



## EMI TEST REPORT

Test Report No. : 25LE0149-HO-3a

Applicant : OMRON Corporation  
Type of Equipment : Tire Pressure Monitoring System (TPMS) ECU  
Model No. : G8D-367H-ECU-A  
Test standard : FCC Part 15 Subpart B Class B 2005  
FCC ID : OUCG8D-367H  
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 the 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:

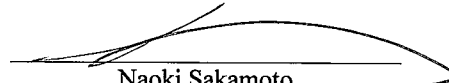
September 5 and 6, 2005

Tested by:

  
Makoto Kosaka  
EMC Services

  
Mitsuru Fujimura  
EMC Services

Approved by :

  
Naoki Sakamoto  
Group Leader of  
EMC Services

UL Apex Co., Ltd.

Head Office EMC Lab.

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MF060b(01.06.05)

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## **SECTION 1: Client information**

Company Name : OMRON Corporation  
Brand name : OMRON  
Address : 6368 NENJOZAKA, OKUSA, KOMAKI, AICHI 485-0802 Japan  
Telephone Number : +81-568-78-6394  
Facsimile Number : +81-568-78-7659  
Contact Person : Harumi Itatsu

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

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

Type of Equipment : Tire Pressure Monitoring System (TPMS) ECU  
Model No. : G8D-367H-ECU-A (Applied model)  
                              G8D-366H-ECU-A (Tested model)\*  
Serial No. : 1  
Country of Manufacture : Japan  
Receipt Date of Sample : September 2, 2005  
Condition of EUT : Engineering prototype  
                              (Not for Sale: This sample is equivalent to mass-produced items.)

\*Test was performed with the superior model, G8D-366H-ECU-A (with LF transmission function) of G8D-367H-ECU-A. The receiving function and hard ware are same in the both models.

### **2.2 Product Description**

Model No: G8D-367H-ECU-A is the receiver of Tire Pressure Monitoring System (TPMS). It is a system that receives the information from transmitters installed into each tire, about the inflation pressure of temperature of tires detected by the sensor, so that it can detect the abnormality of tires like fallen inflation pressure.

Equipment Type : Receiver  
Receiving frequency : 314.98MHz  
Intermediate frequency : 10.7MHz  
Local clock frequency : 325.7MHz  
Other Clock Frequency : 16MHz (CPU clock)  
Method of Frequency Operation : Synthesizer  
Rating : DC 12V  
Temperature of operation : -40 deg. C. - +85 deg. C.

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

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

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

**3.1 Test specification**

Test Specification : FCC Part 15 Subpart B 2005  
Title : FCC 47CFR Part15 Radio Frequency Device  
Subpart B Unintentional Radiators

**3.2 Procedures and results**

Item	Test Procedure	Limits	Deviation	Worst margin *0)	Result
Conducted emission	ANSI C63.4: 2003 7. AC powerline conducted emission measurements	Class B	N/A	N/A*1)	Complied
Radiated emission	ANSI C63.4: 2003 8. Radiated emission measurements	Class B	N/A	17.9dB 33.111MHz, QP, Vert.	Complied

\*Note: UL Apex's EMI Work Procedure QPM05.  
\*0) The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.  
\*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 Additions or deviations to standards**

No addition, deviation, nor exclusion has been made from standards.

**3.4 Confirmation**

UL Apex Co., Ltd. hereby confirms that E.U.T., in the configuration tested, complies with the specifications, FCC Part15 Subpart B 2005.

**3.5 Uncertainty**

Radiated Emission

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is  $\pm 4.5\text{dB}(3\text{m})$ .  
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is  $\pm 5.2\text{dB}(3\text{m})$ .  
The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is  $\pm 6.6\text{dB}$ .  
The data listed in this test report has enough margin, more than the site margin.

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### 3.6 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

	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	313583	IC4247A	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	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.

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

Refer to APPENDIX 1 to 3.

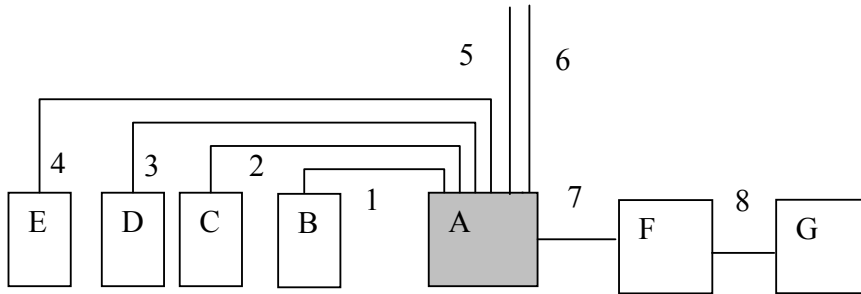
**SECTION 4: Operation of E.U.T. during testing**

**4.1 Operating modes**

The mode used for test : Receiving mode

\*Test was performed with the superior model, G8D-366H-ECU-A (with LF transmission function) of G8D-367H-ECU-A. The receiving function and hard ware are same in the both models.

**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 No.	Manufacturer	Remarks	FCC ID
A	TPMS ECU	G8D-366H-ECU-A*	1	OMRON	EUT	OUCG8D-367H
B	TPMS LFI	G8D-366H-ANT-A*	1	OMRON	-	-
C	TPMS LFI	G8D-366H-ANT-A*	2	OMRON	-	-
D	TPMS LFI	G8D-366H-ANT-A*	3	OMRON	-	-
E	TPMS LFI	G8D-366H-ANT-A*	4	OMRON	-	-
F	SW Box	-	-	OMRON	-	-
G	Car Battery	50B24L		YUASA	-	-

\*Test was performed with the superior model, G8D-366H-ECU-A and G8D-366H-ANT-A (LF transmission antenna), but the receiving function and hard ware are same in the both models.

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**List of cables used**

No.	Name	Length (m)	Shield
1	Antenna cable	1.0	No
2	Antenna cable	1.0	No
3	Antenna cable	1.0	No
4	Antenna cable	1.0	No
5	Signal Cable	6.3	No
6	RS232C Cable	1.0	No
7	DC Cable	1.0	No
8	DC Power Cable	0.8	No

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## **SECTION 6: Radiated Emission**

### **6.1 Operating environment**

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

### **6.2 Test configuration**

EUT was placed on a platform of nominal size, 0.5m by 1.0m, raised 80cm above the conducting ground plane. The EUT was set on 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.

### **6.3 Test conditions**

Frequency range : 30MHz – 300MHz (Biconical antenna) / 300MHz – 1000MHz (Logperiodic antenna)  
1000-2000MHz (Horn antenna)  
Test distance : 3m  
EUT position : Table top  
EUT operation mode : Receiving Mode

### **6.4 Test procedure**

The height of the measuring 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 with the Test Receiver, or the Spectrum Analyzer (in linear mode).  
The test was made with the detector (RBW/VBW) in the following table.  
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
IF Bandwidth	QP: BW 120kHz	PK: RBW:1MHz/VBW: 1MHz AV: RBW:1MHz/VBW:10Hz

### **6.5 Test result**

Summary of the test results: Pass

Date: September 5 and 6, 2005

Test engineer: Makoto Kosaka and Mitsuru Fujimura

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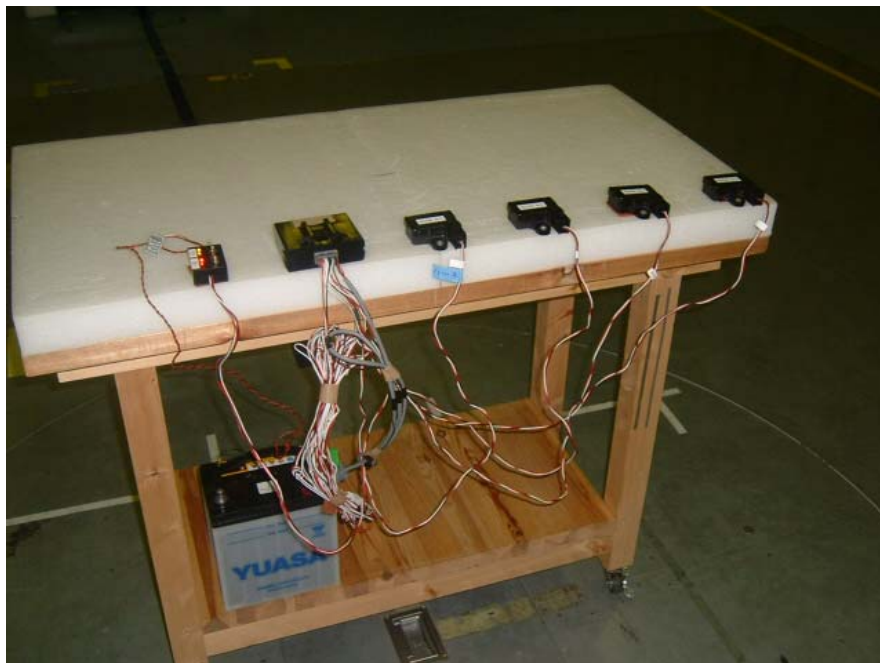
**APPENDIX 1: Photographs of test setup**

**Radiated Emission**

**Front**



**Rear**



## **APPENDIX 2: Test instruments**

### **EMI Test Instrument**

<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	2004/11/13 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	RE	2004/10/14 * 12
MLA-01	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2004/10/14 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	RE	2004/12/16 * 12
MPA-04	Pre Amplifier	Agilent	8447D	RE	2005/05/24 * 12
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/Agilent/TSJ	-	RE	2004/12/19 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	RE	2004/11/12 * 12
MCC-05	Microwave Cable 1G-50GHz	Storm	421-011 ( 90-1394-079 )	RE	2005/01/05 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2005/02/03 * 12
MPA-01	Pre Amplifier	Agilent	8449B	RE	2005/02/05 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2005/01/10 * 12

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

**Test Item:**

**RE: Radiated emission**

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**APPENDIX 3: Data of EMI test**

**Radiated Emission**  
**Max Antenna (X-axis): 30MHz-1GHz**

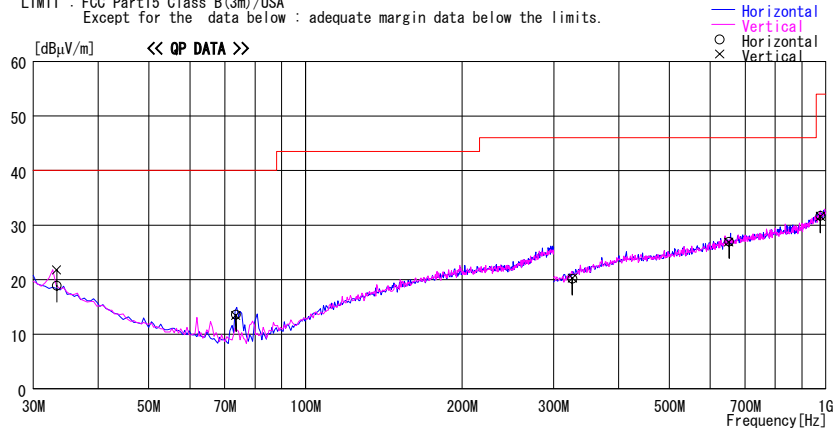
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/05 13:27:35

Applicant : OMRON Corporation  
 Kind of EUT : TPMS EGU  
 Model No. : G8D-366H-ECU-A  
 Serial No. : 1  
 Report No. : 25LE0149-HO  
 Power : DC 12.0V (Car Battery)  
 Temp./Humi. : 26deg. C. / 70%  
 Operator : Makoto Kosaka

Mode / Remarks : Tx 125kHz (Max Antenna) Rx 314.98MHz X-axis

LIMIT : FCC Part15 Class B(3m)/USA  
 Except for the data below : adequate margin data below the limits.



Frequency [MHz]	Reading [dBµV]	DET	Antenna	Loss&	Level [dBµV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBµV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
33.255	22.5	QP	17.4	-21.0	18.9	0	187	Hori.	40.0	21.1
33.255	25.4	QP	17.4	-21.0	21.8	116	100	Vert.	40.0	18.2
73.491	27.0	QP	6.8	-20.2	13.6	2	250	Hori.	40.0	26.4
73.492	26.9	QP	6.8	-20.2	13.5	159	115	Vert.	40.0	26.6
325.700	21.6	QP	15.6	-17.0	20.2	70	100	Hori.	46.0	25.8
325.700	21.7	QP	15.6	-17.0	20.3	56	100	Vert.	46.0	25.7
651.400	23.2	QP	20.4	-16.6	27.0	70	100	Hori.	46.0	19.0
651.400	23.1	QP	20.4	-16.6	26.9	56	100	Vert.	46.0	19.1
977.100	23.5	QP	23.0	-14.8	31.7	70	100	Hori.	54.0	22.3
977.100	23.4	QP	23.0	-14.8	31.6	56	100	Vert.	54.0	22.4

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 Except for the data below : adequate margin data below the limits.  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

**Radiated Emission**  
**Max Antenna (Y-axis): 30MHz-1GHz**

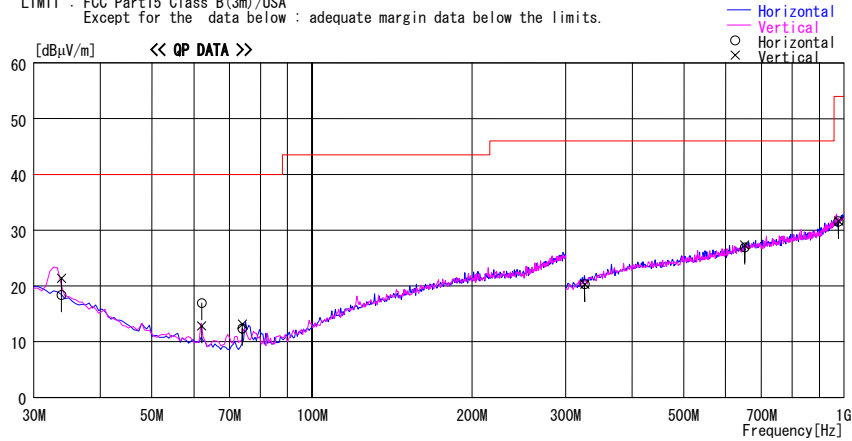
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2005/09/05 13:46:12

Applicant : OMRON Corporation Report No. : 25LE0149-HO  
Kind of EUT : TPMS ECU Power : DC 12.0V (Car Battery)  
Model No. : G8D-366H-ECU-A Temp./Humi. : 26deg. C. / 70%  
Serial No. : 1 Operator : Makoto Kosaka

Mode / Remarks : Tx 125kHz (Max Antenna) Rx 314.98MHz Y-axis

LIMIT : FCC Part15 Class B(3m)/USA  
Except for the data below : adequate margin data below the limits.



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]						
33.831	22.3	QP	17.1	-21.0	18.4	358	250	Hori.	40.0	21.6
33.831	25.3	QP	17.1	-21.0	21.4	227	100	Vert.	40.0	18.6
62.030	29.3	QP	8.1	-20.5	16.9	219	127	Hori.	40.0	23.1
62.030	25.2	QP	8.1	-20.5	12.8	318	100	Vert.	40.0	27.2
73.990	25.8	QP	6.8	-20.2	12.4	356	216	Hori.	40.0	27.6
73.991	26.5	QP	6.8	-20.2	13.1	0	100	Vert.	40.0	26.9
325.700	21.7	QP	15.6	-17.0	20.3	193	100	Hori.	46.0	25.7
325.700	21.7	QP	15.6	-17.0	20.3	278	100	Vert.	46.0	25.7
651.400	23.1	QP	20.4	-16.6	26.9	193	100	Hori.	46.0	19.1
651.400	23.5	QP	20.4	-16.6	27.3	278	100	Vert.	46.0	18.7
977.100	23.4	QP	23.0	-14.8	31.6	193	100	Hori.	54.0	22.4
977.100	23.4	QP	23.0	-14.8	31.6	278	100	Vert.	54.0	22.4

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
Except for the data below : adequate margin data below the limits.  
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

**Radiated Emission**  
**Max Antenna (Z-axis): 30MHz-1GHz**

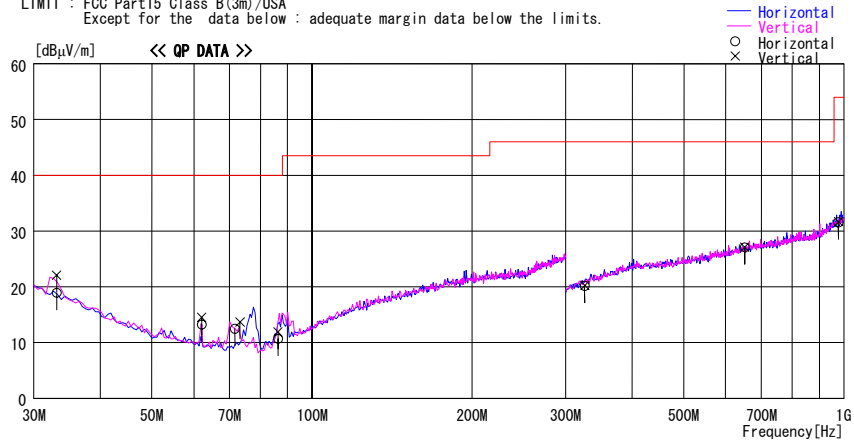
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2005/09/05 14:18:53

Applicant : OMRON Corporation Report No. : 25LE0149-HO  
Kind of EUT : TPMS ECU Power : DC 12.0V(Car Battery)  
Model No. : G8D-366H-ECU-A Temp./Humi. : 26deg.C. / 70%  
Serial No. : 1 Operator : Makoto Kosaka

Mode / Remarks : Tx 125kHz(Max Antenna) Rx 314.98MHz Z-axis

LIMIT : FCC Part15 Class B(3m)/USA  
Except for the data below : adequate margin data below the limits.



Frequency [MHz]	Reading [dBµV]	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin
			Factor [dB/m]	Gain [dB]						
33.111	22.4	QP	17.5	-21.0	18.9	0	170	Hori.	40.0	21.1
33.111	25.6	QP	17.5	-21.0	22.1	83	100	Vert.	40.0	17.9
62.039	25.6	QP	8.1	-20.5	13.2	188	170	Hori.	40.0	26.8
62.039	26.9	QP	8.1	-20.5	14.5	360	100	Vert.	40.0	25.5
71.626	26.1	QP	6.8	-20.4	12.5	179	250	Hori.	40.0	27.5
73.227	27.1	QP	6.8	-20.2	13.7	204	100	Vert.	40.0	26.3
86.317	22.9	QP	7.7	-19.9	10.7	3	250	Hori.	40.0	29.3
86.317	24.1	QP	7.7	-19.9	11.9	225	100	Vert.	40.0	28.1
325.700	21.6	QP	15.6	-17.0	20.2	73	100	Hori.	46.0	25.8
325.700	21.6	QP	15.6	-17.0	20.2	16	100	Vert.	46.0	25.8
651.400	23.3	QP	20.4	-16.6	27.1	73	100	Hori.	46.0	18.9
651.400	23.3	QP	20.4	-16.6	27.1	16	100	Vert.	46.0	18.9
977.100	23.4	QP	23.0	-14.8	31.6	73	100	Hori.	54.0	22.4
977.100	23.5	QP	23.0	-14.8	31.7	16	100	Vert.	54.0	22.3

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN  
Except for the data below : adequate margin data below the limits.  
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

**Radiated emission**  
**Min Antenna (X-axis): 30MHz-1GHz**

**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/05 17:56:29

Applicant	: OMRON Corporation	Report No.	: 25LE0149-HO
Kind of EUT	: TPMS ECU	Power	: DC 12.0V (Car Battery)
Model No.	: G8D-366H-ECU-A	Temp./Humi.	: 26deg. C. / 70%
Serial No.	: 1	Operator	: Makoto Kosaka

Mode / Remarks : Tx 125kHz (Min Antenna) Rx 314.98MHz X-axis

LIMIT : FCC Part15 Class B(3m)/USA  
 Except for the data below : adequate margin data below the limits.

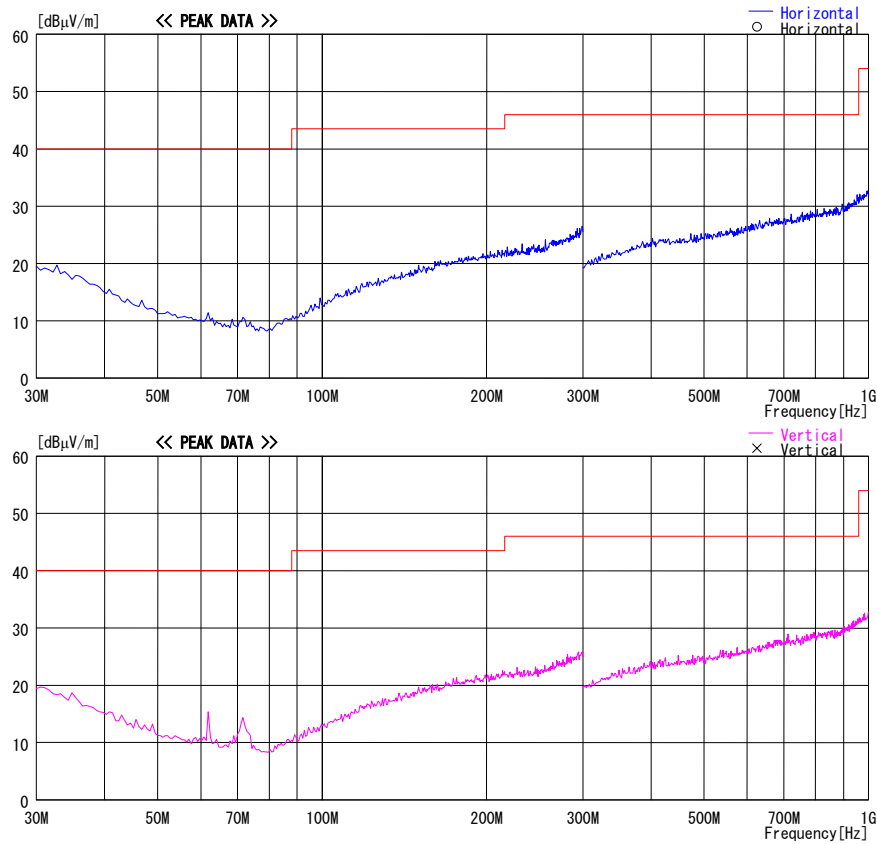


CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 Except for the data below : adequate margin data below the limits.  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

**Radiated emission**  
**Min Antenna (Y-axis): 30MHz-1GHz**

**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/05 17:56:29

Applicant	: OMRON Corporation	Report No.	: 25LE0149-HO
Kind of EUT	: TPMS ECU	Power	: DC 12.0V (Car Battery)
Model No.	: G8D-366H-ECU-A	Temp./Humi.	: 26deg. C. / 70%
Serial No.	: 1	Operator	: Makoto Kosaka

Mode / Remarks : Tx 125kHz (Min Antenna) Rx 314.98MHz Y-axis

LIMIT : FCC Part15 Class B(3m)/USA  
 Except for the data below : adequate margin data below the limits.

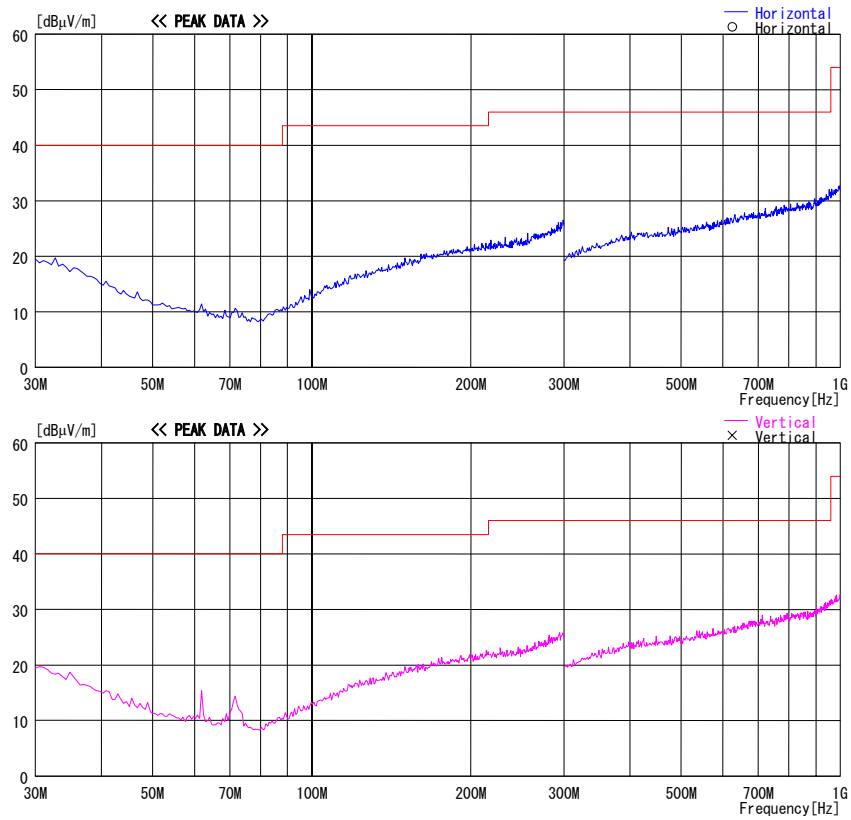


CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 Except for the data below : adequate margin data below the limits.  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

**Radiated emission**  
**Min Antenna (Z-axis): 30MHz-1GHz**

**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/05 18:34:34

Applicant	: OMRON Corporation	Report No.	: 25LE0149-HO
Kind of EUT	: TPMS ECU	Power	: DC 12.0V(Car Battery)
Model No.	: G8D-366H-ECU-A	Temp./Humi.	: 26deg.C / 70%
Serial No.	: 1	Operator	: Makoto Kosaka

Mode / Remarks : Tx 125kHz(Min Antenna) Rx 314.98MHz Z-axis

LIMIT : FCC Part15 Class B(3m)/USA  
 Except for the data below : adequate margin data below the limits.

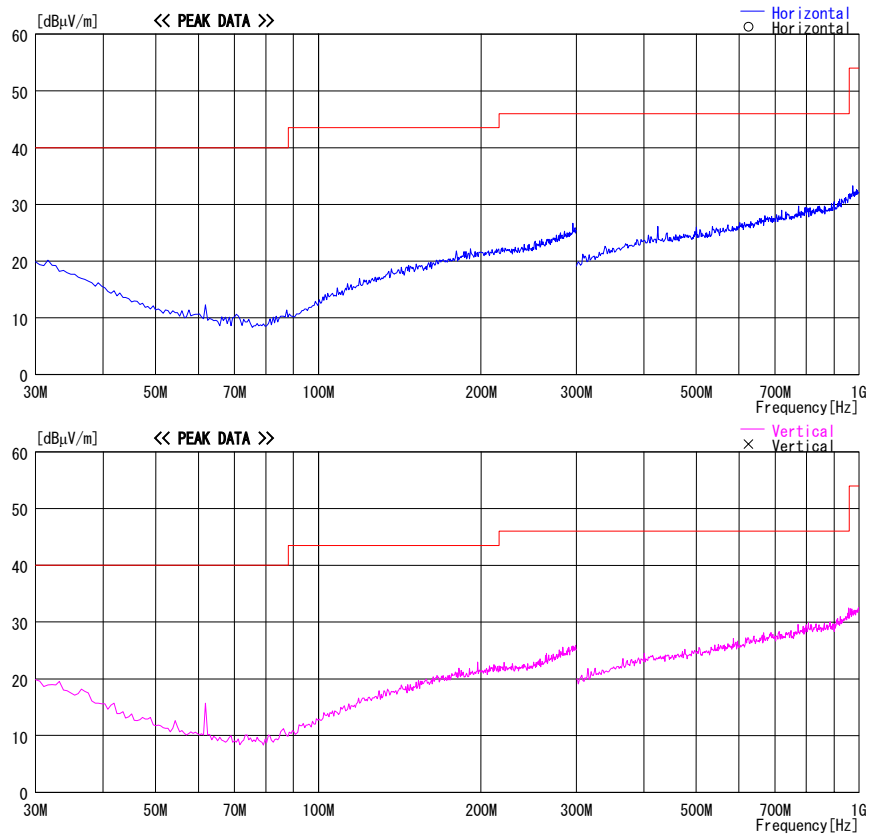


CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 Except for the data below : adequate margin data below the limits.  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)



**Radiated Emission**  
**Max Antenna (X-axis): 1-2GHz**

**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/06 03:30:52

Applicant	: OMRON Corporation	Report No.	: 25LE0149-HO
Kind of EUT	: TPMS ECU	Power	: DC 12.0V (Car Battery)
Model No.	: G8D-366H-ECU-A	Temp./Humi.	: 23deg.C. / 65%
Serial No.	: 1	Operator	: Mitsuru Fujimura

Mode / Remarks : Tx 125kHz (Max Antenna) Rx 314.98MHz X-axis

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

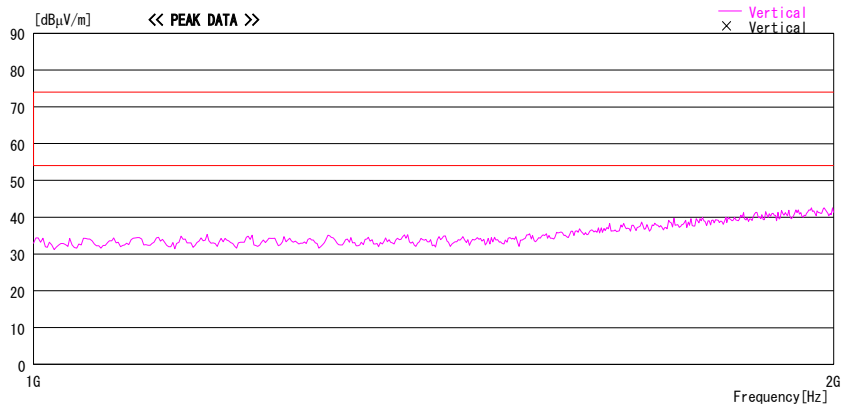
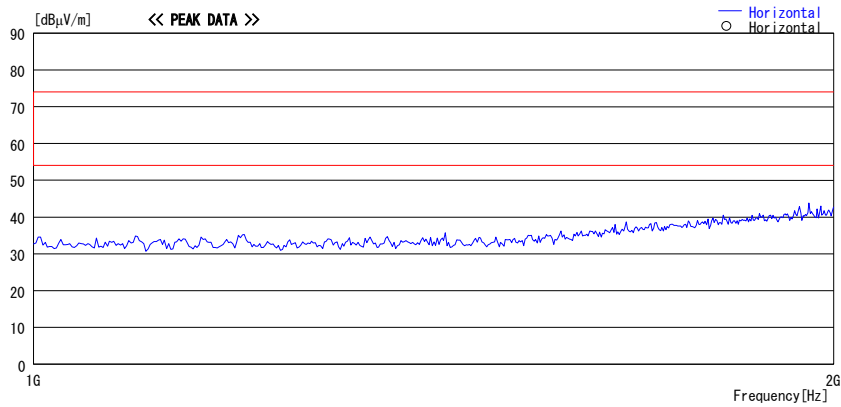


CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 Except for the data below : adequate margin data below the limits.  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

**Radiated Emission**  
**Max Antenna (Y-axis): 1-2GHz**

**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/06 03:28:11

Applicant	: OMRON Corporation	Report No.	: 25LE0149-HO
Kind of EUT	: TPMS ECU	Power	: DC 12.0V (Car Battery)
Model No.	: G8D-366H-ECU-A	Temp./Humi.	: 23deg. C. / 65%
Serial No.	: 1	Operator	: Mitsuru Fujimura

Mode / Remarks : Tx 125kHz (Max Antenna) Rx 314.98MHz Y-axis

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

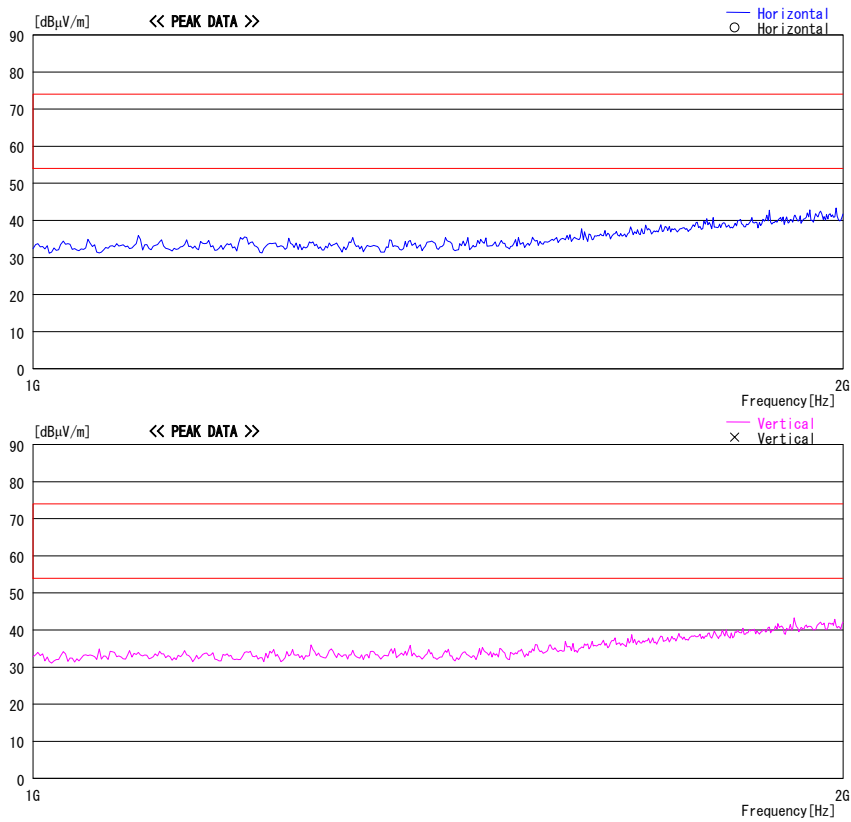


CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 Except for the data below : adequate margin data below the limits.  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

**Radiated Emission**  
**Max Antenna (Z-axis): 1-2GHz**

**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/06 03:25:15

Applicant	: OMRON Corporation	Report No.	: 25LE0149-HO
Kind of EUT	: TPMS ECU	Power	: DC 12.0V (Car Battery)
Model No.	: G8D-366H-ECU-A	Temp./Humi.	: 23deg.C. / 65%
Serial No.	: 1	Operator	: Mitsuru Fujimura

Mode / Remarks : Tx 125kHz (Max Antenna) Rx 314.98MHz Z-axis

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

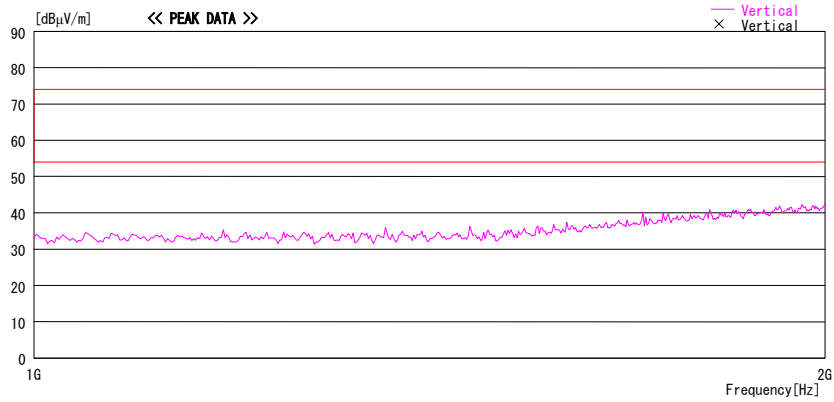
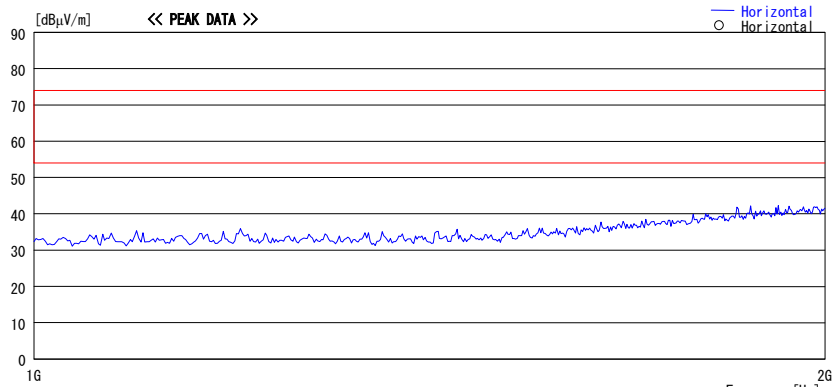


CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 Except for the data below : adequate margin data below the limits.  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

**Radiated Emission**  
**Min Antenna (X-axis): 1-2GHz**

**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/06 03:09:57

Applicant	: OMRON Corporation	Report No.	: 25LE0149-HO
Kind of EUT	: TPMS ECU	Power	: DC 12.0V (Car Battery)
Model No.	: G8D-366H-ECU-A	Temp./Humi.	: 23deg. C. / 65%
Serial No.	: 1	Operator	: Mitsuru Fujimura

Mode / Remarks : Tx 125kHz (Min Antenna) Rx 314.98MHz X-axis

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

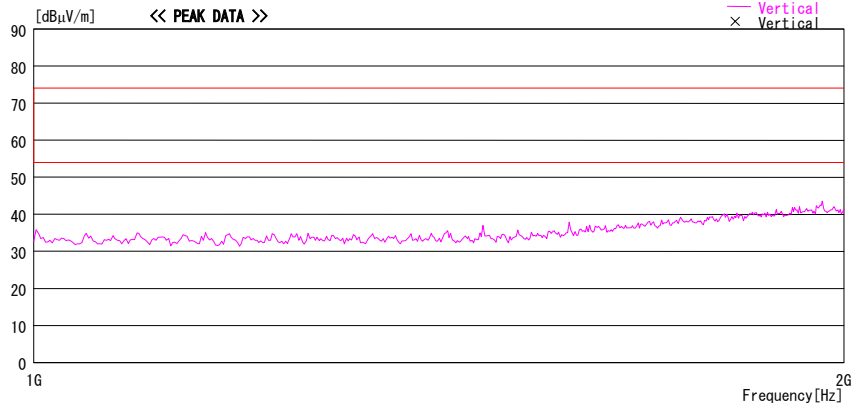
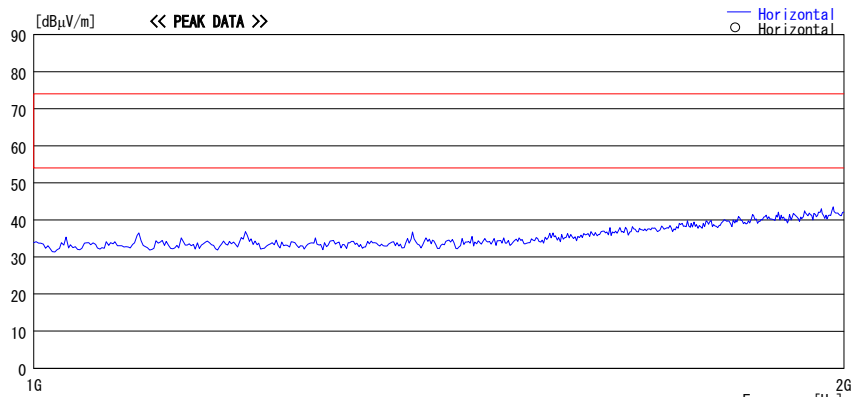


CHART: WITH FACTOR ANT TYPE: -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 Except for the data below : adequate margin data below the limits.  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

**Radiated Emission**  
**Min Antenna (Y-axis): 1-2GHz**

**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/06 03:16:05

Applicant	: OMRON Corporation	Report No.	: 25LE0149-H0
Kind of EUT	: TPMS ECU	Power	: DC 12.0V (Car Battery)
Model No.	: G8D-366H-ECU-A	Temp./Humi.	: 23deg. C. / 65%
Serial No.	: 1	Operator	: Mitsuru Fujimura

Mode / Remarks : Tx 125kHz (Min Antenna) Rx 314.98MHz Y-axis

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

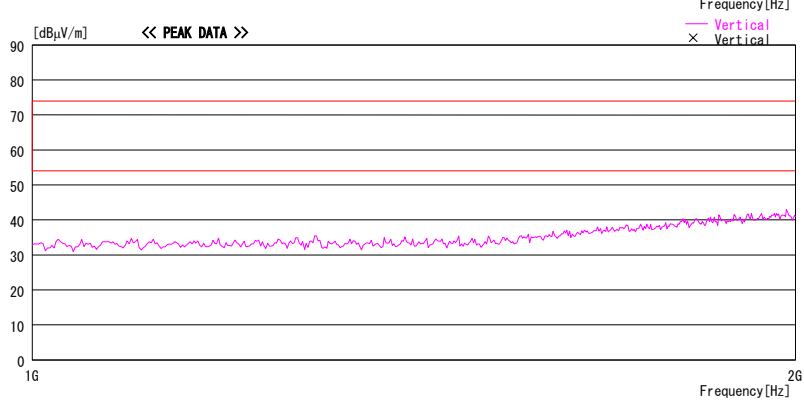
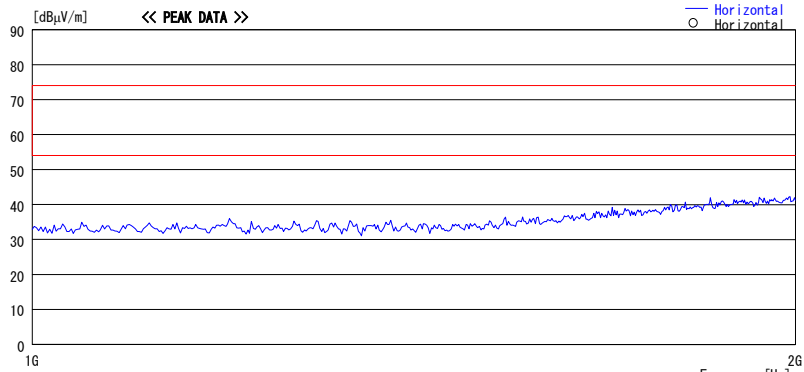


CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 Except for the data below : adequate margin data below the limits.  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

**Radiated Emission**  
**Min Antenna (Z-axis): 1-2GHz**

**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2005/09/06 03:22:32

Applicant	: OMRON Corporation	Report No.	: 25LE0149-HO
Kind of EUT	: TPMS ECU	Power	: DC 12.0V (Car Battery)
Model No.	: G8D-366H-ECU-A	Temp./Humi.	: 23deg.C. / 65%
Serial No.	: 1	Operator	: Mitsuru Fujimura

Mode / Remarks : Tx 125kHz (Min Antenna) Rx 314.98MHz Z-axis

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

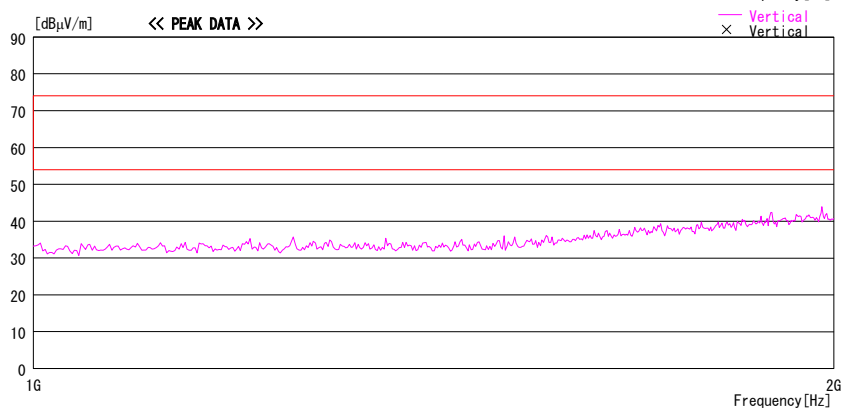
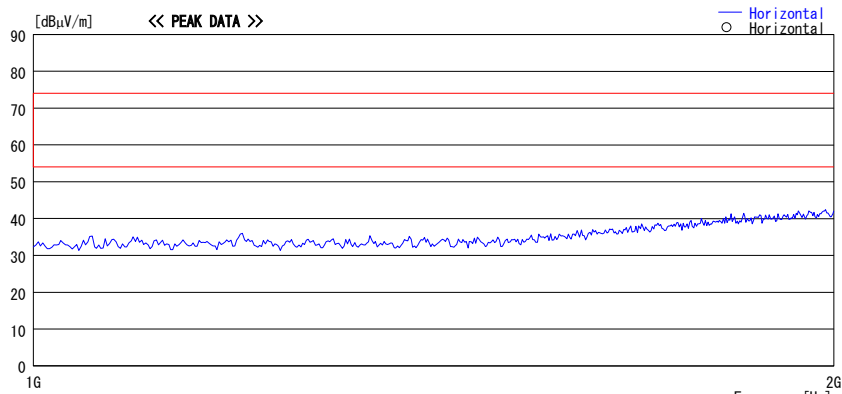


CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 Except for the data below : adequate margin data below the limits.  
 CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)