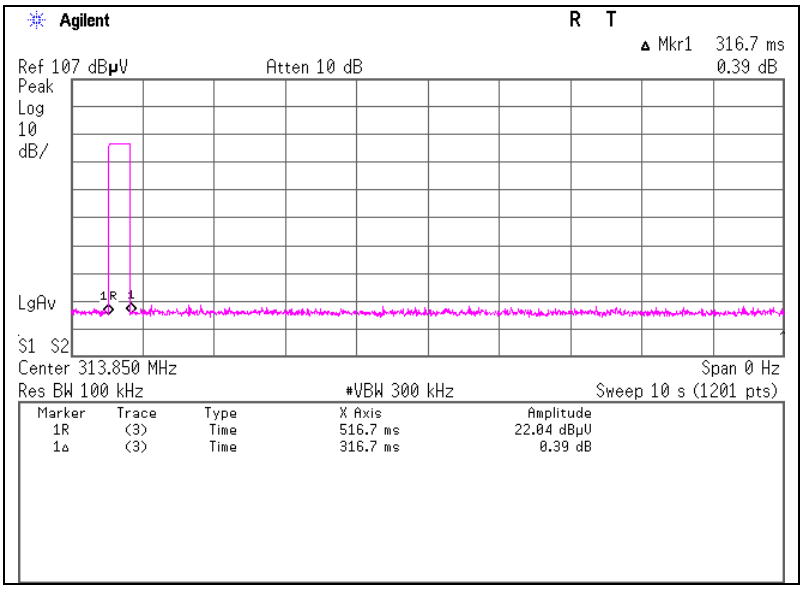
APPENDIX 2: Data of EMI test

Automatically deactivate

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	31CE0028-HO
Date	10/14/2010
Temperature/ Humidity	23 deg.C./ 52%
Engineer	Motoya Imura
Mode	Normal use mode

Time of Transmitting [sec]	Limit [sec]	Result
0.32	5.00	Pass



Radiated Emission (Electric Field Strength of Fundamental and Spurious Emission)

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	31CE0028-HO-01
Date	10/14/2010
Temperature/ Humidity	23 deg.C./ 52%
Engineer	Motoya Imura
Mode	Transmitting mode

PK

Frequency	Detector	Reading [dBuV]		Ant Factor	Loss	Gain	Duty Factor	Result [dBuV/m]		Limit	Margin [dB]		Remark Inside or Outside
[MHz]		Hor	Ver	[dB/m]	[dB]	[dB]	[dB]	Hor	Ver	[dBuV/m]	Hor	Ver	of Restricted Bands
313.850	PK	82.2	78.5	16.2	9.8	31.9	-	76.3	72.6	95.5	19.2	22.9	Carrier
627.700	PK	44.4	45.3	20.6	11.6	32.1	-	44.5	45.4	75.5	31.0	30.1	Outside
941.550	PK	37.4	39.3	25.1	13.1	31.2	-	44.4	46.3	75.5	31.1	29.2	Outside
1255.357	PK	58.4	60.4	24.9	2.2	33.9	-	51.6	53.6	75.5	23.9	21.9	Outside
1569.290	PK	49.8	46.3	26.0	2.5	33.2	-	45.1	41.6	73.9	28.8	32.3	Inside
1882.960	PK	48.4	49.2	26.9	2.6	32.5	-	45.4	46.2	75.5	30.1	29.3	Outside
2196.908	PK	50.4	51.6	27.2	2.8	32.2	-	48.2	49.4	75.5	27.3	26.1	Outside
2510.758	PK	60.7	57.0	27.2	3.0	32.1	-	58.8	55.1	75.5	16.7	20.4	Outside
2824.608	PK	58.7	59.8	27.7	3.2	31.9	-	57.7	58.8	73.9	16.2	15.1	Inside
3138.500	PK	52.7	53.2	28.4	3.3	31.8	-	52.6	53.1	75.5	22.9	22.4	Outside

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

PK with Duty factor

Frequency	Detector	Reading [dBuV]		Ant Factor	Loss	Gain	Duty Factor	Result [dBuV/m]		Limit	Margin [dB]		Remark
[MHz]		Hor	Ver	[dB/m]	[dB]	[dB]	[dB]	Hor	Ver	[dBuV/m]	Hor	Ver	
313.850	PK	82.2	78.5	16.2	9.8	31.9	-6.0	70.3	66.6	75.5	5.2	8.9	Carrier
627.700	PK	44.4	45.3	20.6	11.6	32.1	-6.0	38.5	39.4	55.5	17.0	16.1	Outside
941.550	PK	37.4	39.3	25.1	13.1	31.2	-6.0	38.4	40.3	55.5	17.1	15.2	Outside
1255.357	PK	58.4	60.4	24.9	2.2	33.9	-6.0	45.6	47.6	55.5	9.9	7.9	Outside
1569.290	PK	49.8	46.3	26.0	2.5	33.2	-6.0	39.1	35.6	53.9	14.8	18.3	Inside
1882.960	PK	48.4	49.2	26.9	2.6	32.5	-6.0	39.4	40.2	55.5	16.1	15.3	Outside
2196.908	PK	50.4	51.6	27.2	2.8	32.2	-6.0	42.2	43.4	55.5	13.3	12.1	Outside
2510.758	PK	60.7	57.0	27.2	3.0	32.1	-6.0	52.8	49.1	55.5	2.7	6.4	Outside
2824.608	PK	58.7	59.8	27.7	3.2	31.9	-6.0	51.7	52.8	53.9	2.2	1.1	Inside
3138.500	PK	52.7	53.2	28.4	3.3	31.8	-6.0	46.6	47.1	55.5	8.9	8.4	Outside

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amprifier) + Duty factor (Refer to Duty factor data sheet)

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

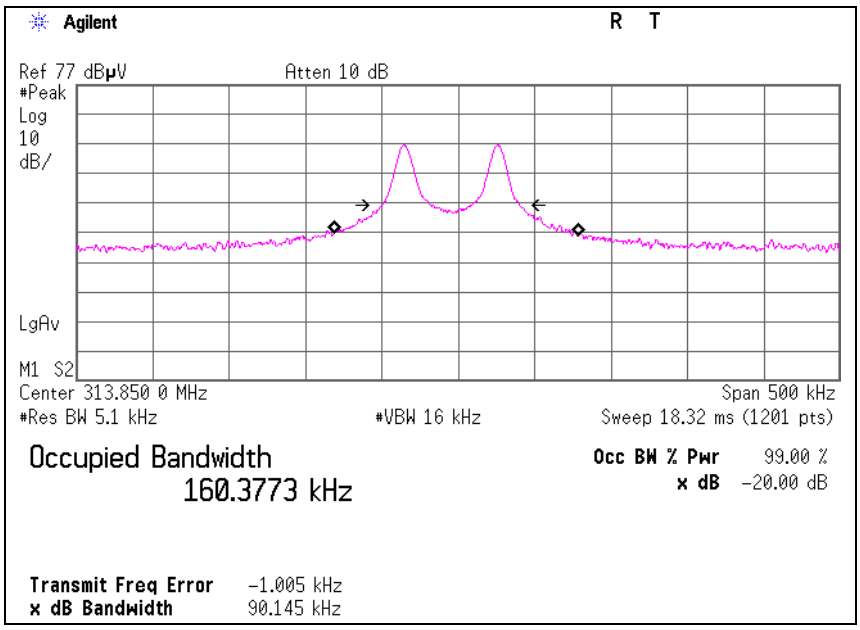
-20dB and 99% Occupied Bandwidth

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	31CE0028-HO-01
Date	11/25/2010
Temperature/ Humidity	24 deg.C./ 35%
Engineer	Motoya Imura
Mode	Transmitting mode

Bandwidth Limit : Fundamental Frequency **313.85** MHz x 0.25% = 784.63 kHz

-20dB Bandwidth [kHz]	Bandwidth Limit [kHz]	Result
90.15	784.63	Pass

99% Occupied Bandwidth [kHz]	Bandwidth Limit [kHz]	Result
160.38	784.63	Pass



Duty Cycle

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	31CE0028-HO-01
Date	10/14/2010
Temperature/ Humidity	23 deg.C./ 52%
Engineer	Motoya Imura
Mode	Transmitting mode

Type	Times	ON time(One pulse) [ms]	ON time(in 100ms) [ms]
A	62	0.811	50.257

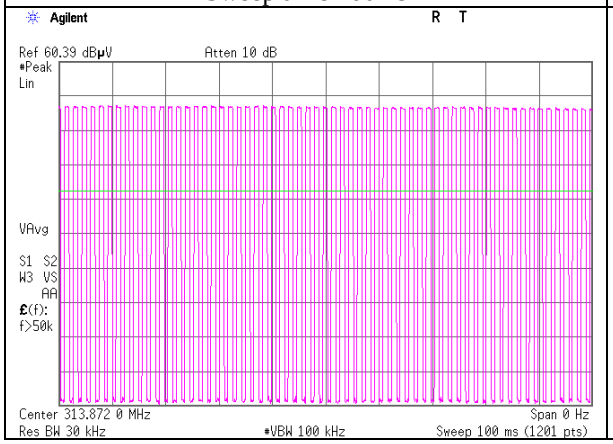
*1)ON time(in 100ms) = Times * ON time(One pulse)
*2)The train of pulses was exceeding 100msec, and that sampled 100msec was the worst case against the puls

(Total)

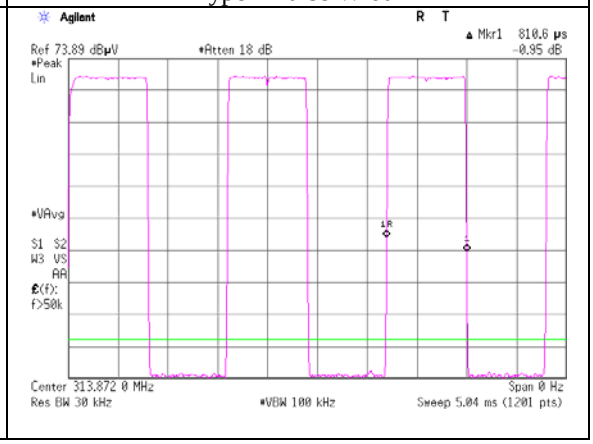
ON time [ms]	Cycle [ms]	Duty (On time/Cycle)	Duty [dB]
50.26	100.00	0.50	-6.0

*3)ON time = Type A's ON time (in 100ms)
*4)Duty = 20log10(ON time/Cycle)

Sweep time 100ms



TypeA Pulse Width



ALL Pulses are TypeA.
TypeA's are 62pulses in 100mS

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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)
MAEC-04	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2010/02/02 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE	2010/02/09 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE	2009/11/20 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	RE	2009/10/23 * 12 *1)
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2010/03/22 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2010/01/23 * 12
MCC-50	Coaxial cable	UL Japan	-	-	RE	2010/03/18 * 12
MAT-51	Attenuator(6dB)	Weinschel	2	AS3557	RE	2010/01/20 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	RE	2010/03/05 * 12
MSA-05	Spectrum Analyzer	Advantest	R3273	160400285	RE	2009/12/15 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2010/08/08 * 12
MCC-57	Microwave Cable	Suhner	SUCOFLEX104	246769(1m) / 292411(5m)	RE	2009/11/17 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	RE	2010/03/16 * 12

***1) This test equipment was used for the tests before the expiration date of the calibration.**

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:
RE: Radiated emission, 99% Occupied Bandwidth, -20dB bandwidth , Automatically deactivate and Duty cycle tests