# **MEASUREMENT/TECHNICAL REPORT**

# Company - Model: Zebra Technologies 2400 Wireless 2.4Ghz transmitter FCC ID: I28MD-TRCV-24GHZ September 28, 2000

Description: This is a report to support a request for an original grant of equipment authorization.

Equipment Type: Low Power Communications Device Transmitter (DXX)

Report prepared for:

Zebra Technologies 30 Plan Way Warwick, RI 02886-1012 Phone: (401) 739-5800 Fax: (401) 732-0145

Report prepared by:

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# Introduction

This report is an application for Certification of a Modular Transmitter operating pursuant to Part 15.249 of the FCC Rules, Code of Federal Regulations 47. The model number covered by this report is the Zebra Technologies 2400 Wireless. This report is designed to demonstrate the compliance of this device with the requirements outlined in Part 15 of CFR 47 using the methods outlined in Part 2 of CFR 47. The current revision date, October 1,1998, of each Part has been used for technical requirements.

The transmitter module under test is used in conjunction with five different antennas. Through pre-scan testing it was determined that the Encore 3 printer configuration is the worst case configuration. So a full scan was done on the Encore 3 printer configuration from 30Mhz to 25Ghz. Then all the emissions that were within 10dB of the limit in the Encore 3 printer configuration were rechecked in all the other products with their appropriate antennas. A fresh battery was used for each configuration.

This Short-Range Radio Frequency (SRRF) transceiver module is used in conjunction with Manchester Encoding of the digital data that it transmits. Manchester Encoding is required for optimum operation of the RF Monolithics TR-1000 transceiver IC that is used in this design. Manchester encoding ensures a 50% ones density in the data stream by converting each bit into two bits, one of which is a 1 and the other a 0.

This radio uses ON-OFF keying modulation. The transmitter (carrier) is on when the radio is transmitting a 1 and off when the radio is transmitting a 0. Combining the modulation scheme with the Manchester Encoding, the transmitter will only be on 50% of the time during any transmission.

According to 47 CRF Part 15.35, we are allowed to average our transmission over a pulse train up to 100 milliseconds in length. The averaging factor is based on the 50% on time of the transmitter:  $20 \log (.5) = -6.02 \text{ dB}$ 

All intentional emissions from the transmitter will be averaged with this factor.

The confidential information and descriptions included in this application are detailed descriptions of the products, block diagrams, component specifications, and schematic diagrams. We hereby respectfully request under the provision of section 0.457d of the code that the documents listed below be held confidential.

Exhibit 6.1: Technical Descriptions and Block Diagrams

Exhibit 6.2: Schematics

Exhibit 6.3: Bill of Materials

Zebra Technologies is requesting that the Technical Descriptions, Block Diagrams, Schematics

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and Bill of Materials be kept confidential in the FCC application because of the proprietary design developed by Zebra Technologies that is unique to the industry.

FCC ID: I28MD-TRCV-24GHZ is a modular low power radio transceiver designed to operate according to FCC Rules Part 15.249. The following steps have been taken to insure that I28MD-TRCV-24GHZ (referred to below as "the module") meets the FCC requirements for a modular approval; The module is completely shielded. Only the connectors are exposed. The TXDATA input is buffered on the module itself. Input voltage variations on TXDATA will not effect the modulation or the transmitter output power. The module has it's own on-board 3-volt regulator. All RF circuitry operates from the 3 volts. Fluctuations in the 5-volt supply to the module will not effect the modulation or the transmitter output power. The antenna connector used on the module has only one manufacturer and is not readily available. We have used the same connector on previous modular approvals and the FCC has considered it a non-standard connector. In addition, the module will only be used in devices with internal antennas of the type specified in the application. These internal antennas require complete disassembly of the unit to access and are not user serviceable or user replaceable. Therefore the antenna system meets the requirements of Section 15.203. The module was tested in a stand-alone configuration but using a family of antennas that included all of the antenna configurations that the module will see in production. Each module will be labeled with the FCC ID# and warning message as shown on the AA15642-1 drawing which is included with this application.

Printer Name	Part Number of Antenna
Encore 3	CQ151817-1
Encore 2 Plus	CQ15470-1
Cameo 3	CQ15352-1
Cameo 2	CQ13283-1
Dome Antenna	BL13978-1

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# 1.0 Statement of Conformity

The Zebra Technologies 2400 Wireless has been found to conform with the following parts of the 47 CFR as detailed below:

Part 2	Part 15	Comments
	15.15(b)	The product contains no user accessible controls that increase transmission power above allowable levels.
2.925	15.19	The label is shown in the label exhibit.
	15.21	Information to the user is shown in the instruction manual exhibit.
	15.27	No special accessories are required for compliance.
	15.203	The antenna connector used on the module has only one manufacturer and is not readily available.
	15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209.
	15.207	The unit is battery powered without the capability of being recharged or operated from the AC mains.
	15.249(a)	The unit complies with the field strength limits of the 15.249(a) table including the 20dB peak restriction of 15.35(b) and 15.249(d).
	15.249(c)	The unit complies with the field strength limits of the 15.209(a) table.

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## 2.0 General Description

2.1 Product Description

*Unit Tested* Model Number: 2400 Wireless Serial Number: unit #5

2.2 Related Submittal(s) Grants

There are no other approvals required for this device.

#### 2.3 Test Methodology

Radiated emission testing was performed according to the procedures in ANSI C63.4 (1992). Radiated testing was performed at an antenna to EUT distance of 3 meters below 1 GHz, and at distances of 3 meter(s) and 1 meter above 1 GHz. The actual test distance used is noted in the test data sheets. The device's performance was investigated to 25GHz.

All other performance tests were made in accordance with the procedures outlined in Part 15 of CFR 47 with the expansion noted below. The applicable sections provided under Part 15 are provided in the measurement section of this report.

### 2.4 Test Facility

### Curtis-Straus LLC

All testing was performed at Curtis-Straus (A2LA Certificate Number: 1627-01). The open area test site used to collect the radiated data is located at 527 Great Road, Littleton, MA 01460. Site "M" was used.

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## 2.5 Test Equipment Used

S	SPECTRUM ANALYZERS										
Χ	Analyzer	Model No.	Company	Serial No.	Calibration Due						
х	<b>WHITE</b> 9kHz-22GHz	8593E	HP	3547U01252	24-APR-2001						
Х	<b>GREEN</b> 9kHz-26.5GHz	8593E	HP	3829A03618	04-OCT-2000						
Х	ORANGE 9kHz-26.5GHz	E4407B	HP	US39440975	05-MAY-2001						

0	OPEN AREA TEST SITES (OATS)									
Χ	Site	FCC Code	IC Code	VCCI Code	Calibration Due					
X	" <b>M</b> " Maine	93448	IC 2762-M	R-904/ C-480	22-MAY-2001					

A	NTENNAS				
Х	Antenna	Model No.	Company	Serial No.	Calibration Due
х	GREEN-WHITE Bilog: 30MHz-2GHz	CBL6112B	Chase	2574	11-JUN-2001
x	BLACK Horn: 1-18GHz	3115	EMCO	9703-5148	31-MAY-2001
X	WHITE Std Gain Horn: 18-26.5GHz	3160-09	EMCO	9610-1068	10-MAY-2001

Ρ	REAMPLIFIERS				
Χ	Preamplifier	Model No.	Company	Serial No.	Calibration Due
x	<b>BLACK</b> 0.01-2000MHz	ZFL-1000-LN	MiniCircuits/ C-S	n/a	01-MAR-2001
Х	Yellow-Black 1-20GHz	SMC-12A	MITEQ	535055	17-OCT-2000
Х	<b>YELLOW</b> 18-26.5GHz	AFS4-18002650- 60-8P-4	MITEQ	467559	28-AUG-2001

Μ	METEOROLOGICAL METERS										
Χ	Meter	Model No.	Company	Serial No.	Calibration Due						
x	TEMPERATURE /HUMIDITY GAUGE	TH300	Dickson	9044101	27-MAR-2001						
x	ATMOSPHERIC PRESSURE GAUGE	BA928	Oregon Scientific	C3166-1	21-AUG-2000						

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TRACEABLE CLOCKS									
Х	Clock	Model No.	Company	Serial No.	Calibration Due				
x	5003	5003	Control Company	99026940	16-NOV-2000				

Unless otherwise noted the calibration interval is one year. All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

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# **EXHIBIT 3**

### 3.0 Measurement Results

3.1 Operating Frequency

This device operates at 2482.0 MHz.

### 3.2 Electric Field Strength Radiation Measurements

		sions	able									Curtis-Sti	raus LL		
Date:	01-Aug-00			Compar	ny: Zebra	Technolog	gies					Table			
Engineer:	Chad A. Be	11		EUT Des	sc: 2.4Gh	z transmitte	er with 6 a	antennaes			w	ork Order:	EA0975		
	Eroqui	ency Range	30-1000	Mbz					Ma	asurement	Dictorio	2 m			
Neter	-								INIE						
Notes:	Encore 3 pr	printer with CQ151817-1 with antenna EUT									Max Freq: 2482Mhz				
Antenna			Preamp	np Antenna Cable Ad		e Adjuste	ed					FCC Class B			
Polarization	Frequency	Reading	Factor	Factor	Facto	r Reading	g Lir	nit M	argin	Result	Limit	Margin	Result		
(H / V)	(MHz)	(dBµV)	(dB)	(dB/m)	(dB)	(dBµV/m	n) (dBµ	V/m)	(dB)	(Pass/Fail)	(dBµV/m)	(dB)	(Pass/Fa		
Н	434.08	31.6	22.4	16.3	2.5	28.0		-			46.0	-18.0	Pass		
Н	868.17	29.8	21.7	20.4	4.0	32.5		-			46.0	-13.5	Pass		
Table	e Result:	Pass	by	-13	.5 dB					Wor	st Freq:	868.17	MHz		
Test Site:	"M"	Pre-Amp	Black	Cab	le: 65 ft F	RG8A/U	Ana	vzer: Gree	en en		Antenna: (	Grn-Wht			
TOOL ONC.	101	i të Allip	. Didok	Oub	ie. 00 m		74114				Antonna. (				
adiate	d Emiss	ions Ta	ble									Curtis-St	traus Ll		
Date: (	01-Aug-00		Co	ompany: Z	Zebra Tec	hnologies						Table			
	Chad A. Bell					nsmitter with	h 6 antenn	aes				Work Order:	: EA0975		
J		Danga.								Measureme	nt Distance				
		ncy Range:	-									-			
	Encore 3 print	er with CQ1	51817-1 an	tenna						EU	T Max Freq	: 2482Mnz			
Notes.															
Antenna			Preamp	Antenna	Cable [	Duty Cycle	Adjusted					FCC Class	В		
Antenna Polarization	Frequency	Reading	Factor	Factor	Factor	Factor	Reading	Limit	Margin	Result	Limit	Margin	Resul		
Antenna Polarization (H / V)	(MHz)	(dBµV)	Factor (dB)	Factor (dB/m)	Factor (dB)	Factor (dB)	Reading (dBµV/m)	Limit (dBµV/m)	-	Result (Pass/Fail)	(dBµV/m)	Margin (dB)	Resul (Pass/F		
Antenna Polarization (H / V) H	(MHz) 1613.88	(dBµV) 39.6	Factor (dB) 19.4	Factor (dB/m) 27.7	Factor (dB) 1.1	Factor (dB) 6.0	Reading (dBµV/m) 43.0	(dBµV/m) 	Margin (dB)	(Pass/Fail)	(dBµV/m) 54.0	Margin (dB) -11.0	Resul (Pass/F Pass		
Antenna Polarization (H / V) H H	(MHz) 1613.88 2337.2	(dBµV) 39.6 37.2	Factor (dB) 19.4 20.5	Factor (dB/m) 27.7 30.5	Factor (dB) 1.1 1.1	Factor (dB) 6.0 6.0	Reading (dBµV/m) 43.0 42.3	(dBµV/m) 	Margin (dB) 	(Pass/Fail)	(dBµV/m) 54.0 54.0	Margin (dB) -11.0 -11.7	Resul (Pass/F Pass Pass		
Antenna Polarization (H / V) H H H	(MHz) 1613.88 2337.2 2470.6	(dBµV) 39.6 37.2 40.3	Factor (dB) 19.4 20.5 20.5	Factor (dB/m) 27.7 30.5 30.9	Factor (dB) 1.1 1.1 1.2	Factor (dB) 6.0 6.0 6.0 6.0	Reading (dBμV/m) 43.0 42.3 45.9	(dBµV/m)  	Margin (dB)  	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0	Margin (dB) -11.0 -11.7 -8.1	Resul (Pass/F Pass Pass Pass		
Antenna Polarization (H / V) H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0	(dBµV) 39.6 37.2 40.3 42.0	Factor (dB) 19.4 20.5 20.5 20.5	Factor (dB/m) 27.7 30.5 30.9 30.9	Factor (dB) 1.1 1.1 1.2 1.2	Factor (dB) 6.0 6.0 6.0 6.0 6.0	Reading (dBμV/m) 43.0 42.3 45.9 47.6	(dBµV/m)   	Margin (dB)   	(Pass/Fail)   	(dBµV/m) 54.0 54.0 54.0 54.0 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4	Resul (Pass/F Pass Pass Pass Pass		
Antenna Polarization (H / V) H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0	(dBµV) 39.6 37.2 40.3 42.0 85.3	Factor (dB) 19.4 20.5 20.5 20.5 20.5 20.5	Factor (dB/m) 27.7 30.5 30.9 30.9 30.9 30.9	Factor (dB) 1.1 1.2 1.2 1.2 1.2	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBμV/m) 43.0 42.3 45.9 47.6 90.9	(dBµV/m)  	Margin (dB)  	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 54.0 93.97	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07	Resul (Pass/F Pass Pass Pass Pass Pass		
Antenna Polarization (H / V) H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2486.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6	Factor (dB) 19.4 20.5 20.5 20.5 20.5 20.5 20.5	Factor   (dB/m)   27.7   30.5   30.9   30.9   30.9   30.9   30.9   30.9   30.9	Factor   (dB)   1.1   1.2   1.2   1.2   1.2   1.2   1.2	Factor (dB) 6.0 6.0 6.0 6.0 6.0 6.0 6.0	Reading (dBμV/m) 43.0 42.3 45.9 47.6 90.9 46.3	(dBµV/m)   	Margin (dB)   	(Pass/Fail)   	(dBµV/m) 54.0 54.0 54.0 54.0 93.97 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7	Resul (Pass/F Pass Pass Pass Pass Pass Pass		
Antenna Polarization (H / V) H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0	(dBµV) 39.6 37.2 40.3 42.0 85.3	Factor (dB) 19.4 20.5 20.5 20.5 20.5 20.5	Factor   (dB/m)   27.7   30.5   30.9   30.9   30.9   30.9   30.9   31.0	Factor (dB) 1.1 1.2 1.2 1.2 1.2	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBμV/m) 43.0 42.3 45.9 47.6 90.9	(dBµV/m)   	Margin (dB)   	(Pass/Fail)    	(dBµV/m) 54.0 54.0 54.0 54.0 93.97	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07	Resul (Pass/F Pass Pass Pass Pass Pass Pass		
Antenna Polarization (H / V) H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2486.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6	Factor (dB) 19.4 20.5 20.5 20.5 20.5 20.5 20.5	Factor   (dB/m)   27.7   30.5   30.9   30.9   30.9   30.9   30.9   30.9   30.9	Factor   (dB)   1.1   1.2   1.2   1.2   1.2   1.2   1.2	Factor (dB) 6.0 6.0 6.0 6.0 6.0 6.0 6.0	Reading (dBμV/m) 43.0 42.3 45.9 47.6 90.9 46.3	(dBµV/m)    	Margin (dB)    	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 54.0 93.97 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7	Resu (Pass/F Pass Pass Pass Pass Pass Pass Pass		
Antenna Polarization (H / V) H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2486.0 2493.25	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4	Factor (dB) 19.4 20.5 20.5 20.5 20.5 20.5 20.5 20.5	Factor   (dB/m)   27.7   30.5   30.9   30.9   30.9   30.9   30.9   31.0	Factor   (dB)   1.1   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2	Factor (dB) 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	Reading (dBµV/m) 43.0 42.3 45.9 47.6 90.9 46.3 45.1	(dBµV/m)      	Margin (dB)     	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 54.0 93.97 54.0 54.0 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Polarization (H / V) H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2486.0 2493.25 2638.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8	Factor   (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5	Factor   (dB/m)   27.7   30.5   30.9   30.9   30.9   30.9   31.0   31.4	Factor   (dB)   1.1   1.2	Factor (dB)   6.0 6	Reading   (dBμV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.9	(dBµV/m)      	Margin (dB)      	(Pass/Fail)	(dBμV/m) 54.0 54.0 54.0 93.97 54.0 54.0 54.0 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Polarization (H / V) H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2486.0 2493.25 2638.0 3072.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9	Factor   (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5	Factor   (dB/m)   27.7   30.5   30.9   30.9   30.9   31.0   31.4   32.5	Factor   (dB)   1.1   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBμV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.9   48.1	(dBµV/m)      	Margin (dB)      	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 93.97 54.0 54.0 54.0 54.0 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Polarization (H / V) H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2486.0 2493.25 2638.0 3072.0 3662.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3	Factor   (dB)   19.4   20.5	Factor   (dB/m)   27.7   30.5   30.9   30.9   30.9   31.0   31.4   32.5   33.8	Factor (dB)   1.1   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.3	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBμV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.9   48.1   41.6	(dBµV/m)       	Margin (dB)	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 54.0 93.97 54.0 54.0 54.0 54.0 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Polarization (H / V) H H H H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2486.0 2493.25 2638.0 3072.0 3662.0 4096.0 4530.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1	Factor   (dB)   19.4   20.5   20.7	Factor   (dB/m)   27.7   30.5   30.9   30.9   31.0   31.4   32.5   33.8   34.9   34.8	Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Factor (dB)   6.0	Reading   (dBμV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.9   48.1   41.6   51.5   46.7	(dBµV/m)        	Margin (dB)         	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 93.97 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5	Resu (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Polarization (H / V) H H H H H H H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2486.0 2493.25 2638.0 3072.0 3662.0 4096.0 4530.0 4685.8	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 33.9	Factor (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.7   20.8   20.7   20.6	Factor (dB/m) 27.7 30.5 30.9 30.9 31.0 31.0 31.0 31.4 32.5 33.8 34.9 34.8 35.2	Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBμV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.9   48.1   41.6   51.5   46.7   44.0	(dBµV/m)        	Margin (dB)         	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 93.97 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0	Resu (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Polarization (H / V) H H H H H H H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2486.0 2486.0 2493.25 2638.0 3072.0 3072.0 3662.0 4096.0 4530.0 4685.8 4964.2	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 33.9 35.7	Factor   (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.6   20.7   20.6   20.7   20.6   20.5	Factor (dB/m) 27.7 30.5 30.9 30.9 30.9 31.0 31.0 31.4 32.5 33.8 34.9 34.8 34.9 34.8 35.2 35.9	Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBµV/m) 43.0 42.3 45.9 47.6 90.9 46.3 45.1 42.9 48.1 41.6 51.5 46.7 44.0 46.7	(dBµV/m)         	Margin (dB)          -	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 93.97 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Ivlarization (H / V) H H H H H H H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2486.0 2483.25 2638.0 3072.0 3062.0 4096.0 4530.0 4685.8 4964.2 5709.6	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 33.9 35.7 29.9	Factor (dB)   19.4   20.5   20.7   20.6   20.7   20.6   20.5   20.7   20.6   20.7   20.6   20.7   20.6	Factor (dB/m) 27.7 30.5 30.9 30.9 31.0 31.0 31.4 32.5 33.8 33.8 33.8 34.9 34.8 35.2 35.9 37.0	Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Factor (dB) Factor   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBµV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.9   48.1   41.6   51.5   46.7   42.6	(dBµV/m)         	Margin (dB)          -	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 93.97 54.0 5	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3 -11.4	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna totarization (H / V) H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2486.0 2493.25 2638.0 3072.0 3662.0 4096.0 4050.0 4685.8 4964.2 5709.6 6144.1	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 33.9 35.7 29.9 30.0	Factor (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.6   20.7   20.6   20.7   20.6   20.7   20.6   20.7   19.8	Factor (dB/m) 27.7 30.5 30.9 30.9 31.0 31.0 31.4 32.5 33.8 34.9 34.8 35.2 35.9 37.0 37.1	Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Factor (dB)   6.0	Reading (dBμV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.9   48.1   41.6   51.5   46.7   42.6   43.1	(dBµV/m)	Margin (dB)          -	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3 -11.4 -10.9	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Polarization (H / V) H H H H H H H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2493.25 2638.0 3072.0 3662.0 4096.0 4096.0 4096.0 4096.0 4530.0 4685.8 4964.2 5709.6 6144.1 6578.1	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 33.9 35.7 29.9	Factor (dB)   19.4   20.5   20.7   20.6   20.7   20.6   20.5   20.7   20.6   20.7   20.6   20.7   20.6	Factor (dB/m) 27.7 30.5 30.9 30.9 31.0 31.0 31.4 32.5 33.8 33.8 33.8 34.9 34.8 35.2 35.9 37.0	Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Factor (dB) Factor   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBµV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.9   48.1   41.6   51.5   46.7   42.6	(dBµV/m)         	Margin (dB)          -	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 93.97 54.0 5	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3 -11.4	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Polarization (H / V) H H H H H H H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2488.0 2483.25 2638.0 3072.0 3662.0 4096.0 4530.0 4685.8 4964.2 5709.6 6144.1 6578.1 n	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 33.9 35.7 29.9 30.0 31.0	Factor (dB)   19.4   20.5   20.7   20.6   20.7   20.6   20.7   20.6   20.7   20.6   20.7   20.6   20.7   20.6   20.7   20.8   20.9   20.0   19.8   19.7	Factor (dB/m) 27.7 30.5 30.9 30.9 31.0 31.0 31.0 31.4 32.5 33.8 34.9 34.8 35.2 35.9 37.0 37.1 37.4	Factor (dB) Image: Constraint of the second se	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBμV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.9   48.1   41.6   51.5   46.7   42.6   43.1   44.5	(dBµV/m)	Margin (dB)          -	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 54.0 93.97 54.0 5	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3 -11.4 -10.9 -9.5	Resul (Pass/F) Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Polarization (H / V) H H H H H H H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2482.0 2482.0 2483.25 2638.0 3072.0 3662.0 4096.0 4053.0 4685.8 4964.2 5709.6 6144.1 6578.1 7 7446.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 37.1 33.9 35.7 29.9 30.0 31.0 31.5	Factor (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.6   20.7   20.6   20.7   20.6   20.7   20.6   20.7   20.6   20.7   20.6   19.8   19.7   19.2	Factor (dB/m)   27.7   30.5   30.9   31.0   31.4   32.5   33.8   34.9   34.8   35.2   35.9   37.0   37.1   37.4   39.1	Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Factor (dB)   6.0	Reading (dBμV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.9   42.9   48.1   41.6   51.5   46.7   42.9   48.1   41.6   51.5   46.7   42.6   43.1   44.5   43.1   44.5	(dBµV/m)	Margin (dB)          -	(Pass/Fail)	(dBµV/m) 54.0 54	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3 -11.4 -10.9 -9.5 -16.2	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna *olarization (H / V) H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2493.25 2638.0 3072.0 3662.0 4096.0 4530.0 4685.8 4964.2 5709.6 6144.1 6578.1 n 7446.0 9928.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 33.9 35.7 29.9 30.0 31.0 31.5 28.9	Factor (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.6   20.7   20.6   20.5   20.8   20.7   20.6   20.5   20.6   19.8   19.7   19.2   17.9	Factor ((dB/m))   27.7   30.5   30.9   30.9   31.0   31.0   31.0   31.0   34.9   35.2   35.9   37.0   37.1   37.4   39.1   40.7	Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Factor (dB)   6.0	Reading (dBµV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.9   48.1   41.6   51.5   46.7   44.0   46.7   42.6   43.1   44.5   43.1   44.5   43.1   44.5   43.1   44.5	(dBµV/m)	Margin (dB)         	(Pass/Fail)	(dBµV/m) 54.0 54	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3 -10.0 -7.3 -11.4 -10.9 -9.5 -16.2 -15.5	Result (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Polarization (H / V) H H H H H H H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2486.0 2493.25 2638.0 3072.0 3072.0 3662.0 4096.0 4096.0 4096.0 4096.0 4096.2 5709.6 6144.1 6578.1 7446.0 9928.0 12410.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 33.9 35.7 29.9 30.0 31.5 28.9 27.9	Factor (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.6   20.9   20.7   20.6   20.5   20.6   20.7   19.8   19.7   19.2   17.9   18.3	Factor (dB/m)   27.7   30.5   30.9   30.9   31.0   31.0   31.4   32.5   33.8   34.9   34.8   35.9   37.0   37.1   37.4   39.1   40.7   41.2	Factor (dB)   1.1   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.3   1.4   1.5   1.6   1.7   1.8   1.9   2.3   2.5	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBµV/m) 43.0 42.3 45.9 47.6 90.9 46.3 45.1 42.9 46.3 45.1 42.9 48.1 41.6 51.5 46.7 44.0 46.7 42.6 43.1 44.5 44.5 47.3 48.0 47.3	(dBµV/m)	Margin (dB)          -	(Pass/Fail)	(dBµV/m) 54.0 54	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3 -10.0 -7.3 -10.0 -9.5 -16.2 -15.5 -16.2	Result (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna (H / V) H H H H H H H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2482.0 2482.0 2483.0 3072.0 3662.0 4096.0 4530.0 4685.8 4964.2 5709.6 6144.1 6578.1 7446.0 9928.0 12410.0 14862.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 37.1 37.1 37.9 35.7 29.9 30.0 31.0 31.5 28.9 27.9 30.0	Factor (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.6   20.7   20.6   20.7   20.6   20.7   20.6   20.7   20.7   20.7   20.7   19.8   19.7   18.3   19.4	Factor (dB/m)   27.7   30.5   30.9   30.9   31.0   31.4   32.5   33.8   34.8   35.2   35.9   37.0   37.1   37.4   39.1   40.7   41.2   42.9	Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBμV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.2   48.1   41.6   51.5   46.7   42.6   43.1   44.6   44.7   44.7   47.3   48.0   47.3   50.3	(dBµV/m)	Margin (dB)          -	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 93.97 54.0 5	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3 -11.4 -10.9 -9.5 -16.2 -15.5 -16.2 -13.2	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna 'olarization (H / V) H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2486.0 2493.25 2638.0 3072.0 3072.0 3662.0 4096.0 4096.0 4096.0 4096.0 4096.2 5709.6 6144.1 6578.1 7446.0 9928.0 12410.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 33.9 35.7 29.9 30.0 31.5 28.9 27.9	Factor (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.6   20.9   20.7   20.6   20.5   20.6   20.7   19.8   19.7   19.2   17.9   18.3	Factor (dB/m)   27.7   30.5   30.9   30.9   31.0   31.0   31.4   32.5   33.8   34.9   34.8   35.9   37.0   37.1   37.4   39.1   40.7   41.2	Factor (dB)   1.1   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.2   1.3   1.4   1.5   1.6   1.7   1.8   1.9   2.3   2.5	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBµV/m) 43.0 42.3 45.9 47.6 90.9 46.3 45.1 42.9 46.3 45.1 42.9 48.1 41.6 51.5 46.7 44.0 46.7 42.6 43.1 44.5 44.5 47.3 48.0 47.3	(dBµV/m)	Margin (dB)          -	(Pass/Fail)	(dBµV/m) 54.0 54	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3 -10.0 -7.3 -10.0 -9.5 -16.2 -15.5 -16.2	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		
Antenna Iolarization (H / V) H H H H H H H H H H H H H H H H H H H	(MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2482.0 2482.0 2482.0 2483.0 3072.0 3662.0 4096.0 4530.0 4685.8 4964.2 5709.6 6144.1 6578.1 7446.0 9928.0 12410.0 14862.0	(dBµV) 39.6 37.2 40.3 42.0 85.3 40.6 39.4 36.8 34.9 33.3 36.1 37.1 37.1 37.1 37.9 35.7 29.9 30.0 31.0 31.5 28.9 27.9 30.0	Factor (dB)   19.4   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.5   20.6   20.7   20.6   20.7   20.6   20.7   20.6   20.7   20.7   20.7   20.7   19.8   19.7   18.3   19.4	Factor (dB/m)   27.7   30.5   30.9   30.9   31.0   31.4   32.5   33.8   34.8   35.2   35.9   37.0   37.1   37.4   39.1   40.7   41.2   42.9	Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Factor (dB)   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0   6.0 6.0	Reading (dBμV/m)   43.0   42.3   45.9   47.6   90.9   46.3   45.1   42.2   48.1   41.6   51.5   46.7   42.6   43.1   44.6   44.7   44.7   47.3   48.0   47.3   50.3	(dBµV/m)	Margin (dB)          -	(Pass/Fail)	(dBµV/m) 54.0 54.0 54.0 93.97 54.0 54.5 5	Margin (dB) -11.0 -11.7 -8.1 -6.4 -3.07 -7.7 -8.9 -11.1 -5.9 -12.4 -2.5 -7.3 -10.0 -7.3 -11.4 -10.9 -9.5 -16.2 -15.5 -16.2 -13.2 -12.5	Resul (Pass/F Pass Pass Pass Pass Pass Pass Pass Pas		

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28-Sept-00

Pass

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	ed Emiss	sions la	able									Curtis-St	Tausel				
Date:	01-Aug-00			Company:	Zebra T	echnologies						Table	3				
Engineer:	Chad A. Bell		I	EUT Desc:	2.4Ghz	transmitter w	ith 6 antenn	aes			Work Order: EA0975						
	Freque	ency Range:	18-25Gh	z						Measuremer	nt Distance:	1 m					
Notes:	Encore 3 prin	ter with CQ1	51817-1 a	antenna						EU.	EUT Max Freq: 2482Mhz						
Antenna			Preamp	Antenna	Cable	Duty Cycle	rcle Adjusted FCC Cla			FCC Class B							
Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Factor (dB/m)	Factor (dB)	Factor (dB)	Reading (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fa				
Н	19856.0	30.3	21.4	40.3	3.3	6.0	46.5				63.5	-17.0	Pass				
н	22338.0	29.7	21.9	40.4	3.5	6.0	45.7				63.5	-17.8	Pass				
Н	24820.0	30.2	22.6	40.4	3.7	6.0	45.7				63.5	-17.8	Pass				
Table	e Result:	Pass	by	-17.0	dB					Wa	orst Freq:	19856.0	MHz				
Test Site:	"M"	Pre-Amp:	HE	Cable:	3m Suco	oflex		Analyzer:	Orange		Antenna:	High F Horr	<b>1</b>				
	d Emiss	sions Ta		Company:	Zebra T	echnologies						Curtis-St Table					
Date:		sions Ta				echnologies transmitter w	ith 6 antenn	aes			v		4				
Date:	01-Aug-00 Chad A. Bell	sions Ta				0	ith 6 antenn	aes		Measuremer	V nt Distance:	Table Vork Order:	4				
Date: Engineer: Notes:	01-Aug-00 Chad A. Bell	ency Range: s printer with	1-7Ghz CQ15470	EUT Desc:	2.4Ghz i	transmitter w					-	Table Vork Order: 3 m	4				
Date: Engineer: Notes:	01-Aug-00 Chad A. Bell Freque Encore 2 plus	ency Range: s printer with	1-7Ghz CQ15470	EUT Desc:	2.4Ghz i	transmitter w					nt Distance: T Max Freq:	Table Vork Order: 3 m	4 EA0975				
Date: Engineer: Notes: echecking : Antenna Polarization	01-Aug-00 Chad A. Bell Freque Encore 2 plu: all emissions Frequency	ency Range: s printer with that were wit Reading	1-7Ghz CQ15470 hin 10dB i Preamp Factor	EUT Desc: -1-1 antenni in the Enco Antenna Factor	2.4Ghz na re 3 (white Cable Factor	transmitter w ch was detern Duty Cycle Factor	mined to be Adjusted Reading	the worst ca	ise)  Margin	EU <sup>-</sup> Result	nt Distance: T Max Freq:	Table Vork Order: 3 m 2482Mhz FCC Class I Margin	4 EA0975 3 Result				
Date: Engineer: Notes: echecking : Antenna Polarization (H / V)	01-Aug-00 Chad A. Bell Freque Encore 2 plus all emissions Frequency (MHz)	ency Range: s printer with that were wit Reading (dBµV)	1-7Ghz CQ15470 hin 10dB i Preamp Factor (dB)	EUT Desc: -1-1 antenni in the Enco Antenna Factor (dB/m)	2.4Ghz i na re 3 (whie Factor (dB)	ch was detern Duty Cycle Factor (dB)	nined to be Adjusted Reading (dBµV/m)	the worst ca	ise) 	EU.	T Distance: T Max Freq: Limit (dBµV/m)	Table Vork Order: 3 m 2482Mhz FCC Class I Margin (dB)	4 EA0975 3 Result (Pass/Fa				
Date: Engineer: Notes: echecking : Antenna Polarization (H / V) H	01-Aug-00 Chad A. Bell Encore 2 plus all emissions Frequency (MHz) 1613.88	ency Range: s printer with that were wit Reading (dBµV) 35.4	1-7Ghz CQ15470 hin 10dB i Preamp Factor (dB) 19.4	EUT Desc: )-1-1 anteni in the Enco Antenna Factor (dB/m) 27.7	2.4Ghz i na re 3 (white Factor (dB) 1.1	ch was detern Duty Cycle Factor (dB) 6.0	mined to be Adjusted Reading (dBµV/m) 38.8	the worst ca Limit (dBµV/m)	 Margin (dB) 	EU <sup>*</sup> Result (Pass/Fail)	Limit (dBµV/m) 54.0	Table Vork Order: 3 m 2482Mhz FCC Class F Margin (dB) -15.2	4 EA0975 3 Result (Pass/Fa Pass				
Date: Engineer: Notes: echecking : Antenna Polarization (H / V) H H	01-Aug-00 Chad A. Bell Encore 2 plu: all emissions Frequency (MHz) 1613.88 2337.2	ency Range: s printer with that were with (dBµV) 35.4 33.8	1-7Ghz CQ15470 hin 10dB i Preamp Factor (dB) 19.4 20.5	EUT Desc: -1-1 antenni in the Enco Antenna Factor (dB/m) 27.7 30.5	2.4Ghz i na re 3 (white Factor (dB) 1.1 1.1	transmitter w ch was detern Duty Cycle Factor (dB) 6.0 6.0	mined to be Adjusted Reading (dBμV/m) 38.8 38.9	the worst ca Limit (dBµV/m)	 Margin (dB)  	EU Result (Pass/Fail)  	Limit (dBµV/m) 54.0 54.0	Table Vork Order: 3 m 2482Mhz FCC Class I Margin (dB) -15.2 -15.1	4 EA0975 3 Result (Pass/Fa Pass Pass				
Date: Engineer: echecking : Antenna Polarization (H / V) H H H	01-Aug-00 Chad A. Bell Freque Encore 2 plu all emissions Frequency (MH2) 1613.88 2337.2 2470.6	rncy Range: s printer with that were with (dBµV) 35.4 33.8 39.1	1-7Ghz CQ15470 hin 10dB i <b>Preamp</b> Factor (dB) 19.4 20.5 20.5	EUT Desc: -1-1 antenni in the Enco Antenna Factor (dB/m) 27.7 30.5 30.9	2.4Ghz 1 na re 3 (whie Factor (dB) 1.1 1.1 1.2	transmitter w ch was detern Duty Cycle Factor (dB) 6.0 6.0 6.0 6.0	Mined to be Adjusted Reading (dBμV/m) 38.8 38.9 44.7	the worst ca Limit (dBµV/m)  	 Margin (dB)  	EU Result (Pass/Fail)   	T Max Freq: Limit (dBµV/m) 54.0 54.0 54.0 54.0	Table   Vork Order:   3 m   2482Mhz   FCC Class I   Margin (dB)   -15.2   -15.1   -9.3	4 EA0975 <b>3</b> Result (Pass/Fa Pass Pass Pass				
Date: Engineer: echecking : Antenna Polarization (H / V) H H H H H	01-Aug-00 Chad A. Bell Freque Encore 2 plu- all emissions Frequency (MHz) 1613.88 2337.2 2470.6 2478.0	Reading (dBµV) 35.4 33.8 39.1 41.0	1-7Ghz CQ15470 hin 10dB i Factor (dB) 19.4 20.5 20.5 20.5	EUT Desc: )-1-1 antenni in the Enco Antenna Factor (dB/m) 27.7 30.5 30.9 30.9	2.4Ghz re 3 (whin Cable Factor (dB) 1.1 1.2 1.2	transmitter w ch was deterr Duty Cycle Factor (dB) 6.0 6.0 6.0 6.0 6.0	Mined to be Adjusted Reading (dBμV/m) 38.8 38.9 44.7 46.6	the worst ca Limit (dBµV/m)	se) Margin (dB)   	EU" Result (Pass/Fail)   	Limit (dBμV/m) 54.0 54.0 54.0 54.0	Table   Vork Order:   3 m   2482Mhz   FCC Class I   Margin (dB)   -15.2   -15.1   -9.3   -7.4	4 EA0975 <b>B</b> Result (Pass/Fa Pass Pass Pass Pass Pass				
Date: Engineer: Notes: echecking : Antenna Polarization (H / V) H H H H H H	01-Aug-00 Chad A. Bell Freque Encore 2 plu: all emissions Frequency (MHz) 1613.88 2337.2 2470.6 2478.0 2482.0	ency Range: s printer with that were wit (dBµV) 35.4 33.8 39.1 41.0 83.7	1-7Ghz CQ1547( hin 10dB i Preamp Factor (dB) 19.4 20.5 20.5 20.5 20.5	EUT Desc: -1-1 antenni in the Enco Antenna Factor (dB/m) 27.7 30.5 30.9 30.9 30.9 30.9	2.4Ghz : na re 3 (white Factor (dB) 1.1 1.2 1.2 1.2	transmitter w ch was detern Duty Cycle Factor (dB) 6.0 6.0 6.0 6.0 6.0 6.0	mined to be Adjusted Reading (dBμV/m) 38.8 38.9 44.7 46.6 89.3	the worst ca Limit (dBµV/m)   	se) Margin (dB)   	EU" <u>Result</u> (Pass/Fail)    	Limit (dBμV/m) 54.0 54.0 54.0 54.0 54.0 93.97	Table   Vork Order:   3 m   2482Mhz   FCC Class I   Margin (dB)   -15.2   -15.1   -9.3   -7.4   -4.67	4 EA0975 3 Result (Pass/Fa Pass Pass Pass Pass Pass Pass				
Date: Engineer: Notes: echecking olarization (H / V) H H H H H H H H H H	01-Aug-00 Chad A. Bell Freque Encore 2 plu all emissions Frequency (MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2486.0	ency Range: s printer with that were with (dBμV) 35.4 33.8 39.1 41.0 83.7 40.6	1-7Ghz CQ1547( hin 10dB i Preamp Factor (dB) 19.4 20.5 20.5 20.5 20.5 20.5 20.5	EUT Desc: -1-1 antenni in the Encoo Antenna Factor (dB/m) 27.7 30.5 30.9 30.9 30.9 31.0	2.4Ghz : na re 3 (whie Factor (dB) 1.1 1.1 1.2 1.2 1.2 1.2 1.2	transmitter w ch was detern (dB) 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	mined to be Adjusted Reading (dBμV/m) 38.8 38.9 44.7 46.6 89.3 46.3	the worst ca Limit (dBµV/m)    	sse)  (dB)     	EU" Result (Pass/Fail)    	Limit (dBμV/m) 54.0 54.0 54.0 54.0 54.0 93.97 54.0	Table   Vork Order:   3 m   2482Mhz   FCC Class I   Margin (dB)   -15.2   -15.1   -9.3   -7.4   -4.67   -7.7	4 EA0975 B Resul (Pass/Fi Pass Pass Pass Pass Pass Pass Pass				
Date: Engineer: Notes: echecking Polarization (H / V) H H H H H H H H H H H H H	01-Aug-00 Chad A. Bell Freque Encore 2 plu- all emissions Frequency (MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2486.0 2493.25	ncy Range: s printer with that were with Reading (dBμV) 35.4 33.8 39.1 41.0 83.7 40.6 39.1	1-7Ghz CQ1547( hin 10dB Factor (dB) 19.4 20.5 20.5 20.5 20.5 20.5 20.5 20.5	EUT Desc: -1-1 antenna Factor (dB/m) 27.7 30.5 30.9 30.9 30.9 30.9 31.0 31.0	2.4Ghz na re 3 (whie Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2	transmitter w ch was detern Duty Cycle Factor (dB) 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	Adjusted   Reading   (dBμV/m)   38.8   38.9   44.7   46.6   89.3   46.3   44.8	the worst ca Limit (dBµV/m)     	sse)  (dB)       	EU" Result (Pass/Fail)     	Limit (dBμV/m)   54.0   54.0   54.0   54.0   54.0   54.0   54.0   54.0   54.0   54.0   54.0   54.0	Table   Vork Order:   3 m   2482Mhz   FCC Class I   Margin (dB)   -15.2   -15.1   -9.3   -7.4   -4.67   -7.7   -9.2	4 EA0975 <b>B</b> Result (Pass/F4 Pass Pass Pass Pass Pass Pass Pass Pas				
Date: Engineer: echecking Polarization (H / V) H H H H H H H H H H H H H H H H H H H	01-Aug-00 Chad A. Bell Freque Encore 2 plu: all emissions Frequency (MH2) 1613.88 2337.2 2470.6 2478.0 2482.0 2486.0 2493.25 3072.0	rncy Range: s printer with that were with Reading (dBµV) 35.4 33.8 39.1 41.0 83.7 40.6 39.1 34.3	1-7Ghz CQ1547( hin 10dB i Preamp Factor (dB) 19.4 20.5 20.5 20.5 20.5 20.5 20.5 20.5 20.5	EUT Desc: -1-1 antenui in the Enco Antenna Factor (B/m) 27.7 30.5 30.9 30.9 30.9 30.9 31.0 31.0 32.5	2.4Ghz 1 na re 3 (white Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2	transmitter w ch was deter <b>Duty Cycle</b> <b>Factor</b> (dB) 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	nined to be Adjusted Reading (dBμV/m) 38.8 38.9 44.7 46.6 89.3 46.3 44.3 44.8 47.5	the worst ca Limit (dBµV/m)      	 Margin (dB)      	EU Result (Pass/Fail)        -	t Distance: Max Freq: Limit (dBμV/m) 54.0 54.0 54.0 54.0 93.97 54.0	Table   Vork Order:   3 m   2482Mhz   FCC Class I   Margin (dB)   -15.2   -15.1   -9.3   -7.4   -4.67   -7.7   -9.2   -6.5	4 EA0975 <b>Resul</b> (Pass/Fi Pass Pass Pass Pass Pass Pass Pass Pas				
Date: Engineer: Rechecking Antenna Polarization (H / V) H H H H H H H H H H H H H H H H H H	01-Aug-00 Chad A. Bell Freque Encore 2 plu all emissions Frequency (MHz) 1613.88 2337.2 2470.6 2478.0 2482.0 2486.0 2493.25 3072.0 3662.0	Reading (dBµV) 35.4 33.8 39.1 41.0 83.7 40.6 39.1 34.3 32.4	1-7Ghz CQ1547( hin 10dB Factor (dB) 19.4 20.5 20.5 20.5 20.5 20.5 20.5 20.5 20.5	EUT Desc: )-1-1 antenni in the Enco Antenna Factor (dB/m) 27.7 30.5 30.9 30.9 30.9 30.9 31.0 31.0 32.5 33.8	2.4Ghz = na re 3 (white Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.3	transmitter w ch was detern Duty Cycle Factor (dB) 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	mined to be Adjusted Reading (dBμV/m) 38.8 38.9 44.7 46.6 89.3 46.3 46.3 44.8 47.5 40.7	the worst ca Limit (dBµV/m)      	 (dB)      	EU* Result (Pass/Fail)        -	t Distance: Max Freq: Limit (dBµV/m) 54.0 54.0 54.0 54.0 93.97 54.0 5	Table   Vork Order:   3 m   2482Mhz   FCC Class I   Margin (dB)   -15.2   -15.1   -9.3   -7.7   -9.2   -15.5   -13.3	4 EA0975 Result (Pass/Fz Pass Pass Pass Pass Pass Pass Pass Pas				
Date: Engineer: Rechecking: Antenna Polarization (H/V) H H H H H H H H H H H H H H H H H H	01-Aug-00 Chad A. Bell Freque Encore 2 plu: all emissions Frequency (MH2) 1613.88 2337.2 2470.6 2478.0 2482.0 2486.0 2493.25 3072.0	ency Range: s printer with that were with Reading (dBµV) 35.4 33.8 39.1 41.0 83.7 40.6 39.1 34.3	1-7Ghz CQ1547( hin 10dB i Preamp Factor (dB) 19.4 20.5 20.5 20.5 20.5 20.5 20.5 20.5 20.5	EUT Desc: -1-1 antenui in the Enco Antenna Factor (B/m) 27.7 30.5 30.9 30.9 30.9 30.9 31.0 31.0 32.5	2.4Ghz 1 na re 3 (white Factor (dB) 1.1 1.2 1.2 1.2 1.2 1.2 1.2	transmitter w ch was deter <b>Duty Cycle</b> <b>Factor</b> (dB) 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	nined to be Adjusted Reading (dBμV/m) 38.8 38.9 44.7 46.6 89.3 46.3 44.3 44.8 47.5	the worst ca Limit (dBµV/m)      	 Margin (dB)      	EU Result (Pass/Fail)        -	t Distance: Max Freq: Limit (dBμV/m) 54.0 54.0 54.0 54.0 93.97 54.0	Table   Vork Order:   3 m   2482Mhz   FCC Class I   Margin (dB)   -15.2   -15.1   -9.3   -7.4   -4.67   -7.7   -9.2   -6.5	4 EA0975 <b>Result</b> (Pass/Fa Pass Pass Pass Pass Pass Pass Pass Pa				

6.0

6.0 6.0 6.0

6.0

1.5 1.6 1.7

1.8

1.8

35.2

35.9 37.0

37.1

37.4

-3.3 dB

43.0 41.7 42.7 41.1 40.5

46.5

----------------

54.0

54.0

54.0

54.0

54.0

Worst Freq:

-12.3

-11.3 -12.9

-13.5

-7.5

4096.0 MHz

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	d Emiss	ions Ta										Curtis-St			
Date: 02-Aug-00 Company: Zebra Technologies												Table 5			
Engineer: Chad A. Bell EUT Desc: 2.4Ghz transmitter with 6 antennaes												Vork Order:	EA0975		
	Freque	ncy Range	:1-7Ghz						I	Measureme	nt Distance:	3 m			
Notes:	Cameo 3 pri	nter with an	tenna CQ	15352-1						EU.	T Max Freq:	2482Mhz			
					ncore 3	printer which	is the wors	st case							
Antenna			Preamp	Antenna	Cable	Duty Cycle	Adjusted					CC Class	В		
Polarization	Frequency	Reading	Factor	Factor	Factor	Factor	Reading	Limit	Margin	Result	Limit	Margin	Result		
(H / V)	(MHz)	(dBµV)	(dB)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dBµV/m)	(dB)	(Pass/Fa		
н	1613.88	34.3	19.4	27.7	1.1	6.0	37.7				54.0	-16.3	Pass		
н	2337.2	32.9	20.5	30.5	1.1	0.0	44.0				54.0	-10.0	Pass		
н	2470.6	41.5	20.5	30.9	1.2	6.0	47.1				54.0	-6.9	Pass		
н	2478.0	42.7	20.5	30.9	1.2	6.0	48.3				54.0	-5.7	Pass		
н	2482.0	82.8	20.5	30.9	1.2	6.0	88.4				94.0	-5.57	Pass		
н	2486.0	42.3	20.5	31.0	1.2	6.0	48.0				54.0	-6.0	Pass		
н	2493.25	40.1	20.5	31.0	1.2	6.0	45.8				54.0	-8.2	Pass		
н	3072.0	34.1	20.5	32.5	1.2	0.0	47.3				54.0	-6.7	Pass		
н	3662.0	33.6	20.8	33.8	1.3	6.0	41.9				54.0	-12.1	Pass		
Н	4096.0	33.4	20.9	34.9	1.4	0.0	48.8				54.0	-5.2	Pass		
н	4530.0	34.4	20.7	34.8	1.5	6.0	44.0				54.0	-10.0	Pass		
н	4685.8	34.9	20.6	35.2	1.5	6.0	45.0				54.0	-9.0	Pass		
н	4964.2	34.6	20.5	35.9	1.6	6.0	45.6				54.0	-8.4	Pass		
н	5709.6	30.4	20.0	37.0	1.7	6.0	43.1				54.0	-10.9	Pass		
н	6144.1	27.4	19.8	37.1	1.8	0.0	46.5				54.0	-7.5	Pass		
н	6578.1	36.0	19.7	37.4	1.8	6.0	49.5				54.0	-4.5	Pass		

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HHHHHH

н

4685.8

4964.2 5709.6

6144.1

6578.1

Table Result:

20.6

20.5 20.0

19.8

19.7

by

31.6 31.7 28.4

27.4

33.0

Pass

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28-Sept-00

	02-Aug-00 Chad A. Bell			Company: Zebra Technologies EUT Desc: 2.4Ghz transmitter with 6 antennaes							w	Table ork Order:	-		
Frequency Range: 1-7Ghz										Measurement Distance: 3 m					
Notes: Cameo 2 printer with antenna CQ13283-1										EUT Max Freq: 2482Mhz					
Rechecking a	all emissions t	hat were wit	thinn 10dE	3 in the End	ore 3 prii	nter which is	the worst ca	ise							
Antenna			Preamp	Antenna	Cable	Duty Cycle	Adjusted				FCC Class B				
Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Factor (dB/m)	Factor (dB)	Factor (dB)	Reading (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fa		
Н	1613.88	31.5	19.4	27.7	1.1	6.0	34.9				54.0	-19.1	Pass		
н	2337.2	28.9	20.5	30.5	1.1	0.0	40.0				54.0	-14.0	Pass		
н	2470.6	38.3	20.5	30.9	1.2	6.0	43.9				54.0	-10.1	Pass		
н	2478.0	39.5	20.5	30.9	1.2	6.0	45.1				54.0	-8.9	Pass		
н	2482.0	78.3	20.5	30.9	1.2	6.0	83.9				93.97	-10.07	Pass		
н	2486.0	39.4	20.5	31.0	1.2	6.0	45.1				54.0	-8.9	Pass		
н	2493.25	37.0	20.5	31.0	1.2	6.0	42.7				54.0	-11.3	Pass		
н	3072.0	33.2	20.5	32.5	1.2	0.0	46.4				54.0	-7.6	Pass		
н	3662.0	32.5	20.8	33.8	1.3	6.0	40.8				54.0	-13.2	Pass		
н	4096.0	33.4	20.9	34.9	1.4	0.0	48.8				54.0	-5.2	Pass		
н	4530.0	33.5	20.7	34.8	1.5	6.0	43.1				54.0	-10.9	Pass		
н	4685.8	33.8	20.6	35.2	1.5	6.0	43.9				54.0	-10.1	Pass		
н	4964.2	33.3	20.5	35.9	1.6	6.0	44.3				54.0	-9.7	Pass		
н	5709.6	29.9	20.0	37.0	1.7	6.0	42.6				54.0	-11.4	Pass		
H H	6144.1 6578.1	27.4 33.5	19.8 19.7	37.1 37.4	1.8 1.8	0.0 6.0	46.5 47.0				54.0 54.0	-7.5 -7.0	Pass Pass		
						0.0	47.0					-			
Table Result:		Pass	by	-5.2 dB						Wo	orst Freq: 4096.0 MHz				
Test Site: "M"		Pre-Amp: Yel-Blk Cable: 3			3m Suco	oflex		Analyzer:	Antenna: Black Horn						

#### Radiated Emissions Table

Naulaic			abic												
Date:	02-Aug-00			Company: Zebra Technologies								Table 1			
Engineer: Chad A. Bell				EUT Desc: 2.4Ghz transmitter with 6 antennaes								Work Order: EA0975			
	Frequency Range: 1-7Ghz Mea											easurement Distance: 3 m			
Notes:	Dome anten	na pn: BL13	3978-1						EUT Max Freq: 2482Mhz						
Rechecking all emissions that were withinn 10dB in the Encore 3 printer which is the worst case															
Antenna			Preamp	Antenna	Cable	Duty Cycle	Adjusted				FCC Class B				
Polarization	Frequency	Reading	Factor	Factor	Factor	Factor	Reading	Limit	Margin	Result	Limit	Margin	Result		
(H / V)	(MHz)	(dBµV)	(dB)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dBµV/m)	(dB)	(Pass/Fail)		
Н	1613.88	35.7	19.4	27.7	1.1	6.0	39.1				54.0	-14.9	Pass		
н	2337.2	31.2	20.5	30.5	1.1	6.0	36.3				54.0	-17.7	Pass		
н	2470.6	41.4	20.5	30.9	1.2	6.0	47.0				54.0	-7.0	Pass		
н	2478.0	42.6	20.5	30.9	1.2	6.0	48.2				54.0	-5.8	Pass		
н	2482.0	82.1	20.5	30.9	1.2	6.0	87.7				93.97	-6.27	Pass		
н	2486.0	42.1	20.5	31.0	1.2	6.0	47.8				54.0	-6.2	Pass		
н	2493.25	40.5	20.5	31.0	1.2	6.0	46.2				54.0	-7.8	Pass		
н	3072.0	30.3	20.5	32.5	1.2	0.0	43.5				54.0	-10.5	Pass		
н	3662.0	32.9	20.8	33.8	1.3	6.0	41.2				54.0	-12.8	Pass		
н	4096.0	33.0	20.9	34.9	1.4	0.0	48.4				54.0	-5.6	Pass		
н	4530.0	33.2	20.7	34.8	1.5	6.0	42.8				54.0	-11.2	Pass		
н	4685.8	35.5	20.6	35.2	1.5	6.0	45.6				54.0	-8.4	Pass		
н	4964.2	33.9	20.5	35.9	1.6	6.0	44.9				54.0	-9.1	Pass		
н	5709.6	30.0	20.0	37.0	1.7	6.0	42.7				54.0	-11.3	Pass		
н	6144.1	27.4	19.8	37.1	1.8	0.0	46.5				54.0	-7.5	Pass		
Н	6578.1	35.9	19.7	37.4	1.8	6.0	49.4				54.0	-4.6	Pass		
Table Result:		Pass	by	-4.6 dB						Wa	orst Freq:	6578.1 MHz			
Test Site: "M"		Pre-Amp:	e-Amp: Yel-Blk Cable: 3m Sucoflex			oflex	Analyzer: White			Antenna: Black Horn					

28-Sept-00

#### 3.3 **Emissions Plots**



