EMI TEST REPORT

Test Report No. : 25LE0149-HO-1b

Applicant	:	**OMRON Corporation**
Type of Equipment	:	**Tire Pressure Monitoring System (TPMS)** **- ECU** **- LF Initiator (LFI)**
Model No.	:	**TPMS ECU: G8D-366H-ECU** **TPMS LFI: G8D-366H-ANT**
Test standard	:	**FCC Part 15 Subpart C : 2005** **Section 15.209** **FCC Part 15 Subpart B Class B 2005** **Section 15.109**
FCC ID	:	**OUCG8D-366H**
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 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.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

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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
- LF Initiator (LFI)

Model No. :TPMS ECU: G8D-366H-ECU
TPMS LFI: G8D-366H-ANT

Serial No. : TPMS ECU: G8D-366H-ECU: 1
TPMS LFI: G8D-366H-ANT: 1, 2, 3, 4

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.)

2.2 Product Description

The EUT is ECU and LF Initiator of Tire Pressure Monitoring System (TPMS). *Tire sensor is not included.
TPMS ECU receives the information from transmitters installed into each tire (tire sensor), 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. TPMS ECU also has LF Initiator driver inside.

TPMS LF initiator (LFI) is set up near each wheel, driven by TPMS unit(ECU), and starts up or stops the tire sensor depending on the car situation (driving/stopping). When driving the initiator, transmitter ID data transmitted from the tire sensor and wheel position of LF initiator are automatically recorded, and the tire sensor and wheel position are matched.

[Specification]

Equipment type : Transceiver
Operation voltage : DC12V (ECU)
DC6.5V (LF initiator)
Temperature of operation : -40 deg. C. - +85 deg. C.

LF Transmitter part

Frequency bands : 124.9875-125.0125kHz
Operating frequency : 125kHz
Type of Modulation : ASK
Bandwidth : 12kHz

UHF Receiver part

Receiving frequency : 314.98MHz
Intermediate frequency : 10.7MHz
Local clock frequency : 325.7MHz
Other Clock Frequency : 16MHz (CPU clock)

FCC 15.31 (e)
This test was performed with the new battery (DC 12V) and the constant voltage was supplied to this EUT during the tests. Therefore, this EUT complies with the requirement.

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

FCC Part 15.203 Antenna requirement
It is impossible for end users to access the antennas, because they are mounted inside of the vehicle as the final product. Therefore, the equipment complies with the antenna requirement of Section 15.203.

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

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> 31.9dB 125.01kHz 0 deg. <AV> 32.9dB 125.01kHz 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	17.9dB QP 33.111MHz Vertical (Z-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.

[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	17.9dB 33.111MHz, QP, Vert.	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 Confirmation

UL Apex Co., Ltd. hereby confirms that E.U.T., in the configuration tested, complies with the specifications FCC Part 15 Subpart C: 2005 Section 15.209 and FCC Part15 Subpart B 2005 Section 15.109(a).

3.5 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(3m) / 4.7dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ±5.2dB(3m) / 3.8dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Horn Antenna is ±6.6dB.
The data listed in this test report has enough margin, more than the site margin.

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

	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.

3.7 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

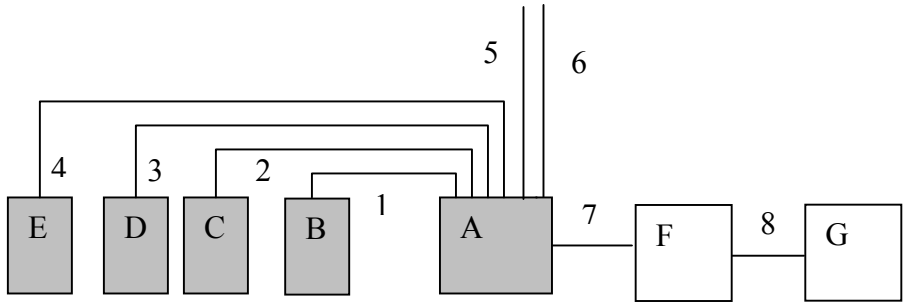
The EUT was operated in a manner similar to typical use during the tests.

The mode used for test: 125kHz Continuous transmitting

[Remarks]
Pre-test was performed for comparison of the noise level of antenna cables of two different lengths. Test was performed with the antenna cable that had the higher noise level in pre-test.

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

4.2 Configuration and peripherals



* Cabling and setup were 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	1	OMRON	EUT	OUCG8D-366H
B	TPMS LFI	G8D-366H-ANT	1	OMRON	EUT	-
C	TPMS LFI	G8D-366H-ANT	2	OMRON	EUT	-
D	TPMS LFI	G8D-366H-ANT	3	OMRON	EUT	-
E	TPMS LFI	G8D-366H-ANT	4	OMRON	EUT	-
F	SW Box	-	-	OMRON	-	-
G	Car Battery	50B24L	-	YUASA	-	-

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

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

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 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
IF Bandwidth	200Hz	200Hz	9kHz	9kHz	120kHz	1MHz*

*Spectrum Analyzer: RBW&VBW=1MHz

- 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 were measured.
* 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

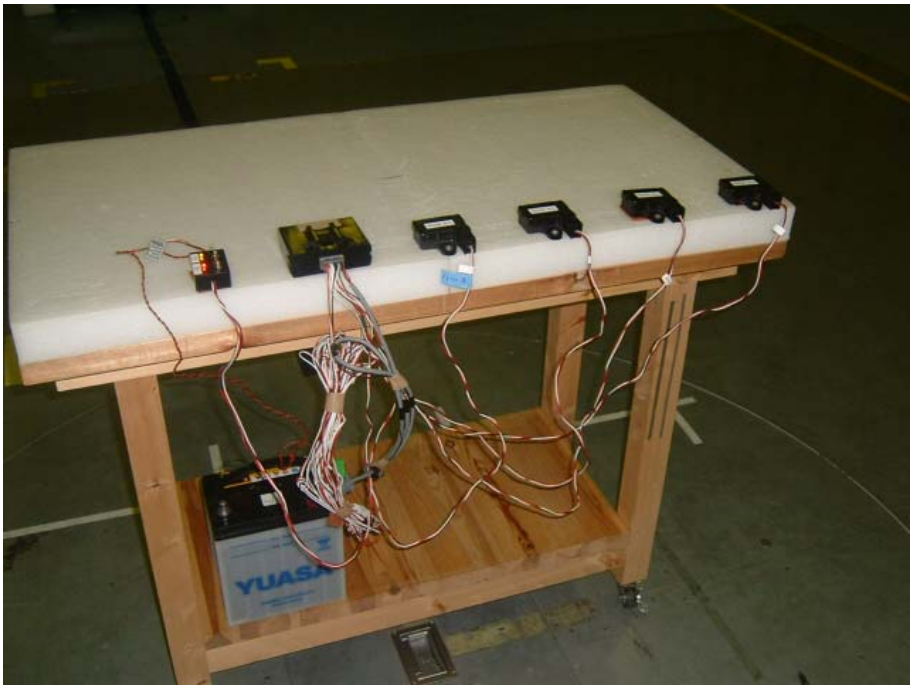
Date: September 5 and 6, 2005 Tested by: Makoto Kosaka and Mitsuru Fujimura

APPENDIX 1: Photographs of test setup

Radiated emission

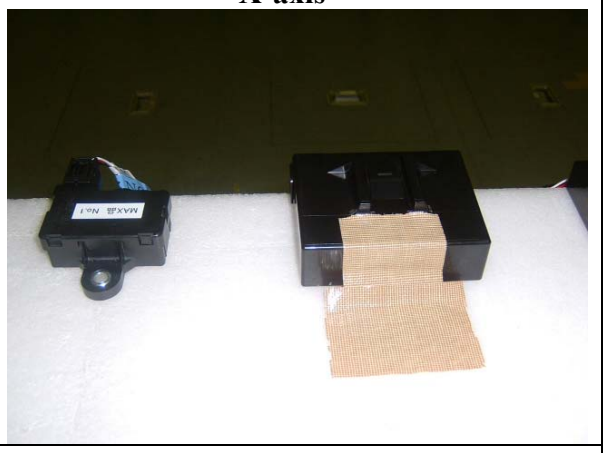
Front

Rear

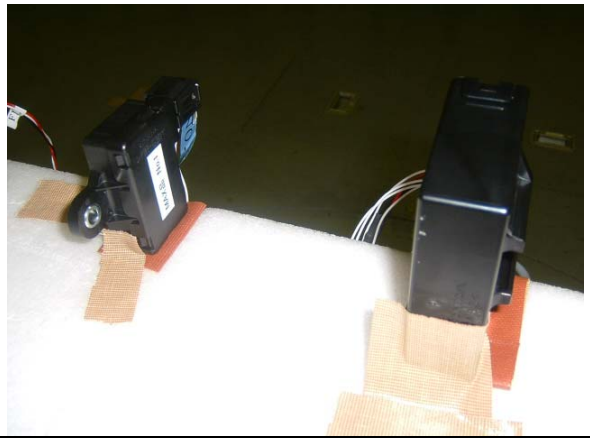


Wore-case positions: X-axis

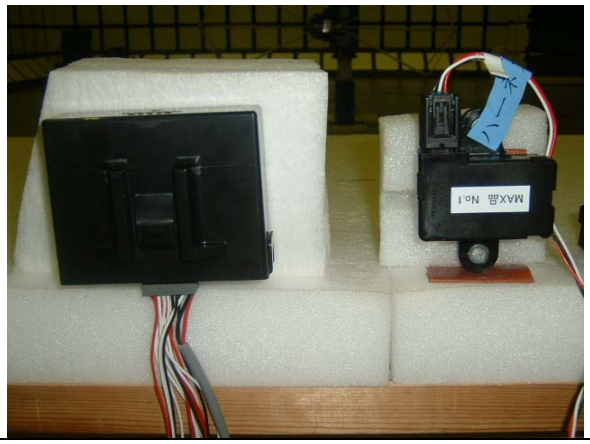
X-axis



Y-axis



Z-axis



APPENDIX 2: Test Instruments

EMI Test Instrument

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
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
MLPA-02	Loop Antenna	Rohde & Schwarz	HFH2-Z2	RE	2004/12/10 * 12
MCC-03	Coaxial Cable	Fujikura/Suhner/Agilent/TSJ	-	RE	2004/12/24 * 12
MCC-31	coaxial cable	ULApex	-	RE	2005/06/02 * 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

APPENDIX 3: Data of EMI test

Radiated emission

Data of carrier and spurious emissions(9kHz to 30MHz)

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

Company	: OMRON Corporation	Report No.	: 25LE0149-HO
Equipment	: TPMS LFI/ TPMS ECU	Regulation	: FCC Part15C Section 15.209
Model	: G8D-366H-ANT / G8D-366H-ECU	Test Distance	: 10m
Sample No.	: 1	Date	: 2005/9/5
Power	: DC 12.0V (Car battery)	Temperature	: 23deg.C
Mode	: Transmitting (125kHz)	Humidity	: 64%
EUT Position	: X-axis （MAX）	Engineer	: Mitsuru Fujimura
Antenna Type	: LF Antenna		

Frequency Rage : 9-90kHz & 110-490kHz / AV & PK DETECT(Test Receiver: BW 200Hz or 9kHz)
Other Frequency Rage : 490kHz-30MHz QP DETECT(Test Receiver: BW 9kHz)

No.	FREQ [kHz]	Loop Max Angle [deg]	T/R detector type	T/R READIN([dBuV]	ANT Factor [dB/m]	ATTEN [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]
1	125.01	0	QP	72.1	19.7	-	0.3	26.2	65.9	-	-
1	125.01	45	QP	72.1	19.7	-	0.3	26.2	65.9	-	-
1	125.01	90	QP	71.4	19.7	-	0.3	26.2	65.2	-	-
1	125.01	0	PK	78.9	19.7	-	0.3	26.2	72.7	104.7	31.9
1	125.01	0	AV	58.0	19.7	-	0.3	26.2	51.8	84.7	32.9
2	249.99	0	PK	45.7	19.7	-	0.6	27.3	38.7	98.6	59.9
2	249.99	0	AV	33.0	19.7	-	0.6	27.3	26.0	78.6	52.7
3	375.00	0	PK	42.1	19.7	-	0.5	27.7	34.6	95.1	60.5
3	375.00	0	AV	30.4	19.7	-	0.5	27.7	22.9	75.1	52.2
4	500.00	0	QP	35.1	19.6	-	0.7	27.8	27.6	52.6	25.0
5	625.00	0	QP	34.6	19.6	-	0.7	27.9	27.0	50.7	23.7
6	750.00	0	QP	34.1	19.6	-	0.7	27.9	26.5	49.1	22.6
7	875.00	0	QP	33.8	19.6	-	0.8	27.9	26.3	47.8	21.5
8	1000.00	0	QP	33.6	19.6	-	0.6	27.9	25.9	46.6	20.7
9	1125.00	0	QP	33.5	19.6	-	0.6	27.9	25.8	45.6	19.8
10	1250.00	0	QP	33.5	19.7	-	0.6	27.9	25.9	44.7	18.7

REMARKS
ANTENNA TYPE : 9kHz-30MHz (Loop Antenna)
CALCULATION: READING + ANT Factor + Cable Loss - AMP Gain
* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
All other spurious emissions are more than 20dB below the limits.
Used Equipment: MLPA-02, MPA-04, MCC-(03+31),MTR-01

Radiated emission
X-axis: 30MHz-1GHz

DATA OF RADIATED EMISSION TEST

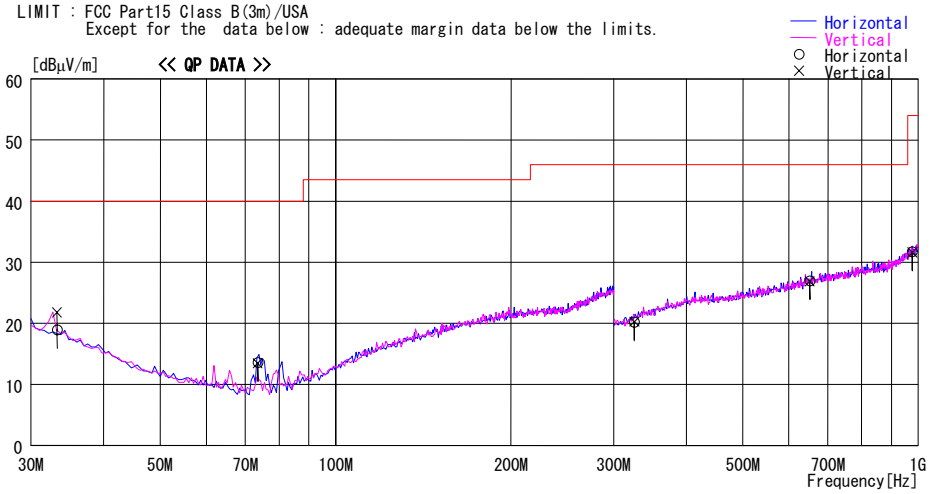
UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/09/05 13:27:35

Applicant : OMRON Corporation
Kind of EUT : TPMS LFI/TPMS ECU
Model No. : G8D-366H-ANT/G8D-366H-ECU
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, Rx 314.98MHz X-axis

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



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[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
Y-axis: 30MHz-1GHz

DATA OF RADIATED EMISSION TEST

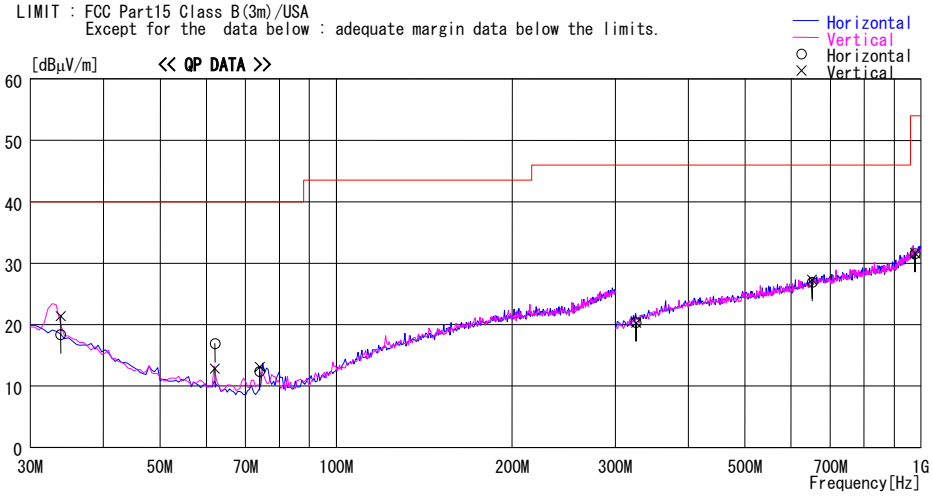
UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/09/05 13:46:12

Applicant : OMRON Corporation
Kind of EUT : TPMS LFI/TPMS ECU
Model No. : G8D-366H-ANT/G8D-366H-ECU
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, Rx 314.98MHz Y-axis

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



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[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
Z-axis: 30MHz-1GHz

DATA OF RADIATED EMISSION TEST

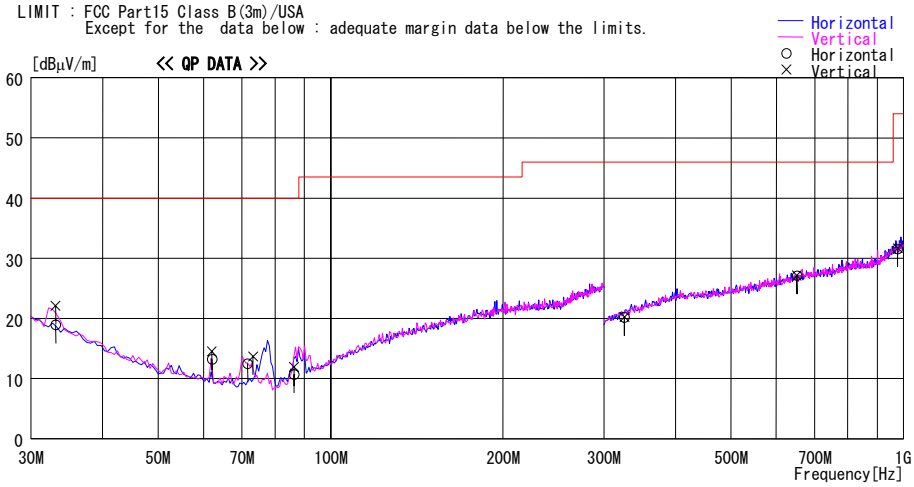
UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/09/05 14:18:53

Applicant : OMRON Corporation
Kind of EUT : TPMS LFI/TPMS ECU
Model No. : G8D-366H-ANT/G8D-366H-ECU
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, Rx 314.98MHz Z-axis

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



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[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
X-axis: 1-2GHz

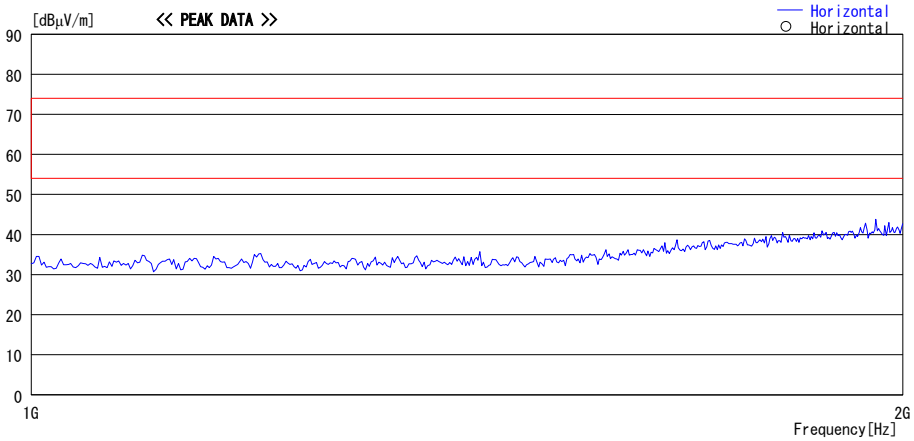
DATA OF RADIATED EMISSION TEST

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 LFI/TPMS ECU	Power	: DC 12.0V(Car Battery)
Model No.	: G8D-366H-ANT/G8D-366H-ECU	Temp./Humi.	: 23deg.C. / 65%
Serial No.	: 1	Operator	: Mitsuru Fujimura

Mode / Remarks : Tx 125kHz, Rx 314.98MHz X-axis

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



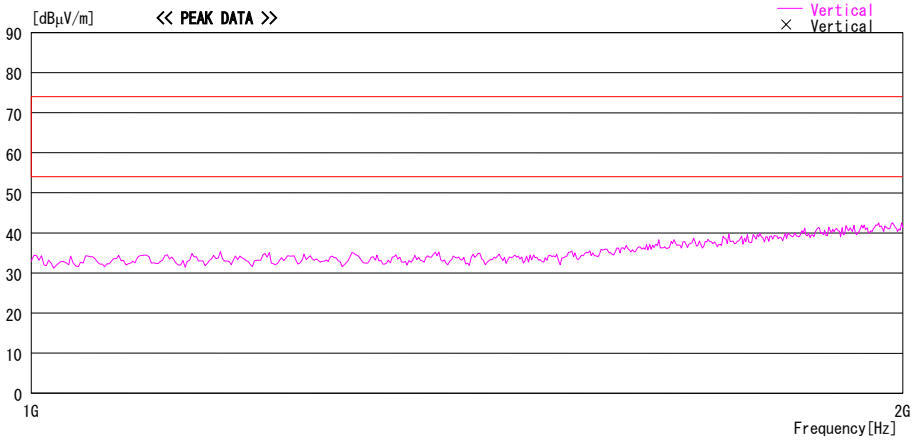


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
Except for the data below : adequate margin data below the limits.
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

Radiated Emission
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
Kind of EUT : TPMS LFI/TPMS ECU
Model No. : G8D-366H-ANT/G8D-366H-ECU
Serial No. : 1

Report No. : 25LE0149-HO
Power : DC 12.0V(Car Battery)
Temp./Humi. : 23deg.C. / 65%
Operator : Mitsuru Fujimura

Mode / Remarks : Tx 125kHz, Rx 314.98MHz Y-axis

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

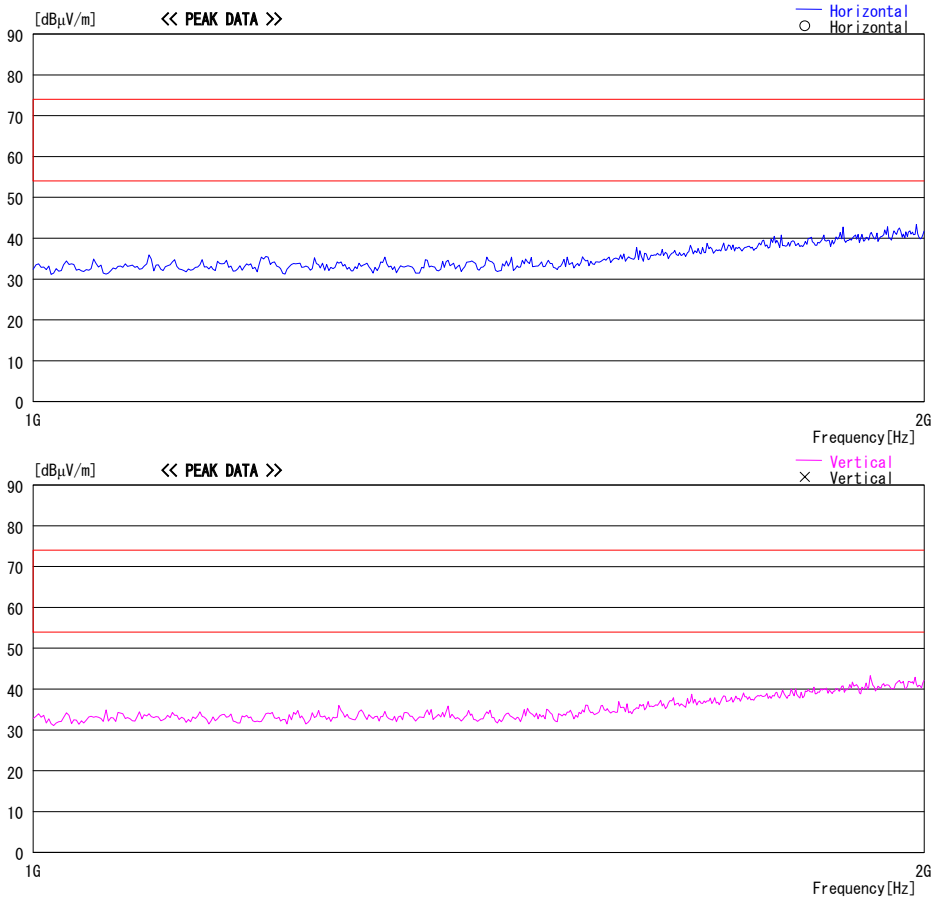


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
Except for the data below : adequate margin data below the limits.
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

Radiated Emission
Z-axis: 1-2GHz

DATA OF RADIATED EMISSION TEST

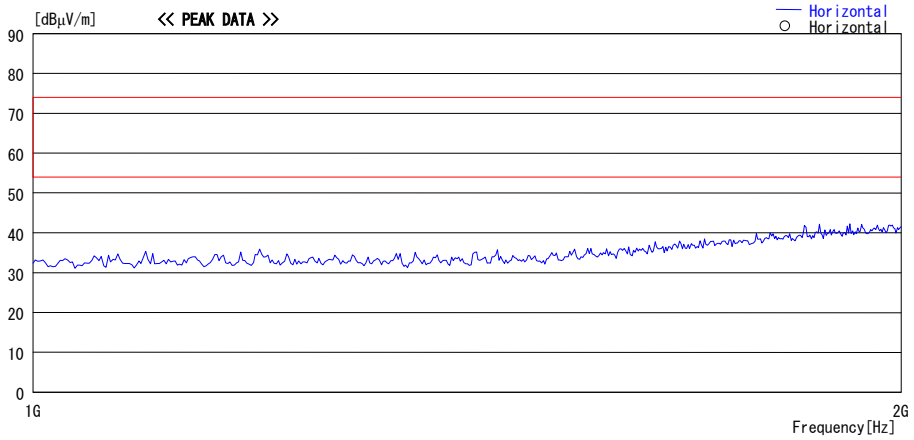
UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/09/06 03:25:15

Applicant : OMRON Corporation
Kind of EUT : TPMS LFI/TPMS ECU
Model No. : G8D-366H-ANT/G8D-366H-ECU
Serial No. : 1

Report No. : 25LE0149-HO
Power : DC 12.0V(Car Battery)
Temp./Humi. : 23deg.C. / 65%
Operator : Mitsuru Fujimura

Mode / Remarks : Tx 125kHz, Rx 314.98MHz Z-axis

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



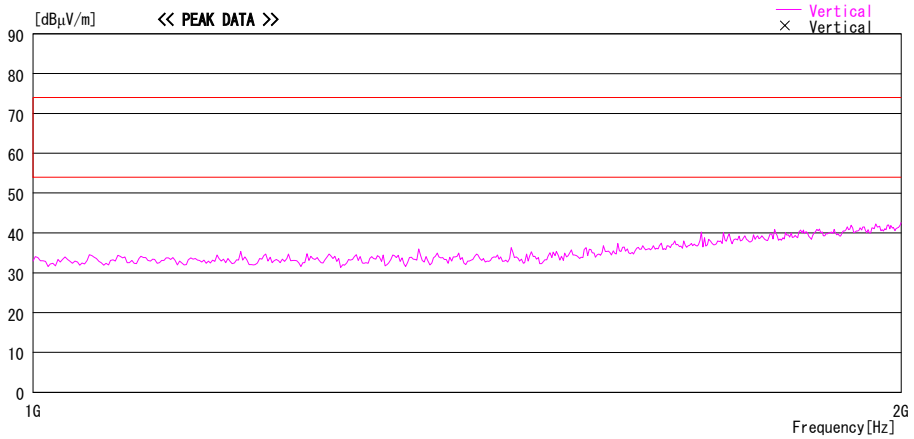


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
Except for the data below : adequate margin data below the limits.
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

-26dB bandwidth & 99% Occupied Bandwidth

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

Company	: OMRON Corporation	Report No.	: 25LE0149-HO
Equipment	: TPMS LFI / TPMS ECU	Regulation	: Reference data
Model	: G8D-366H-ANT/ G8D-366H-ECU	Test Distance	: -
Sample No.	: 1	Date	: 2005/9/5
Power	: DC 12.0V (Car battery)	Temperature	: 23deg.C
Mode	: Transmitting (125kHz)	Humidity	: 64%
EUT Position	: X-axis （MAX）	Engineer	: Mitsuru Fujimura
Antenna Type	: LF Antenna