# APPENDIX 2: Data of EMI test

## Conducted Emission
## 11b, Tx, Ch:Low

DATA OF CONDUCTED EMISSION TEST

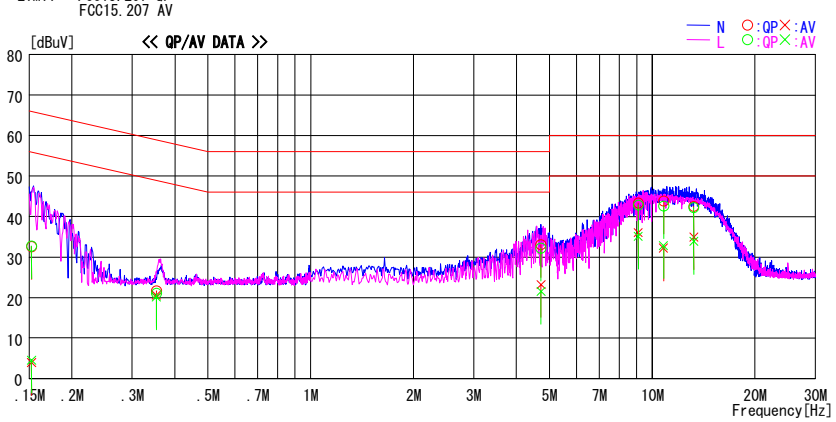
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2007/09/09

Company : SANYO Electric Co., Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 25deg.C / 61%
Operator : Hisayoshi Sato

Mode / Remarks : Transimitting 11b 2412MHz

LIMIT : FCC15.207 QP
FCC15.207 AV




| Frequency | Reading Level | | Corr. | Results | | Limit | | Margin | | Phase | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | QP | AV | Factor | QP | AV | QP | AV | QP | AV | | |
| [MHz] | [dBuV] | [dBuV] | [dB] | [dBuV] | [dBuV] | [dBuV] | [dBuV] | [dB] | [dB] | | |
| 0.15231 | 32.3 | 3.6 | 0.3 | 32.6 | 3.9 | 65.9 | 55.9 | 33.3 | 52.0 | N | |
| 0.35353 | 21.4 | 20.3 | 0.3 | 21.7 | 20.6 | 58.9 | 48.9 | 37.2 | 28.3 | N | |
| 13.23400 | 41.1 | 33.5 | 1.4 | 42.5 | 34.9 | 60.0 | 50.0 | 17.5 | 15.1 | N | |
| 4.71958 | 32.4 | 22.5 | 0.7 | 33.1 | 23.2 | 56.0 | 46.0 | 22.9 | 22.8 | N | |
| 9.10800 | 42.3 | 35.0 | 1.0 | 43.3 | 36.0 | 60.0 | 50.0 | 16.7 | 14.0 | N | |
| 10.79380 | 42.6 | 31.0 | 1.2 | 43.8 | 32.2 | 60.0 | 50.0 | 16.2 | 17.8 | N | |
| 0.15231 | 32.4 | 4.2 | 0.3 | 32.7 | 4.5 | 65.9 | 55.9 | 33.2 | 51.4 | L | |
| 0.35353 | 20.7 | 19.8 | 0.3 | 21.0 | 20.1 | 58.9 | 48.9 | 37.9 | 28.8 | L | |
| 13.23400 | 40.8 | 32.4 | 1.4 | 42.2 | 33.8 | 60.0 | 50.0 | 17.8 | 16.2 | L | |
| 4.71958 | 31.5 | 20.8 | 0.7 | 32.2 | 21.5 | 56.0 | 46.0 | 23.8 | 24.5 | L | |
| 9.10800 | 41.8 | 34.1 | 1.0 | 42.8 | 35.1 | 60.0 | 50.0 | 17.2 | 14.9 | L | |
| 10.79380 | 41.4 | 31.6 | 1.2 | 42.6 | 32.8 | 60.0 | 50.0 | 17.4 | 17.2 | L | |

CHART:WITH FACTOR,Peak hold data. CALCURATION:RESULT[dBuV]=READING[dBuV]+C.F[dB](LISN LOSS+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

# Conducted Emission
## 11b, Tx, Ch:Mid

### DATA OF CONDUCTED EMISSION TEST

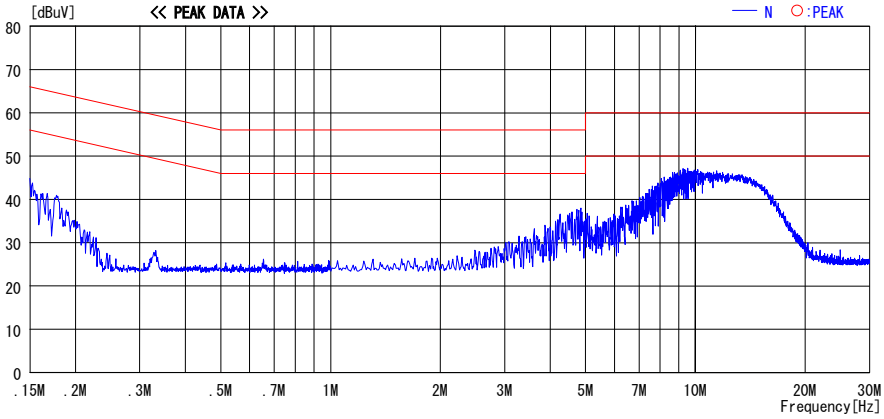
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2007/09/09

Company : SANYO Electric Co., Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 25deg.C / 61%
Operator : Hisayoshi Sato

Mode / Remarks : Transimitting 11b 2437MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



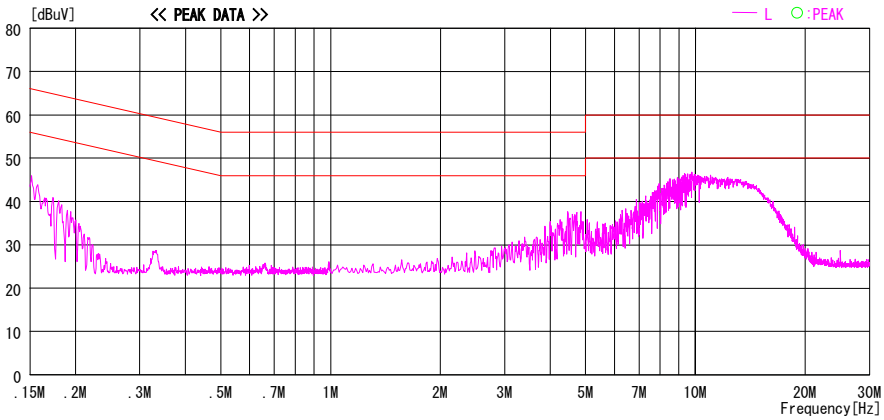




CHART:WITH FACTOR,Peak hold data. CALCURATION:RESULT[dBuV]=READING[dBuV]+C.F[dB](LISN LOSS+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

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# Conducted Emission
## 11b, Tx, Ch:High

DATA OF CONDUCTED EMISSION TEST

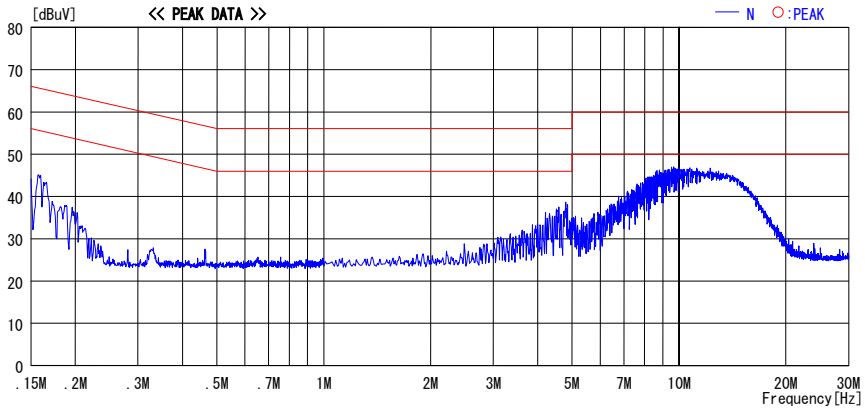
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2007/09/09

Company : SANYO Electric Co., Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC3.3V
Temp./Humi. : 25deg.C / 61%
Operator : Hisayoshi Sato

Mode / Remarks : Transimitting 11b 2462MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



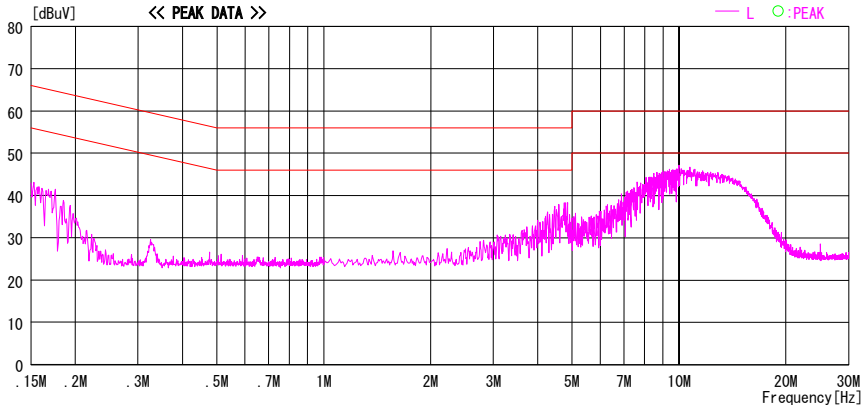




CHART:WITH FACTOR,Peak hold data. CALCURATION:RESULT[dBuV]=READING[dBuV]+C.F[dB](LISN LOSS+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

# Conducted Emission
## 11g, Tx, Ch:Low

DATA OF CONDUCTED EMISSION TEST

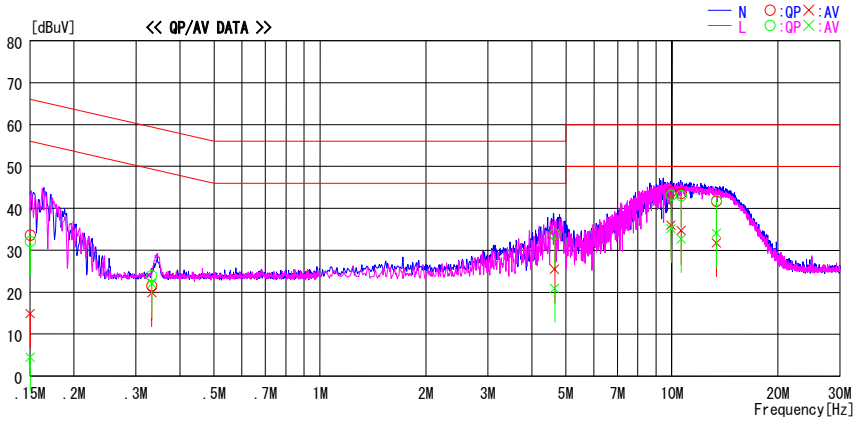
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2007/09/09

Company : SANYO Electric Co., Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 25deg.C / 61%
Operator : Hisayoshi Sato

Mode / Remarks : Transimitting 11g 2412MHz

LIMIT : FCC15.207 QP
FCC15.207 AV




| Frequency | Reading Level | | Corr. | Results | | Limit | | Margin | | Phase | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | QP | AV | Factor | QP | AV | QP | AV | QP | AV | | |
| [MHz] | [dBuV] | [dBuV] | [dB] | [dBuV] | [dBuV] | [dBuV] | [dBuV] | [dB] | [dB] | | |
| 0.15026 | 33.3 | 14.6 | 0.3 | 33.6 | 14.9 | 66.0 | 56.0 | 32.4 | 41.1 | N | |
| 0.15026 | 31.8 | 4.2 | 0.3 | 32.1 | 4.5 | 66.0 | 56.0 | 33.9 | 51.5 | L | |
| 0.33283 | 21.2 | 19.6 | 0.3 | 21.5 | 19.9 | 59.4 | 49.4 | 37.9 | 29.5 | N | |
| 0.33283 | 23.7 | 21.7 | 0.3 | 24.0 | 22.0 | 59.4 | 49.4 | 35.4 | 27.4 | L | |
| 4.64460 | 33.1 | 24.8 | 0.7 | 33.8 | 25.5 | 56.0 | 46.0 | 22.2 | 20.5 | N | |
| 4.64460 | 33.2 | 20.2 | 0.7 | 33.9 | 20.9 | 56.0 | 46.0 | 22.1 | 25.1 | L | |
| 9.94450 | 42.9 | 34.9 | 1.1 | 44.0 | 36.0 | 60.0 | 50.0 | 16.0 | 14.0 | N | |
| 9.94450 | 42.1 | 34.1 | 1.1 | 43.2 | 35.2 | 60.0 | 50.0 | 16.8 | 14.8 | L | |
| 10.62200 | 42.4 | 33.5 | 1.2 | 43.6 | 34.7 | 60.0 | 50.0 | 16.4 | 15.3 | N | |
| 10.62200 | 41.9 | 31.5 | 1.2 | 43.1 | 32.7 | 60.0 | 50.0 | 16.9 | 17.3 | L | |
| 13.38650 | 40.3 | 30.4 | 1.4 | 41.7 | 31.8 | 60.0 | 50.0 | 18.3 | 18.2 | N | |
| 13.38650 | 40.5 | 32.7 | 1.4 | 41.9 | 34.1 | 60.0 | 50.0 | 18.1 | 15.9 | L | |

CHART:WITH FACTOR,Peak hold data. CALCURATION:RESULT[dBuV]=READING[dBuV]+C.F[dB](LISN LOSS+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

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# Conducted Emission
## 11g, Tx, Ch:Mid

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2007/09/09

Company : SANYO Electric Co., Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 25deg.C / 61%
Operator : Hisayoshi Sato

Mode / Remarks : Transimitting 11g 2437MHz

LIMIT : FCC15.207 QP
FCC15.207 AV

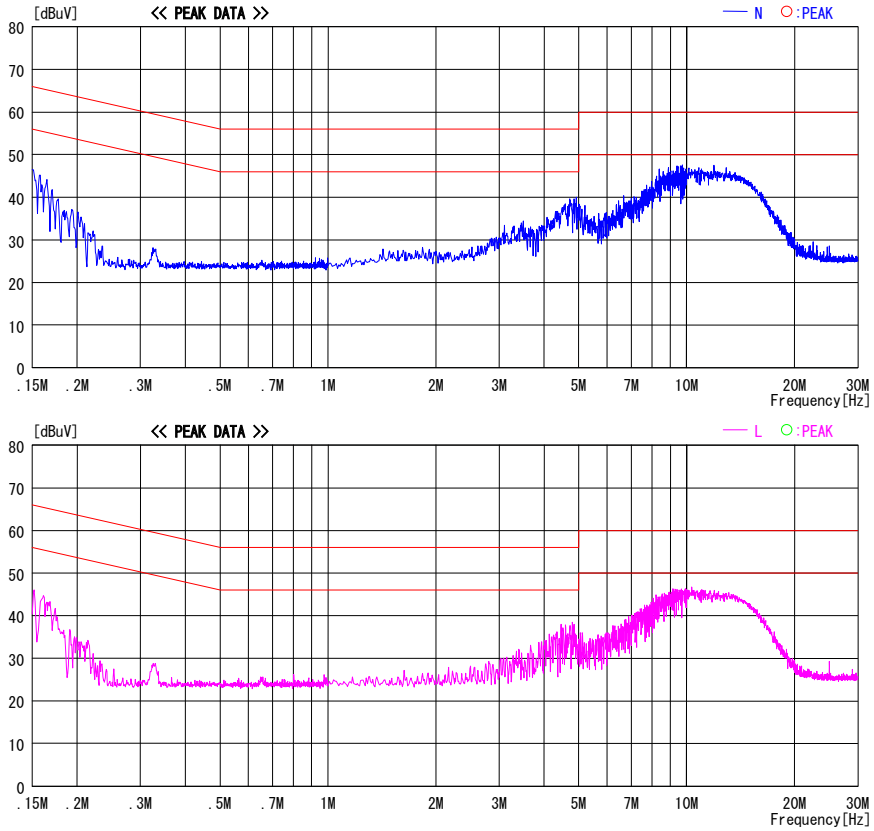






CHART:WITH FACTOR,Peak hold data. CALCURATION:RESULT[dBuV]=READING[dBuV]+C.F[dB](LISN LOSS+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

# Conducted Emission
## 11g, Tx, Ch:High

DATA OF CONDUCTED EMISSION TEST

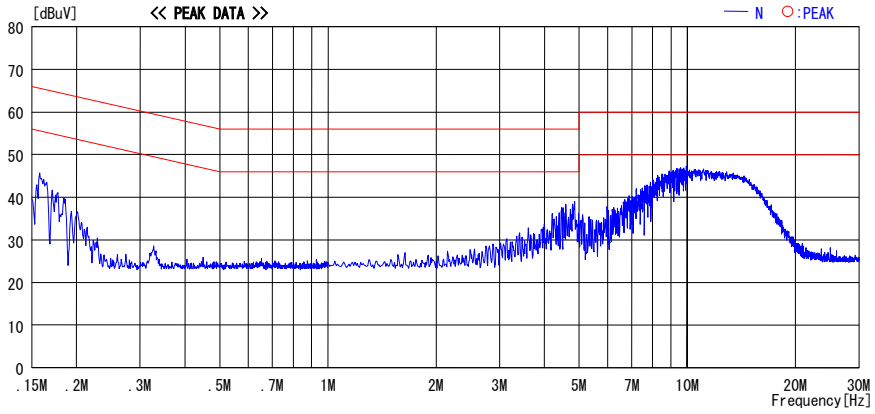
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2007/09/09

Company : SANYO Electric Co., Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 25deg.C / 61%
Operator : Hisayoshi Sato

Mode / Remarks : Transimitting 11g 2462MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



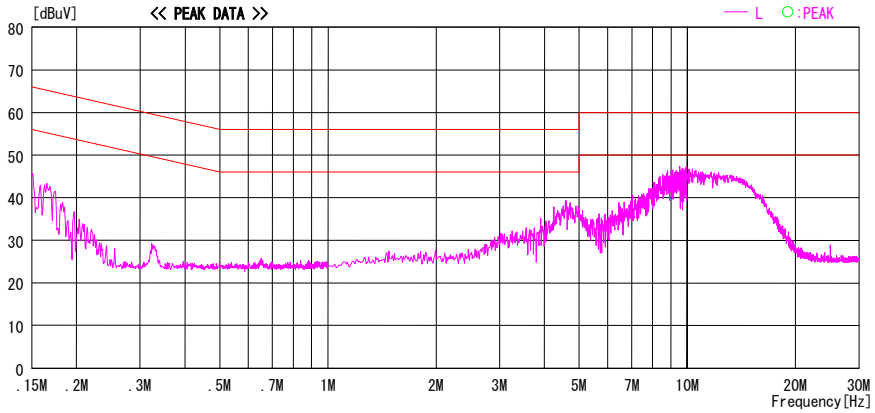




CHART:WITH FACTOR,Peak hold data. CALCURATION:RESULT[dBuV]=READING[dBuV]+C.F[dB](LISN LOSS+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

# Conducted Emission
## Rx, Ch:Mid

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2007/09/09

Company : SANYO Electric Co., Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 25deg.C / 61%
Operator : Hisayoshi Sato

Mode / Remarks : Receiving 2437MHz

LIMIT : FCC15.207 QP
FCC15.207 AV

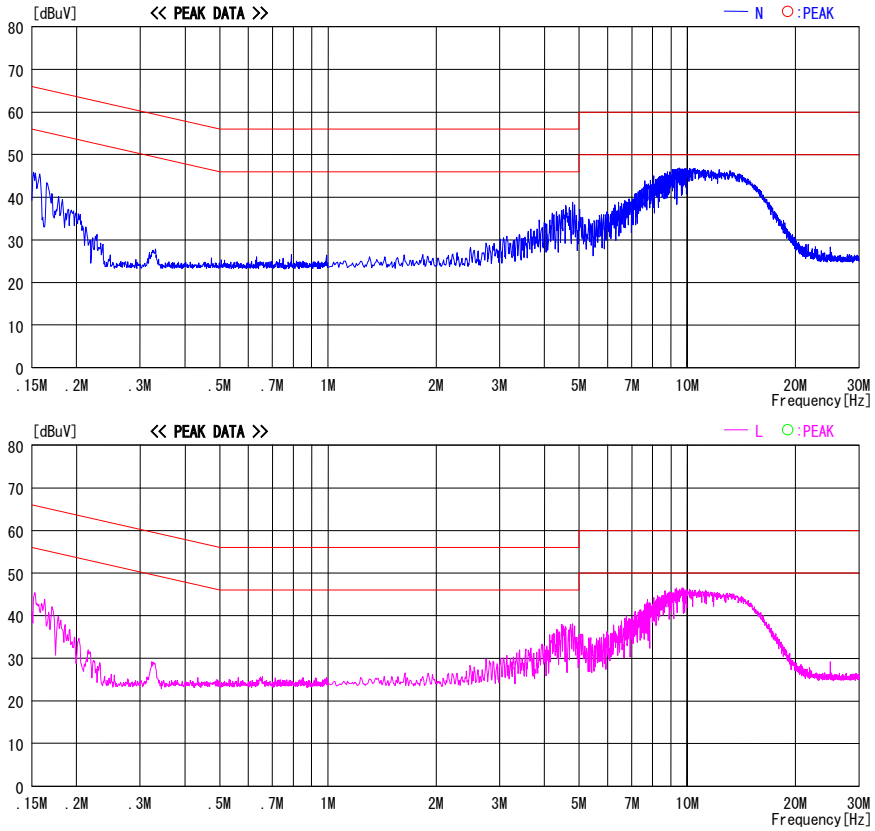






CHART:WITH FACTOR,Peak hold data. CALCURATION:RESULT[dBuV]=READING[dBuV]+C.F[dB](LISN LOSS+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

# 6dB Bandwidth

UL Japan, Inc.
Head Office EMC Lab. No.7 Shielded Room

| | | | |
|---|---|---|---|
| Company | : SANYO Electric Co,. Ltd. | REPORT NO | : 27KE0187-HO |
| Equipment | : WLAN Module | REGULATION | : FCC15.247(a)(2)/RSS-210A8.2(a) |
| Model | : QXXAVC922---P | TEST DISTANCE | : - |
| Sample No. | : 1 | DATE | : 09/18/2007 |
| Power | : DC3.3V | TEMPERATURE | : 25.2deg.C. |
| Mode | : 11b, Transmitting (Tx), 11Mbps | HUMIDITY | : 65% |
| | : 11g, Transmitting (Tx), 54Mbps | ENGINEER | : Takashi Nakazawa |

**[IEEE802.11b] 11Mbps**

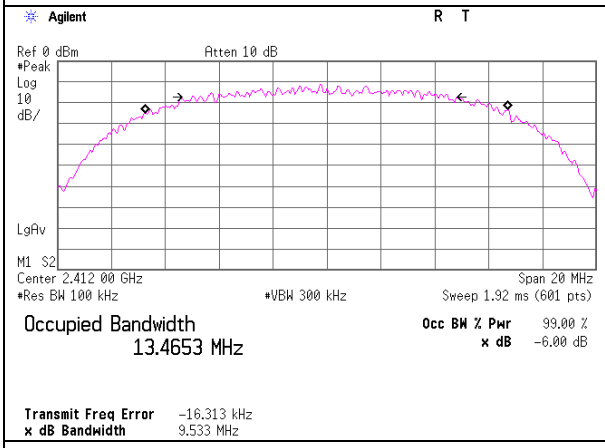
| Ch | Freq. [MHz] | 6dB Bandwidth [MHz] | Limit [kHz] |
|---|---|---|---|
| Low | 2412.0 | 9.533 | >500 |
| Mid | 2437.0 | 9.531 | >500 |
| High | 2462.0 | 9.535 | >500 |

**[IEEE802.11g] 54Mbps**

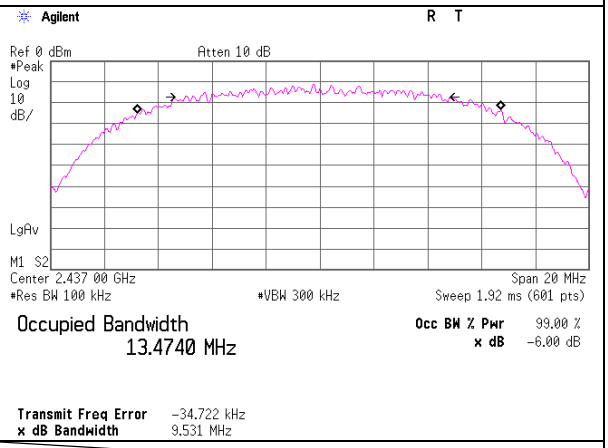
| Ch | Freq. [MHz] | 6dB Bandwidth [MHz] | Limit [kHz] |
|---|---|---|---|
| Low | 2412.0 | 16.550 | >500 |
| Mid | 2437.0 | 16.549 | >500 |
| High | 2462.0 | 16.547 | >500 |

# 6dB Bandwidth

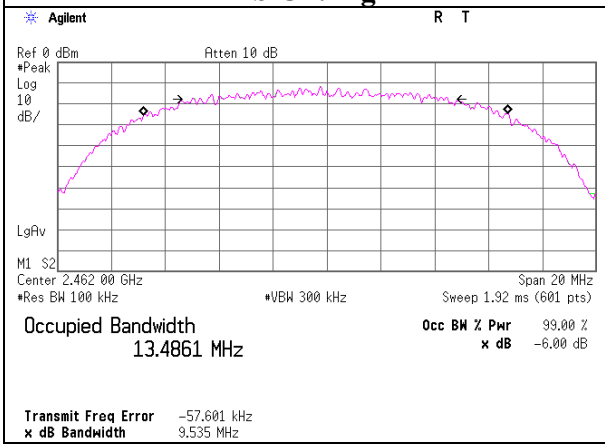
## 11b Ch:Low




## 11b Ch:Mid




## 11b Ch:High

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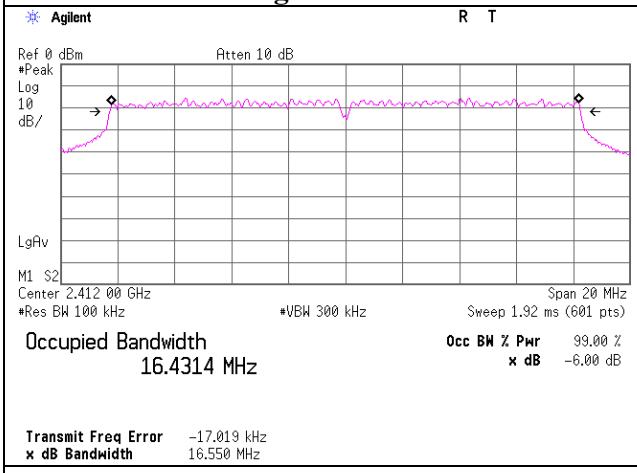
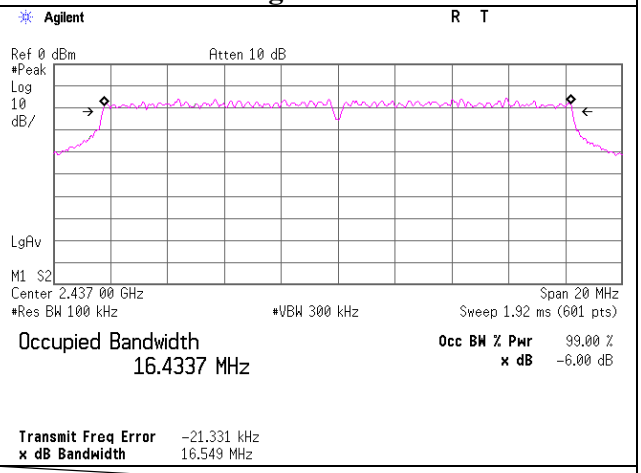
# 6dB Bandwidth

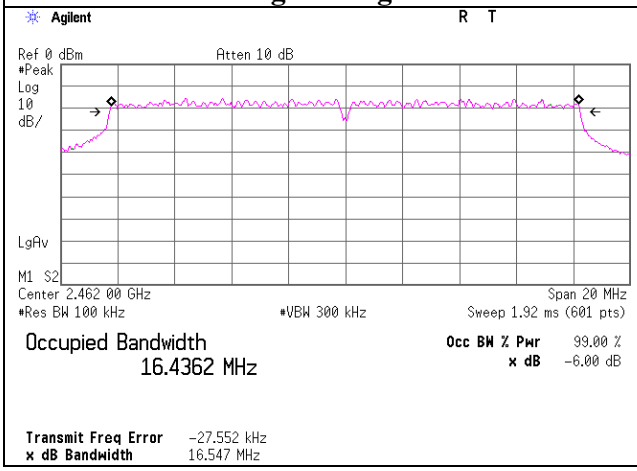
## 11g Ch:Low




## 11g Ch:Mid




## 11g Ch:High

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# Maximum Peak Output Power
## 11b

| | | | |
|---|---|---|---|
| Company | : SANYO Electric Co,. Ltd. | REPORT NO | : 27KE0187-HO |
| Equipment | : WLAN Module | REGULATION | : FCC15.247(b)(3)/RSS-210A8.4(4) |
| Model | : QXXAVC922---P | TEST DISTANCE | : - |
| Sample No. | : 1 | DATE | : 09/18/2007 |
| Power | : DC3.3V | TEMPERATURE | : 25.2deg.C. |
| Mode | : 11b, Transmitting (Tx), 11Mbps | HUMIDITY | : 65% |
| | | ENGINEER | : Takashi Nakazawa |

**[IEEE802.11b] 11Mbps**

| Ch | Freq. | P/M(PK) Reading | Cable Loss | Atten. | Result | | Limit | | Margin |
|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBm] | [dB] | [dB] | [dBm] | [mW] | [dBm] | [mW] | [dB] |
| Low | 2412.0 | 0.11 | 2.01 | 10.02 | 12.14 | 16.37 | 30.00 | 1000 | 17.86 |
| Mid | 2437.0 | 0.33 | 2.01 | 10.02 | 12.36 | 17.22 | 30.00 | 1000 | 17.64 |
| High | 2462.0 | 0.01 | 2.01 | 10.02 | 12.04 | 16.00 | 30.00 | 1000 | 17.96 |

Sample Calculation:
Result = Reading + Cable Loss (supplied by customer) + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

**[IEEE802.11b] Worst data rate**

| Data rate | Freq. | P/M(PK) Reading | Cable Loss | Atten. | Result | | Limit | | Margin |
|---|---|---|---|---|---|---|---|---|---|
| [Mbps] | [MHz] | [dBm] | [dB] | [dB] | [dBm] | [mW] | [dBm] | [mW] | [dB] |
| 1 | 2437.0 | -0.07 | 2.01 | 10.02 | 11.96 | 15.70 | 30.00 | 1000 | 18.04 |
| 2 | 2437.0 | -0.17 | 2.01 | 10.02 | 11.86 | 15.35 | 30.00 | 1000 | 18.14 |
| 5.5 | 2437.0 | -0.29 | 2.01 | 10.02 | 11.74 | 14.93 | 30.00 | 1000 | 18.26 |
| 11 | 2437.0 | 0.33 | 2.01 | 10.02 | 12.36 | 17.22 | 30.00 | 1000 | 17.64 |

Sample Calculation:
Result = Reading + Cable Loss (supplied by customer) + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

# Maximum Peak Output Power
## 11g

UL Japan, Inc.
Head Office EMC Lab. No.7 Shielded Room

| | | | |
|---|---|---|---|
| Company | : SANYO Electric Co,. Ltd. | REPORT NO | : 27KE0187-HO |
| Equipment | : WLAN Module | REGULATION | : FCC15.247(b)(3)/RSS-210A8.4(4) |
| Model | : QXXAVC922---P | TEST DISTANCE | : - |
| Sample No. | : 1 | DATE | : 09/18/2007 |
| Power | : DC3.3V | TEMPERATURE | : 25.2deg.C. |
| Mode | : 11g, Transmitting (Tx), 54Mbps | HUMIDITY | : 65% |
| | | ENGINEER | : Takashi Nakazawa |

**[IEEE802.11g] 54Mbps**

| Ch | Freq. | P/M(PK) Reading | Cable Loss | Atten. | Result | | Limit | | Margin |
|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBm] | [dB] | [dB] | [dBm] | [mW] | [dBm] | [mW] | [dB] |
| Low | 2412.0 | 5.73 | 2.01 | 10.02 | 17.76 | 59.70 | 30.00 | 1000 | 12.24 |
| Mid | 2437.0 | 6.06 | 2.01 | 10.02 | 18.09 | 64.42 | 30.00 | 1000 | 11.91 |
| High | 2462.0 | 5.01 | 2.01 | 10.02 | 17.04 | 50.58 | 30.00 | 1000 | 12.96 |

Sample Calculation:
Result = Reading + Cable Loss (supplied by customer) + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

**[IEEE802.11g] Worst data rate**

| Data rate | Freq. | P/M(PK) Reading | Cable Loss | Atten. | Result | | Limit | | Margin |
|---|---|---|---|---|---|---|---|---|---|
| [Mbps] | [MHz] | [dBm] | [dB] | [dB] | [dBm] | [mW] | [dBm] | [mW] | [dB] |
| 6 | 2437.0 | 5.31 | 2.01 | 10.02 | 17.34 | 54.20 | 30.00 | 1000 | 12.66 |
| 9 | 2437.0 | 5.12 | 2.01 | 10.02 | 17.15 | 51.88 | 30.00 | 1000 | 12.85 |
| 12 | 2437.0 | 5.39 | 2.01 | 10.02 | 17.42 | 55.21 | 30.00 | 1000 | 12.58 |
| 18 | 2437.0 | 5.19 | 2.01 | 10.02 | 17.22 | 52.72 | 30.00 | 1000 | 12.78 |
| 24 | 2437.0 | 5.77 | 2.01 | 10.02 | 17.80 | 60.26 | 30.00 | 1000 | 12.20 |
| 36 | 2437.0 | 4.96 | 2.01 | 10.02 | 16.99 | 50.00 | 30.00 | 1000 | 13.01 |
| 48 | 2437.0 | 5.22 | 2.01 | 10.02 | 17.25 | 53.09 | 30.00 | 1000 | 12.75 |
| 54 | 2437.0 | 6.06 | 2.01 | 10.02 | 18.09 | 64.42 | 30.00 | 1000 | 11.91 |

Sample Calculation:
Result = Reading + Cable Loss (supplied by customer) + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

# Radiated Spurious Emission (below 1GHz)

## 11b, Tx, Ch:Low

## DATA OF RADIATED EMISSION TEST

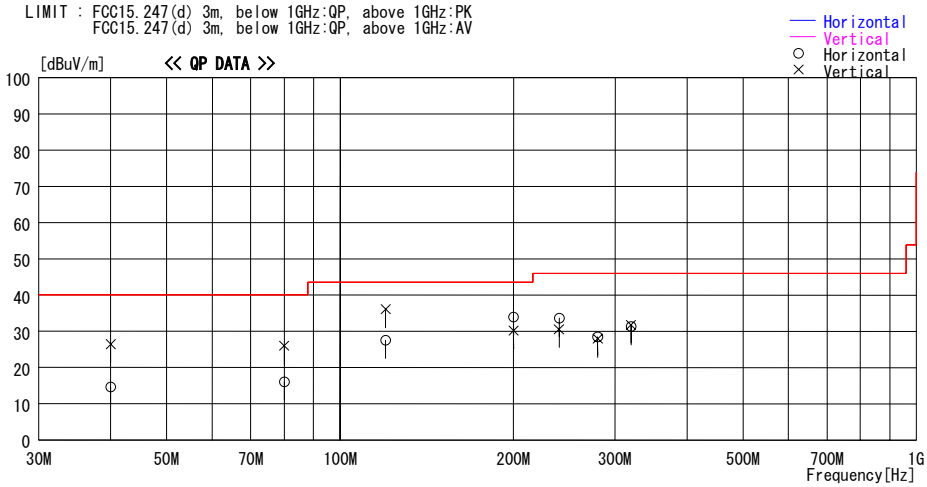
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2007/09/26

Company : SANYO Electric Co.,Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 24deg.C / 57%
Operator : Yutaka Yoshida

Mode / Remarks : Transmitting 11b, 2412MHz, 11Mbps, (Worst Hor:Z-Axis Ver:Y-axis)

LIMIT : FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:AV




| Frequency [MHz] | Reading [dBuV] | DET | Antenna Factor [dB/m] | Loss& Gain [dB] | Level [dBuV/m] | Angle [Deg] | Height [cm] | Polar. | Limit [dBuV/m] | Margin [dB] | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 39.999 | 37.4 | QP | 13.8 | -24.8 | 26.4 | 194 | 100 | Vert. | 40.0 | 13.6 | |
| 39.990 | 25.7 | QP | 13.8 | -24.8 | 14.7 | 103 | 400 | Hori. | 40.0 | 25.3 | |
| 79.998 | 33.3 | QP | 7.0 | -24.2 | 16.1 | 221 | 221 | Hori. | 40.0 | 23.9 | |
| 79.998 | 43.2 | QP | 7.0 | -24.2 | 26.0 | 165 | 100 | Vert. | 40.0 | 14.0 | |
| 120.006 | 38.2 | QP | 13.1 | -23.7 | 27.6 | 101 | 149 | Hori. | 43.5 | 15.9 | |
| 120.006 | 46.7 | QP | 13.1 | -23.7 | 36.1 | 233 | 100 | Vert. | 43.5 | 7.4 | |
| 199.997 | 40.2 | QP | 16.6 | -22.8 | 34.0 | 185 | 100 | Hori. | 43.5 | 9.5 | |
| 199.997 | 36.4 | QP | 16.6 | -22.8 | 30.2 | 183 | 100 | Vert. | 43.5 | 13.3 | |
| 240.000 | 39.0 | QP | 17.1 | -22.5 | 33.6 | 185 | 100 | Hori. | 46.0 | 12.4 | |
| 240.000 | 36.0 | QP | 17.1 | -22.5 | 30.6 | 84 | 100 | Vert. | 46.0 | 15.4 | |
| 279.996 | 32.0 | QP | 18.7 | -22.2 | 28.5 | 178 | 100 | Hori. | 46.0 | 17.5 | |
| 279.996 | 31.4 | QP | 18.7 | -22.2 | 27.9 | 110 | 100 | Vert. | 46.0 | 18.1 | |
| 319.995 | 38.5 | QP | 14.8 | -22.0 | 31.3 | 203 | 100 | Hori. | 46.0 | 14.7 | |
| 319.995 | 39.0 | QP | 14.8 | -22.0 | 31.8 | 234 | 158 | Vert. | 46.0 | 14.2 | |

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

*The test result is round off to one or two decimal places, so some differences might be observed.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# Radiated Spurious Emission (below 1GHz)
## 11b, Tx, Ch:Mid

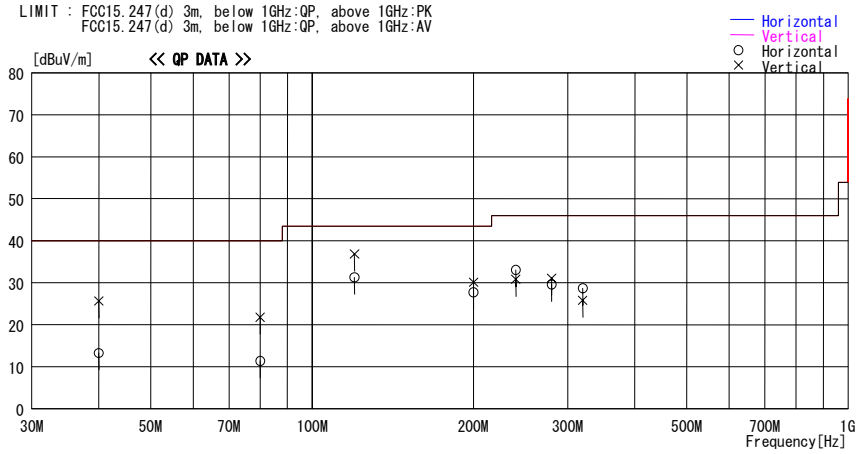
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2007/10/01

| | | | |
|---|---|---|---|
| Company | : SANYO Electric Co.,Ltd | Report No. | : 27KE0187-HO |
| Kind of EUT | : Wireless LAN Module | Power | : DC 3.3V |
| Model No. | : QXXAVC922----P | Temp./Humi. | : 24deg.C / 74% |
| Serial No. | : 1 | Operator | : Shinya Watanabe |

Mode / Remarks : Transmitting 11b, 2437MHz, 11Mbps, (Worst Hor:Z-Axis Ver:Y-Axis)

LIMIT : FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:AV




| Frequency | Reading | DET | Antenna Factor | Loss& Gain | Level | Angle | Height | Polar. | Limit | Margin |
|---|---|---|---|---|---|---|---|---|---|---|
| [MHz] | [dBuV] | | [dB/m] | [dB] | [dBuV/m] | [Deg] | [cm] | | [dBuV/m] | [dB] |
| 39.996 | 24.2 | QP | 13.9 | -24.8 | 13.3 | 158 | 277 | Hori. | 40.0 | 26.7 |
| 39.996 | 36.6 | QP | 13.9 | -24.8 | 25.7 | 137 | 100 | Vert. | 40.0 | 14.3 |
| 80.005 | 28.6 | QP | 7.0 | -24.2 | 11.4 | 117 | 228 | Hori. | 40.0 | 28.6 |
| 79.996 | 39.0 | QP | 7.0 | -24.2 | 21.8 | 255 | 100 | Vert. | 40.0 | 18.2 |
| 119.993 | 41.9 | QP | 13.1 | -23.7 | 31.3 | 256 | 141 | Hori. | 43.5 | 12.2 |
| 119.996 | 47.4 | QP | 13.1 | -23.7 | 36.8 | 230 | 100 | Vert. | 43.5 | 6.7 |
| 199.994 | 33.8 | QP | 16.7 | -22.8 | 27.7 | 183 | 100 | Hori. | 43.5 | 15.8 |
| 199.995 | 36.2 | QP | 16.7 | -22.8 | 30.1 | 13 | 100 | Vert. | 43.5 | 13.4 |
| 239.995 | 38.5 | QP | 17.1 | -22.5 | 33.1 | 198 | 100 | Hori. | 46.0 | 12.9 |
| 239.995 | 36.2 | QP | 17.1 | -22.5 | 30.8 | 81 | 164 | Vert. | 46.0 | 15.2 |
| 279.994 | 32.9 | QP | 18.9 | -22.2 | 29.6 | 228 | 121 | Hori. | 46.0 | 16.4 |
| 279.995 | 34.4 | QP | 18.9 | -22.2 | 31.1 | 102 | 100 | Vert. | 46.0 | 14.9 |
| 319.998 | 34.2 | QP | 16.4 | -21.9 | 28.7 | 215 | 100 | Hori. | 46.0 | 17.3 |
| 319.998 | 31.3 | QP | 16.4 | -21.9 | 25.8 | 100 | 100 | Vert. | 46.0 | 20.2 |

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

*The test result is round off to one or two decimal places, so some differences might be observed.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# Radiated Spurious Emission (below 1GHz)
## 11b, Tx, Ch:High

DATA OF RADIATED EMISSION TEST

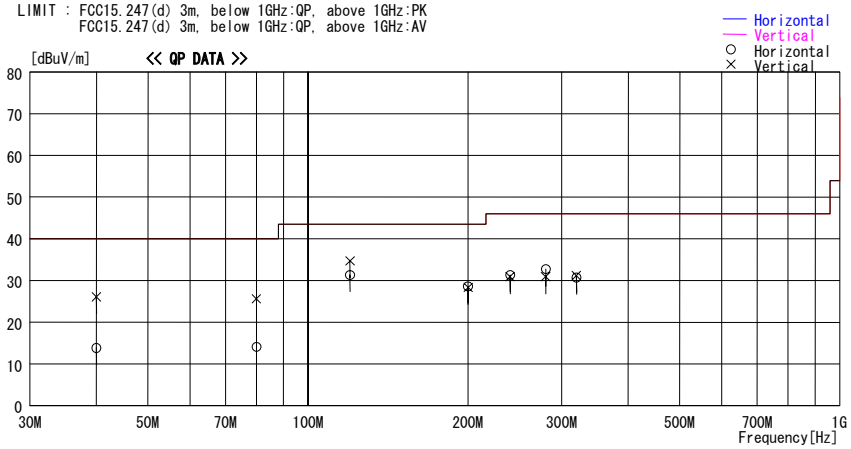
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2007/10/01

Company : SANYO Electric Co.,Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 24deg.C / 74%
Operator : Shinya Watanabe

Mode / Remarks : Transmitting 11b, 2462MHz, 11Mbps, (Worst Hor:Z-Axis Ver:Y-Axis)

LIMIT : FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:AV




| Frequency [MHz] | Reading [dBuV] | DET | Antenna Factor [dB/m] | Loss& Gain [dB] | Level [dBuV/m] | Angle [Deg] | Height [cm] | Polar. | Limit [dBuV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 39.995 | 24.7 | QP | 13.9 | -24.8 | 13.8 | 159 | 287 | Hori. | 40.0 | 26.2 |
| 39.995 | 37.0 | QP | 13.9 | -24.8 | 26.1 | 121 | 100 | Vert. | 40.0 | 13.9 |
| 79.992 | 31.3 | QP | 7.0 | -24.2 | 14.1 | 133 | 231 | Hori. | 40.0 | 25.9 |
| 79.999 | 42.8 | QP | 7.0 | -24.2 | 25.6 | 250 | 111 | Vert. | 40.0 | 14.4 |
| 119.996 | 42.0 | QP | 13.1 | -23.7 | 31.4 | 249 | 141 | Hori. | 43.5 | 12.1 |
| 120.000 | 45.3 | QP | 13.1 | -23.7 | 34.7 | 129 | 100 | Vert. | 43.5 | 8.8 |
| 199.998 | 34.7 | QP | 16.7 | -22.8 | 28.6 | 198 | 100 | Hori. | 43.5 | 14.9 |
| 199.997 | 34.4 | QP | 16.7 | -22.8 | 28.3 | 46 | 100 | Vert. | 43.5 | 15.2 |
| 239.994 | 36.8 | QP | 17.1 | -22.5 | 31.4 | 204 | 100 | Hori. | 46.0 | 14.6 |
| 239.998 | 36.3 | QP | 17.1 | -22.5 | 30.9 | 84 | 123 | Vert. | 46.0 | 15.1 |
| 280.000 | 36.0 | QP | 18.9 | -22.2 | 32.7 | 209 | 120 | Hori. | 46.0 | 13.3 |
| 280.001 | 34.2 | QP | 18.9 | -22.2 | 30.9 | 118 | 100 | Vert. | 46.0 | 15.1 |
| 319.995 | 36.2 | QP | 16.4 | -21.9 | 30.7 | 228 | 100 | Hori. | 46.0 | 15.3 |
| 319.997 | 36.7 | QP | 16.4 | -21.9 | 31.2 | 104 | 100 | Vert. | 46.0 | 14.8 |

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

*The test result is round off to one or two decimal places, so some differences might be observed.

# Radiated Spurious Emission (below 1GHz)

## 11g, Tx, Ch:Low

DATA OF RADIATED EMISSION TEST

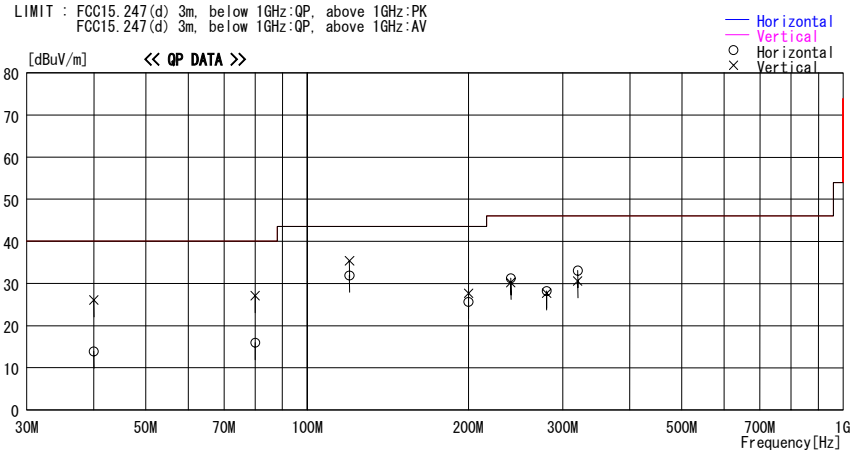
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2007/10/01

Company : SANYO Electric Co.,Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 24deg.C / 74%
Operator : Shinya Watanabe

Mode / Remarks : Transmitting 11g, 2412MHz, 54Mbps, (Worst Hor:Z-Axis Ver:Y-Axis)

LIMIT : FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:AV




| Frequency [MHz] | Reading [dBuV] | DET | Antenna Factor [dB/m] | Loss& Gain [dB] | Level [dBuV/m] | Angle [Deg] | Height [cm] | Polar. | Limit [dBuV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 39.998 | 24.8 | QP | 13.9 | -24.8 | 13.9 | 164 | 287 | Hori. | 40.0 | 26.1 |
| 39.998 | 37.0 | QP | 13.9 | -24.8 | 26.1 | 134 | 100 | Vert. | 40.0 | 13.9 |
| 79.996 | 33.1 | QP | 7.0 | -24.2 | 15.9 | 135 | 227 | Hori. | 40.0 | 24.1 |
| 80.000 | 44.2 | QP | 7.0 | -24.1 | 27.1 | 269 | 110 | Vert. | 40.0 | 12.9 |
| 120.003 | 42.5 | QP | 13.1 | -23.7 | 31.9 | 235 | 145 | Hori. | 43.5 | 11.6 |
| 119.998 | 46.0 | QP | 13.1 | -23.7 | 35.4 | 133 | 100 | Vert. | 43.5 | 8.1 |
| 199.998 | 31.7 | QP | 16.7 | -22.8 | 25.6 | 181 | 100 | Hori. | 43.5 | 17.9 |
| 199.995 | 33.8 | QP | 16.7 | -22.8 | 27.7 | 58 | 100 | Vert. | 43.5 | 15.8 |
| 240.005 | 36.7 | QP | 17.1 | -22.5 | 31.3 | 194 | 100 | Hori. | 46.0 | 14.7 |
| 239.993 | 35.6 | QP | 17.1 | -22.5 | 30.2 | 91 | 116 | Vert. | 46.0 | 15.8 |
| 279.988 | 31.5 | QP | 18.9 | -22.2 | 28.2 | 212 | 122 | Hori. | 46.0 | 17.8 |
| 279.992 | 31.0 | QP | 18.9 | -22.2 | 27.7 | 109 | 100 | Vert. | 46.0 | 18.3 |
| 319.996 | 38.6 | QP | 16.4 | -21.9 | 33.1 | 223 | 100 | Hori. | 46.0 | 12.9 |
| 319.992 | 36.1 | QP | 16.4 | -21.9 | 30.6 | 103 | 100 | Vert. | 46.0 | 15.4 |

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

*The test result is round off to one or two decimal places, so some differences might be observed.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# Radiated Spurious Emission (below 1GHz)
## 11g, Tx, Ch:Mid

DATA OF RADIATED EMISSION TEST

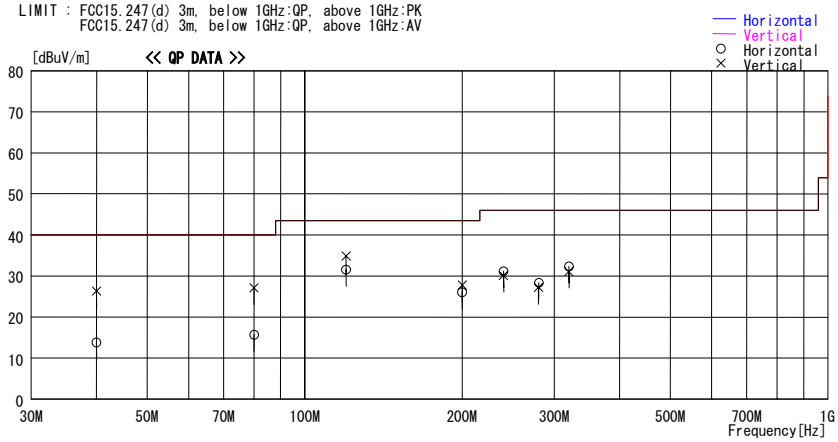
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2007/10/01

Company : SANYO Electric Co.,Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 24deg.C / 74%
Operator : Shinya Watanabe

Mode / Remarks : Transmitting 11g, 2437MHz, 54Mbps, (Worst Hor:Z-Axis Ver:Y-Axis)

LIMIT : FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:AV




| Frequency | Reading | DET | Antenna Factor | Loss& Gain | Level | Angle | Height | Polar. | Limit | Margin |
|---|---|---|---|---|---|---|---|---|---|---|
| [MHz] | [dBuV] | | [dB/m] | [dB] | [dBuV/m] | [Deg] | [cm] | | [dBuV/m] | [dB] |
| 40.008 | 24.7 | QP | 13.9 | -24.8 | 13.8 | 168 | 291 | Hori. | 40.0 | 26.2 |
| 40.009 | 37.2 | QP | 13.9 | -24.8 | 26.3 | 130 | 100 | Vert. | 40.0 | 13.7 |
| 79.999 | 32.9 | QP | 7.0 | -24.2 | 15.7 | 139 | 237 | Hori. | 40.0 | 24.3 |
| 79.999 | 44.3 | QP | 7.0 | -24.2 | 27.1 | 265 | 117 | Vert. | 40.0 | 12.9 |
| 120.000 | 42.1 | QP | 13.1 | -23.7 | 31.5 | 239 | 144 | Hori. | 43.5 | 12.0 |
| 119.989 | 45.5 | QP | 13.1 | -23.7 | 34.9 | 129 | 100 | Vert. | 43.5 | 8.6 |
| 199.990 | 32.1 | QP | 16.7 | -22.8 | 26.0 | 205 | 100 | Hori. | 43.5 | 17.5 |
| 200.006 | 33.9 | QP | 16.7 | -22.8 | 27.8 | 49 | 100 | Vert. | 43.5 | 15.7 |
| 239.998 | 36.6 | QP | 17.1 | -22.5 | 31.2 | 210 | 100 | Hori. | 46.0 | 14.8 |
| 239.994 | 35.5 | QP | 17.1 | -22.5 | 30.1 | 89 | 115 | Vert. | 46.0 | 15.9 |
| 280.028 | 31.7 | QP | 18.9 | -22.2 | 28.4 | 219 | 124 | Hori. | 46.0 | 17.6 |
| 279.994 | 30.5 | QP | 18.9 | -22.2 | 27.2 | 116 | 100 | Vert. | 46.0 | 18.8 |
| 319.996 | 37.8 | QP | 16.4 | -21.9 | 32.3 | 229 | 100 | Hori. | 46.0 | 13.7 |
| 319.995 | 36.6 | QP | 16.4 | -21.9 | 31.1 | 106 | 100 | Vert. | 46.0 | 14.9 |

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

*The test result is round off to one or two decimal places, so some differences might be observed.

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# Radiated Spurious Emission (below 1GHz)
## 11g, Tx, Ch:High

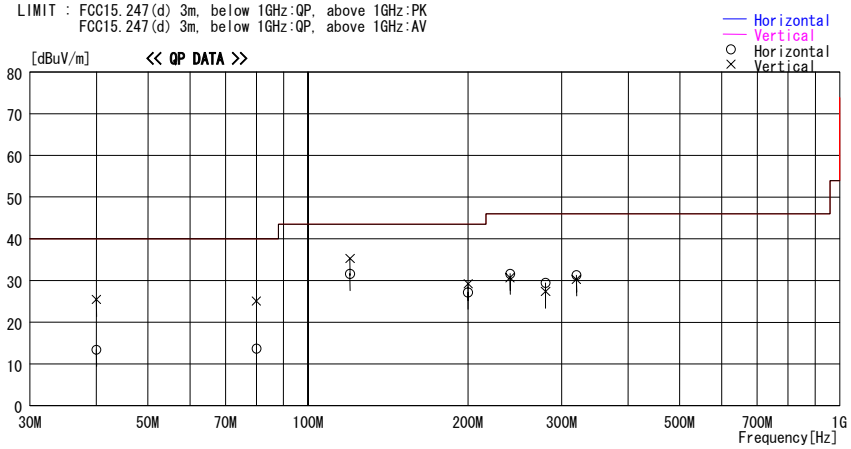
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2007/10/01

| | | | |
|---|---|---|---|
| Company | : SANYO Electric Co.,Ltd. | Report No. | : 27KE0187-HO |
| Kind of EUT | : WLAN Module | Power | : DC 3.3V |
| Model No. | : QXXAVC922---P | Temp./Humi. | : 24deg.C / 74% |
| Serial No. | : 1 | Operator | : Shinya Watanabe |

Mode / Remarks : Transmitting 11g, 2462MHz, 54Mbps, (Worst Hor:Z-Axis Ver:Y-Axis)

LIMIT : FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.247(d) 3m, below 1GHz:QP, above 1GHz:AV




| Frequency [MHz] | Reading [dBuV] | DET | Antenna Factor [dB/m] | Loss& Gain [dB] | Level [dBuV/m] | Angle [Deg] | Height [cm] | Polar. | Limit [dBuV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 40.003 | 24.3 | QP | 13.9 | -24.8 | 13.4 | 162 | 296 | Hori. | 40.0 | 26.6 |
| 40.003 | 36.3 | QP | 13.9 | -24.8 | 25.4 | 128 | 100 | Vert. | 40.0 | 14.6 |
| 80.005 | 30.9 | QP | 7.0 | -24.2 | 13.7 | 144 | 223 | Hori. | 40.0 | 26.3 |
| 79.996 | 42.3 | QP | 7.0 | -24.2 | 25.1 | 261 | 116 | Vert. | 40.0 | 14.9 |
| 119.995 | 42.2 | QP | 13.1 | -23.7 | 31.6 | 243 | 144 | Hori. | 43.5 | 11.9 |
| 119.998 | 45.9 | QP | 13.1 | -23.7 | 35.3 | 113 | 100 | Vert. | 43.5 | 8.2 |
| 200.002 | 33.3 | QP | 16.7 | -22.8 | 27.2 | 199 | 100 | Hori. | 43.5 | 16.3 |
| 199.998 | 35.3 | QP | 16.7 | -22.8 | 29.2 | 52 | 100 | Vert. | 43.5 | 14.3 |
| 239.995 | 37.0 | QP | 17.1 | -22.5 | 31.6 | 204 | 100 | Hori. | 46.0 | 14.4 |
| 239.997 | 36.1 | QP | 17.1 | -22.5 | 30.7 | 92 | 118 | Vert. | 46.0 | 15.3 |
| 279.995 | 32.7 | QP | 18.9 | -22.2 | 29.4 | 213 | 122 | Hori. | 46.0 | 16.6 |
| 279.987 | 30.7 | QP | 18.9 | -22.2 | 27.4 | 119 | 100 | Vert. | 46.0 | 18.6 |
| 319.998 | 36.8 | QP | 16.4 | -21.9 | 31.3 | 222 | 100 | Hori. | 46.0 | 14.7 |
| 319.994 | 35.8 | QP | 16.4 | -21.9 | 30.3 | 103 | 100 | Vert. | 46.0 | 15.7 |

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

*The test result is round off to one or two decimal places, so some differences might be observed.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# Radiated Spurious Emission (below 1GHz)
## Rx, Ch:Mid

DATA OF RADIATED EMISSION TEST

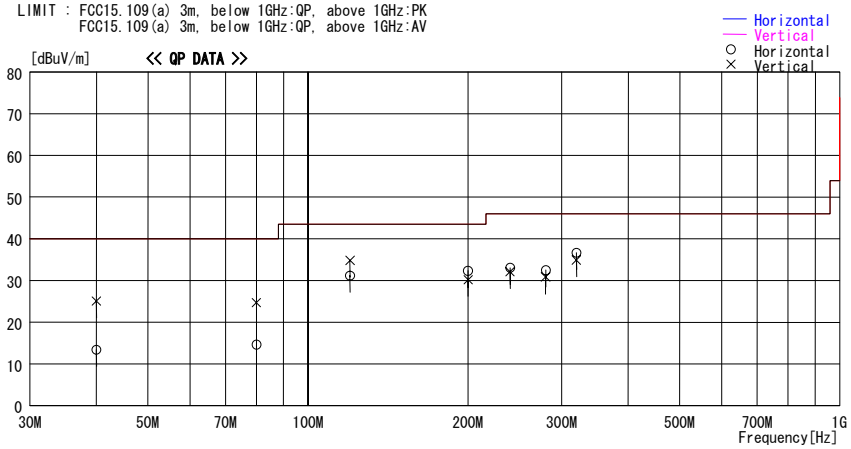
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2007/10/01

Company : SANYO Electric Co.,Ltd.
Kind of EUT : WLAN Module
Model No. : QXXAVC922---P
Serial No. : 1

Report No. : 27KE0187-HO
Power : DC 3.3V
Temp./Humi. : 24deg.C / 74%
Operator : Shinya Watanabe

Mode / Remarks : Receiving, 2437MHz, (Worst Hor:Z-Axis Ver:Y-Axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV




| Frequency [MHz] | Reading [dBuV] | DET | Antenna Factor [dB/m] | Loss& Gain [dB] | Level [dBuV/m] | Angle [Deg] | Height [cm] | Polar. | Limit [dBuV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 39.997 | 24.3 | QP | 13.9 | -24.8 | 13.4 | 165 | 308 | Hori. | 40.0 | 26.6 |
| 39.996 | 36.0 | QP | 13.9 | -24.8 | 25.1 | 130 | 100 | Vert. | 40.0 | 14.9 |
| 80.002 | 31.8 | QP | 7.0 | -24.2 | 14.6 | 115 | 245 | Hori. | 40.0 | 25.4 |
| 79.996 | 41.9 | QP | 7.0 | -24.2 | 24.7 | 269 | 100 | Vert. | 40.0 | 15.3 |
| 119.990 | 41.8 | QP | 13.1 | -23.7 | 31.2 | 244 | 145 | Hori. | 43.5 | 12.3 |
| 119.996 | 45.4 | QP | 13.1 | -23.7 | 34.8 | 115 | 100 | Vert. | 43.5 | 8.7 |
| 199.998 | 38.4 | QP | 16.7 | -22.8 | 32.3 | 237 | 100 | Hori. | 43.5 | 11.2 |
| 199.994 | 36.3 | QP | 16.7 | -22.8 | 30.2 | 62 | 100 | Vert. | 43.5 | 13.3 |
| 239.993 | 38.5 | QP | 17.1 | -22.5 | 33.1 | 188 | 100 | Hori. | 46.0 | 12.9 |
| 239.993 | 37.5 | QP | 17.1 | -22.5 | 32.1 | 80 | 118 | Vert. | 46.0 | 13.9 |
| 280.002 | 35.8 | QP | 18.9 | -22.2 | 32.5 | 216 | 118 | Hori. | 46.0 | 13.5 |
| 279.997 | 34.1 | QP | 18.9 | -22.2 | 30.8 | 117 | 100 | Vert. | 46.0 | 15.2 |
| 319.997 | 42.2 | QP | 16.4 | -21.9 | 36.7 | 228 | 100 | Hori. | 46.0 | 9.3 |
| 319.998 | 40.4 | QP | 16.4 | -21.9 | 34.9 | 108 | 100 | Vert. | 46.0 | 11.1 |

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

*The test result is round off to one or two decimal places, so some differences might be observed.

# Radiated Spurious Emission (above 1GHz)

## 11b, Tx, Ch:Low

UL Japan, Inc.
Head Office EMC Lab. No.4 Anechoic Chamber

| | | | |
|---|---|---|---|
| Company | SANYO Electric Co., Ltd. | Regulation | FCC Part15 Subpart C 15.247(d) / RSS-210 A8.5 |
| Equipment | WLAN Module | Test Distance | 3m (below 10GHz), 1m (above 10GHz) |
| Model | QXXAVC922---P | Date | 10/05/2007 |
| S/N | 1 | Temperature | 24deg.C. |
| Power | DC3.3V | Humidity | 59 % |
| Mode | Transmitting mode 11b, 2412MHz (11Mbps) | Engineer | Takahiro Hatakeda |
| EUT-Axis | H: Z-axis, V: Y-axis | | |

**PK DETECT** (RBW: 1MHz, VBW: 1MHz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | PK | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 2390.0 | 54.3 | 51.7 | 27.0 | 32.1 | 2.5 | 0.0 | 51.7 | 49.1 | 73.9 | 22.2 | 24.8 |
| 2 ** | 2400.0 | 61.4 | 58.6 | 27.0 | 32.1 | 2.5 | 0.0 | 58.8 | 56.0 | - | - | - |
| 3 | 4824.0 | 42.2 | 42.0 | 30.8 | 31.2 | 3.4 | 0.4 | 45.6 | 45.4 | 73.9 | 28.3 | 28.5 |
| 4 | 7236.0 | 41.8 | 41.8 | 35.7 | 32.5 | 4.2 | 0.6 | 49.8 | 49.8 | 73.9 | 24.1 | 24.1 |
| 5 | 9648.0 | 41.6 | 41.5 | 38.2 | 32.9 | 5.3 | 0.8 | 53.0 | 52.9 | 73.9 | **20.9** | 21.0 |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 6 | 24120.0 | 47.1 | 47.1 | 38.7 | 32.2 | 8.1 | 0.0 | 52.2 | 52.2 | 73.9 | 21.7 | 21.7 |

** Reference data

**AV DETECT** (RBW: 1MHz, VBW: 10Hz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | AV | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 2390.0 | 42.0 | 38.8 | 27.0 | 32.1 | 2.5 | 0.0 | 39.4 | 36.2 | 53.9 | 14.5 | 17.7 |
| 2 ** | 2400.0 | 51.2 | 48.5 | 27.0 | 32.1 | 2.5 | 0.0 | 48.6 | 45.9 | - | - | - |
| 3 | 4824.0 | 29.2 | 29.0 | 30.8 | 31.2 | 3.4 | 0.4 | 32.6 | 32.4 | 53.9 | 21.3 | 21.5 |
| 4 | 7236.0 | 29.9 | 29.8 | 35.7 | 32.5 | 4.2 | 0.6 | 37.9 | 37.8 | 53.9 | 16.0 | 16.1 |
| 5 | 9648.0 | 29.2 | 29.2 | 38.2 | 32.9 | 5.3 | 0.8 | 40.6 | 40.6 | 53.9 | **13.3** | **13.3** |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 6 | 24120.0 | 34.9 | 34.8 | 38.7 | 32.2 | 8.1 | 0.0 | 40.0 | 39.9 | 53.9 | 13.9 | 14.0 |

** Reference data

**20dBc (Fundamental 2412.0 MHz)** (RBW: 100kHz, VBW: 300kHz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | 20dBc | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | [dB] |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 0 | 2412.00 | 102.9 | 100.5 | 27.1 | 32.1 | 2.5 | 0.0 | 100.4 | 98.0 | - | - | - |
| 2 | 2400.00 | 52.1 | 49.4 | 27.0 | 32.1 | 2.5 | 0.0 | 49.5 | 46.8 | Funda-20dB | 30.9 | 31.2 |

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB

*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*In the frequency over the Third harmonic, the noise from the EUT was not seen.The data above is its base noise.
*Hi-Pass Fiter was not used for factor 0.0dB of the above table.
*The limit is rounded down to one decimal place.
*The test result is round off to one or two decimal places, so some differences might be observed.

# Radiated Spurious Emission (above 1GHz)

## 11b, Tx, Ch:Mid

UL Japan, Inc.
Head Office EMC Lab. No.4 Anechoic Chamber

| | | | |
|---|---|---|---|
| Company | SANYO Electric Co., Ltd. | Regulation | FCC Part15 Subpart C 15.247(d) / RSS-210 A8.5 |
| Equipment | WLAN Module | Test Distance | 3m (below 10GHz), 1m (above 10GHz) |
| Model | QXXAVC922---P | Date | 10/05/2007 |
| S/N | 1 | Temperature | 24deg.C. |
| Power | DC3.3V | Humidity | 59 % |
| Mode | Transmitting mode 11b, 2437MHz (11Mbps) | Engineer | Takahiro Hatakeda |
| EUT-Axis | H: Z-axis, V: Y-axis | | |

**PK DETECT** (RBW: 1MHz, VBW: 1MHz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | PK | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 4874.0 | 42.4 | 42.1 | 31.0 | 31.2 | 3.4 | 0.4 | 46.0 | 45.7 | 73.9 | 27.9 | 28.2 |
| 2 | 7311.0 | 42.0 | 42.0 | 35.9 | 32.5 | 4.3 | 0.6 | 50.3 | 50.3 | 73.9 | 23.6 | 23.6 |
| 3 | 9748.0 | 42.0 | 42.0 | 38.3 | 32.9 | 5.3 | 0.7 | 53.4 | 53.4 | 73.9 | **20.5** | **20.5** |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 4 | 24370.0 | 46.4 | 46.4 | 38.8 | 32.2 | 8.2 | 0.0 | 51.7 | 51.7 | 73.9 | 22.2 | 22.2 |

**AV DETECT** (RBW: 1MHz, VBW: 10Hz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | AV | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 4874.0 | 29.9 | 29.7 | 31.0 | 31.2 | 3.4 | 0.4 | 33.5 | 33.3 | 53.9 | 20.4 | 20.6 |
| 2 | 7311.0 | 29.9 | 29.9 | 35.9 | 32.5 | 4.3 | 0.6 | 38.2 | 38.2 | 53.9 | 15.7 | 15.7 |
| 3 | 9748.0 | 29.6 | 29.6 | 38.3 | 32.9 | 5.3 | 0.7 | 41.0 | 41.0 | 53.9 | **12.9** | **12.9** |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 4 | 24370.0 | 34.5 | 34.5 | 38.8 | 32.2 | 8.2 | 0.0 | 39.8 | 39.8 | 53.9 | 14.1 | 14.1 |

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*In the frequency over the Third harmonic, the noise from the EUT was not seen.The data above is its base noise.
*Hi-Pass Fiter was not used for factor 0.0dB of the above table.
*The limit is rounded down to one decimal place.
*The test result is round off to one or two decimal places, so some differences might be observed.

# Radiated Spurious Emission (above 1GHz)

## 11b, Tx, Ch:High

UL Japan, Inc.
Head Office EMC Lab. No.4 Anechoic Chamber

| | | | |
|---|---|---|---|
| Company | SANYO Electric Co., Ltd. | Regulation | FCC Part15 Subpart C 15.247(d) / RSS-210 A8.5 |
| Equipment | WLAN Module | Test Distance | 3m (below 10GHz), 1m (above 10GHz) |
| Model | QXXAVC922---P | Date | 10/05/2007 |
| S/N | 1 | Temperature | 24deg.C. |
| Power | DC3.3V | Humidity | 59 % |
| Mode | Transmitting mode 11b, 2462MHz (11Mbps) | Engineer | Takahiro Hatakeda |
| EUT-Axis | H: Z-axis, V: Y-axis | | |

**PK DETECT** (RBW: 1MHz, VBW: 1MHz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | PK | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 2483.5 | 48.7 | 48.9 | 27.2 | 32.1 | 2.6 | 0.0 | 46.4 | 46.6 | 73.9 | 27.5 | 27.3 |
| 2 | 4924.0 | 41.2 | 41.0 | 31.1 | 31.2 | 3.4 | 0.3 | 44.8 | 44.6 | 73.9 | 29.1 | 29.3 |
| 3 | 7386.0 | 42.0 | 42.0 | 36.0 | 32.6 | 4.3 | 0.6 | 50.3 | 50.3 | 73.9 | 23.6 | 23.6 |
| 4 | 9848.0 | 42.2 | 42.2 | 38.3 | 32.9 | 5.4 | 0.7 | 53.7 | 53.7 | 73.9 | **20.2** | **20.2** |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 5 | 24620.0 | 46.9 | 46.8 | 38.8 | 32.2 | 8.2 | 0.0 | 52.2 | 52.1 | 73.9 | 21.7 | 21.8 |

**AV DETECT** (RBW: 1MHz, VBW: 10Hz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | AV | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 2483.5 | 36.4 | 36.5 | 27.2 | 32.1 | 2.6 | 0.0 | 34.1 | 34.2 | 53.9 | 19.8 | 19.7 |
| 2 | 4924.0 | 29.2 | 29.0 | 31.1 | 31.2 | 3.4 | 0.3 | 32.8 | 32.6 | 53.9 | 21.1 | 21.3 |
| 3 | 7386.0 | 29.9 | 29.8 | 36.0 | 32.6 | 4.3 | 0.6 | 38.2 | 38.1 | 53.9 | 15.7 | 15.8 |
| 4 | 9848.0 | 29.9 | 29.9 | 38.3 | 32.9 | 5.4 | 0.7 | 41.4 | 41.4 | 53.9 | **12.5** | **12.5** |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 5 | 24620.0 | 33.9 | 33.9 | 38.8 | 32.2 | 8.2 | 0.0 | 39.2 | 39.2 | 53.9 | 14.7 | 14.7 |

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*In the frequency over the Third harmonic, the noise from the EUT was not seen.The data above is its base noise.
*Hi-Pass Fiter was not used for factor 0.0dB of the above table.
*The limit is rounded down to one decimal place.
*The test result is round off to one or two decimal places, so some differences might be observed.

# Radiated Spurious Emission (above 1GHz)

## 11g, Tx, Ch:Low

UL Japan, Inc.
Head Office EMC Lab. No.4 Anechoic Chamber

| | | | |
|---|---|---|---|
| Company | SANYO Electric Co., Ltd. | Regulation | FCC Part15 Subpart C 15.247(d) / RSS-210 A8.5 |
| Equipment | WLAN Module | Test Distance | 3m (below 10GHz), 1m (above 10GHz) |
| Model | QXXAVC922---P | Date | 10/05/2007 |
| S/N | 1 | Temperature | 24deg.C. |
| Power | DC3.3V | Humidity | 59 % |
| Mode | Transmitting mode 11g, 2412MHz (54Mbps) | Engineer | Takahiro Hatakeda |
| EUT-Axis | H: Z-axis, V: Y-axis | | |

**PK DETECT** (RBW: 1MHz, VBW: 1MHz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | PK | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 2390.0 | 64.8 | 63.3 | 27.0 | 32.1 | 2.5 | 0.0 | 62.2 | 60.7 | 73.9 | **11.7** | 13.2 |
| 2 ** | 2400.0 | 82.3 | 80.1 | 27.0 | 32.1 | 2.5 | 0.0 | 79.7 | 77.5 | - | - | - |
| 3 | 4824.0 | 42.0 | 42.0 | 30.8 | 31.2 | 3.4 | 0.4 | 45.4 | 45.4 | 73.9 | 28.5 | 28.5 |
| 4 | 7236.0 | 41.8 | 41.7 | 35.7 | 32.5 | 4.2 | 0.6 | 49.8 | 49.7 | 73.9 | 24.1 | 24.2 |
| 5 | 9648.0 | 41.6 | 41.6 | 38.2 | 32.9 | 5.3 | 0.8 | 53.0 | 53.0 | 73.9 | 20.9 | 20.9 |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 6 | 24120.0 | 45.9 | 45.8 | 38.7 | 32.2 | 8.1 | 0.0 | 51.0 | 50.9 | 73.9 | 22.9 | 23.0 |

** Reference data

**AV DETECT** (RBW: 1MHz, VBW: 10Hz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | AV | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 2390.0 | 47.7 | 45.8 | 27.0 | 32.1 | 2.5 | 0.0 | 45.1 | 43.2 | 53.9 | **8.8** | 10.7 |
| 2 ** | 2400.0 | 60.0 | 57.9 | 27.0 | 32.1 | 2.5 | 0.0 | 57.4 | 55.3 | - | - | - |
| 3 | 4824.0 | 29.1 | 29.0 | 30.8 | 31.2 | 3.4 | 0.4 | 32.5 | 32.4 | 53.9 | 21.4 | 21.5 |
| 4 | 7236.0 | 29.8 | 29.8 | 35.7 | 32.5 | 4.2 | 0.6 | 37.8 | 37.8 | 53.9 | 16.1 | 16.1 |
| 5 | 9648.0 | 29.2 | 29.2 | 38.2 | 32.9 | 5.3 | 0.8 | 40.6 | 40.6 | 53.9 | 13.3 | 13.3 |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 6 | 24120.0 | 33.3 | 33.3 | 38.7 | 32.2 | 8.1 | 0.0 | 38.4 | 38.4 | 53.9 | 15.5 | 15.5 |

** Reference data

**20dBc (Fundamental 2412.0 MHz)** (RBW: 100kHz, VBW: 300kHz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | 20dBc | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | [dB] |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 0 | 2412.00 | 97.3 | 95.9 | 27.1 | 32.1 | 2.5 | 0.0 | 94.8 | 93.4 | - | - | - |
| 2 | 2400.00 | 65.2 | 63.2 | 27.0 | 32.1 | 2.5 | 0.0 | 62.6 | 60.6 | Funda-20dB | 12.2 | 12.8 |

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB

*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*In the frequency over the Third harmonic, the noise from the EUT was not seen.The data above is its base noise.
*Hi-Pass Fiter was not used for factor 0.0dB of the above table.
*The limit is rounded down to one decimal place.
*The test result is round off to one or two decimal places, so some differences might be observed.

# Radiated Spurious Emission (above 1GHz)

## 11g, Tx, Ch:Mid

UL Japan, Inc.
Head Office EMC Lab. No.4 Anechoic Chamber

| | | | |
|---|---|---|---|
| Company | SANYO Electric Co., Ltd. | Regulation | FCC Part15 Subpart C 15.247(d) / RSS-210 A8.5 |
| Equipment | WLAN Module | Test Distance | 3m (below 10GHz), 1m (above 10GHz) |
| Model | QXXAVC922---P | Date | 10/05/2007 |
| S/N | 1 | Temperature | 24deg.C. |
| Power | DC3.3V | Humidity | 59 % |
| Mode | Transmitting mode 11g, 2437MHz (54Mbps) | Engineer | Takahiro Hatakeda |
| EUT-Axis | H: Z-axis, V: Y-axis | | |

**PK DETECT** (RBW: 1MHz, VBW: 1MHz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | PK | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 4874.0 | 41.4 | 41.7 | 31.0 | 31.2 | 3.4 | 0.4 | 45.0 | 45.3 | 73.9 | 28.9 | 28.6 |
| 2 | 7311.0 | 43.0 | 41.7 | 35.9 | 32.5 | 4.3 | 0.6 | 51.3 | 50.0 | 73.9 | 22.6 | 23.9 |
| 3 | 9748.0 | 42.2 | 41.9 | 38.3 | 32.9 | 5.3 | 0.7 | 53.6 | 53.3 | 73.9 | **20.3** | 20.6 |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 4 | 24370.0 | 46.0 | 45.9 | 38.8 | 32.2 | 8.2 | 0.0 | 51.3 | 51.2 | 73.9 | 22.6 | 22.7 |

**AV DETECT** (RBW: 1MHz, VBW: 10Hz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | AV | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 4874.0 | 29.3 | 29.1 | 31.0 | 31.2 | 3.4 | 0.4 | 32.9 | 32.7 | 53.9 | 21.0 | 21.2 |
| 2 | 7311.0 | 29.9 | 29.9 | 35.9 | 32.5 | 4.3 | 0.6 | 38.2 | 38.2 | 53.9 | 15.7 | 15.7 |
| 3 | 9748.0 | 29.6 | 29.6 | 38.3 | 32.9 | 5.3 | 0.7 | 41.0 | 41.0 | 53.9 | **12.9** | **12.9** |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 4 | 24370.0 | 33.6 | 33.6 | 38.8 | 32.2 | 8.2 | 0.0 | 38.9 | 38.9 | 53.9 | 15.0 | 15.0 |

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*In the frequency over the Third harmonic, the noise from the EUT was not seen.The data above is its base noise.
*Hi-Pass Fiter was not used for factor 0.0dB of the above table.
*The limit is rounded down to one decimal place.
*The test result is round off to one or two decimal places, so some differences might be observed.

# Radiated Spurious Emission (above 1GHz)

## 11g, Tx, Ch:High

UL Japan, Inc.
Head Office EMC Lab. No.4 Anechoic Chamber

| | | | |
|---|---|---|---|
| Company | SANYO Electric Co., Ltd. | Regulation | FCC Part15 Subpart C 15.247(d) / RSS-210 A8.5 |
| Equipment | WLAN Module | Test Distance | 3m (below 10GHz), 1m (above 10GHz) |
| Model | QXXAVC922---P | Date | 10/05/2007 |
| S/N | 1 | Temperature | 24deg.C. |
| Power | DC3.3V | Humidity | 59 % |
| Mode | Transmitting mode 11g, 2462MHz (54Mbps) | Engineer | Takahiro Hatakeda |
| EUT-Axis | H: Z-axis, V: Y-axis | | |

**PK DETECT** (RBW: 1MHz, VBW: 1MHz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | PK | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 2483.5 | 64.2 | 60.3 | 27.2 | 32.1 | 2.6 | 0.0 | 61.9 | 58.0 | 73.9 | **12.0** | 15.9 |
| 2 | 4924.0 | 41.1 | 41.2 | 31.1 | 31.2 | 3.4 | 0.3 | 44.7 | 44.8 | 73.9 | 29.2 | 29.1 |
| 3 | 7386.0 | 42.0 | 42.0 | 36.0 | 32.6 | 4.3 | 0.6 | 50.3 | 50.3 | 73.9 | 23.6 | 23.6 |
| 4 | 9848.0 | 42.2 | 42.1 | 38.3 | 32.9 | 5.4 | 0.7 | 53.7 | 53.6 | 73.9 | 20.2 | 20.3 |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 5 | 24620.0 | 46.2 | 46.2 | 38.8 | 32.2 | 8.2 | 0.0 | 51.5 | 51.5 | 73.9 | 22.4 | 22.4 |

**AV DETECT** (RBW: 1MHz, VBW: 10Hz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | AV | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 2483.5 | 45.1 | 41.8 | 27.2 | 32.1 | 2.6 | 0.0 | 42.8 | 39.5 | 53.9 | **11.1** | 14.4 |
| 2 | 4924.0 | 29.0 | 29.0 | 31.1 | 31.2 | 3.4 | 0.3 | 32.6 | 32.6 | 53.9 | 21.3 | 21.3 |
| 3 | 7386.0 | 29.8 | 29.9 | 36.0 | 32.6 | 4.3 | 0.6 | 38.1 | 38.2 | 53.9 | 15.8 | 15.7 |
| 4 | 9848.0 | 29.9 | 29.8 | 38.3 | 32.9 | 5.4 | 0.7 | 41.4 | 41.3 | 53.9 | 12.5 | 12.6 |
| **Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac** | | | | | | | | | | | | |
| 5 | 24620.0 | 33.7 | 33.7 | 38.8 | 32.2 | 8.2 | 0.0 | 39.0 | 39.0 | 53.9 | 14.9 | 14.9 |

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB
*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*In the frequency over the Third harmonic, the noise from the EUT was not seen.The data above is its base noise.
*Hi-Pass Fiter was not used for factor 0.0dB of the above table.
*The limit is rounded down to one decimal place.
*The test result is round off to one or two decimal places, so some differences might be observed.

# Radiated Spurious Emission (above 1GHz)

## 11b/g, Rx, Ch:Mid

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Head Office EMC Lab. No.4 Anechoic Chamber

| | | | |
|---|---|---|---|
| Company | SANYO Electric Co., Ltd. | Regulation | 15.109(a) / RSS-210 A8.5 |
| Equipment | WLAN Module | Test Distance | 3m |
| Model | QXXAVC922---P | Date | 10/05/2007 |
| S/N | 1 | Temperature | 24deg.C. |
| Power | DC3.3V | Humidity | 59 % |
| Mode | Receiving mode 11b/g, 2437MHz | Engineer | Takahiro Hatakeda |
| EUT-Axis | H: Z-axis, V: Y-axis | | |

**PK DETECT** (RBW: 1MHz, VBW: 1MHz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | PK | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 2437.0 | 42.4 | 42.3 | 27.1 | 32.1 | 2.5 | 0.0 | 39.9 | 39.8 | 73.9 | 34.0 | 34.1 |
| 2 | 4874.0 | 41.3 | 41.4 | 31.0 | 31.2 | 3.4 | 0.0 | 44.5 | 44.6 | 73.9 | 29.4 | 29.3 |

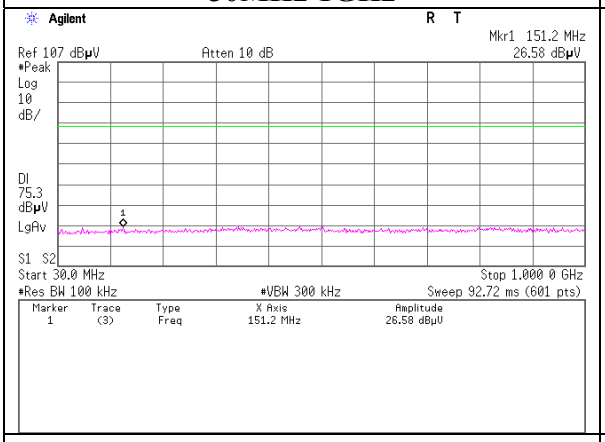
**AV DETECT** (RBW: 1MHz, VBW: 10Hz)

| No. | FREQ | S/A READING | | ANT | AMP | CABLE | Hi-Pass | RESULT | | Limit | MARGIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HOR | VER | Factor | GAIN | LOSS | Filter | HOR | VER | AV | HOR | VER |
| | [MHz] | [dBuV] | | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | | [dBuV/m] | [dB] | |
| **Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss** | | | | | | | | | | | | |
| 1 | 2437.0 | 29.7 | 29.7 | 27.1 | 32.1 | 2.5 | 0.0 | 27.2 | 27.2 | 53.9 | 26.7 | 26.7 |
| 2 | 4874.0 | 28.7 | 28.7 | 31.0 | 31.2 | 3.4 | 0.0 | 31.9 | 31.9 | 53.9 | 22.0 | 22.0 |

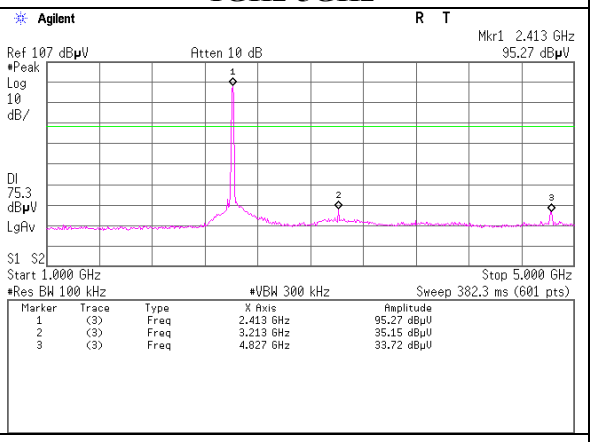
*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*Hi-Pass Fiter was not used for factor 0.0dB of the above table.
*The limit is rounded down to one decimal place.
*The test result is round off to one or two decimal places, so some differences might be observed.
*Spurious emission was checked up to the third harmonic.

# Conducted Spurious Emission
## 11b 11Mbps Tx, Ch: Low

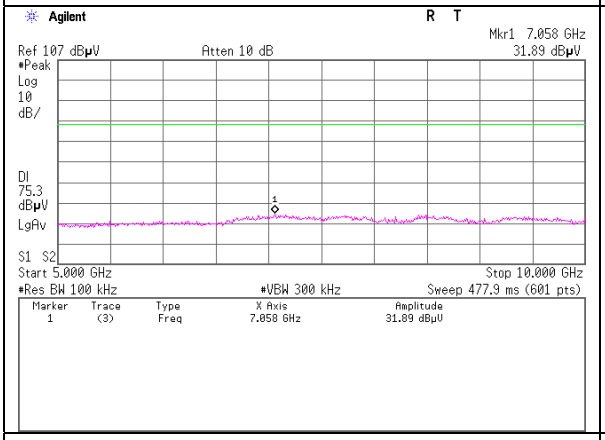
### 30MHz-1GHz



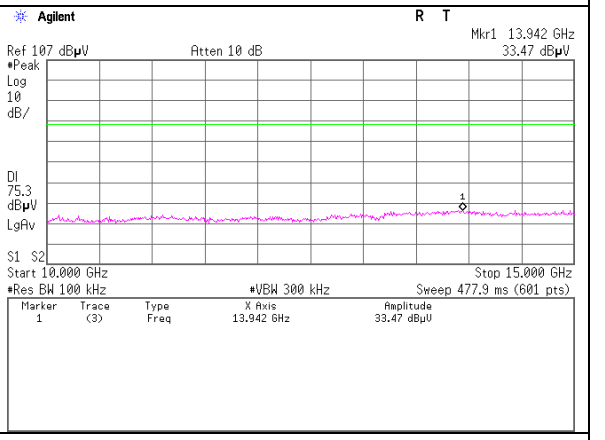

### 1GHz-5GHz



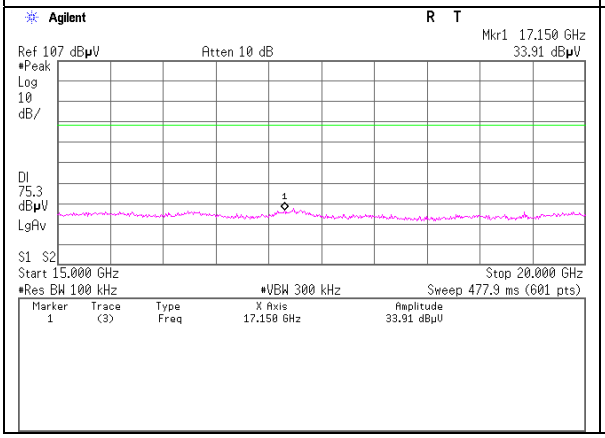

### 5GHz-10GHz



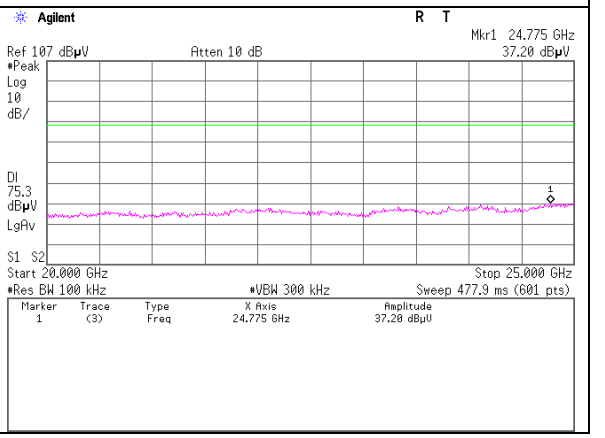

### 10GHz-15GHz




### 15GHz-20GHz




### 20GHz-25GHz

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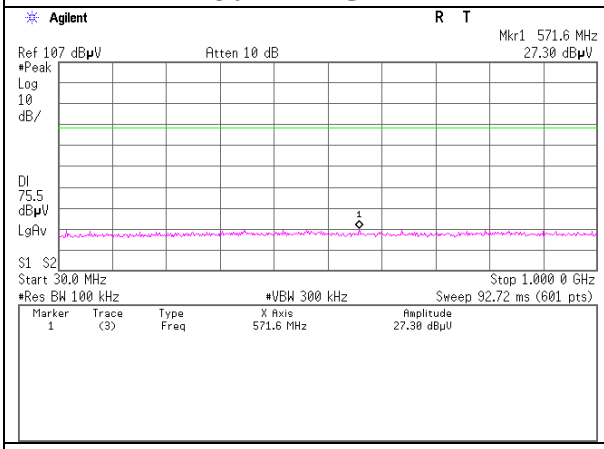
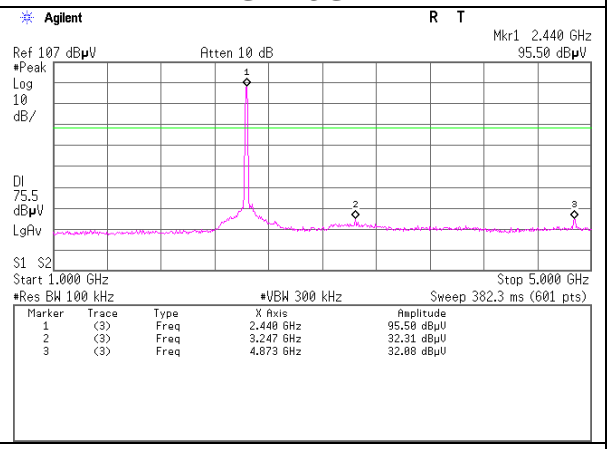
# Conducted Spurious Emission
## 11b 11Mbps Tx, Ch: Mid

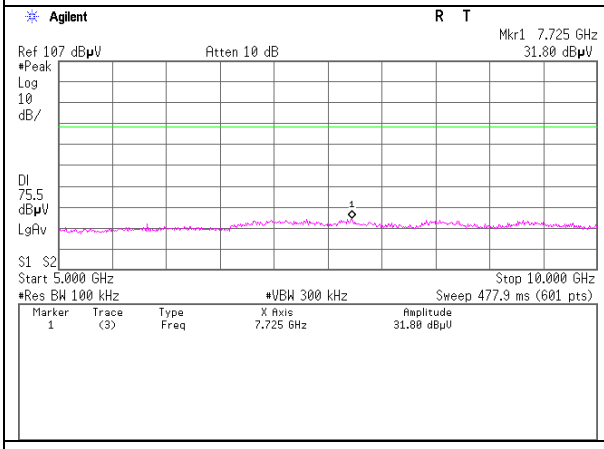
### 30MHz-1GHz



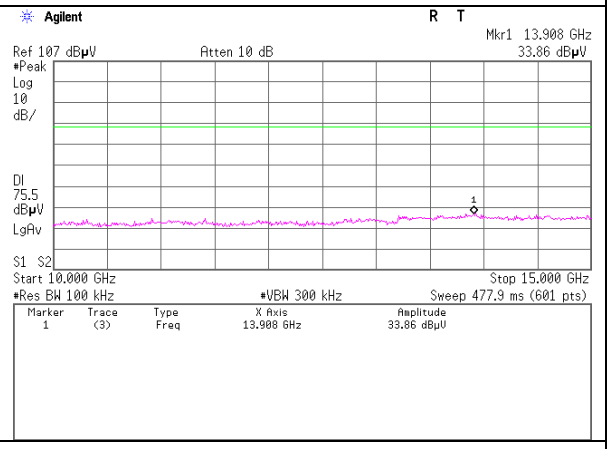

### 1GHz-5GHz



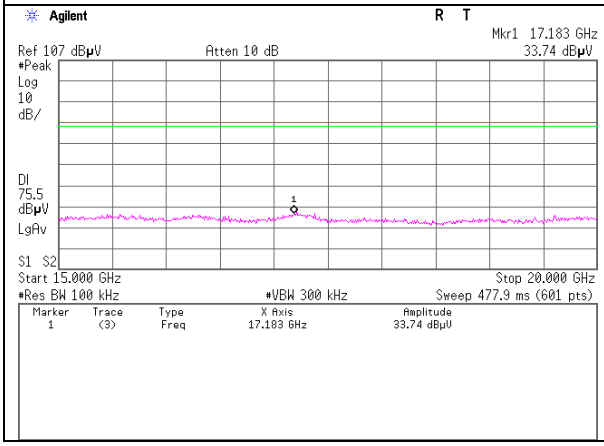

### 5GHz-10GHz



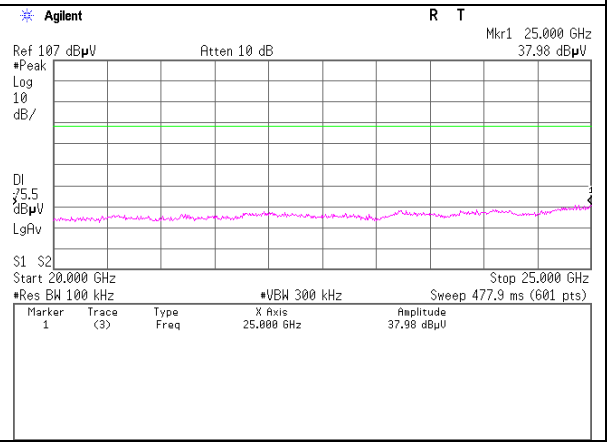

### 10GHz-15GHz




### 15GHz-20GHz




### 20GHz-25GHz

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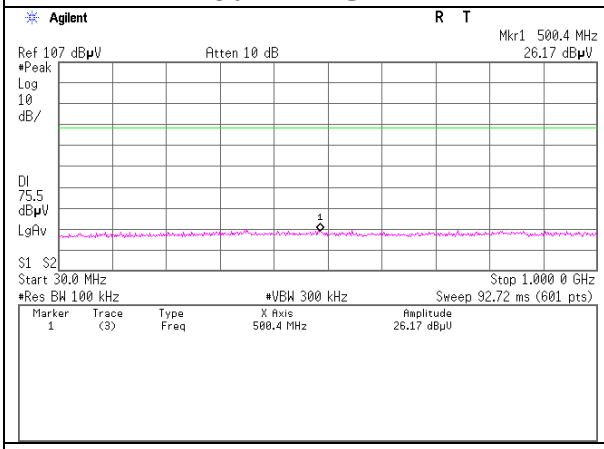
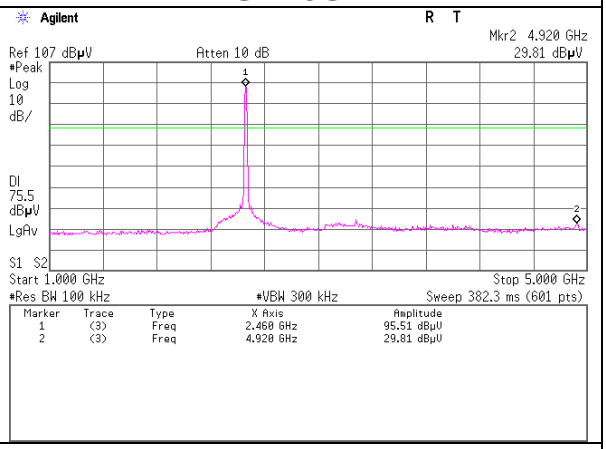
# Conducted Spurious Emission
## 11b 11Mbps Tx, Ch: High

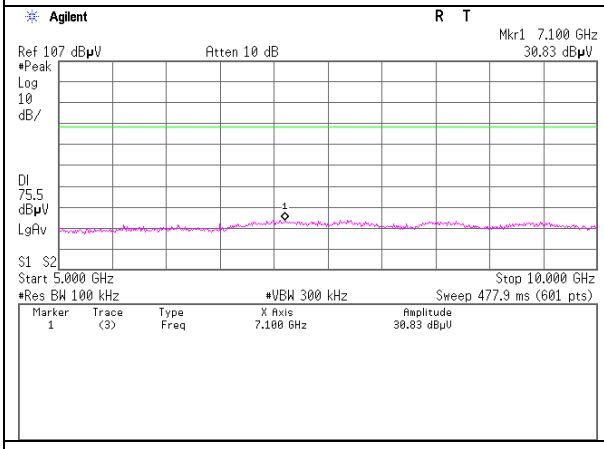
### 30MHz-1GHz



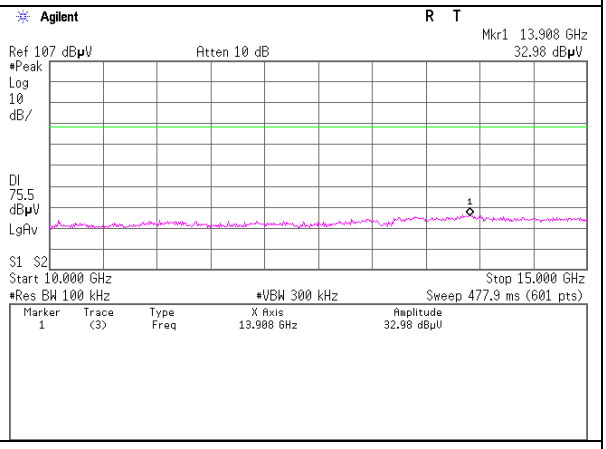

### 1GHz-5GHz



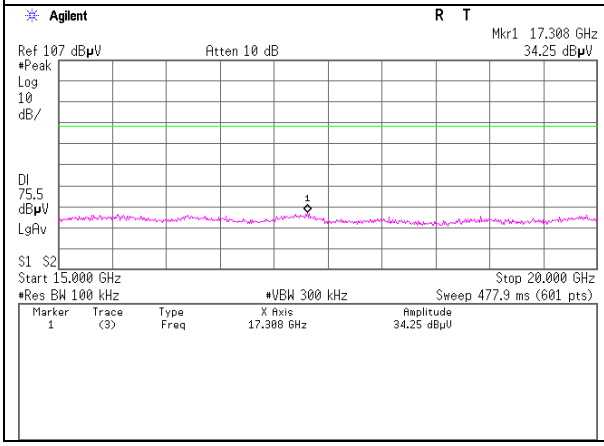

### 5GHz-10GHz



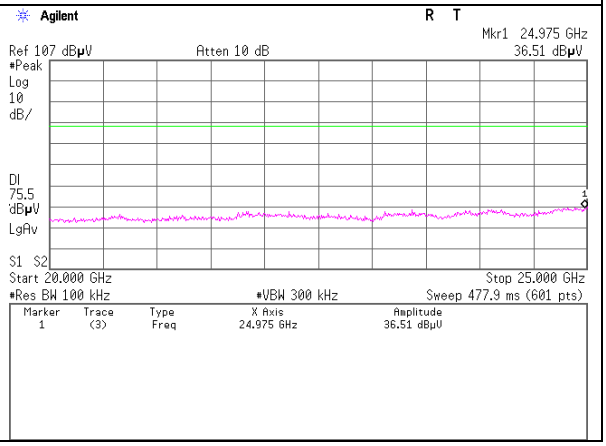

### 10GHz-15GHz




### 15GHz-20GHz




### 20GHz-25GHz

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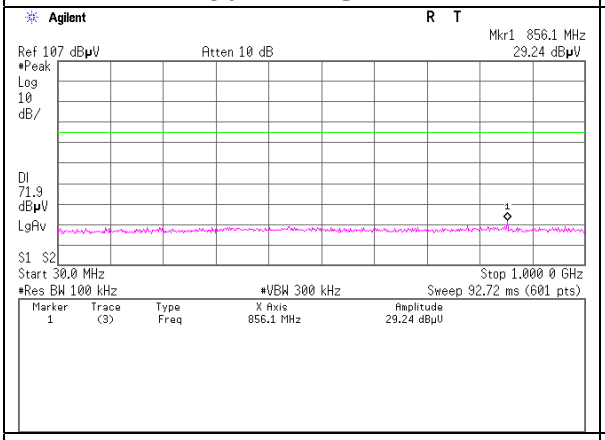
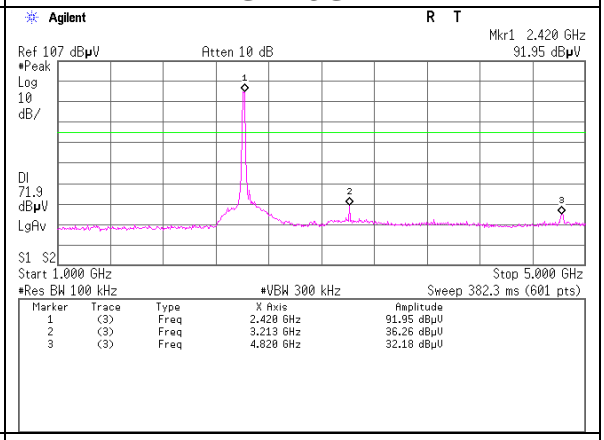
# Conducted Spurious Emission
## 11g 54Mbps Tx, Ch: Low

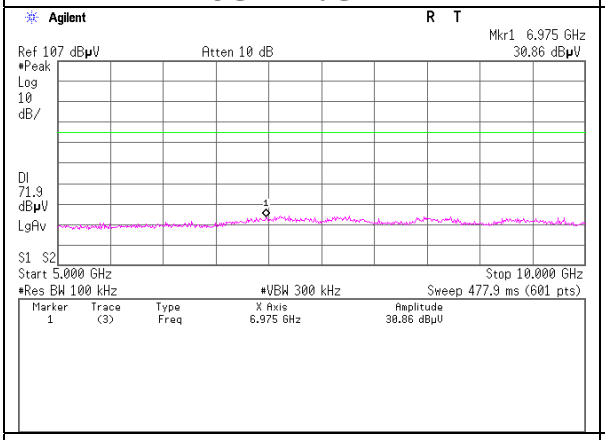
### 30MHz-1GHz



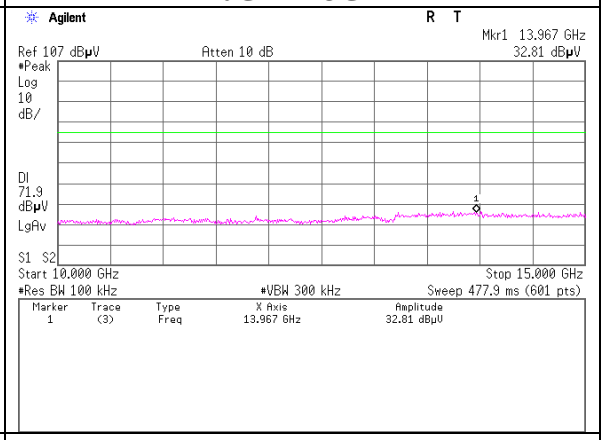

### 1GHz-5GHz



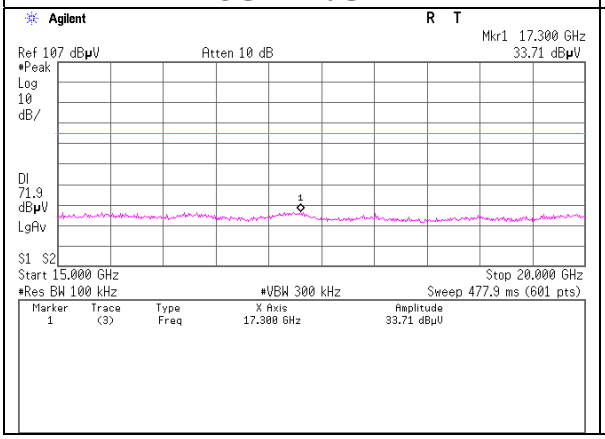

### 5GHz-10GHz



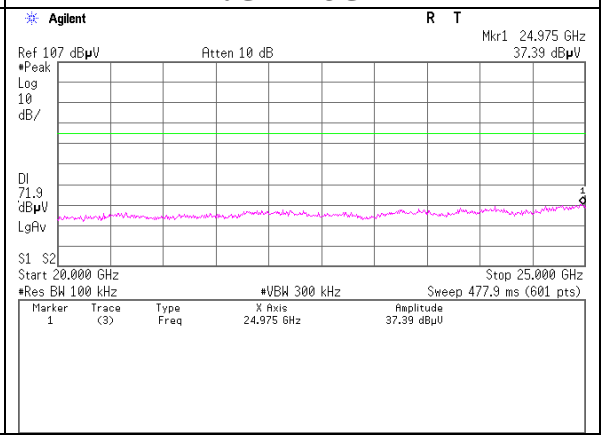

### 10GHz-15GHz




### 15GHz-20GHz

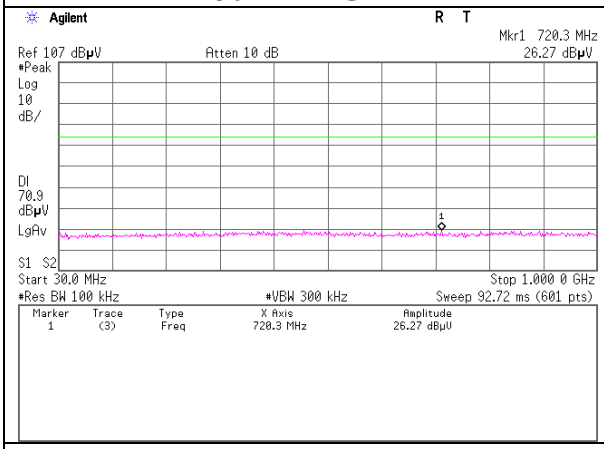



### 20GHz-25GHz

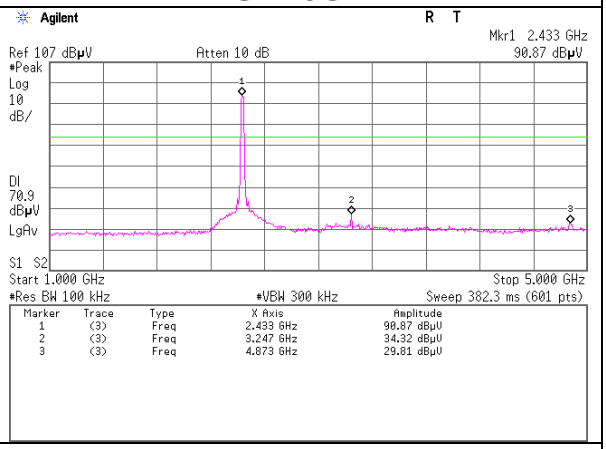


# Conducted Spurious Emission
## 11g 54Mbps Tx, Ch: Mid

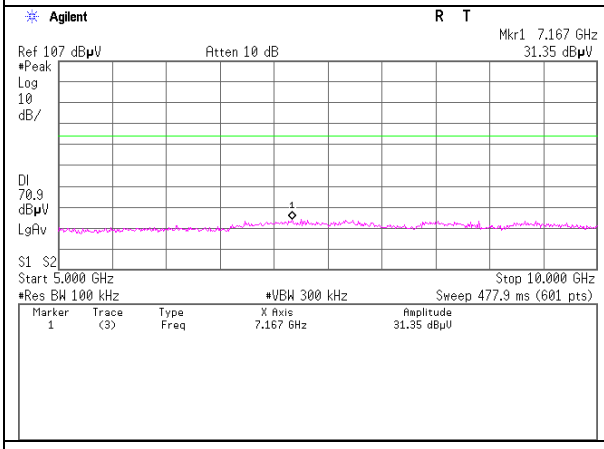
### 30MHz-1GHz



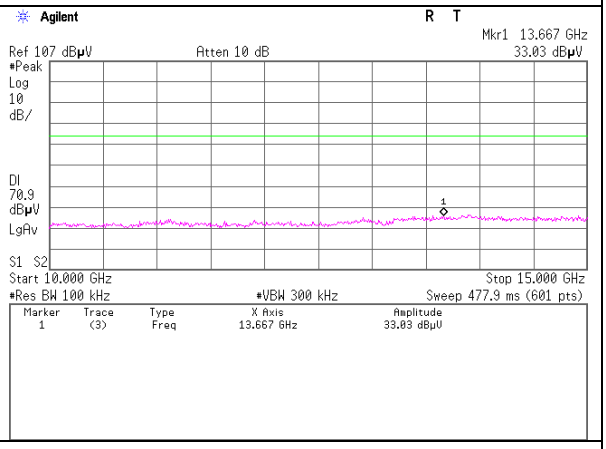

### 1GHz-5GHz



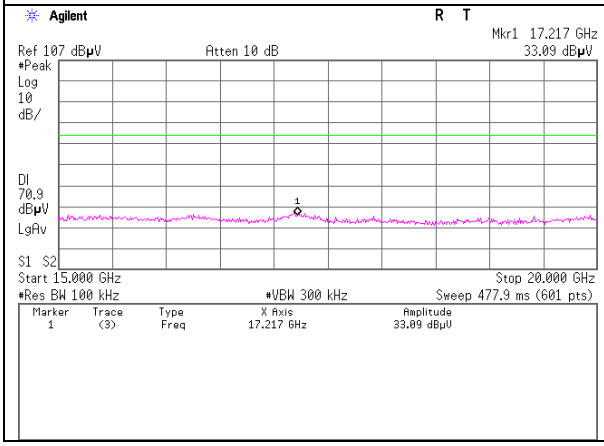

### 5GHz-10GHz



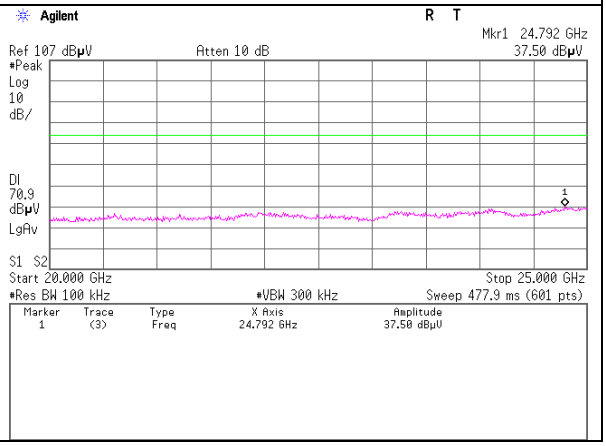

### 10GHz-15GHz




### 15GHz-20GHz




### 20GHz-25GHz

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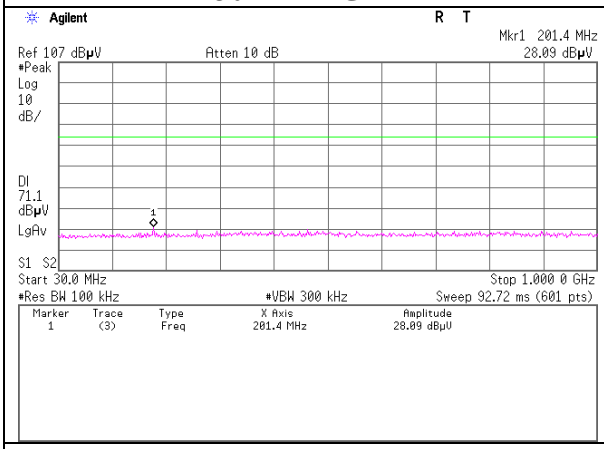
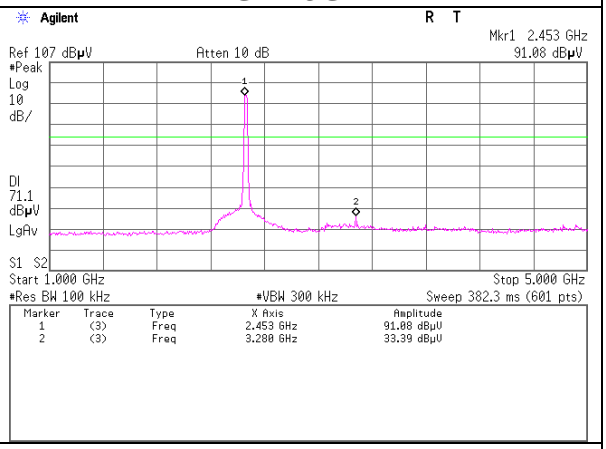
# Conducted Spurious Emission
## 11g 54Mbps Tx, Ch: High

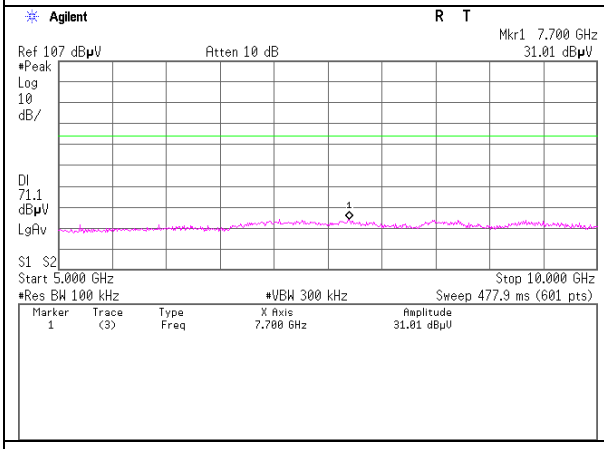
### 30MHz-1GHz



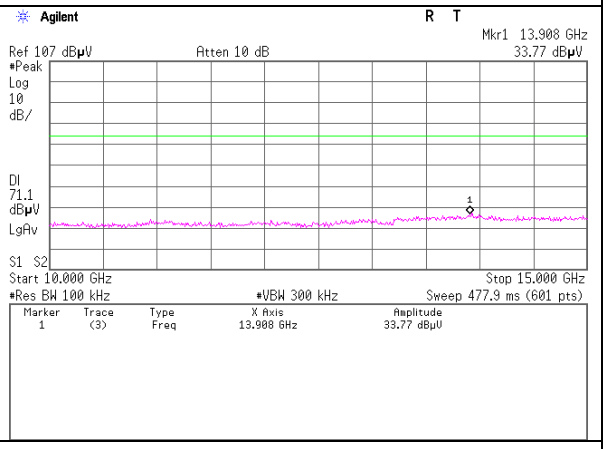

### 1GHz-5GHz



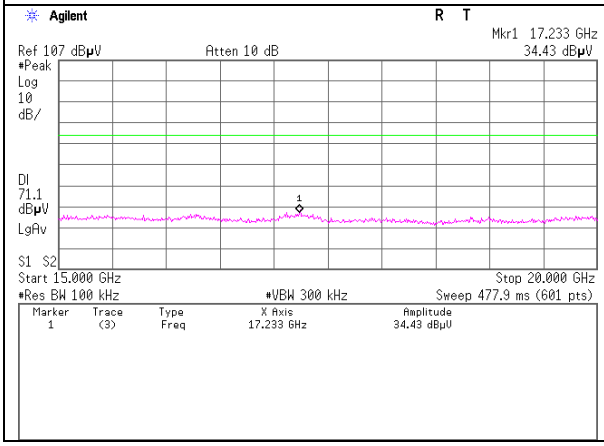

### 5GHz-10GHz



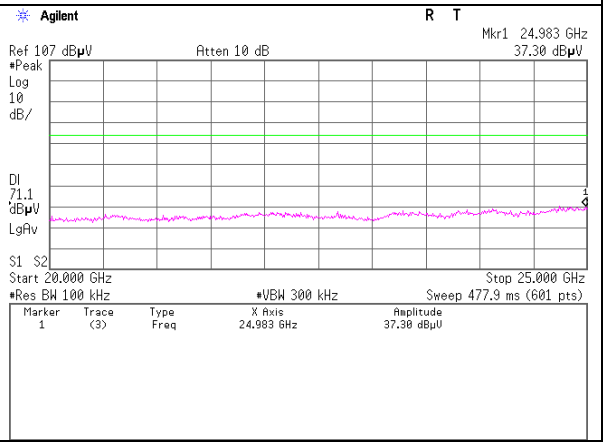

### 10GHz-15GHz




### 15GHz-20GHz




### 20GHz-25GHz

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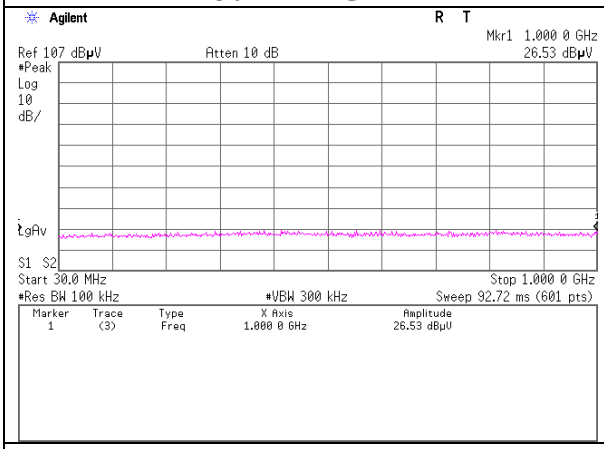
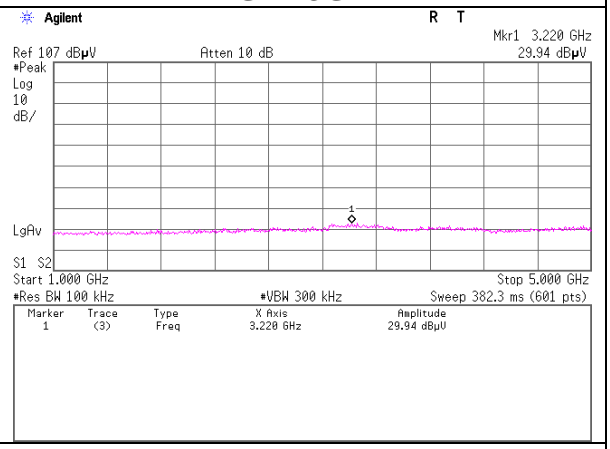
# Conducted Spurious Emission
## 11b/g Rx, Ch: Mid

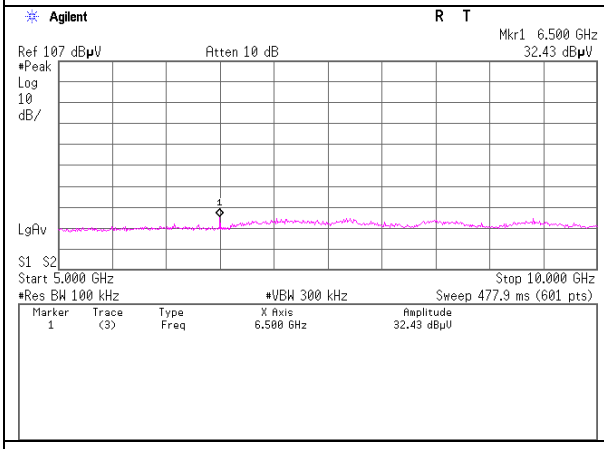
### 30MHz-1GHz



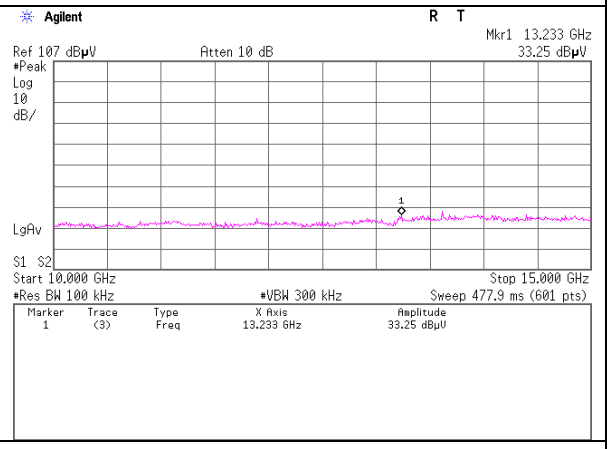

### 1GHz-5GHz



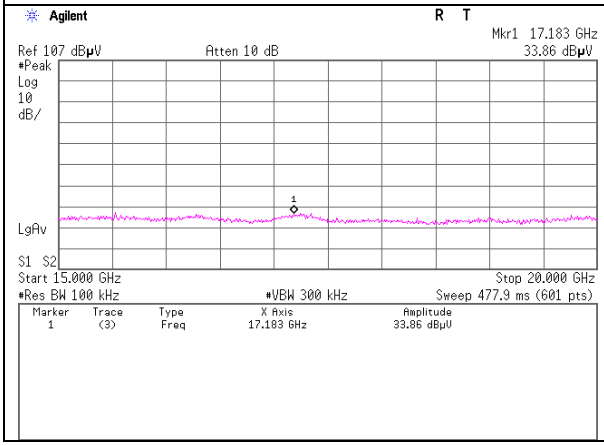

### 5GHz-10GHz



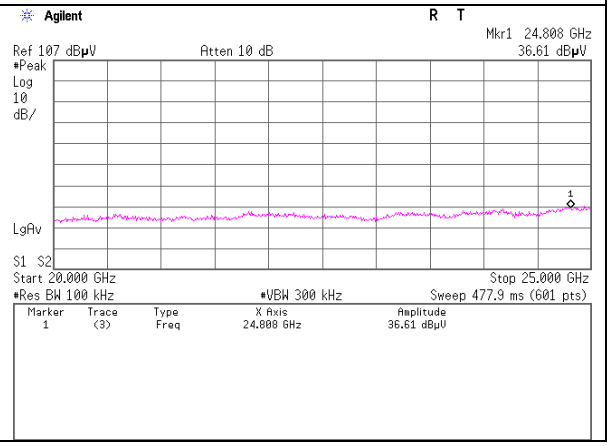

### 10GHz-15GHz




### 15GHz-20GHz




### 20GHz-25GHz

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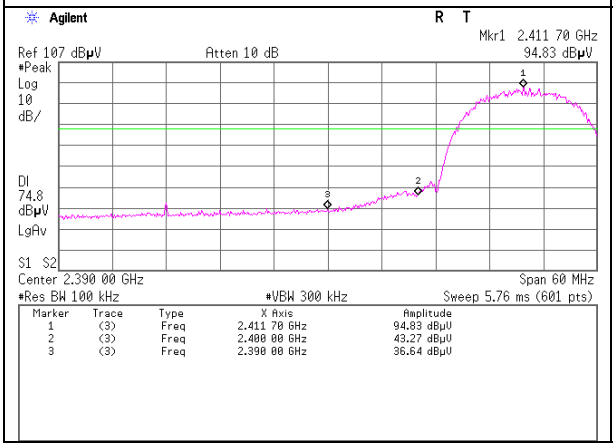
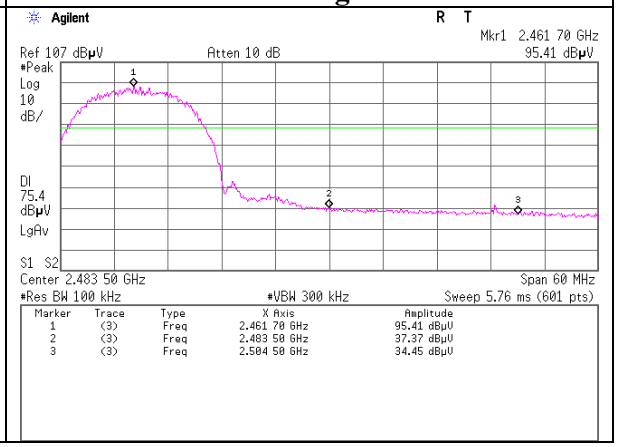
# Conducted emission Band Edge compliance

## 11b 11Mbps

### Ch:Low

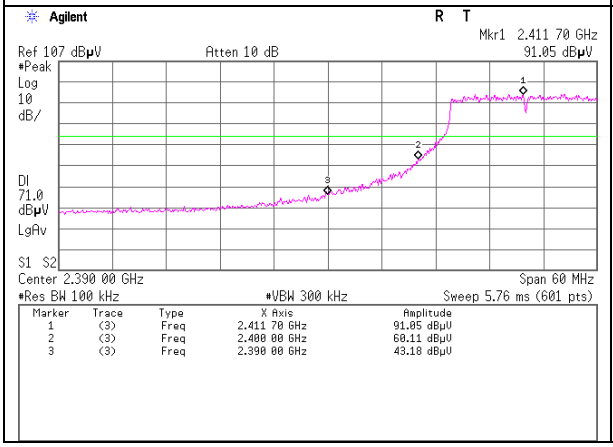



### Ch:High

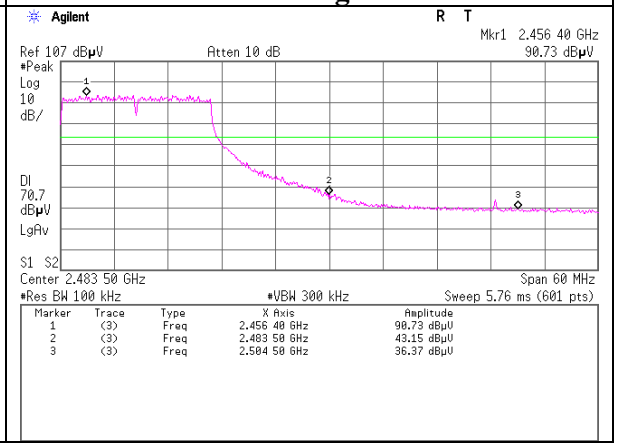



## 11g 54Mbps

### Ch:Low




### Ch:High



# Power Density

UL Japan, Inc.
Head Office EMC Lab. No.7 Shielded Room

| | | | |
|---|---|---|---|
| Company | : SANYO Electric Co,. Ltd. | REPORT NO | : 27KE0187-HO |
| Equipment | : WLAN Module | REGULATION | : FCC15.247(e)/RSS-210A8.2(b) |
| Model | : QXXAVC922---P | TEST DISTANCE | : - |
| Sample No. | : 1 | DATE | : 09/18/2007 |
| Power | : DC3.3V | TEMPERATURE | : 25.2deg.C. |
| Mode | : 11b, Transmitting (Tx), 11Mbps | HUMIDITY | : 65% |
| | : 11g, Transmitting (Tx), 54Mbps | ENGINEER | : Takashi Nakazawa |

**[IEEE802.11b] 11Mbps**

| Ch | Freq. [MHz] | Reading [dBm] | Cable [dB] | Atten. [dB] | Result [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| Low | 2411.3 | -26.08 | 2.18 | 10.08 | -13.8 | 8.0 | 21.8 |
| Mid | 2436.3 | -25.84 | 2.18 | 10.08 | -13.6 | 8.0 | 21.6 |
| High | 2461.3 | -26.10 | 2.18 | 10.08 | -13.8 | 8.0 | 21.8 |

Sample Calculation:
Result = Reading + Cable Loss (spplied by customer) + Attenuator

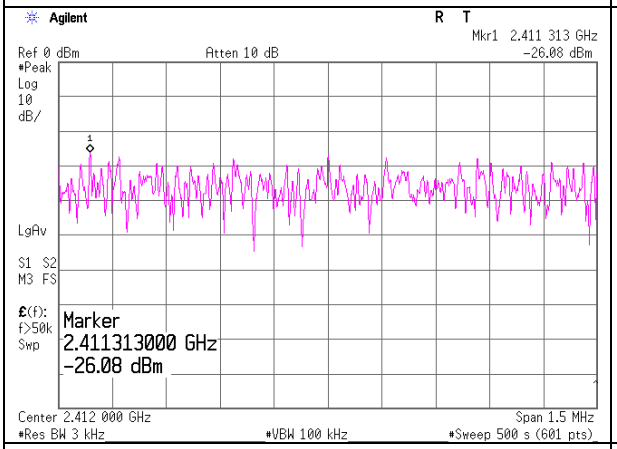
**[IEEE802.11g] 54Mbps**

| Ch | Freq. [MHz] | Reading [dBm] | Cable Loss [dB] | Atten. [dB] | Result [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| Low | 2411.7 | -30.77 | 2.18 | 10.08 | -18.5 | 8.0 | 26.5 |
| Mid | 2436.7 | -30.67 | 2.18 | 10.08 | -18.4 | 8.0 | 26.4 |
| High | 2461.7 | -31.12 | 2.18 | 10.08 | -18.9 | 8.0 | 26.9 |

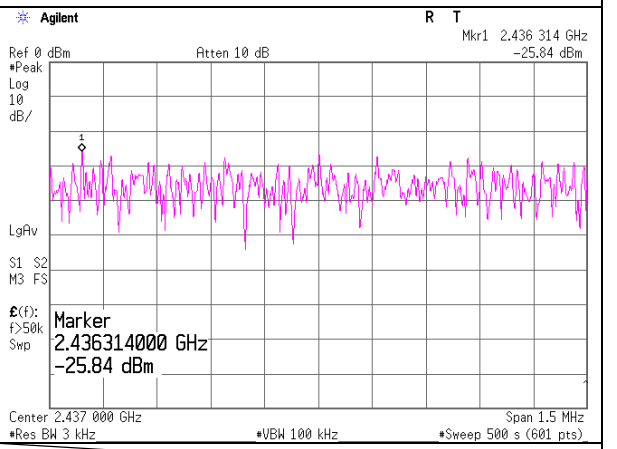
Sample Calculation:
Result = Reading + Cable Loss (supplied by customer)+ Attenuator

# Power Density

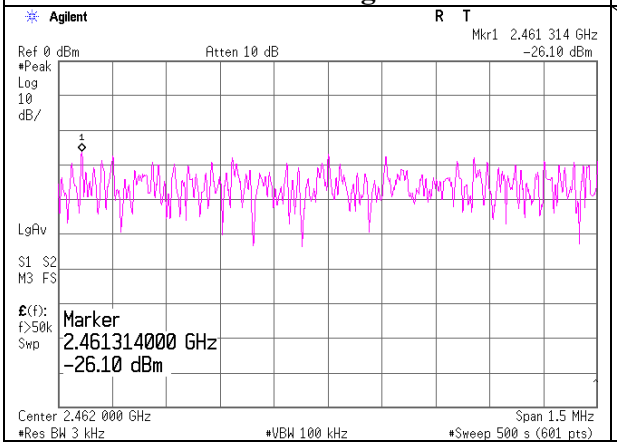
## 11b Ch:Low




## 11b Ch:Mid




## 11b Ch:High

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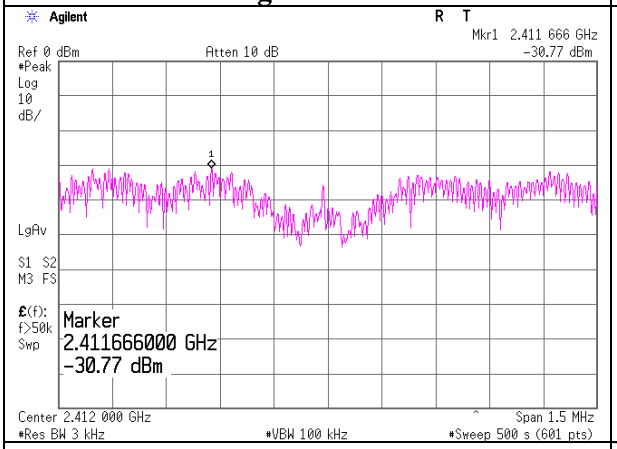
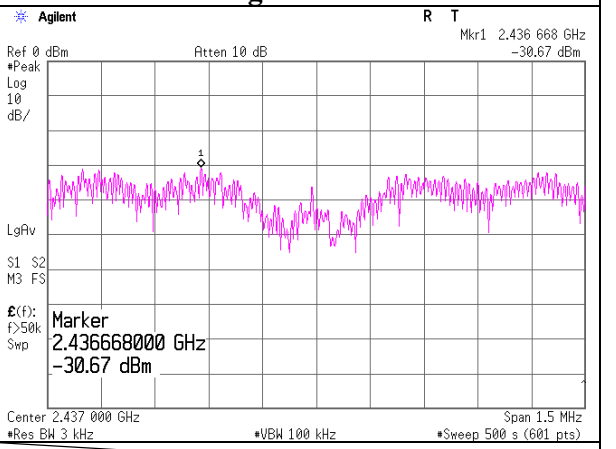
# Power Density

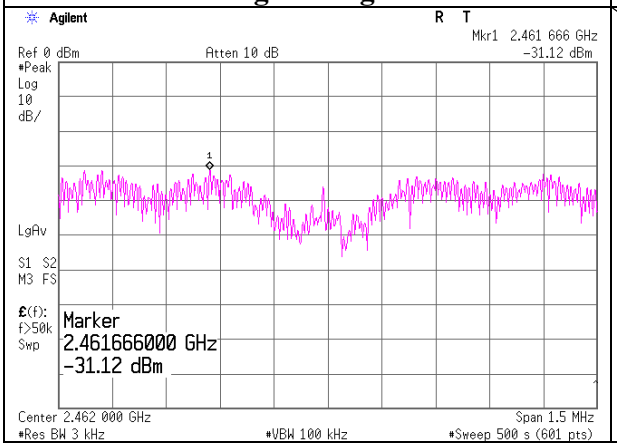
## 11g Ch:Low




## 11g Ch:Mid




## 11g Ch:High

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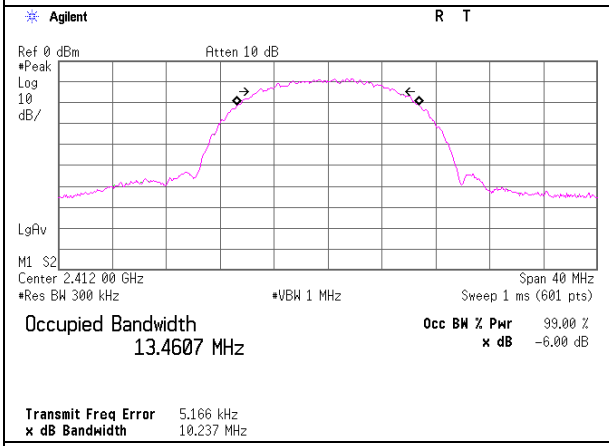
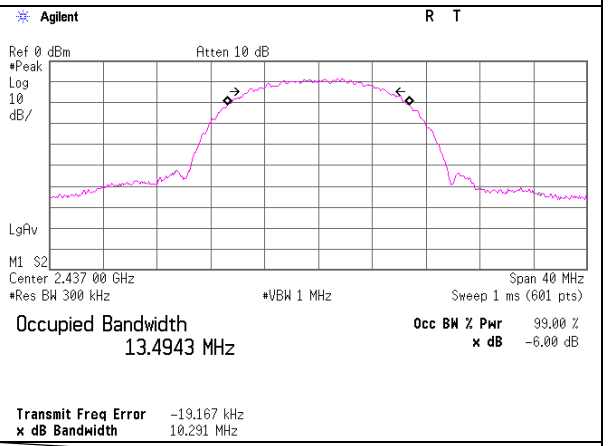
# 99%Occupied Bandwidth

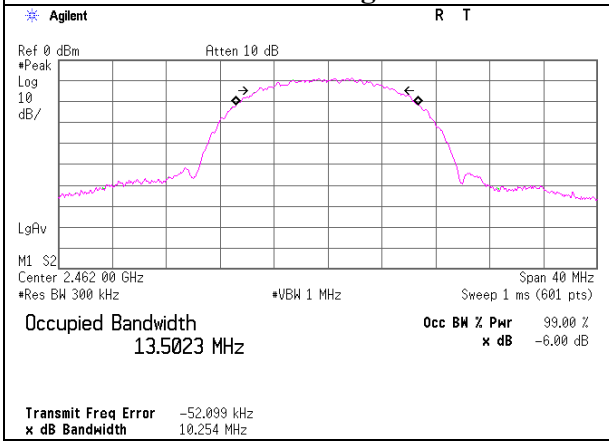
## 11b Ch:Low




## 11b Ch:Mid




## 11b Ch:High

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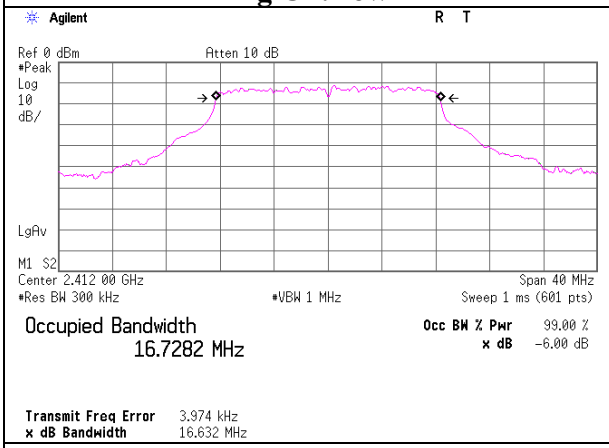
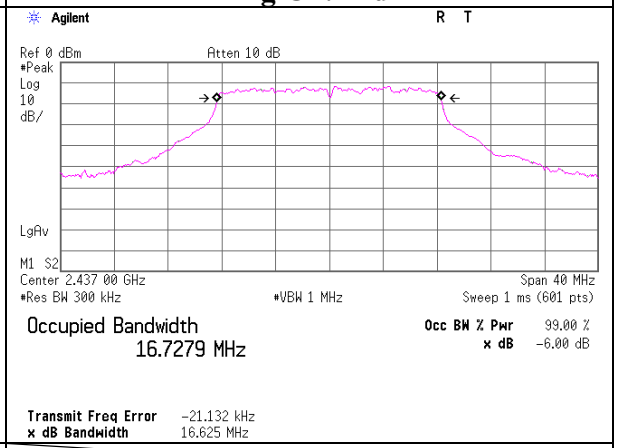
# 99%Occupied Bandwidth

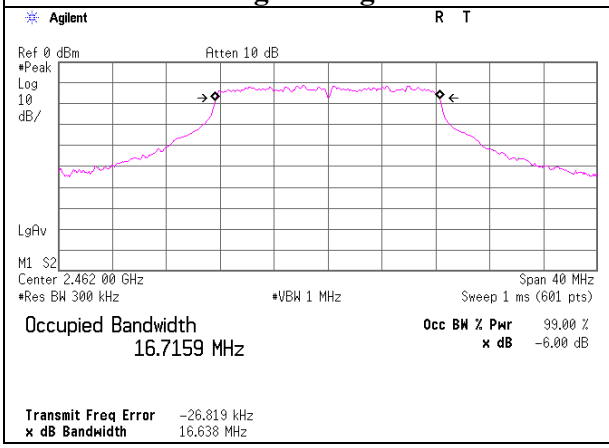
## 11g Ch:Low




## 11g Ch:Mid




## 11g Ch:High

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# APPENDIX 3:Test instruments

**EMI test equipment**

| Control No. | Instrument | Manufacturer | Model No | Test Item | Calibration Date * Interval(month) |
|---|---|---|---|---|---|
| MAEC-03 | Anechoic Chamber | TDK | Semi Anechoic Chamber 3m | RE/CE | 2007/03/05 * 12 |
| MOS-12 | Thermo-Hygrometer | Custom | CTH-180 | RE/CE | 2006/01/19 * 24 |
| MJM-06 | Measure | PROMART | SEN1955 | RE/CE | - |
| MSTW-14 | EMI measurement program | TSJ | TEPTO-DV | RE/CE | - |
| MHA-20 | Horn Antenna 1-18GHz | Schwarzbeck | BBHA9120D | RE | 2007/04/14 * 12 |
| MCC-56 | Microwave Cable 1G-26.5GHz | Suhner | SUCOFLEX104 | RE/CE | 2007/03/29 * 12 |
| MPA-11 | MicroWave System Amplifier | Agilent | 83017A | RE | 2007/03/02 * 12 |
| MHF-05 | High Pass Filter 3.5-18GHz | Tokimec | TF323DCA | RE | 2007/01/16 * 12 |
| MCC-63 | Microwave Cable 1G-40GHz | Suhner | SUCOFLEX102 | RE | 2007/09/04 * 12 |
| MPA-16 | Pre Amplifier | UNITEK ELECTROBICS INC. | 26GHzAMP | RE | 2006/12/15 * 12 |
| MHA-16 | Horn Antenna 15-40GHz | Schwarzbeck | BBHA9170 | RE | 2007/04/06 * 12 |
| MLS-06 | LISN(AMN) | Schwarzbeck | NSLK8127 | CE (EUT) | 2007/02/22 * 12 |
| MLS-07 | LISN(AMN) | Schwarzbeck | NSLK8127 | CE (AE) | 2007/02/22 * 12 |
| MTA-07 | Terminator | MCL | BTRM-50 | CE | 2007/02/01 * 12 |
| MSA-09 | Spectrum Analyzer | Advantest | R3273 | RE/CE | 2006/12/08 * 12 |
| MTR-02 | Test Receiver | Rohde & Schwarz | ESCS30 | RE/CE | 2007/02/03 * 12 |
| MPA-13 | Pre Amplifier | SONOMA INSTRUMENT | 310 | RE | 2007/03/16 * 12 |
| MCC-51 | Coaxial cable | UL Japan | - | RE | 2007/07/26 * 12 |
| MAT-30 | Attenuator(6dB) | TME | UFA-01 | RE | 2007/03/05 * 12 |
| MBA-03 | Biconical Antenna | Schwarzbeck | BBA9106 | RE | 2007/01/19 * 12 |
| MLA-03 | Logperiodic Antenna | Schwarzbeck | USLP9143 | RE | 2007/01/19 * 12 |
| MAEC-04 | Anechoic Chamber | TDK | Semi Anechoic Chamber 3m | RE | 2007/03/03 * 12 |
| MOS-15 | Thermo-Hygrometer | Custom | CTH-180 | RE | 2006/01/19 * 24 |
| MJM-07 | Measure | PROMART | SEN1955 | RE | - |
| MSA-05 | Spectrum Analyzer | Advantest | R3273 | RE | 2007/06/01 * 12 |
| MBA-05 | Biconical Antenna | Schwarzbeck | BBA9106 | RE | 2007/01/19 * 12 |
| MLA-08 | Logperiodic Antenna | Schwarzbeck | UKLP9140-A | RE | 2007/01/19 * 12 |
| MCC-50 | Coaxial cable | UL Japan | - | RE | 2007/03/06 * 12 |
| MPA-14 | Pre Amplifier | SONOMA INSTRUMENT | 310 | RE | 2007/03/12 * 12 |
| MAT-31 | Attenuator(6dB) | TME | UFA-01 | RE | 2007/03/05 * 12 |
| MTR-06 | Test Receiver | Rohde & Schwarz | ESCS30 | RE | 2007/09/22 * 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.**

***Some calibrations were performed after the tested dates, however those EMI test equipment have been controlled by means of an unbroken chains of calibrations.**

**Test Item: CE: Conducted Emission**
**RE: Radiated Emission**

| Control No. | Instrument | Manufacturer | Model No | Test Item | Calibration Date * Interval(month) |
|---|---|---|---|---|---|
| MHA-21 | Horn Antenna 1-18GHz | Schwarzbeck | BBHA9120D | RE | 2007/08/16 * 12 |
| MHA-17 | Horn Antenna 15-40GHz | Schwarzbeck | BBHA9170 | RE | 2007/04/06 * 12 |
| MCC-57 | Microwave Cable 1G-26.5GHz | Suhner | SUCOFLEX104 | RE | 2007/03/30 * 12 |
| MPA-12 | MicroWave System Amplifier | Agilent | 83017A | RE | 2007/03/12 * 12 |
| MHF-06 | High Pass Filter 3.5-24GHz | Tokimec | TF323DCA | RE | 2007/05/30 * 12 |
| MSA-03 | Spectrum Analyzer | Agilent | E4448A | AT | 2007/09/05 * 12 |
| MPM-08 | Power Meter | Anritsu | ML2495A | AT | 2007/09/12 * 12 |
| MPSE-11 | Power sensor | Anritsu | MA2411B | AT | 2007/09/12 * 12 |
| MCC-67 | Microwave Cable 1G-40GHz | Schner | SUCOFLEX102 | AT | 2007/04/03 * 12 |
| MAT-25 | Attenuator(10dB)(above 1GHz) | Agilent | 8493C | AT | 2007/06/28 * 12 |
| MOS-04 | Digital Humidity Indicator | N.T | NT-1800 | AT | 2006/11/27 * 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.**

***Some calibrations were performed after the tested dates, however those EMI test equipment have been controlled by means of an unbroken chains of calibrations.**

**Test Item: RE: Radiated Emission**
**AT: Antenna terminal disturbance voltage**

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