

APPENDIX 2: EMI test data

Frequency Stability

Test place : UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date : 2010/6/18
 Temperature / Humidity : 23deg.C, 53%
 Engineer : Akio Hayashi
 Mode : Transmitting

Test Condition deg.C	Volts	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit [+/- ppm]	Margin [ppm]
20deg.C	0.9V (Vmin)	Power on	608.012622	0.000122	0.20	2.50	2.30
		on 2min.	608.012609	0.000109	0.18	2.50	2.32
		on 5min.	608.012618	0.000118	0.19	2.50	2.31
		on 10min.	608.012632	0.000132	0.22	2.50	2.28
	1.5V (Vnom)	Power on	608.012865	0.000365	0.60	2.50	1.90
		on 2min.	608.012863	0.000363	0.60	2.50	1.90
		on 5min.	608.012860	0.000360	0.59	2.50	1.91
		on 10min.	608.012842	0.000342	0.56	2.50	1.94
	/	Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-
50deg.C.	/	Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-
40deg.C.	1.5V	Power on	608.012297	-0.000203	-0.33	2.50	2.17
		on 2min.	608.012316	-0.000184	-0.30	2.50	2.20
		on 5min.	608.012313	-0.000187	-0.31	2.50	2.19
		on 10min.	608.012283	-0.000217	-0.36	2.50	2.14
30deg.C.	1.5V	Power on	608.012512	0.000012	0.02	2.50	2.48
		on 2min.	608.012525	0.000025	0.04	2.50	2.46
		on 5min.	608.012520	0.000020	0.03	2.50	2.47
		on 10min.	608.012534	0.000034	0.06	2.50	2.44
20deg.C.	1.5V	Power on	608.012865	0.000365	0.60	2.50	1.90
		on 2min.	608.012863	0.000363	0.60	2.50	1.90
		on 5min.	608.012860	0.000360	0.59	2.50	1.91
		on 10min.	608.012842	0.000342	0.56	2.50	1.94
10deg.C.	1.5V	Power on	608.012924	0.000424	0.70	2.50	1.80
		on 2min.	608.012919	0.000419	0.69	2.50	1.81
		on 5min.	608.012927	0.000427	0.70	2.50	1.80
		on 10min.	608.012931	0.000431	0.71	2.50	1.79
0deg.C.	/	Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-
-10deg.C.	/	Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-
-20deg.C	/	Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-

Limit : 608.0125 MHz +/-0.00025 % (+/- 2.5ppm) = +/- 0.001520 MHz

*The test on 50deg.C., 0deg.C., -10deg.C., and -20deg.C. were not apply, since the specification of operating temperature of EUT was 10deg.C to 40deg.C.

Frequency Stability

Test place : UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date : 2010/6/18
 Temperature / Humidity : 23deg.C, 53%
 Engineer : Akio Hayashi
 Mode : Transmitting

Test Condition deg.C	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit [+/- ppm]	Margin [ppm]	
							Volts
20deg.C	0.9V (Vmin)	Power on	611.000158	0.000158	0.26	2.50	2.24
		on 2min.	611.000148	0.000148	0.24	2.50	2.26
		on 5min.	611.000154	0.000154	0.25	2.50	2.25
		on 10min.	611.000172	0.000172	0.28	2.50	2.22
	1.5V (Vnom)	Power on	611.000268	0.000268	0.44	2.50	2.06
		on 2min.	611.000260	0.000260	0.43	2.50	2.07
		on 5min.	611.000259	0.000259	0.42	2.50	2.08
		on 10min.	611.000283	0.000283	0.46	2.50	2.04
		Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-
50deg.C.	Power on	-	-	-	-	-	
	on 2min.	-	-	-	-	-	
	on 5min.	-	-	-	-	-	
	on 10min.	-	-	-	-	-	
40deg.C.	Power on	610.999790	-0.000210	-0.34	2.50	2.16	
	on 2min.	610.999801	-0.000199	-0.33	2.50	2.17	
	on 5min.	610.999803	-0.000197	-0.32	2.50	2.18	
	on 10min.	610.999813	-0.000187	-0.31	2.50	2.19	
30deg.C.	Power on	611.000081	0.000081	0.13	2.50	2.37	
	on 2min.	611.000068	0.000068	0.11	2.50	2.39	
	on 5min.	611.000065	0.000065	0.11	2.50	2.39	
	on 10min.	611.000058	0.000058	0.09	2.50	2.41	
20deg.C.	Power on	611.000268	0.000268	0.44	2.50	2.06	
	on 2min.	611.000260	0.000260	0.43	2.50	2.07	
	on 5min.	611.000259	0.000259	0.42	2.50	2.08	
	on 10min.	611.000283	0.000283	0.46	2.50	2.04	
10deg.C.	Power on	611.000376	0.000376	0.62	2.50	1.88	
	on 2min.	611.000393	0.000393	0.64	2.50	1.86	
	on 5min.	611.000390	0.000390	0.64	2.50	1.86	
	on 10min.	611.000408	0.000408	0.67	2.50	1.83	
0deg.C.	Power on	-	-	-	-	-	
	on 2min.	-	-	-	-	-	
	on 5min.	-	-	-	-	-	
	on 10min.	-	-	-	-	-	
-10deg.C.	Power on	-	-	-	-	-	
	on 2min.	-	-	-	-	-	
	on 5min.	-	-	-	-	-	
	on 10min.	-	-	-	-	-	
-20deg.C	Power on	-	-	-	-	-	
	on 2min.	-	-	-	-	-	
	on 5min.	-	-	-	-	-	
	on 10min.	-	-	-	-	-	

Limit : 611 MHz +/-0.00025 % (+/- 2.5ppm) = +/- 0.001528 MHz

*The test on 50deg.C., 0deg.C., -10deg.C., and -20deg.C. were not apply, since the specification of operating temperature of EUT was 10deg.C to 40deg.C.

Frequency Stability

Test place : UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date : 2010/6/18
 Temperature / Humidity : 23deg.C, 53%
 Engineer : Akio Hayashi
 Mode : Transmitting

Test Condition deg.C	Volts	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit [+/- ppm]	Margin [ppm]
20deg.C	0.9V (Vmin)	Power on	613.987622	0.000122	0.20	2.50	2.30
		on 2min.	613.987610	0.000110	0.18	2.50	2.32
		on 5min.	613.987607	0.000107	0.17	2.50	2.33
		on 10min.	613.987602	0.000102	0.17	2.50	2.33
	1.5V (Vnom)	Power on	613.987805	0.000305	0.50	2.50	2.00
		on 2min.	613.987747	0.000247	0.40	2.50	2.10
		on 5min.	613.987758	0.000258	0.42	2.50	2.08
		on 10min.	613.987808	0.000308	0.50	2.50	2.00
		Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-
50deg.C.		Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-
40deg.C.		Power on	613.987282	-0.000218	-0.36	2.50	2.14
		on 2min.	613.987292	-0.000208	-0.34	2.50	2.16
		on 5min.	613.987312	-0.000188	-0.31	2.50	2.19
		on 10min.	613.987280	-0.000220	-0.36	2.50	2.14
30deg.C.		Power on	613.987590	0.000090	0.15	2.50	2.35
		on 2min.	613.987551	0.000051	0.08	2.50	2.42
		on 5min.	613.987569	0.000069	0.11	2.50	2.39
		on 10min.	613.987565	0.000065	0.11	2.50	2.39
20deg.C.	1.5V	Power on	613.987805	0.000305	0.50	2.50	2.00
		on 2min.	613.987747	0.000247	0.40	2.50	2.10
		on 5min.	613.987758	0.000258	0.42	2.50	2.08
		on 10min.	613.987808	0.000308	0.50	2.50	2.00
10deg.C.		Power on	613.987947	0.000447	0.73	2.50	1.77
		on 2min.	613.987930	0.000430	0.70	2.50	1.80
		on 5min.	613.987941	0.000441	0.72	2.50	1.78
		on 10min.	613.987944	0.000444	0.72	2.50	1.78
0deg.C.		Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-
-10deg.C.		Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-
-20deg.C		Power on	-	-	-	-	-
		on 2min.	-	-	-	-	-
		on 5min.	-	-	-	-	-
		on 10min.	-	-	-	-	-

Limit : 613.9875 MHz +/-0.00025 % (+/- 2.5ppm) = +/- 0.001535 MHz

*The test on 50deg.C., 0deg.C., -10deg.C., and -20deg.C. were not apply, since the specification of operating temperature of EUT was 10deg.C to 40deg.C.

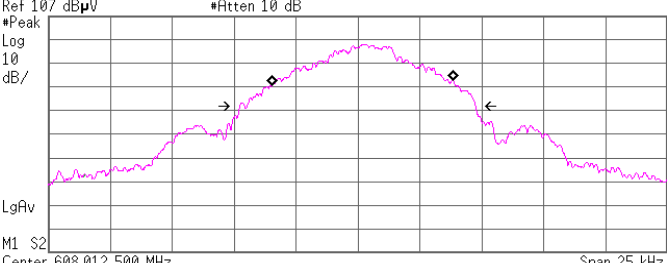
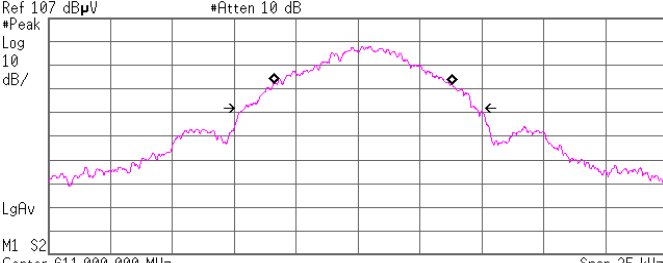
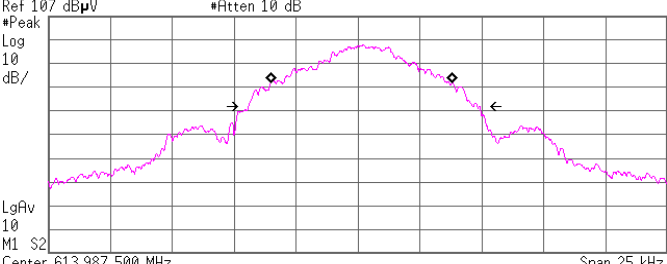
-26dB Bandwidth

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2010/6/16
Temperature / Humidity 22deg.C , 57%
Engineer Akio Hayashi
Mode Transmitting

Freq.	-26dB Bandwidth
[MHz]	[kHz]
608.0125	9.497
611.0000	9.295
613.9875	9.340

No limit applies to -26dB Bandwidth.

-26dB Bandwidth

Transmitting(608.0125MHz)	Transmitting(611.0000MHz)
<p>Agilent R T</p>  <p>Center 608.012 500 MHz #Res BW 300 Hz #VBW 1 kHz Sweep 263.6 ms (1201 pts)</p> <p>Occupied Bandwidth 7.3211 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 193.622 Hz x dB Bandwidth 9.497 kHz</p>	<p>Agilent R T</p>  <p>Center 611.000 000 MHz #Res BW 300 Hz #VBW 1 kHz Sweep 263.6 ms (1201 pts)</p> <p>Occupied Bandwidth 7.2208 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 204.192 Hz x dB Bandwidth 9.295 kHz</p>
<p>Agilent R T</p>  <p>Center 613.987 500 MHz #Res BW 300 Hz #VBW 1 kHz Sweep 263.6 ms (1201 pts)</p> <p>Occupied Bandwidth 7.3229 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 132.039 Hz x dB Bandwidth 9.340 kHz</p>	

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 Shonan EMC Lab.

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Field Strength(Electric Field Strength of Fundamental Emission , Spurious Emission and Band Edge Compliance)

Test plac Frequency Stability UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/6/11
 Temperature / Humidity 21deg.C , 56%
 Engineer Akio Hayashi
 Mode Tx, 608.0125 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	159.995	QP	31.4	15.4	7.6	32.0	22.4	46.0	23.6	208	169	EUT:Y , ANT:X
Hori.	608.000	QP	94.4	19.1	9.7	31.9	91.3	-	-	152	123	BandEdge(Reference) , EUT:Z , ANT:X
Hori.	608.013	QP	95.0	19.1	9.7	31.9	91.9	106.0	14.1	152	123	Carrier , EUT:Z , ANT:X
Hori.	1216.025	AV	52.9	24.3	2.4	40.0	39.6	54.0	14.4	141	160	EUT:X , ANT:Y
Hori.	1821.643	AV	49.3	25.8	2.9	40.3	37.7	54.0	16.3	119	345	EUT:X , ANT:Y
Hori.	2432.050	AV	51.6	27.7	3.3	40.2	42.4	54.0	11.6	115	20	EUT:X , ANT:Y
Hori.	3040.063	AV	61.4	28.5	3.8	40.9	52.8	54.0	1.2	100	150	EUT:X , ANT:Y
Hori.	3648.075	AV	50.5	29.0	4.2	41.1	42.6	54.0	11.5	100	88	EUT:X , ANT:Y
Hori.	4256.088	AV	45.8	29.4	4.5	40.6	39.1	54.0	14.9	100	169	EUT:X , ANT:Y
Hori.	6080.125	AV	33.2	33.3	5.5	39.2	32.8	54.0	21.2	100	0	EUT:X , ANT:Y
Vert.	159.995	QP	23.9	15.4	7.6	32.0	14.9	46.0	31.1	100	0	EUT:X , ANT:X
Vert.	608.000	QP	90.4	19.1	9.7	31.9	87.3	-	-	147	113	BandEdge(Reference) , EUT:Z , ANT:X
Vert.	608.013	QP	90.9	19.1	9.7	31.9	87.8	106.0	18.2	147	113	Carrier , EUT:X , ANT:X
Vert.	1216.025	AV	57.6	24.3	2.4	40.0	44.3	54.0	9.7	144	238	EUT:Y , ANT:X
Vert.	1824.038	AV	50.4	25.9	2.9	40.3	38.9	54.0	15.1	100	29	EUT:Y , ANT:X
Vert.	2432.050	AV	50.8	27.7	3.3	40.2	41.6	54.0	12.4	100	348	EUT:Y , ANT:X
Vert.	3040.063	AV	58.7	28.5	3.8	40.9	50.1	54.0	3.9	100	221	EUT:Y , ANT:X
Vert.	3648.075	AV	45.5	29.0	4.2	41.1	37.6	54.0	16.4	100	21	EUT:Y , ANT:X
Vert.	4256.088	AV	34.8	29.4	4.5	40.6	28.1	54.0	25.9	100	0	EUT:Y , ANT:X
Vert.	6080.125	AV	33.4	33.3	5.5	39.2	33.0	54.0	21.0	100	0	EUT:Y , ANT:X

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).

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

* Some frequencies detected spurious emission by conducted measurement on the antenna terminal, but the spurious emission of the frequencies were not detected by radiated emission measurement. Therefore, it did not display in the table as data. (ex. 607.5MHz, 608.5MHz)

Marker Delta Method(Test distance 3meters)

	Polarity	Hor.		Ver.		
		[dBuV]	[dBuV/m]	[dBuV]	[dBuV/m]	
	RBW	VBW	Reading	Result	Reading	Result
Step1	Fundamental(608.0125MHz)	QP	95.0	91.9	90.9	87.8
	Fundamental(608.0125MHz)	1k/3k	94.3	91.2	90.6	87.5
Step2	Band-edge(608MHz)	1k/3k	40.6	37.5	38.4	35.3
	Amplitude delta	-	-	53.7	-	52.2
Step3	Field strength of band-edge	-	-	38.2	-	35.6
	Limit	-	-	46.0	-	46.0
	Margin	-	-	7.8	-	10.5

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

*1 Amplitude delta = Fundamental(RBW:1kHz,VBW:3kHz) - Band-edge(RBW:1kHz,VBW:3kHz)

*2 Field strength of band-edge = Fundamental(QP) - Amplitude delta

**Field Strength(Electric Field Strength of Fundamental Emission ,
 Spurious Emission and Band Edge Compliance)**

Test plac Frequency Stability UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/6/11
 Temperature / Humidity 21deg.C. , 56%
 Engineer Akio Hayashi
 Mode Tx, 611.0000 MHz

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.	160.401	QP	31.3	15.4	7.6	32.0	22.3	46.0	23.7	191	180	EUT:Y , ANT:X
Hori.	611.000	QP	96.8	19.1	9.7	31.9	93.7	106.0	12.3	142	60	Carrier , EUT:Z , ANT:X
Hori.	1222.000	AV	57.8	24.3	2.4	40.0	44.5	53.9	9.5	131	269	EUT:X , ANT:Y
Hori.	1833.000	AV	50.3	25.9	2.9	40.3	38.8	53.9	15.2	122	158	EUT:X , ANT:Y
Hori.	2444.000	AV	52.5	27.8	3.3	40.2	43.4	53.9	10.6	119	147	EUT:X , ANT:Y
Hori.	3055.000	AV	60.8	28.6	3.8	40.9	52.3	53.9	1.7	118	164	EUT:X , ANT:Y
Hori.	3666.000	AV	49.4	29.0	4.2	41.1	41.5	53.9	12.5	113	87	EUT:X , ANT:Y
Hori.	4277.000	AV	45.4	29.4	4.5	40.5	38.8	53.9	15.2	100	165	EUT:X , ANT:Y
Hori.	6110.000	AV	32.9	33.4	5.5	39.2	32.6	53.9	21.4	100	0	EUT:X , ANT:Y
Vert.	160.401	QP	24.1	15.4	7.6	32.0	15.1	46.0	30.9	100	0	EUT:X , ANT:X
Vert.	611.000	QP	92.4	19.1	9.7	31.9	89.3	106.0	16.7	151	106	Carrier , EUT:X , ANT:X
Vert.	1222.000	AV	57.1	24.3	2.4	40.0	43.8	53.9	10.2	100	200	EUT:Y , ANT:X
Vert.	1833.000	AV	50.6	25.9	2.9	40.3	39.1	53.9	14.9	100	359	EUT:Y , ANT:X
Vert.	2444.000	AV	51.2	27.8	3.3	40.2	42.1	53.9	11.9	100	351	EUT:Y , ANT:X
Vert.	3055.000	AV	58.4	28.6	3.8	40.9	49.9	53.9	4.1	100	198	EUT:Y , ANT:X
Vert.	3666.000	AV	46.3	29.0	4.2	41.1	38.4	53.9	15.6	100	16	EUT:Y , ANT:X
Vert.	4277.000	AV	34.3	29.4	4.5	40.5	27.7	53.9	26.3	100	0	EUT:Y , ANT:X
Vert.	6110.000	AV	34.2	33.4	5.5	39.2	33.9	53.9	20.1	100	0	EUT:Y , ANT:X

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).

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

* Some frequencies detected spurious emission by conducted measurement on the antenna terminal, but the spurious emission of the frequencies were not detected by radiated emission measurement. Therefore, it did not display in the table as data. (ex. 610.5MHz, 611.5MHz)

Field Strength(Electric Field Strength of Fundamental Emission , Spurious Emission and Band Edge Compliance)

Test plac Frequency Stability UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/6/11
 Temperature / Humidity 21deg.C , 56%
 Engineer Akio Hayashi
 Mode Tx, 613.9875 MHz

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.	162.025	QP	32.3	15.5	7.6	32.0	23.4	46.0	22.6	200	171	EUT:Y , ANT:X
Hori.	613.988	QP	95.1	19.2	9.7	31.9	92.1	106.0	13.9	146	121	Carrier , EUT:Z , ANT:X
Hori.	614.000	QP	95.0	19.2	9.7	31.9	92.0	-	-	146	121	BandEdge(Reference) , EUT:Z , ANT:X
Hori.	1227.975	AV	58.0	24.3	2.4	40.0	44.7	53.9	9.3	130	299	EUT:X , ANT:Y
Hori.	1841.963	AV	49.9	25.9	2.9	40.3	38.4	53.9	15.6	122	163	EUT:X , ANT:Y
Hori.	2455.950	AV	53.3	27.8	3.4	40.2	44.3	53.9	9.7	117	159	EUT:X , ANT:Y
Hori.	3069.938	AV	61.3	28.6	3.8	41.0	52.7	53.9	1.3	117	158	EUT:X , ANT:Y
Hori.	3683.925	AV	48.3	29.0	4.2	41.1	40.4	53.9	13.6	112	85	EUT:X , ANT:Y
Hori.	4297.913	AV	42.0	29.5	4.6	40.5	35.6	53.9	18.4	112	325	EUT:X , ANT:Y
Hori.	6139.875	AV	33.6	33.4	5.5	39.1	33.4	53.9	20.7	100	0	EUT:X , ANT:Y
Vert.	162.025	QP	24.2	15.5	7.6	32.0	15.3	46.0	30.7	100	0	EUT:X , ANT:X
Vert.	613.988	QP	93.7	19.2	9.7	31.9	90.7	106.0	15.4	154	99	Carrier , EUT:X , ANT:X
Vert.	614.000	QP	93.6	19.2	9.7	31.9	90.6	-	-	154	99	BandEdge(Reference) , EUT:Z , ANT:X
Vert.	1227.975	AV	59.1	24.3	2.4	40.0	45.8	53.9	8.2	138	239	EUT:Y , ANT:X
Vert.	1841.963	AV	50.2	25.9	2.9	40.3	38.7	53.9	15.3	100	24	EUT:Y , ANT:X
Vert.	2455.950	AV	52.5	27.8	3.4	40.2	43.5	53.9	10.5	100	354	EUT:Y , ANT:X
Vert.	3069.938	AV	60.5	28.6	3.8	41.0	51.9	53.9	2.1	100	199	EUT:Y , ANT:X
Vert.	3683.925	AV	45.5	29.0	4.2	41.1	37.6	53.9	16.4	100	23	EUT:Y , ANT:X
Vert.	4297.913	AV	35.0	29.5	4.6	40.5	28.6	53.9	25.4	100	0	EUT:Y , ANT:X
Vert.	6139.875	AV	34.2	33.4	5.5	39.1	34.0	53.9	20.0	100	0	EUT:Y , ANT:X

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).

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

* Some frequencies detected spurious emission by conducted measurement on the antenna terminal, but the spurious emission of the frequencies were not detected by radiated emission measurement. Therefore, it did not display in the table as data. (ex. 613.5MHz, 614.5MHz)

Marker Delta Method(Test distance 3meters)

	Polarity	Hor.		Ver.		
		[dBuV]	[dBuV/m]	[dBuV]	[dBuV/m]	
	RBW VBW	Reading	Result	Reading	Result	
Step1	Fundamental(613.9875MHz)	QP	95.1	92.1	93.7	90.7
Step2	Fundamental(613.9875MHz)	1k/3k	94.5	91.5	93.3	90.3
	Band-edge(614MHz)	1k/3k	45.3	42.3	42.6	39.6
	Amplitude delta	-	-	49.2	-	50.7
Step3	Field strength of band-edge	-	-	42.9	-	40.0
	Limit	-	-	46.0	-	46.0
	Margin	-	-	3.1	-	6.0

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

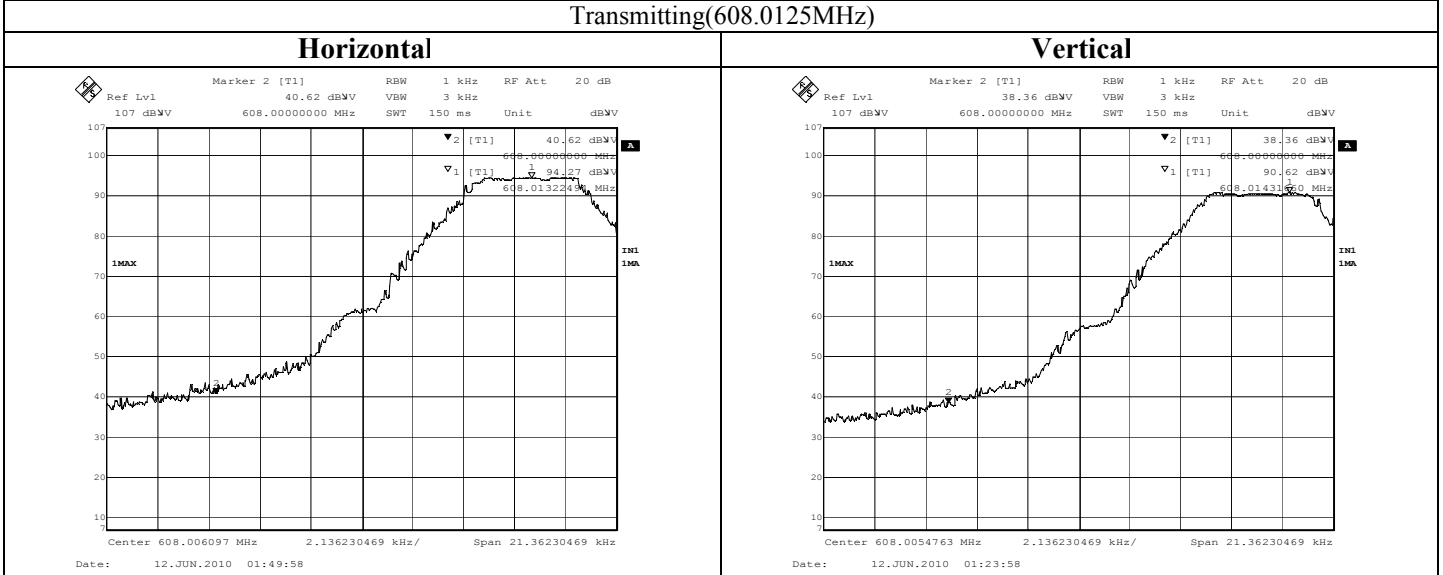
*1 Amplitude delta = Fundamental(RBW:1kHz,VBW:3kHz) - Band-edge(RBW:1kHz,VBW:3kHz)

*2 Field strength of band-edge = Fundamental(QP) - Amplitude delta

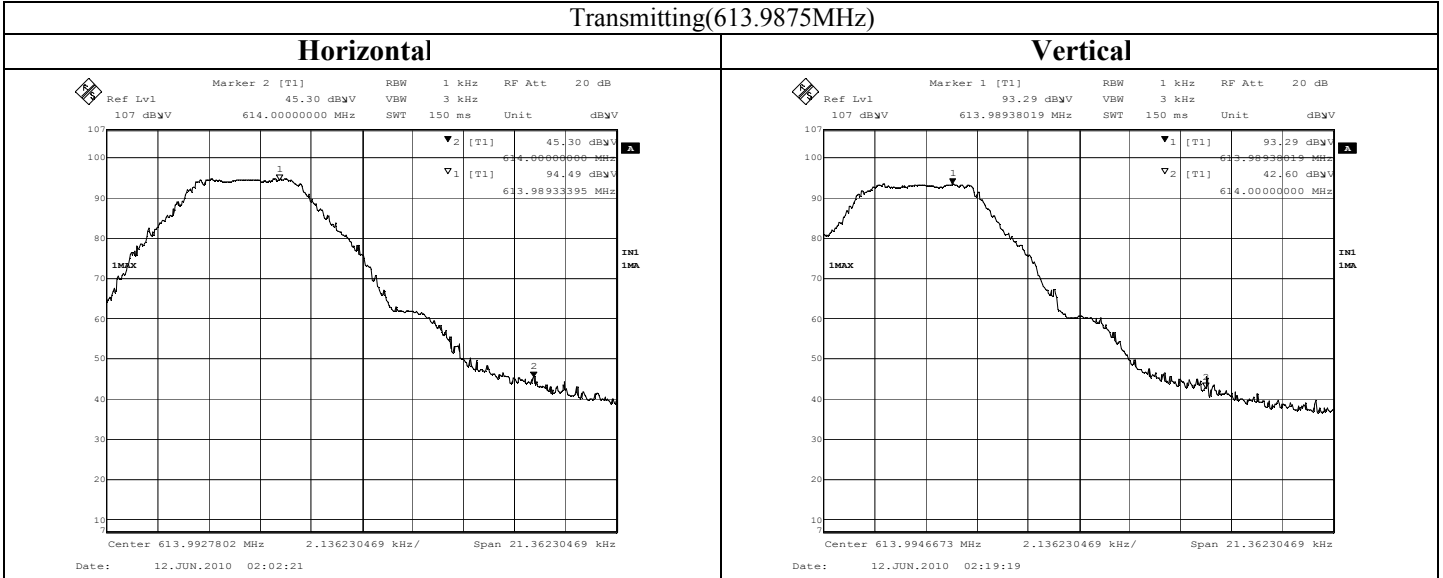
**Field Strength(Electric Field Strength of Fundamental Emission ,
 Spurious Emission and Band Edge Compliance)**

Band Edge compliance(for Marker Delta Method)

Transmitting(608.0125MHz)



Transmitting(613.9875MHz)

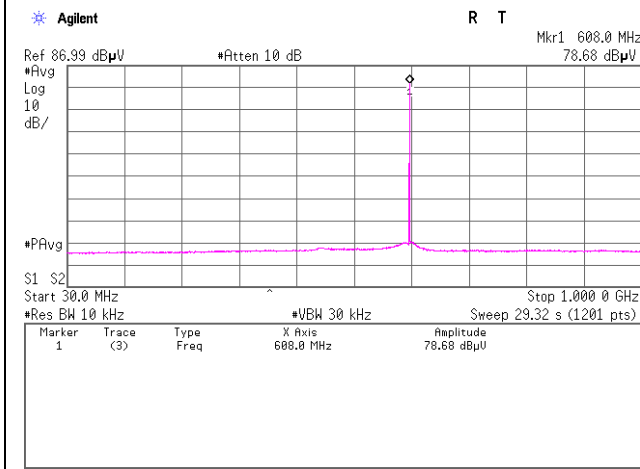


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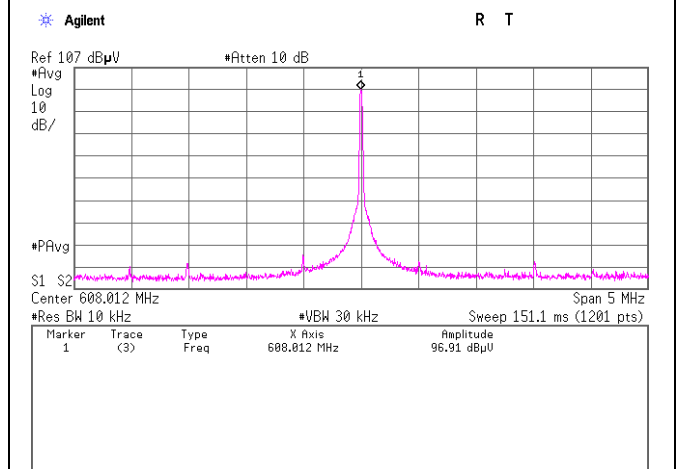
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
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Spurious emissions at antenna terminals
 Transmitting(608.0125MHz)

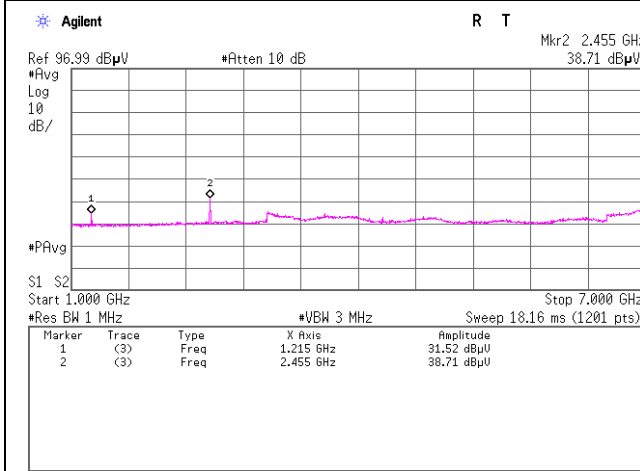
30MHz - 1GHz(1/2)



30MHz-1GHz(2/2)



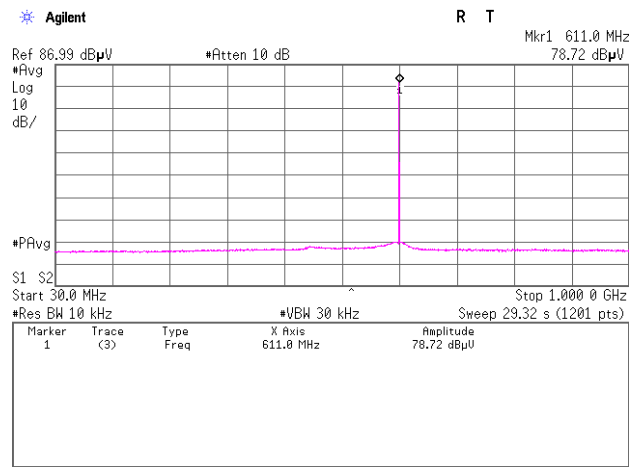
1GHz - 7GHz



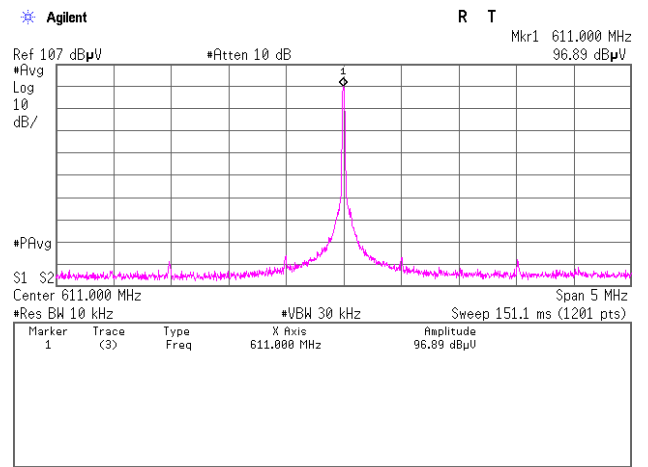
* Some frequencies detected spurious emission by conducted measurement on the antenna terminal, but the spurious emission of the frequencies were not detected by radiated emission measurement. Therefore, it did not display in the table as data. (ex. 607.5MHz, 608.5MHz)

Spurious emissions at antenna terminals
 Transmitting(611.0000MHz)

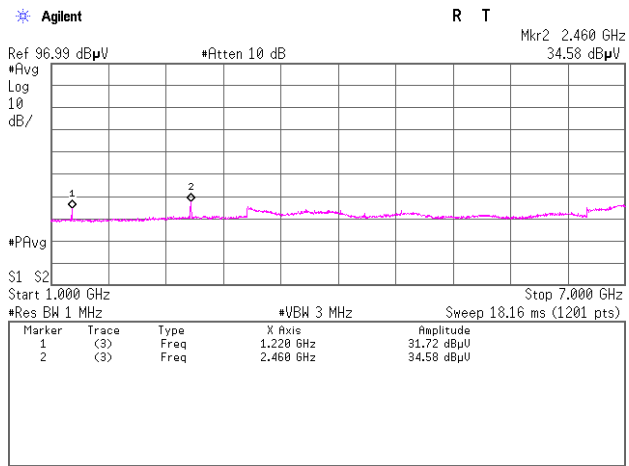
30MHz - 1GHz(1/2)



30MHz-1GHz(2/2)



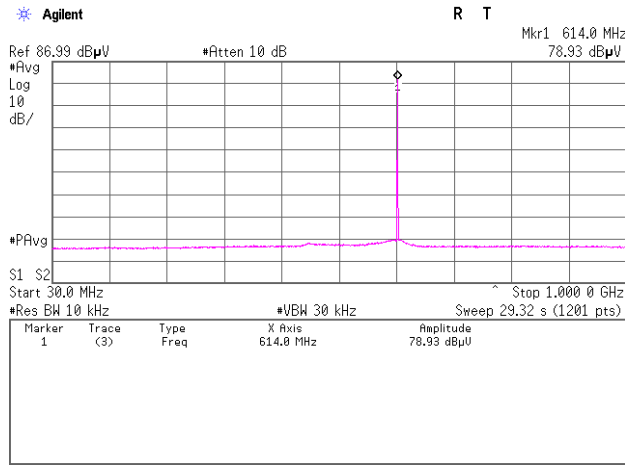
1GHz - 7GHz



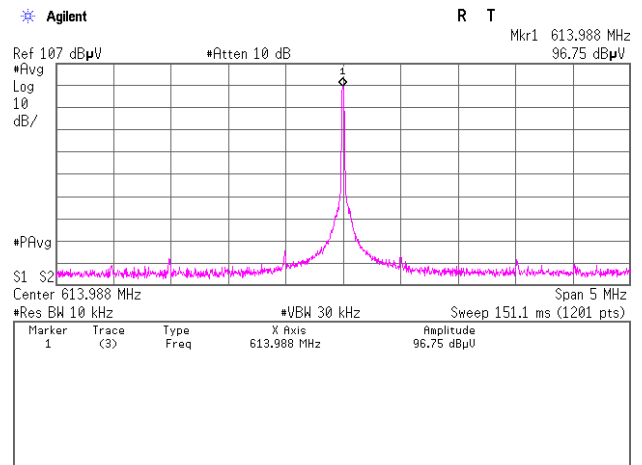
* Some frequencies detected spurious emission by conducted measurement on the antenna terminal, but the spurious emission of the frequencies were not detected by radiated emission measurement. Therefore, it did not display in the table as data. (ex. 610.5MHz, 611.5MHz)

Spurious emissions at antenna terminals
 Transmitting(613.9875MHz)

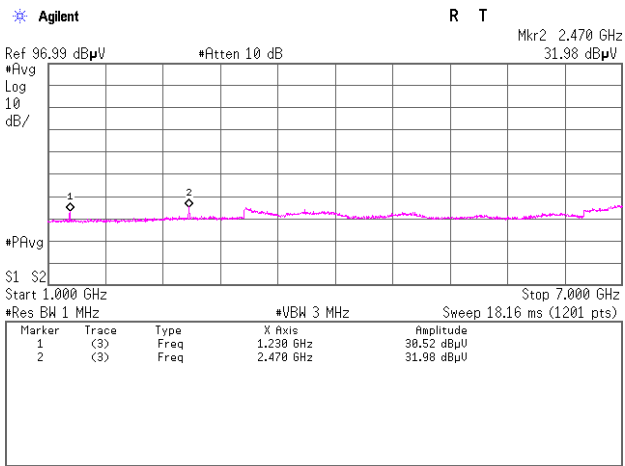
30MHz - 1GHz(1/2)



30MHz-1GHz(2/2)

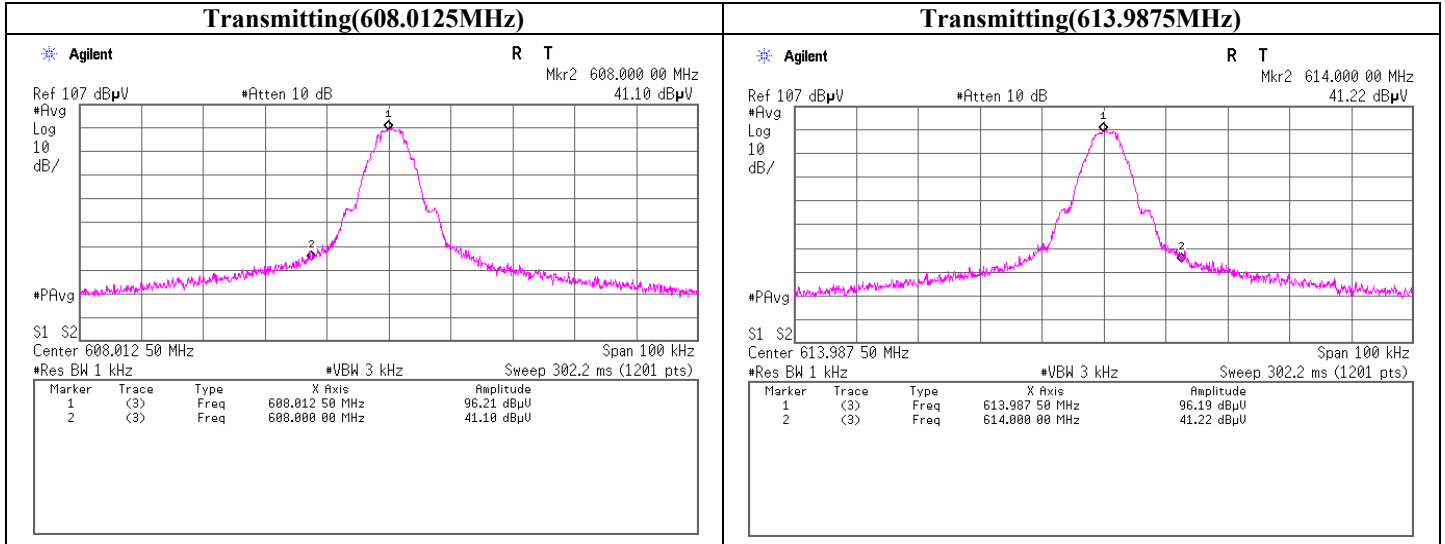


1GHz - 7GHz



* Some frequencies detected spurious emission by conducted measurement on the antenna terminal, but the spurious emission of the frequencies were not detected by radiated emission measurement. Therefore, it did not display in the table as data. (ex. 613.5MHz, 614.5MHz)

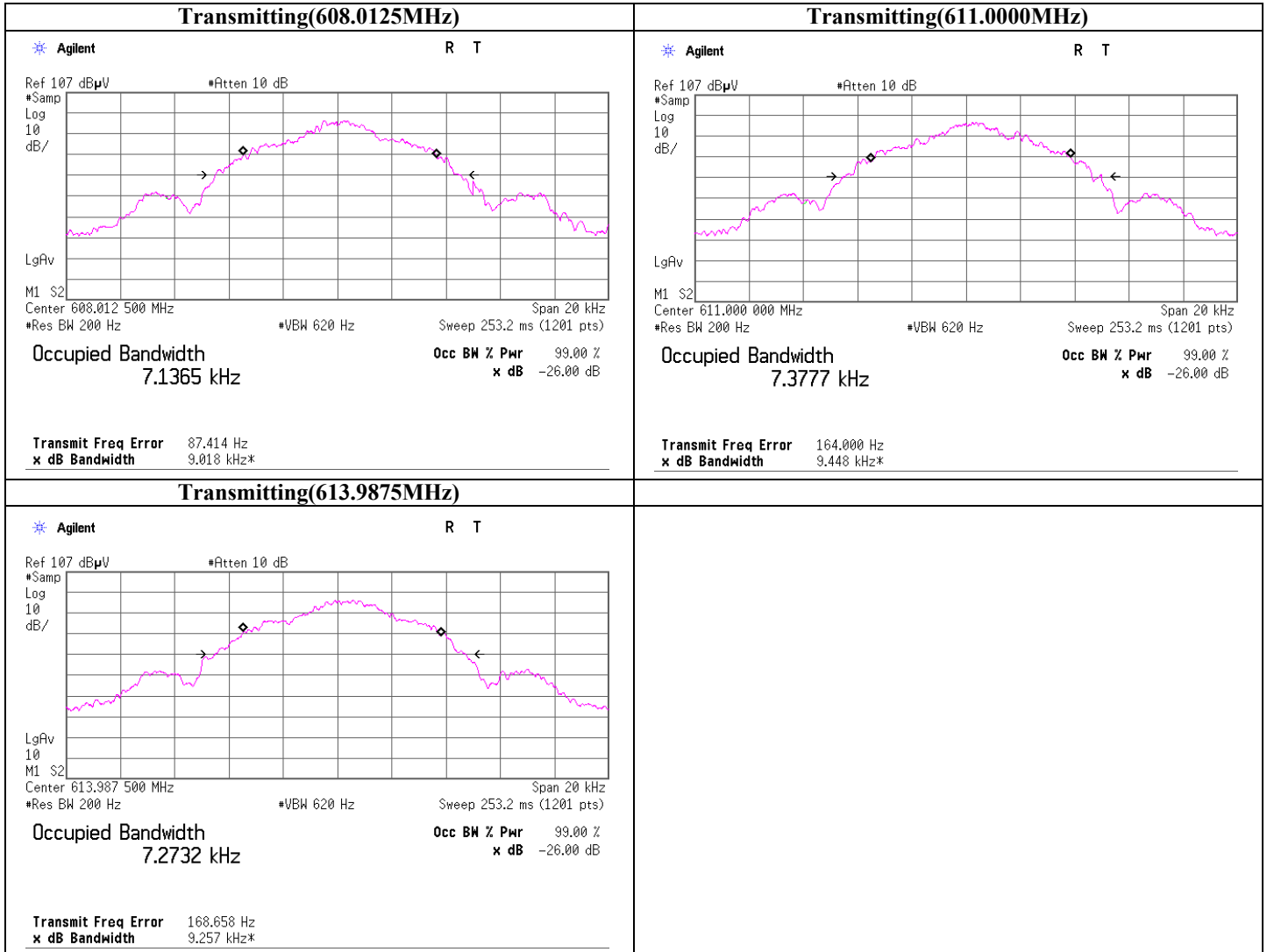
Spurious emissions at antenna terminals
 Band Edge compliance



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99% Occupied Bandwidth



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Test Report No :30JE0026-YK-01

APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
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-A0901	RE	2010/03/22 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2010/02/09 * 12
STR-03	Test Receiver	Rohde & Schwarz	ESI40	100054/040	RE	2010/04/12 * 24
SJM-07	Measure	PROMART	SEN1935	-	RE	-
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2009/09/18 * 12
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV	-	RE	-
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2010/03/09 * 12
SCC-G03	Coaxial Cable	Suhner	SUCOFLEX 104A	46499/4A	RE	2010/04/16 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2010/05/27 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2009/08/23 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT	2010/02/17 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT	2009/06/09 * 12
SAT10-08	Attenuator	Weinschel	W54-10	-	AT	2010/03/05 * 12
SCC-G12	Coaxial Cable	Suhner	SUCOFLEX 102	30790/2	AT	2010/03/09 * 12
SFC-01	Microwave Counter	Agilent	53151A	US40511493	AT	2010/02/18 * 12
SCH-01	Temperature and Humidity Chamber	Espec	PL-1KT	14020837	AT	2010/04/24 * 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