

FCC EVALUATION REPORT FOR CERTIFICATION

KOREA Standard Technology

Test report No.: KST-FCC0508

Applicant's Name : iRiver CO.,LTD.
Applicant's Address : 14F, KAMCO Yangjae Tower, 949-3
Dogok-1Dong, Gangnam-Gu, Seoul , KOREA
Manufacturer's Name 1: AV CHASEWAY MFG.FTY.
Manufacturer's Address : Langang Villige, Chongguang Toen, Baoan District,
Shenzhen City, Guangdong, China
Manufacturer's Name 2: Iriver Electronic Technology (China) Co.,Ltd.
Manufacturer's Address : SSL Sci.&Tech. North Industry Park Dongguan,
Guangdong, China, 523-808

EUT's:

FCC ID : QDMT10
Product Name : MP3 PLAYER
Model Number(s) : T10 & T10 1GB & T10 512MB & T10 256MB &
Plain T10 1GB & Plain T10 512MB & Plain T10 256MB
Product Options : Request for enter a multi list of model name by
Applicant's
Category : FCC Part 15 subpart B
Class B Computing Digital Device

Supplementary Information

The device bearing the brand name and FCC ID specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with measurement procedures specified in ANSI C63.4-2001.

I attest to the accuracy of data and all measurements reported herein were performed by or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Test Date : March 17, 2005

Issued Date : March 19 , 2005

Tested by:



Chung, Suck-Jin

Approved by:



Lee, Weon-Woo

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Specifications.

1. Description of Device

1) Kind of equipment:	MP3 PLAYER
2) FCC ID:	QDMT10
3) Model Name:	T10
4) Serial No.:	None
5) Type of Sample Tested:	Pre-production
6) High Frequency Used:	12.000 MHz / 32.768 kHz
7) Adapter	None
8) Power Rating:	1.5V AA Size Battery
9) Tested Power supply:	DC 1.5V AA Size Battery & 1phase AC120 V, 60 Hz by PC
10) Dimension;	87(W) x 32(D) x 26.7(H) mm
11) FM Frequency Range	87.5 MHz ~ 108 MHz
12) S / N ratio	60 dB
13) Date of Manufacture:	March , 2005
14) Manufacture:	AV CHASEWAY MFG.FTY.. & Irivier Electronic Technology (China) Co.,Ltd.
15) Description of Operating:	Up & Download mode & mp3 played & Sound recording mode & FM tuner mode
16) Dates of Test:	March 17, 2005
17) Place of Tests:	Korea Standard Technology EMC site
18) Test Report No:	KST-FCC0508

2. Test Facility

The open field test site and conducted measurement facility are used for these testing, where are located following address and drawing. This site was fully described in a report dated November 14, 2002, that was submitted to the FCC.

Korea Standard Technology (KOSTEC Co., Ltd)

:

Head office & Test Lab

:180-254, Annyung-Ri, Taeon-Yup, Hwasung-shi, Kyunggi-do, Korea

Telephone Number : 82-31-222-4251

Facsimile Number: 82-31-222-4252

MIC(Ministry of Information and Communication) Number: **KR0042**

FCC Filing Number. : **525762**

VCCI Membership Number : **2005**

VCCI Registration Number : **R-1657 / C-1763**

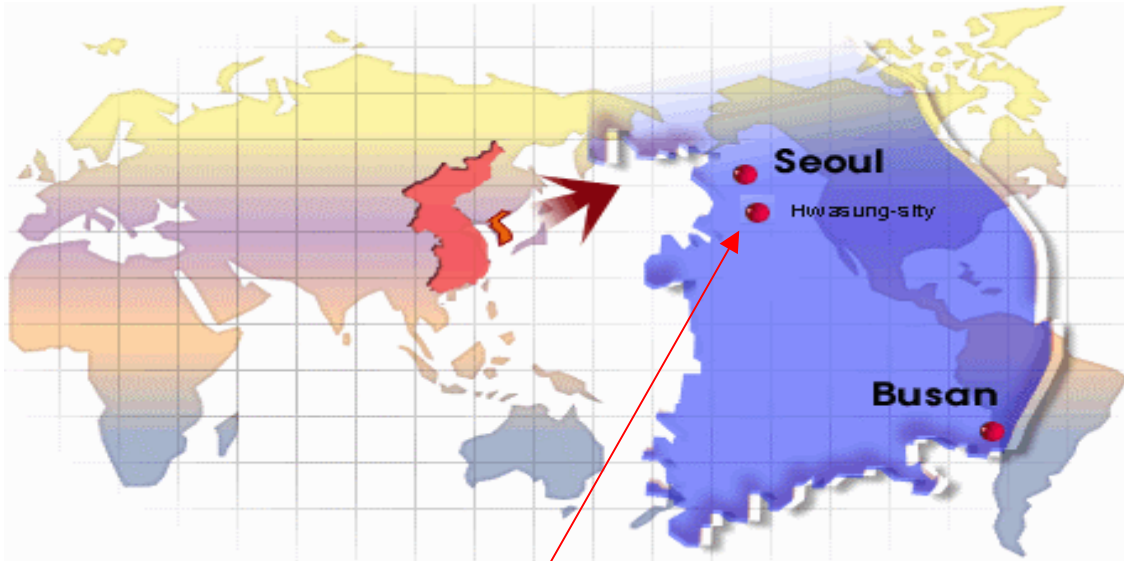
EMI TEST REPORT



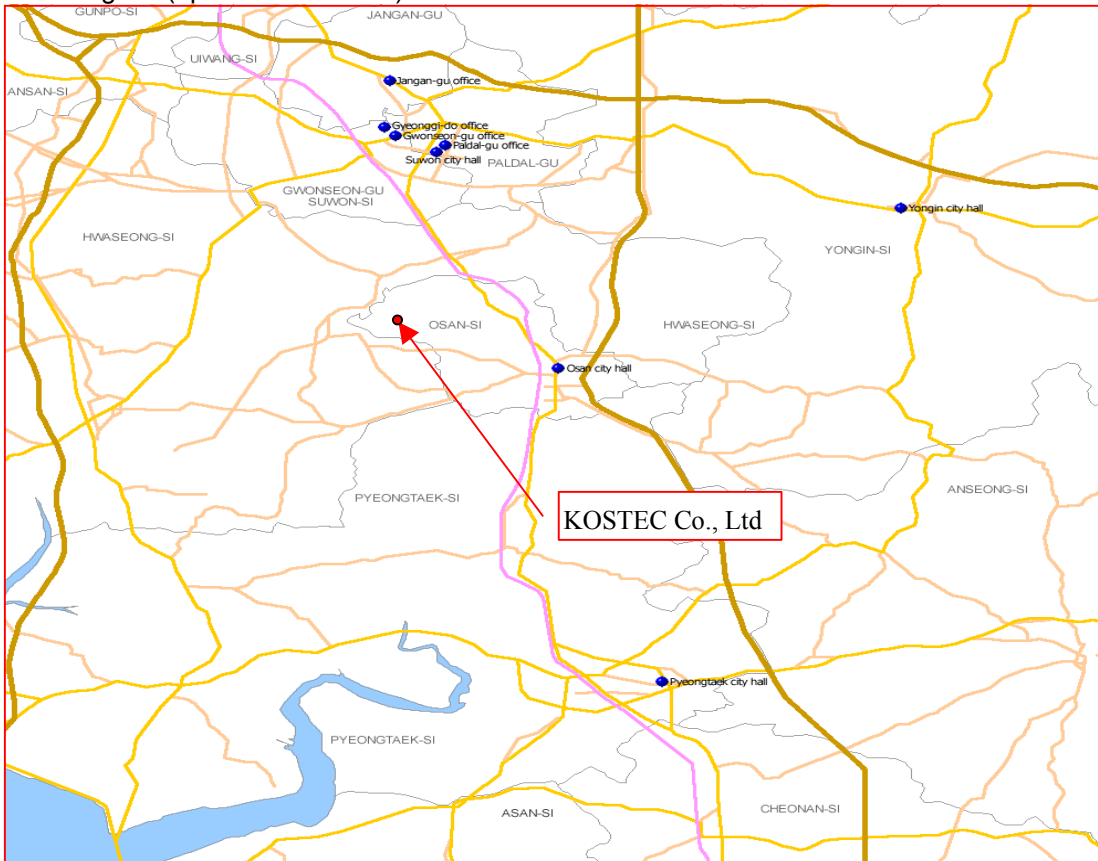
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3. Route Map of Measurement Facility

Korea



Hwasung-shi (open area test site)



4. Test System Configuration

Operation Environment

Ambient	<u>Temperature</u> (° C)	<u>Humidity</u> (%)	<u>Pressure</u> (hPa)
10 m Open Area site	20.2	30	1019
Shielded room:	18.5	35	1017

Test site

These testing were performed following locations ;

Shielded room : Conducted Emission,

10 m Open Area Site: Radiated Emission

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC.

The factors contributing to uncertainties are test receiver, Cable loss, antenna factor calibration, Antenna directivity, antenna factor variation with height, antenna phase center variation, antenna frequency interpolation, measurement distance variation, site imperfection, mismatch, and system repeatability.

Based on NIS 80,81, The measurement uncertainty level with a 95% confidence level were applied.

sample calculation

Conducted emission

The field strength is calculated by adding the LISN factor, cable loss from the measured reading.

The sample calculation is as follows:

$$\begin{aligned} FS &= MR + LF + CL \\ MR &= \text{Meter Reading} \\ LF &= \text{LISN Factor} \\ CL &= \text{Cable Loss} \end{aligned}$$

If MR is 30 dB, LISN Factor 1 dB, CL 1 dB

The result (MR) is
 $30 + 1 + 1 = 32 \text{ dBuV}$

5. Description of E.U.T.

Configuration of EUT

Description	Manufacturer	Model / Part #	Serial Number
Main controller	AV CHASEWAY MFG.FTY.	VALKYRIE	None
LCD	AV CHASEWAY MFG.FTY.	LM0DAS0604	05B000617A
I/O Board	AV CHASEWAY MFG.FTY.	None	None
OSD Board	AV CHASEWAY MFG.FTY.	None	None
Ear phone	None	None	None

EUT Used cables

Cable Type	Shield	Length (m)	Ferrite	Connector	Connection Point 1	Connection Point 2
POWER	Yes	1.2	-	DC INLET	PC	Main power source
USB	Yes	1.5	Y	D-sub	EUT	PC
Audio	Yes	1.2	Y	jack	EUT	Earphone
PS/2	Y	1.2	Y	Din	PC	Keyboard
PS/2	Y	1.5	-	Din	PC	Mouse
Parallel	Y	1.5	Y	D-sub	PC	Printer

Operating conditions

The operating mode/system were as follows in details:

Operating: After connected from USB port of EUT to PC by USB cable.
And then use to "Down & Upload" program for data transmission and continuously
"Down & Upload" pattern displayed on the Monitor.
And each played in mp3 file and continuously sound recording mode.

7. TEST RESULTS

7.1 Conducted emission

Measurement procedure

Mains

The measurements were performed in a shielded room. EUT was placed on a non-metallic table height of 0.4 m above the reference ground plane. They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane.

Each EUT power lead, except ground (safety) lead, were individually connected through a LISN to input power source.

Both lines of power cord, hot and neutral, were measured.

Used equipment

Equipment	Model no.	Serial no.	Makers	Next cal date	Used
Test receiver	ESPI3	100109	R&S	2006.3.10	●
L.I.S.N.	ESH2-Z5	100044	R&S	2005.4.23	●
	ESH2-Z5	100147	R&S	2005.4.23	●

Measurement uncertainty

Conducted Emission measurement : ± 2.4 (K=2)

Test data

FREQ. (MHz)	LEVEL (dB μ V)		LINE PoI	Loss (dB)	LIMIT (dB μ V)		MARGIN (dB μ V)	
	QP	AV			QP	AV	QP	AV
0.154	41.41	40.73	N	0.29	65.57	55.57	24.45	15.13
0.206	37.11	35.67	L	0.29	61.89	51.89	25.07	16.51
0.306	35.18	34.11	L	0.29	59.66	49.66	24.77	15.84
0.510	29.09	27.34	N	0.90	56.00	46.00	27.81	19.56
16.250	31.19	29.48	L	1.77	60.00	50.00	30.58	22.29
20.302	30.86	26.41	L	1.77	60.00	50.00	30.91	25.36
24.374	35.28	30.03	N	2.20	60.00	50.00	26.92	22.17

* Level = test receiver reading value

* Loss = LISN insertion Loss + Cable Loss

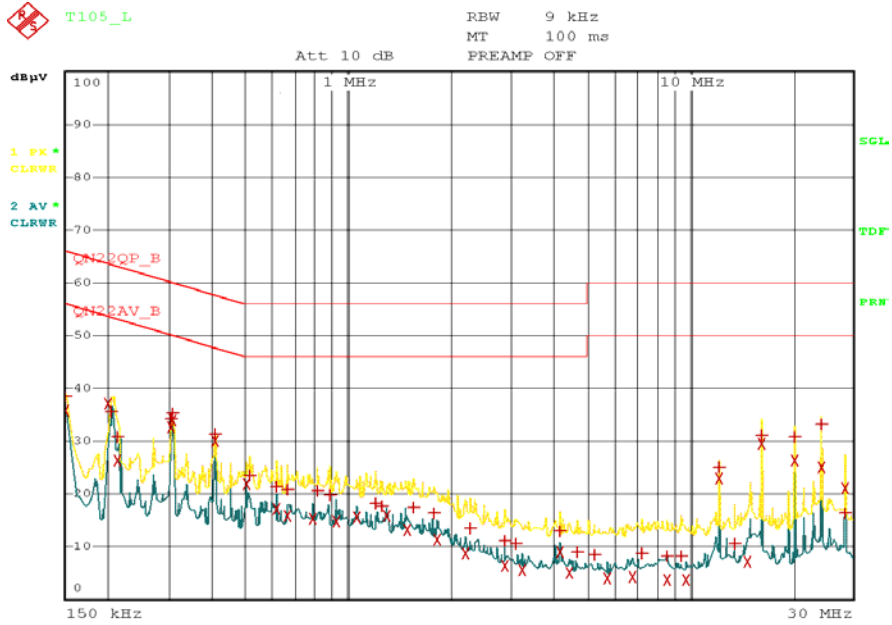
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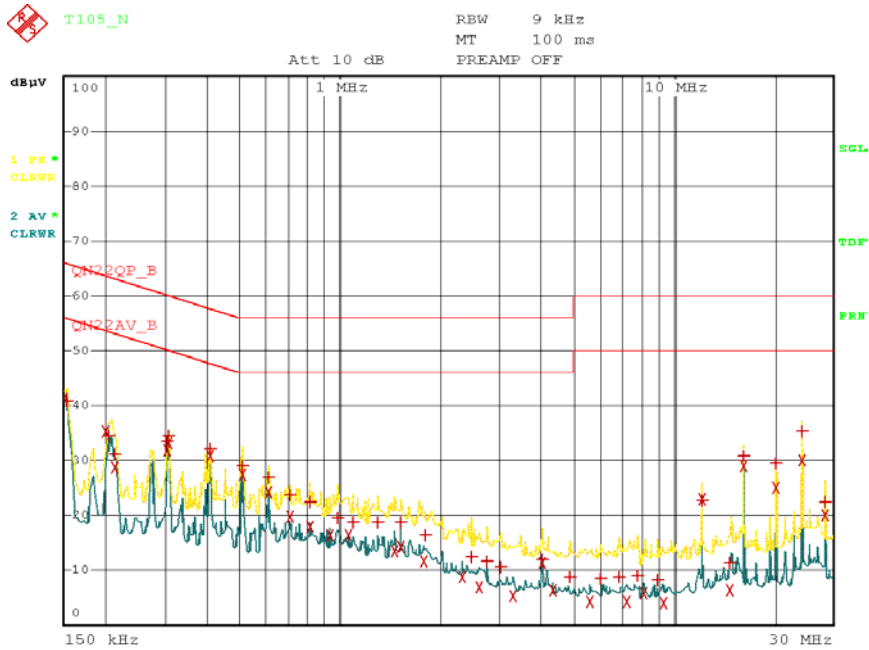
Conducted emission test graph

Line. Live



Date: 18.MAR.2005 14:25:36

Line. Neutral



Date: 18.MAR.2005 14:22:53

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7.2 Radiated Emission

Measurement procedure

A pretest was performed at 3 m distances in a semi-anechoic chamber for searching correct frequency. The final test was done at a 10 m open area test site with a quasi-peak detector. EUT was placed on a non-metallic table height of 0.8 m above the reference ground plane. Cables connected to EUT were fixed to cause maximum emission. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

Used equipment

Equipment	Model no.	Serial no.	Makers	Next cal date
Test receiver	ESCS30	100111	R&S	2006.3.16
Ultra broadband antenna	HL562	100075	R&S	2006.3.10
Matching network	RAM	358.5414.02	R&S	-
Antenna Mast	AT14	none	Daeil EMC	-
Turn Table	TT15	none	Daeil EMC	-
10m Open area site	none	none	KOSTEC Lab	-
chamber(3 m)	none	none	FRANCONIA	-

Measurement uncertainty

Radiated Emission measurement :
30-300 MHz +3.96 dB / -4.04 dB
300-1000 MHz +3.04 dB / -3.00 dB

Test data

Freq (MHz)	Reading (dBuV/m)	P (H/V)	H (m)	A (°)	Antenna (dB)	Cable Loss (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
58.48	19.10	V	1.50	180	3.60	3.22	32.90	40.0	7.10
110.43	17.70	V	1.50	180	9.20	3.80	30.70	43.5	12.80
151.09	22.41	H	2.20	270	7.56	4.23	34.20	43.5	9.30
194.95	17.64	H	2.20	90	7.20	4.86	29.70	43.5	13.80
295.27	10.95	H	2.10	90	10.80	6.45	28.20	46.0	17.80
464.22	11.88	H	2.10	270	14.88	7.84	34.60	46.0	11.40
577.74	13.43	H	1.90	90	16.74	9.23	39.40	46.0	6.60
677.53	12.33	H	1.80	90	18.10	9.77	40.20	46.0	5.80

Reading = Test receiver reading / P= antenna Polarization / H=antenna Height / A=turntable Angle / Antenna = antenna factor / Cable loss = used cable loss / Result = reading + antenna + loss / Margin = Limit - result / * Receiving Antenna Mode: Horizontal, Vertical