

DATA OF RADIATED EMISSION (below 30MHz) TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Semi-Anechoic Chamber
Date : 2012/01/08

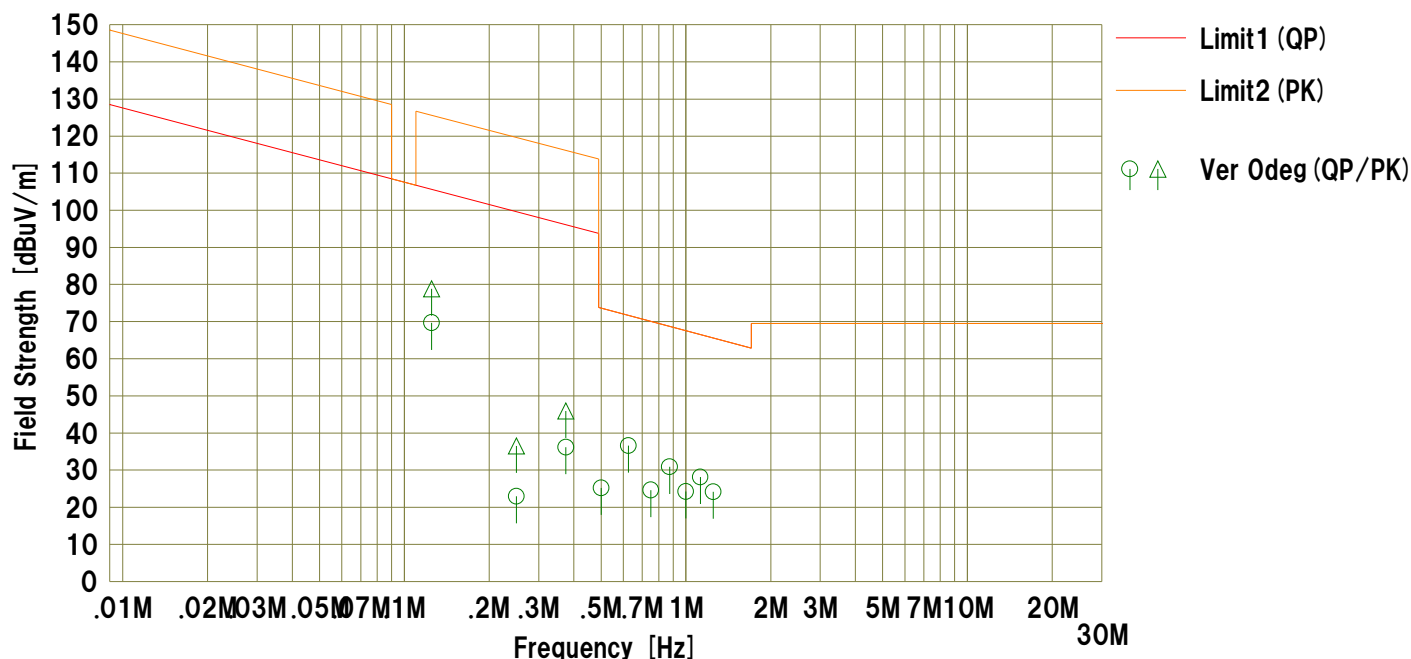
Company : Honda Lock Mfg. Co., Ltd.
Kind of EUT : Immobilizer system
Model No. : HLIK6-1R
Serial No. : 2

Mode : Transmitting (125kHz)
Report No. : 32EE0044-SH-01-B
Power : DC 12V
Temp./Humi. : 20deg.C. / 25%RH

Remarks : Loop Antenna:Vertical EUT Axis:X

Limit1 : FCC15.209 (a) 3m, 9-90kHz:AV, 110-490kHz:AV, other:QP

Limit2 : FCC15.209 (a) 3m, 9-90kHz:PK, 110-490kHz:PK, Tested by : Tatsuya Arai



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	0.12500	75.4	84.5	20.0	5.9	31.6	69.7	78.8	105.6	125.5	35.9	46.7	Ver Odeg	139	QP: Used AV Detector
2	0.25000	29.1	42.7	19.8	5.9	31.9	22.9	36.5	99.6	119.6	76.7	83.1	Ver Odeg	127	QP: Used AV Detector
3	0.37500	42.4	52.2	19.7	5.9	31.9	36.1	45.9	96.1	116.1	60.0	70.2	Ver Odeg	131	QP: Used AV Detector
4	0.50000	31.5	---	19.7	5.9	31.9	25.2	---	73.6	73.6	48.4	---	Ver Odeg	139	
5	0.62500	42.9	---	19.7	5.9	31.9	36.6	---	71.6	71.6	35.0	---	Ver Odeg	131	
6	0.75000	30.9	---	19.6	6.0	31.9	24.6	---	70.0	70.0	45.4	---	Ver Odeg	139	
7	0.87500	37.2	---	19.6	6.0	31.9	30.9	---	68.7	68.7	37.8	---	Ver Odeg	126	
8	1.00000	30.5	---	19.6	6.0	31.9	24.2	---	67.5	67.5	43.3	---	Ver Odeg	139	
9	1.12500	34.3	---	19.6	6.0	31.8	28.1	---	66.5	66.5	38.4	---	Ver Odeg	129	
10	1.25000	30.3	---	19.6	6.0	31.8	24.1	---	65.6	65.6	41.5	---	Ver Odeg	139	

Calculation: Result [dBuA] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+ATT) [dB] - Gain (AMP) [dB]
Ant.Type=LOOP: Loop Antenna

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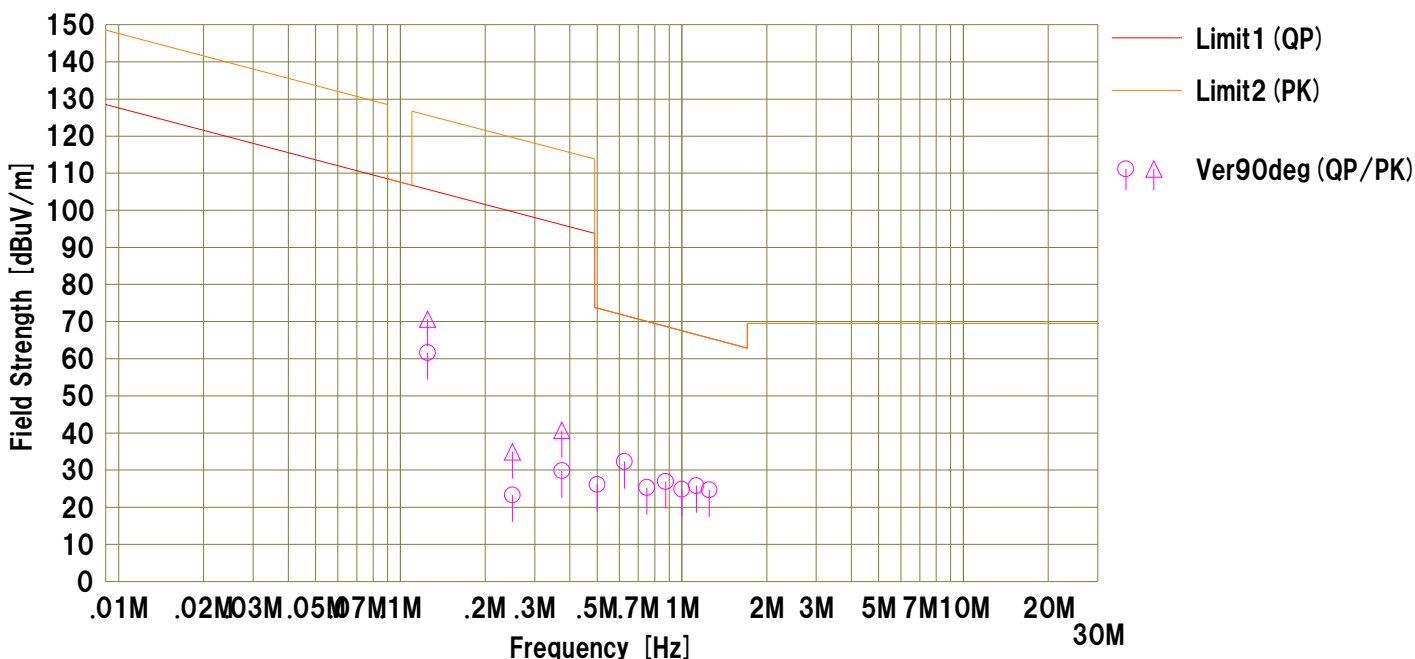
Company : Honda Lock Mfg. Co., Ltd.
Kind of EUT : Immobilizer system
Model No. : HLIK6 - 1R
Serial No. : 2

Mode : Transmitting (125kHz)
Report No. : 32EE0044-SH-01-B
Power : DC 12V
Temp./Humi. : 20deg.C. / 25%RH

Remarks : Loop Antenna:Horizontal EUT Axis:Z

Limit1 : FCC15.209 (a) 3m, 9-90kHz:AV, 110-490kHz:AV, other:QP

Limit2 : FCC15.209 (a) 3m, 9-90kHz:PK, 110-490kHz:PK, Tested by : Tatsuya Arai



No.	Freq.	Reading		Ant.Fac	Loss	Gain	Result		Limit		Margin		Antenna	Table	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
	[MHz]	[dBuV]	[dBuV]		[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]		[deg]	
1	0.12500	67.3	76.3	20.0	5.9	31.6	61.6	70.6	105.6	125.5	44.0	54.9	Ver90deg	133	QP: Used AV Detector
2	0.25000	29.5	41.1	19.8	5.9	31.9	23.3	34.9	99.6	119.6	76.3	84.7	Ver90deg	133	QP: Used AV Detector
3	0.37500	36.1	47.0	19.7	5.9	31.9	29.8	40.7	96.1	116.1	66.3	75.4	Ver90deg	130	QP: Used AV Detector
4	0.50000	32.4	---	19.7	5.9	31.9	26.1	---	73.6	73.6	47.5	---	Ver90deg	133	
5	0.62500	38.6	---	19.7	5.9	31.9	32.3	---	71.6	71.6	39.3	---	Ver90deg	131	
6	0.75000	31.6	---	19.6	6.0	31.9	25.3	---	70.0	70.0	44.7	---	Ver90deg	133	
7	0.87500	33.2	---	19.6	6.0	31.9	26.9	---	68.7	68.7	41.8	---	Ver90deg	135	
8	1.00000	31.1	---	19.6	6.0	31.9	24.8	---	67.5	67.5	42.7	---	Ver90deg	133	
9	1.12500	32.0	---	19.6	6.0	31.8	25.8	---	66.5	66.5	40.7	---	Ver90deg	128	
10	1.25000	30.9	---	19.6	6.0	31.8	24.7	---	65.6	65.6	40.9	---	Ver90deg	133	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2011/12/29

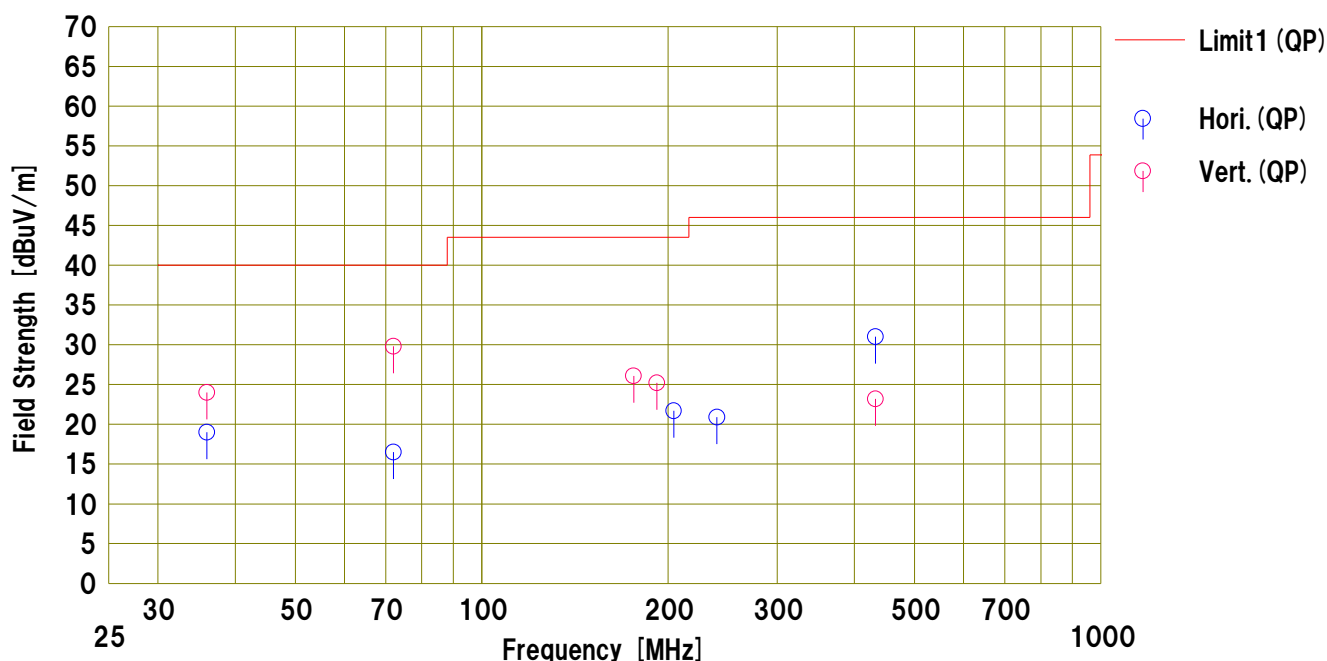
Company : Honda Lock Mfg. Co., Ltd.
Kind of EUT : Immobilizer system
Model No. : HLIK6 - 1R
Serial No. : 2

Mode : Transmitting (125kHz)
Report No. : 32EE0044-SH-01-B
Power : DC 12V
Temp./Humi. : 24deg.C. / 21%RH

Remarks : EUT worst axis: H: Y, V: Y

Limit1 : FCC15.209 3m, below 1GHz:QP, above 1GHz:AV

Engineer : Kenichi Adachi



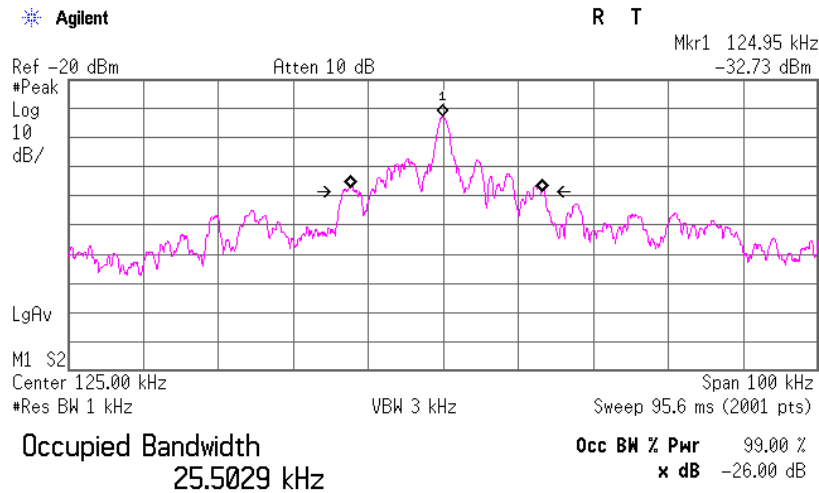
No.	Freq.	Reading <QP>	Ant.Fac	Loss	Gain	Result <QP>	Limit <QP>	Margin <QP>	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]		
1	36.003	29.0	15.5	6.6	32.1	19.0	40.0	21.0	Hori.	183	165	BC	
2	71.988	35.1	6.5	7.0	32.1	16.5	40.0	23.5	Hori.	265	198	BC	
3	204.219	29.6	16.1	8.0	32.0	21.7	43.5	21.8	Hori.	167	226	BC	
4	240.003	27.8	16.9	8.2	32.0	20.9	46.0	25.1	Hori.	335	272	BC	
5	432.677	36.8	16.8	9.3	31.9	31.0	46.0	15.0	Hori.	100	60	LP	
6	36.003	34.0	15.5	6.6	32.1	24.0	40.0	16.0	Vert.	100	262	BC	
7	71.988	48.4	6.5	7.0	32.1	29.8	40.0	10.2	Vert.	100	263	BC	
8	175.961	34.6	15.7	7.8	32.0	26.1	43.5	17.4	Vert.	100	345	BC	
9	191.957	33.4	15.9	7.9	32.0	25.2	43.5	18.3	Vert.	100	341	BC	
10	432.677	29.0	16.8	9.3	31.9	23.2	46.0	22.8	Vert.	273	181	LP	

-26dB Bandwidth (FCC) / 99% Occupied Bandwidth

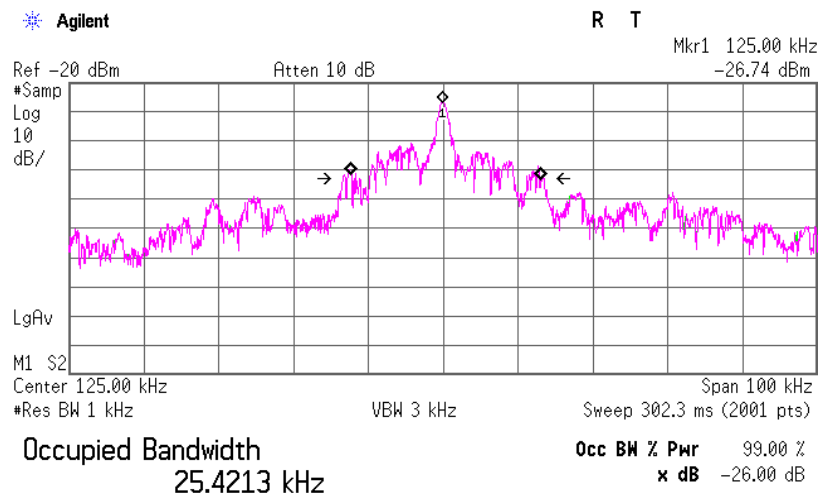
COMPANY : Honda Lock Mfg. Co., Ltd.
EQUIPMENT : Immobilizer system
MODEL NUMBER: HLIK6-1R
SERIAL NUMBER: 2
POWER : DC12V
MODE : Transmitting (125kHz)

UL Japan, Inc. Shonan EMC No.5 Shielded room
REPORT NO : 32EE0044-SH-01-B
REGULATION : (FCC) ANSI C63.4:2003, 13.1.7 (IC) RSS-Gen 4.4.1
DATE : January 5, 2012
TEMP./HUMI. : 23deg.C / 32%RH
ENGINEER : Kenichi Adachi

-26dB Bandwidth	99% Occupied Bandwidth
[kHz]	[kHz]
26.919	25.4213



Transmit Freq Error 393.515 Hz
x dB Bandwidth 26.919 kHz
 (-26dB Bandwidth)



Transmit Freq Error 358.437 Hz
x dB Bandwidth 26.803 kHz*
 (99% Occupied Bandwidth)

APPENDIX 2

Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2011/02/17 * 12
SAT6-03	Attenuator	JFW	50HF-006N	-	RE	2011/02/17 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2011/10/23 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	RE	2011/04/28 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A0901	RE	2011/10/23 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2011/02/23 * 12
STR-03	Test Receiver	Rohde & Schwarz	ES140	100054/040	RE	2011/07/28 * 12
SJM-10	Measure	PROMART	SEN1935	-	RE	-
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2011/09/23 * 12
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE,RF1,MF)	-	RE	-
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	RE	2011/02/02 * 12
SAF-01	Pre Amplifier	SONOMA	310N	290211	RE	2011/02/17 * 12
SAT6-07	Attenuator	JFW	50HF-006N	-	RE	2011/02/17 * 12
SCC-A2/A4/A6/A7/A8/A13/SRSE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2011/04/28 * 12
SLP-02	Loop Antenna	Rohde & Schwarz	HFH2-Z2	100218	RE	2011/10/19 * 12
SOS-01	Humidity Indicator	A&D	AD-5681	4062555	RE	2011/02/23 * 12
STR-01	Test Receiver	Rohde & Schwarz	ESU40	100093	RE	2011/10/22 * 12
SJM-12	Measure	PROMART	SEN1935	-	RE	-

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

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

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .

Test Item :

RE: Radiated emission