

APPENDIX 2: Data of EMI test

Conducted emission Without Tag (Terminated Antenna terminal)

DATA OF CONDUCTED EMISSION TEST

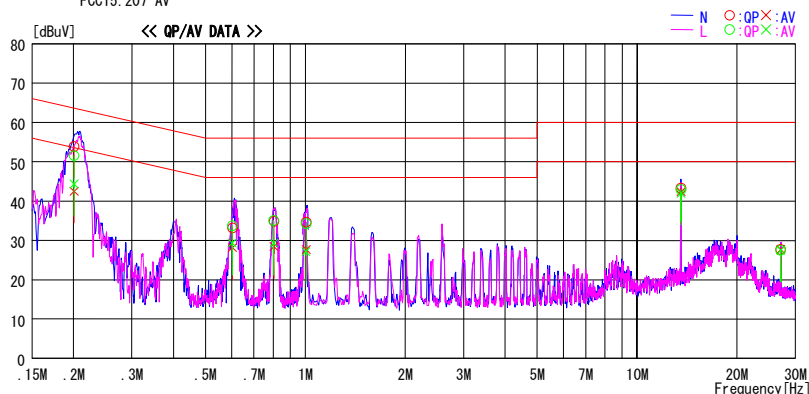
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2008/07/07

Company : AMANO Corporation
Kind of EUT : 13.56MHz RFID Unit for Parking Management Equipment
Model No. : MH-5870
Serial No. : 9999-2

Report No. : 28JE0085-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 25deg.C. / 68%
Engineer : Akio Hayashi

Mode / Remarks : Transmitting Mode 13.56MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.20078	53.6	42.2	0.3	53.9	42.5	63.6	53.6	9.7	11.1	N
0.60312	32.9	27.9	0.3	33.2	28.2	56.0	46.0	22.8	17.8	N
0.80484	34.5	28.1	0.3	34.8	28.4	56.0	46.0	21.2	17.6	N
1.00554	34.4	27.4	0.3	34.7	27.7	56.0	46.0	21.3	18.3	N
13.55969	42.0	41.1	1.3	43.3	42.4	60.0	50.0	16.7	7.6	N
27.11974	25.9	25.9	1.8	27.7	27.7	60.0	50.0	32.3	22.3	N
0.20068	51.3	44.0	0.3	51.6	44.3	63.6	53.6	12.0	9.3	L
0.60182	33.4	29.0	0.3	33.7	29.3	56.0	46.0	22.3	16.7	L
0.80314	34.8	29.0	0.3	35.1	29.3	56.0	46.0	20.9	16.7	L
1.00434	34.0	26.8	0.3	34.3	27.1	56.0	46.0	21.7	18.9	L
13.55965	41.6	40.7	1.3	42.9	42.0	60.0	50.0	17.1	8.0	L
27.11974	25.7	25.7	1.8	27.5	27.5	60.0	50.0	32.5	22.5	L

CHART:WITH FACTOR,Peak hold data. CALCULATION:RESULT[dBuA]=READING[dBuV]+C.F[dB] (Probe factor+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Conducted emission
Without Tag (Antenna Connected)

DATA OF CONDUCTED EMISSION TEST

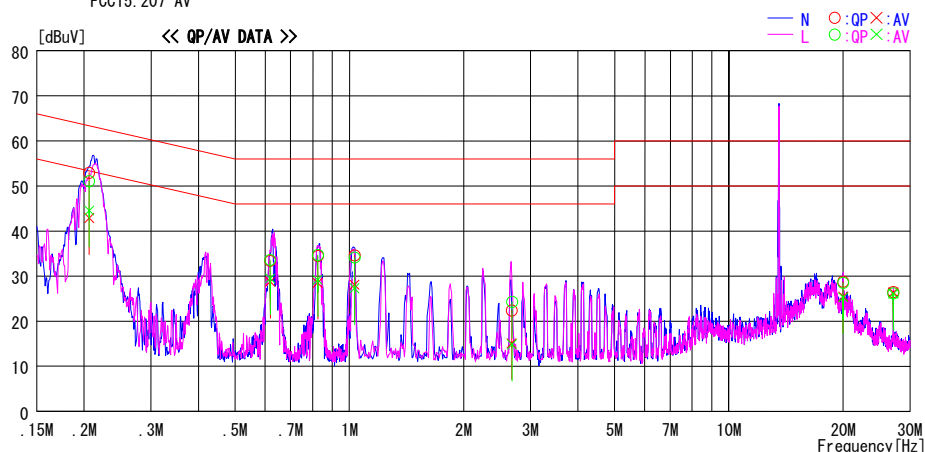
UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2008/09/04

Company : AMANO Corporation
Kind of EUT : 13.56MHz RFID Unit for Parking Management Equipment
Model No. : MH-5870
Serial No. : 9999-1

Report No. : 28JE0085-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 21deg. C. / 66%
Operator : Akio Hayashi

Mode / Remarks : Transmitting Mode 13.56MHz without Tag

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.20622	50.8	44.3	0.3	51.1	44.6	63.4	53.4	12.3	8.8	L	
0.20625	52.6	42.6	0.3	52.9	42.9	63.4	53.4	10.5	10.5	N	
0.61877	33.3	29.2	0.3	33.6	29.5	56.0	46.0	22.4	16.5	L	
0.61901	33.1	28.4	0.3	33.4	28.7	56.0	46.0	22.6	17.3	N	
0.82517	34.4	28.9	0.3	34.7	29.2	56.0	46.0	21.3	16.8	L	
0.82546	34.2	28.2	0.3	34.5	28.5	56.0	46.0	21.5	17.5	N	
1.03143	34.2	27.7	0.4	34.6	28.1	56.0	46.0	21.4	17.9	N	
1.03139	33.7	26.9	0.4	34.1	27.3	56.0	46.0	21.9	18.7	L	
2.67545	21.9	14.6	0.5	22.4	15.1	56.0	46.0	33.6	30.9	N	
2.68008	23.8	14.3	0.5	24.3	14.8	56.0	46.0	31.7	31.2	L	
20.00068	26.8	23.6	1.7	28.5	25.3	60.0	50.0	31.5	24.7	L	
20.00116	27.1	23.8	1.7	28.8	25.5	60.0	50.0	31.2	24.5	N	
27.12000	24.3	24.2	1.9	26.2	26.1	60.0	50.0	33.8	23.9	L	
27.12000	24.5	24.5	1.9	26.4	26.4	60.0	50.0	33.6	23.6	N	

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT [dBuV] = READING [dBuV] + C.F [dB] (LISN+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Conducted emission
With Tag (Antenna Connected)

DATA OF CONDUCTED EMISSION TEST

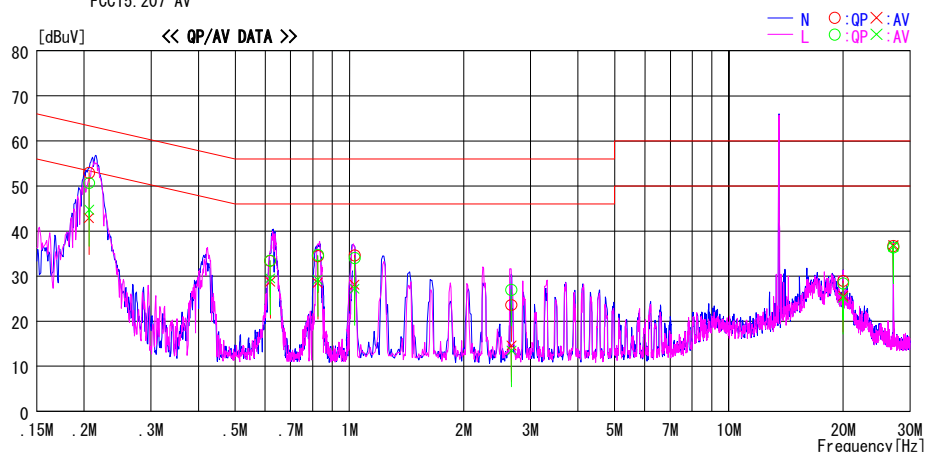
UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2008/09/04

Company : AMANO Corporation
Kind of EUT : 13.56MHz RFID Unit for Parking Management Equipment
Model No. : MH-5870
Serial No. : 9999-1

Report No. : 28JE0085-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 21deg. C. / 66%
Operator : Akio Hayashi

Mode / Remarks : Transmitting Mode 13.56MHz with Tag

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.20601	52.6	42.6	0.3	52.9	42.9	63.4	53.4	10.5	10.5	N	
0.20627	50.4	44.4	0.3	50.7	44.7	63.4	53.4	12.7	8.7	L	
0.61866	33.2	29.2	0.3	33.5	29.5	56.0	46.0	22.5	16.5	L	
0.61876	33.1	28.4	0.3	33.4	28.7	56.0	46.0	22.6	17.3	N	
0.82486	34.4	28.9	0.3	34.7	29.2	56.0	46.0	21.3	16.8	L	
0.82501	34.1	28.2	0.3	34.4	28.5	56.0	46.0	21.6	17.5	N	
1.03136	34.2	27.7	0.4	34.6	28.1	56.0	46.0	21.4	17.9	N	
1.03159	33.6	26.8	0.4	34.0	27.2	56.0	46.0	22.0	18.8	L	
2.67182	23.1	14.1	0.5	23.6	14.6	56.0	46.0	32.4	31.4	N	
2.67226	26.5	13.0	0.5	27.0	13.5	56.0	46.0	29.0	32.5	L	
20.00083	27.2	23.9	1.7	28.9	25.6	60.0	50.0	31.1	24.4	N	
20.00111	26.7	23.5	1.7	28.4	25.2	60.0	50.0	31.6	24.8	L	
27.12000	34.8	35.0	1.9	36.7	36.9	60.0	50.0	23.3	13.1	N	
27.12000	34.5	34.7	1.9	36.4	36.6	60.0	50.0	23.6	13.4	L	

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT [dBuV] = READING [dBuV] + C.F [dB] (LISN+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission (Fundamental emission and Spectrum Mask) With Tag

DATA OF RADIATED EMISSION TEST

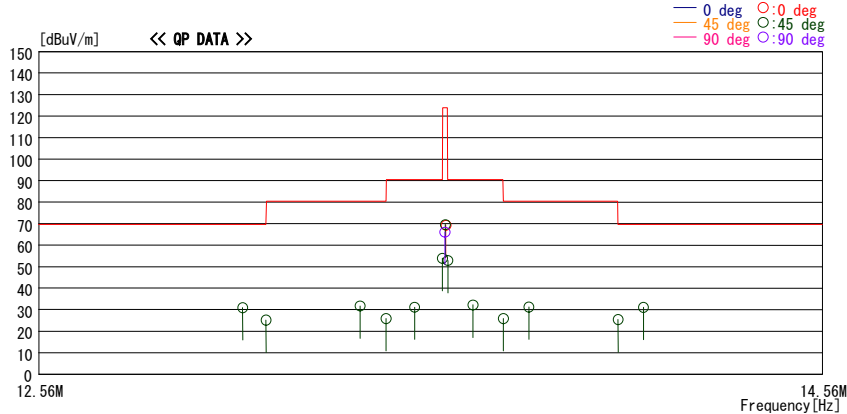
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/07/08

Company : AMANO Corporation
Kind of EUT : 13.56MHz RFID Unit for Parking Management Equipment
Model No. : MH-5870
Serial No. : 9999-1

Report No. : 28JE0085-HO-01
Power : AC 120V / 60Hz
Temp./ Humi. : 22deg. C / 69%
Engineer : Hisayoshi Sato

Mode / Remarks : Transmitting Mode 13.56MHz with Tag. Worst' Z-axis

LIMIT : FCC15.225 3m, 9-90kHz:PK, 110-490kHz:PK, other:QP



Freq.	Reading	DET	Ant.Fac	Loss	Gain	Result	Limit	Margin	Antenna	Table	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]		[deg]	
13.05233	41.8	QP	20.5	0.8	32.2	30.9	69.5	38.6	45deg	166	
13.11000	41.7	QP	20.5	1.2	38.2	25.2	69.5	44.3	45deg	166	
13.34421	42.6	QP	20.5	0.8	32.2	31.7	80.5	48.8	45deg	170	
13.41000	42.4	QP	20.5	1.2	38.2	25.9	80.5	54.6	45deg	166	
13.48230	42.1	QP	20.5	0.8	32.2	31.2	90.4	59.2	45deg	359	
13.55300	70.4	QP	20.5	1.2	38.2	53.9	90.4	36.5	45deg	166	
13.55958	82.6	QP	20.5	1.2	38.2	66.1	123.9	57.8	90deg	88	
13.56050	86.0	QP	20.5	1.2	38.2	69.5	123.9	54.4	45deg	170	Worst
13.56207	85.8	QP	20.5	1.2	38.2	69.3	123.9	54.6	0deg	166	
13.56700	69.4	QP	20.5	1.2	38.2	52.9	90.4	37.5	45deg	166	
13.63100	43.1	QP	20.5	0.8	32.2	32.2	90.4	58.2	45deg	170	
13.71000	42.4	QP	20.5	1.2	38.2	25.9	80.5	54.6	45deg	166	
13.77621	42.2	QP	20.5	0.8	32.2	31.3	80.5	49.2	45deg	359	
14.01000	41.9	QP	20.5	1.2	38.2	25.4	69.5	44.1	45deg	166	
14.07671	42.0	QP	20.5	0.8	32.2	31.1	69.5	38.4	45deg	166	

CHART : WITH FACTOR. ANT TYPE : LOOP. Except for the data below : adequate margin data below the limits.
CALCULATION : READING + ANT FACTOR + LOSS (CABLE -AMP.)

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission (Fundamental emission and Spectrum Mask)

Without Tag

DATA OF RADIATED EMISSION TEST

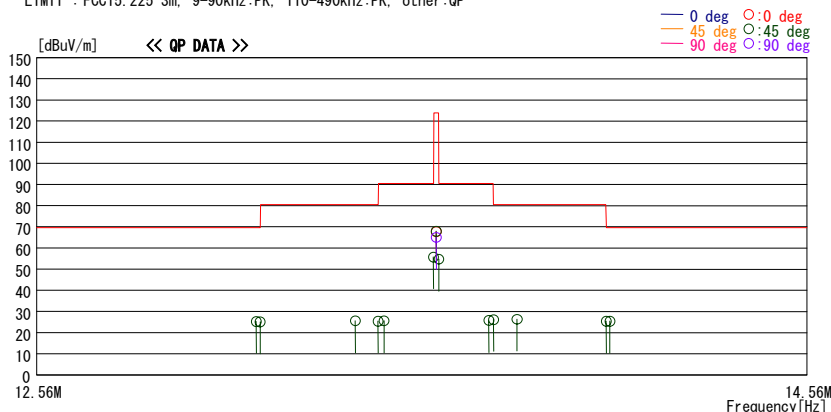
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/07/08

Company : AMANO Corporation
Kind of EUT : 13.56MHz RFID Unit for Parking Management Equipment
Model No. : MH-5870
Serial No. : 9999-1

Report No. : 28JE0085-HO-01
Power : AC 120V / 60Hz
Temp. / Humi. : 22deg. C / 69%
Engineer : Hisayoshi Sato

Mode / Remarks: Transmitting Mode 13.56MHz without Tag. Worst'Z-axis

LIMIT : FCC15.225 3m, 9-90kHz:PK, 110-490kHz:PK, other:QP



Freq	Reading	DET	Ant. Fac	Loss	Gain	Result	Limit	Margin	Antenna	Table	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]		[deg]	
13.10000	41.8	QP	20.5	1.2	38.2	25.3	69.5	44.2	45deg	154	
13.11000	41.6	QP	20.5	1.2	38.2	25.1	69.5	44.4	45deg	154	
13.35120	42.1	QP	20.5	1.2	38.2	25.6	80.5	54.9	45deg	154	
13.41000	42.0	QP	20.5	1.2	38.2	25.5	80.5	55.0	45deg	154	
13.77210	42.9	QP	20.5	1.2	38.2	26.4	80.5	54.1	45deg	154	
13.42500	42.1	QP	20.5	1.2	38.2	25.6	90.4	64.8	45deg	154	
13.55300	72.2	QP	20.5	1.2	38.2	55.7	90.4	34.7	45deg	154	
13.55984	84.2	QP	20.5	1.2	38.2	67.7	123.9	56.2	0deg	181	
13.55998	84.4	QP	20.5	1.2	38.2	67.9	123.9	56.0	45deg	154	Worst
13.56005	81.5	QP	20.5	1.2	38.2	65.0	123.9	58.9	90deg	79	
13.56700	71.2	QP	20.5	1.2	38.2	54.7	90.4	35.7	45deg	154	
13.69820	42.3	QP	20.5	1.2	38.2	25.8	90.4	64.6	45deg	154	
13.71000	42.7	QP	20.5	1.2	38.2	26.2	80.5	54.3	45deg	154	
14.01000	41.9	QP	20.5	1.2	38.2	25.4	69.5	44.1	45deg	154	
14.02000	41.9	QP	20.5	1.2	38.2	25.4	69.5	44.1	45deg	154	

CHART : WITH FACTOR, ANT. TYPE : LOOP, Except for the data below : adequate margin data below the limits.
CALCULATION : READING + ANT. FACTOR + LOSS (CABLE -AMP.)

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission (Spurious emission: above 30MHz) **With Tag**

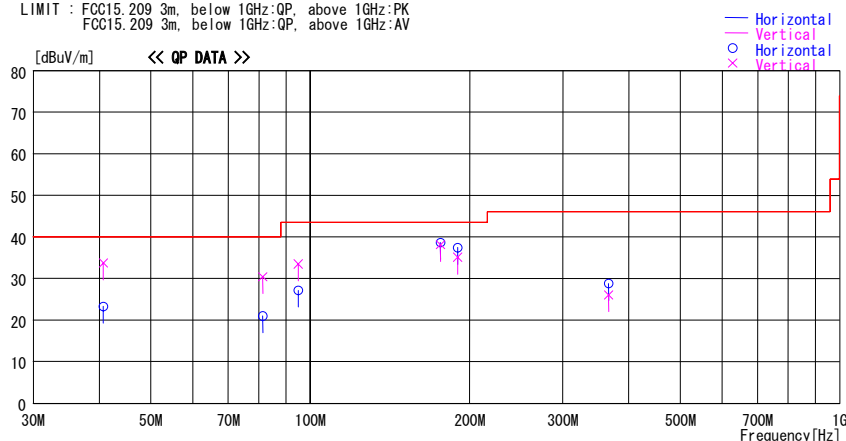
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/07/08

Company : AMANO Corporation
Kind of EUT : 13.56MHz RFID Unit for Parking Management Equipment
Model No. : MH-5870
Serial No. : 9999-1
Report No. : 28JE0085-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 22deg. C. / 69%
Engineer : Hisayoshi Sato

Mode / Remarks : Transmitting Mode 13.56MHz with Tag. Worst:Z-axis

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



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]
40.672	30.9	QP	13.2	-20.8	23.3	61	230	Hori.	40.0	16.7
40.676	41.3	QP	13.2	-20.8	33.7	261	100	Vert.	40.0	6.3
81.345	34.2	QP	6.6	-19.8	21.0	57	245	Hori.	40.0	19.1
81.351	43.6	QP	6.6	-19.8	30.4	270	100	Vert.	40.0	9.6
94.914	37.7	QP	9.1	-19.6	27.2	50	191	Hori.	43.5	16.4
94.898	44.0	QP	9.1	-19.6	33.5	254	100	Vert.	43.5	10.0
176.274	40.8	QP	16.1	-18.3	38.6	21	207	Hori.	43.5	4.9
176.274	40.3	QP	16.1	-18.3	38.1	133	100	Vert.	43.5	5.4
189.829	39.1	QP	16.4	-18.1	37.4	356	167	Hori.	43.5	6.1
189.833	36.8	QP	16.4	-18.1	35.1	140	100	Vert.	43.5	8.4
366.110	29.8	QP	15.6	-16.6	28.8	37	100	Hori.	46.0	17.2
366.103	27.0	QP	15.6	-16.6	26.0	167	100	Vert.	46.0	20.0

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

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission (Spurious emission: above 30MHz)

Without Tag

DATA OF RADIATED EMISSION TEST

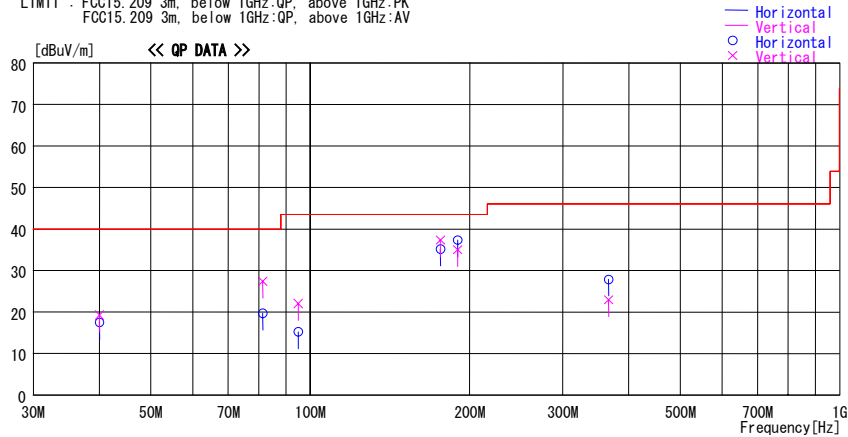
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/07/08

Company : AMANO Corporation
Kind of EUT : 13.56MHz RFID Unit for Parking Management Equipment
Model No. : MH-5870
Serial No. : 9999-1

Report No. : 28JE0085-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 22deg. C. / 69%
Engineer : Hisayoshi Sato

Mode / Remarks : Transmitting Mode 13.56MHz without Tag. Worst:Z-axis

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



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
40.000	24.9	QP	13.4	-20.8	17.5	61	230	Hori.	40.0	22.5
40.000	26.7	QP	13.4	-20.8	19.3	261	100	Vert.	40.0	20.8
61.359	32.9	QP	6.6	-19.8	19.7	57	245	Hori.	40.0	20.3
61.344	40.6	QP	6.6	-19.8	27.4	270	100	Vert.	40.0	12.6
94.902	25.7	QP	9.1	-19.6	15.2	15	300	Hori.	43.5	28.3
94.911	32.5	QP	9.1	-19.6	22.0	254	100	Vert.	43.5	21.5
176.274	37.3	QP	16.1	-18.3	35.1	21	207	Hori.	43.5	8.4
176.268	39.6	QP	16.1	-18.3	37.4	133	100	Vert.	43.5	6.2
189.821	39.0	QP	16.4	-18.1	37.3	356	165	Hori.	43.5	6.2
189.833	36.7	QP	16.4	-18.1	35.0	140	100	Vert.	43.5	8.5
366.114	28.9	QP	15.6	-16.6	27.9	37	100	Hori.	46.0	18.1
366.090	23.9	QP	15.6	-16.6	22.9	167	100	Vert.	46.0	23.1

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

*The test result is rounded off to one or two decimal places, so some differences might be observed.

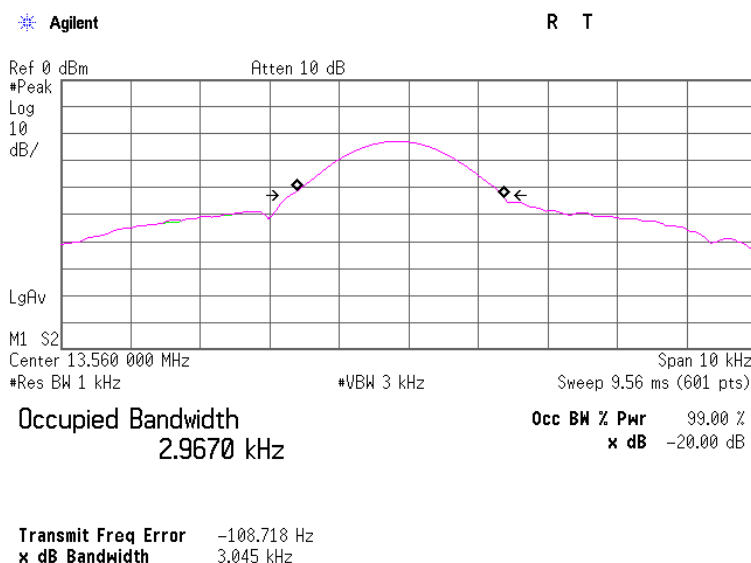
20dB Bandwidth With tag

UL Japan, Inc.
Head Office EMC Lab. No.1 Measurement Room

COMPANY : AMANO Corporation
EQUIPMENT : 13.56MHz RFID Unit for Parking Management Equipment
MODEL : MH-5870
S/ N : 9999-1
POWER : AC120V/60Hz
MODE : Transmitting mode 13.56MHz with tag

REPORT NO : 28JE0085-HO-01
REGULATION : FCC 15.225
TEST DISTANCE : -
DATE : 07/08/2008
TEMPERATURE : 22 deg.C.
HUMIDITY : 69 %
ENGINEER : Hisayoshi Sato

FREQ [MHz]	20dB Bandwidth [kHz]
13.56	3.05



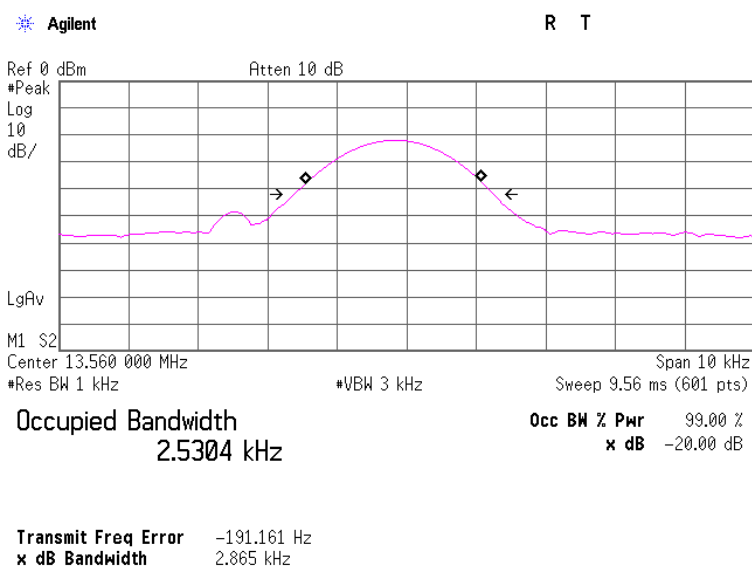
20dB Bandwidth
Without tag

UL Japan, Inc.
Head Office EMC Lab. No.1 Measurement Room

COMPANY : AMANO Corporation
EQUIPMENT : 13.56MHz RFID Unit for Parking Management Equipment
MODEL : MH-5870
S/ N : 9999-1
POWER : AC120V/60Hz
MODE : Transmitting mode 13.56MHz without tag

REPORT NO : 28JE0085-HO-01
REGULATION : FCC 15.225
TEST DISTANCE : -
DATE : 07/08/2008
TEMPERATURE : 22 deg.C.
HUMIDITY : 69 %
ENGINEER : Hisayoshi Sato

FREQ [MHz]	20dB Bandwidth [kHz]
13.56	2.87



99% Occupied Bandwidth

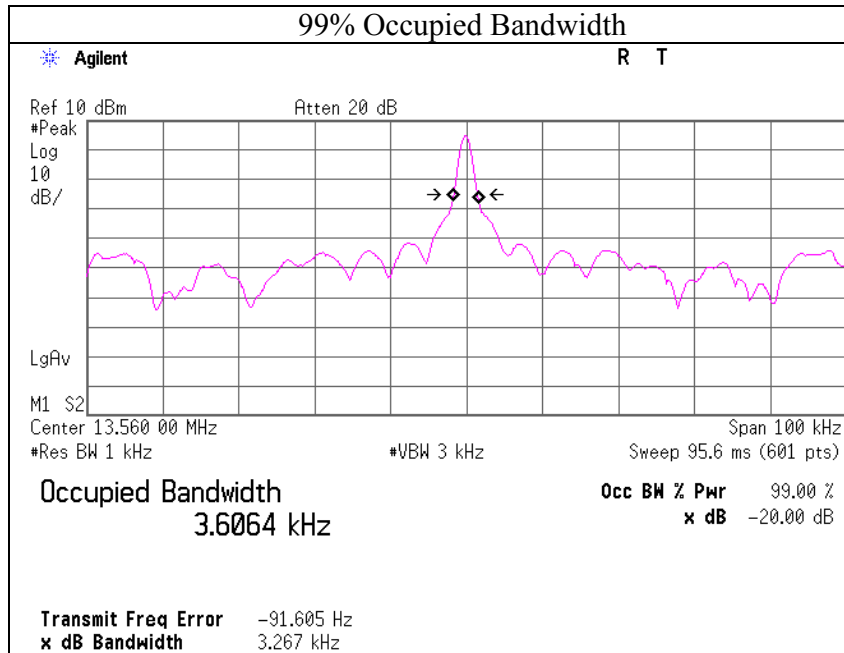
With tag

UL Japan, Inc.
Head Office EMC Lab. No.11 Measurement Room

COMPANY : AMANO Corporation
EQUIPMENT : 13.56MHz RFID Unit for Parking Management Equipment
MODEL : MH-5870
S/ N : 9999-1
POWER : AC120V/60Hz
MODE : Transmitting mode 13.56MHz with tag

REPORT NO : 28JE0085-HO-01
REGULATION : RSS-Gen 4.6.1
TEST DISTANCE : -
DATE : 07/08/2008
TEMPERATURE : 23 deg.C.
HUMIDITY : 68 %
ENGINEER : Yutaka Yoshida

FREQ [MHz]	99% Occupied Bandwidth [kHz]
13.56	3.61



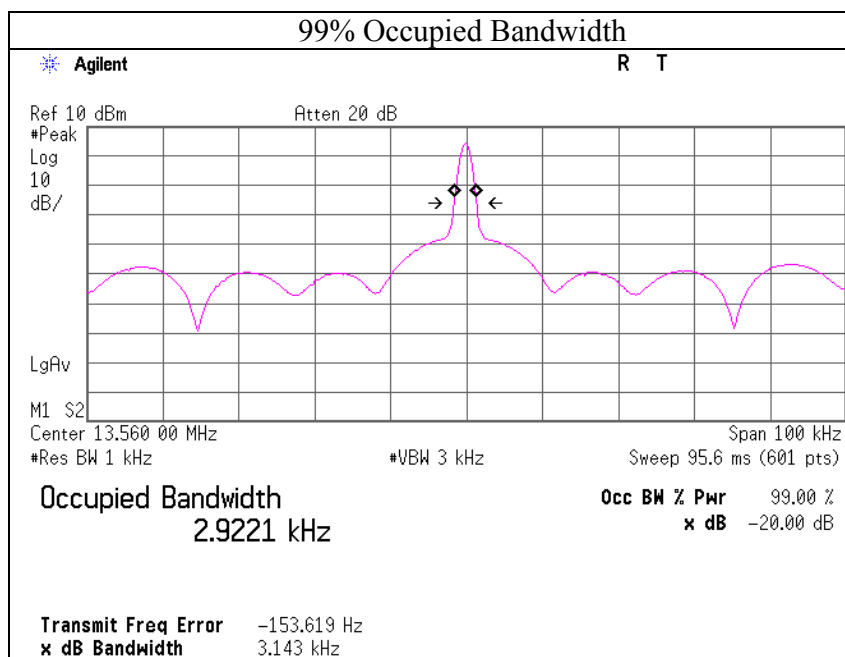
99% Occupied Bandwidth

Without tag

UL Japan, Inc.
Head Office EMC Lab. No.11 Measurement Room

COMPANY	: AMANO Corporation	REPORT NO	: 28JE0085-HO-01
EQUIPMENT	: 13.56MHz RFID Unit for Parking Management Equipment	REGULATION	: RSS-Gen 4.6.1
MODEL	: MH-5870	TEST DISTANCE	: -
S/ N	: 9999-1	DATE	: 07/08/2008
POWER	: AC120V/60Hz	TEMPERATURE	: 23 deg.C.
MODE	: Transmitting mode 13.56MHz without tag	HUMIDITY	: 68 %
		ENGINEER	: Yutaka Yoshida

FREQ [MHz]	99% Occupied Bandwidth [kHz]
13.56	2.92



Frequency Tolerance

Company	AMANO Corporation	UL Japan, Inc.
Equipment	13.56MHZ RFID Unit for Parking Management Equipment	Head Office EMC Lab. No.11 Measurement Room
Model	MH-5870	Regulation FCC15.225 (e) / RSS-210 A2.6
S/N	9999-1	Test Distance -
Power	AC120V / 60Hz	Date 07/08/2008
Mode	Continuous Transmitting (No Modulation)	Temperature 23 deg.C.
		Humidity 68 %
		Engineer Yutaka Yoshida

Test Condition	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit (+/- 0.01%) [+/- ppm]	Margin [ppm]
T nom 20deg.C Vmax AC138V (115%)	Power on	13.55983463	-0.00016537	-12.20	100.00	87.80
	on 2min.	13.55983342	-0.00016658	-12.28	100.00	87.72
	on 5min.	13.55983412	-0.00016588	-12.23	100.00	87.77
	on 10min.	13.55983354	-0.00016646	-12.28	100.00	87.72
T nom 20deg.C Vnom AC120V (100%)	Power on	13.55983434	-0.00016566	-12.22	100.00	87.78
	on 2min.	13.55983336	-0.00016664	-12.29	100.00	87.71
	on 5min.	13.55983356	-0.00016644	-12.27	100.00	87.73
	on 10min.	13.55983474	-0.00016526	-12.19	100.00	87.81
T nom 20deg.C Vmin AC102V (85%)	Power on	13.55983474	-0.00016526	-12.19	100.00	87.81
	on 2min.	13.55983322	-0.00016678	-12.30	100.00	87.70
	on 5min.	13.55983411	-0.00016589	-12.23	100.00	87.77
	on 10min.	13.55983461	-0.00016539	-12.20	100.00	87.80
T max 50deg.C Vnom AC120V (100%)	Power on	13.55992585	-0.00007415	-5.47	100.00	94.53
	on 2min.	13.55992590	-0.00007410	-5.46	100.00	94.54
	on 5min.	13.55992609	-0.00007391	-5.45	100.00	94.55
	on 10min.	13.55992709	-0.00007291	-5.38	100.00	94.62
40deg.C Vnom AC120V (100%)	Power on	13.55986612	-0.00013389	-9.87	100.00	90.13
	on 2min.	13.55986558	-0.00013442	-9.91	100.00	90.09
	on 5min.	13.55986570	-0.00013430	-9.90	100.00	90.10
	on 10min.	13.55986583	-0.00013417	-9.89	100.00	90.11
30deg.C Vnom AC120V (100%)	Power on	13.55984207	-0.00015793	-11.65	100.00	88.35
	on 2min.	13.55984174	-0.00015826	-11.67	100.00	88.33
	on 5min.	13.55984229	-0.00015771	-11.63	100.00	88.37
	on 10min.	13.55984253	-0.00015747	-11.61	100.00	88.39
20deg.C Vnom AC120V (100%)	Power on	13.55983422	-0.00016578	-12.23	100.00	87.77
	on 2min.	13.55983345	-0.00016655	-12.28	100.00	87.72
	on 5min.	13.55983366	-0.00016634	-12.27	100.00	87.73
	on 10min.	13.55983384	-0.00016616	-12.25	100.00	87.75
10deg.C Vnom AC120V (100%)	Power on	13.55982173	-0.00017827	-13.15	100.00	86.85
	on 2min.	13.55982177	-0.00017823	-13.14	100.00	86.86
	on 5min.	13.55982193	-0.00017807	-13.13	100.00	86.87
	on 10min.	13.55982204	-0.00017796	-13.12	100.00	86.88
0deg.C Vnom AC120V (100%)	Power on	13.55979014	-0.00020986	-15.48	100.00	84.52
	on 2min.	13.55979827	-0.00020173	-14.88	100.00	85.12
	on 5min.	13.55980080	-0.00019920	-14.69	100.00	85.31
	on 10min.	13.55980324	-0.00019676	-14.51	100.00	85.49
-10deg.C Vnom AC120V (100%)	Power on	13.55977412	-0.00022588	-16.66	100.00	83.34
	on 2min.	13.55977471	-0.00022529	-16.61	100.00	83.39
	on 5min.	13.55977618	-0.00022382	-16.51	100.00	83.49
	on 10min.	13.55977620	-0.00022380	-16.50	100.00	83.50
-20deg.C Vnom AC120V (100%)	Power on	13.55972002	-0.00027998	-20.65	100.00	79.35
	on 2min.	13.55972058	-0.00027942	-20.61	100.00	79.39
	on 5min.	13.55971984	-0.00028016	-20.66	100.00	79.34
	on 10min.	13.55972003	-0.00027997	-20.65	100.00	79.35
*T min -30deg.C Vnom AC120V (100%)	Power on	13.55964665	-0.00035335	-26.06	100.00	73.94
	on 2min.	13.55964880	-0.00035120	-25.90	100.00	74.10
	on 5min.	13.55964800	-0.00035200	-25.96	100.00	74.04
	on 10min.	13.55964834	-0.00035166	-25.93	100.00	74.07

Limit : 13.56 MHz +/-0.01 % (+/- 100ppm) = +/- 0.001356 MHz

* for IC application (RSS-Gen 4.7 requirement)

APPENDIX 3: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-03	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	CE	2008/03/25 * 12
MAEC-04	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	CE	2008/03/27 * 12
MCC-112	Coaxial cable	Fujikura/Suhner/TSJ	-	CE	2008/07/03 * 12
MCC-113	Coaxial cable	Fujikura/Suhner/TSJ	-	CE	2008/07/03 * 12
MJM-06	Measure	PROMART	SEN1955	CE	-
MJM-07	Measure	PROMART	SEN1955	CE	-
MOS-13	Thermo-Hygrometer	Custom	CTH-180	CE	2008/01/10 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	CE	2008/01/10 * 12
MSA-05	Spectrum Analyzer	Advantest	R3273	CE	2008/06/25 * 12
MSA-09	Spectrum Analyzer	Advantest	R3273	CE	2007/12/21 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	CE	2007/09/14 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	CE	2008/06/12 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	CE(EUT)	2008/02/19 * 12
MCH-05	Temperature and Humidity Chamber	Espec	PL-1KP	FT	2008/05/30 * 12
MPSU-13	Power Supply	NF	ES1000S	FT	Pre Check
MCC-66	Microwave Cable 1G-40GHz	Schner	SUCOFLEX102	FT/OBW	2008/04/04 * 12
MLPA-03	Loop Antenna	UL Japan	-	FT/OBW	Pre Check
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	RE	2007/11/23 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	RE	2007/11/14 * 12
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/Agilent/TSJ	-	RE	2008/02/29 * 12
MJM-01	Measure	KDS	ES19-55	RE	-
MLA-01	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	
MPA-04	Pre Amplifier	Agilent	8447D	RE	2007/07/11 * 12
MBM-06	Barometer	SATO	Aneroid	RE/20dBW	2006/06/19 * 60
MCC-03	Coaxial Cable	Fujikura/Suhner/Agilent/TSJ	-	RE/20dBW	2007/12/27 * 12
MCC-51	Coaxial cable	UL Japan	-	RE/20dBW	2007/07/26 * 12
MLPA-01	Loop Antenna	Rohde & Schwarz	HFH2-Z2	RE/20dBW	2007/11/06 * 12
MOS-01	Digital Humidity Indicator	N.T	NT-1800	RE/20dBW	2007/11/12 * 12
MPA-19	Pre Amplifier	MITEQ	MLA-10K01-B01-35	RE/20dBW	2008/02/13 * 12
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE/CE	-
MSA-11	Spectrum Analyzer	Agilent	E4448A	RE/FT/OBW	2008/06/24 * 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: CE : Conducted Emission
RE : Radiated Emission
FTF : frequency Tolerance
OBW : 99% Occupied Bandwidth
20dBW : 20dB Bandwidth

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