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Report No.:SZEMO10120788101  
Page: 1 of 15

## FCC Test Report (Verification)

**Application No.:** SZEMO101207881IT  
**Applicant/Manufacturer:** SHENZHEN D & S INDUSTRIES LIMITED  
**Address of Applicant /Manufacturer:** 33F., Landmark Tower, 4028 Jintian Rd., Futian, Shenzhen, China  
**Factory:** HUIZHOU D & S CABLE CO., LTD  
**Address of Factory:** Longjin Dongjiang Industry Zone. Shuikou, Huicheng, Huizhou, Guangdong, China

### Equipment Under Test (EUT):

**EUT Name:** AV Dock station for iPod & iPhone  
**Item No.:** SMDP23NA0001, SMDP23NA0002♣  
♣ Please refer to section 2 of this report which indicates which item was actually tested and which were electrically identical.

**FCC ID:** ZBCSMDP23NA  
**Standards:** FCC PART15 SUBPART B:2009  
**Date of Receipt:** 2010-12-30  
**Date of Test:** 2011-01-04 to 2011-02-28  
**Date of Issue:** 2011-03-09

<b>Test Result :</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Jack Zhang  
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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## 2 Test Summary

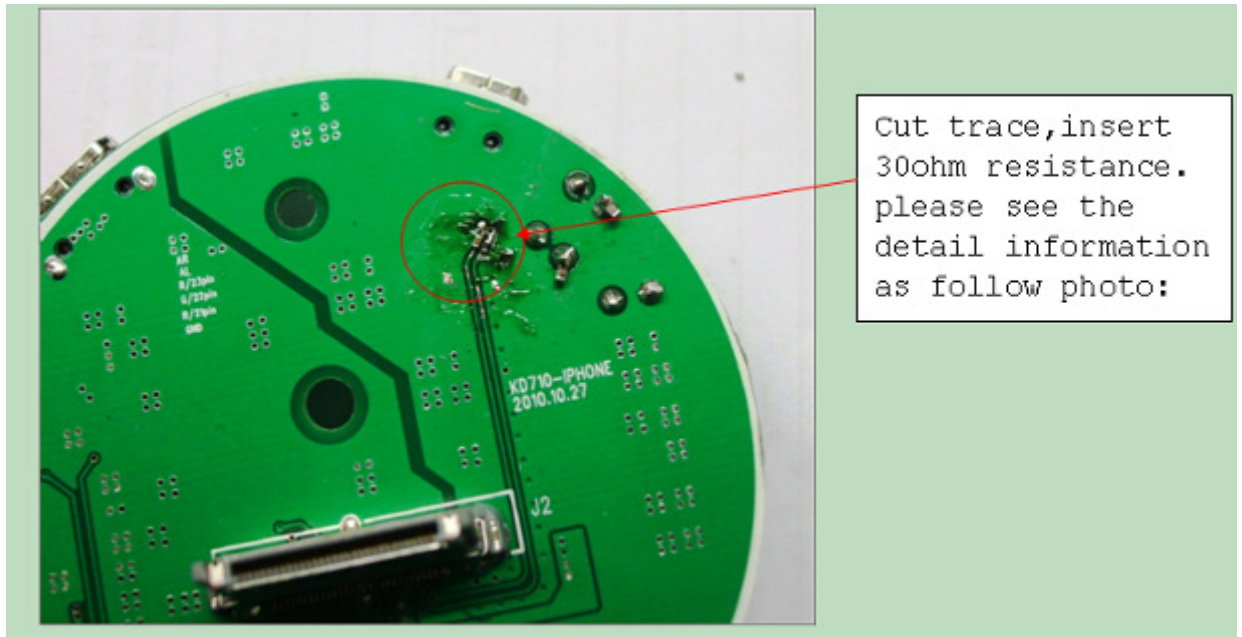
Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (30MHz to 1GHz)	FCC PART 15, SUBPART B: 2009	ANSI C63.4:2009	Class B	PASS*
Conducted Emission (150KHz to 30MHz)	FCC PART 15, SUBPART B: 2009	ANSI C63.4:2009	Class B	PASS

Remark:

Item No.: SMDP23NA0001, SMDP23NA0002

Only the item SMDP23NA0001 was tested, since the electrical circuit design, layout, component used and internal wiring were identical for the above samples, with only difference being the model name. SMDP23NA0001 is used with HDMI to 5R Cable and SMDP23NA0002 is used with HDMI to 3R Cable.

\* The EUT passed the Radiated Emission test after modification. See the picture below:





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## 4 General Information

### 4.1 Details of E.U.T.

Power Supply: USB port (during PC connected) DC 5V  
DC 3V (1\*3.0V Button cell “CR2025”) for remote control

USB cable: 170cm unshielded

AV cable: 145cm unshielded

### 4.2 Description of Support Units

The EUT has been tested with associated equipment below:

Description	Manufacturer	Model No.
PC	DELL	OPTIPLEX 755
LCD-displaying	DELL	E1909WF
KEYBOARD	DELL	SK-8115
MOUSE	DELL	MOC5110
PC	DELL	OPTIDLEX 330
LCD-displaying	DELL	SP2208WFPT
KEYBOARD	DELL	SK-8115
MOUSE	DELL	MOC5110
Printer	HengTong ELECTRON	HT4000
Coder	Canon	BJC-1000SP
Samsung Television	Samsung	2232MW

### 4.3 Standards Applicable for Testing

The customer requested FCC tests for AV Dock station for iPod & iPhone.  
The standard used was FCC PART 15, SUBPART B, CLASS B.

### 4.4 Test Location

All tests were performed at:  
SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch E&E Lab,  
No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.  
518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



#### 4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L2929)**  
CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.
- **VCCI**  
The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.  
Date of Registration: September 29, 2008. Valid until September 28, 2011.
- **FCC – Registration No.: 556682**  
SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 556682, June 27, 2008.
- **Industry Canada (IC)**  
The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

#### 4.6 Deviation from Standards

None.

#### 4.7 Abnormalities from Standard Conditions

None.

## 5 Equipments Used during Test

RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2010-06-17	2011-06-17
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2010-03-19	2011-03-19
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	2008-06-18	2011-06-18
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2010-11-09	2011-11-09
6	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2010-06-02	2011-06-02
7	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2010-11-09	2011-11-09
8	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2010-11-09	2011-11-09
9	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	SEL0080	2010-06-04	2011-06-04
10	Band filter	Amindeon	Asi 3314	SEL0094	2010-06-02	2011-06-02
11	Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	2010-11-09	2011-11-09



Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	N/A	N/A
2	LISN	ETS-LINDGREN	3816/2	SEL0021	2010-06-02	2011-06-02
3	8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T8-02	EMC0120	2011-01-17	2012-01-17
4	4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T4-02	EMC0121	2011-01-17	2012-01-17
5	2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	EMC0122	2011-01-17	2012-01-17
6	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	2010-06-02	2011-06-02
7	Coaxial Cable	SGS	N/A	SEL0024	2008-06-18	2011-06-18

General used equipment						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	Humidity/ Temperature Indicator	Shanghai	ZJ1-2B	SEL0101 to SEL0103	2010-11-04	2011-11-04
2	Barometer	ChangChun	DYM3	SEL0088	2010-06-08	2011-06-08



## 6 Test Results

### 6.1 Conducted Emissions Mains Terminals, 150kHz to 30MHz

Test Requirement: FCC Part15 B  
Test Method: ANSI C63.4  
Frequency Range: 150KHz to 30MHz  
Class / Severity: Class B  
Detector: Peak for pre-scan (9kHz Resolution Bandwidth)  
Quasi-Peak if maximised peak within 6dB of Quasi-Peak limit

#### 6.1.1 E.U.T. Operation

Operating Environment:  
Temperature: 25.0 °C      Humidity: 50% RH      Atmospheric Pressure: 1010 mbar  
EUT Operation: Test the EUT in Communicate with PC, Build the connection between iPod and PC by EUT, keep data exchanging.

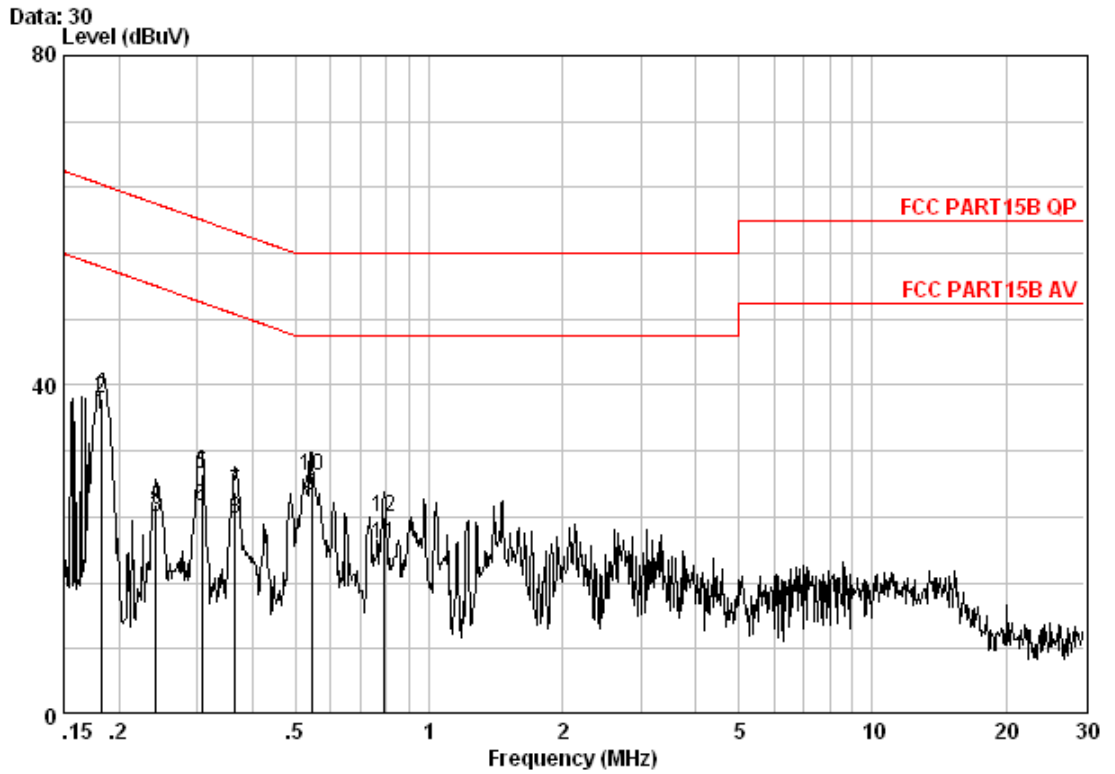
#### 6.1.2 Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.  
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.





Line:

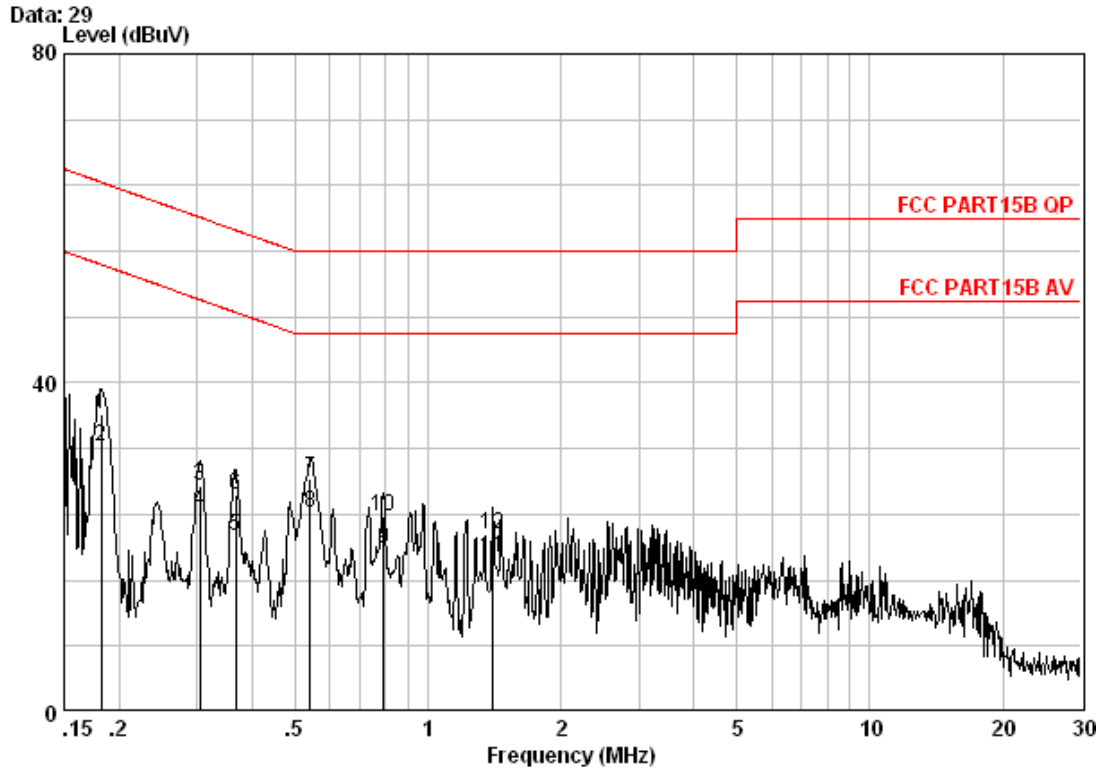


Site : Shielding Room  
Condition : FCC PART15B QP CE LINE  
EUT : AV Dock station for iPod & iPhone  
Job No. : 7881IT  
Mode : Communication with PC

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1 @	0.18249	0.04	-0.05	36.33	36.32	54.37	-18.05	Average
2	0.18249	0.04	-0.05	38.40	38.39	64.37	-25.98	QP
3	0.24165	0.04	-0.04	23.88	23.88	52.04	-28.16	Average
4	0.24165	0.04	-0.04	25.54	25.54	62.04	-36.50	QP
5	0.30671	0.05	-0.04	29.11	29.12	60.06	-30.94	QP
6	0.30671	0.05	-0.04	25.35	25.36	50.06	-24.70	Average
7	0.36531	0.05	-0.04	26.99	27.00	58.61	-31.61	QP
8	0.36531	0.05	-0.04	23.85	23.86	48.61	-24.75	Average
9 @	0.54355	0.06	-0.04	26.68	26.70	46.00	-19.30	Average
10	0.54355	0.06	-0.04	28.88	28.89	56.00	-27.11	QP
11	0.79180	0.07	-0.05	20.58	20.60	46.00	-25.40	Average
12	0.79180	0.07	-0.05	23.92	23.94	56.00	-32.06	QP



Neutral:



Site : Shielding Room  
Condition : FCC PART15B QP CE NEUTRAL  
EUT : AV Dock station for iPod & iPhone  
Job No. : 7881IT  
Mode : Communication with PC

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.18249	0.04	-0.04	36.30	36.29	64.37	-28.08	QP
2	0.18249	0.04	-0.04	32.30	32.29	54.37	-22.08	Average
3	0.30509	0.05	-0.04	27.40	27.41	60.10	-32.69	QP
4	0.30509	0.05	-0.04	24.40	24.41	50.10	-25.69	Average
5	0.36725	0.05	-0.04	21.42	21.43	48.56	-27.13	Average
6	0.36725	0.05	-0.04	26.42	26.43	58.56	-32.13	QP
7	0.54068	0.06	-0.04	28.31	28.33	56.00	-27.67	QP
8	0.54068	0.06	-0.04	24.15	24.17	46.00	-21.83	Average
9	0.79180	0.07	-0.04	19.85	19.87	46.00	-26.13	Average
10	0.79180	0.07	-0.04	23.67	23.69	56.00	-32.31	QP
11	1.403	0.10	-0.05	18.62	18.67	46.00	-27.33	Average
12	1.403	0.10	-0.05	21.55	21.60	56.00	-34.40	QP



**6.2 Radiated Emissions, 30MHz to 1GHz**

Test Requirement: FCC Part15 B  
Test Method: ANSI C63.4  
Frequency Range: 30MHz to 1GHz  
Measurement Distance: 3m  
Class: Class B  
Limit: 40.0 dB $\mu$ V/m between 30MHz & 88MHz  
43.5 dB $\mu$ V/m between 88MHz & 216MHz  
46.0 dB $\mu$ V/m between 216MHz & 960MHz  
54.0 dB $\mu$ V/m above 960MHz  
Detector: Peak for pre-scan (120kHz resolution bandwidth)  
Quasi-Peak if maximised peak within 6dB of limit

**6.2.1 E.U.T. Operation**

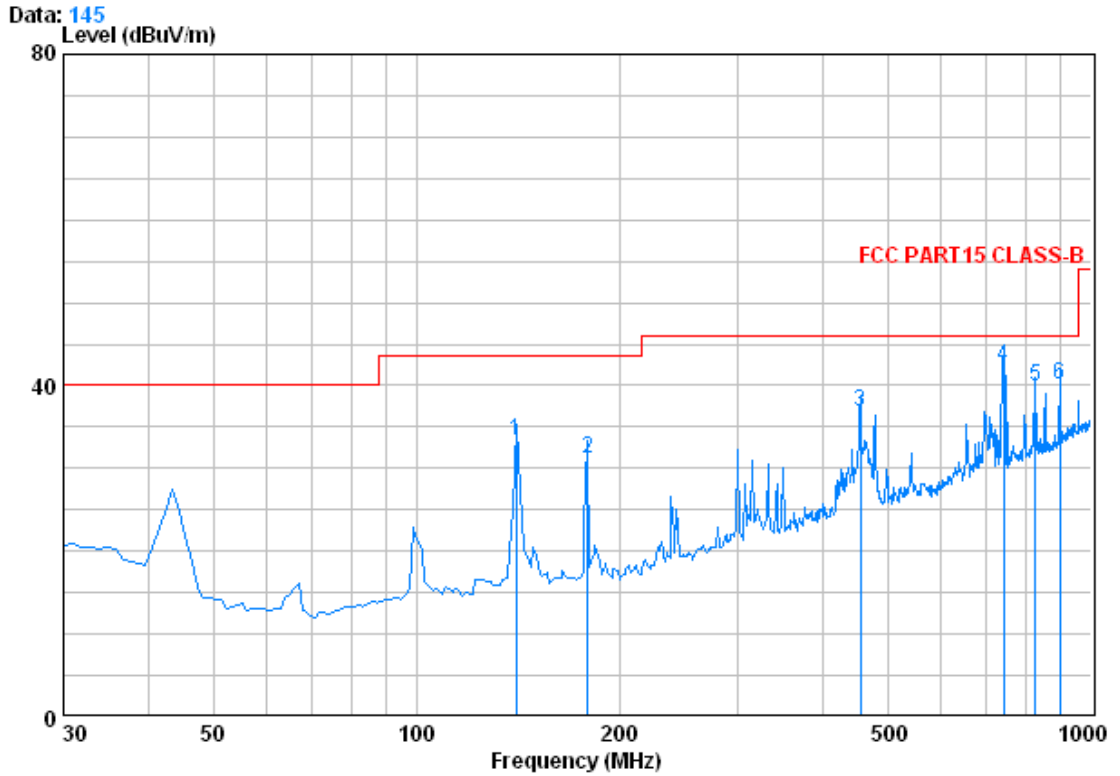
Operating Environment:  
Temperature: 22.0 °C Humidity: 54% RH Atmospheric Pressure: 1015 mbar  
EUT Operation: Test the EUT in Communicate with PC, Build the connection between iPod and PC by EUT, keep data exchanging.  
Test the EUT in AV out, Build the connection between iPod and TV by EUT, keep Video & Audio output to the TV set.

**6.2.2 Measurement Data**

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.



Communicate with PC  
Horizontal

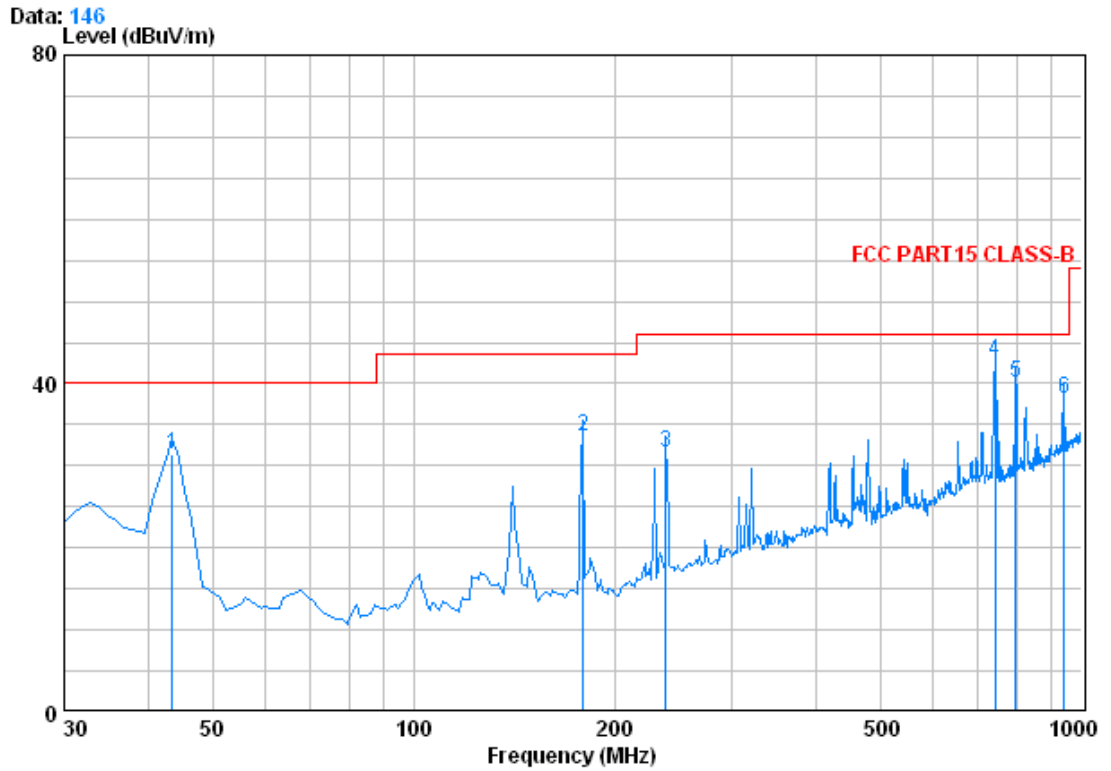


Condition : FCC PART15 CLASS-B 3m 0042673 HORIZONTAL  
EUT : AV Dock station for iPod&iPhone  
Job No. : 7881IT  
Test Mode : Communicate with PC

	Freq	CableAntenna		Preamp	Read		Limit	Over
		Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	140.580	1.30	8.15	26.95	50.78	33.27	43.50	-10.23
2	179.380	1.37	9.87	26.78	46.80	31.27	43.50	-12.23
3	454.860	2.43	17.03	27.46	44.79	36.79	46.00	-9.21
4	741.980	3.03	21.67	27.36	44.88	42.22	46.00	-3.78
5	827.340	3.32	22.40	27.13	41.31	39.90	46.00	-6.10
6	898.150	3.59	23.20	26.78	40.12	40.13	46.00	-5.87



Vertical

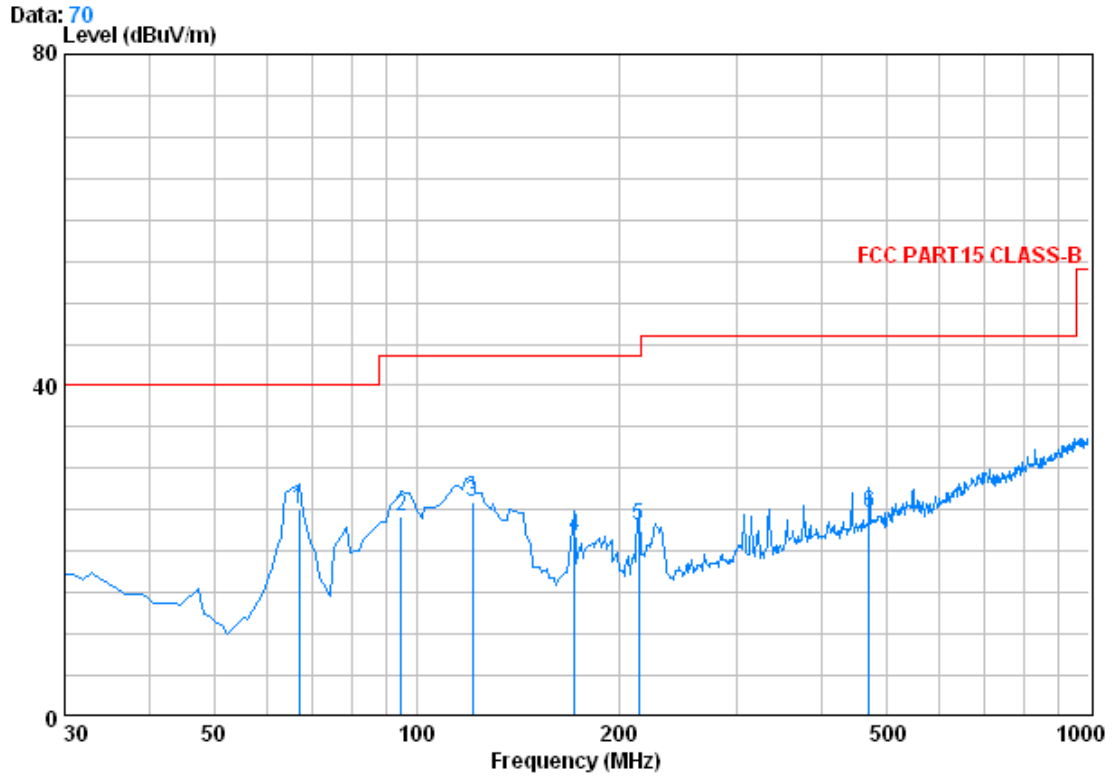


Condition : FCC PART15 CLASS-B 3m 0042673 VERTICAL  
EUT : AV Dock station for iPod&iPhone  
Job No. : 7881IT  
Test Mode : Communicate with PC

	Freq	CableAntenna Preamp			Read		Limit	Over
		Loss	Factor	Factor	Level	Level		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	43.580	0.68	9.93	27.31	48.15	31.44	40.00	-8.56
2	179.380	1.37	9.87	26.78	49.10	33.56	43.50	-9.94
3	238.550	1.62	11.93	26.57	44.59	31.56	46.00	-14.44
4	741.980	3.03	21.67	27.36	45.29	42.63	46.00	-3.37
5	797.270	3.19	22.09	27.30	42.11	40.09	46.00	-5.91
6	940.830	3.64	23.30	26.58	37.77	38.14	46.00	-7.86



AV out  
Horizontal

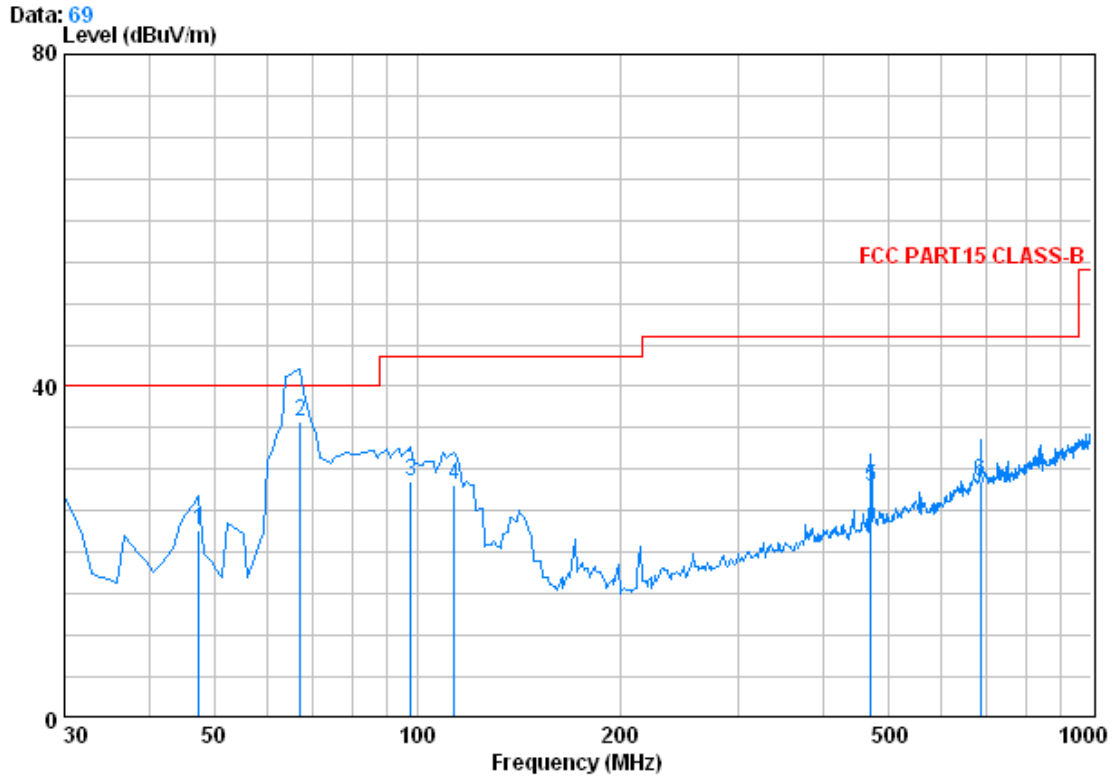


Condition : FCC PART15 CLASS-B 3m 0042673 HORIZONTAL  
EUT : AV Dock station for iPod&iPhone  
Job No. : 7881IT  
Mode : AV out

	Freq	CableAntenna		Preamp	Read		Limit	Over
		Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	66.860	0.80	6.99	28.01	45.31	25.08	40.00	-14.92
2	94.990	1.15	8.91	27.91	42.05	24.19	43.50	-19.31
3	121.180	1.26	7.87	27.67	44.60	26.05	43.50	-17.45
4	171.620	1.36	9.55	27.31	38.24	21.83	43.50	-21.67
5	214.300	1.49	10.93	27.08	37.77	23.11	43.50	-20.39
6	471.350	2.50	17.67	27.63	32.20	24.74	46.00	-21.26



Vertical



Condition : FCC PART15 CLASS-B 3m 0042673 VERTICAL  
EUT : AV Dock station for iPod&iPhone  
Job No. : 7881IT  
Mode : AV out

	Freq	CableAntenna Loss	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	47.460	0.75	8.72	28.11	41.40	22.77	40.00 -17.23
2 @	67.151	0.80	6.98	28.01	56.00	35.77	40.00 -4.23
3	97.900	1.18	9.02	27.89	46.32	28.62	43.50 -14.88
4	113.420	1.24	8.36	27.74	46.17	28.02	43.50 -15.48
5	471.350	2.50	17.67	27.63	35.32	27.86	46.00 -18.14
6	684.750	2.87	21.48	27.33	31.46	28.49	46.00 -17.51