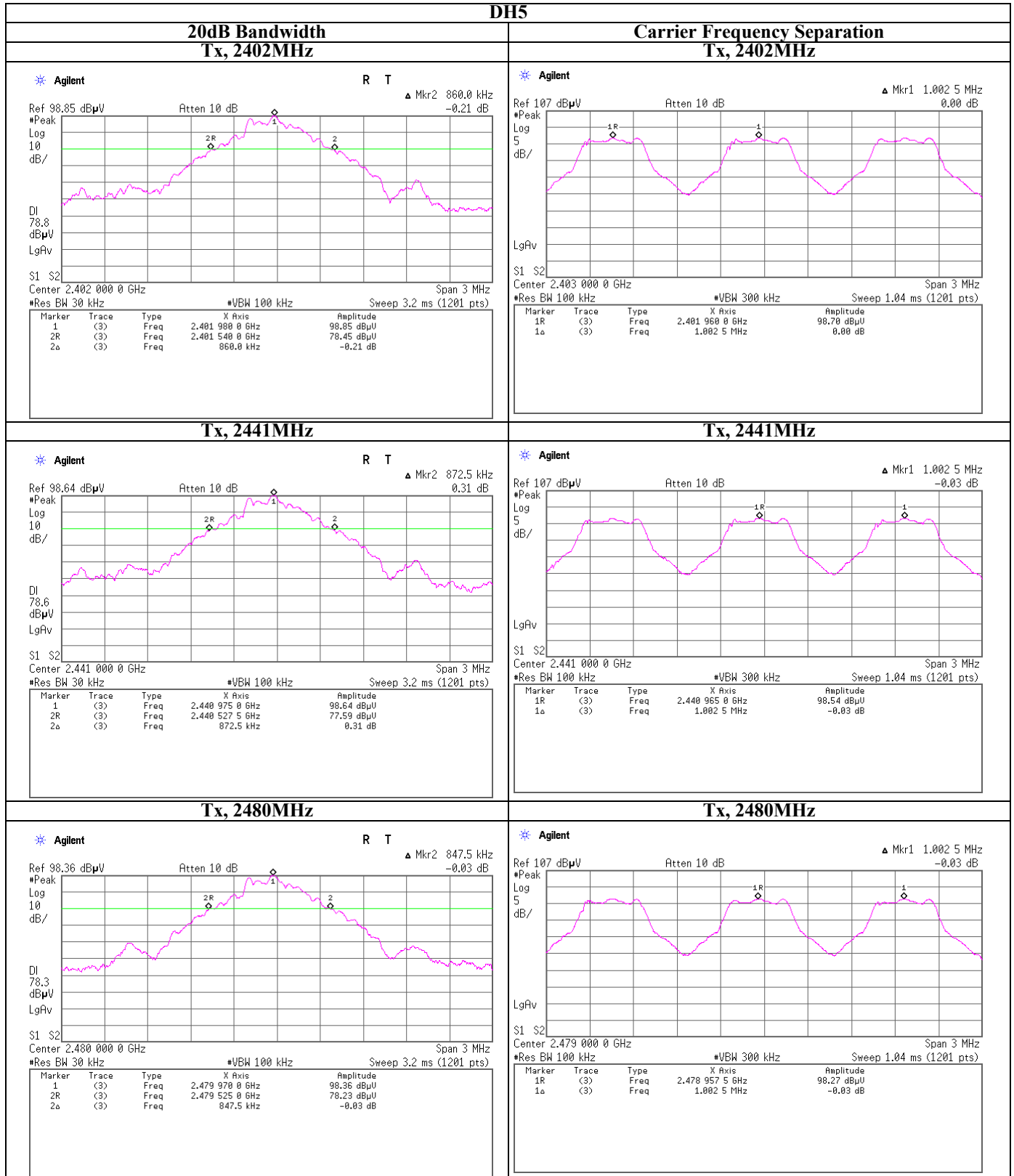

20dB Bandwidth and Carrier Frequency Separation

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	2011/1/11	2011/1/14
Temperature / Humidity	25deg.C. , 32%	26deg.C. , 25%
Engineer	Akio Hayashi	Shinichi Takano
Mode	(20dB Bandwidth)	(Carrier Frequency Separation)

Mode	Freq. [MHz]	20dB Bandwidth [MHz]	Carrier Frequency Separation [MHz]	Limit for Carrier Frequency Separation [MHz]
DH5	2402.0	0.860	1.003	>= 0.573
DH5	2441.0	0.873	1.003	>= 0.582
DH5	2480.0	0.848	1.003	>= 0.565
3DH5	2402.0	1.270	1.005	>= 0.847
3DH5	2441.0	1.265	1.005	>= 0.843
3DH5	2480.0	1.285	1.005	>= 0.857

Limit: Two-thirds of 20dB Bandwidth or 25kHz (whichever is greater).
No limit applies to 20dB Bandwidth.

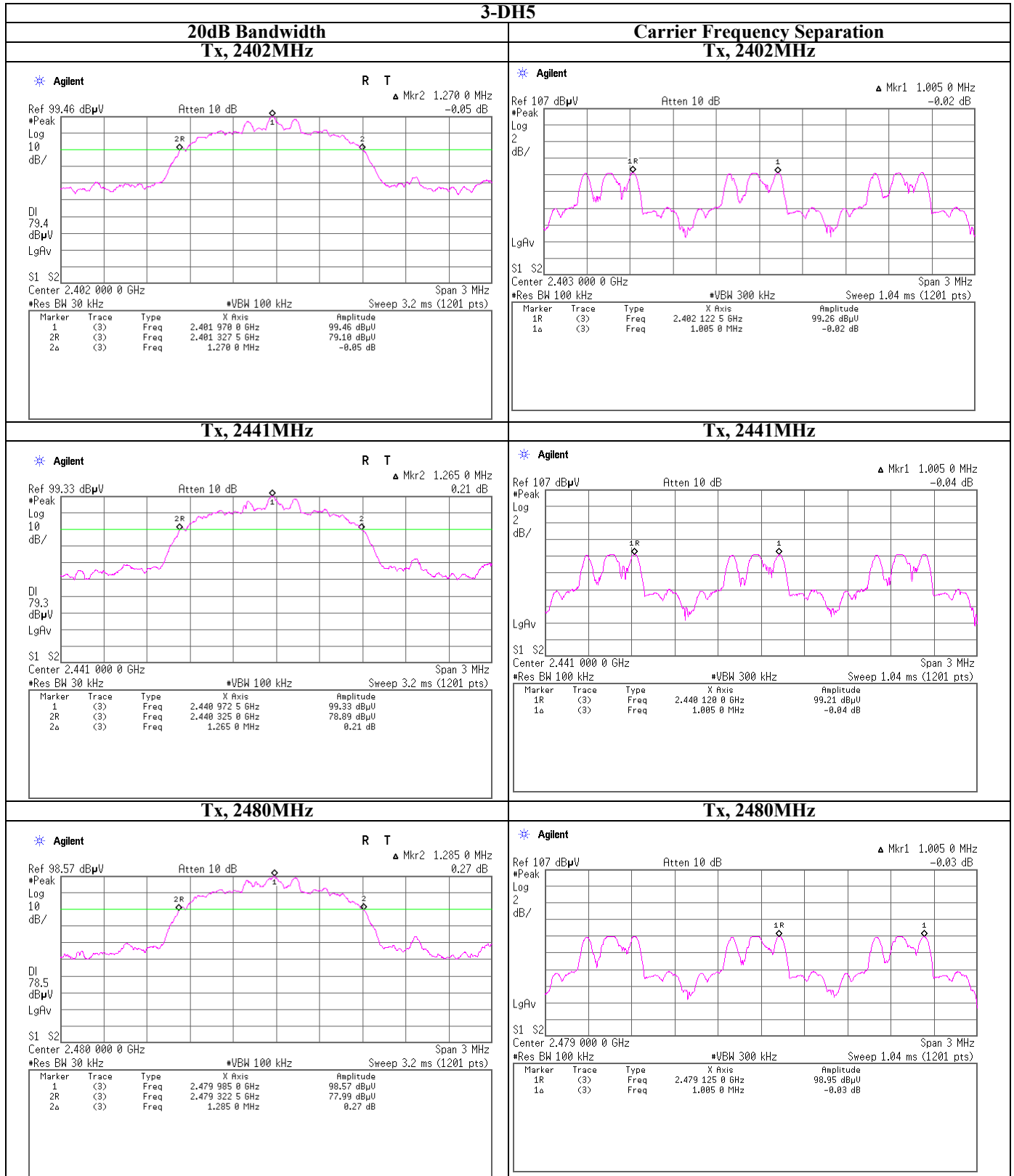
20dB Bandwidth and Carrier Frequency Separation



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

20dB Bandwidth and Carrier Frequency Separation



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

Number of Hopping Frequency (Conducted)

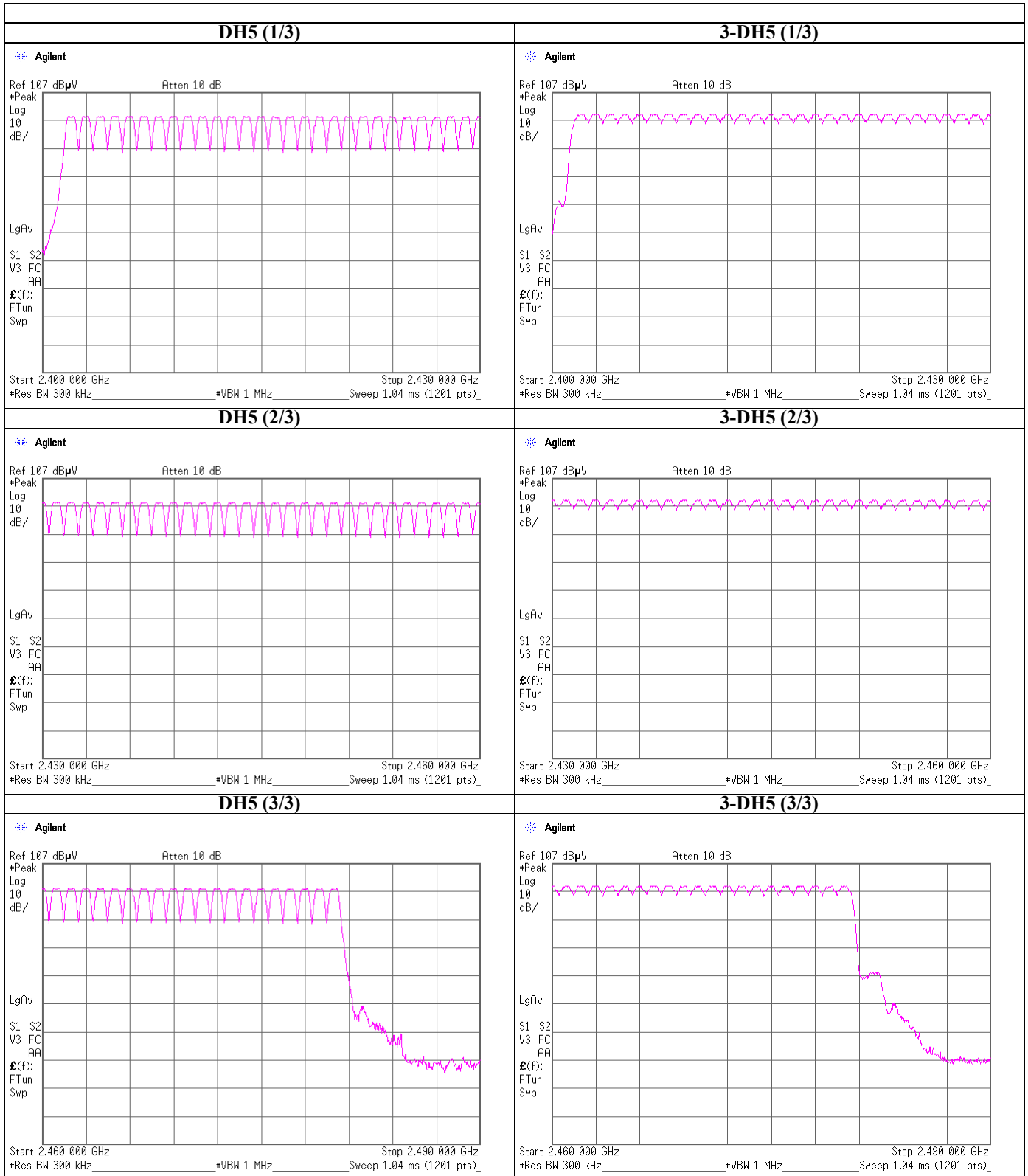
Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2011/1/14
Temperature / Humidity 26deg.C. , 25%
Engineer Shinichi Takano
Mode DH5, 3-DH5

Mode	Number of Channel [times]	Limit [times]
DH5	79	>=15
3-DH5	79	>=15

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

Number of Hopping Frequency



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

Dwell Time (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date 2011/1/14
 Temperature / Humidity 26deg.C. , 25%
 Engineer Shinichi Takano
 Mode DH5, 3-DH5

Mode	Number of transmission in a 31.6(79 Hopping x 0.4) / 12.8(32 Hopping x 0.4)second period	Length of transmission time[msec]	Result [msec]	Limit [msec]
DH1	50.4 times / 5 sec. x 31.6 sec. = 319 times	0.410	131	400
DH3	25.4 times / 5 sec. x 31.6 sec. = 161 times	1.665	268	400
DH5	17.0 times / 5 sec. x 31.6 sec. = 108 times	2.913	315	400
3DH1	50.4 times / 5 sec. x 31.6 sec. = 319 times	0.422	135	400
3DH3	25.4 times / 5 sec. x 31.6 sec. = 161 times	1.673	269	400
3DH5	16.8 times / 5 sec. x 31.6 sec. = 107 times	2.923	313	400

Sample Calculation

Result = Number of transmission x Length of transmittion time

*Average data of 5 tests.(except Inquiry)

Mode	Sampling [times]					Average [times]
	1	2	3	4	5	
DH1	51	50	50	51	50	50.4
DH3	26	25	25	26	25	25.4
DH5	17	17	17	17	17	17
3DH1	50	51	50	51	50	50.4
3DH3	25	26	25	26	25	25.4
3DH5	17	17	16	17	17	16.8

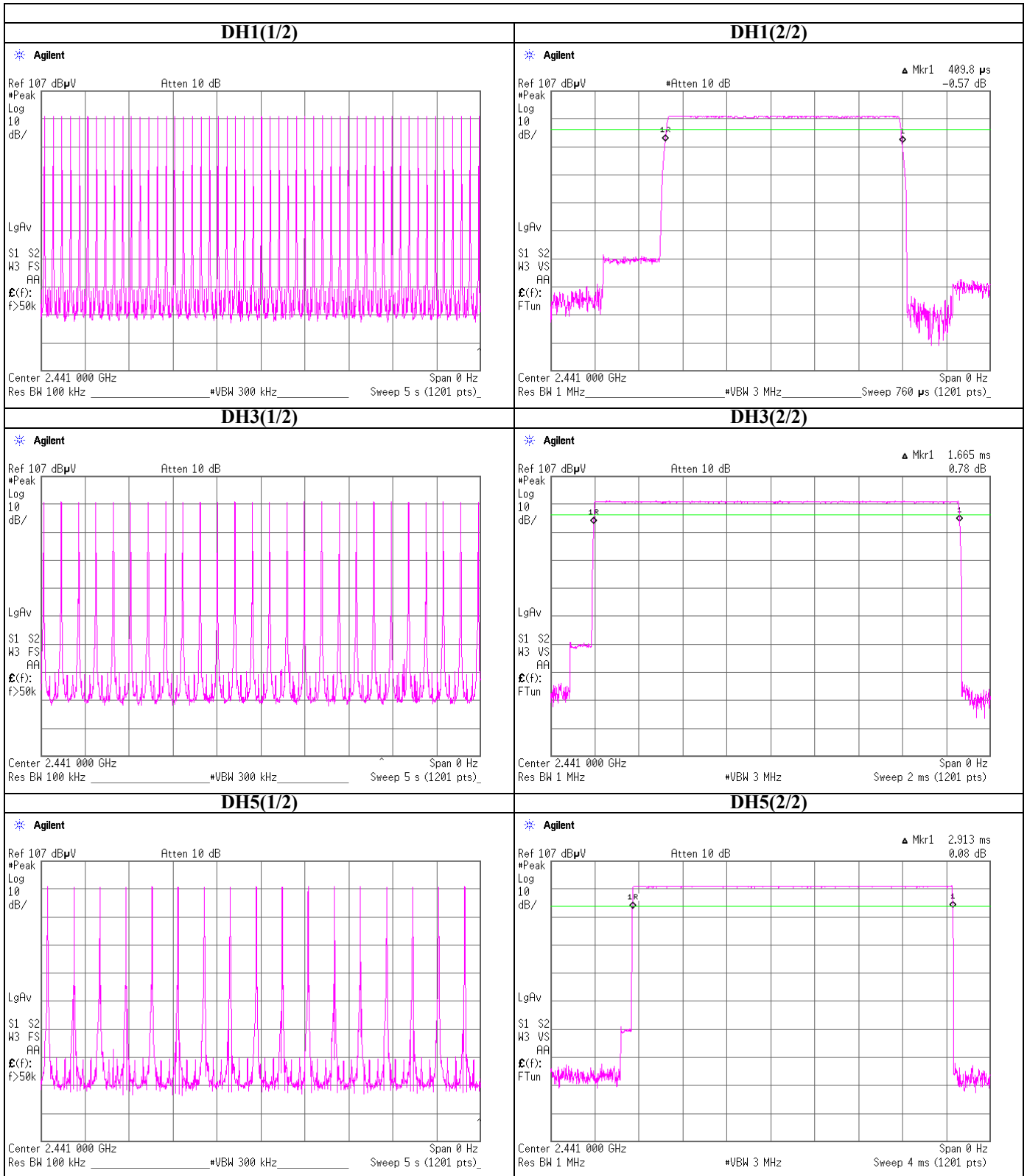
Sample Calculation

Average= Summation(Sampling 1 to 5) / 5

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

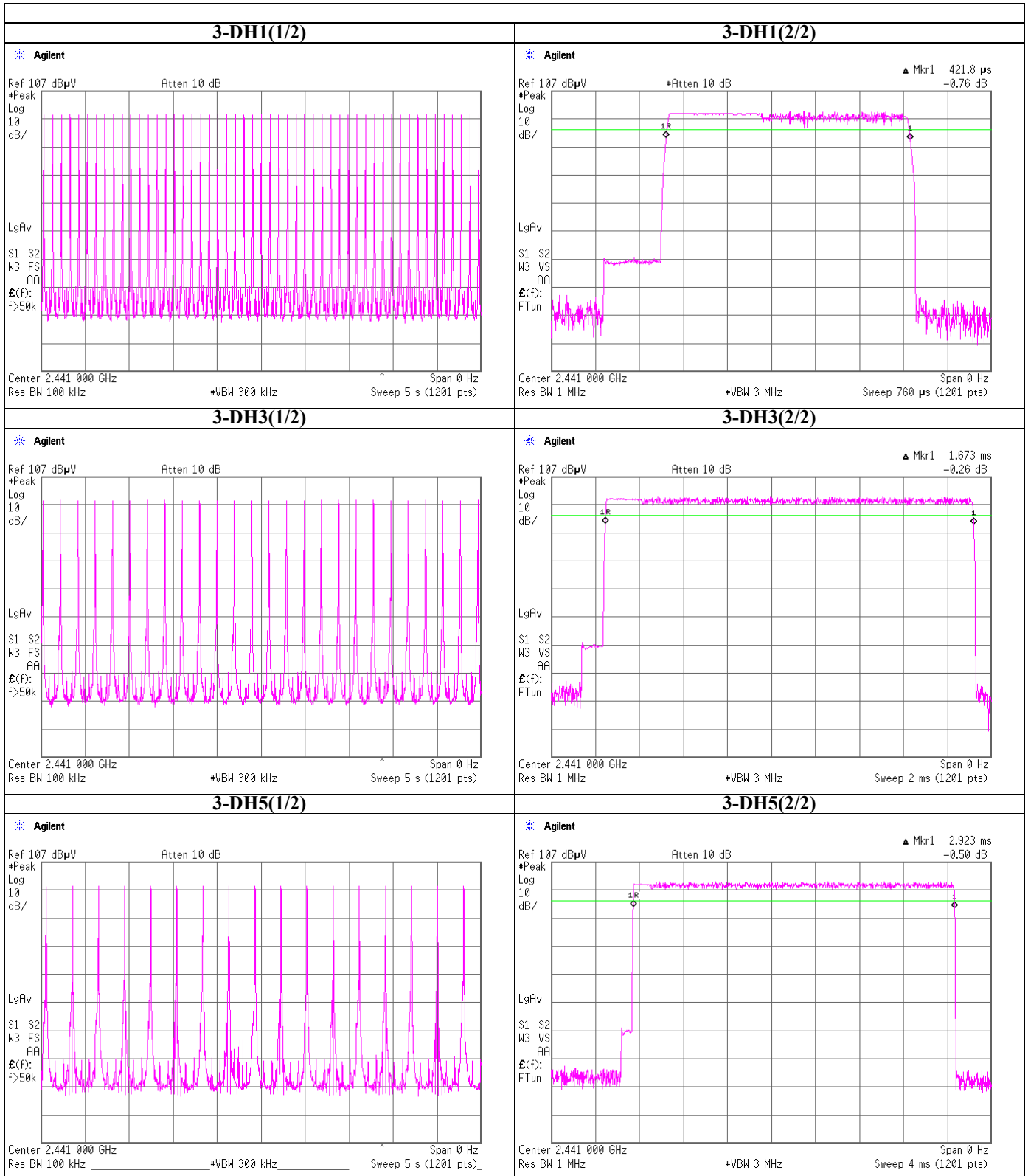
Dwell time



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

Dwell time



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 2011/1/11
 Temperature / Humidity 25deg.C. , 32%
 Engineer Akio Hayashi
 Mode Tx,

BDR (DH5)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	-9.04	0.30	9.97	1.23	1.33	20.97	125	19.74
Mid	2441.0	-9.39	0.30	9.97	0.88	1.22	20.97	125	20.09
High	2480.0	-9.79	0.30	9.97	0.48	1.12	20.97	125	20.49

EDR (2-DH5)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	-6.37	0.30	9.97	3.90	2.45	20.97	125	17.07
Mid	2441.0	-6.16	0.30	9.97	4.11	2.58	20.97	125	16.86
High	2480.0	-6.56	0.30	9.97	3.71	2.35	20.97	125	17.26

EDR (3-DH5)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	-6.18	0.30	9.97	4.09	2.56	20.97	125	16.88
Mid	2441.0	-6.03	0.30	9.97	4.24	2.65	20.97	125	16.73
High	2480.0	-6.25	0.30	9.97	4.02	2.52	20.97	125	16.95

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer) + Atten. Loss

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

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

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

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date 2011/1/12 2011/1/13 2011/1/15
Temperature / Humidity 22deg.C. , 23% 21deg.C. , 25% 23deg.C. , 25%
Engineer Shinichi Takano Shinichi Takano Shinichi Takano
Mode Tx, 2402 MHz
Bluetooth, DH5,

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.	167.98	QP	39.5	15.4	7.7	32.0	30.6	43.5	12.9	193	266	
Hori.	175.98	QP	40.5	15.6	7.7	32.0	31.8	43.5	11.7	171	292	
Hori.	191.98	QP	40.1	16.1	7.8	32.0	32.0	43.5	11.5	172	289	
Hori.	199.97	QP	39.9	16.3	7.9	32.0	32.1	43.5	11.4	100	297	
Hori.	231.97	QP	40.1	16.8	8.1	32.0	33.0	46.0	13.0	140	227	
Hori.	243.00	QP	46.8	17.0	8.1	32.0	39.9	46.0	6.1	100	305	
Hori.	960.20	QP	40.3	21.3	10.9	30.5	42.0	53.9	11.9	152	61	
Hori.	1601.99	PK	50.7	25.5	12.7	40.1	48.8	73.9	25.1	100	65	
Hori.	2390.00	PK	46.5	27.5	13.3	40.2	47.1	73.9	26.8	106	57	
Hori.	3123.22	PK	60.1	29.0	5.0	41.0	53.1	73.9	20.8	100	220	
Hori.	3203.98	PK	49.4	29.2	5.0	41.1	42.5	73.9	31.4	100	17	
Hori.	3432.00	PK	55.2	29.5	5.0	41.2	48.5	73.9	25.4	100	286	
Hori.	4804.00	PK	53.4	31.5	5.6	40.1	50.4	73.9	23.5	100	235	
Hori.	7206.00	PK	46.9	36.4	6.8	38.3	51.8	73.9	22.1	100	300	
Hori.	9608.00	PK	44.5	37.9	8.0	37.3	53.1	73.9	20.8	100	223	
Hori.	12010.00	PK	46.4	39.4	9.2	38.4	56.6	73.9	17.3	100	358	
Hori.	1601.99	AV	46.0	25.5	12.7	40.1	44.1	53.9	9.8	100	65	VBW=10Hz
Hori.	2390.00	AV	35.0	27.5	13.3	40.2	35.6	53.9	18.3	106	57	VBW=300Hz
Hori.	3123.22	AV	58.3	29.0	5.0	41.0	51.3	53.9	2.6	100	220	VBW=10Hz
Hori.	3203.98	AV	43.8	29.2	5.0	41.1	36.9	53.9	17.0	100	17	VBW=10Hz
Hori.	3432.00	AV	44.3	29.5	5.0	41.2	37.6	53.9	16.3	100	286	VBW=10Hz
Hori.	4804.00	AV	48.5	31.5	5.6	40.1	45.5	53.9	8.4	100	235	VBW=300Hz
Hori.	7206.00	AV	35.2	36.4	6.8	38.3	40.1	53.9	13.8	100	300	VBW=300Hz
Hori.	9608.00	AV	32.9	37.9	8.0	37.3	41.5	53.9	12.4	100	223	VBW=300Hz
Hori.	12010.00	AV	34.8	39.4	9.2	38.4	45.0	53.9	8.9	100	358	VBW=300Hz
Vert.	960.20	QP	39.8	21.3	10.9	30.5	41.5	53.9	12.4	113	255	
Vert.	1602.00	PK	47.9	25.5	12.7	40.1	46.0	73.9	27.9	100	279	
Vert.	2390.00	PK	47.8	27.5	13.3	40.2	48.4	73.9	25.5	116	53	
Vert.	3123.19	PK	58.8	29.0	5.0	41.0	51.8	73.9	22.1	100	305	
Vert.	3203.97	PK	49.7	29.2	5.0	41.1	42.8	73.9	31.1	100	359	
Vert.	3304.00	PK	56.2	29.3	5.0	41.1	49.4	73.9	24.5	100	171	
Vert.	4804.00	PK	54.2	31.5	5.6	40.1	51.2	73.9	22.7	100	259	
Vert.	7206.00	PK	46.3	36.4	6.8	38.3	51.2	73.9	22.7	100	300	
Vert.	9608.00	PK	43.7	37.9	8.0	37.3	52.3	73.9	21.6	100	312	
Vert.	12010.00	PK	46.5	39.4	9.2	38.4	56.7	73.9	17.2	100	214	
Vert.	1602.00	AV	39.4	25.5	12.7	40.1	37.5	53.9	16.4	100	279	VBW=10Hz
Vert.	2390.00	AV	36.2	27.5	13.3	40.2	36.8	53.9	17.1	116	53	VBW=300Hz
Vert.	3123.19	AV	56.2	29.0	5.0	41.0	49.2	53.9	4.7	100	305	VBW=10Hz
Vert.	3203.97	AV	43.5	29.2	5.0	41.1	36.6	53.9	17.3	100	359	VBW=10Hz
Vert.	3304.00	AV	40.2	29.3	5.0	41.1	33.4	53.9	20.5	100	171	VBW=10Hz
Vert.	4804.00	AV	48.2	31.5	5.6	40.1	45.2	53.9	8.7	100	259	VBW=300Hz
Vert.	7206.00	AV	34.8	36.4	6.8	38.3	39.7	53.9	14.2	100	300	VBW=300Hz
Vert.	9608.00	AV	33.0	37.9	8.0	37.3	41.6	53.9	12.3	100	312	VBW=300Hz
Vert.	12010.00	AV	34.3	39.4	9.2	38.4	44.5	53.9	9.4	100	214	VBW=300Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

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

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	99.2	27.5	13.3	40.2	99.8	-	-	Carrier
Hori.	2399.900	PK	52.7	27.5	13.3	40.2	53.3	79.8	26.5	
Hori.	2400.000	PK	52.3	27.5	13.3	40.2	52.9	79.8	26.9	
Vert.	2402.000	PK	96.9	27.5	13.3	40.2	97.5	-	-	Carrier
Vert.	2399.900	PK	51.3	27.5	13.3	40.2	51.9	77.5	25.6	
Vert.	2400.000	PK	51.5	27.5	13.3	40.2	52.1	77.5	25.4	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - 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

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date 2011/1/12 2011/1/13 2011/1/15
Temperature / Humidity 22deg.C. , 23% 21deg.C. , 25% 23deg.C. , 25%
Engineer Shinichi Takano Shinichi Takano Shinichi Takano
Mode Tx, 2441 MHz
Bluetooth, DH5,

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.	159.98	QP	41.1	15.2	7.6	32.0	31.9	43.5	11.6	197	272	
Hori.	167.98	QP	39.6	15.4	7.7	32.0	30.7	43.5	12.8	200	282	
Hori.	175.97	QP	39.9	15.6	7.7	32.0	31.2	43.5	12.3	130	279	
Hori.	192.01	QP	40.1	16.1	7.8	32.0	32.0	43.5	11.5	154	288	
Hori.	199.97	QP	37.5	16.3	7.9	32.0	29.7	43.5	13.8	100	311	
Hori.	243.00	QP	45.9	17.0	8.1	32.0	39.0	46.0	7.0	100	310	
Hori.	960.21	QP	40.8	21.3	10.9	30.5	42.5	53.9	11.4	102	0	
Hori.	1628.00	PK	51.2	25.6	12.7	40.1	49.4	73.9	24.5	100	73	
Hori.	3123.18	PK	60.2	29.0	5.0	41.0	53.2	73.9	20.7	100	222	
Hori.	3255.97	PK	49.3	29.3	4.9	41.1	42.4	73.9	31.5	100	15	
Hori.	3418.67	PK	57.2	29.5	5.0	41.2	50.5	73.9	23.4	100	114	
Hori.	4882.00	PK	52.1	31.7	5.7	40.0	49.5	73.9	24.4	104	225	
Hori.	7323.00	PK	45.9	36.7	6.9	38.5	51.0	73.9	22.9	100	274	
Hori.	9764.00	PK	44.7	38.2	8.0	37.4	53.5	73.9	20.4	100	320	
Hori.	12205.00	PK	45.1	39.2	9.2	38.1	55.4	73.9	18.5	100	355	
Hori.	1628.00	AV	45.0	25.6	12.7	40.1	43.2	53.9	10.7	100	73	VBW=10Hz
Hori.	3123.18	AV	58.2	29.0	5.0	41.0	51.2	53.9	2.7	100	222	VBW=10Hz
Hori.	3255.97	AV	44.2	29.3	4.9	41.1	37.3	53.9	16.6	100	15	VBW=10Hz
Hori.	3418.67	AV	45.8	29.5	5.0	41.2	39.1	53.9	14.8	100	114	VBW=10Hz
Hori.	4882.00	AV	46.6	31.7	5.7	40.0	44.0	53.9	9.9	104	225	VBW=300Hz
Hori.	7323.00	AV	34.7	36.7	6.9	38.5	39.8	53.9	14.1	100	274	VBW=300Hz
Hori.	9764.00	AV	33.1	38.2	8.0	37.4	41.9	53.9	12.0	100	320	VBW=300Hz
Hori.	12205.00	AV	34.2	39.2	9.2	38.1	44.5	53.9	9.4	100	355	VBW=300Hz
Vert.	960.21	QP	40.1	21.3	10.9	30.5	41.8	53.9	12.1	117	275	
Vert.	1627.98	PK	48.6	25.6	12.7	40.1	46.8	73.9	27.1	107	237	
Vert.	3123.12	PK	59.8	29.0	5.0	41.0	52.8	73.9	21.1	102	306	
Vert.	3255.97	PK	50.9	29.3	4.9	41.1	44.0	73.9	29.9	100	359	
Vert.	3450.67	PK	56.2	29.6	5.0	41.2	49.6	73.9	24.3	100	125	
Vert.	4882.00	PK	54.8	31.7	5.7	40.0	52.2	73.9	21.7	102	352	
Vert.	7323.00	PK	45.5	36.7	6.9	38.5	50.6	73.9	23.3	100	232	
Vert.	9764.00	PK	44.2	38.2	8.0	37.4	53.0	73.9	20.9	100	152	
Vert.	12205.00	PK	45.2	39.2	9.2	38.1	55.5	73.9	18.4	100	258	
Vert.	1627.98	AV	42.0	25.6	12.7	40.1	40.2	53.9	13.7	107	237	VBW=10Hz
Vert.	3123.12	AV	58.0	29.0	5.0	41.0	51.0	53.9	2.9	102	306	VBW=10Hz
Vert.	3255.97	AV	43.7	29.3	4.9	41.1	36.8	53.9	17.1	100	359	VBW=10Hz
Vert.	3450.67	AV	43.1	29.6	5.0	41.2	36.5	53.9	17.4	100	125	VBW=10Hz
Vert.	4882.00	AV	50.2	31.7	5.7	40.0	47.6	53.9	6.3	102	352	VBW=300Hz
Vert.	7323.00	AV	34.7	36.7	6.9	38.5	39.8	53.9	14.1	100	232	VBW=300Hz
Vert.	9764.00	AV	33.1	38.2	8.0	37.4	41.9	53.9	12.0	100	152	VBW=300Hz
Vert.	12205.00	AV	34.0	39.2	9.2	38.1	44.3	53.9	9.6	100	258	VBW=300Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

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

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date 2011/1/12 2011/1/13 2011/1/17
Temperature / Humidity 22deg.C. , 23% 21deg.C. , 25% 22deg.C. , 24%
Engineer Shinichi Takano Shinichi Takano Shinichi Takano
Mode Tx, 2480 MHz
Bluetooth, DH5,

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.	151.99	QP	39.9	14.6	7.6	32.0	30.1	43.5	13.4	205	280	
Hori.	159.99	QP	39.5	15.2	7.6	32.0	30.3	43.5	13.2	200	99	
Hori.	175.97	QP	39.7	15.6	7.7	32.0	31.0	43.5	12.5	180	303	
Hori.	191.97	QP	39.4	16.1	7.8	32.0	31.3	43.5	12.2	100	300	
Hori.	215.98	QP	36.3	16.6	8.0	32.0	28.9	43.5	14.6	150	40	
Hori.	223.98	QP	40.9	16.7	8.0	32.0	33.6	46.0	12.4	150	247	
Hori.	364.49	QP	45.2	15.2	8.7	31.9	37.2	46.0	8.8	100	90	
Hori.	960.27	QP	37.8	21.3	10.9	30.5	39.5	53.9	14.4	152	49	
Hori.	1653.98	PK	48.9	25.7	12.8	40.2	47.2	73.9	26.7	100	86	
Hori.	2483.50	PK	51.9	27.6	13.3	40.1	52.7	73.9	21.2	151	55	
Hori.	3123.23	PK	59.6	29.0	5.0	41.0	52.6	73.9	21.3	107	282	
Hori.	3307.97	PK	48.7	29.3	5.0	41.1	41.9	73.9	32.0	100	16	
Hori.	3461.33	PK	57.5	29.6	5.0	41.2	50.9	73.9	23.0	100	228	
Hori.	4960.00	PK	48.7	31.9	5.7	40.0	46.3	73.9	27.6	100	43	
Hori.	7440.00	PK	45.3	36.9	6.9	38.7	50.4	73.9	23.5	100	86	
Hori.	9920.00	PK	44.0	38.4	8.1	37.5	53.0	73.9	20.9	100	139	
Hori.	12400.00	PK	45.1	39.1	9.3	37.9	55.6	73.9	18.3	100	298	
Hori.	1653.98	AV	43.1	25.7	12.8	40.2	41.4	53.9	12.5	100	86	VBW=10Hz
Hori.	2483.50	AV	40.5	27.6	13.3	40.1	41.3	53.9	12.6	151	55	VBW=300Hz
Hori.	3123.23	AV	57.8	29.0	5.0	41.0	50.8	53.9	3.1	107	282	VBW=10Hz
Hori.	3307.97	AV	40.7	29.3	5.0	41.1	33.9	53.9	20.0	100	16	VBW=10Hz
Hori.	3461.33	AV	45.9	29.6	5.0	41.2	39.3	53.9	14.6	100	228	VBW=10Hz
Hori.	4960.00	AV	40.2	31.9	5.7	40.0	37.8	53.9	16.1	100	43	VBW=300Hz
Hori.	7440.00	AV	34.5	36.9	6.9	38.7	39.6	53.9	14.3	100	86	VBW=300Hz
Hori.	9920.00	AV	32.2	38.4	8.1	37.5	41.2	53.9	12.7	100	139	VBW=300Hz
Hori.	12400.00	AV	33.3	39.1	9.3	37.9	43.8	53.9	10.1	100	298	VBW=300Hz
Vert.	191.97	QP	36.5	16.1	7.8	32.0	28.4	43.5	15.1	100	136	
Vert.	960.27	QP	35.5	21.3	10.9	30.5	37.2	53.9	16.7	112	176	
Vert.	1653.98	PK	48.5	25.7	12.8	40.2	46.8	73.9	27.1	107	237	
Vert.	2483.50	PK	50.2	27.6	13.3	40.1	51.0	73.9	22.9	123	29	
Vert.	3123.21	PK	59.8	29.0	5.0	41.0	52.8	73.9	21.1	105	308	
Vert.	3307.97	PK	50.0	29.3	5.0	41.1	43.2	73.9	30.7	100	359	
Vert.	3346.67	PK	53.1	29.4	5.0	41.2	46.3	73.9	27.6	100	91	
Vert.	4960.00	PK	50.1	31.9	5.7	40.0	47.7	73.9	26.2	107	1	
Vert.	7440.00	PK	45.6	36.9	6.9	38.7	50.7	73.9	23.2	100	70	
Vert.	9920.00	PK	43.9	38.4	8.1	37.5	52.9	73.9	21.0	100	137	
Vert.	12400.00	PK	44.5	39.1	9.3	37.9	55.0	73.9	18.9	100	0	
Vert.	1653.98	AV	41.8	25.7	12.8	40.2	40.1	53.9	13.8	107	237	VBW=10Hz
Vert.	2483.50	AV	39.6	27.6	13.3	40.1	40.4	53.9	13.5	123	29	VBW=300Hz
Vert.	3123.21	AV	58.0	29.0	5.0	41.0	51.0	53.9	2.9	105	308	VBW=10Hz
Vert.	3307.97	AV	44.4	29.3	5.0	41.1	37.6	53.9	16.3	100	359	VBW=10Hz
Vert.	3346.67	AV	41.4	29.4	5.0	41.2	34.6	53.9	19.3	100	91	VBW=10Hz
Vert.	4960.00	AV	43.3	31.9	5.7	40.0	40.9	53.9	13.0	107	1	VBW=300Hz
Vert.	7440.00	AV	34.4	36.9	6.9	38.7	39.5	53.9	14.4	100	70	VBW=300Hz
Vert.	9920.00	AV	32.3	38.4	8.1	37.5	41.3	53.9	12.6	100	137	VBW=300Hz
Vert.	12400.00	AV	33.2	39.1	9.3	37.9	43.7	53.9	10.2	100	0	VBW=300Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

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

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date 2011/1/12 2011/1/13 2011/1/17
Temperature / Humidity 22deg.C. , 23% 21deg.C. , 25% 22deg.C. , 24%
Engineer Shinichi Takano Shinichi Takano Shinichi Takano
Mode Tx, 2402 MHz
Bluetooth, 3-DH5,

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.	151.99	QP	46.0	14.6	7.6	32.0	36.2	43.5	7.3	300	291	
Hori.	159.99	QP	46.2	15.2	7.6	32.0	37.0	43.5	6.5	204	298	
Hori.	175.98	QP	45.4	15.6	7.7	32.0	36.7	43.5	6.8	181	301	
Hori.	191.96	QP	42.8	16.1	7.8	32.0	34.7	43.5	8.8	100	304	
Hori.	215.98	QP	42.2	16.6	8.0	32.0	34.8	43.5	8.7	150	42	
Hori.	223.99	QP	44.6	16.7	8.0	32.0	37.3	46.0	8.7	163	218	
Hori.	364.48	QP	45.5	15.2	8.7	31.9	37.5	46.0	8.5	100	39	
Hori.	960.28	QP	40.2	21.3	10.9	30.5	41.9	53.9	12.0	106	137	
Hori.	1601.99	PK	51.4	25.5	12.7	40.1	49.5	73.9	24.4	100	71	
Hori.	2390.00	PK	48.5	27.5	13.3	40.2	49.1	73.9	24.8	107	58	
Hori.	3123.23	PK	58.6	29.0	5.0	41.0	51.6	73.9	22.3	100	143	
Hori.	3203.91	PK	49.7	29.2	5.0	41.1	42.8	73.9	31.1	100	16	
Hori.	3456.00	PK	57.6	29.6	5.0	41.2	51.0	73.9	22.9	100	215	
Hori.	4804.00	PK	57.2	31.5	5.6	40.1	54.2	73.9	19.7	108	224	
Hori.	7206.00	PK	46.1	36.4	6.8	38.3	51.0	73.9	22.9	100	180	
Hori.	9608.00	PK	44.6	37.9	8.0	37.3	53.2	73.9	20.7	100	180	
Hori.	12010.00	PK	45.6	39.4	9.2	38.4	55.8	73.9	18.1	100	304	
Hori.	1601.99	AV	46.4	25.5	12.7	40.1	44.5	53.9	9.4	100	71	VBW=10Hz
Hori.	2390.00	AV	36.6	27.5	13.3	40.2	37.2	53.9	16.7	107	58	VBW=300Hz
Hori.	3123.23	AV	56.8	29.0	5.0	41.0	49.8	53.9	4.1	100	143	VBW=10Hz
Hori.	3203.91	AV	43.4	29.2	5.0	41.1	36.5	53.9	17.4	100	16	VBW=10Hz
Hori.	3456.00	AV	45.4	29.6	5.0	41.2	38.8	53.9	15.1	100	215	VBW=10Hz
Hori.	4804.00	AV	48.1	31.5	5.6	40.1	45.1	53.9	8.8	108	224	VBW=300Hz
Hori.	7206.00	AV	35.4	36.4	6.8	38.3	40.3	53.9	13.6	100	180	VBW=300Hz
Hori.	9608.00	AV	33.1	37.9	8.0	37.3	41.7	53.9	12.2	100	180	VBW=300Hz
Hori.	12010.00	AV	34.9	39.4	9.2	38.4	45.1	53.9	8.8	100	304	VBW=300Hz
Vert.	191.97	QP	40.9	16.1	7.8	32.0	32.8	43.5	10.7	100	122	
Vert.	960.27	QP	34.3	21.3	10.9	30.5	36.0	53.9	17.9	100	174	
Vert.	1601.99	PK	47.5	25.5	12.7	40.1	45.6	73.9	28.3	100	279	
Vert.	2390.00	PK	46.6	27.5	13.3	40.2	47.2	73.9	26.7	117	55	
Vert.	3123.24	PK	58.9	29.0	5.0	41.0	51.9	73.9	22.0	105	312	
Vert.	3203.94	PK	49.7	29.2	5.0	41.1	42.8	73.9	31.1	100	359	
Vert.	3360.00	PK	55.6	29.4	5.0	41.2	48.8	73.9	25.1	100	319	
Vert.	4804.00	PK	56.8	31.5	5.6	40.1	53.8	73.9	20.1	105	12	
Vert.	7206.00	PK	46.0	36.4	6.8	38.3	50.9	73.9	23.0	100	104	
Vert.	9608.00	PK	44.0	37.9	8.0	37.3	52.6	73.9	21.3	100	167	
Vert.	12010.00	PK	46.3	39.4	9.2	38.4	56.5	73.9	17.4	100	304	
Vert.	1601.99	AV	39.5	25.5	12.7	40.1	37.6	53.9	16.3	100	279	VBW=10Hz
Vert.	2390.00	AV	35.0	27.5	13.3	40.2	35.6	53.9	18.3	117	55	VBW=300Hz
Vert.	3123.24	AV	57.5	29.0	5.0	41.0	50.5	53.9	3.4	105	312	VBW=10Hz
Vert.	3203.94	AV	44.0	29.2	5.0	41.1	37.1	53.9	16.8	100	359	VBW=10Hz
Vert.	3360.00	AV	41.4	29.4	5.0	41.2	34.6	53.9	19.3	100	319	VBW=10Hz
Vert.	4804.00	AV	49.6	31.5	5.6	40.1	46.6	53.9	7.3	105	12	VBW=300Hz
Vert.	7206.00	AV	35.3	36.4	6.8	38.3	40.2	53.9	13.7	100	104	VBW=300Hz
Vert.	9608.00	AV	33.0	37.9	8.0	37.3	41.6	53.9	12.3	100	167	VBW=300Hz
Vert.	12010.00	AV	34.9	39.4	9.2	38.4	45.1	53.9	8.8	100	304	VBW=300Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

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

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	99.6	27.5	13.3	40.2	100.2	-	-	Carrier
Hori.	2399.950	PK	55.3	27.5	13.3	40.2	55.9	80.2	24.3	
Hori.	2400.000	PK	54.5	27.5	13.3	40.2	55.1	80.2	25.1	
Vert.	2402.000	PK	97.2	27.5	13.3	40.2	97.8	-	-	Carrier
Vert.	2399.950	PK	52.4	27.5	13.3	40.2	53.0	77.8	24.8	
Vert.	2400.000	PK	52.3	27.5	13.3	40.2	52.9	77.8	24.9	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - 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

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2011/1/12 2011/1/13 2011/1/17
 Temperature / Humidity 22deg.C , 23% 21deg.C , 25% 22deg.C , 24%
 Engineer Shinichi Takano Shinichi Takano Shinichi Takano
 Mode Tx, 2441 MHz
 Bluetooth, 3-DH5,

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.	159.99	QP	46.5	15.2	7.6	32.0	37.3	43.5	6.2	190	294	
Hori.	167.99	QP	49.0	15.4	7.7	32.0	40.1	43.5	3.4	192	286	
Hori.	175.99	QP	45.6	15.6	7.7	32.0	36.9	43.5	6.6	186	297	
Hori.	183.98	QP	44.2	15.9	7.8	32.0	35.9	43.5	7.6	167	308	
Hori.	215.99	QP	41.8	16.6	8.0	32.0	34.4	43.5	9.1	160	44	
Hori.	223.99	QP	44.7	16.7	8.0	32.0	37.4	46.0	8.6	100	309	
Hori.	364.48	QP	45.8	15.2	8.7	31.9	37.8	46.0	8.2	100	38	
Hori.	960.28	QP	40.4	21.3	10.9	30.5	42.1	53.9	11.8	113	135	
Hori.	1628.02	PK	50.6	25.6	12.7	40.1	48.8	73.9	25.1	100	73	
Hori.	3123.22	PK	59.2	29.0	5.0	41.0	52.2	73.9	21.7	100	221	
Hori.	3255.97	PK	48.4	29.3	4.9	41.1	41.5	73.9	32.4	100	17	
Hori.	3450.67	PK	56.3	29.6	5.0	41.2	49.7	73.9	24.2	100	328	
Hori.	4882.00	PK	52.5	31.7	5.7	40.0	49.9	73.9	24.0	100	314	
Hori.	7323.00	PK	46.1	36.7	6.9	38.5	51.2	73.9	22.7	100	267	
Hori.	9764.00	PK	44.4	38.2	8.0	37.4	53.2	73.9	20.7	100	175	
Hori.	12205.00	PK	44.7	39.2	9.2	38.1	55.0	73.9	18.9	100	126	
Hori.	1628.02	AV	45.2	25.6	12.7	40.1	43.4	53.9	10.5	100	73	VBW=10Hz
Hori.	3123.22	AV	57.2	29.0	5.0	41.0	50.2	53.9	3.7	100	221	VBW=10Hz
Hori.	3255.97	AV	42.3	29.3	4.9	41.1	35.4	53.9	18.5	100	17	VBW=10Hz
Hori.	3450.67	AV	45.3	29.6	5.0	41.2	38.7	53.9	15.2	100	328	VBW=10Hz
Hori.	4882.00	AV	48.9	31.7	5.7	40.0	46.3	53.9	7.6	100	314	VBW=10Hz
Hori.	7323.00	AV	34.7	36.7	6.9	38.5	39.8	53.9	14.1	100	267	VBW=300Hz
Hori.	9764.00	AV	33.1	38.2	8.0	37.4	41.9	53.9	12.0	100	175	VBW=300Hz
Hori.	12205.00	AV	34.1	39.2	9.2	38.1	44.4	53.9	9.5	100	126	VBW=300Hz
Vert.	183.98	QP	38.9	15.9	7.8	32.0	30.6	43.5	12.9	100	110	VBW=300Hz
Vert.	960.29	QP	35.9	21.3	10.9	30.5	37.6	53.9	16.3	116	175	
Vert.	1628.01	PK	48.4	25.6	12.7	40.1	46.6	73.9	27.3	108	235	
Vert.	3123.19	PK	59.6	29.0	5.0	41.0	52.6	73.9	21.3	105	306	
Vert.	3255.97	PK	49.6	29.3	4.9	41.1	42.7	73.9	31.2	100	359	
Vert.	3301.33	PK	52.9	29.3	5.0	41.1	46.1	73.9	27.8	100	358	
Vert.	4882.00	PK	55.9	31.7	5.7	40.0	53.3	73.9	20.6	105	355	
Vert.	7323.00	PK	45.2	36.7	6.9	38.5	50.3	73.9	23.6	100	273	
Vert.	9764.00	PK	45.1	38.2	8.0	37.4	53.9	73.9	20.0	100	298	
Vert.	12205.00	PK	44.5	39.2	9.2	38.1	54.8	73.9	19.1	100	223	VBW=10Hz
Vert.	1628.01	AV	41.4	25.6	12.7	40.1	39.6	53.9	14.3	108	235	VBW=10Hz
Vert.	3123.19	AV	57.8	29.0	5.0	41.0	50.8	53.9	3.1	105	306	VBW=10Hz
Vert.	3255.97	AV	43.2	29.3	4.9	41.1	36.3	53.9	17.6	100	359	VBW=10Hz
Vert.	3301.33	AV	45.3	29.3	5.0	41.1	38.5	53.9	15.4	100	358	VBW=10Hz
Vert.	4882.00	AV	49.7	31.7	5.7	40.0	47.1	53.9	6.8	105	355	VBW=300Hz
Vert.	7323.00	AV	34.7	36.7	6.9	38.5	39.8	53.9	14.1	100	273	VBW=300Hz
Vert.	9764.00	AV	33.2	38.2	8.0	37.4	42.0	53.9	11.9	100	298	VBW=300Hz
Vert.	12205.00	AV	34.0	39.2	9.2	38.1	44.3	53.9	9.6	100	223	VBW=300Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

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

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date 2011/1/12 2011/1/13 2011/1/17
Temperature / Humidity 22deg.C. , 23% 21deg.C. , 25% 22deg.C. , 24%
Engineer Shinichi Takano Shinichi Takano Shinichi Takano
Mode Tx, 2480 MHz
Bluetooth, 3-DH5,

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.	151.99	QP	45.9	14.6	7.6	32.0	36.1	43.5	7.4	205	284	
Hori.	159.99	QP	46.3	15.2	7.6	32.0	37.1	43.5	6.4	193	299	
Hori.	168.00	QP	48.9	15.4	7.7	32.0	40.0	43.5	3.5	181	290	
Hori.	175.98	QP	45.2	15.6	7.7	32.0	36.5	43.5	7.0	179	297	
Hori.	183.99	QP	44.1	15.9	7.8	32.0	35.8	43.5	7.7	177	306	
Hori.	223.99	QP	44.6	16.7	8.0	32.0	37.3	46.0	8.7	155	223	
Hori.	364.49	QP	45.5	15.2	8.7	31.9	37.5	46.0	8.5	100	34	
Hori.	960.28	QP	40.1	21.3	10.9	30.5	41.8	53.9	12.1	114	136	
Hori.	1653.97	PK	49.5	25.7	12.8	40.2	47.8	73.9	26.1	100	84	
Hori.	2483.50	PK	56.6	27.6	13.3	40.1	57.4	73.9	16.5	153	52	
Hori.	2483.95	PK	53.2	27.6	13.3	40.1	54.0	73.9	19.9	153	52	
Hori.	3122.67	PK	59.7	29.0	5.0	41.0	52.7	73.9	21.2	103	147	
Hori.	3307.95	PK	49.0	29.3	5.0	41.1	42.2	73.9	31.7	100	14	
Hori.	3445.33	PK	55.9	29.6	4.9	41.2	49.2	73.9	24.7	100	238	
Hori.	4960.00	PK	51.6	31.9	5.7	40.0	49.2	73.9	24.7	104	226	
Hori.	7440.00	PK	45.4	36.9	6.9	38.7	50.5	73.9	23.4	100	268	
Hori.	9920.00	PK	43.5	38.4	8.1	37.5	52.5	73.9	21.4	100	336	
Hori.	12400.00	PK	44.2	39.1	9.3	37.9	54.7	73.9	19.2	100	224	
Hori.	1653.97	AV	43.1	25.7	12.8	40.2	41.4	53.9	12.5	100	84	VBW=10Hz
Hori.	2483.50	AV	46.5	27.6	13.3	40.1	47.3	53.9	6.6	153	52	VBW=300Hz
Hori.	2483.95	AV	44.4	27.6	13.3	40.1	45.2	53.9	8.7	153	52	VBW=10Hz
Hori.	3122.67	AV	58.2	29.0	5.0	41.0	51.2	53.9	2.7	103	147	VBW=10Hz
Hori.	3307.95	AV	40.5	29.3	5.0	41.1	33.7	53.9	20.2	100	14	VBW=10Hz
Hori.	3445.33	AV	44.6	29.6	4.9	41.2	37.9	53.9	16.0	100	238	VBW=10Hz
Hori.	4960.00	AV	40.3	31.9	5.7	40.0	37.9	53.9	16.0	104	226	VBW=300Hz
Hori.	7440.00	AV	34.5	36.9	6.9	38.7	39.6	53.9	14.3	100	268	VBW=300Hz
Hori.	9920.00	AV	32.7	38.4	8.1	37.5	41.7	53.9	12.2	100	336	VBW=300Hz
Hori.	12400.00	AV	33.1	39.1	9.3	37.9	43.6	53.9	10.3	100	224	VBW=300Hz
Vert.	159.99	QP	40.4	15.2	7.6	32.0	31.2	43.5	12.3	100	108	
Vert.	960.27	QP	35.3	21.3	10.9	30.5	37.0	53.9	16.9	114	179	
Vert.	1653.98	PK	50.0	25.7	12.8	40.2	48.3	73.9	25.6	105	237	
Vert.	2483.50	PK	57.3	27.6	13.3	40.1	58.1	73.9	15.8	125	29	
Vert.	2483.95	PK	54.0	27.6	13.3	40.1	54.8	73.9	19.1	125	29	
Vert.	3123.18	PK	59.1	29.0	5.0	41.0	52.1	73.9	21.8	103	309	
Vert.	3301.33	PK	55.6	29.3	5.0	41.1	48.8	73.9	25.1	100	238	
Vert.	3307.98	PK	49.6	29.3	5.0	41.1	42.8	73.9	31.1	100	359	
Vert.	4960.00	PK	51.5	31.9	5.7	40.0	49.1	73.9	24.8	102	357	
Vert.	7440.00	PK	45.5	36.9	6.9	38.7	50.6	73.9	23.3	100	62	
Vert.	9920.00	PK	43.2	38.4	8.1	37.5	52.2	73.9	21.7	100	133	
Vert.	12400.00	PK	43.9	39.1	9.3	37.9	54.4	73.9	19.5	100	152	
Vert.	1653.98	AV	41.9	25.7	12.8	40.2	40.2	53.9	13.7	105	237	VBW=10Hz
Vert.	2483.50	AV	45.6	27.6	13.3	40.1	46.4	53.9	7.5	125	29	VBW=300Hz
Vert.	2483.95	AV	43.0	27.6	13.3	40.1	43.8	53.9	10.1	125	29	VBW=10Hz
Vert.	3123.18	AV	57.8	29.0	5.0	41.0	50.8	53.9	3.1	103	309	VBW=10Hz
Vert.	3301.33	AV	43.6	29.3	5.0	41.1	36.8	53.9	17.1	100	238	VBW=10Hz
Vert.	3307.98	AV	43.4	29.3	5.0	41.1	36.6	53.9	17.3	100	359	VBW=10Hz
Vert.	4960.00	AV	42.8	31.9	5.7	40.0	40.4	53.9	13.5	102	357	VBW=300Hz
Vert.	7440.00	AV	34.4	36.9	6.9	38.7	39.5	53.9	14.4	100	62	VBW=300Hz
Vert.	9920.00	AV	32.6	38.4	8.1	37.5	41.6	53.9	12.3	100	133	VBW=300Hz
Vert.	12400.00	AV	33.2	39.1	9.3	37.9	43.7	53.9	10.2	100	152	VBW=300Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

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

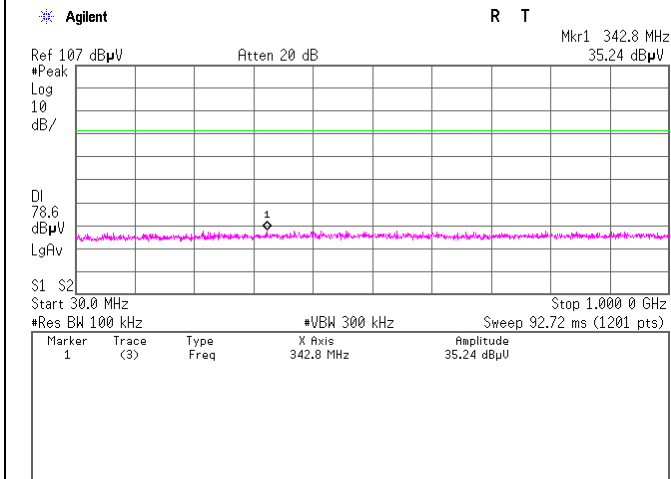
Spurious emission (Radiated)

VBW (AV) Calculation	
DH5 VBW: 1/x = 266Hz<300Hz x: (Tx on+Tx off) =3.75ms Agilent L Ref 107 dBμV Atten 10 dB Δ Mkr1 3.75 ms -0.09 dB 1 R 1 Log 10 dB/ LgAv W1 S2 W3 FS AA Ⓔ(f): FTun Center 2.441 000 000 GHz Res BW 1 MHz •VBW 3 MHz Span 0 Hz Sweep 10 ms (1201 pts)	3-DH5 VBW: 1/x = 266Hz<300Hz x: (Tx on+Tx off) =3.75ms Agilent L Ref 107 dBμV Atten 10 dB Δ Mkr1 3.75 ms 0.06 dB 1 R 1 Log 10 dB/ LgAv W1 S2 W3 FS AA Ⓔ(f): FTun Center 2.441 000 000 GHz Res BW 1 MHz •VBW 3 MHz Span 0 Hz Sweep 10 ms (1201 pts)

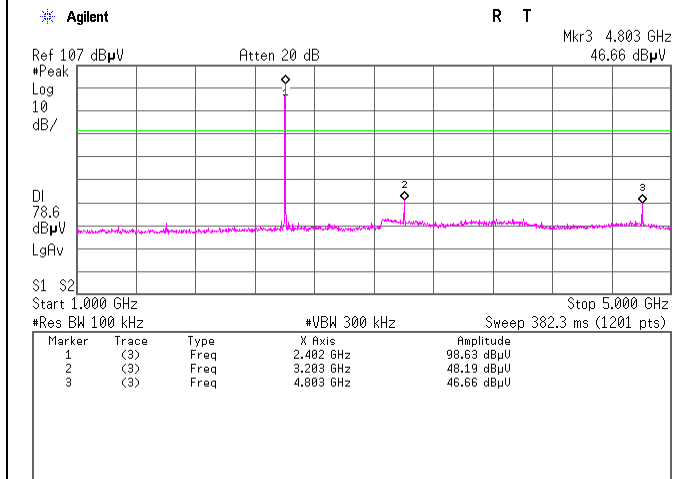
Spurious emission (Conducted)

DH5,
Tx, 2402MHz

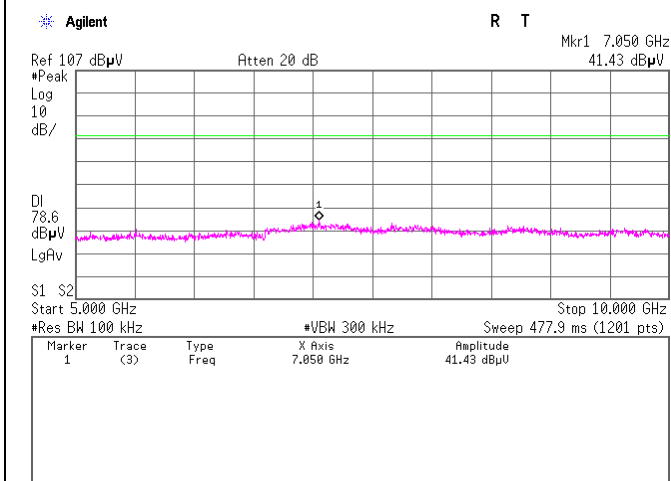
30MHz - 1GHz



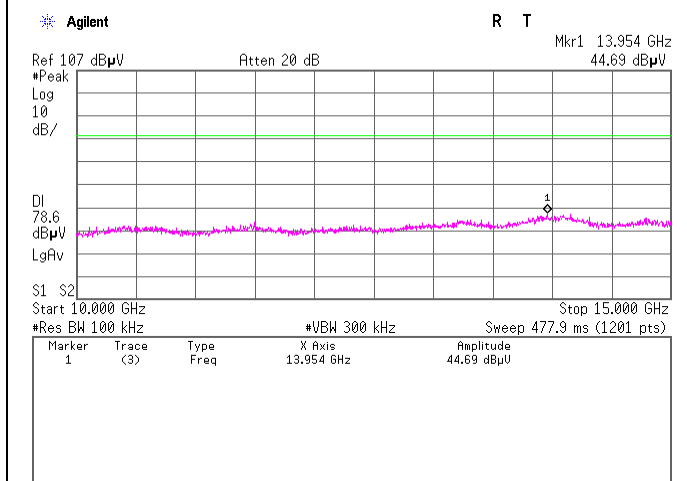
1GHz - 5GHz



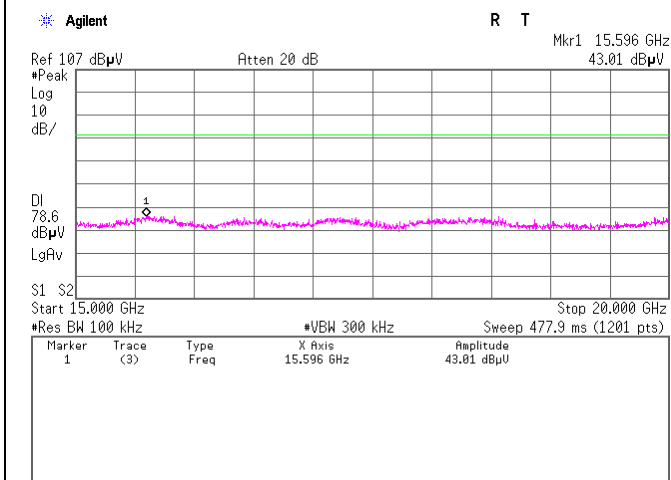
5GHz - 10GHz



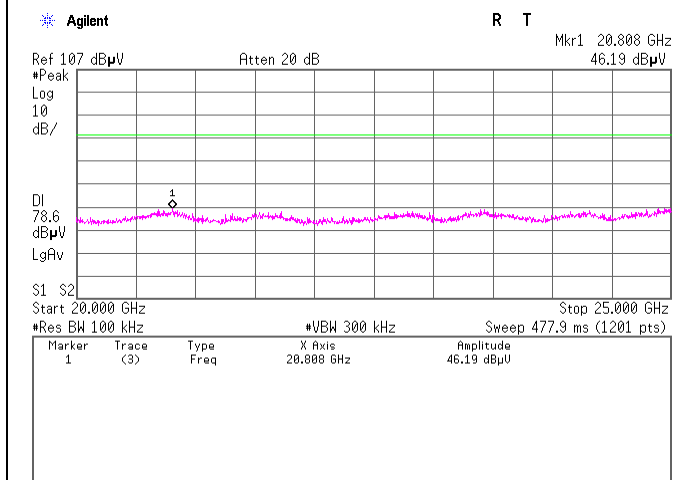
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



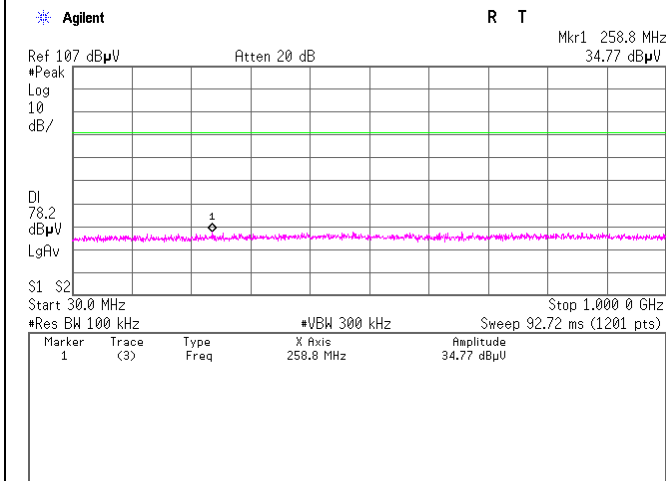
UL Japan, Inc.
Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

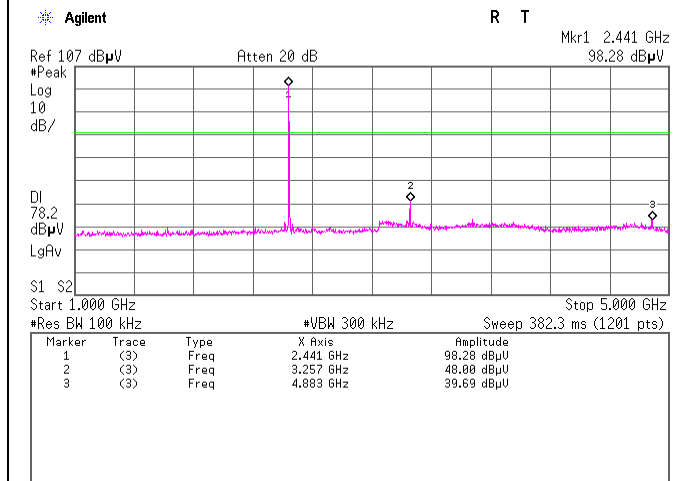
Spurious emission (Conducted)

DH5,
 Tx, 2441MHz

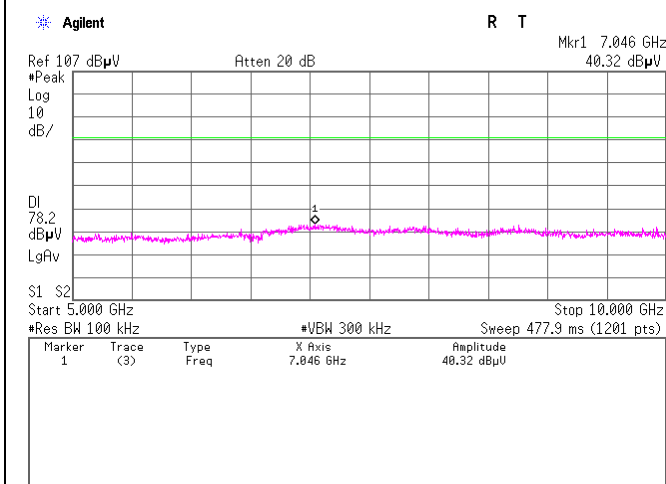
30MHz - 1GHz



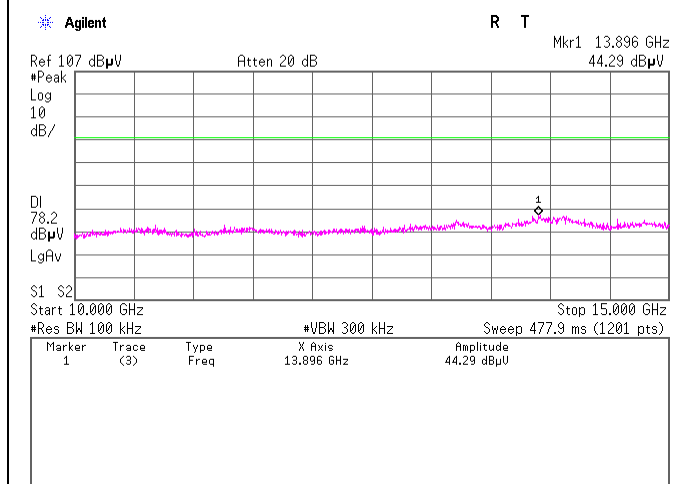
1GHz - 5GHz



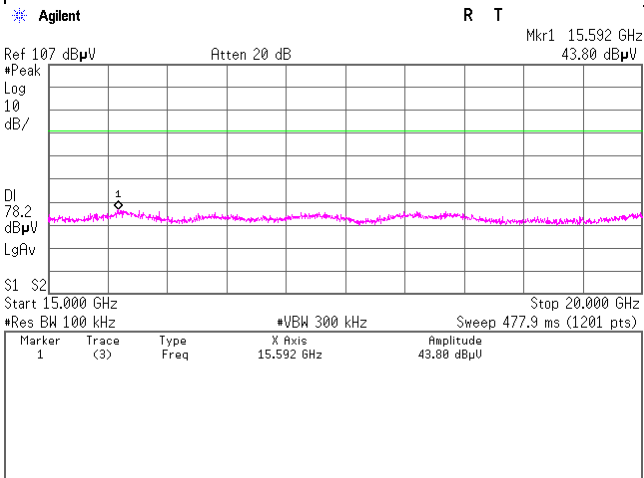
5GHz - 10GHz



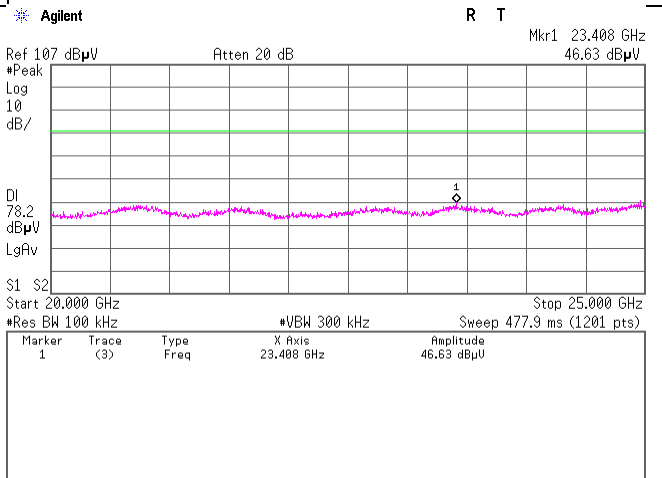
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



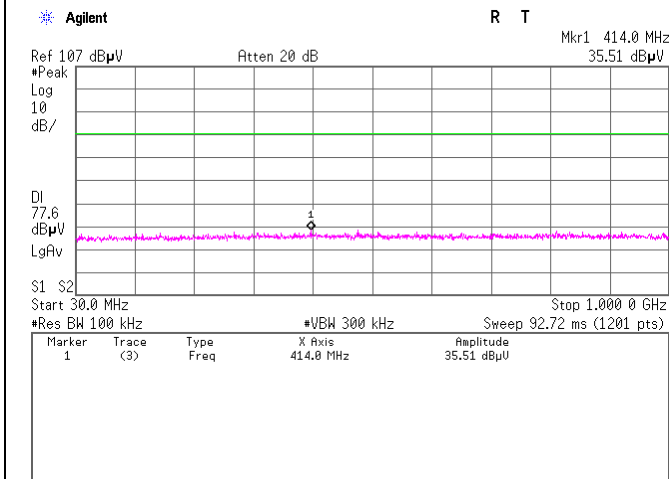
UL Japan, Inc.
 Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

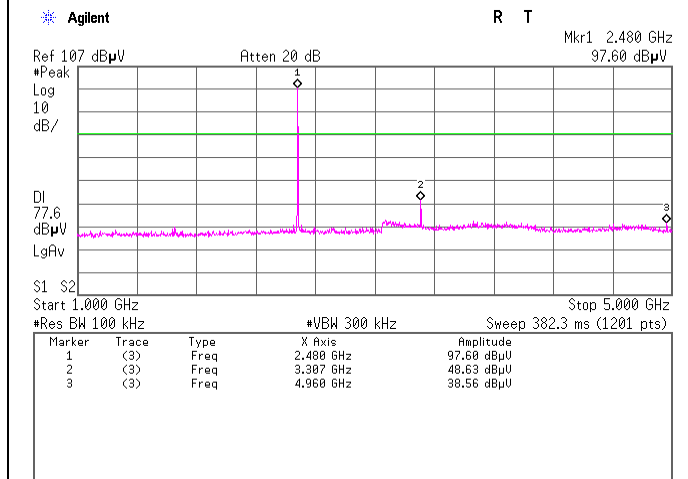
Spurious emission (Conducted)

DH5,
Tx, 2480MHz

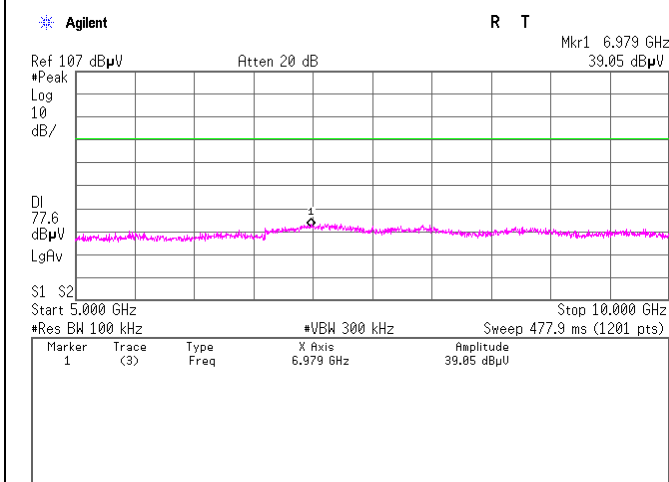
30MHz - 1GHz



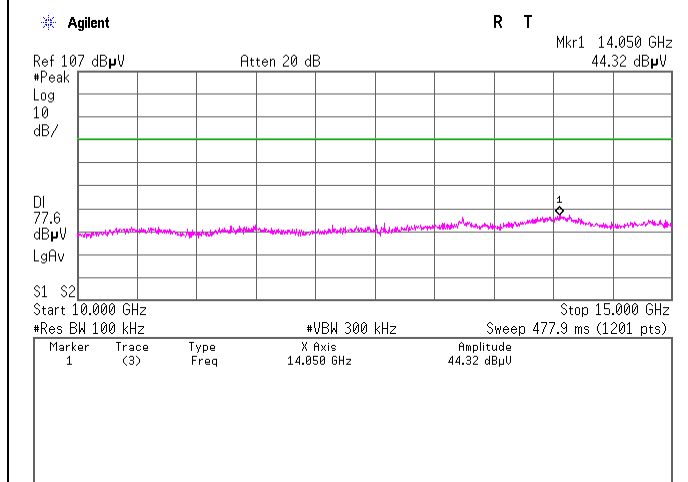
1GHz - 5GHz



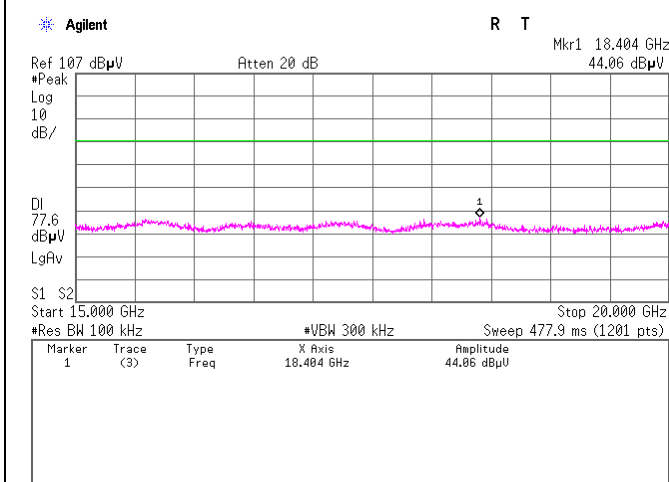
5GHz - 10GHz



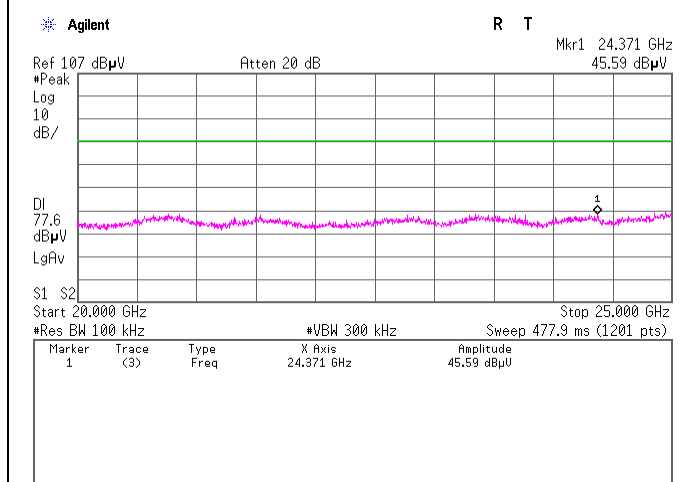
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



UL Japan, Inc.
Shonan EMC Lab.

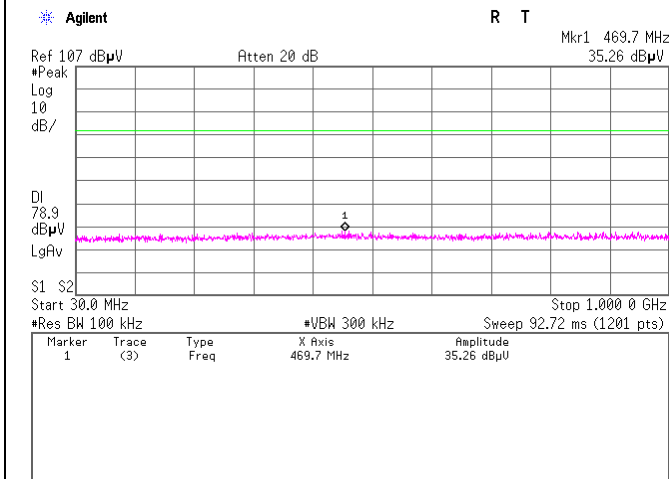
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

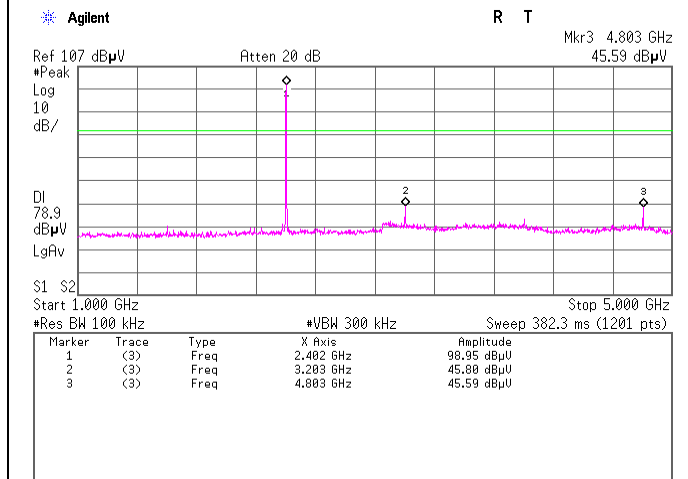
3-DH5,

Tx, 2402MHz

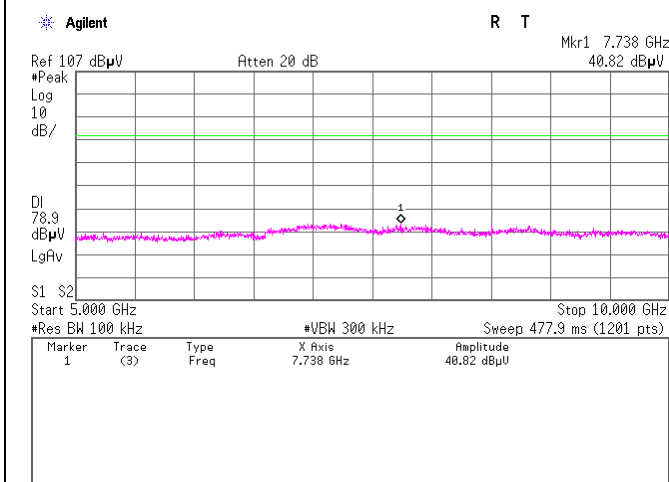
30MHz - 1GHz



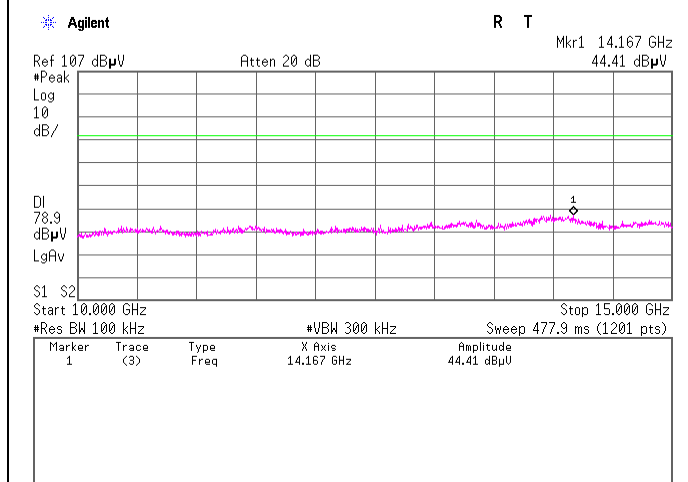
1GHz - 5GHz



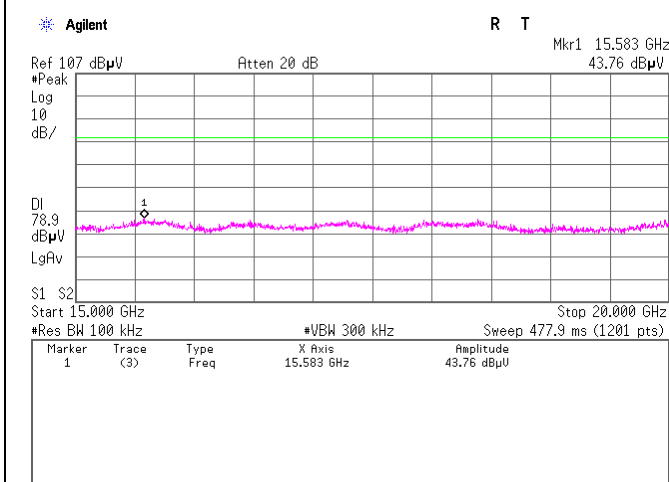
5GHz - 10GHz



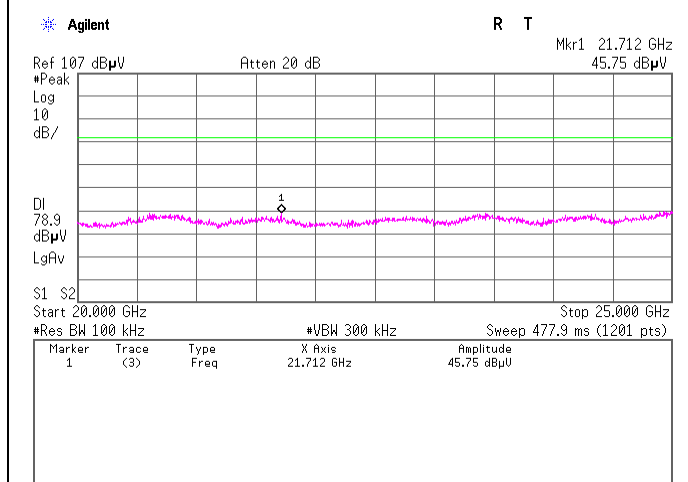
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



UL Japan, Inc.
Shonan EMC Lab.

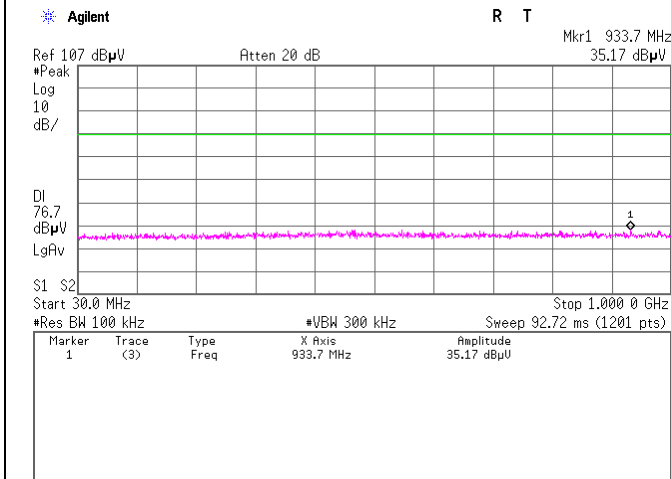
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

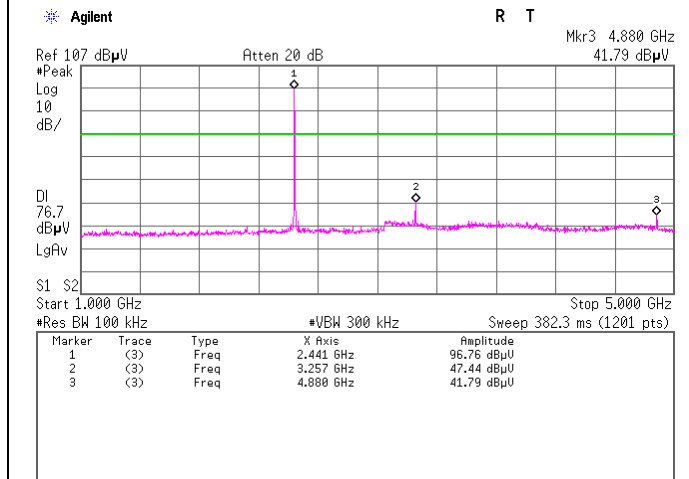
3-DH5,

Tx, 2441MHz

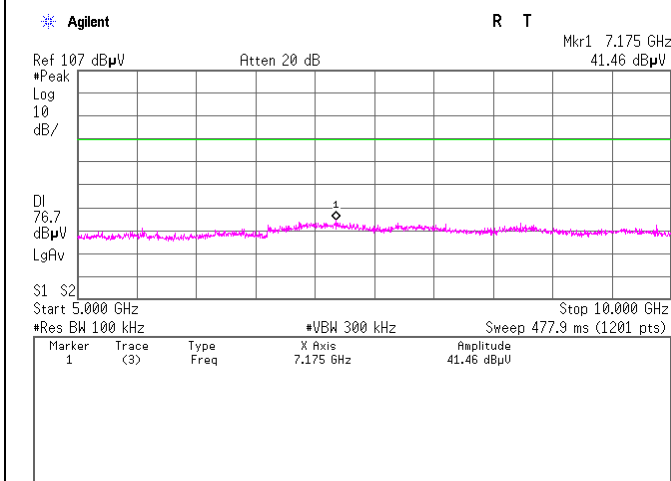
30MHz - 1GHz



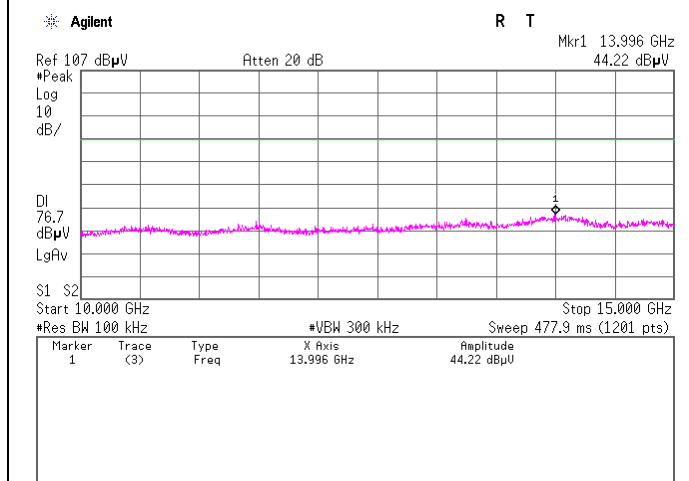
1GHz - 5GHz



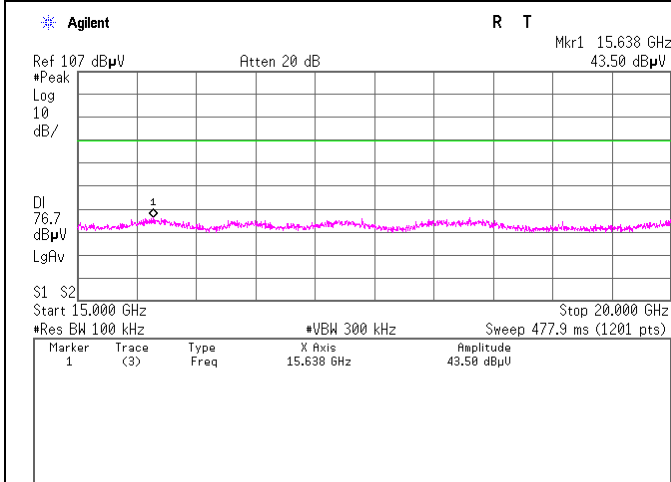
5GHz - 10GHz



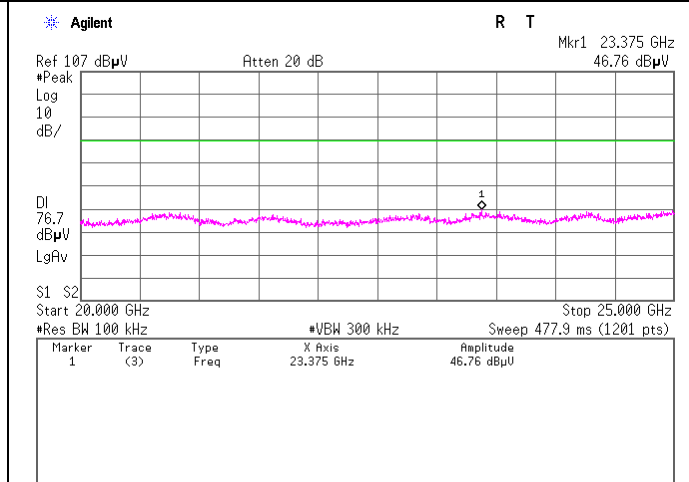
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



UL Japan, Inc.
 Shonan EMC Lab.

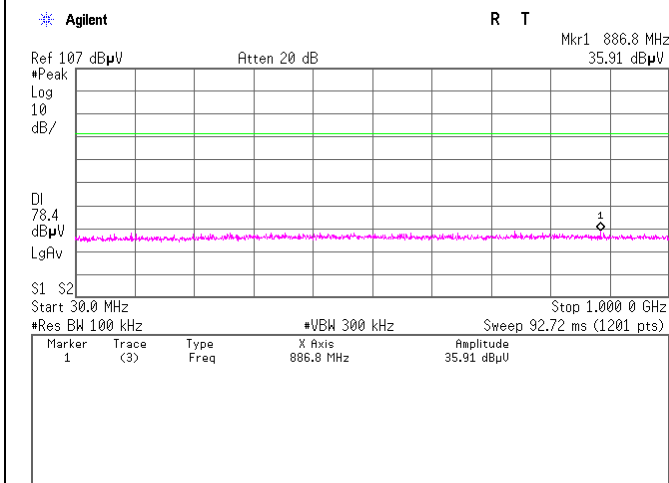
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

Spurious emission (Conducted)

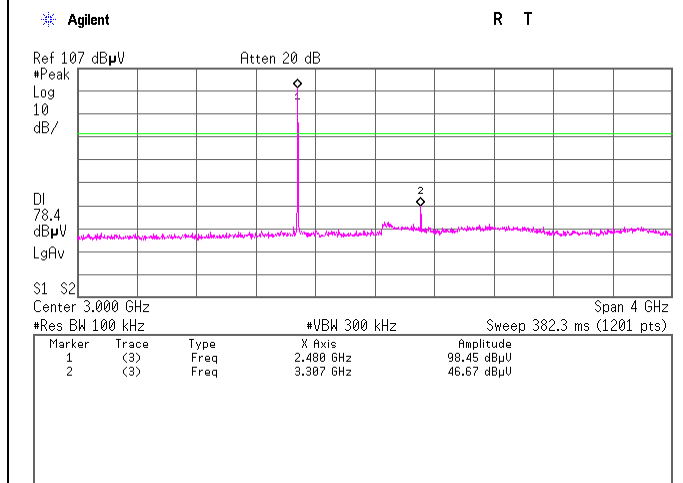
3-DH5,

Tx, 2480MHz

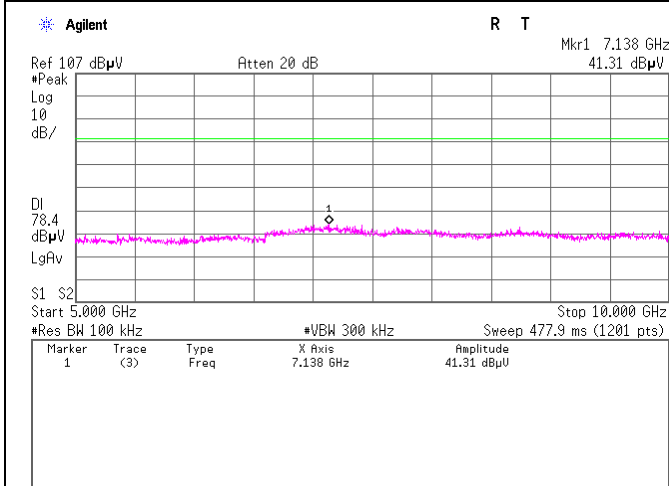
30MHz - 1GHz



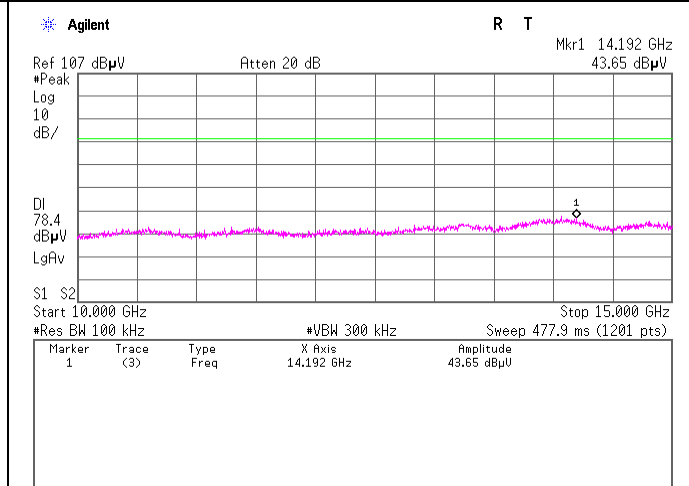
1GHz - 5GHz



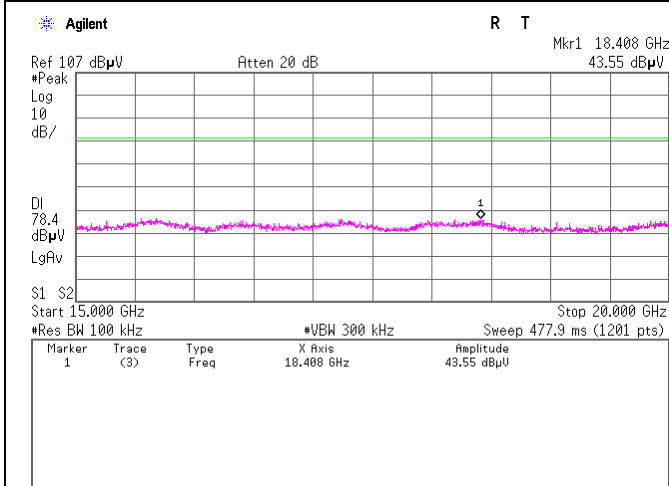
5GHz - 10GHz



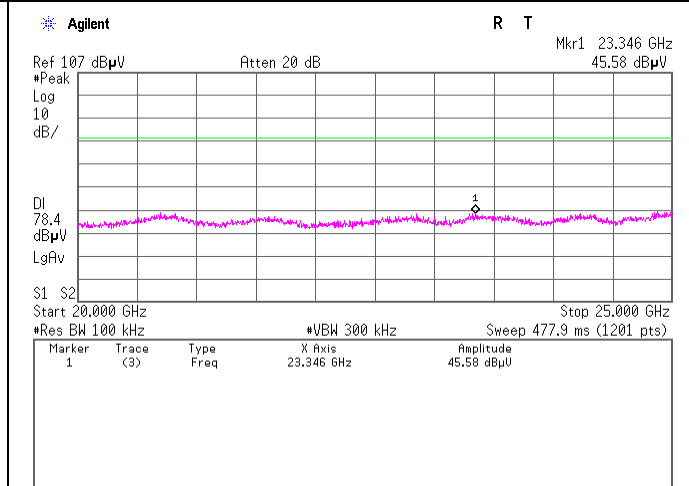
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



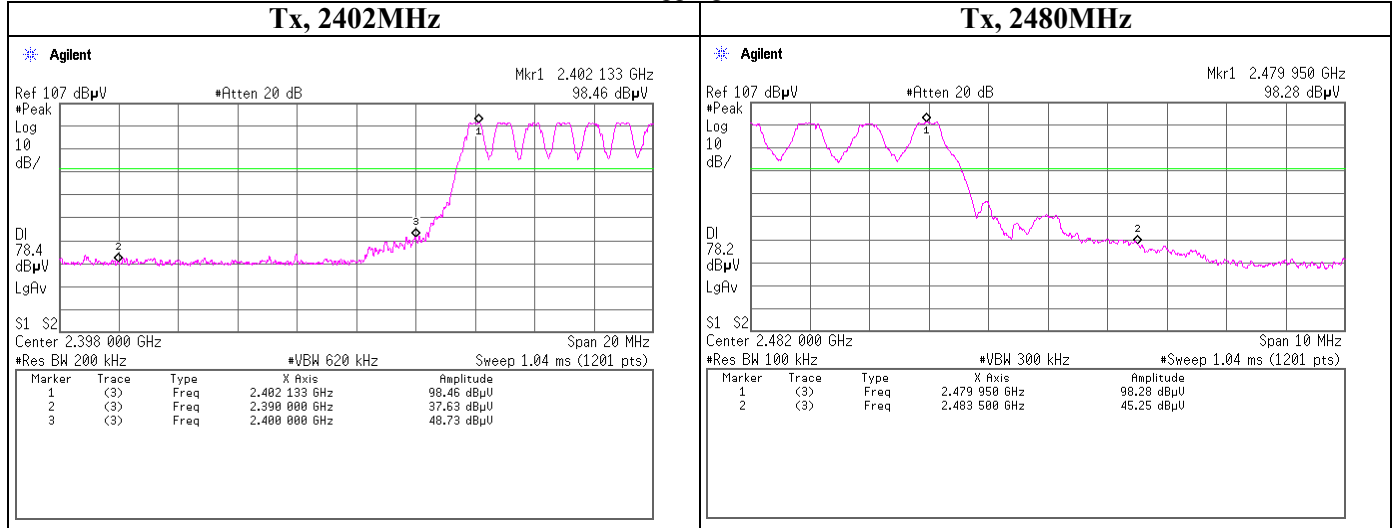
UL Japan, Inc.
Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

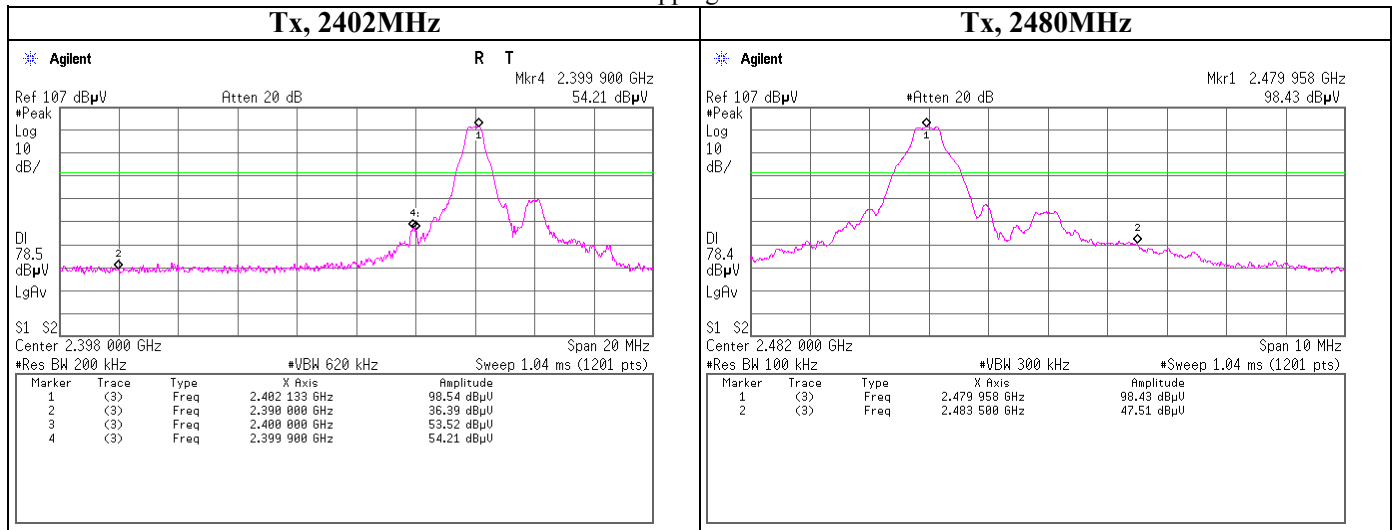
Spurious emission (Conducted)

Band Edge compliance
DH5,

Hopping ON



Hopping OFF



UL Japan, Inc.
Shonan EMC Lab.

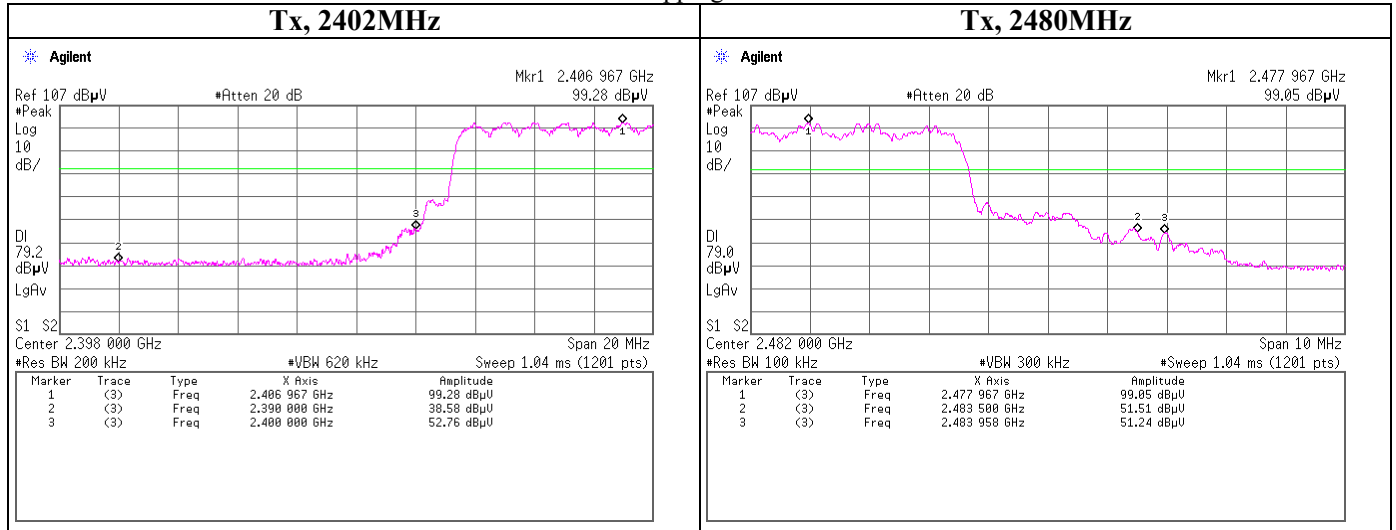
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

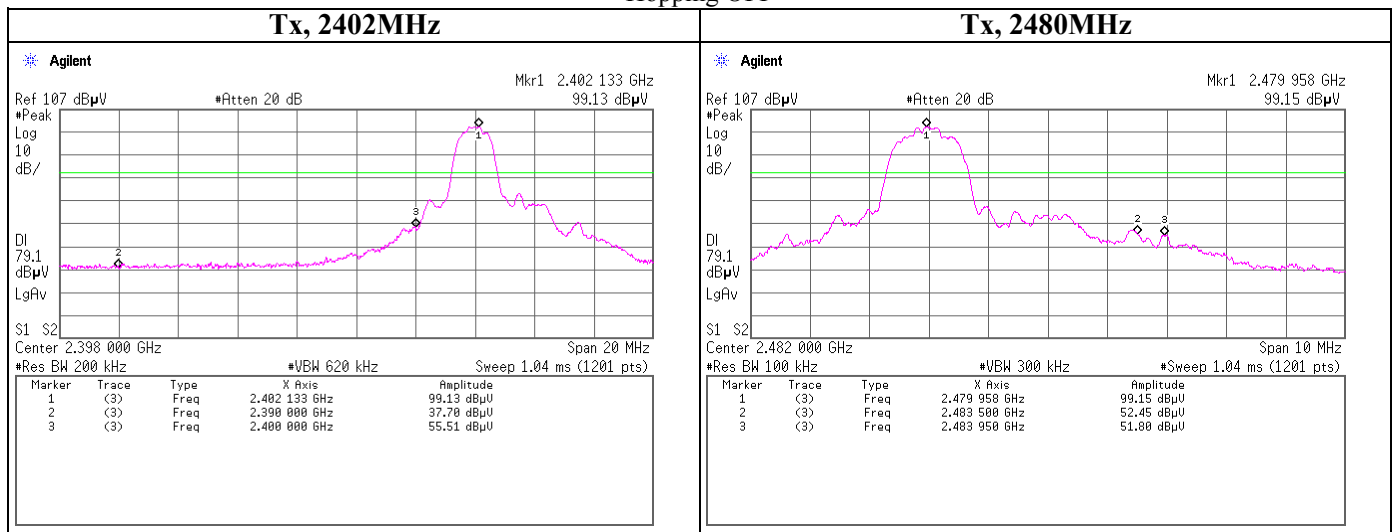
Band Edge compliance

3-DH5,

Hopping ON



Hopping OFF

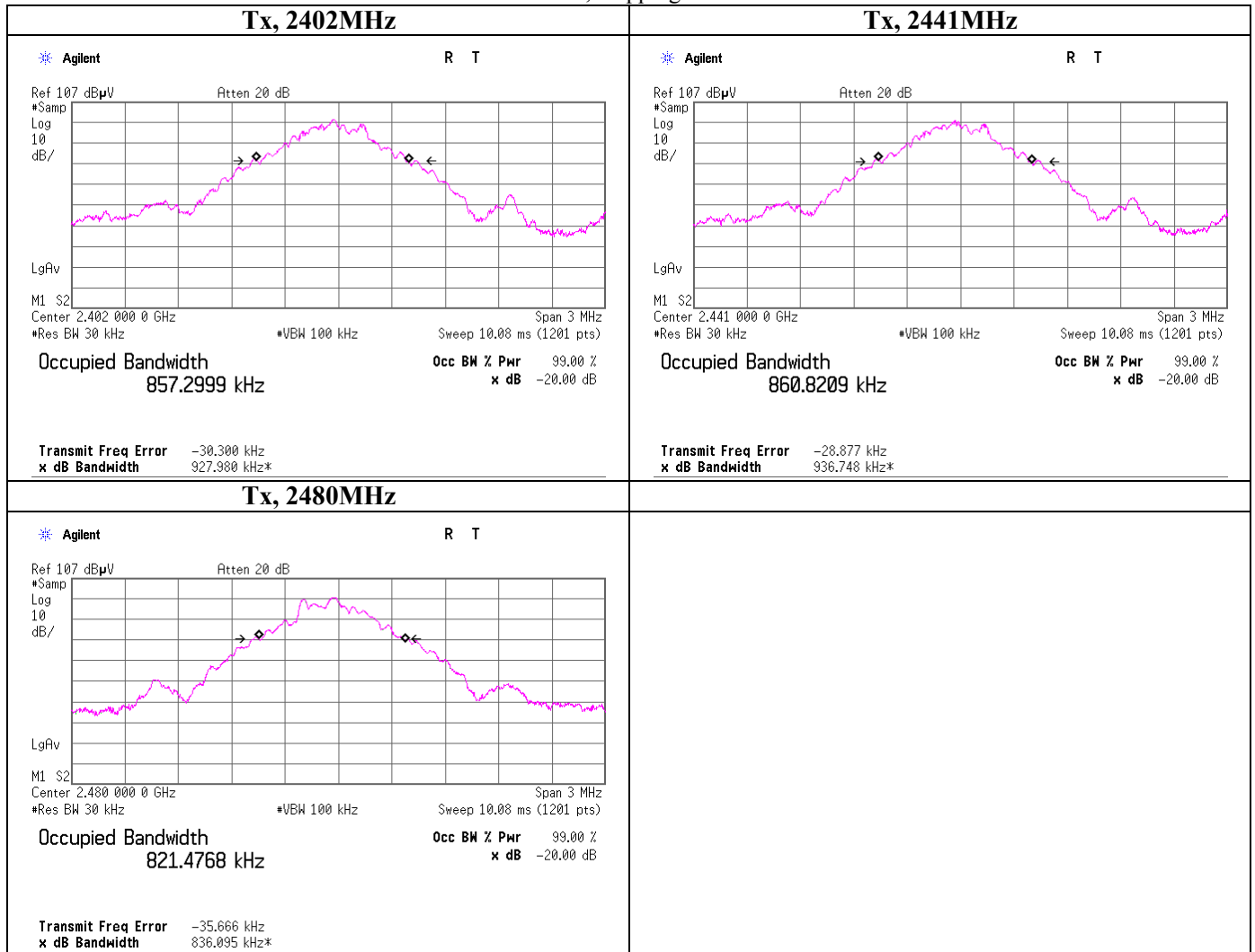


UL Japan, Inc.
Shonan EMC Lab.

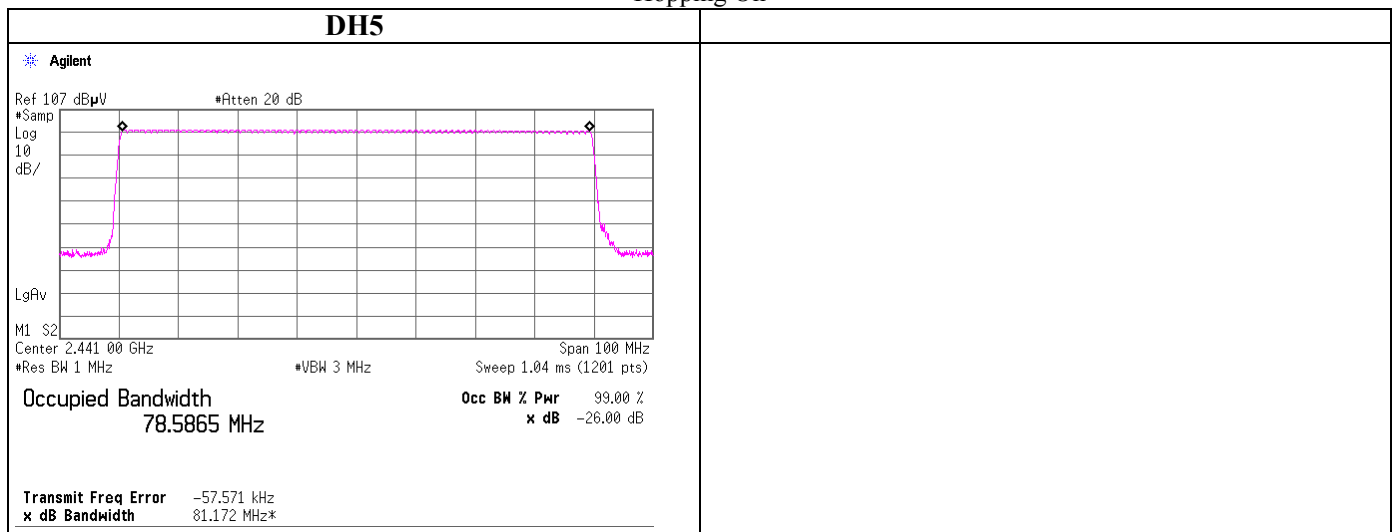
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

99% Occupied Bandwidth

DH5, Hopping Off



Hopping On

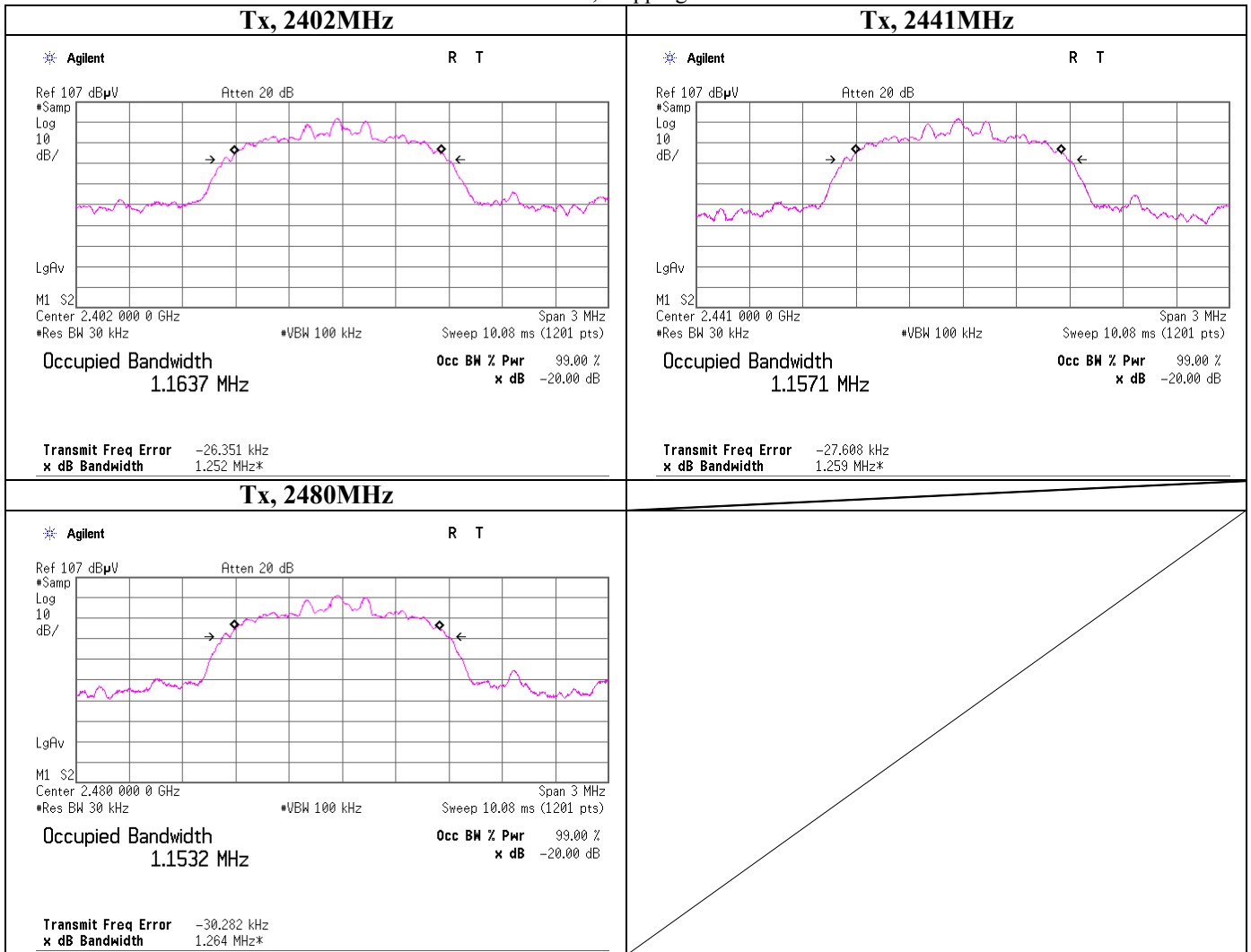


UL Japan, Inc.
Shonan EMC Lab.

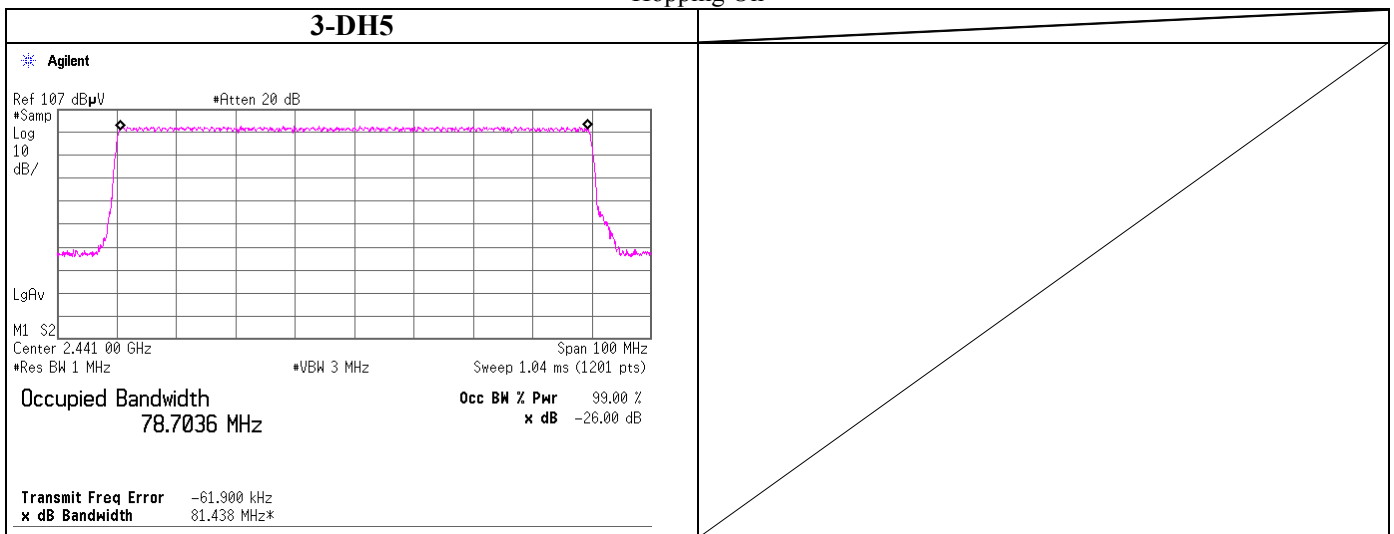
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

99% Occupied Bandwidth

3-DH5, Hopping Off



Hopping On



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

APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT	2010/02/17 * 12
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT	2010/04/01 * 12
SPSS-03	Power sensor	Anritsu	MA2411B	0917063	AT	2010/04/01 * 12
SAT10-06	Attenuator(above1GHz)	Agilent	8493C-010	74865	AT	2010/03/05 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT	2010/11/16 * 12
SCC-G11	Coaxial Cable	Suhner	SUCOFLEX 102	31595/2	AT	2010/03/31 * 12
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2010/03/09 * 12
SCC-G03	Coaxial Cable	Suhner	SUCOFLEX 104A	46499/4A	RE	2010/04/16 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2010/05/27 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2010/08/17 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2010/02/09 * 12
STR-03	Test Receiver	Rohde & Schwarz	ESI40	100054/040	RE	2010/07/21 * 12
SJM-10	Measure	PROMART	SEN1935	-	RE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV	-	RE	-
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
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE	2010/06/22 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2010/03/29 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2010/03/02 * 12
SCC-G17	Coaxial Cable	Suhner	SUCOFLEX 104A	46291/4A	RE	2010/03/02 * 12
SAF-02	Pre Amplifier	SONOMA	310N	290212	RE	2010/02/06 * 12
SAT6-02	Attenuator	JFW	50HF-006N	-	RE	2010/02/06 * 12
SAT3-02	Attenuator	JFW	50HF-003N	-	RE	2010/02/06 * 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	2010/04/02 * 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	2010/04/02 * 12
SLA-02	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0893	RE	2010/10/11 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2010/02/09 * 12
STR-02	Test Receiver	Rohde & Schwarz	ESCI	100575	RE	2010/08/18 * 12
SJM-02	Measure	KOMELON	KMC-36	-	RE	-
SAEC-02(NSA)	Semi-Anechoic Chamber	TDK	SAEC-02(NSA)	2	RE	2010/09/04 * 12
KTR-04	Test Receiver	Rohde & Schwarz	ESVS10	825475/006	RE	2010/03/16 * 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 traceable calibrations . Each calibration is traceable to the national or international standards .

Test Item :

RE: Radiated emission ,

AT: Antenna Terminal conducted tests