
20dB Bandwidth and Carrier Frequency Separation

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	2010/10/14	2010/10/15
Temperature / Humidity	27deg.C. , 48%	24deg.C , 55%
Engineer	Hikaru Shirasawa	Makoto Hosaka
Mode	Tx,	

Mode	Freq. [MHz]	20dB Bandwidth [MHz]	Carrier Frequency Separation [MHz]	Limit for Carrier Frequency Separation [MHz]
DH5	2402.0	0.933	1.000	>= 0.622
DH5	2441.0	0.933	1.000	>= 0.622
DH5	2480.0	0.930	1.000	>= 0.620
3DH5	2402.0	1.280	1.000	>= 0.853
3DH5	2441.0	1.280	1.000	>= 0.853
3DH5	2480.0	1.280	1.003	>= 0.853
Inquiry	2441.0	0.813	2.012	>= 0.542

Limit: Two-thirds of 20dB Bandwidth or 25kHz (whichever is greater).

No limit applies to 20dB Bandwidth.

UL Japan, Inc.

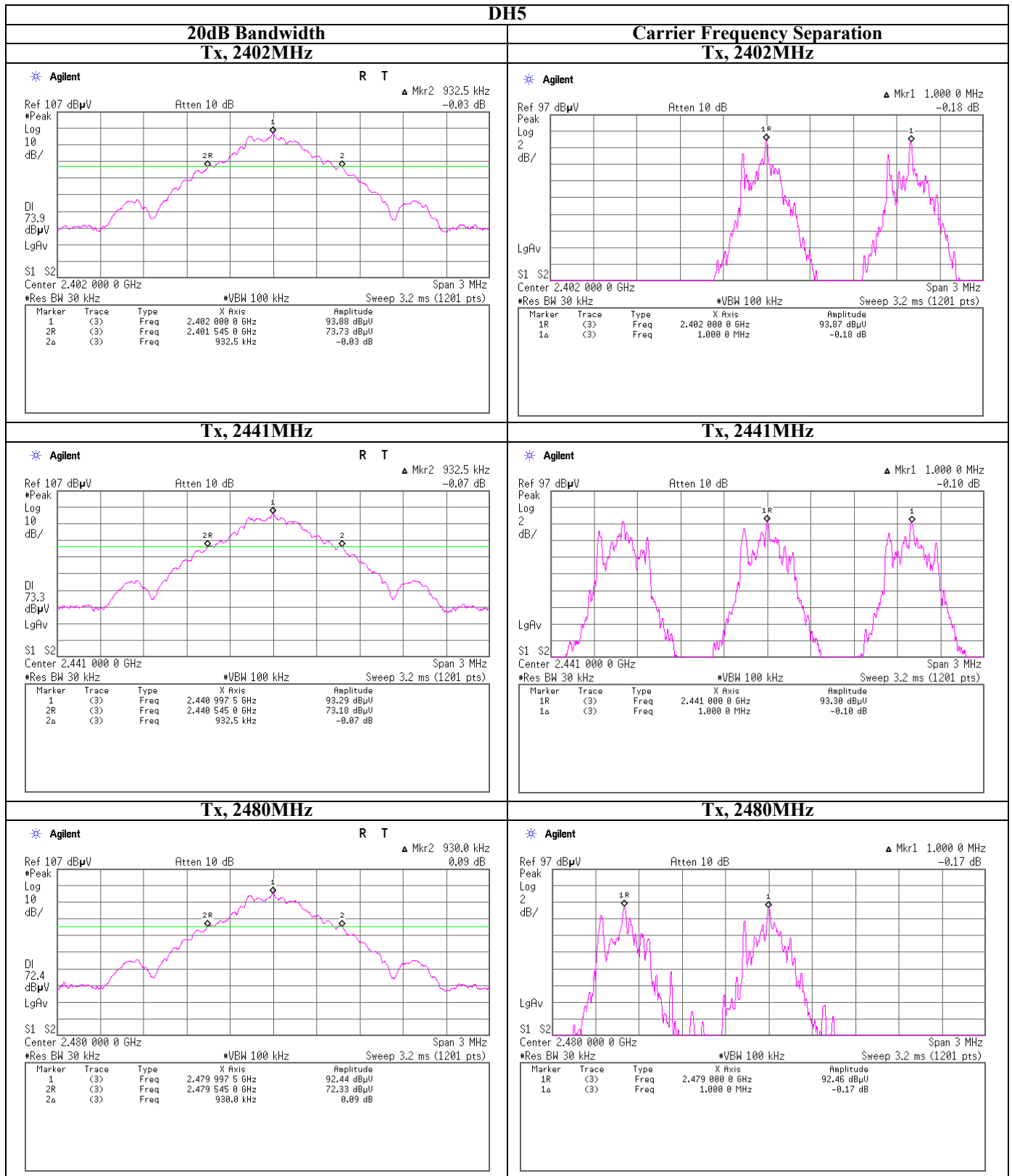
Shonan EMC Lab.

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20dB Bandwidth and Carrier Frequency Separation



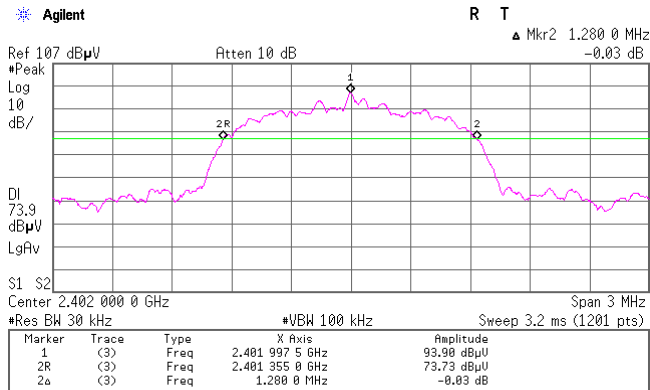
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Shonan EMC Lab.

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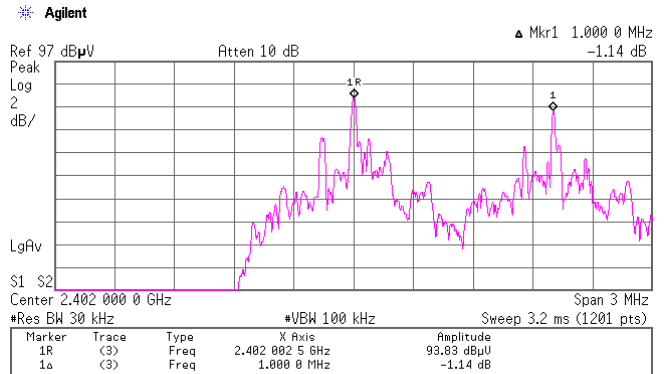
20dB Bandwidth and Carrier Frequency Separation

3-DH5

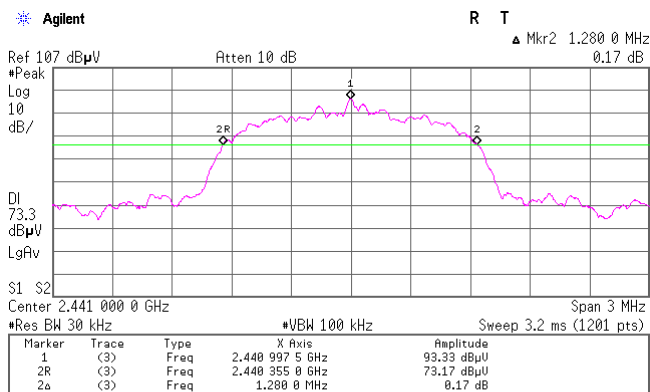
20dB Bandwidth Tx, 2402MHz



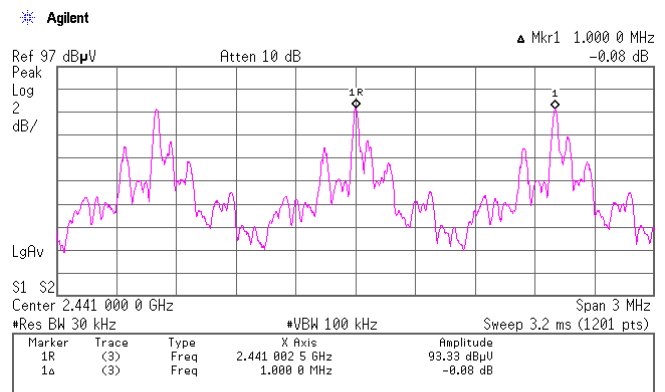
Carrier Frequency Separation Tx, 2402MHz



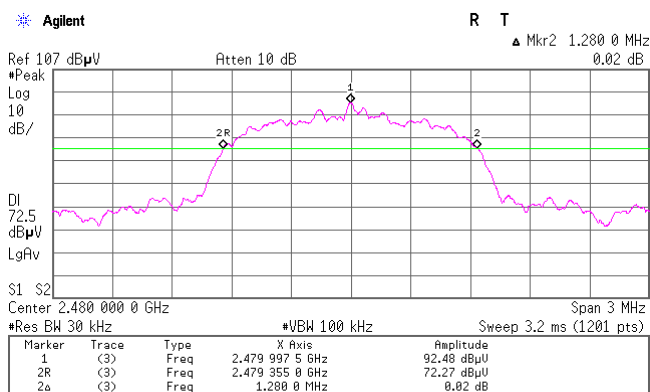
Tx, 2441MHz



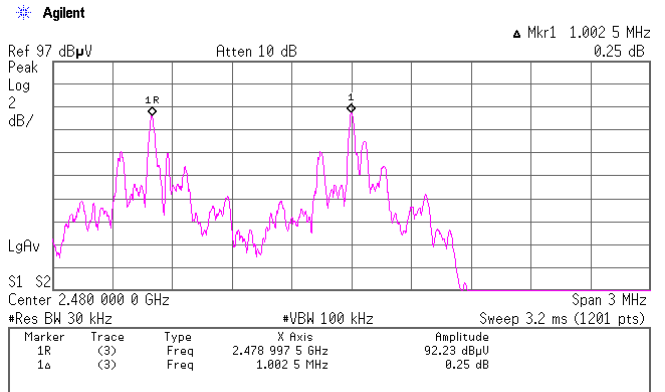
Tx, 2441MHz



Tx, 2480MHz



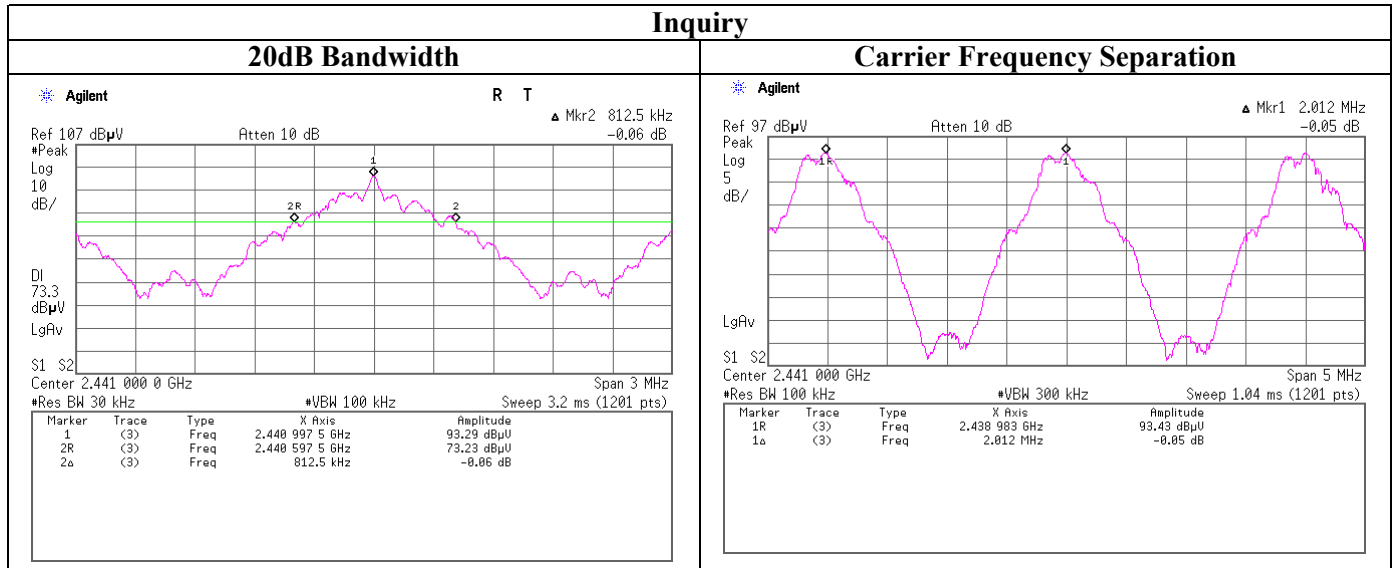
Tx, 2480MHz



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20dB Bandwidth and Carrier Frequency Separation



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Number of Hopping Frequency (Conducted)

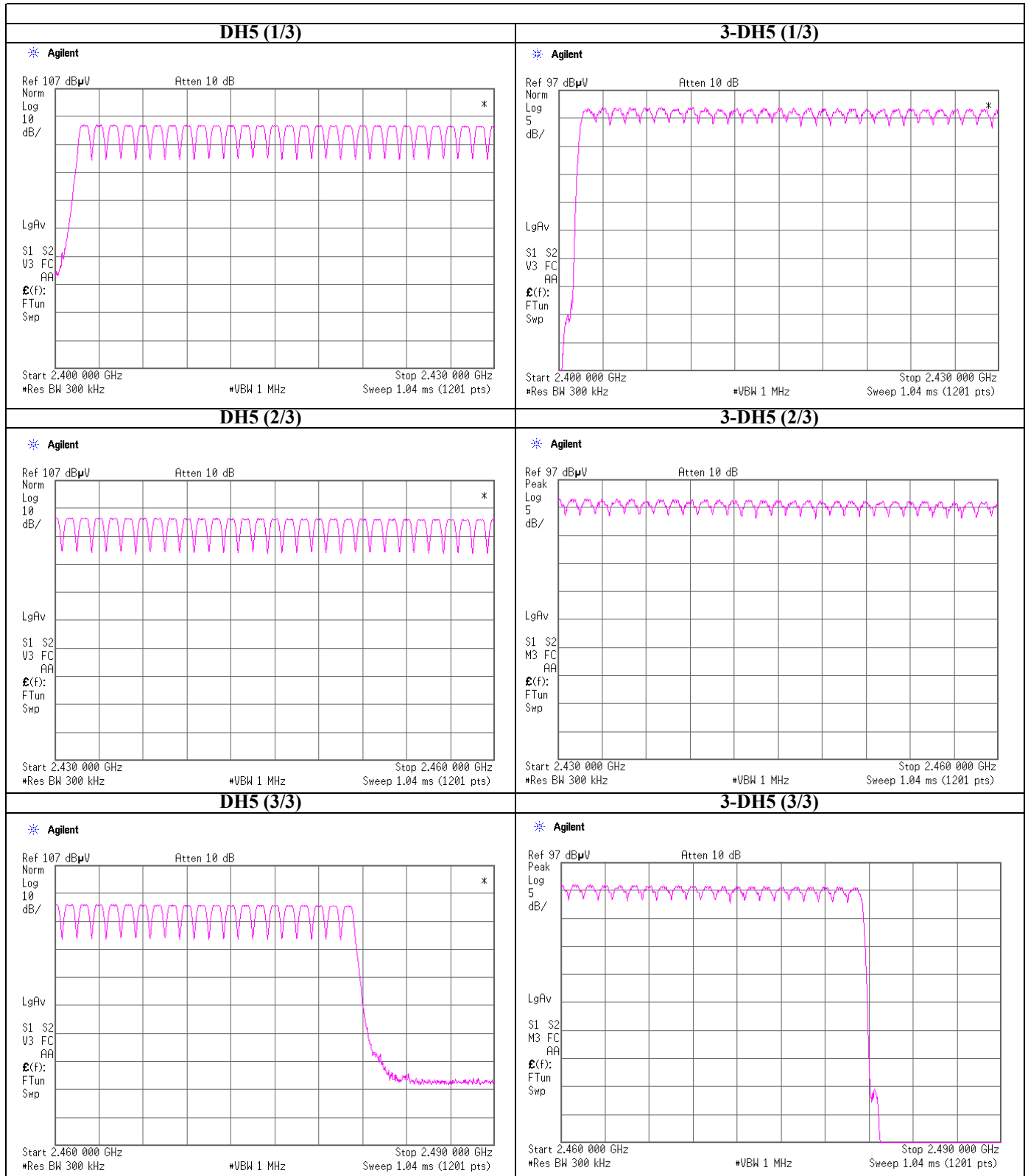
Test place UL Japan, Inc. Shonan EMC La No.5 Shielded Room
Date 2010/10/15
Temperature / Humidity 24deg.C ,55%
Engineer Makoto Hosaka
Mode Tx,

Mode	Number of Channel [times]	Limit [times]
DH5	79	>=15
3-DH5	79	>=15
Inquiry	32	>=15

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Shonan EMC Lab.

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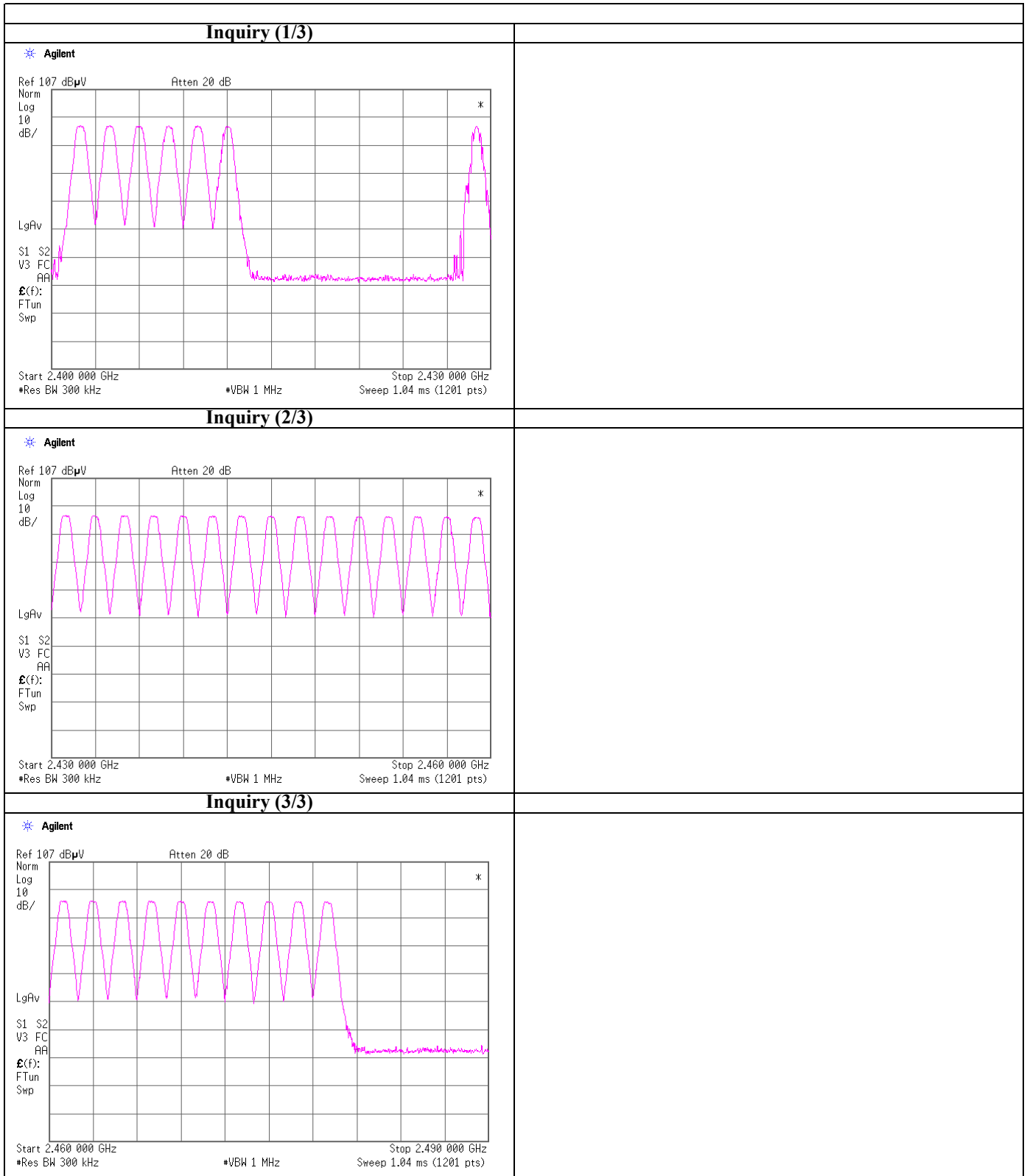
Number of Hopping Frequency



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Shonan EMC Lab.

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Number of Hopping Frequency



UL Japan, Inc.
Shonan EMC Lab.

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Dwell Time (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2010/10/15
Temperature / Humidity 24deg.C ,55%
Engineer Makoto Hosaka
Mode Tx,

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	49.4 times / 5 sec. x 31.6 sec. = 313 times	0.454	142	400
DH3	22.6 times / 5 sec. x 31.6 sec. = 143 times	1.712	245	400
DH5	17.2 times / 5 sec. x 31.6 sec. = 109 times	2.960	323	400
3DH1	49.2 times / 5 sec. x 31.6 sec. = 311 times	0.452	140	400
3DH3	22.2 times / 5 sec. x 31.6 sec. = 141 times	1.702	240	400
3DH5	16.4 times / 5 sec. x 31.6 sec. = 104 times	2.957	308	400
Inquiry	50.0 times / 0.5 sec. x 12.8 sec. = 1280 times	0.143	183	400

Sample Calculation

Result = Number of transmission x Length of transmission time

*Average data of 5 tests.(except Inquiry)

Mode	Sampling [times]					Average [times]
	1	2	3	4	5	
DH1	51	49	51	48	48	49.4
DH3	21	24	23	24	21	22.6
DH5	17	15	15	12	27	17.2
3DH1	51	50	49	45	51	49.2
3DH3	21	25	19	22	24	22.2
3DH5	15	20	16	14	17	16.4
Inquiry	50	50	50	50	50	50

Sample Calculation

Average= Summation(Sampling 1 to 5) / 5

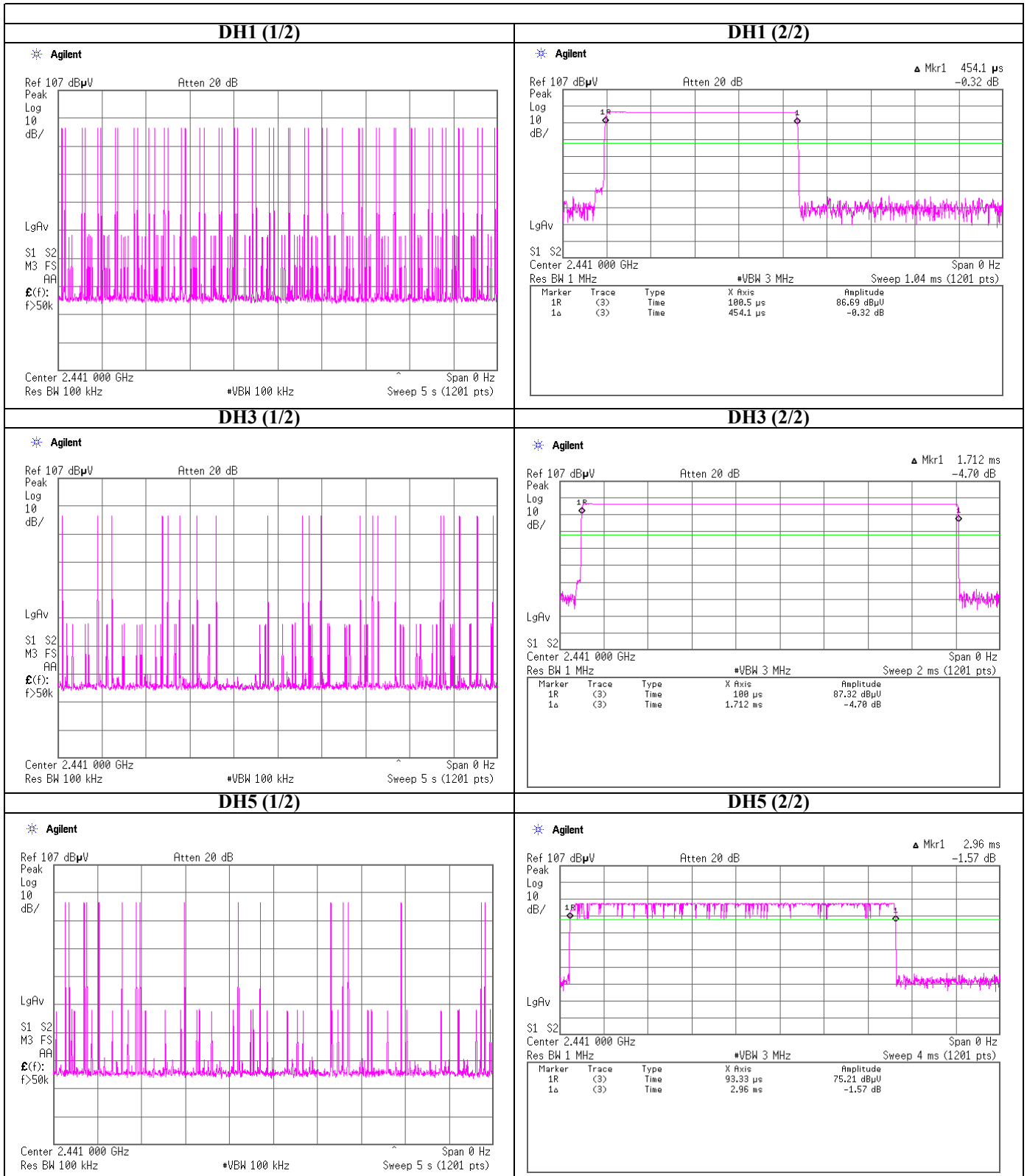
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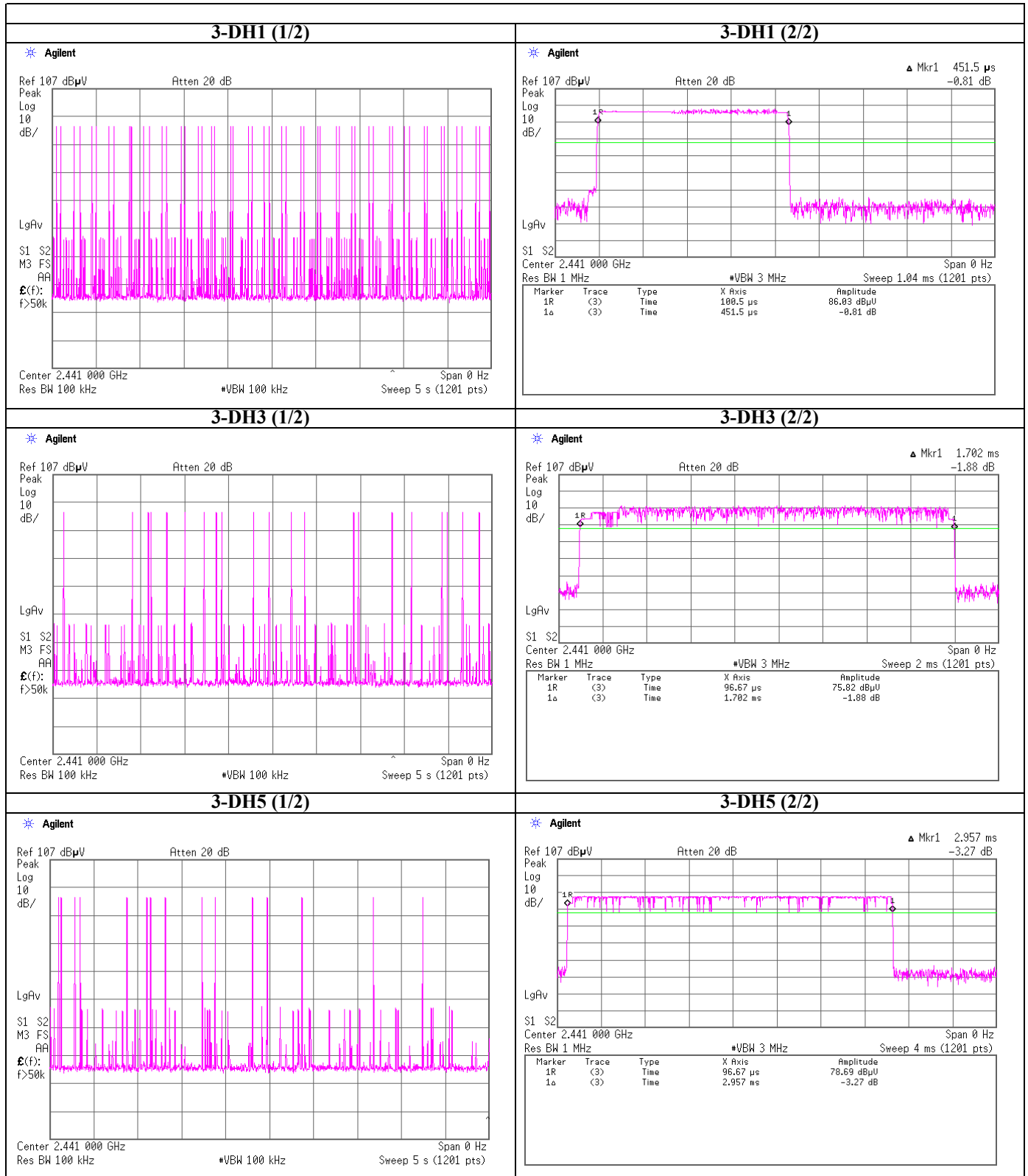
Dwell time



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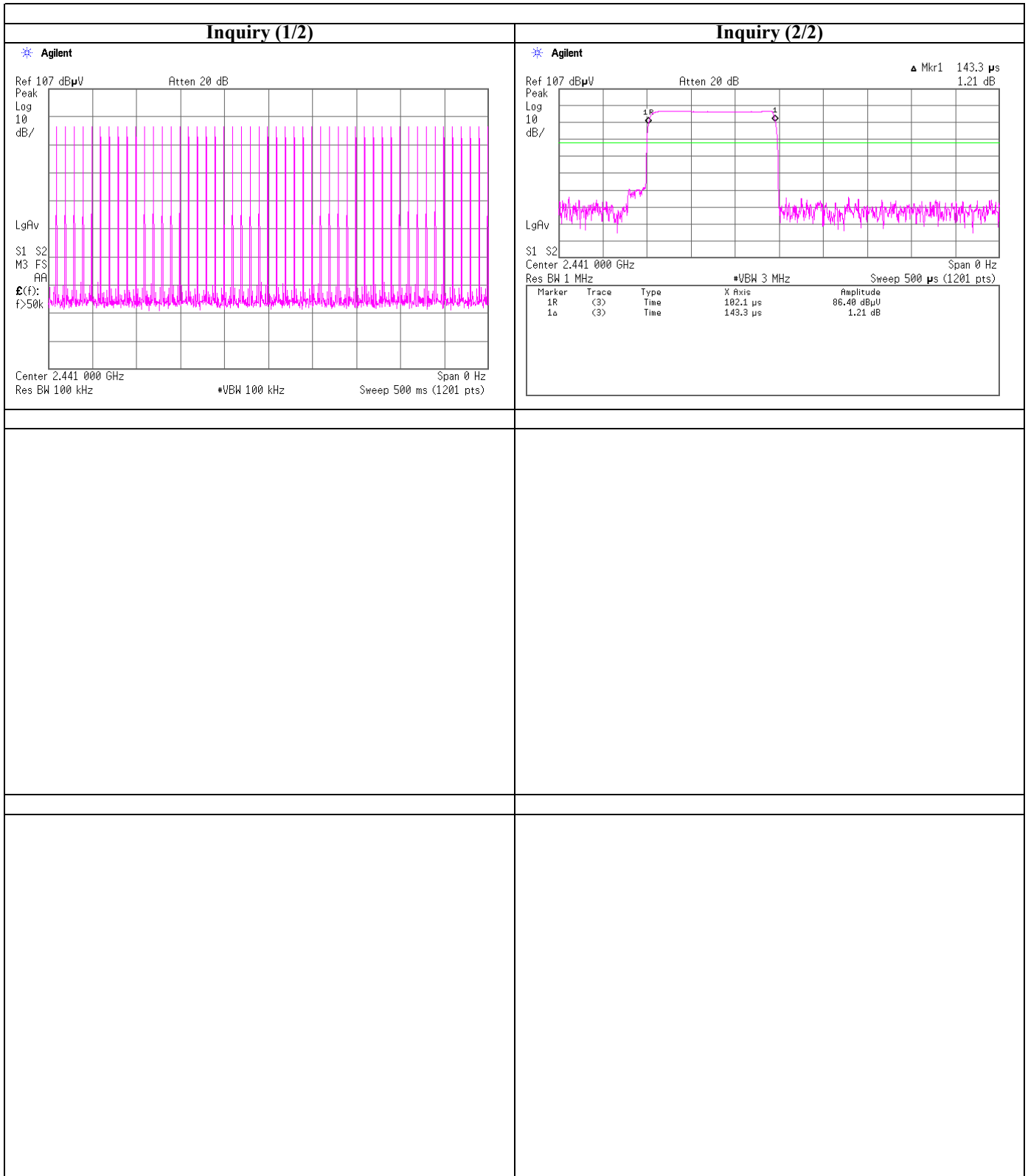
Dwell time



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Dwell time



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Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2010/10/15
Temperature / Humidity 24deg.C ,55%
Engineer Makoto Hosaka
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	-12.69	1.79	9.95	-0.95	0.80	20.97	125	21.92
Mid	2441.0	-13.13	1.80	9.95	-1.38	0.73	20.97	125	22.35
High	2480.0	-14.34	1.81	9.95	-2.58	0.55	20.97	125	23.55

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	-12.14	1.79	9.95	-0.40	0.91	20.97	125	21.37
Mid	2441.0	-12.73	1.80	9.95	-0.98	0.80	20.97	125	21.95
High	2480.0	-13.55	1.81	9.95	-1.79	0.66	20.97	125	22.76

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	-11.90	1.79	9.95	-0.16	0.96	20.97	125	21.13
Mid	2441.0	-12.44	1.80	9.95	-0.69	0.85	20.97	125	21.66
High	2480.0	-13.24	1.81	9.95	-1.48	0.71	20.97	125	22.45

Sample Calculation:

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

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

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DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2010/10/18

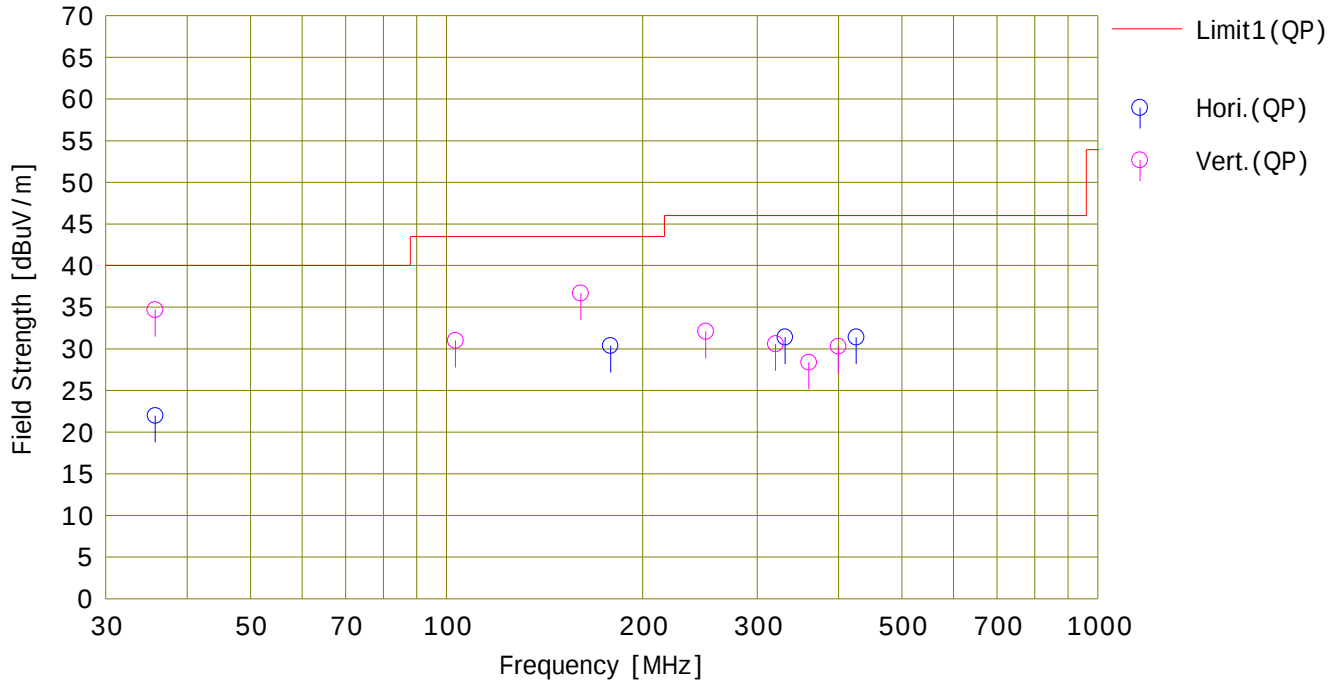
Company : PIONEER CORPORATION
Kind of E.U.T. : Car Audio
Model No. : DEH-8018
Serial No. : AAB999999UC

Mode : Transmitting(DH5.2402MHz)
Report No. : 31BE0255-SH-01-A
Power : DC13.2V
Temp./Humi. : 26 / 51%

Remarks : -

Limit1 : FCC15.247(d)3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading <QP>	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP>	Limit <QP>	Margin <QP>	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		[dBuV]				[dBuV/m]	[dBuV/m]	[dB]					
1	35.712	31.3	16.2	6.6	32.1	22.0	40.0	18.0	Hori.	251	39	BC	
2	178.595	38.6	16.1	7.7	32.0	30.4	43.5	13.1	Hori.	200	170	BC	
3	330.895	40.0	14.7	8.6	31.9	31.4	46.0	14.6	Hori.	100	298	LP	
4	425.449	37.5	16.8	9.0	31.9	31.4	46.0	14.6	Hori.	100	213	LP	
5	35.706	43.9	16.3	6.6	32.1	34.7	40.0	5.3	Vert.	100	115	BC	
6	103.213	45.2	10.7	7.2	32.1	31.0	43.5	12.5	Vert.	100	270	BC	
7	160.727	45.7	15.4	7.6	32.0	36.7	43.5	6.8	Vert.	100	236	BC	
8	250.034	38.5	17.4	8.2	32.0	32.1	46.0	13.9	Vert.	100	322	BC	
9	320.125	39.6	14.4	8.5	31.9	30.6	46.0	15.4	Vert.	100	359	LP	
10	359.994	36.1	15.5	8.7	31.9	28.4	46.0	17.6	Vert.	100	343	LP	
11	399.574	36.7	16.6	8.9	31.9	30.3	46.0	15.7	Vert.	100	231	LP	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2010/10/18

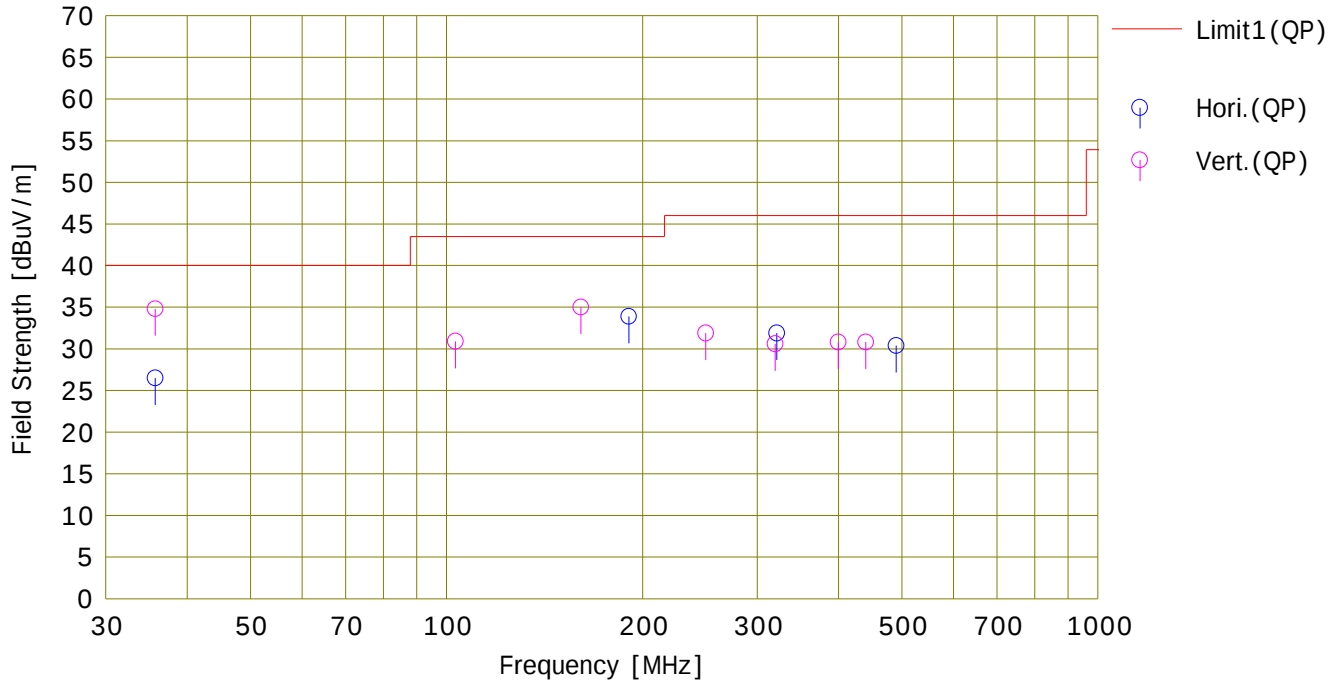
Company : PIONEER CORPORATION
Kind of E.U.T. : Car Audio
Model No. : DEH-8018
Serial No. : AAB999999UC

Mode : Transmitting(DH5.2441MHz)
Report No. : 31BE0255-SH-01-A
Power : DC13.2V
Temp./Humi. : 26 / 51%

Remarks : -

Limit1 : FCC15.247(d)3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading <QP>	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP>	Limit <QP>	Margin <QP>	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		[dBuV]				[dBuV/m]	[dBuV/m]	[dB]					
1	35.707	35.7	16.3	6.6	32.1	26.5	40.0	13.5	Hori.	342	169	BC	
2	190.497	41.6	16.5	7.8	32.0	33.9	43.5	9.6	Hori.	174	208	BC	
3	321.453	40.9	14.4	8.5	31.9	31.9	46.0	14.1	Hori.	102	179	LP	
4	490.278	35.9	17.1	9.3	31.9	30.4	46.0	15.6	Hori.	100	355	LP	
5	35.707	44.0	16.3	6.6	32.1	34.8	40.0	5.2	Vert.	100	123	BC	
6	103.211	45.1	10.7	7.2	32.1	30.9	43.5	12.6	Vert.	100	263	BC	
7	160.858	44.0	15.4	7.6	32.0	35.0	43.5	8.5	Vert.	100	223	BC	
8	250.034	38.3	17.4	8.2	32.0	31.9	46.0	14.1	Vert.	100	324	BC	
9	319.594	39.7	14.3	8.5	31.9	30.6	46.0	15.4	Vert.	100	355	LP	
10	399.545	37.1	16.7	8.9	31.9	30.8	46.0	15.2	Vert.	100	185	LP	
11	440.422	36.9	16.8	9.0	31.9	30.8	46.0	15.2	Vert.	100	256	LP	

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+Attenuator) [dB] - Gain (AMP) [dB]
Ant.Type=BC=Biconical Antenna, LP=Logperiodic Antenna, SHA-04: Horn Antenna

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2010/10/19

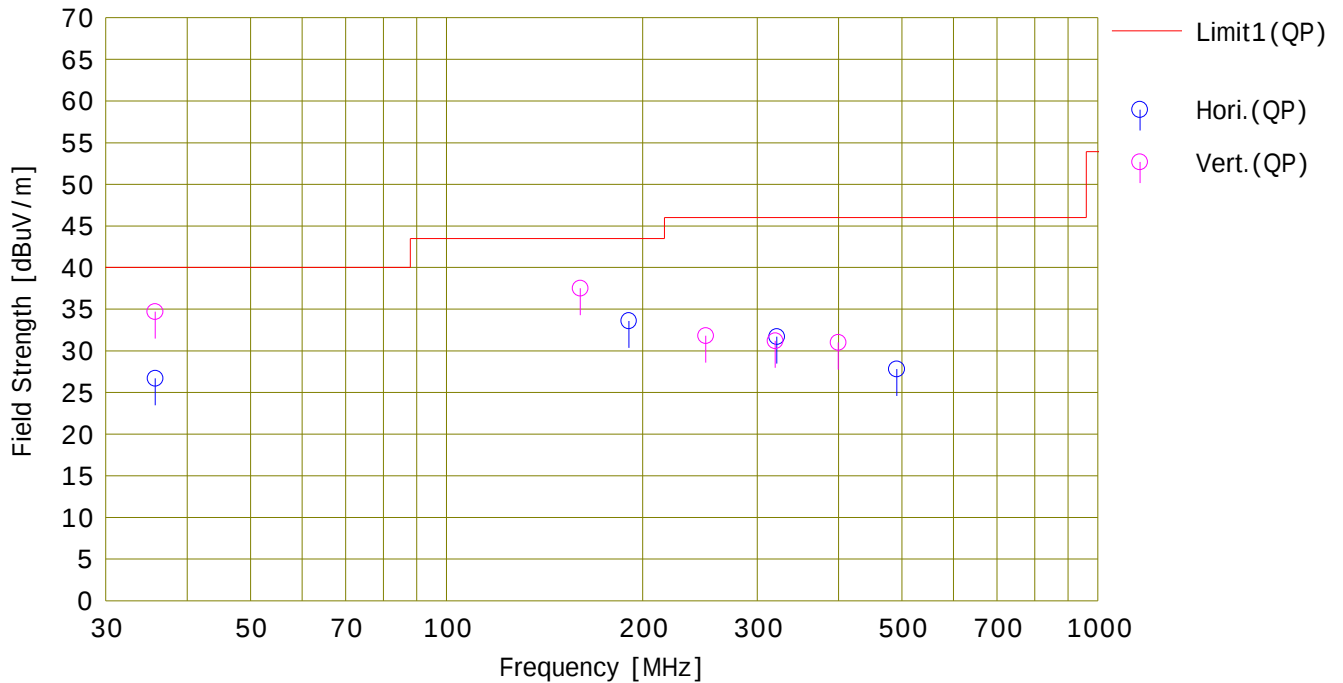
Company : PIONEER CORPORATION
Kind of E.U.T. : Car Audio
Model No. : DEH-8018
Serial No. : AAB999999UC

Mode : Transmitting(DH5.2480MHz)
Report No. : 31BE0255-SH-01-A
Power : DC13.2V
Temp./Humi. : 26 / 51%

Remarks : -

Limit1 : FCC15.247(d)3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading <QP>	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP>	Limit <QP>	Margin <QP>	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		[dBuV]				[dBuV/m]	[dBuV/m]	[dB]					
1	35.715	35.9	16.3	6.6	32.1	26.7	40.0	13.3	Hori.	354	161	BC	
2	190.507	41.3	16.5	7.8	32.0	33.6	43.5	9.9	Hori.	174	208	BC	
3	321.456	40.7	14.4	8.5	31.9	31.7	46.0	14.3	Hori.	100	180	LP	
4	491.090	33.3	17.1	9.3	31.9	27.8	46.0	18.2	Hori.	100	355	LP	
5	35.706	44.0	16.2	6.6	32.1	34.7	40.0	5.3	Vert.	100	129	BC	
6	160.401	46.5	15.4	7.6	32.0	37.5	43.5	6.0	Vert.	100	246	BC	
7	250.034	38.2	17.4	8.2	32.0	31.8	46.0	14.2	Vert.	100	320	BC	
8	319.742	40.3	14.3	8.5	31.9	31.2	46.0	14.8	Vert.	100	355	LP	
9	399.685	37.3	16.7	8.9	31.9	31.0	46.0	15.0	Vert.	100	216	LP	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2010/10/19

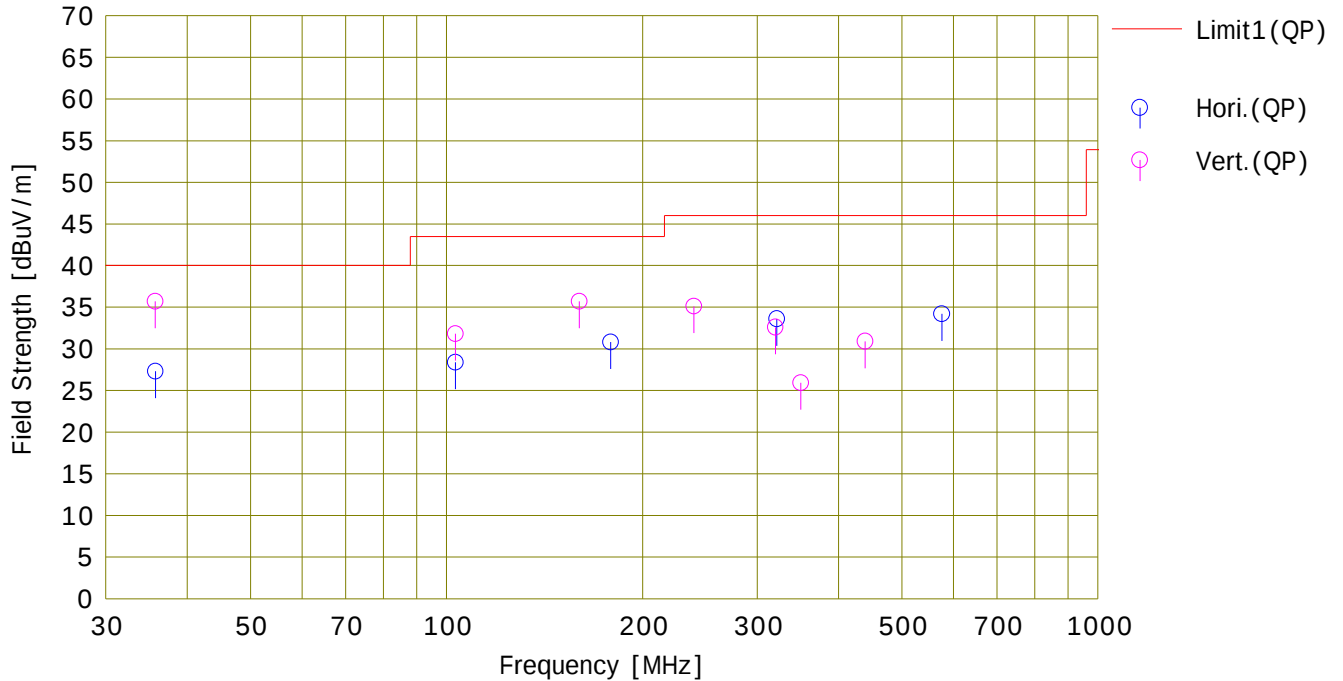
Company : PIONEER CORPORATION
Kind of E.U.T. : Car Audio
Model No. : DEH-8018
Serial No. : AAB999999UC

Mode : Transmitting(3DH5.2402MHz)
Report No. : 31BE0255-SH-01-A
Power : DC13.2V
Temp./Humi. : 26 / 45%

Remarks : -

Limit1 : FCC15.247(d)3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
		<QP>				<QP>	<QP>	<QP>					
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]		
1	35.727	35.7	17.1	6.6	32.1	27.3	40.0	12.7	Hori.	357	168	BC	
2	103.212	42.6	10.7	7.2	32.1	28.4	43.5	15.1	Hori.	170	185	BC	
3	178.605	39.0	16.1	7.7	32.0	30.8	43.5	12.7	Hori.	174	205	BC	
4	321.475	42.6	14.4	8.5	31.9	33.6	46.0	12.4	Hori.	140	200	LP	
5	576.000	38.0	18.5	9.6	31.9	34.2	46.0	11.8	Hori.	100	310	LP	
6	35.712	45.0	16.2	6.6	32.1	35.7	40.0	4.3	Vert.	100	126	BC	
7	103.212	46.0	10.7	7.2	32.1	31.8	43.5	11.7	Vert.	100	268	BC	
8	159.918	44.7	15.4	7.6	32.0	35.7	43.5	7.8	Vert.	100	216	BC	
9	239.745	41.7	17.3	8.1	32.0	35.1	46.0	10.9	Vert.	100	210	BC	
10	319.752	41.6	14.4	8.5	31.9	32.6	46.0	13.4	Vert.	154	358	LP	
11	349.802	33.8	15.3	8.7	31.9	25.9	46.0	20.1	Vert.	100	1	LP	
12	439.462	36.9	16.8	9.1	31.9	30.9	46.0	15.1	Vert.	100	271	LP	

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+Attenuator) [dB] - Gain (AMP) [dB]
Ant.Type=BC=Biconical Antenna, LP=Logperiodic Antenna, SHA-04: Horn Antenna

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2010/10/19

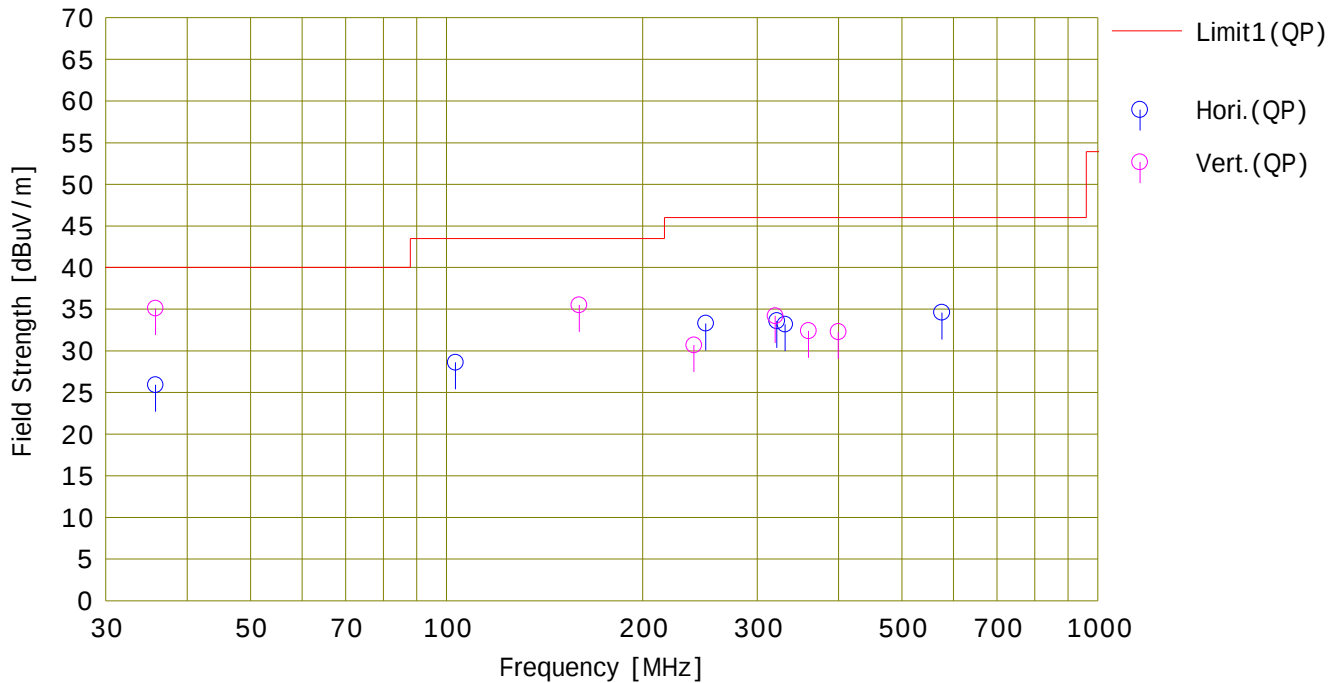
Company : PIONEER CORPORATION
Kind of E.U.T. : Car Audio
Model No. : DEH-8018
Serial No. : AAB999999UC

Mode : Transmitting(3DH5.2441MHz)
Report No. : 31BE0255-SH-01-A
Power : DC13.2V
Temp./Humi. : 26 / 45%

Remarks : -

Limit1 : FCC15.247(d)3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading <QP>	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP>	Limit <QP>	Margin <QP>	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		[dBuV]				[dBuV/m]	[dBuV/m]	[dB]					
1	35.734	35.2	16.2	6.6	32.1	25.9	40.0	14.1	Hori.	363	164	BC	
2	103.206	42.8	10.7	7.2	32.1	28.6	43.5	14.9	Hori.	304	181	BC	
3	250.039	39.7	17.4	8.2	32.0	33.3	46.0	12.7	Hori.	137	175	BC	
4	321.479	42.6	14.4	8.5	31.9	33.6	46.0	12.4	Hori.	125	230	LP	
5	330.896	41.8	14.7	8.6	31.9	33.2	46.0	12.8	Hori.	149	205	LP	
6	576.011	38.4	18.5	9.6	31.9	34.6	46.0	11.4	Hori.	222	324	LP	
7	35.734	44.4	16.2	6.6	32.1	35.1	40.0	4.9	Vert.	100	130	BC	
8	159.841	44.5	15.4	7.6	32.0	35.5	43.5	8.0	Vert.	100	214	BC	
9	239.795	37.3	17.3	8.1	32.0	30.7	46.0	15.3	Vert.	100	208	BC	
10	319.598	43.3	14.3	8.5	31.9	34.2	46.0	11.8	Vert.	100	0	LP	
11	359.661	40.1	15.5	8.7	31.9	32.4	46.0	13.6	Vert.	100	184	LP	
12	399.611	38.6	16.7	8.9	31.9	32.3	46.0	13.7	Vert.	100	260	LP	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2010/10/19

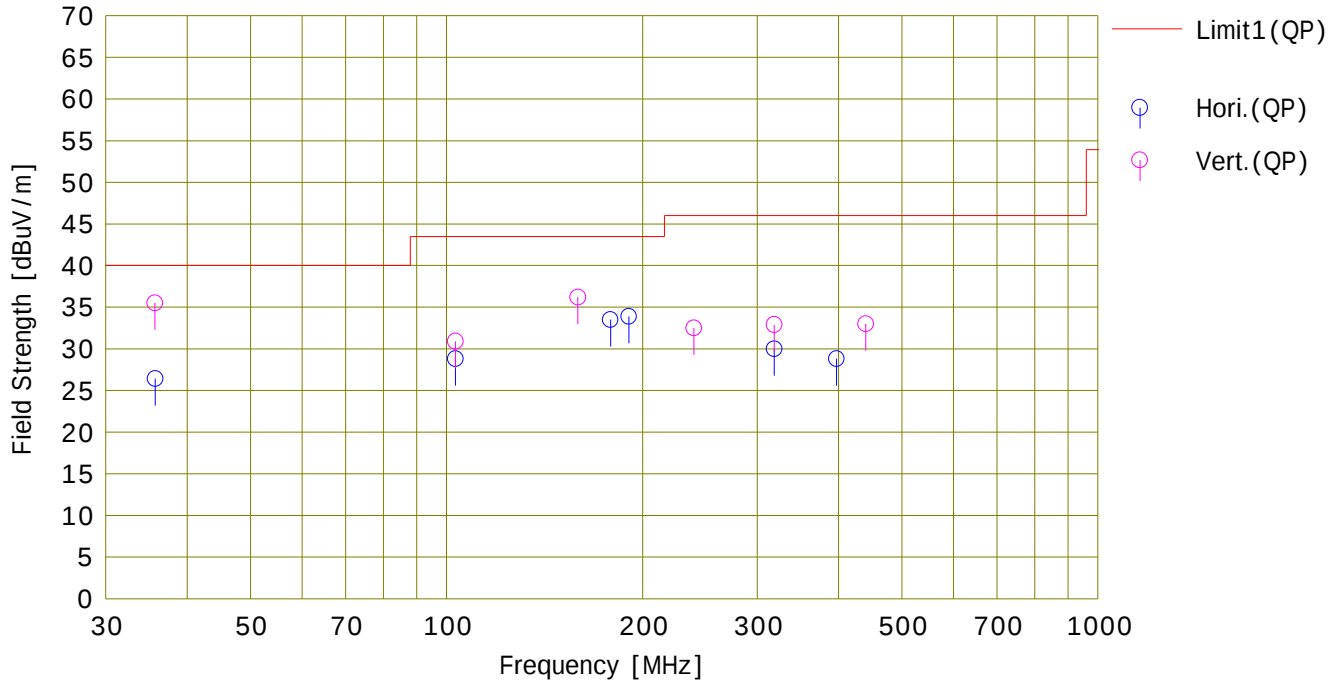
Company : PIONEER CORPORATION
Kind of E.U.T. : Car Audio
Model No. : DEH-8018
Serial No. : AAB999999UC

Mode : Transmitting(3DH5.2480MHz)
Report No. : 31BE0255-SH-01-A
Power : DC13.2V
Temp./Humi. : 26 / 45%

Remarks : -

Limit1 : FCC15.247(d)3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	35.721	35.7	16.2	6.6	32.1	26.4	40.0	13.6	Hori.	343	175	BC	
2	103.222	43.0	10.7	7.2	32.1	28.8	43.5	14.7	Hori.	314	177	BC	
3	178.598	41.7	16.1	7.7	32.0	33.5	43.5	10.0	Hori.	180	218	BC	
4	190.514	41.6	16.5	7.8	32.0	33.9	43.5	9.6	Hori.	174	208	BC	
5	318.447	39.2	14.2	8.5	31.9	30.0	46.0	16.0	Hori.	156	310	LP	
6	397.082	35.2	16.6	8.9	31.9	28.8	46.0	17.2	Hori.	100	149	LP	
7	35.670	44.8	16.2	6.6	32.1	35.5	40.0	4.5	Vert.	100	155	BC	
8	103.213	45.1	10.7	7.2	32.1	30.9	43.5	12.6	Vert.	100	275	BC	
9	159.170	45.2	15.4	7.6	32.0	36.2	43.5	7.3	Vert.	100	228	BC	
10	239.733	39.1	17.3	8.1	32.0	32.5	46.0	13.5	Vert.	100	209	BC	
11	318.486	42.0	14.3	8.5	31.9	32.9	46.0	13.1	Vert.	100	343	LP	
12	440.487	38.9	16.9	9.1	31.9	33.0	46.0	13.0	Vert.	100	258	LP	

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+Attenuator) [dB] - Gain (AMP) [dB]
Ant.Type=BC=Biconical Antenna, LP=Logperiodic Antenna, SHA-04:Horn Antenna

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 amd 2 Semi anechoic chamber
Date 2010/10/14 2010/10/17
Temperature / Humidity 27deg.C. , 48% 25deg.C ,55%
Engineer Hikaru Shirasawa Hikaru Shirasawa
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.	1486.920	PK	48.2	25.3	12.8	37.7	48.6	73.9	25.3	100	185	
Hori.	2390.000	PK	45	27.4	13.6	37	49	73.9	24.9	100	0	
Hori.	2400.000	PK	50.1	27.4	13.7	37	54.2	73.9	19.7	100	289	
Hori.	4804.000	PK	46.2	30.5	5.7	35.9	46.5	73.9	27.4	100	194	
Hori.	7206.000	PK	47.4	36.2	7	37.3	53.3	73.9	20.6	100	0	
Hori.	9608.000	PK	44.1	38.3	8.1	35.6	54.9	73.9	19.0	100	0	
Hori.	12010.000	PK	44.4	39.4	9.1	36.9	56	73.9	17.9	100	0	
Vert.	1486.920	PK	50.3	25.3	12.8	37.7	50.7	73.9	23.2	268	145	
Vert.	2390.000	PK	46	27.4	13.6	37	50	73.9	23.9	100	0	
Vert.	2400.000	PK	49.8	27.4	13.7	37	53.9	73.9	20.0	107	33	
Vert.	4804.000	PK	45.5	30.5	5.7	35.9	45.8	73.9	28.1	100	258	
Vert.	7206.000	PK	48.1	36.2	7	37.3	54	73.9	19.9	100	0	
Vert.	9608.000	PK	44.3	38.3	8.1	35.6	55.1	73.9	18.8	100	0	
Vert.	12010.000	PK	45	39.4	9.1	36.9	56.6	73.9	17.3	100	0	
Hori.	1486.920	AV	30.7	25.3	12.8	37.7	31.1	53.9	22.8	100	185	VBW:10Hz
Vert.	1486.920	AV	32.6	25.3	12.8	37.7	33	53.9	20.9	268	145	VBW:10Hz

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).

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	AV	31.9	27.4	13.6	37.0	-24.4	11.5	53.9	42.4	VBW:300Hz
Hori.	2400.000	AV	41.3	27.4	13.7	37.0	-24.4	21.0	53.9	32.9	VBW:300Hz
Hori.	4804.000	AV	37.8	30.5	5.7	35.9	-24.4	13.7	53.9	40.2	VBW:300Hz
Hori.	7206.000	AV	34.5	36.2	7.0	37.3	-24.4	16.0	53.9	37.9	VBW:300Hz
Hori.	9608.000	AV	32.1	38.3	8.1	35.6	-24.4	18.5	53.9	35.4	VBW:300Hz
Hori.	12010.000	AV	32.9	39.4	9.1	36.9	-24.4	20.1	53.9	33.8	VBW:300Hz
Vert.	2390.000	AV	31.9	27.4	13.6	37.0	-24.4	11.5	53.9	42.4	VBW:300Hz
Vert.	2400.000	AV	41.4	27.4	13.7	37.0	-24.4	21.1	53.9	32.8	VBW:300Hz
Vert.	4804.000	AV	36.0	30.5	5.7	35.9	-24.4	11.9	53.9	42.0	VBW:300Hz
Vert.	7206.000	AV	36.1	36.2	7.0	37.3	-24.4	17.6	53.9	36.3	VBW:300Hz
Vert.	9608.000	AV	32.5	38.3	8.1	35.6	-24.4	18.9	53.9	35.0	VBW:300Hz
Vert.	12010.000	AV	32.8	39.4	9.1	36.9	-24.4	20.0	53.9	33.9	VBW:300Hz

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Dwell factor: 20log(6ms/100ms)=-24.44dB

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 amd 2 Semi anechoic chamber
Date 2010/10/14 2010/10/17
Temperature / Humidity 27deg.C , 48% 25deg.C ,55%
Engineer Hikaru Shirasawa Hikaru Shirasawa
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.	1486.851	PK	49.6	25.3	12.8	37.7	50	73.9	23.9	100	330	
Hori.	4882.000	PK	45.1	30.8	5.8	35.9	45.8	73.9	28.1	100	199	
Hori.	7323.000	PK	47.9	36.4	7.2	37.3	54.2	73.9	19.7	100	0	
Hori.	9764.000	PK	45.2	38.5	8.1	35.8	56	73.9	17.9	100	0	
Hori.	12205.000	PK	46.1	39.4	9.4	36.9	58	73.9	15.9	100	0	
Vert.	1486.851	PK	53.8	25.3	12.8	37.7	54.2	73.9	19.7	269	126	
Vert.	4882.000	PK	45.3	30.8	5.8	35.9	46	73.9	27.9	111	255	
Vert.	7323.000	PK	47.3	36.4	7.2	37.3	53.6	73.9	20.3	100	0	
Vert.	9764.000	PK	44.6	38.5	8.1	35.8	55.4	73.9	18.5	100	0	
Vert.	12205.000	PK	46.1	39.4	9.4	36.9	58	73.9	15.9	100	0	
Hori.	1486.851	AV	34.4	25.3	12.8	37.7	34.8	53.9	19.1	100	330	VBW:100Hz
Vert.	1486.851	AV	35	25.3	12.8	37.7	35.4	53.9	18.5	269	126	VBW:100Hz

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).

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4882.000	AV	34.1	30.8	5.8	35.9	-24.4	10.4	53.9	43.5	VBW:300Hz
Hori.	7323.000	AV	34.9	36.4	7.2	37.3	-24.4	16.8	53.9	37.1	VBW:300Hz
Hori.	9764.000	AV	32.3	38.5	8.1	35.8	-24.4	18.7	53.9	35.2	VBW:300Hz
Hori.	12205.000	AV	33.4	39.4	9.4	36.9	-24.4	20.9	53.9	33.0	VBW:300Hz
Vert.	4882.000	AV	35.8	30.8	5.8	35.9	-24.4	12.1	53.9	41.8	VBW:300Hz
Vert.	7323.000	AV	34.8	36.4	7.2	37.3	-24.4	16.7	53.9	37.2	VBW:300Hz
Vert.	9764.000	AV	32.4	38.5	8.1	35.8	-24.4	18.8	53.9	35.1	VBW:300Hz
Vert.	12205.000	AV	33.2	39.4	9.4	36.9	-24.4	20.7	53.9	33.2	VBW:300Hz

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$

Dwell factor: $20\log(6\text{ms}/100\text{ms})=-24.44\text{dB}$

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 amd 2 Semi anechoic chamber
Date 2010/10/14 2010/10/17
Temperature / Humidity 27deg.C , 48% 25deg.C ,55%
Engineer Hikaru Shirasawa Hikaru Shirasawa
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.	1486.651	PK	48.5	25.3	12.8	37.7	48.9	73.9	25.0	100	330	
Hori.	2483.500	PK	45.3	27.4	13.7	36.9	49.5	73.9	24.4	100	0	
Hori.	4960.000	PK	46.1	31	5.8	35.9	47	73.9	26.9	100	294	
Hori.	7440.000	PK	47.8	36.7	7.4	37.3	54.6	73.9	19.3	100	0	
Hori.	9920.000	PK	45.5	38.7	8.4	35.9	56.7	73.9	17.2	100	0	
Hori.	12400.000	PK	45.8	39.4	9.7	36.8	58.1	73.9	15.8	100	0	
Vert.	1486.651	PK	51.4	25.3	12.8	37.7	51.8	73.9	22.1	262	142	
Vert.	2483.500	PK	45.1	27.4	13.7	36.9	49.3	73.9	24.6	100	0	
Vert.	4960.000	PK	46.5	31	5.8	35.9	47.4	73.9	26.5	100	50	
Vert.	7440.000	PK	47.3	36.7	7.4	37.3	54.1	73.9	19.8	100	0	
Vert.	9920.000	PK	44.3	38.7	8.4	35.9	55.5	73.9	18.4	100	0	
Vert.	12400.000	PK	46.2	39.4	9.7	36.8	58.5	73.9	15.4	100	0	
Hori.	1486.651	AV	32.6	25.3	12.8	37.7	33	53.9	20.9	100	330	VBW:10Hz
Vert.	1486.651	AV	32.8	25.3	12.8	37.7	33.2	53.9	20.7	262	142	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz))

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	31.8	27.4	13.7	36.9	-24.4	11.6	53.9	42.3	VBW:300Hz
Hori.	4960.000	AV	38.5	31.0	5.8	35.9	-24.4	15.0	53.9	38.9	VBW:300Hz
Hori.	7440.000	AV	34.8	36.7	7.4	37.3	-24.4	17.2	53.9	36.7	VBW:300Hz
Hori.	9920.000	AV	32.5	38.7	8.4	35.9	-24.4	19.3	53.9	34.6	VBW:300Hz
Hori.	12400.000	AV	33.2	39.4	9.7	36.8	-24.4	21.1	53.9	32.8	VBW:300Hz
Vert.	2483.500	AV	31.9	27.4	13.7	36.9	-24.4	11.7	53.9	42.2	VBW:300Hz
Vert.	4960.000	AV	37.9	31.0	5.8	35.9	-24.4	14.4	53.9	39.5	VBW:300Hz
Vert.	7440.000	AV	34.8	36.7	7.4	37.3	-24.4	17.2	53.9	36.7	VBW:300Hz
Vert.	9920.000	AV	32.4	38.7	8.4	35.9	-24.4	19.2	53.9	34.7	VBW:300Hz
Vert.	12400.000	AV	33.3	39.4	9.7	36.8	-24.4	21.2	53.9	32.7	VBW:300Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz))

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Dwell factor: 20log(6ms/100ms)=-24.44dB

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 amd 2 Semi anechoic chamber
Date 2010/10/14 2010/10/17
Temperature / Humidity 27deg.C , 48% 25deg.C ,55%
Engineer Hikaru Shirasawa Hikaru Shirasawa
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.	1486.150	PK	47.7	25.3	12.8	37.7	48.1	73.9	25.8	100	266	
Hori.	2390.000	PK	46.9	27.4	13.6	37	50.9	73.9	23.0	100	0	
Hori.	2400.000	PK	57	27.4	13.7	37	61.1	73.9	12.8	100	236	
Hori.	4804.000	PK	46.8	30.5	5.7	35.9	47.1	73.9	26.8	115	194	
Hori.	7206.000	PK	46.8	36.2	7	37.3	52.7	73.9	21.2	100	0	
Hori.	9608.000	PK	45.8	38.3	8.1	35.6	56.6	73.9	17.3	100	0	
Hori.	12010.000	PK	45.5	39.4	9.1	36.9	57.1	73.9	16.8	100	0	
Vert.	1486.920	PK	51	25.3	12.8	37.7	51.4	73.9	22.5	269	104	
Vert.	2390.000	PK	44.9	27.4	13.6	37	48.9	73.9	25.0	100	0	
Vert.	2400.000	PK	56	27.4	13.7	37	60.1	73.9	13.8	125	51	
Vert.	4804.000	PK	46.1	30.5	5.7	35.9	46.4	73.9	27.5	134	215	
Vert.	7206.000	PK	46.2	36.2	7	37.3	52.1	73.9	21.8	100	0	
Vert.	9608.000	PK	43.7	38.3	8.1	35.6	54.5	73.9	19.4	100	0	
Vert.	12010.000	PK	45.3	39.4	9.1	36.9	56.9	73.9	17.0	100	0	
Hori.	1486.150	AV	32.2	25.3	12.8	37.7	32.6	53.9	21.3	100	266	VBW:10Hz
Vert.	1486.920	AV	32.6	25.3	12.8	37.7	33	53.9	20.9	269	104	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz))
- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	AV	33.8	27.4	13.6	37.0	-24.7	13.1	53.9	40.8	VBW:300Hz
Hori.	2400.000	AV	48.1	27.4	13.7	37.0	-24.7	27.5	53.9	26.4	VBW:300Hz
Hori.	4804.000	AV	38.4	30.5	5.7	35.9	-24.7	14.0	53.9	39.9	VBW:300Hz
Hori.	7206.000	AV	34.5	36.2	7.0	37.3	-24.7	15.7	53.9	38.2	VBW:300Hz
Hori.	9608.000	AV	32.9	38.3	8.1	35.6	-24.7	19.0	53.9	34.9	VBW:300Hz
Hori.	12010.000	AV	33.0	39.4	9.1	36.9	-24.7	19.9	53.9	34.0	VBW:300Hz
Vert.	2390.000	AV	31.9	27.4	13.6	37.0	-24.7	11.2	53.9	42.7	VBW:300Hz
Vert.	2400.000	AV	46.9	27.4	13.7	37.0	-24.7	26.3	53.9	27.6	VBW:300Hz
Vert.	4804.000	AV	38.9	30.5	5.7	35.9	-24.7	14.5	53.9	39.4	VBW:300Hz
Vert.	7206.000	AV	34.6	36.2	7.0	37.3	-24.7	15.8	53.9	38.1	VBW:300Hz
Vert.	9608.000	AV	32.4	38.3	8.1	35.6	-24.7	18.5	53.9	35.4	VBW:300Hz
Vert.	12010.000	AV	33.0	39.4	9.1	36.9	-24.7	19.9	53.9	34.0	VBW:300Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz))

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Dwell factor: 20log(5.384ms/100ms)=-24.68dB

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 amd 2 Semi anechoic chamber
Date 2010/10/14 2010/10/17
Temperature / Humidity 27deg.C , 48% 25deg.C ,55%
Engineer Hikaru Shirasawa Hikaru Shirasawa
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.	1486.049	PK	47.9	25.3	12.8	37.7	48.3	73.9	25.6	100	337	
Hori.	4882.000	PK	45.6	30.8	5.8	35.9	46.3	73.9	27.6	114	198	
Hori.	7323.000	PK	47.9	36.4	7.2	37.3	54.2	73.9	19.7	100	0	
Hori.	9764.000	PK	45.1	38.5	8.1	35.8	55.9	73.9	18.0	100	0	
Hori.	12205.000	PK	46.1	39.4	9.4	36.9	58	73.9	15.9	100	0	
Vert.	1486.049	PK	50	25.3	12.8	37.7	50.4	73.9	23.5	269	100	
Vert.	4882.000	PK	46.1	30.8	5.8	35.9	46.8	73.9	27.1	128	243	
Vert.	7323.000	PK	47.2	36.4	7.2	37.3	53.5	73.9	20.4	100	0	
Vert.	9764.000	PK	45.1	38.5	8.1	35.8	55.9	73.9	18.0	100	0	
Vert.	12205.000	PK	45.2	39.4	9.4	36.9	57.1	73.9	16.8	100	0	
Hori.	1486.049	AV	32.4	25.3	12.8	37.7	32.8	53.9	21.1	100	337	VBW:10Hz
Vert.	1486.049	AV	32.7	25.3	12.8	37.7	33.1	53.9	20.8	269	100	VBW:10Hz

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).

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4882.000	AV	35.9	30.8	5.8	35.9	-24.7	11.9	53.9	42.0	VBW:300Hz
Hori.	7323.000	AV	34.9	36.4	7.2	37.3	-24.7	16.5	53.9	37.4	VBW:300Hz
Hori.	9764.000	AV	32.4	38.5	8.1	35.8	-24.7	18.5	53.9	35.4	VBW:300Hz
Hori.	12205.000	AV	33.3	39.4	9.4	36.9	-24.7	20.5	53.9	33.4	VBW:300Hz
Vert.	4882.000	AV	36.5	30.8	5.8	35.9	-24.7	12.5	53.9	41.4	VBW:300Hz
Vert.	7323.000	AV	34.9	36.4	7.2	37.3	-24.7	16.5	53.9	37.4	VBW:300Hz
Vert.	9764.000	AV	32.4	38.5	8.1	35.8	-24.7	18.5	53.9	35.4	VBW:300Hz
Vert.	12205.000	AV	33.3	39.4	9.4	36.9	-24.7	20.5	53.9	33.4	VBW:300Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz))

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Dwell factor: 20log(5.384ms/100ms)=-24.68dB

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 amd 2 Semi anechoic chamber
Date 2010/10/14 2010/10/17
Temperature / Humidity 27deg.C , 48% 25deg.C ,55%
Engineer Hikaru Shirasawa Hikaru Shirasawa
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.	1486.800	PK	47.6	25.3	12.8	37.7	48	73.9	25.9	103	334	
Hori.	2483.500	PK	44.5	27.4	13.7	36.9	48.7	73.9	25.2	100	0	
Hori.	4960.000	PK	47.2	31	5.8	35.9	48.1	73.9	25.8	118	294	
Hori.	7440.000	PK	47.5	36.7	7.4	37.3	54.3	73.9	19.6	100	0	
Hori.	9920.000	PK	45.7	38.7	8.4	35.9	56.9	73.9	17.0	100	0	
Hori.	12400.000	PK	46.1	39.4	9.7	36.8	58.4	73.9	15.5	100	0	
Vert.	1486.800	PK	51.7	25.3	12.8	37.7	52.1	73.9	21.8	268	177	
Vert.	2483.500	PK	45	27.4	13.7	36.9	49.2	73.9	24.7	100	0	
Vert.	4960.000	PK	45.8	31	5.8	35.9	46.7	73.9	27.2	100	185	
Vert.	7440.000	PK	47.8	36.7	7.4	37.3	54.6	73.9	19.3	100	0	
Vert.	9920.000	PK	45.6	38.7	8.4	35.9	56.8	73.9	17.1	100	0	
Vert.	12400.000	PK	46.2	39.4	9.7	36.8	58.5	73.9	15.4	100	0	
Hori.	1486.800	AV	32.2	25.3	12.8	37.7	32.6	53.9	21.3	103	334	VBW:10Hz
Vert.	1486.800	AV	33.1	25.3	12.8	37.7	33.5	53.9	20.4	268	177	VBW:10Hz

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).

*Above the 3rd order harmonic were not seen so the result was its base noise level.

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	32.2	27.4	13.7	36.9	-24.7	11.7	53.9	42.2	VBW: 300Hz
Hori.	4960.000	AV	35.9	31.0	5.8	35.9	-24.7	12.1	53.9	41.8	VBW: 300Hz
Hori.	7440.000	AV	34.8	36.7	7.4	37.3	-24.7	16.9	53.9	37.0	VBW: 300Hz
Hori.	9920.000	AV	32.5	38.7	8.4	35.9	-24.7	19.0	53.9	34.9	VBW: 300Hz
Hori.	12400.000	AV	33.4	39.4	9.7	36.8	-24.7	21.0	53.9	32.9	VBW: 300Hz
Vert.	2483.500	AV	31.8	27.4	13.7	36.9	-24.7	11.3	53.9	42.6	VBW: 300Hz
Vert.	4960.000	AV	36.7	31.0	5.8	35.9	-24.7	12.9	53.9	41.0	VBW: 300Hz
Vert.	7440.000	AV	34.9	36.7	7.4	37.3	-24.7	17.0	53.9	36.9	VBW: 300Hz
Vert.	9920.000	AV	32.6	38.7	8.4	35.9	-24.7	19.1	53.9	34.8	VBW: 300Hz
Vert.	12400.000	AV	33.4	39.4	9.7	36.8	-24.7	21.0	53.9	32.9	VBW: 300Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz))

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*Above the 3rd order harmonic were not seen so the result was its base noise level.

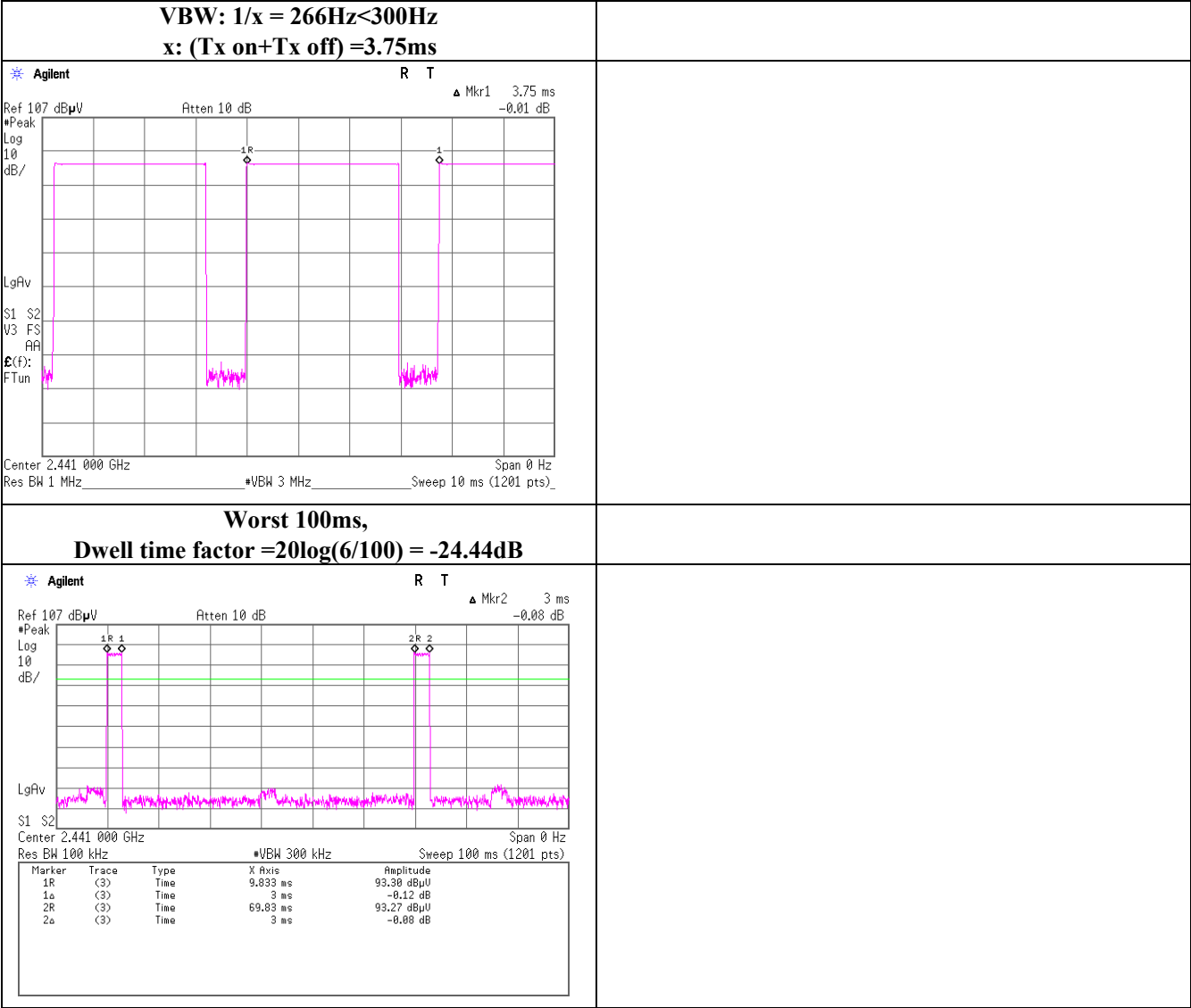
Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Dwell factor: 20log(5.384ms/100ms)=-24.68dB

Spurious emission (Radiated)

DH5,

VBW (AV) Calculation



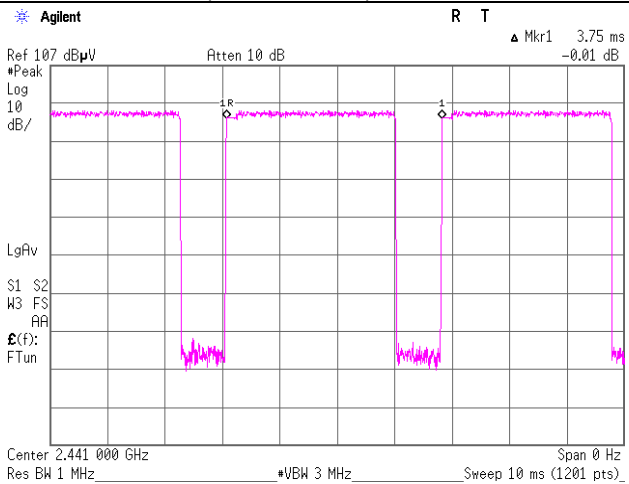
Spurious emission (Radiated)

3-DH5,

VBW (AV) Calculation

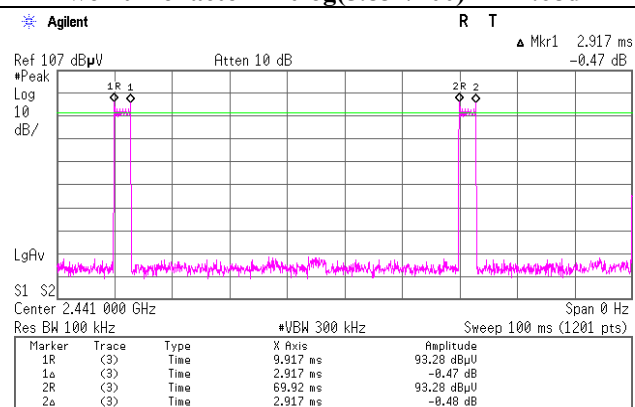
VBW: 1/x = 266Hz<300Hz

x: (Tx on+Tx off)=3.75ms



Worst 100ms,

Dwell time factor = $20\log(5.834/100) = -24.68\text{dB}$

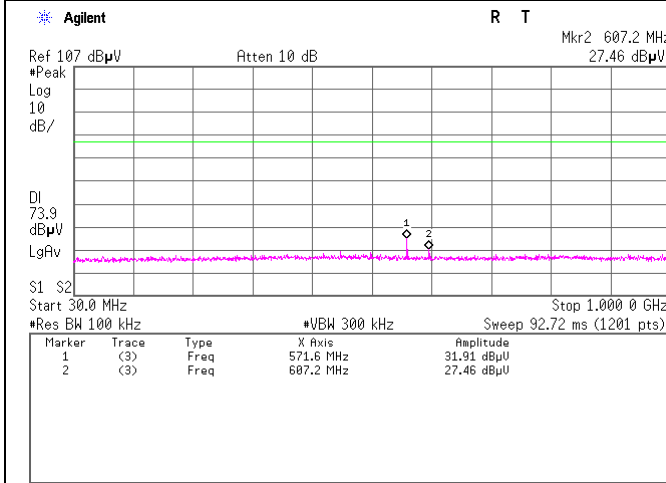


Spurious emission (Conducted)

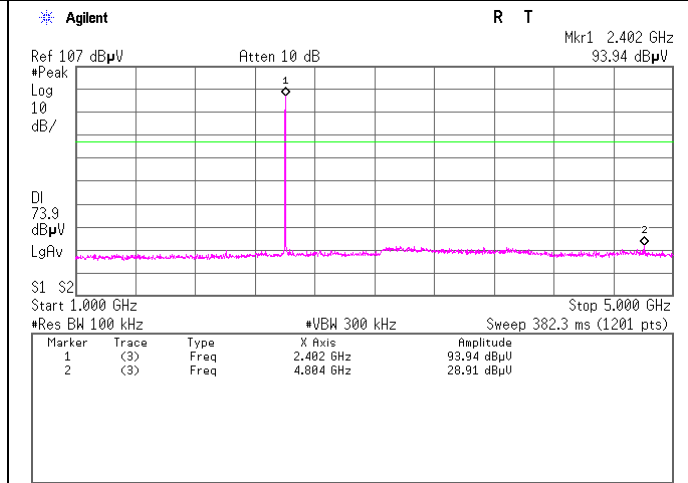
DH5,

Tx, 2402MHz

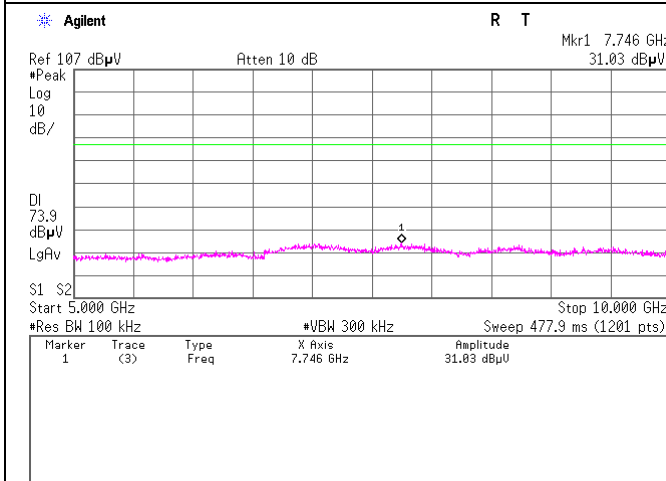
30MHz - 1GHz



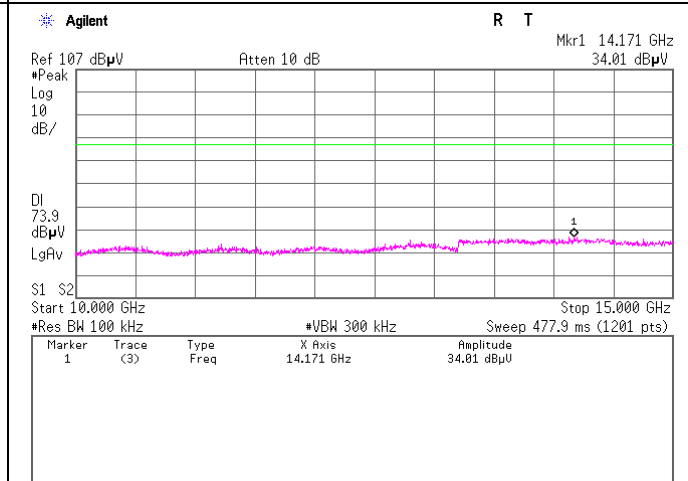
1GHz - 5GHz



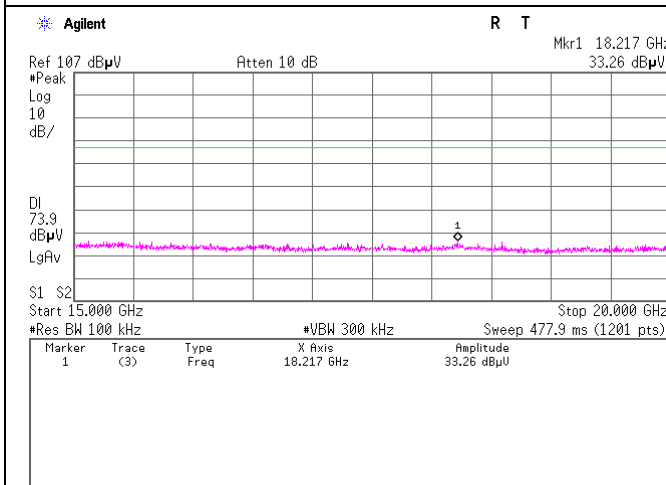
5GHz - 10GHz



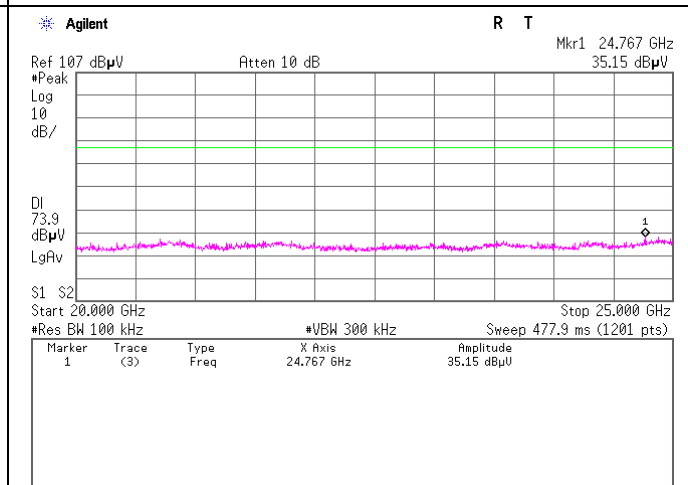
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



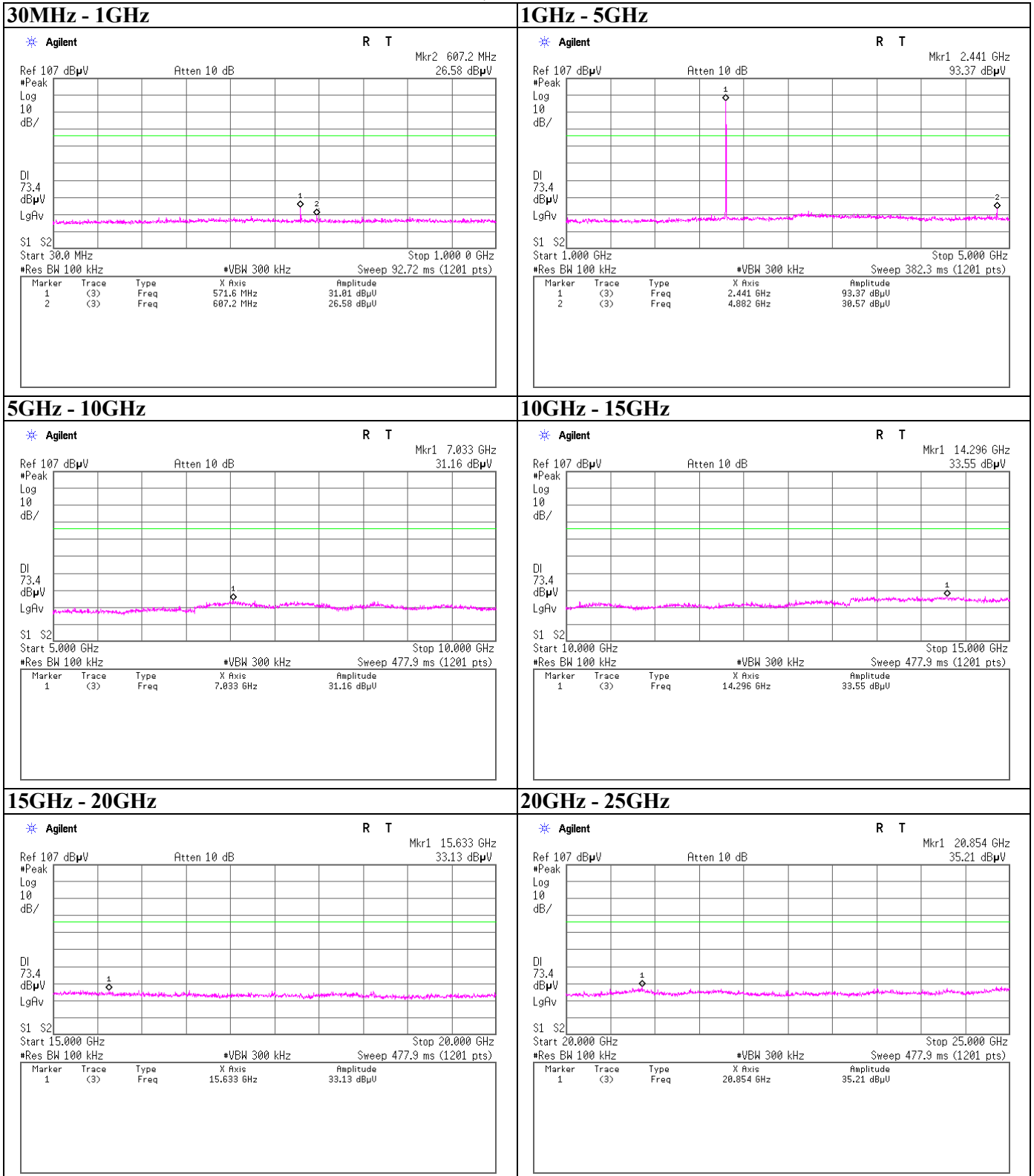
UL Japan, Inc.
Shonan EMC Lab.

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

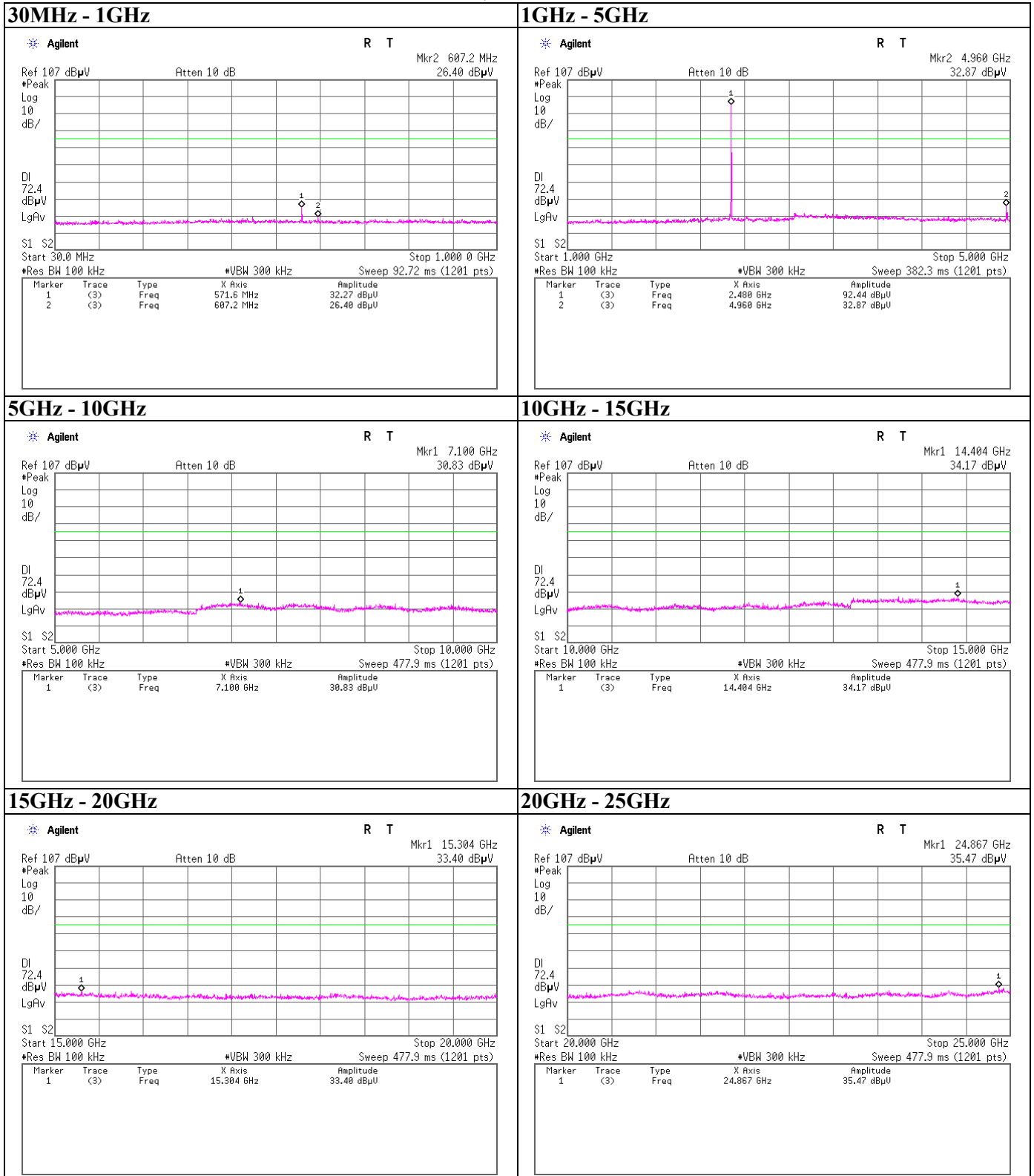


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Spurious emission (Conducted)

DH5,
 Tx, 2480MHz



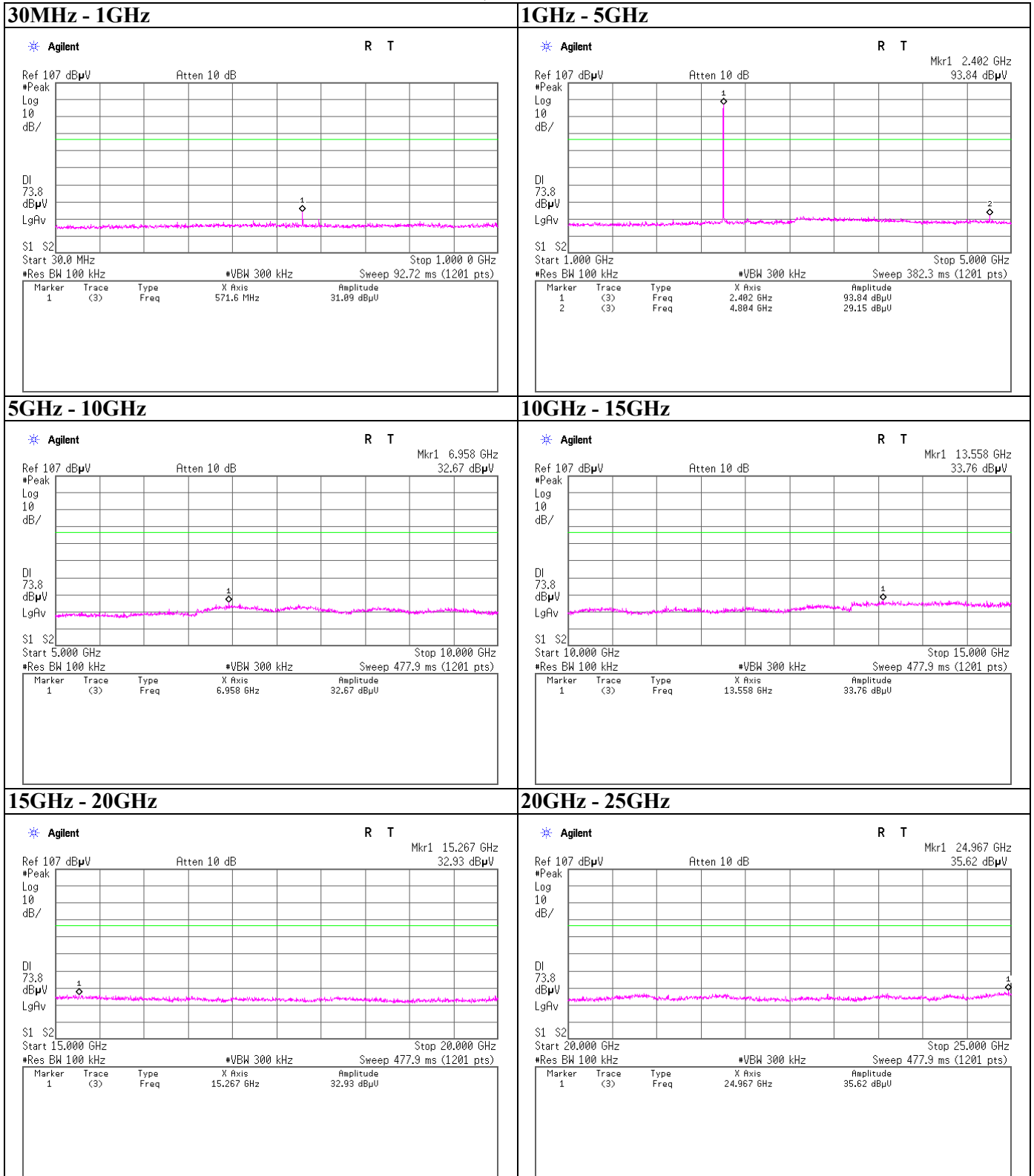
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 Shonan EMC Lab.

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Spurious emission (Conducted)

3-DH5,

Tx, 2402MHz



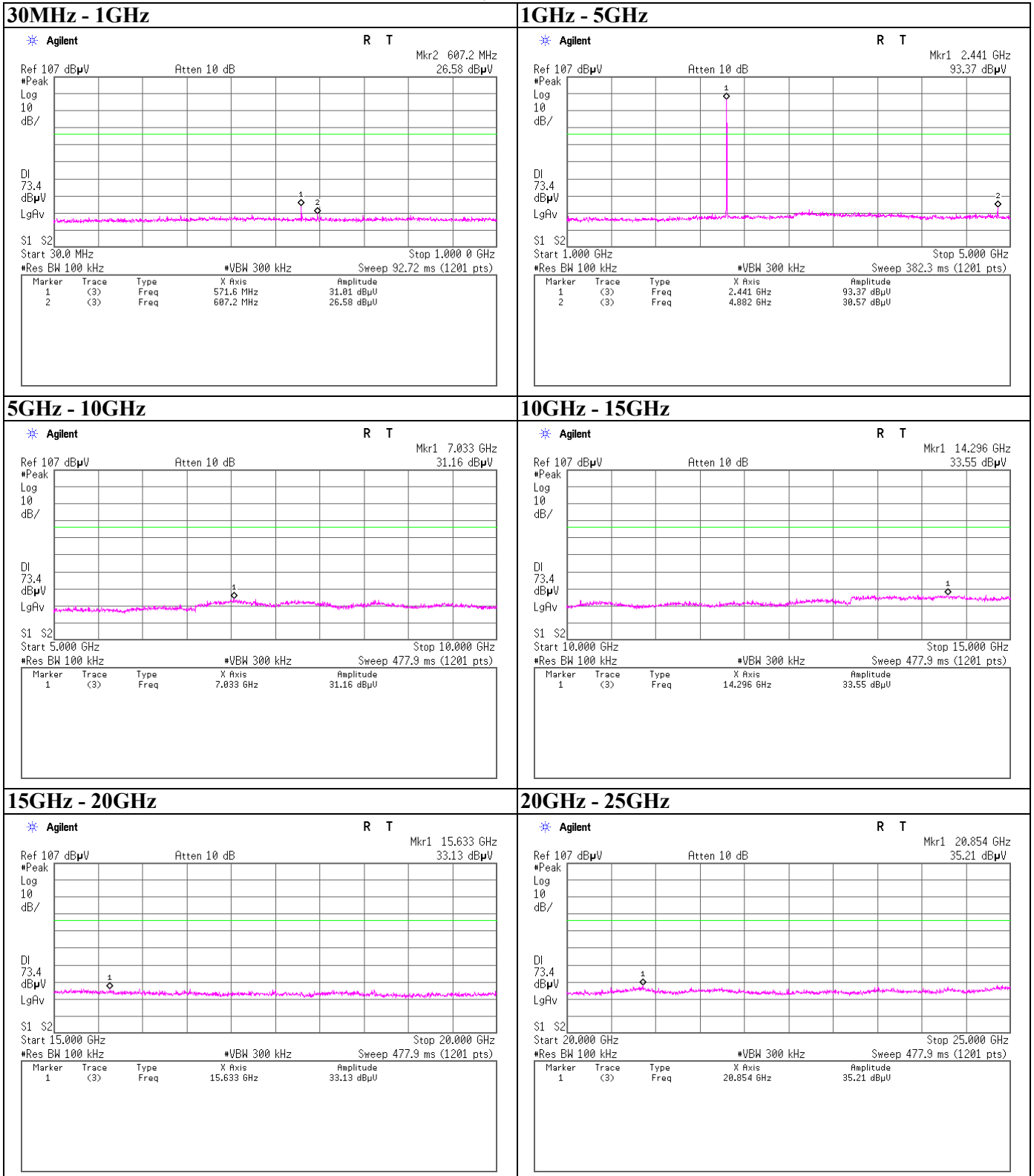
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Spurious emission (Conducted)

3-DH5,

Tx, 2441MHz



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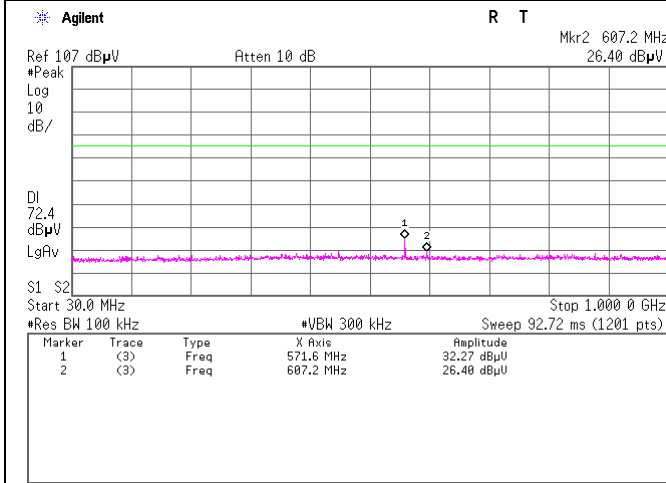
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

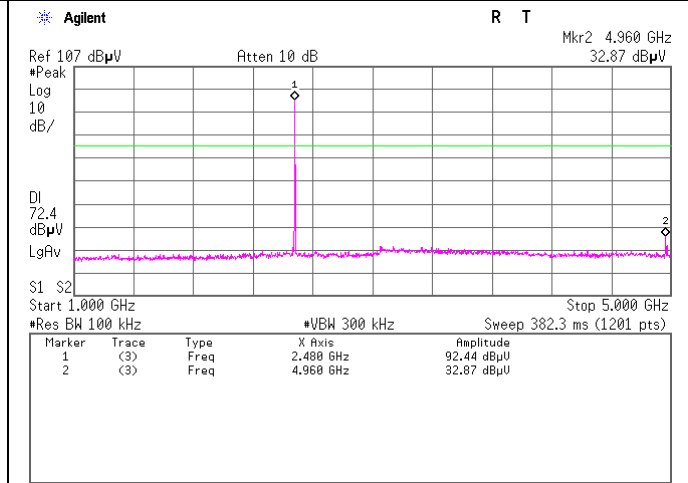
3-DH5,

Tx, 2480MHz

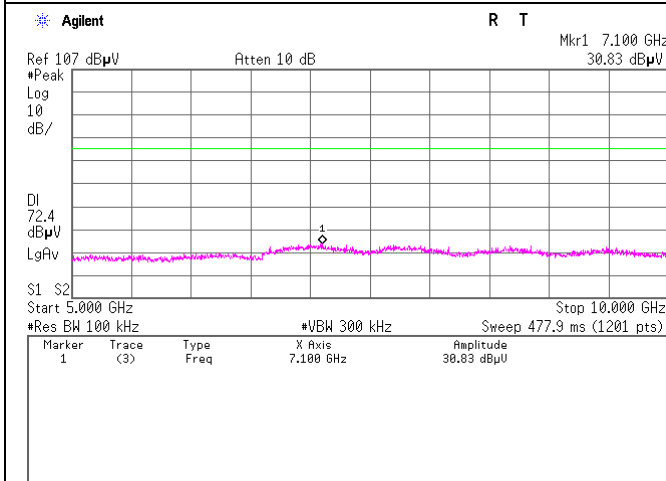
30MHz - 1GHz



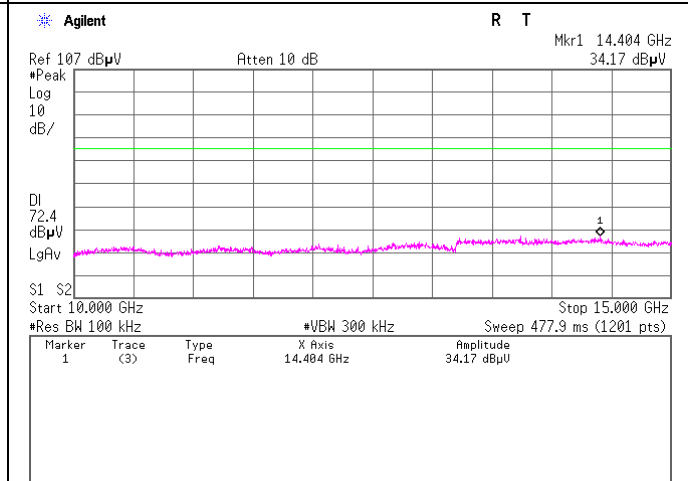
1GHz - 5GHz



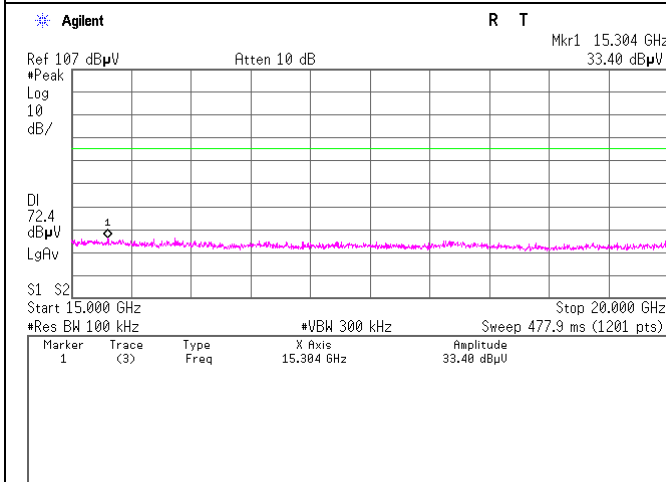
5GHz - 10GHz



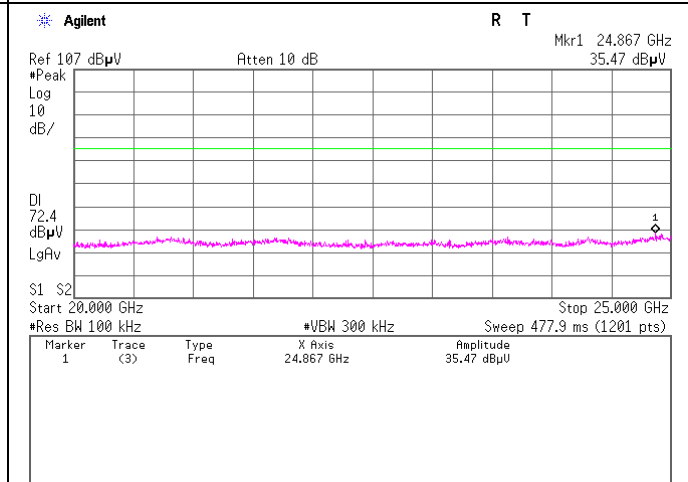
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



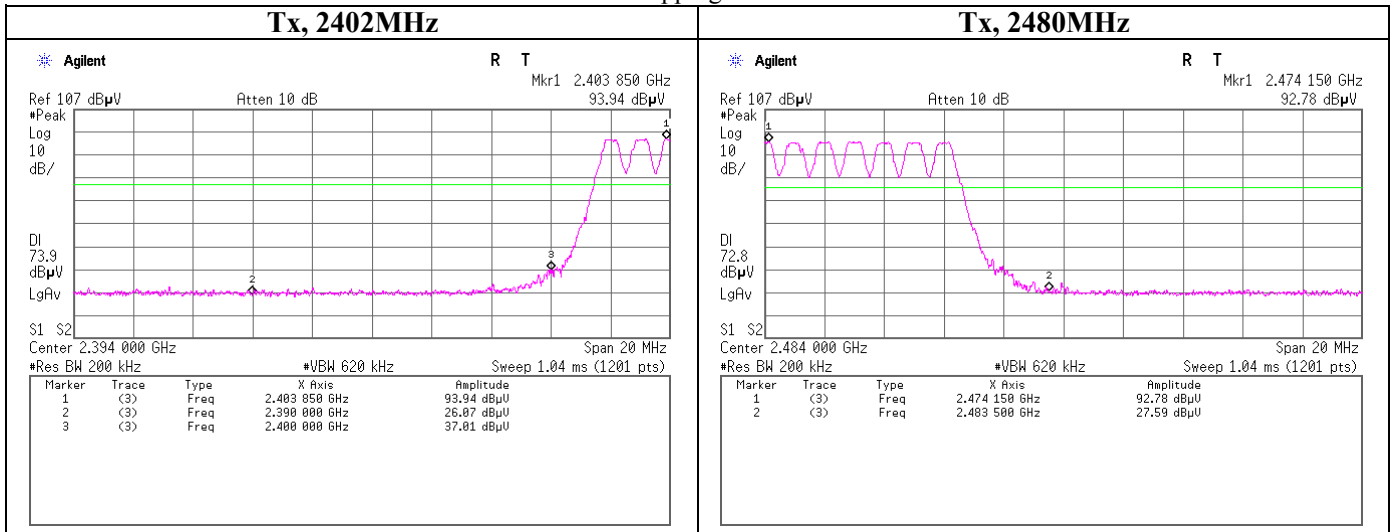
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1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
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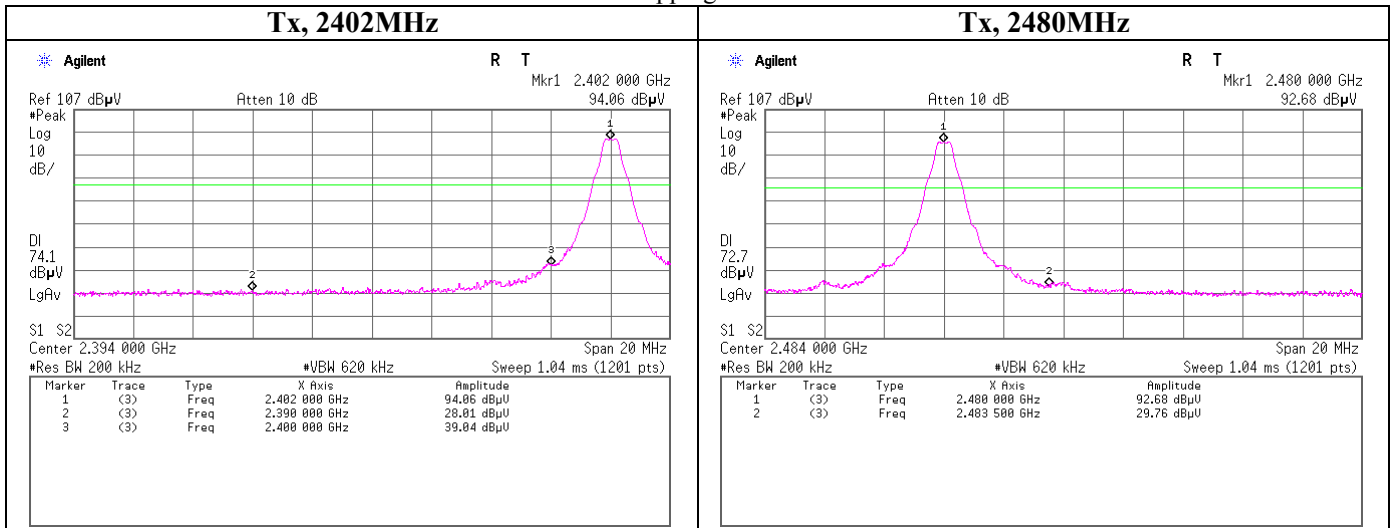
Spurious emission (Conducted)

Band Edge compliance
DH5,

Hopping ON



Hopping OFF



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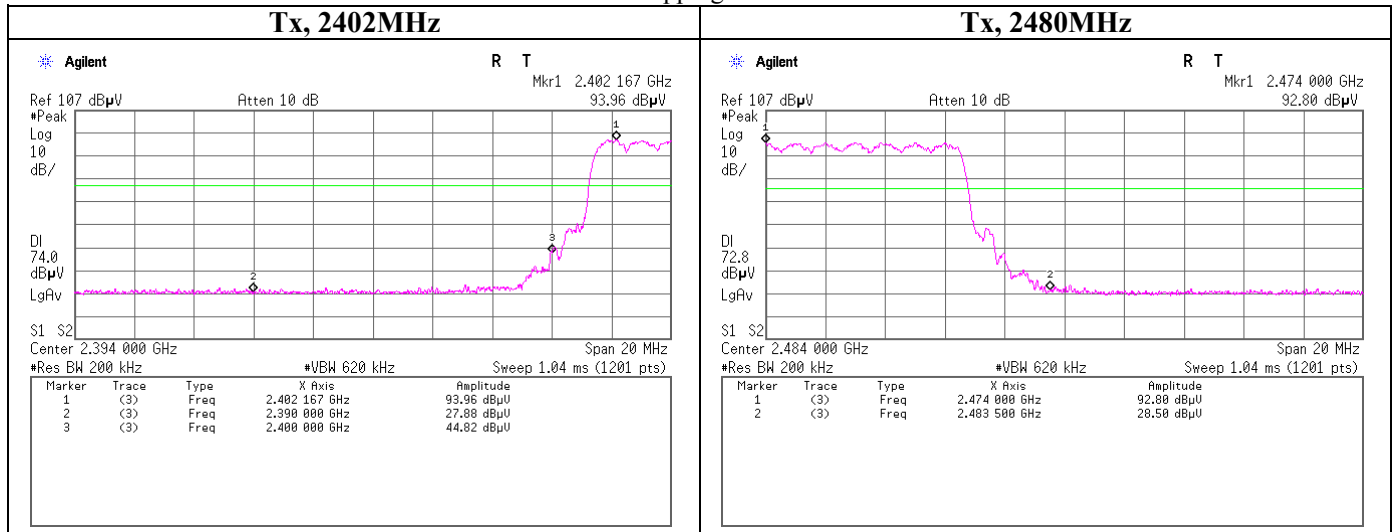
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

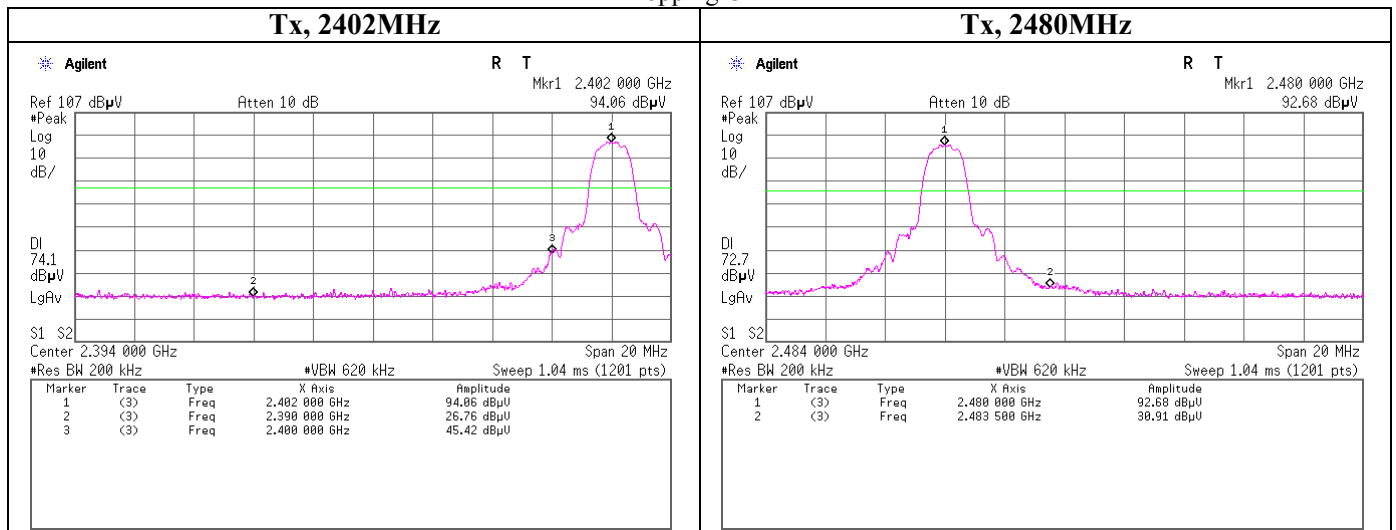
Band Edge compliance

3-DH5,

Hopping ON



Hopping OFF

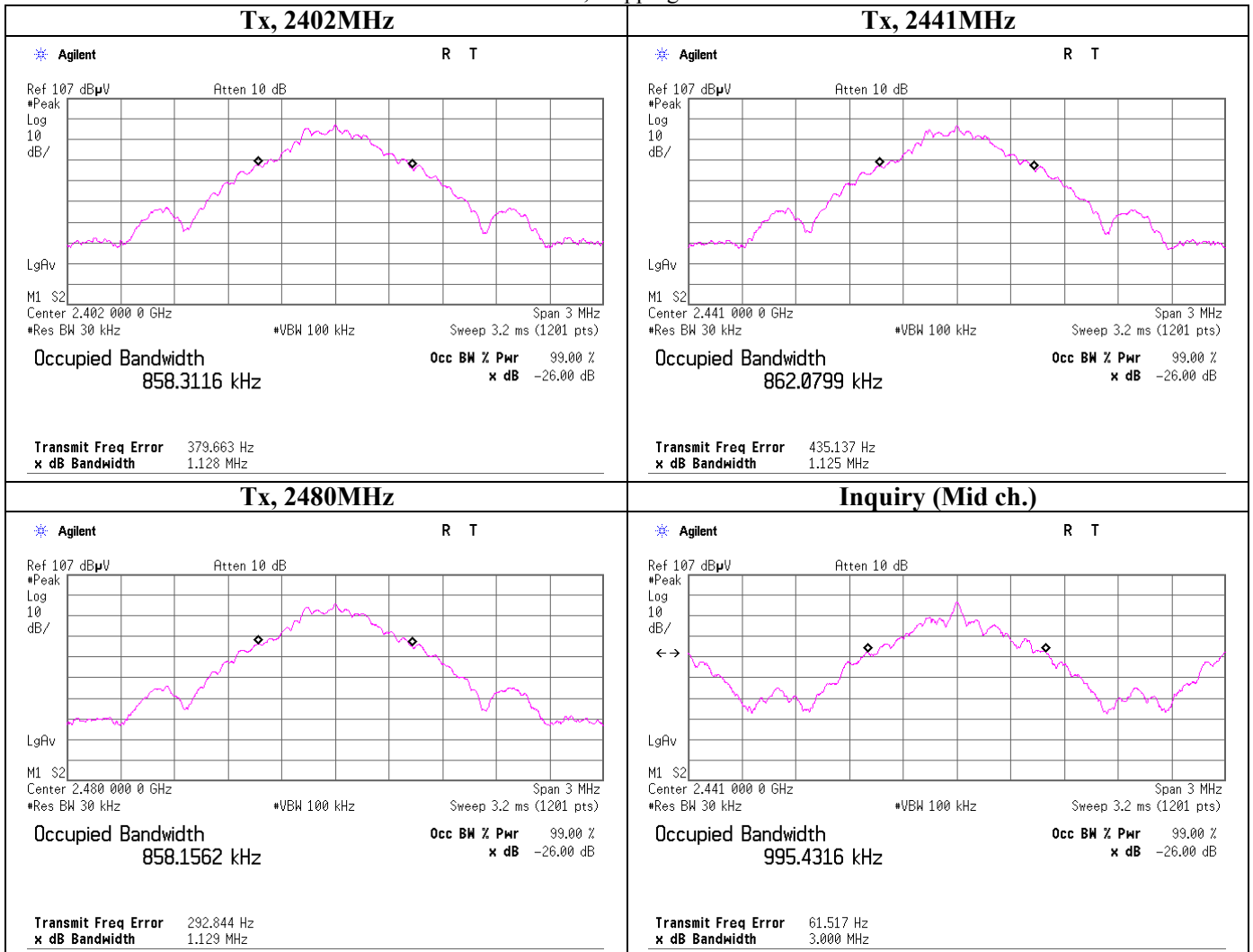


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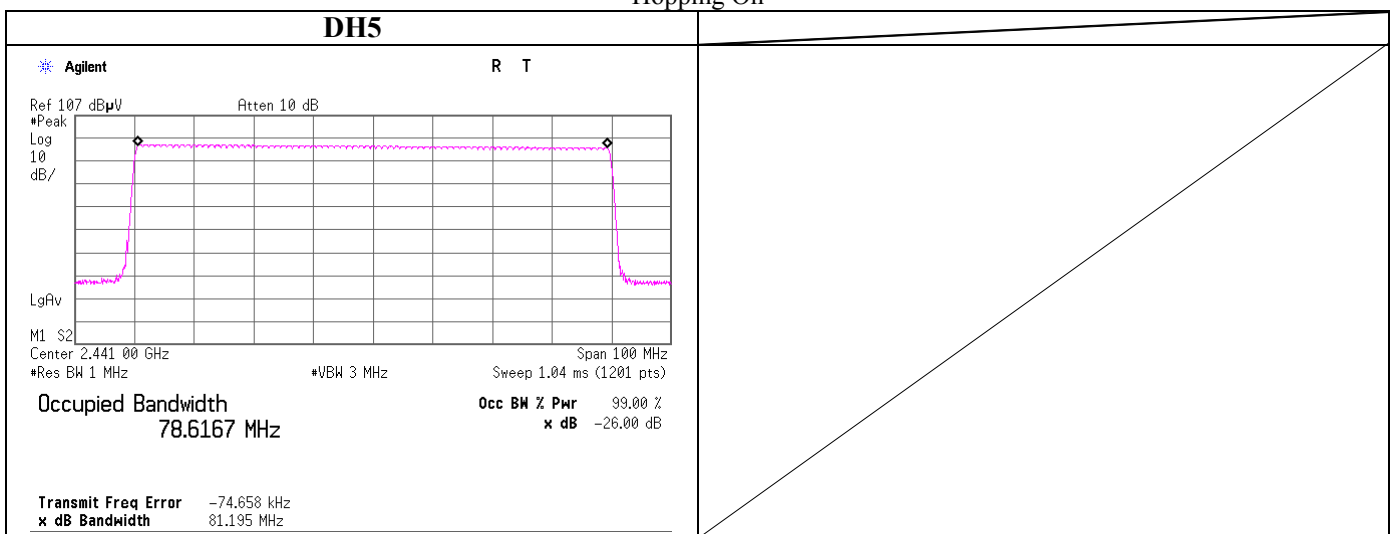
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

99% Occupied Bandwidth

DH5, Hopping Off



Hopping On

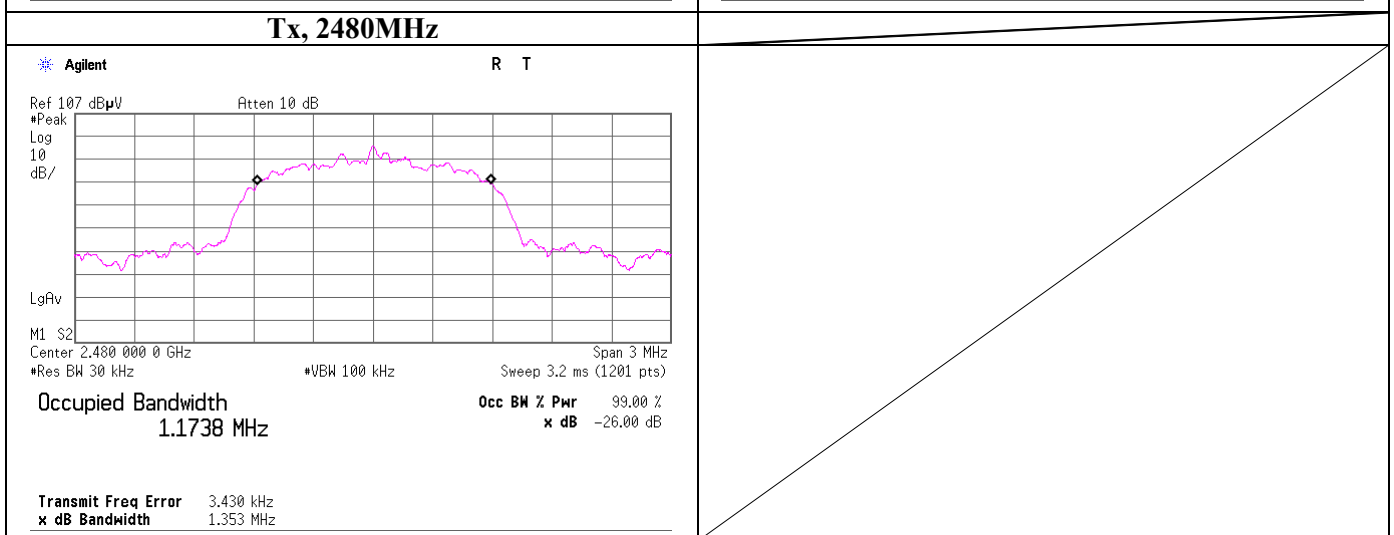
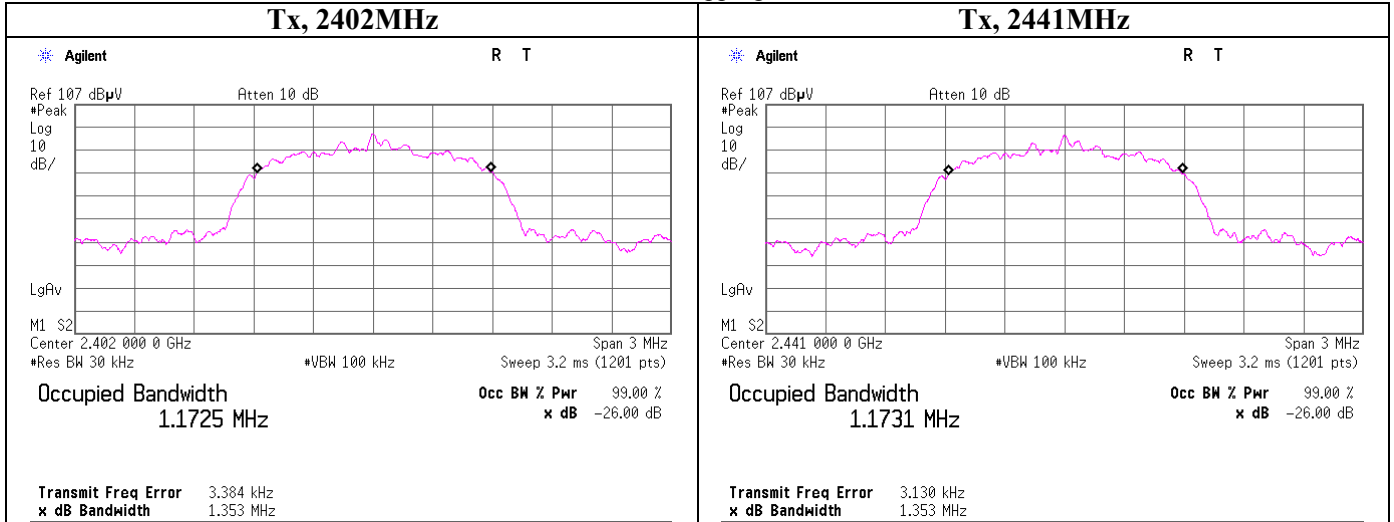


UL Japan, Inc.
Shonan EMC Lab.

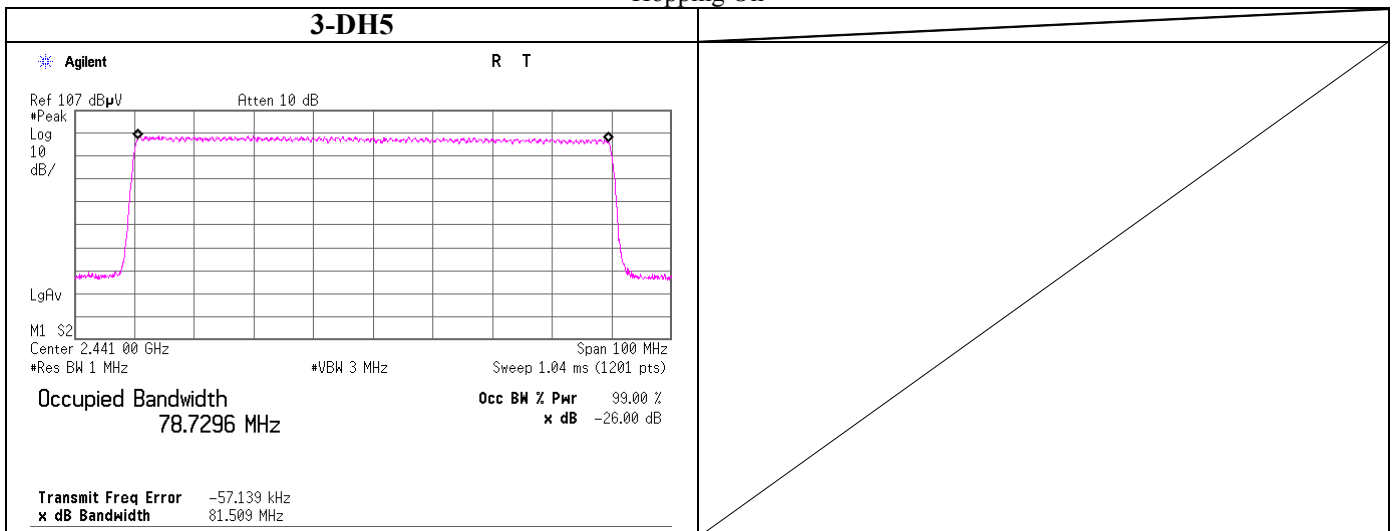
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

99% Occupied Bandwidth

3-DH5, Hopping Off



Hopping On



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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
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	AT	2010/06/22 * 12
SAT10-05	Attenuator(above1GHz)	Agilent	8493C-010	74864	AT	2010/03/05 * 12
SCC-G14	Coaxial Cable	Suhner	SUCOFLEX 102	31600/2	AT	2010/03/09 * 12
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT	2010/04/01 * 12
SPSS-01	Power Sensor	Anritsu	MA2444D	0738366	AT	2010/04/01 * 12
SAF-05	Pre Amplifier	TOYO Corporation	TPA0118-36	1440490	RE	2010/03/09 * 12
SCC-G02	Coaxial Cable	Suhner	SUCOFLEX 104A	46498/4A	RE	2010/04/09 * 12
SCC-G22	Coaxial Cable	Suhner	SUCOFLEX 104	296199/4	RE	2010/05/25 * 12
SHA-02	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-726	RE	2010/08/08 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2010/02/09 * 12
STR-03	Test Receiver	Rohde & Schwarz	ESi40	100054/040	RE	2010/07/21 * 12
SJM-02	Measure	KOMELON	KMC-36	-	RE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV	-	RE	-
SFL-02	Highpass Filter	MICRO-TRONICS	HPM50111	051	RE	2009/12/04 * 12
SAT10-04	Attenuator(above1GHz)	Agilent	8493C-010	74863	AT	2010/03/05 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2010/03/29 * 12
SCC-G17	Coaxial Cable	Suhner	SUCOFLEX 104A	46291/4A	RE	2010/03/02 * 12
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2010/02/06 * 12
SAT6-03	Attenuator	JFW	50HF-006N	-	RE	2010/02/06 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2010/03/22 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	RE	2010/04/02 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE	2010/03/22 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2010/02/09 * 12
SJM-10	Measure	PROMART	SEN1935	-	RE	-
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2010/09/13 * 12
STR-03	Test Receiver	Rohde & Schwarz	ESi40	100054/040	RE	2010/07/21 * 12
MTR-06	Test Receiver	Rohde & Schwarz	ESCS30	830245/011	RE	2009/11/18 * 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 disturbance voltage