TEST REPORT #021002

STANDARD: FCC PART 15

SUBPART C--INTENTIONAL RADIATORS

SECTION 15.247 OPERATION IN THE BANDS 902-928 Mhz, 2400-2483.5 Mhz, and 5725-5850 Mhz

EQUIPMENT TESTED:

AMERICAN TELECARE, INC.

MODEL: NX PATIENT STATION 206A

TEST DATE: 02 OCTOBER 2002

INTERNATIONAL

1100 Falcon Avenue
Glencoe, MN 55336

Tele: 320-864-4444
Fax: 320-864-6611

CERTIFICATION SERVICES, INC.

Prepared for:

American TeleCare, Inc.
7640 Golden Triangle Drive
Eden Prairie, MN 55344

Test agent:

International Certification Services, Inc.
1100 Falcon Avenue
Glencoe, MN 55336
Tele: 320-864-4444
Fax: 320-864-6611

Test location:

International Certification Services, Inc.
1100 Falcon Avenue
Glencoe, MN 55336
Tele: 320-864-4444
Fax: 320-864-6611

Prepared by:

International Certification Services, Inc.
1100 Falcon Avenue
Glencoe, MN 55336

INTERNATIONAL

CERTIFICATION SERVICES, INC.

1.0 TEST SUMMARY

TEST REPORT: #021002	
COMPANY:	American TeleCare, Inc.
AGENT:	International Certification Services, Inc.
PHONE:	320-864-4444
TEST DATE:	02 October, 2002
EQUIPMENT UNDER TEST:	NX Patient Station with Blue Tooth Transmitter
GENERAL TEST SUMMARY:	The testing was performed at International Certification Services, Inc. at 1100 Falcon Ave, Glencoe, MN 55336
VERIFICATION / CERTIFICATION STATUS:	The American TeleCare, Inc. Model: NX Patient Station 206A system was found to be in compliance with the FCC Part 15 Subpart C, Section 15.247 requirements.
MODIFICATIONS NECESSARY:	None

TESTED BY

Steve Wendlandt

WRITTEN BY

Duane R. Bagdons

Applicable Standards

47 CFR Ch.1 (10-1-98 Edition)

FCC Part 15 Radio Frequency Devices

Subpart C Intentional Radiators

Section 15.247 Operation in the Bands 902-928 Mhz, 2400-2483.5 Mhz, 5725-5850 Mhz

2.1 Referenced Standards

ANSI C63.4-1992 Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 Khz to 40 Ghz.

2.2 Equipment Units Tested

The equipment tested is a Home Health care device. It guides patients on a daily basis, through the process of taking their vital signs and answering questions about their health condition. The compact, easy to use unit is placed in the patient's residence, where it will remind them every day at the same time to take their vital signs (blood pressure, pulse, weight, blood sugar, oxygen saturation, and others). It will also ask them a series of simple questions relating to their healthcare status, gathering additional objective and subjective information. After the vital signs measurements are taken, the NX Patient Station connects via the patient's telephone line to the NX Web Server, Located at the provider's office, to upload the data into the patient's record. Each patient record at the NX Web Server contains individualized physician recommended parameters. If received measurements are outside of those parameters, the software will indicate this by highlighting the information in red. The NX Web Server will also organize the data, identifying those patients whose vital signs are outside of physician recommended parameter, allowing providers to instantly determine which patients are at risk and in need of an intervention. Hundreds of patients can be simultaneously monitored.

The incorporated Spread Spectrum (Blue Tooth) wireless transmitter communicates between the peripheral health measuring devices and the computer to record the measured data. The Spread Spectrum signal generation and transmission is performed by a chip made by CSR, Ltd (BlueCore 2 External single chip Blue Tooth System P/N: BC212013). All hardware functions are generated in this chip for the RF signals. The antenna is a BlueChip by Centurion Wireless Technologies, Inc. This component is ¼ wave antenna self contained in a miniature chip package. All RF and spread spectrum controls are hardware and software with no adjustments left to the operator.

The Spread Spectrum output transmits on 79 frequencies with a dwell time at each frequency of 520 uS and a carrier frequency separation of 1.098 Mhz. The exact measured data is given in subsequent sections of this report.

The receiver is a SAW based type device and do not have a local oscillator. This part of the system has been verified here at the lab also for radiated emissions and found to be compliant with the 15.109 regulation for Radiated Emission Limits.

2.3 Equipment and Cable Configuration

See photos of the EUT PC board and schematic and test configuration setup in Attachment A

2.4 List of Test Equipment

Test Equipment	Model	S/N	Last Calibration Date
Spectrum Analyzer	Hewlett-Packard 8566B	2421A00458	08/01/02
Preamp	MiniCircuits ZKL-2R7	N/A	06/24/02
Log Periodic Antenna (200-1000 MHz)	EMCO 3146	9101-2991	12/17/01
Horn Antenna (1-18 Ghz)	EMCO 3115	5697	12/17/01
Horn Antenna (18-40 Ghz)	EMCO 3116	4829	12/17/01

Measurement cable losses, and antenna correction factors are included in the Corrected Data column of the data sheet. Quasi Peak Detection was used for measuring the Fundamental frequency signal and Average detection method was used to measure the Harmonics since they were all above 1000 Mhz. The Resolution BW was set at 100 Khz and the Video BW was set at 1 Hz with a Span of 0 Hz to perform the correct average detected measurements. All measurements were taken using the "Measurement Guidelines for Frequency Hopping Spread Spectrum Systems" (FCC DA 00-705 released March 20, 2000). Most measurements were taken with the Spectrum Analyzer directly connected to the EUT Transmitter as required by the above mentioned FCC Guidelines document. Only the Radiated Spurious Harmonics was measured on the OATS site.

2.5 Units of Measurement.

All OATS measurements were taken in dBuV/m with the antenna located at 1 meter distance from the EUT. Frequency measurements are recorded in Mhz.

2.6 Location of Test Site

The open area test site (OATS) and conducted measurement facility used to collect the data was International Certification Services, Inc. at 1100 Falcon Ave. in Glencoe, MN 55336. This site has been certified to be in compliance with the normalized site attenuation section of CISPR 16-1. (See FCC Registration number: 91103 and Industry Canada File number: IC 3701.)

2.7 Measurement Procedures

The antenna was placed at a distance of 1 meter from the EUT. The EUT was set on an insulating table in the OATS site and rotated through 360 degrees to determine the worst case EUT orientation. The antenna was then positioned vertical and horizontal to determine which antenna polarity orientation was worst case. Then certification data was recorded at all the transmitter frequencies from the fundamental to the 10^{th} harmonic at an antenna height variation of from 1-4 meters.

2.8 Reporting Measurement Data

See data sheets and plots in Attachment B for the Transmitter section and in Attachment C for the Receiver section of the product.

2.9 Radiated Spurious Emissions Data

The frequency and amplitude of the Fundamental frequency of the EUT along with the frequencies and amplitudes of the harmonics up to the 10th harmonic were observed and are reported in the data sheets in Attachment B. Signal frequencies above 4803.994 Mhz were below the noise floor of the measurement system. This information is plotted against the limit of section 15.247 of FCC Part 15 subpart C. Both Horizontal and Vertical antenna polarities as well as antenna heights of 1 to 4 meters were observed but all maximum signal strengths occurred in the Horizontal antenna polarity and at 1 meter antenna height.

The Final Level, expressed in dBuV/m, is arrived at by taking the reading from the spectrum analyzer (Level dBuV) and adding the antenna correction factor and cable loss factor (Factor dB) and subtracting the preamp gain. This result then has the FCC limit subtracted from it to provide the margin which gives the tabular data as shown in the data sheets in Attachment B.

Example:

Frequency (MHz)		Level (dBuV)	+	Factor (dB)	=	Corr Data (dBuV/m)	-	FCC Limit (dBuV/m)	=	Margin (dB)
100.0		20.6	+	11.0	=	31.6	-	43.5	=	-11.9

2.10 Summary of Results

The EUT passed all of the requirements of FCC Part 15 Subpart C, Section 15.247. No modifications were necessary to accomplish this compliance.

ATTACHMENT A

RADIATED MEASUREMENT SCHEMATIC AND PHOTOS

American TeleCare, Inc.
Model: NX Patient Station 206A
Transmitter Test Configuration (direct coupled to the Spectrum Analyzer)

ATTACHMENT B
TRANSMITTER SECTION
DETAILED TEST DATA SHEETS

Each radiated emissions plot takes into consideration the antenna distance in meters compared to the distance that the limit is defined at (3 Meters) as well as all the correction factors in the measuring system.

American TeleCare, Inc.
Model: NX Patient Station 206A
Temperature: 67 Deg F.
Humidity: 64 % R.H.

Test Technician: Steve Wendlandt

The following measurements were performed per the "…Measurement Guidelines for Frequency Hopping Spread Spectrum Systems" FCC Document #DA 00-705 released March 30, 2000.

Section 15.31 (m)

This rule specifies the number of operating frequencies to be examined for tunable equipment.

This equipment is not tunable, all frequencies and output levels are set at the design and are not adjustable.

Section 15.203:

Describe how the EUT complies with the requirement that either its antenna is permanently attached, or that it employs a unique antenna connector, for every antenna proposed for use with the EUT.

The EUT uses a PC board mounted chip type antenna. One and only one antenna P/N is used in this product. The chip antenna is a BlueChip Antenna made by Centurion Wireless Technologies, Inc.

Section 15.203:

Provide the following information for every antenna proposed for use with the EUT: (a) type (e.g., Yagi, Patch, Grid, dish, etc.,), (b) manufacturer and model number , and (c) gain with reference to an isotropic radiator.

The antenna used is a Model: BlueChip Antenna made by Centurion Wireless Technologies, Inc. The specified Peak Gain > 2 dBi (azimuth plane – vertical polarization) and the Average Gain >0 dBi (azimuth plane – vertical polarization)

Section 15.207:

If the unit is designed to be connected to the public utility power line, the voltage conducted back onto the AC power line must be measured, in order to demonstrate compliance with the limit specified in this Section.

The BlueTooth transmitter is part of a system of electronics that plugs into the MAINS through a in line power supply. The conducted emissions of the system were measured and are shown in the data table below.

Freq (Mhz)	dBuV	COND	Corr Data (dBuV)	QP Limits	QP Margin
0.15	32.76	Line1	44.971	79	-34.029
0.2075	29.78	Line1	41.0751	79	-37.9249
0.535	**34.34**	**Line1**	**44.92**	**73**	**-28.08**
0.615	26.95	Line1	37.53	73	-35.47
0.82	24.77	Line1	35.45	73	-37.55
0.8625	24.27	Line1	34.95	73	-38.05
1.3875	24.55	Line1	35.2175	73	-37.7825
1.3925	23.79	Neutral	34.4625	73	-38.5375
1.4725	24.01	Line1	34.69	73	-38.31
2.005	23.88	Line1	34.56	73	-38.44

Worst Case Margin

Section 15.247 (a)

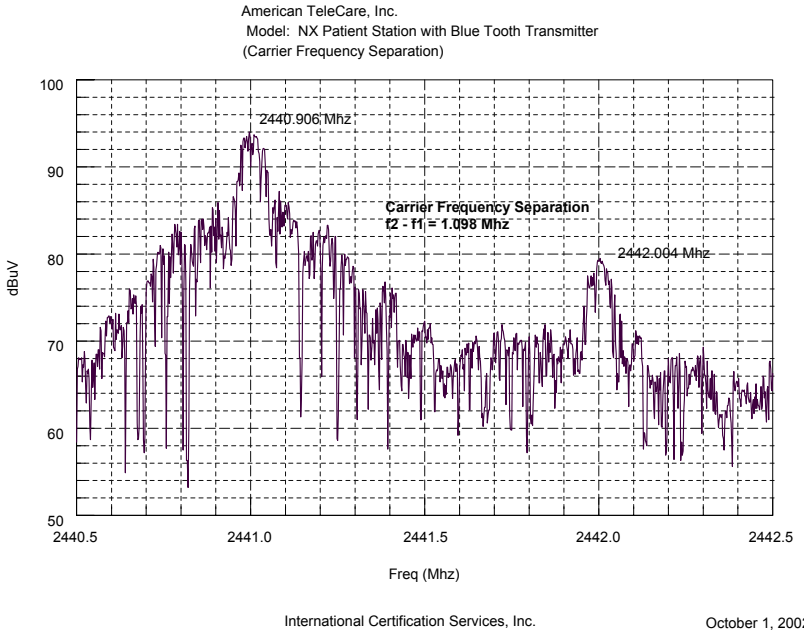
Describe how the EUT meets the definition of a frequency hopping spread spectrum system, found in Section 2.1, based on the technical description.

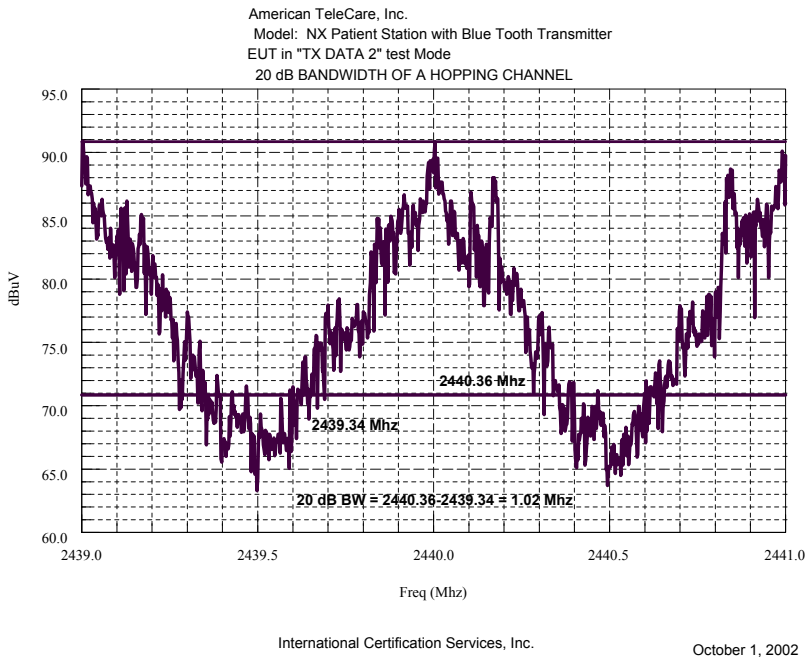
The technical description listed in Section 2.1 states that the definition of a frequency hopping system is that the frequency of the carrier is not fixed but changes at fixed intervals under the direction of a coded sequence. The near term distribution of hops appears random, the long term distribution appears evenly distributed over the hop set, and sequential hops are randomly distributed in both direction and magnitude of change in the hop set. In this device, there is a set of 79 frequencies that are used. The frequency sequence is pseudo-randomly generated by the master BlueTooth device in the system of 8 units. This is a pseudo random generation with a repeating pattern based on a 23 hour 30 minute cycle. A typical frequency hopping sequence is as follows: 40, 21, 44, 23, 42, 53, 46, 55, 48, 33, 52, 35, 50, 65, 54, 67, 56, 37, 60, 39, 58, 69, 62, 71, 64, 25, 68, 27, 66, 57, 70, 59, 72, 29, 76, 31, 74, 61, 78, 63, 01, 41, 05, 43, 03, 73, 07, 75, 09, 45, 13, 47, 11, 77, 15, 00, 64, 49, 66, 53, 68, 02, 70, 06, 01, 51, 03, 55, 05, 04. Dwell times at each frequency are fixed and the various frequencies appear to have a random sequence but over the long term they are used equally in the allowed spectrum of 2402 to 2480 Mhz..

Carrier Frequency Separation:

Specified Limit 15.247 (a) (1)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.





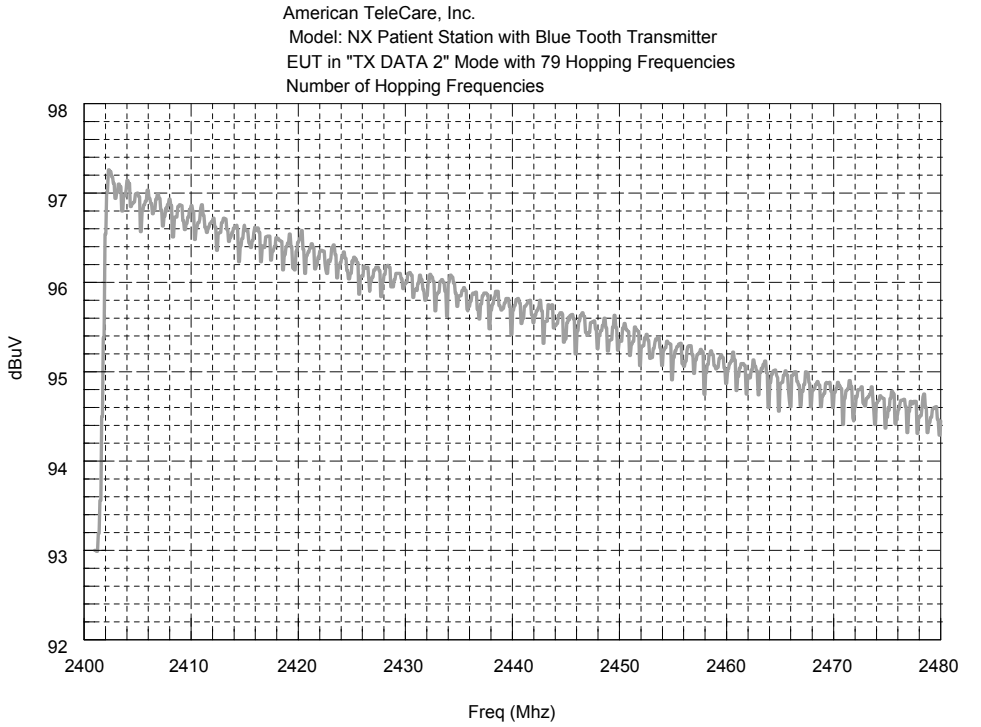
20 dB BW of a Hopping Channel = 2440.36 – 2439.34 = 1.02 Mhz

Carrier Frequency Separation = 1.098 Mhz

The Carrier Frequency Separation (1.098 Mhz) is greater than the 20 dB BW of a Hopping Channel (1.02 Mhz) hence this EUT complies with the 15.247 requirement.

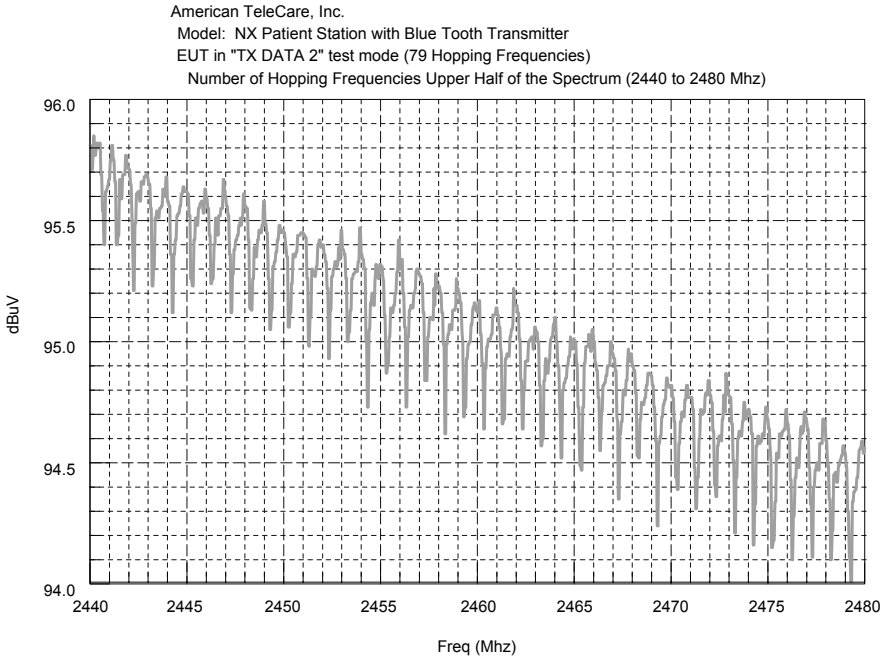
Number of Hopping Frequencies:

With the Hopping function enabled, plot the frequencies being transmitted with a Max Hold function on the spectrum analyzer.

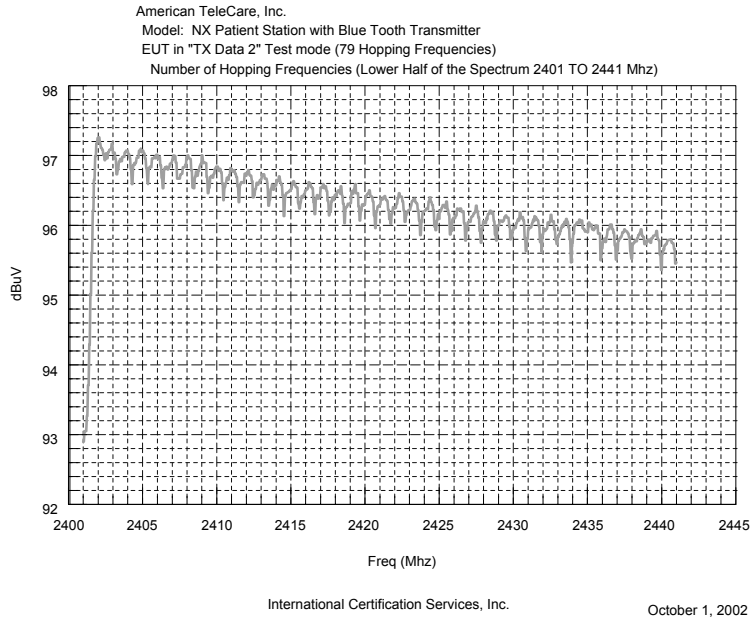


All 79 frequencies from the full spectrum 2400 to 2480 Mhz

Number of Hopping Frequencies:



Half of the Frequencies (Upper half of the Spectrum)



Half of the frequencies (Lower Half of the spectrum)

The plots above show the full 79 hopping frequencies as required.

Time of Occupancy (Dwell Time)

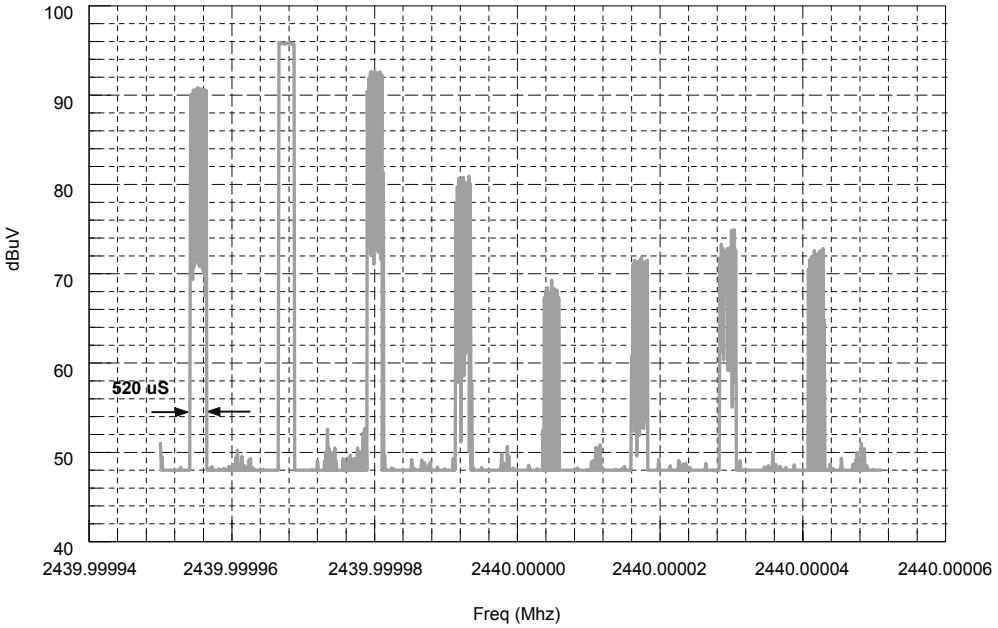
Hopping function enabled

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

79 X 0.4 seconds =31.6 seconds

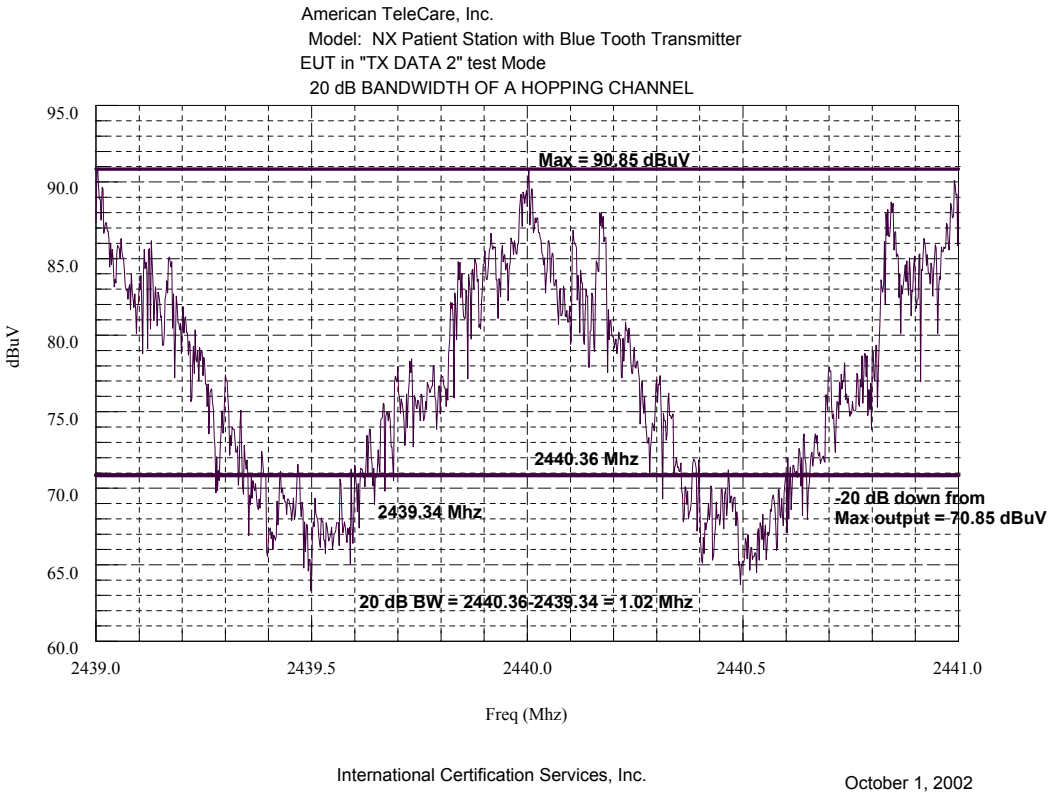
0.4 seconds within a 31.6 second period

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
EUT in "TX DATA 2" test mode
TIME OF OCCUPANCY (DWELL TIME)



International Certification Services, Inc. October 1, 2002

20 dB Bandwidth



Pseudorandom Frequency Hopping Sequence

Describe how the hopping sequence is generated. Provide an example of the hopping sequence channels, in order to demonstrate that the sequence meets the requirement specified in the definition of a frequency hopping spread spectrum system, found in Section 2.1.

The internal clock is derived from a free running clock which is never adjusted and is never turned off. For synchronization with other units, only the offsets are used. It has no relation to the time of day. Its resolution is at least half the RX / TX slot length of 312.5 uS. The clock has a cycle of about one day (23 hours, 30 seconds). The clock is implemented as a 28 bit counter. For the deriving of the hopping sequence the entire LAP (24 bits), 4 LSB's (4 bits) (Input 1) and the 27 MSB's of the clock (input 2) are used. With these input values, different mathematical procedures (permutations, additions, XOR-operations) are performed to generate the sequence. This is done at the beginning of every new transmission. A typical frequency hopping sequence is as follows: 40, 21, 44, 23, 42, 53, 46, 55, 48, 33, 52, 35, 50, 65, 54, 67, 56, 37, 60, 39, 58, 69, 62, 71, 64, 25, 68, 27, 66, 57, 70, 59, 72, 29, 76, 31, 74, 61, 78, 63, 01, 41, 05, 43, 03, 73, 07, 75, 09, 45, 13, 47, 11, 77, 15, 00, 64, 49, 66, 53, 68, 02, 70, 06, 01, 51, 03, 55, 05, 04.

Equal Hopping Frequency Use

Describe how each individual EUT meets the requirement that each of its hopping channels is used equally on average (e.g., that each new transmission event begins on the next channel in the hopping sequence after the final channel used in the previous transmission event).

In every connection, one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slots according to the clock of the master. Additionally the type of connection (e.g. single or multi-slot packet) that is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also, the slave of the connection uses these settings. Repeating of a packet has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be sent on the same frequency, it is sent on the next frequency of the hopping sequence.

System Receiver Input Bandwidth

Describe how the associated receiver complies with the requirement that its input bandwidth (either RF or IF) matches the bandwidth of the transmitted signal.

The design of the BlueTooth transceiver chip implements a TX bandwidth of 1 Mhz and a RX bandwidth of 1 Mhz. There are no external components that effect this arrangement.

System Receiver Hopping Capability

Describe how the associated receiver has the ability to shift frequencies in synchronization with the transmitted signals.

In every connection, one Bluetooth device is the master (TX) and the other one is the slave (RX). The master (TX) determines the hopping sequence. The slave (RX) follows this sequence. Both devices shift between RX and TX time slots according to the clock of the master (TX). Additionally the type of connection (e.g. single or multi-slot packet) that is set up at the beginning of the connection. The master (TX) adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also, the slave (RX) of the connection uses these settings.

Section 15.247 (b)
Peak Output Power

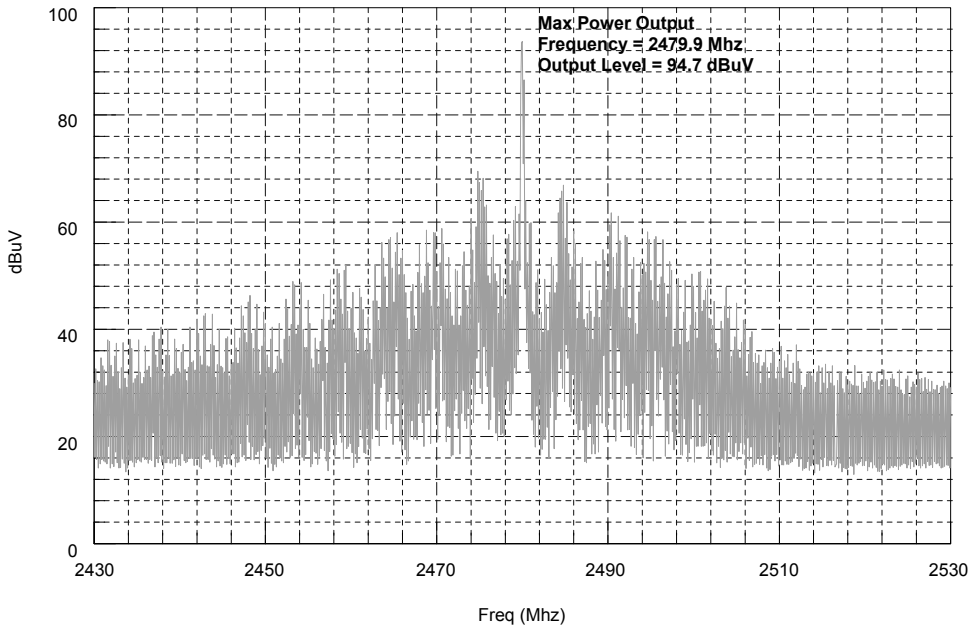
15.247 (b)

The Maximum peak output power of the intentional radiator shall not exceed the following:

(1) For frequency hopping systems operating in the 2400-2483.5 Mhz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850 Mhz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 Mhz band: 0.125 watts.

For this system operating at 2400-2483.5 Mhz with 79 Hopping frequencies, the Maximum allowed power output is 1 watt. The measured power output (using direct coupling to the spectrum analyzer) is 94.7 dBuV into 50 ohms which equals 59.024 uW. This is well within the allowed FCC Limit described. See plot below.

American TeleCare, Inc.
Model: NX Patient Station (Blue Tooth Transmitter Output)
Spectrum Analyzer direct coupled to the transmitter
Maximum Transmitter Output Level



International Certification Services, Inc. October 1, 2002

DeFacto EIRP Limit

Describe how the EUT complies with the de facto EIRP limit for every antenna proposed for use with the EUT. This includes those devices that will be used in point-to-point applications. If the peak output power, as measured above , must be reduced so that the de facto EIRP limit may be met for a particular antenna, describe exactly how much it will be reduced for that antenna. If the peak output power level is raised above the limit in order to compensate for cable loss between the EUT and the antenna, specify the minimum length of cable with will always be used, the type of cable, and its loss, in dB per unit length, for the frequency of the emissions. The limit is specified in one of the subparagraphs of this Section. Also, specify who will be responsible for ensuring that compliant operation is maintained for every antenna that will be used with the EUT.

The only antenna that is used is the internal BlueChip antenna that is soldered the the PC board internally. Also, there are no power adjustments for the operator. This system as shown on the Peak Power Output section previous to this shows that it is within the 1 watt of power that is allowed by this section 15.247.

Point-to-Point Operation

If the EIRP relaxation for point-to-point operation is proposed for any particular antenna, describe who will be responsible for ensuring that the EUT is only used in such an application.

This is not applicable for this device since the EIRP relaxation is not used.

RF Exposure Compliance Requirements

Spread spectrum transmitters operating under Section 15.247 are categorically excluded from routine environmental evaluation for demonstrating RF exposure compliance with respect to MPE and/or SAR limits. These devices are not exempted from compliance. As indicated in Section 15.247 (b) (4), these transmitters are required to operate in a manner that ensures that exposure to the public (users and nearby persons) does not exceed the Commission's RF exposure guidelines (see Section 1.1307, 2.1091 and 2.1093). Unless a device operates at substantially low output power levels, with a low gain antenna, supporting information is generally needed to establish the various potential operating configurations and exposure conditions of a transmitter and its antenna, in order to determine compliance with the RF exposure guidelines.

In order to demonstrate compliance with MPE requirements (see Section 2.1091), the following information is typically needed: (1) calculations that estimate the minimum separation distance (20 cm or more) between an antenna and persons required to satisfy power density limits (defined for free-space), (2) antenna installation and device operating instructions for installers (professional and/or unskilled users), and the parties responsible for ensuring compliance with the RF exposure requirements, (3) any caution statements and/or warning labels that are necessary in order for a device to comply with the exposure limits, and (4) any other RF exposure related issues that may affect MPE compliance.

This device is not a handheld device, it is a table top setting device and would never be operated near the human body as a cell phone would be. The proximity to the human

body would typically be at least 24 inches (60.96 cm) away. Also, the low power level used (59.024 uW) and the spread spectrum transmitting technique coupled with the fact that this device does not transmit continually and not even periodically. It only transmits when data is ready to transmit which typically would be perhaps at the most minutes in between transmissions. Also the antenna is a built in device soldered onto the PC board and not adjustable and the output power is not operator adjustable as well. I believe this device is not a threat to MPE or SAR limits.

Installation/Operation Manual Requirements

The operation manual is a separate attached document to this project filing. The power output settings are fixed at the manufacturing time and are set based on the testing that was performed for this filing.

Section 15.247 (c)
Band-edge Compliance of RF Conducted Emissions

First with the EUT set to transmit only on the frequency channel closest to the band edge, plot the signals outside the band edge against the allowed limit per 15.247 (c)

15.247 (c)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209 (a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emissions limits specified in Section 15.209 (a) (see Section 15.205(c)

In Single Frequency operating mode, the Maximum In Band Output Level occurs at 2480 Mhz and is 94 dBuV and the Maximum Out of Band Output Level occurs at 2484.8 Mhz and measures 65.15 dBuV.

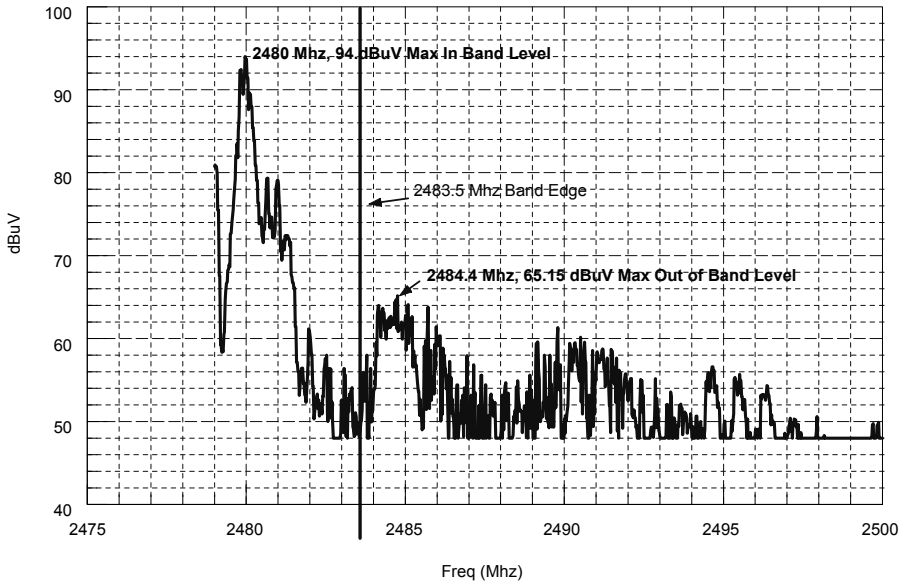
In Spread Spectrum operating mode, the Maximum In Band Output Level occurs at 2480 Mhz and is 93.55 dBuV and the Maximum Out of Band Output Level occurs at 2484.7 Mhz and measures 63.65 dBuV.

Considering the FCC 15.247 (c) limit of -20 dB down from the maximum In Band Power level, the Limit for Out of Band signals would be 74 dBuV. Both of these measurements meet the requirement of FCC 15.247 (c)

See the two plots on the next page of the above data.

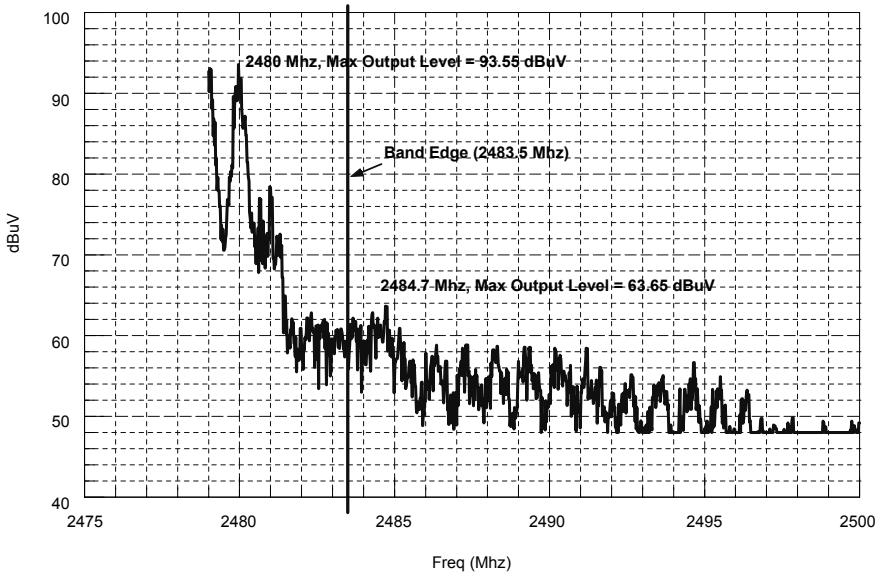
Band-edge Compliance of RF Conducted Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
EUT in "TX DATA 1" test mode (single frequency mode 2480 Mhz)
BAND-EDGE COMPLIANCE OF RF CONDUCTED EMISSIONS



International Certification Services, Inc. October 1, 2002

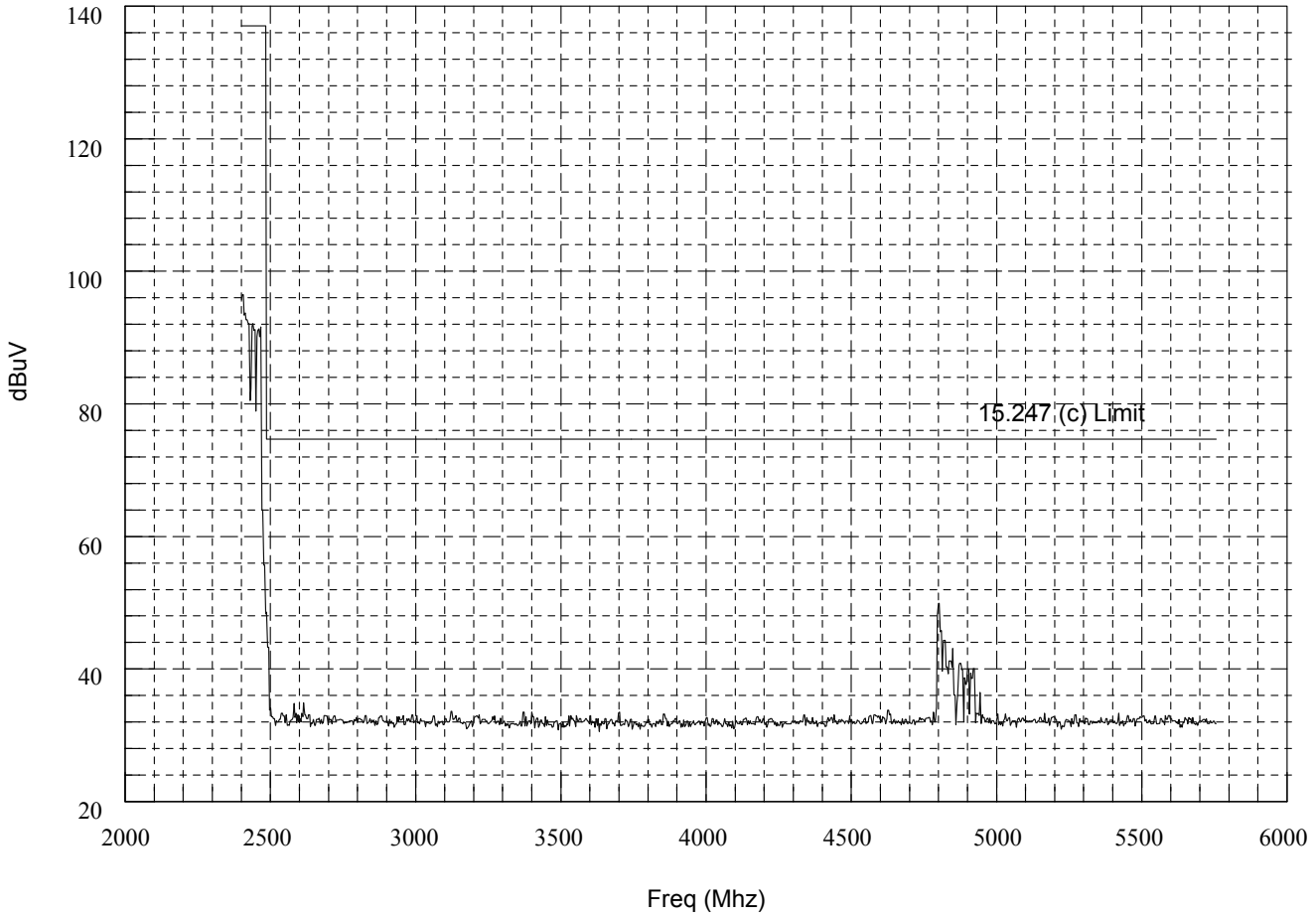
American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
EUT in "TX DATA 2" test mode (Spread Spectrum)
BAND-EDGE COMPLIANCE OF RF CONDUCTED EMISSIONS



International Certification Services, Inc. October 1, 2002

Spurious RF Conducted Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Spurious Conducted Emissions (2400 to 5756 Mhz)



International Certification Services, Inc.

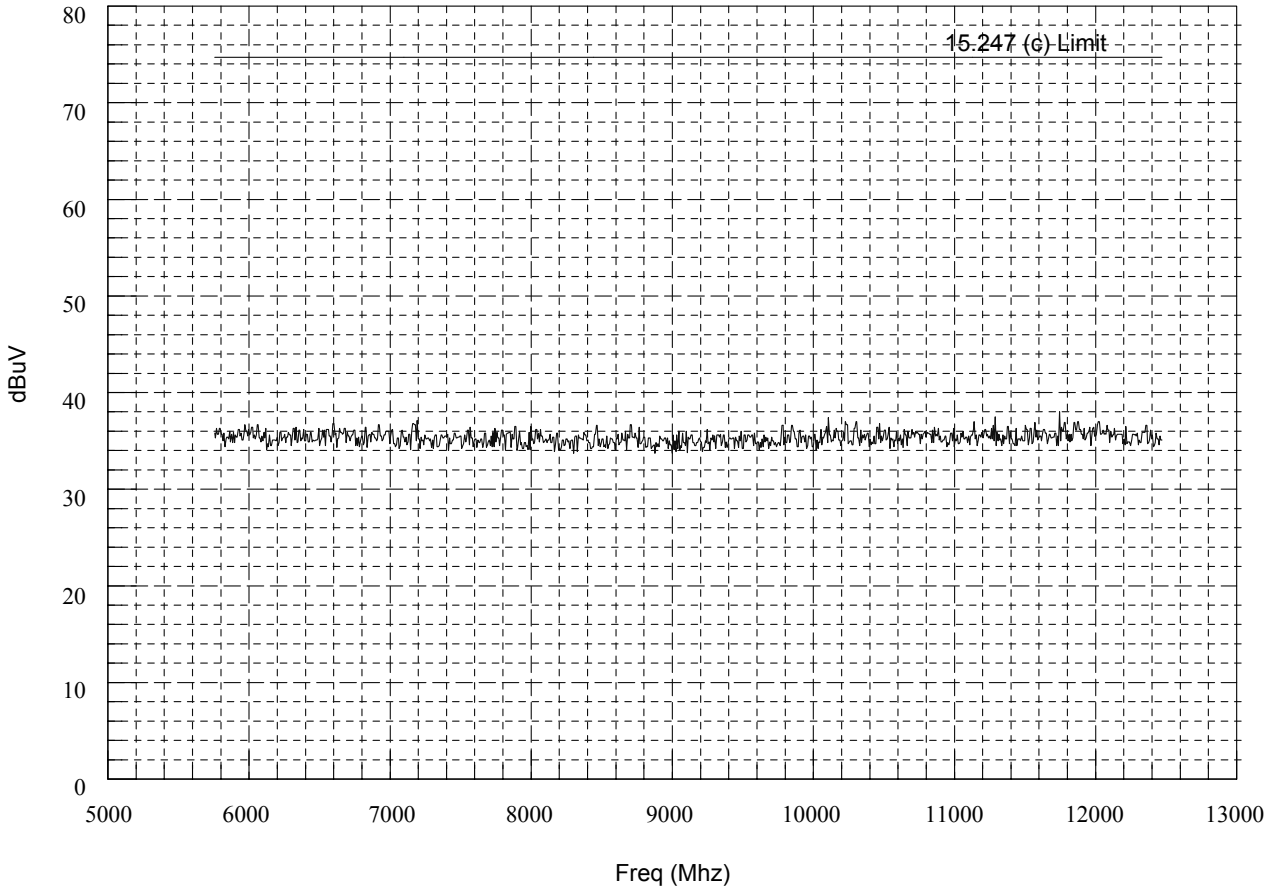
October 2, 2002

INTERNATIONAL

CERTIFICATION SERVICES, INC.

Spurious RF Conducted Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Spurious Conducted Emissions (5756 Mhz to 12470 Mhz)

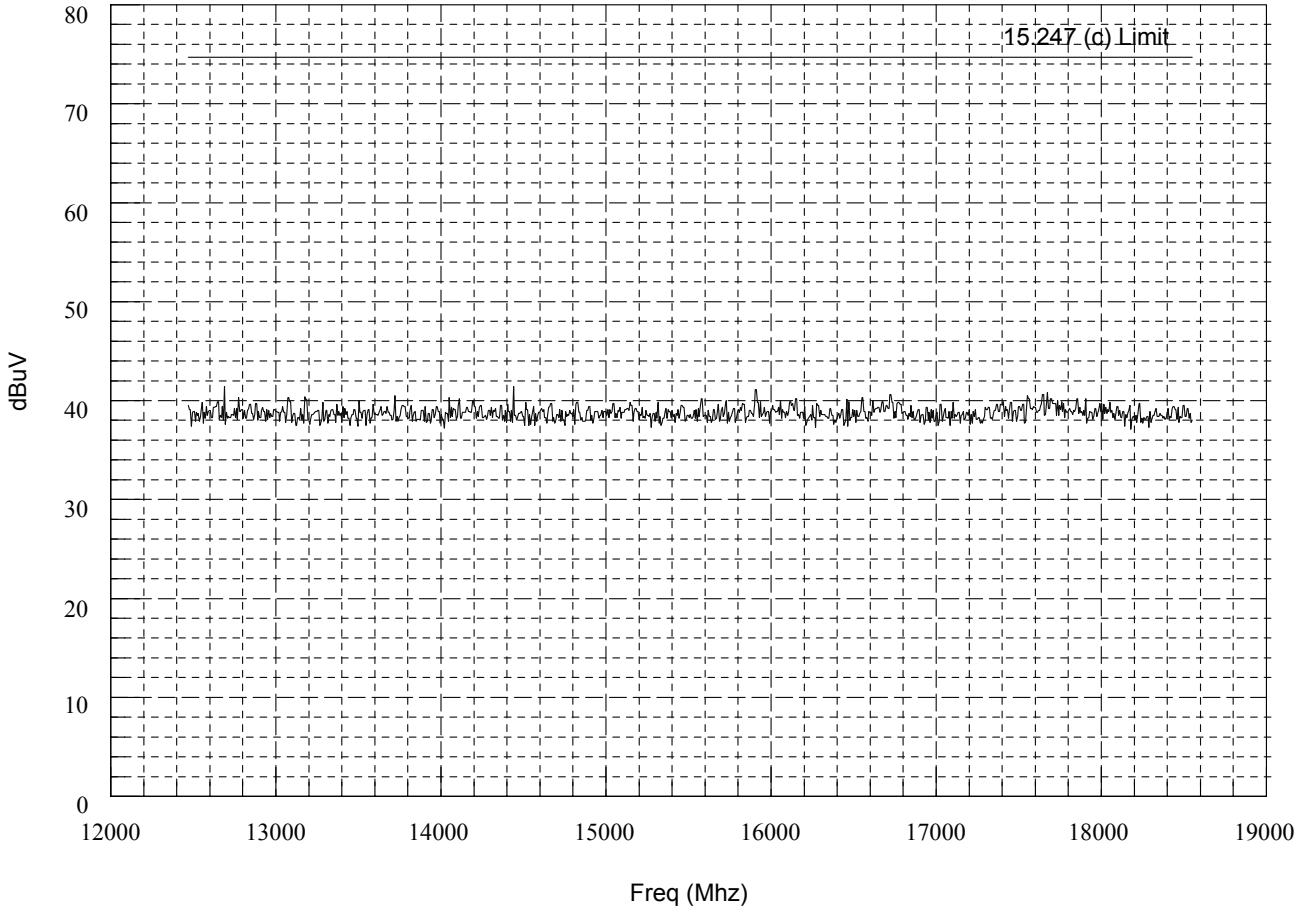


International Certification Services, Inc.

October 2, 2002

Spurious RF Conducted Emissions

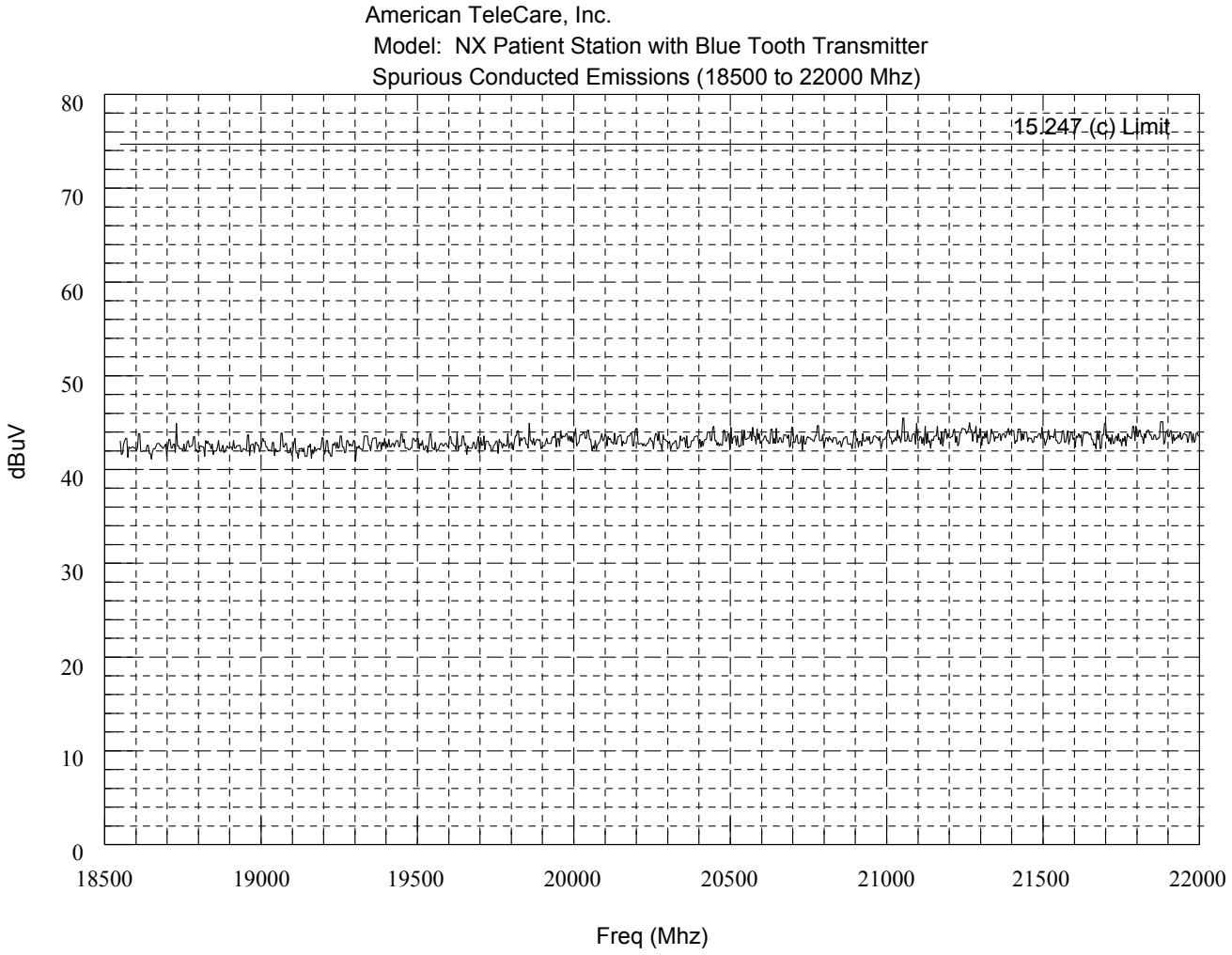
American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Spurious Conducted Emissions (12470 to 18550 Mhz)



International Certification Services, Inc.

October 2, 2002

Spurious RF Conducted Emissions



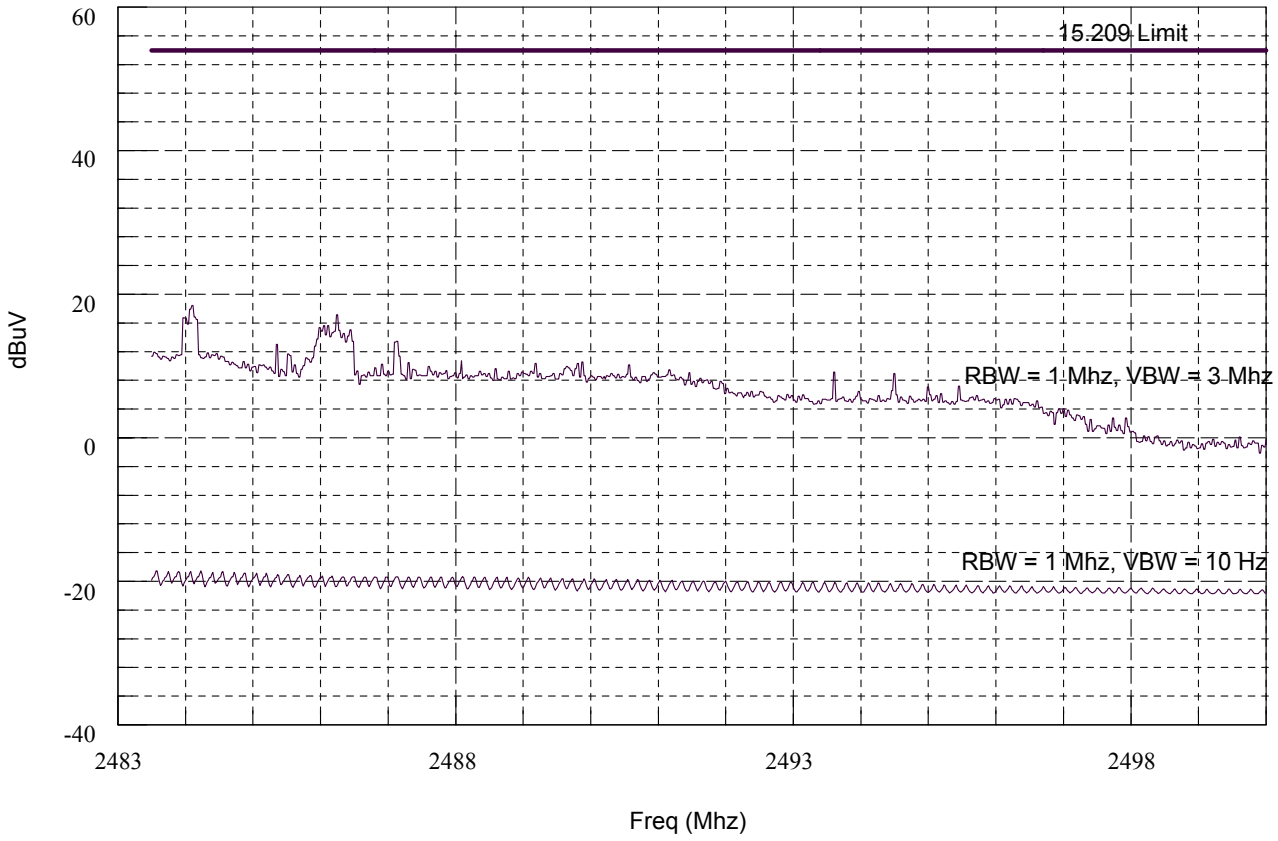
International Certification Services, Inc.

October 2, 2002

Spurious RF Radiated Emissions

As required by the FCC guidelines for testing this device, two plots are drawn on each graph. The first one is with the Video Bandwidth set at 3 times the Resolution Bandwidth (i.e. RBW = 1 Mhz, VBW = 3 Mhz) with the Peak Detector ON and the second plot is with the Video Bandwidth changed to VBW = 10 Hz to effect an AVERAGE detection of the signal. Also, since the dwell time per channel was less than 100 mS, the reading obtained with the 10 Hz VBW was adjusted by a "duty cycle correction factor" derived from 20 LOG (Dwell time/100 mS), in an effort to demonstrate compliance with the 15.209 limit.

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(2483.5 to 2500 Mhz)

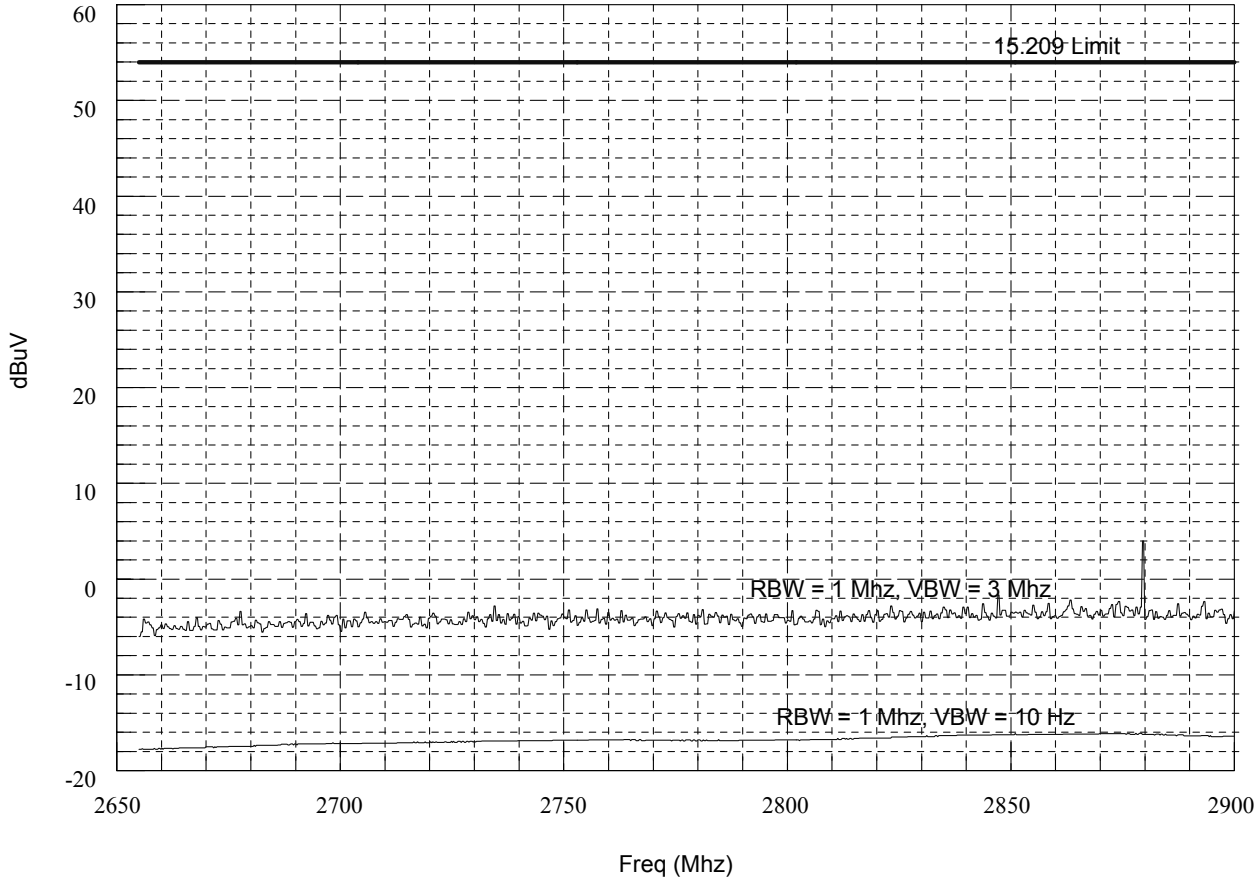


International Certification Services, Inc.

October 7, 2002

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(2655 to 2900 Mhz)

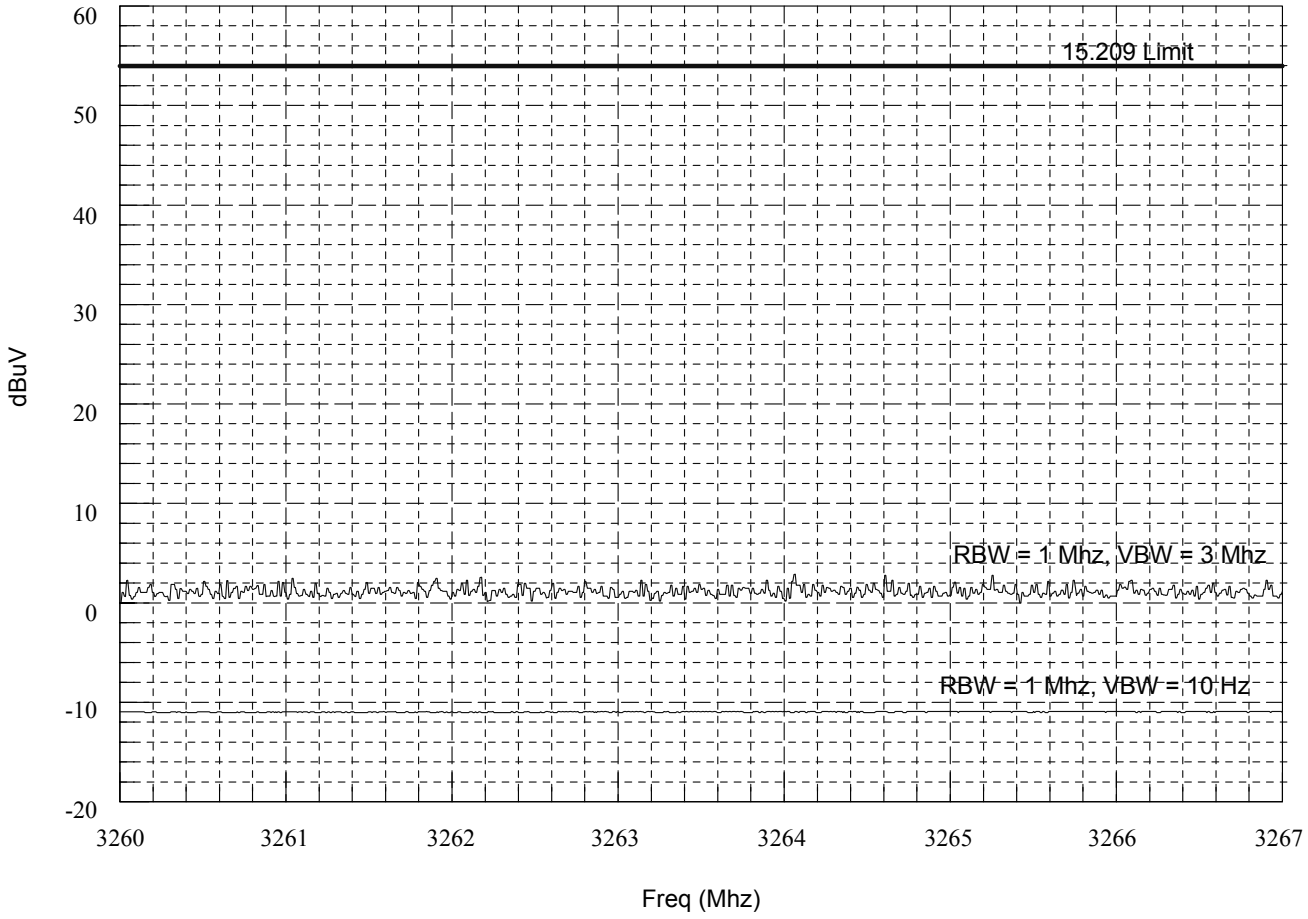


International Certification Services, Inc.

October 7, 2002

Spurious RF Radiated Emissions

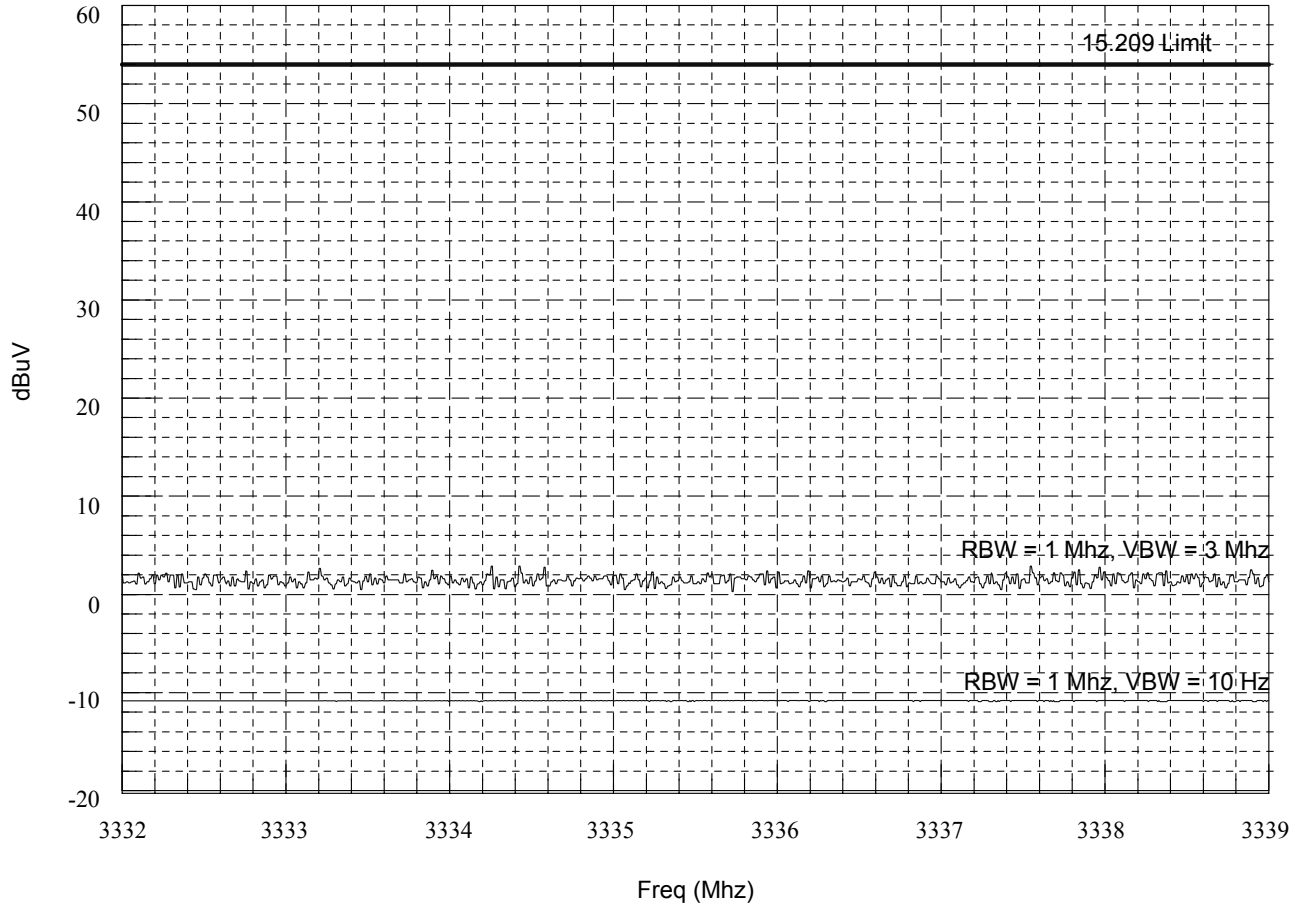
American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(3260 to 3267 Mhz)



International Certification Services, Inc. October 7, 2002

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(3332 to 3339 Mhz)



International Certification Services, Inc.

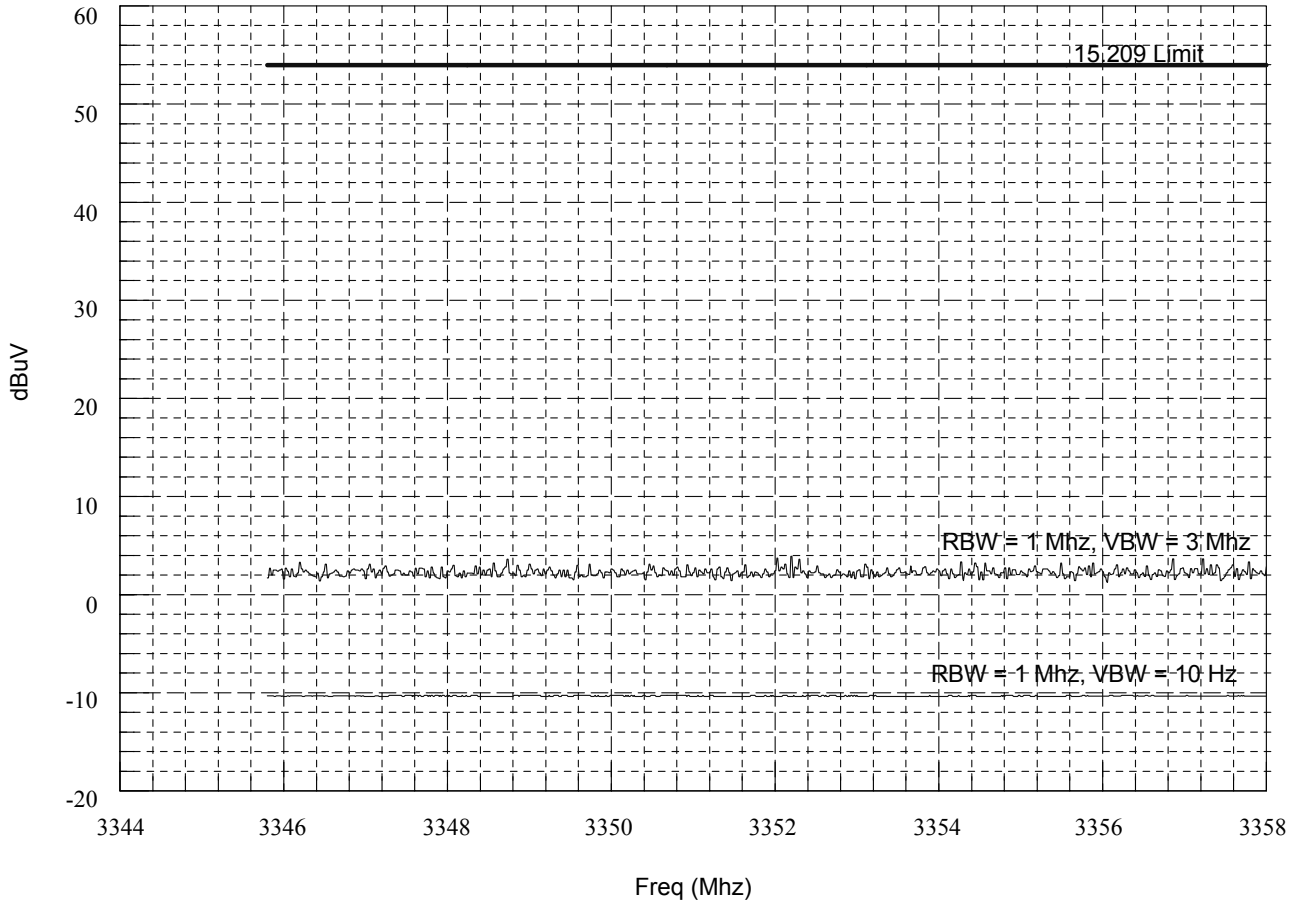
October 7, 2002

INTERNATIONAL

CERTIFICATION SERVICES, INC.

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(3345.8 to 3358 Mhz)

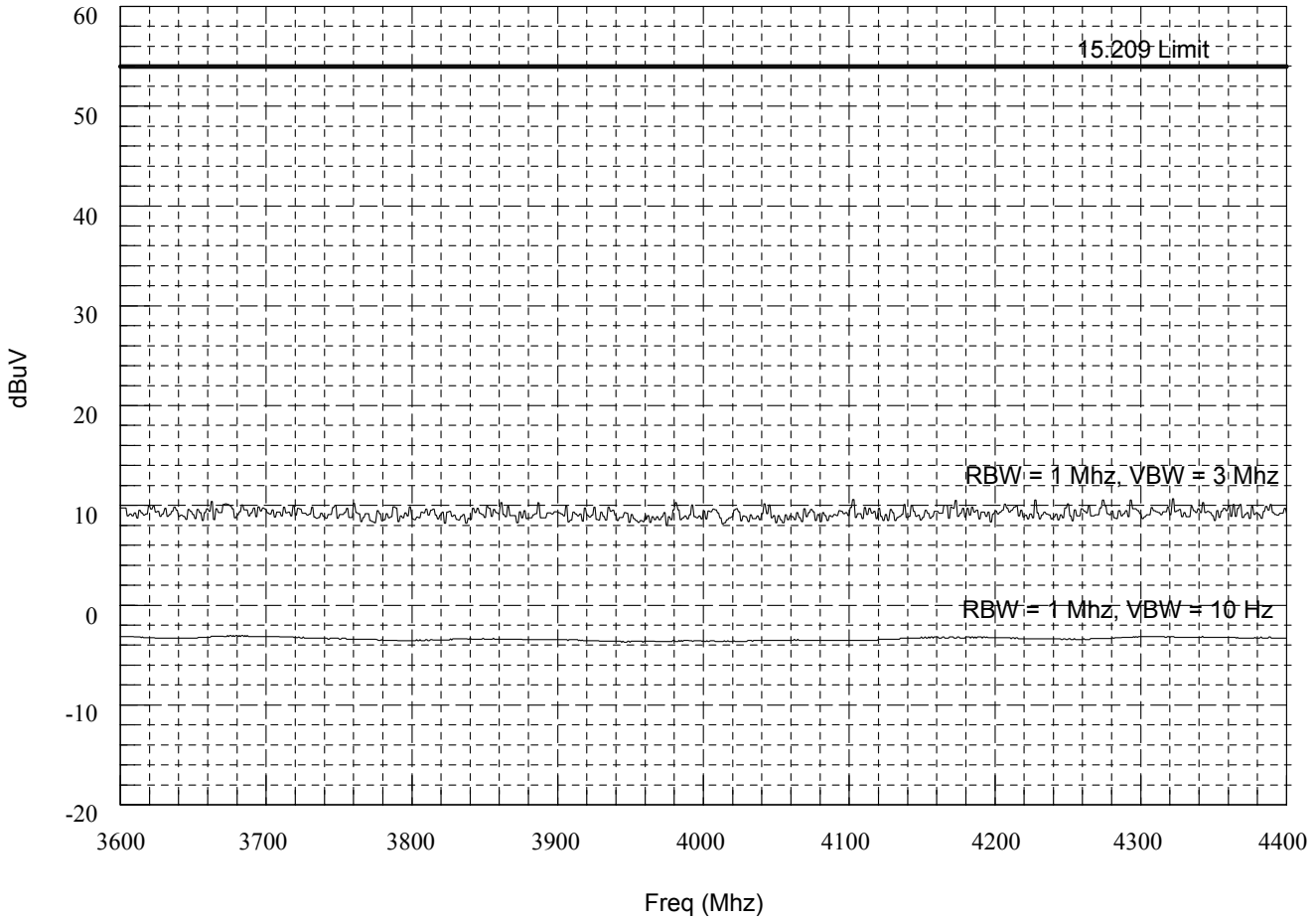


International Certification Services, Inc.

October 7, 2002

Spurious RF Radiated Emissions

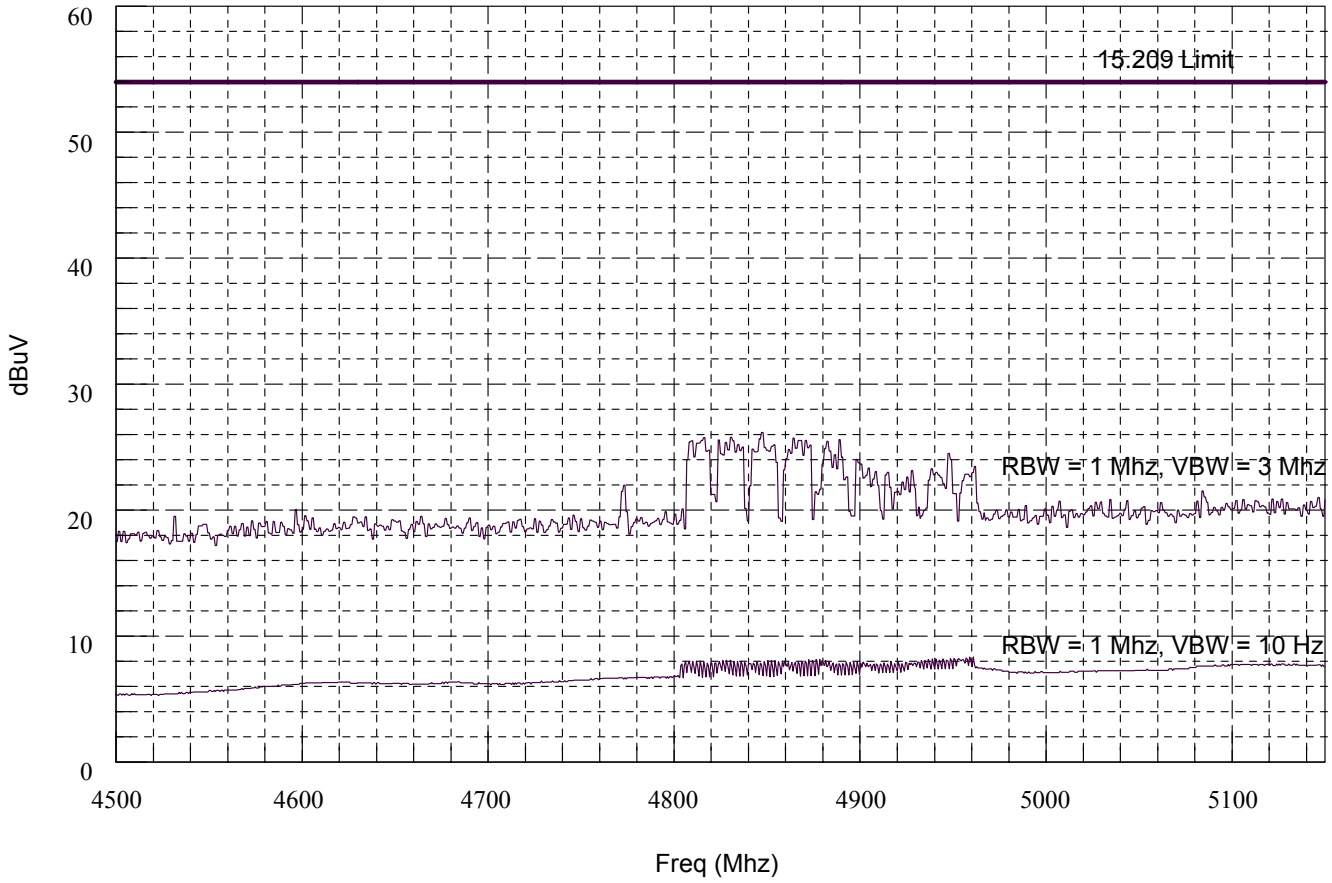
American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(3600 to 4400 Mhz)



International Certification Services, Inc. October 7, 2002

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(4500 to 5150 Mhz)

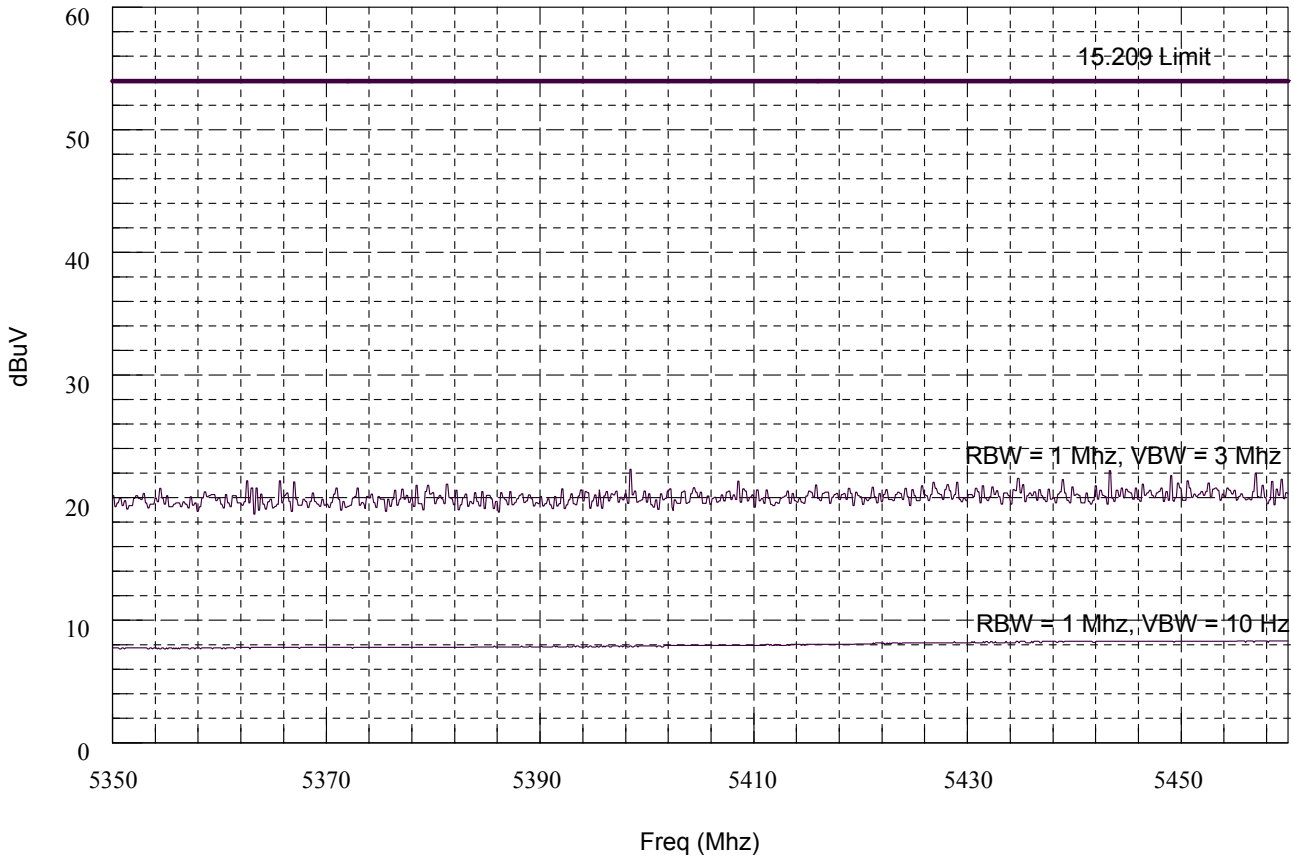


International Certification Services, Inc.

October 7, 2002

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(5350 to 5460 Mhz)

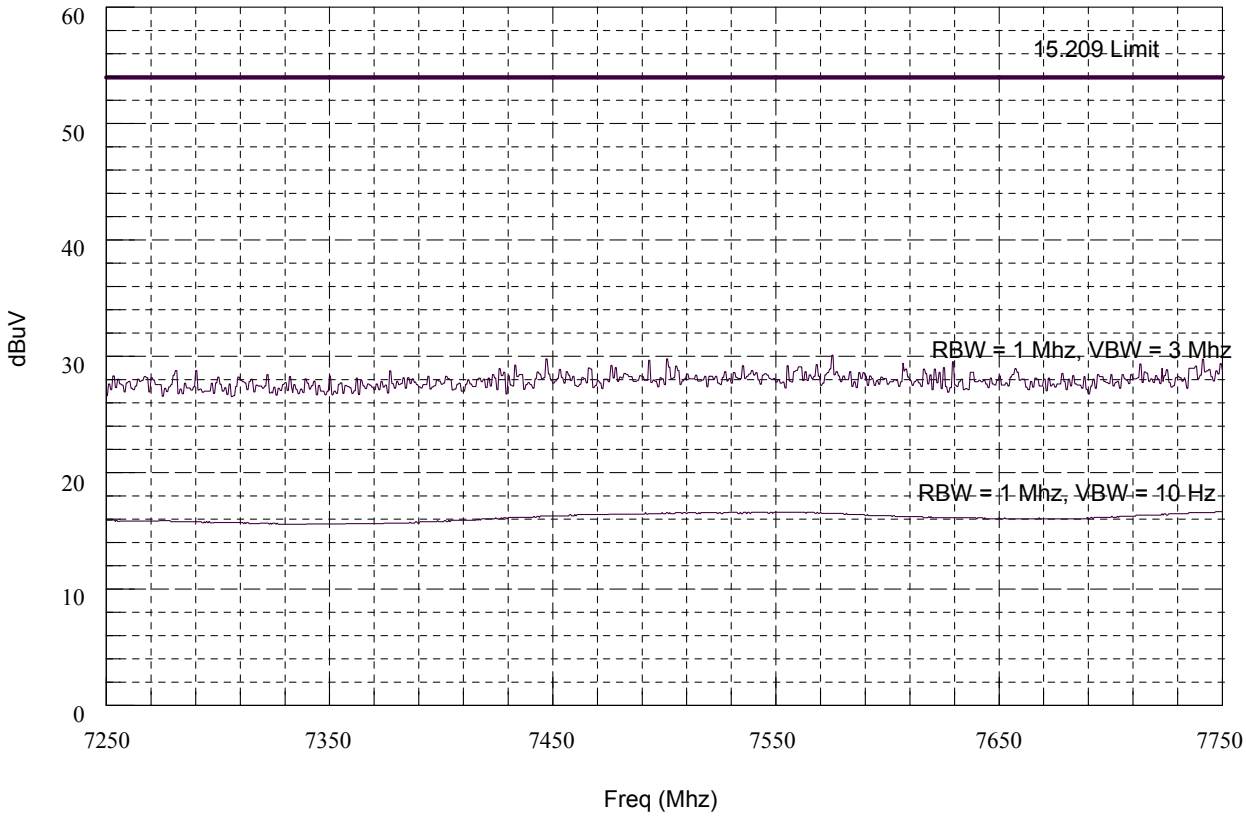


International Certification Services, Inc.

October 7, 2002

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(7250 to 7750 Mhz)

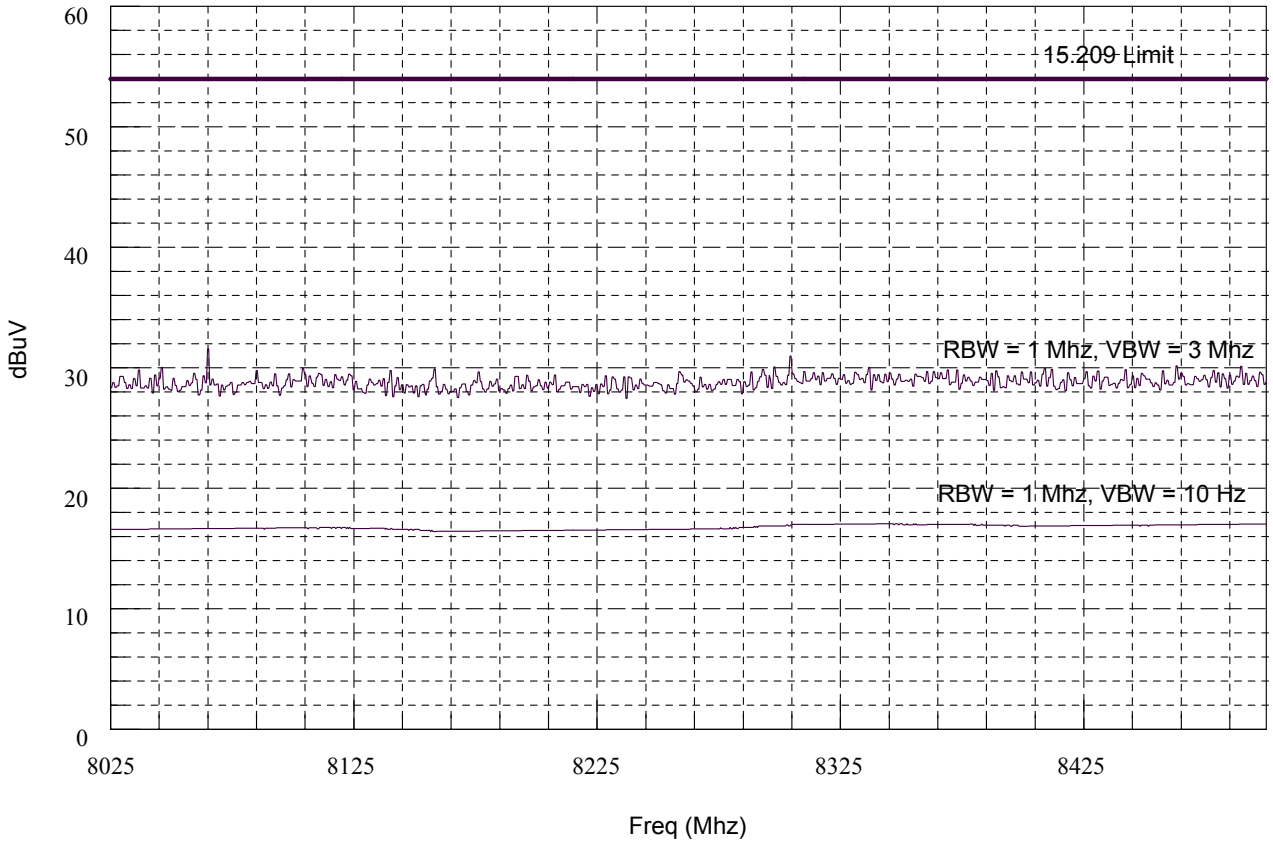


International Certification Services, Inc.

October 7, 2002

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(8025 to 8500 Mhz)

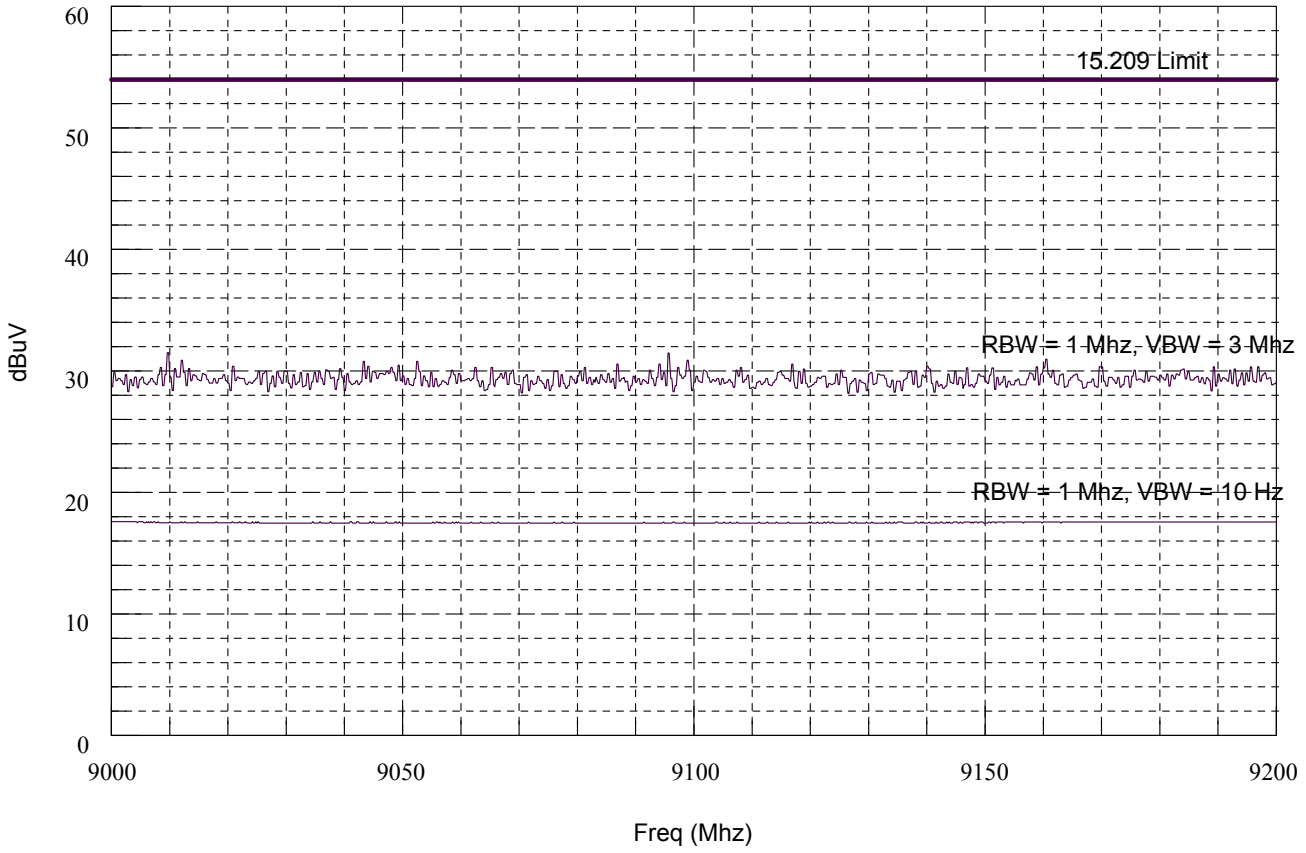


International Certification Services, Inc.

October 7, 2002

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(9000 to 9200 Mhz)

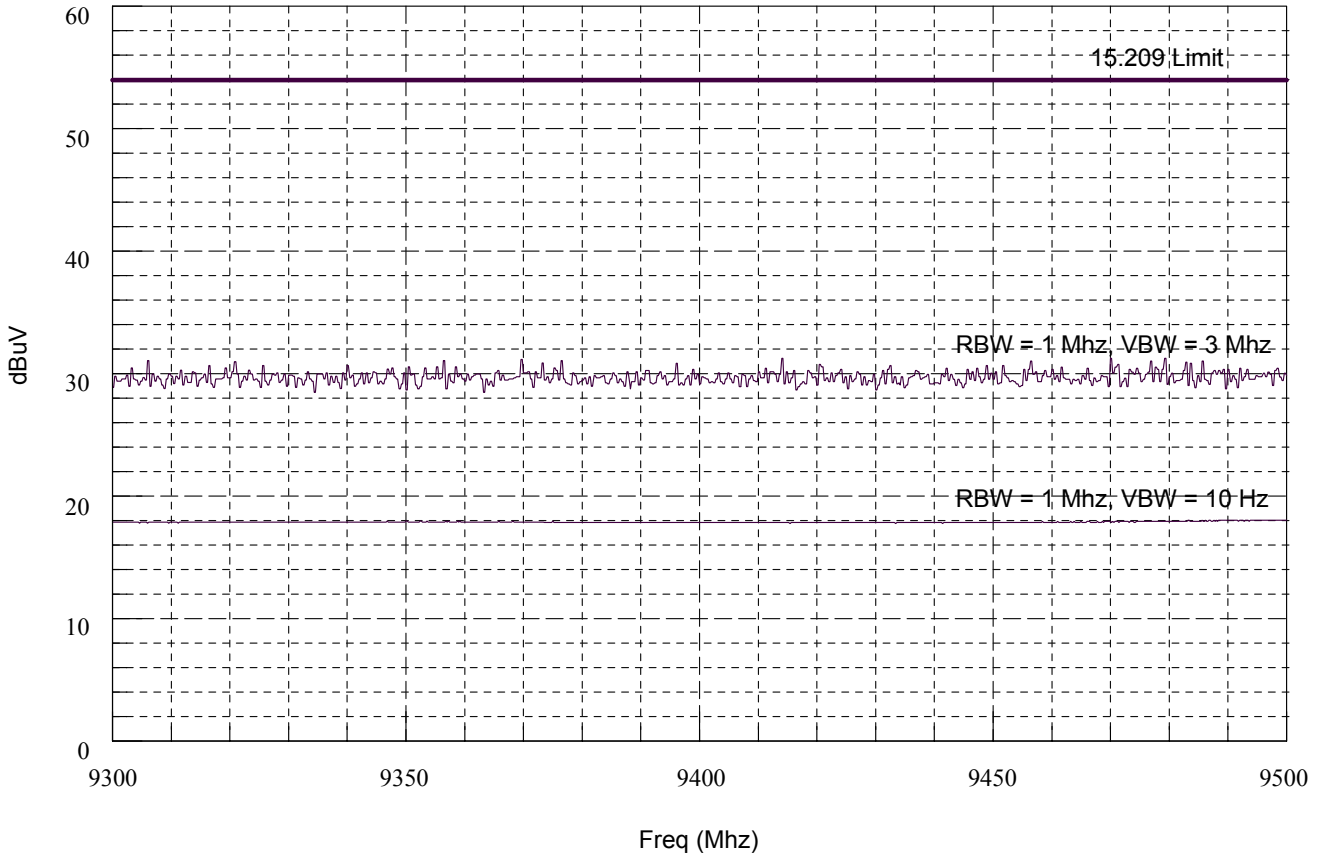


International Certification Services, Inc.

October 7, 2002

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(9300 to 9500 Mhz)

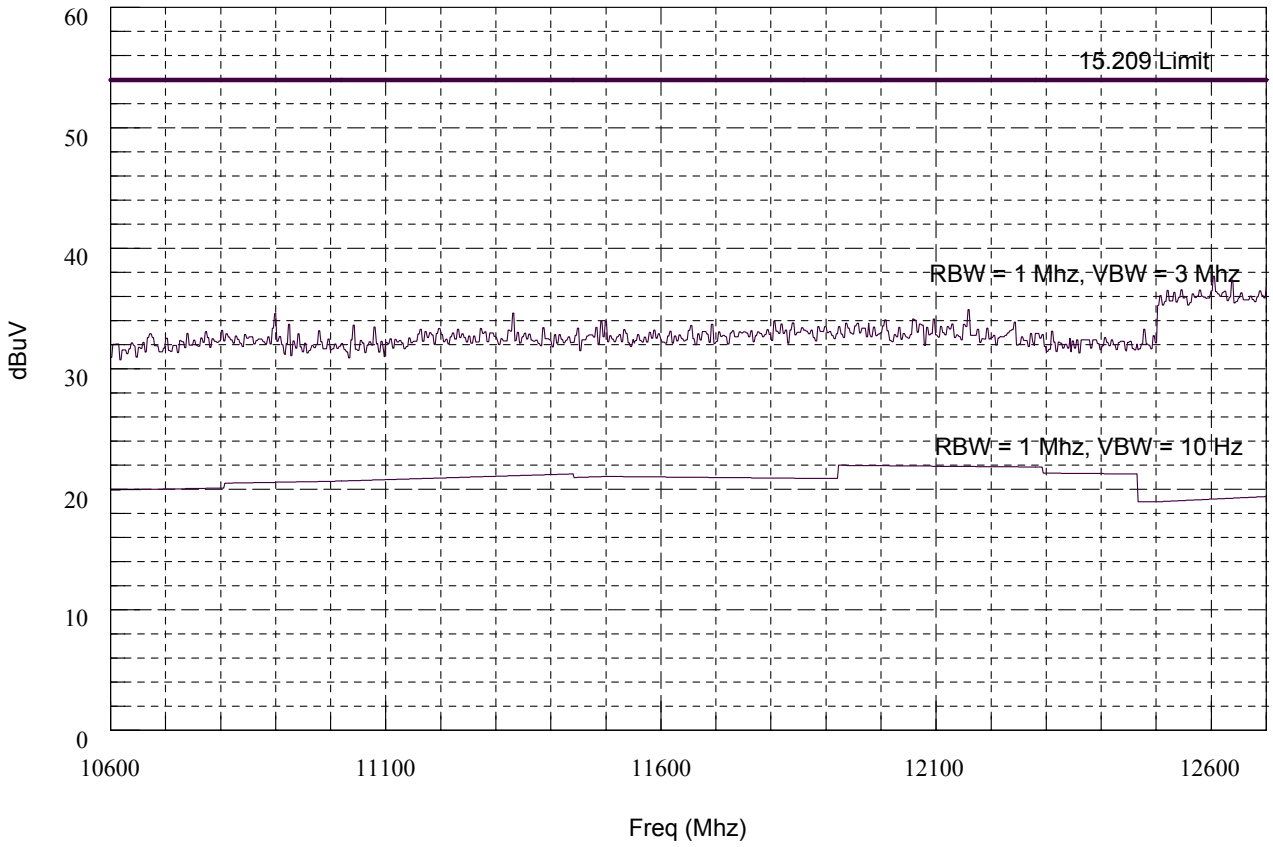


International Certification Services, Inc.

October 7, 2002

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(10600 to 12700 Mhz)



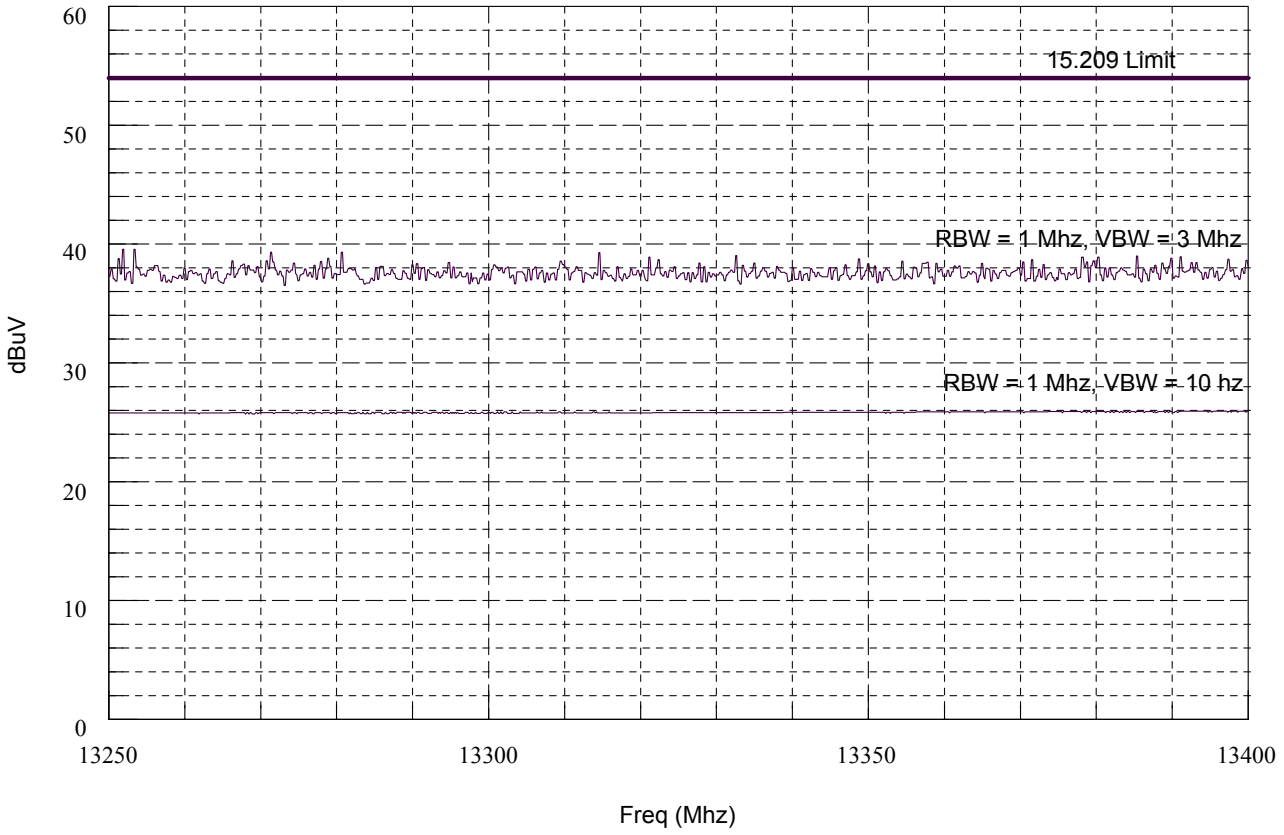
International Certification Services, Inc. October 7, 2002

INTERNATIONAL

CERTIFICATION SERVICES, INC.

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(13250 to 13400 Mhz)

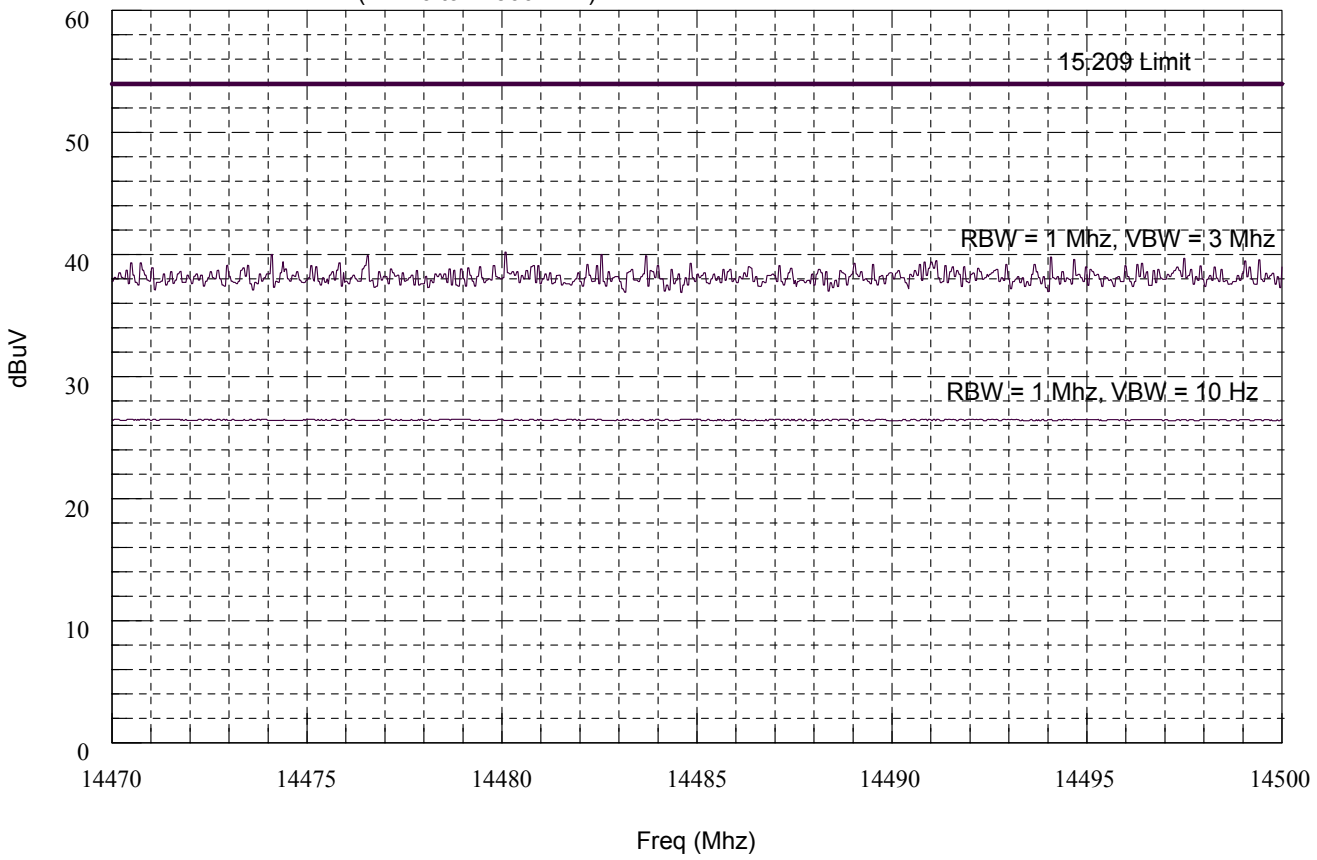


International Certification Services, Inc.

October 7, 2002

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(14470 to 14500 Mhz)



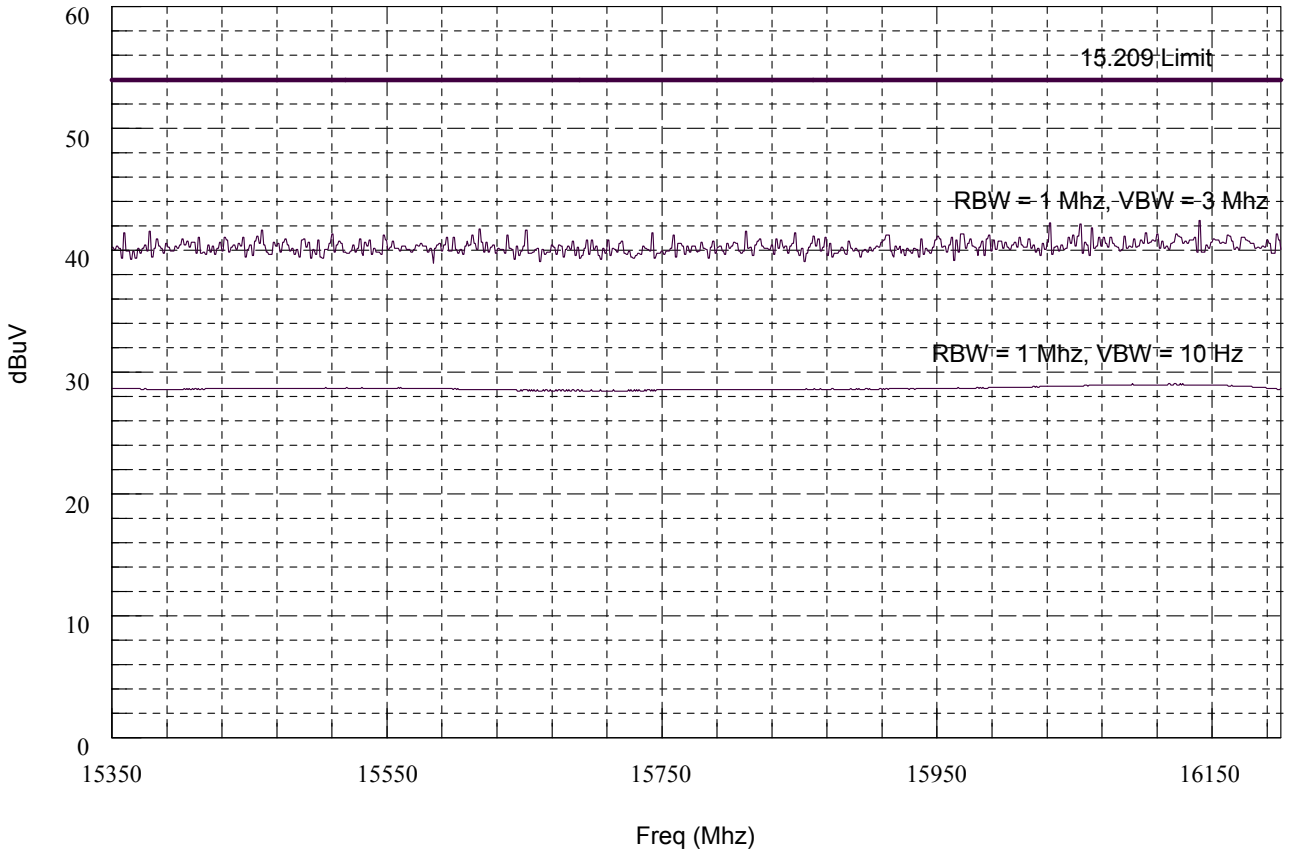
International Certification Services, Inc. October 7, 2002

INTERNATIONAL

CERTIFICATION SERVICES, INC.

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(15350 to 16200 Mhz)



International Certification Services, Inc.

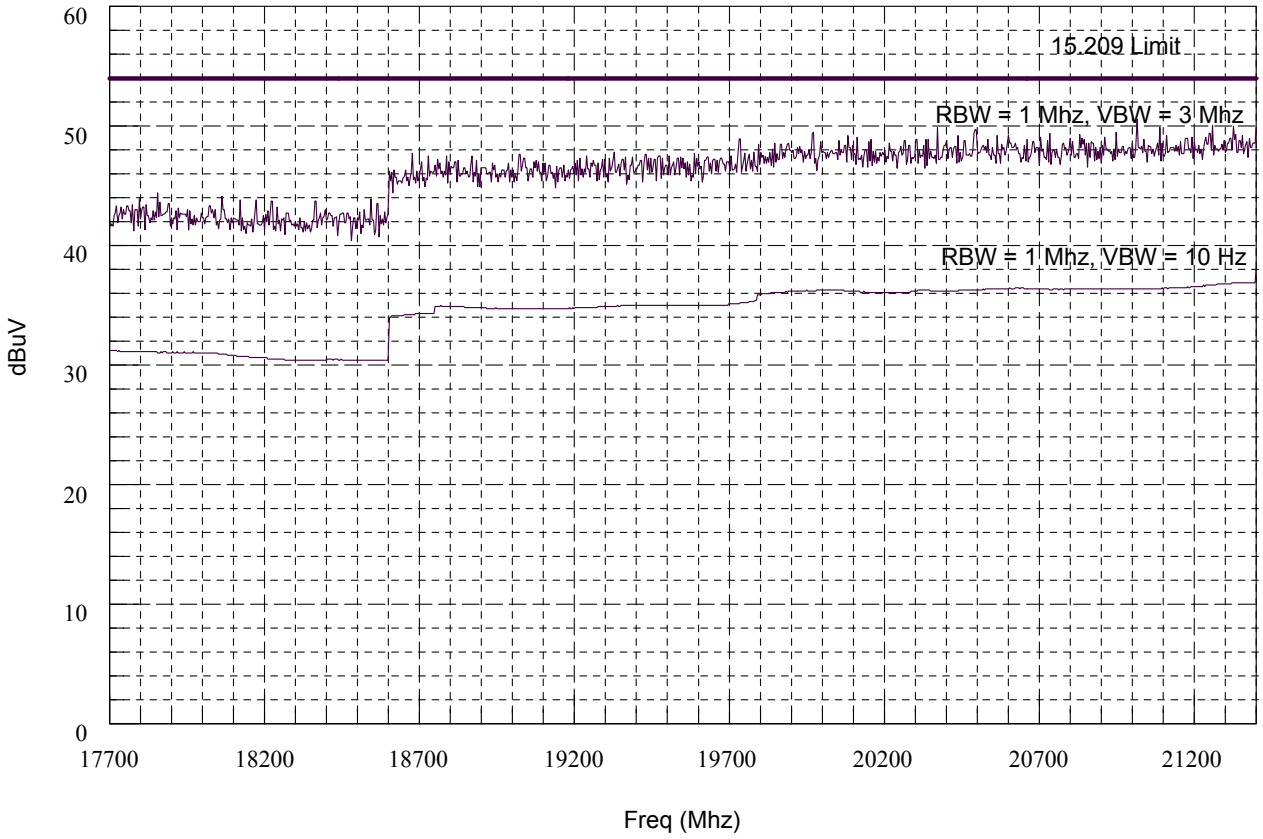
October 7, 2002

INTERNATIONAL

CERTIFICATION SERVICES, INC.

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(17700 to 21400 Mhz)



International Certification Services, Inc.

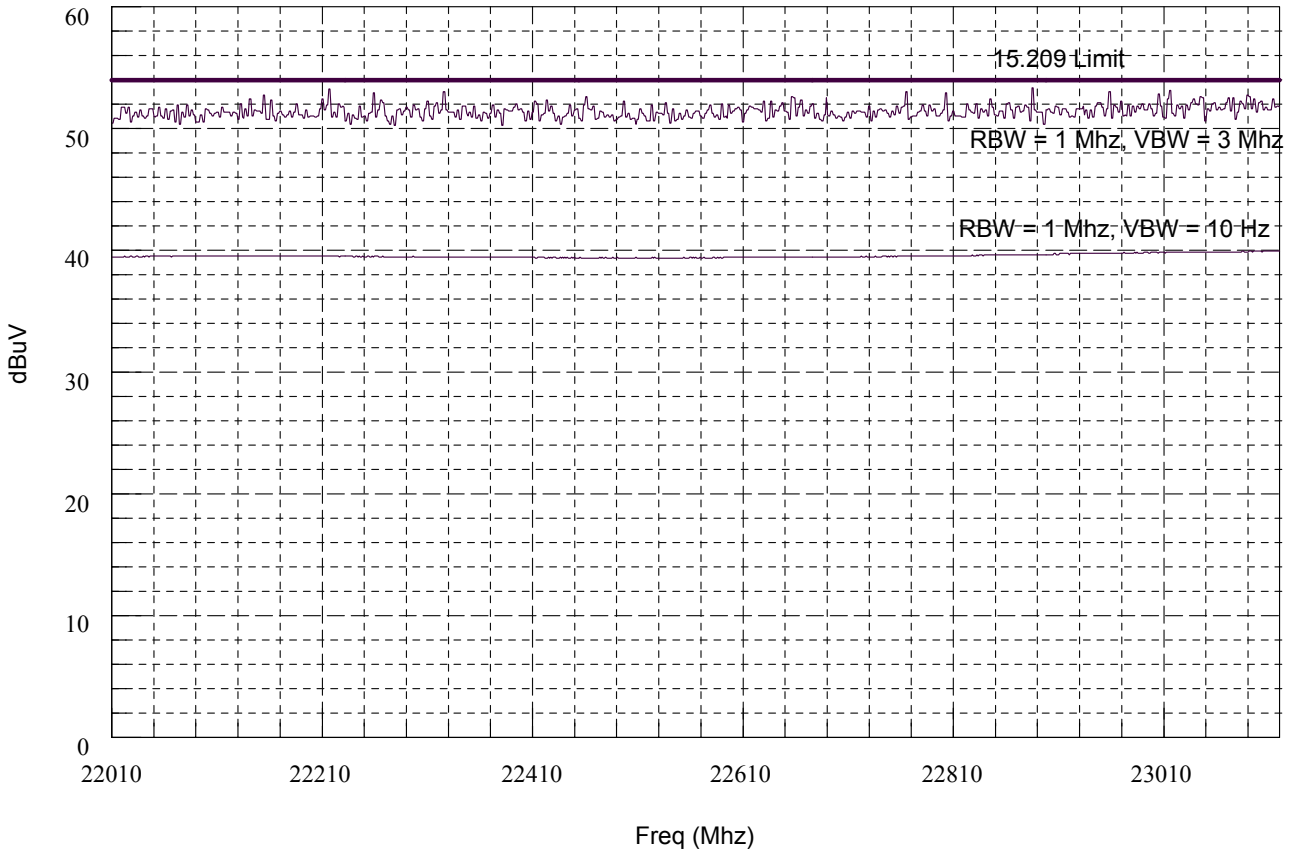
October 7, 2002

INTERNATIONAL

CERTIFICATION SERVICES, INC.

Spurious RF Radiated Emissions

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter
Radiated Spurious Emissions in Restricted Bands (15.205)
(22010 to 23120 Mhz)



International Certification Services, Inc.

October 7, 2002

INTERNATIONAL

CERTIFICATION SERVICES, INC.

Section 15.47 (g)

Describe how the EUT complies with the requirement that it be designed to be capable of operating as a true frequency hopping system

The technical description listed in Section 2.1 states that the definition of a frequency hopping system is that the frequency of the carrier is not fixed but changes at fixed intervals under the direction of a coded sequence. The near term distribution of hops appears random, the long term distribution appears evenly distributed over the hop set, and sequential hops are randomly distributed in both direction and magnitude of change in the hop set. In this device, there is a set of 79 frequencies that are used. The frequency sequence is pseudo-randomly generated by the master BlueTooth device in the system of 8 units. This is a pseudo random generation with a repeating pattern based on a 23 hour 30 minute cycle. A typical frequency hopping sequence is as follows: 40, 21, 44, 23, 42, 53, 46, 55, 48, 33, 52, 35, 50, 65, 54, 67, 56, 37, 60, 39, 58, 69, 62, 71, 64, 25, 68, 27, 66, 57, 70, 59, 72, 29, 76, 31, 74, 61, 78, 63, 01, 41, 05, 43, 03, 73, 07, 75, 09, 45, 13, 47, 11, 77, 15, 00, 64, 49, 66, 53, 68, 02, 70, 06, 01, 51, 03, 55, 05, 04. Dwell times at each frequency are fixed and the various frequencies appear to have a random sequence but over the long term they are used equally in the allowed spectrum of 2402 to 2480 Mhz.

Section 15.247 (h)

Describe how the EUT complies with the requirement that it hot have the ability to be coordinated with other FHSS systems in an effort to avoid the simultaneous occupancy of individual hopping frequencies by multiple transmitters.

Bluetooth units which want to communicate with other units must be organized in a structure called piconet. This piconet consists of a maximum number of 8 Bluetooth units. One unit is the master the other seven are the slaves. The master Bluetooth device coordinates frequency occupation for all other units in the piconet. As the master hop sequence is derived from it's Bluetooth device address which is unique for every Bluetooth device, additional masters intending to establish new piconets will always use different hop sequences.

ATTACHMENT C
RECEIVER SECTION
DETAILED TEST DATA SHEETS

American TeleCare, Inc.
Model: NX Patient Station with Blue Tooth Transmitter Model: 206A
Temperature: 67 Deg F.
Humidity: 64 % R.H.

Test Technician: Steve Wendlandt

Frequency Band: 2401 to 2480 Mhz

Since this product is a Transceiver, the receiver section must be observed per the ANSI C63-4 requirement. An external signal was induced to the receiver from a signal generator by wrapping a wire around the antenna to inductively couple this signal into the receiver. The signal generator was set to 2401, 2440, and 2480 Mhz. (low, middle and high band). The Signal Generator was un-modulated and set to an output level of –50 dBm to excite the receiver local oscillator. No emitted signals were observed on the OATS site so the EUT was taken into the shield room and observed with an antenna at 2 meters distance. Still no signals were observed. This is not unusual because this receiver design does not have a local oscillator, it is a SAW type design. Because of this no signals were observed or reported in this report.

ATTACHMENT D

PRODUCT DATA SHEET OR PRODUCT INFORMATION FORM AS SUPPLIED BY THE CUSTOMER

COMPANY NAME: American TeleCare, Inc.

CUSTOMER REPRESENTATIVE: International Certification Services, Inc.

EQUIPMENT DESCRIPTION: NX Patient Station 206A

MODEL NUMBER: 206A

SERIAL NUMBER: Engineering Unit

TYPE OF TEST:

_____Development
_____Initial Design Verification
_____Design Change (Please describe exact changes below)
__X__Production Sample (Audit Test)

Changes made: NONE

OSCILLATOR FREQUENCIES:

32.768 Khz, 3.6864 Mhz (X 2), 6 Mhz, 16 Mhz

PRODUCT SHIELDING PROVISION:

Plastic enclosure

SOFTWARE AND / OR OPERATING MODES:

The unit tested was set up to as required by the FCC guidelines for testing this type of device. Some measurements were made in the spread spectrum mode and others were done with the device transmitting constantly on one fixed frequency.

I/O CABLES:

Serial port cable between the PC transceiver device and the computer.