



**FCC CFR47 PART 95H REQUIREMENT**

**CERTIFICATION TEST REPORT**

**FOR**

**MEDICAL TELEMETRY TRANSMITTER**

**MODEL: ZM-541PA**

**FCC ID: B6BZM-541PA**

**REPORT NUMBER: 09J12558-1**

**ISSUE DATE: JUNE 16, 2009**

**Prepared for  
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1-31-4, NISHIOCHIAI SHINJUKU-KU  
TOKYO 161-8560, JAPAN**

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**NVLAP®**

NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	06/16/09	Initial Issue	T. Chan

## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS.....</b>	<b>4</b>
<b>2. TEST METHODOLOGY .....</b>	<b>5</b>
<b>3. FACILITIES AND ACCREDITATION.....</b>	<b>5</b>
<b>4. CALIBRATION AND UNCERTAINTY .....</b>	<b>5</b>
4.1. <i>MEASURING INSTRUMENT CALIBRATION.....</i>	<i>5</i>
4.2. <i>SAMPLE CALCULATION .....</i>	<i>5</i>
4.3. <i>MEASUREMENT UNCERTAINTY .....</i>	<i>5</i>
<b>5. EQUIPMENT UNDER TEST .....</b>	<b>6</b>
5.1. <i>DESCRIPTION OF EUT .....</i>	<i>6</i>
5.2. <i>DESCRIPTION OF AVAILABLE ANTENNAS .....</i>	<i>6</i>
5.3. <i>SOFTWARE AND FIRMWARE .....</i>	<i>6</i>
5.4. <i>WORST-CASE CONFIGURATION AND MODE .....</i>	<i>6</i>
5.5. <i>DESCRIPTION OF TEST SETUP .....</i>	<i>7</i>
<b>6. TEST AND MEASUREMENT EQUIPMENT .....</b>	<b>10</b>
<b>7. ANTENNA PORT TEST RESULTS .....</b>	<b>11</b>
7.1. <i>26 dB AND 99% BW .....</i>	<i>11</i>
7.2. <i>PEAK OUTPUT POWER .....</i>	<i>15</i>
7.3. <i>AVERAGE POWER .....</i>	<i>18</i>
7.4. <i>SPURIOUS EMISSIONS AT ANTENNA TERMINAL .....</i>	<i>19</i>
7.5. <i>FREQUENCY STABILITY MEASUREMENT .....</i>	<i>22</i>
<b>8. RADIATED EMISSION TEST RESULTS.....</b>	<b>26</b>
8.1. <i>FUNDAMENTAL OUTPUT POWER.....</i>	<i>27</i>
8.2. <i>RADIATED EMISSIONS BELOW 960 MHz .....</i>	<i>28</i>
8.3. <i>RADIATED EMISSIONS ABOVE 960 MHz .....</i>	<i>37</i>
<b>9. SETUP PHOTOS.....</b>	<b>38</b>

## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** NIHON KOHDEN CORPORATION  
1-31-4, NISHIOCHIAI SHINJUKU-KU  
TOKYO 161-8560, JAPAN

**EUT DESCRIPTION:** MEDICAL TELEMETRY TRANSMITTER

**MODEL:** ZM-541PA

**SERIAL NUMBER:** 91005

**DATE TESTED:** JUNE 09 – 11, 2009

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 95 SUBPART H	Pass

Compliance Certification Services, Inc. (CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

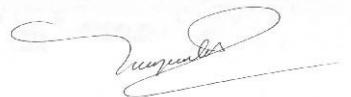
Approved & Released For CCS By:



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THU CHAN  
EMC MANAGER  
COMPLIANCE CERTIFICATION SERVICES

Tested By:



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VIEN TRAN  
EMC ENGINEER  
COMPLIANCE CERTIFICATION SERVICES

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI/TIA-603-C-2004, FCC CFR 47 Part 2 and FCC CFR 47 Part 95.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

### 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

a).	Type of EUT:	WMTS TRANSMITTER
b).	Brand Name:	NIHON KOHDEN
c).	Model No:	ZM-541PA
d).	FCC ID:	B6BZM-541PA
e).	Battery Type:	Three AA (R6)
f).	Channel Number:	1395.0250 MHz (channel number E002) to 1399.9750 MHz (channel number E398), and 1427.0250 MHz (channel number E502) to 1431.9750 MHz (channel number E898)
g).	Frequency Range:	1395.025-1399.975 MHz and 1427.025-1431.975 MHz bands
h).	RF Conducted Output Power:	5mW (factory default setting) or 1mW
i).	Channel Spacing:	50 KHz or 37.5 kHz (12.5 KHz when interleave)
j).	Modulation	Frequency Shift Keying
k).	Type of Modulation:	F1D
l).	Occupied Bandwidth	<20 kHz
m).	Antenna Type:	Internal

### 5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a Helical Monopole antenna, with a maximum gain of 0 dBi.

### 5.3. SOFTWARE AND FIRMWARE

The test utility software used during testing was Channel Writer, rev. 02-04.

### 5.4. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power.

During emission tests the antenna orientations as X, Y, and Z were investigated to determine the worst-case. The outcome showed that Y-orientation as the worst-case.

## 5.5. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Dell	PP18L	6364419229	DoC
AC/DC Adapter	Dell	LA65S0-00	CN-ODF263-71615-66C-2E21	DoC
Channel Writer	Nihon Kohden	QI-901PK	28	N/A

### I/O CABLES

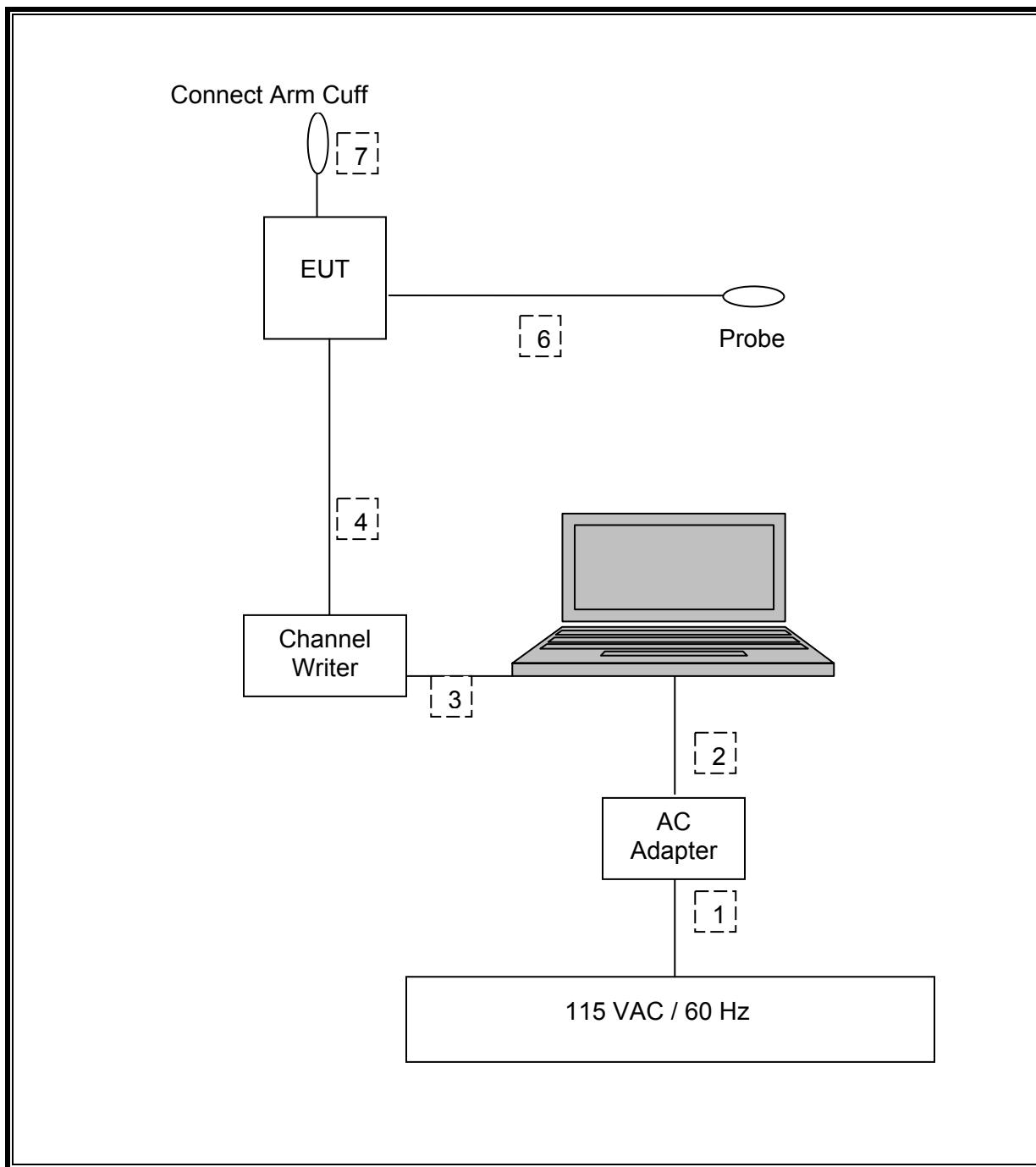
I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US115V	Un-shielded	1m	N/A
2	DC	1	DC	Un-shielded	1.8m	Ferrite on laptop's end
3	USB	1	USB	Shielded	2m	No
4	ECG	1	ECG	Un-shielded	0.3m	No
5	ECG	1	ECG	Un-shielded	0.7 m	N/A
6	Sp02	1	Sp02	Un-shielded	1.6 m	Probe
7	NIBP	1	NIBP secket	Rubber	0.3 m	Connect Arm Cuff

### TEST SETUP

The EUT is standalone unit and just use a host laptop computer to configure the mode during the tests. Test software exercised the radio card.

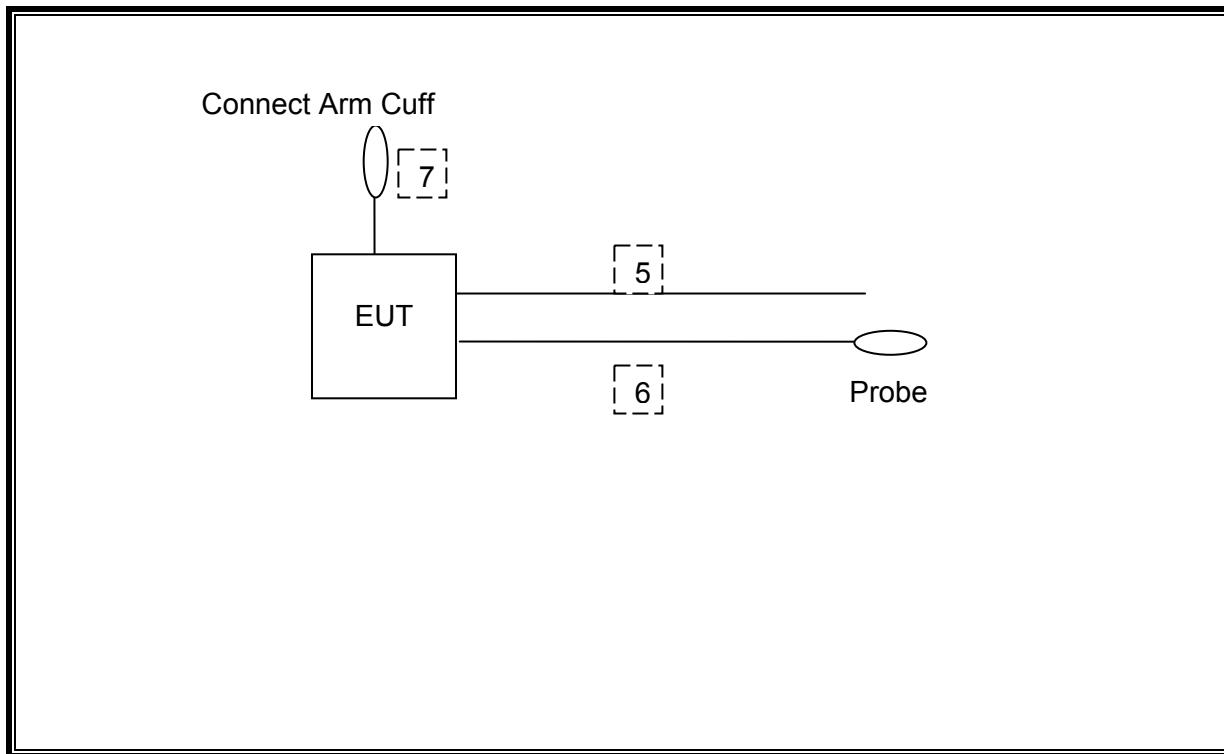
**SETUP DIAGRAM FOR TESTS**

RF Conducted test



**SETUP DIAGRAM FOR TESTS**

RF Radiated test



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Antenna, Horn, 18 GHz	EMCO	3115	C01005	01/29/10
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01016	02/07/10
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00749	12/16/09
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C00558	01/14/10
Signal Generator, 20 GHz	Agilent / HP	83732B	C00774	07/03/10
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	C00930	05/13/10
DC power supply, 40 V @ 30 A	Agilent / HP	6268A	N02490	CNR

## 7. ANTENNA PORT TEST RESULTS

### 7.1. 26 dB AND 99% BW

#### LIMITS

§2.1049, for reporting purposes only, also the 26dB bandwidth shall be less than 20 KHz (F1D).

#### TEST PROCEDURE

ANSI C63.4

The transmitter output is connected to the spectrum analyzer.

26dB Bandwidth: The RBW is set to 1% to 3% of the 26dB bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 26dB bandwidth function is utilized.

99% Bandwidth: The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

**RESULTS**

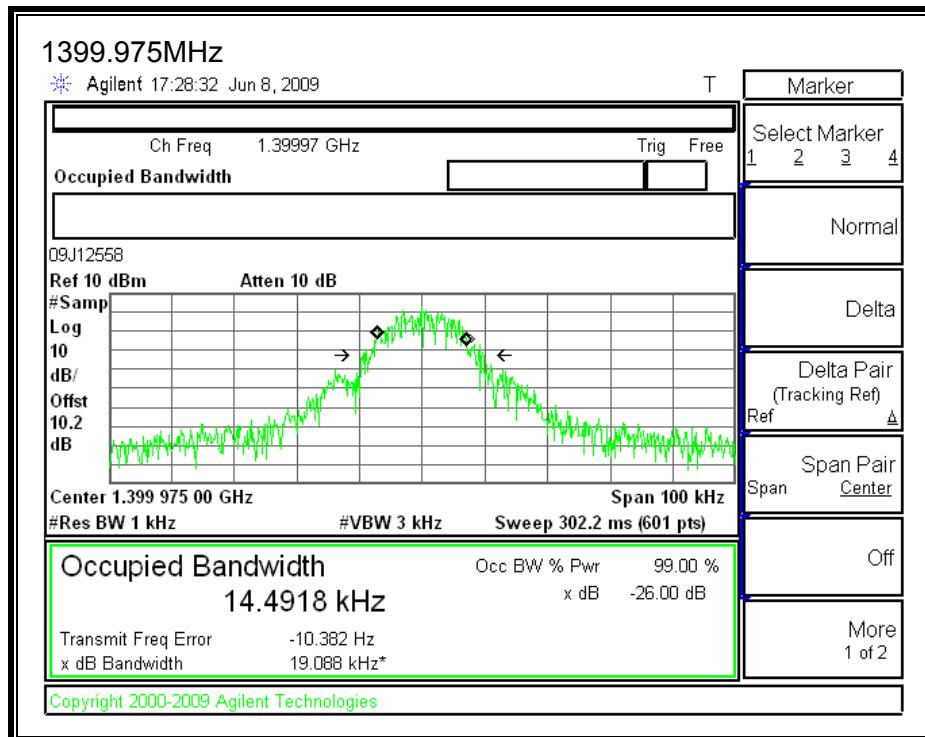
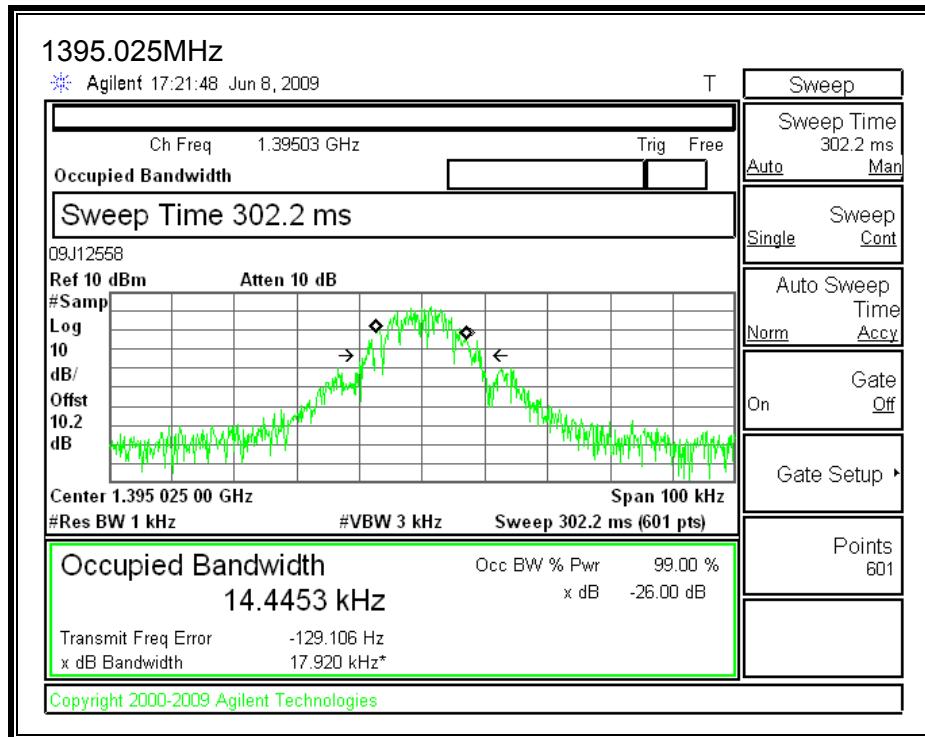
26dB Bandwidth

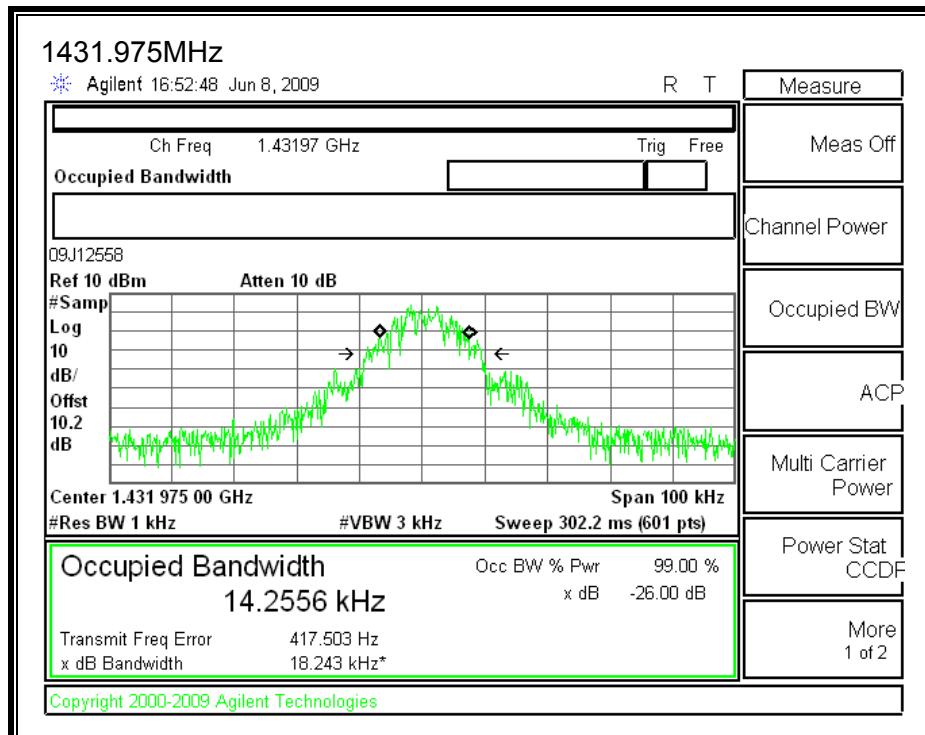
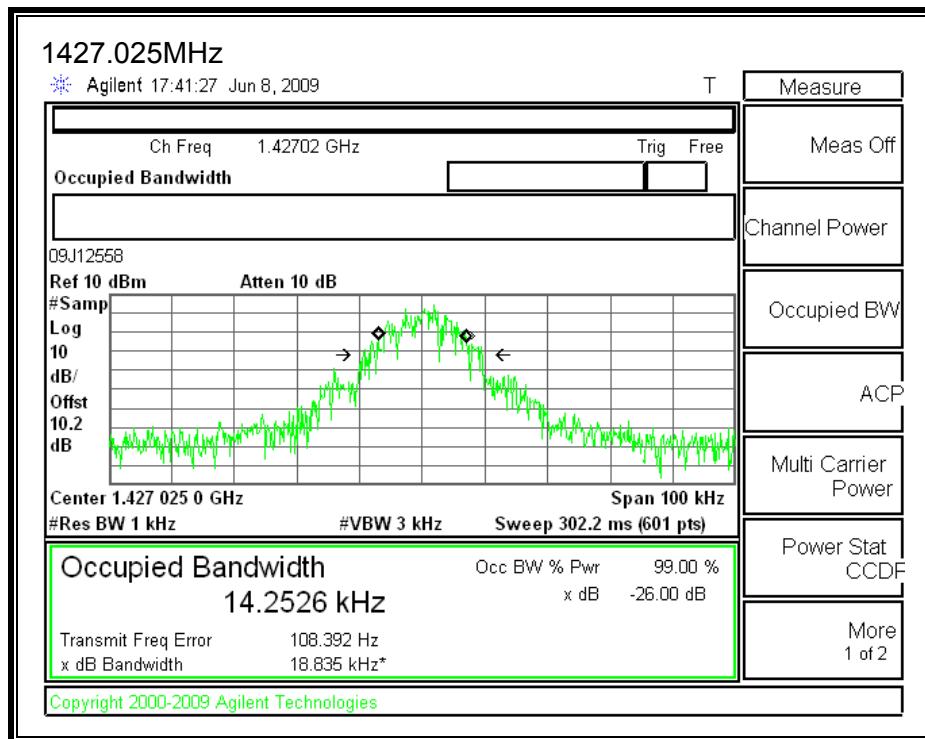
Channel	Frequency (MHz)	26dB Bandwidth (kHz)
E002	1395.025	17.920
E390	1399.975	19.088
E502	1427.025	18.835
E898	1431.975	18.243

99% Bandwidth

Channel	Frequency (MHz)	99% Bandwidth (kHz)
E002	1395.025	14.445
E390	1399.975	14.492
E502	1427.025	14.253
E898	1431.975	14.256

**20dB and 99% BANDWIDTH**





## 7.2. PEAK OUTPUT POWER

### LIMITS

§2.1046, for reporting purposes only.

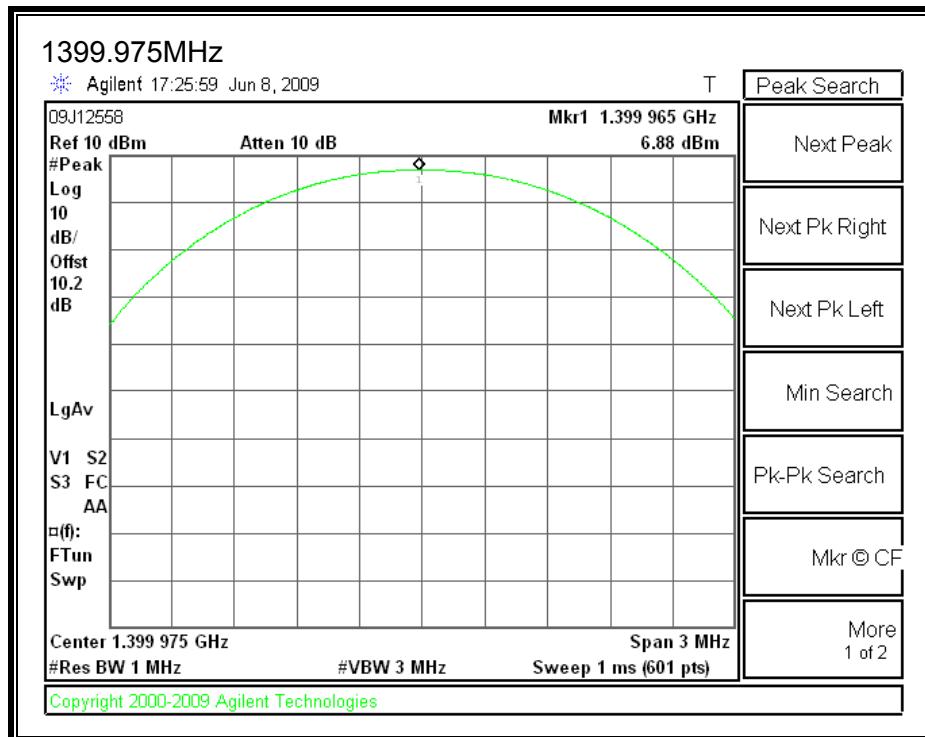
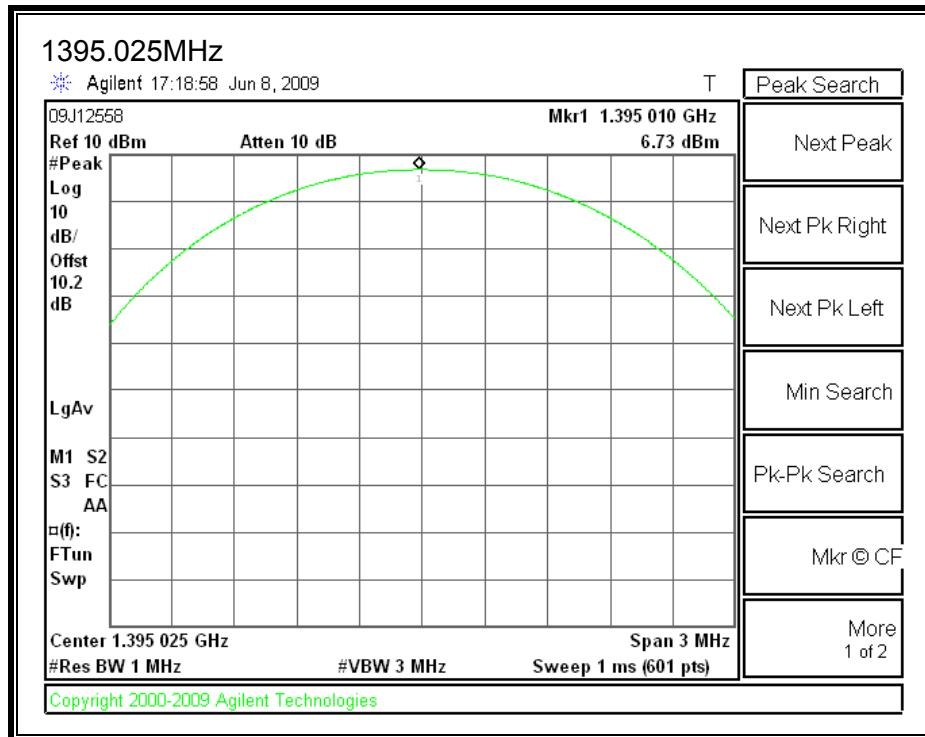
### TEST PROCEDURE

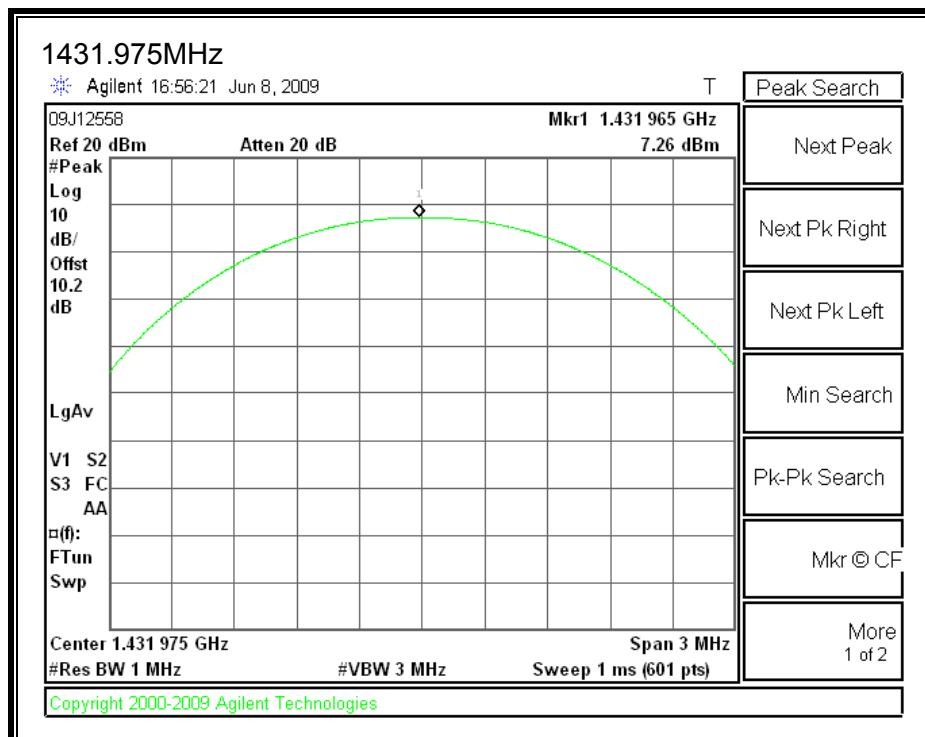
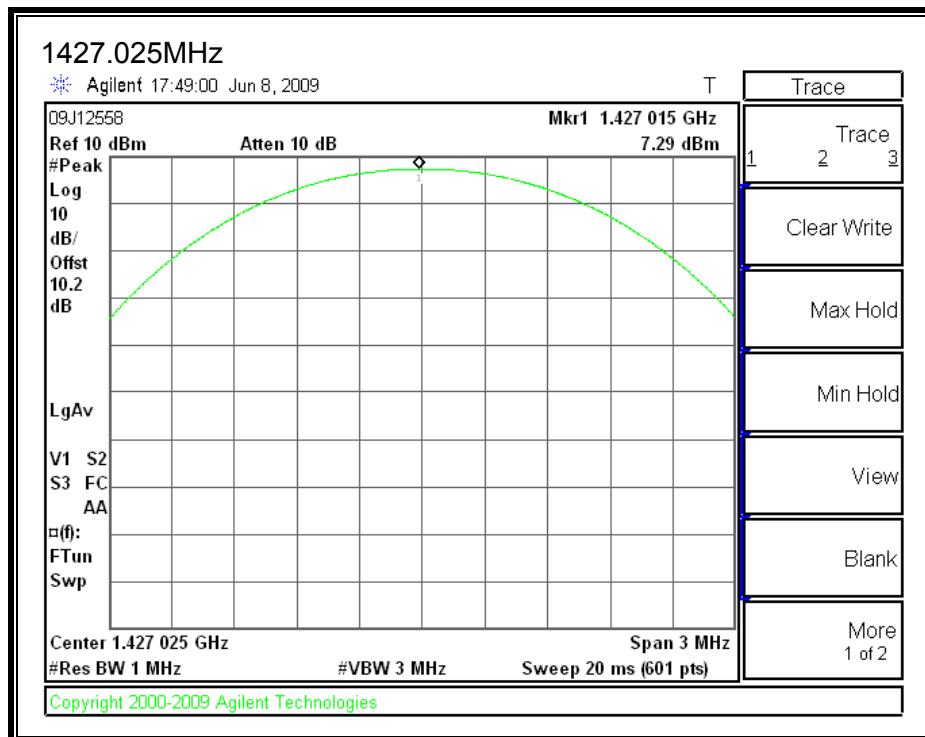
The transmitter output is connected to the spectrum analyzer. The RBW is set greater than the 26dB bandwidth. The VBW is set to 3 times the RBW.

### RESULTS

Channel	Frequency (MHz)	Output Power (dBm)
E002	1395.025	6.73
E390	1399.975	6.88
E502	1427.025	7.29
E898	1431.975	7.26

## OUTPUT POWER





### 7.3. AVERAGE POWER

#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

The transmitter output is connected to a power meter.

#### RESULTS

The cable assembly insertion loss of 10.2 dB (including 10dB pad & 0.20dB cable loss) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Output Power (dBm)
E002	1395.025	6.40
E390	1399.975	6.60
E502	1427.025	7.00
E898	1431.975	7.07

## 7.4. SPURIOUS EMISSIONS AT ANTENNA TERMINAL

### LIMIT

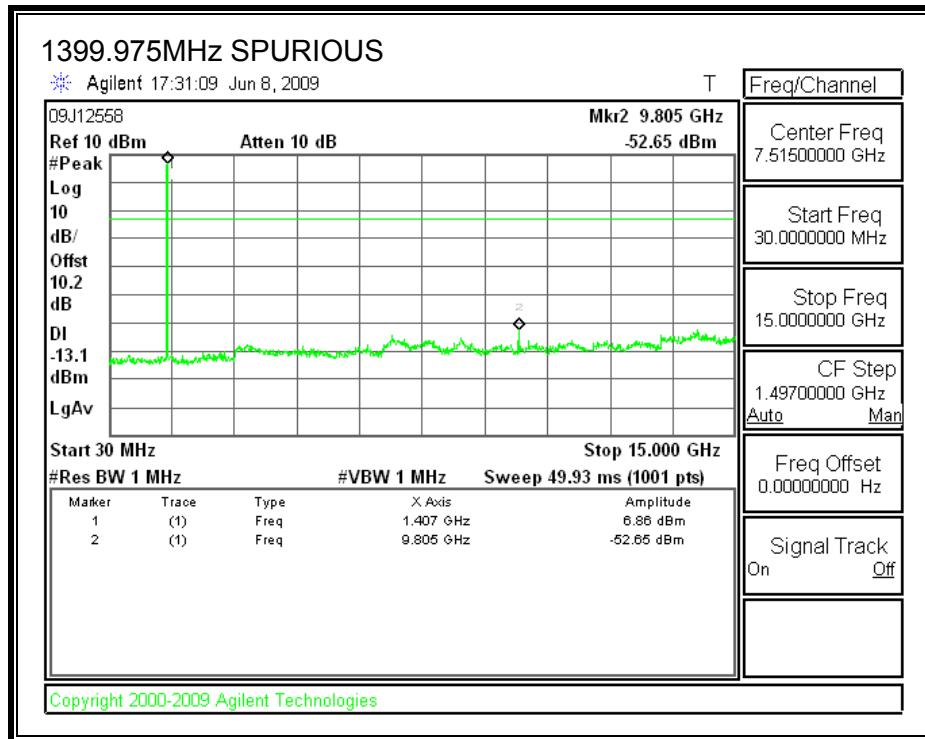
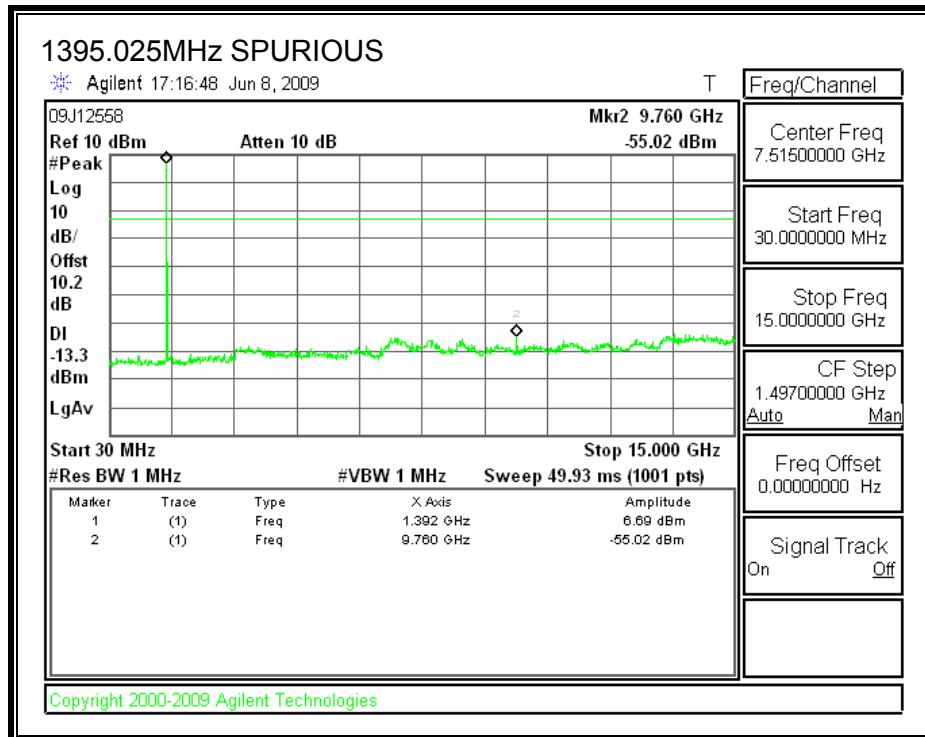
§2.1051 All the conducted emission spurious level shall be at least -20dBc below the band that contains the highest level of desired power.

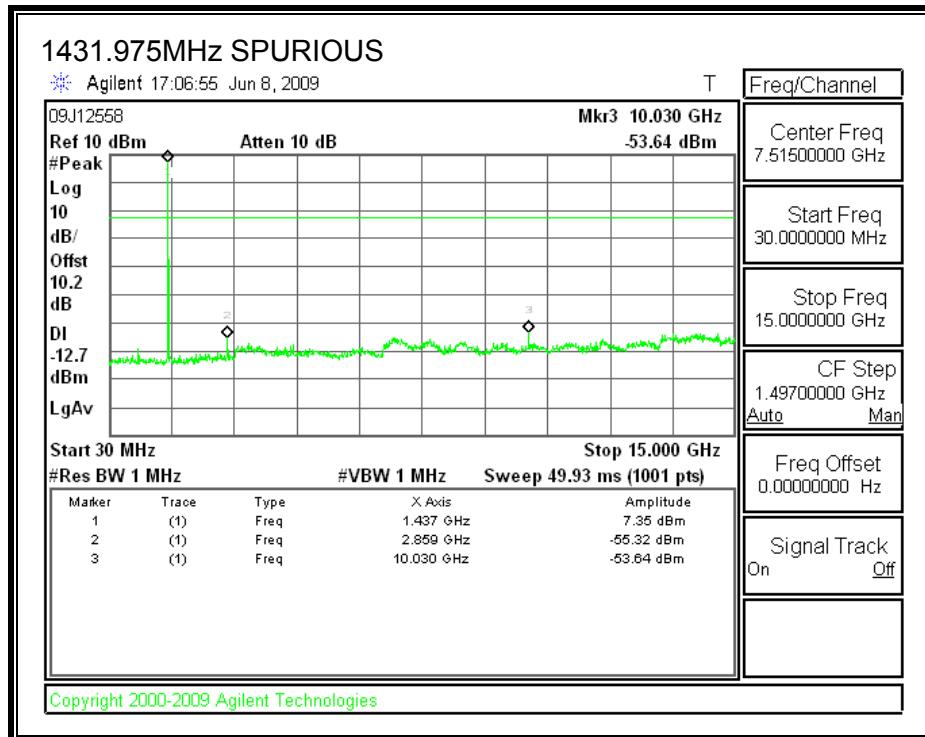
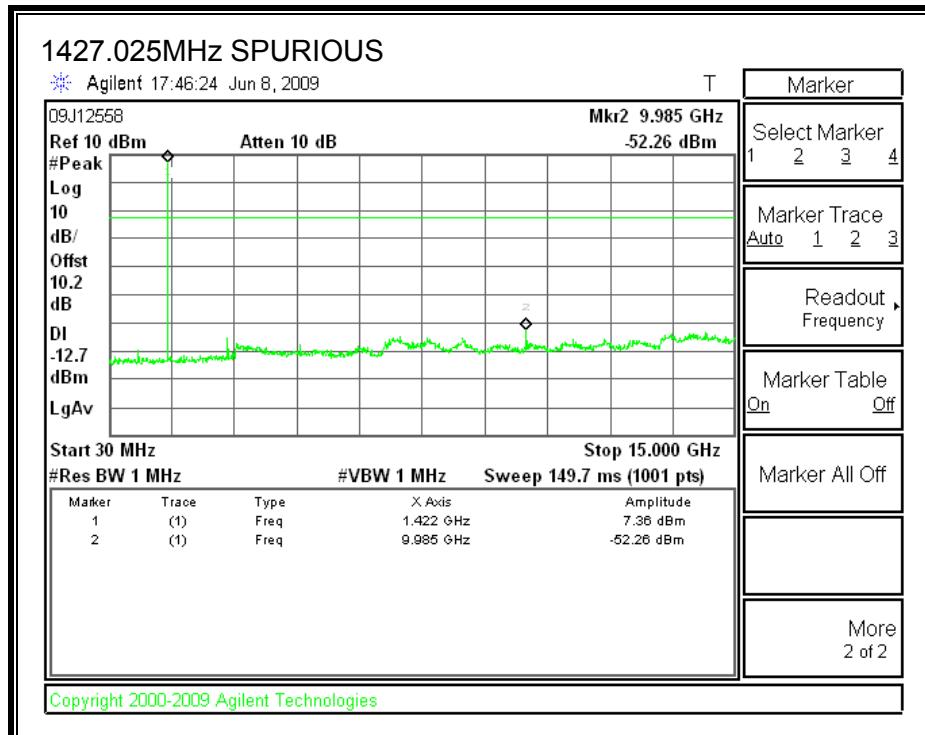
### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW=VBW=1MHz.

The spectrum from 30 MHz to 10<sup>th</sup> harmonic is investigated with the transmitter set to the lowest and highest channels.

### TEST RESULTS





## 7.5. FREQUENCY STABILITY MEASUREMENT

### LIMIT

§95.115 (e) Frequency stability.

Manufacturers of wireless medical telemetry devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all of the manufacturer's specified conditions.

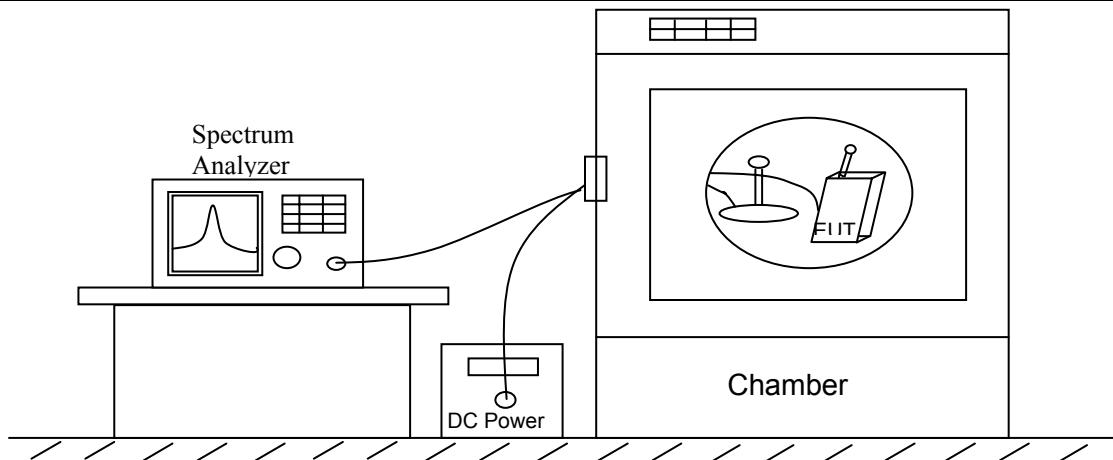
### TEST PROCEDURE

#### Frequency stability versus environmental temperature

- 1) Set the temperature of chamber to 25°C @ low/high channel. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. While maintaining a constant temperature inside the chamber, turn the EUT on and measure the EUT operating frequency.
- 2) Set SA Resolution Bandwidth to 300 Hz and Video Resolution Bandwidth to 300 Hz and Frequency Span to 20 KHz. Record this frequency as reference frequency.
- 3) Repeat step 2 with a 10°C decreased per stage until the lowest temperature -30°C is measured, record all measured frequencies on each temperature step.
- 3) Repeat step 2 with a 10°C increased per stage until the highest temperature +50°C is measured; record all measured frequencies on each temperature step.

#### Frequency stability versus input voltage

- 1). Setup the configuration as shown below for frequencies measured at temperature if it is 25°C.
- 2). Set SA center frequency to the EUT radiated frequency. Set SA Resolution Bandwidth to 300 Hz and Video Resolution Bandwidth to 300 Hz and Frequency Span to 20 KHz. Record this frequency as reference frequency.
- 3). For battery operated only device, supply the EUT primary voltage at the operating end point which is specified by manufacturer and record the frequency.



***Frequency stability measurement configuration***

**TEST RESULTS**

LOW CHANNEL

20°C Reference Frequency:			1395.025000	MHz	
Limit: +/-	2.5	ppm =	0.003488	MHz	
Power Supply		Environment	Frequency	Delta (MHz)	Limit +/- (MHz)
VDC		Temperature (°C)	(MHz)		
4.80	Normal (100%)	50	1395.025192	0.000192	0.003488
		40	1395.025313	0.000313	0.003488
		30	1395.025339	0.000339	0.003488
		20	1395.025416	0.000416	0.003488
		10	1395.025424	0.000424	0.003488
		0	1395.025454	0.000454	0.003488
		-10	1395.025147	0.000147	0.003488
		-20	1395.025256	0.000256	0.003488
		-30	1395.025026	0.000026	0.003488
4.80	Normal		1395.025416	0.000416	0.003488
3.20	Low		1395.025126	0.000126	0.003488
3.10			End Point		

HIGH CHANNEL

20°C Reference Frequency:		1431.975000 MHz		
Limit: +/-. 2.5 ppm =		0.003580 MHz		
Power Supply VDC	Environment Temperature (°C)	Frequency	Delta (MHz)	Limit +/- (MHz)
		(MHz)		
4.80	Normal (100%)	50	1431.975540	0.000540
		40	1431.975522	0.000522
		30	1431.975470	0.000470
		20	1431.975410	0.000410
		10	1431.975307	0.000307
		0	1431.975095	0.000095
		-10	1431.975008	0.000008
		-20	1431.974986	-0.000014
		-30	1431.974974	-0.000026
4.80	Normal	1431.975410	0.000410	0.003580
3.20	Low	1431.975780	0.000780	0.003580
3.10		End Point		

## 8. RADIATED EMISSION TEST RESULTS

### LIMITS

§95.115

(a) Field strength limits

(2) In the 1395–1400 MHz and 1427–1429.5 MHz bands, the maximum allowable field strength is 740 mV/m as measured at a distance of 3 meters, using measuring equipment with an averaging detector and a 1 MHz measurement bandwidth.

(b) Undesired emissions.

(1) Out-of-band emissions below 960 MHz are limited to 200 microvolts/meter, as measured at a distance of 3 meters, using measuring instrumentation with a CISPR quasi-peak detector.

(2) Out-of-band emissions above 960 MHz are limited to 500 microvolts/meter as measured at a distance of 3 meters, using measuring equipment with an averaging detector and a 1 MHz measurement bandwidth.

### TEST PROCEDURE

ANSI/TIA-603-C-2004

### RESULTS

## 8.1. FUNDAMENTAL OUTPUT POWER

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
Test Engr:		Vien Tran													
Date:		06/08/09													
Project #:		09J12558													
Company:		Nihon Kohden													
EUT Description:		Medical Telemetry Transmitter													
EUT M/N:		ZM-541PA													
Test Target:		FCC Part 95H													
Mode Oper:		Tx													
	f	Measurement Frequency	Amp	Preamp Gain										Average Field Strength Limit	
Dist	Distance to Antenna	D	Corr	Distance Correct to 3 meters										Peak Field Strength Limit	
Read	Analyzer Reading	Avg		Average Field Strength @ 3 m										Margin vs. Average Limit	
AF	Antenna Factor	Peak		Calculated Peak Field Strength										Margin vs. Peak Limit	
CL	Cable Loss	HPF		High Pass Filter											
1395.025 MHz															
1.395	3.0	66.3	25.4	2.6	0.0	0.0	0.0	94.3	117.4	-23.1	V	A	100.0	249.3	X-Axis
1.395	3.0	67.5	25.4	2.6	0.0	0.0	0.0	95.4	117.4	-22.0	H	A	114.0	17.1	X-Axis
1399.975 MHz															
1.399975	3.0	67.1	25.4	2.6	0.0	0.0	0.0	95.1	117.4	-22.3	V	A	100.0	278.3	X-Axis
1.399975	3.0	67.8	25.4	2.6	0.0	0.0	0.0	95.7	117.4	-21.7	H	A	114.4	115.2	X-Axis
1427.025MHz															
1.427	3.0	66.4	25.5	2.6	0.0	0.0	0.0	94.5	117.4	-22.9	V	A	100.0	352.2	X-Axis
1.427	3.0	68.1	25.5	2.6	0.0	0.0	0.0	96.2	117.4	-21.2	H	A	108.5	20.9	X-Axis
1427.025MHz															
1.432	3.0	67.9	25.5	2.6	0.0	0.0	0.0	96.0	117.4	-21.4	V	A	100.0	106.3	X-Axis
1.432	3.0	66.6	25.5	2.6	0.0	0.0	0.0	94.7	117.4	-22.7	H	A	112.0	23.7	X-Axis

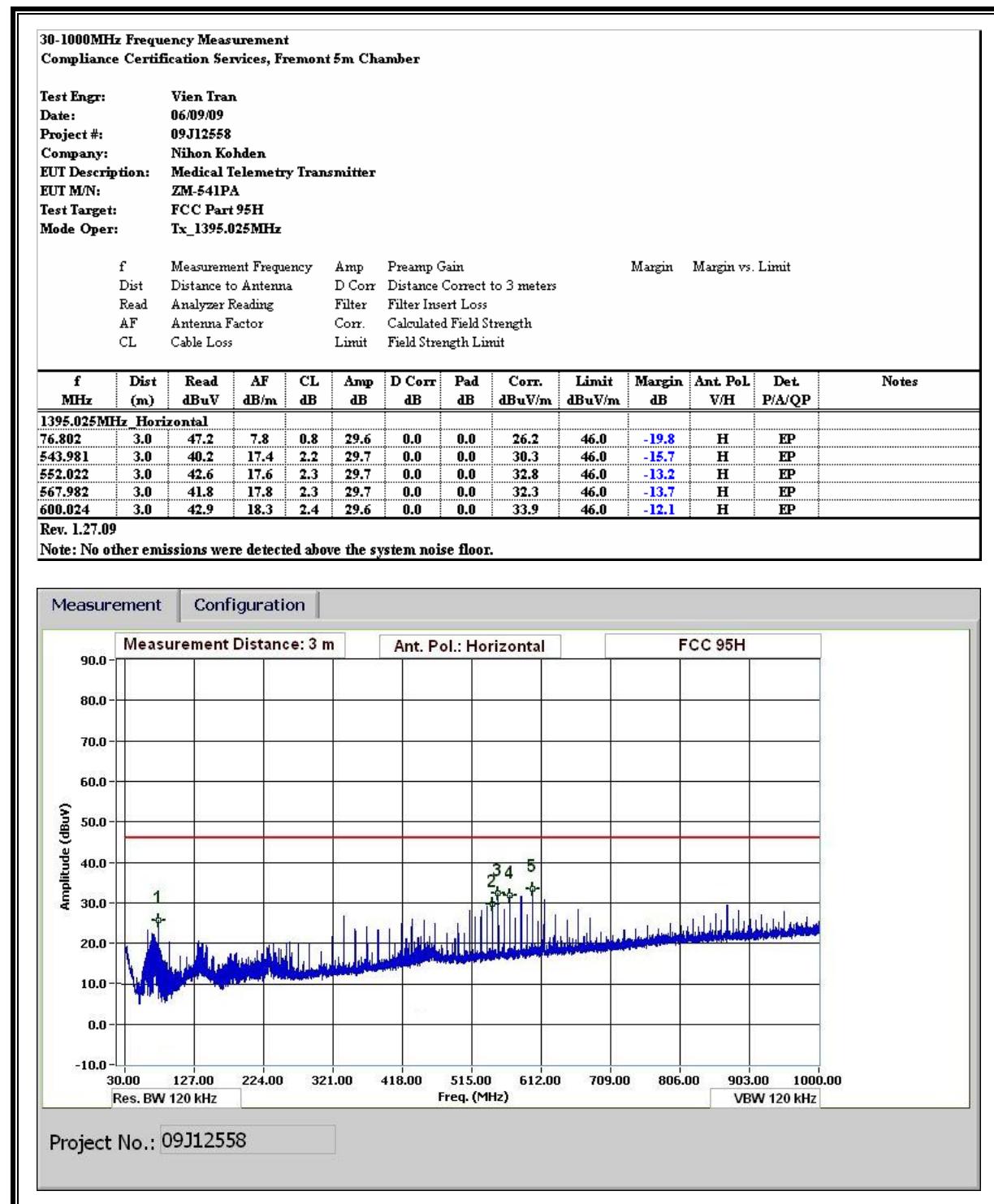
## 8.2. RADIATED EMISSIONS BELOW 960 MHz

Note 1: The measurements in this section show that Peak values are less than the Quasi-Peak limit.

Note 2: Plots in the range of 960 to 1000 MHz in this section are shown for reporting purposes only.

**SPURIOUS EMISSIONS 30 TO 960 MHz (HORIZONTAL)**

1395.025MHz



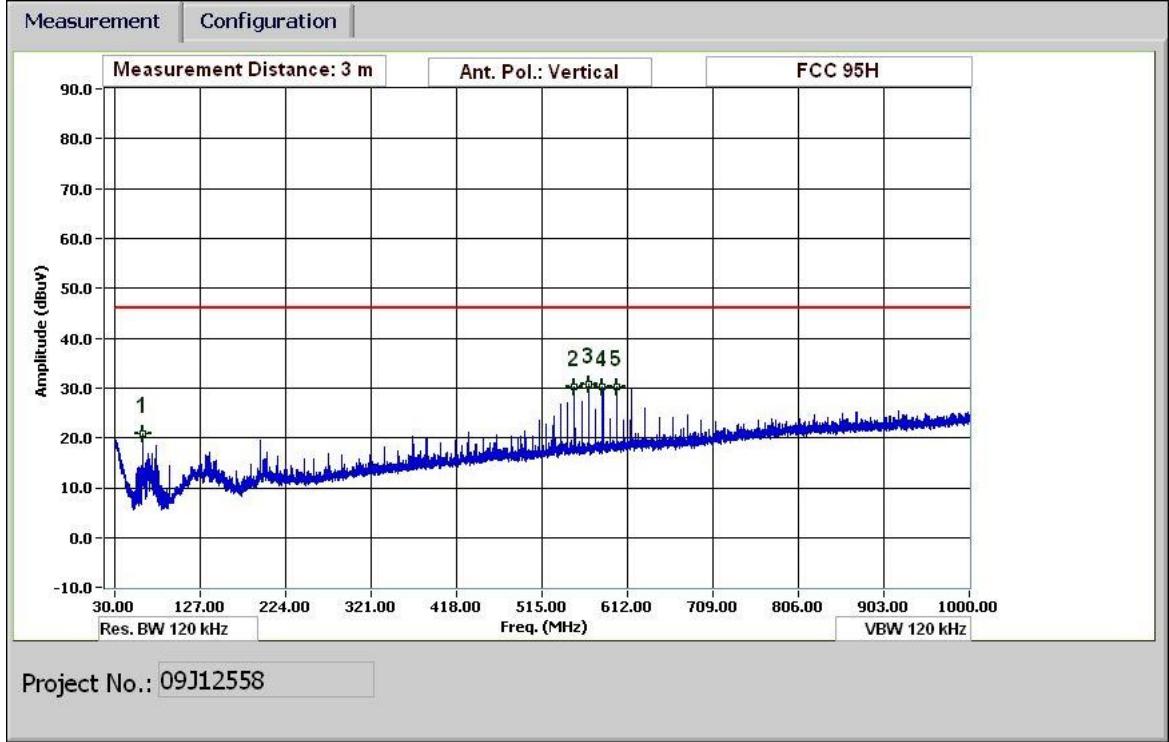
**SPURIOUS EMISSIONS 30 TO 960 MHz (VERTICAL)****30-1000MHz Frequency Measurement**  
Compliance Certification Services, Fremont 5m Chamber

Test Engr: Vien Tran  
 Date: 06/09/09  
 Project #: 09J12558  
 Company: Nihon Kohden  
 EUT Description: Medical Telemetry Transmitter  
 EUT M/N: ZM-541PA  
 Test Target: FCC Part 95H  
 Mode Oper: Tx\_1395.025MHz

f	Measurement Frequency	Amp	Preamp Gain	Margin	Margin vs. Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters		
Read	Analyzer Reading	Filter	Filter Insert Loss		
AF	Antenna Factor	Corr.	Calculated Field Strength		
CL	Cable Loss	Limit	Field Strength Limit		

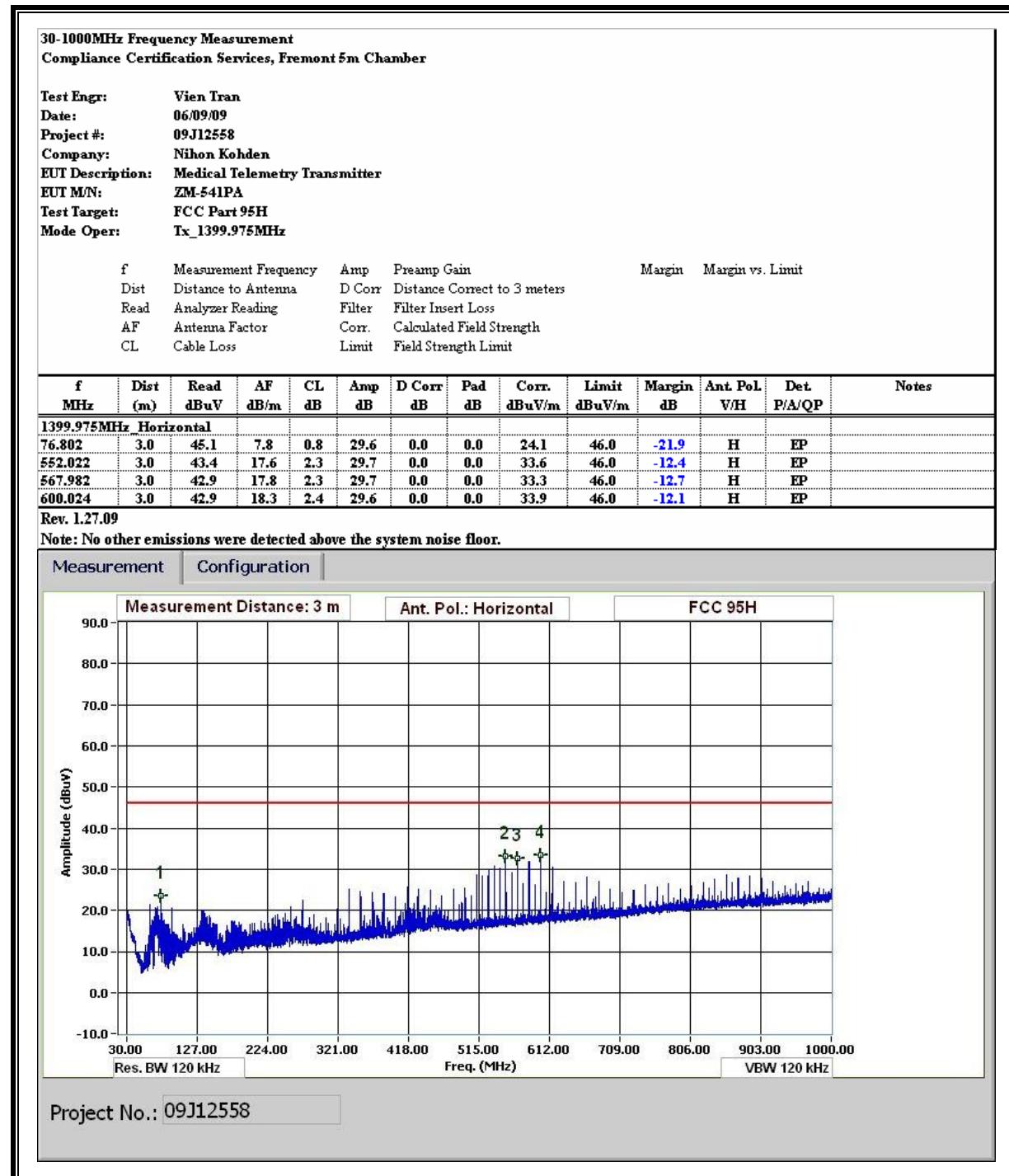
f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Pad dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
<b>1395.025MHz Vertical</b>													
61.441	3.0	42.5	7.9	0.7	29.6	0.0	0.0	21.5	46.0	-24.5	V	EP	
552.022	3.0	40.6	17.6	2.3	29.7	0.0	0.0	30.7	46.0	-15.3	V	EP	
567.982	3.0	40.8	17.8	2.3	29.7	0.0	0.0	31.3	46.0	-14.7	V	EP	
583.943	3.0	40.0	18.0	2.3	29.6	0.0	0.0	30.8	46.0	-15.2	V	EP	
600.024	3.0	39.7	18.3	2.4	29.6	0.0	0.0	30.8	46.0	-15.2	V	EP	

Rev. 1.27.09



**SPURIOUS EMISSIONS 30 TO 960 MHz (HORIZONTAL)**

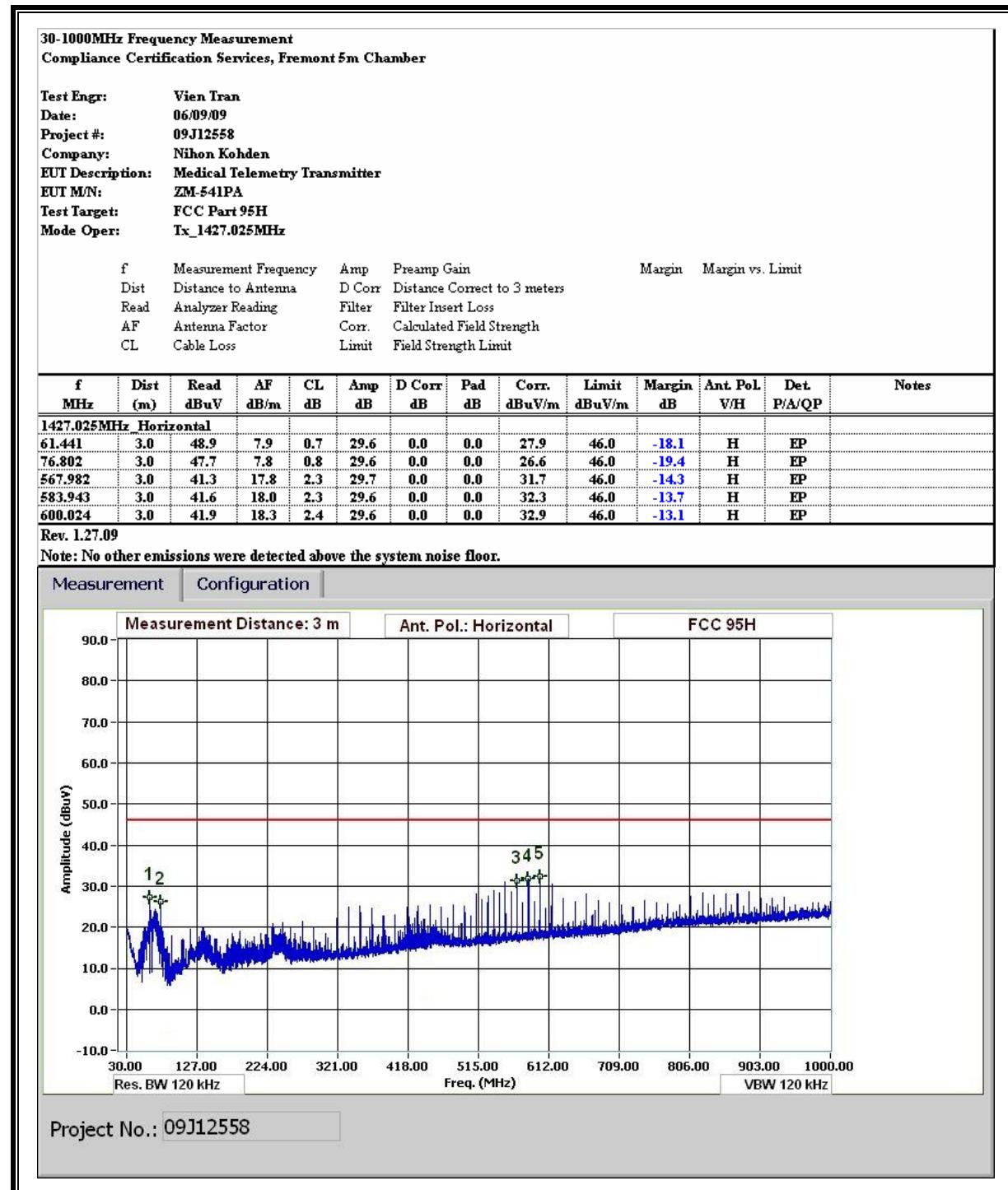
1399.975MHz



## SPURIOUS EMISSIONS 30 TO 960 MHz (VERTICAL)

**SPURIOUS EMISSIONS 30 TO 960 MHz (HORIZONTAL)**

1427.025MHz



## SPURIOUS EMISSIONS 30 TO 960 MHz (VERTICAL)

30-1000MHz Frequency Measurement Compliance Certification Services, Fremont 5m Chamber													
Test Engr:	Vien Tran												
Date:	06/09/09												
Project #:	09J12558												
Company:	Nihon Kohden												
EUT Description:	Medical Telemetry Transmitter												
EUT M/N:	ZM-541PA												
Test Target:	FCC Part 95H												
Mode Oper:	Tx_1427.025MHz												
f	Measurement Frequency	Amp	Preamp Gain							Margin	Margin vs. Limit		
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters										
Read	Analyzer Reading	Filter	Filter Insert Loss										
AF	Antenna Factor	Corr.	Calculated Field Strength										
CL	Cable Loss	Limit	Field Strength Limit										
f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Pad dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
1427.025MHz	Vertical												
61.441	3.0	43.2	7.9	0.7	29.6	0.0	0.0	22.2	46.0	-23.8	V	EP	
76.802	3.0	40.3	7.8	0.8	29.6	0.0	0.0	19.3	46.0	-26.7	V	EP	
552.022	3.0	40.0	17.6	2.3	29.7	0.0	0.0	30.2	46.0	-15.8	V	EP	
567.982	3.0	40.3	17.8	2.3	29.7	0.0	0.0	30.7	46.0	-15.3	V	EP	
583.943	3.0	39.4	18.0	2.3	29.6	0.0	0.0	30.1	46.0	-15.9	V	EP	

Rev. 1.27.09

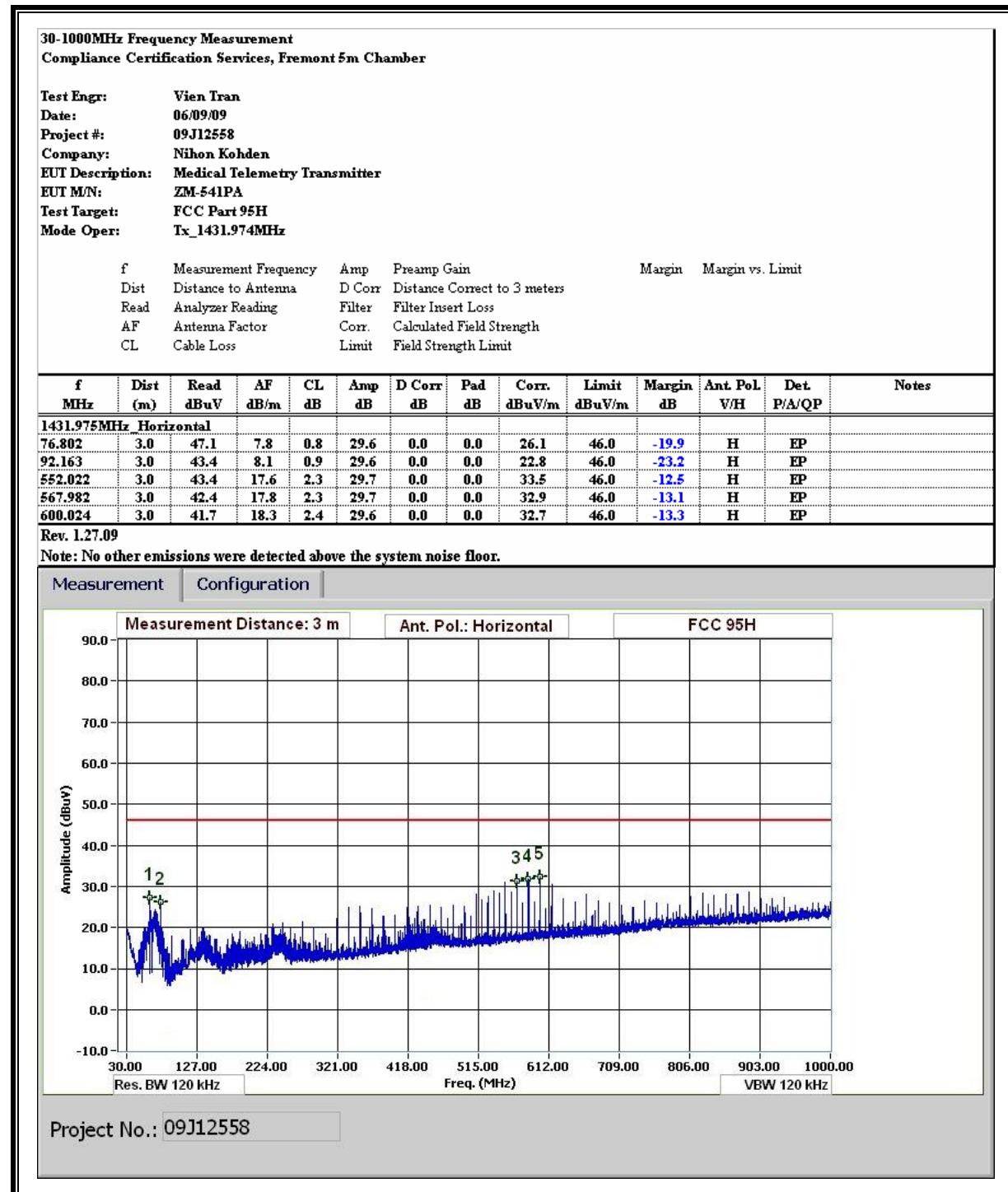
Note: No other emissions were detected above the system noise floor.

Measurement	Configuration
<div style="display: flex; justify-content: space-around;"> <div style="width: 33%;">Measurement Distance: 3 m</div> <div style="width: 33%;">Ant. Pol.: Vertical</div> <div style="width: 33%;">FCC 95H</div> </div>	
Res. BW 120 kHz	Freq. (MHz)
VBW 120 kHz	

Project No.: 09J12558

**SPURIOUS EMISSIONS 30 TO 960 MHz (HORIZONTAL)**

1431.975MHz



## SPURIOUS EMISSIONS 30 TO 960 MHz (VERTICAL)

30-1000MHz Frequency Measurement Compliance Certification Services, Fremont 5m Chamber													
Test Engr:	Vien Tran												
Date:	06/09/09												
Project #:	09J12558												
Company:	Nihon Kohden												
EUT Description:	Medical Telemetry Transmitter												
EUT M/N:	ZM-541PA												
Test Target:	FCC Part 95H												
Mode Oper:	Tx_1431.974MHz												
f	Measurement Frequency	Amp	Preamp Gain							Margin	Margin vs. Limit		
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters										
Read	Analyzer Reading	Filter	Filter Insert Loss										
AF	Antenna Factor	Corr.	Calculated Field Strength										
CL	Cable Loss	Limit	Field Strength Limit										
f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Pad dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
<b>1431.975MHz Vertical</b>													
33.12	3.0	30.9	18.9	0.5	29.7	0.0	0.0	20.7	46.0	-25.3	V	EP	
76.802	3.0	40.9	7.8	0.8	29.6	0.0	0.0	19.9	46.0	-26.1	V	EP	
552.022	3.0	40.5	17.6	2.3	29.7	0.0	0.0	30.6	46.0	-15.4	V	EP	
567.982	3.0	40.8	17.8	2.3	29.7	0.0	0.0	31.3	46.0	-14.7	V	EP	
600.024	3.0	40.2	18.3	2.4	29.6	0.0	0.0	31.2	46.0	-14.8	V	EP	

Rev. 1.27.09

Note: No other emissions were detected above the system noise floor.

Measurement	Configuration
<div style="display: flex; justify-content: space-around;"> <div style="width: 33%;">Measurement Distance: 3 m</div> <div style="width: 33%;">Ant. Pol.: Vertical</div> <div style="width: 33%;">FCC 95H</div> </div>	

### 8.3. RADIATED EMISSIONS ABOVE 960 MHz

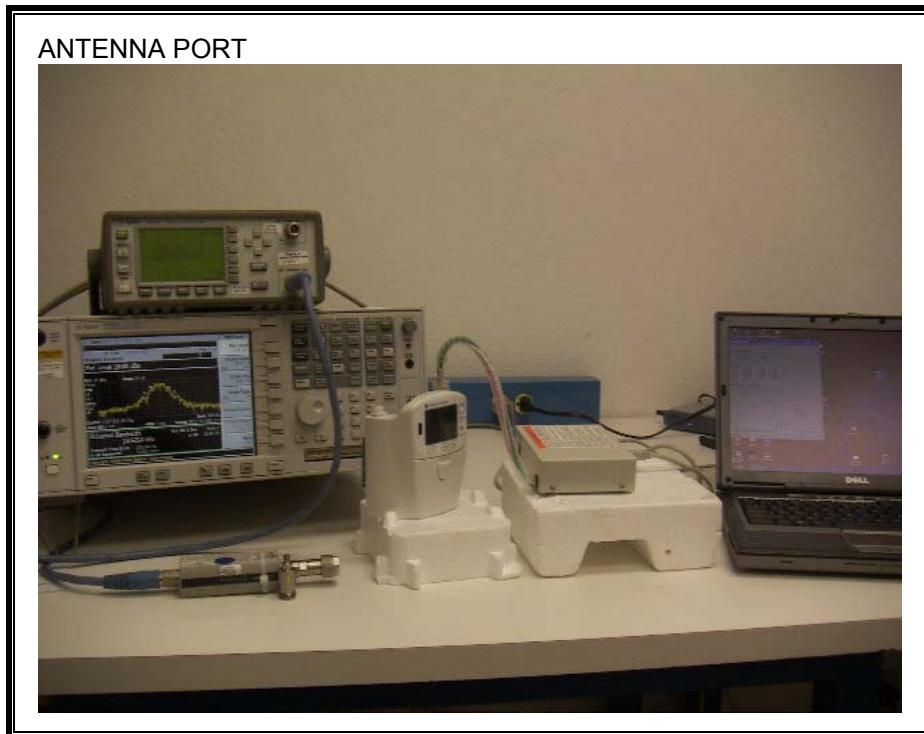
#### HARMONICS AND TX SPURIOUS EMISSIONS ABOVE 960 MHz

High Frequency Measurement Compliance Certification Services, Fremont 3m Chamber														
Test Engr:		Vien Tran												
Date:		06/10/09												
Project #:		09J12558												
Company:		Nihon Kohden												
EUT Description:		Medical Telemetry Transmitter												
EUT M/N:		ZM-541PA												
Test Target:		FCC Part 95H												
Mode Oper:		Tx												
f	Measurement Frequency	Amp	Preamp Gain											Average Field Strength Limit
Dist	Distance to Antenna	D	Corr	Distance Correct to 3 meters										Peak Field Strength Limit
Read	Analyzer Reading	Avg		Average Field Strength @ 3 m										Margin vs. Average Limit
AF	Antenna Factor	Peak		Calculated Peak Field Strength										Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter											
<b>1395.025MHz</b>														
2.790	3.0	38.6	29.1	4.2	-36.0	0.0	0.1	35.9	54.0	18.1	V	A		
4.185	3.0	36.9	32.2	5.3	-34.9	0.0	0.4	39.8	54.0	-14.2	V	A		
5.580	3.0	43.8	33.6	6.3	-34.9	0.0	0.5	49.3	54.0	-4.7	V	A		
6.975	3.0	40.1	35.1	7.1	-34.2	0.0	0.5	48.5	54.0	-5.5	V	A		
8.370	3.0	34.6	36.7	7.8	-34.4	0.0	0.6	45.3	54.0	-8.7	V	A		
9.765	3.0	33.1	37.5	8.6	-33.3	0.0	0.7	46.6	54.0	-7.4	V	A		
2.790	3.0	32.5	29.1	4.2	-36.0	0.0	0.1	29.8	54.0	-24.2	H	A		
4.185	3.0	32.6	32.2	5.3	-34.9	0.0	0.4	35.5	54.0	18.5	H	A		
5.580	3.0	39.1	33.6	6.3	-34.9	0.0	0.5	44.6	54.0	-9.4	H	A		
6.975	3.0	36.1	35.1	7.1	-34.2	0.0	0.5	44.6	54.0	-9.4	H	A		
8.370	3.0	26.3	36.7	7.8	-34.4	0.0	0.6	37.0	54.0	-17.0	H	A		
9.765	3.0	27.1	37.5	8.6	-33.3	0.0	0.7	40.6	54.0	13.4	H	A		
<b>1399.975MHz</b>														
2.800	3.0	40.7	29.1	4.2	-36.0	0.0	0.1	38.0	54.0	-16.0	V	A		
4.200	3.0	34.7	32.2	5.3	-34.9	0.0	0.4	37.7	54.0	-16.3	V	A		
5.600	3.0	43.5	33.6	6.3	-34.9	0.0	0.5	49.0	54.0	-5.0	V	A		
7.000	3.0	40.2	35.1	7.1	-34.2	0.0	0.5	48.7	54.0	-5.3	V	A		
8.400	3.0	31.4	36.7	7.9	-34.4	0.0	0.6	42.1	54.0	-11.9	V	A		
9.800	3.0	34.4	37.5	8.6	-33.2	0.0	0.7	48.1	54.0	-5.9	V	A		
11.200	3.0	22.3	37.8	9.3	-32.6	0.0	0.8	37.6	54.0	-16.4	V	A		
2.800	3.0	36.0	29.1	4.2	-36.0	0.0	0.1	33.4	54.0	20.6	H	A		
4.200	3.0	32.1	32.2	5.3	-34.9	0.0	0.4	35.1	54.0	-18.9	H	A		
5.600	3.0	40.4	33.6	6.3	-34.9	0.0	0.5	45.8	54.0	-8.2	H	A		
7.000	3.0	35.2	35.1	7.1	-34.2	0.0	0.5	43.7	54.0	-10.3	H	A		
8.400	3.0	26.4	36.7	7.9	-34.4	0.0	0.6	37.2	54.0	-16.8	H	A		
9.800	3.0	30.0	37.5	8.6	-33.2	0.0	0.7	43.7	54.0	-10.3	H	A		
11.200	3.0	20.2	37.8	9.3	-32.6	0.0	0.8	35.5	54.0	-18.5	H	A		
<b>1427.025MHz</b>														
2.854	3.0	37.0	29.3	4.2	-36.0	0.0	0.1	34.6	54.0	-19.4	V	A		
4.281	3.0	24.8	32.3	5.4	-34.9	0.0	0.4	27.9	54.0	26.1	V	A		
5.708	3.0	31.5	33.6	6.4	-35.0	0.0	0.4	36.5	54.0	-17.0	V	A		
7.135	3.0	28.8	35.3	7.2	-34.2	0.0	0.5	36.6	54.0	16.4	V	A		
2.854	3.0	35.5	29.3	4.2	-36.0	0.0	0.1	33.1	54.0	-20.9	H	A		
4.281	3.0	24.4	32.3	5.4	-34.9	0.0	0.4	27.5	54.0	-26.5	H	A		
5.708	3.0	30.8	33.6	6.4	-35.0	0.0	0.4	36.2	54.0	-17.8	H	A		
7.135	3.0	27.6	35.3	7.2	-34.2	0.0	0.5	36.3	54.0	-17.7	H	A		
8.562	3.0	21.9	36.9	8.0	-34.7	0.0	0.6	32.7	54.0	-21.3	H	A		
<b>1431.975MHz</b>														
2.864	3.0	38.2	29.3	4.2	-36.0	0.0	0.1	35.8	54.0	18.2	V	A		
4.296	3.0	24.7	32.3	5.4	-34.9	0.0	0.4	27.8	54.0	-26.2	V	A		
5.728	3.0	31.1	33.6	6.4	-35.0	0.0	0.4	36.5	54.0	-17.5	V	A		
7.160	3.0	27.8	35.3	7.2	-34.2	0.0	0.5	36.6	54.0	-17.4	V	A		
2.864	3.0	36.6	29.3	4.2	-36.0	0.0	0.1	34.2	54.0	-19.8	H	A		
4.296	3.0	24.5	32.3	5.4	-34.9	0.0	0.4	27.6	54.0	-26.4	H	A		
5.728	3.0	30.1	33.6	6.4	-35.0	0.0	0.4	35.5	54.0	-18.5	H	A		
7.160	3.0	27.6	35.3	7.2	-34.2	0.0	0.5	36.5	54.0	-17.5	H	A		
8.592	3.0	21.7	36.9	8.0	-34.7	0.0	0.6	32.5	54.0	-21.5	H	A		

Note: No other emissions were detected above the system noise floor.

## 9. SETUP PHOTOS

### ANTENNA PORT



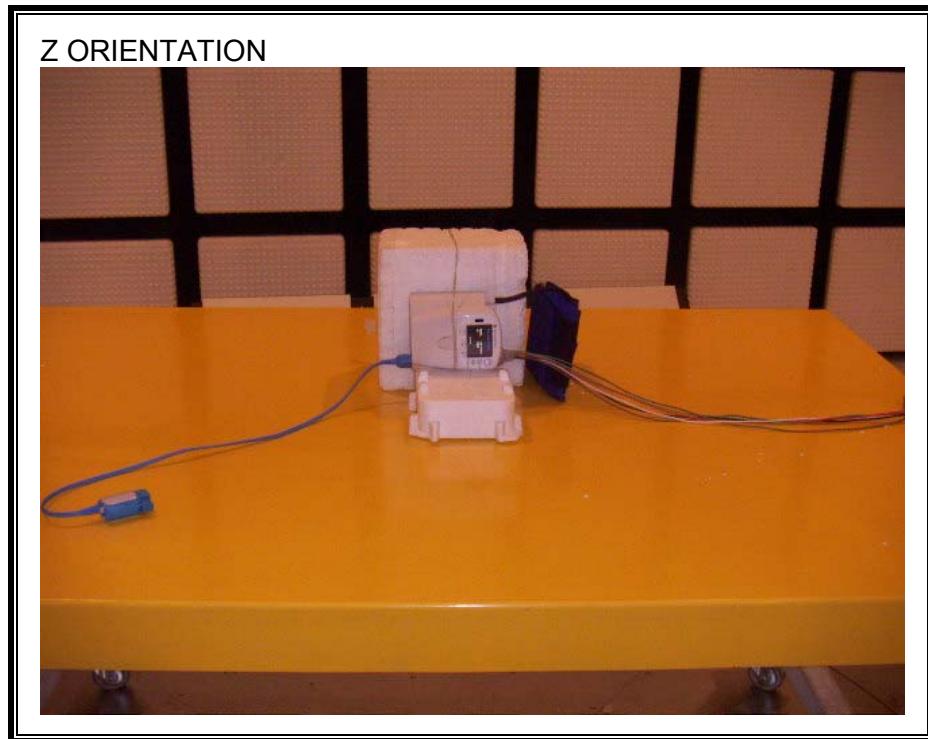
**RADIATED EMISSION FOR PORTABLE CONFIGURATION**

X ORIENTATION (Worst Position)



Y ORIENTATION





**END OF REPORT**