RADIO TEST REPORT

Test Report No. : 27DE0253-YK-A

Applicant	:	**Pioneer Corporation**
Type of Equipment	:	**Multi-CD control High power CD/MP3/WMA/AAC player with Bluetooth Wireless Technology and FM/AM tuner**
Model No.	:	**DEH-P7900BT (DEH-P790BT)**
FCC ID	:	**AJDK014**
Test Standard	:	**FCC Part15 Subpart C,** Section 15.209, Section 15.247: 2006
Test Result	:	**Complied**

1. This test report shall not be reproduced except in full, without the written approval of UL Apex Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with the above regulation.
4. The test results in this test report are traceable to the national or international standards.

Date of test: December 26 and 27, 2006

Tested by: T. Imamura
Toyokazu Imamura

Approved by: O. Watatani
Osamu Watatani
Manager of Yamakita EMC Lab.

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1 Applicant Information

Company Name	:	Pioneer Corporation
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Telephone Number	:	+81-49-228-8016
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Contact Person	:	Iwao Ikeda

2 Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment	:	Multi-CD control High power CD/MP3/WMA/AAC player with Bluetooth Wireless Technology and FM/AM tuner
Model No.	:	DEH-P7900BT (DEH-P790BT)
Serial No.	:	Out of Band emission (Radiated): TPFK000033, other test: TPFK000036
Rating	:	DC14.4V
Country of Manufacture	:	Thailand
Receipt Date of Sample	:	December 21, 2006
Condition of EUT	:	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT	:	No modification by the test lab.

2.2 Product Description

Model: DEH-P7900BT (DEH-P790BT) (referred to as the EUT in this report) is a Multi-CD control High power CD/MP3/WMA/AAC player with Bluetooth Wireless Technology and FM/AM tuner.
The difference between Model: DEH-P7900BT and DEH-P790BT:

	DEH-P7900BT	DEH-P790BT
iPod interface cable	None (sold separately)	Supplied
Badge on grill	PIONEER	PREMIER
Color	silver	dark silver

Equipment type	:	Transceiver
Frequency of operation	:	2402-2480MHz
Clock frequency	:	System microcomputer: 20MHz Grill microcomputer: 16MHz DAC: 11.2896MHz, 12.2880MHz Tuner: 39.9MHz (1st IF: 10.7MHz, 2nd IF: 700kHz) Bluetooth module: 26MHz (CPU clock: 26MHz to 120MHz)
Bandwidth & channel spacing	:	79MHz & 1MHz
Type of modulation	:	FHSS, GFSK
Antenna type	:	Ceramic patch Antenna (made by TDK): CABPB1240E
Antenna connector type	:	20279 Type (manufactured by I-PEX)
Antenna gain	:	+2dBi max
ITU code	:	F1D
Operation temperature range	:	-10 to +60 deg.C.

FCC Part15.31 (e)
DEH-P7900BT (DEH-P790BT) provides the Bluetooth module with stable power supply (DC 2.8 V), therefore, the equipment complies power supply regulation.

FCC Part15.203 Antenna requirement
The equipment and its antenna comply with this requirement since this antenna is built in the equipment and it cannot be replaced by end users.

3 Test Specification, Procedures and Results

3.1 Test specification

Test specification : FCC Part15 Subpart C: 2006
Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.207 Conducted limits
Section 15.209 Radiated emission limits, general requirements
Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz

3.2 Procedures & Results

Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin	Results
Conducted emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	Section 15.207	-	N/A *1	N/A	N/A
Carrier Frequency Separation	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247 (a)(1)	Conducted	N/A	*See data.	Complied
20dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247 (a)(1)	Conducted	N/A		Complied
Number of Hopping Frequency	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247 (a)(1)(iii)	Conducted	N/A		Complied
Dwell time	ANSI C63.4:2003 13.Measurement of intentional radiators	Section15.247 (a)(1)(iii)	Conducted	N/A		Complied
Maximum Peak Output Power	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247 (b)(1)	Conducted	N/A		Complied
Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.209 Section15.247 (d)	Conducted / Radiated	N/A	12.3dB (9920.00MHz, AV, Horizontal & Vertical, Tx 2480MHz)	Complied

The measurements also referred to FCC Public Notice DA 00-705 "Guidance on Measurement for Frequency Hopping Spread Spectrum Systems".

*1) The test is not applicable since the EUT has no AC mains.

* Other than mentioned in 3.3, no addition, exclusion nor deviation has been made from the standard.

3.3 Addition to standard

Item	Test Procedure	Specification	Remarks	Worst Margin	Results
Occupied Bandwidth (99%)	ANSI C63.4:2003 13. Measurement of intentional radiators RSS-Gen 4.4.1	RSS-Gen 4.4.1	Conducted	*See data.	Complied

3.4 Uncertainty

Antenna port conducted test
The measurement uncertainty (with 95% confidence level) for this test is ±0.4dB.

Spurious emission test (Radiated)
The measurement uncertainty (with 95% confidence level) for this test using Biconical antenna is ±4.5dB.
The measurement uncertainty (with 95% confidence level) for this test using Logperiodic antenna is ±4.3dB.
The measurement uncertainty (with 95% confidence level) for this test using Horn antenna is ±5.2dB.
The data listed in this test report has enough margin, more than site margin.

3.5 Test Location

UL Apex Co., Ltd. Yamakita EMC Lab.
907, Kawanishi, Yamakita-machi, Ashigarakami-gun, Kanagawa-ken 258-0124 JAPAN
Telephone number : +81 465 77 1011
Facsimile number : +81 465 77 2112
NVLAP Lab. code : 200441-0

No. 1 test site has been fully described in a report submitted to FCC office, and accepted on August 26, 2005 (Registration No.: 95486).
IC Registration No. : IC3489A

No. 2 test site has been fully described in a report submitted to FCC office, and accepted on April 4, 2005 (Registration No.: 466226).
IC Registration No. : IC3489A-2

No. 1 anechoic chamber has been fully described in a report submitted to FCC office, and accepted on November 2, 2005 (Registration No.: 95967).
IC Registration No. : IC3489A-B

Test room	Width x Depth x Height (m)	Test room	Width x Depth x Height (m)
No.1 shielded room	8.0 x 5.0 x 2.5	No.1 EMS lab. (Semi-anechoic chamber)	10.0 x 7.5 x 5.7
No.2 shielded room	5.0 x 4.0 x 2.5		
No.3 shielded room	4.0 x 5.0 x 2.7		

4 System Test Configuration

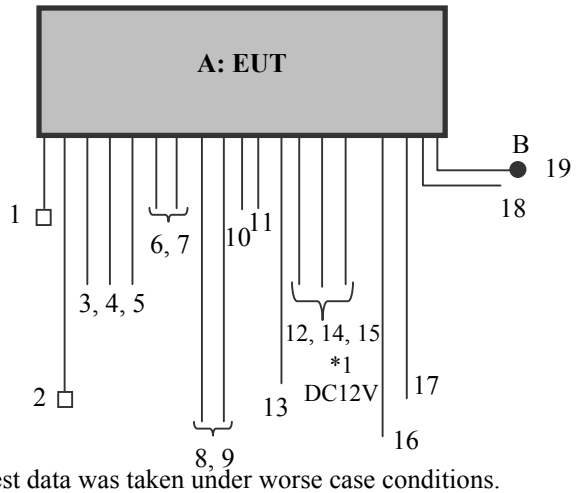
4.1 Justification

The system was configured in typical fashion (as a customer would normally use it) for testing.

Test mode: Transmitting (Packet size: DH5)
- Low channel : 2402MHz
- Middle channel : 2441MHz
- High channel : 2480MHz
- Hopping
- Inquiry
- Page

*Remarks: Test was not performed at AFH mode, because the decrease of number of channel (min: 20ch) at AFH mode does not influence on the output power and bandwidth of the EUT.
However, the limit level 125mWof AFH mode was used for the test.

4.2 Configuration of Tested System



* Test data was taken under worse case conditions.

Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	FCC ID (Remark)
A	Multi-CD control High power CD/MP3/WMA/AAC player with Bluetooth Wireless Technology and FM/AM tuner	DEH-P7900BT (DEH-P790BT)	TPFK000033 TPFK000036 *2	PIONEER	AJDK014 (EUT)
B	Hands free Microphone	CPM1064	-	PIONEER	-

*1) DC power supply (Model No.: PAN35-10A) was used for DC 12V input, car battery voltage.
*2) TPFK000033: Out of Band emission (Radiated), TPFK000036: Other test

List of cables used *3)

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	FM antenna cable	0.15	Shielded	Shielded	-
2	B-Remote cable	2.0	Shielded	Shielded	-
3	Audio out cable (Rear)	1.1	Unshielded	Unshielded	-
4	Audio out cable (Front)	1.6	Unshielded	Unshielded	-
5	Audio out cable (Sub woofer)	1.6	Unshielded	Unshielded	
6, 7	Speaker cable	20.3	Unshielded	Unshielded	(x2 (FL&RL))
8, 9	Speaker cable	0.15	Unshielded	Unshielded	(x2 (FR&RR))
10	System Remote Control cable	0.15	Unshielded	Unshielded	-
11	Mute cable	0.15	Unshielded	Unshielded	-
12	Accessory cable	1.4	Unshielded	Unshielded	-
13	Battery cable	0.9	Unshielded	Unshielded	-
14	Illumination cable	0.9	Unshielded	Unshielded	-
15	Ground cable	0.9	Unshielded	Unshielded	-
16	Audio cable	1.4	Unshielded	Unshielded	-
17	IP-BUS cable	2.9	Shielded	Shielded	-
18	AUX IN cable (Ext. Input Stereo cable)	1.2	Unshielded	Unshielded	-
19	Microphone cable	4.2	Unshielded	Unshielded	-

*3) All cables used for the measurement are exclusive use or marketed.

5 Carrier Frequency Separation

Test Procedure
The carrier frequency separation was measured with a spectrum analyzer connected to the antenna port.

Summary of the test results: Pass
Date: December 27, 2006 Test engineer : Toyokazu Imamura

6 20dB Bandwidth & Occupied Bandwidth (99%)

Test Procedure
The bandwidth was measured with a spectrum analyzer connected to the antenna port.
Occupied Bandwidth (99%): In addition to DH5, measurement was performed with Hopping mode, the maximum bandwidth found by pre-check in Hopping, Inquiry and Page.

Summary of the test results: Pass
Date: December 27, 2006 Test engineer : Toyokazu Imamura

7 Number of Hopping Frequency

Test Procedure
The Number of Hopping Frequency was measured with a spectrum analyzer connected to the antenna port.

Summary of the test results: Pass
Date: December 27, 2006 Test engineer : Toyokazu Imamura

8 Dwell time

Test Procedure
The Dwell time was measured with a spectrum analyzer connected to the antenna port.
Pre-check was performed with the packet type of DH1, DH3 and DH5. DH5, which had the longest dwell time, was chosen for the final measurement.

Summary of the test results: Pass
Date: December 27, 2006 Test engineer : Toyokazu Imamura

9 Maximum Peak Output Power

Test Procedure
The Maximum Peak Output Power was measured with a power meter connected to the antenna port.

Summary of the test results: Pass
Date: December 27, 2006 Test engineer : Toyokazu Imamura

10 Out of Band Emissions (Antenna Port Conducted)

Test Procedure
The Out of Band Emissions was measured with a spectrum analyzer connected to the antenna port.
Pre-check was performed with Hopping, Hopping off (DH5), Inquiry and Page. Hopping off (DH5), which was the worst case, was chosen for the final measurement.

Summary of the test results: Pass
Date: December 27, 2006 Test engineer : Toyokazu Imamura

11 Out of Band Emissions (Radiated)

11.1 Operating environment

The test was carried out in No.1 anechoic chamber.

11.2 Test configuration

EUT was placed on a urethane platform of nominal size, 0.5m by 0.5m, raised 80cm above the conducting ground plane. A drawing of the set up is shown in the photos of Appendix 1.

11.3 Test conditions

Frequency range : 30MHz - 26.5GHz
Test distance : 3m
EUT operation mode : Transmitting

11.4 Test procedure

The Radiated Electric Field Strength intensity has been measured with a ground plane and at a distance of 3m and 1m. The measuring antenna height was varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.
The measurements were performed for both vertical and horizontal antenna polarization.

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.

Measurements were performed with QP, PK, and AV detector.
The radiated emission measurements were made with the following detector function of the test receiver.
When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

Frequency	Below 1GHz	Above 1GHz
Instrument used	Test Receiver	Spectrum Analyzer
Detector IF Bandwidth	QP: BW 120kHz	PK: RBW: 1MHz/VBW: 1MHz, AV: RBW: 1MHz/VBW: 10Hz
Measuring antenna	Biconical (30-300MHz) Logperiodic (300MHz-1GHz)	Horn

The EUT was tested in the direction normally used.

11.5 Results

Summary of the test results : Pass
No noise was detected above the 5th order harmonics.

Date: December 26 and 27, 2006 Test engineer : Toyokazu Imamura

APPENDIX 1: Photographs of test setup

APPENDIX 2: Test Data

APPENDIX 3: Test instruments