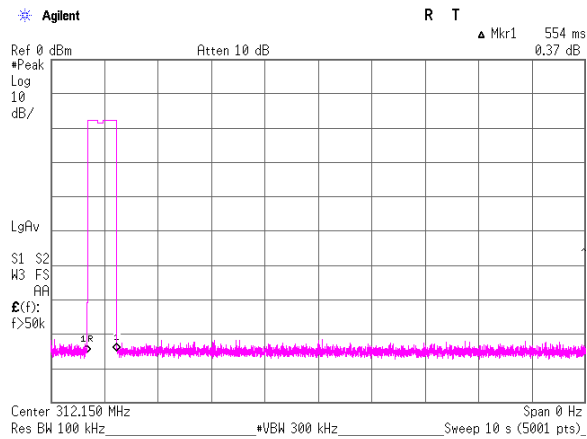


APPENDIX 2: Data of EMI test

Automatically deactivate

Company	: DENSO CORPORATION	UL Japan, Inc.
Equipment	: Remote Seat Control System (Transmitter)	Head Office EMC Lab. No.4 shielded room
Model No.	: 12BDF	Report No. : 29EE0180-HO-01
Serial No.	: 001	Regulation : FCC15.231(a)(1)
Power	: DC 3.0V	Test Distance : -
Mode	: Tx 312.15MHz	Date : 12/19/2008
		Temperature : 21 deg. C.
		Humidity : 36 %
		Engineer : Tomohisa Nakagawa

Time of Transmitting [sec]	Limit [sec]	Result
0.55	5.00	Pass



Radiated Emission (Electric Field Strength of Fundamental and Spurious Emission)

Company : DENSO CORPORATION Equipment : Remote Seat Control System (Transmitter) Model No. : 12BDF Serial No. : 001 Power : DC 3.0V Mode : Tx 312.15MHz EUT-Position : H: X-axis / V: Y-axis Tx Antenna : 0.8 m Height	UL Japan, Inc. Head Office EMC Lab. No. No.3 semi-anechoic chamber Report No. : 29EE0180-HO-01 Regulation : FCC Part15 Subpart C 15.231(b) / 15.205 / 15.209 Test Distance : 3.0m Date : 12/21/2008 Temperature : 19 deg. C. Humidity : 48 % Engineer : Tomohisa Nakagawa
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Peak with Duty factor

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	LOSS [dB]	Duty Factor [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]			[dB]	[dB]
1	312.15	76.7	72.6	14.9	32.0	10.1	-5.9	63.8	59.7	75.4	11.6	15.7
2	624.30	36.8	34.3	19.4	32.0	12.0	-5.9	30.3	27.8	55.4	25.1	27.6
3	936.45	27.7	25.7	22.0	30.8	13.5	-5.9	32.4	30.4	55.4	23.0	25.0

PK DETECT (RBW: 1MHz, VBW: 1MHz)

(Inside Restricted bands)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	LOSS [dB]	Duty Factor [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]			[dB]	[dB]
5	1560.75	44.8	44.9	25.7	33.9	2.2	-	38.8	38.9	73.9	35.1	35.0
8	2497.20	51.9	45.5	26.9	32.8	2.7	-	48.7	42.3	73.9	25.2	31.6
9	2809.35	47.5	43.1	27.6	32.7	2.9	-	45.3	40.9	73.9	28.6	33.0

Peak with Duty factor

Result = Reading (RBW: 1MHz, VBW: 1MHz) + Duty Factor

(Inside Restricted bands)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	LOSS [dB]	Duty Factor [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]			[dB]	[dB]
5	1560.75	44.8	44.9	25.7	33.9	2.2	-5.9	32.9	33.0	53.9	21.0	20.9
8	2497.20	51.9	45.5	26.9	32.8	2.7	-5.9	42.8	36.4	53.9	11.1	17.5
9	2809.35	47.5	43.1	27.6	32.7	2.9	-5.9	33.5	29.1	53.9	20.4	24.8

PK DETECT

Result = Reading (RBW: 1MHz, VBW: 1MHz)

(Outside Restricted bands)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	LOSS [dB]	Duty Factor [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]			[dB]	[dB]
4	1248.60	45.0	46.1	25.0	34.7	2.0	-	37.3	38.4	75.4	38.1	37.0
6	1872.90	52.4	47.0	25.8	33.2	2.4	-	47.4	42.0	75.4	28.0	33.4
7	2185.05	48.3	44.0	26.3	32.9	2.6	-	44.3	40.0	75.4	31.1	35.4
10	3121.50	53.7	49.0	28.2	32.4	3.0	-	52.5	47.8	75.4	22.9	27.6

Peak with Duty factor

Result = Reading (RBW: 1MHz, VBW: 1MHz) + Duty Factor

(Outside Restricted bands)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	LOSS [dB]	Duty Factor [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]			[dB]	[dB]
4	1248.60	45.0	46.1	25.0	34.7	2.0	-5.9	31.4	32.5	55.4	24.0	22.9
6	1872.90	52.4	47.0	25.8	33.2	2.4	-5.9	41.5	36.1	55.4	13.9	19.3
7	2185.05	48.3	44.0	26.3	32.9	2.6	-5.9	38.4	34.1	55.4	17.0	21.3
10	3121.50	53.7	49.0	28.2	32.4	3.0	-5.9	40.7	36.0	55.4	14.7	19.4

REMARKS ANTENNA TYPE:30-300MHz Biconical / 300-1000MHz Logperiodic / 1-4.5GHz Horn

CALCULATION RESULT=Reading + ANT Factor - Amp Gain + LOSS (Cable+ ATTEN.)+Duty factor

Duty cycle Factor Measurement :

-5.88 dB

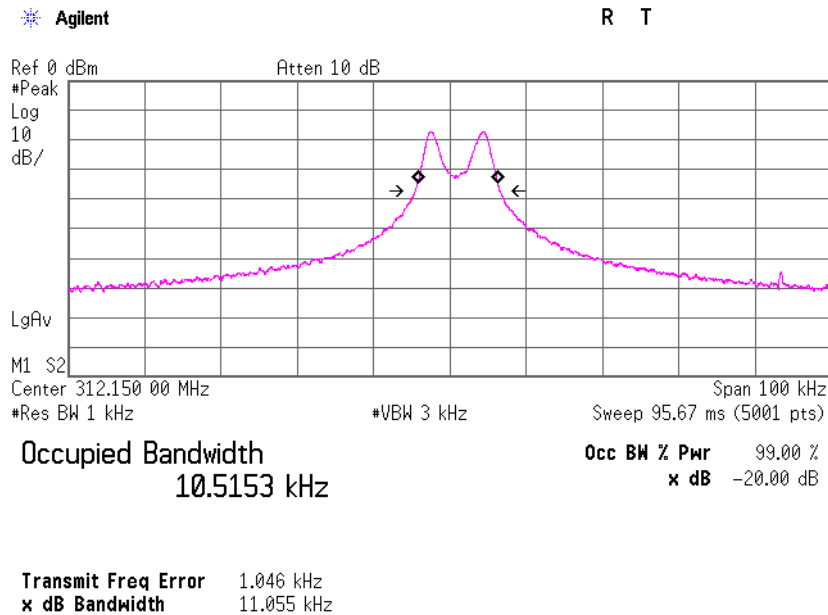
- * The test above 1GHz was performed with PK DETECT. Average emission measurements were calculated with PK DETECT and Duty cycle factor.
- * Duty Factor was calculated with the assumption of the worst condition in 100msec.
- * All the measured noise was pulse emission.
- * The result is rounded off to the second decimal place, so some differences might be observed.
- * The limit was converted from V to dBuV, and it is rounded off to the second decimal place.
- * Except for the above table: All other spurious emissions were less than 20dB for the limit.

-20dB Bandwidth

Company	: DENSO CORPORATION	UL Japan, Inc.
Equipment	: Remote Seat Control System (Transmitter)	Head Office EMC Lab. No.4 shielded room
Model No.	: 12BDF	Report No. : 29EE0180-HO-01
Serial No.	: 001	Regulation : FCC15.231(c)
Power	: DC 3.0V	Test Distance : -
Mode	: Tx 312.15MHz	Date : 12/19/2008
		Temperature : 21 deg. C.
		Humidity : 36 %
		Engineer : Tomohisa Nakagawa

Bandwidth Limit : Fundamental Frequency **312.15** MHz X 0.25% = 780.38 kHz

-20dB Bandwidth	Bandwidth Limit	Result
[kHz]	[kHz]	
11.06	780.38	Pass



Duty Cycle(Fundamental)

		UL Japan, Inc.	
		Head Office EMC Lab. No.4 shielded room	
Company	: DENSO CORPORATION	Report No.	: 29EE0180-HO-01
Equipment	: Remote Seat Control System (Transmitter)	Regulation	: FCC 15.231(b) / 15.35(c)
Model No.	: 12BDF	Test Distance	: -
Serial No.	: 001	Date	: 12/19/2008
Power	: DC 3.0V	Temperature	: 21 deg. C.
Mode	: Tx 312.15MHz	Humidity	: 36 %
		Engineer	: Tomohisa Nakagawa

Type	Times	ON time(One pulse) [ms]	ON time(in 100ms) [ms]
A	42	0.710	29.82
B	15	1.400	21.00

*1)ON time(in 100ms) = Times * ON time(One pulse)

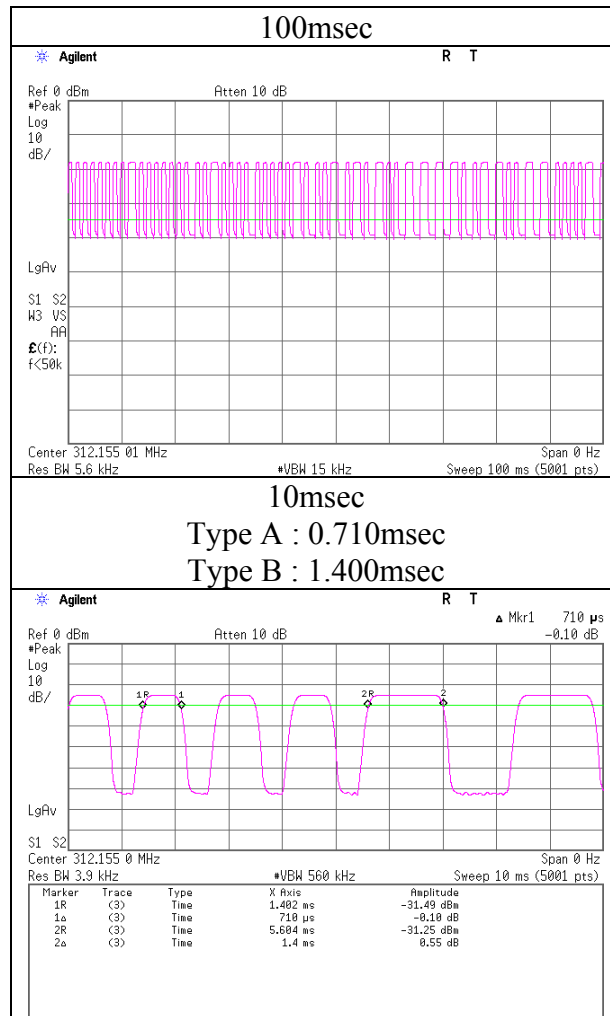
*2)The train of pulses was exceeding 100msec, and that sampled 100msec was the worst case against the pulse train.

(Total)

ON time [ms]	Cycle [ms]	Duty (On time/Cycle)	Duty [dB]
50.82	100.00	0.51	-5.88

*3)Duty = $20\log_{10}(\text{ON time/Cycle})$

Duty Cycle(Fundamental)
Duty Cycle



APPENDIX 3: Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	RE	2008/02/27 * 12
MAEC-03	Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2008/03/25 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE	2008/01/10 * 12
MJM-06	Measure	PROMART	SEN1955	-	RE	-
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MRENT-62	Spectrum Analyzer	Agilent	E4448A	MY46180856	RE	2008/11/25 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	RE	2008/06/12 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	1915	RE	2008/01/12 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	174	RE	2008/01/12 * 12
MCC-51	Coaxial cable	UL Japan	-	-	RE	2008/07/18 * 12
MAT-30	Attenuator(6dB)	TME	UFA-01	-	RE	2008/03/10 * 12
MPA-13	Pre Amplifier	SONOMA INSTRUMENT	310	260834	RE	2008/03/06 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	2008/04/23 * 12
MCC-56	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	287602(1m) / 284655(5m)	RE	2008/03/12 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	MY39500779	RE	2008/03/13 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE	2008/01/10 * 12

The expiration date of the calibration is the end of the expired month.

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

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

Test Item:

RE: Radiated emission

UL Japan, Inc.

Head Office EMC Lab.

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