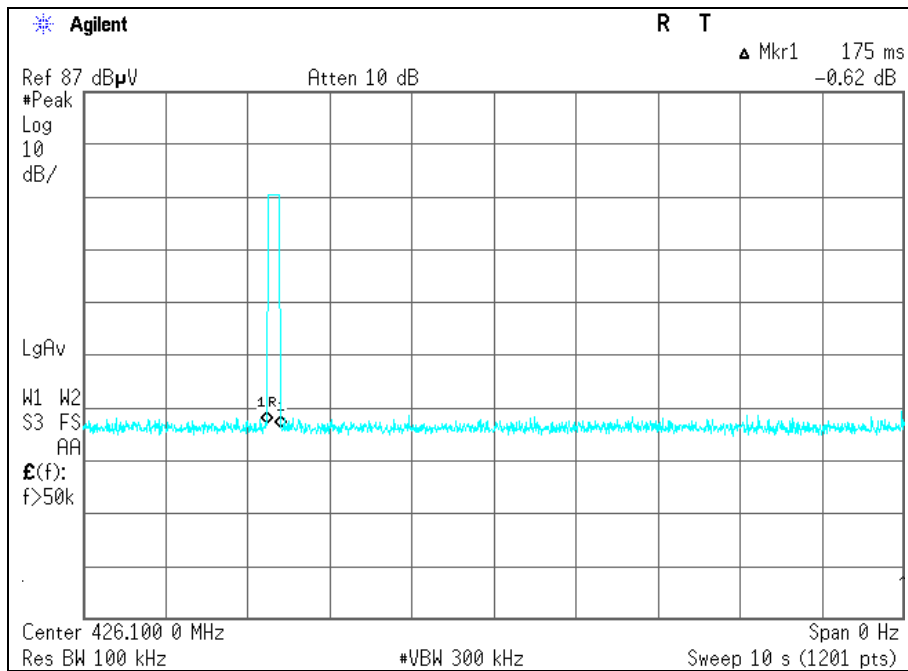


## APPENDIX 2: Data of EMI test

### Automatically deactivate

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No. 31KE0030-HO-01  
Date 07/12/2011  
Temperature/ Humidity 24 deg. C / 54% RH  
Engineer Tomotaka Sasagawa  
Mode Normal use mode

Time of Transmitting [sec]	Limit [sec]	Result
0.175	5.00	Pass



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

Test place Head Office EMC Lab. No.3 Semi Anechoic Chamber  
Report No. 31KE0030-HO-01  
Date 07/29/2011  
Temperature/ Humidity 24 deg C / 52% RH  
Engineer Katsunori Okai  
Mode Transmitting mode

### QP or 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	
426.100	QP	77.0	78.9	17.6	10.8	32.0	-	73.4	75.3	80.5	7.1	5.2	Carrier
852.200	QP	29.3	28.1	22.0	13.2	31.2	-	33.3	32.1	60.5	27.2	28.4	Outside
1278.300	PK	46.9	47.7	24.8	1.8	34.5	-	39.0	39.8	80.5	41.5	40.7	Outside
1704.400	PK	44.0	45.0	25.7	2.1	33.5	-	38.3	39.3	73.9	35.6	34.6	Inside
2130.500	PK	44.0	43.9	26.0	2.4	32.8	-	39.6	39.5	80.5	40.9	41.0	Outside
2556.600	PK	44.9	44.7	26.7	2.6	32.5	-	41.7	41.5	80.5	38.8	39.0	Outside
2982.700	PK	43.8	44.3	27.7	2.8	32.3	-	42.0	42.5	80.5	38.5	38.0	Outside
3408.800	PK	44.1	44.3	28.4	3.1	32.1	-	43.5	43.7	80.5	37.0	36.8	Outside
3834.900	PK	44.2	43.4	28.1	3.3	32.0	-	43.6	42.8	73.9	30.3	31.1	Inside
4261.000	PK	43.3	42.7	29.0	3.5	31.9	-	43.9	43.3	73.9	30.0	30.6	Inside

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	
1278.300	PK	46.9	47.7	24.8	1.8	34.5	0.0	39.0	39.8	60.5	21.5	20.7	Outside
1704.400	PK	44.0	45.0	25.7	2.1	33.5	0.0	38.3	39.3	53.9	15.6	14.6	Inside
2130.500	PK	44.0	43.9	26.0	2.4	32.8	0.0	39.6	39.5	60.5	20.9	21.0	Outside
2556.600	PK	44.9	44.7	26.7	2.6	32.5	0.0	41.7	41.5	60.5	18.8	19.0	Outside
2982.700	PK	43.8	44.3	27.7	2.8	32.3	0.0	42.0	42.5	60.5	18.5	18.0	Outside
3408.800	PK	44.1	44.3	28.4	3.1	32.1	0.0	43.5	43.7	60.5	17.0	16.8	Outside
3834.900	PK	44.2	43.4	28.1	3.3	32.0	0.0	43.6	42.8	53.9	10.3	11.1	Inside
4261.000	PK	43.3	42.7	29.0	3.5	31.9	0.0	43.9	43.3	53.9	10.0	10.6	Inside

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

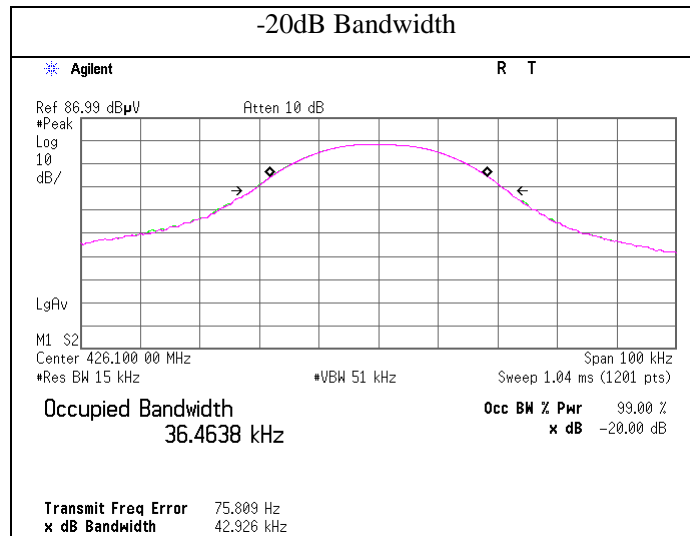
\*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

### -20dB Bandwidth

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No. 31KE0030-HO-01  
Date 07/12/2011  
Temperature/ Humidity 24 deg. C / 54% RH  
Engineer Satofumi Matsuyama  
Mode Transmitting mode

Bandwidth Limit : Fundamental Frequency  $426.1 \text{ MHz} \times 0.25\% = 1065.25 \text{ kHz}$

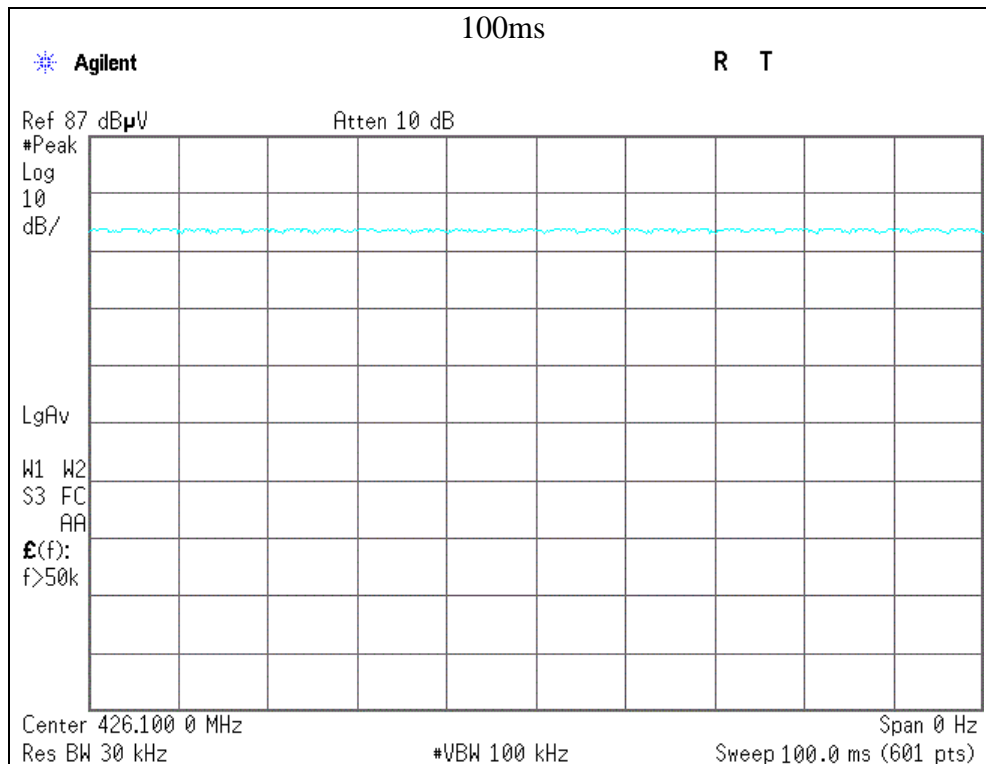
-20dB Bandwidth [kHz]	Bandwidth Limit [kHz]	Result
42.93	1065.25	Pass



## Duty Cycle

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Report No. 31KE0030-HO-01  
Date 07/12/2011  
Temperature/ Humidity 24 deg. C / 54% RH  
Engineer Tomotaka Sasagawa  
Mode Normal use mode

ON time [ms]	Cycle [ms]	Duty (On time/Cycle)	Duty factor [dB]
100.00	100.00	1.00	0.0



### **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	2010/09/01 * 12
MOS-22	Thermo-Hygrometer	Custom	CTH-201	0003	RE	2011/02/23 * 12
MJM-05	Measure	PROMART	SEN1955	-	RE	
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	RE	2011/04/08 * 12
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	100300	RE	2011/04/15 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032008	RE	2010/10/11 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	201	RE	2010/10/11 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	-	RE	2011/02/18 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	BK7970	RE	2010/11/05 * 12
MPA-09	Pre Amplifier	Agilent	8447D	2944A10845	RE	2010/09/09 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE	2010/11/30 * 12
MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	RE	2011/01/16 * 12
MPA-10	Pre Amplifier	Agilent	8449B	3008A02142	RE	2010/09/30 * 12
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2011/02/22 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE	2011/02/23 * 12
MJM-06	Measure	PROMART	SEN1955	-	RE	
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	RE	2010/08/23 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	1915	RE	2010/10/11 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	174	RE	2010/10/11 * 12
MCC-51	Coaxial cable	UL Japan	-	-	RE	2011/07/15 * 12
MAT-09	Attenuator(6dB)	Weinschel Corp	2	BK7973	RE	2010/11/05 * 12
MPA-13	Pre Amplifier	SONOMA INSTRUMENT	310	260834	RE	2011/03/04 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	2011/05/23 * 12
MCC-56	Microwave Cable	Suhner	SUCOFLEX104	270875/4(1m) / 284655(5m)	RE	2011/03/02 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	MY39500779	RE	2011/03/10 * 12

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

**All equipment is calibrated with valid calibrations. Each measurement data 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, -20dB bandwidth , Automatically deactivate and Duty cycle tests**

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