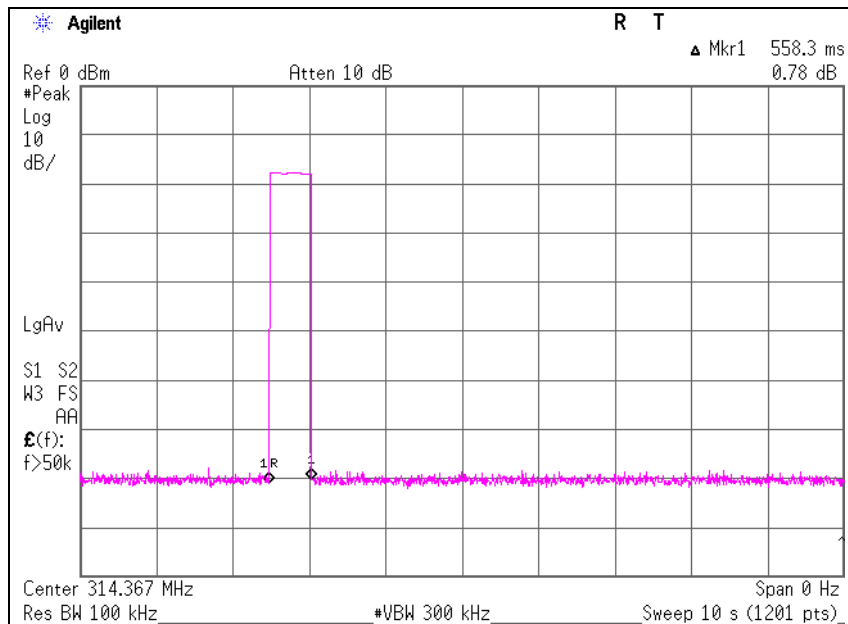


APPENDIX 2: Data of EMI test

Automatically deactivate

Test place Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Report No. 30BE0121-HO-01
 Date 09/24/2009
 Temperature/ Humidity 25 deg.C./ 63%
 Engineer Seiki Oitani
 Mode Normal use mode

Time of Transmitting [sec]	Limit [sec]	Result
0.56	5.00	Pass



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

Test place : Head Office EMC Lab. No.1 Semi Anechoic Chamber
Report No. : 30BE0121-HO-01
Date : 09/24/2009
Temperature/ Humidity : 25 deg.C./ 63%
Engineer : Seiki Oitani
Mode : Transmitting mode

PK

Frequency [MHz]	Detector	Reading [dBuV]		Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]		Remark Inside or Outside of Restricted Bands
		Hor	Ver					Hor	Ver		Hor	Ver	
314.388	PK	76.4	72.5	12.8	10.5	27.9	-	71.8	67.9	95.5	23.7	27.6	Carrier
628.776	PK	31.4	30.6	19.7	12.7	28.8	-	35.0	34.2	75.5	40.5	41.3	Outside
943.164	PK	28.4	27.7	22.5	14.3	28.0	-	37.2	36.5	75.5	38.3	39.0	Outside
1140.020	PK	48.9	48.4	25.4	1.9	36.9	-	39.3	38.8	73.9	34.6	35.1	Inside
1257.552	PK	46.0	46.0	25.8	1.9	36.8	-	36.9	36.9	75.5	38.6	38.6	Outside
1571.941	PK	44.9	44.7	26.4	2.0	36.6	-	36.7	36.5	73.9	37.2	37.4	Inside
1886.329	PK	44.8	44.0	25.8	2.0	36.4	-	36.2	35.4	75.5	39.3	40.1	Outside
2200.717	PK	44.7	44.8	26.4	2.1	36.1	-	37.1	37.2	73.9	36.8	36.7	Inside
2515.105	PK	44.4	43.9	27.4	2.3	35.8	-	38.3	37.8	75.5	37.2	37.7	Outside
2829.493	PK	45.3	45.3	28.2	2.5	35.9	-	40.1	40.1	73.9	33.8	33.8	Inside
3143.881	PK	45.4	44.5	28.7	2.6	35.9	-	40.8	39.9	75.5	34.7	35.6	Outside

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

PK with Duty factor

Frequency [MHz]	Detector	Reading [dBuV]		Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]		Remark
		Hor	Ver					Hor	Ver		Hor	Ver	
314.388	PK	76.4	72.5	12.8	10.5	27.9	-5.5	66.3	62.4	75.5	9.2	13.1	Carrier
628.776	PK	31.4	30.6	19.7	12.7	28.8	-5.5	29.5	28.7	55.5	26.0	26.8	Outside
943.164	PK	28.4	27.7	22.5	14.3	28.0	-5.5	31.7	31.0	55.5	23.8	24.5	Outside
1140.020	PK	48.9	48.4	25.4	1.9	36.9	-5.5	33.8	33.3	53.9	20.1	20.6	Inside
1257.552	PK	46.0	46.0	25.8	1.9	36.8	-5.5	31.4	31.4	55.5	24.1	24.1	Outside
1571.941	PK	44.9	44.7	26.4	2.0	36.6	-5.5	31.2	31.0	53.9	22.7	22.9	Inside
1886.329	PK	44.8	44.0	25.8	2.0	36.4	-5.5	30.7	29.9	55.5	24.8	25.6	Outside
2200.717	PK	44.7	44.8	26.4	2.1	36.1	-5.5	31.6	31.7	53.9	22.3	22.2	Inside
2515.105	PK	44.4	43.9	27.4	2.3	35.8	-5.5	32.8	32.3	55.5	22.7	23.2	Outside
2829.493	PK	45.3	45.3	28.2	2.5	35.9	-5.5	34.6	34.6	53.9	19.3	19.3	Inside
3143.881	PK	45.4	44.5	28.7	2.6	35.9	-5.5	35.3	34.4	55.5	20.2	21.1	Outside

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

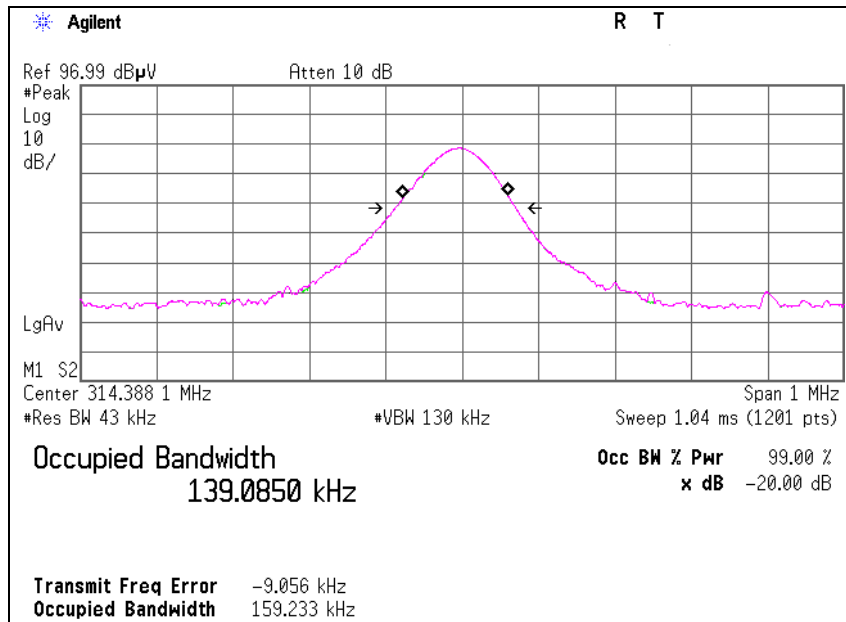
- * The test above 1GHz was performed with PK detect. Average emission measurements were calculated with PK detect and Duty cycle factor.
- * Duty Factor was calculated with the assumption of the worst condition in 100msec.
- * All the measured noise was pulse emission.

-20dB Bandwidth

Test place Head Office EMC Lab. No.1 Semi Anechoic Chamber
Report No. 30BE0121-HO-01
Date 09/24/2009
Temperature/ Humidity 25 deg.C./ 63%
Engineer Seiki Oitani
Mode Transmitting mode

Bandwidth Limit : Fundamental Frequency 314.35 MHz x 0.25% = 785.88 kHz

-20dB Bandwidth [kHz]	Bandwidth Limit [kHz]	Result
159.23	785.88	Pass

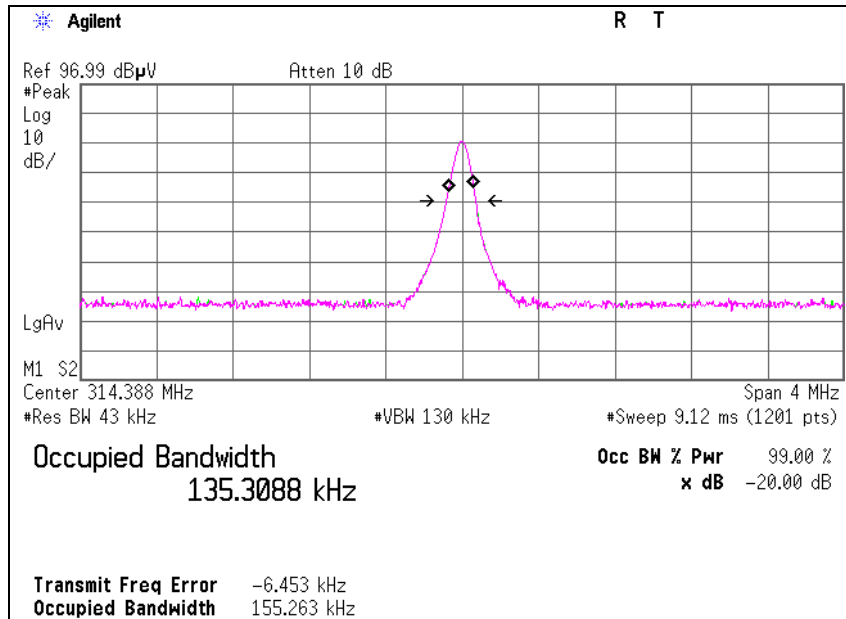


99% Occupied Bandwidth

Test place Head Office EMC Lab. No.1 Semi Anechoic Chamber
Report No. 30BE0121-HO-01
Date 09/24/2009
Temperature/ Humidity 25 deg.C./ 63%
Engineer Seiki Oitani
Mode Transmitting mode

Bandwidth Limit : Fundamental Frequency 314.35 MHz x 0.25% = 785.88 kHz

99% Occupied Bandwidth [kHz]	Bandwidth Limit [kHz]	Result
135.31	785.88	Pass



Duty Cycle

Test place Head Office EMC Lab. No.1 Semi Anechoic Chamber
Report No. 30BE0121-HO-01
Date 09/24/2009
Temperature/ Humidity 25 deg.C./ 63%
Engineer Seiki Oitani
Mode Transmitting mode

Type	Times	ON time(One pulse) [ms]	ON time(in 100ms) [ms]
A	41	0.758	31.078
B	15	1.467	22.005

*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 pulse train.

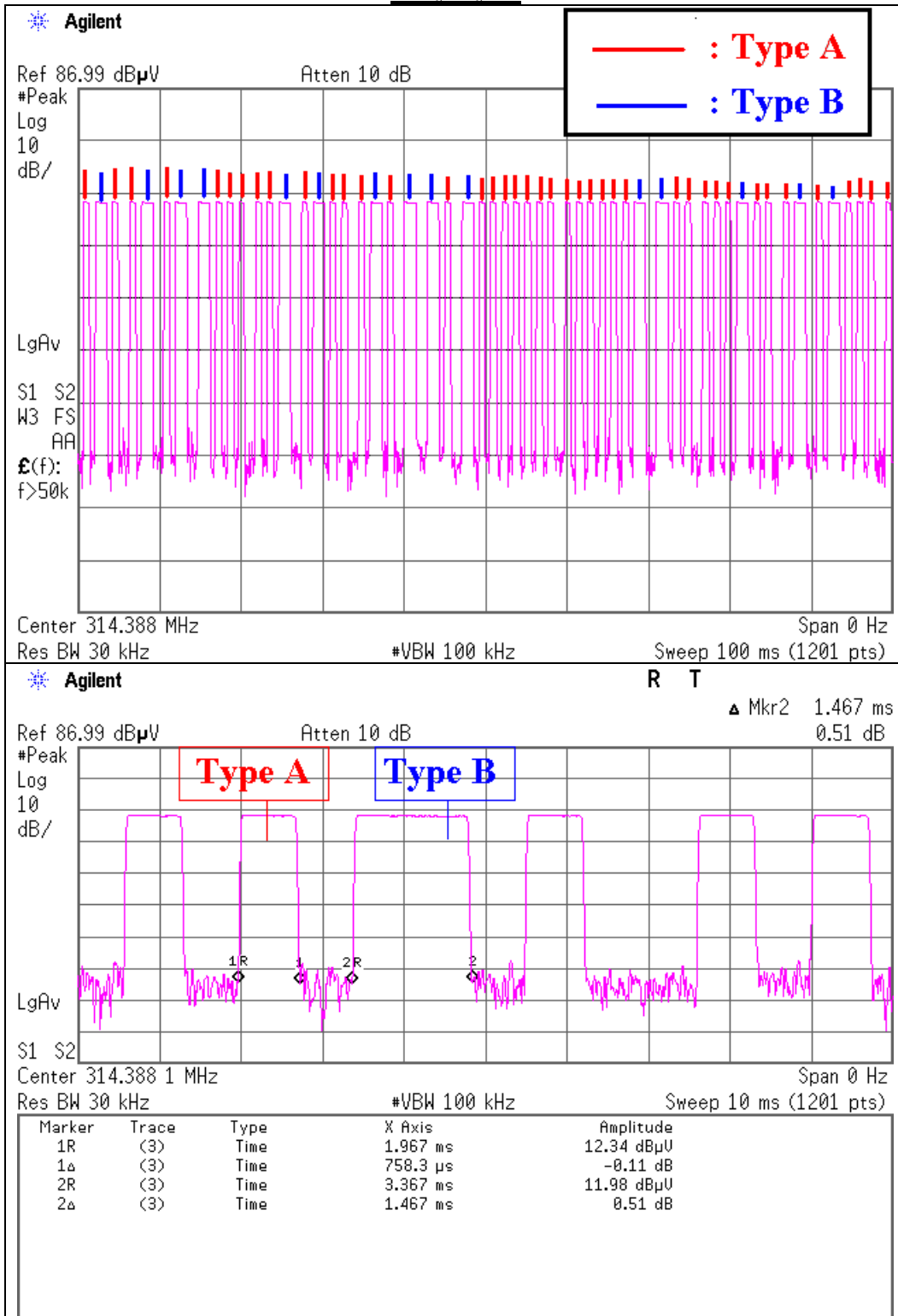
(Total)

ON time [ms]	Cycle [ms]	Duty (On time/Cycle)	Duty [dB]
53.08	100.00	0.53	-5.5

*3)ON time = Type A's ON time (in 100ms) + Type B's ON time (in 100ms)

*4)Duty = $20\log_{10}(\text{ON time/Cycle})$

Duty Cycle



APPENDIX 3:Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-01	Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 10m	DA-06881	RE	2009/06/26 * 12
MOS-01	Digital Humidity Indicator	N.T	NT-1800	MOS01	RE	2009/02/06 * 12
MJM-01	Measure	KDS	ES19-55	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MTR-01	Test Receiver	Rohde & Schwarz	ES140	100084	RE	2008/12/01 * 12
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	RE	2009/02/25 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032007	RE	2008/11/12 * 12
MLA-09	Logperiodic Antenna	Schwarzbeck	USLP9143B	9143B006	RE	2008/11/12 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	BL1069	RE	2008/11/14 * 12
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/Agilent /TSJ	-	-	RE	2008/10/02 * 12
MPA-04	Pre Amplifier	Agilent	8447D	2944A09965	RE	2009/07/03 * 12
MHA-05	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	253	RE	2009/06/15 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	233010(1m) / 292410(5m)	RE	2009/09/16 * 12
MPA-01	Pre Amplifier	Agilent	8449B	3008A01671	RE	2009/02/12 * 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:

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

UL Japan, Inc.

Head Office EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124