

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Semi Anechoic Chamber
Date 2011/06/5, 6
Temperature / Humidity 24deg.C 62%RH (6/5) 23deg.C 62%RH (6/6)
Engineer Shinichi Takano, Akira Sato and Tatsuya Arai
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.	395.143	QP	52.7	16.5	7.5	31.8	44.9	46.0	1.1	100	0	
Hori.	480.006	QP	48.5	17.8	8.0	31.9	42.4	46.0	3.6	195	117	
Hori.	592.713	QP	35.2	19.0	8.6	32.0	30.8	46.0	15.2	325	191	
Hori.	889.065	QP	44.2	21.9	10.0	31.4	44.7	46.0	1.3	100	332	
Hori.	1086.725	PK	46.9	23.9	12.5	38.9	44.4	73.9	29.5	171	268	
Hori.	2390.000	PK	44.2	27.1	13.8	37.8	47.3	73.9	26.6	100	350	
Hori.	2400.000	PK	46.6	27.1	13.8	37.8	49.7	73.9	24.2	100	350	
Hori.	4804.000	PK	48.5	30.8	6.0	36.6	48.7	73.9	25.2	127	319	
Hori.	7206.000	PK	45.9	36.0	7.6	38.4	51.1	73.9	22.8	100	0	
Hori.	9608.000	PK	44.3	38.3	8.7	37.1	54.2	73.9	19.7	114	270	
Hori.	12010.000	PK	45.2	39.1	10.3	37.9	56.7	73.9	17.2	100	0	
Hori.	1086.725	AV	34.8	23.9	12.5	38.9	32.3	53.9	21.6	171	268	VBW:10Hz
Hori.	2390.000	AV	33.1	27.1	13.8	37.8	36.2	53.9	17.7	100	350	VBW:300Hz
Hori.	2400.000	AV	36.1	27.1	13.8	37.8	39.2	53.9	14.7	100	350	VBW:300Hz
Hori.	4804.000	AV	41.2	30.8	6.0	36.6	41.4	53.9	12.5	127	319	VBW:300Hz
Hori.	7206.000	AV	35.4	36.0	7.6	38.4	40.6	53.9	13.3	100	0	VBW:300Hz
Hori.	9608.000	AV	34.3	38.3	8.7	37.1	44.2	53.9	9.7	114	270	VBW:300Hz
Hori.	12010.000	AV	34.7	39.1	10.3	37.9	46.2	53.9	7.7	100	0	VBW:300Hz
Vert.	48.002	QP	46.4	11.5	7.2	31.8	33.3	40.0	6.7	100	274	
Vert.	96.002	QP	52.3	9.8	7.9	31.8	38.2	43.5	5.3	100	97	
Vert.	240.006	QP	47.2	17.4	9.3	31.7	42.2	46.0	3.8	100	298	
Vert.	1086.575	PK	53.4	23.9	12.5	38.9	50.9	73.9	23.0	100	135	
Vert.	2390.000	PK	43.8	27.1	13.8	37.8	46.9	73.9	27.0	102	333	
Vert.	2400.000	PK	45.6	27.1	13.8	37.8	48.7	73.9	25.2	102	333	
Vert.	4804.000	PK	45.0	30.8	6.0	36.6	45.2	73.9	28.7	134	346	
Vert.	7206.000	PK	45.2	36.0	7.6	38.4	50.4	73.9	23.5	100	0	
Vert.	9608.000	PK	42.0	38.3	8.7	37.1	51.9	73.9	22.0	100	0	
Vert.	12010.000	PK	45.0	39.1	10.3	37.9	56.5	73.9	17.4	100	0	
Vert.	1086.575	AV	38.3	23.9	12.5	38.9	35.8	53.9	18.1	100	135	VBW:10Hz
Vert.	2390.000	AV	33.1	27.1	13.8	37.8	36.2	53.9	17.7	102	333	VBW:300Hz
Vert.	2400.000	AV	34.9	27.1	13.8	37.8	38.0	53.9	15.9	102	333	VBW:300Hz
Vert.	4804.000	AV	38.0	30.8	6.0	36.6	38.2	53.9	15.7	134	346	VBW:300Hz
Vert.	7206.000	AV	35.4	36.0	7.6	38.4	40.6	53.9	13.3	100	0	VBW:300Hz
Vert.	9608.000	AV	32.3	38.3	8.7	37.1	42.2	53.9	11.7	100	0	VBW:300Hz
Vert.	12010.000	AV	34.8	39.1	10.3	37.9	46.3	53.9	7.6	100	0	VBW:300Hz

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).

UL Japan, Inc.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Semi Anechoic Chamber
 Date 2011/06/5, 6
 Temperature / Humidity 24deg.C 62%RH (6/5) 23deg.C 62%RH (6/6)
 Engineer Shinichi Takano, Akira Sato and Tatsuya Arai
 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.	216.005	QP	47.3	17.1	9.1	31.7	41.8	46	4.2	150	311	
Hori.	395.142	QP	52.9	16.5	7.5	31.8	45.1	46.0	0.9	100	0	
Hori.	592.713	QP	45.2	19	8.6	32	40.8	46.0	5.2	152	4	
Hori.	889.064	QP	44.2	21.9	10	31.4	44.7	46.0	1.3	100	339	
Hori.	1086.630	PK	45.9	23.9	12.5	38.9	43.4	73.9	30.5	100	0	
Hori.	2437.170	PK	41.9	27.1	13.7	37.7	45	73.9	28.9	100	350	
Hori.	2563.300	PK	43.2	27.2	13.8	37.6	46.6	73.9	27.3	100	26	
Hori.	2998.300	PK	39.3	28	5.4	37.9	34.8	73.9	39.1	100	0	
Hori.	4882.000	PK	47.2	31.1	6.1	36.6	47.8	73.9	26.1	124	321	
Hori.	7054.000	PK	46.5	35.7	7.4	38.4	51.2	73.9	22.7	100	263	
Hori.	7323.000	PK	45.2	36.3	7.6	38.4	50.7	73.9	23.2	100	354	
Hori.	9764.000	PK	42.1	38.4	8.7	37.1	52.1	73.9	21.8	100	15	
Hori.	12205.000	PK	45.5	39.2	10.3	38	57	73.9	16.9	100	207	
Hori.	1086.630	AV	34.9	23.9	12.5	38.9	32.4	53.9	21.5	100	0	VBW:300Hz
Hori.	2437.170	AV	33.3	27.1	13.7	37.7	36.4	53.9	17.5	100	350	VBW:300Hz
Hori.	2563.300	AV	33.2	27.2	13.8	37.6	36.6	53.9	17.3	100	26	VBW:10Hz
Hori.	2998.300	AV	32.8	28.0	5.4	37.9	28.3	53.9	25.6	100	0	VBW:10Hz
Hori.	4882.000	AV	42.3	31.1	6.1	36.6	42.9	53.9	11.0	124	321	VBW:300Hz
Hori.	7054.000	AV	36	35.7	7.4	38.4	40.7	53.9	13.2	100	263	VBW:10Hz
Hori.	7323.000	AV	33.9	36.3	7.6	38.4	39.4	53.9	14.5	100	354	VBW:300Hz
Hori.	9764.000	AV	32.8	38.4	8.7	37.1	42.8	53.9	11.1	100	15	VBW:300Hz
Hori.	12205.000	AV	34.5	39.2	10.3	38	46	53.9	7.9	100	207	VBW:300Hz
Vert.	48.002	QP	46.4	11.5	7.2	31.8	33.3	40.0	6.7	100	255	
Vert.	96.008	QP	52.3	9.8	7.9	31.8	38.2	43.5	5.3	100	95	
Vert.	216.004	QP	48	17.1	9.1	31.7	42.5	46.0	3.5	100	266	
Vert.	240.005	QP	47.2	17.4	9.3	31.7	42.2	46.0	3.8	100	299	
Vert.	1086.630	PK	54.5	23.9	12.5	38.9	52	73.9	21.9	105	166	
Vert.	2437.170	PK	41.6	27.1	13.7	37.7	44.7	73.9	29.2	100	210	
Vert.	2563.300	PK	42.7	27.2	13.8	37.6	46.1	73.9	27.8	100	320	
Vert.	2998.300	PK	42.1	28.0	5.4	37.9	37.6	73.9	36.3	100	73	
Vert.	4882.000	PK	43.7	31.1	6.1	36.6	44.3	73.9	29.6	117	246	
Vert.	7054.000	PK	45.7	35.7	7.4	38.4	50.4	73.9	23.5	100	359	
Vert.	7323.000	PK	43.9	36.3	7.6	38.4	49.4	73.9	24.5	100	212	
Vert.	9764.000	PK	43.6	38.4	8.7	37.1	53.6	73.9	20.3	100	77	
Vert.	12205.000	PK	44	39.2	10.3	38	55.5	73.9	18.4	100	353	
Vert.	1086.630	AV	43.7	23.9	12.5	38.9	41.2	53.9	12.7	105	166	VBW:300Hz
Vert.	2437.170	AV	33.2	27.1	13.7	37.7	36.3	53.9	17.6	100	210	VBW:300Hz
Vert.	2563.300	AV	32.9	27.2	13.8	37.6	36.3	53.9	17.6	100	320	VBW:10Hz
Vert.	2998.300	AV	33.1	28.0	5.4	37.9	28.6	53.9	25.3	100	73	VBW:10Hz
Vert.	4882.000	AV	36.3	31.1	6.1	36.6	36.9	53.9	17.0	117	246	VBW:300Hz
Vert.	7054.000	AV	35.1	35.7	7.4	38.4	39.8	53.9	14.1	100	359	VBW:10Hz
Vert.	7323.000	AV	33.3	36.3	7.6	38.4	38.8	53.9	15.1	100	212	VBW:300Hz
Vert.	9764.000	AV	32.7	38.4	8.7	37.1	42.7	53.9	11.2	100	77	VBW:300Hz
Vert.	12205.000	AV	33.8	39.2	10.3	38	45.3	53.9	8.6	100	353	VBW:300Hz

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).

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Semi Anechoic Chamber
 Date 2011/06/5, 6
 Temperature / Humidity 24deg.C 62%RH (6/5) 23deg.C 62%RH (6/6)
 Engineer Shinichi Takano, Akira Sato and Tatsuya Arai
 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.	216.006	QP	47.4	17.1	9.1	31.7	41.9	46	4.1	150	328	
Hori.	395.141	QP	52.8	16.5	7.5	31.8	45	46	1.0	100	359	
Hori.	480.006	QP	48.7	17.8	8	31.9	42.6	46.0	3.4	207	109	
Hori.	889.067	QP	44.2	21.9	10	31.4	44.7	46.0	1.3	100	334	
Hori.	1086.662	PK	45.9	23.9	12.5	38.9	43.4	73.9	30.5	178	245	
Hori.	2483.500	PK	42.2	27.1	13.7	37.6	45.4	73.9	28.5	100	347	
Hori.	2483.830	PK	42	27.1	13.7	37.6	45.2	73.9	28.7	100	347	
Hori.	2483.970	PK	43.1	27.1	13.7	37.6	46.3	73.9	27.6	100	347	
Hori.	2484.130	PK	42.5	27.1	13.7	37.6	45.7	73.9	28.2	100	347	
Hori.	4960.000	PK	47.8	31.3	6.1	36.5	48.7	73.9	25.2	123	322	
Hori.	7440.000	PK	45.1	36.5	7.5	38.4	50.7	73.9	23.2	100	0	
Hori.	9920.000	PK	42.9	38.4	8.7	37.2	52.8	73.9	21.1	100	276	
Hori.	12400.000	PK	43.6	39.2	10.3	38	55.1	73.9	18.8	100	0	
Hori.	1086.662	AV	35.8	23.9	12.5	38.9	33.3	53.9	20.6	178	245	VBW:10Hz
Hori.	2483.500	AV	33.7	27.1	13.7	37.6	36.9	53.9	17.0	100	347	VBW:300Hz
Hori.	2483.830	AV	33.9	27.1	13.7	37.6	37.1	53.9	16.8	100	347	VBW:300Hz
Hori.	2483.970	AV	33.9	27.1	13.7	37.6	37.1	53.9	16.8	100	347	VBW:300Hz
Hori.	2484.130	AV	33.4	27.1	13.7	37.6	36.6	53.9	17.3	100	347	VBW:300Hz
Hori.	4960.000	AV	43	31.3	6.1	36.5	43.9	53.9	10.0	123	322	VBW:300Hz
Hori.	7440.000	AV	34.7	36.5	7.5	38.4	40.3	53.9	13.6	100	0	VBW:300Hz
Hori.	9920.000	AV	34	38.4	8.7	37.2	43.9	53.9	10.0	100	276	VBW:300Hz
Hori.	12400.000	AV	33.2	39.2	10.3	38	44.7	53.9	9.2	100	0	VBW:300Hz
Vert.	48.007	QP	46.7	11.5	7.2	31.8	33.6	40.0	6.4	100	264	
Vert.	96.003	QP	52.3	9.8	7.9	31.8	38.2	43.5	5.3	100	103	
Vert.	216.008	QP	47.8	17.1	9.1	31.7	42.3	46.0	3.7	100	267	
Vert.	240.007	QP	47.2	17.4	9.3	31.7	42.2	46.0	3.8	100	301	
Vert.	1086.634	PK	53.8	23.9	12.5	38.9	51.3	73.9	22.6	112	127	
Vert.	2483.500	PK	41.5	27.1	13.7	37.6	44.7	73.9	29.2	100	334	
Vert.	2483.830	PK	42.6	27.1	13.7	37.6	45.8	73.9	28.1	100	334	
Vert.	2483.970	PK	41.1	27.1	13.7	37.6	44.3	73.9	29.6	100	334	
Vert.	2484.130	PK	41.6	27.1	13.7	37.6	44.8	73.9	29.1	100	334	
Vert.	4960.000	PK	46	31.3	6.1	36.5	46.9	73.9	27.0	132	300	
Vert.	7440.000	PK	44.9	36.5	7.5	38.4	50.5	73.9	23.4	100	0	
Vert.	9920.000	PK	42.7	38.4	8.7	37.2	52.6	73.9	21.3	102	273	
Vert.	12400.000	PK	44	39.2	10.3	38	55.5	73.9	18.4	100	0	
Vert.	1086.634	AV	44.2	23.9	12.5	38.9	41.7	53.9	12.2	112	127	VBW:10Hz
Vert.	2483.500	AV	33.5	27.1	13.7	37.6	36.7	53.9	17.2	100	334	VBW:300Hz
Vert.	2483.830	AV	33.6	27.1	13.7	37.6	36.8	53.9	17.1	100	334	VBW:300Hz
Vert.	2483.970	AV	33.8	27.1	13.7	37.6	37	53.9	16.9	100	334	VBW:300Hz
Vert.	2484.130	AV	33.7	27.1	13.7	37.6	36.9	53.9	17.0	100	334	VBW:300Hz
Vert.	4960.000	AV	39.2	31.3	6.1	36.5	40.1	53.9	13.8	132	300	VBW:300Hz
Vert.	7440.000	AV	34.5	36.5	7.5	38.4	40.1	53.9	13.8	100	0	VBW:300Hz
Vert.	9920.000	AV	33	38.4	8.7	37.2	42.9	53.9	11.0	102	273	VBW:300Hz
Vert.	12400.000	AV	33.4	39.2	10.3	38	44.9	53.9	9.0	100	0	VBW:300Hz

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).

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Semi Anechoic Chamber
 Date 2011/06/5, 6
 Temperature / Humidity 24deg.C 62%RH (6/5) 23deg.C 62%RH (6/6)
 Engineer Shinichi Takano, Akira Sato and Tatsuya Arai
 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.	216.001	QP	47.4	17.1	9.1	31.7	41.9	46.0	4.1	148	333	
Hori.	395.142	QP	53.0	16.5	7.5	31.8	45.2	46.0	0.8	100	0	
Hori.	480.004	QP	48.4	17.8	8.0	31.9	42.3	46.0	3.7	200	121	
Hori.	592.712	QP	45.3	19.0	8.6	32.0	40.9	46.0	5.1	153	359	
Hori.	889.066	QP	44.2	21.9	10.0	31.4	44.7	46.0	1.3	100	333	
Hori.	1086.630	PK	46.4	23.9	12.5	38.9	43.9	73.9	30.0	174	246	
Hori.	2390.000	PK	43.6	27.1	3.8	37.8	36.7	73.9	37.2	100	351	
Hori.	2390.000	PK	40.9	27.1	13.8	37.8	44.0	73.9	29.9	100	351	
Hori.	2397.600	PK	42.6	27.1	13.8	37.8	45.7	73.9	28.2	100	351	
Hori.	2400.000	PK	53.4	27.1	13.8	37.8	56.5	73.9	17.4	100	351	
Hori.	4804.000	PK	48.0	30.8	6.0	36.6	48.2	73.9	25.7	128	317	
Hori.	7206.000	PK	46.8	36.0	7.6	38.4	52.0	73.9	21.9	100	0	
Hori.	9608.000	PK	43.6	38.3	8.7	37.1	53.5	73.9	20.4	112	272	
Hori.	12010.000	PK	45.5	39.1	10.3	37.9	57.0	73.9	16.9	100	0	
Hori.	1086.630	AV	36.2	23.9	12.5	38.9	33.7	53.9	20.2	174	246	VBW:10Hz
Hori.	2390.000	AV	33.3	27.1	3.8	37.8	26.4	53.9	27.5	100	351	VBW:300Hz
Hori.	2390.000	AV	33.1	27.1	13.8	37.8	36.2	53.9	17.7	100	351	VBW:300Hz
Hori.	2397.600	AV	33.2	27.1	13.8	37.8	36.3	53.9	17.6	100	351	VBW:300Hz
Hori.	2400.000	AV	46.3	27.1	13.8	37.8	49.4	53.9	4.5	100	351	VBW:300Hz
Hori.	4804.000	AV	41.2	30.8	6.0	36.6	41.4	53.9	12.5	128	317	VBW:300Hz
Hori.	7206.000	AV	35.4	36.0	7.6	38.4	40.6	53.9	13.3	100	0	VBW:300Hz
Hori.	9608.000	AV	34.0	38.3	8.7	37.1	43.9	53.9	10.0	112	272	VBW:300Hz
Hori.	12010.000	AV	34.4	39.1	10.3	37.9	45.9	53.9	8.0	100	0	VBW:300Hz
Vert.	48.001	QP	46.4	11.5	7.2	31.8	33.3	40.0	6.7	100	248	
Vert.	96.003	QP	52.3	9.8	7.9	31.8	38.2	43.5	5.3	100	96	
Vert.	216.006	QP	47.9	17.1	9.1	31.7	42.4	46.0	3.6	100	236	
Vert.	240.004	QP	47.2	17.4	9.3	31.7	42.2	46.0	3.8	100	302	
Vert.	1086.636	PK	55.0	23.9	12.5	38.9	52.5	73.9	21.4	104	155	
Vert.	2390.000	PK	43.6	27.1	3.8	37.8	36.7	73.9	37.2	102	333	
Vert.	2390.000	PK	41.9	27.1	13.8	37.8	45.0	73.9	28.9	102	333	
Vert.	2397.600	PK	41.1	27.1	13.8	37.8	44.2	73.9	29.7	102	333	
Vert.	2400.000	PK	52.1	27.1	13.8	37.8	55.2	73.9	18.7	102	333	
Vert.	4804.000	PK	46.0	30.8	6.0	36.6	46.2	73.9	27.7	134	344	
Vert.	7206.000	PK	45.7	36.0	7.6	38.4	50.9	73.9	23.0	100	0	
Vert.	9608.000	PK	44.2	38.3	8.7	37.1	54.1	73.9	19.8	100	267	
Vert.	12010.000	PK	45.0	39.1	10.3	37.9	56.5	73.9	17.4	100	0	
Vert.	1086.636	AV	44.7	23.9	12.5	38.9	42.2	53.9	11.7	104	155	VBW:10Hz
Vert.	2390.000	AV	33.2	27.1	3.8	37.8	26.3	53.9	27.6	102	333	VBW:300Hz
Vert.	2390.000	AV	33.7	27.1	13.8	37.8	36.8	53.9	17.1	102	333	VBW:300Hz
Vert.	2397.600	AV	33.4	27.1	13.8	37.8	36.5	53.9	17.4	102	333	VBW:300Hz
Vert.	2400.000	AV	44.8	27.1	13.8	37.8	47.9	53.9	6.0	102	333	VBW:300Hz
Vert.	4804.000	AV	38.3	30.8	6.0	36.6	38.5	53.9	15.4	134	344	VBW:300Hz
Vert.	7206.000	AV	35.2	36.0	7.6	38.4	40.4	53.9	13.5	100	0	VBW:300Hz
Vert.	9608.000	AV	34.0	38.3	8.7	37.1	43.9	53.9	10.0	100	267	VBW:300Hz
Vert.	12010.000	AV	34.3	39.1	10.3	37.9	45.8	53.9	8.1	100	0	VBW:300Hz

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).

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Semi Anechoic Chamber
Date 2011/06/5, 6
Temperature / Humidity 24deg.C 62%RH (6/5) 23deg.C 62%RH (6/6)
Engineer Shinichi Takano, Akira Sato and Tatsuya Arai
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.	216.003	QP	47.6	17.1	9.1	31.7	42.1	46.0	3.9	152	336	
Hori.	395.146	QP	52.9	16.5	7.5	31.8	45.1	46.0	0.9	100	357	
Hori.	480.003	QP	48.6	17.8	8.0	31.9	42.5	46.0	3.5	201	119	
Hori.	592.708	QP	45.3	19.0	8.6	32.0	40.9	46.0	5.1	150	359	
Hori.	889.068	QP	44.2	21.9	10.0	31.4	44.7	46.0	1.3	100	336	
Hori.	1086.504	PK	45.3	23.9	12.5	38.9	42.8	73.9	31.1	100	252	
Hori.	2436.600	PK	45.6	27.1	13.7	37.7	48.7	73.9	25.2	100	350	
Hori.	2438.100	PK	42.4	27.1	13.7	37.7	45.5	73.9	28.4	100	350	
Hori.	2730.000	PK	44.5	27.5	14.0	37.8	48.2	73.9	25.7	100	12	
Hori.	4882.000	PK	47.3	31.1	6.1	36.6	47.9	73.9	26.0	125	315	
Hori.	7323.000	PK	45.7	36.3	7.6	38.4	51.2	73.9	22.7	100	191	
Hori.	9764.000	PK	43.2	38.4	8.7	37.1	53.2	73.9	20.7	121	20	
Hori.	12205.000	PK	43.3	39.2	10.3	38.0	54.8	73.9	19.1	100	152	
Hori.	1086.504	AV	36.4	23.9	12.5	38.9	33.9	53.9	20.0	100	252	VBW:10Hz
Hori.	2436.600	AV	33.4	27.1	13.7	37.7	36.5	53.9	17.4	100	350	VBW:300Hz
Hori.	2438.100	AV	35	27.1	13.7	37.7	38.1	53.9	15.8	100	350	VBW:300Hz
Hori.	2730.000	AV	32.2	27.5	14.0	37.8	35.9	53.9	18.0	100	12	VBW:10Hz
Hori.	4882.000	AV	42.7	31.1	6.1	36.6	43.3	53.9	10.6	125	315	VBW:300Hz
Hori.	7323.000	AV	34.6	36.3	7.6	38.4	40.1	53.9	13.8	100	191	VBW:300Hz
Hori.	9764.000	AV	34.7	38.4	8.7	37.1	44.7	53.9	9.2	121	20	VBW:300Hz
Hori.	12205.000	AV	34.5	39.2	10.3	38.0	46.0	53.9	7.9	100	152	VBW:300Hz
Vert.	48.005	QP	46.3	11.5	7.2	31.8	33.2	40.0	6.8	100	239	
Vert.	96.004	QP	52.4	9.8	7.9	31.8	38.3	43.5	5.2	100	90	
Vert.	216.005	QP	48	17.1	9.1	31.7	42.5	46.0	3.5	100	242	
Vert.	240.008	QP	47.2	17.4	9.3	31.7	42.2	46.0	3.8	100	299	
Vert.	1086.672	PK	54.6	23.9	12.5	38.9	52.1	73.9	21.8	100	169	
Vert.	2436.600	PK	42.4	27.1	13.7	37.7	45.5	73.9	28.4	100	238	
Vert.	2438.100	PK	41.2	27.1	13.7	37.7	44.3	73.9	29.6	100	238	
Vert.	2730.000	PK	40.2	27.5	14.0	37.8	43.9	73.9	30.0	100	354	
Vert.	4882.000	PK	43.1	31.1	6.1	36.6	43.7	73.9	30.2	100	240	
Vert.	7323.000	PK	45.8	36.3	7.6	38.4	51.3	73.9	22.6	100	228	
Vert.	9764.000	PK	42.8	38.4	8.7	37.1	52.8	73.9	21.1	100	14	
Vert.	12205.000	PK	44.3	39.2	10.3	38.0	55.8	73.9	18.1	100	356	
Vert.	1086.672	AV	44	23.9	12.5	38.9	41.5	53.9	12.4	100	169	VBW:10Hz
Vert.	2436.600	AV	33.1	27.1	13.7	37.7	36.2	53.9	17.7	100	238	VBW:300Hz
Vert.	2438.100	AV	33.7	27.1	13.7	37.7	36.8	53.9	17.1	100	238	VBW:300Hz
Vert.	2730.000	AV	32.7	27.5	14.0	37.8	36.4	53.9	17.5	100	354	VBW:10Hz
Vert.	4882.000	AV	34.6	31.1	6.1	36.6	35.2	53.9	18.7	100	240	VBW:300Hz
Vert.	7323.000	AV	34.5	36.3	7.6	38.4	40.0	53.9	13.9	100	228	VBW:300Hz
Vert.	9764.000	AV	33.3	38.4	8.7	37.1	43.3	53.9	10.6	100	14	VBW:300Hz
Vert.	12205.000	AV	34.6	39.2	10.3	38.0	46.1	53.9	7.8	100	356	VBW:300Hz

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).

UL Japan, Inc.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Semi Anechoic Chamber
 Date 2011/06/5, 6
 Temperature / Humidity 24deg.C 62%RH (6/5) 23deg.C 62%RH (6/6)
 Engineer Shinichi Takano, Akira Sato and Tatsuya Arai
 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.	216.002	QP	47.6	17.1	9.1	31.7	42.1	46.0	3.9	154	335	
Hori.	395.143	QP	52.9	16.5	7.5	31.8	45.1	46.0	0.9	100	359	
Hori.	480.005	QP	48.5	17.8	8.0	31.9	42.4	46.0	3.6	204	120	
Hori.	592.711	QP	45.3	19.0	8.6	32.0	40.9	46.0	5.1	148	358	
Hori.	889.062	QP	44.3	21.9	10.0	31.4	44.8	46.0	1.2	100	346	
Hori.	1086.550	PK	48.2	23.9	12.5	38.9	45.7	73.9	28.2	115	64	
Hori.	1150.000	PK	45.3	24.2	12.6	38.8	43.3	73.9	30.6	100	161	
Hori.	2483.500	PK	43.5	27.1	13.7	37.6	46.7	73.9	27.2	117	353	
Hori.	2483.970	PK	40.6	27.1	13.7	37.6	43.8	73.9	30.1	117	353	
Hori.	4960.000	PK	46.7	31.3	6.1	36.5	47.6	73.9	26.3	130	316	
Hori.	7440.000	PK	44.7	36.5	7.5	38.4	50.3	73.9	23.6	100	239	
Hori.	9920.000	PK	43.4	38.4	8.7	37.2	53.3	73.9	20.6	121	289	
Hori.	12400.000	PK	42.6	39.2	10.3	38.0	54.1	73.9	19.8	100	28	
Hori.	1086.550	AV	36.9	23.9	12.5	38.9	34.4	53.9	19.5	115	64	VBW:10Hz
Hori.	1150.000	AV	33.6	24.2	12.6	38.8	31.6	53.9	22.3	100	161	VBW:10Hz
Hori.	2483.500	AV	33.7	27.1	13.7	37.6	36.9	53.9	17.0	117	353	VBW:300Hz
Hori.	2483.970	AV	33.4	27.1	13.7	37.6	36.6	53.9	17.3	117	353	VBW:300Hz
Hori.	4960.000	AV	40.8	31.3	6.1	36.5	41.7	53.9	12.2	130	316	VBW:300Hz
Hori.	7440.000	AV	35.1	36.5	7.5	38.4	40.7	53.9	13.2	100	239	VBW:300Hz
Hori.	9920.000	AV	34.7	38.4	8.7	37.2	44.6	53.9	9.3	121	289	VBW:300Hz
Hori.	12400.000	AV	33.0	39.2	10.3	38.0	44.5	53.9	9.4	100	28	VBW:300Hz
Vert.	48.002	QP	46.5	11.5	7.2	31.8	33.4	40.0	6.6	100	248	
Vert.	96.001	QP	52.4	9.8	7.9	31.8	38.3	43.5	5.2	100	86	
Vert.	216.004	QP	48.1	17.1	9.1	31.7	42.6	46.0	3.4	100	252	
Vert.	240.005	QP	47.2	17.4	9.3	31.7	42.2	46.0	3.8	100	297	
Vert.	1086.900	PK	54.8	23.9	12.5	38.9	52.3	73.9	21.6	102	129	
Vert.	1150.000	PK	44.6	24.2	12.6	38.8	42.6	73.9	31.3	100	358	
Vert.	2483.500	PK	41.7	27.1	13.7	37.6	44.9	73.9	29.0	100	208	
Vert.	2483.970	PK	41.3	27.1	13.7	37.6	44.5	73.9	29.4	100	208	
Vert.	4960.000	PK	44.0	31.3	6.1	36.5	44.9	73.9	29.0	117	272	
Vert.	7440.000	PK	45.3	36.5	7.5	38.4	50.9	73.9	23.0	100	359	
Vert.	9920.000	PK	42.7	38.4	8.7	37.2	52.6	73.9	21.3	100	14	
Vert.	12400.000	PK	43.8	39.2	10.3	38.0	55.3	73.9	18.6	100	189	
Vert.	1086.900	AV	45.0	23.9	12.5	38.9	42.5	53.9	11.4	102	129	VBW:10Hz
Vert.	1150.000	AV	33.1	24.2	12.6	38.8	31.1	53.9	22.8	100	358	VBW:10Hz
Vert.	2483.500	AV	33.2	27.1	13.7	37.6	36.4	53.9	17.5	100	208	VBW:300Hz
Vert.	2483.970	AV	33.1	27.1	13.7	37.6	36.3	53.9	17.6	100	208	VBW:300Hz
Vert.	4960.000	AV	37.8	31.3	6.1	36.5	38.7	53.9	15.2	117	272	VBW:300Hz
Vert.	7440.000	AV	34.7	36.5	7.5	38.4	40.3	53.9	13.6	100	359	VBW:300Hz
Vert.	9920.000	AV	32.4	38.4	8.7	37.2	42.3	53.9	11.6	100	14	VBW:300Hz
Vert.	12400.000	AV	33.0	39.2	10.3	38.0	44.5	53.9	9.4	100	189	VBW:300Hz

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

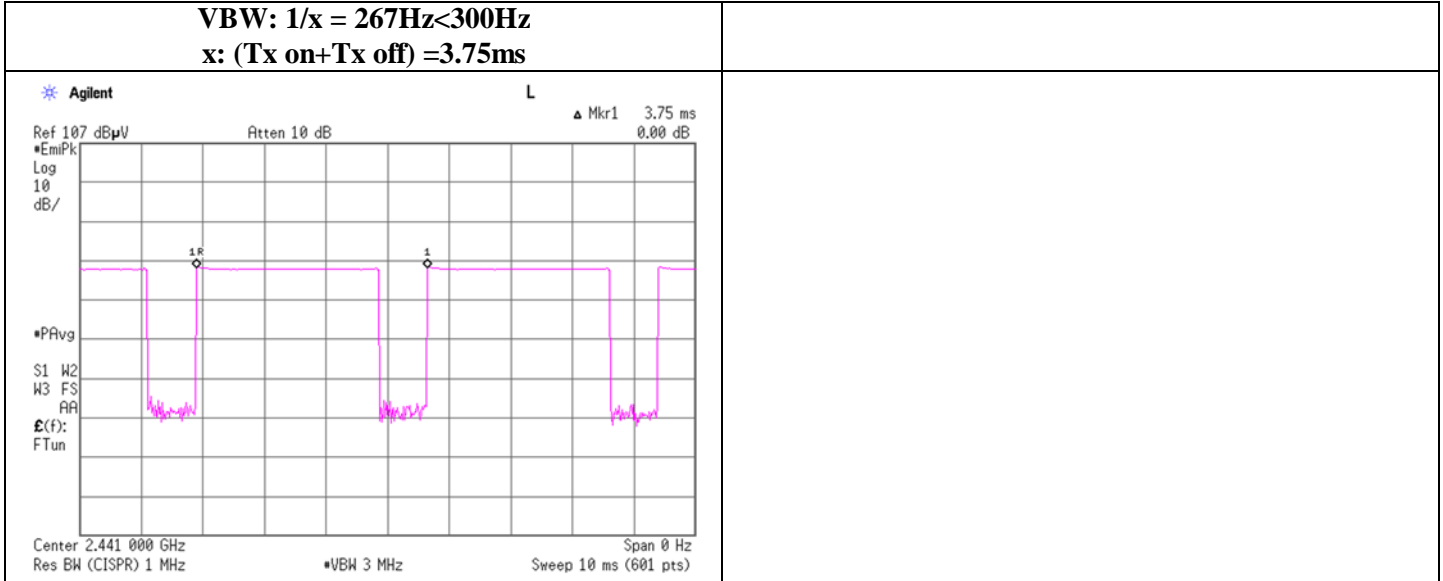
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

Spurious emission (Radiated)

DH5,

VBW (AV) Calculation

VBW: $1/x = 267\text{Hz} < 300\text{Hz}$
x: (Tx on+Tx off) = 3.75ms



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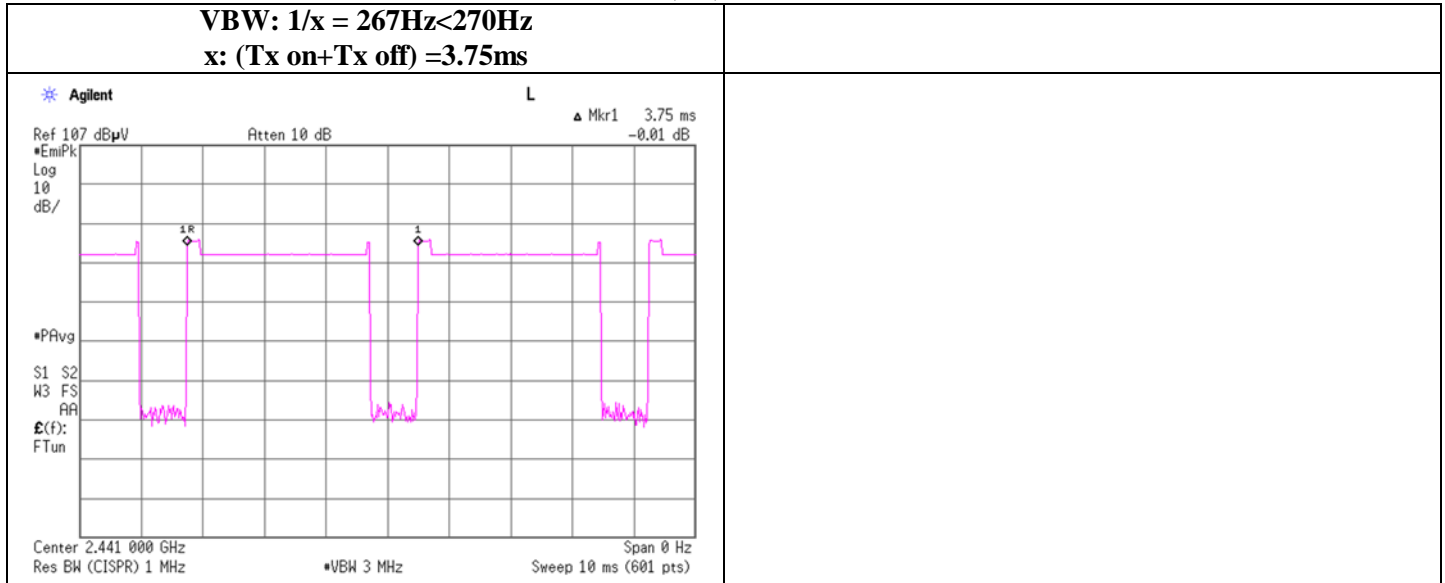
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Spurious emission (Radiated)

3-DH5,

VBW (AV) Calculation

VBW: $1/x = 267\text{Hz} < 270\text{Hz}$
x: (Tx on+Tx off) = 3.75ms



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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)
SAF-05	Pre Amplifier	TOYO Corporation	TPA0118-36	1440490	RE	2011/03/23 * 12
SCC-G01	Coaxial Cable	Suhner	SUCOFLEX 104A	46497/4A	RE	2011/04/28 * 12
SCC-G21	Coaxial Cable	Suhner	SUCOFLEX 104	296169/4	RE	2011/05/27 * 12
SHA-01	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-725	RE	2010/08/08 * 12
SOS-01	Humidity Indicator	A&D	AD-5681	4062555	RE	2011/02/23 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE	2011/03/07 * 12
SJM-12	Measure	PROMART	SEN1935	-	RE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE, RFI,MF)	-	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
SCC-G17	Coaxial Cable	Suhner	SUCOFLEX 104A	46291/4A	RE	2011/03/16 * 12
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
SAF-01	Pre Amplifier	SONOMA	310N	290211	RE	2011/02/17 * 12
SAT6-01	Attenuator	JFW	50HF-006N	-	RE	2011/02/17 * 12
SAT3-04	Attenuator	JFW	50HF-003N	-	RE	2011/02/17 * 12
SBA-01	Biconical Antenna	Schwarzbeck	BBA9106	91032664	RE	2010/10/11 * 12
SCC-A1/A3/A5/A7/A8/A13/SRSE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2011/04/28 * 12
SCC-A2/A4/A6/A7/A8/A13/SRSE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2011/04/28 * 12
SLA-01	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0888	RE	2010/10/11 * 12
STR-01	Test Receiver	Rohde & Schwarz	ESU40	100093	RE	2010/10/29 * 12
SAEC-01(NSA)	Semi-Anechoic Chamber	TDK	SAEC-01(NSA)	1	RE	2010/09/11 * 12
SLP-02	Loop Antenna	Rohde & Schwarz	HFH2-Z2	100218	RE	2010/10/15 * 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