JAPAN QUALITY ASSURANCE ORGANIZATION
KITA-KANSAI TESTING CENTER
7-7, Ishimaru 1-Chome, Minoh-shi, Osaka 562-0027 Japan. Phone. +81-72-729-2243/Facsimile. +81-72-728-6848

EMC EMISSION - TEST REPORT

JQA APPLICATION No. : KL80060216

Name of Product : HDD Portable Audio Player

Model/Type No. : 1089

FCC ID : CJ6UMEK30AWL

Applicant : TOSHIBA Corporation Digital Media Network Company

Address : 2-9, Suehiro-cho, Ome, Tokyo 198-8710, Japan

,

Manufacturer : TOSHIBA Corporation Digital Media Network Company

Address : 2-9, Suehiro-cho, Ome, Tokyo 198-8710, Japan

Receive date of EUT : July 27, 2006

Final Judgement : **Passed**

TEST RESULTS IN THIS REPORT are obtained in use of equipment that is traceable to National Institute of Advanced Industrial Science and Technology (AIST) under METI Japan and National Institute of Information and Communications Technology(NICT) under MPHPT Japan.

THE TEST RESULTS only responds to the test sample. This test report shall not be reproduced except in full.

Authorized by:

Y. Fukumoto

Yuichi Fukumoto, Manager

DIRECTORY

TEST REGULATION

FCC Rules and Regulations Part 15 Subpart A and C

○ - Class A Digital Device
○ - Class B Digital Device
● - Intentional Radiator (Sec.15.247)
○ - Receiver

Test item:
● - Sec.15.247(b)(3) : Transmitter Power(TP)

Test procedure:

The test were performed according to the procedures in ANSI C63.4-2003.

GENERAL INFORMATION

Test facility:

1) Test Facility located at Kita-Kansai : 1st Open Sites (3 m Site)
Test Facility located at Kameoka : 1st Open Site (3, 10 and 30 m, on common plane)
: 2nd Open Site (3 and 10 m, on common plane)
FCC filing No. : 31040/SIT 1300F2

2) KITA-KANSAI TESTING CENTER is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance established in Title 15, Part 285 Code of Federal Regulations.
NVLAP Lab Code: 200191-0

3) Average Measurement Method
FCC filing No. : 950523A 1300F2

Definitions for symbols used in this test report:

● - Black box indicates that the listed condition, standard or equipment is applicable for this Report.
○ - Blank box indicates that the listed condition, standard or equipment is not applicable for this Report.

Description of the Equipment Under Test (EUT):

1) Name	:	HDD Portable Audio Player
2) Model/Type No.	:	1089
3) Product Type	:	Pre-Production
4) Category	:	Intentional Radiator
5) EUT Authorization	:	○ - Verification ● - Certification ○ - D.o.C.
6) Transmitting Frequency	:	2412 MHz (1ch) - 2462MHz (11ch)
7) Receiving Frequency	:	2412 MHz (1ch) - 2462MHz (11ch)
8) Method/System	:	Digital Modulation
9) Type of Antenna	:	---
10) Antenna Gain	:	---
11) Measured MAX Output Power	:	28.2mW (802.11b,2Mbps)
(Conducted/Peak)	:	144.5mW (802.11g,24Mbps)
12) Power Rating	:	3.7VDC(Lithium-ion Battery, Part No. G71C0006Z110(810mAh)

Detailed Transmitter portion (Channel plan):

Transmitting frequency	:	2412 MHz (1ch) - 2462MHz (11ch)
Number of channel	:	11
Channel Separation	:	5 MHz

Modulation System Information:

802.11b

Data Signaling Rate	:	11Mbps, 5.5Mbps,2Mbps and 1Mbps
Carrier Frequency	:	2412-2462MHz(2412,2417,2422,2427,2432,2437,2442,2447,2452,2457 and 2462MHz)

802.11g

Data Signaling Rate	:	54Mbps, 48Mbps,36Mbps,24Mbps,18Mbps,12Mbps,9Mbps and 6Mbps
Carrier Frequency	:	2412-2462MHz(2412,2417,2422,2427,2432,2437,2442,2447,2452,2457 and 2462MHz)

TEST CONDITIONS

Transmitter Power (TP) Measurement (Sec.15.247(b)(3))

Test Procedure :

The measurement test-setup is shown in Fig.1. The modulation is set to page 18.

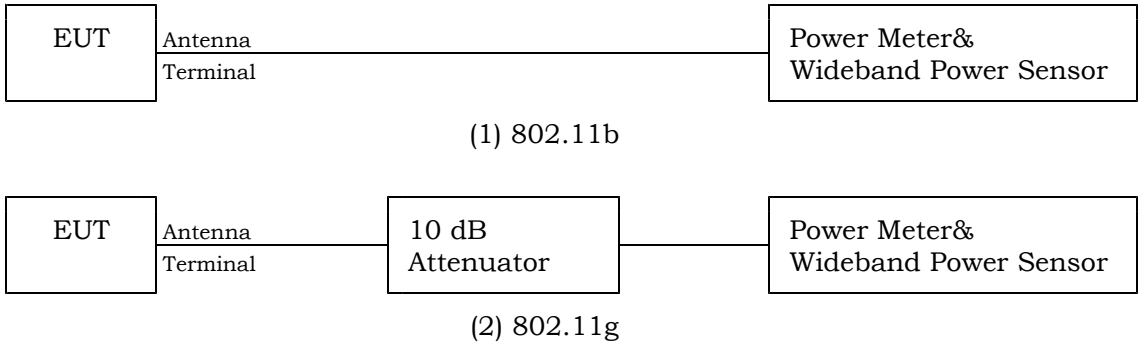

Fig.1 Transmitter Power Measurement

Test location :

KITA-KANSAI Testing Center
7-7, Ishimaru, 1-Chome, Mino-Shi, Osaka, 562-0027, Japan
● - Shielded room
KAMEOKA EMC Branch
9-1, Ozaki, Inukanno, Nishibetsuin-Cho, Kameoka-Shi, Kyoto, 621-0126, Japan
○ - Shielded room

Used test instruments and sites :

Type	Model No.	Device ID	Manufacturer	Last Cal. Date	Cal. Interval
● -Peak Power Meter	N1911A	B-63	Agilent Technologies	June, 2006	1 Year
● -Wideband Power Meter	N1921A	B-64	Agilent Technologies	June, 2006	1 Year
					1 Year
○ -10dB Att.	54-10	D - 82			1 Year
○ -10dB Att.	54-10	D - 83			
○ -10dB Att.	2-10	D - 79			
○ -10dB Att.	4T-10	D - 73			
● -10dB Att.	4T-10	D - 74	Lucus Weinschel	May, 2006	1 Year
○ -Cable	--	C - 40 - 11			

Environmental conditions :

Temperature: 24 °C Humidity: 50 %

CONFIGURATION OF EUT

The Equipment Under Test (EUT) consists of:

Description	Applicant (Manufacturer)	Model No. (Serial No.)	FCC ID
HDD Portable Audio Player	TOSHIBA CORPORATION (TOSHIBA CORPORATION)	1089 (--)	CJ6UMEK30AWL

The measurement was carried out with the following equipment connected:

None

Type of Interface Cable(s) and the AC Power Cord used with the EUT:

None

Operation - mode of the EUT:

The EUT was operated during the test under the following specification:

Transmitting
The Data Signaling Rate is set as follows:
802.11b : 1Mbps, 2Mbps, 5.5Mbps, 11Mbps
802.11g : 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps,

EUT Modification

● - No modifications were conducted by JQA to achieve compliance to applied levels.

○ - To achieve compliance to applied levels, the following change(s) were made by JQA during the compliance test.

The modification(s) will be implemented in all production models of this equipment.

Applicant : N/A Date : N/A

Typed Name : N/A Position : N/A

Responsible Party

Responsible Party of Test Item(Product)

Responsible party :

Contact Person :

Signatory

Deviation from Standard

● - No deviations from the standard described in page 3.

○ - The following deviations were employed from the standard described in page 3.

TEST RESULTS

Transmitter Power (TP) (Sec.15.247(b)(3))

The requirements are ● - Passed ○ - Not Passed

a) 802.11b

The transmitter power is	28.2	mW	at	2462.0	MHz
Min. limit margin	15.5	dB	at	2462.0	MHz
Max. limit exceeding		dB	at		MHz

b) 802.11g

The transmitter power is	144.5	mW	at	2462.0	MHz
Min. limit margin	8.4	dB	at	2462.0	MHz
Max. limit exceeding		dB	at		MHz

Uncertainty of measurement results ± 0.6 dB(2σ)

Remarks:

SUMMARY

GENERAL REMARKS :

The EUT was tested according to the requirements of FCC Rules and Regulations Sec.15.247(b)(3).

The conclusion for the test items of which are required by the applied regulation is indicated under the final judgement.

FINAL JUDGEMENT :

The "as received" sample;

● - fulfill the test requirements of the regulation mentioned on page 3.

○ - fulfill the test requirements of the regulation mentioned on page 3, but with certain qualifications.

○ - doesn't fulfill the test regulation mentioned on page 3.

Begin of testing : July 27, 2006

End of testing : July 27, 2006

- JAPAN QUALITY ASSURANCE ORGANIZATION -

Approved by :

S. Kino

Shigeru Kinoshita
Deputy Manager
EMC Div.
JQA KITA-KANSAI Testing Center

Issued by :

Y. Fukumoto

Yuichi Fukumoto
Manager
EMC Div.
JQA KITA-KANSAI Testing Center

Transmitter Power(TP) Measurement

Test Date: July 27, 2006
Temp.: 24 °C ; Humi.: 50 %

Measurement Results:

a)802.11b

A)Data Signaling Rate : 1Mbps

CH	Frequency [MHz]	Correction Factor [dB]	Meter Reading Peak [dBm]	Results Peak [dBm]	Results Peak [mW]	Limits [dBm]	Margin [dB]
1	2412.0	0.7	13.2	13.9	24.5	30.0	+16.1
6	2437.0	0.8	13.4	14.2	26.3	30.0	+15.8
11	2462.0	0.9	13.4	14.3	26.9	30.0	+15.7

B)Data Signaling Rate : 2Mbps

CH	Frequency [MHz]	Correction Factor [dB]	Meter Reading Peak [dBm]	Results Peak [dBm]	Results Peak [mW]	Limits [dBm]	Margin [dB]
1	2412.0	0.7	13.6	14.3	26.9	30.0	+15.7
6	2437.0	0.8	13.6	14.4	27.5	30.0	+15.6
11	2462.0	0.9	13.6	14.5	28.2	30.0	+15.5

C)Data Signaling Rate : 5.5Mbps

CH	Frequency [MHz]	Correction Factor [dB]	Meter Reading Peak [dBm]	Results Peak [dBm]	Results Peak [mW]	Limits [dBm]	Margin [dB]
1	2412.0	0.7	13.3	14.0	25.1	30.0	+16.0
6	2437.0	0.8	13.4	14.2	26.3	30.0	+15.8
11	2462.0	0.9	13.3	14.2	26.3	30.0	+15.8

D)Data Signaling Rate : 11Mbps

CH	Frequency [MHz]	Correction Factor [dB]	Meter Reading Peak [dBm]	Results Peak [dBm]	Results Peak [mW]	Limits [dBm]	Margin [dB]
1	2412.0	0.7	13.3	14.0	25.1	30.0	+16.0
6	2437.0	0.8	13.3	14.1	25.7	30.0	+15.9
11	2462.0	0.9	13.6	14.5	28.2	30.0	+15.5

b)802.11g

A)Data Signaling Rate : 6Mbps

CH	Frequency [MHz]	Correction Factor [dB]	Meter Reading Peak [dBm]	Results Peak [dBm]	Results Peak [mW]	Limits Peak [dBm]	Margin Peak [dB]
1	2412.0	10.7	10.2	20.9	123.0	30.0	+ 9.1
6	2437.0	10.8	10.3	21.1	128.8	30.0	+ 8.9
11	2462.0	10.9	10.3	21.2	131.8	30.0	+ 8.8

B)Data Signaling Rate : 9Mbps

CH	Frequency [MHz]	Correction Factor [dB]	Meter Reading Peak [dBm]	Results Peak [dBm]	Results Peak [mW]	Limits Peak [dBm]	Margin Peak [dB]
1	2412.0	10.7	10.3	21.0	125.9	30.0	+ 9.0
6	2437.0	10.8	10.3	21.1	128.8	30.0	+ 8.9
11	2462.0	10.9	10.3	21.2	131.8	30.0	+ 8.8

C)Data Signaling Rate : 12Mbps

CH	Frequency [MHz]	Correction Factor [dB]	Meter Reading Peak [dBm]	Results Peak [dBm]	Results Peak [mW]	Limits Peak [dBm]	Margin Peak [dB]
1	2412.0	10.7	10.2	20.9	123.0	30.0	+ 9.1
6	2437.0	10.8	10.2	21.0	125.9	30.0	+ 9.0
11	2462.0	10.9	10.3	21.2	131.8	30.0	+ 8.8

D)Data Signaling Rate : 18Mbps

CH	Frequency [MHz]	Correction Factor [dB]	Meter Reading Peak [dBm]	Results Peak [dBm]	Results Peak [mW]	Limits Peak [dBm]	Margin Peak [dB]
1	2412.0	10.7	10.3	21.0	125.9	30.0	+ 9.0
6	2437.0	10.8	10.4	21.2	131.8	30.0	+ 8.8
11	2462.0	10.9	10.6	21.5	141.3	30.0	+ 8.5

b)802.11g

E)Data Signaling Rate : 24Mbps

CH	Frequency	Correction Factor	Meter Reading Peak	Results Peak		Limits	Margin
	[MHz]	[dB]	[dBm]	[dBm]	[mW]	[dBm]	[dB]
1	2412.0	10.7	10.3	21.0	125.9	30.0	+ 9.0
6	2437.0	10.8	10.7	21.5	141.3	30.0	+ 8.5
11	2462.0	10.9	10.7	21.6	144.5	30.0	+ 8.4

F)Data Signaling Rate : 36Mbps

CH	Frequency	Correction Factor	Meter Reading Peak	Results Peak		Limits	Margin
	[MHz]	[dB]	[dBm]	[dBm]	[mW]	[dBm]	[dB]
1	2412.0	10.7	10.2	20.9	123.0	30.0	+ 9.1
6	2437.0	10.8	10.1	20.9	123.0	30.0	+ 9.1
11	2462.0	10.9	10.1	21.0	125.9	30.0	+ 9.0

G)Data Signaling Rate : 48Mbps

CH	Frequency	Correction Factor	Meter Reading Peak	Results Peak		Limits	Margin
	[MHz]	[dB]	[dBm]	[dBm]	[mW]	[dBm]	[dB]
1	2412.0	10.7	10.1	20.8	120.2	30.0	+ 9.2
6	2437.0	10.8	10.2	21.0	125.9	30.0	+ 9.0
11	2462.0	10.9	10.2	21.1	128.8	30.0	+ 8.9

H)Data Signaling Rate : 54Mbps

CH	Frequency	Correction Factor	Meter Reading Peak	Results Peak		Limits	Margin
	[MHz]	[dB]	[dBm]	[dBm]	[mW]	[dBm]	[dB]
1	2412.0	10.7	10.2	20.9	123.0	30.0	+ 9.1
6	2437.0	10.8	10.3	21.1	128.8	30.0	+ 8.9
11	2462.0	10.9	10.2	21.1	128.8	30.0	+ 8.9

Sample of calculated result at 2462.0MHz, as the Minimum Margin point:

Correction Factor = 10.9 dB
+) Meter Reading = 10.7 dBm
Result = 21.6 dBm : $10^{(21.6/10)}$ = 144.5(mW)

Minimum Margin : 30.0 - 21.6 = 8.4(dB)
The point shown on "____" is the Minimum Margin Point.

Note : 1. The correction factor includes the attenuator loss and the cable loss.
2. The Video Bandwidth of the Power Meter is set to Off(Over 30MHz).