

APPENDIX 2: Data of EMI test

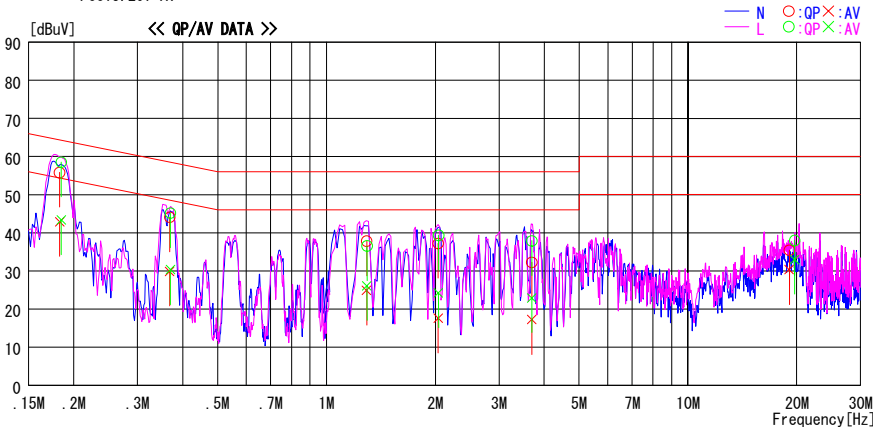
Conducted Emission  
Type-1

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Date : 2009/11/21

Report No. : 29DE0043-H0  
Temp./Humi. : 23deg. C. / 40%  
Engineer : Hiroyuki Furutaka

Mode / Remarks : Tx 2405MHz  
LIMIT : FCC15. 207 QP  
FCC15. 207 AV



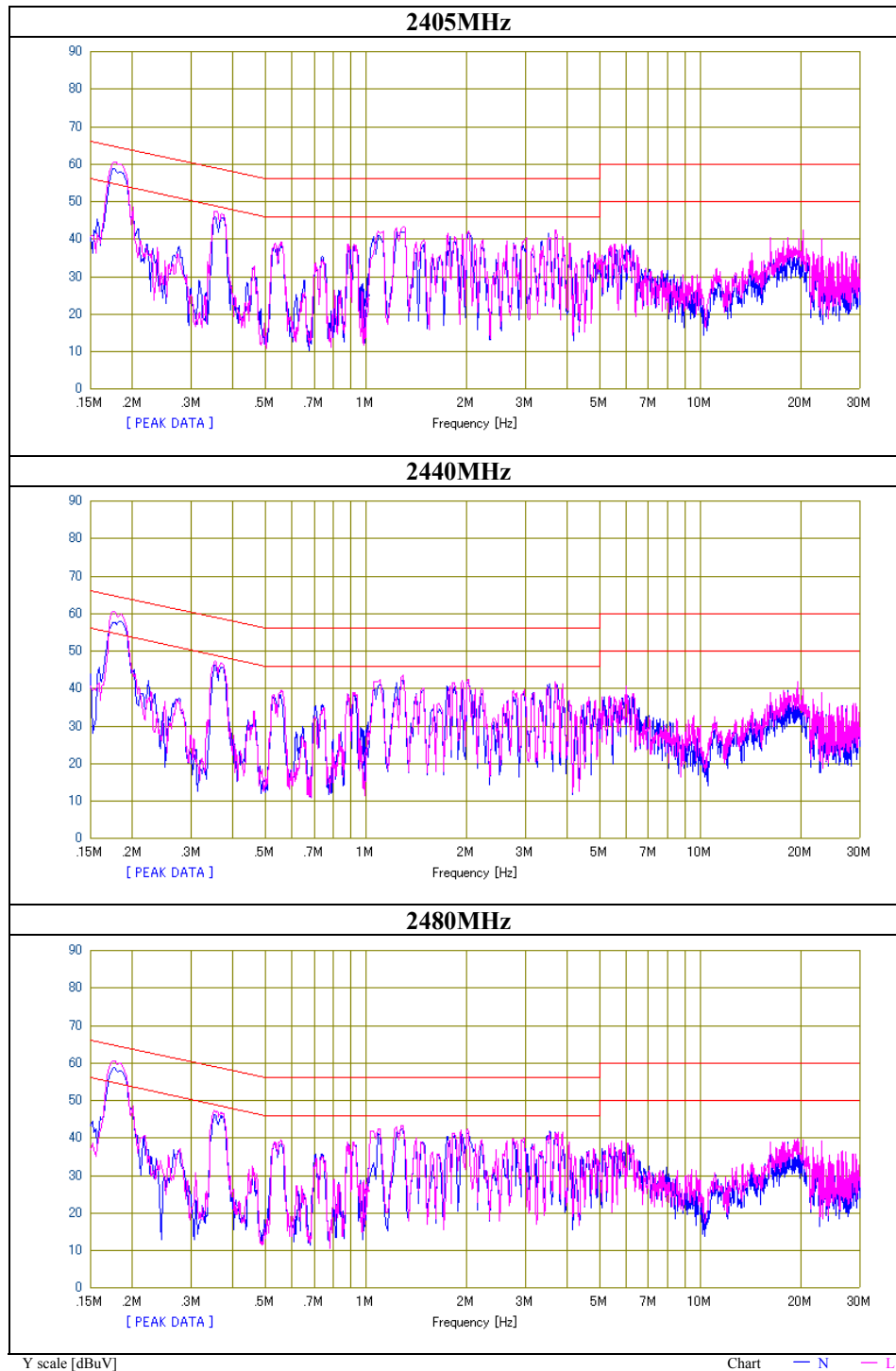
Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.18258	55.4	42.5	0.4	55.8	42.9	64.4	54.4	8.6	11.5	N
0.36780	43.7	29.5	0.4	44.1	29.9	58.6	48.6	14.5	18.7	N
1.29110	37.2	24.3	0.6	37.8	24.9	56.0	46.0	18.2	21.1	N
2.03622	36.6	17.0	0.6	37.2	17.6	56.0	46.0	18.8	28.4	N
3.69544	31.2	16.1	1.1	32.3	17.2	56.0	46.0	23.7	28.8	N
19.07085	31.2	26.0	4.3	35.5	30.3	60.0	50.0	24.5	19.7	N
0.18466	58.2	43.0	0.4	58.6	43.4	64.3	54.3	5.7	10.9	L
0.36992	44.8	29.9	0.4	45.2	30.3	58.5	48.5	13.3	18.2	L
1.29400	36.0	25.5	0.6	36.6	26.1	56.0	46.0	19.4	19.9	L
2.03978	38.8	23.6	0.6	39.4	24.2	56.0	46.0	16.6	21.8	L
3.69456	36.8	21.8	1.1	37.9	22.9	56.0	46.0	18.1	23.1	L
19.70880	33.6	28.6	4.4	38.0	33.0	60.0	50.0	22.0	17.0	L

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

## Conducted Emission

### Type-1

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No.	29DE0043-HO
Date	11/21/2009
Temperature/ Humidity	23 deg.C./ 40%
Engineer	Hiroyuki Furutaka
Mode	Tx



## Conducted Emission Type-2

### DATA OF CONDUCTED EMISSION TEST

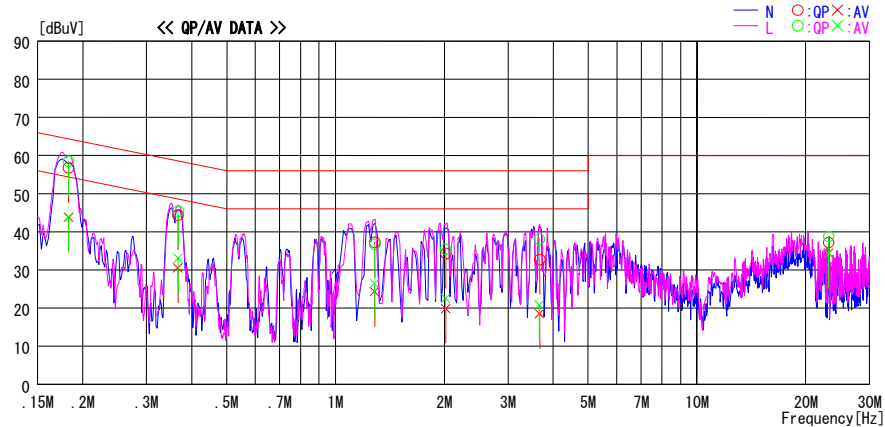
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Date : 2009/11/21

Report No. : 29DE0043-H0

Temp./Humi. : 23deg.C / 40%  
Engineer : Hiroyuki Furutaka

Mode / Remarks : Tx 2405MHz

LIMIT : FCC15.207 QP  
FCC15.207 AV



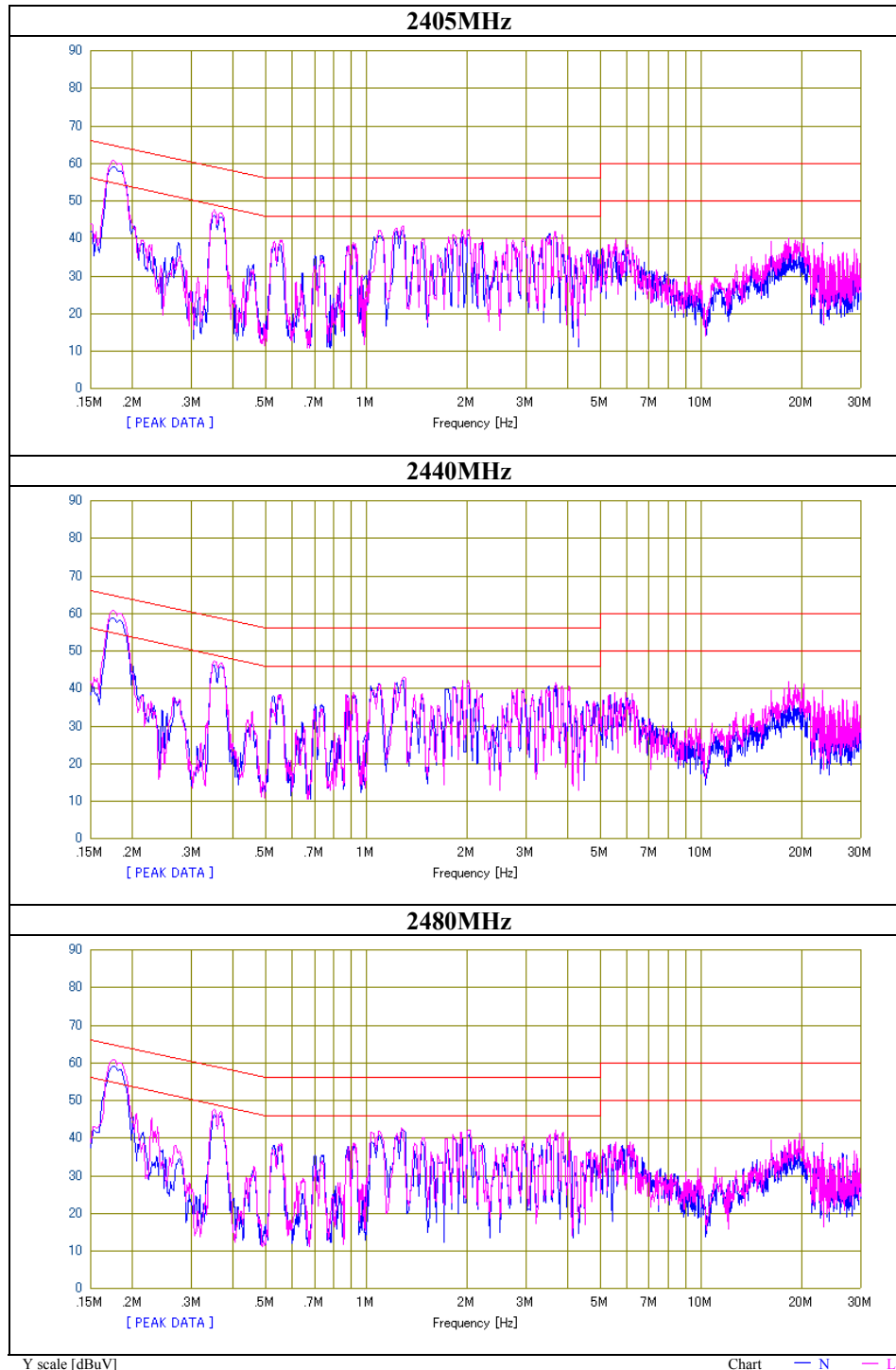
Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.18260	56.4	43.4	0.4	56.8	43.8	64.4	54.4	7.6	10.6	N
0.36644	44.0	30.1	0.4	44.4	30.5	58.6	48.6	14.2	18.1	N
1.28244	36.7	23.7	0.6	37.3	24.3	56.0	46.0	18.7	21.7	N
2.01612	33.7	19.3	0.6	34.3	19.9	56.0	46.0	21.7	26.1	N
3.66920	31.6	17.4	1.1	32.7	18.5	56.0	46.0	23.3	27.5	N
23.12800	31.9	29.1	5.3	37.2	34.4	60.0	50.0	22.8	15.6	N
0.18234	58.2	43.4	0.4	58.6	43.8	64.4	54.4	5.8	10.6	L
0.36712	45.0	32.7	0.4	45.4	33.1	58.6	48.6	13.2	15.5	L
1.28246	36.1	25.8	0.6	36.7	26.4	56.0	46.0	19.3	19.6	L
2.01520	34.9	21.9	0.6	35.5	22.5	56.0	46.0	20.5	23.5	L
3.66120	37.0	19.7	1.1	38.1	20.8	56.0	46.0	17.9	25.2	L
23.12765	33.5	29.0	5.3	38.8	34.3	60.0	50.0	21.2	15.7	L

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT[dBuV]=READING[dBuV]+C.F[dB] (LISN LOSS+CABLE LOSS)  
Except for the above table : adequate margin data below the limits.

## Conducted Emission

### Type-2

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No.	29DE0043-HO
Date	11/21/2009
Temperature/ Humidity	23 deg.C./ 40%
Engineer	Hiroyuki Furutaka
Mode	Tx



## Conducted Emission Type-1

### DATA OF CONDUCTED EMISSION TEST

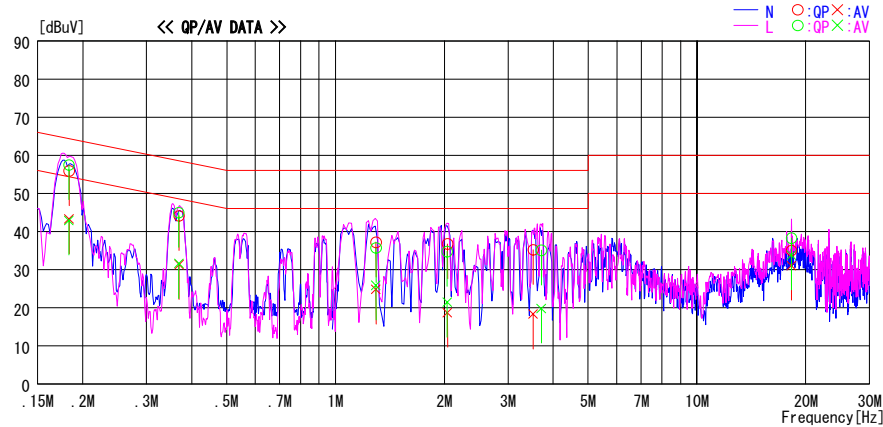
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Date : 2009/11/21

Report No. : 29DE0043-H0

Temp./Humi. : 23deg.C / 40%  
Engineer : Hiroyuki Furutaka

Mode / Remarks : Rx 2440MHz

LIMIT : FCC15.207 QP  
FCC15.207 AV



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]	
0.18328	55.5	42.9	0.4	55.9	43.3	64.3	54.3	8.4	11.0	N
0.36898	43.7	30.9	0.4	44.1	31.3	58.5	48.5	14.4	17.2	N
1.29444	36.6	24.2	0.6	37.2	24.8	56.0	46.0	18.8	21.2	N
2.03948	36.1	18.1	0.6	36.7	18.7	56.0	46.0	19.3	27.3	N
3.51780	34.3	17.4	0.9	35.2	18.3	56.0	46.0	20.8	27.7	N
18.24420	30.9	27.0	4.1	35.0	31.1	60.0	50.0	25.0	18.9	N
0.18287	57.1	42.5	0.4	57.5	42.9	64.4	54.4	6.9	11.5	L
0.36846	44.5	31.2	0.4	44.9	31.6	58.5	48.5	13.6	16.9	L
1.29428	35.1	25.3	0.6	35.7	25.9	56.0	46.0	20.3	20.1	L
2.03808	34.1	20.8	0.6	34.7	21.4	56.0	46.0	21.3	24.6	L
3.70820	34.0	18.7	1.1	35.1	19.8	56.0	46.0	20.9	26.2	L
18.24364	34.2	29.7	4.1	38.3	33.8	60.0	50.0	21.7	16.2	L

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT [dBuV] = READING [dBuV] + C.F [dB] (L ISN LOSS + CABLE LOSS)  
Except for the above table : adequate margin data below the limits.

## Conducted Emission Type-2

### DATA OF CONDUCTED EMISSION TEST

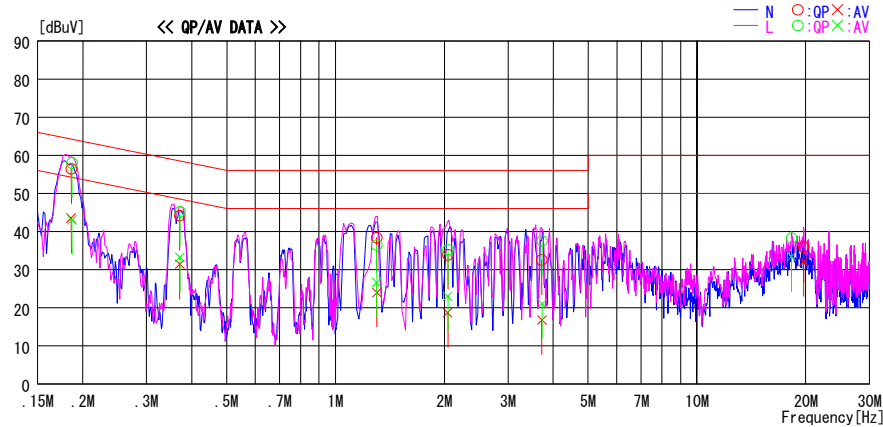
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Date : 2009/11/21

Report No. : 29DE0043-H0

Temp./Humi. : 23deg.C / 40%  
Engineer : Hiroyuki Furutaka

Mode / Remarks : Rx 2440MHz

LIMIT : FCC15.207 QP  
FCC15.207 AV



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]	
0.18568	56.1	43.1	0.4	56.5	43.5	64.2	54.2	7.7	10.7	N
0.37080	43.8	31.0	0.4	44.2	31.4	58.5	48.5	14.3	17.1	N
1.30116	37.8	23.4	0.6	38.4	24.0	56.0	46.0	17.6	22.0	N
2.04410	33.3	18.1	0.6	33.9	18.7	56.0	46.0	22.1	27.3	N
3.72040	31.5	15.7	1.1	32.6	16.8	56.0	46.0	23.4	29.2	N
19.70914	31.5	27.7	4.4	35.9	32.1	60.0	50.0	24.1	17.9	N
0.18660	57.6	42.7	0.4	58.0	43.1	64.2	54.2	6.2	11.1	L
0.37140	44.8	32.8	0.4	45.2	33.2	58.5	48.5	13.3	15.3	L
1.29962	35.9	26.1	0.6	36.5	26.7	56.0	46.0	19.5	19.3	L
2.04336	34.6	22.4	0.6	35.2	23.0	56.0	46.0	20.8	23.0	L
3.72800	36.5	20.0	1.1	37.6	21.1	56.0	46.0	18.4	24.9	L
18.24344	34.2	29.3	4.1	38.3	33.4	60.0	50.0	21.7	16.6	L

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT [dBuV] = READING [dBuV] + C. F [dB] (LISN LOSS + CABLE LOSS)  
Except for the above table : adequate margin data below the limits.

### **6dB Bandwidth**

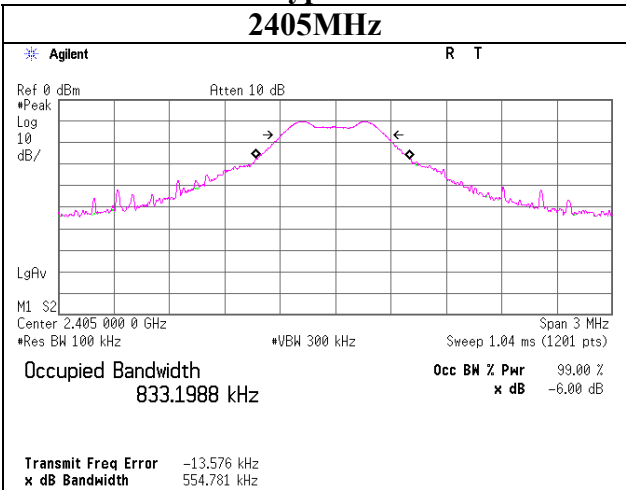
Test place                      Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No.                     29DE0043-HO  
Date                            11/16/2009  
Temperature/ Humidity      24 deg.C./ 49%  
Engineer                      Satofumi Matsuyama  
Mode                            Tx

Type-2

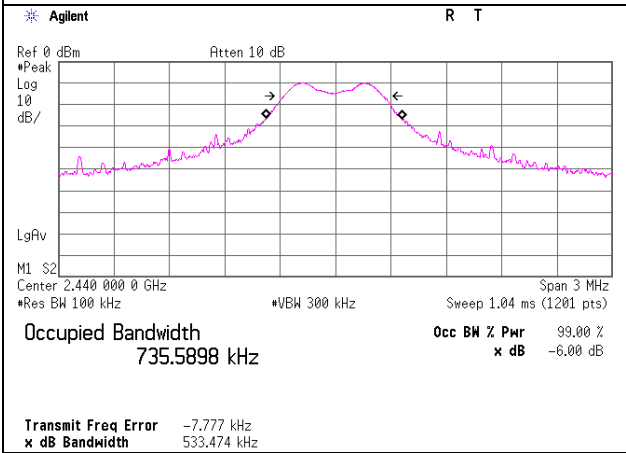
Frequency [MHz]	6dB Bandwidth [kHz]	Limit [kHz]
2405	554.781	>500
2440	533.474	>500
2480	531.258	>500

6dB Bandwidth

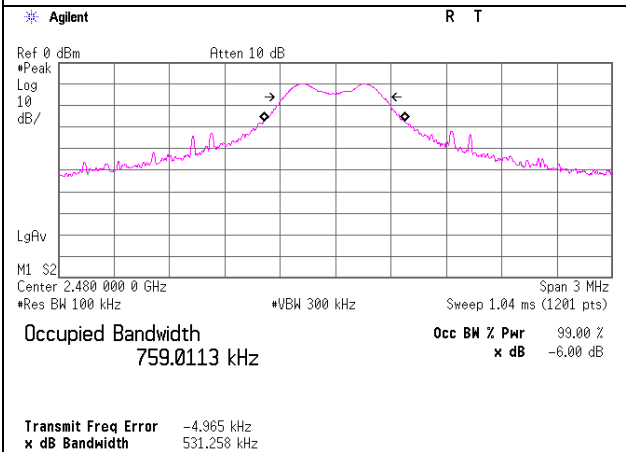
Type-2  
2405MHz



2440MHz



2480MHz





### **Maximum Peak Output Power**

Test place                      Head Office EMC Lab. No.3 Measurement Room  
Report No.                     29DE0043-HO  
Date                            11/20/2009  
Temperature/ Humidity      21 deg.C./ 34%  
Engineer                      Kazufumi Nakai  
Mode                            Tx

Type-2

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
				[dBm]	[mW]	[dBm]	[mW]	
2405	-11.00	2.12	10.02	1.14	1.30	30.00	1000	28.86
2440	-10.69	2.14	10.02	1.47	1.40	30.00	1000	28.53
2480	-10.57	2.15	10.02	1.60	1.45	30.00	1000	28.40

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

## Radiated Spurious Emission Type-1

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No. 29DE0043-HO  
Date 11/16/2009 11/17/2009 11/18/2009  
Temperature/ Humidity 24 deg.C./ 49% 22 deg.C./ 41% 20 deg.C./ 42%  
Engineer Satofumi Matsuyama Hironobu Ohnishi Satofumi Matsuyama  
(1-10GHz) (above 10GHz) (below1GHz)  
Mode Tx 2405MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	208.000	QP	32.6	17.5	8.2	27.9	30.4	43.5	13.1	
Hori	363.999	QP	29.8	16.9	9.3	28.2	27.8	46.0	18.2	
Hori	415.997	QP	29.9	18.0	9.5	28.4	29.0	46.0	17.0	
Hori	442.002	QP	33.6	18.2	9.6	28.5	32.9	46.0	13.1	
Hori	467.998	QP	32.7	18.3	9.7	28.6	32.1	46.0	13.9	
Hori	753.994	QP	28.5	21.8	10.8	28.4	32.7	46.0	13.3	
Hori	2390.000	PK	44.7	27.1	2.6	32.4	42.0	73.9	31.9	See 20dBc Data Sheet
Hori	2400.000	PK	63.8	27.1	2.6	32.4	61.1	-	-	
Hori	4810.000	PK	47.7	31.2	5.0	31.3	52.6	73.9	21.3	
Hori	7215.000	PK	43.5	35.6	5.5	31.1	53.5	73.9	20.4	
Hori	9620.000	PK	43.1	38.4	6.5	31.4	56.6	73.9	17.3	
Hori	12025.000	PK	41.6	38.9	-2.5	30.3	47.7	73.9	26.2	
Hori	24050.000	PK	46.1	40.3	-7.7	29.1	49.6	73.9	24.3	
Hori	2390.000	AV	35.0	27.1	2.6	32.4	32.3	53.9	21.6	See 20dBc Data Sheet
Hori	2400.000	AV	55.2	27.1	2.6	32.4	52.5	-	-	
Hori	4810.000	AV	41.6	31.2	5.0	31.3	46.5	53.9	7.4	
Hori	7215.000	AV	30.9	35.6	5.5	31.1	40.9	53.9	13.0	
Hori	9620.000	AV	30.7	38.4	6.5	31.4	44.2	53.9	9.7	
Hori	12025.000	AV	29.2	38.9	-2.5	30.3	35.3	53.9	18.6	
Hori	24050.000	AV	34.4	40.3	-7.7	29.1	37.9	53.9	16.0	
Vert	208.001	QP	25.7	17.5	8.2	27.9	23.5	43.5	20.0	
Vert	364.001	QP	24.1	16.9	9.3	28.2	22.1	46.0	23.9	
Vert	415.998	QP	25.9	18.0	9.5	28.4	25.0	46.0	21.0	
Vert	441.994	QP	28.5	18.2	9.6	28.5	27.8	46.0	18.2	
Vert	467.999	QP	29.0	18.3	9.7	28.6	28.4	46.0	17.6	
Vert	753.999	QP	25.0	21.8	10.8	28.4	29.2	46.0	16.8	
Vert	2390.000	PK	45.5	27.1	2.6	32.4	42.8	73.9	31.1	See 20dBc Data Sheet
Vert	2400.000	PK	63.8	27.1	2.6	32.4	61.1	-	-	
Vert	4810.000	PK	46.2	31.2	5.0	31.3	51.1	73.9	22.8	
Vert	7215.000	PK	44.5	35.6	5.5	31.1	54.5	73.9	19.4	
Vert	9620.000	PK	43.8	38.4	6.5	31.4	57.3	73.9	16.6	
Vert	12025.000	PK	40.9	38.9	-2.5	30.3	47.0	73.9	26.9	
Vert	24050.000	PK	46.5	40.3	-7.7	29.1	50.0	73.9	23.9	
Vert	2390.000	AV	34.8	27.1	2.6	32.4	32.1	53.9	21.8	See 20dBc Data Sheet
Vert	2400.000	AV	54.3	27.1	2.6	32.4	51.6	-	-	
Vert	4810.000	AV	38.1	31.2	5.0	31.3	43.0	53.9	10.9	
Vert	7215.000	AV	30.8	35.6	5.5	31.1	40.8	53.9	13.1	
Vert	9620.000	AV	30.7	38.4	6.5	31.4	44.2	53.9	9.7	
Vert	12025.000	AV	29.3	38.9	-2.5	30.3	35.4	53.9	18.5	
Vert	24050.000	AV	34.4	40.3	-7.7	29.1	37.9	53.9	16.0	

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

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

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

Distance factor: 10GHz-18GHz 20log(3.0m/1.0m)= 9.5dB  
18GHz-26.5GHz 20log(3.0m/0.5m)=15.6dB

**Radiated Spurious Emission (20dBc Data Sheet)**  
**Type-1**

Test place                      Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No.                     29DE0043-HO  
Date                             11/16/2009  
Temperature/ Humidity       24 deg.C./ 49%  
Engineer                       Satofumi Matsuyama  
  
Mode                             Tx 2405MHz

**20dBc Data Sheet**

Polarity	Frequency	Detector	Reading	Ant Factor	Loss	Gain	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	2405.000	PK	103.8	27.2	2.6	32.4	101.2	-	-	Carrier
Hori	2400.000	PK	53.3	27.1	2.6	32.4	50.6	81.2	30.6	
Vert	2405.000	PK	102.9	27.2	2.6	32.4	100.3	-	-	Carrier
Vert	2400.000	PK	52.4	27.1	2.6	32.4	49.7	80.3	30.6	

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

## Radiated Spurious Emission Type-1

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No. 29DE0043-HO  
Date 11/17/2009 11/18/2009  
Temperature/ Humidity 22 deg.C./ 41% 20 deg.C./ 42%  
Engineer Hironobu Ohnishi Satofumi Matsuyama  
(above 1GHz) (below 1GHz)  
Mode Tx 2440MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	208.001	QP	32.5	17.5	8.2	27.9	30.3	43.5	13.2	
Hori	363.995	QP	29.5	16.9	9.3	28.2	27.5	46.0	18.5	
Hori	415.996	QP	29.5	18.0	9.5	28.4	28.6	46.0	17.4	
Hori	442.001	QP	32.7	18.2	9.6	28.5	32.0	46.0	14.0	
Hori	467.998	QP	31.6	18.3	9.7	28.6	31.0	46.0	15.0	
Hori	753.994	QP	28.8	21.8	10.8	28.4	33.0	46.0	13.0	
Hori	4880.000	PK	48.7	31.3	5.1	31.3	53.8	73.9	20.1	
Hori	7320.000	PK	44.8	35.8	5.5	31.1	55.0	73.9	18.9	
Hori	9760.000	PK	41.0	38.5	6.5	31.4	54.6	73.9	19.3	
Hori	12200.000	PK	41.1	39.0	-2.4	30.2	47.5	73.9	26.4	
Hori	24400.000	PK	45.6	40.4	-7.6	29.0	49.4	73.9	24.5	
Hori	4880.000	AV	43.0	31.3	5.1	31.3	48.1	53.9	5.8	
Hori	7320.000	AV	35.4	35.8	5.5	31.1	45.6	53.9	8.3	
Hori	9760.000	AV	29.8	38.5	6.5	31.4	43.4	53.9	10.5	
Hori	12200.000	AV	29.3	39.0	-2.4	30.2	35.7	53.9	18.2	
Hori	24400.000	AV	33.9	40.4	-7.6	29.0	37.7	53.9	16.2	
Vert	207.999	QP	25.2	17.5	8.2	27.9	23.0	43.5	20.5	
Vert	364.001	QP	24.0	16.9	9.3	28.2	22.0	46.0	24.0	
Vert	415.999	QP	25.6	18.0	9.5	28.4	24.7	46.0	21.3	
Vert	441.996	QP	27.0	18.2	9.6	28.5	26.3	46.0	19.7	
Vert	468.000	QP	27.5	18.3	9.7	28.6	26.9	46.0	19.1	
Vert	753.997	QP	25.8	21.8	10.8	28.4	30.0	46.0	16.0	
Vert	4880.000	PK	48.0	31.3	5.1	31.3	53.1	73.9	20.8	
Vert	7320.000	PK	43.6	35.8	5.5	31.1	53.8	73.9	20.1	
Vert	9760.000	PK	41.0	38.5	6.5	31.4	54.6	73.9	19.3	
Vert	12200.000	PK	41.8	39.0	-2.4	30.2	48.2	73.9	25.7	
Vert	24400.000	PK	45.3	40.4	-7.6	29.0	49.1	73.9	24.8	
Vert	4880.000	AV	41.9	31.3	5.1	31.3	47.0	53.9	6.9	
Vert	7320.000	AV	33.3	35.8	5.5	31.1	43.5	53.9	10.4	
Vert	9760.000	AV	29.9	38.5	6.5	31.4	43.5	53.9	10.4	
Vert	12200.000	AV	29.4	39.0	-2.4	30.2	35.8	53.9	18.1	
Vert	24400.000	AV	33.9	40.4	-7.6	29.0	37.7	53.9	16.2	

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

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

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

Distance factor: 10GHz-18GHz 20log(3.0m/1.0m)= 9.5dB  
18GHz-26.5GHz 20log(3.0m/0.5m)=15.6dB

## Radiated Spurious Emission Type-1

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber		
Report No.	29DE0043-HO		
Date	11/16/2009	11/17/2009	11/18/2009
Temperature/ Humidity	24 deg.C./ 49%	22 deg.C./ 41%	20 deg.C./ 42%
Engineer	Satofumi Matsuyama (1-10GHz)	Hironobu Ohnishi (above 10GHz)	Satofumi Matsuyama (below 1GHz)
Mode	Tx 2480MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	208.001	QP	33.4	17.5	8.2	27.9	31.2	43.5	12.3	
Hori	363.996	QP	29.5	16.9	9.3	28.2	27.5	46.0	18.5	
Hori	415.998	QP	29.2	18.0	9.5	28.4	28.3	46.0	17.7	
Hori	442.000	QP	32.2	18.2	9.6	28.5	31.5	46.0	14.5	
Hori	467.999	QP	30.5	18.3	9.7	28.6	29.9	46.0	16.1	
Hori	753.996	QP	29.5	21.8	10.8	28.4	33.7	46.0	12.3	
Hori	2483.500	PK	66.4	27.3	2.7	32.4	64.0	73.9	9.9	
Hori	4960.000	PK	48.2	31.5	5.1	31.3	53.5	73.9	20.4	
Hori	7440.000	PK	43.7	36.0	5.6	31.1	54.2	73.9	19.7	
Hori	9920.000	PK	43.4	38.7	6.5	31.4	57.2	73.9	16.7	
Hori	12400.000	PK	41.6	39.1	-2.4	30.1	48.2	73.9	25.7	
Hori	24800.000	PK	47.6	40.4	-7.4	29.0	51.6	73.9	22.3	
Hori	2483.500	AV	54.6	27.3	2.7	32.4	52.2	53.9	1.7	
Hori	4960.000	AV	42.6	31.5	5.1	31.3	47.9	53.9	6.0	
Hori	7440.000	AV	31.1	36.0	5.6	31.1	41.6	53.9	12.3	
Hori	9920.000	AV	31.1	38.7	6.5	31.4	44.9	53.9	9.0	
Hori	12400.000	AV	29.8	39.1	-2.4	30.1	36.4	53.9	17.5	
Hori	24800.000	AV	35.6	40.4	-7.4	29.0	39.6	53.9	14.3	
Vert	208.000	QP	25.8	17.5	8.2	27.9	23.6	43.5	19.9	
Vert	363.998	QP	23.1	16.9	9.3	28.2	21.1	46.0	24.9	
Vert	415.999	QP	25.3	18.0	9.5	28.4	24.4	46.0	21.6	
Vert	441.994	QP	27.3	18.2	9.6	28.5	26.6	46.0	19.4	
Vert	467.999	QP	27.2	18.3	9.7	28.6	26.6	46.0	19.4	
Vert	753.998	QP	26.1	21.8	10.8	28.4	30.3	46.0	15.7	
Vert	2483.500	PK	63.8	27.3	2.7	32.4	61.4	73.9	12.5	
Vert	4960.000	PK	47.4	31.5	5.1	31.3	52.7	73.9	21.2	
Vert	7440.000	PK	44.0	36.0	5.6	31.1	54.5	73.9	19.4	
Vert	9920.000	PK	43.0	38.7	6.5	31.4	56.8	73.9	17.1	
Vert	12400.000	PK	40.9	39.1	-2.4	30.1	47.5	73.9	26.4	
Vert	24800.000	PK	48.0	40.4	-7.4	29.0	52.0	73.9	21.9	
Vert	2483.500	AV	51.1	27.3	2.7	32.4	48.7	53.9	5.2	
Vert	4960.000	AV	40.6	31.5	5.1	31.3	45.9	53.9	8.0	
Vert	7440.000	AV	31.2	36.0	5.6	31.1	41.7	53.9	12.2	
Vert	9920.000	AV	31.0	38.7	6.5	31.4	44.8	53.9	9.1	
Vert	12400.000	AV	29.8	39.1	-2.4	30.1	36.4	53.9	17.5	
Vert	24800.000	AV	35.6	40.4	-7.4	29.0	39.6	53.9	14.3	

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

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

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

Distance factor:      10GHz-18GHz      20log(3.0m/1.0m)= 9.5dB  
                             18GHz-26.5GHz      20log(3.0m/0.5m)=15.6dB

## Radiated Spurious Emission Type-1

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No. 29DE0043-HO  
Date 11/17/2009 11/18/2009  
Temperature/ Humidity 22 deg.C./ 41% 20 deg.C./ 42%  
Engineer Hironobu Ohnishi Satofumi Matsuyama  
(above 1GHz) (below 1GHz)  
Mode Rx 2440MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	208.000	QP	27.9	17.5	8.2	27.9	25.7	43.5	17.8	
Hori	364.001	QP	29.0	16.9	9.3	28.2	27.0	46.0	19.0	
Hori	416.000	QP	28.5	18.0	9.5	28.4	27.6	46.0	18.4	
Hori	442.000	QP	30.5	18.2	9.6	28.5	29.8	46.0	16.2	
Hori	467.997	QP	28.4	18.3	9.7	28.6	27.8	46.0	18.2	
Hori	753.996	QP	29.8	21.8	10.8	28.4	34.0	46.0	12.0	
Hori	4879.251	PK	48.8	31.3	3.7	31.3	52.5	73.9	21.4	
Hori	4879.251	AV	46.1	31.3	3.7	31.3	49.8	53.9	4.1	
Vert	208.001	QP	23.1	17.5	8.2	27.9	20.9	43.5	22.6	
Vert	363.998	QP	23.0	16.9	9.3	28.2	21.0	46.0	25.0	
Vert	415.998	QP	24.9	18.0	9.5	28.4	24.0	46.0	22.0	
Vert	441.995	QP	26.0	18.2	9.6	28.5	25.3	46.0	20.7	
Vert	467.999	QP	25.3	18.3	9.7	28.6	24.7	46.0	21.3	
Vert	753.997	QP	25.9	21.8	10.8	28.4	30.1	46.0	15.9	
Vert	4879.251	PK	48.1	31.3	3.7	31.3	51.8	73.9	22.1	
Vert	4879.251	AV	44.3	31.3	3.7	31.3	48.0	53.9	5.9	

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

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

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

Distance factor: 10GHz-18GHz 20log(3.0m/1.0m)= 9.5dB  
18GHz-26.5GHz 20log(3.0m/0.5m)=15.6dB

## Radiated Spurious Emission Type-2

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No. 29DE0043-HO  
Date 11/16/2009 11/17/2009 11/18/2009  
Temperature/ Humidity 24 deg.C./ 49% 22 deg.C./ 41% 20 deg.C./ 42%  
Engineer Satofumi Matsuyama Hironobu Ohnishi Satofumi Matsuyama  
(1-10GHz) (above 10GHz) (below1GHz)  
Mode Tx 2405MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	156.003	QP	35.0	15.9	7.9	28.3	30.5	43.5	13.0	
Hori	181.997	QP	35.8	16.8	8.0	28.1	32.5	43.5	11.0	
Hori	389.996	QP	32.6	17.7	9.4	28.3	31.4	46.0	14.6	
Hori	416.003	QP	40.0	18.0	9.5	28.4	39.1	46.0	6.9	
Hori	441.994	QP	33.9	18.2	9.6	28.5	33.2	46.0	12.8	
Hori	805.991	QP	28.5	22.4	11.0	28.3	33.6	46.0	12.4	
Hori	2390.000	PK	46.8	27.1	2.6	32.4	44.1	73.9	29.8	
Hori	2400.000	PK	61.0	27.1	2.6	32.4	58.3	-	-	See 20dBc Data Sheet
Hori	4810.000	PK	48.4	31.2	5.0	31.3	53.3	73.9	20.6	
Hori	7215.000	PK	45.7	35.6	5.5	31.1	55.7	73.9	18.2	
Hori	9620.000	PK	43.0	38.4	6.5	31.4	56.5	73.9	17.4	
Hori	12025.000	PK	41.6	38.9	-2.5	30.3	47.7	73.9	26.2	
Hori	24050.000	PK	43.4	40.3	-7.7	29.1	46.9	73.9	27.0	
Hori	2390.000	AV	34.5	27.1	2.6	32.4	31.8	53.9	22.1	
Hori	2400.000	AV	51.2	27.1	2.6	32.4	48.5	-	-	See 20dBc Data Sheet
Hori	4810.000	AV	42.0	31.2	5.0	31.3	46.9	53.9	7.0	
Hori	7215.000	AV	35.8	35.6	5.5	31.1	45.8	53.9	8.1	
Hori	9620.000	AV	32.0	38.4	6.5	31.4	45.5	53.9	8.4	
Hori	12025.000	AV	29.2	38.9	-2.5	30.3	35.3	53.9	18.6	
Hori	24050.000	AV	30.8	40.3	-7.7	29.1	34.3	53.9	19.6	
Vert	155.999	QP	26.6	15.9	7.9	28.3	22.1	43.5	21.4	
Vert	181.996	QP	29.6	16.8	8.0	28.1	26.3	43.5	17.2	
Vert	390.001	QP	30.8	17.7	9.4	28.3	29.6	46.0	16.4	
Vert	416.002	QP	38.2	18.0	9.5	28.4	37.3	46.0	8.7	
Vert	442.002	QP	32.8	18.2	9.6	28.5	32.1	46.0	13.9	
Vert	597.999	QP	33.6	20.1	10.2	28.8	35.1	46.0	10.9	
Vert	2390.000	PK	44.3	27.1	2.6	32.4	41.6	73.9	32.3	
Vert	2400.000	PK	58.8	27.1	2.6	32.4	56.1	-	-	See 20dBc Data Sheet
Vert	4810.000	PK	45.8	31.2	5.0	31.3	50.7	73.9	23.2	
Vert	7215.000	PK	46.4	35.6	5.5	31.1	56.4	73.9	17.5	
Vert	9620.000	PK	45.6	38.4	6.5	31.4	59.1	73.9	14.8	
Vert	12025.000	PK	41.2	38.9	-2.5	30.3	47.3	73.9	26.6	
Vert	24050.000	PK	43.4	40.3	-7.7	29.1	46.9	73.9	27.0	
Vert	2390.000	AV	34.0	27.1	2.6	32.4	31.3	53.9	22.6	
Vert	2400.000	AV	48.9	27.1	2.6	32.4	46.2	-	-	See 20dBc Data Sheet
Vert	4810.000	AV	37.8	31.2	5.0	31.3	42.7	53.9	11.2	
Vert	7215.000	AV	37.1	35.6	5.5	31.1	47.1	53.9	6.8	
Vert	9620.000	AV	35.1	38.4	6.5	31.4	48.6	53.9	5.3	
Vert	12025.000	AV	29.6	38.9	-2.5	30.3	35.7	53.9	18.2	
Vert	24050.000	AV	30.8	40.3	-7.7	29.1	34.3	53.9	19.6	

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

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

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

Distance factor: 10GHz-18GHz 20log(3.0m/1.0m)= 9.5dB  
18GHz-26.5GHz 20log(3.0m/0.5m)=15.6dB

## **Radiated Spurious Emission (20dBc Data Sheet)**

### **Type-2**

Test place : Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No. : 29DE0043-HO  
Date : 11/16/2009  
Temperature/ Humidity : 24 deg.C./ 49%  
Engineer : Satofumi Matsuyama  
  
Mode : Tx 2405MHz

**20dBc Data Sheet**

Polarity	Frequency	Detector	Reading	Ant Factor	Loss	Gain	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	2405.000	PK	100.6	27.2	2.6	32.4	98.0	-	-	Carrier
Hori	2400.000	PK	50.2	27.1	2.6	32.4	47.5	78.0	30.5	
Vert	2405.000	PK	99.0	27.2	2.6	32.4	96.4	-	-	Carrier
Vert	2400.000	PK	48.6	27.1	2.6	32.4	45.9	76.4	30.5	

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



## Radiated Spurious Emission Type-2

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No. 29DE0043-HO  
Date 11/17/2009 11/18/2009  
Temperature/ Humidity 22 deg.C./ 41% 20 deg.C./ 42%  
Engineer Hironobu Ohnishi Satofumi Matsuyama  
(above 1GHz) (below 1GHz)  
Mode Tx 2440MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	156.001	QP	35.5	15.9	7.9	28.3	31.0	43.5	12.5	
Hori	181.998	QP	36.4	16.8	8.0	28.1	33.1	43.5	10.4	
Hori	389.999	QP	32.1	17.7	9.4	28.3	30.9	46.0	15.1	
Hori	415.998	QP	39.6	18.0	9.5	28.4	38.7	46.0	7.3	
Hori	442.003	QP	33.3	18.2	9.6	28.5	32.6	46.0	13.4	
Hori	571.999	QP	35.5	19.6	10.1	28.8	36.4	46.0	9.6	
Hori	4880.000	PK	49.1	31.3	5.1	31.3	54.2	73.9	19.7	
Hori	7320.000	PK	45.8	35.8	5.5	31.1	56.0	73.9	17.9	
Hori	9760.000	PK	42.3	38.5	6.5	31.4	55.9	73.9	18.0	
Hori	12200.000	PK	41.3	39.0	-2.4	30.2	47.7	73.9	26.2	
Hori	24400.000	PK	45.7	40.4	-7.6	29.0	49.5	73.9	24.4	
Hori	4880.000	AV	44.2	31.3	5.1	31.3	49.3	53.9	4.6	
Hori	7320.000	AV	35.4	35.8	5.5	31.1	45.6	53.9	8.3	
Hori	9760.000	AV	31.7	38.5	6.5	31.4	45.3	53.9	8.6	
Hori	12200.000	AV	29.3	39.0	-2.4	30.2	35.7	53.9	18.2	
Hori	24400.000	AV	33.5	40.4	-7.6	29.0	37.3	53.9	16.6	
Vert	156.002	QP	28.9	15.9	7.9	28.3	24.4	43.5	19.1	
Vert	182.005	QP	30.0	16.8	8.0	28.1	26.7	43.5	16.8	
Vert	389.997	QP	31.0	17.7	9.4	28.3	29.8	46.0	16.2	
Vert	415.998	QP	38.5	18.0	9.5	28.4	37.6	46.0	8.4	
Vert	441.997	QP	32.5	18.2	9.6	28.5	31.8	46.0	14.2	
Vert	571.996	QP	33.9	19.6	10.1	28.8	34.8	46.0	11.2	
Vert	598.002	QP	35.8	20.1	10.2	28.8	37.3	46.0	8.7	
Vert	4880.000	PK	47.3	31.3	5.1	31.3	52.4	73.9	21.5	
Vert	7320.000	PK	48.3	35.8	5.5	31.1	58.5	73.9	15.4	
Vert	9760.000	PK	43.4	38.5	6.5	31.4	57.0	73.9	16.9	
Vert	12200.000	PK	41.6	39.0	-2.4	30.2	48.0	73.9	25.9	
Vert	24400.000	PK	45.5	40.4	-7.6	29.0	49.3	73.9	24.6	
Vert	4880.000	AV	40.3	31.3	5.1	31.3	45.4	53.9	8.5	
Vert	7320.000	AV	39.9	35.8	5.5	31.1	50.1	53.9	3.8	
Vert	9760.000	AV	33.4	38.5	6.5	31.4	47.0	53.9	6.9	
Vert	12200.000	AV	29.5	39.0	-2.4	30.2	35.9	53.9	18.0	
Vert	24400.000	AV	33.5	40.4	-7.6	29.0	37.3	53.9	16.6	

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

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

\*The 10th harmonic was not seen so the result was its base noise level.  
Distance factor: 10GHz-18GHz 20log(3.0m/1.0m)= 9.5dB  
18GHz-26.5GHz 20log(3.0m/0.5m)=15.6dB

## Radiated Spurious Emission Type-2

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No. 29DE0043-HO  
Date 11/16/2009 11/17/2009 11/18/2009  
Temperature/ Humidity 24 deg.C./ 49% 22 deg.C./ 41% 20 deg.C./ 42%  
Engineer Satofumi Matsuyama Hironobu Ohnishi Satofumi Matsuyama  
(1-10GHz) (above 10GHz) (below1GHz)  
Mode Tx 2480MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	156.002	QP	35.4	15.9	7.9	28.3	30.9	43.5	12.6	
Hori	181.998	QP	35.7	16.8	8.0	28.1	32.4	43.5	11.1	
Hori	389.999	QP	32.2	17.7	9.4	28.3	31.0	46.0	15.0	
Hori	415.999	QP	39.3	18.0	9.5	28.4	38.4	46.0	7.6	
Hori	442.001	QP	33.3	18.2	9.6	28.5	32.6	46.0	13.4	
Hori	571.997	QP	35.8	19.6	10.1	28.8	36.7	46.0	9.3	
Hori	2483.500	PK	66.4	27.3	2.7	32.4	64.0	73.9	9.9	
Hori	4960.000	PK	50.7	31.5	5.1	31.3	56.0	73.9	17.9	
Hori	7440.000	PK	46.8	36.0	5.6	31.1	57.3	73.9	16.6	
Hori	9920.000	PK	43.2	38.7	6.5	31.4	57.0	73.9	16.9	
Hori	12400.000	PK	41.6	39.1	-2.4	30.1	48.2	73.9	25.7	
Hori	24800.000	PK	47.6	40.4	-7.4	29.0	51.6	73.9	22.3	
Hori	24800.000	PK	47.6	40.4	-7.4	29.0	51.6	73.9	22.3	
Hori	2483.500	AV	53.5	27.3	2.7	32.4	51.1	53.9	2.8	
Hori	4960.000	AV	45.5	31.5	5.1	31.3	50.8	53.9	3.1	
Hori	7440.000	AV	37.7	36.0	5.6	31.1	48.2	53.9	5.7	
Hori	9920.000	AV	30.7	38.7	6.5	31.4	44.5	53.9	9.4	
Hori	12400.000	AV	31.0	39.1	-2.4	30.1	37.6	53.9	16.3	
Hori	24800.000	AV	35.6	40.4	-7.4	29.0	39.6	53.9	14.3	
Hori	24800.000	AV	35.6	40.4	-7.4	29.0	39.6	53.9	14.3	
Vert	156.000	QP	29.4	15.9	7.9	28.3	24.9	43.5	18.6	
Vert	182.002	QP	29.0	16.8	8.0	28.1	25.7	43.5	17.8	
Vert	390.004	QP	30.8	17.7	9.4	28.3	29.6	46.0	16.4	
Vert	416.001	QP	38.0	18.0	9.5	28.4	37.1	46.0	8.9	
Vert	442.004	QP	32.5	18.2	9.6	28.5	31.8	46.0	14.2	
Vert	572.004	QP	34.1	19.6	10.1	28.8	35.0	46.0	11.0	
Vert	597.997	QP	36.0	20.1	10.2	28.8	37.5	46.0	8.5	
Vert	2483.500	PK	62.3	27.3	2.7	32.4	59.9	73.9	14.0	
Vert	4960.000	PK	49.4	31.5	5.1	31.3	54.7	73.9	19.2	
Vert	7440.000	PK	48.6	36.0	5.6	31.1	59.1	73.9	14.8	
Vert	9920.000	PK	45.5	38.7	6.5	31.4	59.3	73.9	14.6	
Vert	12400.000	PK	41.8	39.1	-2.4	30.1	48.4	73.9	25.5	
Vert	24800.000	PK	47.7	40.4	-7.4	29.0	51.7	73.9	22.2	
Vert	24800.000	PK	47.7	40.4	-7.4	29.0	51.7	73.9	22.2	
Vert	2483.500	AV	50.7	27.3	2.7	32.4	48.3	53.9	5.6	
Vert	4960.000	AV	44.4	31.5	5.1	31.3	49.7	53.9	4.2	
Vert	7440.000	AV	41.6	36.0	5.6	31.1	52.1	53.9	1.8	
Vert	9920.000	AV	34.5	38.7	6.5	31.4	48.3	53.9	5.6	
Vert	12400.000	AV	30.9	39.1	-2.4	30.1	37.5	53.9	16.4	
Vert	24800.000	AV	35.6	40.4	-7.4	29.0	39.6	53.9	14.3	
Vert	24800.000	AV	35.6	40.4	-7.4	29.0	39.6	53.9	14.3	

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

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

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

Distance factor: 10GHz-18GHz 20log(3.0m/1.0m)= 9.5dB  
18GHz-26.50GHz 20log(3.0m/0.5m)=15.6dB

## Radiated Spurious Emission Type-2

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	29DE0043-HO	
Date	11/17/2009	11/18/2009
Temperature/ Humidity	22 deg.C./ 41%	20 deg.C./ 42%
Engineer	Hironobu Ohnishi	Satofumi Matsuyama
	(above 1GHz)	(below 1GHz)
Mode	Rx 2440MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	168.996	QP	33.7	16.4	7.9	28.2	29.8	43.5	13.7	
Hori	182.003	QP	40.6	16.8	8.0	28.1	37.3	43.5	6.2	
Hori	389.996	QP	30.7	17.7	9.4	28.3	29.5	46.0	16.5	
Hori	415.998	QP	39.1	18.0	9.5	28.4	38.2	46.0	7.8	
Hori	442.001	QP	31.9	18.2	9.6	28.5	31.2	46.0	14.8	
Hori	753.999	QP	28.2	21.8	10.8	28.4	32.4	46.0	13.6	
Hori	4879.271	PK	48.9	31.3	3.7	31.3	52.6	73.9	21.3	
Hori	4879.271	AV	45.7	31.3	3.7	31.3	49.4	53.9	4.5	
Vert	168.999	QP	24.7	16.4	7.9	28.2	20.8	43.5	22.7	
Vert	181.998	QP	33.7	16.8	8.0	28.1	30.4	43.5	13.1	
Vert	390.000	QP	31.9	17.7	9.4	28.3	30.7	46.0	15.3	
Vert	416.001	QP	36.8	18.0	9.5	28.4	35.9	46.0	10.1	
Vert	442.002	QP	31.2	18.2	9.6	28.5	30.5	46.0	15.5	
Vert	597.998	QP	29.4	20.1	10.2	28.8	30.9	46.0	15.1	
Vert	4879.271	PK	48.2	31.3	3.7	31.3	51.9	73.9	22.0	
Vert	4879.271	AV	44.8	31.3	3.7	31.3	48.5	53.9	5.4	

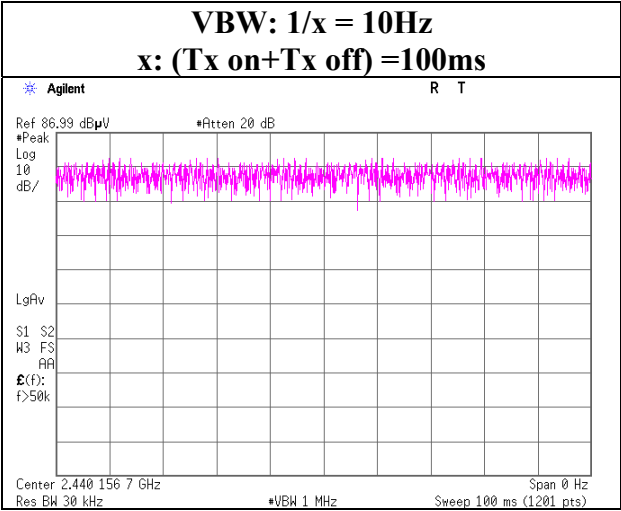
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

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

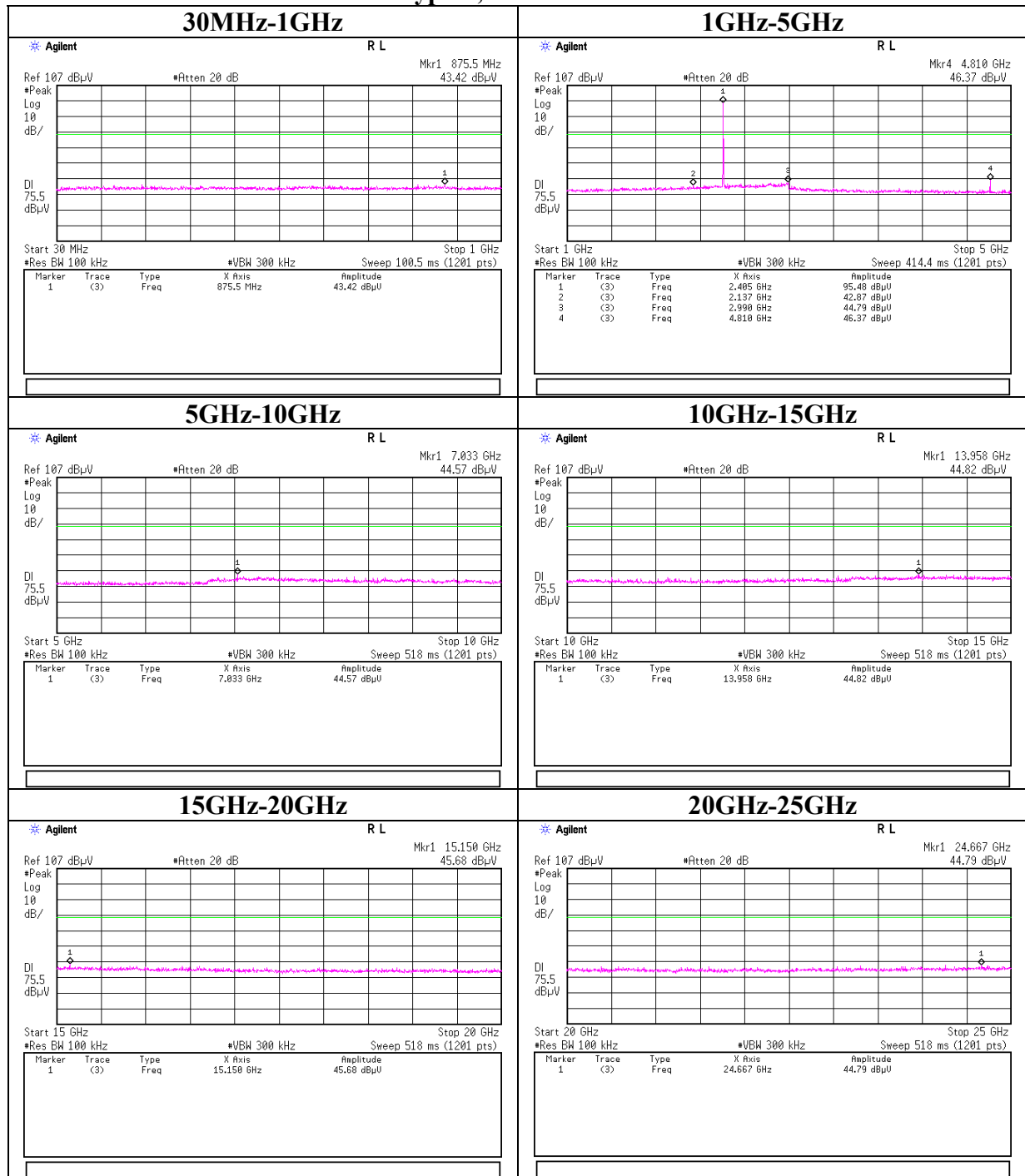
Distance factor:      10GHz-18GHz      20log(3.0m/1.0m)= 9.5dB  
                             18GHz-26.5GHz      20log(3.0m/0.5m)=15.6dB

VBW (AV) Calculation



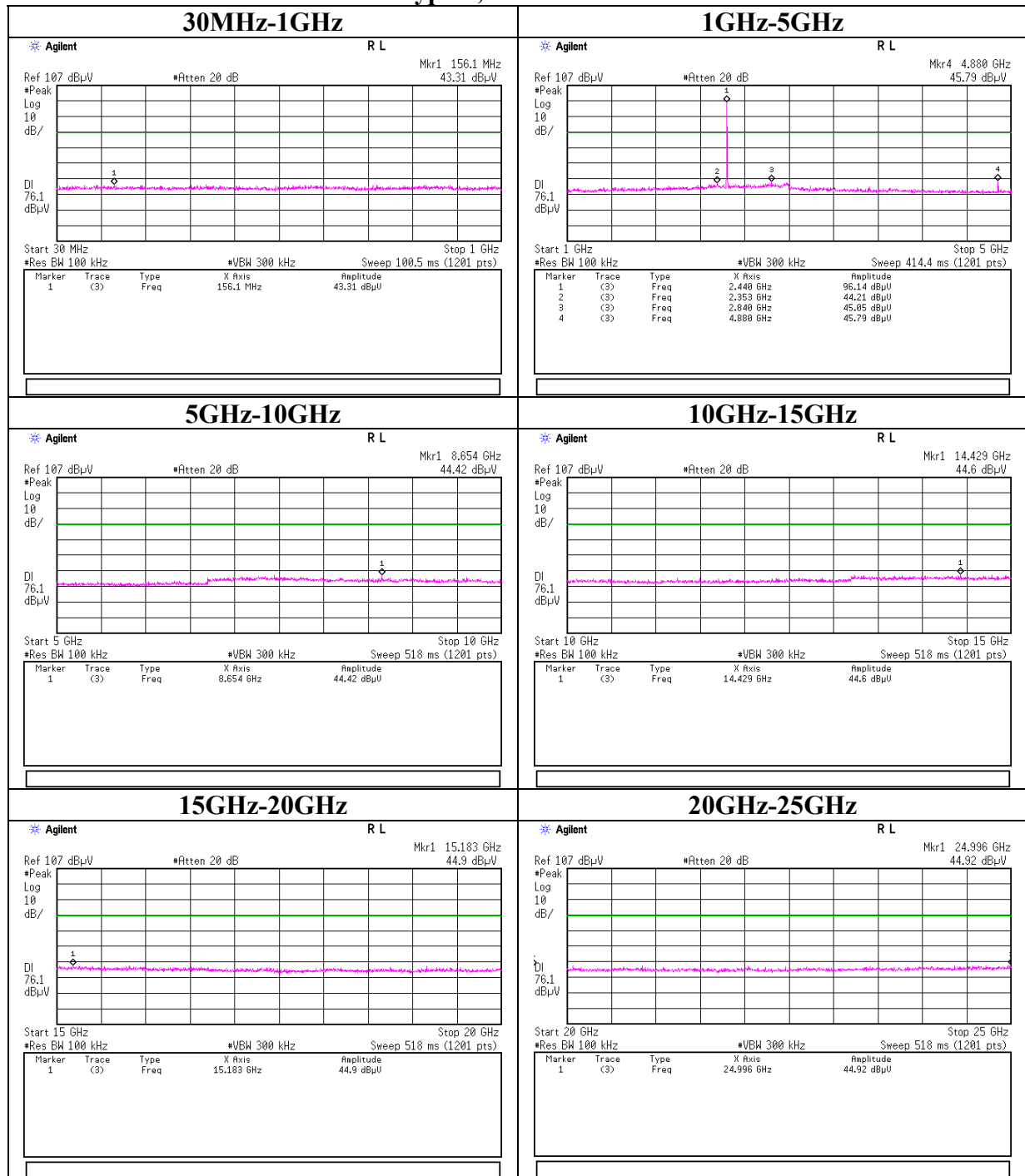
## Conducted Spurious Emission

### Type-2, Tx 2405MHz



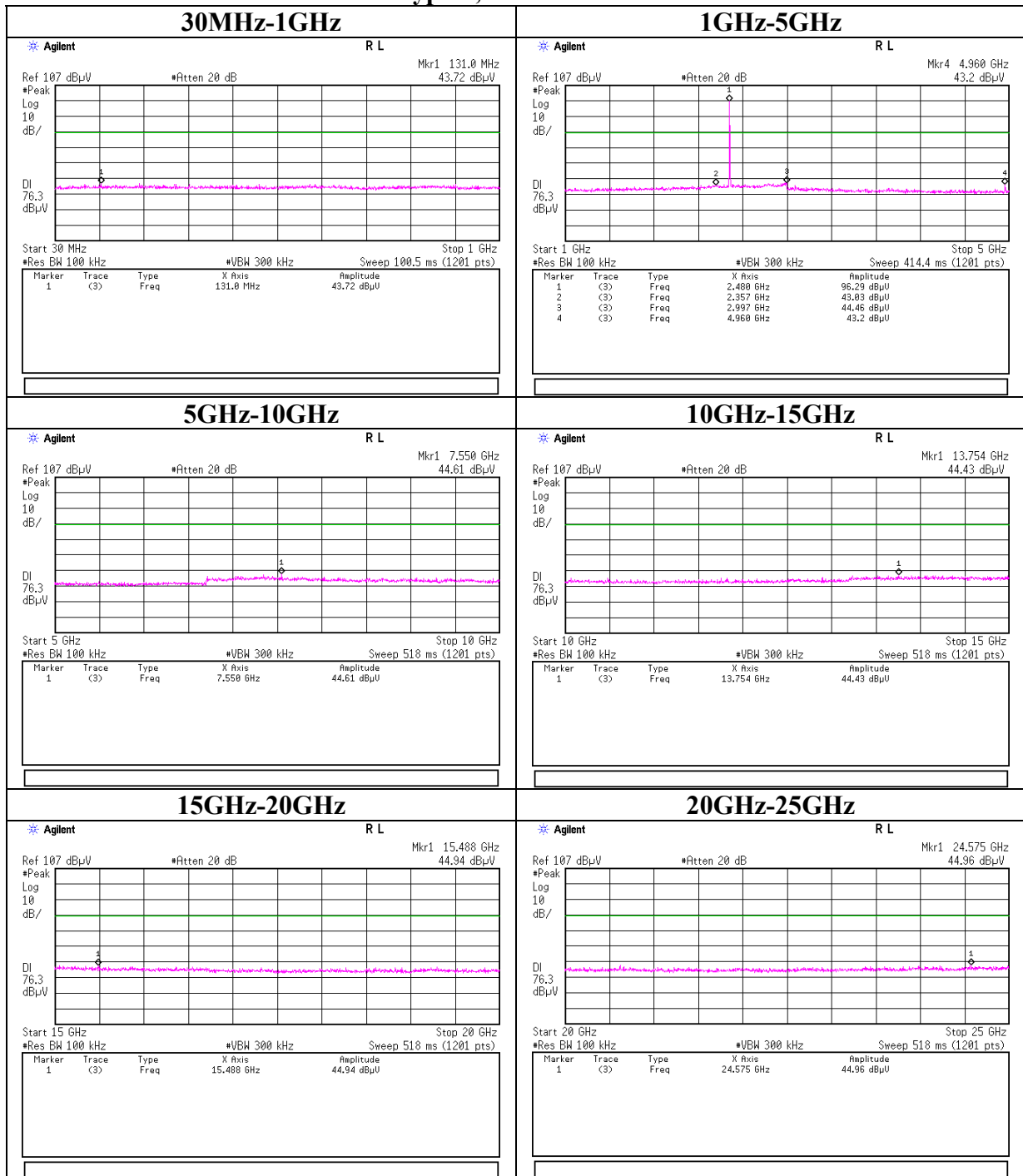
## Conducted Spurious Emission

### Type-2, Tx 2440MHz



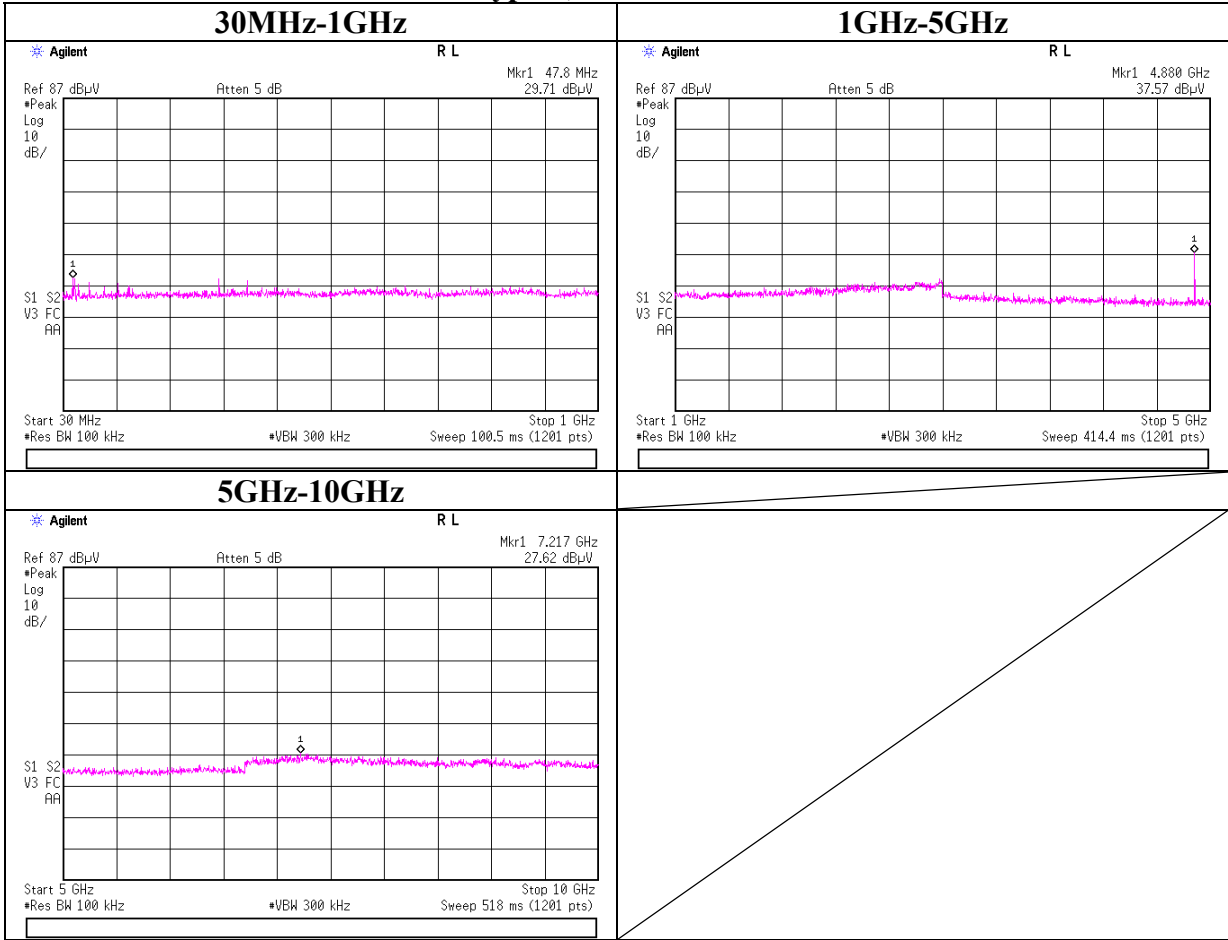
## Conducted Spurious Emission

### Type-2, Tx 2480MHz



Conducted Spurious Emission

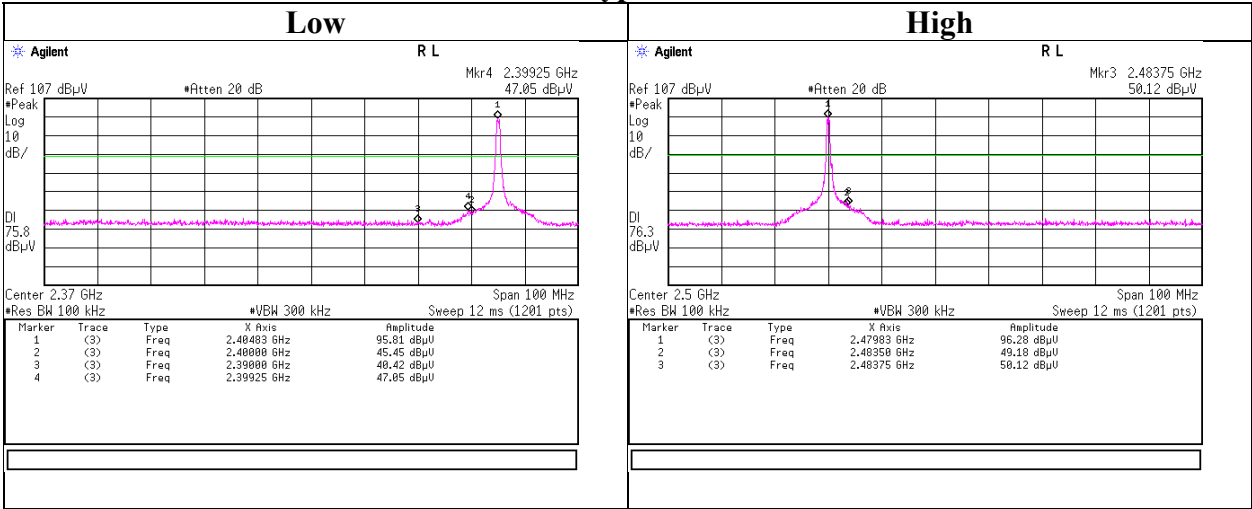
Type-2, Rx 2440MHz





Conducted Emission Band Edge compliance

Type-2



### **Power Density**

Test place                      Head Office EMC Lab. No.3 Measurement Room  
Report No.                    29DE0043-HO  
Date                            11/20/2009  
Temperature/ Humidity      21 deg.C./ 34%  
Engineer                      Kazufumi Nakai  
Mode                            Tx

Type-2

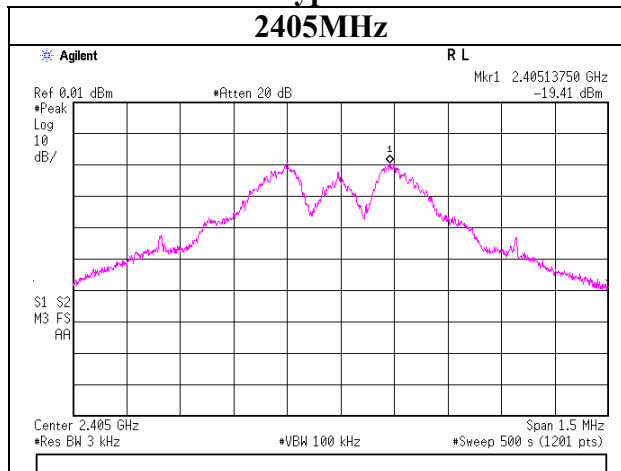
Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2405.14	-19.41	2.12	10.02	-7.27	8.00	15.27
2439.85	-18.94	2.14	10.02	-6.78	8.00	14.78
2479.85	-18.68	2.15	10.02	-6.51	8.00	14.51

Sample Calculation:

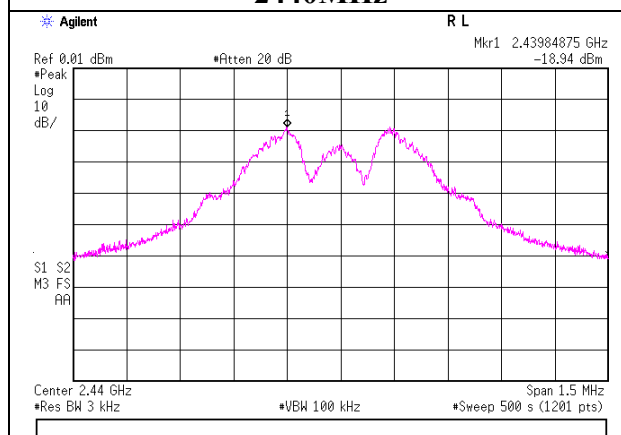
Result = Reading + Cable Loss + Attenuator

## Power Density

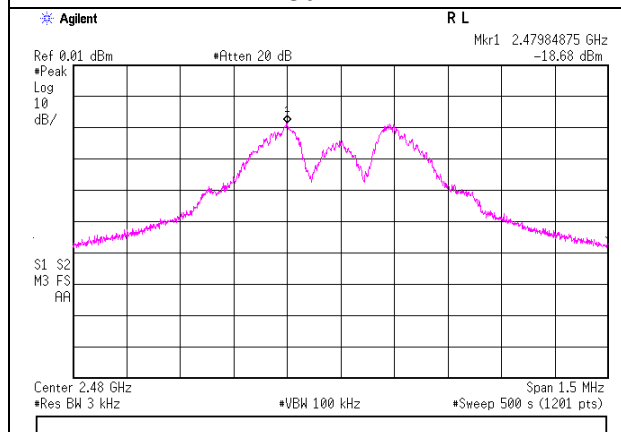
### Type-2 2405MHz



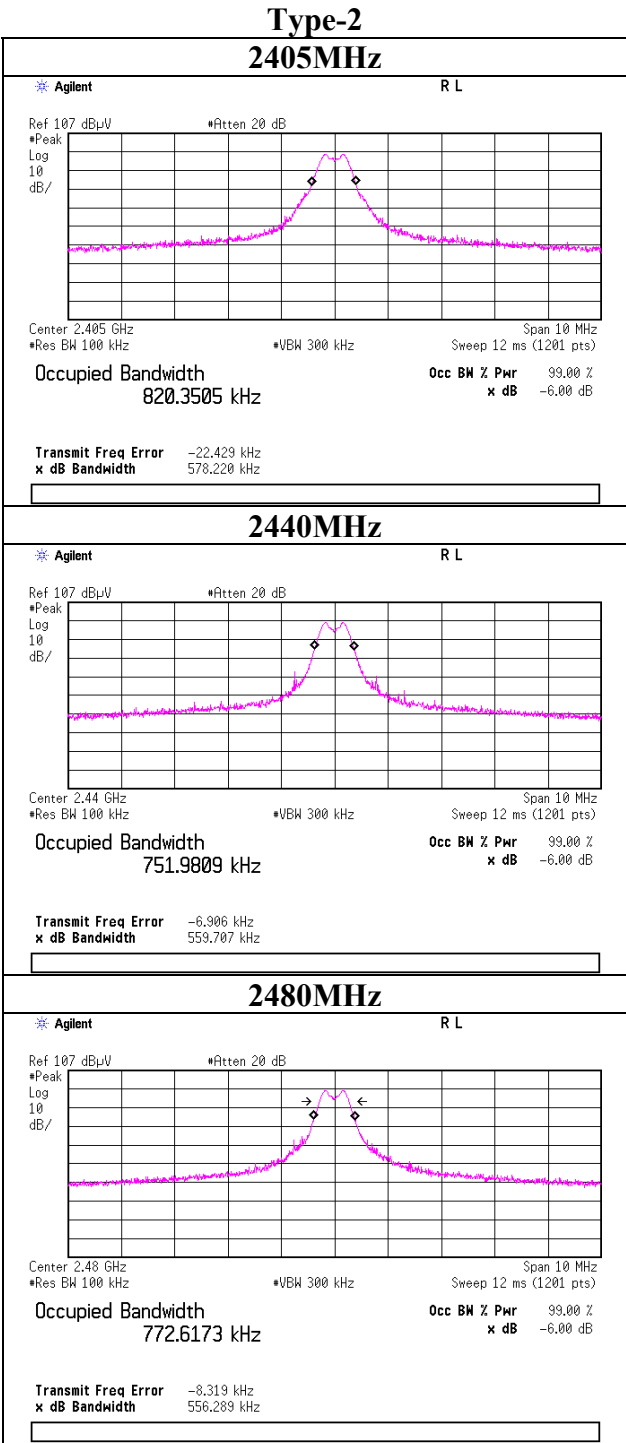
### 2440MHz



### 2480MHz



99%Occupied Bandwidth



### APPENDIX 3: Test instruments

#### EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-02	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-06902	RE/CE	2009/08/17 * 12
MOS-22	Thermo-Hygrometer	Custom	CTH-201	0003	RE/AT/CE	2009/02/05 * 12
MJM-05	Measure	PROMART	SEN1955	-	RE/CE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE/AT/CE	2008/11/07 * 12
MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	RE	2009/01/31 * 12
MCC-47	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	295123(5m) / 287573(1m)	RE	2009/11/19 * 12
MPA-10	Pre Amplifier	Agilent	8449B	3008A02142	RE	2009/09/14 * 12
MHF-18	High Pass Filter 3.5-18.0GHz	TOKIMEC	TF323DCA	7002	RE	2008/12/16 * 12
MCC-77	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	278942/4	RE	2008/12/17 * 12
MAT-23	Attenuator(10dB) DC-18GHz	Orient Microwave	BX10-0476-00	-	AT	2009/03/24 * 12
MCC-67	Microwave Cable 1G-40GHz	Schner	SUCOFLEX102	28635/2	AT	2009/04/24 * 12
MHA-02	Horn Antenna 18-26.5GHz	EMCO	3160-09	1265	RE	2009/01/31 * 12
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	100300	RE/CE	2009/04/14 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032008	RE	2009/10/05 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	201	RE	2009/10/05 * 12
MCC-13	Coaxial Cable	Fujikura	3D-2W(12m)/5D-2W(5m)/5D-2W(0.8m)/5D-2W(1m)	-	CE	2009/02/16 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	-	RE	2009/02/16 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	BK7970	RE	2009/11/12 * 12
MPA-09	Pre Amplifier	Agilent	8447D	2944A10845	RE	2009/09/02 * 12
MOS-12	Thermo-Hygrometer	Custom	CTH-180	-	AT	2009/01/13 * 12
MCC-66	Microwave Cable 1G-40GHz	Schner	SUCOFLEX102	28636/2	AT	2009/04/21 * 12
MCC-37	Microwave Cable	Hirose Electric	U.FL-2LP-066-A-(200)	-	AT	2009/11/18 * 12
MAT-22	Attenuator(10dB) DC-18GHz	Orient Microwave	BX10-0476-00	-	AT	2009/03/24 * 12
MSA-06	Spectrum Analyzer	Agilent	E4407B	MY45107638	AT	2009/04/13 * 12
MPM-12	Power Meter	Anritsu	ML2495A	0825002	AT	2009/08/26 * 12
MPSE-17	Power sensor	Anritsu	MA2411B	0738285	AT	2009/08/26 * 12
MCC-45	Microwave Cable	Murata	MXGS83RK3000	-	AT	2009/07/06 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE (EUT)	2009/02/18 * 12
MLS-02	LISN(AMN)	Schwarzbeck	NSLK8127	8127383	CE(AE)	2009/06/22 * 12
MTA-06	Terminator	MCL	BTRM-50	1 9951	CE	2009/02/17 * 12

The expiration date of the calibration is the end of the expired month.

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

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

Test Item: CE: Conducted Emission

RE: Radiated Emission

AT: Antenna Terminal Conducted test

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