

## EMI TEST REPORT

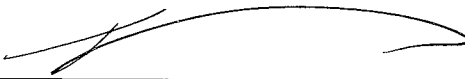
**Test Report No. : 26AE0241-HO-1a**

**Applicant** : Alps Electric Co., Ltd.  
**Type of Equipment** : Passive Entry System  
(Control Unit)  
**Model No.** : TWD1U722  
**Test standard** : FCC Part 15 Subpart C : 2005  
Section 15.209  
FCC Part 15 Subpart B: 2005  
Section 15.109  
**FCC ID** : CWTWDU722  
**Test Result** : Complied

1. This test report shall not be reproduced in full or partial, 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 above regulation. We hereby certify that the data contain a true representation of the EMC profile.
4. The test results in this report are traceable to the national or international standards.

**Date of test** : September 28, 2005

**Tested by** : T. Shimada  
Takumi Shimada  
EMC Services

**Approved by** :   
Naoki Sakamoto  
Group Leader of EMC Services

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## **SECTION 1: Client information**

Company Name : Alps Electric Co., Ltd.  
Address : 6-3-36 Nakazato, Furukawa-city Miyagi-pref., 989-6181 Japan  
Telephone Number : +81-229-23-5111  
Facsimile Number : +81-229-22-3755  
Contact Person : Katsuhiko Seino

## **SECTION 2: Equipment under test (E.U.T.)**

### **2.1 Identification of E.U.T.**

Type of Equipment : Passive Entry System (Control Unit)  
Model No. : TWD1U722  
Serial No. : 064074  
Country of Manufacture : Japan  
Receipt Date of Sample : September 27, 2005  
Condition of EUT : Production prototype  
(Not for Sale: This sample is equivalent to mass-produced items.)

### **2.2 Product Description**

Model No: TWD1U722 is Control Unit of Passive Entry System. It has a transmitting function of 125kHz and a receiving function of 315MHz.

Equipment type : Transceiver  
Rating : DC 12.0V (Car battery)  
Temperature of operation : -40 deg. C. +85 deg. C.  
Other Clock Frequency : 16MHz, 32.768kHz, 65.14MHz

#### **Tx section**

Frequency of Operation : 125kHz  
Modulation : Amplitude  
Antenna : External (LC antenna)

#### **Rx section**

Receiving Frequency : 315MHz  
Intermediate Frequency : 10.7MHz  
Antenna : Internal (Bar antenna)

#### **FCC 15.31 (e)**

The power supply of this EUT is transformed to DC5.0V and provides stable voltage (DC5.0V) constantly to Radio part. Therefore, this EUT complies with the requirement.

#### **FCC 15.111(b)**

The receiving antenna is installed inside the EUT and cannot be removed. Therefore, the EUT complies with the requirement in section 15.111(b).

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#### **Head Office EMC Lab.**

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Revised date : November 11, 2005  
FCC ID : CWTW722

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**FCC15.203 Antenna requirement**

It is impossible for users to replace the antenna, because the antenna is a set with EUT and installed outside of EUT inside the vehicle. Therefore, the equipment complies with the antenna requirement of Section 15.203.

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### **SECTION 3: Test specification, procedures & results**

#### **3.1 Test Specification**

Test Specification/Title : FCC Part 15 Subpart C 2005  
FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators  
Section 15.209 Radiated emission limits, general requirements

FCC Part 15 Subpart B 2005  
FCC 47CFR Part15 Radio Frequency Device Subpart B Unintentional Radiators  
Section 15.109 Radiated emission limits

Remarks: This equipment adopted section 15.101(b) procedure-「However, receivers indicated as being subject to Declaration of Conformity that are contained within a transceiver, the transmitter portion of which is subject to certification, shall be authorized under the verification procedure.」

#### **3.2 Procedures and results**

##### **[FCC Part 15 Subpart C]**

No.	Item	Test Procedure	Specification	Remarks	Worst margin	Result
1	Electric Field Strength of Fundamental Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	FCC Section 15.209	Radiated	<PK> 30.8dB 125.03kHz,0 deg. <AV> 33.2dB 125.03kHz, 0 deg.	Complied
2	Electric Field Strength of Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	FCC Section 15.205 FCC Section 15.209	Radiated	3.2dB 49.001MHz, QP Vertical (Max Antenna, X-axis)	Complied
3	Conducted Emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	FCC Section 15.207(a)	AC Mains only *1)	N/A	N/A

Note: UL Apex's EMI Work procedures No. QPM05 and QPM15.

\*1) This test is not applicable since the EUT does not have AC power port.

\*These tests were performed without any deviations from test procedure except for additions or exclusions.

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**[FCC Part 15 Subpart B]**

No.	Item	Test Procedure	Specification	Deviation	Worst margin	Result
1	Conducted emission	ANSI C63.4: 2003 7. AC powerline conducted emission measurements	FCC Section 15.107(a) and 207	N/A	N/A*1)	Complied
2	Radiated emission	ANSI C63.4: 2003 8. Radiated emission measurements	FCC Section 15.109(a)	N/A	3.2dB 49.001MHz, QP	Complied

\*Note: UL Apex's EMI Work Procedure QPM05.

\*1) The test is not applicable since the EUT does not have AC power port.

\*These tests were performed without any deviations from test procedure except for additions or exclusions.

**3.3 Addition to standards**

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	-26dB Bandwidth	ANSI C63.4:2003 Annex H.6 Occupied bandwidth measurements	Reference data	Radiated	N/A	N/A	N/A
2	99% Occupied Band Width	RSS-Gen 4.4.1	-	Radiated	N/A	N/A	N/A

**3.4 Uncertainty**

Radiated Emission Test

The measurement uncertainty (with a 95% confidence level) for this test using Loop antenna is  $\pm 1.8$ dB.

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is  $\pm 4.5$ dB(3m) / 4.7dB(10m).

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is  $\pm 5.2$ dB(3m) / 3.8dB(10m).

The measurement uncertainty (with a 95% confidence level) for this test using Horn Antenna is  $\pm 6.6$ dB.

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

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### 3.5 Test Location

UL Apex Co., Ltd. Head Office EMC Lab. \*NVLAP Lab. code: 200572-0

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	Listed date (for FCC)	FCC Registration Number	IC Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	February 01, 2002	313583	IC4247A	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	June 05, 2002	846015	IC4247A-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 shielded room	-	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.4 measurement room	-	-	-	3.1 x 5.0 x 2.7m	N/A	-

\* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0m for No.1 and No.2 semi-anechoic and No.3 shielded room.

### 3.6 Test set up, Test instruments and Data of EMI

Refer to APPENDIX 1 to 3.

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**SECTION 4: Operation of E.U.T. during testing**

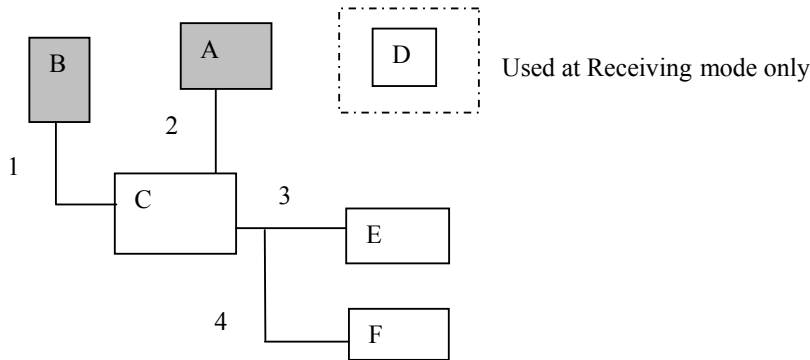
**4.1 Operating Modes**

The sequence is used: 1. Continuous Transmitting mode (125kHz, to Hand Unit)  
2. Receiving mode (315MHz, from Hand Unit)

Remarks: This EUT in actual use is set to have the maximum RF power that is supplied to Antenna.  
The length of the antenna cable was set for the test in the worst condition (actual usage).

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

**4.2 Configuration and peripherals**



\* Cabling was taken into consideration and test data was taken under worse case conditions.

**Description of EUT and Support Equipment**

No.	Item	Model number	Serial number	Manufacturer	FCC ID
A	Passive Entry System (Control Unit)	TWD1U722	064074	Alps Electric Co., Ltd.	CWTW722
B	Bar antenna	-	-	Alps Electric Co., Ltd.	-
C	Checker Box	N/A	N/A	Alps Electric Co., Ltd.	-
D	Passive Entry System* (Hand Unit)	TWB1U627	-	Alps Electric Co., Ltd.	-
E	Checker PWB	-	-	Alps Electric Co., Ltd.	-
F	Car Battery	50B24L	N/A	YUASA	-

\* Used at Receiving mode only



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**List of cables used**

No.	Name	Length (m)	Shield	Remark
1	Antenna Cable	2.0	N	-
2	Signal & DC Power Cable	1.0	N	-
3	Cable for Checker PWB	0.4	N	-
4	DC Power Cable	1.0	N	-

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## SECTION 5: Radiated emission (Fundamental and Spurious Emission)

### 5.1 Operating environment

Test place : No.1 semi anechoic chamber  
Temperature : See data  
Humidity : See data

#### Test Procedure

The Radiated Electric Field Strength intensity has been measured at a distance of 10m and at a distance of 3m.

Frequency : From 9kHz to 30MHz at distance 10m

The EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for each antenna angle 0deg. , 45deg. and 90deg.

Frequency : From 30MHz to 2GHz at distance 3m

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.

Measurements were performed with a QP, PK, and AV detector.

The radiated emission measurements were made with the following detector function of the test receiver.

	From 9kHz to 90kHz and From 110kHz to 150kHz	From 90kHz to 110kHz	From 150kHz to 490kHz	From 490kHz to 30MHz	From 30MHz to 1GHz	From 1GHz to 2GHz
Detector Type	PK/AV	QP	PK/AV	QP	QP	PK/AV
IF Bandwidth	200Hz	200Hz	9kHz	9kHz	120kHz	1MHz*

\* PK: Spectrum Analyzer RBW = 1MHz, VBW = 1MHz

\* AV: Spectrum Analyzer RBW = 1MHz, VBW = 10Hz

-The carrier level and noise levels were confirmed at each position of X, Y and Z axis of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

\* Part 15 Section 15.31 (f)(2) (9kHz-30MHz)

9kHz – 490kHz [Limit at 10m]=[Limit at 300m]-40log (10[m]/300[m])

490kHz – 30MHz[Limit at 10m]=[Limit at 30m]-40log (10[m]/30[m])

### 5.2 Results

Summary of the test results: Pass

Date: September 28, 2005

Tested by: Takumi Shimada

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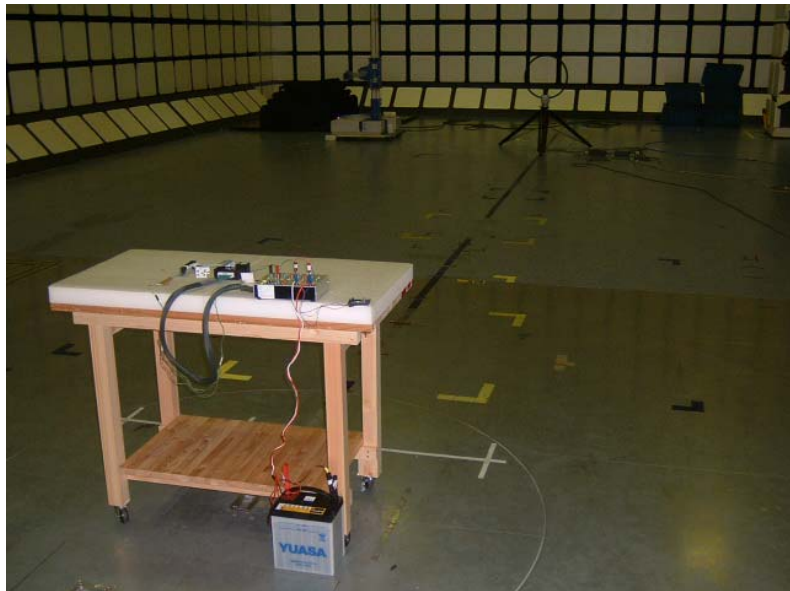
**APPENDIX 1: Photographs of test setup**

**Radiated emission**  
(Transmitting: 90kHz-30MHz)

**Front**



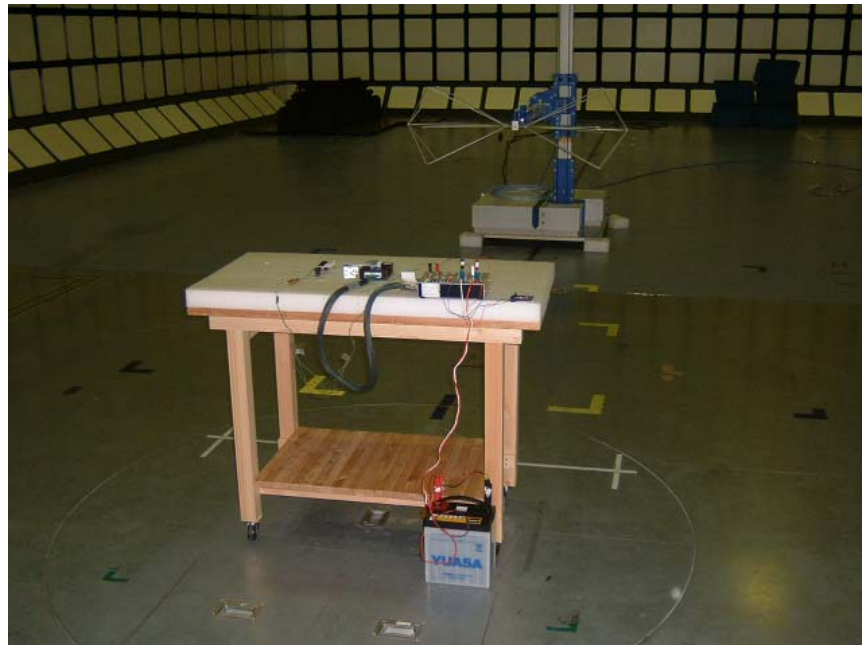
**Rear**



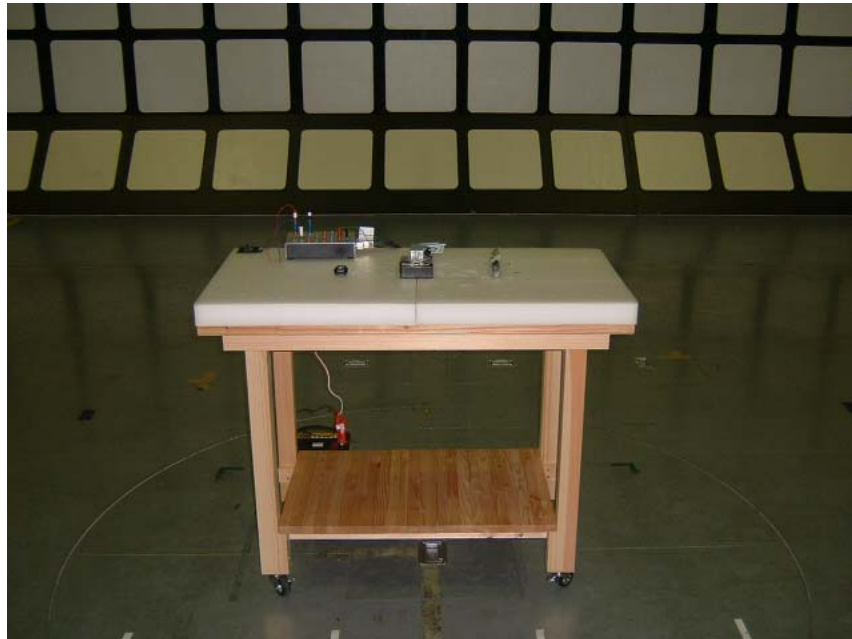
**Radiated emission**  
(Transmitting: 30-1000MHz)  
**Front**



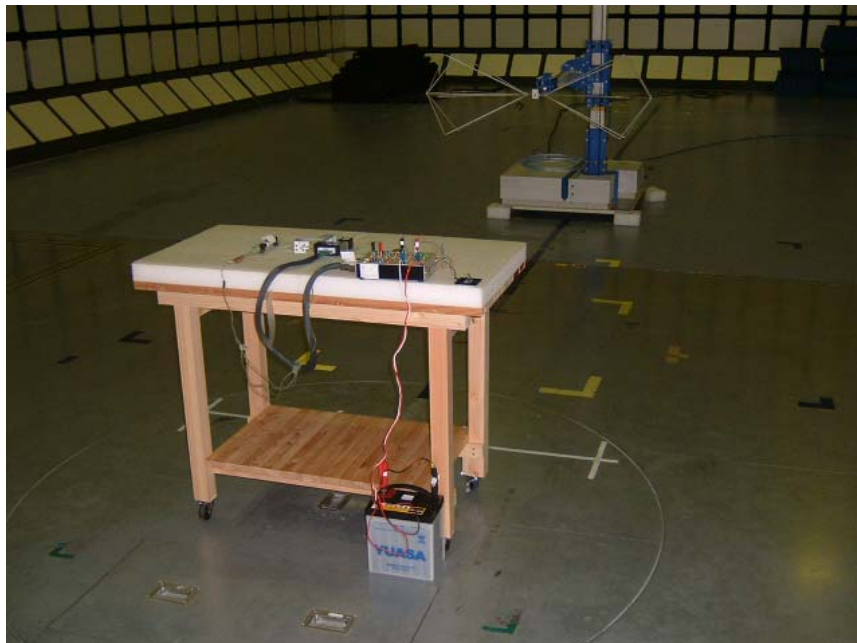
**Rear**



**Radiated emission**  
**(Receiving)**  
**Front**



**Rear**

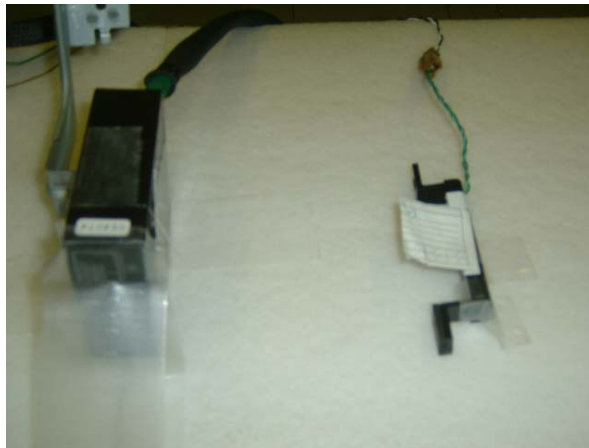


**Worst Case Position (Horizontal: X-axis/Vertical: X-axis)**

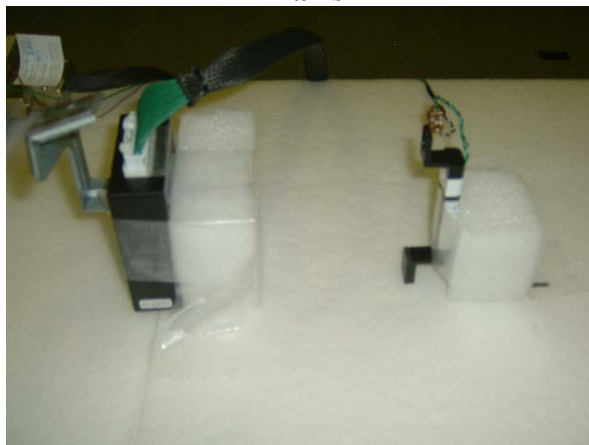
**X-axis**



**Y-axis**



**Z-axis**



## **APPENDIX 2: Test Instruments**

### **EMI test equipment**

<b>Control No.</b>	<b>Instrument</b>	<b>Manufacturer</b>	<b>Model No</b>	<b>Test Item</b>	<b>Calibration Date * Interval(month)</b>
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	RE / ME	2004/11/13 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	RE / ME	2004/11/12 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	RE	2004/10/14 * 12
MLA-01	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2004/10/14 * 12
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/Agilent/TSJ	-	RE	2004/12/19 * 12
MLPA-02	Loop Antenna	Rohde & Schwarz	HFH2-Z2	ME	2004/12/10 * 12
MCC-03	Coaxial Cable	Fujikura/Suhner/Agilent/TSJ	-	ME	2004/12/24 * 12
MCC-31	coaxial cable	ULApex	-	ME	2005/06/02 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	RE	2004/12/16 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2005/01/10 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2005/02/03 * 12
MCC-26	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2005/08/30 * 12
MPA-04	Pre Amplifier	Agilent	8447D	RE / ME	2005/05/24 * 12
MPA-05	Pre Amplifier	TSJ	TSJ 1-26.5GHz PreAmp	RE	2005/07/08 * 12

**All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.**

#### **Test Item:**

**RE: Radiated emission**

**ME: Radiated Magnetic Field Strength 9kHz – 30MHz**

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**APPENDIX 3: Data of EMI test**

**Radiated Emission (Transmitting)**

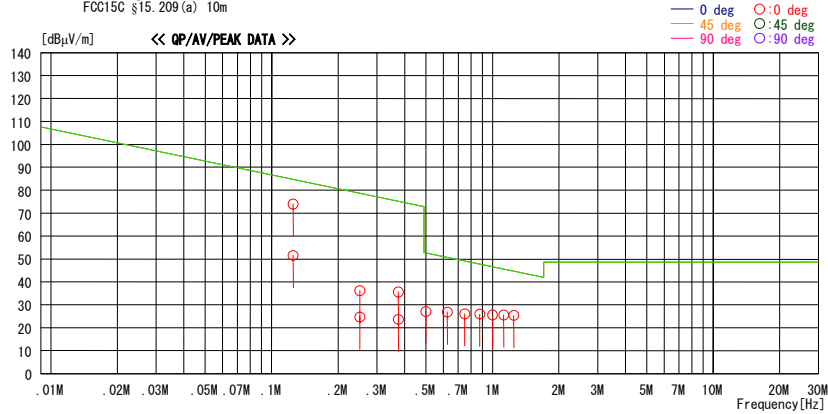
**DATA OF MAGNETIC RADIATED EMISSION TEST**

UL Apex Co., LTD. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2005/09/28 11:09:14

Applicant : ALPS Electric Co., Ltd Report No. : 26AE0241-HO  
Kind of EUT : Passive Entry System (Control Unit) Power : DC 12V  
Model No. : TWD1U722 Temp°C/Humi% : 25deg. C / 62%  
Serial No. : 064074 Operator : Takumi Shimada

Mode / Remarks : Transmitting / X-Axis

LIMIT : FCC15C §15.209(a) 10m  
FCC15C §15.209(a) 10m



Freq.	Reading	DET	Ant.Fac	Loss	Gain	Result	Limit	Margin	Antenna	Table
[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]		[deg]
0.12503	80.2	PEAK	19.7	0.3	26.2	74.0	104.8	30.8	0deg	180
0.12503	57.8	AV	19.7	0.3	26.2	51.6	84.8	33.2	0deg	180
0.25060	43.3	PEAK	19.7	0.6	27.3	36.3	98.7	62.4	0deg	180
0.25060	31.8	AV	19.7	0.6	27.3	24.8	78.7	53.9	0deg	180
0.37500	43.1	PEAK	19.7	0.5	27.7	35.6	95.2	59.6	0deg	180
0.37500	31.2	AV	19.7	0.5	27.7	23.7	75.2	51.5	0deg	180
0.50000	34.7	QP	19.6	0.7	27.8	27.2	52.7	25.5	0deg	180
0.62500	34.5	QP	19.6	0.7	27.9	26.9	50.8	23.9	0deg	180
0.75000	33.8	QP	19.6	0.7	27.9	26.2	49.2	23.1	0deg	180
0.87500	33.5	QP	19.6	0.8	27.9	26.0	47.8	21.8	0deg	180
1.00000	33.3	QP	19.6	0.6	27.9	25.6	46.7	21.1	0deg	180
1.12500	33.3	QP	19.6	0.6	27.9	25.6	45.7	20.1	0deg	180
1.25000	33.1	QP	19.7	0.6	27.9	25.5	44.7	19.2	0deg	180

CHART : WITH FACTOR ANT TYPE : LOOP  
CALCULATION : READING + ANT FACTOR + LOSS ( CABLE + ATTEN. -AMP. )

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## Radiated Emission (Transmitting)

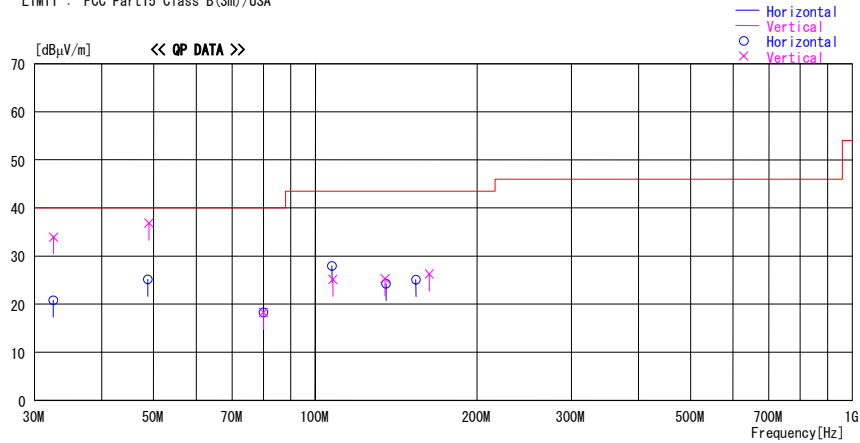
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/28 15:04:49

Applicant : ALPS Electric Co., Ltd  
 Kind of EUT : Passive Entry System (Control Unit)  
 Model No. : TWD1U722  
 Serial No. : 064074  
 Report No. : 26AE0241-HO  
 Power : DC 12V  
 Temp./Humi. : 25deg.C / 62%  
 Operator : Takumi Shimada

Mode / Remarks : Transmitting / Max-Axis

LIMIT : FCC Part15 Class B(3m)/USA



Frequency [MHz]	Reading [dBµV]	DET	Antenna		Level [dBµV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBµV/m]	Margin [dB]
			Factor [dB/m]	Lossk Gain [dB]						
32.502	37.1	QP	17.8	-21.0	33.9	359	100	Vert.	40.0	6.1
32.487	24.0	QP	17.8	-21.0	20.8	294	217	Hori.	40.0	19.2
48.750	35.4	QP	10.5	-20.7	25.2	171	320	Hori.	40.0	14.8
49.001	47.1	QP	10.4	-20.7	36.8	359	100	Vert.	40.0	3.2
80.007	31.9	QP	6.6	-20.2	18.3	171	238	Hori.	40.0	21.7
80.011	31.9	QP	6.6	-20.2	18.3	247	100	Vert.	40.0	21.7
107.377	36.2	QP	11.3	-19.5	28.0	359	300	Hori.	43.5	15.5
107.875	33.3	QP	11.4	-19.5	25.2	87	120	Vert.	43.5	18.4
135.513	29.3	QP	14.1	-19.1	24.3	21	236	Hori.	43.5	19.3
134.764	30.3	QP	14.1	-19.1	25.3	105	100	Vert.	43.5	18.2
153.999	28.6	QP	15.3	-18.8	25.1	359	204	Hori.	43.5	18.4
162.994	29.0	QP	15.9	-18.6	26.3	45	100	Vert.	43.5	17.2

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

## Radiated Emission (Receiving)

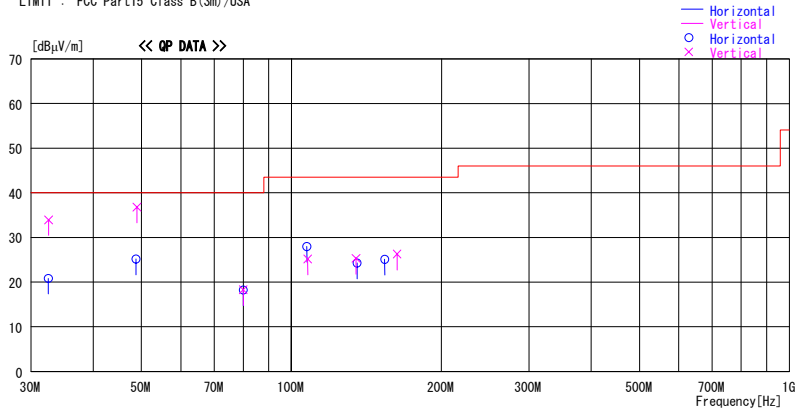
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/28 15:04:49

Applicant : ALPS Electric Co., Ltd  
 Kind of EUT : Passive Entry System (Control Unit)  
 Model No. : TWD1U722  
 Serial No. : 064074  
 Report No. : 26AE0241-HO  
 Power : DC 12V  
 Temp./Humi. : 25deg.C / 62%  
 Operator : Takumi Shimada

Mode / Remarks : Receiving / Max-Axis

LIMIT : FCC Part15 Class B(3m)/USA



Frequency [MHz]	Reading [dBµV]	DET	Antenna		Level [dBµV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBµV/m]	Margin [dB]
			Factor [dB/m]	Loss Gain [dB]						
32.502	37.1	QP	17.8	-21.0	33.9	359	100	Vert.	40.0	6.1
32.487	24.0	QP	17.8	-21.0	20.8	294	217	Hori.	40.0	19.2
48.750	35.4	QP	10.5	-20.7	25.2	171	320	Hori.	40.0	14.8
49.001	47.1	QP	10.4	-20.7	36.8	359	100	Vert.	40.0	3.2
80.007	31.9	QP	6.6	-20.2	18.3	171	238	Hori.	40.0	21.7
80.011	31.9	QP	6.6	-20.2	18.3	247	100	Vert.	40.0	21.7
107.377	36.2	QP	11.3	-19.5	28.0	359	300	Hori.	43.5	15.5
107.875	33.3	QP	11.4	-19.5	25.2	87	120	Vert.	43.5	18.4
135.513	29.3	QP	14.1	-19.1	24.3	21	236	Hori.	43.5	19.3
134.764	30.3	QP	14.1	-19.1	25.3	105	100	Vert.	43.5	18.2
153.999	28.6	QP	15.3	-18.8	25.1	359	204	Hori.	43.5	18.4
162.994	29.0	QP	15.9	-18.6	26.3	45	100	Vert.	43.5	17.2

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN. ) - GAIN (AMP)

## Radiated Emission (Receiving)

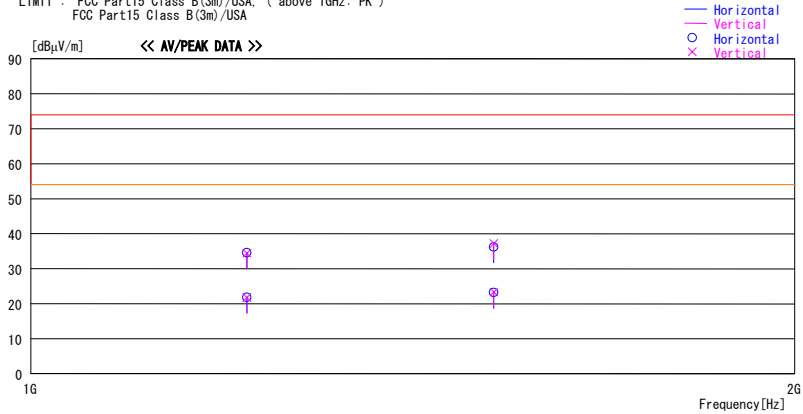
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber

Applicant : ALPS Electric Co., Ltd      Report No. : 26AE0241-HO  
 Kind of EUT : Passive Entry System (Control Unit)      Power : DC 12V  
 Model No. : TWD1U722      Temp./Humi. : 25deg.C / 62%  
 Serial No. : 064074      Operator : Takumi Shimada

Mode / Remarks : Receiving / Max-Axis

LIMIT : FCC Part15 Class B(3m)/USA, ( above 1GHz: PK )  
 FCC Part15 Class B(3m)/USA



Frequency [MHz]	Reading [dBμV]	DET	Antenna		Level [dBμV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBμV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain						
1216.811	50.1	PK	23.1	-38.8	34.4	0	100	Vert.	74.0	39.6
1216.365	50.3	PK	23.1	-38.8	34.6	0	100	Hori.	74.0	39.4
1216.811	37.5	AV	23.1	-38.8	21.8	0	100	Vert.	54.0	32.2
1522.127	51.5	PK	23.9	-38.1	37.3	0	100	Vert.	74.0	36.8
1522.127	37.5	AV	23.9	-38.1	23.3	0	100	Vert.	54.0	30.7
1216.365	37.6	AV	23.1	-38.8	21.9	0	100	Hori.	54.0	32.1
1521.837	50.5	PK	23.9	-38.1	36.3	0	100	Hori.	74.0	37.8
1521.837	37.5	AV	23.9	-38.1	23.3	0	100	Hori.	54.0	30.7

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

### -26dB Bandwidth

UL Apex Co., Ltd.  
 Head Office EMC Lab. No.1 Semi Anechoic Chamber

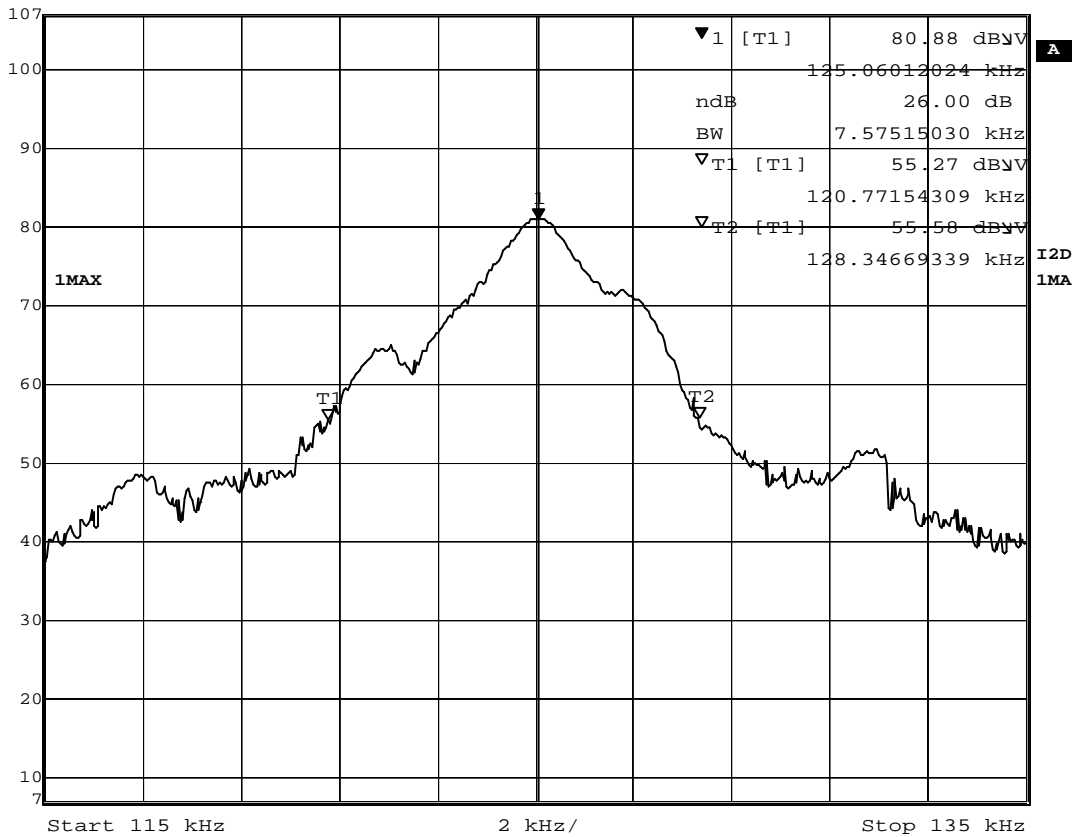
COMPANY : Alps Electric Co.,Ltd.  
 EQUIPMENT : Passive Entry System (Control Unit)  
 MODEL : TWD1U722  
 S/N : 064074  
 FCC ID : CWTW722  
 POWER : DC 12V  
 MODE : Transmitting

REPORT NO. : 26AE0241-HO  
 REGULATION : -  
 TEST DISTANCE : 10 m  
 DATE : 09/28/2005  
 TEMPERATURE : 25°C  
 HUMIDITY : 62%  
 Engineer : Takumi Shimada

-26dB Bandwidth	Bandwidth Limit	Result
[kHz]	[kHz]	
7.58	-	-



Marker 1 [T1 ndB] RBW 1 kHz RF Att 10 dB  
 Ref Lvl ndB 26.00 dB VBW 10 kHz  
 107 dBµV BW 7.57515030 kHz SWT 150 ms Unit dBµV



Date: 28.SEP.2005 14:06:43

**UL Apex Co., Ltd.**  
**Head Office EMC Lab.**  
 4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN  
 Telephone : +81 596 24 8116  
 Facsimile : +81 596 24 8124

MF060b(01.06.05)

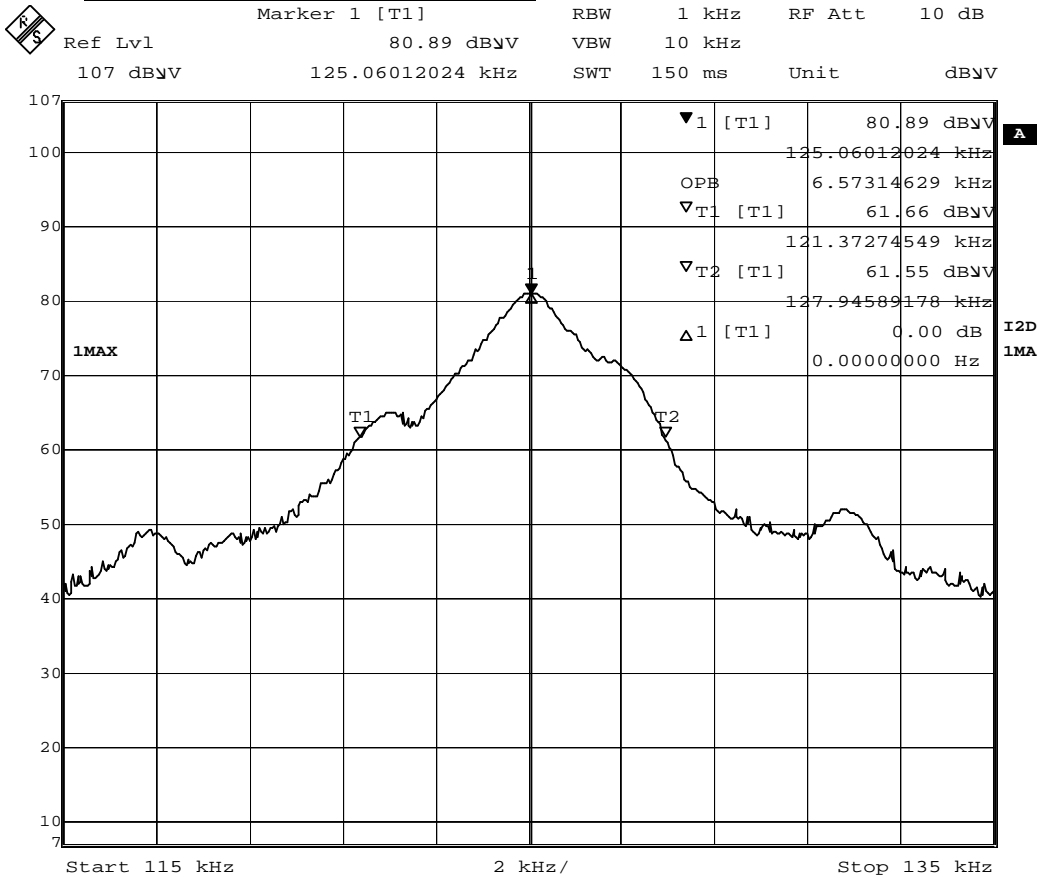
### 99% Occupied Bandwidth

UL Apex Co., Ltd.  
 Head Office EMC Lab. No.1 Semi Anechoic Chamber

COMPANY : Alps Electric Co.,Ltd.  
 EQUIPMENT : Passive Entry System (Control Unit)  
 MODEL : TWD1U722  
 S/N : 064074  
 FCC ID : CWTWDU722  
 POWER : DC 12V  
 MODE : Transmitting

REPORT NO. : 26AE0241-HO  
 REGULATION : -  
 TEST DISTANCE : 10 m  
 DATE : 09/28/2005  
 TEMPERATURE : 25°C  
 HUMIDITY : 62%  
 Engineer : Takumi Shimada

99% Occupied Bandwidth	Bandwidth Limit	Result
[kHz]	[kHz]	-
6.57	-	-



Date: 28.SEP.2005 13:57:54