# FCC TEST REPORT

According to

## FCC Rules and Regulations Part 15 Subpart E

| | | |
|---|---|---|
| Applicant | : | Octtel Communication Co., Ltd. |
| Address | : | 8F, No. 270, Sec. 1, Fusing Rd., South District, Taichung 40256, Taiwan, R.O.C. |
| Equipment | : | Wireless VoIP Router |
| Model No. | : | ODC-202AC, ODC-202N, OD-202AC, OD-202N, DVG-A5402G, DVG-A5402GF, DVG-N5402G, DVG-N5402GF |
| Trade Name | : | Octtel, D-Link |
| FCC ID | : | VP5ODC202AC |

- The test result refers exclusively to the test presented test model / sample.,
- Without written approval of **Cerpass Technology Corp.,** the test report shall not be reproduced except in full.
- The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

## CONTENTS

# History of this test report

■ ORIGINAL.

☐ Additional attachment as following record:

| Attachment No. | Issue Date | Description |
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# CERTIFICATE OF COMPLIANCE

According to

## FCC Rules and Regulations Part 15 Subpart E

| | | |
|---|---|---|
| Applicant | : | Octtel Communication Co., Ltd. |
| Address | : | 8F, No. 270, Sec. 1, Fusing Rd., South District, Taichung 40256, Taiwan, R.O.C. |
| Equipment | : | Wireless VoIP Router |
| Model No. | : | ODC-202AC, ODC-202N, OD-202AC, OD-202N, DVG-A5402G, DVG-A5402GF, DVG-N5402G, DVG-N5402GF |
| Trade Name | : | Octtel, D-Link |
| FCC ID | : | VP5ODC202AC |

I **HEREBY** CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4** The equipment was ***passed*** the test performed according to **FCC Rules and Regulations Part 15 Subpart E (2011), and KDB789033.**

The test was carried out on Dec. 26, 2014 at **Cerpass Technology(Suzhou) Corp.**

Signature

Miro Chueh/ Technical director

# 1. Report of Measurements and Examinations

## 1.1. List of Measurements and Examinations

| FCC Rule | . Description of Test | Result |
|---|---|---|
| 15.407(a) | . Antenna Requirement | Pass |
| 15.407(b) | . Conducted Emission | Pass |
| 15.407(b) | . Spurious Emission | Pass |
| 15.247(a) | . 6dB Bandwidth | Pass |
| 15.247(a) | . 26dB Bandwidth | Pass |
| 15.407(a) | . Average Power | Pass |
| 15.407(a)(5) | . Output and PPSD | Pass |

# 2. Test Configuration of Equipment under Test

## 2.1. Feature of Equipment under Test

| | |
|---|---|
| **Voice Features** | ■ G.711 a/μ-law, G.729, G.726, G.723.1<br>■ In-Band DTMF, Out-of-Band DTMF Relay (RFC2833 or SIP INFO)<br>■ Echo Cancellation (G.168)<br>■ Adaptive Jitter Buffer<br>■ T.30 FAX Bypass to G.711, T.38 Real Time FAX Relay |
| **Telephony Specifications** | ■ DTMF / PULSE Dial Support<br>■ Caller ID Generation / Detection :DTMF, FSK-Bellcore Type 1 & 2, FSK-ETSI Type 1 & 2, FSK-NTT<br>■ FXS metering pulse: Polarity Reversal, 12kHz/ 16kHz calling tone<br>■ Polarity Reversal Generation (FXS) |
| **SIP Call Features** | ■ Peer to Peer Call<br>■ Call Hold / Retrieve, Call Waiting, Call Pick Up<br>■ Call Park / Retrieve (SIP Server Required)<br>■ Call Forward - unconditional, busy, no answer<br>■ Call Transfer - attended, unattended<br>■ Do Not Disturb ■ Speed Dialing ■ Repeat Dialing<br>■ MWI (RFC-3842), ■ Hot Line and Warm Line |
| **SIP Call Management** | ■ Support Outbound Proxy<br>■ SIP Registration Failover Mechanism<br>■ Group Hunting<br>■ User Programmable Dial Plan Support<br>■ Automatic Calling Number Manipulation<br>■ CDR Client<br>■ E.164 Numbering, ENUM support |
| **Wireless** | ■ Compliant with IEEE 802.11 a/b/g/n/ac standards<br>■ Operating Frequency : 2.4GHz/5GHz<br>■ Multi-SSID<br>■ Broadcast SSID control<br>■ 64 / 128 bits WEP supported for encryption<br>■ Wireless Security with WPA2-PSK, WPA-PSK, WPA-Enterprise, WPA2-Enterprise<br>■ Wi-Fi Multi-Media (WMM) for AP mode<br>■ WPS (Wi-Fi Protected Setup) for easy setup |

| | |
|---|---|
| **IP Network Specifications** | ■ Support IPv4, IPv6 (RFC2460, RFC 4861, RFC4862, RFC4863, RFC1981)<br>■ WAN: Static IP, PPPoE, DHCP, PPTP, L2TP, Bridge<br>■ NAT Functions: Virtual Servers, DMZ, NAT Traversal : Pass-through NAT, STUN client<br>■ VRF (Virtual Routing and Forwarding)<br>■ VLAN (802.1Q, 802.1p)<br>■ QoS features:<br>☐SIP and RTP always-first policy<br>☐WAN access rate control<br>☐IP Precedence, DSCP (DiffServ) tagging on SIP and RTP packets<br>☐LAN port rate limit |
| **Network Security Specifications** | ■ DIGEST Authentication<br>■ MD5 Encryption<br>■ DoS Protection (configurable)<br>■ Firewall: MAC filter, IP/Port filter, URL filter, Contents filter |
| **Router Management** | ■ WEB , TELNET,<br>■ TR-069/TR-104<br>■ TR-111 part I &II(DHCP option 125)<br>■ DHCP option 43 auto provisioning<br>■ Two levels WEB login account<br>■ WEB languages : English, TC<br>■ System Information<br>■ Per call RTP packet summary<br>■ PING test<br>■ STUN inquiry<br>■ Syslog |
| **Physical Interface** | ■ Combo WAN : Gigabit Ethernet copper and fiber (SFP)<br>■ LAN : 4-port RJ-45 10/100/1000 Ethernet<br>■ Antenna : 2 Detachable antenna (dual band concurrent-2T2R)<br>■ Telephone: 2 FXS<br>■ Factory default reset button, WPS push button, Power jack, Power switch<br>■ 2x USB 2.0 Host interface |

## 2.2. Model Number Lists and Differences

| Trade Name | Model No. | Description | | | |
|---|---|---|---|---|---|
| Octtel | ODC-202AC | Combo WAN (copper + optical ) | 4LAN | 802.11 a/b/g/n/ac | 2FXS |
| Octtel | ODC-202N | Combo WAN (copper + optical) | 4LAN | 802.11 b/g/n | 2FXS |
| Octtel | OD-202AC | 1 WAN | 4LAN | 802.11 a/b/g/n/ac | 2FXS |
| Octtel | OD-202N | 1 WAN | 4LAN | 802.11 b/g/n | 2FXS |
| D-Link | DVG-A5402GF | Combo WAN (copper + optical ) | 4LAN | 802.11 a/b/g/n/ac | 2FXS |
| D-Link | DVG-N5402GF | Combo WAN (copper + optical) | 4LAN | 802.11 b/g/n | 2FXS |
| D-Link | DVG-A5402G | 1 WAN | 4LAN | 802.11 a/b/g/n/ac | 2FXS |
| D-Link | DVG-N5402G | 1 WAN | 4LAN | 802.11 b/g/n | 2FXS |

## 2.3. Carrier Frequency of Channels

802.11a, 802.11an HT 20 (5150MHz~5250MHz)

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| ***36** | 5180 | ***44** | 5220 |
| 40 | 5200 | ***48** | 5240 |

802.11a, 802.11an HT 20, 802.11ac VHT20 (5725MHz~5850MHz)

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| ***149** | **5745** | 161 | 5805 |
| 153 | 5765 | ***165** | **5825** |
| ***157** | **5785** | --- | --- |

802.11an HT 40 (5150MHz~5250MHz)

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| ***38** | 5190 | ***46** | 5230 |

802.11an HT 40, 802.11ac VHT40 (5725MHz~5850MHz)

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| ***151** | **5755** | ***159** | **5795** |

802.11ac VHT80 (5150-5250MHz)

| Channel | Frequency(MHz) |
|---|---|
| ***42** | **5210** |

802.11ac VHT80 (5725-5850MHz)

| Channel | Frequency(MHz) |
|---|---|
| ***155** | **5775** |

Note: Channels remarked * are selected to perform test.

## 2.4. Test Mode and Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.

b. The complete test system included Notebook and EUT for RF test.

c. An executive program, "MP_TEST" under WIN XP was executed to transmit and receive data via WLAN.

d. The following test modes were performed for test:

- 802.11a/an, HT20, ac VHT20: CH 36: 5180MHz, CH 44: 5220MHz, CH 48: 5240MHz
  CH149: 5745MHz, CH157: 5785MHz, CH165: 5825MHz
- 802.11an, HT40, ac VHT40: CH 38: 5190MHz, CH 46: 5230MHz
  CH151: 5755MHz, CH159: 5795MHz
- 802.11ac VHT80: CH 42: 5210MHz, CH155: 5775MHz

For conduction test, caused "802.11a CH36" generated the worst case, it was reported as the final data.

For radiation (30MHz ~ 1GHz) test, caused "802.11ac VHT80 CH42" generated the worst case, it was reported as the final data.

* Power output of data rate:

| mode | A | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rate | 6M | | | 9M | | | 12M | | | 18M | | |
| 802.11a | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 36 | 18.63 | 13.55 | 49 | | | | | | | | | |
| | 44 | 18.66 | 13.62 | 48 | 18.82 | 13.57 | | 18.77 | 13.53 | | 18.70 | 13.45 | |
| | 48 | 18.30 | 13.59 | 48 | | | | | | | | | |
| mode | rate | MCS0 | | | MCS1 | | | MCS2 | | | MCS3 | | |
| 802.11an HT20 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 36 | 18.47 | 13.72 | 49 | 18.42 | 13.66 | | 18.35 | 13.60 | | 18.27 | 13.52 | |
| | 44 | 18.36 | 13.16 | 47 | | | | | | | | | |
| | 48 | 18.16 | 14.02 | 51 | | | | | | | | | |
| mode | rate | MCS0 | | | MCS1 | | | MCS2 | | | MCS3 | | |
| 802.11ac VHT20 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 36 | 18.08 | 13.77 | 52 | | | | | | | | | |
| | 44 | 18.45 | 14.02 | 51 | 18.38 | 13.95 | 18 | 18.30 | 13.86 | | 18.18 | 13.78 | |
| | 48 | 17.97 | 13.62 | 51 | | | | | | | | | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11an HT40 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 38 | 18.55 | 14.13 | 54 | 18.47 | 14.05 | | 18.39 | 13.97 | | 18.31 | 13.90 | |
| | | | | | | | | | | | | | |
| | 46 | 18.26 | 13.93 | 54 | | | | | | | | | |
| mode | rate | MCS4 | | | MCS5 | | | MCS6 | | | MCS7 | | |
| 802.11ac VHT40 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 38 | 18.33 | 13.65 | 54 | 18.27 | 13.57 | | 18.18 | 15.49 | | 18.11 | 15.43 | |
| | | | | | | | | | | | | | |
| | 46 | 18.21 | 13.95 | 54 | | | | | | | | | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11ac VHT80 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 42 | 22.67 | 15.68 | 55 | 22.62 | 15.60 | | 22.55 | 15.50 | | 22.47 | 15.40 | |
| | | | | | | | | | | | | | |
| | 155 | 18.54 | 13.82 | 55 | | | | | | | | | |

| mode | B | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rate | 6M | | | 9M | | | 12M | | | 18M | | |
| 802.11a | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 36 | 16.08 | 11.59 | 45 | | | | | | | | | |
| | 44 | 16.62 | 11.73 | 44 | | | | | | | | | |
| | 48 | 16.69 | 11.76 | 44 | 16.65 | 11.71 | | 16.59 | 11.65 | | 11.52 | 11.60 | |
| mode | rate | MCS0 | | | MCS1 | | | MCS2 | | | MCS3 | | |
| 802.11an HT20 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 36 | 16.44 | 11.40 | 47 | | | | | | | | | |
| | 44 | 16.89 | 11.75 | 46 | | | | | | | | | |
| | 48 | 17.39 | 11.92 | 58 | 17.32 | 11.83 | | 17.25 | 11.75 | | 17.16 | 11.68 | |
| mode | rate | MCS0 | | | MCS1 | | | MCS2 | | | MCS3 | | |
| 802.11ac VHT20 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 36 | 16.49 | 11.20 | 47 | | | | | | | | | |
| | 44 | 16.88 | 11.78 | 47 | | | | | | | | | |
| | 48 | 16.96 | 11.47 | 47 | 16.91 | 11.42 | | 16.85 | 16.37 | | 16.78 | 16.31 | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11an HT40 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 38 | 16.57 | 11.72 | 50 | 16.52 | 11.66 | | 11.45 | 11.57 | | 11.35 | 11.46 | |
| | | | | | | | | | | | | | |
| | 46 | 16.51 | 11.36 | 48 | | | | | | | | | |
| mode | rate | MCS4 | | | MCS5 | | | MCS6 | | | MCS7 | | |
| 802.11ac VHT40 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 38 | 16.81 | 11.43 | 49 | 16.72 | 11.35 | | 16.65 | 11.27 | | 16.57 | 11.21 | |
| | | | | | | | | | | | | | |
| | 46 | 16.57 | 11.60 | 49.00 | | | | | | | | | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11ac VHT80 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 42 | 22.05 | 15.04 | 51 | 21.95 | 14.97 | | 21.88 | 14.91 | | 21.80 | 14.85 | |
| | | | | | | | | | | | | | |
| | 155 | 17.92 | 11.82 | 51.00 | | | | | | | | | |

| mode | A+B | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | rate | 1M | | 2M | | 5.5M | | 11M | |
| 802.11a | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 1 | 20.55 | 15.69 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 6 | 20.77 | 15.79 | 18.88 | 13.76 | 18.83 | 13.72 | 18.76 | 13.64 |
| | 11 | 20.58 | 15.78 | 16.74 | 11.99 | 16.68 | 11.94 | 11.82 | 11.89 |
| mode | rate | MCS8 | | MCS9 | | MCS10 | | MCS11 | |
| 802.11an HT20 | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 1 | 20.58 | 15.72 | 18.48 | 13.84 | 18.41 | 13.79 | 18.33 | 13.71 |
| | 6 | 20.70 | 15.52 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 11 | 20.80 | 16.11 | 17.40 | 12.11 | 17.33 | 12.03 | 17.24 | 11.97 |
| mode | rate | MCS8 | | MCS9 | | MCS10 | | MCS11 | |
| 802.11ac VHT20 | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 36 | 20.37 | 15.68 | 47.00 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 44 | 20.75 | 16.05 | 47.01 | 14.12 | 18.36 | 14.03 | 18.25 | 13.96 |
| | 48 | 20.50 | 15.69 | 47.00 | 17.00 | 16.94 | 16.47 | 16.87 | 16.41 |
| mode | rate | MCS8 | | MCS9 | | MCS10 | | MCS11 | |
| 802.11an HT40 | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 3 | 20.68 | 16.10 | 50.00 | 18.47 | 19.19 | 15.94 | 19.11 | 15.86 |
| | 6 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 9 | 20.48 | 15.84 | 48.00 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| mode | rate | MCS8 | | MCS9 | | MCS10 | | MCS11 | |
| 802.11ac VHT40 | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 3 | 20.65 | 15.69 | 49.00 | 18.43 | 20.49 | 16.88 | 20.42 | 16.82 |
| | 6 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 9 | 20.48 | 15.94 | 49.00 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| mode | rate | MCS8 | | MCS9 | | MCS10 | | MCS11 | |
| 802.11ac VHT80 | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 3 | 25.38 | 18.38 | 51.01 | 22.86 | 25.24 | 18.23 | 25.16 | 18.14 |
| | 6 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 9 | 21.25 | 15.94 | 51.00 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |

| mode | A | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rate | 6M | | | 9M | | | 12M | | | 18M | | |
| 802.11a | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 149 | 21.34 | 13.47 | | | | | | | | | | |
| | 157 | 21.36 | 13.44 | | 21.32 | 13.35 | | 21.25 | 13.27 | | 21.16 | 13.15 | |
| | 165 | 21.26 | 13.51 | | | | | | | | | | |
| mode | rate | MCS0 | | | MCS1 | | | MCS2 | | | MCS3 | | |
| 802.11an HT20 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 149 | 20.77 | 13.35 | | | | | | | | | | |
| | 157 | 20.78 | 13.32 | | 20.72 | 13.25 | | 20.64 | 13.17 | | 20.55 | 13.11 | |
| | 165 | 20.81 | 13.27 | | | | | | | | | | |
| mode | mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | |
| 802.11ac VHT20 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | Average |
| | 149 | 20.97 | 13.44 | | | | | | | | | | |
| | 157 | 20.89 | 13.4 | | | | | | | | | | |
| | 165 | 20.74 | 13.24 | | | | | | | | | | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11an HT40 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 151 | 21.09 | 13.56 | | 21.02 | 13.51 | | 20.95 | 13.45 | | 20.88 | 13.36 | |
| | | | | | | | | | | | | | |
| | 159 | 21.08 | 13.49 | | | | | | | | | | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11ac VHT40 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 151 | 21.13 | 13.89 | | 21.05 | 13.82 | | 20.95 | 13.75 | | 20.92 | 13.70 | |
| | | | | | | | | | | | | | |
| | 159 | 21.03 | 13.87 | | | | | | | | | | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11ac VHT80 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 151 | 21.14 | 13.21 | | 21.05 | 13.15 | | 20.96 | 13.08 | | 20.90 | 13.00 | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| mode | B | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rate | 6M | | | 9M | | | 12M | | | 18M | | |
| 802.11a | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 149 | 21.20 | 13.38 | 54 | | | | | | | | | |
| | 157 | 21.34 | 13.58 | 54 | | | | | | | | | |
| | 165 | 21.30 | 13.66 | 54 | 21.10 | 13.65 | 54 | 21.20 | 13.61 | 54 | 20.93 | 13.66 | 54 |
| mode | rate | MCS0 | | | MCS1 | | | MCS2 | | | MCS3 | | |
| 802.11an HT20 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 149 | 21.11 | 13.62 | 54 | 21.22 | 13.55 | 54 | 21.40 | 13.65 | 54 | 21.21 | 13.57 | 54 |
| | 157 | 21.02 | 13.24 | 53 | | | | | | | | | |
| | 165 | 20.95 | 13.35 | 53 | | | | | | | | | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11ac VHT20 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 149 | 21.18 | 13.29 | | | | | | | | | | |
| | 157 | 21.23 | 13.24 | | | | | | | | | | |
| | 165 | 21.29 | 13.2 | | 21.21 | 13.15 | | 21.15 | 13.10 | | 21.05 | 13.05 | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11an HT40 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 151 | 20.66 | 13.56 | | 20.60 | 13.51 | | 20.52 | 13.43 | | 20.45 | 13.35 | |
| | | | | | | | | | | | | | |
| | 159 | 20.41 | 13.12 | | | | | | | | | | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11ac VHT40 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 151 | 20.56 | 13.87 | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 159 | 20.61 | 13.21 | | 20.55 | 13.15 | | 20.47 | 13.08 | | 20.40 | 13.02 | |
| mode | rate | MCS8 | | | MCS9 | | | MCS10 | | | MCS11 | | |
| 802.11ac VHT80 | Channel | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting | Peak | Average | setting |
| | 155 | 21.51 | 13.45 | | 21.45 | 13.38 | | 21.36 | 13.32 | | 21.31 | 13.27 | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| mode | A+B | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | rate | 1M | | 2M | | 5.5M | | 11M | |
| 802.11a | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 1 | 24.28 | 16.44 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 6 | 24.36 | 16.52 | 21.35 | 13.55 | 21.28 | 13.47 | 21.19 | 13.36 |
| | 11 | 24.29 | 16.60 | 21.13 | 13.83 | 21.23 | 13.80 | 20.96 | 13.84 |
| mode | rate | MCS8 | | MCS9 | | MCS10 | | MCS11 | |
| 802.11an HT20 | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 1 | 23.95 | 16.50 | 21.25 | 13.74 | 21.43 | 13.83 | 21.24 | 13.76 |
| | 6 | 23.91 | 16.29 | 20.76 | 13.45 | 20.68 | 13.37 | 20.59 | 13.32 |
| | 11 | 23.89 | 16.32 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| mode | rate | MCS8 | | MCS9 | | MCS10 | | MCS11 | |
| 802.11ac VHT20 | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 1 | 24.09 | 16.38 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 6 | 24.07 | 16.33 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 11 | 24.03 | 16.23 | 21.24 | 13.36 | 21.18 | 13.31 | 21.08 | 13.26 |
| mode | rate | MCS8 | | MCS9 | | MCS10 | | MCS11 | |
| 802.11an HT40 | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 3 | 23.89 | 16.57 | 23.83 | 16.52 | 23.75 | 16.45 | 23.68 | 16.37 |
| | 6 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 9 | 23.77 | 16.32 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| mode | rate | MCS8 | | MCS9 | | MCS10 | | MCS11 | |
| 802.11ac VHT40 | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 3 | 23.86 | 16.89 | 21.08 | 14.00 | 20.98 | 13.93 | 20.95 | 13.88 |
| | 6 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 9 | 23.84 | 16.56 | 20.59 | 13.36 | 20.51 | 13.29 | 20.44 | 13.23 |
| mode | rate | MCS8 | | MCS9 | | MCS10 | | MCS11 | |
| 802.11ac VHT80 | Channel | Peak | Average | Peak | Average | Peak | Average | Peak | Average |
| | 3 | 24.34 | 16.34 | 24.26 | 16.28 | 24.17 | 16.21 | 24.12 | 16.15 |
| | 6 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |
| | 9 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 | 3.01 |

## 2.5. Description of Test System

| Device | Manufacturer | Model No. | Description |
|---|---|---|---|
| Notebook | ASUS | A8J | Power Cable, Unshielding, 1.8m |

Used cable

| Cable | Quantity | Description |
|---|---|---|
| Network Cable | 1 | Unshielding, 1.8m |

## 2.6. General Information of Test

| | |
|---|---|
| Test Site: | Cerpass Technology(Suzhou) Co., Ltd. |
| Test Site Location : | No.66,Tangzhuang Road, Suzhou Industrial Park,<br>Jiangsu 215006, China |
| NVLAP LAB Code : | 200814-0 |
| FCC Registration Number : | 916572, 331395 |
| IC Registration Number : | 7290A-1, 7290A-2 |
| VCCI Registration Number : | T-1945 for Telecommunication Test<br>C-2919 for Conducted emission test<br>R-2670 for Radiated emission test below 1GHz<br>G-227 for Radiated emission test above 1GHz |
| Frequency Range Investigated: | Conducted: from 150kHz to 30MHz<br>Radiation: from 30MHz to 40,000MHz |
| Test Distance: | The test distance of radiated emission from antenna to EUT is 3 M. |

Laboratory accreditation

NVLAP LAB CODE: 200954-0

# 3. Antenna Requirements

## 3.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

## 3.2. Antenna Construction and Directional Gain

**802.11a, an, ac:**
ANT A, ANT B
Antenna Type: Dipole Antenna
Antenna Gain: 2.23 dBi for 5150 ~ 5250MHz
1.68 dBi for 5725 ~ 5850MHz

Note: Directional gain = Gant+10log(N) dBi= 2.23+10log(2)= 5.23 (dBi) for 5150 ~ 5250MHz
Directional gain = Gant+10log(N) dBi= 1.68+10log(2)= 4.68 (dBi) for 5725 ~ 5850MHz

# 4. Test of Conducted Emission

## 4.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-2009 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

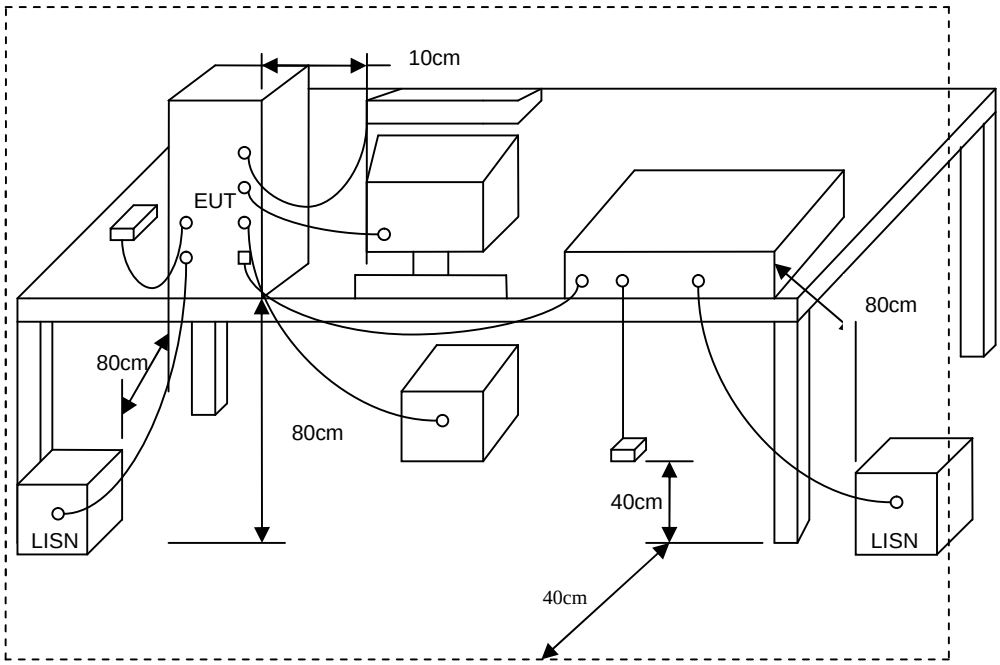
| Frequency (MHz) | Quasi Peak (dB μ V) | Average (dB μ V) |
|---|---|---|
| 0.15 – 0.5 | 66-56* | 56-46* |
| 0.5 – 5.0 | 56 | 46 |
| 5.0 – 30.0 | 60 | 50 |

*Decreases with the logarithm of the frequency.

## 4.2. Test Procedures

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

## 4.3. Typical Test Setup

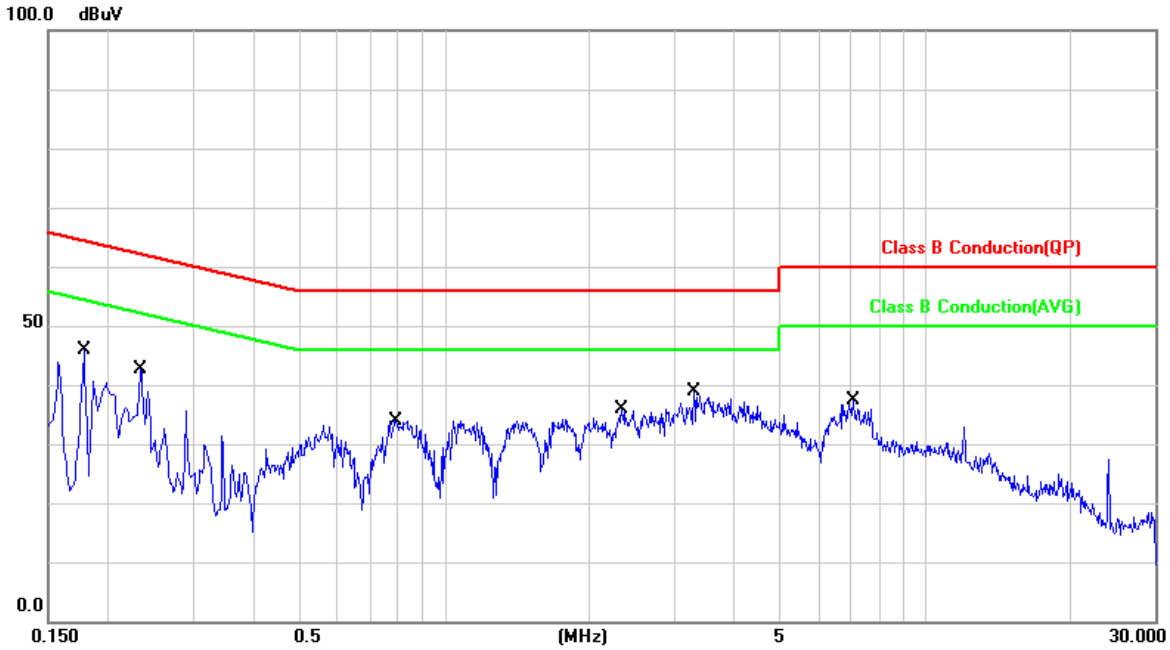



## 4.4. Measurement Equipment

| Instrument/Ancillary | Model No. | Manufacturer | Serial No. | Calibration Date | Valid Date. |
|---|---|---|---|---|---|
| EMI Receiver | R&S | ESCI | 100821 | 2013/09/18 | 2014/09/17 |
| LISN | Rolf Heine | NNB-2/16Z | 02/10191 | 2013/09/30 | 2014/09/29 |
| LISN | Schwarzbeck | NSLK 8127 | 8127-568 | 2013/08/30 | 2014/08/29 |
| Pulse Limiter | R&S | ESH3-Z2 | 101933 | 2014/08/12 | 2015/08/11 |
| Software | Farad | Ez-EMC | ver.ct3a1 | N/A | N/A |

## 4.5. Test Result and Data

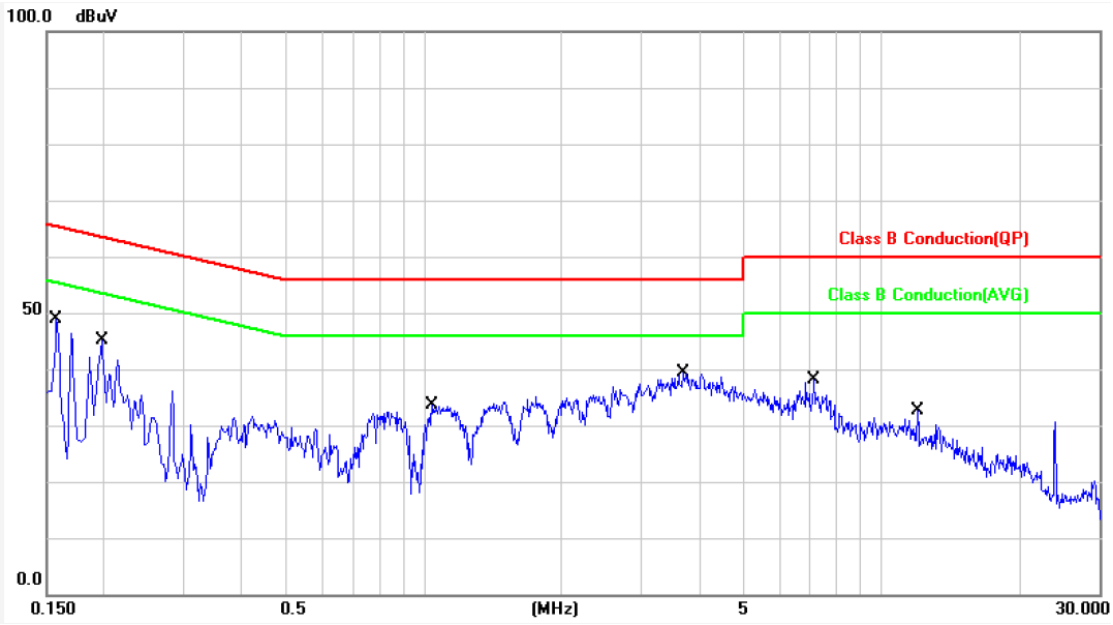
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | LINE |
| Test Mode | : | 802.11a, CH36 | Temperature | : | 26 °C |
| Test Date | : | Aug. 22, 2014 | Humidity | : | 46 % |
| Memo | : | | Atmospheric Pressure | : | 1006 hPa |




| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.1780 | 9.92 | 27.11 | 37.03 | 64.57 | -27.54 | QP | P |
| 2 | 0.1780 | 9.92 | 14.37 | 24.29 | 54.57 | -30.28 | AVG | P |
| 3 | 0.2340 | 9.92 | 24.01 | 33.93 | 62.30 | -28.37 | QP | P |
| 4 | 0.2340 | 9.92 | 15.33 | 25.25 | 52.30 | -27.05 | AVG | P |
| 5 | 0.7940 | 9.95 | 22.40 | 32.35 | 56.00 | -23.65 | QP | P |
| 6 | 0.7940 | 9.95 | 16.98 | 26.93 | 46.00 | -19.07 | AVG | P |
| 7 | 2.3340 | 10.04 | 22.19 | 32.23 | 56.00 | -23.77 | QP | P |
| 8 | 2.3340 | 10.04 | 15.92 | 25.96 | 46.00 | -20.04 | AVG | P |
| 9 | 3.3060 | 10.07 | 22.94 | 33.01 | 56.00 | -22.99 | QP | P |
| 10 | 3.3060 | 10.07 | 17.53 | 27.60 | 46.00 | -18.40 | AVG | P |
| 11 | 7.0740 | 10.18 | 21.36 | 31.54 | 60.00 | -28.46 | QP | P |
| 12 | 7.0740 | 10.18 | 15.52 | 25.70 | 50.00 | -24.30 | AVG | P |

Note: Level = Reading + Factor
Margin = Level – Limit
Factor = (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | NEUTRAL |
| Test Mode | : | 802.11a, CH36 | Temperature | : | 26 °C |
| Test Date | : | Aug. 22, 2014 | Humidity | : | 46 % |
| Memo | : | | Atmospheric Pressure | : | 1006 hPa |




| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.1580 | 9.92 | 30.61 | 40.53 | 65.56 | -25.03 | QP | P |
| 2 | 0.1580 | 9.92 | 20.73 | 30.65 | 55.56 | -24.91 | AVG | P |
| 3 | 0.1980 | 9.91 | 29.41 | 39.32 | 63.69 | -24.37 | QP | P |
| 4 | 0.1980 | 9.91 | 25.18 | 35.09 | 53.69 | -18.60 | AVG | P |
| 5 | 1.0460 | 9.96 | 20.93 | 30.89 | 56.00 | -25.11 | QP | P |
| 6 | 1.0460 | 9.96 | 14.47 | 24.43 | 46.00 | -21.57 | AVG | P |
| 7 | 3.7180 | 10.08 | 25.00 | 35.08 | 56.00 | -20.92 | QP | P |
| 8 | 3.7180 | 10.08 | 19.49 | 29.57 | 46.00 | -16.43 | AVG | P |
| 9 | 7.1380 | 10.18 | 22.31 | 32.49 | 60.00 | -27.51 | QP | P |
| 10 | 7.1380 | 10.18 | 16.19 | 26.37 | 50.00 | -23.63 | AVG | P |
| 11 | 12.0100 | 10.30 | 22.00 | 32.30 | 60.00 | -27.70 | QP | P |
| 12 | 12.0100 | 10.30 | 19.82 | 30.12 | 50.00 | -19.88 | AVG | P |

Note: Level = Reading + Factor
Margin = Level – Limit
Factor = (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator

# 5. Test of Spurious Emission (Radiated)

## 5.1. Test Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter measurement is based on the maximum conducted output power, the attenuation required under this paragraph shall be 30dB instead of 20dB. In addition, radiated emissions which fall in section 15.205(a) the restricted bands must also comply with the radiated emission limit specified in section 15.209(a).

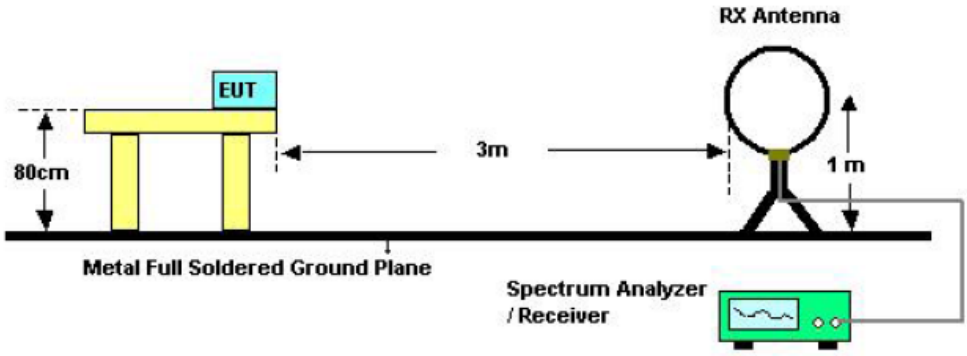
| Frequency (MHz) | Field Strength (microvolt/meter) | Measurement Distance (meters) |
|---|---|---|
| 0.009 ~ 0.490 | 2400/F(kHz) | 300 |
| 0.490 ~ 1.705 | 24000/F(kHz) | 30 |
| 1.705 ~ 30.0 | 30 | 30 |
| 30 ~ 88 | 100 | 3 |
| 88 ~ 216 | 150 | 3 |
| 216 ~ 960 | 200 | 3 |
| Above 960 | 500 | 3 |

## 5.2. Test Procedures

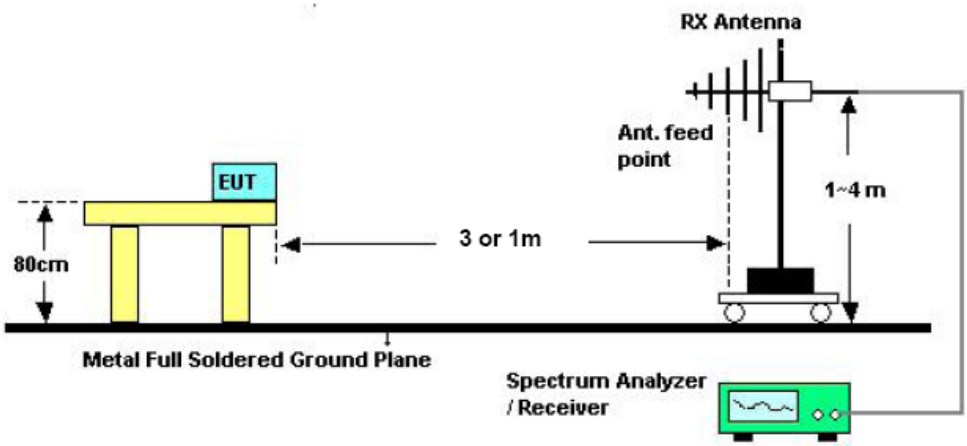
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

## 5.3. Typical Test Setup

For radiated emissions below 30MHz




For radiated emissions above 30MHz




Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.
Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1m]) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor [9.54 dB].

## 5.4. Measurement Equipment

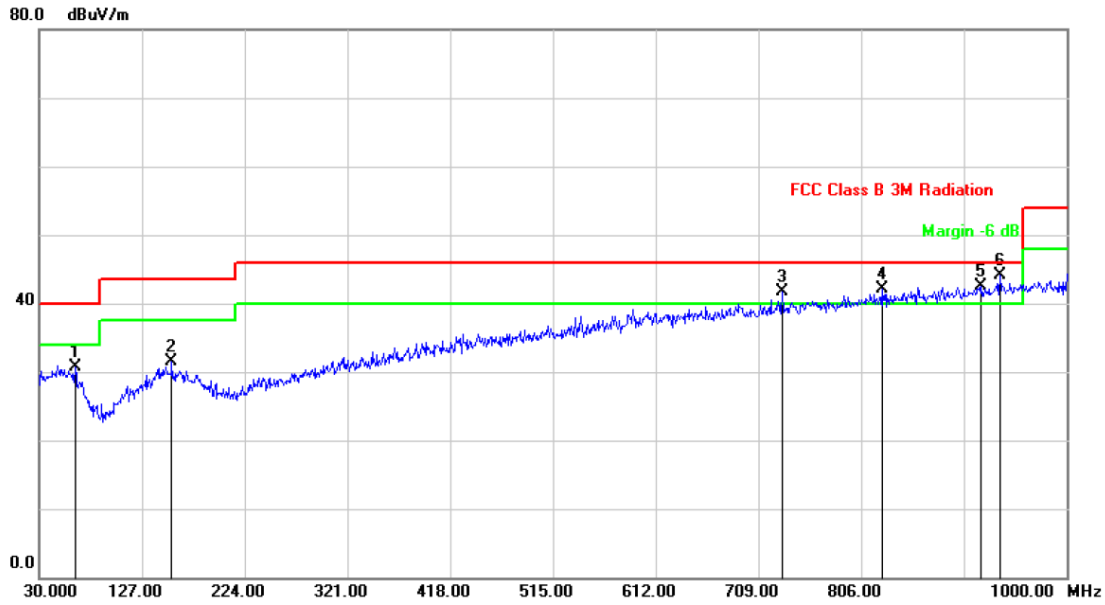
| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|---|---|---|---|---|---|
| EMI Receiver | R&S | ESCI | 100443 | 2014/04/09 | 2015/04/08 |
| Bilog Antenna | Schwarzbeck | VULB 9168 | 275 | 2013/10/01 | 2014/09/30 |
| Amplifier | QuieTek | AP/0100A | CHM0906075 | 2013/09/30 | 2014/09/29 |
| SPECTRUM ANALYZER | R&S | FSP40 | 100219 | 2013/09/14 | 2014/09/13 |
| HORN ANTENNA | EMCO | 3115 | 31601 | 2013/09/18 | 2014/09/17 |
| PREAMPLIFIER | AGILENT | 8449B | 3008A01954 | 2014/03/28 | 2015/03/27 |
| Software | Farad | Ez-EMC | ver.ct3a1 | N/A | N/A |

## 5.5. Test Result and Data (9kHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

## 5.6. Test Result and Data (30MHz ~ 1GHz)

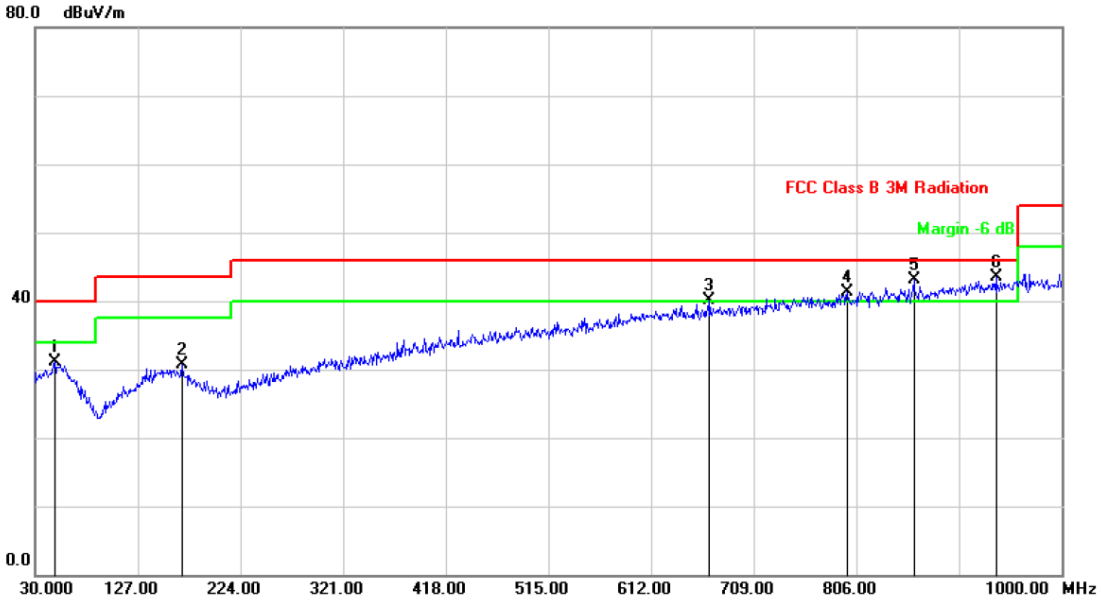
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11ac VHT80, CH42 | Temperature | : | 24 °C |
| Test Date | : | Aug. 04, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1012 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 63.9500 | -8.97 | 39.76 | 30.79 | 40.00 | -9.21 | peak | 100 | 182 |
| 2 | 155.1300 | -8.15 | 39.71 | 31.56 | 43.50 | -11.94 | peak | 100 | 182 |
| 3 | 731.3100 | 1.54 | 40.18 | 41.72 | 46.00 | -4.28 | peak | 100 | 182 |
| 4 | 825.4000 | 2.71 | 39.37 | 42.08 | 46.00 | -3.92 | peak | 100 | 182 |
| 5 | 919.4900 | 4.08 | 38.37 | 42.45 | 46.00 | -3.55 | peak | 100 | 182 |
| 6 | 936.9500 | 4.35 | 39.69 | 44.04 | 46.00 | -1.96 | peak | 100 | 182 |

Note: Level = Reading + Factor
Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11ac VHT80, CH42 | Temperature | : | 24 °C |
| Test Date | : | Aug. 04, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1012 hpa |

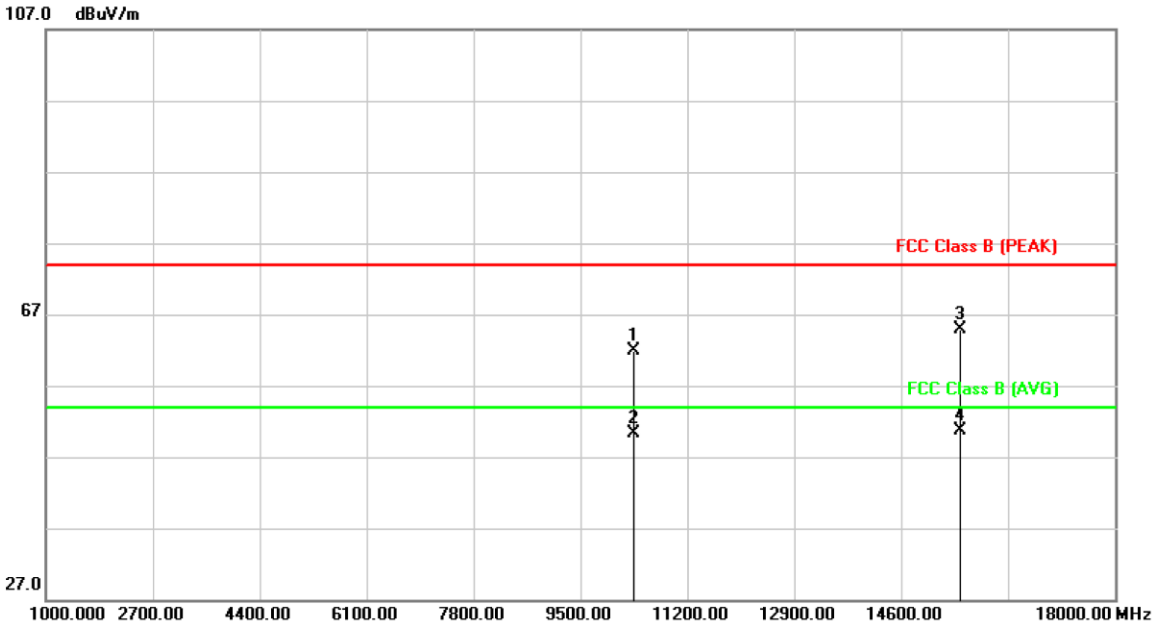



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 48.4300 | -7.63 | 38.74 | 31.11 | 40.00 | -8.89 | peak | 100 | 177 |
| 2 | 168.7100 | -8.44 | 39.11 | 30.67 | 43.50 | -12.83 | peak | 100 | 177 |
| 3 | 667.2900 | 0.53 | 39.49 | 40.02 | 46.00 | -5.98 | peak | 100 | 177 |
| 4 | 797.2700 | 2.34 | 38.94 | 41.28 | 46.00 | -4.72 | peak | 100 | 177 |
| 5 | 860.3200 | 3.21 | 39.94 | 43.15 | 46.00 | -2.85 | peak | 100 | 177 |
| 6 | 937.9200 | 4.36 | 39.19 | 43.55 | 46.00 | -2.45 | peak | 100 | 177 |

Note: Level = Reading + Factor
Margin = Level - Limit

## 5.7. Test Result and Data (Above 1GHz)

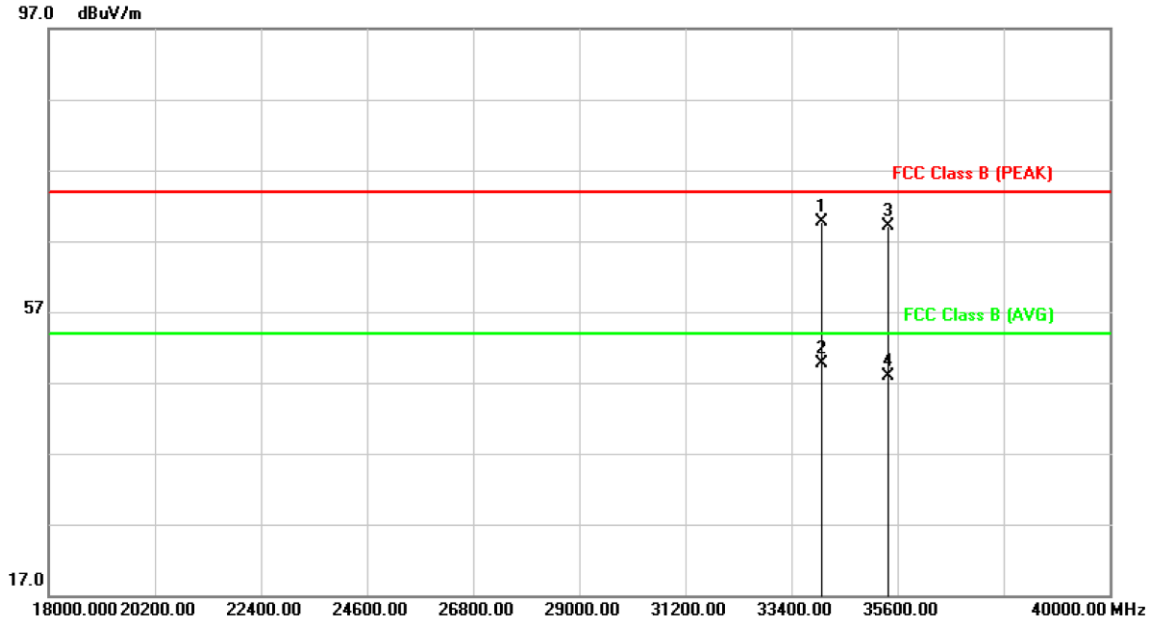
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH36 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10360.000 | 16.94 | 44.89 | 61.83 | 74.00 | -12.17 | peak | 105 | 178 |
| 2 | 10360.000 | 16.94 | 33.26 | 50.20 | 54.00 | -3.80 | AVG | 105 | 178 |
| 3 | 15540.000 | 21.17 | 43.65 | 64.82 | 74.00 | -9.18 | peak | 105 | 178 |
| 4 | 15540.000 | 21.17 | 29.45 | 50.62 | 54.00 | -3.38 | AVG | 105 | 178 |

Note: Level = Reading + Factor
Margin = Level – Limit

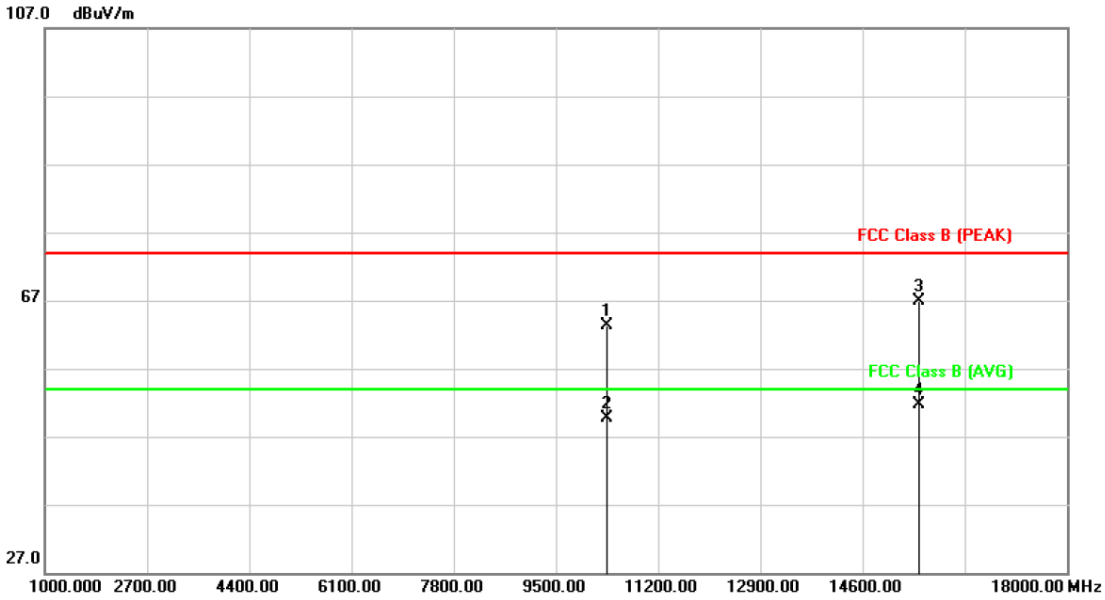
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH36 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34038.000 | 7.30 | 62.35 | 69.65 | 74.00 | -4.35 | peak | 102 | 171 |
| 2 | 34038.000 | 7.30 | 42.38 | 49.68 | 54.00 | -4.32 | AVG | 102 | 171 |
| 3 | 35402.000 | 6.32 | 62.87 | 69.19 | 74.00 | -4.81 | peak | 102 | 171 |
| 4 | 35402.000 | 6.32 | 41.58 | 47.90 | 54.00 | -6.10 | AVG | 102 | 171 |

Note: Level = Reading + Factor
Margin = Level - Limit

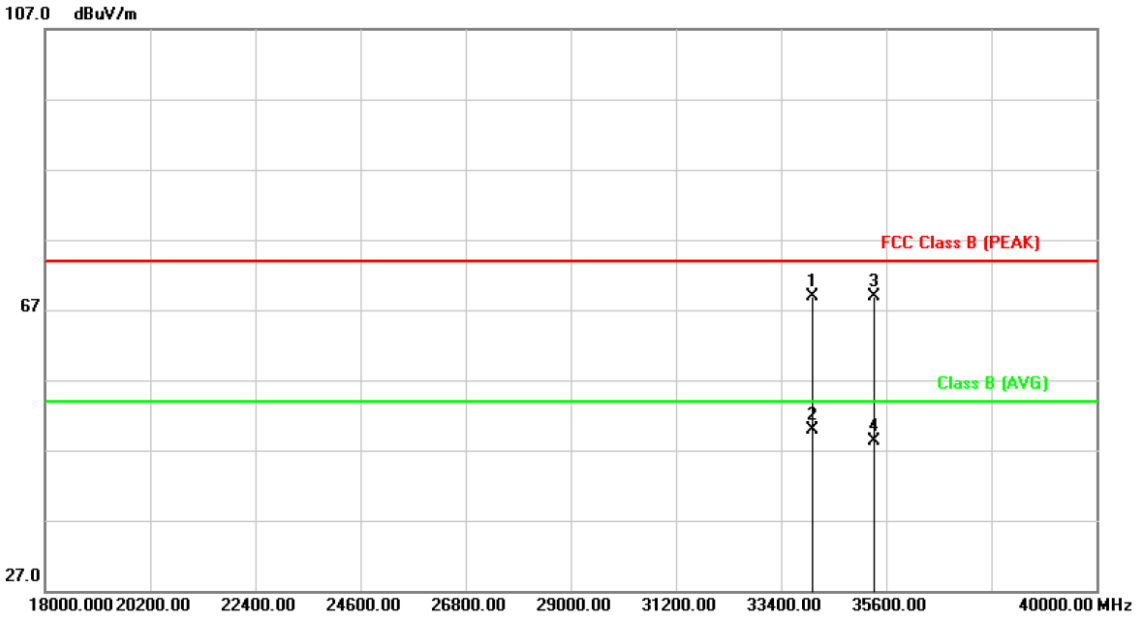
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH36 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10360.000 | 16.94 | 46.27 | 63.21 | 74.00 | -10.79 | peak | 113 | 175 |
| 2 | 10360.000 | 16.94 | 32.86 | 49.80 | 54.00 | -4.20 | AVG | 113 | 175 |
| 3 | 15540.000 | 21.17 | 45.69 | 66.86 | 74.00 | -7.14 | peak | 113 | 175 |
| 4 | 15540.000 | 21.17 | 30.56 | 51.73 | 54.00 | -2.27 | AVG | 113 | 175 |

Note: Level = Reading + Factor
Margin = Level - Limit

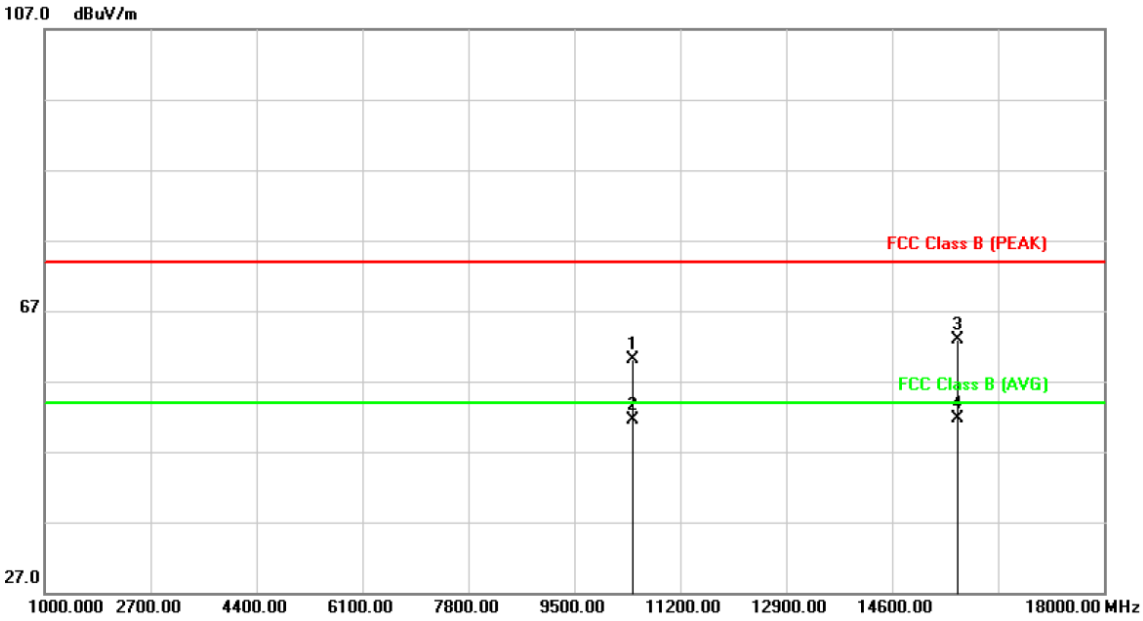
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH36 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34060.000 | 7.28 | 61.59 | 68.87 | 74.00 | -5.13 | peak | 105 | 182 |
| 2 | 34060.000 | 7.28 | 42.55 | 49.83 | 54.00 | -4.17 | AVG | 105 | 182 |
| 3 | 35358.000 | 6.48 | 62.37 | 68.85 | 74.00 | -5.15 | peak | 105 | 182 |
| 4 | 35358.000 | 6.48 | 41.72 | 48.20 | 54.00 | -5.80 | AVG | 105 | 182 |

Note: Level = Reading + Factor
Margin = Level - Limit

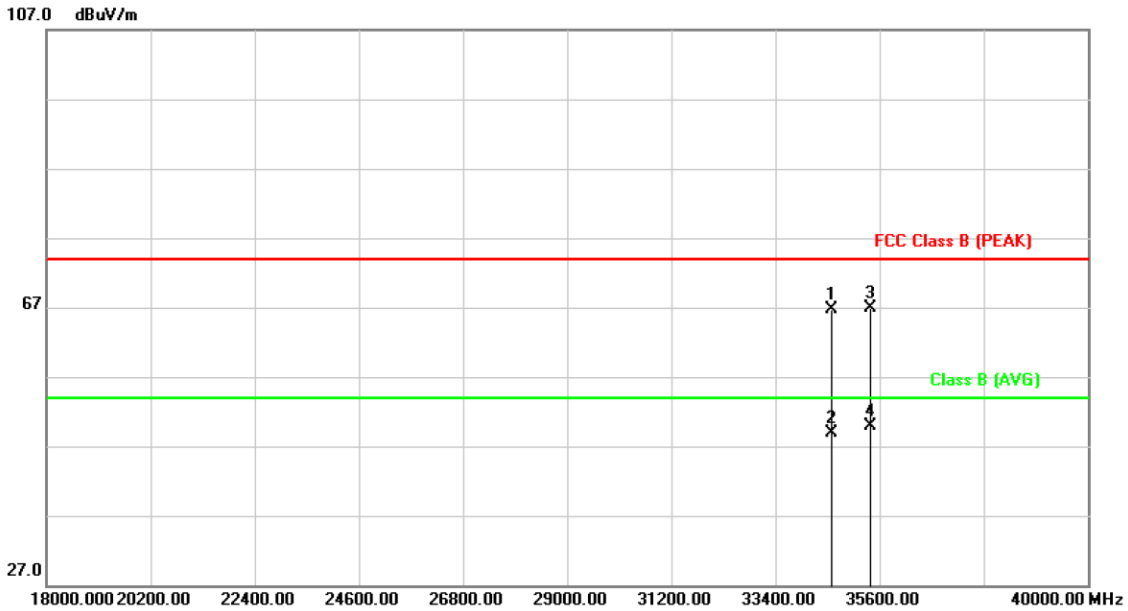
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH44 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10440.000 | 17.08 | 43.03 | 60.11 | 74.00 | -13.89 | peak | 108 | 166 |
| 2 | 10440.000 | 17.08 | 34.52 | 51.60 | 54.00 | -2.40 | AVG | 108 | 166 |
| 3 | 15660.000 | 20.93 | 41.95 | 62.88 | 74.00 | -11.12 | peak | 108 | 166 |
| 4 | 15660.000 | 20.93 | 30.78 | 51.71 | 54.00 | -2.29 | AVG | 108 | 166 |

Note: Level = Reading + Factor
Margin = Level - Limit

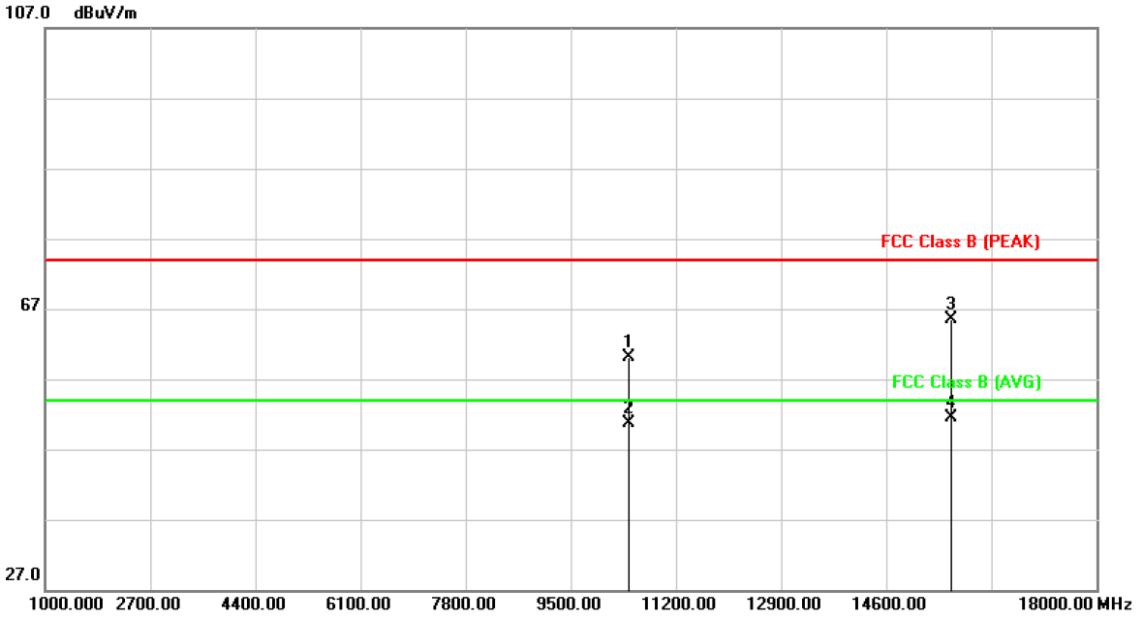
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH44 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34588.000 | 7.17 | 59.63 | 66.80 | 74.00 | -7.20 | peak | 108 | 175 |
| 2 | 34588.000 | 7.17 | 41.76 | 48.93 | 54.00 | -5.07 | AVG | 108 | 175 |
| 3 | 35402.000 | 6.32 | 60.57 | 66.89 | 74.00 | -7.11 | peak | 108 | 175 |
| 4 | 35402.000 | 6.32 | 43.68 | 50.00 | 54.00 | -4.00 | AVG | 108 | 175 |

Note: Level = Reading + Factor
Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH44 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |

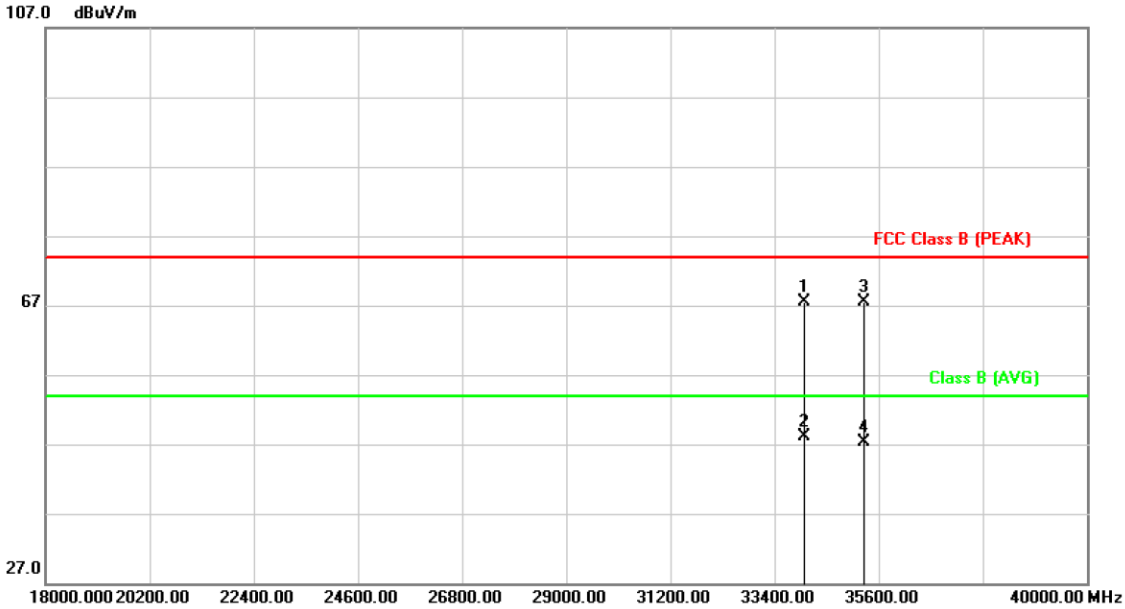



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10440.000 | 17.08 | 43.09 | 60.17 | 74.00 | -13.83 | peak | 112 | 175 |
| 2 | 10440.000 | 17.08 | 33.66 | 50.74 | 54.00 | -3.26 | AVG | 112 | 175 |
| 3 | 15660.000 | 20.93 | 44.66 | 65.59 | 74.00 | -8.41 | peak | 112 | 175 |
| 4 | 15660.000 | 20.93 | 30.55 | 51.48 | 54.00 | -2.52 | AVG | 112 | 175 |

Note: Level = Reading + Factor

Margin = Level - Limit

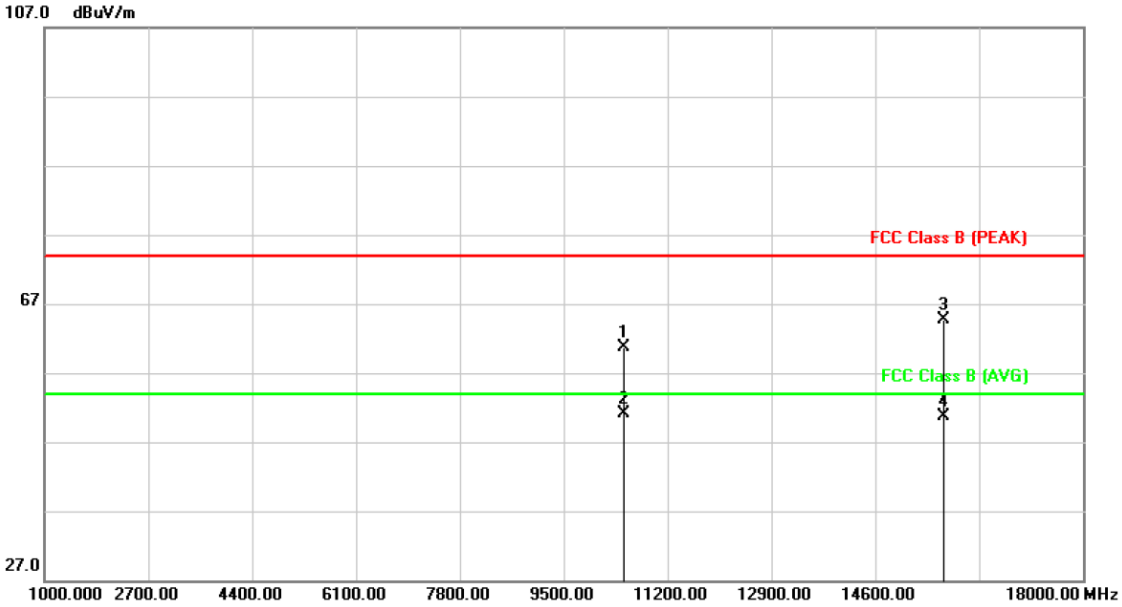
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH44 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34016.000 | 7.31 | 60.26 | 67.57 | 74.00 | -6.43 | peak | 101 | 166 |
| 2 | 34016.000 | 7.31 | 40.87 | 48.18 | 54.00 | -5.82 | AVG | 101 | 166 |
| 3 | 35292.000 | 6.71 | 60.89 | 67.60 | 74.00 | -6.40 | peak | 101 | 166 |
| 4 | 35292.000 | 6.71 | 40.52 | 47.23 | 54.00 | -6.77 | AVG | 101 | 166 |

Note: Level = Reading + Factor
Margin = Level - Limit

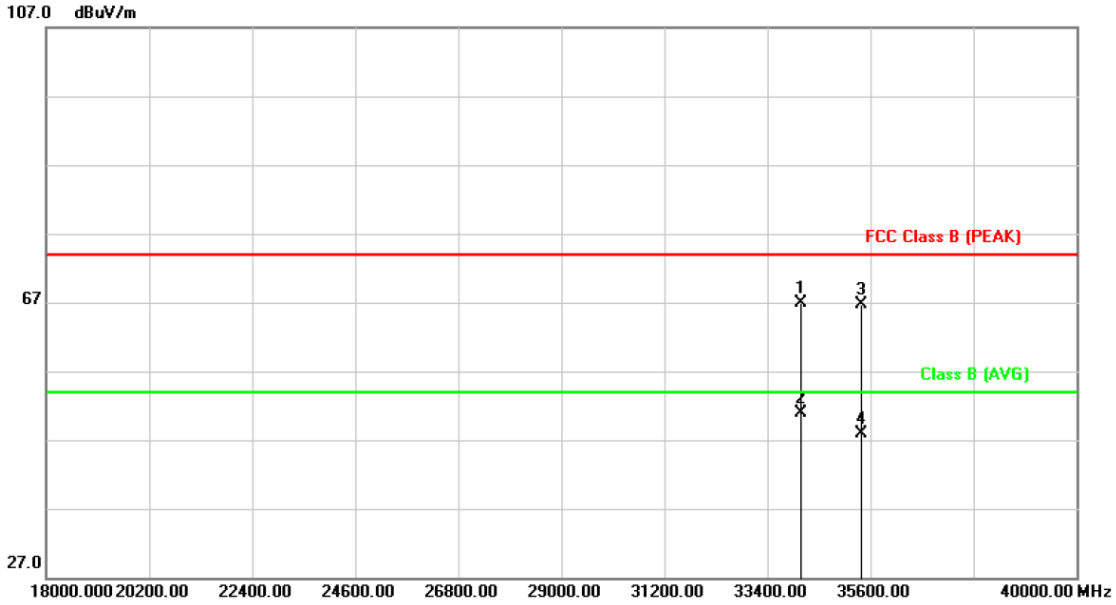
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH48 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10480.000 | 17.15 | 43.62 | 60.77 | 74.00 | -13.23 | peak | 114 | 176 |
| 2 | 10480.000 | 17.15 | 33.95 | 51.10 | 54.00 | -2.90 | AVG | 114 | 176 |
| 3 | 15720.000 | 20.83 | 43.81 | 64.64 | 74.00 | -9.36 | peak | 114 | 176 |
| 4 | 15720.000 | 20.83 | 29.87 | 50.70 | 54.00 | -3.30 | AVG | 114 | 176 |

Note: Level = Reading + Factor
Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH48 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |

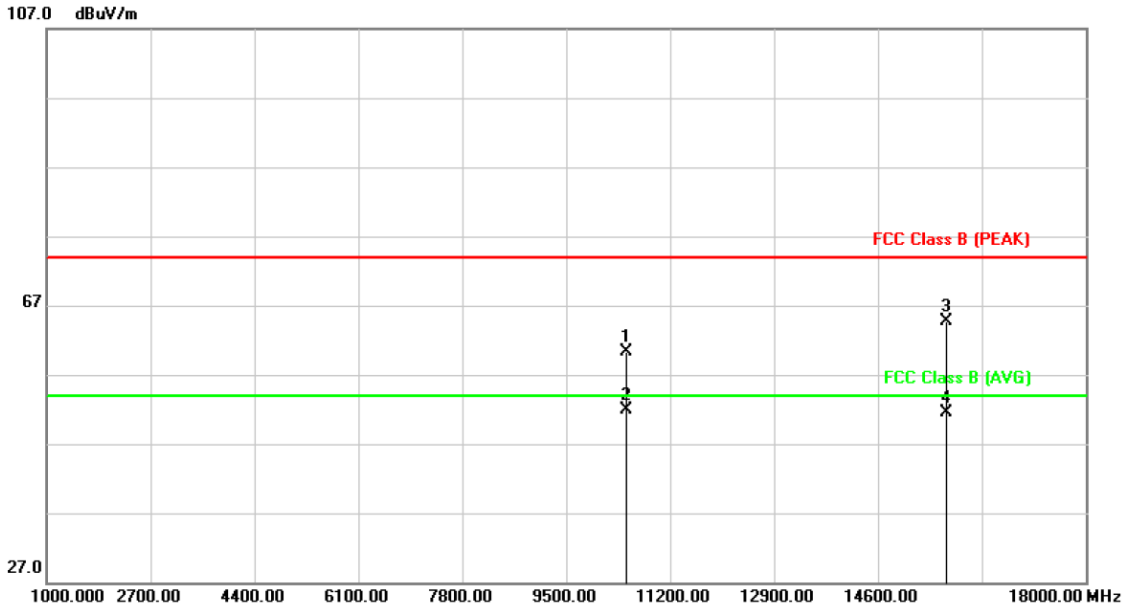



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34104.000 | 7.26 | 59.58 | 66.84 | 74.00 | -7.16 | peak | 103 | 183 |
| 2 | 34104.000 | 7.26 | 43.66 | 50.92 | 54.00 | -3.08 | AVG | 103 | 183 |
| 3 | 35402.000 | 6.32 | 60.45 | 66.77 | 74.00 | -7.23 | peak | 103 | 183 |
| 4 | 35402.000 | 6.32 | 41.55 | 47.87 | 54.00 | -6.13 | AVG | 103 | 183 |

Note: Level = Reading + Factor

Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH48 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |

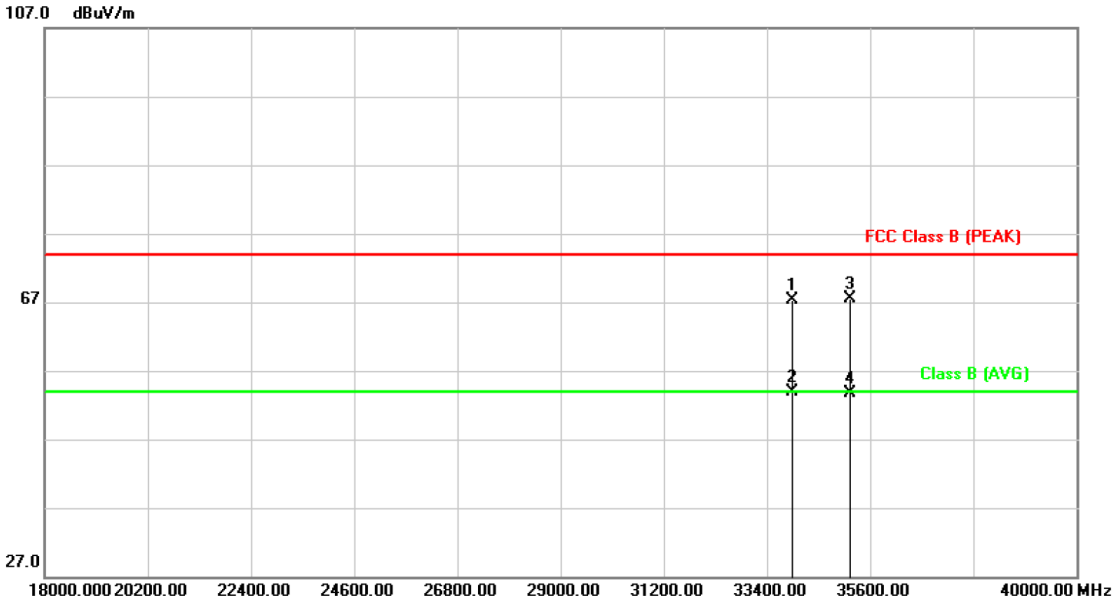



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10480.000 | 17.15 | 43.20 | 60.35 | 74.00 | -13.65 | peak | 105 | 163 |
| 2 | 10480.000 | 17.15 | 34.69 | 51.84 | 54.00 | -2.16 | AVG | 105 | 163 |
| 3 | 15720.000 | 20.83 | 43.87 | 64.70 | 74.00 | -9.30 | peak | 105 | 163 |
| 4 | 15720.000 | 20.83 | 30.62 | 51.45 | 54.00 | -2.55 | AVG | 105 | 163 |

Note: Level = Reading + Factor

Margin = Level - Limit

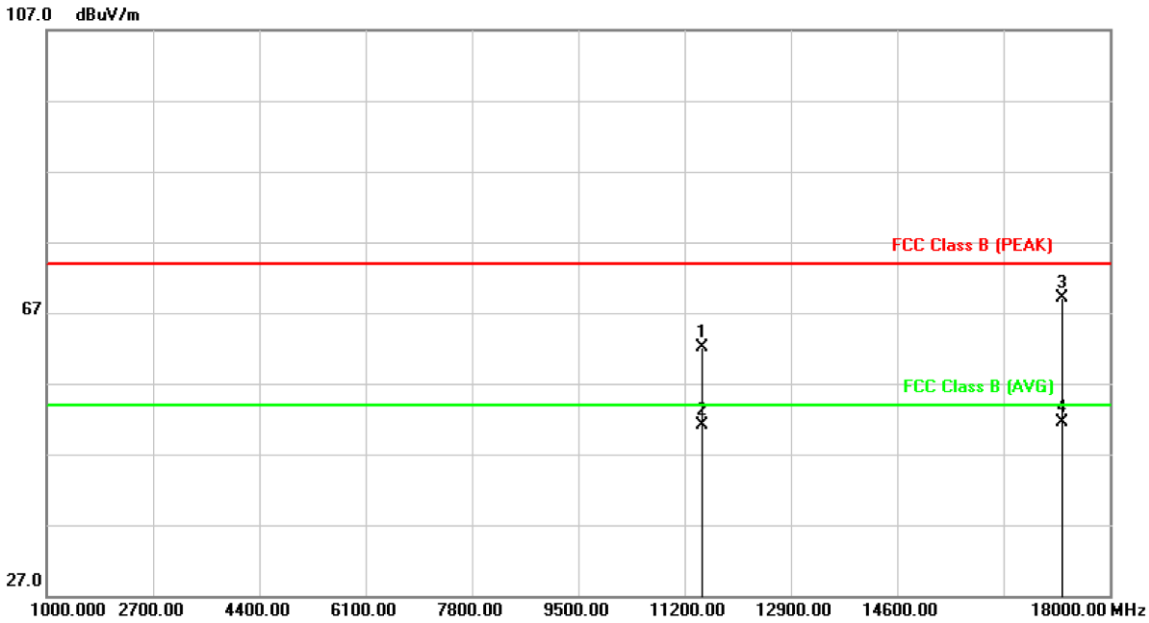
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH48 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 33950.000 | 7.21 | 60.12 | 67.33 | 74.00 | -6.67 | peak | 100 | 360 |
| 2 | 33950.000 | 7.21 | 46.67 | 53.88 | 54.00 | -1.10 | AVG | 100 | 360 |
| 3 | 35182.000 | 7.09 | 60.42 | 67.51 | 74.00 | -6.49 | peak | 100 | 360 |
| 4 | 35182.000 | 7.09 | 46.64 | 53.73 | 54.00 | -1.24 | AVG | 100 | 360 |

Note: Level = Reading + Factor
Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH149 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |

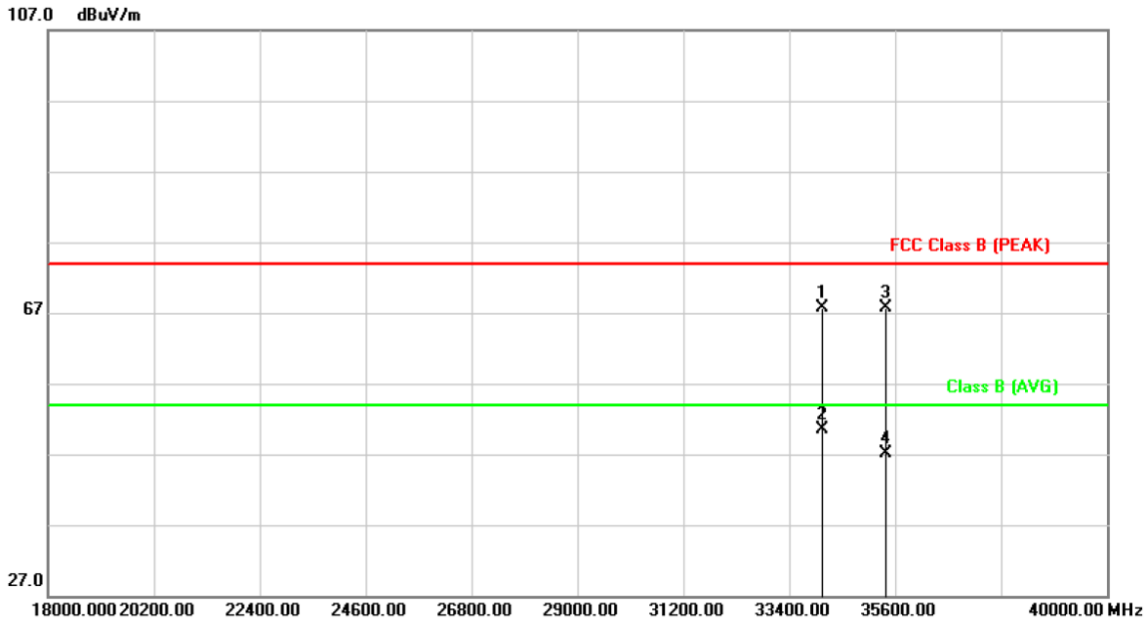



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11490.000 | 18.87 | 43.21 | 62.08 | 74.00 | -11.92 | peak | 102 | 176 |
| 2 | 11490.000 | 18.87 | 32.28 | 51.15 | 54.00 | -2.85 | AVG | 102 | 176 |
| 3 | 17235.000 | 26.12 | 43.08 | 69.20 | 74.00 | -4.80 | peak | 102 | 176 |
| 4 | 17235.000 | 26.12 | 25.46 | 51.58 | 54.00 | -2.42 | AVG | 102 | 176 |

Note: Level = Reading + Factor

Margin = Level – Limit

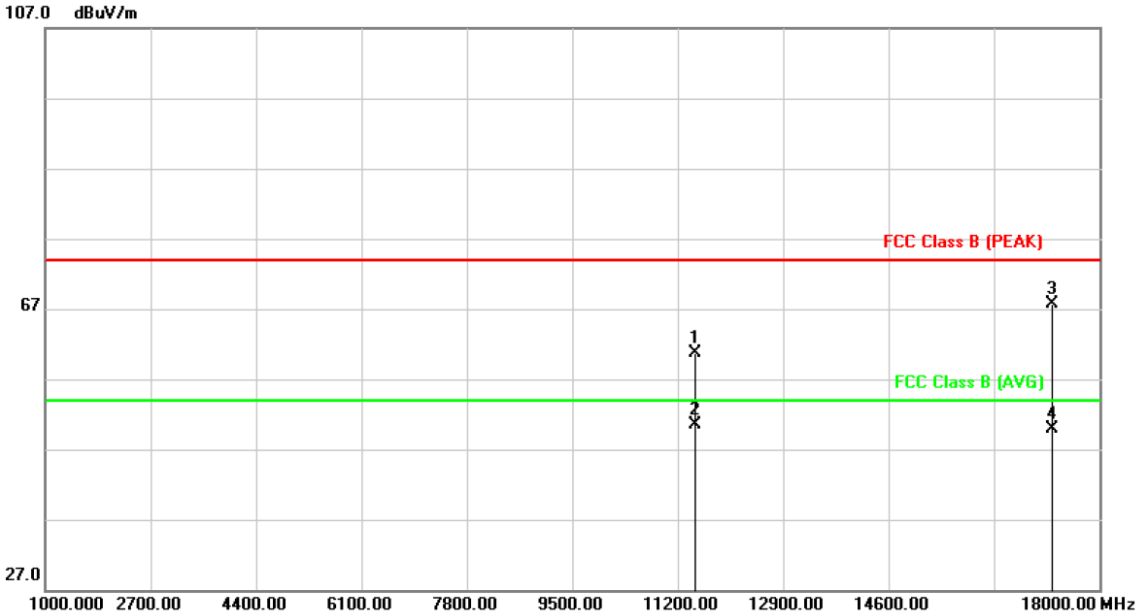
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH149 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34082.000 | 7.27 | 60.50 | 67.77 | 74.00 | -6.23 | peak | 100 | 172 |
| 2 | 34082.000 | 7.27 | 43.21 | 50.48 | 54.00 | -3.52 | AVG | 100 | 172 |
| 3 | 35402.000 | 6.32 | 61.37 | 67.69 | 74.00 | -6.31 | peak | 100 | 172 |
| 4 | 35402.000 | 6.32 | 40.82 | 47.14 | 54.00 | -6.86 | AVG | 100 | 172 |

Note: Level = Reading + Factor
Margin = Level - Limit

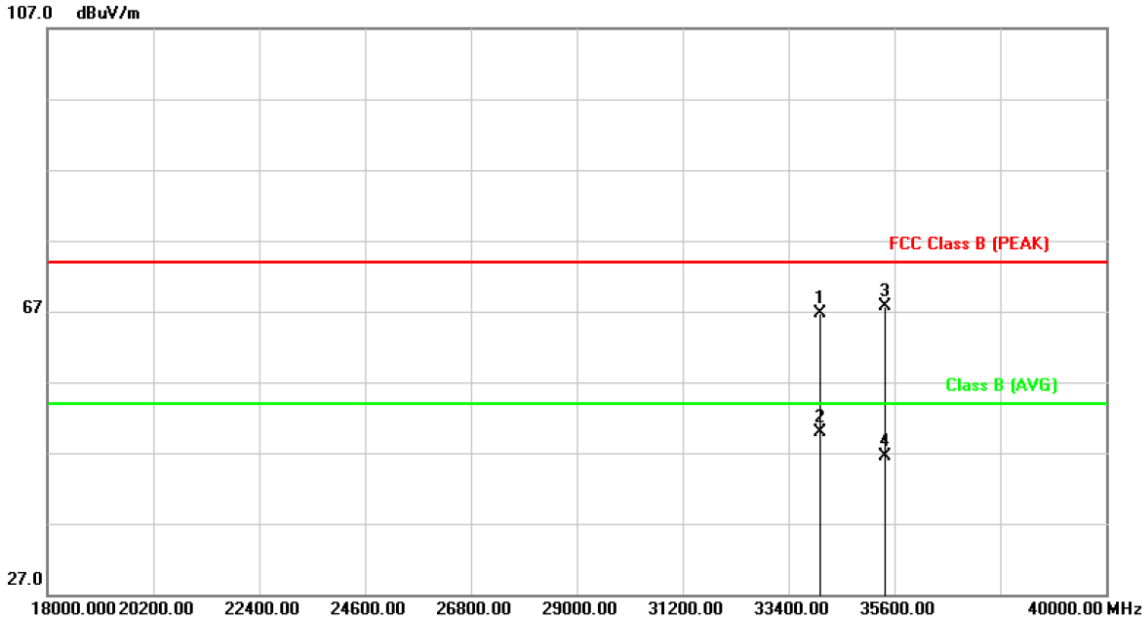
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH149 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11490.000 | 18.87 | 41.90 | 60.77 | 74.00 | -13.23 | peak | 106 | 172 |
| 2 | 11490.000 | 18.87 | 31.57 | 50.44 | 54.00 | -3.56 | AVG | 106 | 172 |
| 3 | 17235.000 | 26.12 | 41.68 | 67.80 | 74.00 | -6.20 | peak | 106 | 172 |
| 4 | 17235.000 | 26.12 | 23.86 | 49.98 | 54.00 | -4.02 | AVG | 106 | 172 |

Note: Level = Reading + Factor
Margin = Level - Limit

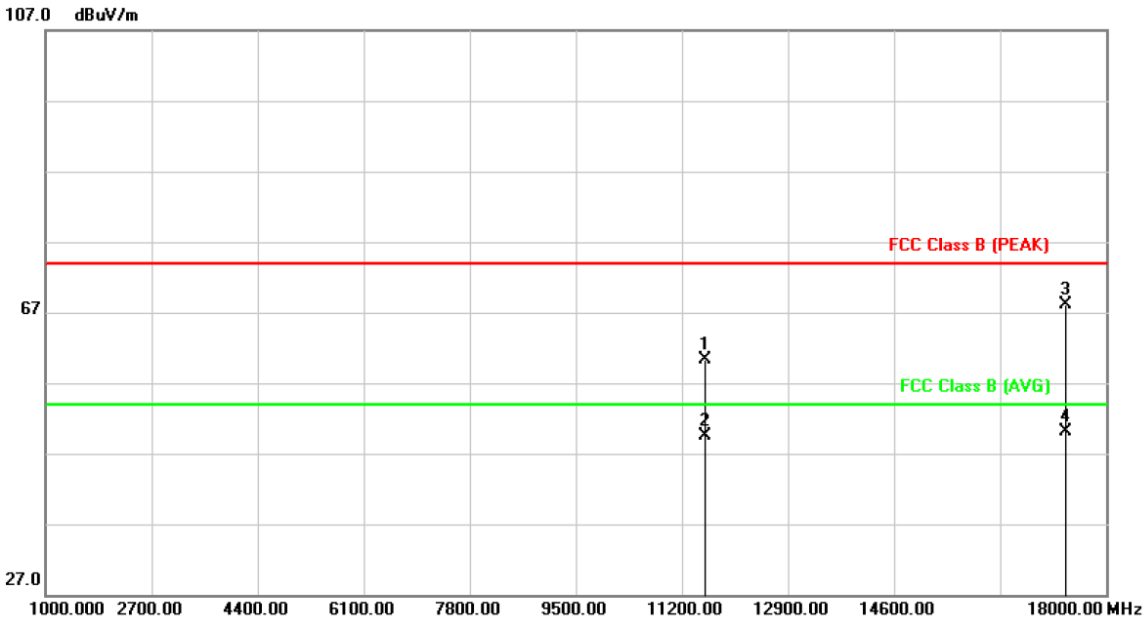
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH149 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34060.000 | 7.28 | 59.33 | 66.61 | 74.00 | -7.39 | peak | 106 | 161 |
| 2 | 34060.000 | 7.28 | 42.63 | 49.91 | 54.00 | -4.09 | AVG | 106 | 161 |
| 3 | 35402.000 | 6.32 | 61.47 | 67.79 | 74.00 | -6.21 | peak | 106 | 161 |
| 4 | 35402.000 | 6.32 | 40.17 | 46.49 | 54.00 | -7.51 | AVG | 106 | 161 |

Note: Level = Reading + Factor
Margin = Level - Limit

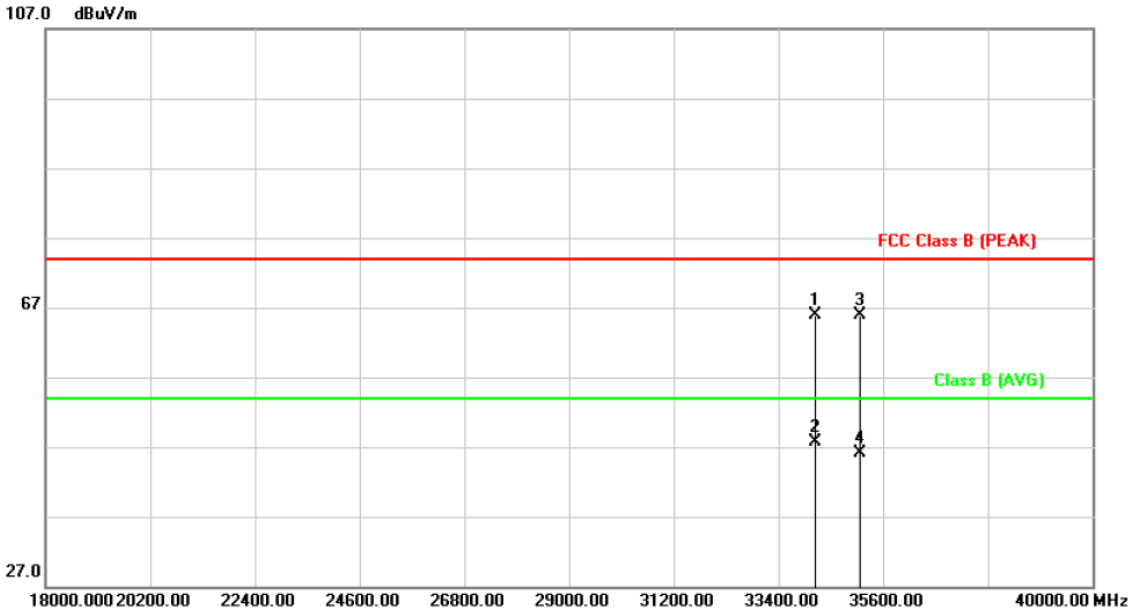
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH157 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11570.000 | 18.94 | 41.41 | 60.35 | 74.00 | -13.65 | peak | 112 | 167 |
| 2 | 11570.000 | 18.94 | 30.64 | 49.58 | 54.00 | -4.42 | AVG | 112 | 167 |
| 3 | 17355.000 | 26.79 | 41.32 | 68.11 | 74.00 | -5.89 | peak | 112 | 167 |
| 4 | 17355.000 | 26.79 | 23.35 | 50.14 | 54.00 | -3.86 | AVG | 112 | 167 |

Note: Level = Reading + Factor
Margin = Level – Limit

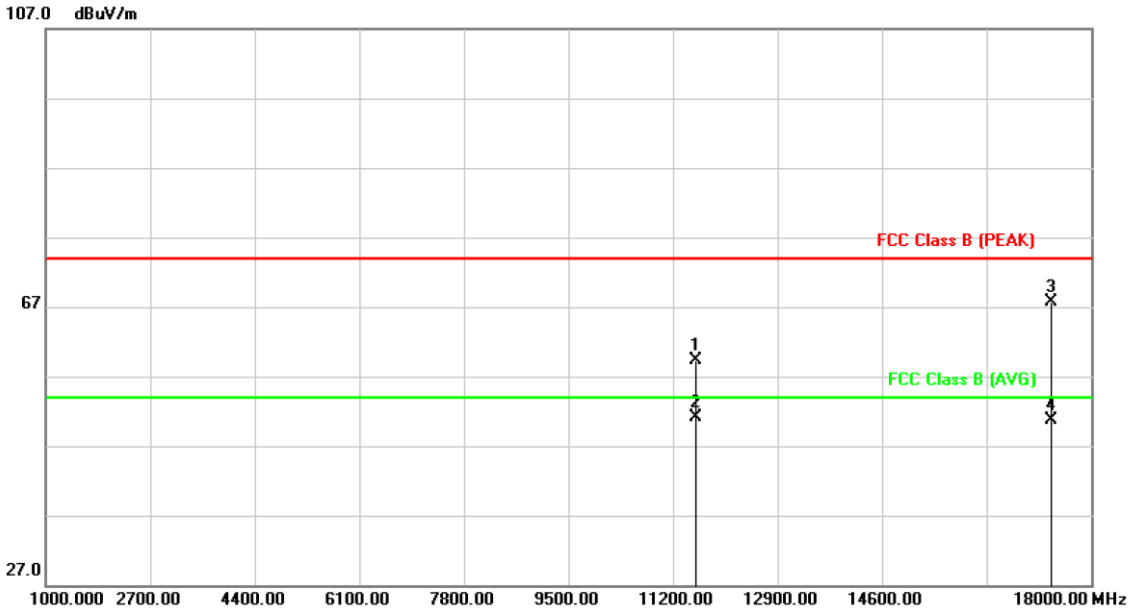
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH157 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34170.000 | 7.23 | 58.67 | 65.90 | 74.00 | -8.10 | peak | 107 | 169 |
| 2 | 34170.000 | 7.23 | 40.56 | 47.79 | 54.00 | -6.21 | AVG | 107 | 169 |
| 3 | 35116.000 | 7.32 | 58.67 | 65.99 | 74.00 | -8.01 | peak | 107 | 169 |
| 4 | 35116.000 | 7.32 | 38.72 | 46.04 | 54.00 | -7.96 | AVG | 107 | 169 |

Note: Level = Reading + Factor
Margin = Level - Limit

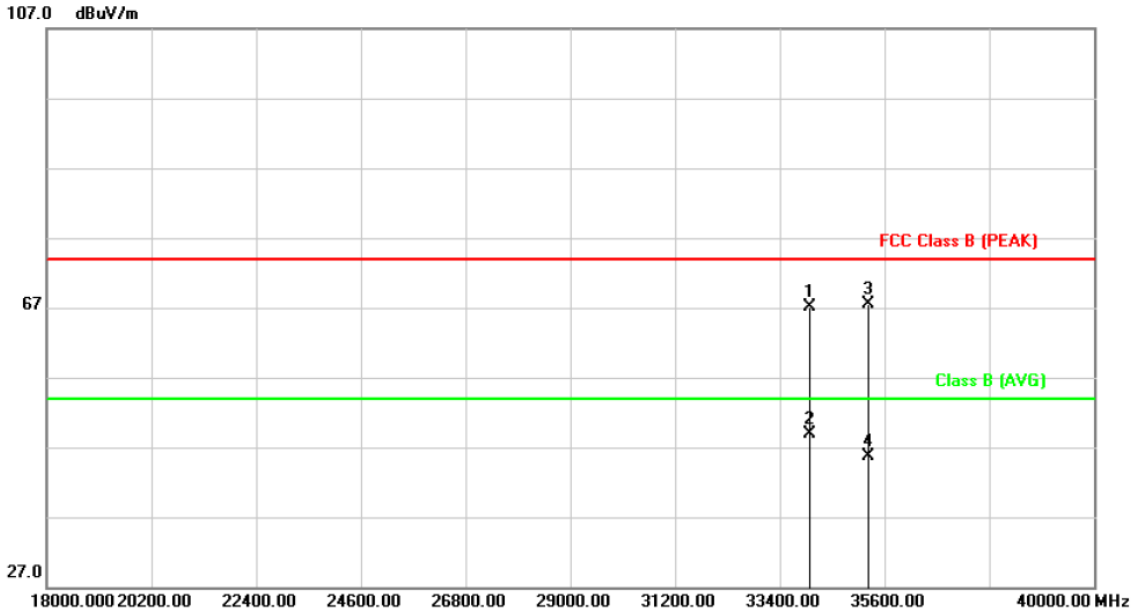
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH157 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11570.000 | 18.94 | 40.37 | 59.31 | 74.00 | -14.69 | peak | 110 | 164 |
| 2 | 11570.000 | 18.94 | 32.17 | 51.11 | 54.00 | -2.89 | AVG | 110 | 164 |
| 3 | 17355.000 | 26.79 | 40.92 | 67.71 | 74.00 | -6.29 | peak | 110 | 164 |
| 4 | 17355.000 | 26.79 | 23.85 | 50.64 | 54.00 | -3.36 | AVG | 110 | 164 |

Note: Level = Reading + Factor
Margin = Level - Limit

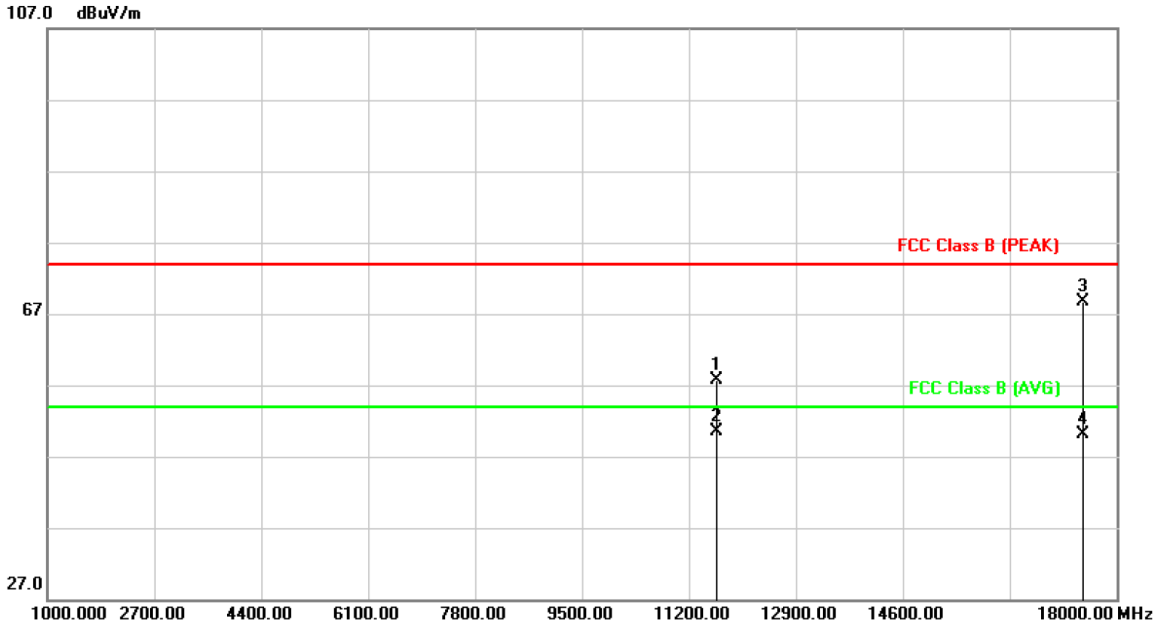
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH157 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34016.000 | 7.31 | 59.84 | 67.15 | 74.00 | -6.85 | peak | 114 | 173 |
| 2 | 34016.000 | 7.31 | 41.67 | 48.98 | 54.00 | -5.02 | AVG | 114 | 173 |
| 3 | 35270.000 | 6.79 | 60.74 | 67.53 | 74.00 | -6.47 | peak | 114 | 173 |
| 4 | 35270.000 | 6.79 | 38.97 | 45.76 | 54.00 | -8.24 | AVG | 114 | 173 |

Note: Level = Reading + Factor
Margin = Level - Limit

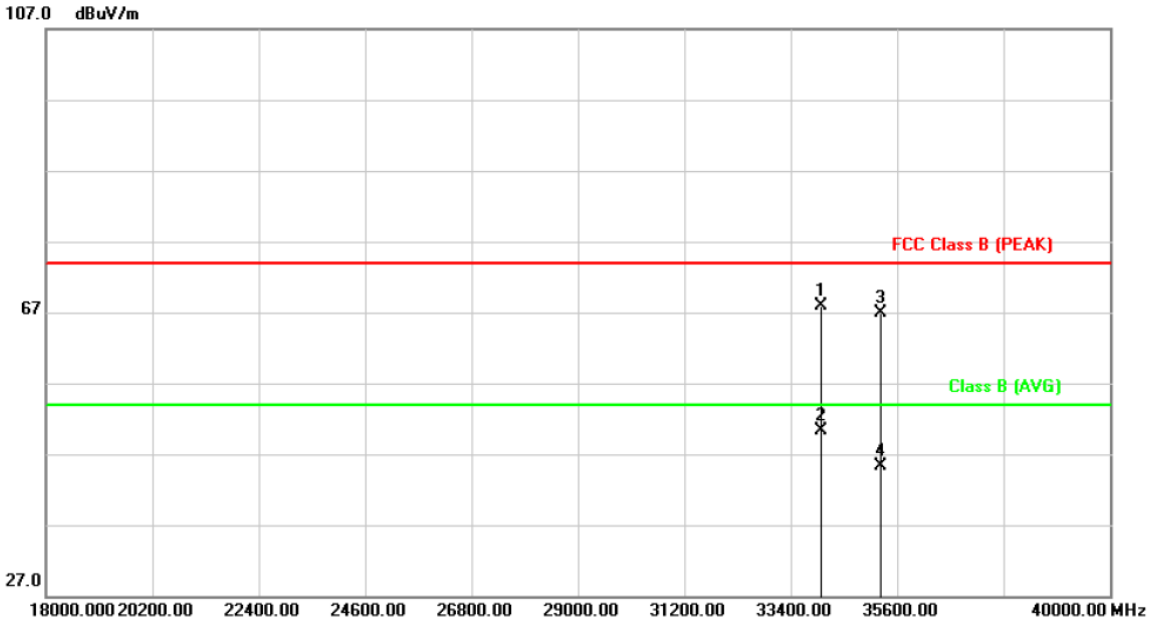
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH165 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11650.000 | 19.00 | 38.69 | 57.69 | 74.00 | -16.31 | peak | 103 | 163 |
| 2 | 11650.000 | 19.00 | 31.47 | 50.47 | 54.00 | -3.53 | AVG | 103 | 163 |
| 3 | 17475.000 | 27.48 | 41.23 | 68.71 | 74.00 | -5.29 | peak | 103 | 163 |
| 4 | 17475.000 | 27.48 | 22.67 | 50.15 | 54.00 | -3.85 | AVG | 103 | 163 |

Note: Level = Reading + Factor
Margin = Level - Limit

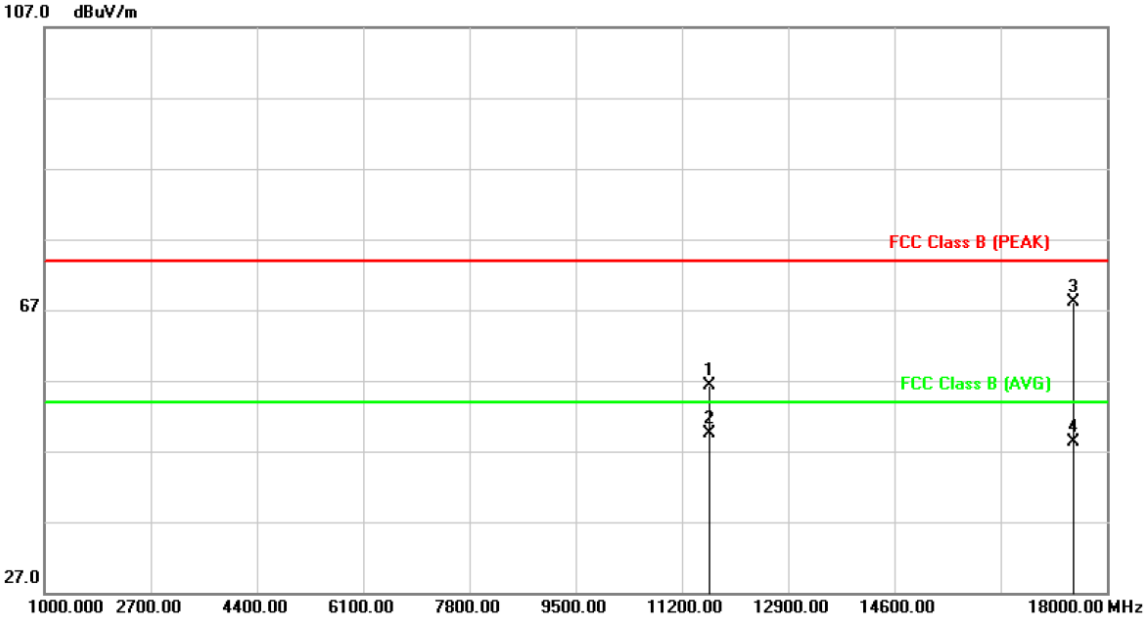
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11a, CH165 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34016.000 | 7.31 | 60.61 | 67.92 | 74.00 | -6.08 | peak | 111 | 174 |
| 2 | 34016.000 | 7.31 | 42.91 | 50.22 | 54.00 | -3.78 | AVG | 111 | 174 |
| 3 | 35270.000 | 6.79 | 60.17 | 66.96 | 74.00 | -7.04 | peak | 111 | 174 |
| 4 | 35270.000 | 6.79 | 38.45 | 45.24 | 54.00 | -8.76 | AVG | 111 | 174 |

Note: Level = Reading + Factor
Margin = Level - Limit

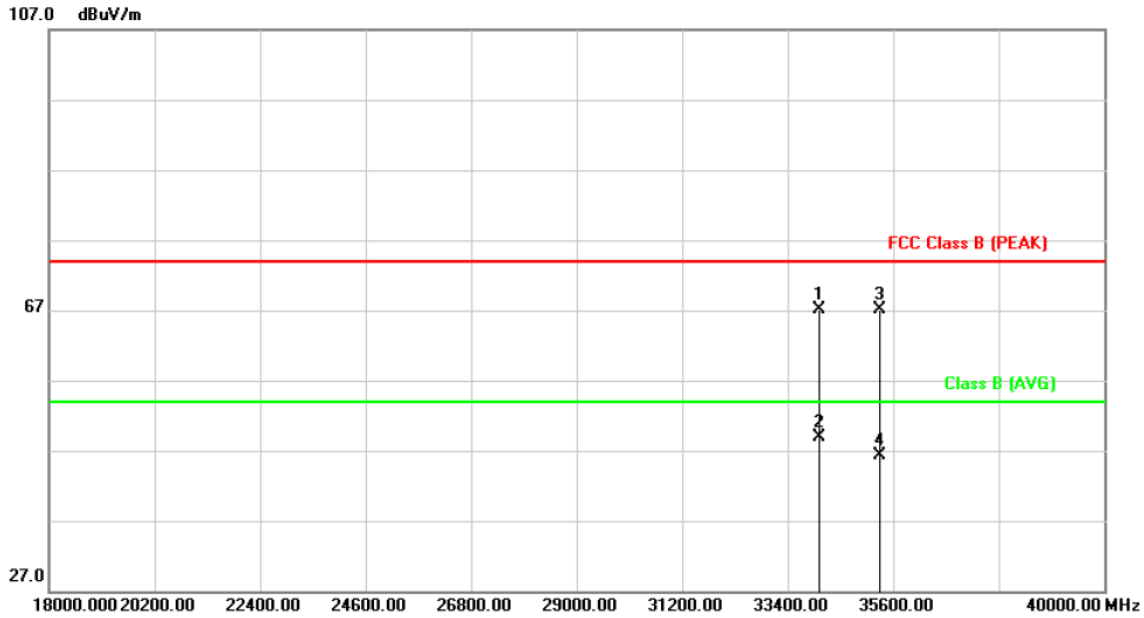
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH165 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11650.000 | 19.00 | 37.25 | 56.25 | 74.00 | -17.75 | peak | 114 | 185 |
| 2 | 11650.000 | 19.00 | 30.54 | 49.54 | 54.00 | -4.46 | AVG | 114 | 185 |
| 3 | 17475.000 | 27.48 | 40.68 | 68.16 | 74.00 | -5.84 | peak | 114 | 185 |
| 4 | 17475.000 | 27.48 | 20.89 | 48.37 | 54.00 | -5.63 | AVG | 114 | 185 |

Note: Level = Reading + Factor
Margin = Level - Limit

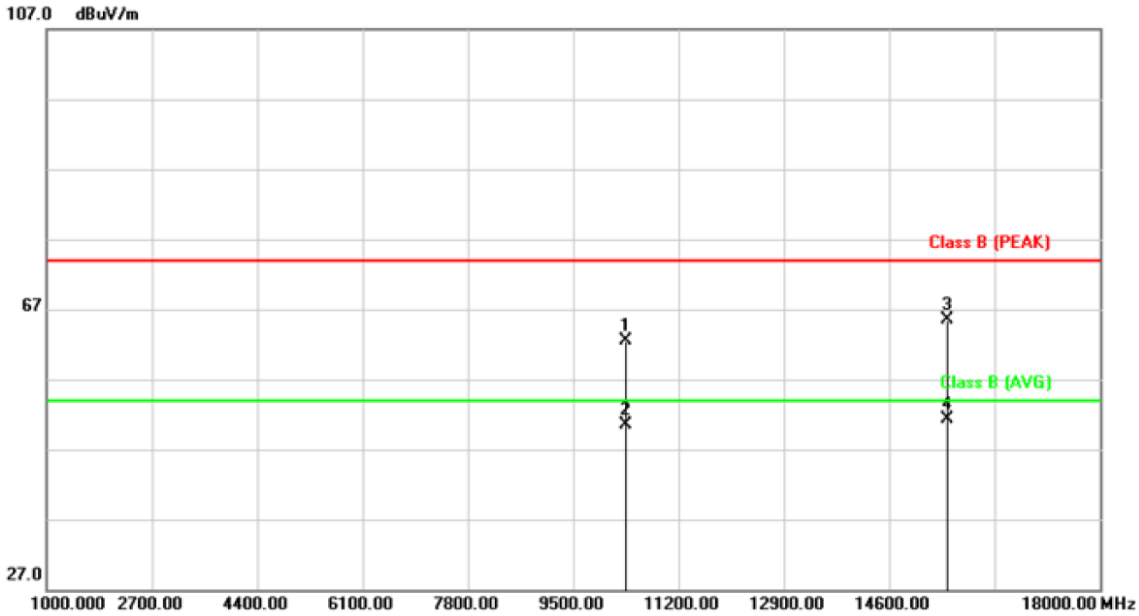
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11a, CH165 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34060.000 | 7.28 | 59.87 | 67.15 | 74.00 | -6.85 | peak | 109 | 177 |
| 2 | 34060.000 | 7.28 | 41.59 | 48.87 | 54.00 | -5.13 | AVG | 109 | 177 |
| 3 | 35314.000 | 6.63 | 60.54 | 67.17 | 74.00 | -6.83 | peak | 109 | 177 |
| 4 | 35314.000 | 6.63 | 39.77 | 46.40 | 54.00 | -7.60 | AVG | 109 | 177 |

Note: Level = Reading + Factor
Margin = Level - Limit

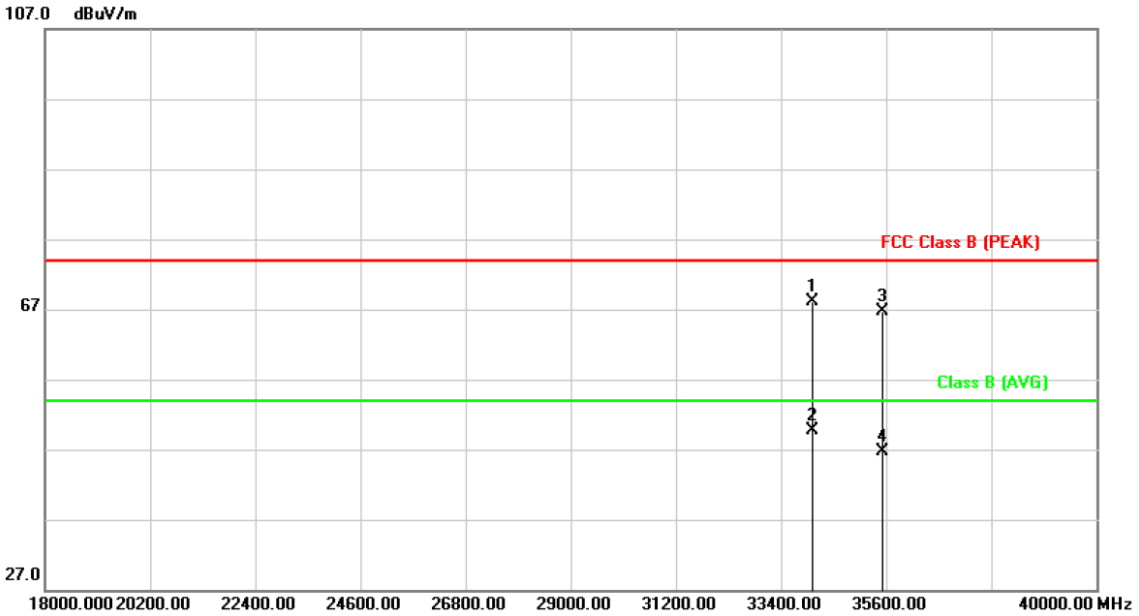
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH36 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10360.000 | 16.94 | 45.60 | 62.54 | 74.00 | -11.46 | peak | 107 | 185 |
| 2 | 10360.000 | 16.94 | 33.56 | 50.50 | 54.00 | -3.50 | AVG | 107 | 185 |
| 3 | 15540.000 | 21.17 | 44.28 | 65.45 | 74.00 | -8.55 | peak | 107 | 185 |
| 4 | 15540.000 | 21.17 | 30.15 | 51.32 | 54.00 | -2.68 | AVG | 107 | 185 |

Note: Level = Reading + Factor
Margin = Level - Limit

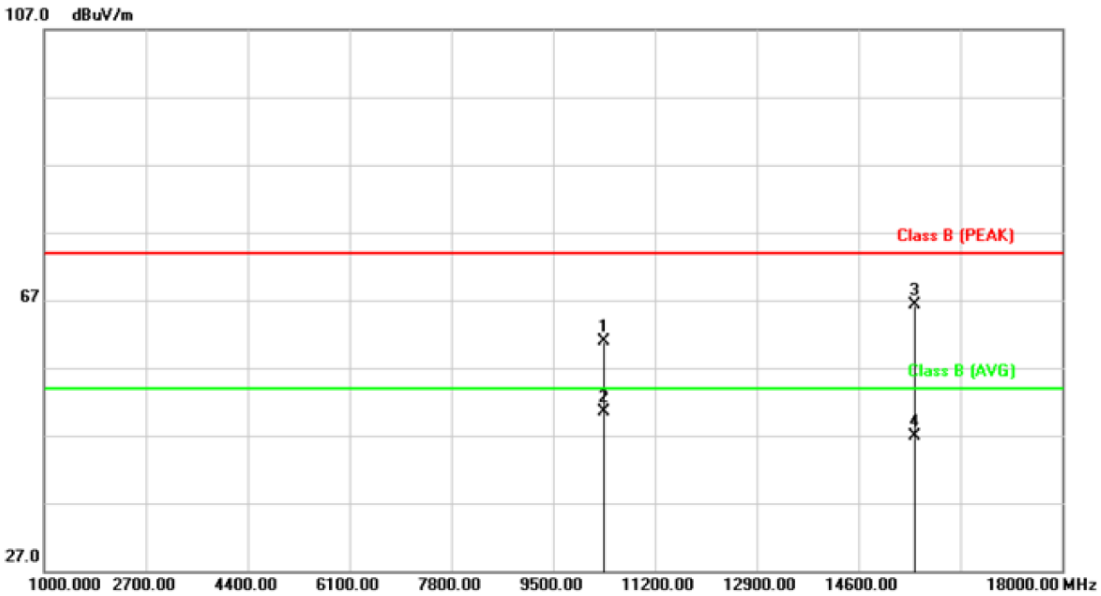
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH36 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34060.000 | 7.28 | 60.73 | 68.01 | 74.00 | -5.99 | peak | 114 | 178 |
| 2 | 34060.000 | 7.28 | 42.38 | 49.66 | 54.00 | -4.34 | AVG | 114 | 178 |
| 3 | 35512.000 | 5.94 | 60.84 | 66.78 | 74.00 | -7.22 | peak | 114 | 178 |
| 4 | 35512.000 | 5.94 | 40.67 | 46.61 | 54.00 | -7.39 | AVG | 114 | 178 |

Note: Level = Reading + Factor
Margin = Level - Limit

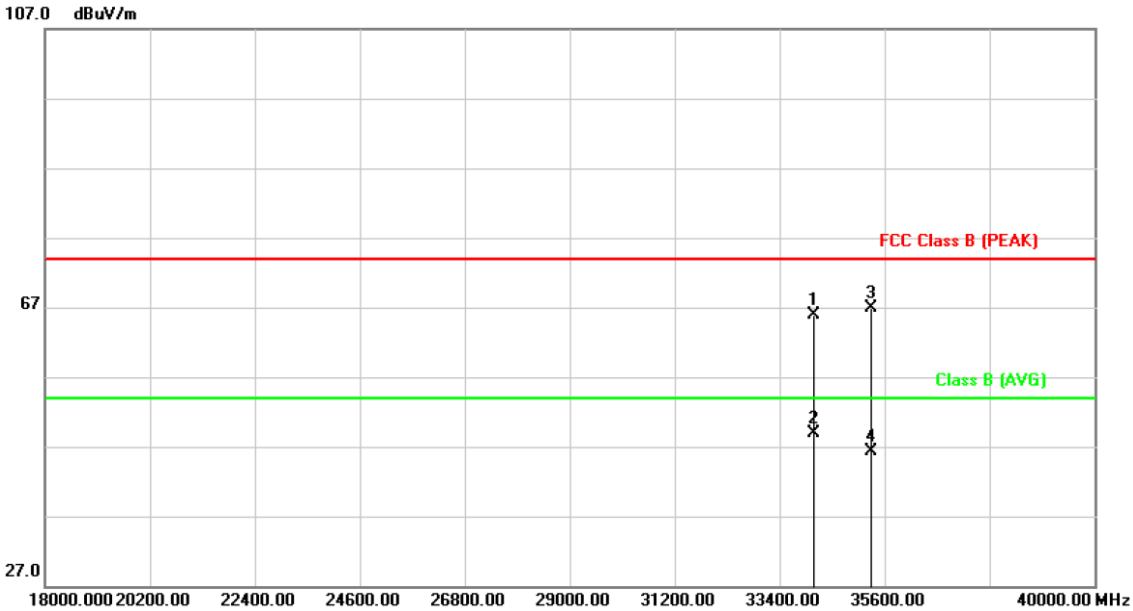
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH36 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10360.000 | 16.94 | 44.03 | 60.97 | 74.00 | -13.03 | peak | 114 | 175 |
| 2 | 10360.000 | 16.94 | 33.62 | 50.56 | 54.00 | -3.44 | AVG | 114 | 175 |
| 3 | 15540.000 | 21.17 | 45.13 | 66.30 | 74.00 | -7.70 | peak | 114 | 175 |
| 4 | 15540.000 | 21.17 | 25.66 | 46.83 | 54.00 | -7.17 | AVG | 114 | 175 |

Note: Level = Reading + Factor
Margin = Level - Limit

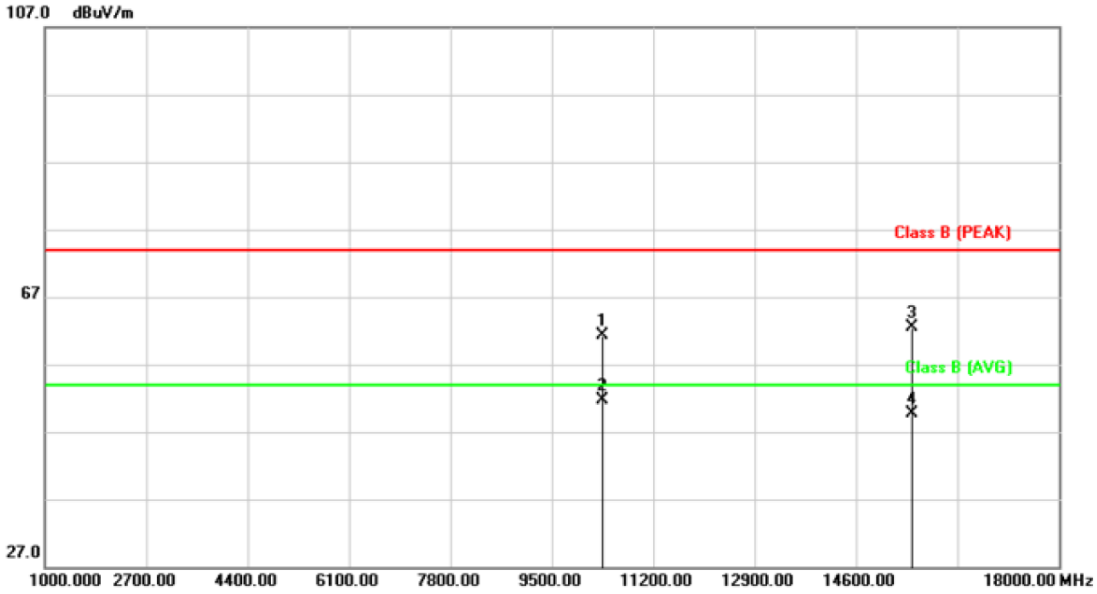
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH36 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34104.000 | 7.26 | 58.69 | 65.95 | 74.00 | -8.05 | peak | 116 | 164 |
| 2 | 34104.000 | 7.26 | 41.55 | 48.81 | 54.00 | -5.19 | AVG | 116 | 164 |
| 3 | 35314.000 | 6.63 | 60.31 | 66.94 | 74.00 | -7.06 | peak | 116 | 164 |
| 4 | 35314.000 | 6.63 | 39.77 | 46.40 | 54.00 | -7.60 | AVG | 116 | 164 |

Note: Level = Reading + Factor
Margin = Level - Limit

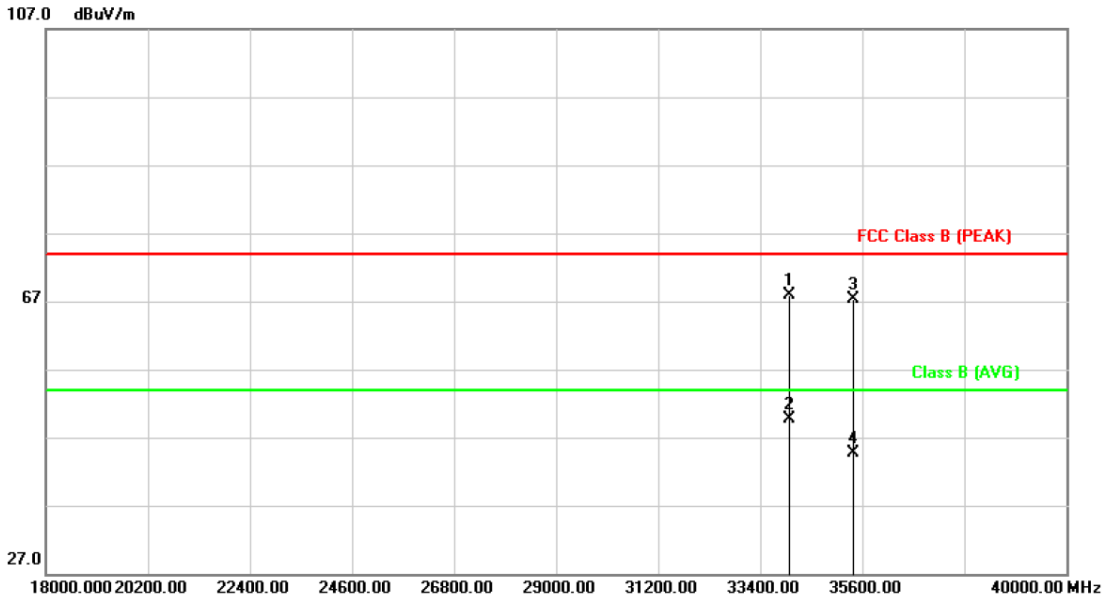
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH44 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10360.000 | 16.94 | 44.45 | 61.39 | 74.00 | -12.61 | peak | 115 | 166 |
| 2 | 10360.000 | 16.94 | 34.67 | 51.61 | 54.00 | -2.39 | AVG | 115 | 166 |
| 3 | 15540.000 | 21.17 | 41.35 | 62.52 | 74.00 | -11.48 | peak | 115 | 166 |
| 4 | 15540.000 | 21.17 | 28.55 | 49.72 | 54.00 | -4.28 | AVG | 115 | 166 |

Note: Level = Reading + Factor
Margin = Level - Limit

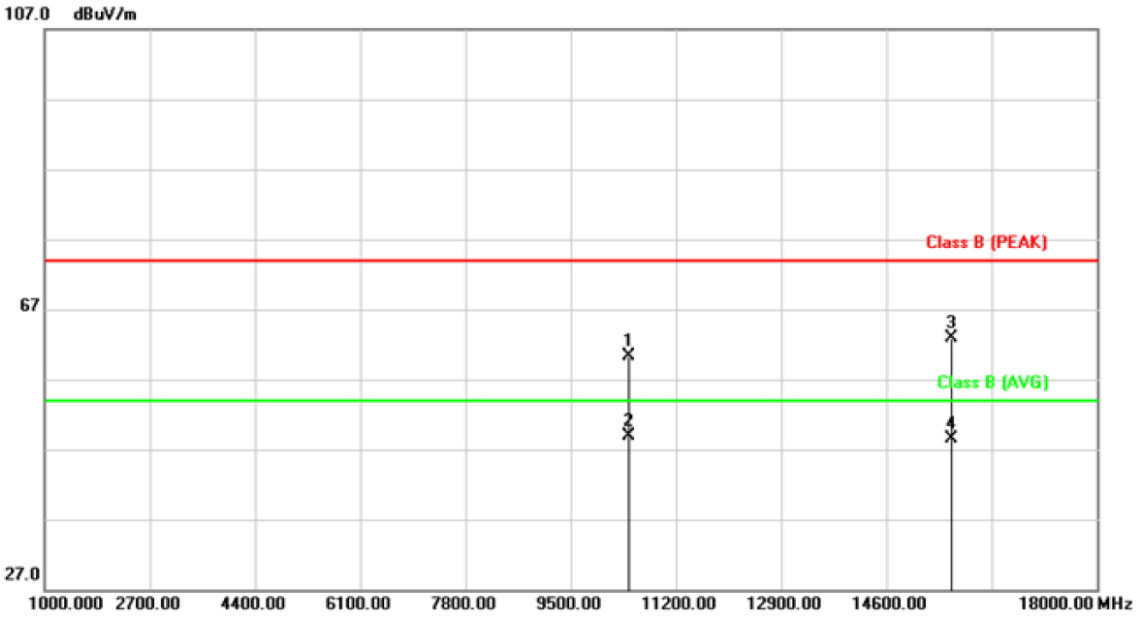
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH44 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34016.000 | 7.31 | 60.62 | 67.93 | 74.00 | -6.07 | peak | 104 | 177 |
| 2 | 34016.000 | 7.31 | 42.34 | 49.65 | 54.00 | -4.35 | AVG | 104 | 177 |
| 3 | 35402.000 | 6.32 | 60.93 | 67.25 | 74.00 | -6.75 | peak | 104 | 177 |
| 4 | 35402.000 | 6.32 | 38.46 | 44.78 | 54.00 | -9.22 | AVG | 104 | 177 |

Note: Level = Reading + Factor
Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH44 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |

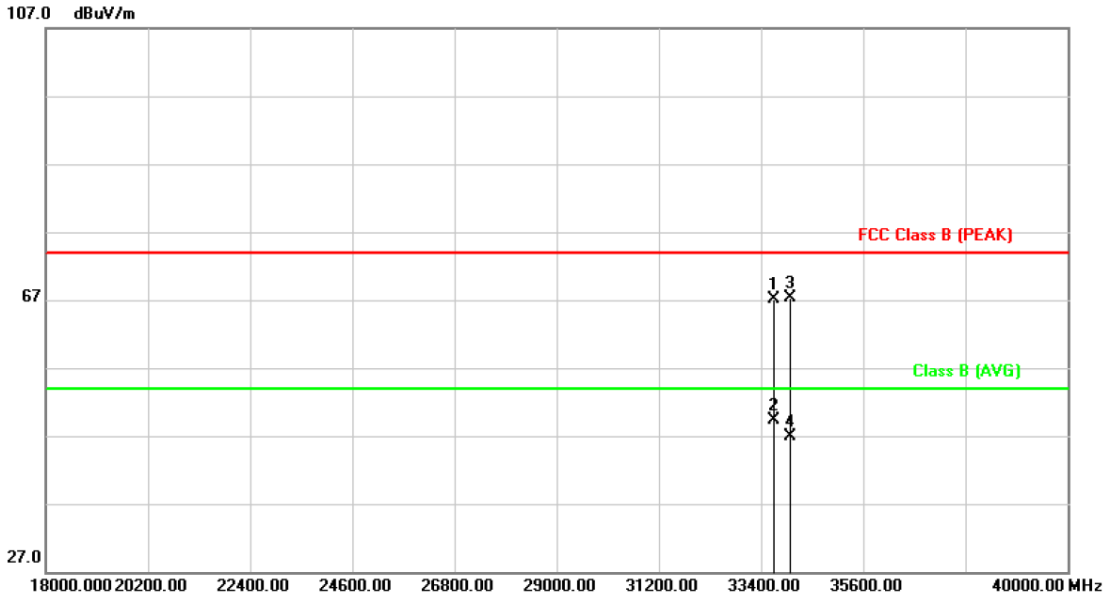



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10440.000 | 17.08 | 43.30 | 60.38 | 74.00 | -13.62 | peak | 111 | 163 |
| 2 | 10440.000 | 17.08 | 31.87 | 48.95 | 54.00 | -5.05 | AVG | 111 | 163 |
| 3 | 15660.000 | 20.93 | 41.88 | 62.81 | 74.00 | -11.19 | peak | 111 | 163 |
| 4 | 15660.000 | 20.93 | 27.58 | 48.51 | 54.00 | -5.49 | AVG | 111 | 163 |

Note: Level = Reading + Factor

Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH44 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |

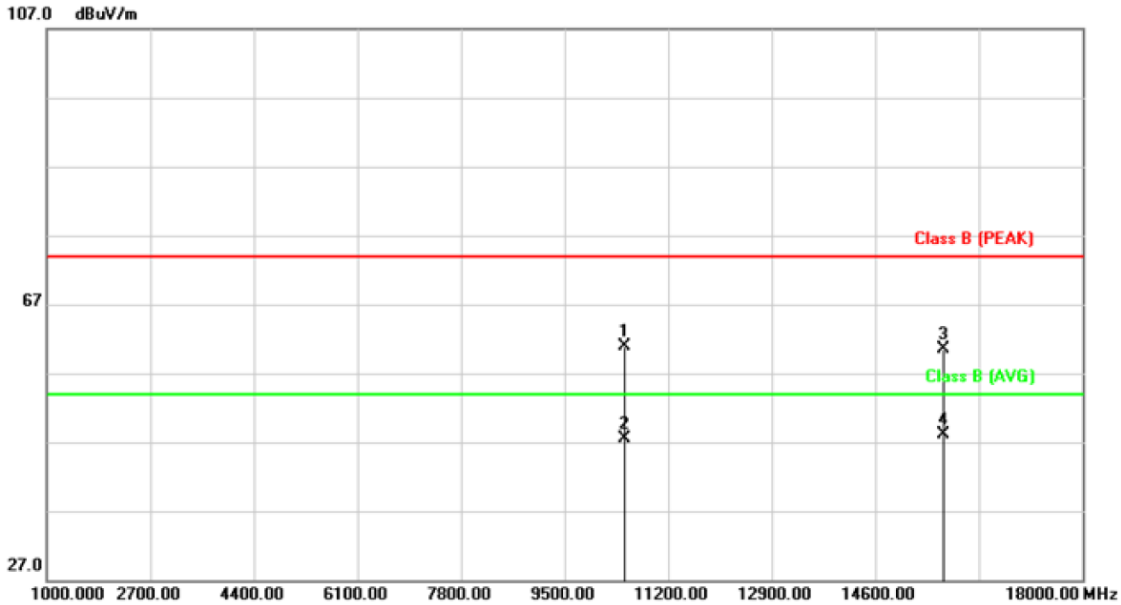



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 33686.000 | 6.68 | 60.35 | 67.03 | 74.00 | -6.97 | peak | 115 | 166 |
| 2 | 33686.000 | 6.68 | 42.67 | 49.35 | 54.00 | -4.65 | AVG | 115 | 166 |
| 3 | 34016.000 | 7.31 | 60.05 | 67.36 | 74.00 | -6.64 | peak | 115 | 166 |
| 4 | 34016.000 | 7.31 | 39.56 | 46.87 | 54.00 | -7.13 | AVG | 115 | 166 |

Note: Level = Reading + Factor

Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH48 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |

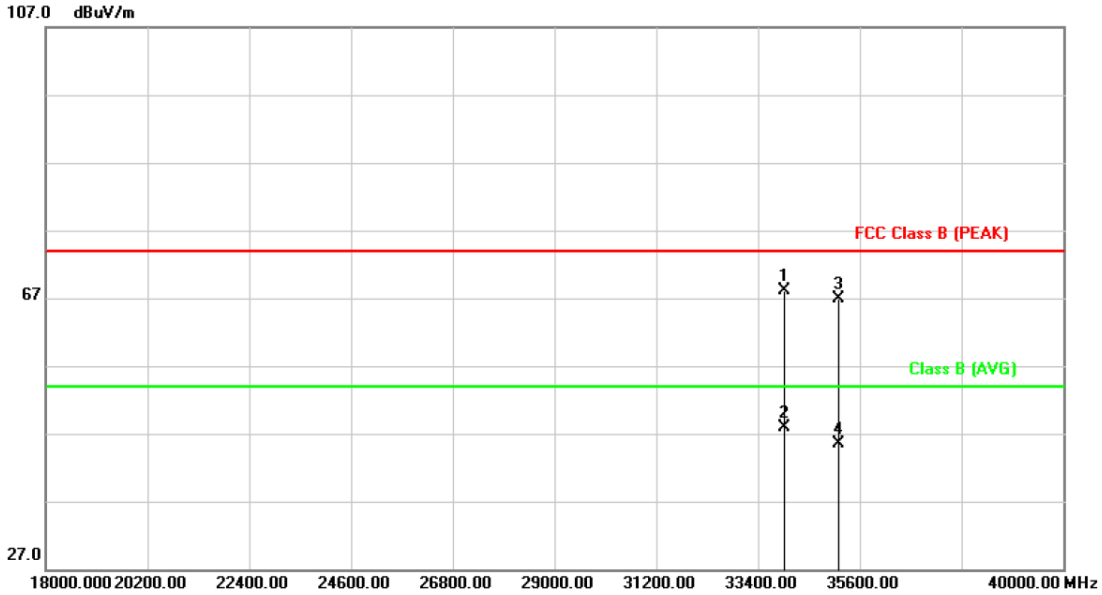



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10480.000 | 17.15 | 43.77 | 60.92 | 74.00 | -13.08 | peak | 108 | 177 |
| 2 | 10480.000 | 17.15 | 30.43 | 47.58 | 54.00 | -6.42 | AVG | 108 | 177 |
| 3 | 15720.000 | 20.83 | 39.64 | 60.47 | 74.00 | -13.53 | peak | 108 | 177 |
| 4 | 15720.000 | 20.83 | 27.18 | 48.01 | 54.00 | -5.99 | AVG | 108 | 177 |

Note: Level = Reading + Factor

Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH48 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |

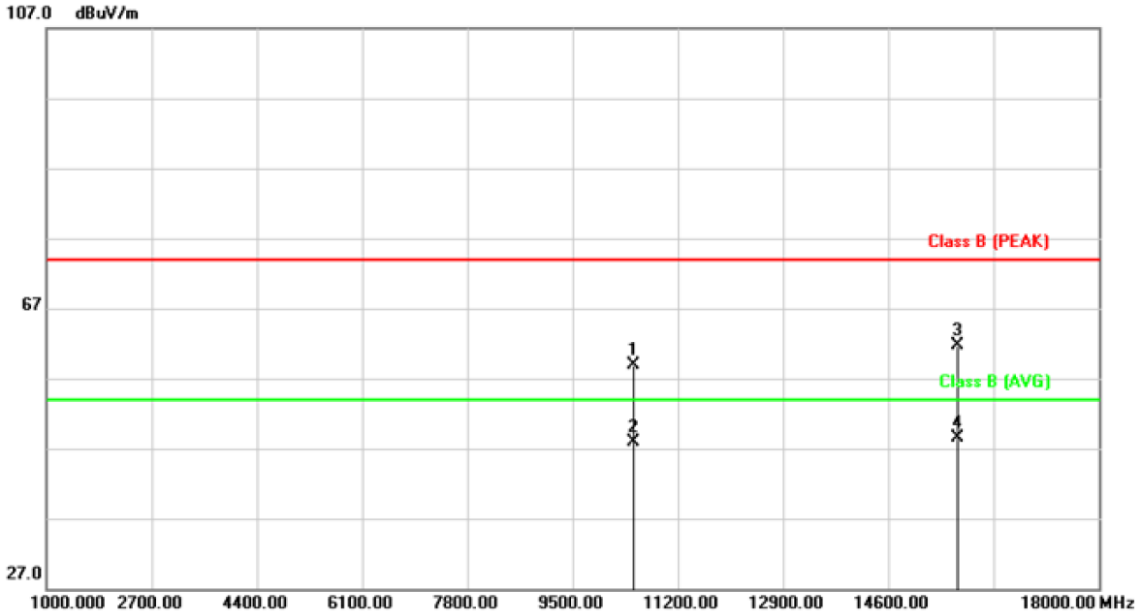



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 33972.000 | 7.27 | 60.93 | 68.20 | 74.00 | -5.80 | peak | 112 | 164 |
| 2 | 33972.000 | 7.27 | 40.57 | 47.84 | 54.00 | -6.16 | AVG | 112 | 164 |
| 3 | 35138.000 | 7.24 | 59.70 | 66.94 | 74.00 | -7.06 | peak | 112 | 164 |
| 4 | 35138.000 | 7.24 | 38.23 | 45.47 | 54.00 | -8.53 | AVG | 112 | 164 |

Note: Level = Reading + Factor

Margin = Level - Limit

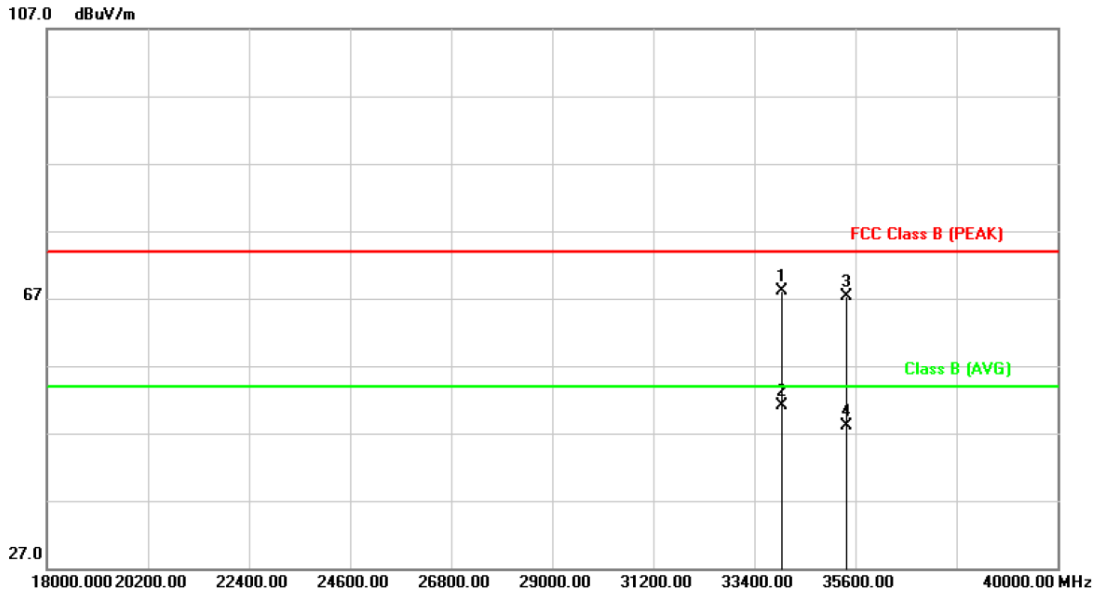
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH48 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10480.000 | 17.15 | 41.68 | 58.83 | 74.00 | -15.17 | peak | 104 | 165 |
| 2 | 10480.000 | 17.15 | 30.67 | 47.82 | 54.00 | -6.18 | AVG | 104 | 165 |
| 3 | 15720.000 | 20.83 | 40.85 | 61.68 | 74.00 | -12.32 | peak | 104 | 165 |
| 4 | 15720.000 | 20.83 | 27.64 | 48.47 | 54.00 | -5.53 | AVG | 104 | 165 |

Note: Level = Reading + Factor
Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH48 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |

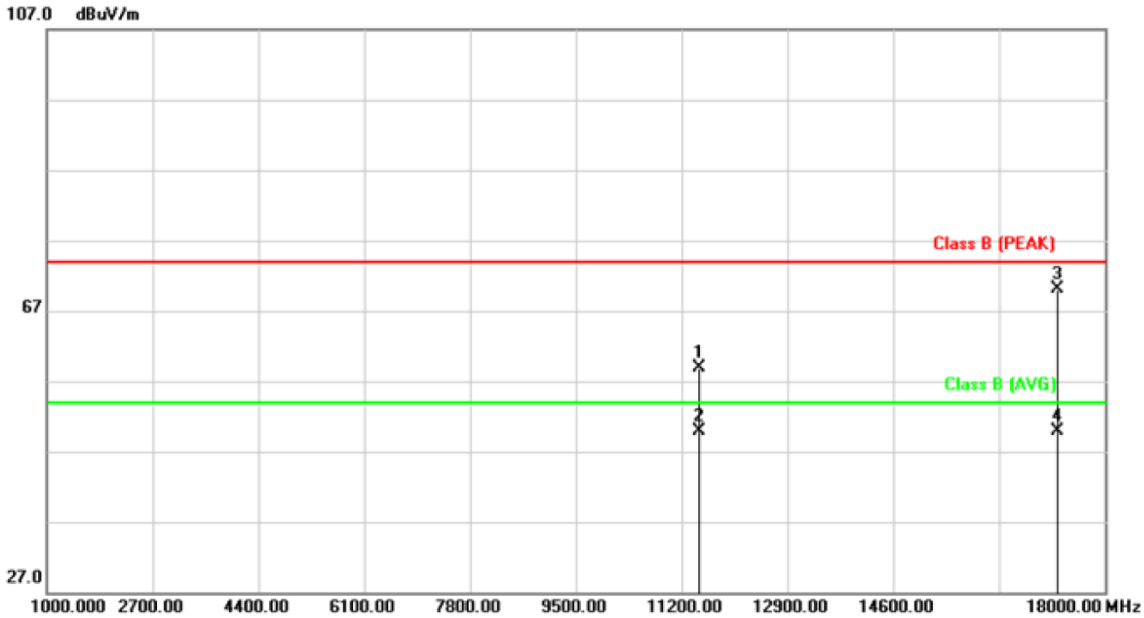



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 33994.000 | 7.31 | 60.76 | 68.07 | 74.00 | -5.93 | peak | 105 | 179 |
| 2 | 33994.000 | 7.31 | 43.88 | 51.19 | 54.00 | -2.81 | AVG | 105 | 179 |
| 3 | 35402.000 | 6.32 | 61.04 | 67.36 | 74.00 | -6.64 | peak | 105 | 179 |
| 4 | 35402.000 | 6.32 | 41.83 | 48.15 | 54.00 | -5.85 | AVG | 105 | 179 |

Note: Level = Reading + Factor

Margin = Level - Limit

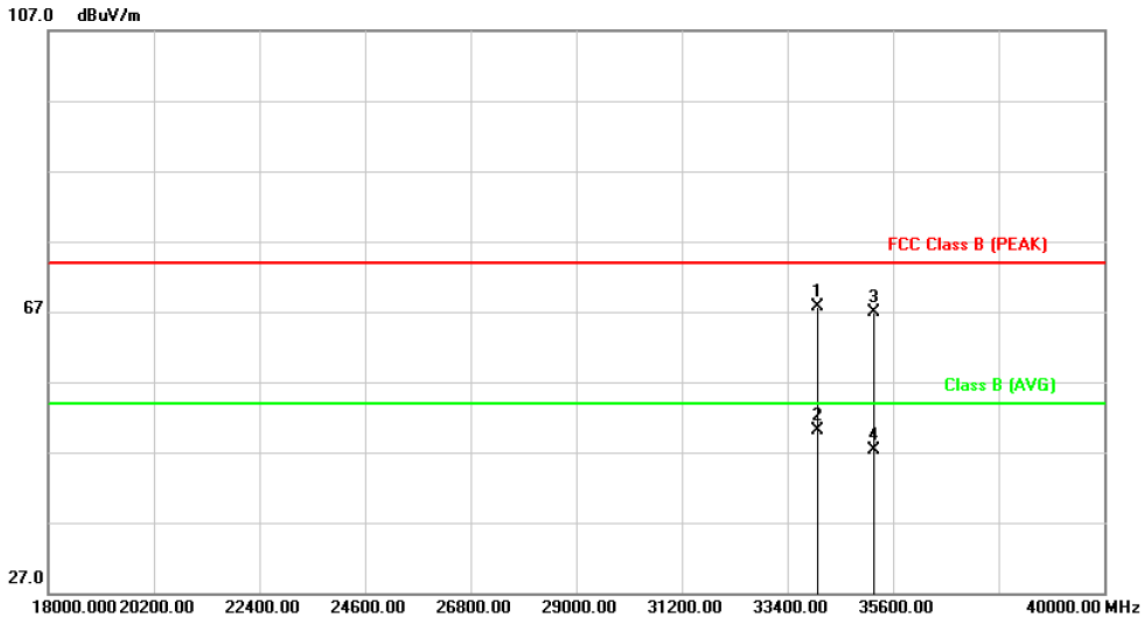
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH149 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11490.000 | 18.87 | 40.02 | 58.89 | 74.00 | -15.11 | peak | 102 | 174 |
| 2 | 11490.000 | 18.87 | 31.05 | 49.92 | 54.00 | -4.08 | AVG | 102 | 174 |
| 3 | 17235.000 | 26.12 | 44.05 | 70.17 | 74.00 | -3.83 | peak | 102 | 174 |
| 4 | 17235.000 | 26.12 | 23.71 | 49.83 | 54.00 | -4.17 | AVG | 102 | 174 |

Note: Level = Reading + Factor
Margin = Level - Limit

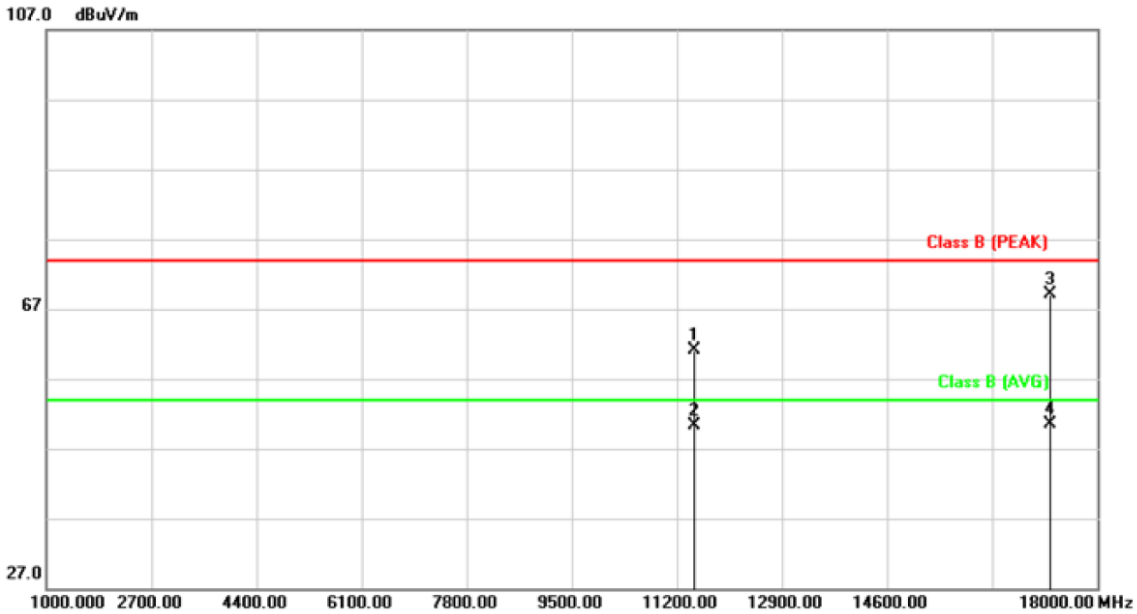
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH149 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34038.000 | 7.30 | 60.32 | 67.62 | 74.00 | -6.38 | peak | 112 | 167 |
| 2 | 34038.000 | 7.30 | 42.75 | 50.05 | 54.00 | -3.95 | AVG | 112 | 167 |
| 3 | 35204.000 | 7.02 | 59.96 | 66.98 | 74.00 | -7.02 | peak | 112 | 167 |
| 4 | 35204.000 | 7.02 | 40.36 | 47.38 | 54.00 | -6.62 | AVG | 112 | 167 |

Note: Level = Reading + Factor
Margin = Level - Limit

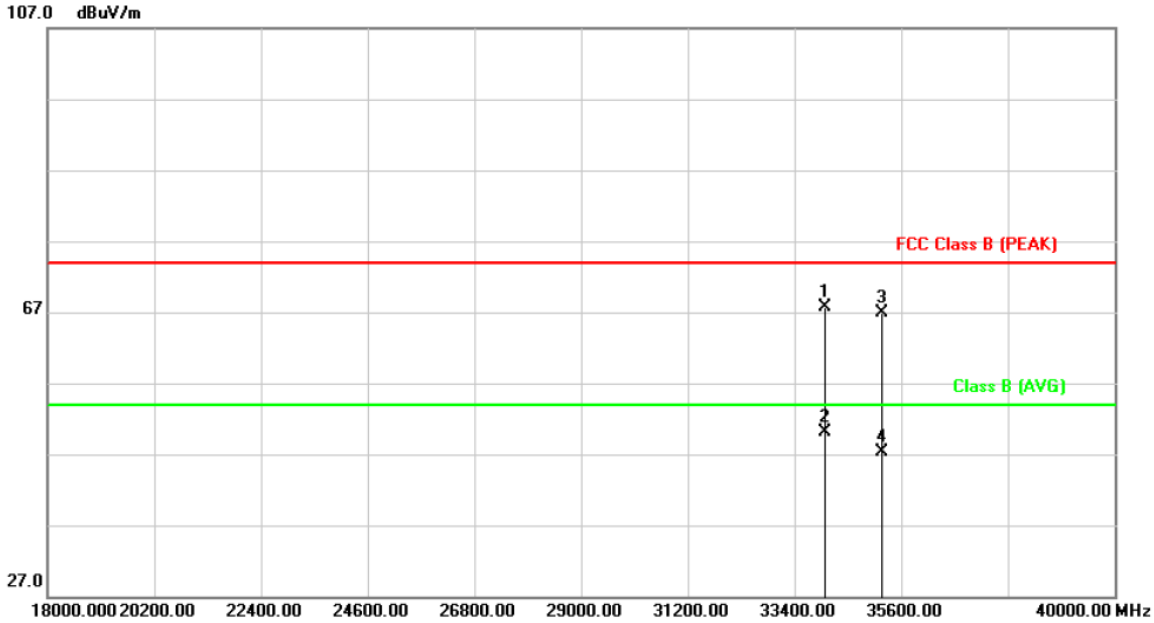
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH149 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11490.000 | 18.87 | 42.32 | 61.19 | 74.00 | -12.81 | peak | 116 | 168 |
| 2 | 11490.000 | 18.87 | 31.52 | 50.39 | 54.00 | -3.61 | AVG | 116 | 168 |
| 3 | 17235.000 | 26.12 | 42.91 | 69.03 | 74.00 | -4.97 | peak | 116 | 168 |
| 4 | 17235.000 | 26.12 | 24.35 | 50.47 | 54.00 | -3.53 | AVG | 116 | 168 |

Note: Level = Reading + Factor
Margin = Level - Limit

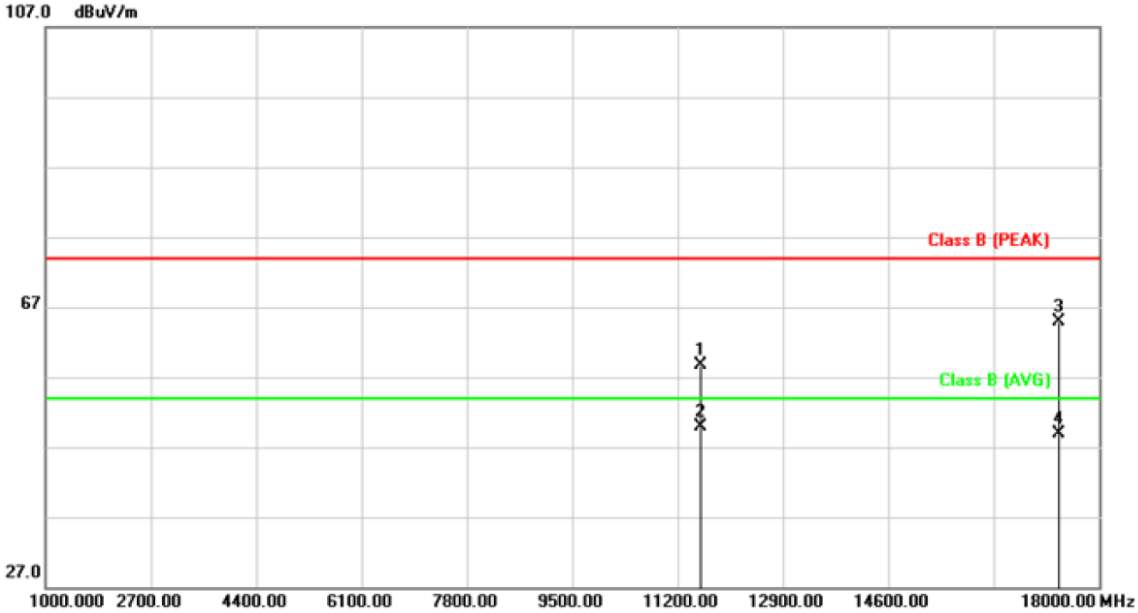
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH149 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34038.000 | 7.30 | 60.32 | 67.62 | 74.00 | -6.38 | peak | 112 | 167 |
| 2 | 34038.000 | 7.30 | 42.75 | 50.05 | 54.00 | -3.95 | AVG | 112 | 167 |
| 3 | 35204.000 | 7.02 | 59.96 | 66.98 | 74.00 | -7.02 | peak | 112 | 167 |
| 4 | 35204.000 | 7.02 | 40.36 | 47.38 | 54.00 | -6.62 | AVG | 112 | 167 |

Note: Level = Reading + Factor
Margin = Level - Limit

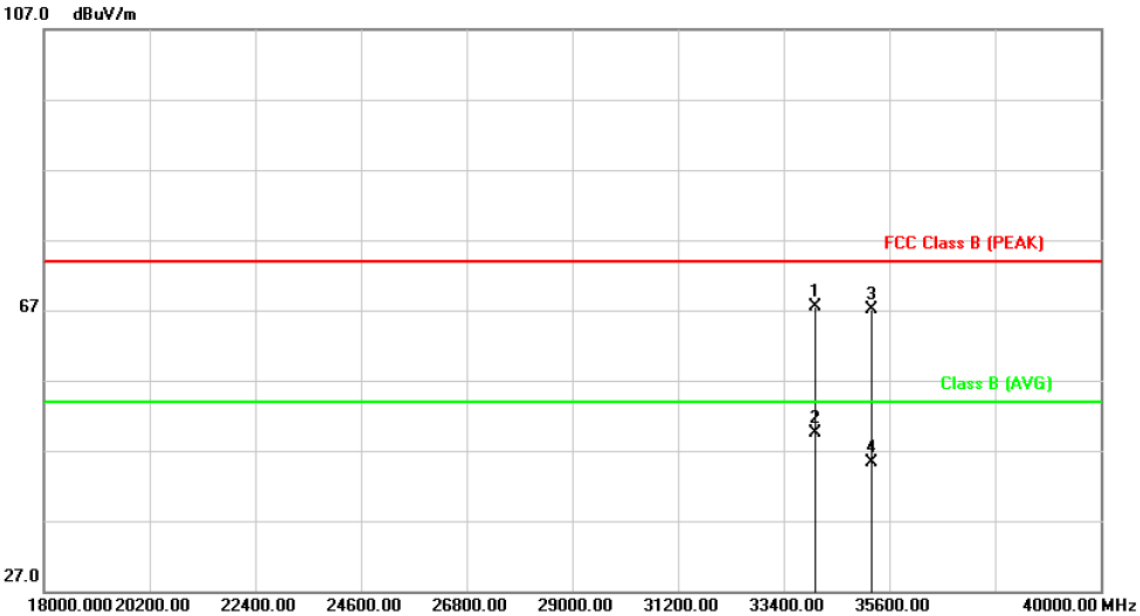
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH157 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11570.000 | 18.94 | 39.83 | 58.77 | 74.00 | -15.23 | peak | 114 | 162 |
| 2 | 11570.000 | 18.94 | 30.88 | 49.82 | 54.00 | -4.18 | AVG | 114 | 162 |
| 3 | 17355.000 | 26.79 | 38.17 | 64.96 | 74.00 | -9.04 | peak | 114 | 162 |
| 4 | 17355.000 | 26.79 | 22.17 | 48.96 | 54.00 | -5.04 | AVG | 114 | 162 |

Note: Level = Reading + Factor
Margin = Level - Limit

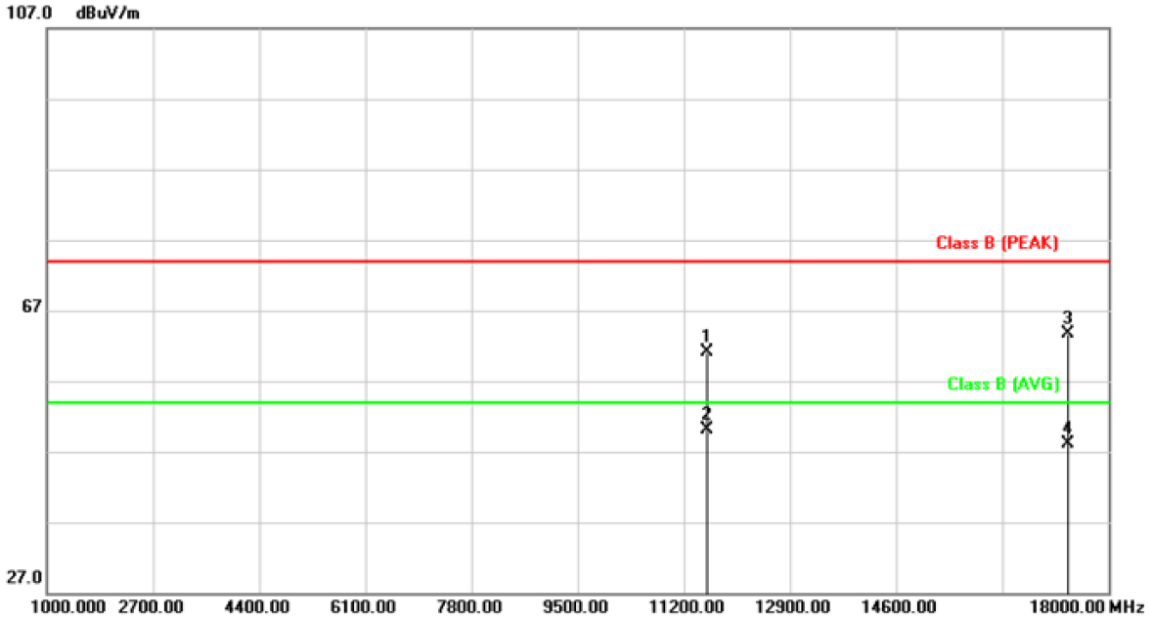
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH157 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34060.000 | 7.28 | 60.20 | 67.48 | 74.00 | -6.52 | peak | 116 | 174 |
| 2 | 34060.000 | 7.28 | 42.14 | 49.42 | 54.00 | -4.58 | AVG | 116 | 174 |
| 3 | 35226.000 | 6.94 | 60.12 | 67.06 | 74.00 | -6.94 | peak | 116 | 174 |
| 4 | 35226.000 | 6.94 | 38.27 | 45.21 | 54.00 | -8.79 | AVG | 116 | 174 |

Note: Level = Reading + Factor
Margin = Level - Limit

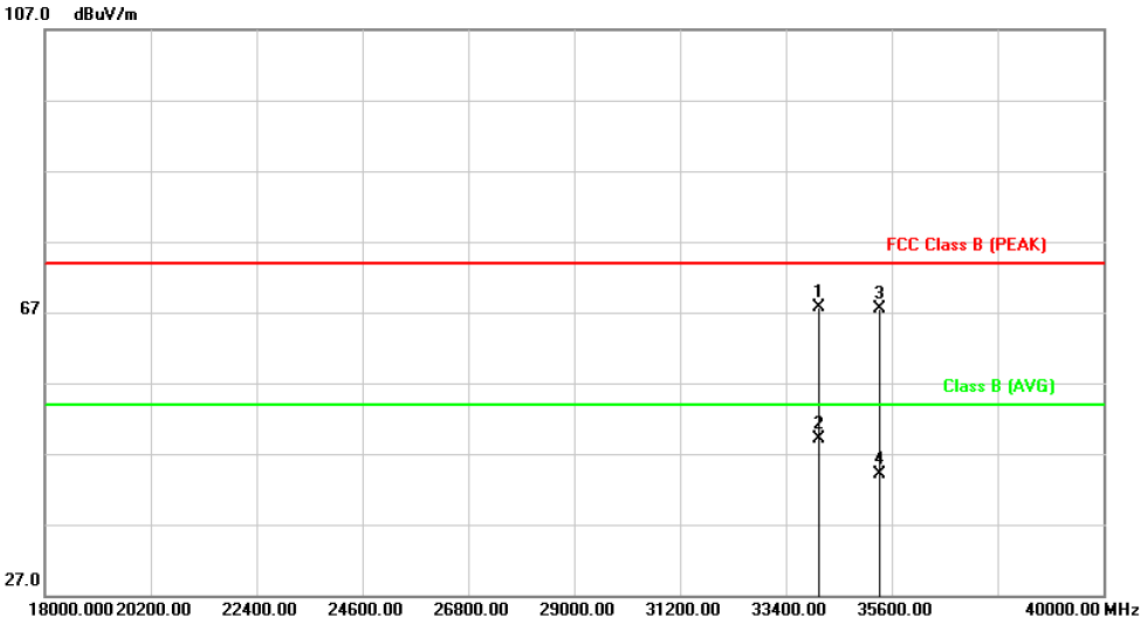
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH157 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11570.000 | 18.94 | 42.07 | 61.01 | 74.00 | -12.99 | peak | 101 | 183 |
| 2 | 11570.000 | 18.94 | 31.16 | 50.10 | 54.00 | -3.90 | AVG | 101 | 183 |
| 3 | 17355.000 | 26.79 | 36.99 | 63.78 | 74.00 | -10.22 | peak | 101 | 183 |
| 4 | 17355.000 | 26.79 | 21.24 | 48.03 | 54.00 | -5.97 | AVG | 101 | 183 |

Note: Level = Reading + Factor
Margin = Level - Limit

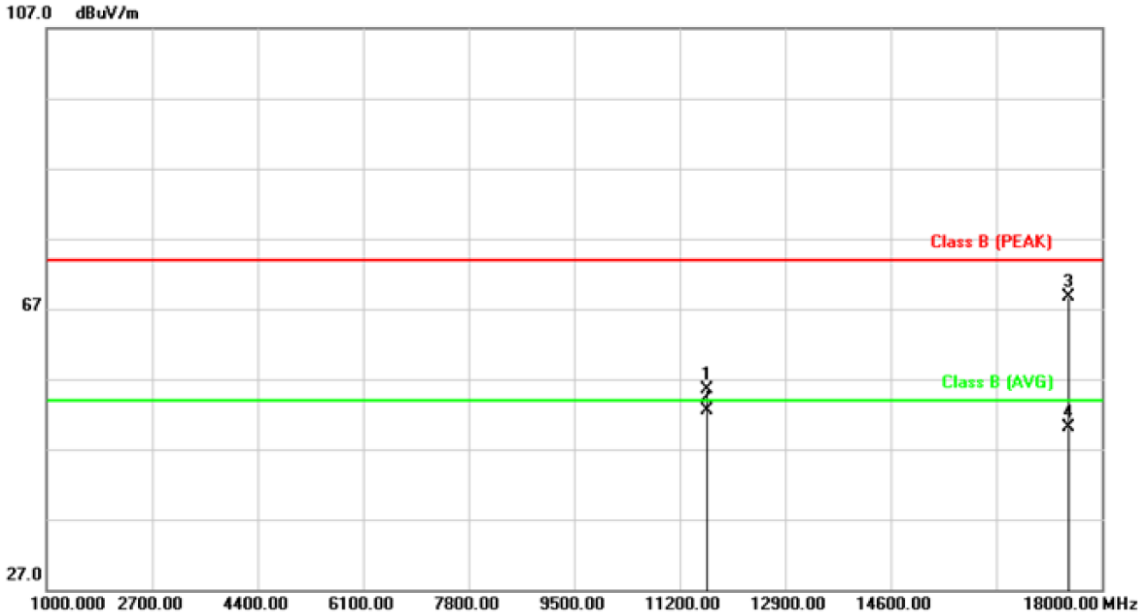
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH157 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34082.000 | 7.27 | 60.48 | 67.75 | 74.00 | -6.25 | peak | 118 | 171 |
| 2 | 34082.000 | 7.27 | 41.86 | 49.13 | 54.00 | -4.87 | AVG | 118 | 171 |
| 3 | 35358.000 | 6.48 | 60.98 | 67.46 | 74.00 | -6.54 | peak | 118 | 171 |
| 4 | 35358.000 | 6.48 | 37.64 | 44.12 | 54.00 | -9.88 | AVG | 118 | 171 |

Note: Level = Reading + Factor
Margin = Level - Limit

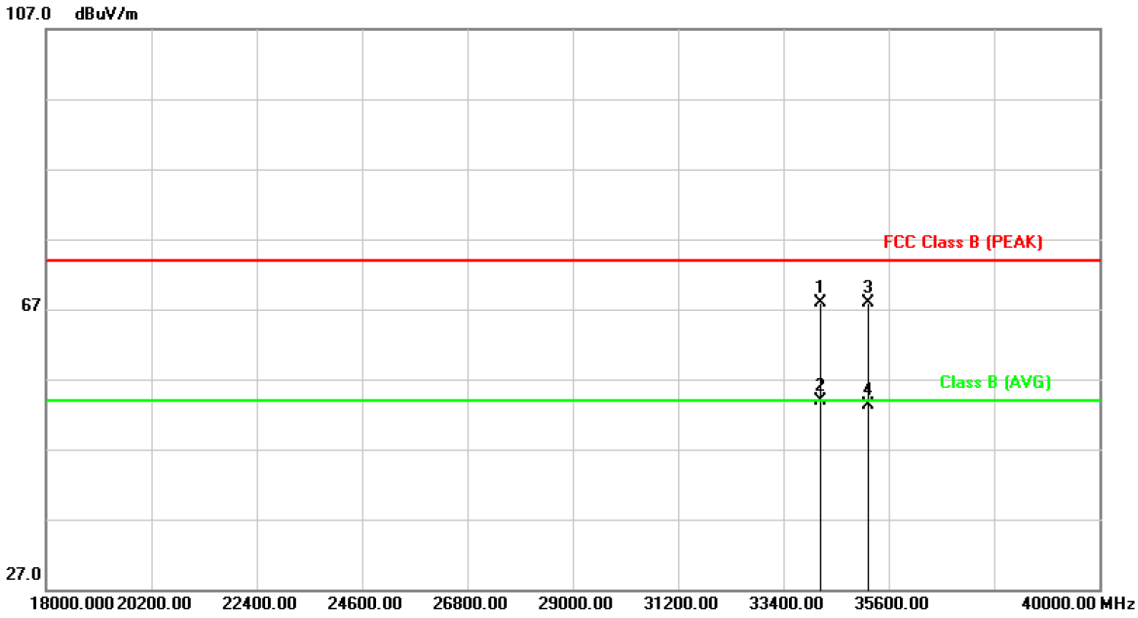
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH165 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11650.000 | 19.00 | 36.50 | 55.50 | 74.00 | -18.50 | peak | 106 | 181 |
| 2 | 11650.000 | 19.00 | 33.52 | 52.52 | 54.00 | -1.48 | AVG | 106 | 181 |
| 3 | 17475.000 | 27.48 | 41.28 | 68.76 | 74.00 | -5.24 | peak | 106 | 181 |
| 4 | 17475.000 | 27.48 | 22.63 | 50.11 | 54.00 | -3.89 | AVG | 106 | 181 |

Note: Level = Reading + Factor
Margin = Level - Limit

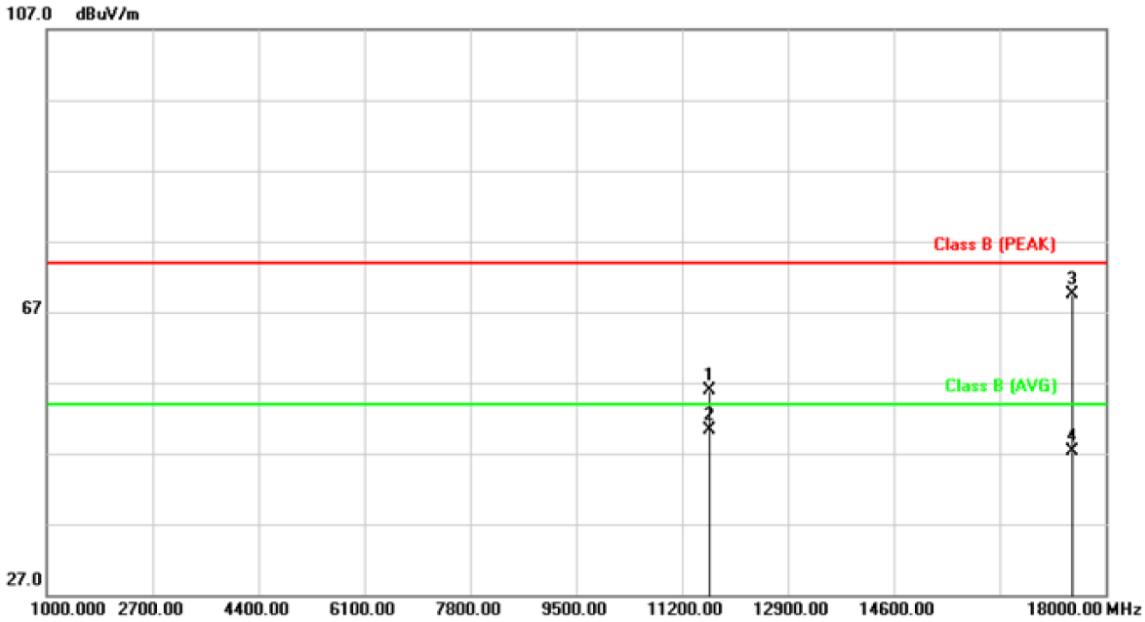
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT20, CH165 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34170.000 | 7.23 | 60.69 | 67.92 | 74.00 | -6.08 | peak | 104 | 162 |
| 2 | 34170.000 | 7.23 | 46.67 | 53.90 | 54.00 | -1.08 | AVG | 104 | 162 |
| 3 | 35160.000 | 7.16 | 60.65 | 67.81 | 74.00 | -6.19 | peak | 104 | 162 |
| 4 | 35160.000 | 7.16 | 46.16 | 53.32 | 54.00 | -1.27 | AVG | 104 | 162 |

Note: Level = Reading + Factor
Margin = Level - Limit

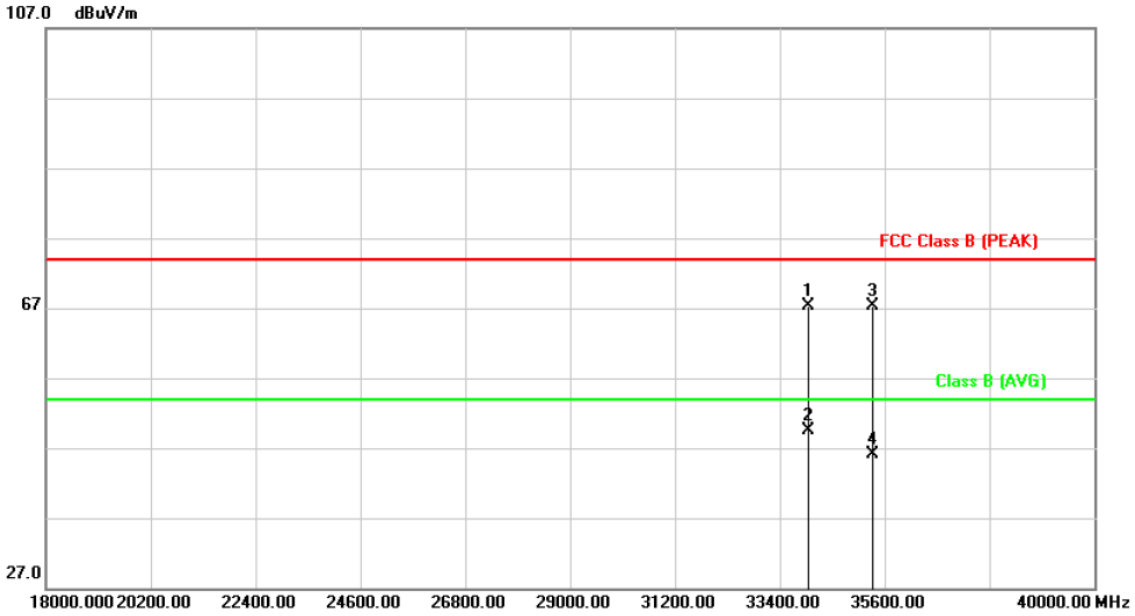
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH165 | Temperature | : | 25 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11650.000 | 19.00 | 36.90 | 55.90 | 74.00 | -18.10 | peak | 111 | 172 |
| 2 | 11650.000 | 19.00 | 31.38 | 50.38 | 54.00 | -3.62 | AVG | 111 | 172 |
| 3 | 17475.000 | 27.48 | 41.92 | 69.40 | 74.00 | -4.60 | peak | 111 | 172 |
| 4 | 17475.000 | 27.48 | 19.76 | 47.24 | 54.00 | -6.76 | AVG | 111 | 172 |

Note: Level = Reading + Factor
Margin = Level - Limit

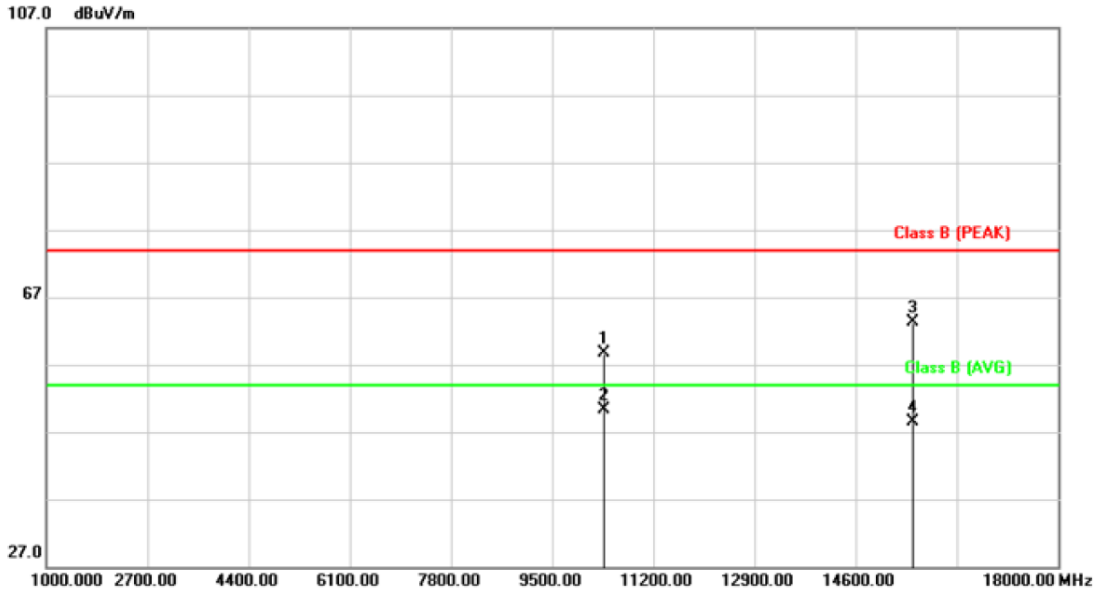
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT20, CH165 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 33994.000 | 7.31 | 60.04 | 67.35 | 74.00 | -6.65 | peak | 114 | 164 |
| 2 | 33994.000 | 7.31 | 42.18 | 49.49 | 54.00 | -4.51 | AVG | 114 | 164 |
| 3 | 35358.000 | 6.48 | 60.74 | 67.22 | 74.00 | -6.78 | peak | 114 | 164 |
| 4 | 35358.000 | 6.48 | 39.66 | 46.14 | 54.00 | -7.86 | AVG | 114 | 164 |

Note: Level = Reading + Factor
Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT40, CH38 | Temperature | : | 26 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |

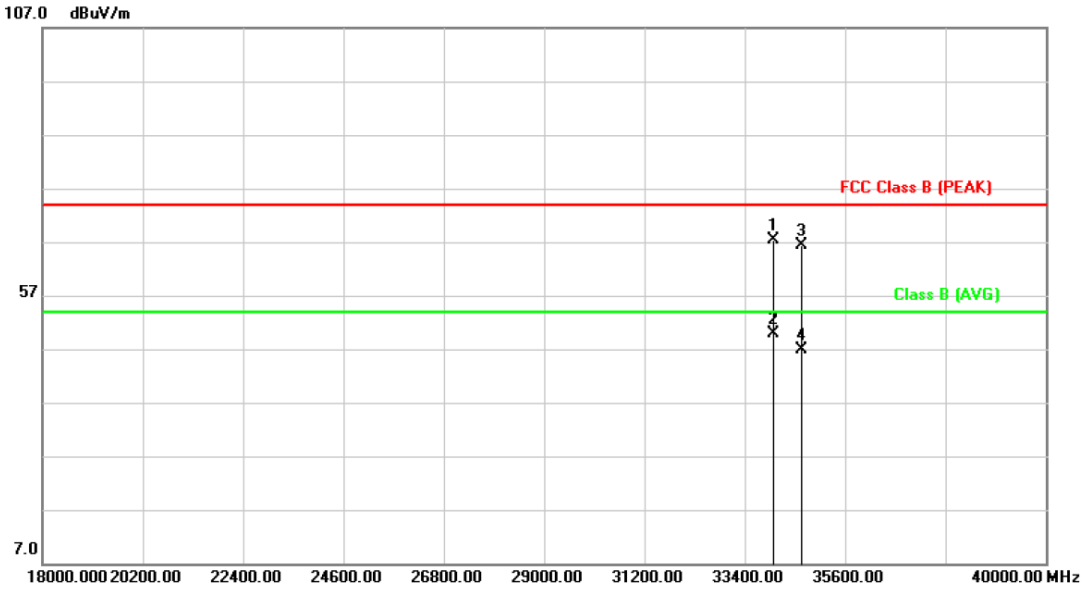



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10380.000 | 16.97 | 41.78 | 58.75 | 74.00 | -15.25 | peak | 112 | 163 |
| 2 | 10380.000 | 16.97 | 33.27 | 50.24 | 54.00 | -3.76 | AVG | 112 | 163 |
| 3 | 15570.000 | 21.10 | 42.17 | 63.27 | 74.00 | -10.73 | peak | 112 | 163 |
| 4 | 15570.000 | 21.10 | 27.34 | 48.44 | 54.00 | -5.56 | AVG | 112 | 163 |

Note: Level = Reading + Factor

Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT40, CH38 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |

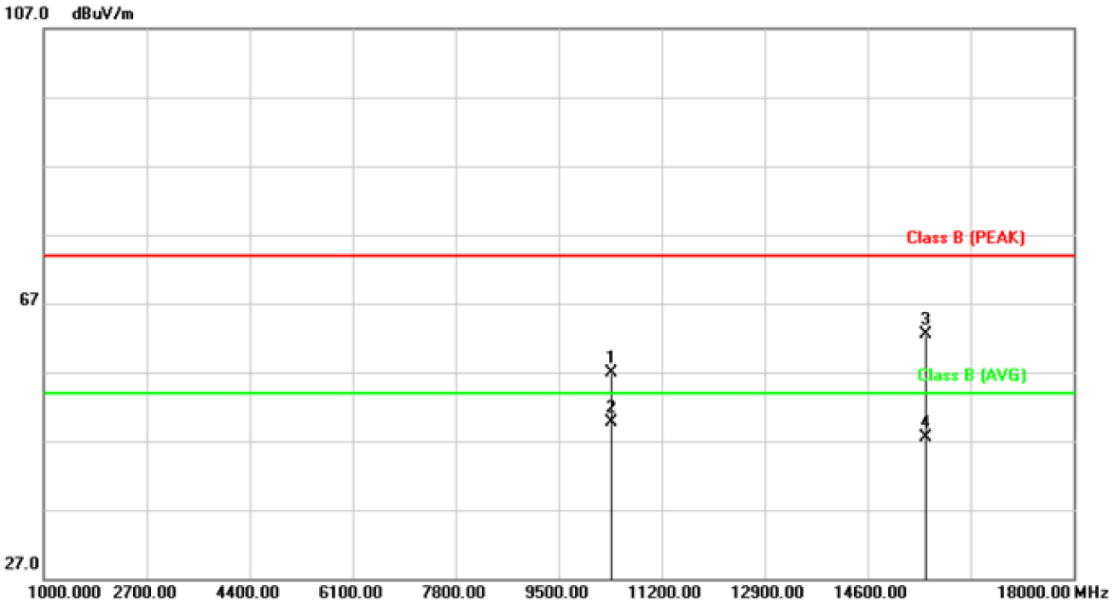



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34038.000 | 7.30 | 60.09 | 67.39 | 74.00 | -6.61 | peak | 102 | 165 |
| 2 | 34038.000 | 7.30 | 42.51 | 49.81 | 54.00 | -4.19 | AVG | 102 | 165 |
| 3 | 34654.000 | 7.25 | 59.09 | 66.34 | 74.00 | -7.66 | peak | 102 | 165 |
| 4 | 34654.000 | 7.25 | 39.67 | 46.92 | 54.00 | -7.08 | AVG | 102 | 165 |

Note: Level = Reading + Factor

Margin = Level - Limit

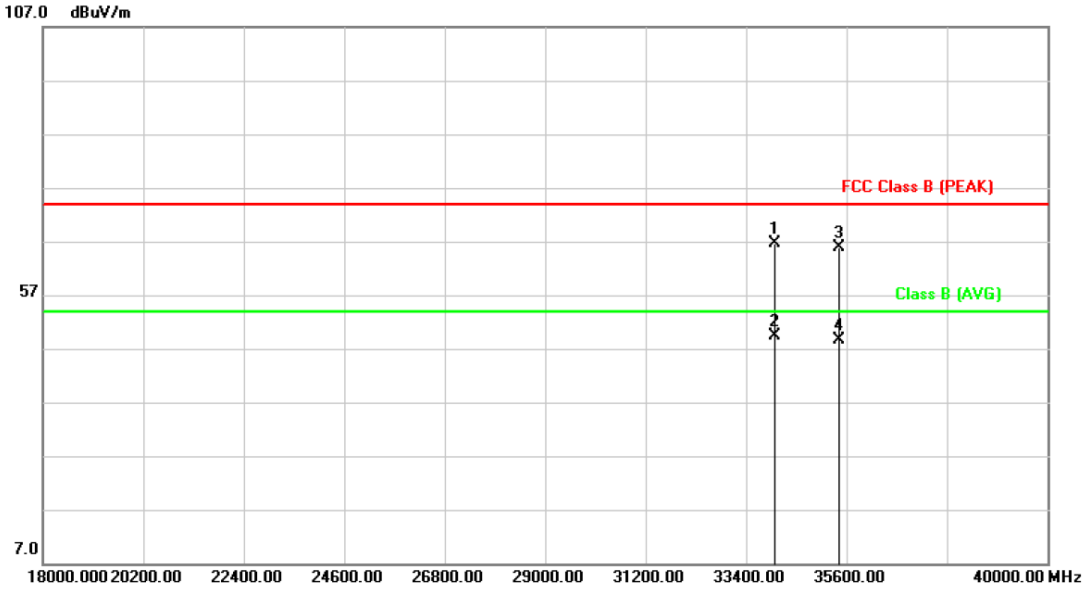
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT40, CH38 | Temperature | : | 26 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10380.000 | 16.97 | 39.86 | 56.83 | 74.00 | -17.17 | peak | 106 | 166 |
| 2 | 10380.000 | 16.97 | 32.78 | 49.75 | 54.00 | -4.25 | AVG | 106 | 166 |
| 3 | 15570.000 | 21.10 | 41.35 | 62.45 | 74.00 | -11.55 | peak | 106 | 166 |
| 4 | 15570.000 | 21.10 | 26.49 | 47.59 | 54.00 | -6.41 | AVG | 106 | 166 |

Note: Level = Reading + Factor
Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT40, CH38 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |

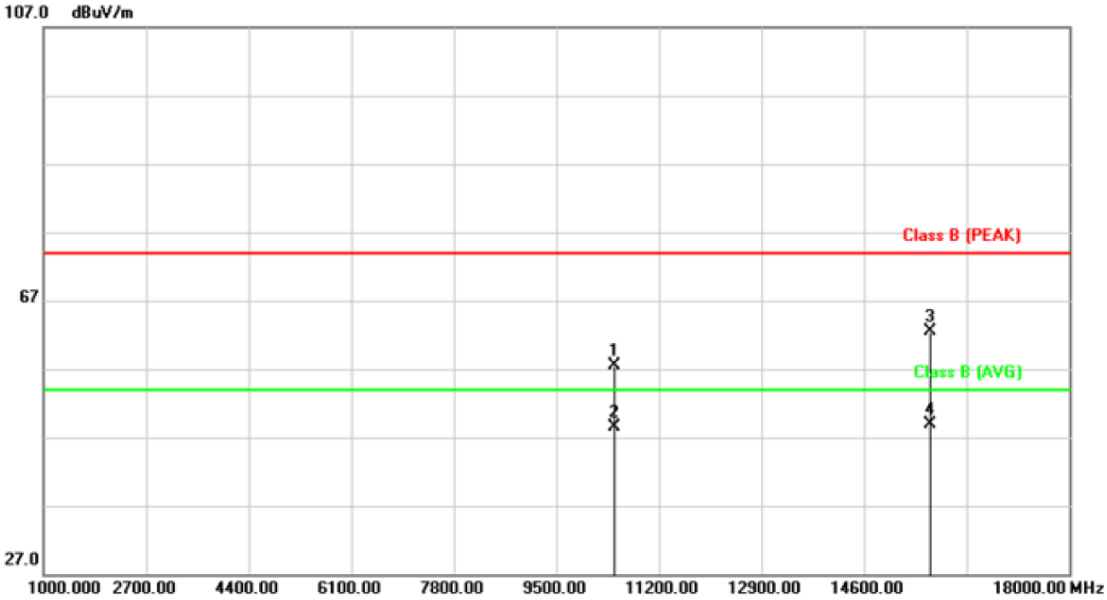



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 34038.000 | 7.30 | 59.40 | 66.70 | 74.00 | -7.30 | peak | 105 | 161 |
| 2 | 34038.000 | 7.30 | 41.99 | 49.29 | 54.00 | -4.71 | AVG | 105 | 161 |
| 3 | 35424.000 | 6.25 | 59.60 | 65.85 | 74.00 | -8.15 | peak | 105 | 161 |
| 4 | 35424.000 | 6.25 | 42.38 | 48.63 | 54.00 | -5.37 | AVG | 105 | 161 |

Note: Level = Reading + Factor

Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT40, CH46 | Temperature | : | 26 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |

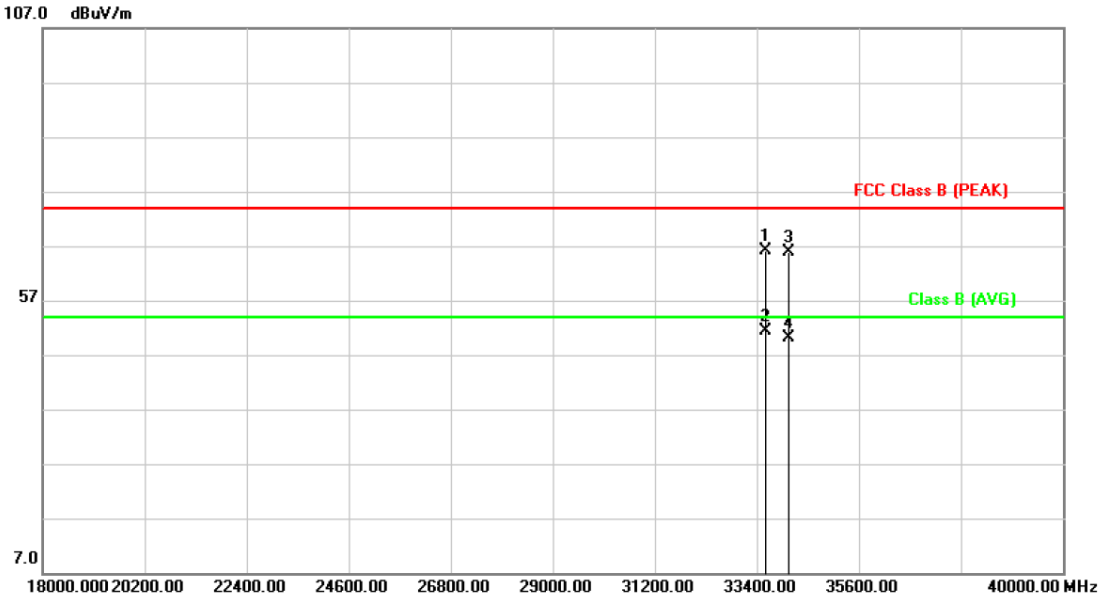



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10460.000 | 17.11 | 40.45 | 57.56 | 74.00 | -16.44 | peak | 110 | 174 |
| 2 | 10460.000 | 17.11 | 31.46 | 48.57 | 54.00 | -5.43 | AVG | 110 | 174 |
| 3 | 15690.000 | 20.89 | 41.57 | 62.46 | 74.00 | -11.54 | peak | 110 | 174 |
| 4 | 15690.000 | 20.89 | 27.93 | 48.82 | 54.00 | -5.18 | AVG | 110 | 174 |

Note: Level = Reading + Factor

Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | 802.11an HT40, CH46 | Temperature | : | 24 °C |
| Test Date | : | Aug. 13, 2014 | Humidity | : | 53 % |
| Memo | : | | Atmospheric Pressure | : | 1038 hpa |

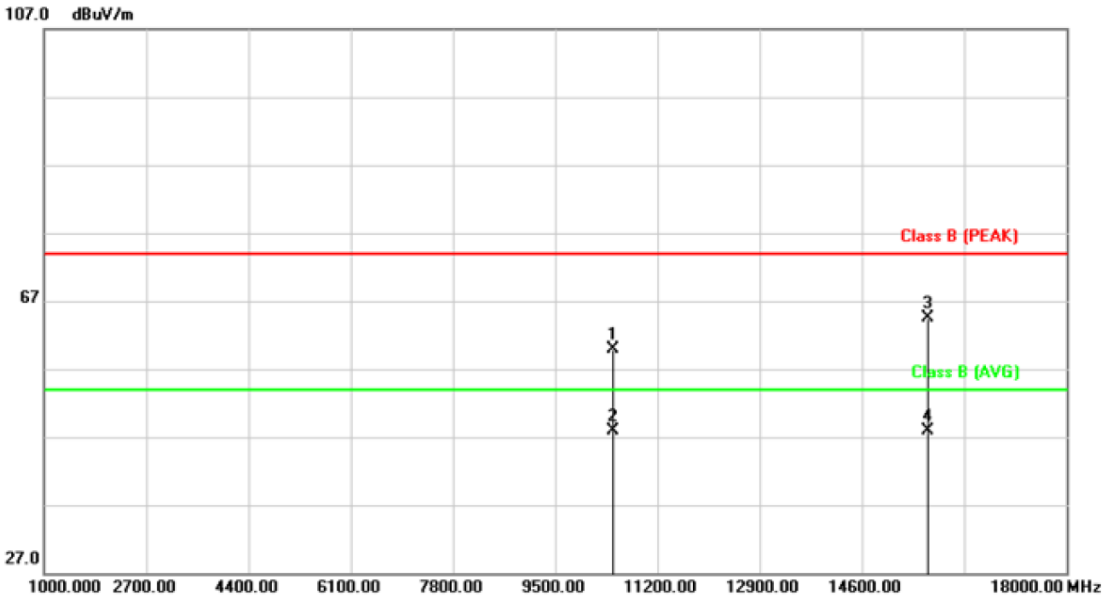



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 33576.000 | 6.46 | 59.65 | 66.11 | 74.00 | -7.89 | peak | 118 | 163 |
| 2 | 33576.000 | 6.46 | 44.81 | 51.27 | 54.00 | -2.73 | AVG | 118 | 163 |
| 3 | 34082.000 | 7.27 | 58.52 | 65.79 | 74.00 | -8.21 | peak | 118 | 163 |
| 4 | 34082.000 | 7.27 | 42.83 | 50.10 | 54.00 | -3.90 | AVG | 118 | 163 |

Note: Level = Reading + Factor

Margin = Level - Limit

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | 802.11an HT40, CH46 | Temperature | : | 26 °C |
| Test Date | : | Aug. 11, 2014 | Humidity | : | 52 % |
| Memo | : | | Atmospheric Pressure | : | 1010 hpa |




| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10460.000 | 17.11 | 42.79 | 59.90 | 74.00 | -14.10 | peak | 105 | 185 |
| 2 | 10460.000 | 17.11 | 30.71 | 47.82 | 54.00 | -6.18 | AVG | 105 | 185 |
| 3 | 15690.000 | 20.89 | 43.56 | 64.45 | 74.00 | -9.55 | peak | 105 | 185 |
| 4 | 15690.000 | 20.89 | 26.98 | 47.87 | 54.00 | -6.13 | AVG | 105 | 185 |

Note: Level = Reading + Factor

Margin = Level - Limit