EMI TEST REPORT

Test Report No. : 24KE0135-HO-1

Applicant	:	**Alps Electric Co., Ltd.**
Type of Equipment	:	**Passive Entry System (Hand Unit)**
Model No.	:	**TFWB1U618**
Test standard	:	**FCC Part 15 Subpart C : 2004 Section 15.231 (Certification) FCC Part 15 Subpart B : 2004 Section 15.109 (Verification)**
FCC ID	:	**CWTWBU618**
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 : August 5 to 27, 2004

Tested by : M. Fujimura
Mitsuru Fujimura
EMC Service

Approved by : H. Shimoji
Hironobu Shimoji
Group Leader of EMC Service

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

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

2.1 Identification of E.U.T.

Type of Equipment : Passive Entry System (Hand Unit)
Model No. : TFWB1U618
Serial No. : 3 (For tests of FCC Part 15B&C)
1 (For tests of FCC Part 15C)
Country of Manufacture : Japan
Receipt Date of Sample : July 30, 2004
Condition of EUT : Engineering prototype
(Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product Description

Model No: TFWB1U618 is the Passive Entry System (Hand Unit).
The hand unit of passive entry system is a transmitter of 315MHz and a receiver of 125kHz. This 125kHz is transmitting from the control unit. For the control unit, see the test report No.24KE0135-HO-2.
(Transmitter Section)
Frequency operation : 315MHz
Type of modulation : FSK modulation
Information antenna : Internal/(P.C.B. Pattern antenna)
Power Supply : DC 3V (Battery)

(Receiver Section)
Equipment Type : Turned Radio frequency Receiver
Frequency operation : 125kHz
Information antenna : Internal/(Loop coil and bar antenna)
Power Supply : DC 3V (Battery)

FCC 15.31 (e)
This test was performed with the New Battery (DC 3V). Therefore, this EUT complies with the requirement.

FCC Part 15.203 Antenna requirement
It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part 15 Subpart C : 2004
Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.231 Periodic operation in the band 40.66 - 40.70MHz
and above 70MHz

Test Specification : FCC Part 15 Subpart B : 2004
Section 15.109 Radiated emission limits
Title : FCC 47CFR Part15 Radio Frequency Device
Subpart B Unintentional Radiators

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

1) FCC Part15 Subpart C : 2004

No.	Item	Test Procedure	Specification	Remarks	Worst margin	Result
1	Automatically deactivate	ANSI C63.4:2003	FCC Section 15.231(a)(1)	Radiated	N/A	Complied
2	Electric Field Strength of Fundamental Emission	ANSI C63.4:2003	FCC Section 15.231(b)	Radiated	15.9dB QP 315.022MHz Horizontal	Complied
3	Electric Field Strength of Spurious Emission	ANSI C63.4:2003	FCC Section 15.205 FCC Section 15.209 FCC Section 15.231(b)	Radiated	3.8dB QP 69.774MHz Horizontal	Complied
4	-20dB Bandwidth	ANSI C63.4:2003	FCC Section 15.231(c)	Radiated	N/A	Complied
5	Conducted Emission	ANSI C63.4:2003	FCC Section 15.207(a)	AC Mains only*1)	N/A	N/A
Note: UL Apex's EMI Work procedures No. QPM05 *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.

2) FCC Part15 Subpart B : 2004

No.	Item	Test Procedure	Specification	Remarks	Worst margin	Result
1	Radiated emission	ANSI C63.4:2003	FCC Section 15.109(a)	Radiated	3.8dB QP 69.774MHz Horizontal	Complied
2	Conducted Emission	ANSI C63.4:2003	FCC Section 15.107(a)	AC Mains only*1)	N/A	N/A
Note: UL Apex's EMI Work procedures No. QPM05 *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.

3.3 Addition to standards

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	99% Occupied Bandwidth	RSS210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004	RSS210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004	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 ±1.8dB.
The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is ±4.5dB.
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ±5.2dB.
The measurement uncertainty (with a 95% confidence level) for this test using Horn Antenna is ±6.6dB.
The data listed in this test report meets the limits unless the uncertainty is taken into consideration. (for FCC Part 15B&C)

3.5 Test Location

UL Apex Co., Ltd. Head Office EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116 Facsimile : +81 596 24 8124

	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	IC4247	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	June 05, 2002	846015	IC4247-2	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.

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

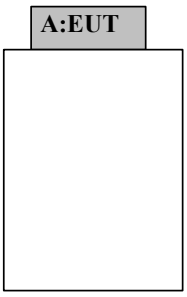
4.1 Operating Modes

The sequence is used : Continuous transmitting and receiving mode
*Receiving mode: the test was performed under the signal from the transmitter (Control Unit).

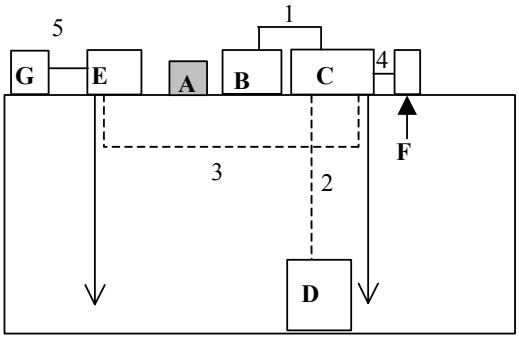
Justification: The system was configured in typical fashion (as a customer would normally use it) for testing.

4.2 Configuration and peripherals

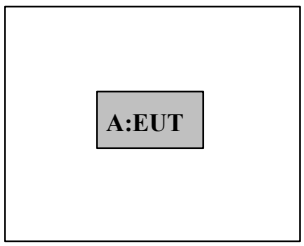
Front View (Hand Unit/Transmitting mode)



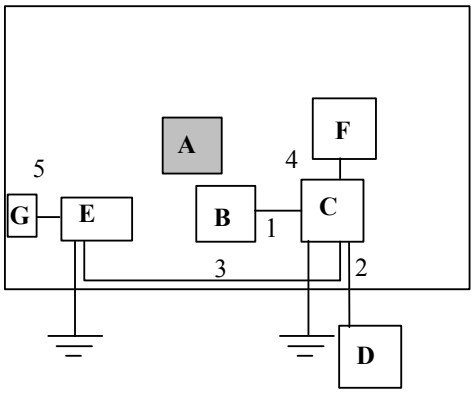
Front View (Hand Unit/Receiving mode)



Top View (Hand Unit/Transmitting mode)



Top View (Hand Unit/Receiving mode)



*Test data was taken under worse case conditions.

(Hand Unit)
Description of EUT

No.	Item	Model number	Serial number	Manufacturer	FCC ID
A	Hand Unit	TFWB1U618	3 (For tests of FCC Part 15B&C) 1(For tests of FCC Part 15C)	Alps Electric Co., Ltd.	CWTFWBU618

(Control Unit)

Description of EUT and Support Equipment

No.	Item	Model number	Serial number	Manufacturer	FCC ID
B	Bar antenna	-	-	Alps Electric Co., Ltd.	-
C	Checker Box	N/A	N/A	Alps Electric Co., Ltd.	-
D	Car Battery	50B24L	N/A	YUASA	-
E	Control Unit	TFWD1UU625	WD1U626A/402BB18A	Alps Electric Co., Ltd.	CWTWDUU625
F	Checker PWB	-	-	Alps Electric Co., Ltd.	-
G	Tuner	TFWC1U119	5	Alps Electric Co., Ltd.	CWTWCU119

List of cables used

No.	Name	Length (m)	Shield	Remark
1	Antenna Cable	0.5	N	-
2	DC Power Cable	1.0	N	-
3	Signal & DC Power Cable	1.2	N	-
4	Cable for Checker PWB	0.3	N	-
5	Cable for Tuner	1.1	N	-

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

5.2 Test configuration

EUT was placed on a platform of nominal size, 0.5m x 0.5m or 1m by 1.5m, raised 80cm above the conducting ground plane. The EUT was set on the center of the tabletop.
Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.
A drawing of the set up is shown in the photos of APPENDIX 1.

5.3 Test conditions

Frequency range : Section 15.231: 30MHz - 3200MHz (Transmitting mode)
Section 15.109: 30MHz - 1000MHz (Receiving mode)
Test distance : 3m
EUT position : Tabletop
EUT operation mode : Transmitting and Receiving mode

5.4 Test procedure

The Radiated Electric Field Strength intensity has been measured on No.1 semi anechoic chamber with a ground plane and at a distance of 3m.
Measurements were performed with a QP, PK, and AV detector.
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.
The radiated emission measurements were made with the following detector function of the test receiver.

	Below 1GHz (T/R)	Above 1GHz (S/A)
Detector Type	QP	PK/AV
IF Bandwidth	BW 120kHz	PK: RBW:1MHz/VBW: 1MHz AV: RBW:1MHz/VBW:10Hz

- The carrier level (or, noise levels) was (or were) measured at each position of all three axes X, Y and Z, and the position that has the maximum noise was determined.
With the position, the noise levels of all the frequencies was measured.

5.5 Results

Test data : See APPENDIX 3
Test result : Pass

Date: August 5 and 27, 2004 Tested by: Mitsuru Fujimura

SECTION 6: Automatically deactivate

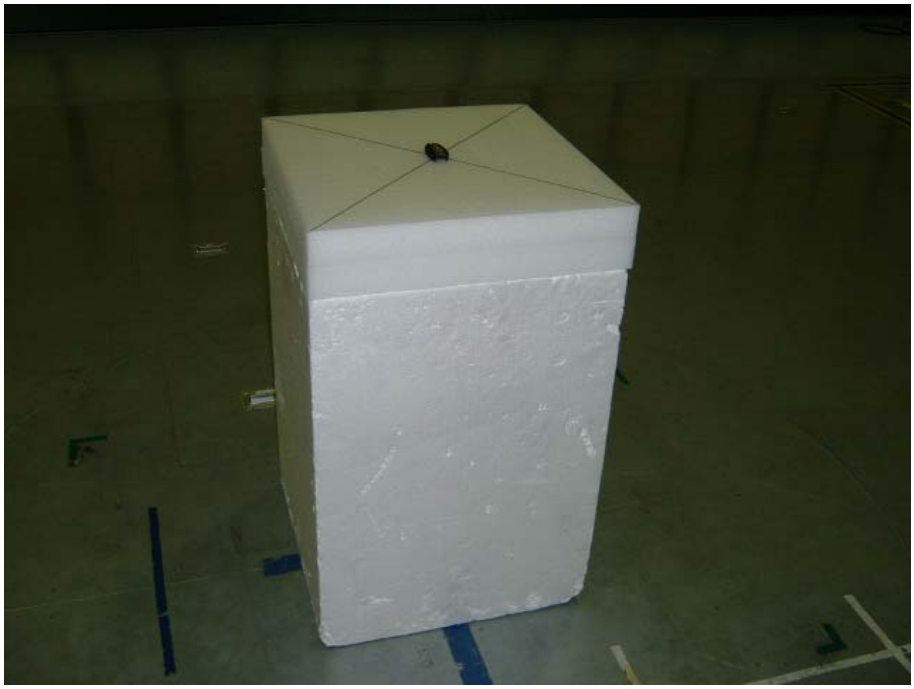
Limit: A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

Test data : See APPENDIX 3
Test result : Pass

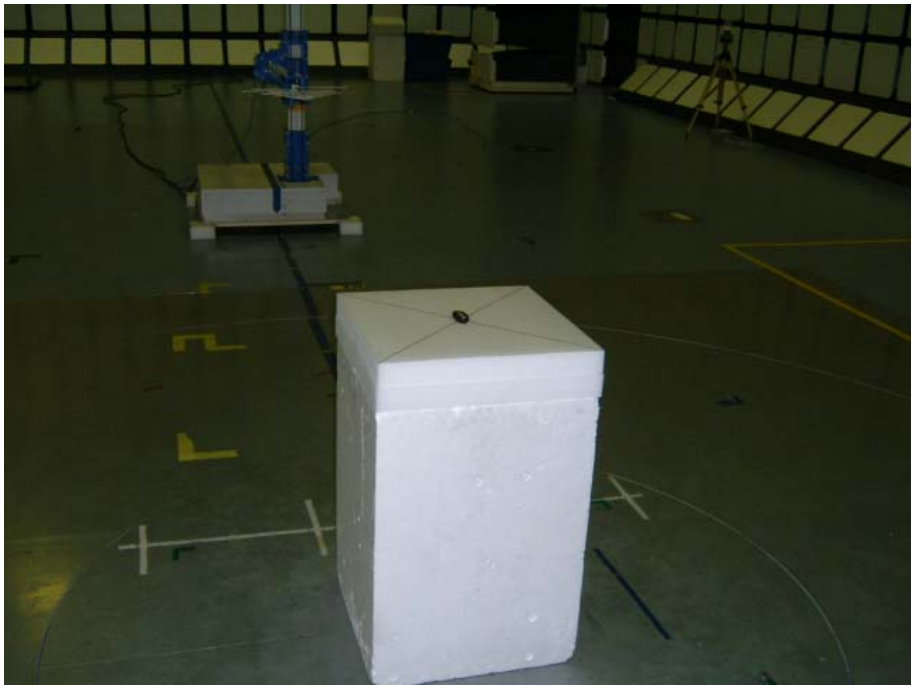
APPENDIX 1: Photographs of test setup

Radiated emission (Transmitting mode)

Front



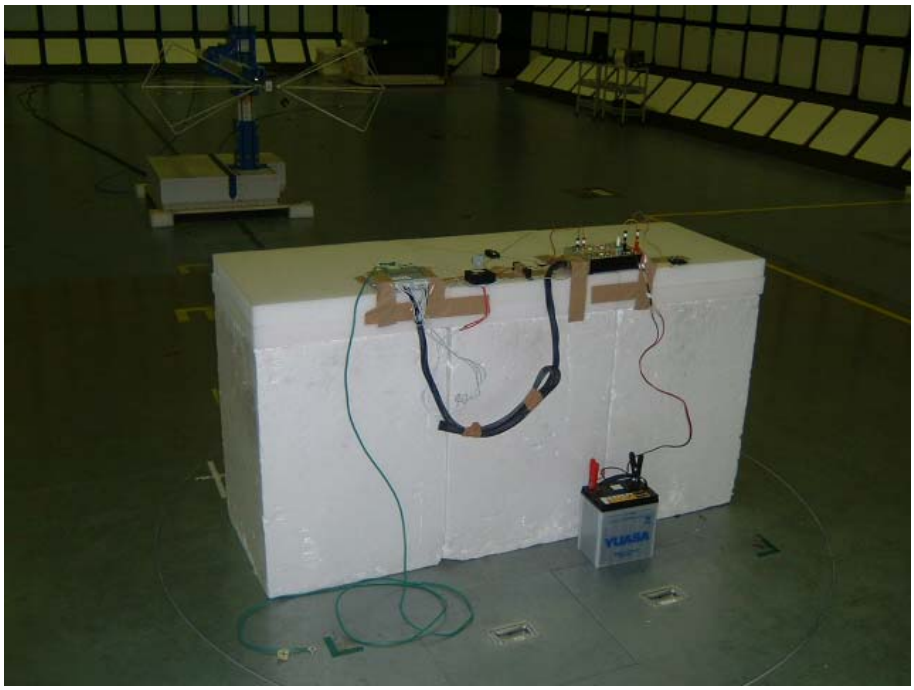
Rear



Radiated emission (Receiving mode)

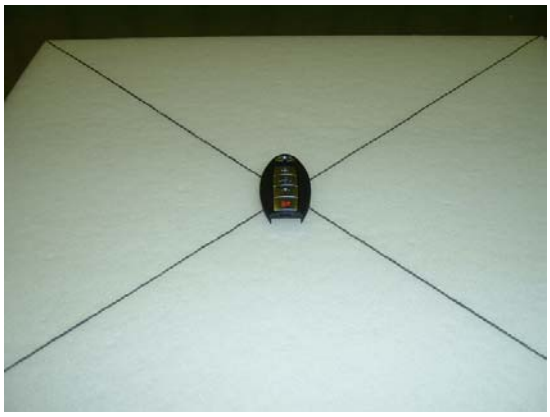
Front

Rear



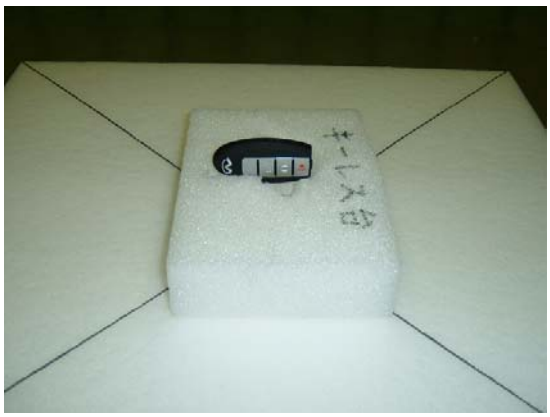
Worst Case Position (Horizontal : X-axis / Vertical: Y-axis)

X-axis



Y-axis

Z-axis



APPENDIX 2: Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	RE	2003/12/27 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	RE	2003/11/12 * 12
MCC-05	Microwave Cable	Storm	421-011	RE	2004/01/06 * 12
MCC-23	Microwave Cable	Storm	-	RE	2004/05/01 * 12
MPA-01	Pre Amplifier	Agilent	8449B	RE	2004/02/06 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2004/01/10 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	RE	2003/10/15 * 12
MLA-01	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2003/10/15 * 12
MCC-01	Coaxial Cable	Suhner/storm/Agilent/ TSJ	-	RE	2003/12/19 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	RE	2003/12/16 * 12
MPA-04	Pre Amplifier	Agilent	8447D	RE	2004/05/25 * 12

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
Test Item:
RE: Radiated emission

APPENDIX 3: Data of EMI test

Radiated Emission(FCC Part 15 Subpart B & C)

DATA OF RADIATED EMISSION TEST

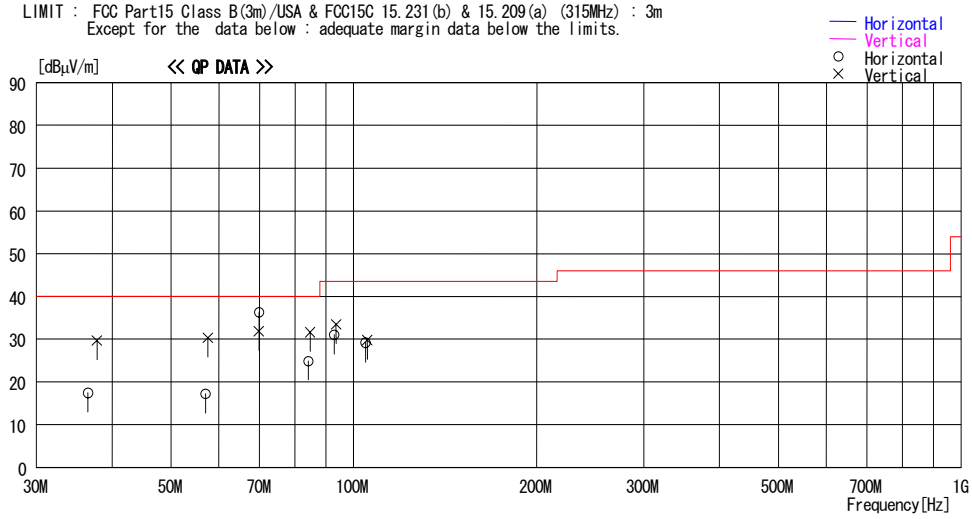
UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2004/08/27

Applicant : ALPS Electric Co.,Ltd.
Kind of EUT : Passive Keyless entry
Model No. : TFWB1U618
Serial No. : 3

Report No. : 24KE0135-HO
Power : DC 3V
Temp℃/Humi% : 23 / 65%
Operator : Mitsuru Fujimura

Mode / Remarks : Transmitting & Receiving / Max-Axis

LIMIT : FCC Part15 Class B(3m)/USA & FCC15C 15.231(b) & 15.209(a) (315MHz) : 3m
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
——— Horizontal ———										
1	36.493	22.5	15.6	7.2	27.9	17.4	40.0	22.6	100	359
2	57.017	28.7	8.8	7.4	27.7	17.2	40.0	22.8	337	256
3	69.774	49.8	6.7	7.6	27.8	36.3	40.0	3.8	234	183
4	84.144	38.0	6.9	7.8	27.8	24.9	40.0	15.1	213	159
5	92.778	42.2	8.5	7.9	27.6	31.0	43.5	12.5	182	157
6	104.521	38.0	10.9	8.0	27.7	29.2	43.5	14.3	277	0
——— Vertical ———										
7	37.766	35.3	15.0	7.1	27.8	29.6	40.0	10.4	100	208
8	57.510	42.1	8.6	7.4	27.8	30.3	40.0	9.7	100	123
9	69.764	45.3	6.7	7.6	27.8	31.8	40.0	8.2	100	284
10	84.766	44.6	7.0	7.8	27.8	31.6	40.0	8.4	100	16
11	93.521	44.5	8.6	7.9	27.6	33.4	43.5	10.1	100	238
12	105.270	38.5	11.0	8.0	27.7	29.8	43.5	13.7	100	269

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

Radiated Emission(FCC Part 15 Subpart C)

DATA OF RADIATED EMISSION TEST

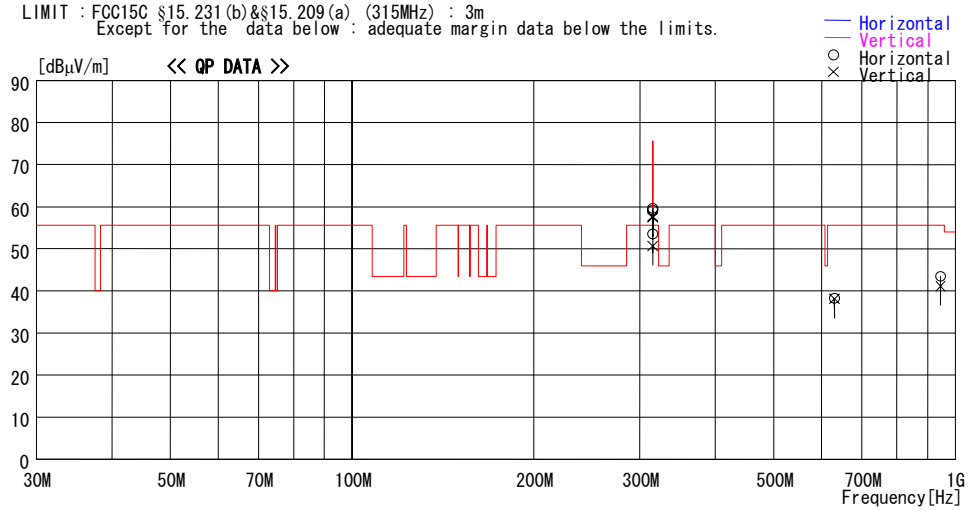
UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber

Applicant : ALPS Electric Co.,Ltd.
Kind of EUT : Passive Keyless entry
Model No. : TFWB1U618
Serial No. : 1

Report No. : 24KE0135-HO
Power : DC 3V
Temp℃/Humi% : 24 / 64%
Operator : Mitsuru Fujimura

Mode / Remarks: Transmitting / Max-Axis

LIMIT : FCC15C §15.231(b)&§15.209(a) (315MHz) : 3m
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	C.F [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	COMMENT	
	----- Horizontal -------									
1	315.022	61.8	-2.5	59.3	75.6	16.3	100	300	X-axis PK	(Reference data)
2	315.022	62.2	-2.5	59.7	75.6	15.9	100	300	X-axis QP	
3	315.022	56.1	-2.5	53.6	75.6	22.0	100	300	X-axis AV	(Reference data)
4	629.969	35.4	2.9	38.3	55.6	17.3	141	1	X-axis QP	
5	944.965	36.8	6.7	43.5	55.6	12.1	100	265	X-axis QP	
	----- Vertical -------									
6	315.022	59.9	-2.5	57.4	75.6	18.2	161	114	Y-axis PK	(Reference data)
7	315.022	60.2	-2.5	57.7	75.6	17.9	161	114	Y-axis QP	
8	315.022	53.2	-2.5	50.7	75.6	24.9	161	114	Y-axis AV	(Reference data)
9	629.976	35.2	2.9	38.1	55.6	17.5	100	100	Y-axis QP	
10	944.966	34.4	6.7	41.1	55.6	14.5	112	69	Y-axis QP	

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

DATA OF RADIATED EMISSION TEST

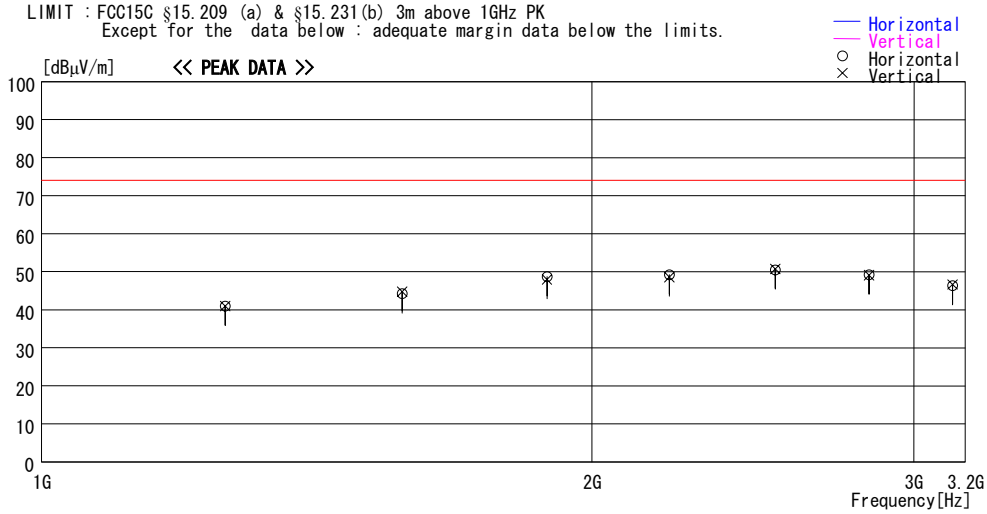
UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber

Applicant : ALPS Electric Co.,Ltd.
Kind of EUT : Passive Keyless entry
Model No. : TFWB1U618
Serial No. : 1

Report No. : 24KE0135-HO
Power : DC 3V
Temp℃/Humi% : 24 / 64%
Operator : Mitsuru Fujimura

Mode / Remarks: Transmitting / Max-Axis

LIMIT : FCC15C §15.209 (a) & §15.231(b) 3m above 1GHz PK
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING PK [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1259.967	50.6	23.3	3.9	36.8	41.0	74.0	33.0	100	0
2	1574.966	51.2	25.1	4.4	36.5	44.2	74.0	29.8	100	0
3	1889.961	51.2	29.0	4.9	36.4	48.7	74.0	25.3	100	0
4	2204.944	49.6	30.5	5.4	36.3	49.2	74.0	24.8	100	0
5	2519.940	50.2	30.9	5.6	36.2	50.5	74.0	23.5	100	0
6	2835.279	47.7	31.9	6.0	36.4	49.2	74.0	24.8	100	0
7	3150.000	44.5	32.0	6.3	36.4	46.4	74.0	27.6	100	0
----- Vertical ------										
8	1259.976	50.6	23.3	3.9	36.8	41.0	74.0	33.0	100	0
9	1574.963	51.7	25.1	4.4	36.5	44.7	74.0	29.3	100	0
10	1889.954	50.4	29.0	4.9	36.4	47.9	74.0	26.1	100	0
11	2204.951	49.0	30.5	5.4	36.3	48.6	74.0	25.4	100	0
12	2519.943	50.4	30.9	5.6	36.2	50.7	74.0	23.3	100	0
13	2835.270	47.6	31.9	6.0	36.4	49.1	74.0	24.9	100	0
14	3150.000	44.7	32.0	6.3	36.4	46.6	74.0	27.4	100	0

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

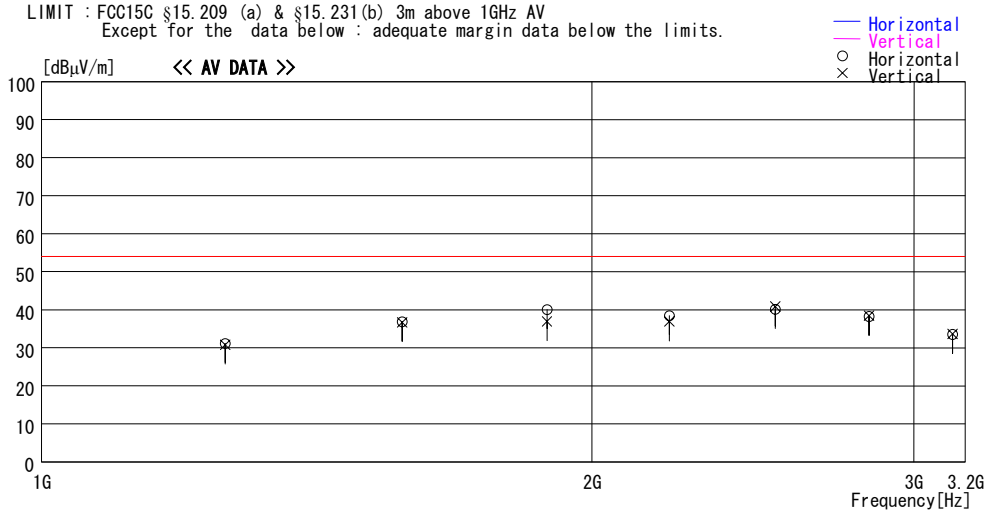
DATA OF RADIATED EMISSION TEST

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

Applicant	: ALPS Electric Co.,Ltd.	Report No.	: 24KE0135-HO
Kind of EUT	: Passive Keyless entry	Power	: DC 3V
Model No.	: TFWB1U618	Temp℃/Humi%	: 24 / 64%
Serial No.	: 1	Operator	: Mitsuru Fujimura

Mode / Remarks: Transmitting / Max-Axis

LIMIT : FCC15C §15.209 (a) & §15.231(b) 3m above 1GHz AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING AV [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1259.967	40.8	23.3	3.9	36.8	31.2	54.0	22.8	100	0
2	1574.966	43.9	25.1	4.4	36.5	36.9	54.0	17.1	100	0
3	1889.961	42.6	29.0	4.9	36.4	40.1	54.0	13.9	100	0
4	2204.944	38.9	30.5	5.4	36.3	38.5	54.0	15.5	100	0
5	2519.940	39.8	30.9	5.6	36.2	40.1	54.0	13.9	100	0
6	2835.279	36.8	31.9	6.0	36.4	38.3	54.0	15.7	100	0
7	3150.000	31.6	32.0	6.3	36.4	33.5	54.0	20.5	100	0
----- Vertical ------										
8	1259.976	40.4	23.3	3.9	36.8	30.8	54.0	23.2	100	0
9	1574.963	43.7	25.1	4.4	36.5	36.7	54.0	17.3	100	0
10	1889.954	39.4	29.0	4.9	36.4	36.9	54.0	17.1	100	0
11	2204.951	37.3	30.5	5.4	36.3	36.9	54.0	17.1	100	0
12	2519.943	40.5	30.9	5.6	36.2	40.8	54.0	13.2	100	0
13	2835.270	36.9	31.9	6.0	36.4	38.4	54.0	15.6	100	0
14	3150.000	31.7	32.0	6.3	36.4	33.6	54.0	20.4	100	0

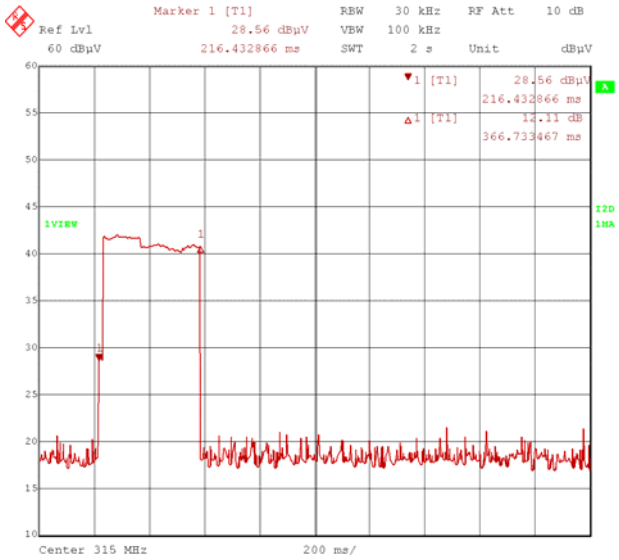
CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP.GAIN Page:

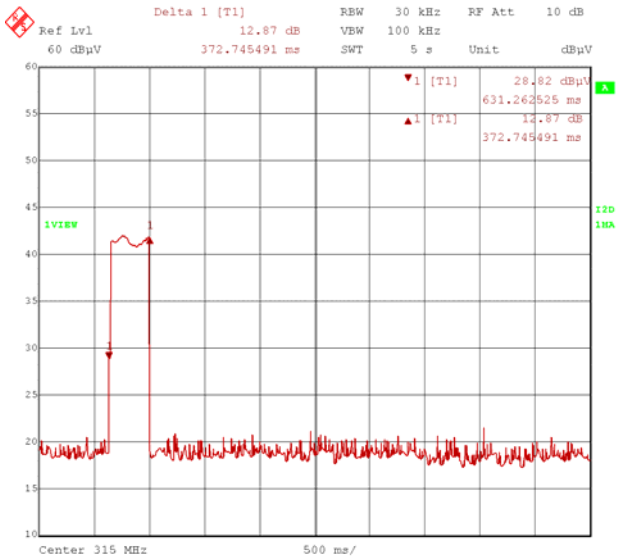
Automatically deactivate

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

COMPANY	: Alps Electric Co.,Ltd.	REPORT NO.	: 24KE0135-HO
EQUIPMENT	: Passive Entry System (Hand Unit)	REGULATION	: FCC Part15 Subpart C 231(a)(1)
MODEL	: TFWB1U618	TEST DISTANCE	: 3m
S/ N	: 1	DATE	: 08/06/2004
FCC ID	: CWTWBU618	TEMPERATURE	: 20℃
POWER	: DC 3V	HUMIDITY	: 65%
MODE	: Transmitting	ENGINEER	: Mitsuru Fujimura

Time of Transmitting [sec]	Limit [sec]
0.37	5.00





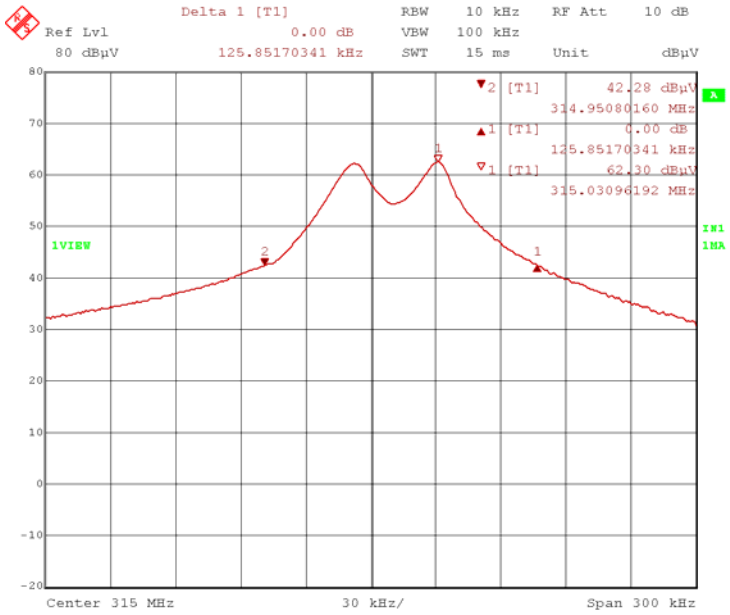
-20dB Bandwidth

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

COMPANY	: Alps Electric Co.,Ltd.	REPORT NO.	: 24KE0135-HO
EQUIPMENT	: Passive Entry System (Hand Unit)	REGULATION	: N/A
MODEL	: TFWB1U618	TEST DISTANCE	: 3m
S/ N	: 1	DATE	: 08/06/2004
FCC ID	: CWTWBU618	TEMPERATURE	: 20℃
POWER	: DC 3V	HUMIDITY	: 65%
MODE	: Transmitting	ENGINEER	: Mitsuru Fujimura

Bandwidth Limit : Fundamental Frequency 315.00MHz X 0.25% = 787.5 kHz

-20dB Bandwidth [kHz]	Bandwidth Limit [kHz]	Result
125.85	787.50	Pass



99% Occupied Bandwidth

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

COMPANY	: Alps Electric Co.,Ltd.	REPORT NO.	:	24KE0135-HO
EQUIPMENT	: Passive Entry System (Hand Unit)	REGULATION	:	RSS210
MODEL	: TFWB1U618	TEST DISTANCE	:	3m
S/ N	: 1	DATE	:	08/06/2004
FCC ID	: CWTWBU618	TEMPERATURE	:	20℃
POWER	: DC 3V	HUMIDITY	:	65%
MODE	: Transmitting	ENGINEER	:	Mitsuru Fujimura

99% Occpied Bandwidth [kHz]
156.31