# Data of Conducted Disturbance Test

UL Japan, Inc.
YOKOWA No.2 Shielded room
Report No.: 31LE0201-YW-01

Power : DC5.0V/0.5A
Mode : Running
Remarks : PC AC Line
Date : 7/19/2011
Phase : Single Phase
Temperature : 26 ℃ Engineer : Hiroyuki Furutaka
Humidity : 68 %
Limit : FCC Part15B CLASS B(CISPR)

| No. | FREQ. | READING(N) | | READING(L1) | | LISN | CABLE | ATTEN. | RESULT | | LIMITS | | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | QP | AV | QP | AV | FACTOR | LOSS | | QP | AV | QP | AV | QP | AV |
| | [MHz] | [dBμV] | | [dBμV] | | [dB] | [dB] | [dB] | [dB] | | [dBμV] | | [dB] | |
| 1. | 0.1500 | 21.3 | - | 21.1 | - | 9.7 | 0.1 | 0.0 | 31.1 | - | 66.0 | 56.0 | 34.9 | - |
| 2. | 0.2440 | 23.3 | - | 24.0 | - | 9.6 | 0.1 | 0.0 | 33.7 | - | 62.0 | 52.0 | 28.3 | - |
| 3. | 0.4894 | 8.0 | - | 15.7 | - | 9.7 | 0.1 | 0.0 | 25.5 | - | 56.2 | 46.2 | 30.7 | - |
| 4. | 4.0501 | 24.5 | - | 24.7 | - | 9.7 | 0.4 | 0.0 | 34.8 | - | 56.0 | 46.0 | 21.2 | - |
| 5. | 7.6650 | 31.7 | 23.0 | 31.5 | 22.6 | 9.8 | 0.5 | 0.0 | 42.0 | 33.3 | 60.0 | 50.0 | 18.0 | 16.7 |
| 6. | 17.7521 | 20.5 | - | 21.5 | - | 10.0 | 0.7 | 0.0 | 32.2 | - | 60.0 | 50.0 | 27.8 | - |

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

Except for the above table: adequate margin data below the limits.

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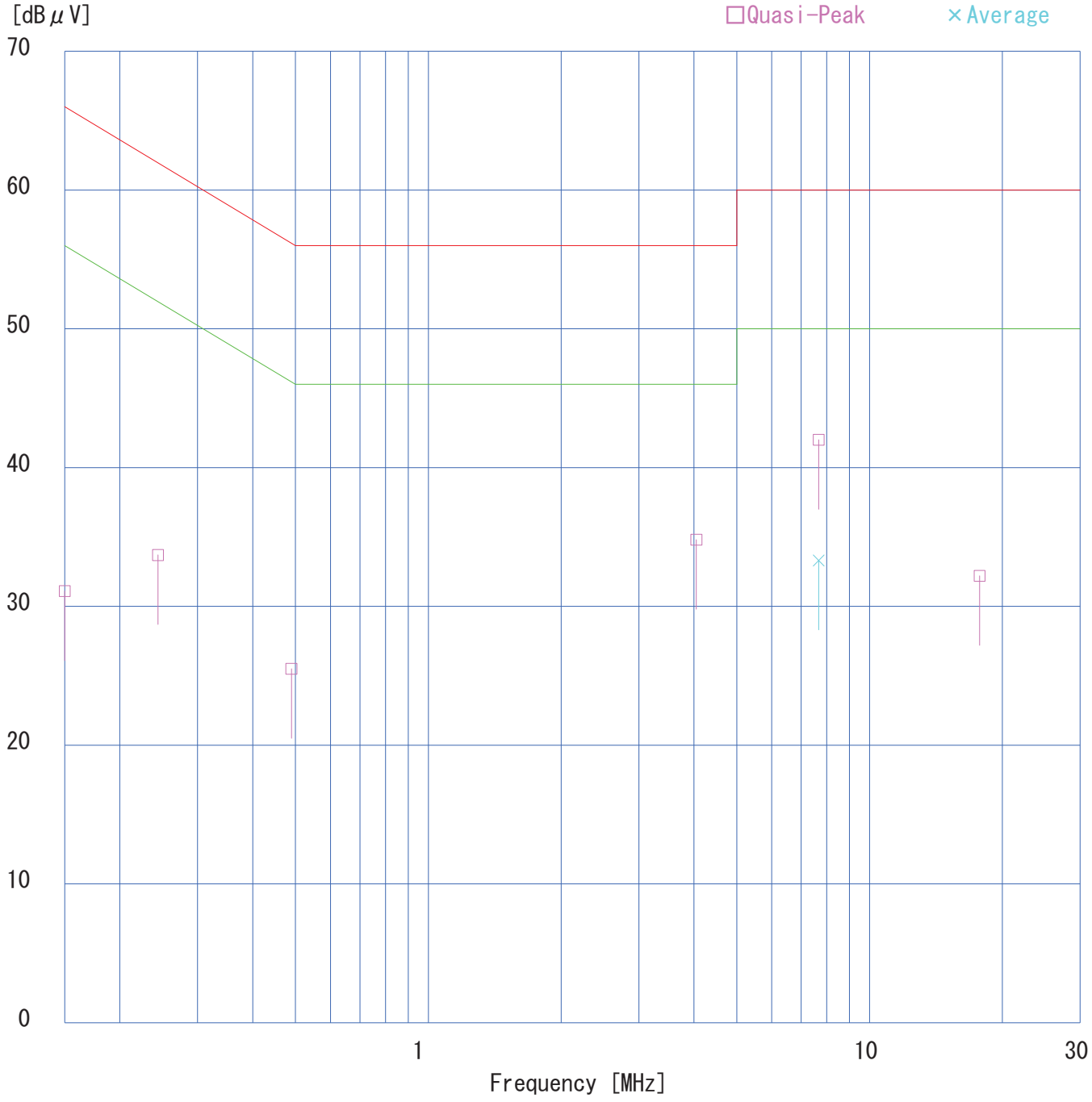
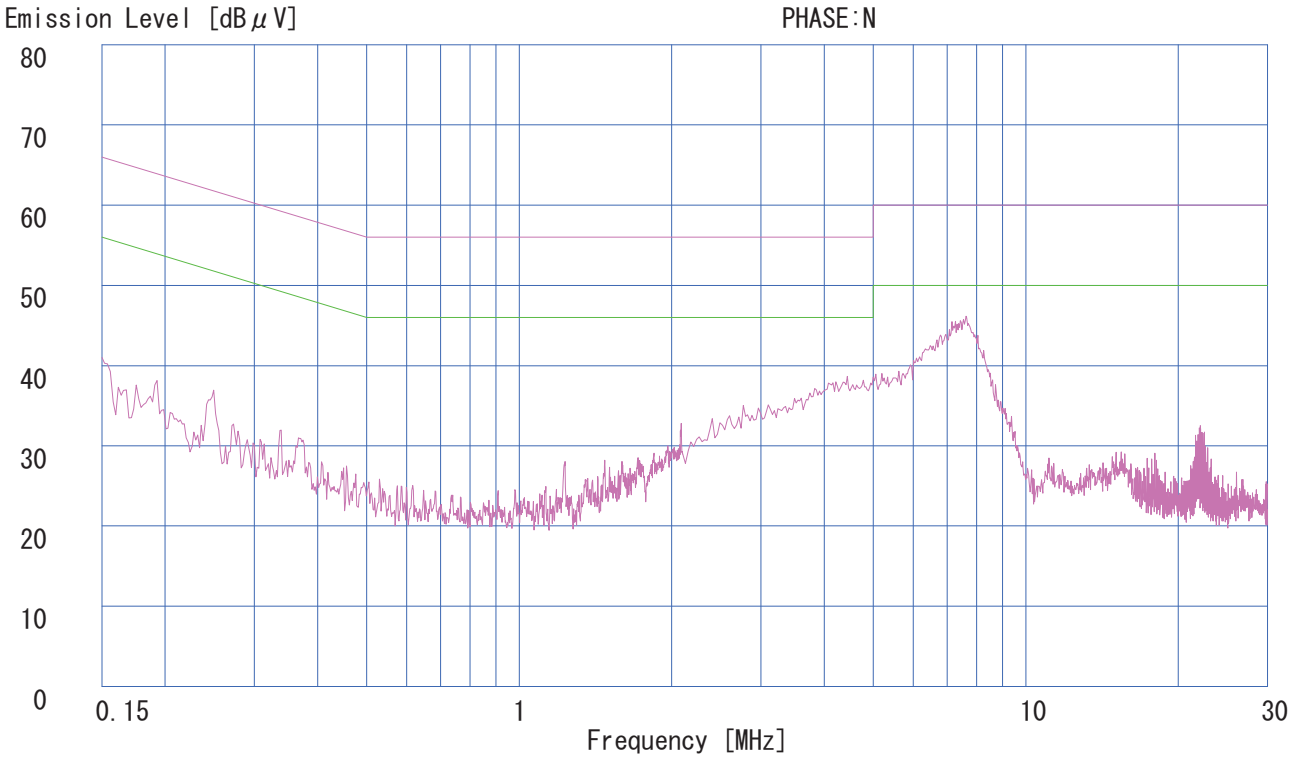
| | | | |
|---|---|---|---|
| Power | : DC5.0V/0.5A | | |
| Mode | : Running | | |
| Remarks | : PC AC Line | | |
| Date | : 7/19/2011 | | |
| Phase | : Single Phase | | |
| Temperature | : 26 ℃ | Engineer | : Hiroyuki Furutaka |
| Humidity | : 68 % | | |
| Limit | : FCC Part15B CLASS B(CISPR) | | |

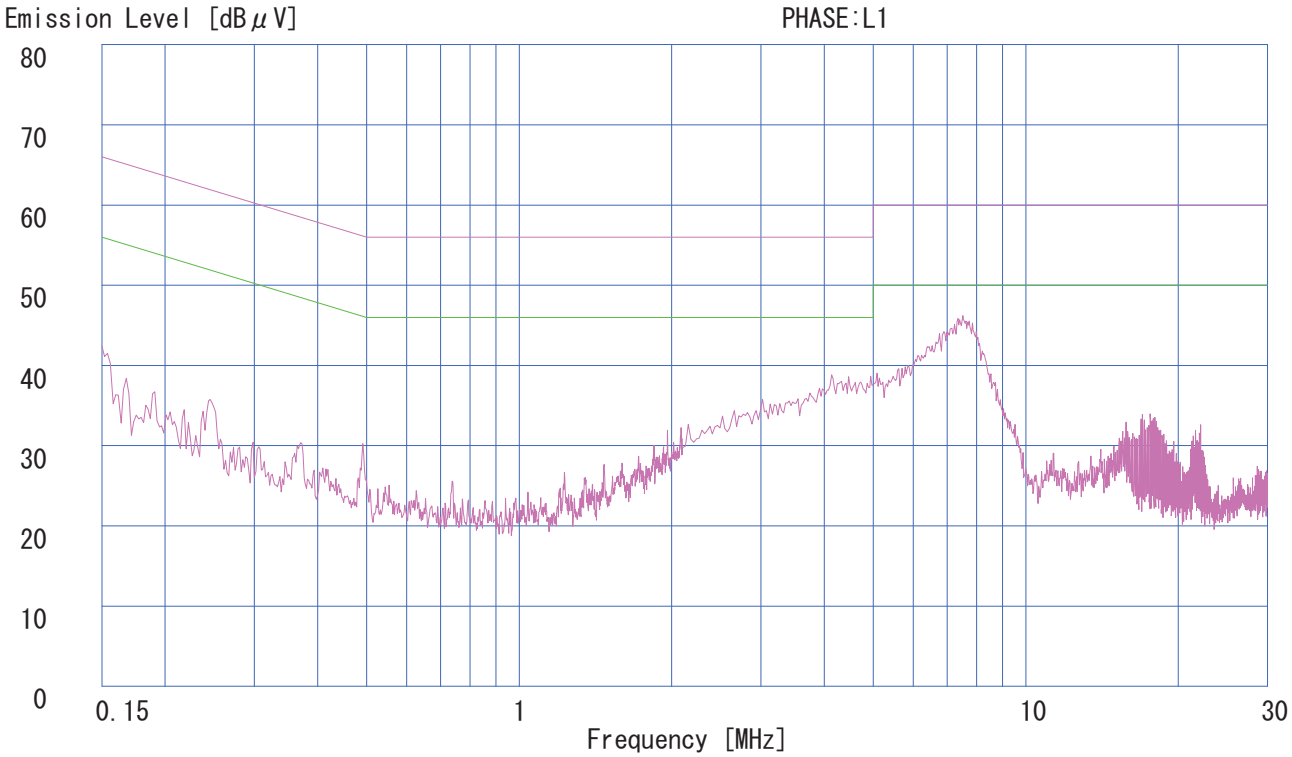


# Data of Conducted Disturbance Test

UL Japan, Inc.
YOKOWA No.2 Shielded room
Report No.: 31LE0201-YW-01

| | | | |
|---|---|---|---|
| Power | : DC5.0V/0.5A | | |
| Mode | : Running | | |
| Remarks | : PC AC Line | | |
| Date | : 7/19/2011 | | |
| Phase | : Single Phase | | |
| Temperature | : 26 ℃ | Engineer | : Hiroyuki Furutaka |
| Humidity | : 68 % | | |
| Limit 1 | : FCC Part15B CLASS B(CISPR) | | |
| Limit 2 | : None | | |



# Data of Radiated Disturbance Test

UL Japan, Inc.
YOKOWA No.2 Open area test site
Report No.: 31LE0201-YW-01

Power : DC5.0V/0.5A
Mode : Running
Remarks : -
Date : 7/19/2011
Test Distance : 3 m
Temperature : 22 ℃ Engineer : Hiroyuki Furutaka
Humidity : 65 %
Limit : FCC Part15B CLASS B

| No. | FREQ. [MHz] | ANT TYPE | READING HOR [dBμV] | READING VER [dBμV] | ANT FACTOR [dB/m] | AMP GAIN [dB] | CABLE LOSS [dB] | ATTEN. [dB] | RESULT HOR [dBμV/m] | RESULT VER [dBμV/m] | LIMITS [dBμV/m] | MARGIN HOR [dB] | MARGIN VER [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | 60.00 | BB | -- | 38.8 | 8.6 | 29.8 | 1.4 | 5.9 | -- | 24.9 | 40.0 | ** | 15.1 |
| 2. | 84.01 | BB | -- | 36.3 | 7.4 | 29.8 | 1.7 | 6.0 | -- | 21.6 | 40.0 | ** | 18.4 |
| 3. | 90.00 | BB | -- | 35.5 | 8.6 | 29.8 | 1.8 | 6.0 | -- | 22.1 | 43.5 | ** | 21.4 |
| 4. | 100.25 | BB | -- | 40.4 | 10.8 | 29.9 | 1.9 | 6.0 | -- | 29.2 | 43.5 | ** | 14.3 |
| 5. | 150.00 | BB | 31.2 | 34.4 | 15.0 | 29.8 | 2.3 | 6.0 | 24.7 | 27.9 | 43.5 | 18.8 | 15.6 |
| 6. | 180.00 | BB | 26.4 | 31.1 | 16.4 | 29.8 | 2.6 | 6.0 | 21.6 | 26.3 | 43.5 | 21.9 | 17.2 |
| 7. | 194.00 | BB | 24.5 | -- | 17.0 | 29.8 | 2.7 | 6.0 | 20.4 | -- | 43.5 | 23.1 | ** |
| 8. | 214.00 | BB | -- | 26.7 | 17.5 | 29.8 | 2.8 | 6.0 | -- | 23.2 | 43.5 | ** | 20.3 |
| 9. | 227.20 | BB | 24.0 | 22.7 | 17.6 | 29.8 | 2.9 | 6.0 | 20.7 | 19.4 | 46.0 | 25.3 | 26.6 |
| 10. | 241.03 | BB | 25.0 | -- | 17.8 | 29.9 | 3.0 | 6.0 | 21.9 | -- | 46.0 | 24.1 | ** |
| 11. | 299.99 | BB | -- | 32.2 | 19.4 | 30.0 | 3.5 | 6.0 | -- | 31.1 | 46.0 | ** | 14.9 |
| 12. | 437.20 | BB | 29.1 | 40.6 | 18.6 | 30.4 | 4.5 | 2.9 | 24.7 | 36.2 | 46.0 | 21.3 | 9.8 |
| 13. | 480.00 | BB | 30.0 | 37.1 | 19.0 | 30.5 | 4.8 | 2.9 | 26.2 | 33.3 | 46.0 | 19.8 | 12.7 |
| 14. | 500.00 | BB | -- | 30.0 | 19.2 | 30.5 | 4.9 | 2.9 | -- | 26.5 | 46.0 | ** | 19.5 |
| 15. | 552.00 | BB | -- | 32.1 | 19.9 | 30.4 | 5.2 | 2.9 | -- | 29.7 | 46.0 | ** | 16.3 |
| 16. | 691.25 | BB | -- | 22.9 | 20.6 | 30.3 | 6.5 | 2.9 | -- | 22.6 | 46.0 | ** | 23.4 |
| 17. | 720.00 | BB | -- | 32.2 | 21.1 | 30.2 | 6.8 | 2.9 | -- | 32.8 | 46.0 | ** | 13.2 |

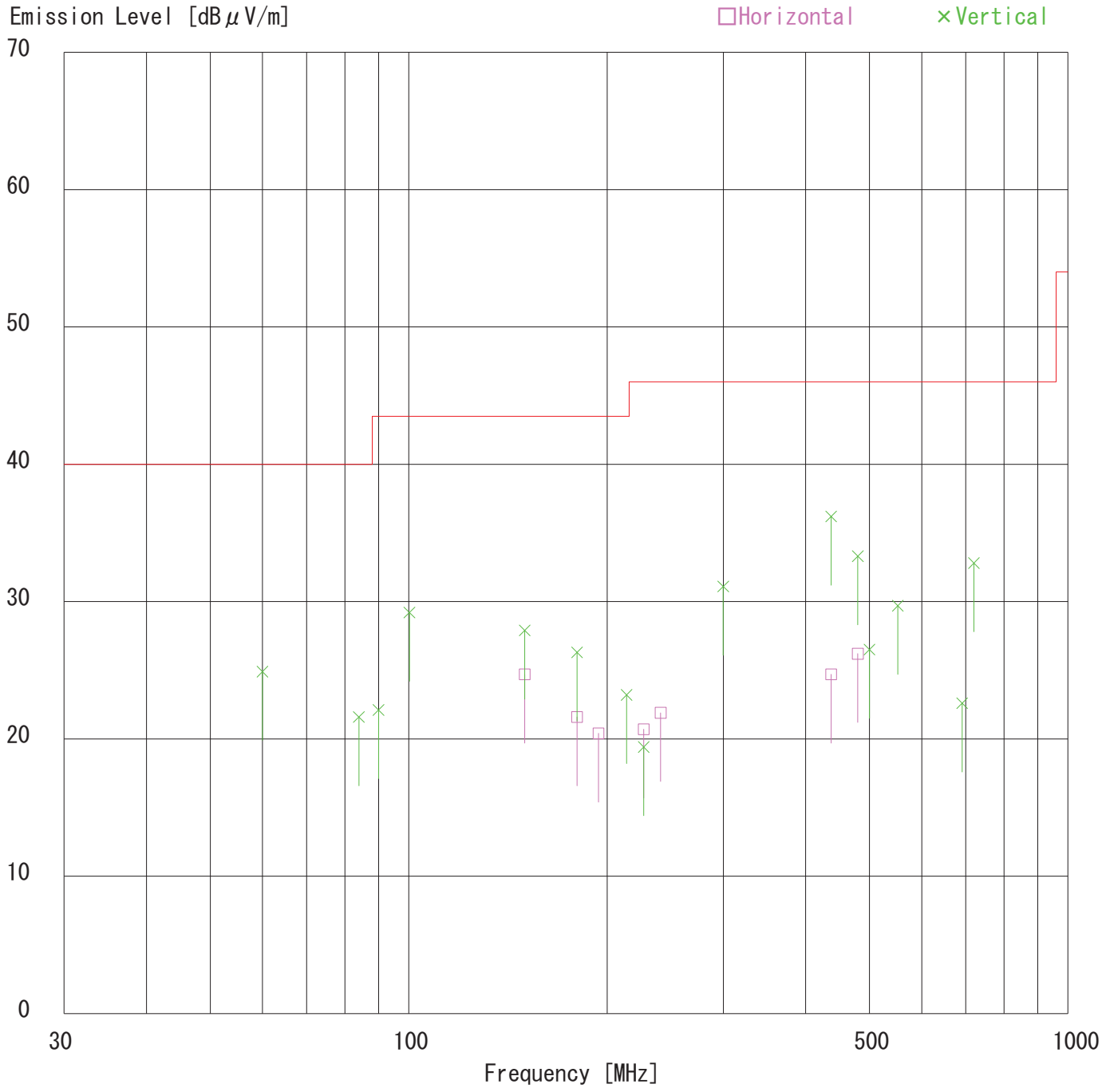
CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.
Except for the above table : adequate margin data below the limits.

ANT TYPE : 30-299.99MHz Biconical, 300.00-1000MHz Logperiodic
** : enough margin compared to another polarized wave data.

# Data of Radiated Disturbance Test

UL Japan, Inc.
YOKOWA No.2 Open area test site
Report No.: 31LE0201-YW-01

| | | | |
|---|---|---|---|
| Power | : DC5.0V/0.5A | | |
| Mode | : Running | | |
| Remarks | : - | | |
| Date | : 7/19/2011 | | |
| Test Distance | : 3 m | | |
| Temperature | : 22 ℃ | Engineer | : Hiroyuki Furutaka |
| Humidity | : 65 % | | |
| Limit | : FCC Part15B CLASS B | | |



Test Report No :31LE0201-YW-01

## Appendix 3
## Test Instruments

**EMI test equipment**

| Control No. | Instrument | Manufacturer | Model No | Serial No | Test Item | Calibration Date * Interval(month) |
|---|---|---|---|---|---|---|
| SA-11 | Spectrum Analyzer | Advantest | R3273 | 110301212 | CE, RE | 2011/03/31 * 12 |
| AF-03 | Pre Amplifier | Anritsu | MH648A | M97457 | RE | 2011/03/17 * 12 |
| APATT12 | Attenuator | Anritsu | MP721B | M48667 | RE | 2011/06/07 * 12 |
| AT-02 | Attenuator | Anritsu | MP721A | 6200239014 | RE | 2011/07/27 * 12 |
| BA-04 | Biconical Antenna | Schwarzbeck | BBA9106 | 1521 | RE | 2010/10/11 * 12 |
| KLA-05 | Logperiodic Antenna | Schwarzbeck | USLP9143 | 362 | RE | 2010/10/16 * 12 |
| MTR-06 | Test Receiver | Rohde & Schwarz | ESCS30 | 830245/011 | CE, RE | 2011/06/28 * 12 |
| CC-2ORC | Yokowa No.2 open coaxial(0.01-1000MHz) | UL Japan | CC-21,CC-22,CC-23,CC-24,CC-25,CC-26,CC-27,SW-21,SW-22 | YO0201 | RE | 2011/05/03 * 12 |
| YOATS-02(NSA) | Open area test site | JSE | 3m、10m | 2 | RE | 2011/05/03 * 12 |
| CUST-YW-RE | Software for Radiated Emision | ULJ | - | - | RE | - |
| LS-12 | LISN (AMN) | Rohde & Schwarz | ENV216 | 101055 | CE(EUT) | 2010/10/21 * 12 |
| CC-2S | Yokowa No.2 shield coaxial(0.01MHz-1000MHz) | UL Japan | CC-25,CC-27,CC-28,CC-29,SW-21,SW-22 | YS0201 | CE | 2011/06/10 * 12 |
| CUST-YW-CE | Software for Conducted Emission | ULJ | - | - | CE | - |
| OS-10 | Digital Humidity Indicator | SATO | PC-5000TRH | B-10 | RE | 2010/04/21 * 24 |
| OS-15 | Digital Humidity Indicator | SATO | PC-5000TRH | B-15 | CE | 2010/04/21 * 24 |
| DM-02 | Tester | SANWA | PC500 | 7019227 | CE, RE | 2011/06/06 * 12 |
| YJM-11 | Measure | Rubber KOMBE | GW-3H99W | - | CE, RE | - |
| SC-02 | Search Coil | UL Japan | - | - | RE | - |
| LS-07 | LISN(AMN) | Schwarzbeck | NSLK8126 | 8126137 | CE | 2011/06/09 * 12 |
| TA-23 | Terminator | Radialll | R404111000 | - | CE | 2011/06/07 * 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 valid calibrations. Each measurement data is traceable to the national or international standards .**
**Test Item :**
**CE: Conducted emission ,**
**RE: Radiated emission**