TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

Test Report

Product Name: CORINEX WIRELESS TO POWERLINE ACCESS POINT

FCC ID: QIUPOWERLINE-WLA

Applicant:

CORINEX COMMUNICATIONS CORP.
WORLD TRADE CENTER
404 – 99 CANADA PLACE
VANCOUVER B.C. V6C 3E2
CANADA

Date Receipt: DECEMBER 10, 2003

Date Tested: JANUARY 6, 2004

TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

TABLE OF CONTENTS FOR A DIRECT SEQUENCE SPREAD SPECTRUM

TEST REPORT CONTAINING:

EXHIBITS INCLUDING:

TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

EMC Equipment List

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3/10-Meter OATS	TEI	N/A	N/A	Listed 3/26/01	3/26/04
3-Meter OATS	TEI	N/A	N/A	Listed 1/13/03	1/13/06
Biconnical Antenna	Eaton	94455-1	1057	CAL 3/18/03	3/18/05
Biconnical Antenna	Eaton	94455-1	1096	CAL 10/1/01	10/1/03
Biconnical Antenna	Electro-Metrics	BIA-25	1171	CAL 4/26/01	4/26/03
Double-Ridged Horn Antenna	Electro-Metrics	RGA-180	2319	CAL 2/17/03	2/17/05
LISN	Electro-Metrics	ANS-25/2	2604	CAL 10/9/01	10/9/03
LISN	Electro-Metrics	EM-7820	2682	CAL 3/12/03	3/12/05
Log-Periodic Antenna	Eaton	96005	1243	CAL 5/8/03	5/8/05

TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

TEST PROCEDURE

GENERAL: This report shall NOT be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

PRODUCT DESCRIPTION: The QIU POWERLINE Wireless Access Point is a direct sequence spread spectrum radio that operates in the 2.4 GHz frequency band.

POWER LINE CONDUCTED INTERFERENCE: The procedure used was ANSI STANDARD C63.4-1992 using a 50uH LISN. Both lines were observed with the UUT transmitting. The bandwidth of the spectrum analyzer was 10kHz with an appropriate sweep speed. The ambient temperature of the UUT was 76°F with a humidity of 55%.

BANDWIDTH 6.0dB: The measurements were made with the spectrum analyzer's resolution bandwidth (RBW)=1.0MHz and the video bandwidth (VBW) =3.0MHz and the span set as shown on plot.

POWER OUTPUT: The RF power output was measured at the antenna feed point using a peak power meter.

ANTENNA CONDUCTED EMISSIONS: The RBW=100KHz, VBW=300KHz and the span set to 10.0MHz and the spectrum was scanned from 30MHz to the 10th Harmonic of the fundamental. Above 1.0GHz the resolution bandwidth was 1.0MHz and the VBW = 3.0MHz and the span to 50MHz.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-1992 using a HEWLETT PACKARD spectrum analyzer with a pre-selector. The bandwidth (RBW) of the spectrum analyzer was 100kHz up to 1GHz and 1.0MHz above 1GHz with an appropriate sweep speed. The VBW above 1.0GHz was = 3.0MHz. The analyzer was calibrated in dB above a microvolt at the output of the antenna. Measurements were made to the tenth harmonic of the fundamental frequency. The ambient temperature of the UUT was 53°F with a humidity of 17%.

TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

APPLICANT: CORINEX COMMUNICATIONS CORP.

FCC ID: QIUPOWERLINE-WLA

NAME OF TEST: POWER LINE CONDUCTED INTERFERENCE

RULES PART NO.: 15.107(a)

REQUIREMENTS:

	QUASI-PEAK	**AVERAGE**
.15 – 0.5 MHz	66-56 dBuV	56-46 dBuV
0.5 – 5.0	56	46
5.0 – 30.	60	50

TEST PROCEDURE: ANSI STANDARD C63.4-1992. The spectrum was scanned from .15 to 30 MHz.

TEST DATA:

THE FOLLOWING PLOTS REPRESENT THE EMISSIONS TAKEN FOR THIS DEVICE.

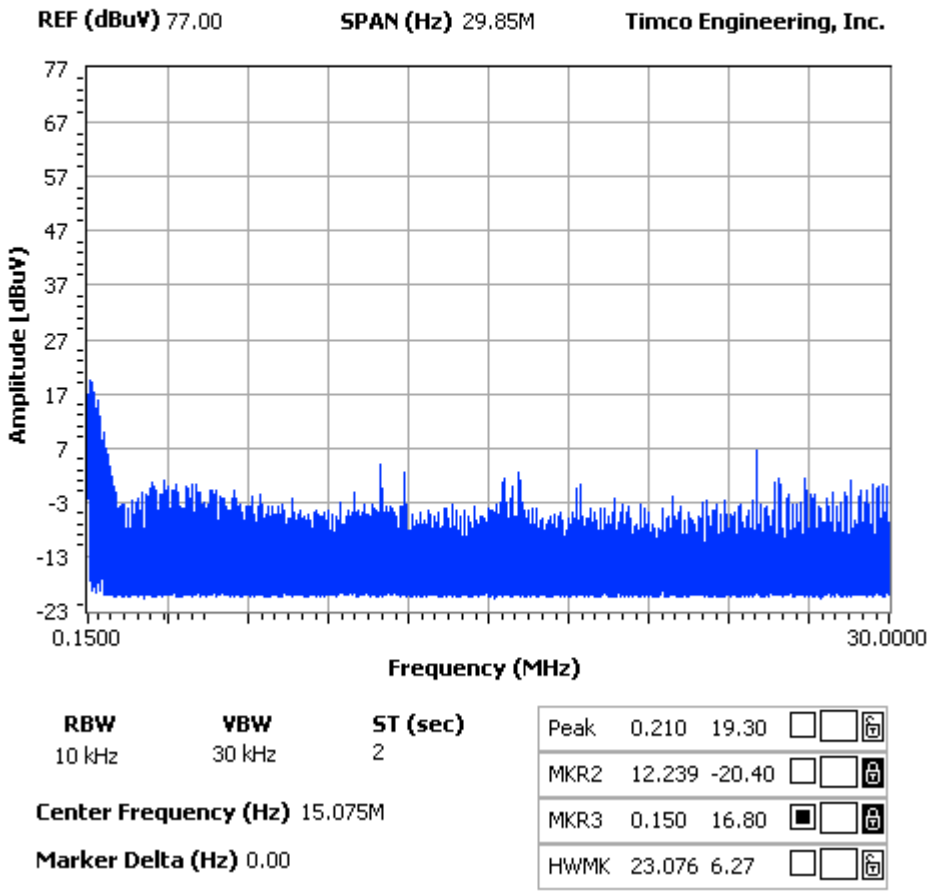
TEST RESULTS: Both lines were observed. The measurements indicate that the unit DOES appear to meet the FCC requirements for this class of equipment.

TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

POWER LINE CONDUCTED
LINE 1

NOTES:

FCC 15.107 Mask Class B

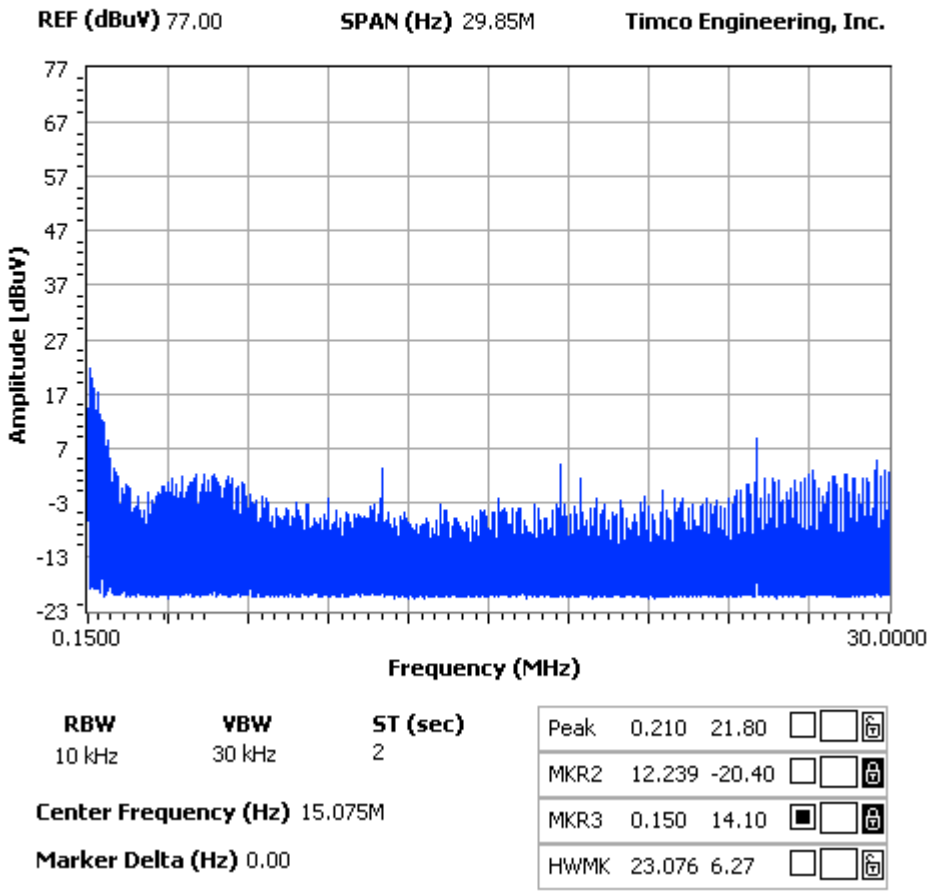


TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

POWER LINE CONDUCTED
LINE 2

NOTES:

FCC 15.107 Mask Class B



TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

APPLICANT: CORINEX COMMUNICATIONS CORP.

FCC ID: QIUPOWERLINE-WLA

NAME OF TEST: 6.0dB BANDWIDTH

RULES PART NO.: 15.247(a)(2)

REQUIREMENTS: The 6.0dB bandwidth must be greater than 500KHz.

MEASUREMENT: The 6.0dB bandwidth measured at three channels between 2412 and 2462 MHz.

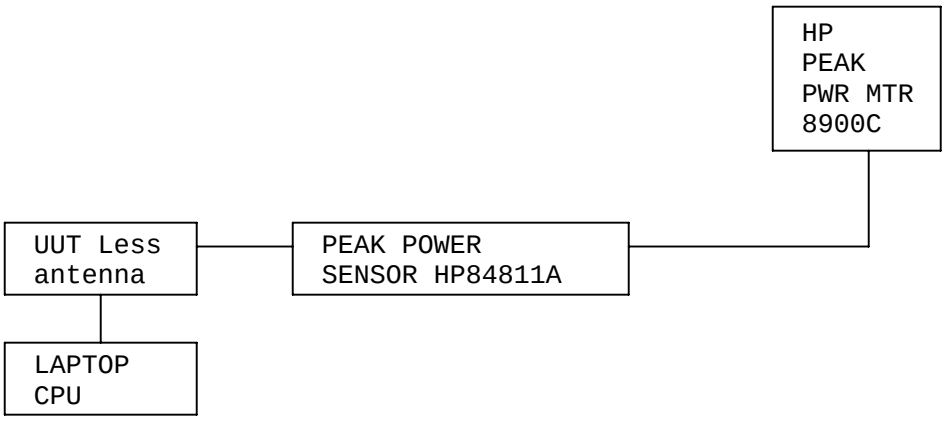
MEASUREMENT DATA: See the following plots

NAME OF TEST: POWER OUTPUT

RULES PART NO.: 15.247(b) 1.0Watt or +30dBm
250mW Watts or 24dBm for 24dBi Gain Ant

MEASUREMENT: 125.0 mWatts or 21.0 dBm @ 2433.0MHz

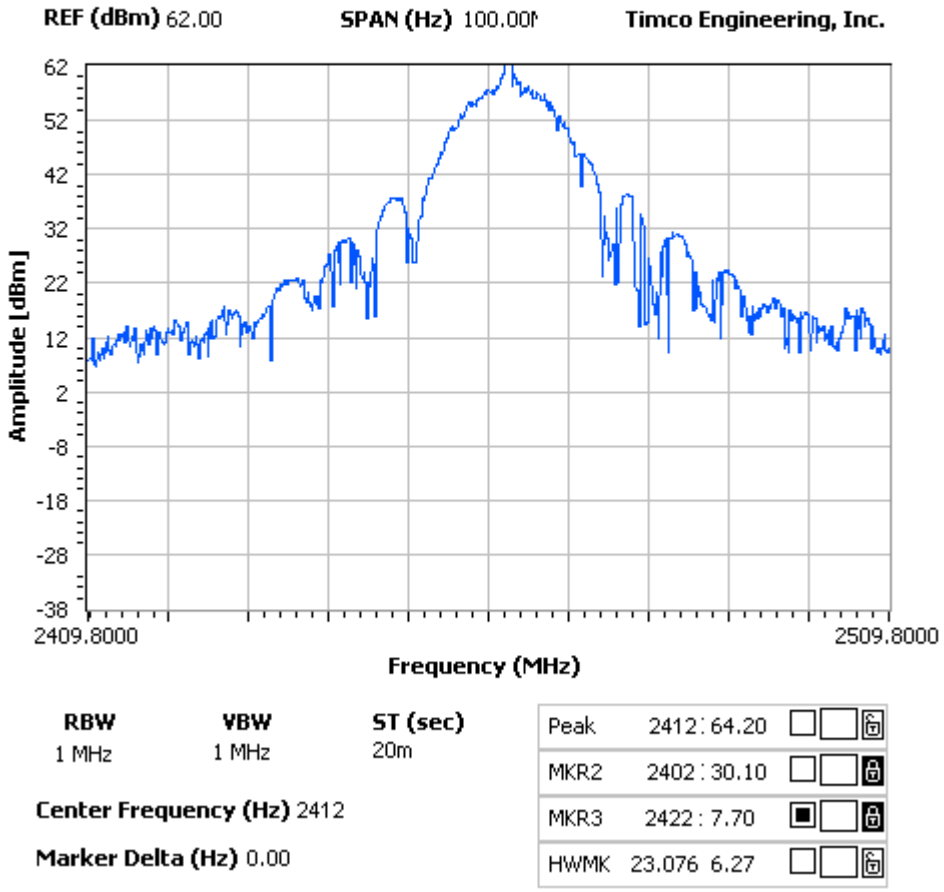
15.247(c) Method of Measuring RF Power output: The Peak power Sensor was connected in place of the antenna.



TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

6 dB BANDWIDTH
CHANNEL 1

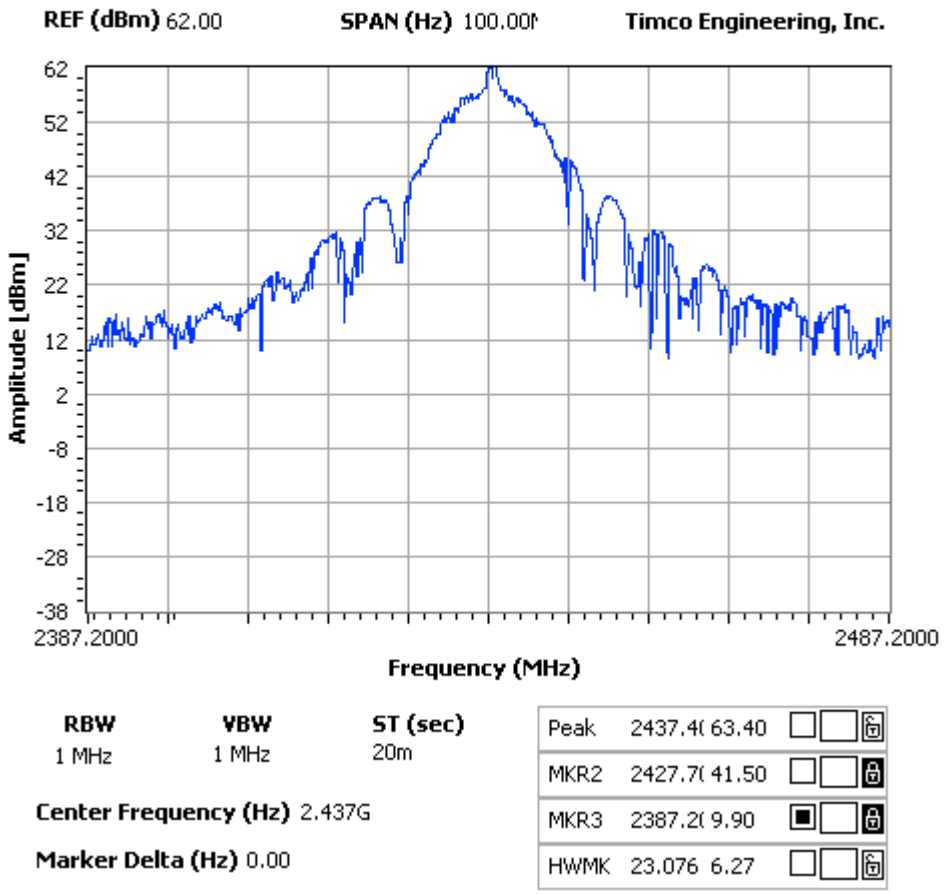
NOTES:



TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

6 dB BANDWIDTH
CHANNEL 6

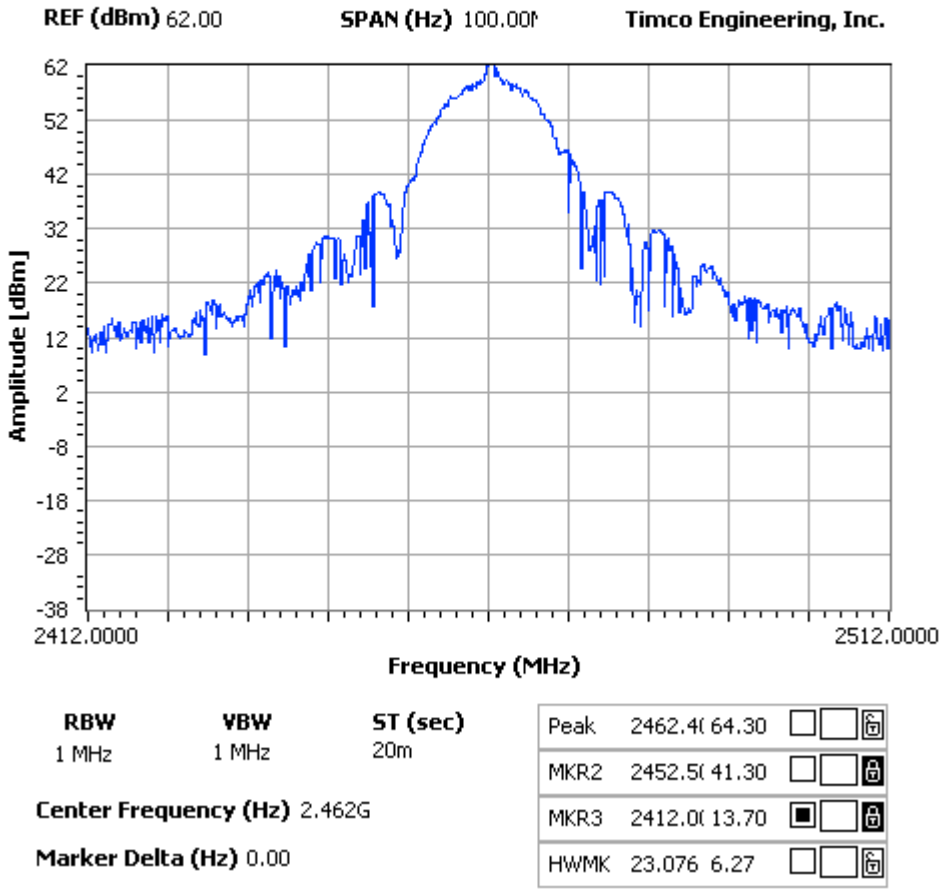
NOTES:



TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

6 dB BANDWIDTH
CHANNEL 11

NOTES:



TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

NAME OF TEST: SPURIOUS EMISSIONS AT ANTENNA TERMINALS

REQUIREMENTS: Emissions must be at least 20dB down from the highest emission level within the authorized band as measured with a 100KHz RBW.

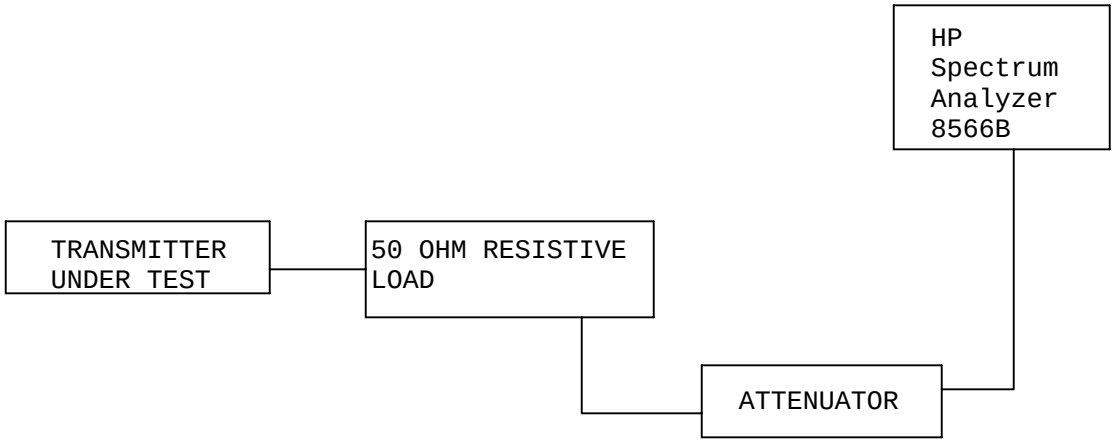
TEST DATA:

TF CHANNEL 1	EF	dB below carrier	TF CHANNEL 6	EF	dB below carrier
2412	2412	0.0	2437	2437	0.0
	4824	58.2		4874	58.8
	7236	60.7		7311	60.3
	9648	62.9		9748	62.5

TF CHANNEL 11	EF	dB below carrier
2462	2462	0.0
	4924	49.9
	7386	51.9

NOTE: THE SPECTRUM WAS SCANNED TO THE TENTH HARMONIC.

15.247(c) Method of Measuring RF Conducted Spurious Emissions



TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

15.247(c), 15.205 &15.209(b) Field_strength_of_spurious_emissions:

REQUIREMENTS:

FIELD STRENGTH	FIELD STRENGTH	S15.209
of Fundamental:	of Harmonics	30 - 88 MHz 40 dBuV/m @3M
902 – 928 MHz		88 - 216 MHz 43.5
2.4 - 2.4835 GHz		216 - 960 MHz 46
127.38 dBuV/m @3m	54 dBuV/m @3m	ABOVE 960 MHz 54 dBuV/m

EMISSIONS RADIATED OUTSIDE OF THE SPECIFIED FREQUENCY BANDS, EXCEPT FOR HARMONICS, SHALL BE ATTENUATED BY AT LEAST 50 dB BELOW THE LEVEL OF THE FUNDAMENTAL OR TO THE GENERAL RADIATED EMISSION LIMITS IN 15.209, WHICHEVER IS THE LESSER ATTENUATION.

REQUIREMENTS: Emissions that fall in the restricted bands (15.205) must be less than 54dBuV/m otherwise the spurious and harmonics must be attenuated by at least 20dB. The spectrum was scanned to the tenth harmonic frequency.

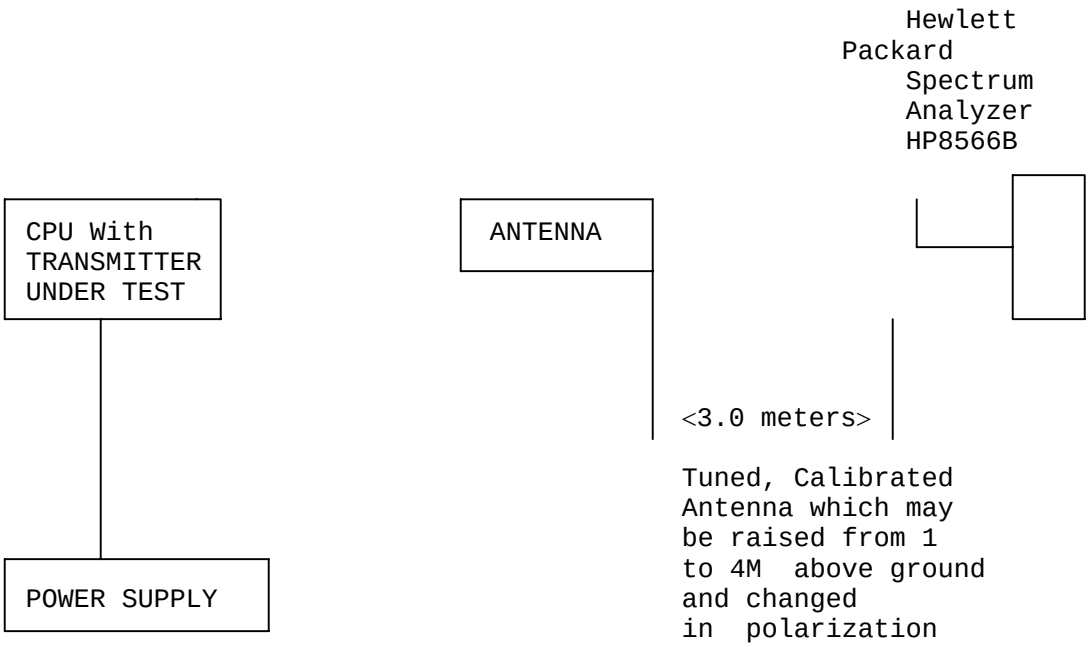
TEST DATA:

Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
2,411.0	2,412.00	99.3	H	5.18	29.26	133.74	
2,411.0	4,824.40	6.2	H	5.08	34.14	45.42	8.58
2,411.0	7,236.40	6.4	H	7.78	36.85	51.03	2.97
2,437.1	2,437.20	77.3	V	5.13	29.31	111.74	
2,437.1	2,437.20	81.4	V	5.13	29.31	115.84	
2,437.1	4,872.00	8.5	V	5.11	34.19	47.80	6.20
2,437.1	9,746.00	6.5	V	8.30	38.89	53.69	0.31
2,462.5	2,462.50	72.7	H	5.08	29.34	107.12	
2,462.5	2,462.50	77.2	V	5.08	29.35	111.63	
2,462.5	4,926.50	7.8	H	5.15	34.46	47.41	6.59

All other measurements were greater than the 20 dB below the permissible values and are not reported.

TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

Method of Measuring Radiated Spurious Emissions



Equipment placed 80cm above ground on a rotatable platform.

METHOD OF MEASUREMENT: The procedure used was ANSI STANDARD C63.4-1992 & the FCC/OET Guidance on Measurements for Direct Sequence Spread Spectrum Systems – Public Notice 54797 and FCC 97-114. Measurements were made at the open field test site of TIMCO ENGINEERING INC. located at 849 N.W. State Road 45, Newberry, FL 32669.

TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

APPLICANT: CORINEX COMMUNICATIONS CORP.

FCC ID: QIUPOWERLINE-WLA

NAME OF TEST: RADIATED SPURIOUS EMISSIONS INTO ADJACENT RESTRICTED BAND

REQUIREMENTS: Emissions that fall in the restricted bands (15.205). These emissions must be less than or equal to 500 uV/m (54 dBuV/m).

TEST PROCEDURE: An in band field strength measurement of the fundamental Emission using the RBW and detector function required by C63.4-2000 and FCC Rules. The procedure was repeated with an average detector. The calculated field strength in the adjacent restricted band 2483.5 MHz is presented below.

```
-107.30dBm  from plot
+ 29.21 dB  ACF
+  1.1 dB   Coax loss
_____________
- 76.99 dBm
+107.00
_____________
= 30.01 dBuV/m
```

TIMCO ENGINEERING INC.

849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

APPLICANT: CORINEX COMMUNICATIONS CORP.

FCC ID: QIUPOWERLINE-WLA

NAME OF TEST: POWER SPECTRAL DENSITY

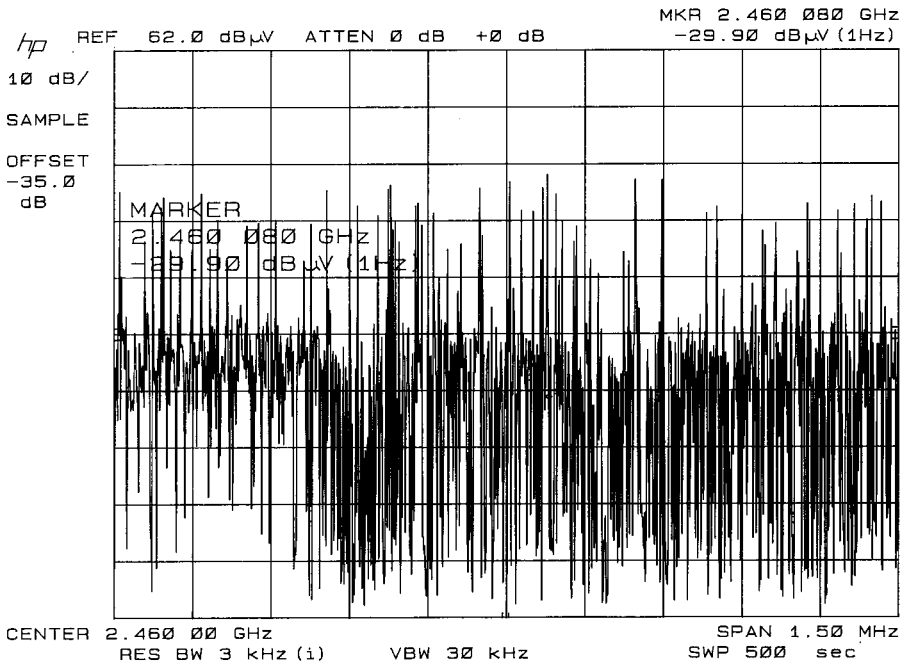
RULES PART NO.: 15.247(d)

REQUIREMENTS: The peak level measured must be no greater than +8.0dBm.

DATA: Measurements were made at Channels 1, 6, and 11. The worse case data is shown below and the plot is shown on the following page.

The level at 2460 MHz was –29.9 dBuV.

-29.9 dBuV
-107.
_____
-136.9 dBm
+53 dB Attenuation
+35 dB Correction Factor
_____
-48.9 dBm



TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

MPE Calculation

$W := 0.125$ power in Watts $D := 1$ Duty Factor in decimal % (1=100%)

$E := 30.0$ exposure time in minutes $U := 30$ (use 6 for controlled and 30 for uncontrolled)

$$Wexp := W \cdot D \cdot \left(\frac{E}{U}\right) \qquad PC := \frac{E}{U}$$

$PC = 1$ percent on time

$Wexp = 0.125$ Watts

$Po := 125$ mWatts $dBd := 0.$ antenna gain $f := 2450$ Frequency in MHz

$G := dBd + 2.15$ gain in dBi $G = 2.15$

$Gn := 10^{\frac{G}{10}}$ gain numeric $S := \frac{1.0}{1.0}$ controlled exposure

5.0 for controlled

1.0 for uncontrolled

$Gn = 1.641$ $S = 1$

$$R := \sqrt{\frac{(Po \cdot Gn)}{(4 \cdot \pi \cdot S)}} \qquad Rinches := \frac{R}{2.54}$$

$R = 4.04$ distance in centimeters required for compliance

$Rinches = 1.59$