

APPENDIX 2: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MSA-04	Spectrum Analyzer	Agilent	E4448A	AT	2006/06/02 * 12
MCC-26	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	AT	2005/08/30 * 12
MAT-21	Attenuator(20dB) (above1GHz)	HIROSE ELECTRIC CO.,LTD.	AT-120	AT	2006/01/10 * 12
MRENT-36	Power Meter	Anritsu	ML2496A	AT	2006/04/25 * 12
MRENT-33	Power sensor	Anritsu	MA2411B	AT	2006/04/25 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2006/01/09 * 12
MCC-56	Microwave Cable	Suhner	SUCOFLEX104	RE	2006/04/15 * 12
MBF-03	SHF Bandpass Filter	M-City	13GHz BPF	RE	2006/05/20 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	RE	2006/03/27 * 12
MAT-25	Attenuator(10dB) (above1GHz)	Agilent	8493C	RE	2006/06/02 * 12
MRENT-23	Spectrum Analyzer	Advantest	R3273	RE	2006/01/10 * 12
MAEC-03	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE	2006/03/03 * 12
MOS-12	Thermo-Hygrometer	Custom	CTH-180	RE	2006/01/19 * 24
MSA-05	Spectrum Analyzer	Advantest	R3273	RE	2006/05/20 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	RE	2006/02/02 * 12
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE	
MCC-50	Coaxial cable	UL Apex	-	RE	2006/03/09 * 12
MAT-31	Attenuator(6dB)	TME	UFA-01	RE	2006/03/11 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	RE	2006/01/29 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	RE	2006/01/29 * 12
MPA-14	Pre Amplifier	SONOA INSTRUMENT	310	RE	2006/03/25 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	RE	2006/01/19 * 24
MAEC-04	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE	2006/03/06 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	RE	2006/06/02 * 12
MCC-27	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX101	RE	2005/08/30 * 12
MPA-03	Microwave System Power Amplifier	Agilent	83050A	RE	2006/05/16 * 12
MCC-05	Microwave Cable 1G-40GHz	Storm	421-011 (90-1394-079)	RE	2006/01/04 * 12
MHA-04	Horn Antenna	EMCO	3160-10	RE	2006/01/09 * 12
MHA-02	Horn Antenna	EMCO	3160-09	RE	2006/01/09 * 12
MAT-23	Attenuator(10dB)(above1GHz)	Orient Microwave	BX10-0476-00	RE	2006/03/18 * 12
MOS-04	Digital Humidity Indicator	N.T	NT-1800	AT	2004/11/25 * 24
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	CE	2006/02/06 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	CE	2006/06/02 * 12
MCC-51	Coaxial cable	UL Apex	-	CE	2006/03/11 * 12
TR-07	Test Receiver	Rohde & Schwarz	ESCS30	CE	2005/09/14 * 12

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Test Item:

CE: Conducted emission

AT: Antenna Terminal Conducted Spurious Emission

Maximum Peak Output Power, Carrier Frequency Separation, 20dB Bandwidth

Number of Hopping Frequency, Dwell time

RE: Radiated Spurious Emission

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Head Office EMC Lab.

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MF060b(24.05.06)

APPENDIX 3: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

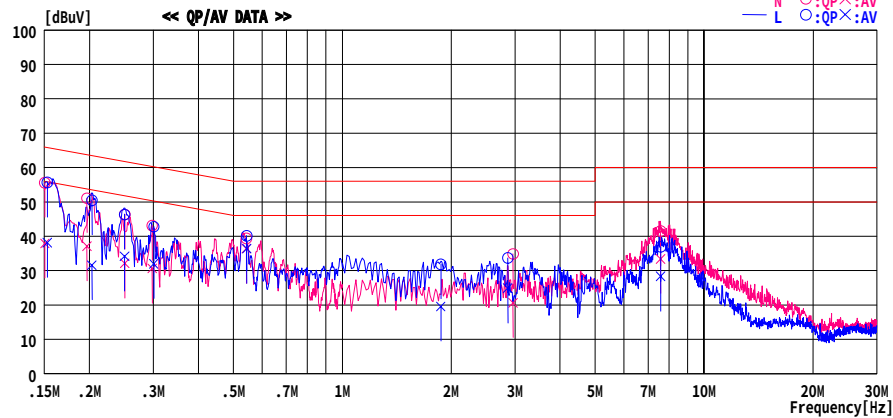
UL Apex Co., Ltd. Head Office EMC Lab. No.3 Shielded Room
Date : 2006/07/10 13:48:22

Applicant : BROTHER INDUSTRIES,LTD.
Kind of EUT : Digital Cordless Handset
Model No. : BCL-D10
Serial No. : 0001

Report No. : 26KE0022-HO
Power : DC 3.6V
Temp./Humi. : 26 deg.C / 68%
Operator : Mitsuru Fujimura

Mode / Remarks : Communication mode

LIMIT : FCC15C § 15.207 (QP) / RSS-Gen / RSS-210
FCC15C § 15.207 (AV) / RSS-Gen / RSS-210



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.15070	55.5	37.8	0.1	55.6	37.9	66.0	56.0	10.4	18.1	N
0.19693	51.0	37.0	0.1	51.1	37.1	63.7	53.7	12.6	16.6	N
0.25033	46.2	31.9	0.2	46.4	32.1	61.7	51.7	15.3	19.6	N
0.29826	42.9	30.4	0.2	43.1	30.6	60.3	50.3	17.2	19.7	N
0.54300	39.2	36.2	0.2	39.4	36.4	56.0	46.0	16.6	9.6	N
7.58200	40.6	32.5	0.9	41.5	33.4	60.0	50.0	18.5	16.6	N
0.15300	55.6	38.0	0.1	55.7	38.1	65.8	55.8	10.1	17.7	L
0.20320	50.3	31.4	0.2	50.5	31.6	63.5	53.5	13.0	21.9	L
0.25020	46.2	34.0	0.2	46.4	34.2	61.8	51.8	15.4	17.6	L
0.30120	42.6	31.8	0.2	42.8	32.0	60.2	50.2	17.4	18.2	L
0.54420	39.9	36.2	0.2	40.1	36.4	56.0	46.0	15.9	9.6	L
7.58800	36.0	27.4	0.9	36.9	28.3	60.0	50.0	23.1	21.7	L
1.87000	31.5	19.2	0.4	31.9	19.6	56.0	46.0	24.1	26.4	L
2.86470	33.3	24.5	0.4	33.7	24.9	56.0	46.0	22.3	21.1	L
2.96290	34.5	20.2	0.4	34.9	20.6	56.0	46.0	21.1	25.4	N

CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Carrier Frequency Separation

UL Apex Co., Ltd.
Head Office EMC Lab. No.7 Shielded Room

COMPANY	: BROTHER INDUSTRIES,LTD.	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Digital Cordless Handset	TEST DISTANCE	: -
MODEL	: BCL-D10	DATE	: 07/03/2006
S/ N	: 0002	TEMPERATURE	: 25deg.C
POWER	: DC3.6V	HUMIDITY	: 64%
MODE	: Tx(Hopping on)	ENGINEER	: Mitsuru Fujimura

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low (Ch 1)	5725.809328	1.800	>20dB Bandwidth or 25[kHz](whichever is greater)
Mid (Ch 71)	5788.240269	1.787	>20dB Bandwidth or 25[kHz](whichever is greater)
High (CH 139)	5848.889420	0.887	>20dB Bandwidth or 25[kHz](whichever is greater)

The following table shows the hopping sequence.

As for the detail of Frequency separation, please refer to “FCC Submission For 5.8 GHz FHSS System”, Clause 3, Section 3.2. (Theory of operation 3. pdf)

APPENDIX D – LOGICAL TO PHYSICAL MAPPING TABLE

The following table is the logical to physical mapping table, as detailed in section 3.2.3.

	0	1	2	3	4	5	6	7	8	9
0	1	3	5	7	9	11	13	15	17	19
10	21	23	25	27	29	31	33	35	37	39
20	41	43	45	47	49	51	53	55	57	59
30	61	63	65	67	69	71	73	75	77	79
40	81	83	85	87	89	91	93	95	97	99
50	101	103	105	107	109	111	113	115	117	119
60	121	123	125	127	129	130	131	132	133	134
70	135	136	137	138	139					

UL Apex Co., Ltd.

Head Office EMC Lab.

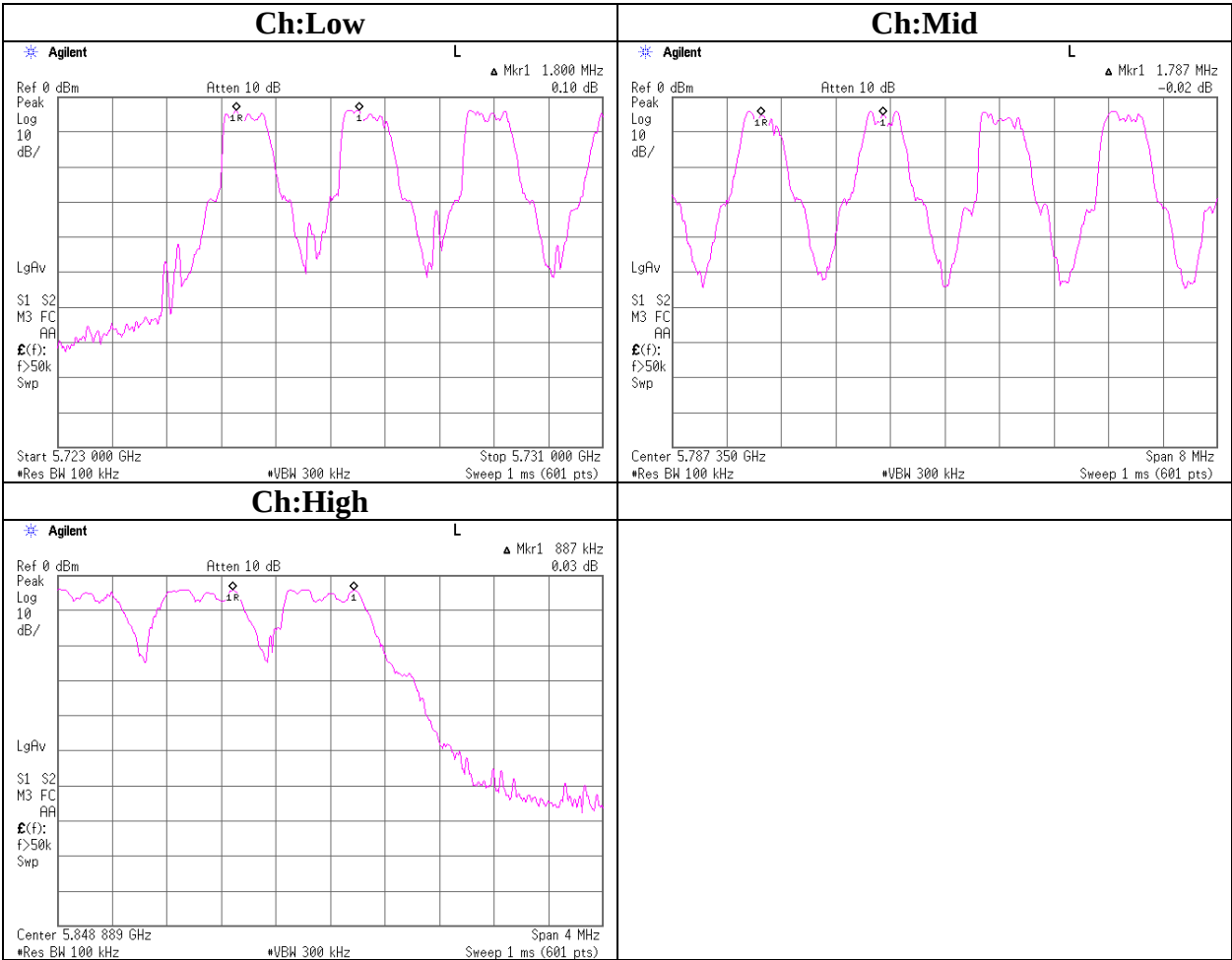
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MF060b(24.05.06)

Carrier Frequency Separation



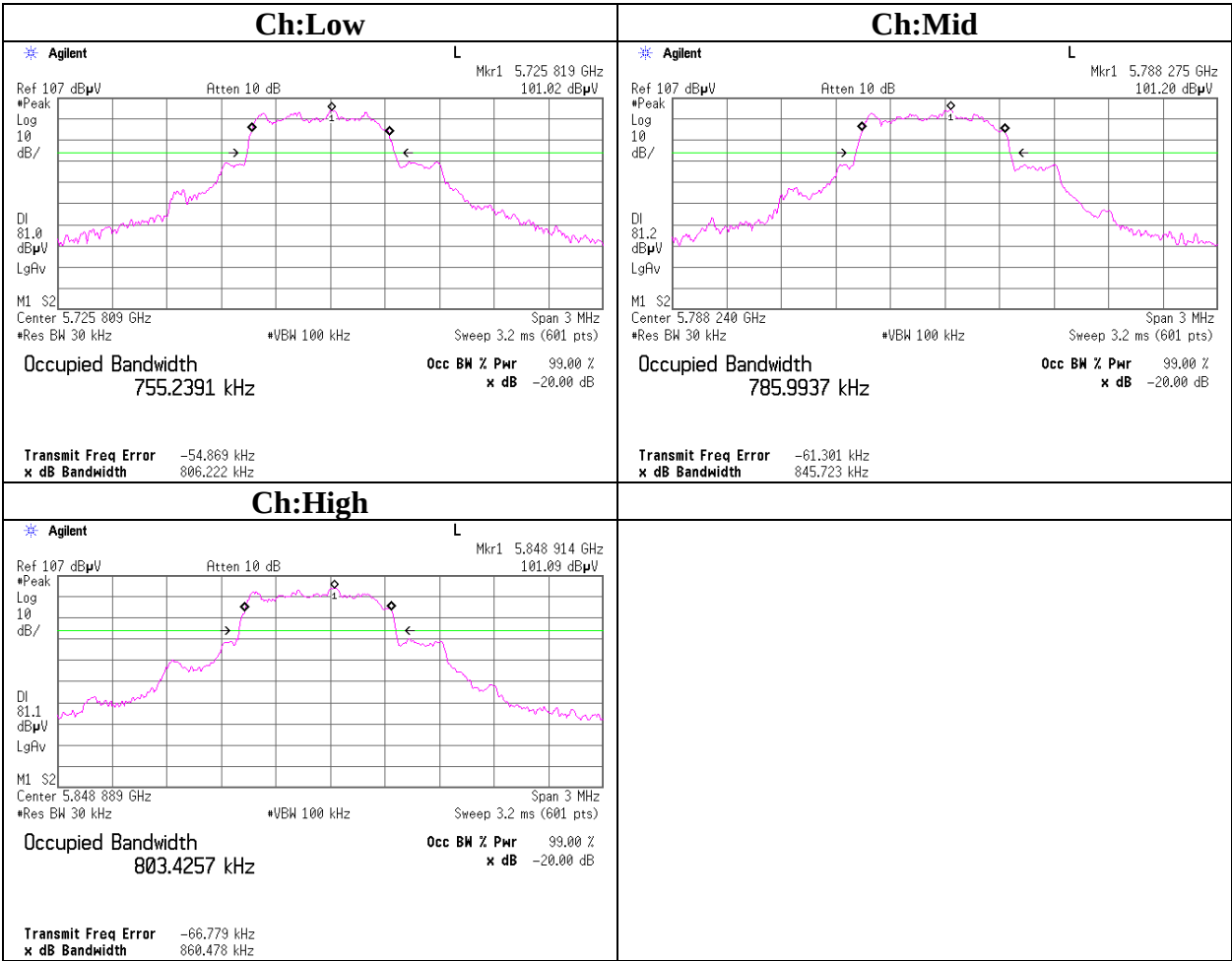
20dB Bandwidth

UL Apex Co., Ltd.
Head Office EMC Lab. No.7 Shielded Room

COMPANY	: BROTHER INDUSTRIES,LTD.	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Digital Cordless Handset	TEST DISTANCE	: -
MODEL	: BCL-D10	DATE	: 06/30/2006
S/ N	: 0001	TEMPERATURE	: 23deg.C
POWER	: DC3.6V	HUMIDITY	: 62%
MODE	: Tx (Hopping off)	ENGINEER	: Mitsuru Fujimura

Ch	Freq.	20dB Bandwidth	Limit
	[MHz]	[MHz]	[MHz]
Low	5725.809328	0.806	-
Mid	5788.240269	0.846	-
High	5848.889420	0.860	-

20dB Bandwidth



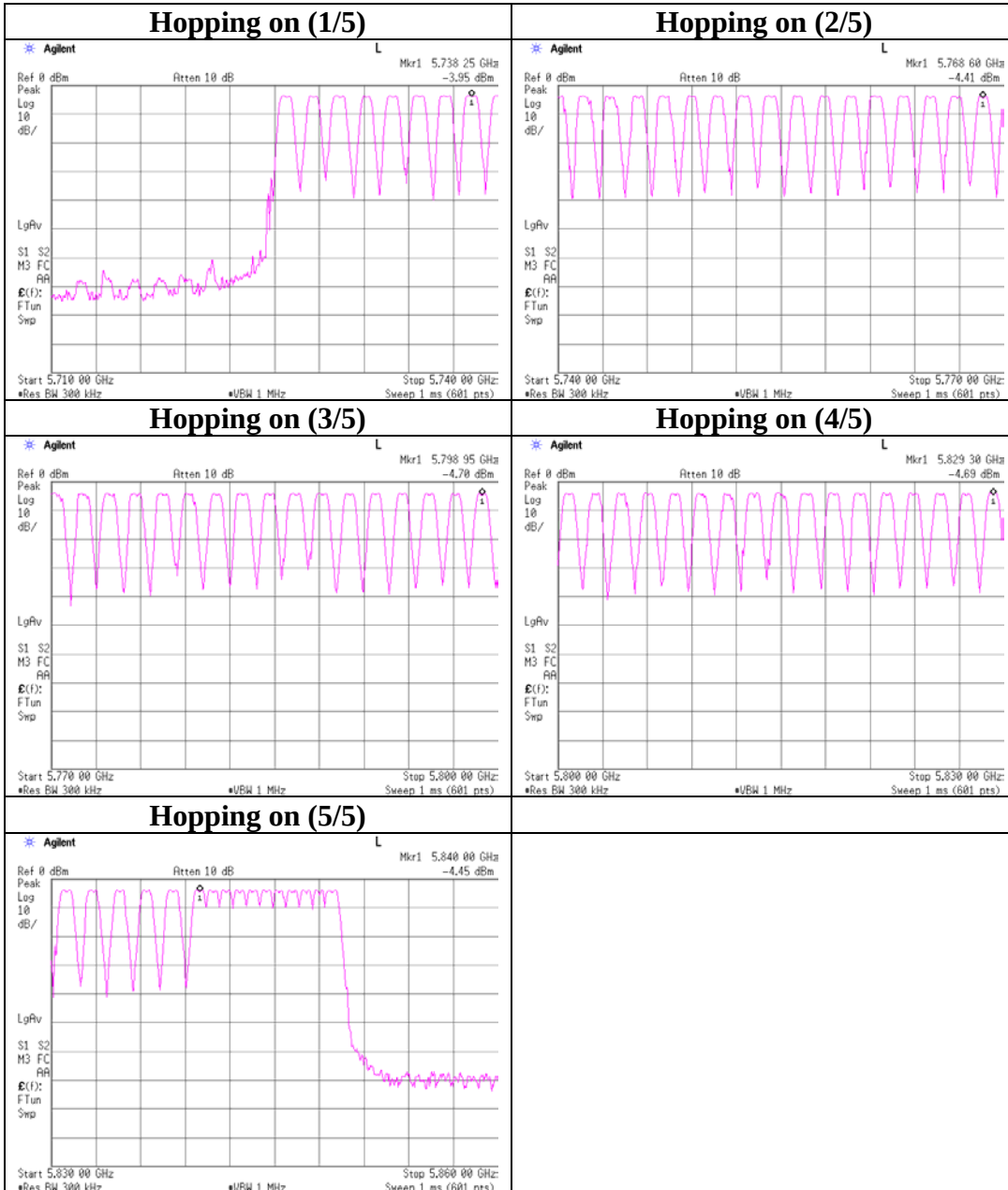
Number of Hopping Frequency

UL Apex Co., Ltd.
Head Office EMC Lab. No.7 Shielded Room

COMPANY	: BROTHER INDUSTRIES,LTD.	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)(iii)
EQUIPMENT	: Digital Cordless Handset	TEST DISTANCE	: -
MODEL	: BCL-D10	DATE	: 07/03/2006
S/ N	: 0002	TEMPERATURE	: 25deg.C
POWER	: DC3.6V	HUMIDITY	: 64%
MODE	: Tx(Hopping on)	ENGINEER	: Mitsuru Fujimura

Mode	Number of channel	Limit
	[time]	[time]
Tx(Hopping on)	75	≥ 75

Number of Hopping Frequency



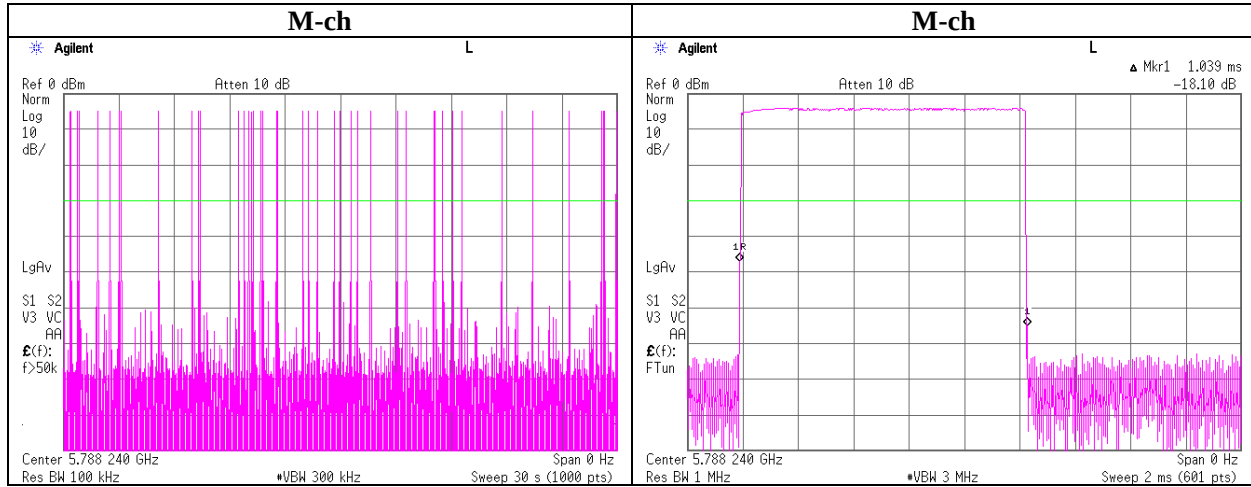
Dwell time

UL Apex Co., Ltd.
Head Office EMC Lab. No.7 Shielded Room

COMPANY	: BROTHER INDUSTRIES,LTD.	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)(ii)
EQUIPMENT	: Digital Cordless Handset	TEST DISTANCE	: -
MODEL	: BCL-D10	DATE	: 07/03/2006
S/ N	: 0002	TEMPERATURE	: 25deg.C
POWER	: DC3.6V	HUMIDITY	: 64%
MODE	: Tx(Hopping on)	ENGINEER	: Mitsuru Fujimura

Mode	Number of transmission in a 30 sec	Length of transmission time [msec]	Result [msec]	Limit [msec]
Hopping on (M-ch)	39 times / 30sec	1.039	40.5	400

Dwell time



Maximum Peak Output Power

UL Apex Co., Ltd.
Head Office EMC Lab. No.7 Shielded Room

COMPANY	: BROTHER INDUSTRIES,LTD.	REGULATION	: FCC Part15 Subpart C 15.247(b)(1)
EQUIPMENT	: Digital Cordless Handset	TEST DISTANCE	: -
MODEL	: BCL-D10	DATE	: 06/30/2006
S/ N	: 0001	TEMPERATURE	: 23deg.C
POWER	: DC3.6V	HUMIDITY	: 62%
MODE	: Tx(Hopping Off)	ENGINEER	: Mitsuru Fujimura

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low (ch1)	5725.809328	-3.36	1.71	20.24	18.59	72.21	30.00	1000	11.41
Mid (ch71)	5788.240269	-3.16	1.84	20.26	18.94	78.26	30.00	1000	11.06
High (ch139)	5848.889420	-3.26	1.81	20.28	18.83	76.35	30.00	1000	11.17

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer)+ Attenuator

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

Radiated Spurious Emission

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

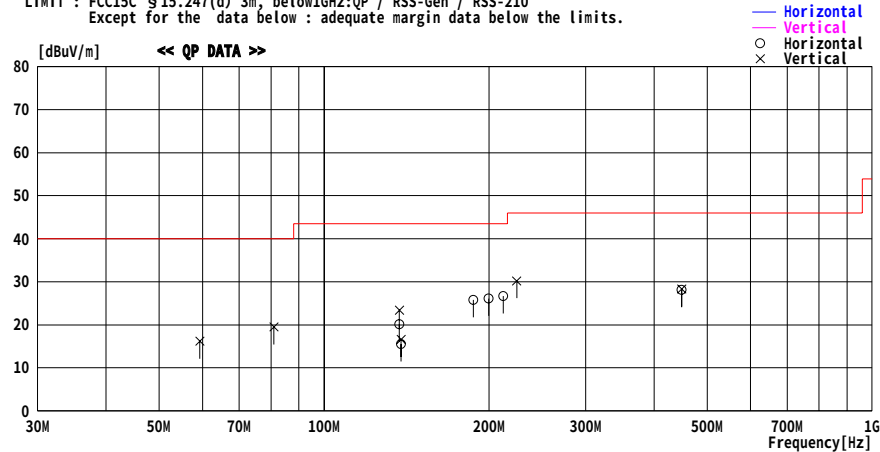
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2006/07/01 17:48:46

Company : BROTHER INDUSTRIES,LTD.
Kind of EUT : Digital Cordless Handset
Model No. : BCL-D10
Serial No. : 0001
Report No. : 26KE0022-HO
Power : DC 3.6V
Temp./Humi. : 25deg.C. /68%
Operator : Makoto Kosaka

Mode / Remarks : Tx ch1_5725.809328MHz / Max-axis(H:Z/V:Y)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP / RSS-Gen / RSS-210
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Polar.	Limit	Margin
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]		[dBuV/m]	[dB]
59.330	31.7	QP	8.9	-24.4	16.2	Vert.	40.0	23.8
81.014	36.0	QP	7.4	-23.9	19.5	Vert.	40.0	20.5
137.268	31.7	QP	14.9	-23.2	23.4	Vert.	43.5	20.1
137.277	28.4	QP	14.9	-23.2	20.1	Hori.	43.5	23.4
138.240	23.7	QP	15.0	-23.2	15.5	Hori.	43.5	28.0
138.240	24.8	QP	15.0	-23.2	16.6	Vert.	43.5	26.9
187.196	31.7	QP	16.8	-22.7	25.8	Hori.	43.5	17.7
199.674	31.7	QP	17.0	-22.6	26.1	Hori.	43.5	17.4
212.155	32.0	QP	17.2	-22.5	26.7	Hori.	43.5	16.8
224.616	35.1	QP	17.5	-22.4	30.2	Vert.	46.0	15.8
449.222	30.3	QP	19.0	-21.0	28.3	Vert.	46.0	17.7
449.265	30.1	QP	19.0	-21.0	28.1	Hori.	46.0	17.9

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

UL Apex Co., Ltd.

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MF060b(24.05.06)

Radiated Spurious Emission

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

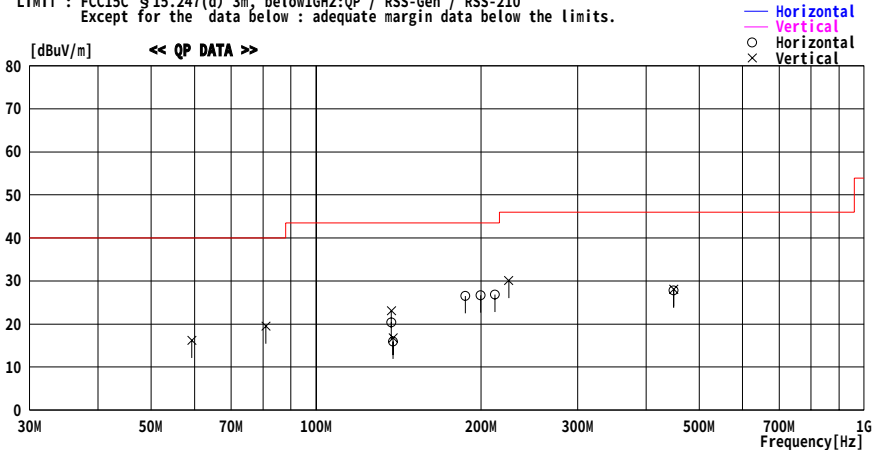
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2006/07/01 17:17:55

Company : BROTHER INDUSTRIES,LTD.
Kind of EUT : Digital Cordless Handset
Model No. : BCL-D10
Serial No. : 0001
Report No. : 26KE0022-H0
Power : DC 3.6V
Temp./Humi. : 25deg.C. /68%
Operator : Makoto Kosaka

Mode / Remarks : Tx ch71_5788.240269MHz / Max-axis(H:Z/V:Y)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP / RSS-Gen / RSS-210
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Polar.	Limit	Margin
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]		[dBuV/m]	[dB]
59.333	31.7	QP	8.9	-24.4	16.2	Vert.	40.0	23.8
81.014	36.0	QP	7.4	-23.9	19.5	Vert.	40.0	20.5
137.266	31.4	QP	14.9	-23.2	23.1	Vert.	43.5	20.4
137.266	28.7	QP	14.9	-23.2	20.4	Hori.	43.5	23.1
138.240	24.1	QP	15.0	-23.2	15.9	Hori.	43.5	27.6
138.240	25.0	QP	15.0	-23.2	16.8	Vert.	43.5	26.7
187.184	32.4	QP	16.8	-22.7	26.5	Hori.	43.5	17.0
199.662	32.3	QP	17.0	-22.6	26.7	Hori.	43.5	16.8
212.141	32.1	QP	17.2	-22.5	26.8	Hori.	43.5	16.7
224.617	35.0	QP	17.5	-22.4	30.1	Vert.	46.0	15.9
449.234	30.1	QP	19.0	-21.0	28.1	Vert.	46.0	17.9
449.234	29.8	QP	19.0	-21.0	27.8	Hori.	46.0	18.2

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

Radiated Spurious Emission

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

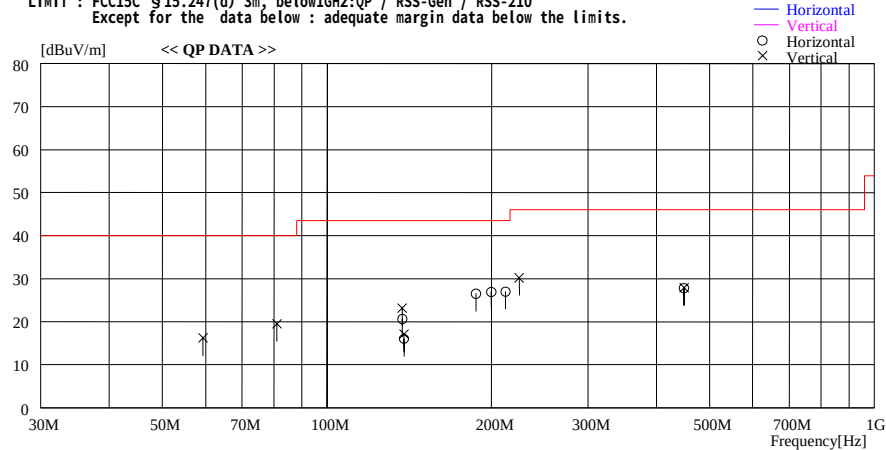
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2006/07/01 16:50:33

Company : BROTHER INDUSTRIES,LTD.
Kind of EUT : Digital Cordless Handset
Model No. : BCL-D10
Serial No. : 0001
Report No. : 26KE0022-HO
Power : DC 3.6V
Temp./Humi. : 25deg.C. /68%
Operator : Makoto Kosaka

Mode / Remarks : Tx ch139_5848.889420MHz / Max-axis(H:Z/V:Y)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP / RSS-Gen / RSS-210
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna	Loss&	Level	Polar.	Limit	Margin
			Factor	Gain				
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]		[dBuV/m]	[dB]
59.331	31.7	QP	8.9	-24.4	16.2	Vert.	40.0	23.8
81.013	36.0	QP	7.4	-23.9	19.5	Vert.	40.0	20.5
137.266	31.5	QP	14.9	-23.2	23.2	Vert.	43.5	20.3
137.266	28.9	QP	14.9	-23.2	20.6	Hori.	43.5	22.9
138.240	24.2	QP	15.0	-23.2	16.0	Hori.	43.5	27.5
138.240	25.3	QP	15.0	-23.2	17.1	Vert.	43.5	26.4
187.183	32.4	QP	16.8	-22.7	26.5	Hori.	43.5	17.0
199.661	32.5	QP	17.0	-22.6	26.9	Hori.	43.5	16.6
212.140	32.3	QP	17.2	-22.5	27.0	Hori.	43.5	16.5
224.616	35.1	QP	17.5	-22.4	30.2	Vert.	46.0	15.8
449.226	29.9	QP	19.0	-21.0	27.9	Vert.	46.0	18.1
449.226	29.8	QP	19.0	-21.0	27.8	Hori.	46.0	18.2

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

Radiated Spurious Emission

Tx Low

UL Apex Co., Ltd. Head Office EMC Lab. No.3 and No.4 Semi Anechoic Chamber

COMPANY BROTHER INDUSTRIES,LTD.
EQUIPMENT Digital Cordless Handset
MODEL BCL-D10
S/ N 0001
POWER DC3.6V
MODE Tx 5725.809328MHz (Hopping Off)
AXIS H: Z-axis / V: Y-axis

REPORT NO. 26KE0022-HO
REGULATION Fcc Part15 Subpart C 15.247(d)
DATE 06/30/2006,07/01/2006
TEMP /HUMIDITY 25 deg.C / 57 % (No.3),25 deg.C / 68 % (No.4)
ENGINEER Yutaka Yoshida
Mitsuru Fujimura
TEST DISTANCE 3m (1GHz to 10GHz) / 1m (10GHz to 26.5GHz)
/ 0.5m (26.5GHz-40GHz)

PK. DETECT (RBW: 1MHz , VBW:1MHz)

No.	Freq. [MHz]	Reading [dBuV]		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Cable L. [dB]	ATT [dB]	Other1 [dB]	Other2 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark
		HOR	VER								HOR	VER			
1	2399.05	43.2	42.7	30.53	-32.80	2.21	-	10.12	-	-	53.3	52.8	74.0	20.7	-
2	4800.20	43.3	41.5	35.21	-31.60	3.44	-	10.53	-	-	60.9	59.1	74.0	13.1	-
3	5177.10	42.6	42.3	35.93	-31.60	3.59	-	10.51	-	-	61.0	60.7	74.0	13.0	-
4*	5725.00	102.7	99.6	36.36	-31.90	3.80	-	10.36	-	-	121.3	118.2	74.0	-47.3	-
5	6052.20	42.9	42.5	37.16	-32.00	3.92	-	10.30	-	-	62.3	61.9	74.0	11.7	-
6	11451.62	53.4	51.5	38.10	-33.13	5.61	-	-	-9.54	0.23	54.7	52.8	74.0	19.3	-
7 *	17177.43	59.8	57.7	46.29	-31.92	6.85	-	10.33	-9.54	-	81.8	79.7	74.0	-7.8	-
8	22903.24	45.4	43.0	39.79	-23.90	7.44	2.85	-	-9.54	-	62.0	59.6	74.0	12.0	-
9	28629.05	40.9	44.6	44.49	-24.30	9.14	3.16	-	-15.56	-	57.8	61.5	74.0	12.5	-
10	34354.86	41.0	42.8	42.52	-24.63	10.11	2.99	-	-15.56	-	56.4	58.2	74.0	15.8	-

AV. DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq. [MHz]	Reading [dBuV]		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Cable L. [dB]	ATT [dB]	Other1 [dB]	Other2 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark
		HOR	VER								HOR	VER			
1	2399.05	30.7	31.4	30.5	-32.80	2.21	-	10.12	-	-	40.76	41.46	54.0	12.5	-
2	4800.20	30.1	30.1	35.2	-31.60	3.44	-	10.53	-	-	47.68	47.68	54.0	6.3	-
3	5177.10	29.7	29.3	35.9	-31.60	3.59	-	10.51	-	-	48.13	47.73	54.0	5.9	-
4*	5725.00	37.6	37.4	36.4	-31.90	3.80	-	10.36	-	-	56.23	56.03	54.0	-2.2	-
5	6052.20	29.2	29.0	37.2	-32.00	3.92	-	10.30	-	-	48.59	48.39	54.0	5.4	-
6	11451.62	33.8	33.7	38.1	-33.13	5.61	-	-	-9.54	0.23	35.07	34.97	54.0	18.9	-
7 *	17177.43	36.5	36.2	46.3	-31.92	6.85	-	10.33	-9.54	-	58.50	58.20	54.0	-4.5	-
8	22903.24	29.5	30.0	39.8	-23.90	7.44	2.85	-	-9.54	-	46.14	46.64	54.0	7.4	-
9	28629.05	22.5	23.1	44.5	-24.30	9.14	3.16	-	-15.56	-	39.43	40.03	54.0	14.0	-
10	34354.86	26.5	26.9	42.5	-24.63	10.11	2.99	-	-15.56	-	41.93	42.33	54.0	11.7	-

*Reference data

20dBc(Fundamental to Spurious) (RBW: 100kHz , VBW:300kHz)

No.	Freq. [MHz]	Reading [dBuV]		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Cable L. [dB]	ATT [dB]	Other [dB]	Other [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark
		HOR	VER								HOR	VER			
0	5725.81	105.7	103.9	36.36	-31.90	3.80	-	10.36	-	-	124.3	122.5	-	-	carrier
4	5725.00	72.5	71.0	36.36	-31.90	3.80	-	10.36	-	-	91.1	89.6	Funda -20dB	13.2	-
7	17177.40	59.1	56.7	46.29	-31.92	6.85	-	10.33	-9.54	-	81.1	78.7	Funda -20dB	23.2	-

Ant F.=Antenna Factor // Amp G.=PreAmp Gain // Cable L.=Cable Loss // ATT=Attenuator Loss (or Filter Loss)

CALCULATION RESULT = Reading + Ant.F. + Amp.G. + Cable L. + Cable L. + ATT + Other1 + Other2

ANT Type below 30MHz=Loop // 30-300MHz=Biconical // 300-1000MHz=Logperiodic // above 1000MHz=Horn

Test Distance 1.0m (above 10GHz) : Other1 (Distance Factor(Dfac)) = $20 \log (3 / 1) = 9.54 \text{ dB}$

Test Distance 0.5m (above 26.5GHz) : Other1 (Distance Factor(Dfac)) = $20 \log (3 / 0.5) = 15.56 \text{ dB}$

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

*The mark "-" stands for unused equipment or the value that was not found.

*In the frequency over the 5th harmonic, the noise from the EUT was not seen. The data above is its base noise.

Radiated Spurious Emission

Tx Mid

UL Apex Co., Ltd. Head Office EMC Lab. No.3 and No.4 Semi Anechoic Chamber

COMPANY BROTHER INDUSTRIES,LTD.
EQUIPMENT Digital Cordless Handset
MODEL BCL-D10
S/ N 0001
POWER DC3.6V
MODE Tx 5788.240269MHz (Hopping Off)
AXIS H: Z-axis / V: Y-axis

REPORT NO. 26KE0022-HO
REGULATION Fcc Part15 Subpart C 15.247(d)
DATE 06/30/2006,07/01/2006
TEMP /HUMIDITY 25 deg.C / 57 % (No.3), 25 deg.C / 68 % (No.4)
ENGINEER Yutaka Yoshida
Mitsuru Fujimura
TEST DISTANCE 3m (1GHz to 10GHz) / 1m (10GHz to 26.5GHz)
/ 0.5m (26.5GHz-40GHz)

PK. DETECT (RBW: 1MHz , VBW:1MHz)

No.	Freq. [MHz]	Reading [dBuV]		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Cable L. [dB]	ATT [dB]	Other1 [dB]	Other2 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark
		HOR	VER								HOR	VER			
1	2428.76	43.5	43.5	30.47	-32.80	2.23	-	10.13	-	-	53.5	53.5	74.0	20.5	-
2	4857.66	45.2	42.4	35.46	-31.60	3.46	-	10.54	-	-	63.1	60.3	74.0	10.9	-
3	5222.16	45.1	42.6	35.89	-31.60	3.61	-	10.50	-	-	63.5	61.0	74.0	10.5	-
4*	5690.00	51.1	48.2	36.25	-31.80	3.79	-	10.37	-	-	69.7	66.8	74.0	4.3	-
5*	5885.10	51.7	41.4	36.88	-31.90	3.87	-	10.32	-	-	70.9	60.6	74.0	3.1	-
6*	6720.00	41.3	41.0	36.88	-32.00	4.11	-	10.41	-	-	60.7	60.4	74.0	13.3	-
7	11576.48	52.7	49.1	38.54	-33.10	5.65	-	-	-9.54	0.10	54.3	50.7	74.0	19.7	-
8*	17364.72	58.0	55.7	46.51	-31.87	6.89	-	10.35	-9.54	-	80.3	78.0	74.0	-6.3	-
9	23152.96	43.2	43.3	39.66	-23.83	7.44	2.80	-	-9.54	-	59.7	59.8	74.0	14.2	-
10	28941.20	43.1	42.1	44.51	-24.36	9.19	3.13	-	-15.56	-	60.0	59.0	74.0	14.0	-
11	34729.44	42.0	42.0	43.05	-24.50	10.29	3.11	-	-15.56	-	58.4	58.4	74.0	15.6	-

AV. DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq. [MHz]	Reading [dBuV]		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Cable L. [dB]	ATT [dB]	Other1 [dB]	Other2 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark
		HOR	VER								HOR	VER			
1	2428.76	31.8	30.9	30.47	-32.80	2.23	-	10.13	-	-	41.83	40.93	54.0	12.2	-
2	4857.66	30.5	29.5	35.46	-31.60	3.46	-	10.54	-	-	48.36	47.36	54.0	5.6	-
3	5222.16	30.2	29.9	35.89	-31.60	3.61	-	10.50	-	-	48.59	48.29	54.0	5.4	-
4*	5690.00	29.6	29.1	36.25	-31.80	3.79	-	10.37	-	-	48.21	47.71	54.0	5.8	-
5*	5885.10	29.3	28.8	36.88	-31.90	3.87	-	10.32	-	-	48.46	47.96	54.0	5.5	-
6*	6720.00	29.0	29.6	36.88	-32.00	4.11	-	10.41	-	-	48.40	49.00	54.0	5.0	-
7	11576.48	34.0	33.3	38.54	-33.10	5.65	-	-	-9.54	0.10	35.65	34.95	54.0	18.4	-
8*	17364.72	35.8	35.5	46.51	-31.87	6.89	-	10.35	-9.54	-	58.15	57.85	54.0	-4.1	-
9	23152.96	30.0	30.4	39.66	-23.83	7.44	2.80	-	-9.54	-	46.53	46.93	54.0	7.1	-
10	28941.20	23.3	22.6	44.51	-24.36	9.19	3.13	-	-15.56	-	40.21	39.51	54.0	13.8	-
11	34729.44	27.5	27.5	43.05	-24.50	10.29	3.11	-	-15.56	-	43.88	43.88	54.0	10.1	-

*Reference data

20dBc(Fundamental to Spurious) (RBW: 100kHz , VBW:300kHz)

No.	Freq. [MHz]	Reading [dBuV]		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Cable L. [dB]	ATT [dB]	Other [dB]	Other [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark
		HOR	VER								HOR	VER			
0	5788.24	103.5	101.8	36.56	-31.90	3.83	-	10.35	-	-	122.3	120.6	-	-	carrier
4	5690.50	48.5	42.9	36.25	-31.80	3.79	-	9.85	-	-	66.6	61.0	Funda -20dB	35.7	-
5	5885.10	40.8	39.9	36.88	-31.90	3.87	-	9.85	-	-	59.5	58.6	Funda -20dB	42.0	-
6	6720.00	40.1	38.7	36.88	-32.00	4.11	-	9.86	-	-	59.0	57.6	Funda -20dB	43.0	-
8	17364.72	56.9	54.5	46.51	-31.87	6.89	-	10.35	-9.54	-	79.2	76.8	Funda -20dB	23.1	-

Ant F.=Antenna Factor // Amp G.=PreAmp Gain // Cable L.=Cable Loss // ATT=Attenuator Loss (or Filter Loss)

CALCULATION RESULT = Reading + Ant.F. + Amp.G. + Cable L. + ATT + Other1 + Other2

ANT Type below 30MHz=Loop // 30-300MHz=Biconical // 300-1000MHz=Logperiodic // above 1000MHz=Horn

Test Distance 1.0m (above 10GHz) : Other1 (Distance Factor(Dfac)) = $20 \log (3 / 1) = 9.54 \text{ dB}$

Test Distance 0.5m (above 26.5GHz) : Other1 (Distance Factor(Dfac)) = $20 \log (3 / 0.5) = 15.56 \text{ dB}$

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

*The mark "-" stands for unused equipment or the value that was not found.

*In the frequency over the 5th harmonic, the noise from the EUT was not seen. The data above is its base noise.

UL Apex Co., Ltd.

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MF060b(24.05.06)

Radiated Spurious Emission Tx High

UL Apex Co., Ltd.
COMPANY
EQUIPMENT
MODEL
S/ N
POWER
MODE
AXIS

Head Office EMC Lab. No.3 and No.4 Semi Anechoic Chamber
BROTHER INDUSTRIES,LTD.
Digital Cordless Handset
BCL-D10
0001
DC3.6V
Tx 5848.889420MHz (Hopping Off)
H: Z-axis / V: Y-axis

REPORT NO. 26KE0022-HO
REGULATION Fcc Part15 Subpart C 15.247(d)
DATE 06/30/2006,07/01/2006
TEMP / HUMIDITY 25 deg.C / 57 % (No.3), 25 deg.C / 68 % (No.4)
ENGINEER Yutaka Yoshida
Mitsuru Fujimura
TEST DISTANCE 3m (1GHz to 10GHz) / 1m (10GHz to 26.5GHz)
/ 0.5m (26.5GHz-40GHz)

PK. DETECT (RBW: 1MHz , VBW:1MHz)

No.	Freq. [MHz]	Reading [dBuV]		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Cable L. [dB]	ATT [dB]	Other1 [dB]	Other2 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark
		HOR	VER								HOR	VER			
1	2488.00	45.6	43.4	30.34	-32.70	2.34	-	10.15	-	-	55.7	53.5	74.0	18.3	-
2	4978.58	45.9	46.4	36.00	-31.60	3.51	-	10.56	-	-	64.4	64.9	74.0	9.1	-
3*	5718.89	54.5	57.7	36.34	-31.90	3.80	-	10.37	-	-	73.1	76.3	74.0	-2.3	-
4*	5850.00	95.7	94.7	36.76	-31.90	3.85	-	10.33	-	-	114.7	113.7	74.0	-40.7	-
5*	5978.13	49.6	52.6	37.18	-32.00	3.90	-	10.30	-	-	69.0	72.0	74.0	2.0	-
6	11697.78	49.5	46.4	39.00	-33.07	5.69	-	-	-9.54	0.10	51.7	48.6	74.0	22.3	-
7*	17546.67	55.3	55.0	46.56	-31.81	6.94	-	10.37	-9.54	-	77.8	77.5	74.0	-3.8	-
8	23395.56	46.4	45.5	39.34	-24.00	7.45	2.74	-	-9.54	-	62.4	61.5	74.0	11.6	-
9	29244.45	40.0	43.1	44.49	-24.42	9.25	3.10	-	-15.56	-	56.9	60.0	74.0	14.0	-
10	35093.34	42.8	42.5	44.40	-24.20	10.45	3.21	-	-15.56	-	61.1	60.8	74.0	12.9	-

AV. DETECT (RBW: 1MHz , VBW:10Hz)

No.	Freq. [MHz]	Reading [dBuV]		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Cable L. [dB]	ATT [dB]	Other1 [dB]	Other2 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark
		HOR	VER								HOR	VER			
1	2488.00	33.5	30.7	30.34	-32.70	2.34	-	10.15	-	-	43.63	40.83	54.0	10.4	-
2	4978.58	30.6	30.2	36.00	-31.60	3.51	-	10.56	-	-	49.06	48.66	54.0	4.9	-
3*	5718.89	29.5	30.5	36.34	-31.90	3.80	-	10.37	-	-	48.11	49.11	54.0	4.9	-
4*	5850.00	36.7	36.6	36.76	-31.90	3.85	-	10.33	-	-	55.75	55.65	54.0	-1.7	-
5*	5978.13	29.1	30.8	37.18	-32.00	3.90	-	10.30	-	-	48.48	50.18	54.0	3.8	-
6	11697.78	32.9	32.0	39.00	-33.07	5.69	-	-	-9.54	0.10	35.08	34.18	54.0	18.9	-
7*	17546.67	35.4	35.4	46.56	-31.81	6.94	-	10.37	-9.54	-	57.92	57.92	54.0	-3.9	-
8	23395.56	31.9	31.4	39.34	-24.00	7.45	2.74	-	-9.54	-	47.89	47.39	54.0	6.1	-
9	29244.45	22.5	22.8	44.49	-24.42	9.25	3.10	-	-15.56	-	39.35	39.65	54.0	14.3	-
10	35093.34	28.6	28.5	44.40	-24.20	10.45	3.21	-	-15.56	-	46.90	46.80	54.0	7.1	-

*Reference data

20dBc(Fundamental to Spurious) (RBW: 100kHz , VBW:300kHz)

No.	Freq. [MHz]	Reading [dBuV]		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Cable L. [dB]	ATT [dB]	Other [dB]	Other [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark
		HOR	VER								HOR	VER			
0	5848.89	103.7	102.7	36.76	-31.90	3.85	-	10.33	-	-	122.7	121.7	-	-	carrier
3	5718.89	48.0	51.5	36.34	-31.90	3.80	-	10.37	-	-	66.6	70.1	Funda -20dB	32.6	-
4	5850.00	54.7	53.8	36.76	-31.90	3.85	-	10.33	-	-	73.7	72.8	Funda -20dB	29.0	-
5	5978.13	44.7	40.9	37.18	-32.00	3.90	-	10.30	-	-	64.1	60.3	Funda -20dB	39.1	-
7	17546.67	54.5	55.0	46.56	-31.87	6.94	-	10.37	-9.54	-	77.0	77.5	Funda -20dB	25.3	-

Ant F.=Antenna Factor // Amp G.=PreAmp Gain // Cable L.=Cable Loss // ATT=Attenuator Loss (or Filter Loss)

CALCULATION RESULT = Reading + Ant.F. + Amp.G. + Cable L. + Cable L. + ATT + Other1 + Other2

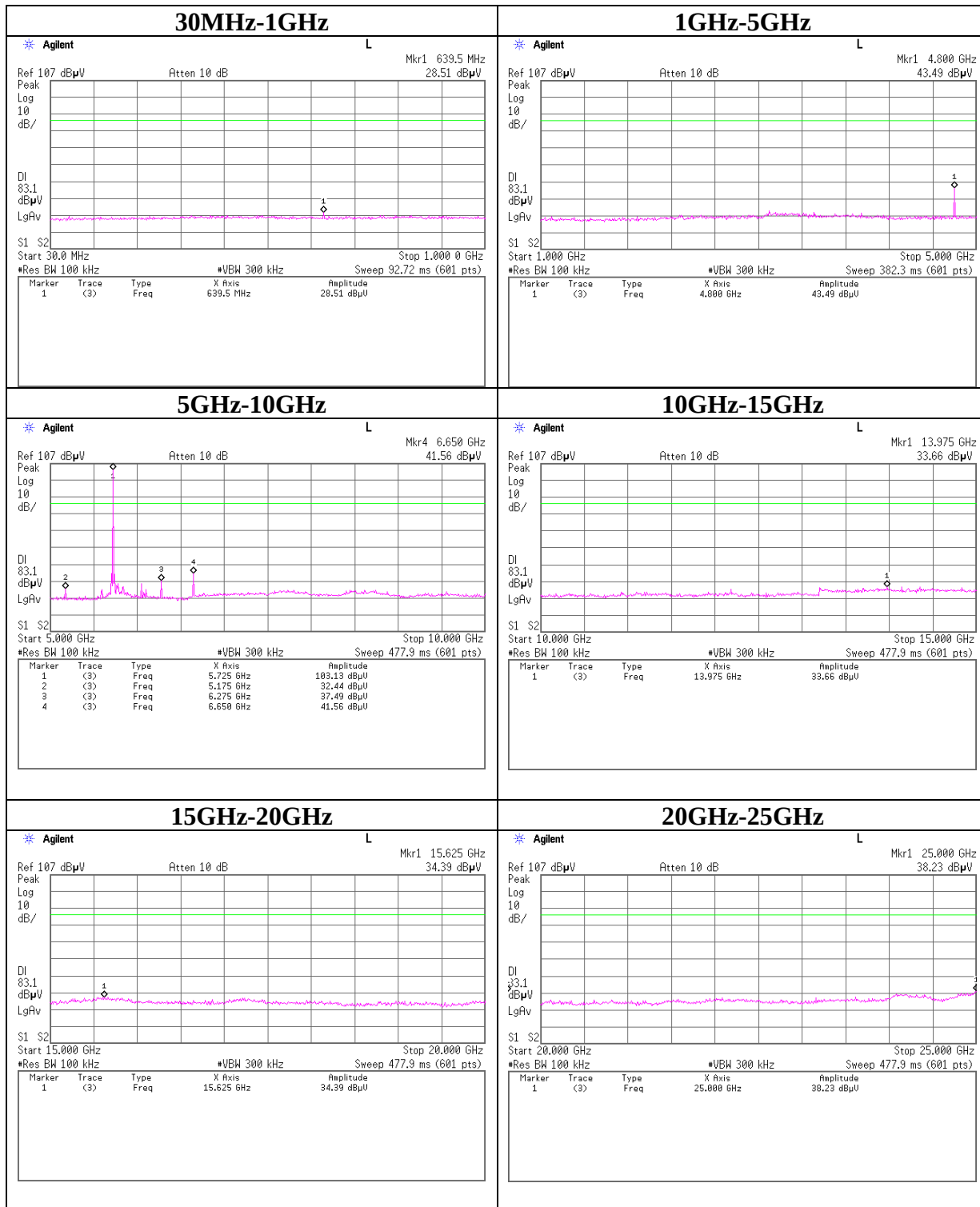
ANT Type below 30MHz=Loop // 30-300MHz=Biconical // 300-1000MHz=Logperiodic // above 1000MHz=Horn

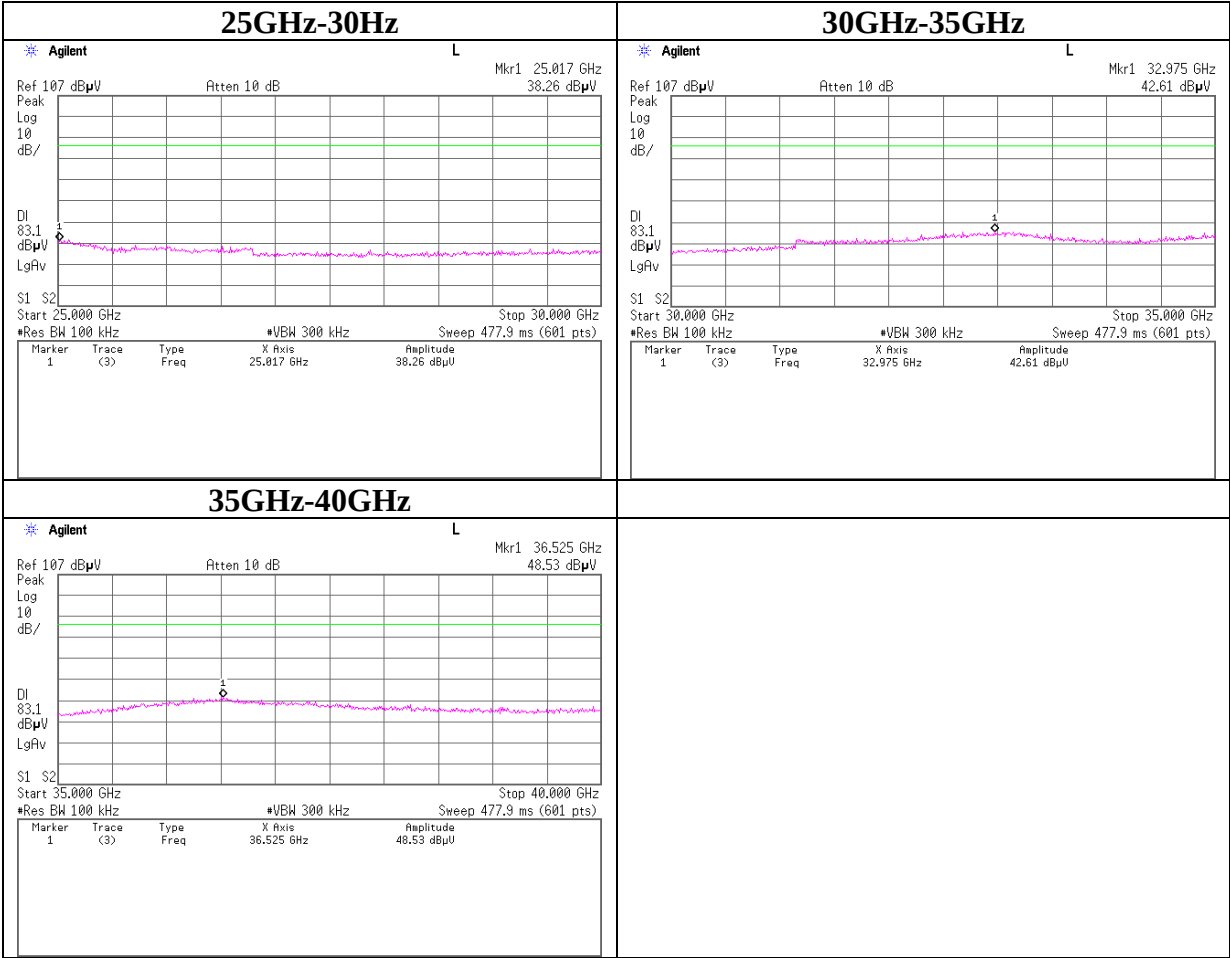
Test Distance 1.0m (above 10GHz) : Other1 (Distance Factor(Dfac)) = 20 log (3 / 1) = 9.54 dB

*In the frequency over the 5th harmonic, the noise from the EUT was not seen. The data above is its base noise.

Conducted Spurious Emission

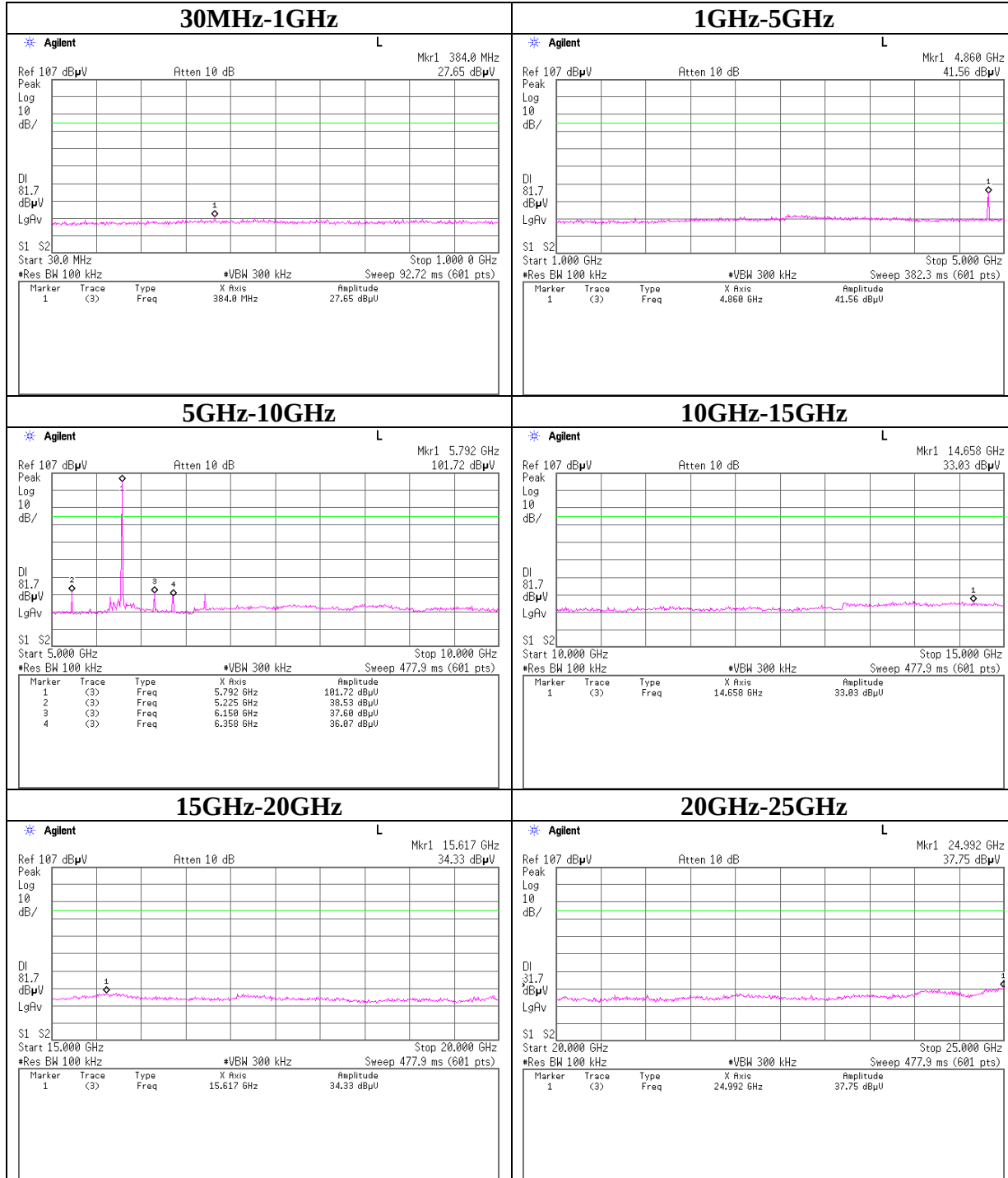
Ch:Low

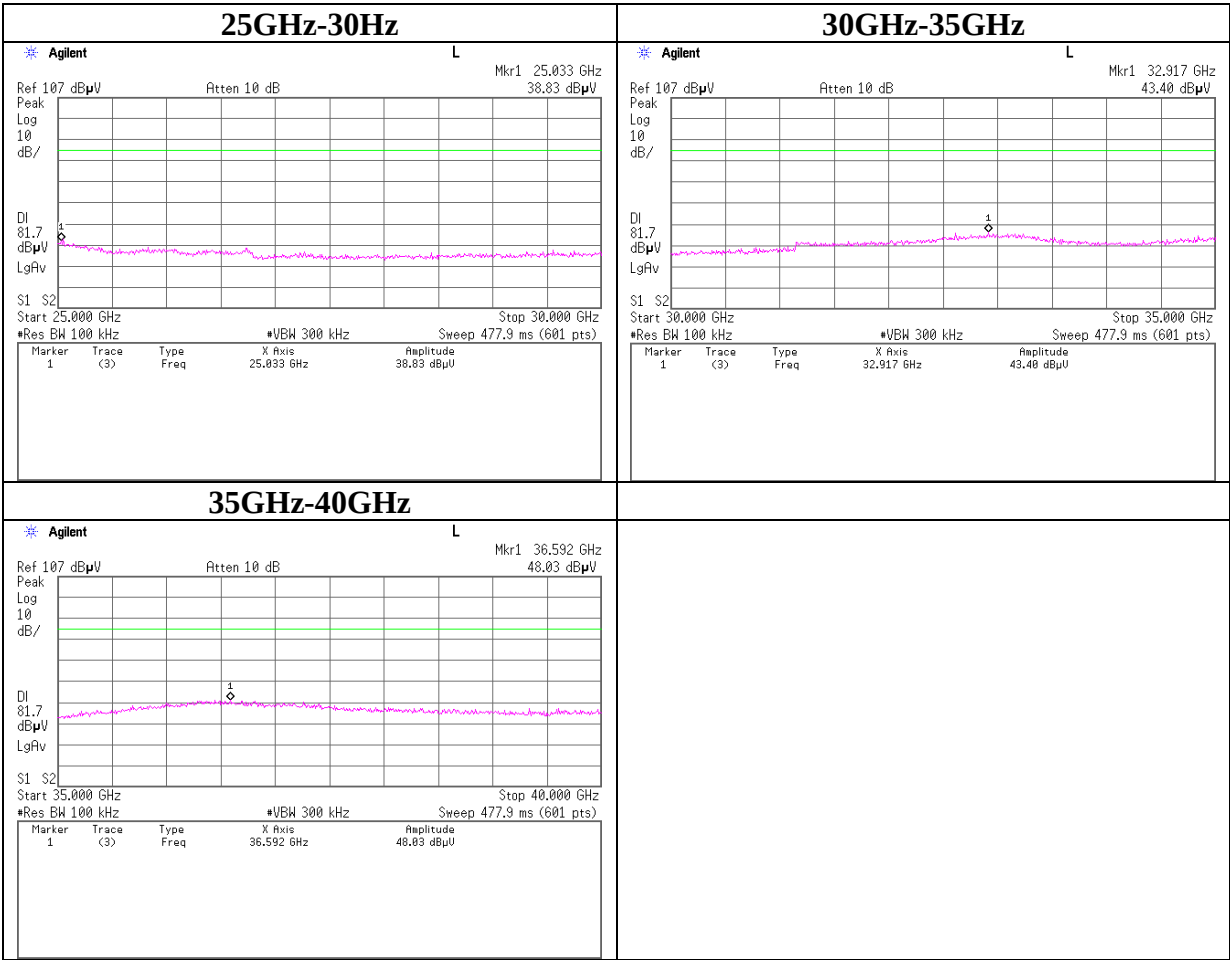




Conducted Spurious Emission

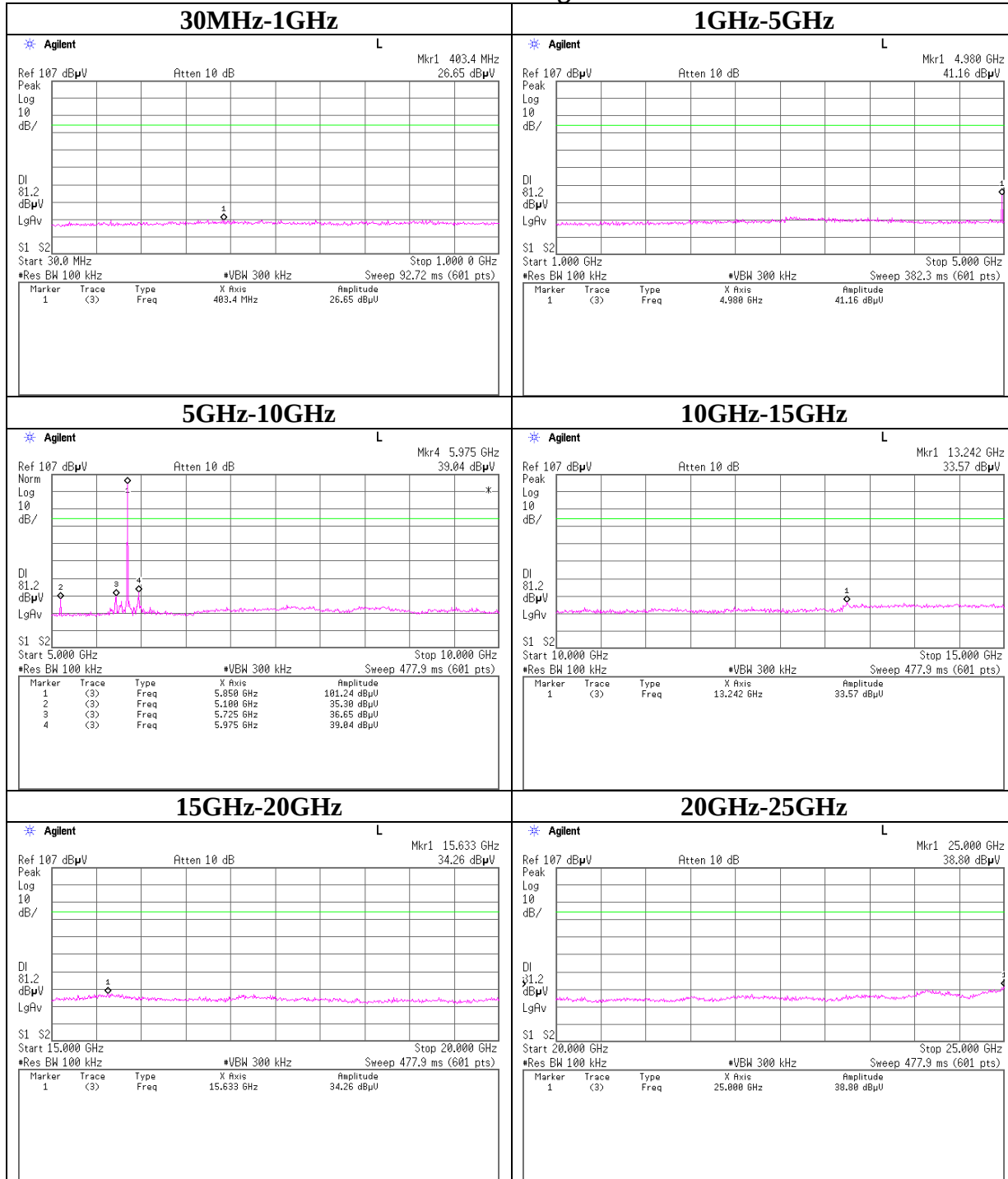
Ch:Mid

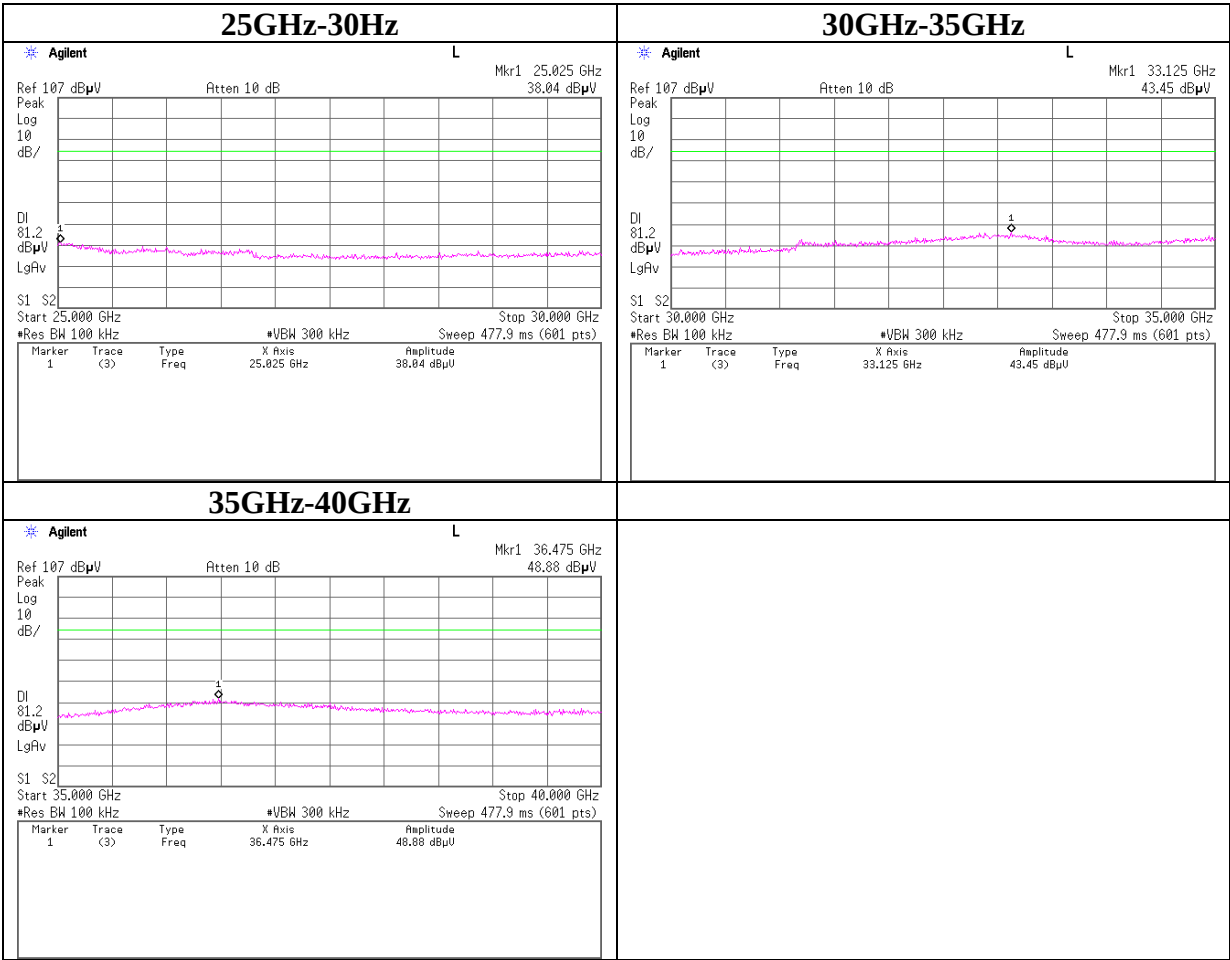




Conducted Spurious Emission

Ch:High





Conducted Spurious Emission Band Edge compliance

