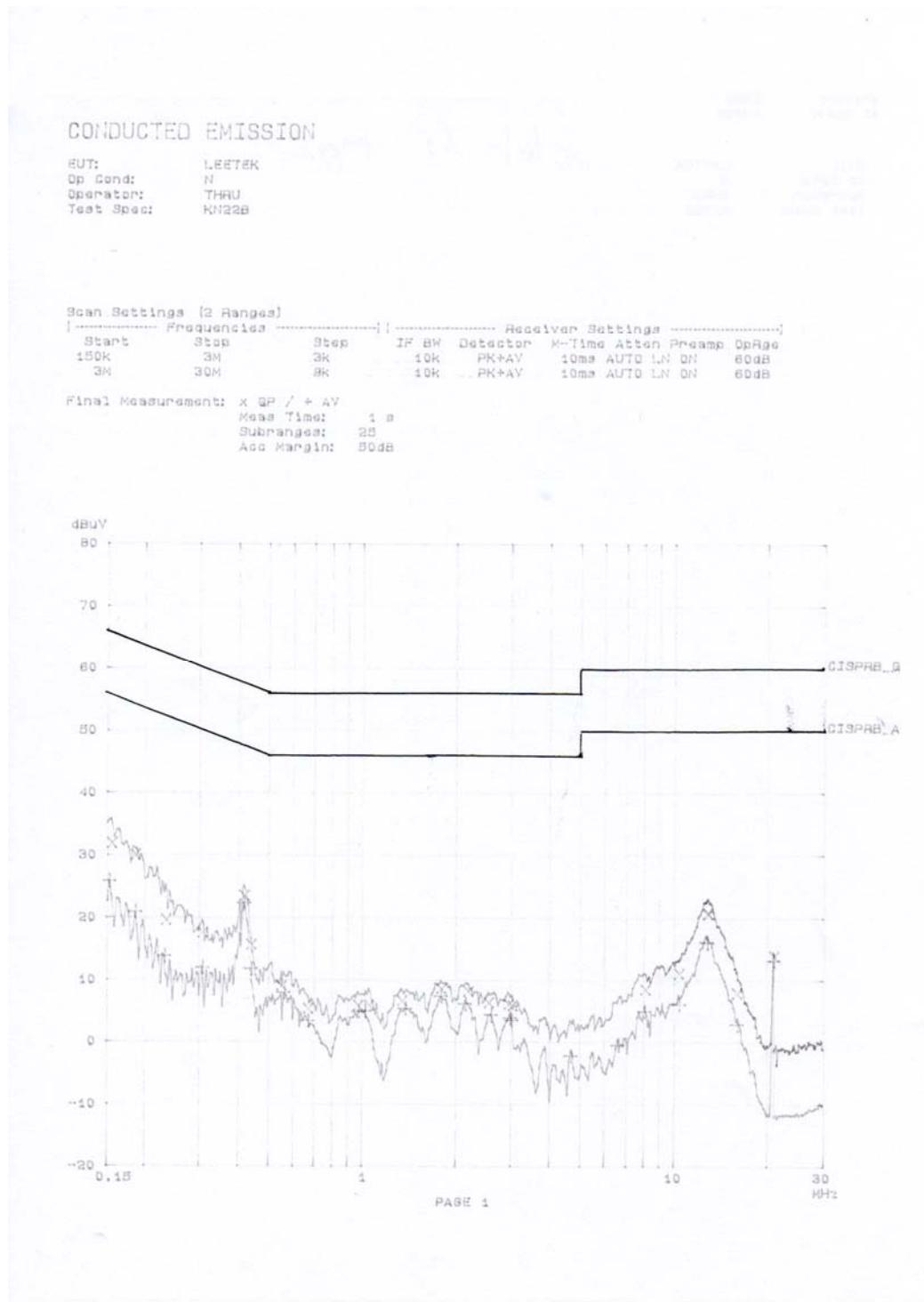
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