

DATA OF CONDUCTED EMISSION TEST

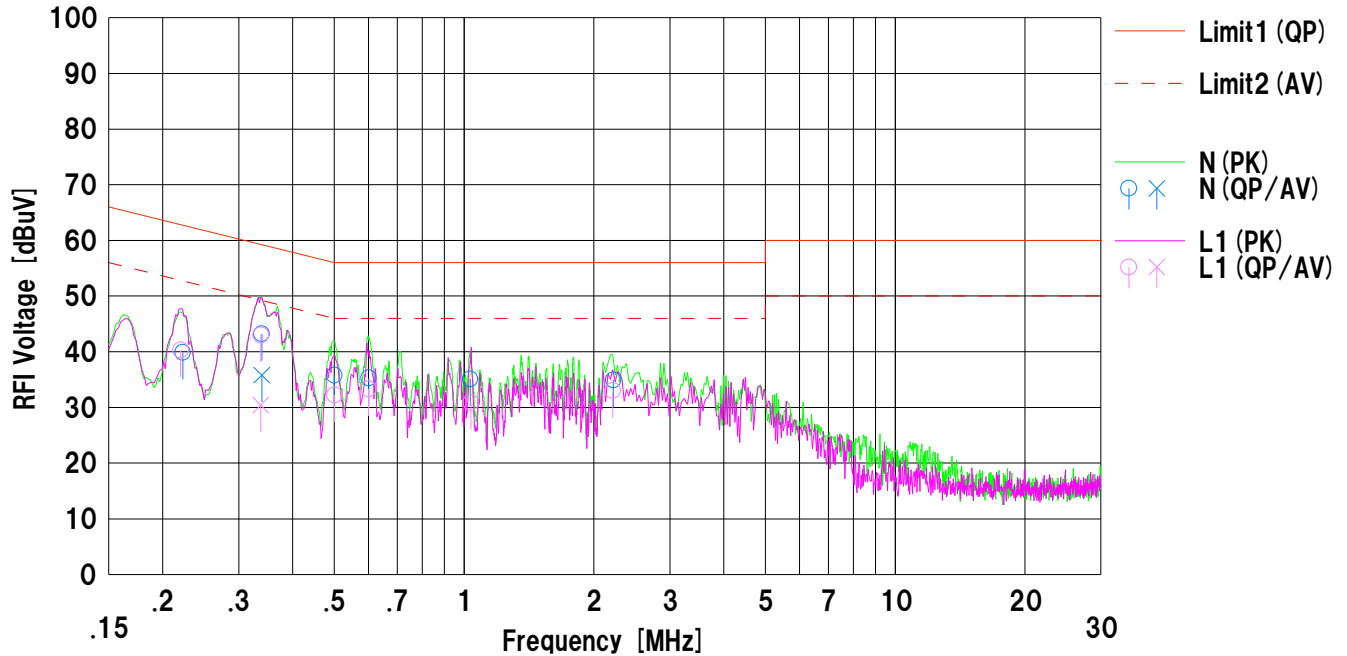
UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/07/01

Company : SUMITOMO PRECISION PRODUCTS CO.,LTD Mode : Transmitting (11ch: 2405MHz)
Kind of E.U.T. : 2.4GHz/10mW TRANSCEIVER MODULE Report No. : 31FE0078-SH-01-A-R1
Model No. : WM-Z2200 Power : AC120V/60Hz
Serial No. : 1105500002 Temp./Humi. : 27°C / 63%

Remarks : Antenna:W1030

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.22240	27.3	---	12.6	39.9	---	62.7	52.7	22.8	---	N	
2	0.33917	30.5	23.1	12.7	43.2	35.8	59.2	49.2	16.0	13.4	N	
3	0.50014	23.1	---	12.7	35.8	---	56.0	46.0	20.2	---	N	
4	0.60068	22.6	---	12.7	35.3	---	56.0	46.0	20.7	---	N	
5	1.03297	22.3	---	12.8	35.1	---	56.0	46.0	20.9	---	N	
6	2.21950	22.1	---	12.8	34.9	---	56.0	46.0	21.1	---	N	
7	0.22010	27.7	---	12.6	40.3	---	62.8	52.8	22.5	---	L1	
8	0.33812	30.3	17.7	12.7	43.0	30.4	59.2	49.2	16.2	18.8	L1	
9	0.50082	19.5	---	12.7	32.2	---	56.0	46.0	23.8	---	L1	
10	0.60001	20.6	---	12.7	33.3	---	56.0	46.0	22.7	---	L1	
11	1.03623	18.1	---	12.8	30.9	---	56.0	46.0	25.1	---	L1	
12	2.21385	20.2	---	12.8	33.0	---	56.0	46.0	23.0	---	L1	

DATA OF CONDUCTED EMISSION TEST

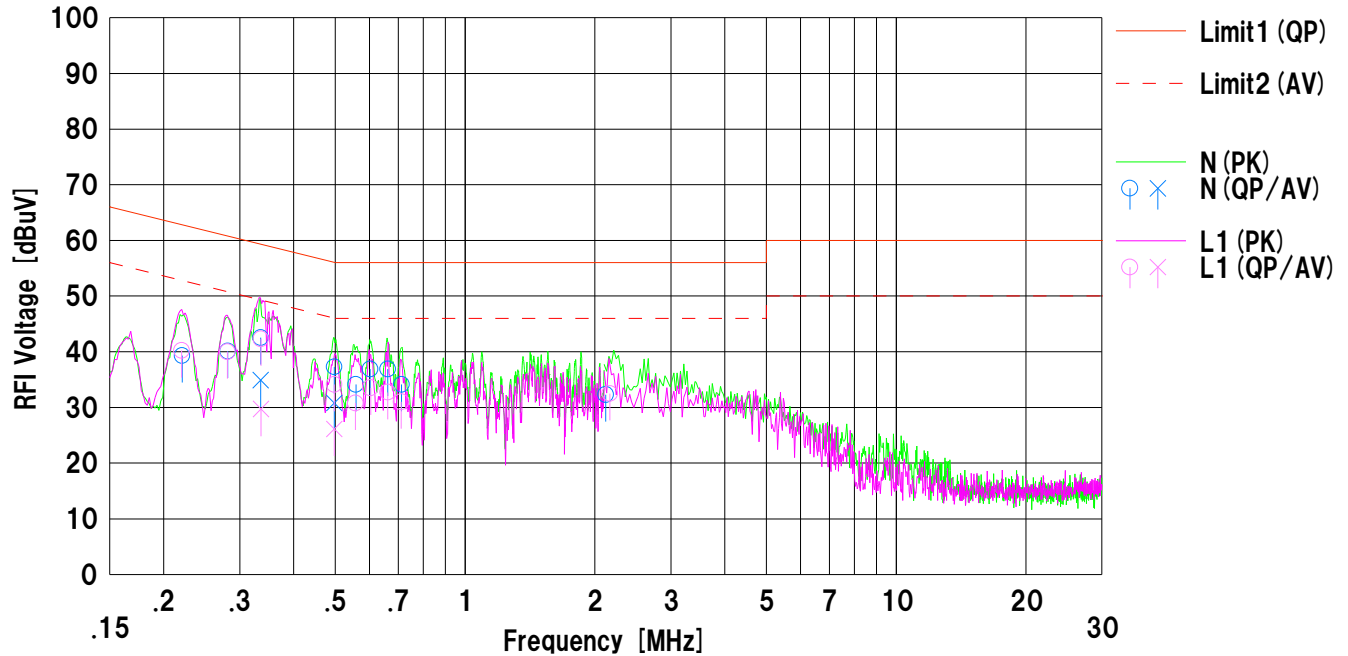
UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/07/01

Company : SUMITOMO PRECISION PRODUCTS CO.,LTD Mode : Transmitting (18ch: 2440MHz)
Kind of E.U.T. : 2.4GHz/10mW TRANSCEIVER MODULE Report No. : 31FE0078-SH-01-A-R1
Model No. : WM-Z2200 Power : AC120V/60Hz
Serial No. : 1105500002 Temp./Humi. : 27°C / 63%

Remarks : Antenna:W1030

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.22060	26.7	---	12.6	39.3	---	62.7	52.7	23.4	---	N	
2	0.28142	27.4	---	12.7	40.1	---	60.7	50.7	20.6	---	N	
3	0.33540	29.8	22.2	12.7	42.5	34.9	59.3	49.3	16.8	14.4	N	
4	0.49710	24.6	18.1	12.7	37.3	30.8	56.0	46.0	18.7	15.2	N	
5	0.55819	21.4	---	12.7	34.1	---	56.0	46.0	21.9	---	N	
6	0.60247	24.2	---	12.7	36.9	---	56.0	46.0	19.1	---	N	
7	0.66120	24.2	---	12.7	36.9	---	56.0	46.0	19.1	---	N	
8	0.71208	21.4	---	12.7	34.1	---	56.0	46.0	21.9	---	N	
9	2.12120	19.5	---	12.8	32.3	---	56.0	46.0	23.7	---	N	
10	0.21989	27.6	---	12.6	40.2	---	62.8	52.8	22.6	---	L1	
11	0.28090	27.3	---	12.7	40.0	---	60.7	50.7	20.7	---	L1	
12	0.33585	29.6	17.0	12.7	42.3	29.7	59.3	49.3	17.0	19.6	L1	
13	0.49735	21.4	13.4	12.7	34.1	26.1	56.0	46.0	21.9	19.9	L1	
14	0.55645	18.1	---	12.7	30.8	---	56.0	46.0	25.2	---	L1	
15	0.60376	20.8	---	12.7	33.5	---	56.0	46.0	22.5	---	L1	
16	0.66171	20.0	---	12.7	32.7	---	56.0	46.0	23.3	---	L1	
17	0.71084	18.3	---	12.7	31.0	---	56.0	46.0	25.0	---	L1	
18	2.16590	19.7	---	12.8	32.5	---	56.0	46.0	23.5	---	L1	

DATA OF CONDUCTED EMISSION TEST

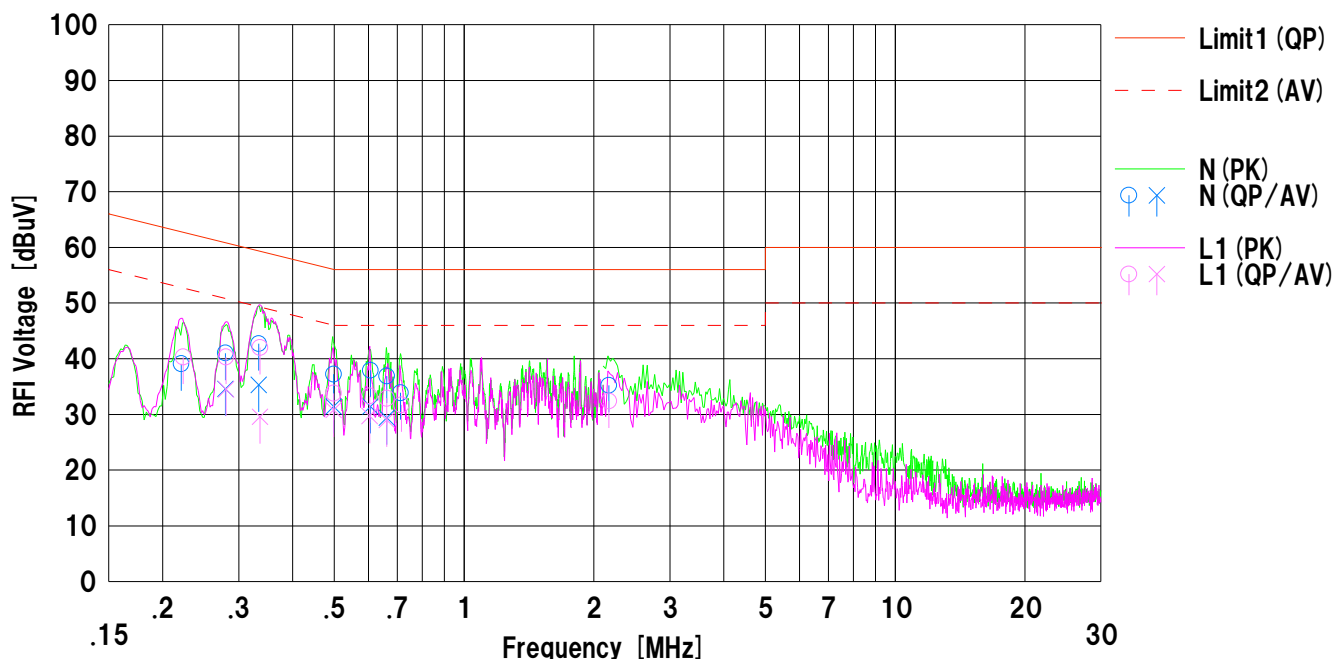
UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/07/01

Company : SUMITOMO PRECISION PRODUCTS CO.,LTD Mode : Transmitting (25ch: 2475MHz)
Kind of E.U.T. : 2.4GHz/10mW TRANSCEIVER MODULE Report No. : 31FE0078-SH-01-A-R1
Model No. : WM-Z2200 Power : AC120V/60Hz
Serial No. : 1105500002 Temp./Humi. : 27°C / 63%

Remarks : Antenna:W1030

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.22090	26.5	---	12.6	39.1	---	62.7	52.7	23.6	---	N	
2	0.27966	28.3	21.9	12.7	41.0	34.6	60.8	50.8	19.8	16.2	N	
3	0.33400	30.0	22.6	12.7	42.7	35.3	59.3	49.3	16.6	14.0	N	
4	0.49776	24.5	18.7	12.7	37.2	31.4	56.0	46.0	18.8	14.6	N	
5	0.60639	25.2	18.7	12.7	37.9	31.4	56.0	46.0	18.1	14.6	N	
6	0.66127	24.2	16.7	12.7	36.9	29.4	56.0	46.0	19.1	16.6	N	
7	0.71155	21.2	---	12.7	33.9	---	56.0	46.0	22.1	---	N	
8	2.16650	22.4	---	12.8	35.2	---	56.0	46.0	20.8	---	N	
9	0.22297	27.7	---	12.6	40.3	---	62.7	52.7	22.4	---	L1	
10	0.28027	27.6	21.8	12.7	40.3	34.5	60.8	50.8	20.5	16.3	L1	
11	0.33606	29.3	16.9	12.7	42.0	29.6	59.3	49.3	17.3	19.7	L1	
12	0.49794	21.1	18.1	12.7	33.8	30.8	56.0	46.0	22.2	15.2	L1	
13	0.60349	20.6	17.0	12.7	33.3	29.7	56.0	46.0	22.7	16.3	L1	
14	0.66122	20.2	16.3	12.7	32.9	29.0	56.0	46.0	23.1	17.0	L1	
15	0.71595	19.0	---	12.7	31.7	---	56.0	46.0	24.3	---	L1	
16	2.16620	19.6	---	12.8	32.4	---	56.0	46.0	23.6	---	L1	

DATA OF CONDUCTED EMISSION TEST

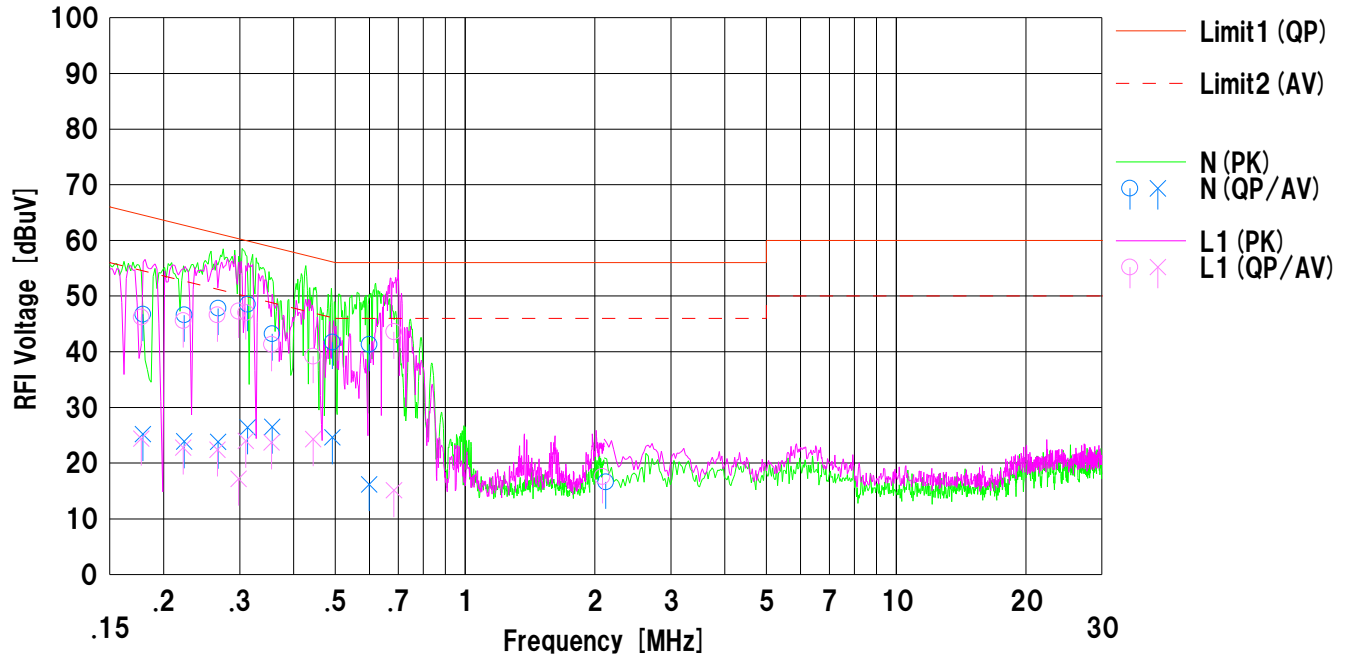
UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room

Company : SUMITOMO PRECISION PRODUCTS CO.,LTD Mode : Transmitting (11ch: 2405MHz)
 Kind of E.U.T. : 2.4GHz/10mW TRANSCEIVER MODULE Report No. : 31FE0078-SH-01-A-R1
 Model No. : WM-Z2200 Power : AC120V/60Hz
 Serial No. : 110550002 Temp./Humi. : 27°C / 60%

Remarks : Antenna:ANTB18-135A0

Limit1 : FCC 15C (15.207) QP
 Limit2 : FCC 15C (15.207) AV

Engineer : Wataru Kojima



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.17896	34.0	12.5	12.7	46.7	25.2	64.5	54.5	17.8	29.3	N	
2	0.22312	34.0	11.3	12.6	46.6	23.9	62.7	52.7	16.1	28.8	N	
3	0.26722	35.2	11.2	12.6	47.8	23.8	61.2	51.2	13.4	27.4	N	
4	0.31310	35.8	13.7	12.7	48.5	26.4	59.8	49.8	11.3	23.4	N	
5	0.35661	30.5	13.8	12.7	43.2	26.5	58.8	48.8	15.6	22.3	N	
6	0.49180	29.0	11.9	12.7	41.7	24.6	56.1	46.1	14.4	21.5	N	
7	0.59900	28.6	3.5	12.7	41.3	16.2	56.0	46.0	14.7	29.8	N	
8	2.11860	3.8	---	12.8	16.6	---	56.0	46.0	39.4	---	N	
9	0.17736	33.5	11.7	12.7	46.2	24.4	64.6	54.6	18.4	30.2	L1	
10	0.22196	33.0	10.2	12.6	45.6	22.8	62.7	52.7	17.1	29.9	L1	
11	0.26626	34.0	9.8	12.6	46.6	22.4	61.2	51.2	14.6	28.8	L1	
12	0.29805	34.6	4.5	12.7	47.3	17.2	60.2	50.2	12.9	33.0	L1	
13	0.31000	34.3	11.3	12.7	47.0	24.0	59.9	49.9	12.9	25.9	L1	
14	0.35550	28.6	11.0	12.7	41.3	23.7	58.8	48.8	17.5	25.1	L1	
15	0.44380	26.5	11.6	12.7	39.2	24.3	56.9	46.9	17.7	22.6	L1	
16	0.68400	30.9	2.4	12.7	43.6	15.1	56.0	46.0	12.4	30.9	L1	
17	2.08105	4.8	---	12.8	17.6	---	56.0	46.0	38.4	---	L1	

DATA OF CONDUCTED EMISSION TEST

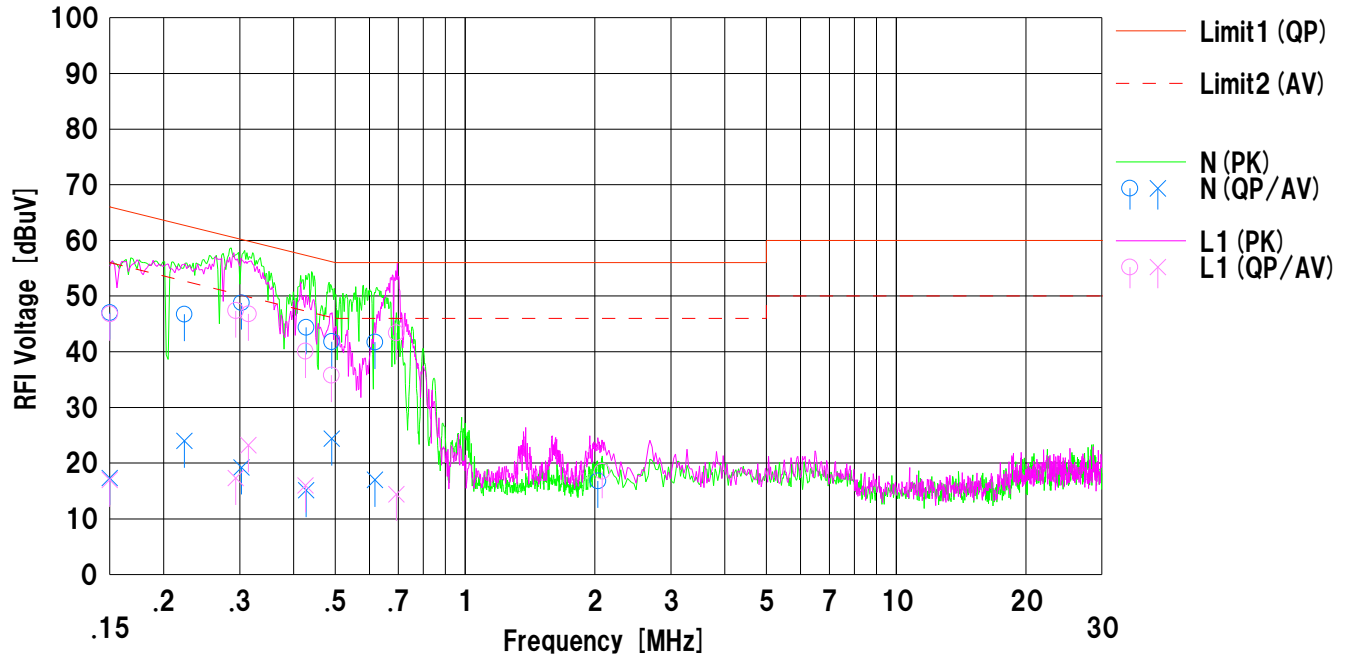
UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room

Company : SUMITOMO PRECISION PRODUCTS CO.,LTD Mode : Transmitting (18ch: 2440MHz)
Kind of E.U.T. : 2.4GHz/10mW TRANSCEIVER MODULE Report No. : 31FE0078-SH-01-A-R1
Model No. : WM-Z2200 Power : AC120V/60Hz
Serial No. : 110550002 Temp./Humi. : 27°C / 60%

Remarks : Antenna:ANTB18-135A0

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV

Engineer : Wataru Kojima



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	34.3	4.6	12.7	47.0	17.3	65.9	55.9	18.9	38.6	N	
2	0.22315	34.1	11.4	12.6	46.7	24.0	62.7	52.7	16.0	28.7	N	
3	0.30295	36.1	6.5	12.7	48.8	19.2	60.1	50.1	11.3	30.9	N	
4	0.42790	31.7	2.4	12.7	44.4	15.1	57.2	47.2	12.8	32.1	N	
5	0.49030	29.1	11.7	12.7	41.8	24.4	56.1	46.1	14.3	21.7	N	
6	0.61800	29.0	4.3	12.7	41.7	17.0	56.0	46.0	14.3	29.0	N	
7	2.03322	4.0	---	12.8	16.8	---	56.0	46.0	39.2	---	N	
8	0.15000	34.1	4.3	12.7	46.8	17.0	66.0	56.0	19.2	39.0	L1	
9	0.29385	34.7	4.6	12.7	47.4	17.3	60.4	50.4	13.0	33.1	L1	
10	0.31460	34.1	10.5	12.7	46.8	23.2	59.8	49.8	13.0	26.6	L1	
11	0.42580	27.4	3.3	12.7	40.1	16.0	57.3	47.3	17.2	31.3	L1	
12	0.48980	23.1	---	12.7	35.8	---	56.1	46.1	20.3	---	L1	
13	0.69250	30.7	1.7	12.7	43.4	14.4	56.0	46.0	12.6	31.6	L1	
14	2.07930	5.7	---	12.8	18.5	---	56.0	46.0	37.5	---	L1	

DATA OF CONDUCTED EMISSION TEST

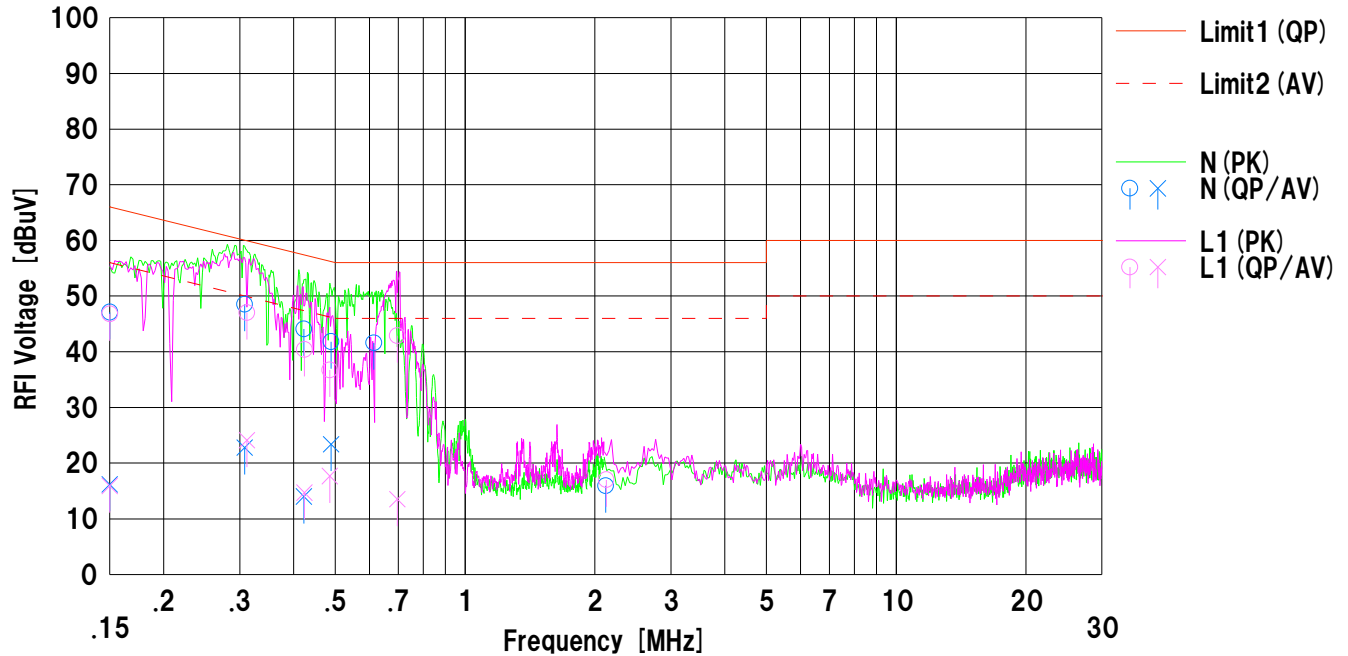
UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room

Company : SUMITOMO PRECISION PRODUCTS CO.,LTD Mode : Transmitting (25ch: 2475MHz)
 Kind of E.U.T. : 2.4GHz/10mW TRANSCEIVER MODULE Report No. : 31FE0078-SH-01-A-R1
 Model No. : WM-Z2200 Power : AC120V/60Hz
 Serial No. : 110550002 Temp./Humi. : 27°C / 60%

Remarks : Antenna:ANTB18-135A0

Limit1 : FCC 15C (15.207) QP
 Limit2 : FCC 15C (15.207) AV

Engineer : Wataru Kojima

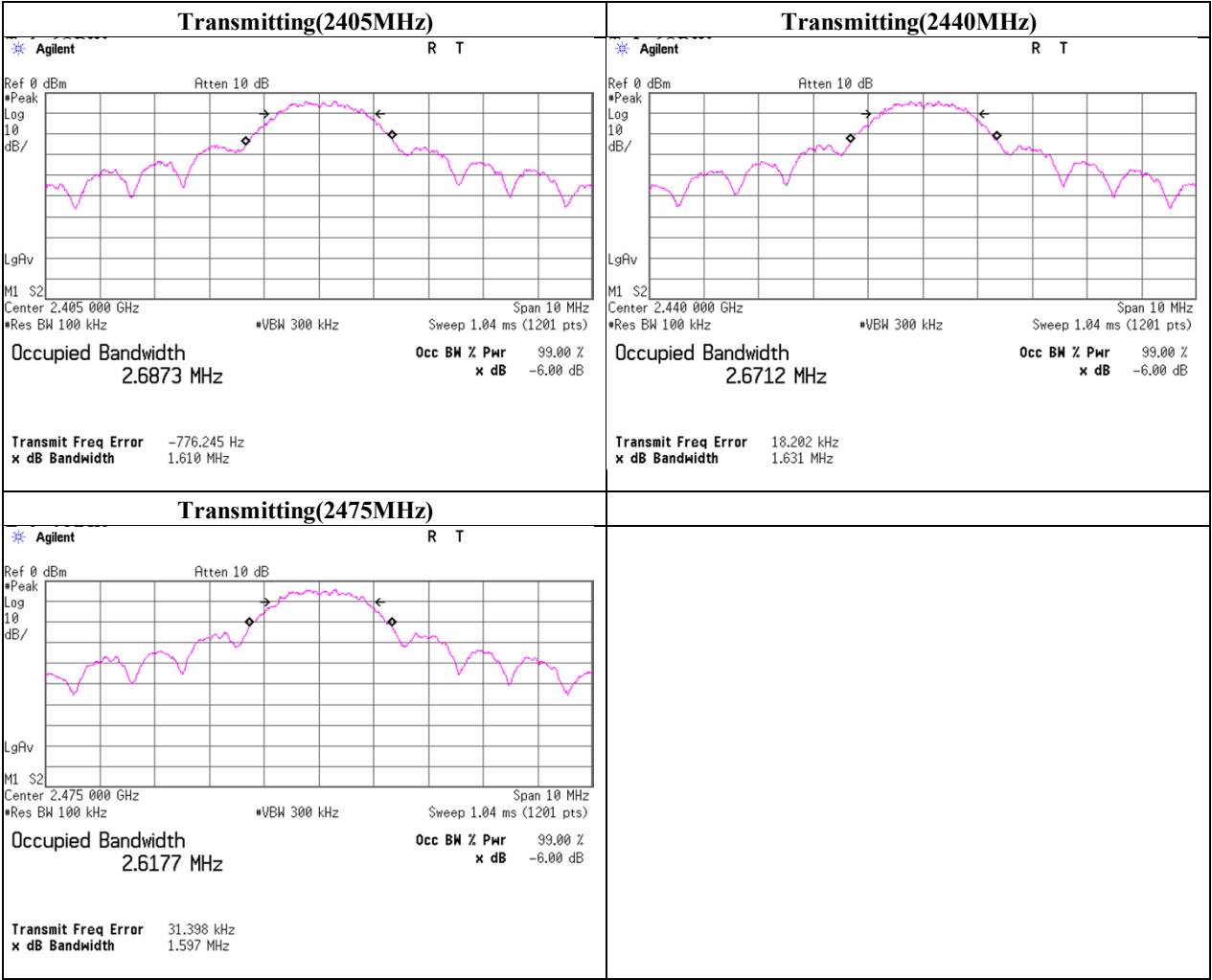


No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	34.4	3.5	12.7	47.1	16.2	65.9	55.9	18.8	39.7	N	
2	0.30785	35.8	10.1	12.7	48.5	22.8	60.0	50.0	11.5	27.2	N	
3	0.42300	31.4	1.3	12.7	44.1	14.0	57.3	47.3	13.2	33.3	N	
4	0.48920	29.1	10.7	12.7	41.8	23.4	56.1	46.1	14.3	22.7	N	
5	0.61500	28.9	---	12.7	41.6	---	56.0	46.0	14.4	---	N	
6	2.12000	3.1	---	12.8	15.9	---	56.0	46.0	40.1	---	N	
7	0.15000	34.1	3.2	12.7	46.8	15.9	65.9	55.9	19.1	40.0	L1	
8	0.31175	34.3	11.4	12.7	47.0	24.1	59.9	49.9	12.9	25.8	L1	
9	0.42445	27.7	2.0	12.7	40.4	14.7	57.3	47.3	16.9	32.6	L1	
10	0.48565	24.0	5.0	12.7	36.7	17.7	56.2	46.2	19.5	28.5	L1	
11	0.69600	30.2	0.8	12.7	42.9	13.5	56.0	46.0	13.1	32.5	L1	
12	2.12650	4.2	---	12.8	17.0	---	56.0	46.0	39.0	---	L1	

-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	2011/6/30	
Temperature / Humidity	25deg.C / 42%RH	
Engineer	Akio Hayashi	
Mode	Tx, Transmitting, PN9	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2405.0000	1.610	> 0.500
2440.0000	1.631	> 0.500
2475.0000	1.597	> 0.500



UL Japan, Inc.
Shonan EMC Lab.
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2011/6/30
Temperature / Humidity 25deg.C. , 42% RH
Engineer Akio Hayashi
Mode Tx, Transmitting, PN9,

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2405.0	-0.43	0.71	9.97	10.25	10.59	30.00	1000	19.75
Mid	2440.0	-0.39	0.72	9.97	10.30	10.72	30.00	1000	19.70
High	2475.0	-0.46	0.73	9.97	10.24	10.57	30.00	1000	19.76

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss

UL Japan, Inc.
Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Emission (Antenna:W1030)

Test place UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber
 Date June 28, 2011 June 29, 2011 June 30, 2011
 Temperature / Humidity 24deg.C. , 71%RH 25deg.C. , 66%RH 25deg.C. , 54%RH
 Engineer Hikaru Shirasawa
 Mode Tx, 2405 MHz
 Tx, Transmitting, PN9, worst antenna port , worst data mode

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	283.284	QP	21.1	19.0	10.3	31.7	18.7	46.0	27.3	198	352	
Hori.	320.000	QP	30.7	14.5	7.1	31.7	20.6	46.0	25.4	100	83	
Hori.	365.007	QP	26.8	15.6	7.4	31.7	18.1	46.0	27.9	100	203	
Hori.	384.008	QP	29.7	16.1	7.5	31.7	21.6	46.0	24.4	100	204	
Hori.	400.000	QP	29.4	16.5	7.6	31.7	21.8	46.0	24.2	100	197	
Hori.	926.954	QP	20.4	22.3	10.1	30.7	22.1	46.0	23.9	100	358	
Hori.	2260.980	PK	50.7	27.3	13.6	38.0	53.6	73.9	20.3	100	60	
Hori.	2386.640	PK	53.3	27.4	13.7	37.8	56.6	73.9	17.3	121	237	
Hori.	2390.000	PK	53.2	27.4	13.7	37.8	56.5	73.9	17.4	150	69	
Hori.	2549.164	PK	49.9	27.5	13.7	37.6	53.5	73.9	20.4	116	261	
Hori.	4810.000	PK	48.8	30.6	5.9	36.6	48.7	73.9	25.2	100	52	
Hori.	7215.000	PK	46.9	36.2	7.3	38.4	52.0	73.9	21.9	100	127	
Hori.	9620.000	PK	43.7	38.4	8.6	37.1	53.6	73.9	20.3	100	116	
Hori.	12025.000	PK	45.1	39.4	9.9	37.9	56.5	73.9	17.4	100	359	
Hori.	2260.980	AV	42.6	27.3	13.6	38.0	45.5	53.9	8.4	100	60	
Hori.	2386.640	AV	41.2	27.4	13.7	37.8	44.5	53.9	9.4	121	237	
Hori.	2390.000	AV	42.0	27.4	13.7	37.8	45.3	53.9	8.6	150	69	
Hori.	2549.164	AV	41.4	27.5	13.7	37.6	45.0	53.9	8.9	116	261	
Hori.	4810.000	AV	38.9	30.6	5.9	36.6	38.8	53.9	15.1	100	52	
Hori.	7215.000	AV	33.9	36.2	7.3	38.4	39.0	53.9	14.9	100	127	
Hori.	9620.000	AV	30.3	38.4	8.6	37.1	40.2	53.9	13.7	100	116	
Hori.	12025.000	AV	32.0	39.4	9.9	37.9	43.4	53.9	10.5	100	359	
Vert.	440.833	QP	21.4	17.1	7.8	31.6	14.7	46.0	31.3	100	2	
Vert.	948.937	QP	20.4	22.5	10.2	30.6	22.5	46.0	23.5	100	359	
Vert.	2261.055	PK	50.6	27.3	13.6	38.0	53.5	73.9	20.4	100	204	
Vert.	2385.930	PK	52.3	27.4	13.7	37.8	55.6	73.9	18.3	118	205	
Vert.	2390.000	PK	53.6	27.4	13.7	37.8	56.9	73.9	17.0	118	205	
Vert.	2549.007	PK	52.1	27.5	13.7	37.6	55.7	73.9	18.2	118	205	
Vert.	4810.000	PK	47.9	30.6	5.9	36.6	47.8	73.9	26.1	102	205	
Vert.	7215.000	PK	45.6	36.2	7.3	38.4	50.7	73.9	23.2	100	0	
Vert.	9620.000	PK	42.0	38.4	8.6	37.1	51.9	73.9	22.0	100	266	
Vert.	12025.000	PK	44.1	39.4	9.9	37.9	55.5	73.9	18.4	100	0	
Vert.	2261.055	AV	40.6	27.3	13.6	38.0	43.5	53.9	10.4	100	204	
Vert.	2385.930	AV	39.7	27.4	13.7	37.8	43.0	53.9	10.9	118	205	
Vert.	2390.000	AV	40.5	27.4	13.7	37.8	43.8	53.9	10.1	118	205	
Vert.	2549.007	AV	44.1	27.5	13.7	37.6	47.7	53.9	6.2	118	205	
Vert.	4810.000	AV	41.5	30.6	5.9	36.6	41.4	53.9	12.5	102	205	
Vert.	7215.000	AV	34.0	36.2	7.3	38.4	39.1	53.9	14.8	100	0	
Vert.	9620.000	AV	31.4	38.4	8.6	37.1	41.3	53.9	12.6	100	266	
Vert.	12025.000	AV	32.0	39.4	9.9	37.9	43.4	53.9	10.5	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2405.000	PK	101.7	27.4	13.7	37.8	105.0	-	-	Carrier
Hori.	2400.000	PK	61.6	27.4	13.7	37.8	64.9	85.0	20.1	
Vert.	2405.000	PK	101.4	27.4	13.7	37.8	104.7	-	-	Carrier
Vert.	2400.000	PK	60.3	27.4	13.7	37.8	63.6	84.7	21.1	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Emission (Antenna:W1030)

Test place UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber
Date June 28, 2011 June 29, 2011 June 30, 2011
Temperature / Humidity 24deg.C. , 71%RH 25deg.C. , 66%RH 25deg.C.
Engineer Hikaru Shirasawa
Mode Tx, 2440 MHz
Tx, Transmitting, PN9, worst antenna port , worst data mode

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	291.203	QP	21.9	19.3	10.4	31.7	19.9	46.0	26.1	150	0	
Hori.	304.000	QP	31.0	14.1	7.0	31.7	20.4	46.0	25.6	100	278	
Hori.	340.343	QP	21.9	15.0	7.2	31.7	12.4	46.0	33.6	100	359	
Hori.	400.000	QP	31.2	16.5	7.6	31.7	23.6	46.0	22.4	100	194	
Hori.	927.969	QP	20.3	22.3	10.1	30.7	22.0	46.0	24.0	150	359	
Hori.	2296.090	PK	48.8	27.3	13.6	38.0	51.7	73.9	22.2	100	78	
Hori.	2584.156	PK	48.3	27.6	13.7	37.7	51.9	73.9	22.0	105	205	
Hori.	4880.000	PK	47.6	30.8	5.9	36.6	47.7	73.9	26.2	100	33	
Hori.	7320.000	PK	46.9	36.4	7.4	38.4	52.3	73.9	21.6	110	162	
Hori.	9760.000	PK	44.2	38.5	8.6	37.1	54.2	73.9	19.7	100	359	
Hori.	12200.000	PK	44.0	39.4	9.9	38.0	55.3	73.9	18.6	100	359	
Hori.	2296.090	AV	41.6	27.3	13.6	38.0	44.5	53.9	9.4	100	78	
Hori.	2584.156	AV	41.1	27.6	13.7	37.7	44.7	53.9	9.2	105	205	
Hori.	4880.000	AV	39.9	30.8	5.9	36.6	40.0	53.9	13.9	100	33	
Hori.	7320.000	AV	37.2	36.4	7.4	38.4	42.6	53.9	11.3	110	162	
Hori.	9760.000	AV	31.5	38.5	8.6	37.1	41.5	53.9	12.4	100	359	
Hori.	12200.000	AV	32.6	39.4	9.9	38.0	43.9	53.9	10.0	100	359	
Vert.	297.281	QP	22.0	19.6	10.5	31.7	20.4	46.0	25.6	100	0	
Vert.	692.248	QP	22.0	20.4	9.0	31.5	19.9	46.0	26.1	100	359	
Vert.	927.193	QP	21.5	22.3	10.1	30.7	23.2	46.0	22.8	100	0	
Vert.	2296.065	PK	47.6	27.3	13.6	38.0	50.5	73.9	23.4	100	255	
Vert.	2584.156	PK	47.2	27.6	13.7	37.7	50.8	73.9	23.1	131	205	
Vert.	4880.000	PK	47.0	30.8	5.9	36.6	47.1	73.9	26.8	100	291	
Vert.	7320.000	PK	46.2	36.4	7.4	38.4	51.6	73.9	22.3	100	359	
Vert.	9760.000	PK	43.7	38.5	8.6	37.1	53.7	73.9	20.2	100	0	
Vert.	12200.000	PK	45.0	39.4	9.9	38.0	56.3	73.9	17.6	100	0	
Vert.	2296.065	AV	39.2	27.3	13.6	38.0	42.1	53.9	11.8	100	255	
Vert.	2584.156	AV	37.6	27.6	13.7	37.7	41.2	53.9	12.7	131	205	
Vert.	4880.000	AV	40.1	30.8	5.9	36.6	40.2	53.9	13.7	100	291	
Vert.	7320.000	AV	34.4	36.4	7.4	38.4	39.8	53.9	14.1	100	359	
Vert.	9760.000	AV	30.8	38.5	8.6	37.1	40.8	53.9	13.1	100	0	
Vert.	12200.000	AV	32.7	39.4	9.9	38.0	44.0	53.9	9.9	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 13GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Emission (Antenna:W1030)

Test place UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber
 Date June 28, 2011 June 29, 2011 June 30, 2011
 Temperature / Humidity 24deg.C. , 71%RH 25deg.C. , 66%RH 25deg.C.
 Engineer Hikaru Shirasawa
 Mode Tx, 2475 MHz
 Tx, Transmitting, PN9, worst antenna port , worst data mode

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	290.664	QP	21.5	19.3	10.4	31.7	19.5	46.0	26.5	150	1	
Hori.	320.000	QP	31.2	14.5	7.1	31.7	21.1	46.0	24.9	100	82	
Hori.	384.000	QP	30.6	16.1	7.5	31.7	22.5	46.0	23.5	100	205	
Hori.	400.000	QP	30.5	16.5	7.6	31.7	22.9	46.0	23.1	100	203	
Hori.	915.579	QP	20.5	22.1	10.1	30.8	21.9	46.0	24.1	100	0	
Hori.	2326.995	PK	50.0	27.3	13.6	37.9	53.0	73.9	20.9	121	69	
Hori.	2483.500	PK	49.3	27.4	13.6	37.6	52.7	73.9	21.2	150	69	
Hori.	2483.880	PK	48.4	27.4	13.6	37.6	51.8	73.9	22.1	150	69	
Hori.	2623.770	PK	50.7	27.6	13.7	37.7	54.3	73.9	19.6	109	232	
Hori.	4950.000	PK	50.7	30.9	5.9	36.5	51.0	73.9	22.9	100	220	
Hori.	7425.000	PK	46.1	36.6	7.3	38.4	51.6	73.9	22.3	100	0	
Hori.	9900.000	PK	44.1	38.7	8.6	37.2	54.2	73.9	19.7	100	359	
Hori.	12375.000	PK	44.4	39.4	9.9	38.0	55.7	73.9	18.2	100	359	
Hori.	2326.995	AV	42.3	27.3	13.6	37.9	45.3	53.9	8.6	121	69	
Hori.	2483.500	AV	36.9	27.4	13.6	37.6	40.3	53.9	13.6	150	69	
Hori.	2483.880	AV	37.3	27.4	13.6	37.6	40.7	53.9	13.2	150	69	
Hori.	2623.770	AV	44.9	27.6	13.7	37.7	48.5	53.9	5.4	109	232	
Hori.	4950.000	AV	43.2	30.9	5.9	36.5	43.5	53.9	10.4	100	220	
Hori.	7425.000	AV	33.6	36.6	7.3	38.4	39.1	53.9	14.8	100	0	
Hori.	9900.000	AV	31.4	38.7	8.6	37.2	41.5	53.9	12.4	100	359	
Hori.	12375.000	AV	32.2	39.4	9.9	38.0	43.5	53.9	10.4	100	359	
Vert.	298.077	QP	21.4	19.6	10.5	31.7	19.8	46.0	26.2	100	358	
Vert.	384.008	QP	26.9	16.1	7.5	31.7	18.8	46.0	27.2	100	234	
Vert.	948.155	QP	20.4	22.5	10.2	30.6	22.5	46.0	23.5	100	0	
Vert.	2326.897	PK	46.6	27.3	13.6	37.9	49.6	73.9	24.3	118	205	
Vert.	2483.500	PK	51.2	27.4	13.6	37.6	54.6	73.9	19.3	118	205	
Vert.	2483.880	PK	51.3	27.4	13.6	37.6	54.7	73.9	19.2	118	205	
Vert.	2627.080	PK	45.2	27.6	13.7	37.7	48.8	73.9	25.1	118	205	
Vert.	4950.000	PK	47.7	30.9	5.9	36.5	48.0	73.9	25.9	104	225	
Vert.	7425.000	PK	46.0	36.6	7.3	38.4	51.5	73.9	22.4	100	359	
Vert.	9900.000	PK	43.5	38.7	8.6	37.2	53.6	73.9	20.3	100	0	
Vert.	12375.000	PK	44.9	39.4	9.9	38.0	56.2	73.9	17.7	100	0	
Vert.	2326.897	AV	38.1	27.3	13.6	37.9	41.1	53.9	12.8	118	205	
Vert.	2483.500	AV	38.6	27.4	13.6	37.6	42.0	53.9	11.9	118	205	
Vert.	2483.880	AV	38.3	27.4	13.6	37.6	41.7	53.9	12.2	118	205	
Vert.	2627.080	AV	34.7	27.6	13.7	37.7	38.3	53.9	15.6	118	205	
Vert.	4950.000	AV	42.8	30.9	5.9	36.5	43.1	53.9	10.8	104	225	
Vert.	7425.000	AV	34.2	36.6	7.3	38.4	39.7	53.9	14.2	100	359	
Vert.	9900.000	AV	31.8	38.7	8.6	37.2	41.9	53.9	12.0	100	0	
Vert.	12375.000	AV	32.2	39.4	9.9	38.0	43.5	53.9	10.4	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Emission (Antenna:ANTB18-135A0)

Test place UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber
 Date July 28, 2011
 Temperature / Humidity 25deg.C. , 54%RH
 Engineer Wataru Kojima
 Mode Tx, 2405 MHz
 Tx, Transmitting, PN9, worst antenna port , worst data mode

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	352.000	QP	29.2	15.3	7.3	31.7	20.1	46.0	25.9	100	142	
Hori.	367.948	QP	28.0	15.7	7.4	31.7	19.4	46.0	26.6	100	194	
Hori.	2260.980	PK	51.6	27.3	13.6	38.0	54.5	73.9	19.4	100	236	
Hori.	2386.640	PK	53.4	27.4	13.7	37.8	56.7	73.9	17.2	149	41	
Hori.	2390.000	PK	53.6	27.4	13.7	37.8	56.9	73.9	17.0	119	248	
Hori.	2549.164	PK	53.5	27.5	13.7	37.6	57.1	73.9	16.8	110	37	
Hori.	4810.000	PK	49.6	30.6	5.9	36.6	49.5	73.9	24.4	100	10	
Hori.	7215.000	PK	48.1	36.2	7.3	38.4	53.2	73.9	20.7	100	342	
Hori.	9620.000	PK	43.0	38.4	8.6	37.1	52.9	73.9	21.0	100	0	
Hori.	12025.000	PK	42.3	39.4	9.9	37.9	53.7	73.9	20.2	100	0	
Hori.	2260.980	AV	42.8	27.3	13.6	38.0	45.7	53.9	8.2	100	236	
Hori.	2386.640	AV	42.2	27.4	13.7	37.8	45.5	53.9	8.4	149	41	
Hori.	2390.000	AV	42.8	27.4	13.7	37.8	46.1	53.9	7.8	119	248	
Hori.	2549.164	AV	47.2	27.5	13.7	37.6	50.8	53.9	3.1	110	37	
Hori.	4810.000	AV	44.5	30.6	5.9	36.6	44.4	53.9	9.5	100	10	
Hori.	7215.000	AV	38.0	36.2	7.3	38.4	43.1	53.9	10.8	100	342	
Hori.	9620.000	AV	30.5	38.4	8.6	37.1	40.4	53.9	13.5	100	0	
Hori.	12025.000	AV	31.9	39.4	9.9	37.9	43.3	53.9	10.6	100	0	
Vert.	287.007	QP	21.1	19.1	10.4	31.7	18.9	46.0	27.1	100	123	
Vert.	2260.980	PK	50.7	27.3	13.6	38.0	53.6	73.9	20.3	100	17	
Vert.	2386.640	PK	53.9	27.4	13.7	37.8	57.2	73.9	16.7	100	248	
Vert.	2390.000	PK	39.8	27.4	13.7	37.8	43.1	73.9	30.8	100	19	
Vert.	2549.164	PK	51.5	27.5	13.7	37.6	55.1	73.9	18.8	115	126	
Vert.	4810.000	PK	49.9	30.6	5.9	36.6	49.8	73.9	24.1	103	111	
Vert.	7215.000	PK	45.9	36.2	7.3	38.4	51.0	73.9	22.9	100	359	
Vert.	9620.000	PK	42.9	38.4	8.6	37.1	52.8	73.9	21.1	100	0	
Vert.	12025.000	PK	42.2	39.4	9.9	37.9	53.6	73.9	20.3	100	0	
Vert.	2260.980	AV	41.8	27.3	13.6	38.0	44.7	53.9	9.2	100	17	
Vert.	2386.640	AV	41.9	27.4	13.7	37.8	45.2	53.9	8.7	100	248	
Vert.	2390.000	AV	41.4	27.4	13.7	37.8	44.7	53.9	9.2	100	19	
Vert.	2549.164	AV	43.9	27.5	13.7	37.6	47.5	53.9	6.4	115	126	
Vert.	4810.000	AV	46.5	30.6	5.9	36.6	46.4	53.9	7.5	103	111	
Vert.	7215.000	AV	35.1	36.2	7.3	38.4	40.2	53.9	13.7	100	359	
Vert.	9620.000	AV	30.3	38.4	8.6	37.1	40.2	53.9	13.7	100	0	
Vert.	12025.000	AV	31.8	39.4	9.9	37.9	43.2	53.9	10.7	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2405.000	PK	101.2	27.4	13.7	37.8	104.5	-	-	Carrier
Hori.	2400.000	PK	61.9	27.4	13.7	37.8	65.2	84.5	19.3	
Vert.	2405.000	PK	100.4	27.4	13.7	37.8	103.7	-	-	Carrier
Vert.	2400.000	PK	61.1	27.4	13.7	37.8	64.4	83.7	19.3	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Emission (Antenna:ANTB18-135A0)

Test place UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber
Date July 28, 2011
Temperature / Humidity 25deg.C. , 54%RH
Engineer Wataru Kojima
Mode Tx, 2440 MHz
 Tx, Transmitting, PN9, worst antenna port , worst data mode

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	352.000	QP	29.3	15.3	7.3	31.7	20.2	46.0	25.8	100	159	
Hori.	367.946	QP	27.6	15.7	7.4	31.7	19.0	46.0	27.0	150	164	
Hori.	2296.090	PK	49.2	27.3	13.6	38.0	52.1	73.9	21.8	100	220	
Hori.	2584.156	PK	48.8	27.6	13.7	37.7	52.4	73.9	21.5	109	47	
Hori.	4880.000	PK	46.4	30.8	5.9	36.6	46.5	73.9	27.4	114	311	
Hori.	7320.000	PK	48.8	36.4	7.4	38.4	54.2	73.9	19.7	114	345	
Hori.	9760.000	PK	42.9	38.5	8.6	37.1	52.9	73.9	21.0	100	0	
Hori.	12200.000	PK	44.5	39.4	9.9	38.0	55.8	73.9	18.1	100	0	
Hori.	2296.090	AV	42.3	27.3	13.6	38.0	45.2	53.9	8.7	100	220	
Hori.	2584.156	AV	42.0	27.6	13.7	37.7	45.6	53.9	8.3	109	47	
Hori.	4880.000	AV	39.3	30.8	5.9	36.6	39.4	53.9	14.5	114	311	
Hori.	7320.000	AV	38.5	36.4	7.4	38.4	43.9	53.9	10.0	114	345	
Hori.	9760.000	AV	31.2	38.5	8.6	37.1	41.2	53.9	12.7	100	0	
Hori.	12200.000	AV	32.9	39.4	9.9	38.0	44.2	53.9	9.7	100	0	
Vert.	270.829	QP	21.2	18.4	10.1	31.7	18.0	46.0	28.0	100	106	
Vert.	2296.090	PK	49.5	27.3	13.6	38.0	52.4	73.9	21.5	100	18	
Vert.	2584.156	PK	47.5	27.6	13.7	37.7	51.1	73.9	22.8	133	329	
Vert.	4880.000	PK	51.5	30.8	5.9	36.6	51.6	73.9	22.3	104	83	
Vert.	7320.000	PK	46.9	36.4	7.4	38.4	52.3	73.9	21.6	102	52	
Vert.	9760.000	PK	42.8	38.5	8.6	37.1	52.8	73.9	21.1	100	0	
Vert.	12200.000	PK	44.6	39.4	9.9	38.0	55.9	73.9	18.0	100	0	
Vert.	2296.090	AV	41.9	27.3	13.6	38.0	44.8	53.9	9.1	100	18	
Vert.	2584.156	AV	38.2	27.6	13.7	37.7	41.8	53.9	12.1	133	329	
Vert.	4880.000	AV	44.2	30.8	5.9	36.6	44.3	53.9	9.6	104	83	
Vert.	7320.000	AV	35.7	36.4	7.4	38.4	41.1	53.9	12.8	102	52	
Vert.	9760.000	AV	31.3	38.5	8.6	37.1	41.3	53.9	12.6	100	0	
Vert.	12200.000	AV	32.8	39.4	9.9	38.0	44.1	53.9	9.8	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Radiated Emission (Antenna:ANTB18-135A0)

Test place UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber
 Date July 28, 2011
 Temperature / Humidity 25deg.C. , 54%RH
 Engineer Wataru Kojima
 Mode Tx, 2475 MHz
 Tx, Transmitting, PN9, worst antenna port , worst data mode

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	351.999	QP	29.2	15.3	7.3	31.7	20.1	46.0	25.9	100	159	
Hori.	367.937	QP	27.8	15.7	7.4	31.7	19.2	46.0	26.8	150	324	
Hori.	2326.995	PK	49.7	27.3	13.6	37.9	52.7	73.9	21.2	125	50	
Hori.	2483.500	PK	53.0	27.4	13.6	37.6	56.4	73.9	17.5	113	232	
Hori.	2483.880	PK	53.6	27.4	13.6	37.6	57.0	73.9	16.9	114	259	
Hori.	2623.770	PK	51.1	27.6	13.7	37.7	54.7	73.9	19.2	106	242	
Hori.	4950.000	PK	47.0	30.9	5.9	36.5	47.3	73.9	26.6	146	26	
Hori.	7425.000	PK	50.2	36.6	7.3	38.4	55.7	73.9	18.2	105	344	
Hori.	9900.000	PK	43.0	38.7	8.6	37.2	53.1	73.9	20.8	100	0	
Hori.	12375.000	PK	43.5	39.4	9.9	38.0	54.8	73.9	19.1	100	0	
Hori.	2326.995	AV	42.2	27.3	13.6	37.9	45.2	53.9	8.7	125	50	
Hori.	2483.500	AV	40.8	27.4	13.6	37.6	44.2	53.9	9.7	113	232	
Hori.	2483.880	AV	42.1	27.4	13.6	37.6	45.5	53.9	8.4	114	259	
Hori.	2623.770	AV	44.7	27.6	13.7	37.7	48.3	53.9	5.6	106	242	
Hori.	4950.000	AV	41.7	30.9	5.9	36.5	42.0	53.9	11.9	146	26	
Hori.	7425.000	AV	40.9	36.6	7.3	38.4	46.4	53.9	7.5	105	344	
Hori.	9900.000	AV	30.2	38.7	8.6	37.2	40.3	53.9	13.6	100	0	
Hori.	12375.000	AV	31.3	39.4	9.9	38.0	42.6	53.9	11.3	100	0	
Vert.	228.925	QP	21.2	17.0	9.6	31.7	16.1	46.0	29.9	100	358	
Vert.	2326.995	PK	49.7	27.3	13.6	37.9	52.7	73.9	21.2	100	252	
Vert.	2483.500	PK	51.8	27.4	13.6	37.6	55.2	73.9	18.7	119	234	
Vert.	2483.880	PK	52.0	27.4	13.6	37.6	55.4	73.9	18.5	118	208	
Vert.	2623.770	PK	49.1	27.6	13.7	37.7	52.7	73.9	21.2	109	208	
Vert.	4950.000	PK	50.1	30.9	5.9	36.5	50.4	73.9	23.5	102	77	
Vert.	7425.000	PK	47.0	36.6	7.3	38.4	52.5	73.9	21.4	148	45	
Vert.	9900.000	PK	43.1	38.7	8.6	37.2	53.2	73.9	20.7	100	0	
Vert.	12375.000	PK	43.8	39.4	9.9	38.0	55.1	73.9	18.8	100	0	
Vert.	2326.995	AV	41.9	27.3	13.6	37.9	44.9	53.9	9.0	100	252	
Vert.	2483.500	AV	39.6	27.4	13.6	37.6	43.0	53.9	10.9	119	234	
Vert.	2483.880	AV	41.1	27.4	13.6	37.6	44.5	53.9	9.4	118	208	
Vert.	2623.770	AV	41.5	27.6	13.7	37.7	45.1	53.9	8.8	109	208	
Vert.	4950.000	AV	45.2	30.9	5.9	36.5	45.5	53.9	8.4	102	77	
Vert.	7425.000	AV	36.4	36.6	7.3	38.4	41.9	53.9	12.0	148	45	
Vert.	9900.000	AV	30.1	38.7	8.6	37.2	40.2	53.9	13.7	100	0	
Vert.	12375.000	AV	31.4	39.4	9.9	38.0	42.7	53.9	11.2	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Agilent

R T

Ref 10 dBm

Atten 20 dB

#Peak

Log

10

dB/

LgAv

W1 S2

W3 FS

RA

E(f):

FTun

Center 2.440 000 GHz

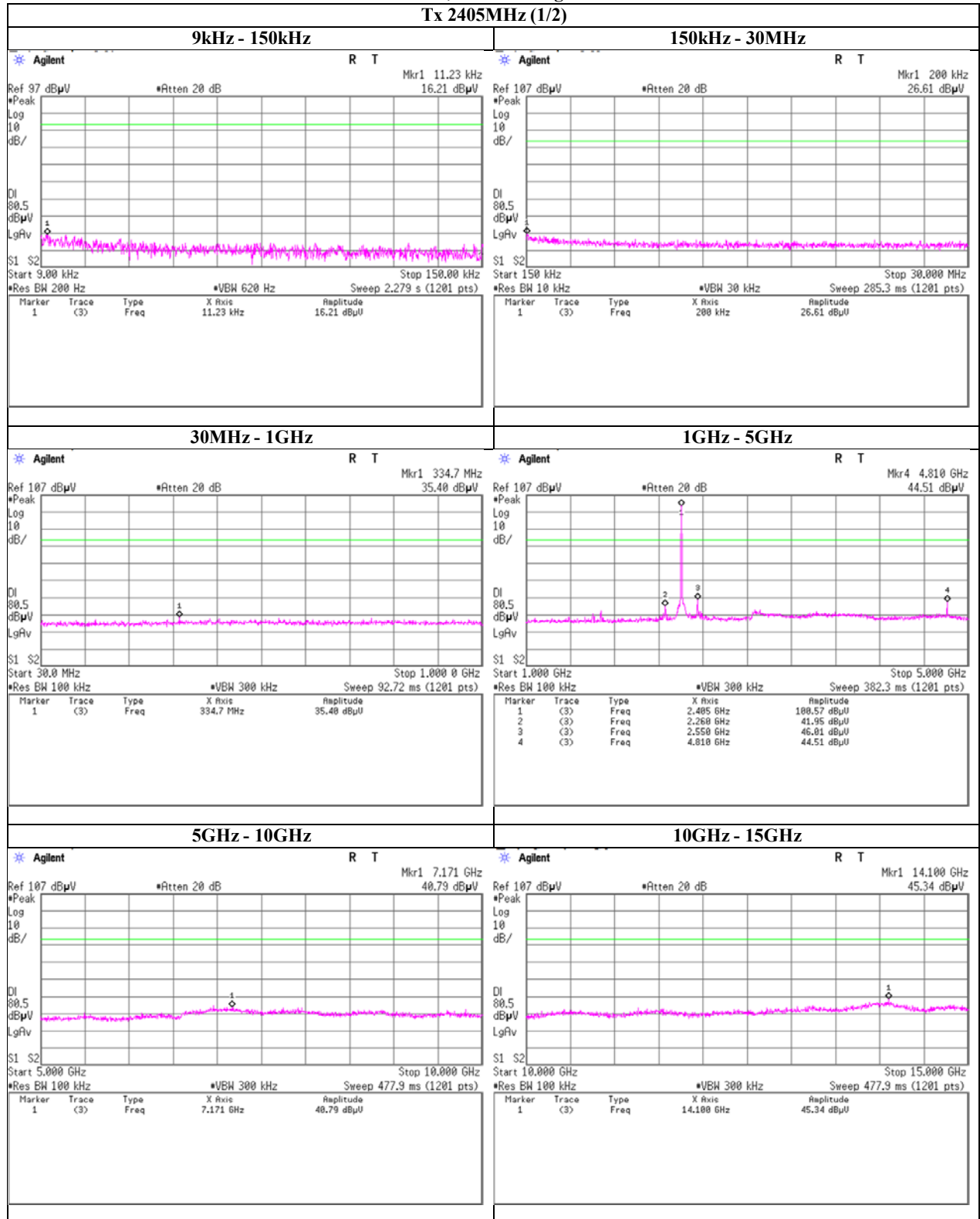
Res BW 1 MHz

Span 0 Hz

VBW 3 MHz

Sweep 100 ms (1201 pts)

Facsimile : +81 463 50 6401

Spurious emission (Conducted)**Tx, Transmitting****Tx 2405MHz (1/2)****UL Japan, Inc.****Shonan EMC Lab.**

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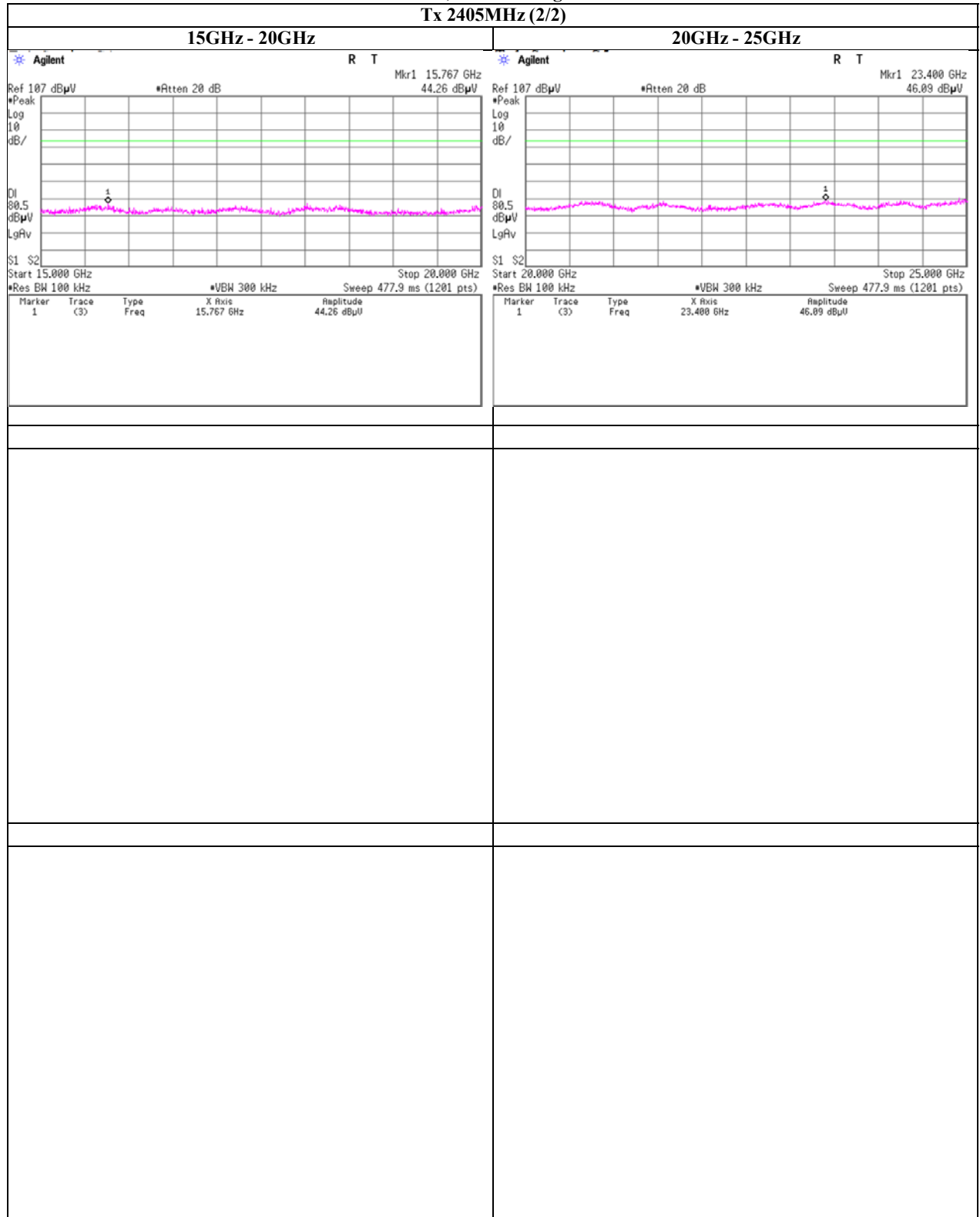
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Spurious emission (Conducted)

Tx, Transmitting

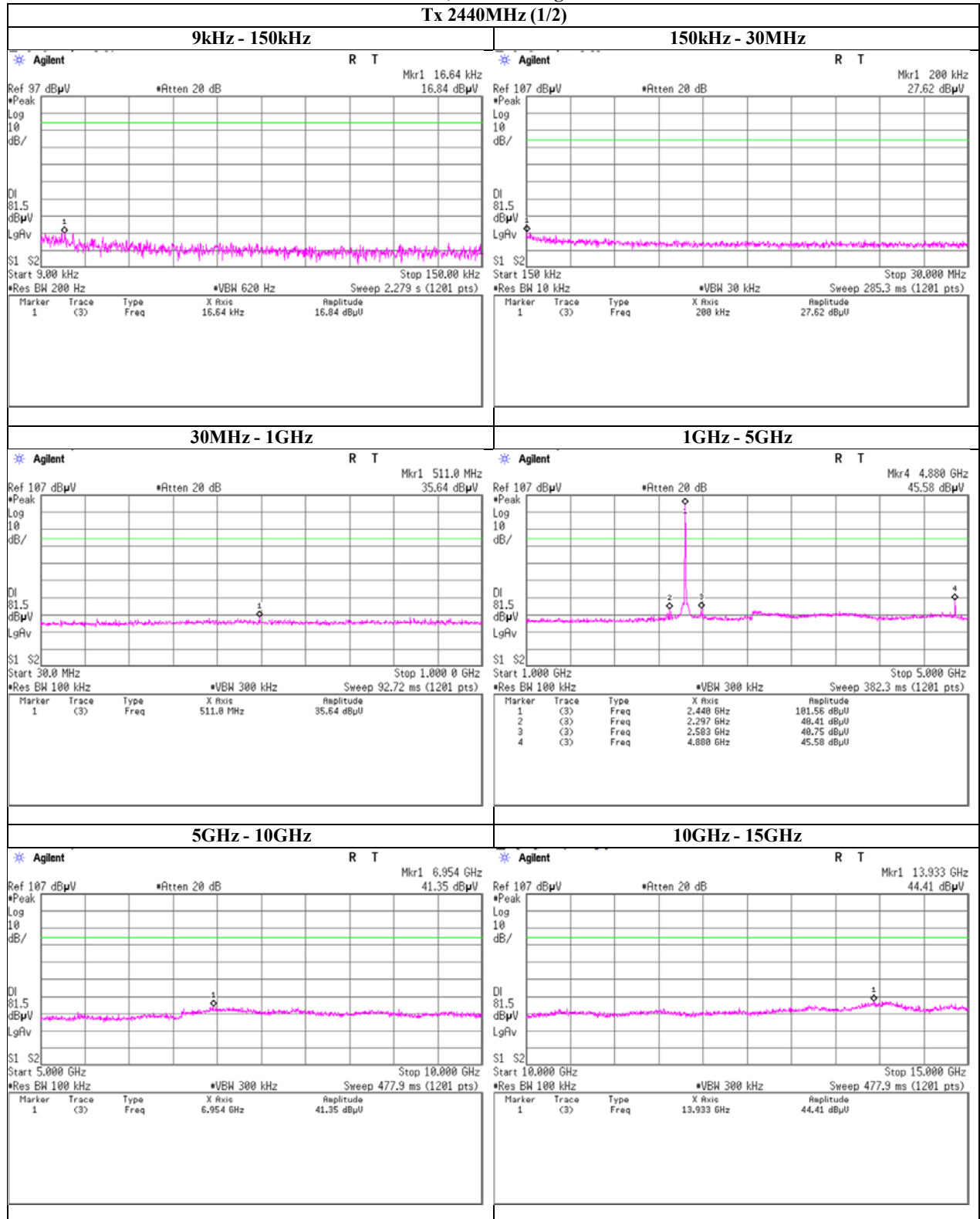
Tx 2405MHz (2/2)

**UL Japan, Inc.****Shonan EMC Lab.**

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Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Spurious emission (Conducted)**Tx, Transmitting****Tx 2440MHz (1/2)****UL Japan, Inc.****Shonan EMC Lab.**

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

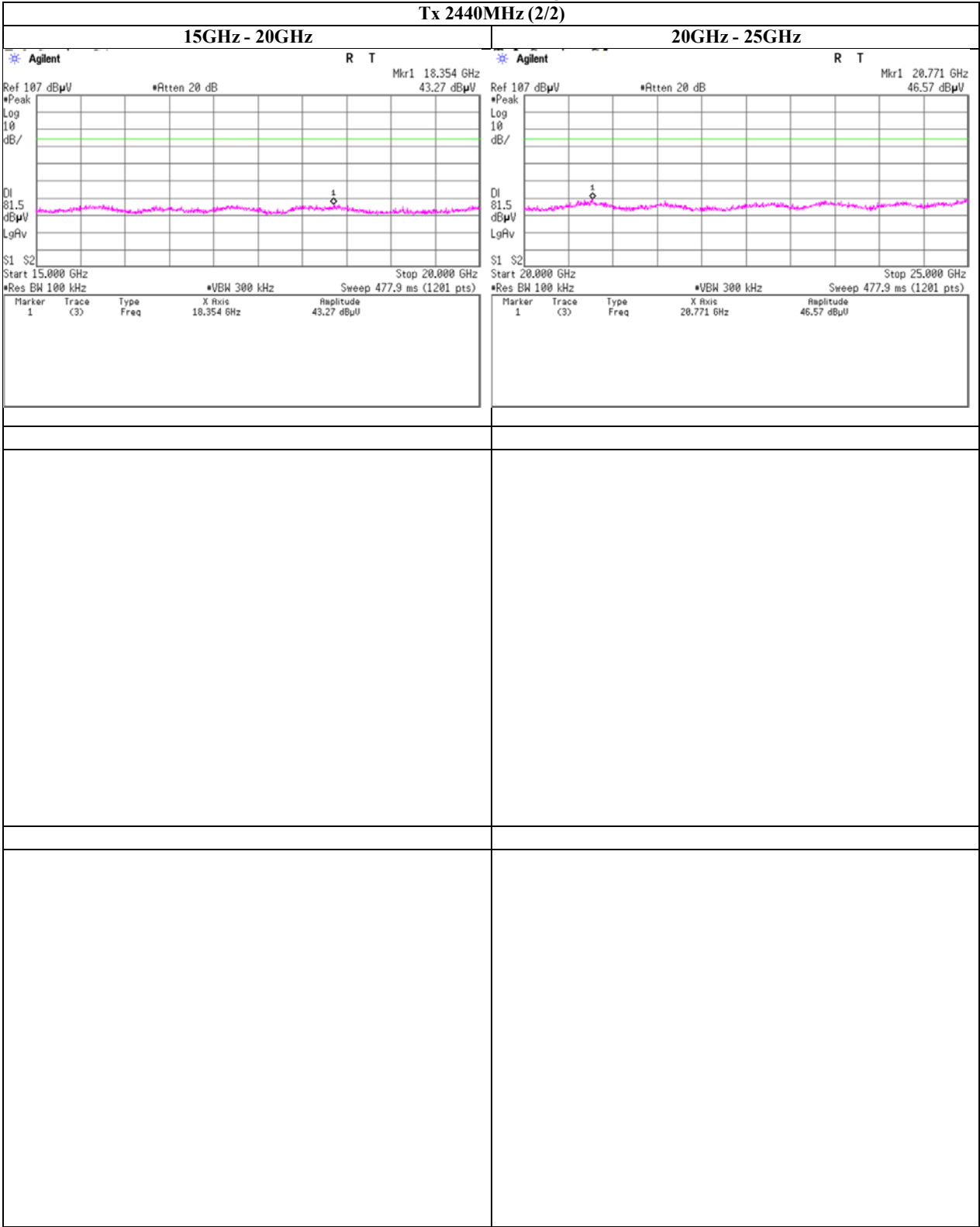
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Spurious emission (Conducted)

Tx, Transmitting

Tx 2440MHz (2/2)



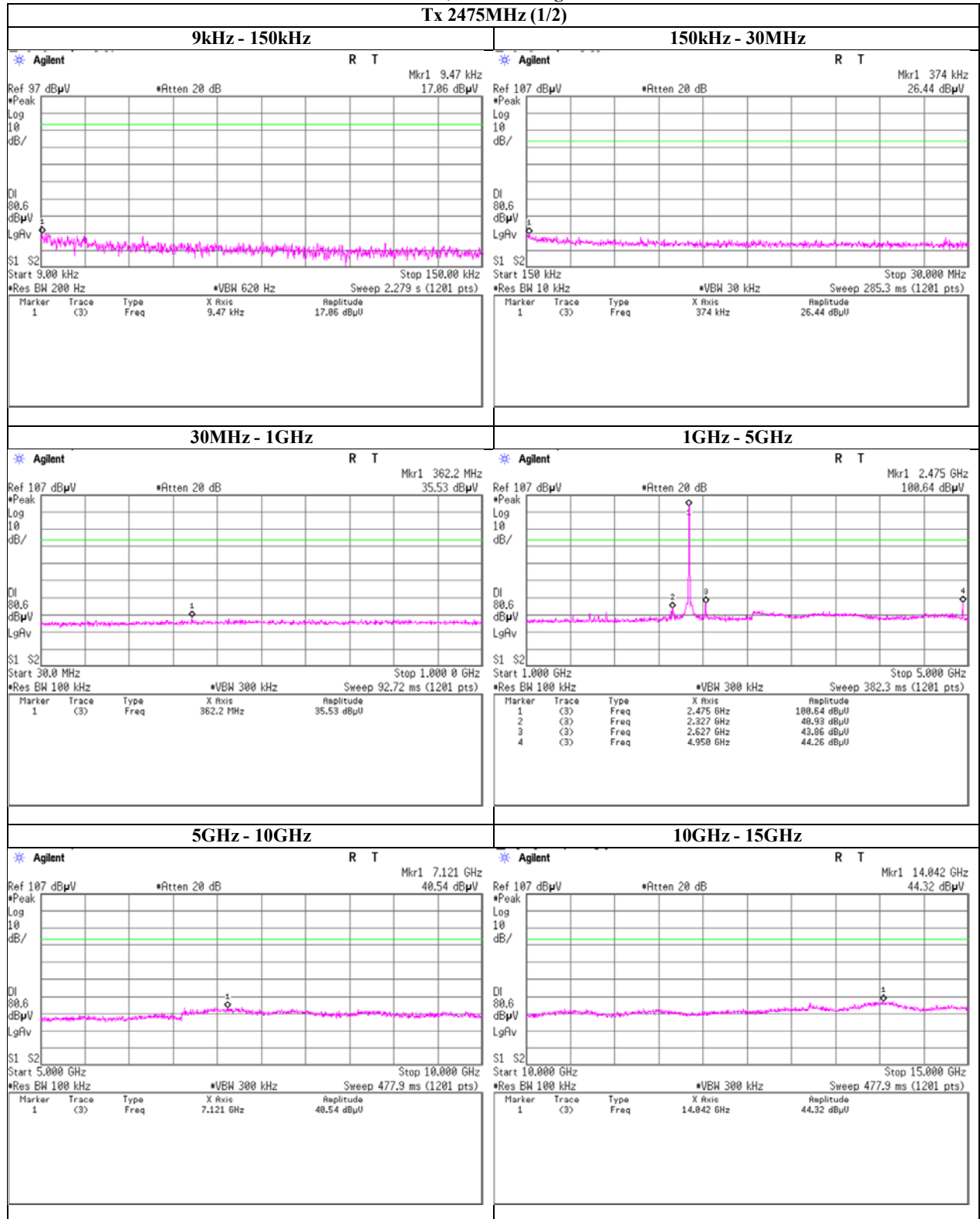
UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Spurious emission (Conducted)**Tx, Transmitting****Tx 2475MHz (1/2)****UL Japan, Inc.****Shonan EMC Lab.**

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

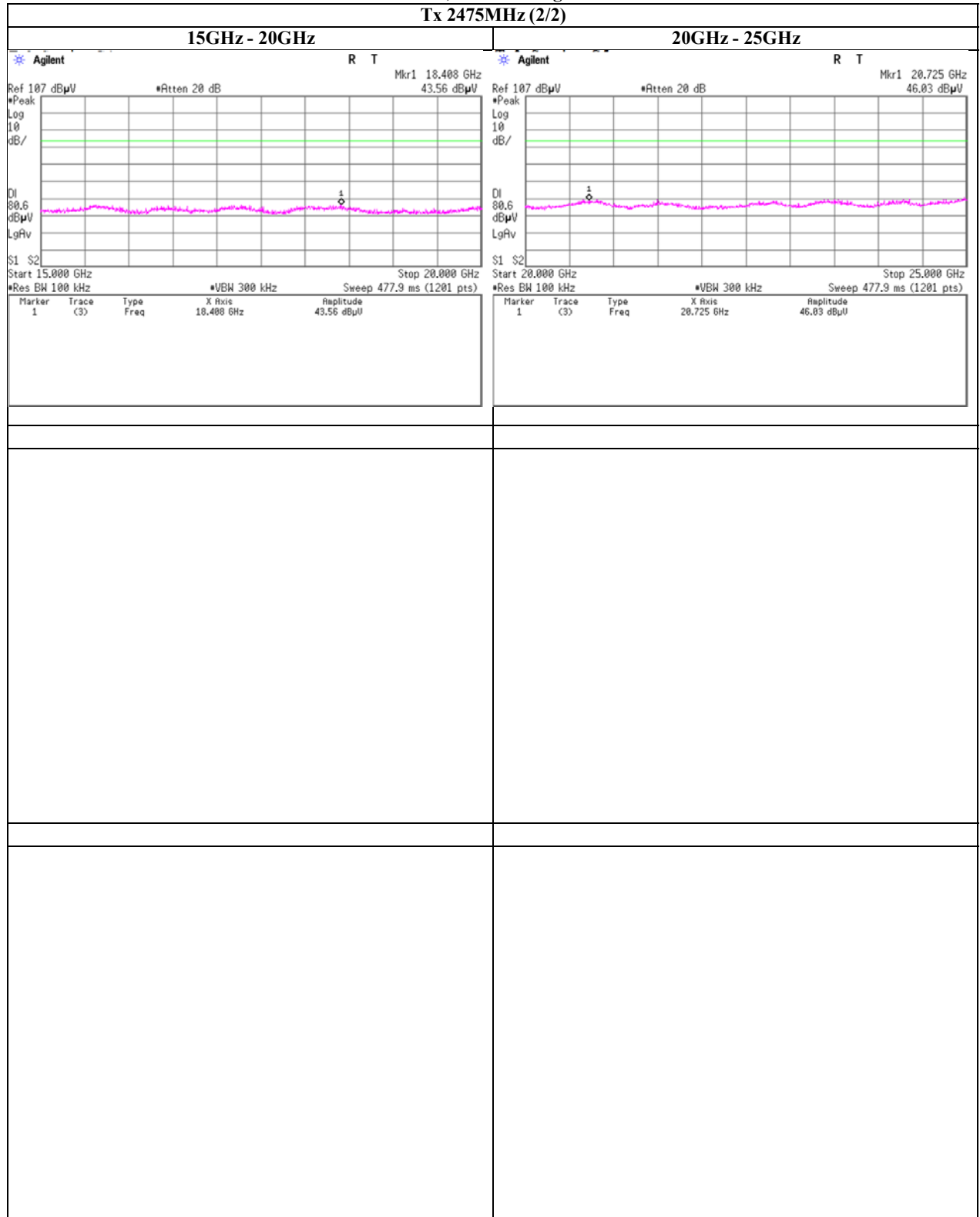
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Spurious emission (Conducted)

Tx, Transmitting

Tx 2475MHz (2/2)

**UL Japan, Inc.****Shonan EMC Lab.**

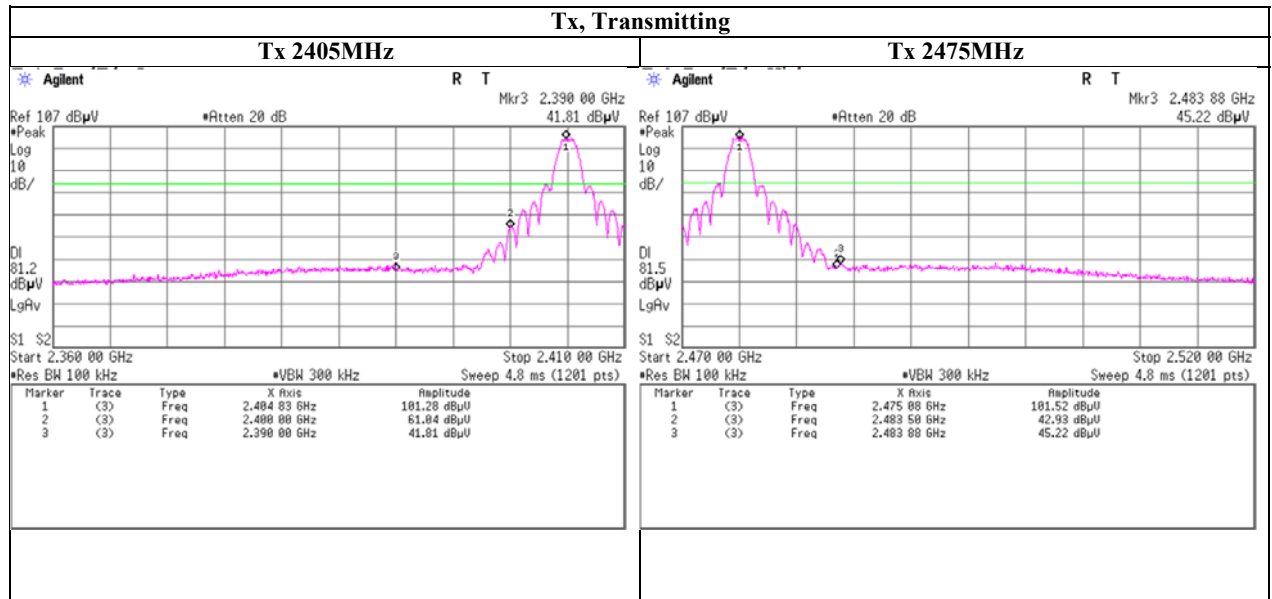
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

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Spurious emission (Conducted)

Band Edge compliance



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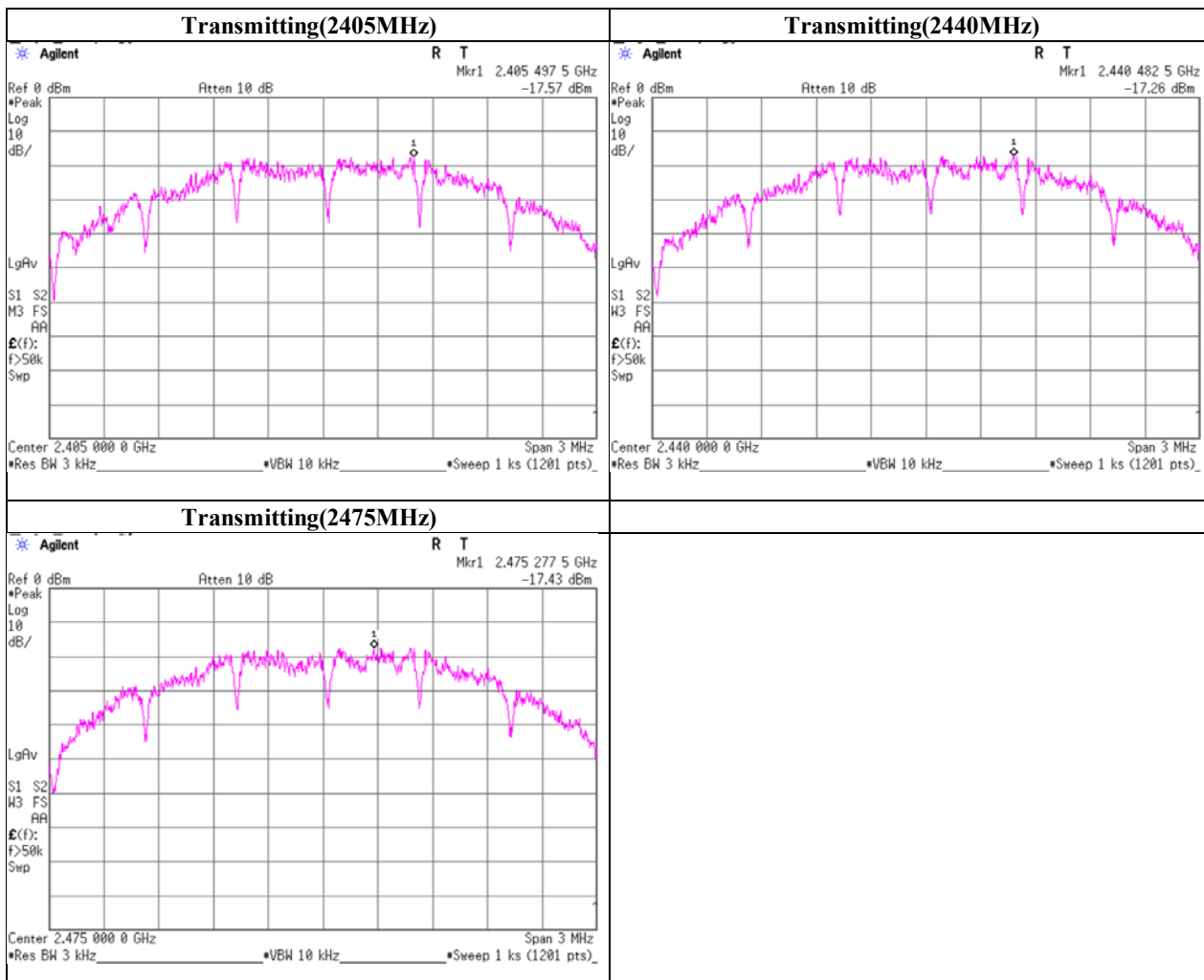
Power Density

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	2011/6/30	
Temperature / Humidity	25deg.C / 42%RH	
Engineer	Akio Hayashi	
Mode	Tx, Transmitting	

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2405.0000	2405.4975	-17.57	0.71	9.97	-6.89	8.00	14.89
2440.0000	2440.4825	-17.26	0.72	9.97	-6.57	8.00	14.57
2475.0000	2475.2775	-17.43	0.73	9.97	-6.73	8.00	14.73

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss



UL Japan, Inc.

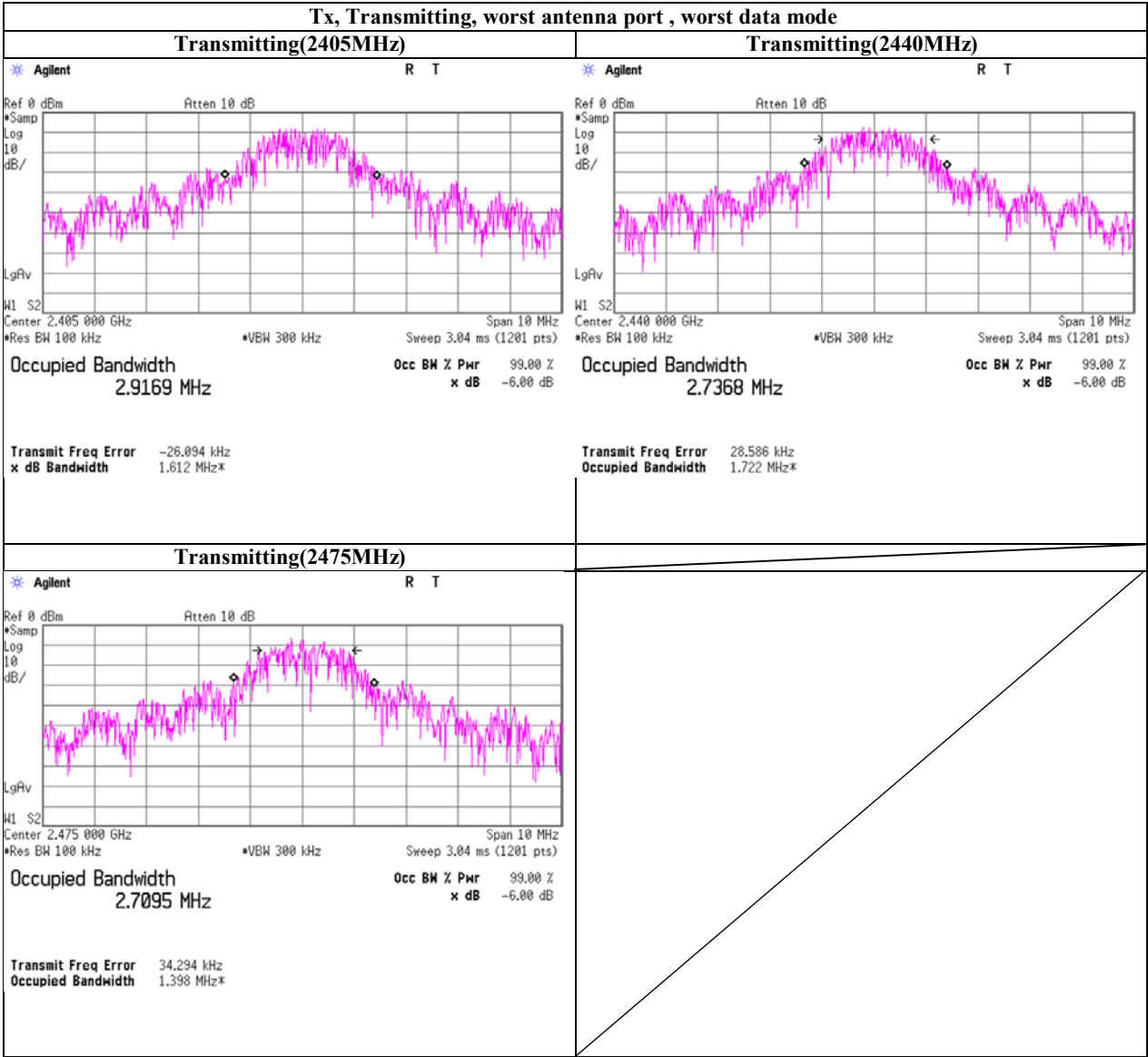
Shonan EMC Lab.

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Telephone : +81 463 50 6400

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99% Occupied Bandwidth



APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAF-05	Pre Amplifier	TOYO Corporation	TPA0118-36	1440490	RE	2011/03/23 * 12
SCC-G02	Coaxial Cable	Suhner	SUCOFLEX 104A	46498/4A	RE	2011/04/28 * 12
SCC-G22	Coaxial Cable	Suhner	SUCOFLEX 104	296199/4	RE	2011/05/27 * 12
SHA-02	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-726	RE	2010/08/08 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2011/02/23 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	RE	2011/02/02 * 12
SJM-02	Measure	KOMELON	KMC-36	-	RE,CE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE,RFI,MF)	-	RE	-
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2011/03/15 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2011/03/16 * 12
SCC-G17	Coaxial Cable	Suhner	SUCOFLEX 104A	46291/4A	RE	2011/03/16 * 12
SAT10-04	Attenuator(above1GHz)	Agilent	8493C-010	74863	RE	2010/12/15 * 12
SFL-02	Highpass Filter	MICRO-TRONICS	HPM50111	051	RE	2010/12/15 * 12
SAF-02	Pre Amplifier	SONOMA	310N	290212	RE	2011/02/17 * 12
SAT6-02	Attenuator	JFW	50HF-006N	-	RE	2011/02/17 * 12
SAT3-02	Attenuator	JFW	50HF-003N	-	RE	2011/02/17 * 12
SBA-02	Biconical Antenna	Schwarzbeck	BBA9106	91032665	RE	2010/10/11 * 12
SCC-B1/B3/B5/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2011/04/28 * 12
SCC-B2/B4/B6/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2011/04/28 * 12
SLA-02	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A0893	RE	2010/10/11 * 12
STR-02	Test Receiver	Rohde & Schwarz	ESCI	100575	RE,CE	2010/08/18 * 12
SAEC-02(NSA)	Semi-Anechoic Chamber	TDK	SAEC-02(NSA)	2	RE,CE	2010/09/04 * 12
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT	2011/04/12 * 12
SPSS-03	Power sensor	Anritsu	MA2411B	0917063	AT	2011/04/12 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT	2010/11/16 * 12
SCC-H5	Microwave cable	Hirose Electric	U.FL-2LP-066J1-A-(200)	-	AT	Pre Check
SAT10-06	Attenuator	Agilent	8493C-010	74865	AT	2011/03/23 * 12
SCC-B12/B13/SRSE-02	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-270(RF Selector)	CE	2011/04/28 * 12
SLS-03	LISN	Rohde & Schwarz	ENV216	100513	CE	2011/02/23 * 12
SAT3-03	Attenuator	JFW	50HF-003N	-	CE	2011/02/17 * 12
SOS-04	Humidity Indicator	A&D	AD-5681	4061512	CE	2011/03/02 * 12

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 :

CE: Conducted emission ,
RE: Radiated emission ,
AT: Antenna terminal conducted tests