ELECTROMAGNETIC EMISSION COMPLIANCE REPORT
FOR FCC CLASS B CERTIFICATION

Test Report No.	**: E071R-065**
AGR No.	**: A06OA-102**
Applicant	**: D.O.Tel Co., Ltd.**
Address	**: #412, Kolon Science Valley II, 811 Guro-dong, Guro-gu, Seoul, 152-878, Korea**
Manufacturer	**: D.O.Tel Co., Ltd.**
Address	**: #412, Kolon Science Valley II, 811 Guro-dong, Guro-gu, Seoul, 152-878, Korea**
Type of Equipment	**: Car Navigation Device (Peripheral Device for Class B Computing Device)**
FCC ID	**: QD5DOTN-400**
Model Name	**: DOTN-400**
Serial number	**: N/A**
Total page of Report	**: 12 pages (including this page)**
Date of Incoming	**: December 20, 2006**
Date of Issuing	**: January 30, 2007**

SUMMARY

The equipment complies with the requirements of **FCC CFR 47 PART 15 SUBPART B, Class B.**

This test report contains only the results of a single test of the sample supplied for the examination. It is not a general valid assessment of the features of the respective products of the mass-production.

Prepared by: Young-Min, Choi / Senior Engineer
EMC Div.
ONETECH Corp.

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ONETECH Corp.

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1. VERIFICATION OF COMPLIANCE

-. APPLICANT : D.O.Tel Co., Ltd.

-. ADDRESS : #412, Kolon Science Valley II, 811 Guro-dong, Guro-gu, Seoul, 152-878, Korea

-. CONTACT PERSON : Mr. Dae-Young, Choi / Research Engineer

-. TELEPHONE NO : +82-2-850-3662

-. FCC ID : QD5DOTN-400

-. MODEL NAME : DOTN-400

-. BRAND NAME : Smart-Navi

-. SERIAL NUMBER : N/A

-. DATE : January 30, 2007

DEVICE TYPE	Peripheral Device for Class B Computing Device - Unintentional Radiator
E.U.T. DESCRIPTION	Car Navigation Device
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	ANSI C63.4: 2003
TYPE OF EQUIPMENT TESTED	PRE-PRODUCTION
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	CERTIFICATION
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15, SECTION 15.101
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	No
FINAL TEST WAS CONDUCTED ON	3 METER OPEN AREA TEST SITE

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

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2. GENERAL INFORMATION

2.1 Product Description

The D.O.Tel Co., Ltd., Model DOTN-400 (referred to as the EUT in this report) is a Car Navigation Device, which has a function of battery charging and data uploading/downloading by USB cable. This report is for Peripheral Device for Class B Computing Device. And the test report for bluetooth function shall be issued by another test report. Product specification described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic
LIST OF EACH OSC. or CRY. FREQ.(FREQ.>=1MHz)	12.02727 MHz and 24.5535 MHz
POWER REQUIREMENT	DC 12 - 24V
NUMBER OF LAYERS	6 Layers
EXTERNAL CONNECTOR	USB Port, Earphone Jack, TMC Antenna Jack, Microphone Jack, DC Jack

2.2 Model Differences

-. The difference(s) compared to the EUT is as follows: None

2.3 Related Submittal(s) / Grant(s)

-. Original submittal only

2.4 Test System Details

The model numbers for all the equipments that were used in the tested system is:

Model	Manufacturer	FCC ID	Description	Connected to
DOTN-400	D.O.Tel Co., Ltd.	QD5DOTN-400	Car Navigation Device (EUT)	Laptop PC
DSA-12W-10 FUS 09009	DVE	N/A	AC/DC Adapter	EUT
Demension1100	Dell Computer	DoC	Laptop PC	-
E176FPb	Dell Computer	DoC	LCD Monitor	Laptop PC
7800	BTC	DoC	Keyboard	Laptop PC
IGM-1530	E-Kang	DoC	Mouse	Laptop PC
2225C	HP	DSI6XU2	Printer	Laptop PC
3453C	U.S.Robotics	CJE-0263	Modem	Laptop PC
N/A	N/A	N/A	Earphone	EUT
N/A	N/A	N/A	TMC Antenna	EUT

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2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4: 2003. Radiated testing was performed at a distance of 3 meters from EUT to the antenna.

2.6 Test Facility

The open area test site and conducted measurement facilities are located on at 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-080, Korea. Description details of test facilities were submitted to the Commission on August 30, 2005. (Registration Number: 340658)

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3. SYSTEM TEST CONFIGURATION

3.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
Main Board	N/A	DOTN400MR04	N/A
GPS Board	N/A	DOTN-400G	N/A

3.2 Mode of operation during the test

The EUT was connected to a laptop PC and then the data were continuously read and written from the EUT to the laptop PC during the test. And the navigation mode was tested, but worst case data was recorded in this report.

3.3 Cable Description

Ports Name	Shielded	Ferrite Bead	Metal Hood	Length (m)	Connected to
USB Port	N	Y (BOTH END)	BOTH END	1.5	Laptop PC
Earphone Port	N	N	EUT END	1.5	Earphone
TMC Antenna Port	N	N	EUT END	1.5	TMC Antenna
Microphone Jack	-	-	-	-	-
DC Jack	N	Y (EUT END)	EUT END	1.5	Adaptor

3.5 Equipment Modifications

-. None

3.6 Configuration of Test System

Line Conducted Test : The power of the EUT was connected to LISN. All supporting equipments were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.4: 2003 7.2.3 to determine the worse operating conditions.

Radiated Emission Test : Preliminary radiated emission test was conducted using the procedure in ANSI C63.4: 2003 8.3.1.1 to determine the worse operating conditions. Final radiated emission test was conducted at 3 meters open area test site.

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4. PRELIMINARY TEST

4.1 AC Power line Conducted Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The operating condition (Please check one only)
The data were continuously read and written from the EUT to the laptop PC.	X
The EUT was operated with navigation mode.	

4.2 Radiated Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The operating condition (Please check one only)
The data were continuously read and written from the EUT to the laptop PC.	X
The EUT was operated with navigation mode.	

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5. FINAL RESULT OF MEASURMENT

Preliminary test was done in normal operation mode. And the final measurement was selected for the maximized emission level

5.1 Conducted Emission Test

Humidity Level : 50 % Temperature: 18 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.107 (a)

Type of Test : CLASS B

Result : PASSED BY –2.88 dB at 0.54 MHz under average mode

EUT : Car Navigation Device Date: January 18, 2007

Operating Condition : The data were continuously read and written from the EUT to the laptop PC during the test.

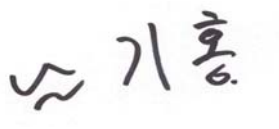
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 9 kHz)

Frequency (MHz)	Line	Quasi-Peak (dBuV)		Margin (dB)	Average (dBuV)		Margin (dB)
		Emission level	Limits		Emission level	Limits	
0.53	H	53.04	56.00	-2.96	40.17	46.00	-5.83
0.54	N	52.90	56.00	-3.10	43.12	46.00	-2.88
0.94	N	50.06	56.00	-5.94	36.45	46.00	-9.55
1.49	H	50.25	56.00	-5.75	32.15	46.00	-13.85
1.50	N	51.47	56.00	-4.53	34.09	46.00	-11.91
1.90	N	50.65	56.00	-5.35	33.38	46.00	-12.62

Line Conducted Emission Tabulated Data

Remark : "H": Hot Line, "N": Neutral line

See next page for an overview sweep performed with peak and average detector.



Tested by: Ki-Hong, Nam / Test Engineer

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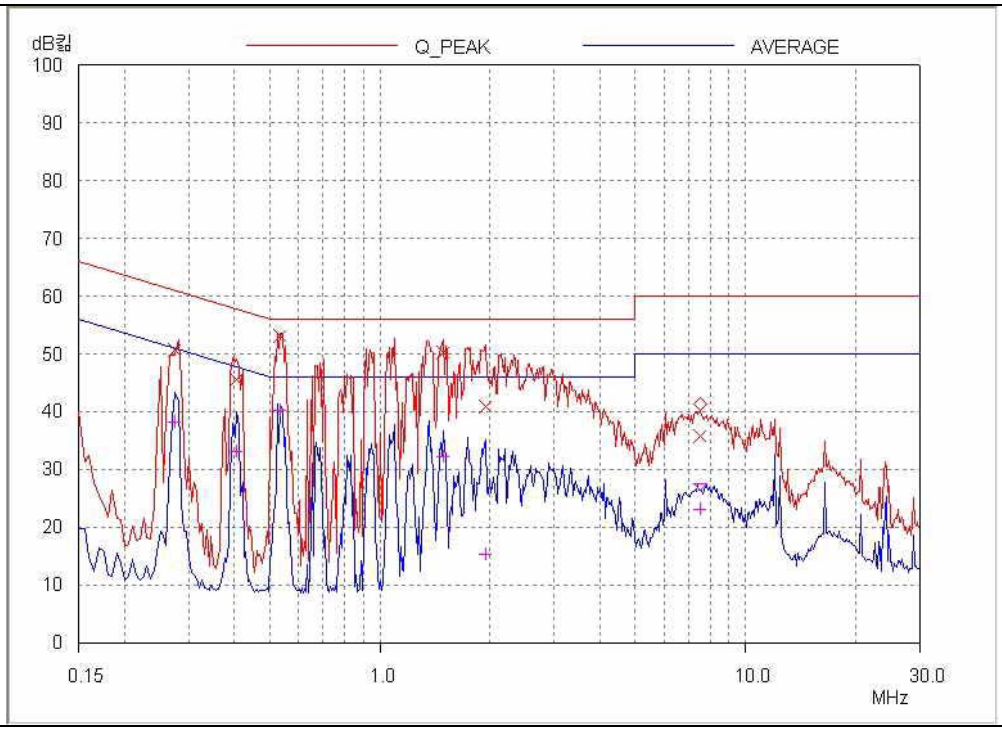
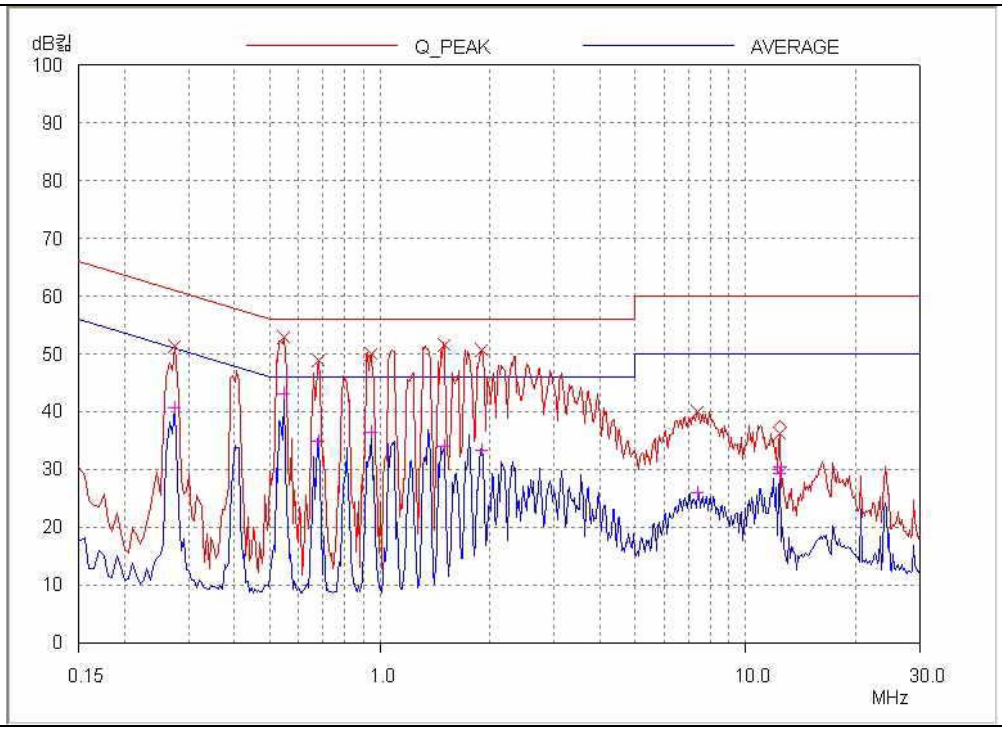


HOT LINE



NEUTRAL LINE

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5.2 Radiated Emission Test

The following table shows the highest levels of radiated emission on both polarizations of horizontal and vertical.

Humidity Level : 46 % Temperature: 14 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109 (a)
Type of Test : CLASS B
Result : PASSED BY -8.95 dB at 616.00 MHz

EUT : Car Navigation Device Date: January 09, 2007
Operating Condition : The data were continuously read and written from the EUT to the laptop PC during the test.
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)
Frequency Range : 30 MHz – 1000 MHz
Distance : 3 Meter

Frequency (MHz)	Reading (dBuV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBuV/m)	Limits (dBuV/m)	Margin (dB)
132.27	17.70	H	13.64	2.60	33.94	43.52	-9.58
144.87	14.50	H	14.43	2.89	31.82	43.52	-11.70
156.37	10.90	H	14.86	2.95	28.71	43.52	-14.81
180.30	14.30	V	15.55	2.90	32.75	43.52	-10.77
240.30	12.10	H	17.03	3.42	32.55	46.02	-13.47
616.00	10.70	V	20.47	5.90	37.07	46.02	-8.95

Radiated Emissions Tabulated Data

Tested by: Ki-Hong, Nam / Test Engineer

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6. FIELD STRENGTH CALCULATION

Meter readings are compared to the specification limit correcting for antenna and cable losses

+	Meter reading	(dBuV)
+	Cable Loss	(dB)
+	Antenna Factor (Loss)	(dB/meter)
=	Corrected Reading	(dBuV/meter)
-	Specification Limit	(dBuV/meter)
=	dB Relative to Spec	(+/- dB)

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7. LIST OF TEST EQUIPMENT

No.	EQUIPMENTS	MFR.	MODEL	SER. NO.	LAST CAL	DUE CAL	USE
1.	Test receiver	R/S	ESVS10	827864/005	DEC/06	12MONTH	■
2.	Test receiver	R/S	ESHS 10	834467/007	MAY/06	12MONTH	■
3.	Spectrum analyzer	R/S	FSP	100017	JUN/06	12MONTH	■
4.	TRILOG Broadband Antenna	Schwarzbeck	VULB9163	VULB9163 166	MAY/06	12MONTH	
5.	Biconical antenna	EMCO	3110	9003-1121	FEB/06	12MONTH	
		Schwarzbeck	VHA9103	91031852	FEB/06		■
6.	Log Periodic antenna	EMCO	3146	9001-2614	FEB/06	12MONTH	
		Schwarzbeck	9108-A(494)	62281001	FEB/06		■
7.	LISN	EMCO	3825/2	9109-1867	JUN/06	12MONTH	■
				9109-1869	JUN/06		
		Schwarzbeck	NSLK 8126	8126-404	JUL/06		■
8.	Position Controller	HD GmbH	HD100	N/A	N/A	N/A	■
9.	Turn Table	HD GmbH	DS420S	N/A	N/A	N/A	■
10.	Antenna Master	HD GmbH	MA240	N/A	N/A	N/A	■

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