



166 South Carter, Genoa City, WI 53128

Company: Wireless Beehive  
Model Tested: C054045C004A w-new antennas  
Report Number: 18320

**Code of Federal Regulations 47 Part 15 – Radio Frequency Devices**  
**Subpart C – Intentional Radiators**  
**Section 15.247**  
**Operation within the bands 902 - 928 MHz,**  
**2400 - 2483.5 MHz, 5725 - 5875 MHz,**  
**and 24.0 - 24.25 GHz.**

THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION

Formal Name: PMP450SM 5.7GHz OFDM Radio with 450 Stinger or RCL-3 antenna  
Kind of Equipment: Point-to-Point Digital Transmission Transceiver  
Frequency Range: 5.730 to 5.845 GHz (10 MHz bandwidth)  
5.735 to 5.840 GHz (20 MHz bandwidth)  
Test Configuration: Stand-alone  
Model Number(s): C054045C001A, C054045C002A, C054045C003A, C054045C004A with  
450 Stinger or RCL-3 Reflector Antenna  
Model(s) Tested: C054045C004A with 450 Stinger and RCL-3 Reflector antennas  
Serial Number(s): 0A003EA0055C  
Date of Tests: 9/20 & 9/21/12  
Test Conducted For: Wireless Beehive LLC  
2000 Sunset Road  
Lake Point, UT 84074, USA

**NOTICE:** “This test report relates only to the items tested and must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government”. Please see the "Description of Test Sample" page listed inside of this report.

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Company:  
Model Tested:  
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Wireless Beehive  
C054045C004A w-new antennas  
18320

166 South Carter, Genoa City, WI 53128

SIGNATURE PAGE

Tested By:

A handwritten signature in black ink that reads "Craig Brandt". The signature is written in a cursive style with a long horizontal stroke at the end.

Craig Brandt  
Test Engineer

Reviewed By:

A handwritten signature in black ink that reads "William Stumpf". The signature is written in a cursive style with a long horizontal stroke at the end.

William Stumpf  
OATS Manager

Approved By:

A handwritten signature in black ink that reads "Brian J. Mattson". The signature is written in a cursive style with a long horizontal stroke at the end.

Brian Mattson  
General Manager



Company: Wireless Beehive  
Model Tested: C054045C004A w-new antennas  
Report Number: 18320

166 South Carter, Genoa City, WI 53128

## Table of Contents

i. Cover Page .....	1
ii. Signature Page .....	2
iii. Table of Contents .....	3
iv. NVLAP Certificate of Accreditation .....	4
1.0 Summary of Test Report .....	5
2.0 Introduction .....	5
3.0 Test Facilities .....	5
4.0 Description of Test Sample .....	6
5.0 Test Equipment .....	7
6.0 Test Arrangements .....	8
7.0 Test Conditions .....	8
8.0 Modifications Made To EUT for Compliance .....	8
9.0 Additional Descriptions .....	8
10.0 Results .....	9
11.0 Conclusion .....	9
Appendix A – Measurement Data .....	10
A1.0 Maximum Unwanted Emission Levels into Restricted Frequency Bands – Radiated .....	10
Tested with 450 Stinger Antenna	
A2.0 Maximum Unwanted Emission Levels into Restricted Frequency Bands – Radiated .....	35
Tested with RCL-3 Reflector Antenna	

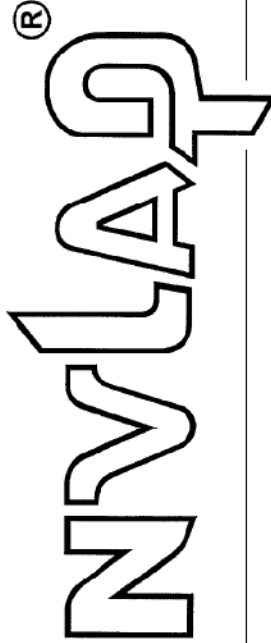


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Wireless Beehive  
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United States Department of Commerce  
National Institute of Standards and Technology



# Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 100276-0

**D.L.S. Electronic Systems, Inc.**  
Wheeling, IL

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:

## ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-IAC-IAF Communiqué dated January 2009).*



*Dolly S. Bruce*  
For the National Institute of Standards and Technology

2011-10-01 through 2012-09-30

Effective dates

NVLAP-01C (REV. 2009-01-28)



Company: Wireless Beehive  
 Model Tested: C054045C004A w-new antennas  
 Report Number: 18320

166 South Carter, Genoa City, WI 53128

### 1.0 Summary of Test Report

It was determined that the Wireless Beehive PMP450SM 5.7GHz OFDM Radio with 450 Stinger or RCL-3 antenna, Model C054045C004A, complies with the requirements of CFR 47 Part 15 Subpart C Section 15.247.

#### Applicable Technical Requirements Tested:

Section	Description	Procedure	Note	Compliant?
15.247 (d), 15.205 &	Unwanted Emissions into Restricted Frequency Bands - Radiated	ANSI C63.10-2009 Sections 6.5 & 6.6	1	Yes

Note 1: Radiated emission measurement.

See reports # 17831 & 17833 for Cambium Networks for additional test data.

### 2.0 Introduction

From April 2 through May 1, 2012 the PMP450SM 5.7GHz OFDM Radio with cross-polarized antenna, Model C054045C004A, as provided from Cambium Networks, was tested to the requirements of CFR 47 Part 15 Subpart C Section 15.247. The results of these tests can be found in DLS Reports # 17831 & 17833. On September 20 & 21, 2012, the same product was tested with the Wireless Beehive 450 Stinger or RCL-3 Reflector Dish antennas to show continued compliance to the FCC regulation (Part 15.247). Because the new antennas have greater gain than those certified with the PMP450SM 5.7GHz OFDM Radio with cross-polarized antenna, a new FCC certification is being created by Wireless Beehive LLC. The PMP450SM 5.7GHz OFDM Radio with 450 Stinger or RCL-3 antenna, as provided from Cambium Networks & Wireless Beehive LLC, was tested to the requirements of CFR 47 Part 15 Subpart C Section 15.247. To meet these requirements, the procedures contained within this report were performed by personnel of D.L.S Electronic Systems, Inc.

### 3.0 Test Facilities

D.L.S. Electronic Systems, Inc. is a full service EMC/Safety Testing Laboratory accredited to ISO 17025. NVLAP Certificate and Scope can be viewed at <http://www.dlsemc.com/certificate>. Our facilities are registered with the FCC, Industry Canada, and VCCI.

**Wisconsin Test Facility:**  
 D.L.S. Electronic Systems, Inc.  
 166 S. Carter Street  
 Genoa City, Wisconsin 53128

**Wheeling Test Facility:**  
 D.L.S. Electronic Systems, Inc.  
 1250 Peterson Drive  
 Wheeling, IL 60090



Company: Wireless Beehive  
 Model Tested: C054045C004A w-new antennas  
 Report Number: 18320

166 South Carter, Genoa City, WI 53128

**4.0 Description of Test Sample**

**Description:**

Point-to-Point 5.7 GHz DTS Transceiver with either 450 Stinger or RCL-3 Reflector antenna (with 10 MHz or 20 MHz channel bandwidth). These passive antenna elements increase the gain of the internal antenna sold as part of the Cambium Networks PMP450SM 5.7GHz OFDM Radio.

**Type of Equipment / Frequency Range:**

Stand-Alone / 5.730 to 5.845 GHz (10 MHz bandwidth)  
 5.735 to 5.840 GHz (20 MHz bandwidth)

**Physical Dimensions of Equipment Under Test:**

Length: 10 in. Width: 3 in. Height: 1 in.

**Power Source:**

29 VDC (Power Over Ethernet to Radio)  
 120 Vac, 60 Hz using Phihong power supply model: PSA15R-295 (MOT)

**Internal Frequencies:**

150 kHz (Switching Power Supply Frequency)  
 25 MHz, 20 MHz

**Transmit Frequencies Used For Test Purpose:**

10 MHz Channel Bandwidth: Low channel: 5730 MHz, Middle channel: 5800 MHz,  
 High channel: 5845 MHz

20 MHz Channel Bandwidth: Low channel: 5735 MHz, Middle channel: 5800 MHz,  
 (tested) High channel: 5840 MHz

**Type of Modulations: 16 QAM, 64 QAM, & QPSK**

**QPSK** was determined to be worst case & is used for testing this product on September 20 & 21, 2012 (see reports #17831 & 17833 for further test results.)

**Description of Circuit Board(s), Antennas / Part Number:**

Cambium Networks PC Board	84010124001 P6
Patch Antenna	85015000001
450 Stinger Antenna	S-57-450
Reflector Antenna	RCL-3



Company: Wireless Beehive  
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166 South Carter, Genoa City, WI 53128

**5.0 Test Equipment**

A list of the equipment used can be found in the table below. All primary equipment was calibrated against known reference standards with a verified traceable path to NIST.

**D.L.S. Wisconsin**

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
<b>30 – 1000 MHz</b>						
Receiver	Rohde & Schwarz	ESI 40	837808/006	20 Hz – 40 GHz	4-12-12	4-12-13
Preamplifier	Rohde & Schwarz	TS-PR10	032001/004	9 kHz – 1 GHz	1-11-12	1-11-13
Antenna	EMCO	3104C	00054892	20 MHz – 200 MHz	9-13-12	9-13-14
Antenna	EMCO	3146	1205	200 MHz – 1 GHz	9-19-12	9-19-14
Low Pass Filter	Mini-Circuits	VLFX-1125	MUU9260	DC – 1 GHz	8-13-12	8-13-13
<b>Additional for 1-18 GHz</b>						
Preamp	Ciao	CA118-4010	101	1GHz-18GHz	2-27-12	2-27-13
Horn Antenna	EMCO	3115	6204	1-18GHz	6-16-11	6-16-13
High Pass Filter	Planar Filter Co.	HP8G-7Q8-CD-SFF	PF1225/0728	7.5 – 18GHz	8-13-12	8-13-13
<b>Additional for 18-26 GHz</b>						
Preamp	Miteq	AMF-8B-180265-40-10P-H/S	438727	18GHz-26GHz	8-13-12	8-13-13
Horn Antenna	ETS-Lindgren	3116	62917	18 – 40GHz	10-4-11	10-4-13
High Pass Filter	Planar Filter Co.	CL22600-9000-CD-SS	PF1230/0728	18 - 40GHz	8-13-12	8-13-13
<b>Additional for 26-40 GHz</b>						
Preamp	Rohde & Schwarz	TS-PR40	052002/025	26GHz-40GHz	5-23-12	5-23-13



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 Model Tested: C054045C004A w-new antennas  
 Report Number: 18320

166 South Carter, Genoa City, WI 53128

## 6.0 Test Arrangements

### Radiated Emissions Measurement Arrangement:

All radiated emission measurements were performed at D.L.S. Electronic Systems, Inc. and set up according to ANSI C63.10-2009, unless otherwise noted. Description of procedures and measurements can be found in Appendix A – Measurement Data. **See the separate exhibit for photos of the test set up.**

Unless otherwise noted, the bandwidth of the measuring receiver / analyzer used during testing is shown below.

Frequency Range	Bandwidth (-6 dB)
10 to 150 kHz	200 Hz
150 kHz to 30 MHz	9 kHz
30 MHz to 1 GHz	120 kHz
Above 1 GHz	1 MHz

## 7.0 Test Conditions

### Normal Test Conditions:

#### Temperature and Humidity:

68°F at 35% RH

#### Supply Voltage:

29 VDC (Power Over Ethernet to Radio)

120 Vac, 60 Hz using Phihong power supply model: PSA15R-295 (MOT)

## 8.0 Modifications Made To EUT for Compliance

No modifications made at time of test.

## 9.0 Additional Descriptions

Tested 20 MHz channel bandwidth only. The 10MHz & 20 MHz channel bandwidths were tested for the original Cambium Networks certification and no significant differences were noted. Tested with QPSK modulation only. (QPSK is worst case.) Tested at maximum output power setting (19 dBm) on both output chains.





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## 10.0 Results

Measurements were performed in accordance with ANSI C63.10-2009. Graphical and tabular data can be found in Appendix A at the end of this report.

## 11.0 Conclusion

The PMP450SM 5.7GHz OFDM Radio with 450 Stinger or RCL-3 antenna, Model C054045C004A, as provided from Cambium Networks & Wireless Beehive LLC tested from September 20th to September 21st, 2012 **meets** the requirements of CFR 47 Part 15 Subpart C Section 15.247.



Company: Wireless Beehive  
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166 South Carter, Genoa City, WI 53128

## Appendix A – Measurement Data

### A1.0 Maximum Unwanted Emission Levels into Restricted Frequency Bands – Radiated Tested with 450 Stinger Antenna

**Rule Section:** Section 15.247(d)

**Test Procedure:** FCC KDB 558074 D01 DTS Meas Guidance v01 – *Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247*

Section 5.4.2 – Unwanted Emissions into Restricted Frequency Bands

ANSI C63.10:2009 – Sections 6.5 and 6.6

**Description:** This test applies to harmonics/spurs that fall in the restricted bands listed in Section 15.205.

Measurements were taken for QPSK modulation types (worst case), and at the lowest, middle, and highest channels of operation. EUT was set to transmit continuously (power setting 19 dBm) with 98% duty cycle.

**Limit:** FCC Part 15.209

**Results:** Passed

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with 450 Stinger  
Manufacturer: Wireless Beehive  
Operating Condition: 68 deg. F; 35% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-21-2012

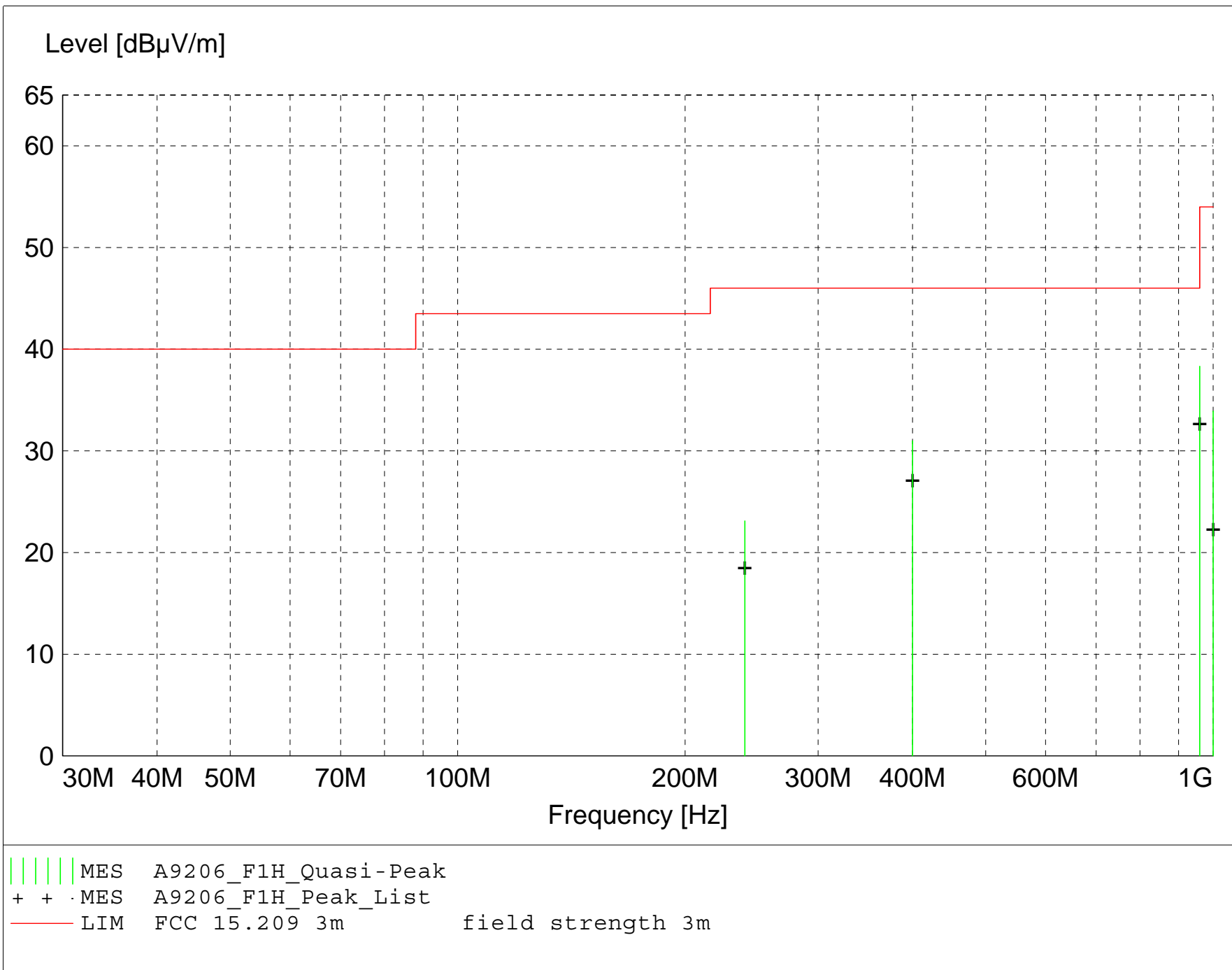
**TEXT: "Horz 3 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



**MEASUREMENT RESULT: "A9206\_F1H\_Final"**

9/26/2012 3:26PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level	dB $\mu$ V/m	dB	Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m	dB $\mu$ V/m		m	deg		
960.000000	30.85	23.90	-16.4	38.3	46.0	7.7	1.50	0	QUASI-PEAK	None
400.000000	35.75	16.00	-20.8	31.0	46.0	15.0	1.60	75	QUASI-PEAK	None
1000.000000	25.78	24.50	-16.4	33.9	54.0	20.1	2.30	15	QUASI-PEAK	None
240.000000	32.73	11.90	-21.5	23.1	46.0	22.9	1.00	300	QUASI-PEAK	None

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with 450 Stinger  
Manufacturer: Wireless Beehive  
Operating Condition: 68 deg. F; 35% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-21-2012

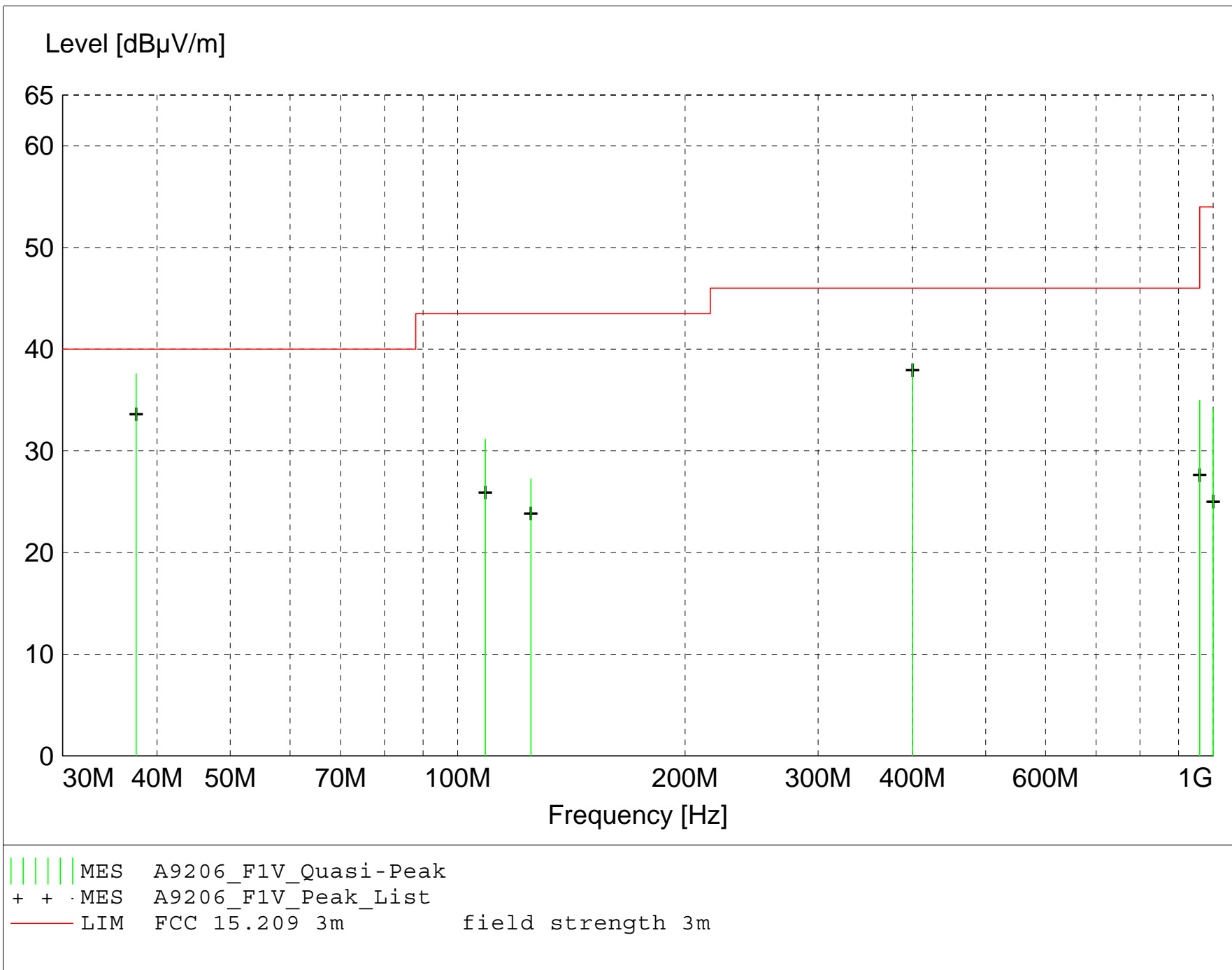
**TEXT: "Vert 3 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



**MEASUREMENT RESULT: "A9206\_F1V\_Final"**

9/26/2012 3:29PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBµV	Factor	Loss	Level	dBµV/m	dB	Ant.	Angle	Detector	
		dBµV/m	dB	dBµV/m			m	deg		
37.535000	49.21	11.61	-23.2	37.6	40.0	2.4	1.00	0	QUASI-PEAK	None
400.000000	43.34	16.00	-20.8	38.6	46.0	7.4	1.00	100	QUASI-PEAK	None
960.000000	27.49	23.90	-16.4	35.0	46.0	11.0	2.30	0	QUASI-PEAK	None
108.785000	41.87	11.70	-22.4	31.1	43.5	12.4	1.00	270	QUASI-PEAK	None
125.000000	36.32	12.90	-22.0	27.2	43.5	16.3	1.00	160	QUASI-PEAK	None
1000.000000	25.99	24.50	-16.4	34.1	54.0	19.9	2.30	350	QUASI-PEAK	None



**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with 450 Stinger  
Manufacturer: Wireless Beehive  
Operating Condition: 70 deg. F; 37% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-20-2012

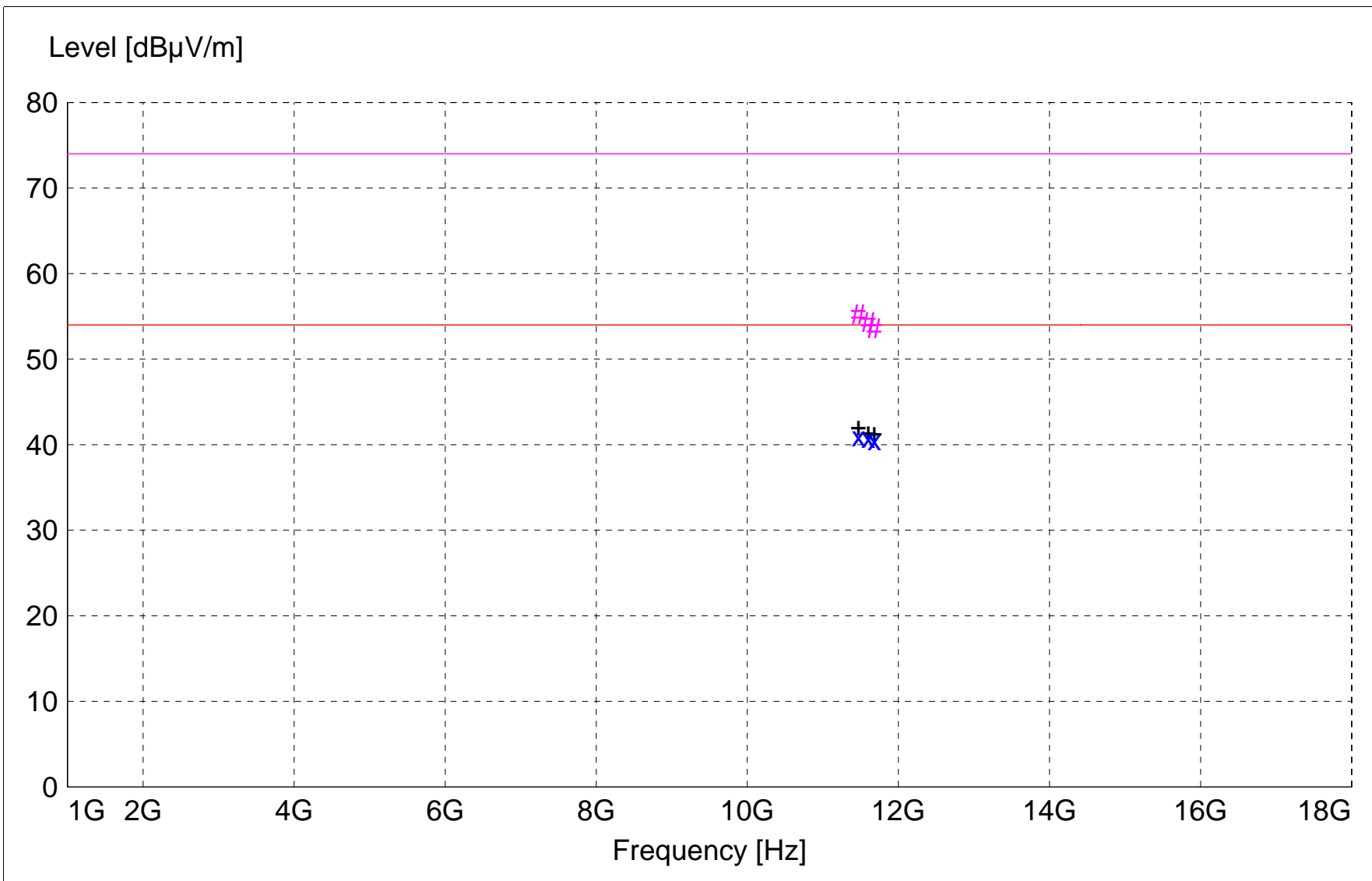
**TEXT: "Horz 3 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



```

x x :MES  A9202_sh_Average
# # :MES  A9202_sh_Peak
+ + :MES  A9202_sh_Peak_List
— LIM  FCC Part 15.209 3m AVG  Field Strength AVG Limit 3m
— LIM  FCC Part 15.209 3m PK   Field Strength PEAK Limit 3m

```

**MEASUREMENT RESULT: "A9202\_sh\_Final"**

9/20/2012 11:12AM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level	dB $\mu$ V/m	dB	Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m	dB $\mu$ V/m		m	deg		
11470.440000	37.04	39.02	-35.1	40.9	54.0	13.1	1.20	0	AVERAGE	2nd; low ch
11602.600000	36.85	39.05	-35.1	40.8	54.0	13.2	1.20	0	AVERAGE	2nd; mid ch
11679.900000	36.51	39.05	-35.1	40.5	54.0	13.5	1.20	0	AVERAGE	2nd; high ch
11470.440000	51.36	39.02	-35.1	55.3	74.0	18.7	1.20	0	MAX PEAK	2nd; low ch
11602.600000	50.43	39.05	-35.1	54.3	74.0	19.7	1.20	0	MAX PEAK	2nd; mid ch
11679.900000	49.65	39.05	-35.1	53.6	74.0	20.4	1.20	0	MAX PEAK	2nd; high ch

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with 450 Stinger  
Manufacturer: Wireless Beehive  
Operating Condition: 70 deg. F; 37% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-20-2012

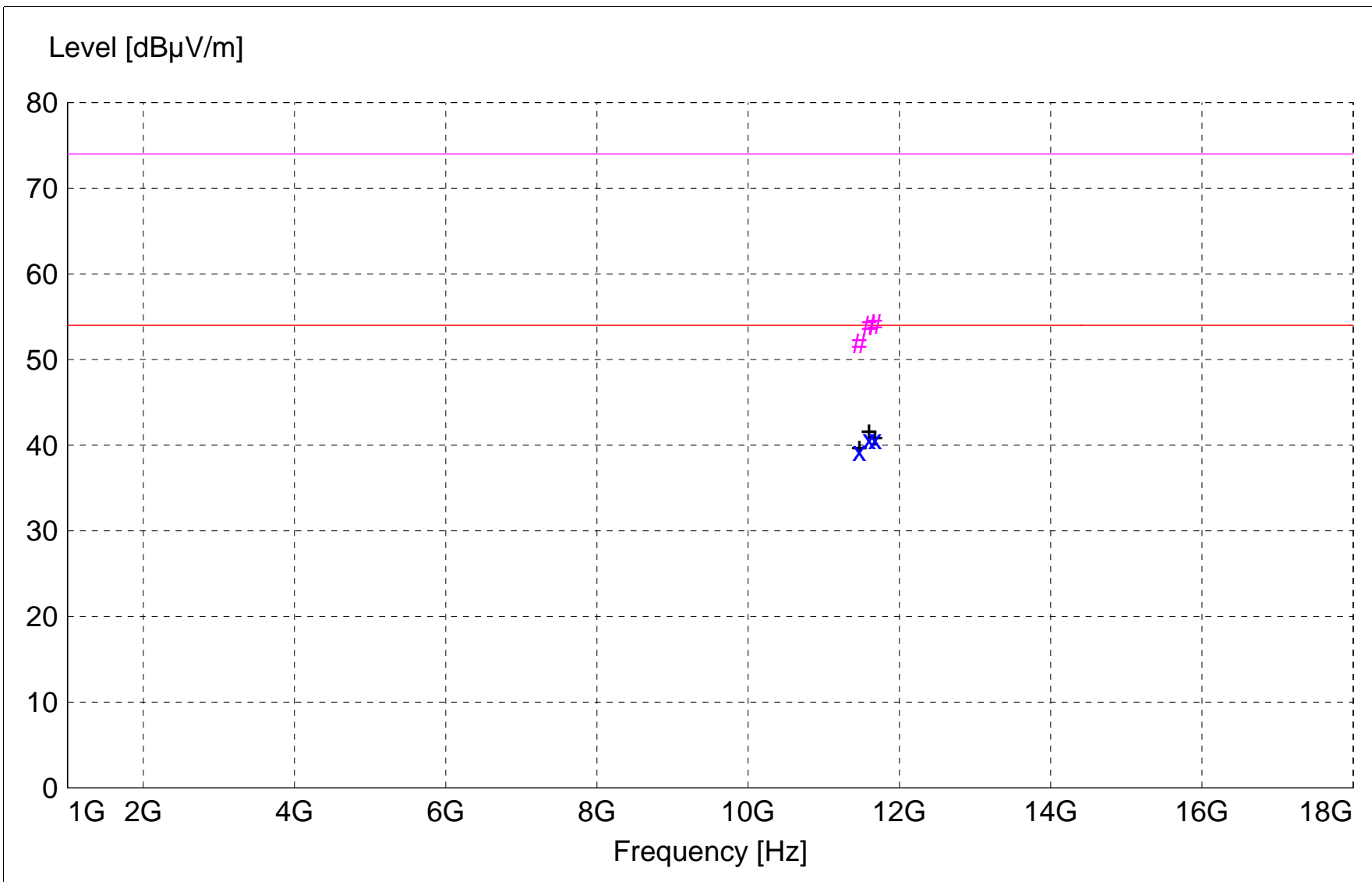
**TEXT: "Vert 3 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



```

x x :MES  A9202_sv_Average
# # :MES  A9202_sv_Peak
+ + :MES  A9202_sv_Peak_List
— LIM  FCC Part 15.209 3m AVG  Field Strength AVG Limit 3m
— LIM  FCC Part 15.209 3m PK   Field Strength PEAK Limit 3m

```

**MEASUREMENT RESULT: "A9202\_sv\_Final"**

9/20/2012 11:35AM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level	dB $\mu$ V/m	dB	Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m	dB $\mu$ V/m		m	deg		
11677.460000	36.71	39.05	-35.1	40.7	54.0	13.3	1.30	225	AVERAGE	2nd; high ch
11600.260000	36.78	39.05	-35.1	40.7	54.0	13.3	1.30	225	AVERAGE	2nd; mid ch
11469.920000	35.42	39.02	-35.1	39.3	54.0	14.7	1.20	225	AVERAGE	2nd; low ch
11677.460000	50.17	39.05	-35.1	54.2	74.0	19.8	1.30	225	MAX PEAK	2nd; high ch
11600.260000	50.04	39.05	-35.1	53.9	74.0	20.1	1.30	225	MAX PEAK	2nd; mid ch
11469.920000	47.95	39.02	-35.1	51.8	74.0	22.2	1.20	225	MAX PEAK	2nd; low ch

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with 450 Stinger  
Manufacturer: Wireless Beehive  
Operating Condition: 68 deg. F; 35% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-21-2012

**TEXT: "Horz 1 meters"**

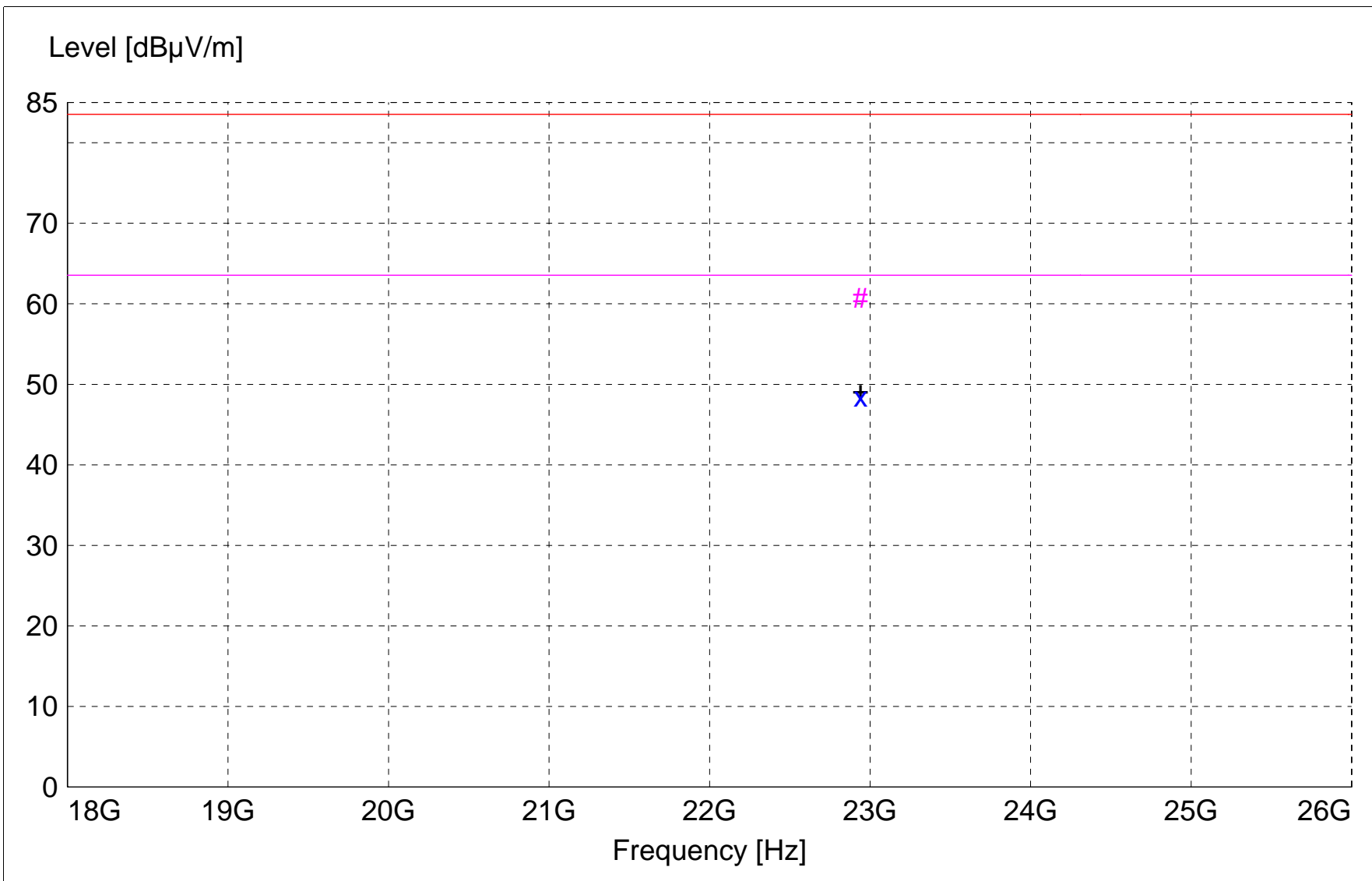
Short Description: Test Set-up

Test Set-up: EUT Measured at 1 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20

Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



x x :MES B9207\_sh\_Average  
 # # :MES B9207\_sh\_Peak  
 + + :MES B9207\_sh\_Peak\_List  
 — LIM FCC Part 15.209 1m PK Field Strength Peak Limit 1m  
 — LIM FCC Part 15.209 1m AVG Field Strength AVG Limit 1m



**MEASUREMENT RESULT: "B9207\_sh\_Final"**

9/21/2012 2:31PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level	dB $\mu$ V/m	dB	Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m	dB $\mu$ V/m		m	deg		
22940.000000	43.00	46.78	-41.3	48.4	63.5	15.1	1.40	135	AVERAGE	4th; low ch
22940.000000	55.32	46.78	-41.3	60.8	83.5	22.8	1.40	135	MAX PEAK	4th; low ch

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with 450 Stinger  
Manufacturer: Wireless Beehive  
Operating Condition: 68 deg. F; 35% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-21-2012

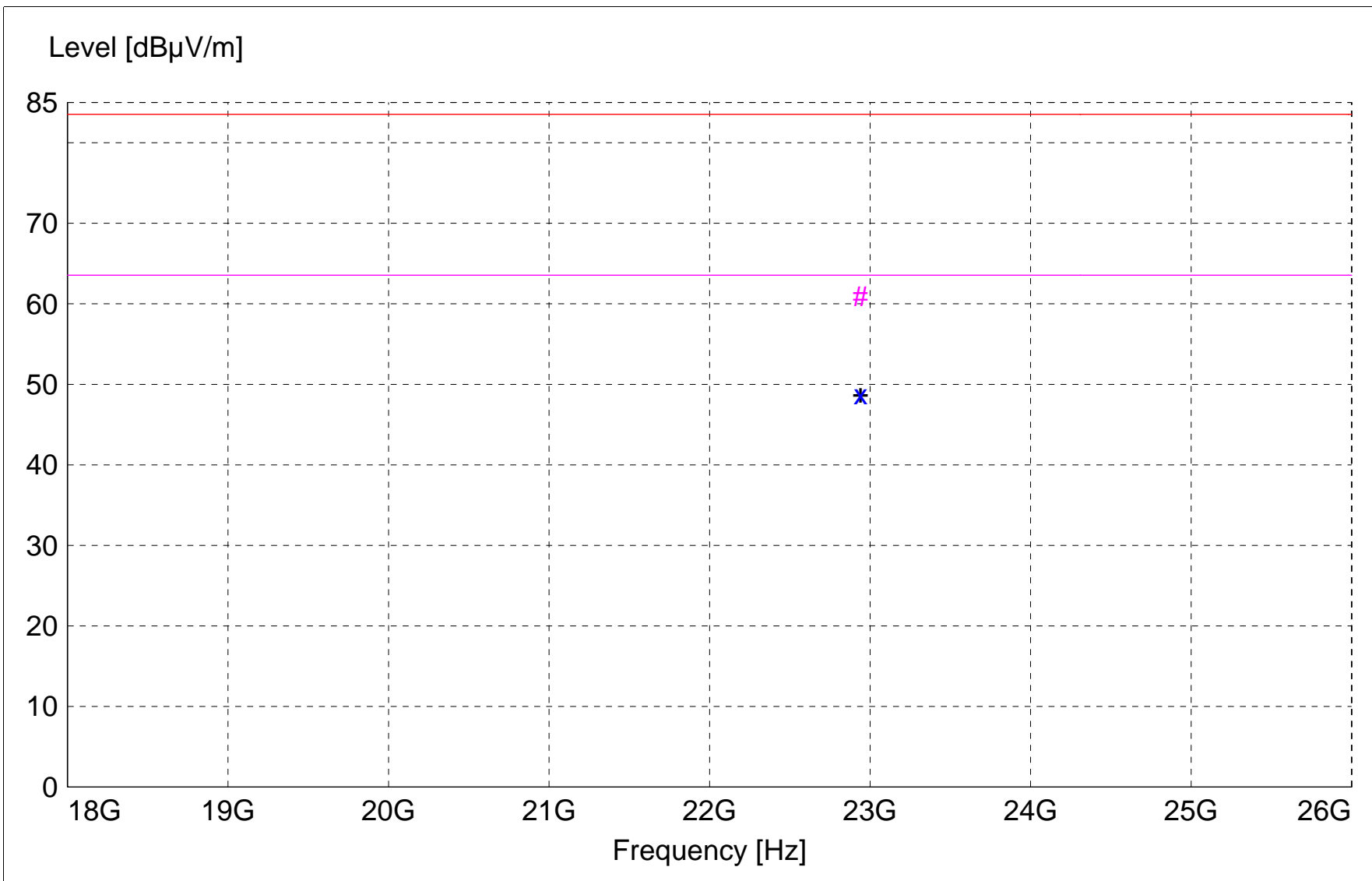
**TEXT: "Vert 1 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 1 Meters with VERTICAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



```

x x :MES  B9207_sv_Average
# # :MES  B9207_sv_Peak
+ + :MES  B9207_sv_Peak_List
— — :LIM  FCC Part 15.209 1m PK   Field Strength Peak Limit 1m
— — :LIM  FCC Part 15.209 1m AVG  Field Strength AVG Limit 1m

```

**MEASUREMENT RESULT: "B9207\_sv\_Final"**

9/21/2012 2:30PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBμV	Factor	Loss	Level	dBμV/m	dB	Ant.	Angle	Detector	
		dBμV/m	dB	dBμV/m	dBμV/m		m	deg		
22940.000000	43.25	46.78	-41.3	48.7	63.5	14.8	1.20	30	AVERAGE	4th; low ch
22940.000000	55.45	46.78	-41.3	60.9	83.5	22.6	1.20	30	MAX PEAK	4th; low ch

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with 450 Stinger  
Manufacturer: Wireless Beehive  
Operating Condition: 68 deg. F; 35% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-21-2012

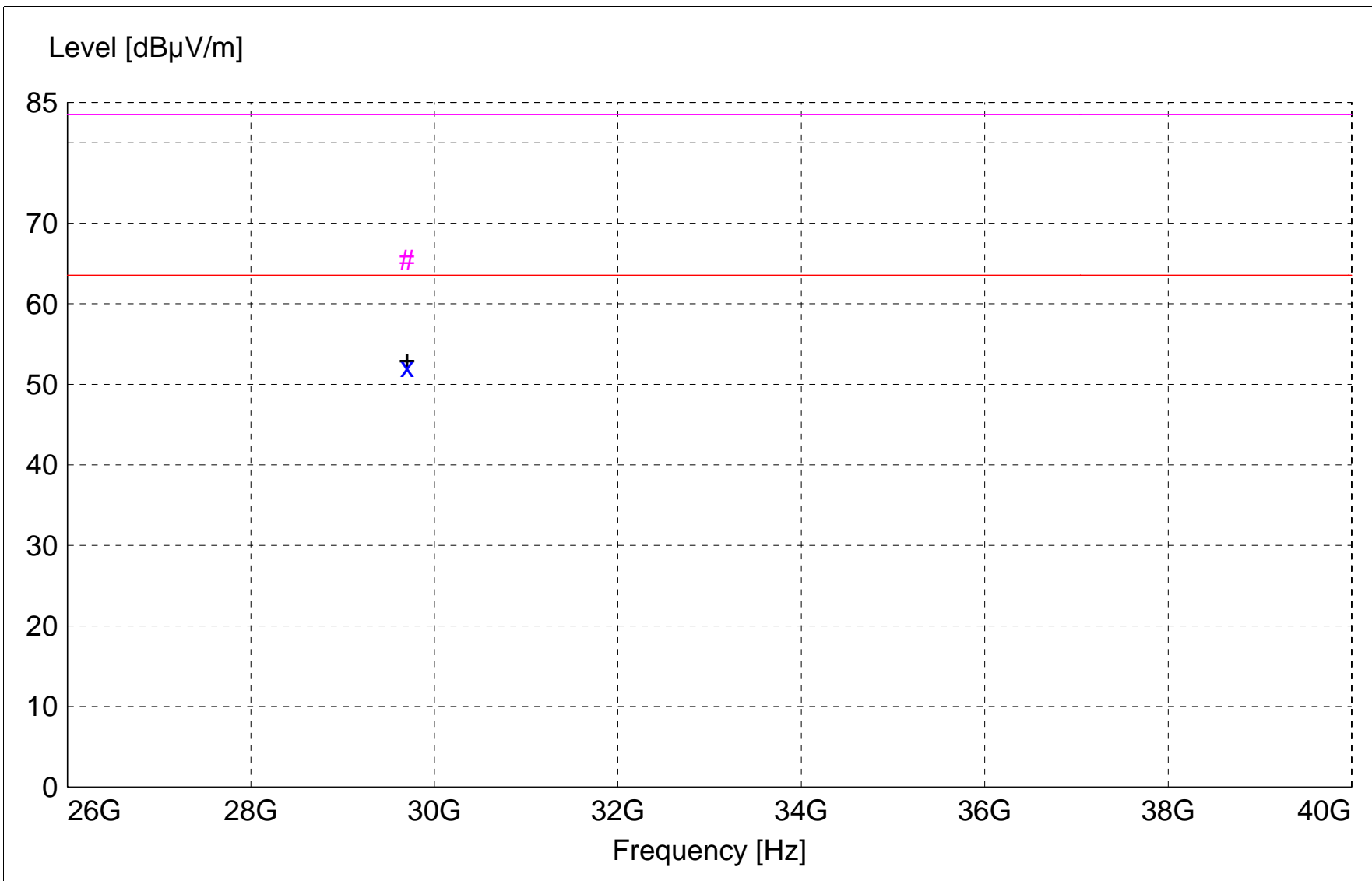
**TEXT: "Horz 1 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 1 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



```

x x :MES A9208_sh_Average
# # :MES A9208_sh_Peak
+ + :MES A9208_sh_Peak_List
— LIM FCC Part 15.209 1m AVG Field Strength AVG Limit 1m
— LIM FCC Part 15.209 1m PK Field Strength Peak Limit 1m

```

**MEASUREMENT RESULT: "A9208\_sh\_Final"**

9/21/2012 2:44PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBμV	Factor	Loss	Level	dBμV/m	dB	Ant.	Angle	Detector	
		dBμV/m	dB	dBμV/m	dBμV/m		m	deg		
29702.000000	51.84	47.64	-47.3	52.2	63.5	11.4	1.30	0	AVERAGE	noise floor
29702.000000	65.20	47.64	-47.3	65.5	83.5	18.0	1.30	0	MAX PEAK	noise floor

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with 450 Stinger  
Manufacturer: Wireless Beehive  
Operating Condition: 68 deg. F; 35% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-21-2012

**TEXT: "Vert 1 meters"**

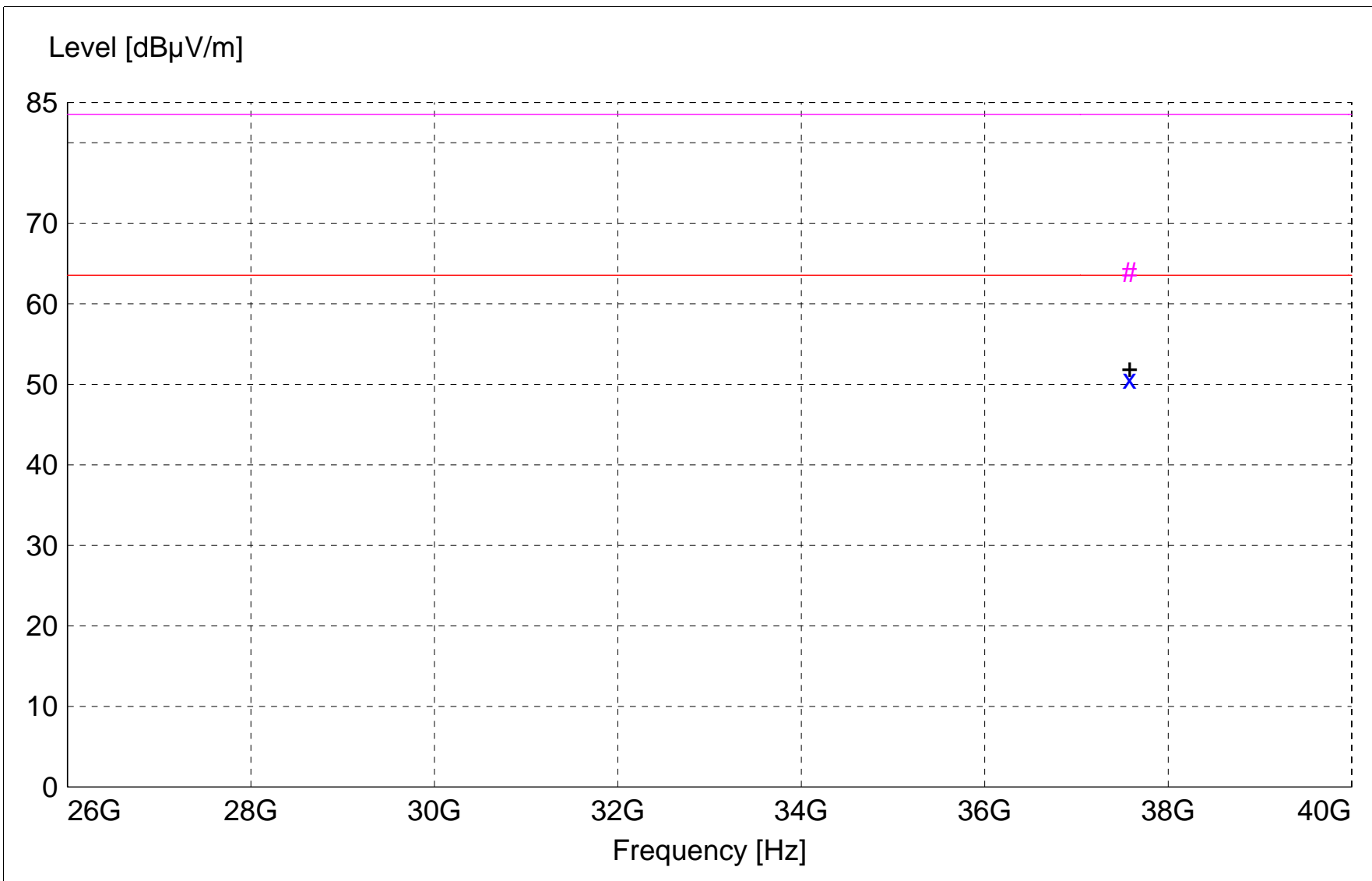
Short Description: Test Set-up

Test Set-up: EUT Measured at 1 Meters with VERTICAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector





```

x x :MES A9208_sv_Average
# # :MES A9208_sv_Peak
+ + :MES A9208_sv_Peak_List
— LIM FCC Part 15.209 1m AVG Field Strength AVG Limit 1m
— LIM FCC Part 15.209 1m PK Field Strength Peak Limit 1m

```

**MEASUREMENT RESULT: "A9208\_sv\_Final"**

9/21/2012 2:41PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level	dB $\mu$ V/m	dB	Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m			m	deg		
37578.500000	50.46	46.54	-46.3	50.7	63.5	12.9	1.30	0	AVERAGE	noise floor
37578.500000	63.73	46.54	-46.3	64.0	83.5	19.6	1.30	0	MAX PEAK	noise floor



Company: Wireless Beehive  
Model Tested: C054045C004A w-new antennas  
Report Number: 18320

166 South Carter, Genoa City, WI 53128

## Appendix A – Measurement Data

### A2.0 Maximum Unwanted Emission Levels into Restricted Frequency Bands – Radiated Tested with RCL-3 Reflector Antenna

**Rule Section:** Section 15.247(d)

**Test Procedure:** FCC KDB 558074 D01 DTS Meas Guidance v01 – *Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247*

Section 5.4.2 – Unwanted Emissions into Restricted Frequency Bands

ANSI C63.10:2009 – Sections 6.5 and 6.6

**Description:** This test applies to harmonics/spurs that fall in the restricted bands listed in Section 15.205.

Measurements were taken for QPSK modulation types (worst case), and at the lowest, middle, and highest channels of operation. EUT was set to transmit continuously (power setting 19 dBm) with 98% duty cycle.

**Limit:** FCC Part 15.209

**Results:** Passed

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with RCL-3 and COP  
Manufacturer: Wireless Beehive  
Operating Condition: 70 deg. F; 37% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-20-2012

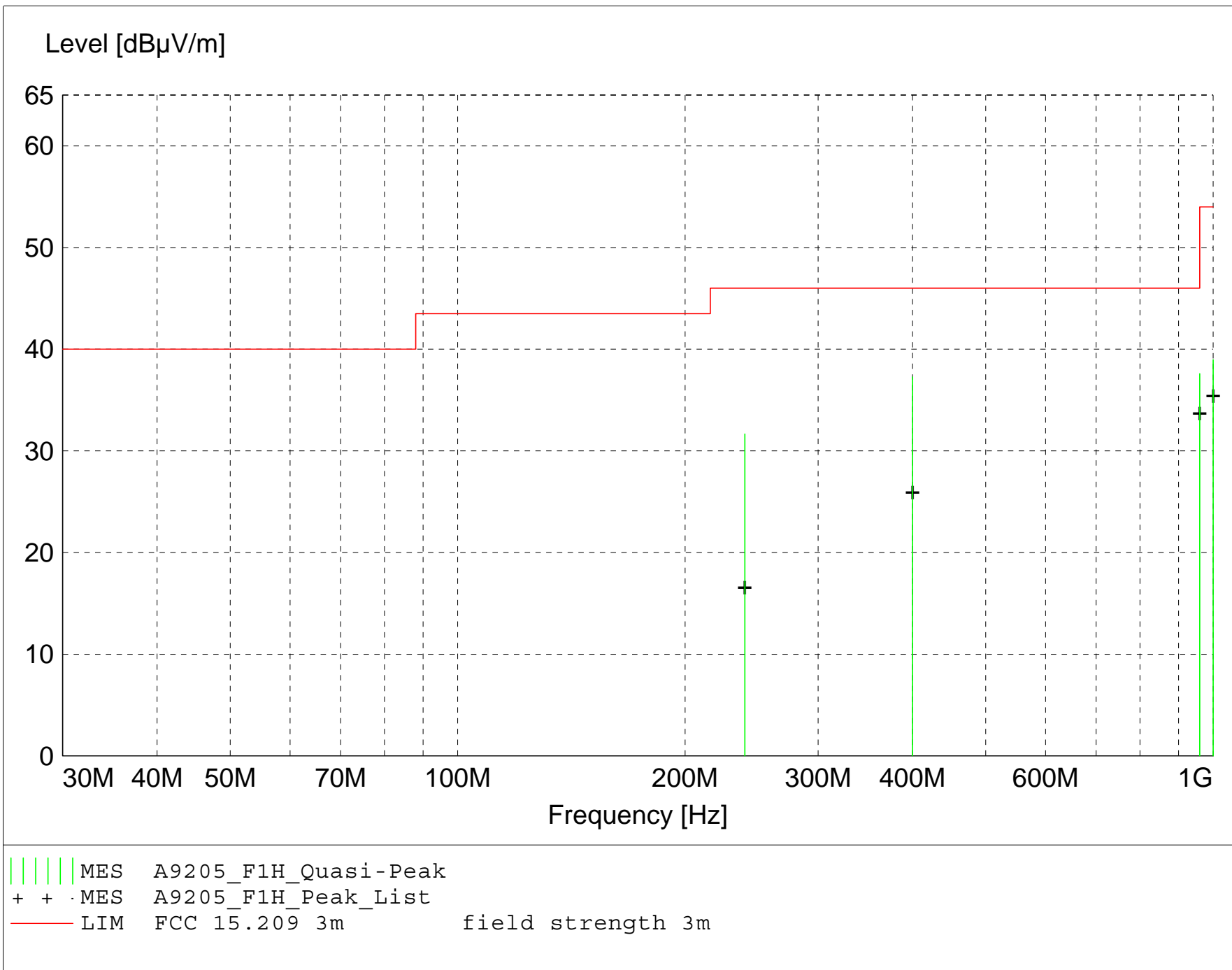
**TEXT: "Horz 3 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



**MEASUREMENT RESULT: "A9205\_F1H\_Final"**

9/26/2012 3:20PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level	dB $\mu$ V/m	dB	Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m	dB $\mu$ V/m		m	deg		
960.000000	30.11	23.90	-16.4	37.6	46.0	8.4	1.80	0	QUASI-PEAK	None
400.000000	42.04	16.00	-20.8	37.3	46.0	8.7	2.00	60	QUASI-PEAK	None
240.000000	41.27	11.90	-21.5	31.7	46.0	14.3	1.30	45	QUASI-PEAK	None
1000.000000	30.84	24.50	-16.4	39.0	54.0	15.0	1.80	0	QUASI-PEAK	None

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with RCL-3 and COP  
Manufacturer: Wireless Beehive  
Operating Condition: 70 deg. F; 37% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-20-2012

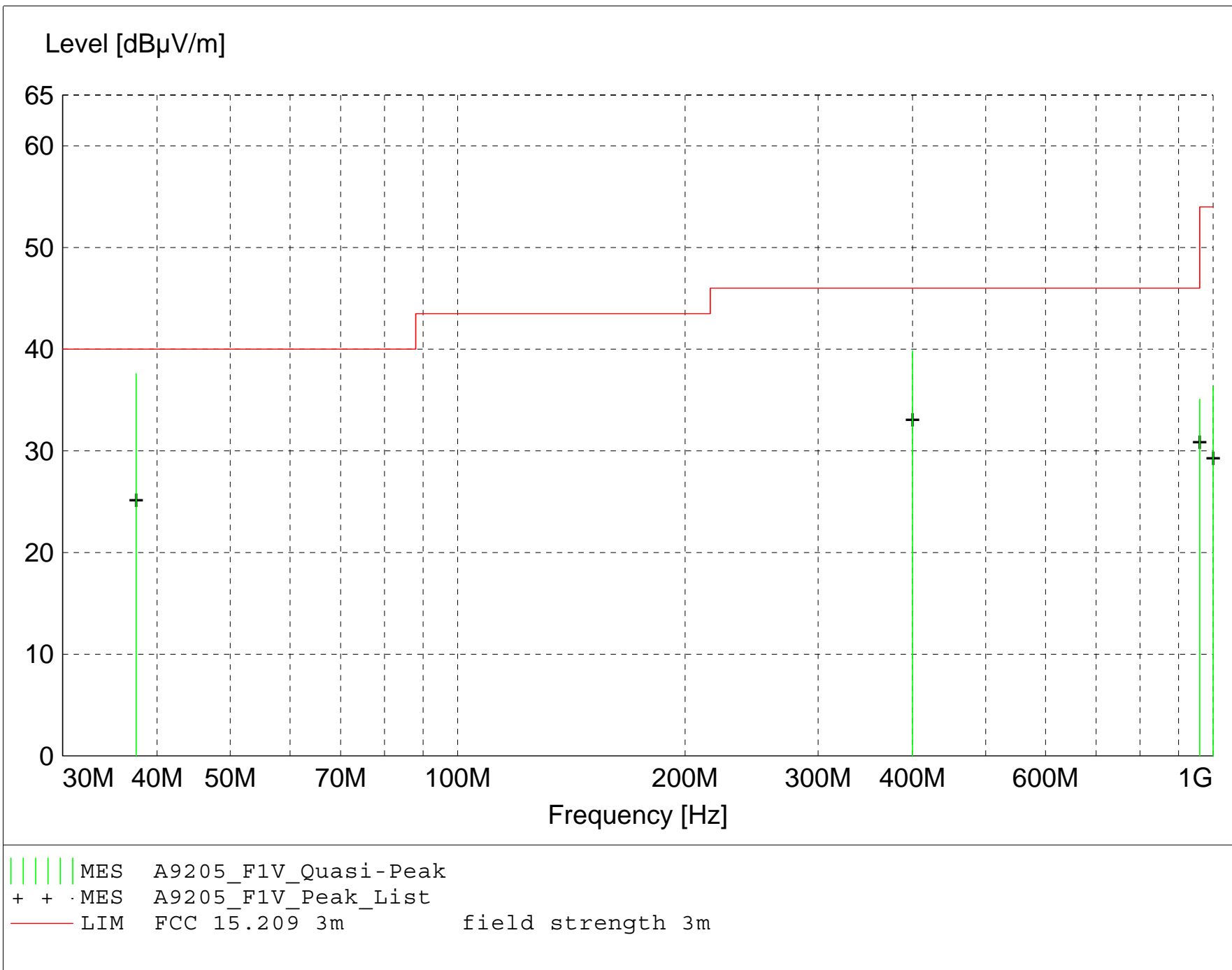
**TEXT: "Vert 3 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector





**MEASUREMENT RESULT: "A9205\_F1V\_Final"**

9/26/2012 3:23PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level	dB $\mu$ V/m	dB	Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m			m	deg		
37.535000	49.21	11.61	-23.2	37.6	40.0	2.4	1.00	0	QUASI-PEAK	None
400.000000	44.61	16.00	-20.8	39.8	46.0	6.2	1.30	300	QUASI-PEAK	None
960.000000	27.61	23.90	-16.4	35.1	46.0	10.9	1.10	250	QUASI-PEAK	None
1000.000000	28.22	24.50	-16.4	36.4	54.0	17.6	1.60	350	QUASI-PEAK	None

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with RCL-3 and COP  
Manufacturer: Wireless Beehive  
Operating Condition: 70 deg. F; 37% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-20-2012

**TEXT: "Horz 3 meters"**

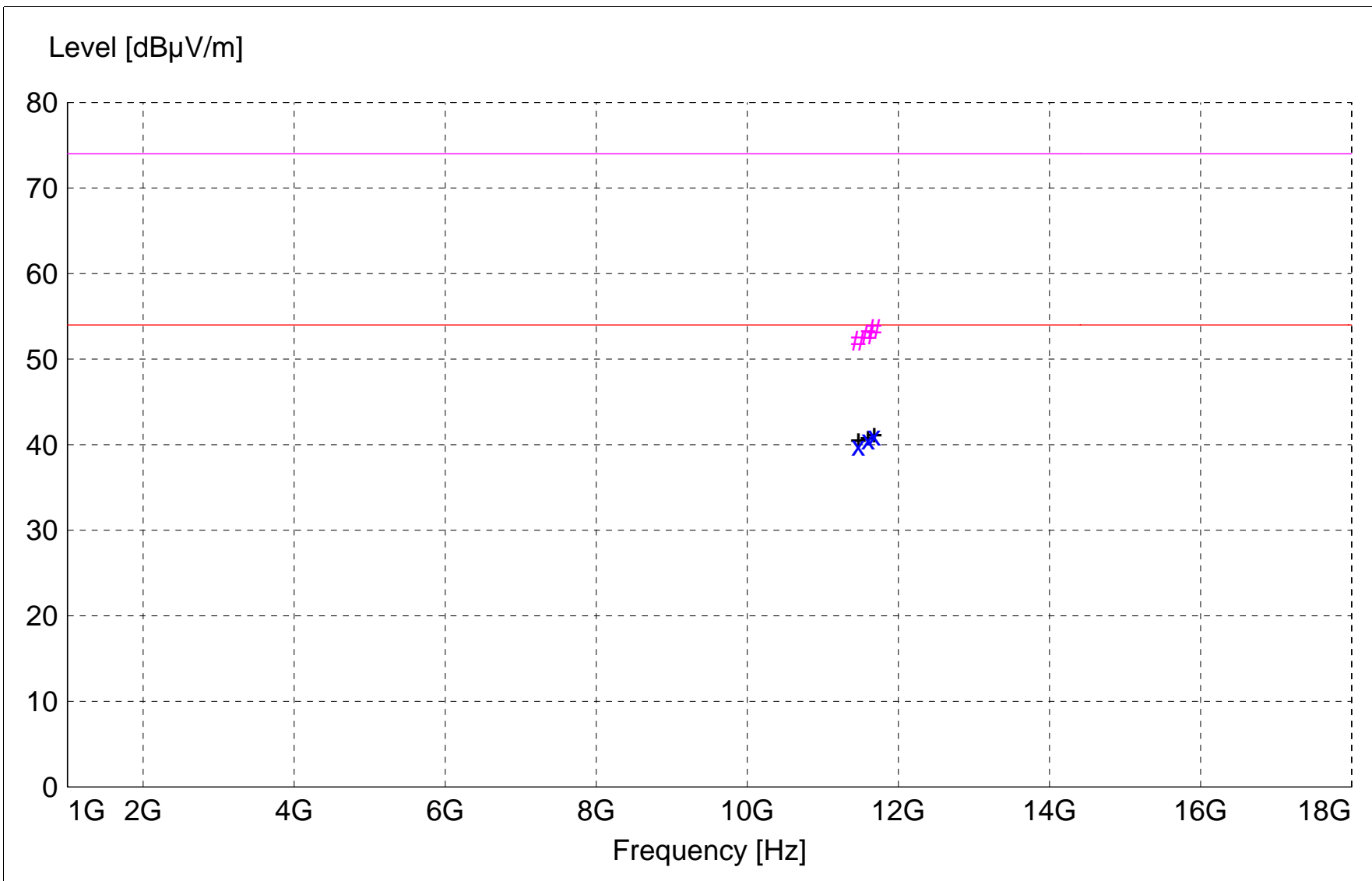
Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20

Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



```

x x :MES A9204_sh_Average
# # :MES A9204_sh_Peak
+ + :MES A9204_sh_Peak_List
— (Red) LIM FCC Part 15.209 3m AVG Field Strength AVG Limit 3m
— (Magenta) LIM FCC Part 15.209 3m PK Field Strength PEAK Limit 3m

```

**MEASUREMENT RESULT: "A9204\_sh\_Final"**

9/20/2012 2:36PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBµV	Factor	Loss	Level	dBµV/m	dB	Ant.	Angle	Detector	
		dBµV/m	dB	dBµV/m	dBµV/m		m	deg		
11679.980000	37.04	39.05	-35.1	41.0	54.0	13.0	1.50	0	AVERAGE	2nd; high ch
11600.000000	36.65	39.05	-35.1	40.6	54.0	13.4	1.50	0	AVERAGE	2nd; mid ch
11470.000000	36.02	39.02	-35.1	39.9	54.0	14.1	1.50	0	AVERAGE	2nd; low ch
11679.980000	49.52	39.05	-35.1	53.5	74.0	20.5	1.50	0	MAX PEAK	2nd; high ch
11600.000000	49.00	39.05	-35.1	52.9	74.0	21.1	1.50	0	MAX PEAK	2nd; mid ch
11470.000000	48.21	39.02	-35.1	52.1	74.0	21.9	1.50	0	MAX PEAK	2nd; low ch

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with RCL-3 and COP  
Manufacturer: Wireless Beehive  
Operating Condition: 70 deg. F; 37% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-20-2012

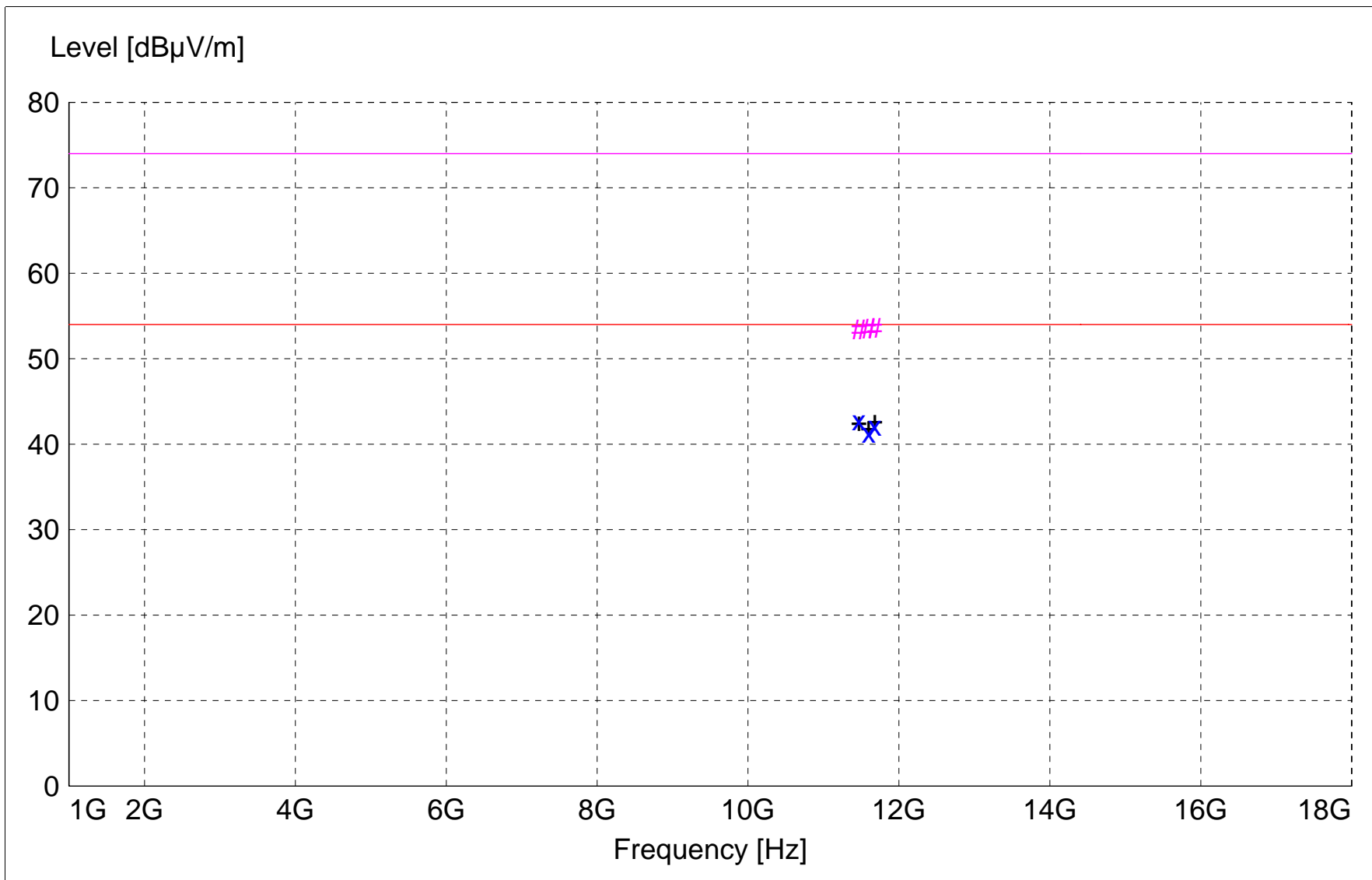
**TEXT: "Vert 3 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



```

x x :MES  A9204_sv_Average
# # :MES  A9204_sv_Peak
+ + :MES  A9204_sv_Peak_List
— LIM  FCC Part 15.209 3m AVG  Field Strength AVG Limit 3m
— LIM  FCC Part 15.209 3m PK   Field Strength PEAK Limit 3m

```

**MEASUREMENT RESULT: "A9204\_sv\_Final"**

9/20/2012 2:21PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level	dB $\mu$ V/m	dB	Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m	dB $\mu$ V/m		m	deg		
11470.000000	38.89	39.02	-35.1	42.8	54.0	11.2	1.50	0	AVERAGE	2nd; low ch
11679.980000	38.13	39.05	-35.1	42.1	54.0	11.9	1.40	0	AVERAGE	2nd; high ch
11600.000000	37.42	39.05	-35.1	41.3	54.0	12.7	1.40	0	AVERAGE	2nd; mid ch
11679.980000	49.65	39.05	-35.1	53.6	74.0	20.4	1.40	0	MAX PEAK	2nd; high ch
11600.000000	49.65	39.05	-35.1	53.6	74.0	20.4	1.40	0	MAX PEAK	2nd; mid ch
11470.000000	49.52	39.02	-35.1	53.4	74.0	20.6	1.50	0	MAX PEAK	2nd; low ch

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with RCL-3 and COP  
Manufacturer: Wireless Beehive  
Operating Condition: 70 deg. F; 37% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-20-2012

**TEXT: "Horz 3 meters"**

Short Description: Test Set-up

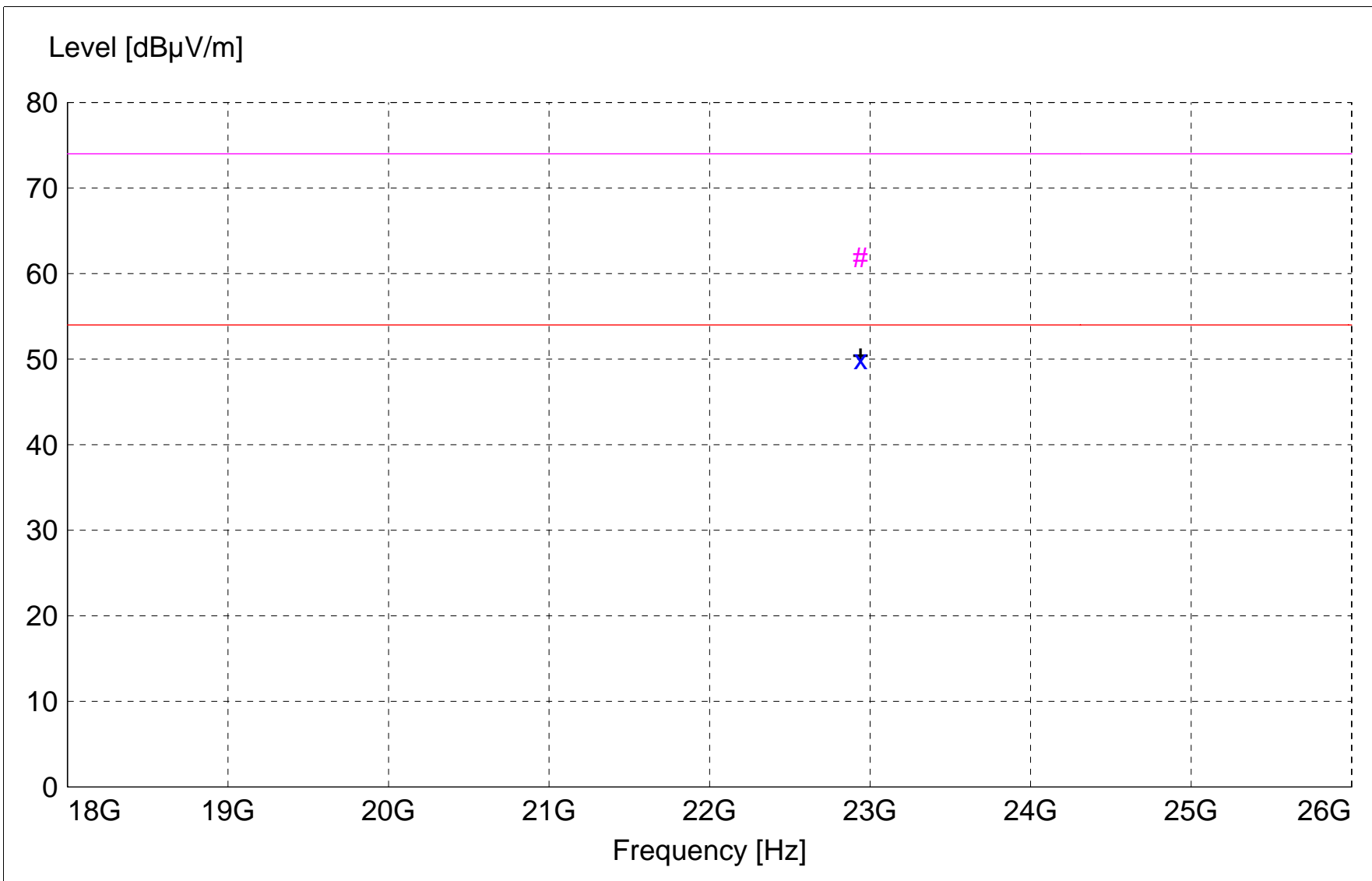
Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20

Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector





```

x x :MES  A9203_sh_Average
# # :MES  A9203_sh_Peak
+ + :MES  A9203_sh_Peak_List
— LIM  FCC Part 15.209 3m AVG  Field Strength AVG Limit 3m
— LIM  FCC Part 15.209 3m PK   Field Strength PEAK Limit 3m

```

**MEASUREMENT RESULT: "A9203\_sh\_Final"**

9/20/2012 1:55PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level			Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	m	deg		
22940.000000	44.48	46.78	-41.3	49.9	54.0	4.1	1.50	0	AVERAGE	4th; low ch
22940.000000	56.40	46.78	-41.3	61.9	74.0	12.1	1.50	0	MAX PEAK	4th; low ch

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with RCL-3 and COP  
Manufacturer: Wireless Beehive  
Operating Condition: 70 deg. F; 37% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-20-2012

**TEXT: "Vert 3 meters"**

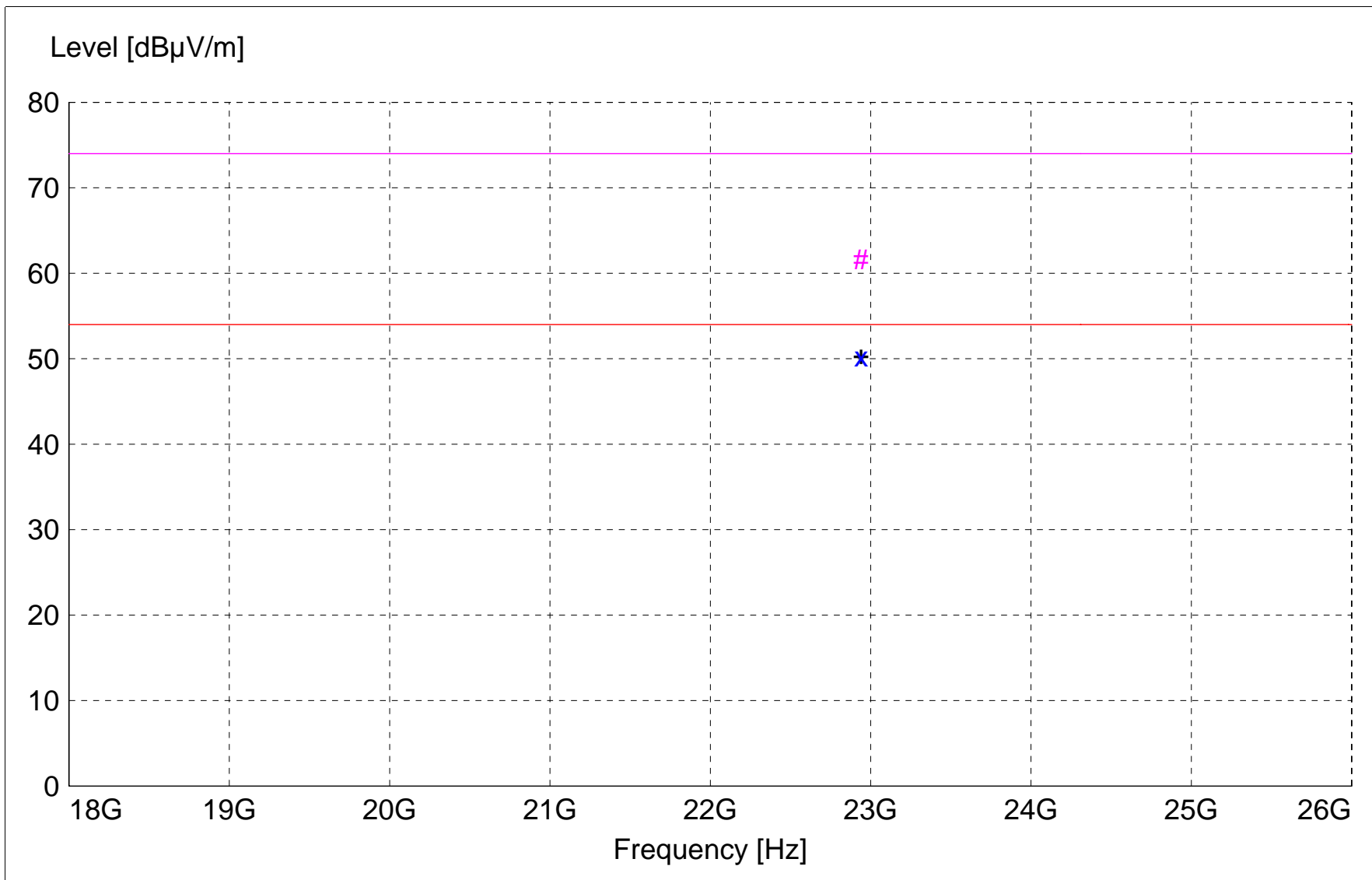
Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20

Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



```

x x :MES  A9203_sv_Average
# # :MES  A9203_sv_Peak
+ + :MES  A9203_sv_Peak_List
— LIM  FCC Part 15.209 3m AVG  Field Strength AVG Limit 3m
— LIM  FCC Part 15.209 3m PK   Field Strength PEAK Limit 3m

```

**MEASUREMENT RESULT: "A9203\_sv\_Final"**

9/20/2012 1:48PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level			Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	m	deg		
22940.000000	44.80	46.78	-41.3	50.3	54.0	3.7	1.30	0	AVERAGE	4th; low ch
22940.000000	56.14	46.78	-41.3	61.6	74.0	12.4	1.30	0	MAX PEAK	4th; low ch

**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with RCL-3 and COP  
Manufacturer: Wireless Beehive  
Operating Condition: 68 deg. F; 35% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-21-2012

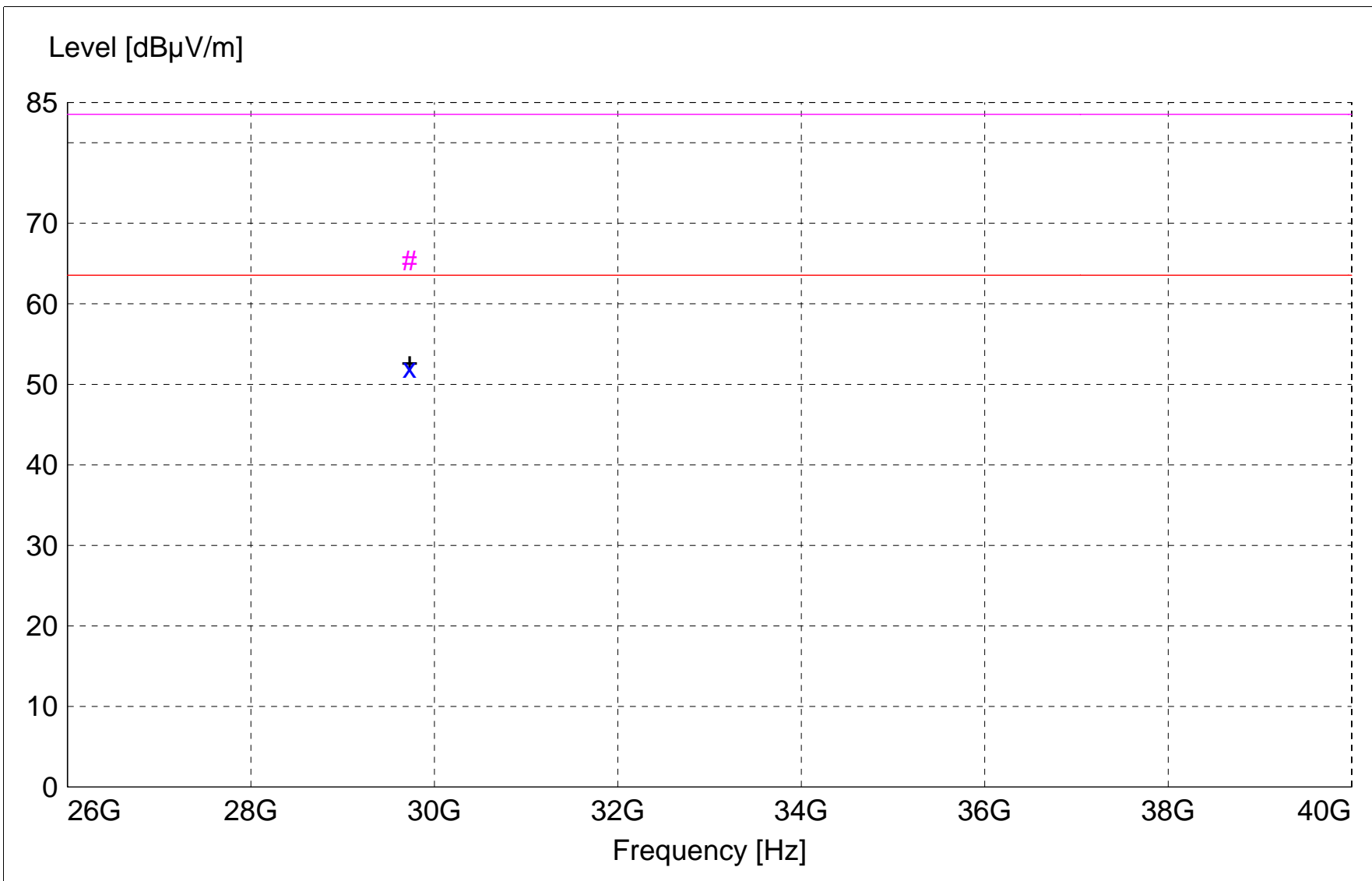
**TEXT: "Horz 1 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 1 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



```

x x :MES  A9209_sh_Average
# # :MES  A9209_sh_Peak
+ + :MES  A9209_sh_Peak_List
— LIM  FCC Part 15.209 1m AVG  Field Strength AVG Limit 1m
— LIM  FCC Part 15.209 1m PK   Field Strength Peak Limit 1m

```

**MEASUREMENT RESULT: "A9209\_sh\_Final"**

9/21/2012 2:58PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level	dB $\mu$ V/m	dB	Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m	dB $\mu$ V/m		m	deg		
29728.800000	51.77	47.62	-47.4	52.0	63.5	11.5	1.40	0	AVERAGE	noise floor
29728.800000	65.07	47.62	-47.4	65.3	83.5	18.2	1.40	0	MAX PEAK	noise floor



**FCC Part 15.205/15.209 Spurious Emissions in Restricted Bands**

**Electric Field Strength**

EUT: Model C054045C004A with RCL-3 and COP  
Manufacturer: Wireless Beehive  
Operating Condition: 68 deg. F; 35% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification: Continuous transmit; Power setting 19; Both channel A and B turned ON  
Comment: 20 MHz channel bandwidth; Low, Mid, and High channels; QPSK modulation  
Date: 09-21-2012

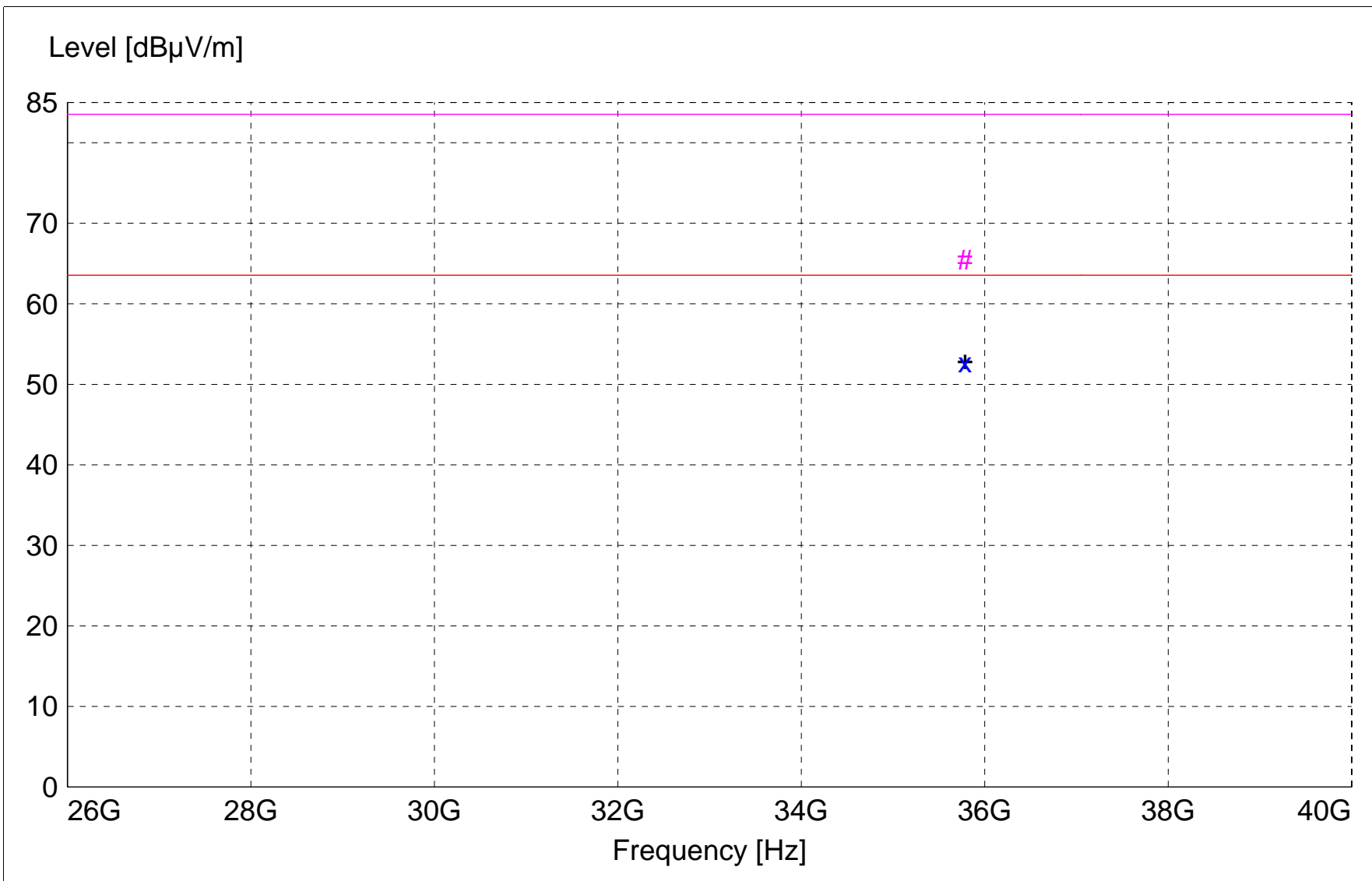
**TEXT: "Vert 1 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 1 Meters with VERTICAL Antenna Polarization

Sample Equations: Total Level (dBµV/m) = Level (dBµV) + System Loss (dB) + Antenna Factor (dBµV/m)  
24.6 = 35.51 + (-22.1) + 11.20  
Margin (dB) = Limit (dBµV/m) - Total Level (dBµV/m)  
15.4 = 40 - 24.6

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



```

x x :MES  A9209_sv_Average
# # :MES  A9209_sv_Peak
+ + :MES  A9209_sv_Peak_List
— — :LIM  FCC Part 15.209 1m AVG  Field Strength AVG Limit 1m
— — :LIM  FCC Part 15.209 1m PK   Field Strength Peak Limit 1m

```

**MEASUREMENT RESULT: "A9209\_sv\_Final"**

9/21/2012 2:56PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB $\mu$ V	Factor	Loss	Level	dB $\mu$ V/m	dB	Ant.	Angle	Detector	
		dB $\mu$ V/m	dB	dB $\mu$ V/m	dB $\mu$ V/m		m	deg		
35785.400000	49.85	48.98	-46.1	52.7	63.5	10.8	1.30	0	AVERAGE	noise floor
35785.400000	62.65	48.98	-46.1	65.5	83.5	18.0	1.30	0	MAX PEAK	noise floor



166 South Carter, Genoa City, WI 53128

Company:  
Model Tested:  
Report Number:

Wireless Beehive  
C054045C004A w-new antennas  
18320

## END OF REPORT

Revision #	Date	Comments	By
1.0	9-25-2012	Preliminary Release	JS
1.1	10-9-2012	Data added	JS
1.2	10-15-2012	Added note – page 8	JS