

Test Report: 2004-080553-FCC-C

Applicant: Trapeze Networks

**Equipment Under Test:
(EUT)** 802.11b/g/a Combo Access Point

FCC ID: QZE100

In Accordance With: **FCC Part 15.247, Subpart C
Class II Permissive Change**

Tested By: Nemko San Diego Inc.

Authorized By: Chip Fleury

Date: 8/25/2004

Total Number of Pages: 23

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EQUIPMENT: QZE100

Section 1. Summary of Test Results

General

All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart C. Radiated tests were conducted in accordance with ANSI C63.4-1992. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE
TEST SPECIFICATIONS HAVE BEEN MADE.

See " Summary of Test Data".

TESTED BY: Alan Laudani_____

DATE: 8/4/2004-9/3/2004

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This report applies only to the items tested.

EQUIPMENT: QZE100

Summary Of Test Data

Name Of Test	Para. No.	Result
Powerline Conducted Emissions	15.207(a)	N/A
6dB Bandwidth	15.247(a)(2)	N/A
Peak Output Power	15.247(b)(3)	N/A
Spurious Emissions (Antenna Conducted)	15.247(c)	N/A
Spurious Emissions (Radiated)	15.247(c)	Complies
Peak Power Spectral Density	15.247(d)	N/A

Note:

- (1) This application is for a class II permissive change to this device approved under FCC ID# QZE100.
- (2) The scope of changes are as follows:
 - (a) Addition of an integral Centurion puck 3dBi antenna.
 - (b) Addition of an external 3dBi omni antenna.
 - (c) Re-layout of the PCB.
- (3) The radio circuitry and RF characteristics are unchanged from the original certification, and as such only the relevant radiated data has been provided.
- (4) The RF exposure requirements comply as per the original certification.

Test Conditions:

Outdoor Temperature: 25°C
 Humidity: 30%

EQUIPMENT: QZE100

Section 2. General Equipment Specification

Manufacturer:	Trapeze Networks
Model No.:	MP-100
Serial No.:	
Date Received In Laboratory:	12 Aug. 2004
Nemko Identification No.:	
Operating Frequency(s):	2412-2462MHz 5745-5825MHz
Rated Power (maximum):	2.4GHz Band = 19.35dBm 5GHz Band = 23.07dBm
Modulation/Access Method:	802.11b/g & 802.11a
Antenna Data:	2.4GHz, 802.11b/g (1) 3dBi Centurion Puck (integral) (2) 3dBi omni (external) 5GHz, 802.11a (1)3dBi Centurion Puck (integral)

EQUIPMENT: QZE100

Section 3. Radiated Spurious Emissions

Para. No.: 15.247 (c)

Test Performed By: Glen Westwell	Date of Test: 12 Aug. 2004
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Limit: **15.247(b)(1)**
Radiated emissions that fall in the restricted bands must comply with 15.209

Test Results: Complies

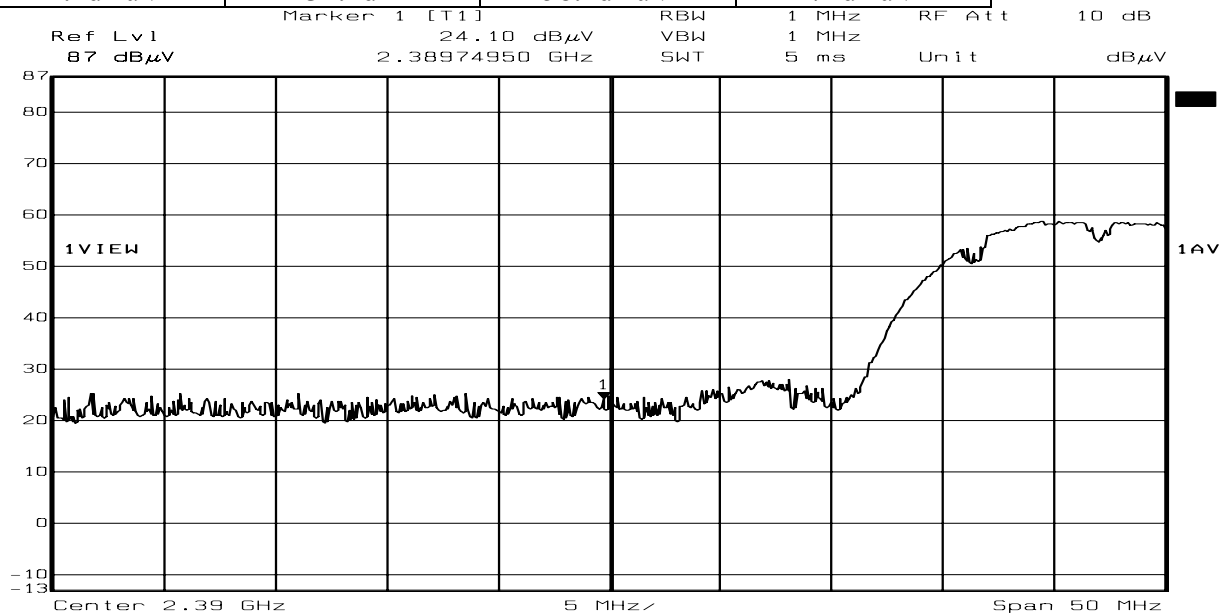
Measurement Data: See attached Plots and table.

- Emissions were searched for all possible configurations. Worst case data has been presented.
- The DUT was searched to the 10th harmonic for both the 2.4GHz & 5GHz bands. Only those emissions within 20dB of the limit were reported.
- Radiated bandedge measurements in the restricted bands were verified using both the integral and external 3dBi gain antenna where applicable.

EQUIPMENT: QZE100

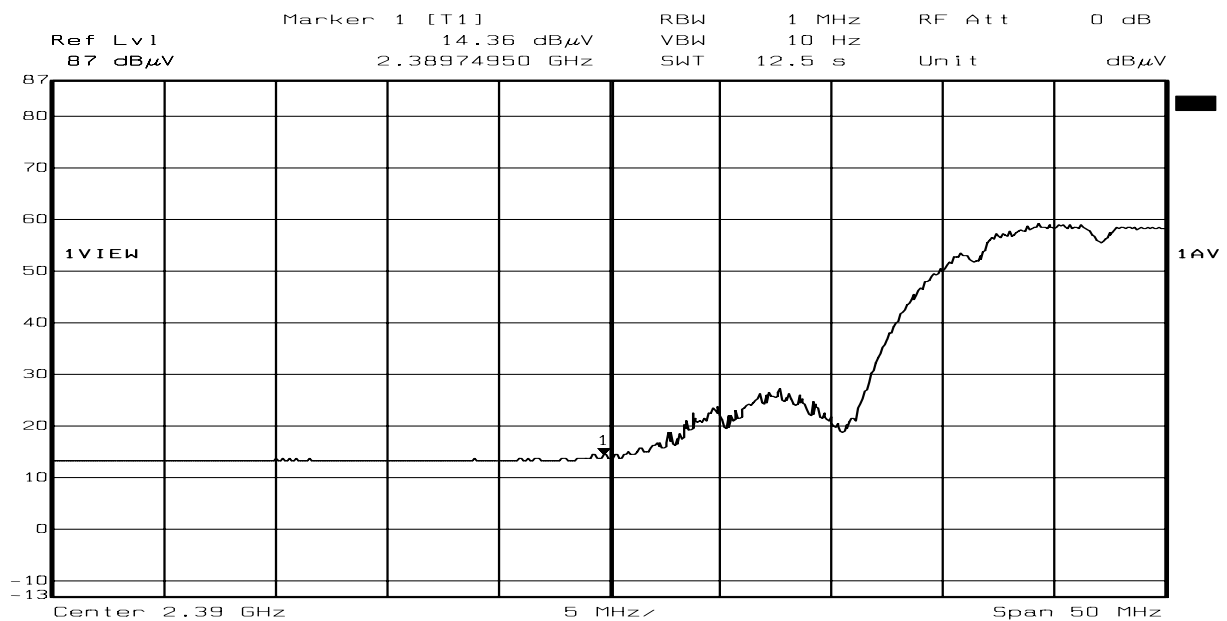
Lower Band Edge, 802.11b, Integral 3dBi puck antenna

Band Edge Level (PK)	Af	Level	Limit
24.1dBuV	34.1dB	58.2dBuV	74dBuV



Date: 12.AUG.2004 11:48:24

Band Edge Level (Avg)	Af	Level	Limit
14.4dBuV	34.1dB	48.5dBuV	54dBuV

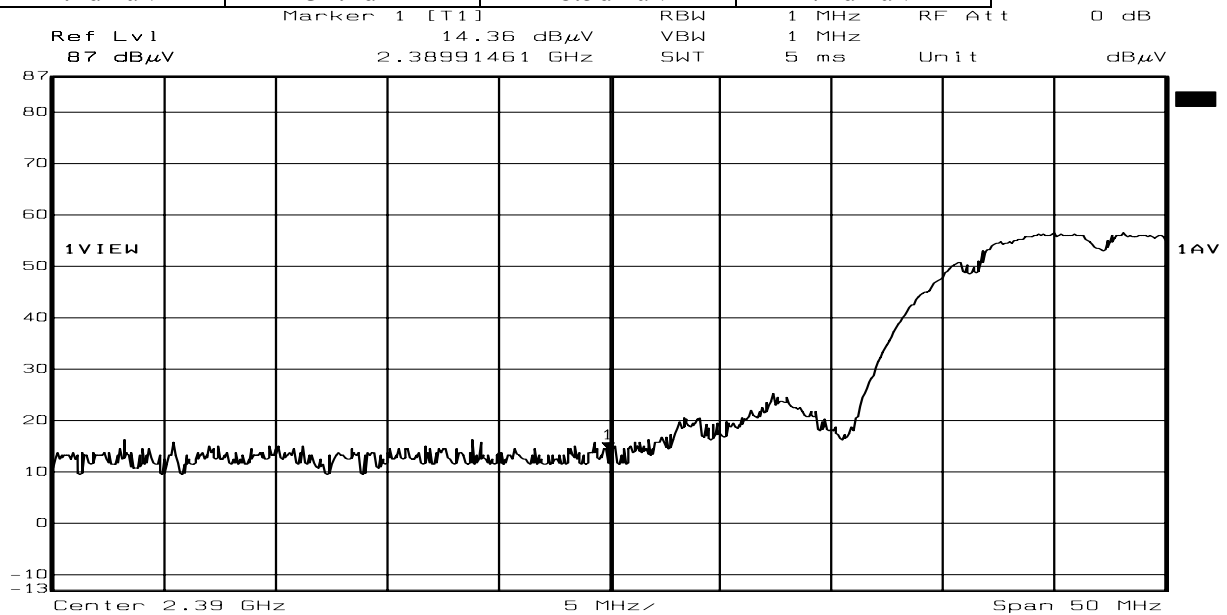


Date: 12.AUG.2004 11:57:00

EQUIPMENT: QZE100

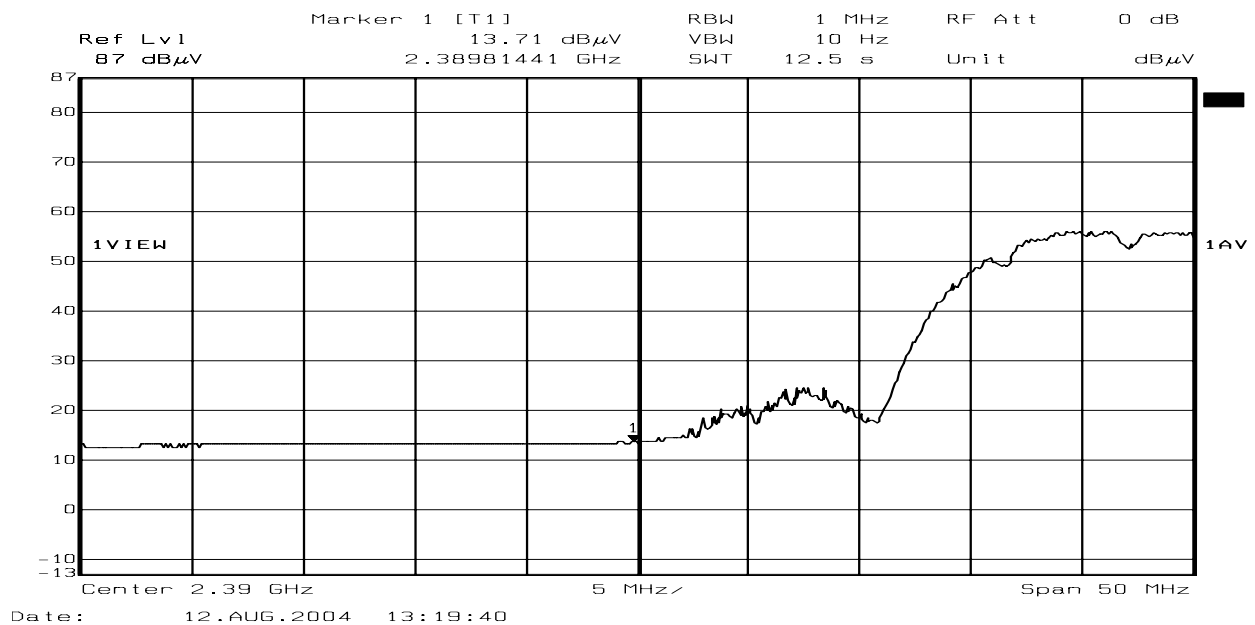
Lower Band Edge, 802.11b, External 3dBi omni antenna

Band Edge Level (PK)	Af	Level	Limit
14.4dBuV	34.1dB	48.5dBuV	74dBuV



Date: 12.AUG.2004 13:20:56

Band Edge Level (Avg)	Af	Level	Limit
13.8dBuV	34.1dB	47.9dBuV	54dBuV

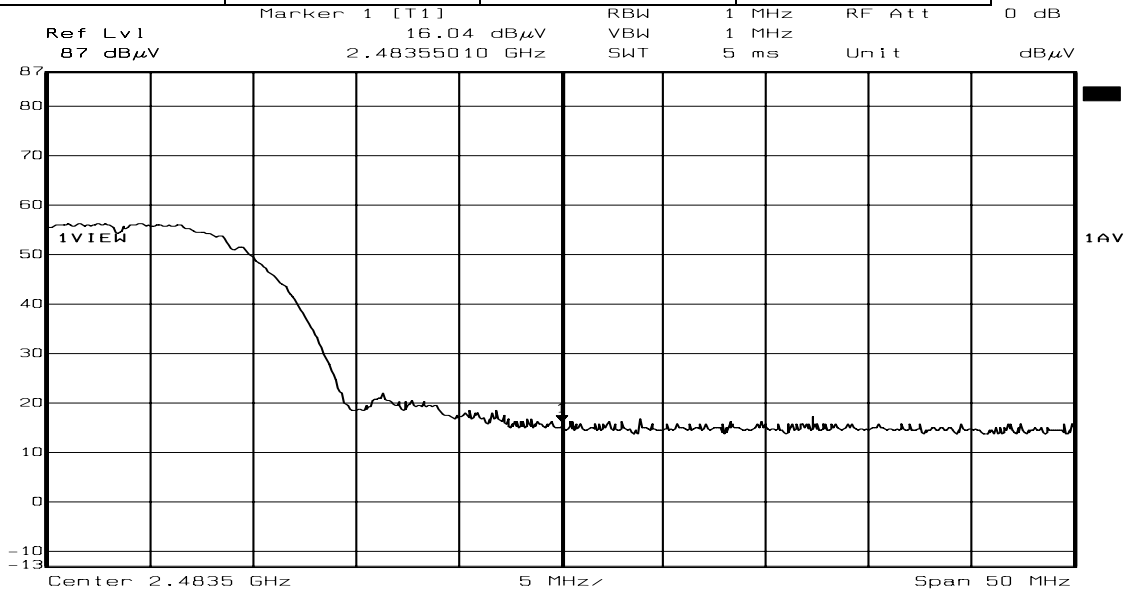


Date: 12.AUG.2004 13:19:40

EQUIPMENT: QZE100

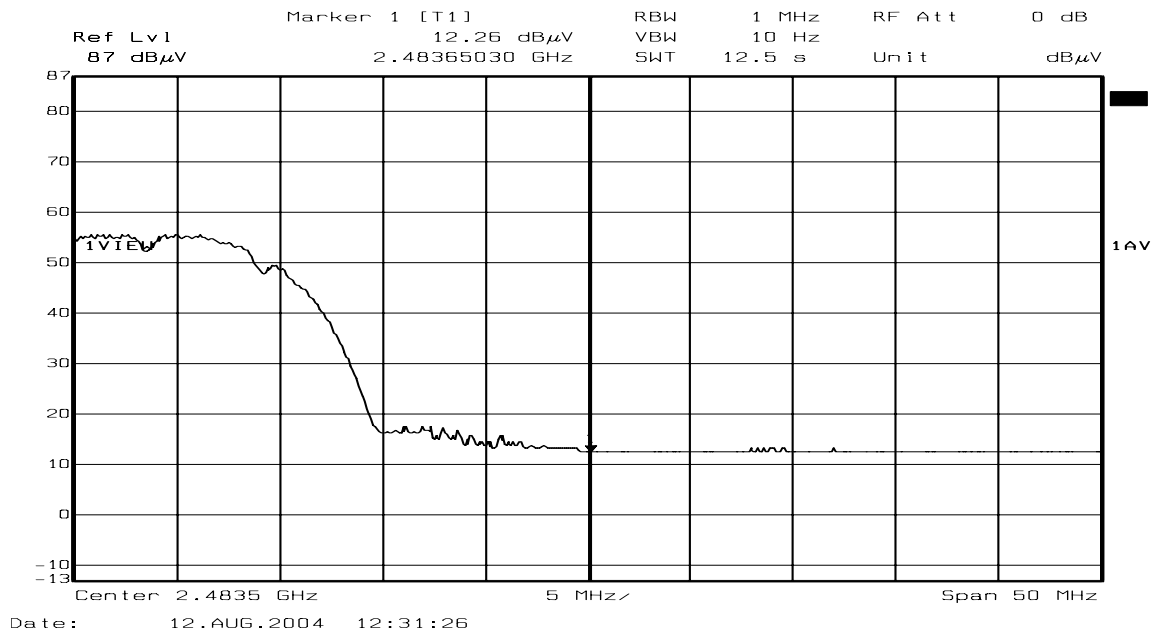
Upper Band Edge, 802.11b, Integral 3dBi puck antenna

Band Edge Level (PK)	Af	Level	Limit
16.4dBuV	34.1dB	50.5dBuV	74dBuV



Date: 12.AUG.2004 12:29:16

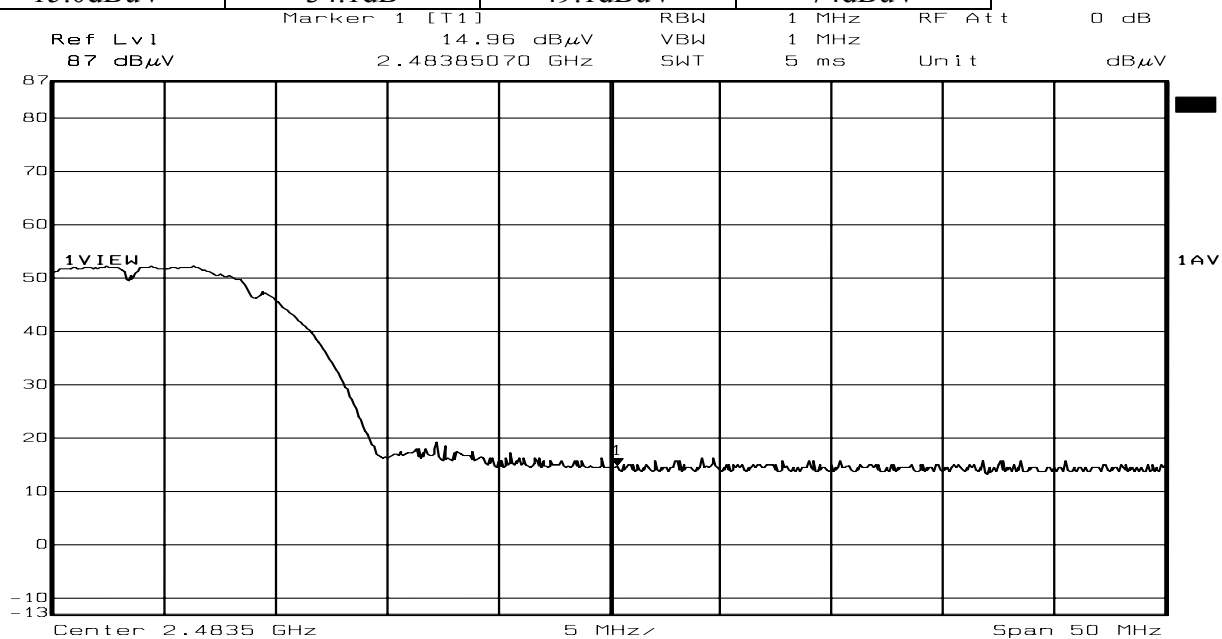
Band Edge Level (Avg)	Af	Level	Limit
12.3dBuV	34.1dB	46.4dBuV	54dBuV



EQUIPMENT: QZE100

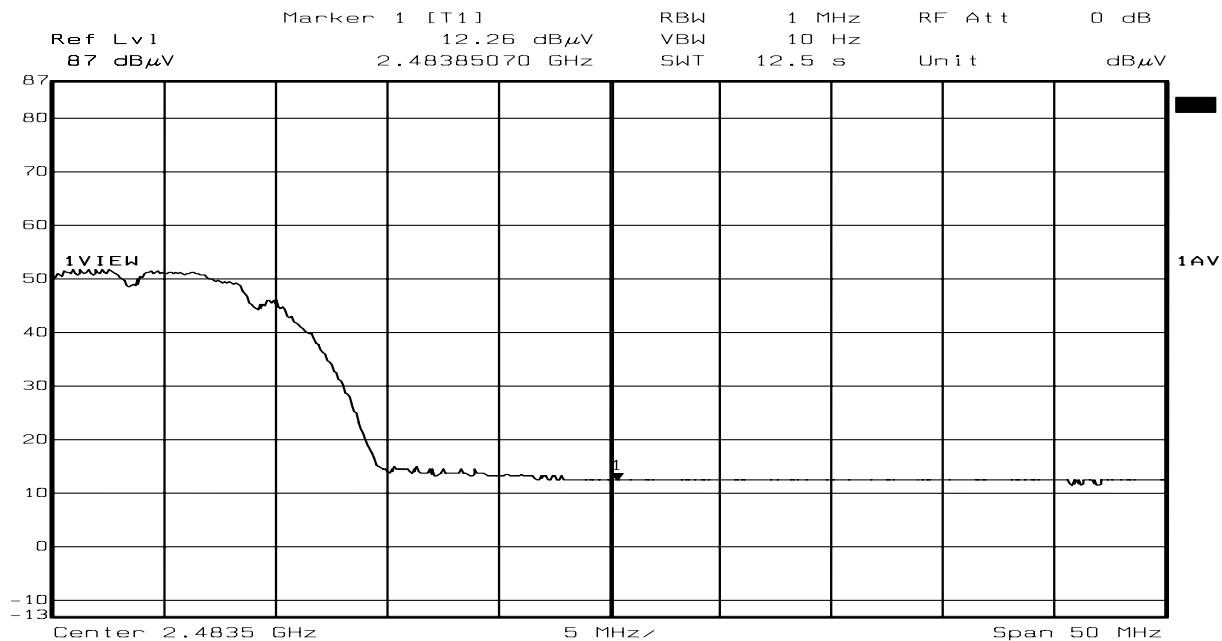
Upper Band Edge, 802.11b, External 3dBi omni antenna

Band Edge Level (PK)	Af	Level	Limit
15.0dBuV	34.1dB	49.1dBuV	74dBuV



Date: 12.AUG.2004 13:10:34

Band Edge Level (Avg)	Af	Level	Limit
12.3dBuV	34.1dB	46.4dBuV	54dBuV

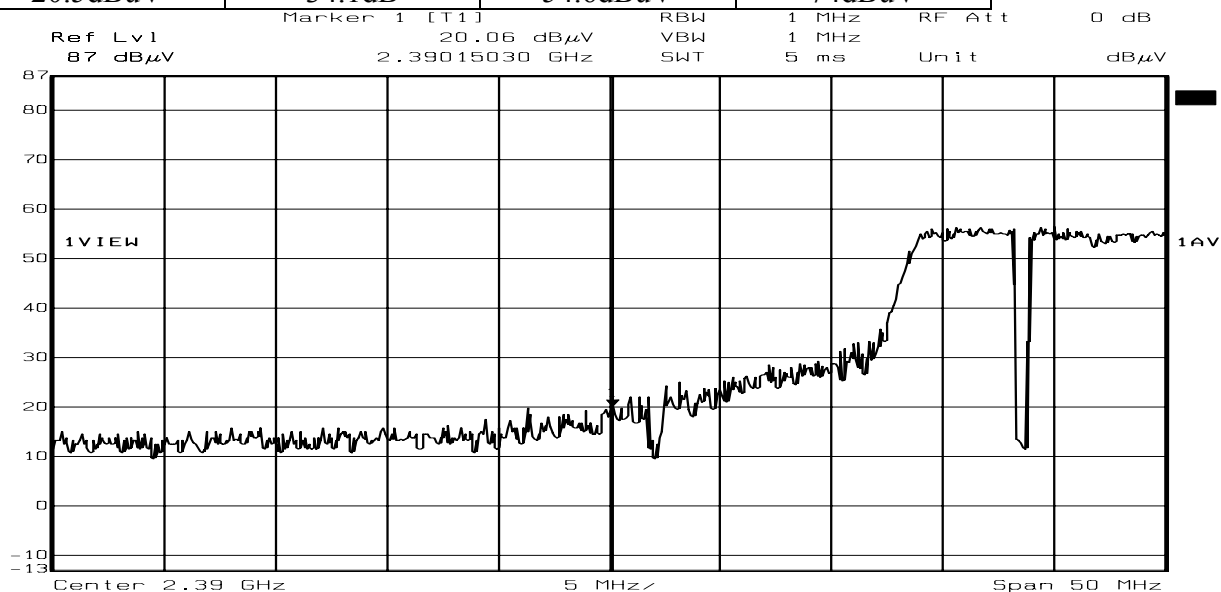


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EQUIPMENT: QZE100

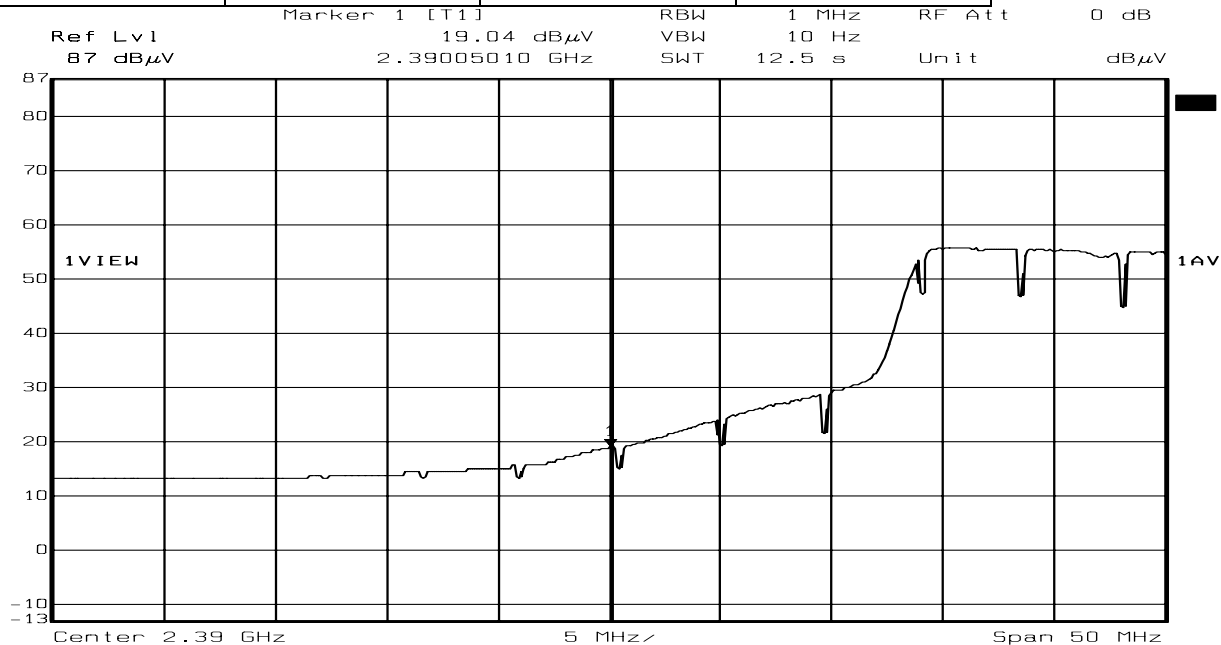
Lower Band Edge, 802.11g, Integral 3dBi puck antenna

Band Edge Level (PK)	Af	Level	Limit
20.5dBuV	34.1dB	54.6dBuV	74dBuV



Date: 12.AUG.2004 14:22:02

Band Edge Level (Avg)	Af	Level	Limit
19.0dBuV	34.1dB	53.1dBuV	54dBuV

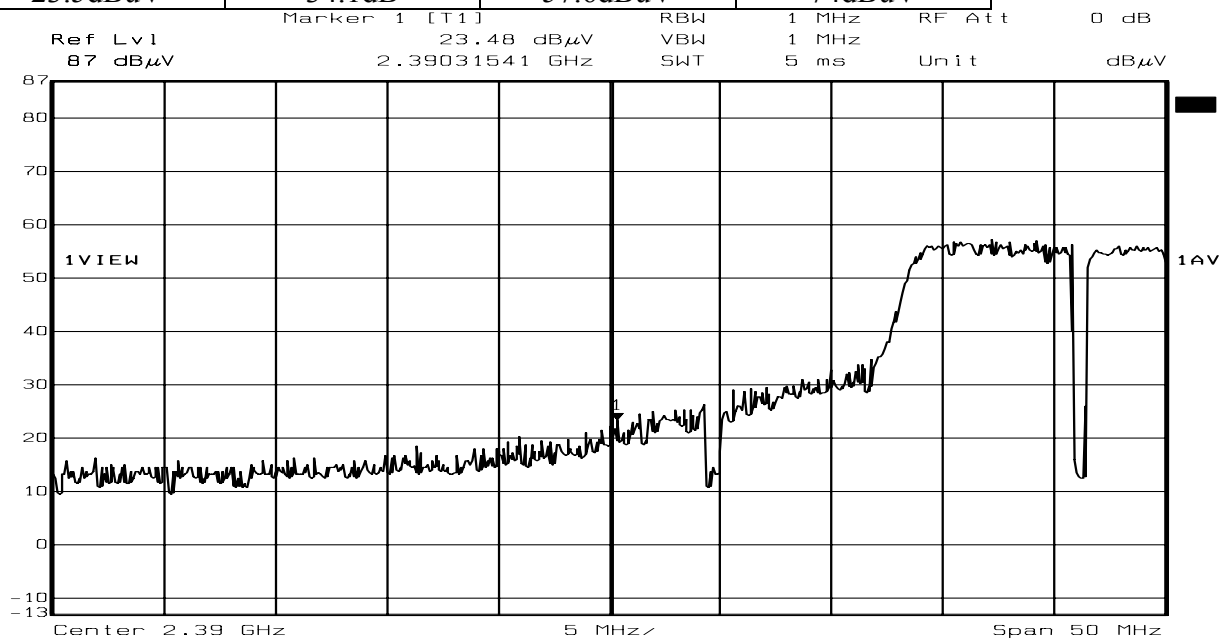


Date: 12.AUG.2004 14:23:22

EQUIPMENT: QZE100

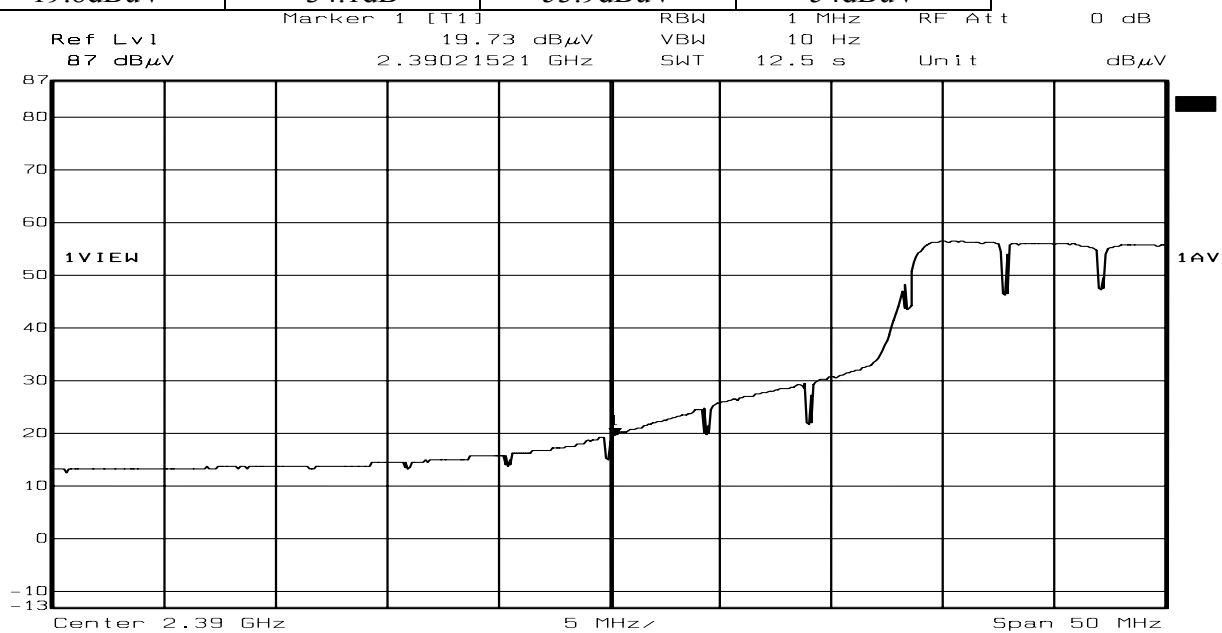
Lower Band Edge, 802.11g, External 3dBi omni antenna

Band Edge Level (PK)	Af	Level	Limit
23.5dBuV	34.1dB	57.6dBuV	74dBuV



Date: 12.AUG.2004 13:42:29

Band Edge Level (Avg)	Af	Level	Limit
19.8dBuV	34.1dB	53.9dBuV	54dBuV



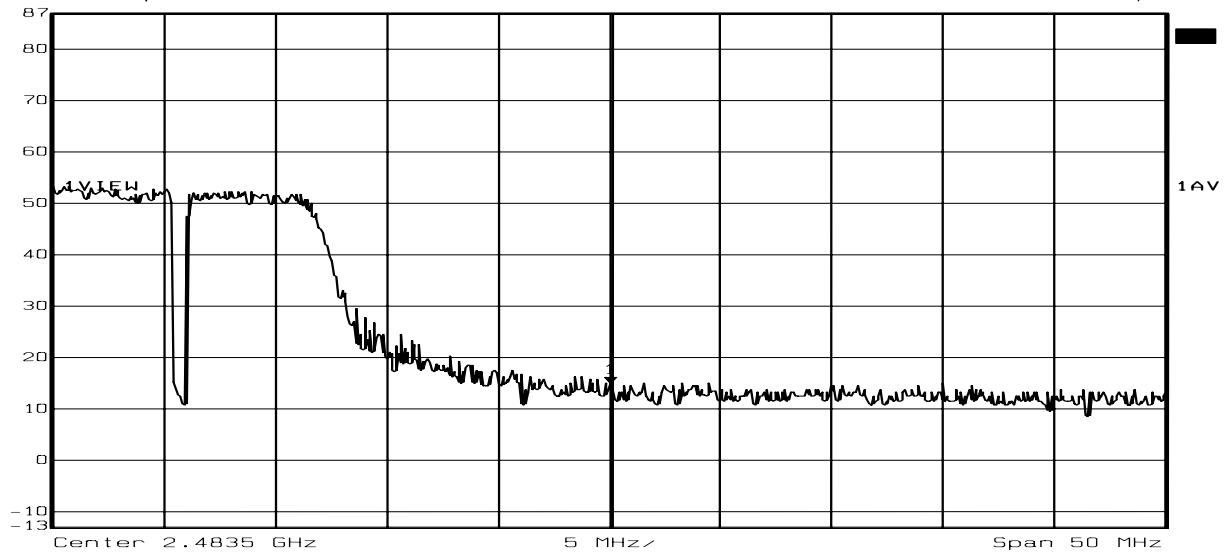
Date: 12.AUG.2004 13:44:52

EQUIPMENT: QZE100

Upper Band Edge, 802.11g, Integral 3dBi puck antenna

Band Edge Level (PK)	Af	Level	Limit
15.0dBuV	34.1dB	49.1dBuV	74dBuV

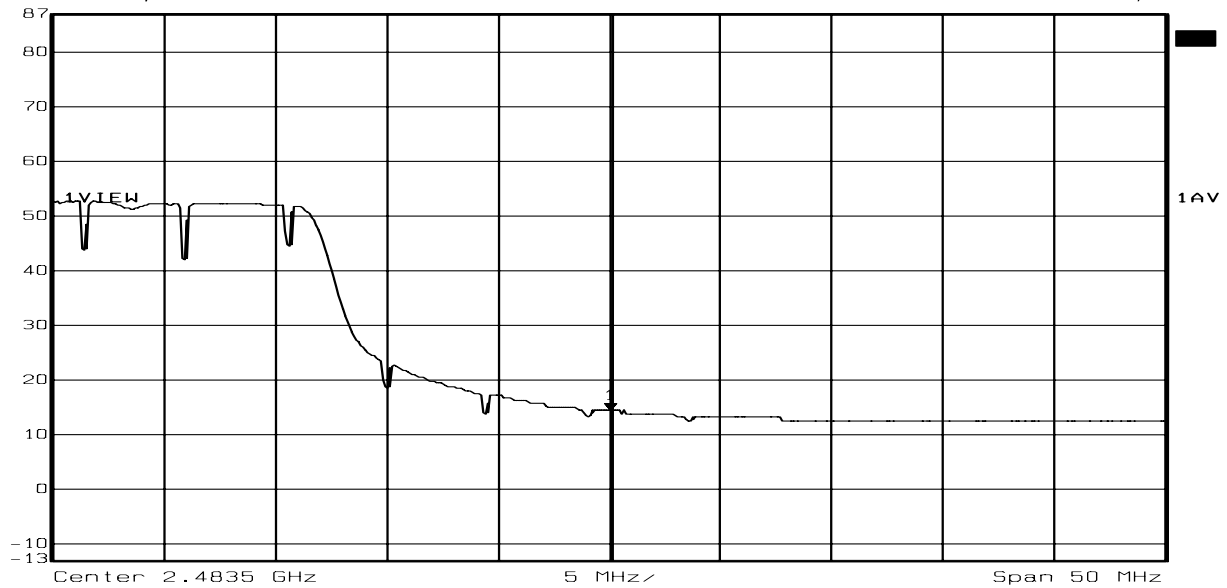
Ref Lvl 87 dB μ V Marker 1 [T1] 14.96 dB μ V RBW 1 MHz RF Att 0 dB
2.48355010 GHz VBW 1 MHz Unit dB μ V
SWT 5 ms



Date: 12.AUG.2004 14:04:43

Band Edge Level (Avg)	Af	Level	Limit
14.4dBuV	34.1dB	48.5dBuV	54dBuV

Ref Lvl 87 dB μ V Marker 1 [T1] 14.36 dB μ V RBW 1 MHz RF Att 0 dB
2.48355010 GHz VBW 10 Hz Unit dB μ V
SWT 12.5 s

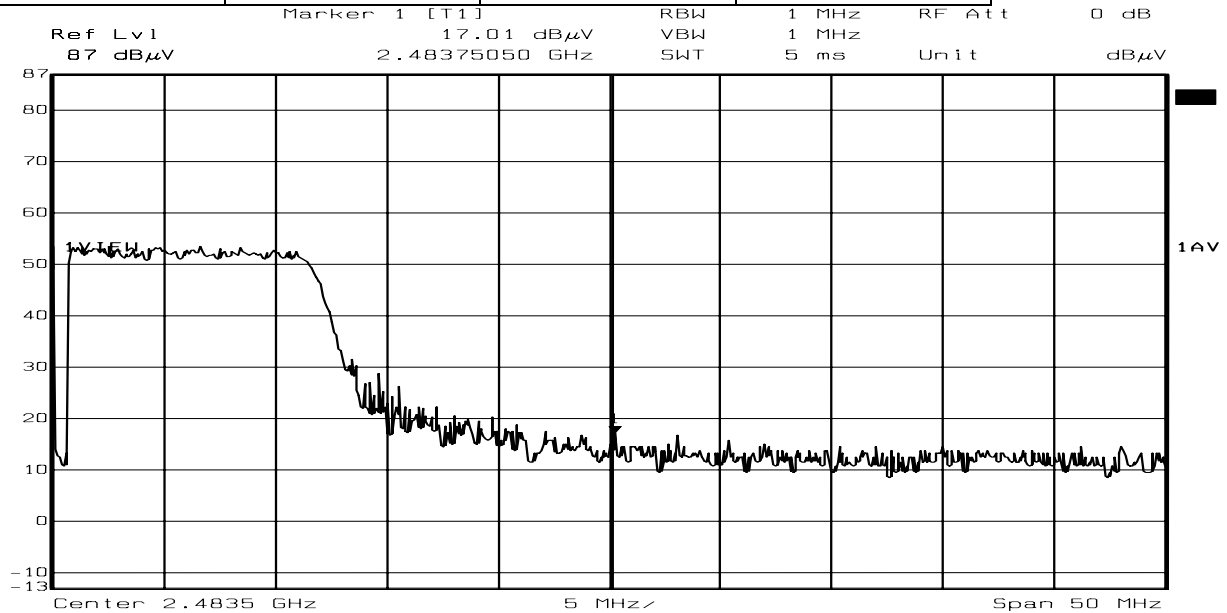


Date: 12.AUG.2004 14:07:03

EQUIPMENT: QZE100

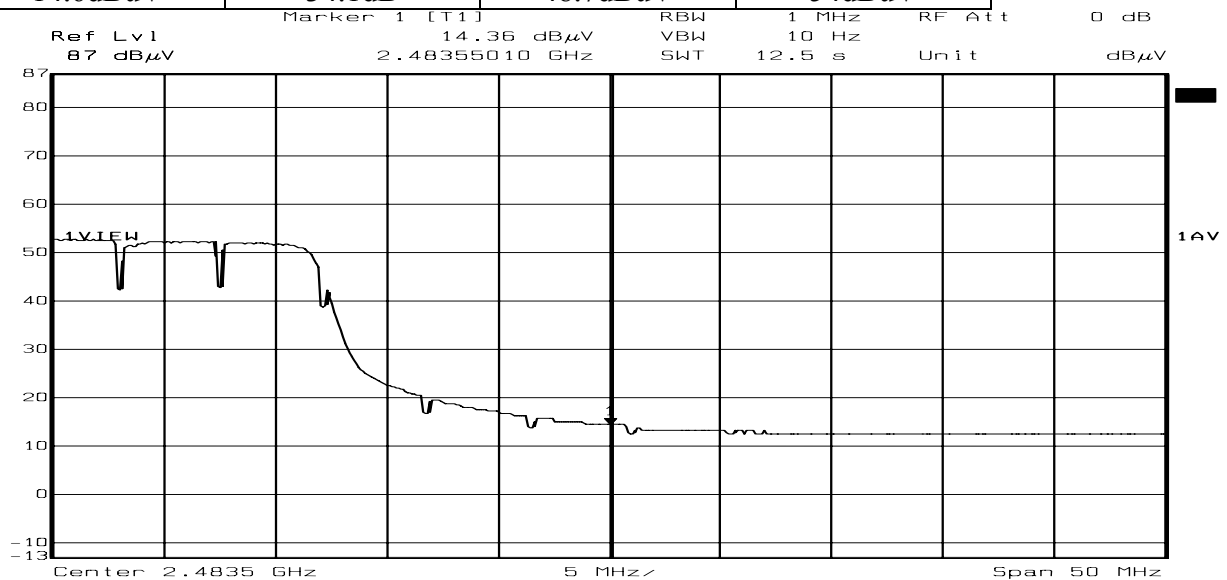
Upper Band Edge, 802.11g, External 3dBi omni antenna

Band Edge Level (PK)	Af	Level	Limit
17.0dBuV	34.1dB	51.1dBuV	74dBuV



Date: 12.AUG.2004 13:50:37

Band Edge Level (Avg)	Af	Level	Limit
14.6dBuV	34.1dB	48.7dBuV	54dBuV



Date: 12.AUG.2004 13:52:26

EQUIPMENT: QZE100



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Radiated Emissions Data

Complete	<u>Yes</u>
Preliminary	<u> </u>

Job #: 24-446-TRA Test #: 1
Page 1 of 1

Client Name : Trapeze Networks

EUT Name :	<u>Mobility Point</u>
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EUT Model # : 100

EUT Part # : _____

EUT Serial # : _____

EUT Config. : Cushcraft 3 dBi Antenna -- Power level 17

Mode B

Note: EUT was scanned for emissions from the Fundamental up to the 10th Harmonic.

Specification : FCC part 15.209, FCC 15.205

Reference : _____

Rod. Ant. #: NA Temp. (deg. C) : 24

Date : 8/24/2004

Bicon Ant.#: NA Humidity (%): 56

Time : _____

Log Ant.#: NA EUT Voltage : NA

Staff : A. Laudani

DRG Ant. # 529 EUT Frequency : NA

Photo ID: _____

Dipole Ant.#: NA Phase: NA

Peak Bandwidth: RBW-1MHz, VBW-1MHz

Cable#: 40ft Location: _____

AV Bandwidth RBW-1MHz, VBW-10Hz

Preamp#: 40db Distance: 3m

Spec An.#: NA

QP #: NA

PreSelect#:	<u>NA</u>
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Complete	<u>Yes</u>	Job # :	<u>24-446-TRA</u>	Test # : <u>2</u>
Preliminary	<u> </u>		Page <u>1</u>	of <u>1</u>
Client Name :	<u>Trapeze Networks</u>			
EUT Name :	<u>Mobility Point</u>			
EUT Model # :	<u>100</u>			
EUT Part # :	<u> </u>			
EUT Serial # :	<u> </u>			
EUT Config. :	<u>Centurian internal Antenna -- Power level 17</u>			
Note:	<u>EUT was scanned for emissions from the Fundamental up to the 10th Harmonic.</u>			
	<u>Mode B</u>			
Specification :	<u>FCC part 15.209, 15.205</u>		Reference :	<u> </u>
Rod. Ant. #:	<u>NA</u>	Temp. (deg. C) :	<u>24</u>	Date : <u>8/24/2004</u>
Bicon Ant.#:	<u>NA</u>	Humidity (%) :	<u>56</u>	Time : <u> </u>
Log Ant.#:	<u>NA</u>	EUT Voltage :	<u>NA</u>	Staff : <u>A. Laudani</u>
DRG Ant. #	<u>529</u>	EUT Frequency :	<u>NA</u>	Photo ID: <u> </u>
Dipole Ant.#:	<u>NA</u>	Phase:	<u>NA</u>	Peak Bandwidth: <u>RBW-1MHz, VBW-1MHz</u>
Cable#:	<u>40ft</u>	Location:	<u> </u>	AV Bandwidth <u>RBW-1MHz, VBW-10Hz</u>
Preamp#:	<u>40db</u>	Distance:	<u>3m</u>	
Spec An.#:	<u>NA</u>			
QP #:	<u>NA</u>			
PreSelect#:	<u>NA</u>			

[illegible]

EQUIPMENT: QZE100



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Radiated Emissions Data

Complete	<u>Yes</u>
Preliminary	<u> </u>

Job #: 24-446-TRA Test #: 3
Page 1 of 1

Client Name :	Trapeze Networks			Reference :	
EUT Name :	Mobility Point			Date :	8/24/2004
EUT Model # :	100			Time :	
EUT Part # :				Staff :	A. Laudani
EUT Serial # :				Photo ID:	
EUT Config. :	Centurian internal Antenna -- Power level 15			Peak Bandwidth:	RBW-1MHz, VBW-1MHz
EUT Config. :	Mode G			AV Bandwidth	RBW-1MHz, VBW-10Hz
Note:	EUT was scanned for emissions from the Fundamental up to the 10th Harmonic.				
Specification :	FCC part 15.209, 15.205				
Rod. Ant. #:	NA	Temp. (deg. C) :	24		
Bicon Ant.#:	NA	Humidity (%) :	56		
Log Ant.#:	NA	EUT Voltage :	NA		
DRG Ant. #	529	EUT Frequency :	NA		
Dipole Ant.#:	NA	Phase:	NA		
Cable#:	40ft	Location:	SOATS		
Preamp#:	40db	Distance:	3m		
Spec An.#:	NA				
QP #:	NA				
PreSelect#:	NA				

[illegible]

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Complete	<u>Yes</u>	Job # :	<u>24-446-TRA</u>	Test # :	<u>6</u>
Preliminary	<u> </u>		Page <u>1</u>	of	<u>1</u>
Client Name :	<u>Trapeze Networks</u>				
EUT Name :	<u>Mobility Point</u>				
EUT Model # :	<u>100</u>				
EUT Part # :	<u> </u>				
EUT Serial # :	<u> </u>				
EUT Config. :	<u>Emissions found from ch. 64, power level 14, channels 36, 48, 64 searched.</u>				
	<u>Mode A</u>				
Note:	<u>EUT was scanned for emissions from the Fundamental up to the 10th Harmonic.</u>				
Specification :	<u>FCC part 15.209, 15.247</u>				
Rod. Ant. #:	<u>NA</u>	Temp. (deg. C) :	<u>24</u>	Reference :	<u> </u>
Bicon Ant.#:	<u>NA</u>	Humidity (%) :	<u>56</u>	Date :	<u>9/3/2004</u>
Log Ant.#:	<u>NA</u>	EUT Voltage :	<u>NA</u>	Time :	<u> </u>
DRG Ant. #	<u>529</u>	EUT Frequency :	<u>NA</u>	Staff :	<u>A. Laudani</u>
Dipole Ant.#:	<u>NA</u>	Phase:	<u>NA</u>	Photo ID:	<u> </u>
Cable#:	<u>20ft</u>	Location:	<u>SOATS</u>	Peak Bandwidth:	<u>RBW-1MHz, VBW-1MHz</u>
Preamp#:	<u>40db</u>	Distance:	<u>3m</u>	AV Bandwidth	<u>RBW-1MHz, VBW-10Hz</u>
Spec An.#:	<u>NA</u>				
QP #:	<u>NA</u>				
PreSelect#:	<u>NA</u>				

[illegible]

EQUIPMENT: QZE100

Radiated Emissions set up photos

1. Integral 3dBi Puck Antenna



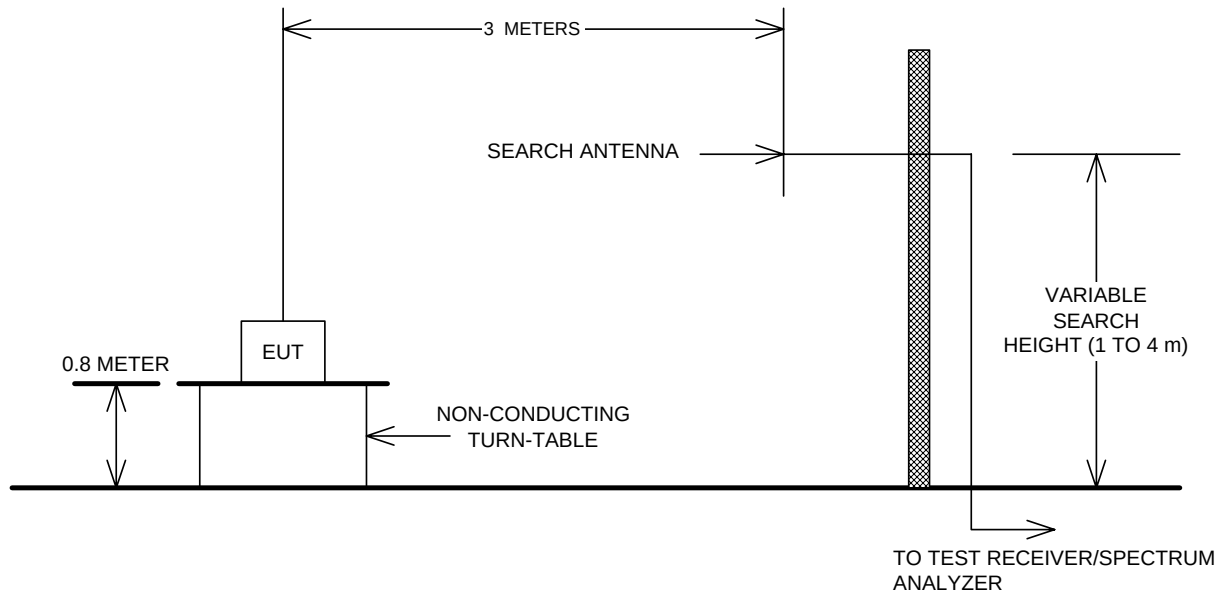
EQUIPMENT: QZE100

2. External 3dBi Omni Antenna.



Section 4. Block Diagrams

Test Site For Radiated Emissions



EQUIPMENT: QZE100

Section 5. Test Equipment List

Radiated Emissions Test Equipment					
Client	Error! Cannot open file.		EUT Name	Error! Cannot open file.	
PAN #	Error! Reference source not found.		EUT Model	Error! Cannot open file.	
<i>Device Type</i>	<i>Model #</i>	<i>MFG</i>	<i>Asset #</i>	<i>SN</i>	<i>Cal Due</i>
OATS #1 (North)					
Spectrum Analyzer	1088.3494.30	R & S	835	830320/002	12/11/04
Antenna, Ridged Guide	3115	EMCO	529	2505	3/30/04
Antenna, Ridged Guide	3116	EMCO	625	9611-2325	1-12-05
Preamplifier	40 dB	Miteq	171	NA	NCR
4 GHz High Pass Filter	9SH10-4000	K&L	NA	55	NCR

NA: Not Applicable
 NCR: No Cal Required
 COU: CAL On Use