



MEDICAL DATA ELECTRONICS TEST REPORT

FOR THE

STICKMAN TRANSMITTER, DS

**FCC PART 15 SUBPART C SECTION 15.242/15.209 &
FCC PART 15 SUBPART B SECTION 15.109 CLASS B**

COMPLIANCE

DATE OF ISSUE: NOVEMBER 1, 2001

PREPARED FOR:

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Date of test: October 11 - 13, 2001

Report No.: FC01-076

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A2LA (USA); DATech (Germany); BSMI (Taiwan); Nemko (Norway); and GOST (Russia).

CKC Laboratories, Inc. has received test site Registration Acceptance from the following agencies:

FCC (USA); VCCI (Japan); and Industry Canada.

CKC Laboratories, Inc. has received Letters of Acceptance through an MRA for the following agencies:

ACA/NATA (Australia); SABS (South Africa); SWEDAC (Sweden); Radio Communications Agency (RA); HOKLAS (Hong Kong); Bakom (Swiss); BIPT (Belgium); Denmark Telestyrelsen; RvA (Netherlands); SEE (Luxembourg) SITTEL (Bolivia); and UKAS (UK).

ADMINISTRATIVE INFORMATION

DATE OF TEST: October 11 - 13, 2001

DATE OF RECEIPT: October 11, 2001

PURPOSE OF TEST: To demonstrate the compliance of the Stickman Transmitter, DS with the requirements for FCC Part 15 Subpart C Section 15.242/15.209 and FCC Part 15 Subpart B Section 15.109 Class B devices.

TEST METHOD: ANSI C63.4 (1992)

MANUFACTURER: Medical Data Electronics
12723 Wentworth Street
Arleta, CA 91331

REPRESENTATIVE: Greg Alkire

TEST LOCATION: CKC Laboratories, Inc.
110 Olinda Place
Brea, CA 92621

SUMMARY OF RESULTS

As received, the Medical Data Electronics Stickman Transmitter, DS was found to be fully compliant with the following standards and specifications:

United States

- FCC Part 15 Subpart B Section 15.109 Class B
- FCC Part 15 Subpart C Section 15.242
- ANSI C63.4 (1992) method

The results in this report apply only to the items tested, as identified herein.

MODIFICATIONS REQUIRED FOR COMPLIANCE

No modifications were required for compliance.

APPROVALS

QUALITY ASSURANCE:

A handwritten signature in black ink that reads "Dennis Ward".

Dennis Ward, Quality Manager

A handwritten signature in black ink that reads "Septimiu Apahidean".

Septimiu Apahidean, EMC/Lab Manager

TEST PERSONNEL:

A handwritten signature in black ink that reads "Eddie Wong".

Eddie Wong, EMC Engineer

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The Stickman Telemetry Transmitter, Model DS is used in hospitals to transmit ECG signals of a patient to the central nursing station or bedside monitor. The EUT tested by CKC Laboratories was a production unit.

EQUIPMENT UNDER TEST

Stickman Transmitter

Manuf: Medical Data Electronics
Model: DS
Serial: 4101-1002
FCC ID: EHCDS

PERIPHERAL DEVICES

The EUT was not tested with peripheral devices.

15.33 FREQUENCY RANGE TESTED

15.242/15.209 Radiated: 4 MHz – 7 GHz
15.109 Radiated Emissions: 30 MHz – 1000 MHz

EUT OPERATING FREQUENCY

The EUT was operating at 608.024 – 613.968 MHz.

TEMPERATURE AND HUMIDITY DURING TESTING

The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

REPORT OF MEASUREMENTS

The following tables report the worst case emissions levels recorded during the tests performed on the Stickman Transmitter, DS. All readings taken were peak readings unless otherwise stated. The data sheets from which the emissions tables were compiled are contained in Appendix C.

Table 1: 15.242(c) Field Strength of Fundamental Frequency

#	Freq in MHz	Meter dBμV/m	Corr dBuV/m	Corr mV/m	Spec(mV/m)	Margin	RType	Notes	Polar
1	608.024		99.1	95.1	56.8852931	200	-143.1147	Peak	X-Y Horiz
2	608.024		97.9	93.9	49.5450191	200	-150.455	Peak	Z Horiz
3	608.024		95.4	91.4	37.1535229	200	-162.8465	Peak	Z Vert
4	608.025		91.5	87.5	23.7137371	200	-176.2863	Peak	X-Y Vert
5	611		89.3	85.5	18.8364909	200	-181.1635	Peak	Z Vert
6	611		91.9	88.1	25.4097271	200	-174.5903	Peak	Z Horiz
7	611		101.2	97.4	74.1310241	200	-125.869	Peak	X-Y Horiz
8	611		89.9	86.1	20.1836636	200	-179.8163	Peak	X-Y Vert
9	613.967		87.5	84	15.8489319	200	-184.1511	Peak	Z Horiz
10	613.967		94.7	91.2	36.3078055	200	-163.6922	Peak	X-Y Horiz
11	613.967		86.8	83.3	14.6217717	200	-185.3782	Peak	X-Y Vert
12	613.968		87.5	84	15.8489319	200	-184.1511	Peak	Z Vert

Coverision : $V (mV) = 0.001 * \text{Anti log}_{10} (V(dBuV)/20)$

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.242(c)
Test Distance: 3 Meters

COMMENTS: Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Low, Freq = 608.0125 MHz. Channel: Mid, Freq = 611.000 MHz. Channel: High, Freq = 613.9875 MHz. Orientation: X-Y (EUT laying flat on the wooden table), Z (EUT placed in up right position). Spec limit: 200mV/m at 3 meters = 106 dBuV/m. RBW = 120 kHz, VBW = 120 kHz. DC 4.5 V, 19°C, 56 % rh.

Table 2: 15.242(c)/15.209 Six Highest Radiated Emission Levels: 4-30 MHz

FREQUENCY MHz	METER READING dBμV	CORRECTION FACTORS				CORRECTED READING dBμV/m	SPEC LIMIT dBμV/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	15.31 dB				
4.000	22.7	11.3		0.9	-40.0	-5.1	29.5	-34.6	N
5.873	32.3	11.3		0.9	-40.0	4.5	29.5	-25.0	N
5.874	33.2	11.3		0.9	-40.0	5.4	29.5	-24.1	N
7.261	32.7	11.2		0.9	-40.0	4.8	29.5	-24.7	N
19.998	28.6	10.2		1.0	-40.0	-0.2	29.5	-29.7	N
19.999	33.0	10.2		1.0	-40.0	4.2	29.5	-25.3	N

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.242(c)/15.209
Test Distance: 3 Meters

NOTES: N = No Polarization

COMMENTS: Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Low, Freq = 608.0125 MHz. Orientation: Z (EUT placed upright on the wooden table). Channel: Mid, Freq = 611.000 MHz. Orientation: Z. Channel: High, Freq = 613.9875 MHz. Orientation: Z. Frequency range of measurement: 4 - 30 MHz. RBW = 9 kHz, VBW = 9 kHz. DC 4.5 V, 19°C, 56 % rh.

Table 3: 15.242(c)/15.209 Six Highest Radiated Emission Levels: 30-1000 MHz

FREQUENCY MHz	METER READING dB μ V	CORRECTION FACTORS				CORRECTED READING dB μ V/m	SPEC LIMIT dB μ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
159.049	38.0	17.6	-28.3	2.4		29.7	43.5	-13.8	H
161.356	41.4	17.6	-28.3	2.4		33.1	43.5	-10.4	H
167.038	44.0	17.5	-28.3	2.5		35.7	43.5	-7.8	H
304.014	33.4	22.2	-28.3	3.3		30.6	46.0	-15.4	H
782.304	32.6	21.7	-27.7	5.9		32.5	46.0	-13.5	H
920.977	28.4	23.3	-27.6	6.5		30.6	46.0	-15.4	H

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.242(c)/15.209
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization

COMMENTS: Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Low, Freq = 608.0125 MHz. Orientation: Z (EUT placed upright on the wooden table). Channel: Mid, Freq = 611.000 MHz. Orientation: Z. Channel: High, Freq = 613.9875 MHz. Orientation: Z. Frequency range of measurement = 30-1000 MHz. RBW= 120 kHz, VBW=120 kHz. DC 4.5 V, 19°C, 56 % rh.

Table 4: 15.242(c)/15.209 Six Highest Radiated Emission Levels: 1-7 GHz

FREQUENCY MHz	METER READING dBμV	CORRECTION FACTORS				CORRECTED READING dBμV/m	SPEC LIMIT dBμV/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
1222.000	52.6	24.2	-39.6	3.8		41.0	54.0	-13.0	V
1615.340	51.6	25.0	-38.6	4.8		42.8	54.0	-11.2	V
2622.506	44.0	28.4	-38.6	6.7		40.5	54.0	-13.5	V
3024.000	42.1	30.0	-37.6	6.9		41.4	54.0	-12.6	H
3990.949	39.9	31.9	-37.6	8.8		43.0	54.0	-11.0	H
4012.500	43.2	31.9	-37.6	8.6		46.1	54.0	-7.9	H

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.242(c)/15.209
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization

COMMENTS: Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Low, Freq = 608.0125 MHz. Orientation: Z (EUT placed upright on the wooden table). Channel: Mid, Freq = 611.000 MHz. Orientation: Z. Channel: High, Freq = 613.9875 MHz. Orientation: Z. Frequency range of measurement = 1-7 GHz. RBW= 1MHz, VBW=1 MHz. DC 4.5 V, 19°C, 56 % rh.

Table 5: 15.109 Six Highest Radiated Emission Levels: Receiver 30-1000 MHz

FREQUENCY MHz	METER READING dB μ V	CORRECTION FACTORS				CORRECTED READING dB μ V/m	SPEC LIMIT dB μ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
159.049	38.0	17.6	-28.3	2.4		29.7	43.5	-13.8	H
161.356	41.4	17.6	-28.3	2.4		33.1	43.5	-10.4	H
167.038	44.0	17.5	-28.3	2.5		35.7	43.5	-7.8	H
306.982	33.2	21.9	-28.3	3.4		30.2	46.0	-15.8	V
920.977	28.4	23.3	-27.6	6.5		30.6	46.0	-15.4	H
920.977	27.8	23.3	-27.6	6.5		30.0	46.0	-16.0	V

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart B Section 15.109 Class B
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization

COMMENTS: Body worn EUT placed on the wooden table. The EUT is sending data packet s.
Channel: High, Freq = 613.9875 MHz. Orientation: Z (EUT placed upright on the wooden table).
Frequency range of measurement = 30-1000 MHz. RBW= 120 kHz, VBW=120 kHz.
DC 4.5 V, 19°C, 56 % rh.

MEASUREMENT UNCERTAINTY

Associated with data in this report is a ± 4 dB measurement uncertainty.

EUT SETUP

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the photographs in Appendix A. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables. The corrected data was then compared to the applicable emission limits to determine compliance.

The leads were routed consistent with the typical application by varying the configuration of the test sample. The effect of varying the position of the leads was investigated to find the configuration that produced maximum emissions. Leads were of the type and length specified in the individual requirements.

The radiated emissions data of the Stickman Transmitter, DS, was taken with the HP Spectrum Analyzer. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in Table A.

Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dB μ V/m, the spectrum analyzer reading in dB μ V was corrected by using the following formula in Table A. This reading was then compared to the applicable specification limit to determine compliance.

TABLE A: SAMPLE CALCULATIONS		
	Meter reading	(dB μ V)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dB μ V/m)

A typical data sheet will display the following in column format:

#	Freq	Rdng	Pream	Bicon	Log 3	Cable	Corr	Spec	Margin	Polar
			HP301	Horn	Activ	Helia	15.31			

means reading number.

Freq is the frequency in MHz of the obtained reading.

Rdng is the reading obtained on the spectrum analyzer in dB μ V.

Pream or HP301 is the preamplifier factor or gain in dB.

Bicon is the biconical antenna factor in dB.

Log 3 is the log periodic antenna factor in dB.

Horn is the horn antenna factor in dB.

Activ is the magnetic loop antenna factor in dB.

Cable or Helia is the cable loss in dB of the coaxial cable on the OATS.

GHz C is the cable loss in dB of the high frequency coaxial cable on the OATS.

Dist is the distance factor in dB used when testing at a different test distance than the one stated in the spec.

Corr is the corrected reading in dB μ V/m (field strength).

Spec is the specification limit (dB) stated in the FCC regulations.

Margin is the closeness to the specified limit in dB; + is over and - is under the limit.

Polar is the polarity of the antenna with respect to earth.

15.31 is the distance correction factor for frequencies below 30 MHz in accordance with FCC Part 15.31.

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed in Appendix B were used to collect the radiated emissions data for the Stickman Transmitter, DS. For frequencies below 30 MHz the magnetic loop antenna was used. For radiated measurements below 300 MHz, the biconical antenna was used. For frequencies from 300 to 1000 MHz, the log periodic antenna was used. The horn antenna was used for frequencies above 1000 MHz.

The HP spectrum analyzer was used for all measurements. Table B shows the analyzer bandwidth settings that were used in designated frequency bands. During radiated testing, the measurements were made with 0 dB of attenuation, a reference level of 97 dB μ V, and a vertical scale of 10 dB per division.

FCC SECTION 15.35: TABLE B: ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
RADIATED EMISSIONS	4 MHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1 GHz	7 GHz	1 MHz

SPECTRUM ANALYZER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the Tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the six highest readings, this is indicated as a "Q" or an "A" in the appropriate table. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data for the Stickman Transmitter, DS.

Peak

In this mode, the Spectrum Analyzer or test engineer recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the analyzer called "peak hold," the analyzer had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the analyzer made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the HP Quasi-Peak Adapter for the HP Spectrum Analyzer. The detailed procedure for making quasi peak measurements contained in the HP Quasi-Peak Adapter manual were followed.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer. To make these measurements, the test engineer reduces the video bandwidth on the analyzer until the modulation of the signal is filtered out. At this point the analyzer is set into the linear mode and the scan time is reduced.

EUT TESTING

Radiated Emissions

The EUT was mounted on a nonconductive, rotating table 80 cm above the conductive grid. The nonconductive table dimensions were 1 meter by 1.5 meters.

During the preliminary radiated scan, the EUT was powered up and operating in its defined FCC test mode. Frequencies below 30 MHz were scanned using a magnetic loop antenna. The frequency range of 30 MHz to 88 MHz was scanned with the biconical antenna located about 1.5 meter above the ground plane in the vertical configuration. During this scan, the turntable was rotated and all peaks at or near the limit were recorded. The frequency range of 100 to 300 MHz was then scanned in the same manner using the biconical antenna and the peaks recorded. Lastly, a scan of the FM band from 88 to 110 MHz was made, using a reduced resolution bandwidth and frequency span. The biconical antenna was changed to the horizontal polarity and the above steps were repeated. After changing to the log periodic antenna in the horizontal configuration, the frequency range of 300 to 1000 MHz was scanned. The log periodic antenna was changed to the vertical polarity and the frequency range of 300 to 1000 MHz was again scanned. For frequencies exceeding 1000 MHz, the horn antenna was used. Care was taken to ensure that no frequencies were missed within the FM and TV bands. An analysis was performed to determine if the signals that were at or near the limit were caused by an ambient transmission. If unable to determine by analysis, the equipment was powered down to make the final determination if the EUT was the source of the emission.

A thorough scan of all frequencies was made manually using a small frequency span, rotating the turntable as needed. The test engineer maximized the readings with respect to the table rotation, antenna height, and configuration of EUT. Maximizing of the EUT was achieved by monitoring the spectrum analyzer on a closed circuit television monitor. Photographs showing the final worst case configuration of the EUT are contained in Appendix A.

TRANSMITTER CHARACTERISTICS

15.203 Antenna Requirements

The antenna is an integral part of the EUT and is NON-Removable; therefore the EUT complies with Section 15.203 of the FCC rules.

15.205 Restricted Bands

The fundamental operating frequency lies outside the restricted bands and therefore complies with the requirements of Section 15.205 of the FCC rules.

Any spurious emission coming from the EUT was investigated to determine if any portion lies inside the restricted band. If any portion of a spurious emissions signal was found to be within a restricted band, investigation was performed to ensure compliance with Section 15.209.

APPENDIX A

INFORMATION ABOUT THE EQUIPMENT UNDER TEST

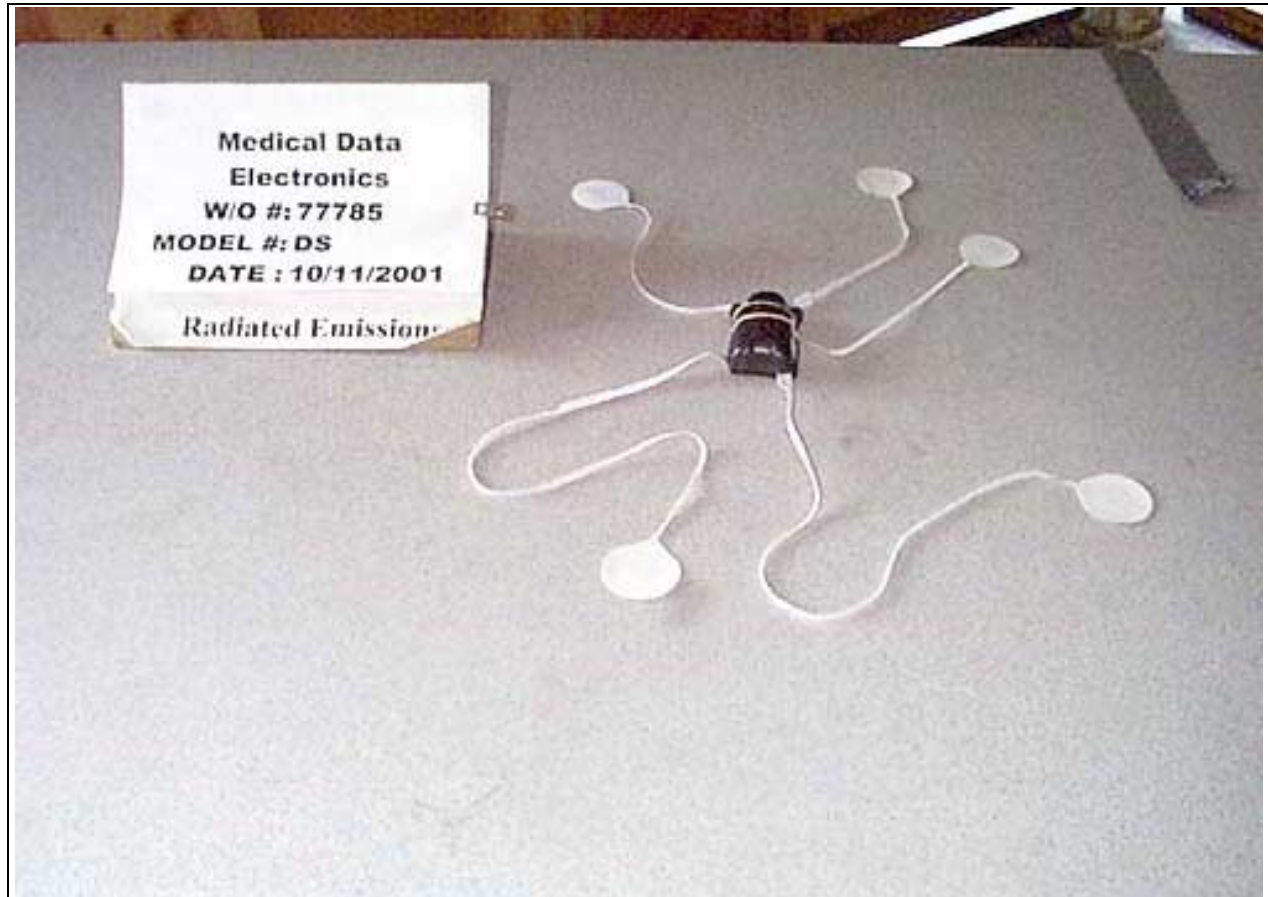
INFORMATION ABOUT THE EQUIPMENT UNDER TEST	
Test Software/Firmware: CRT was displaying: Power Supply Manufacturer: Power Supply Part Number: AC Line Filter Manufacturer: AC Line Filter Part Number:	0.0.0E3
The EUT has no power cord.	

I/O PORTS	
Type	#

CRYSTAL OSCILLATORS	
Type	Freq. In MHz
CPU	4.3 MHz
TX reference	20 MHz

PRINTED CIRCUIT BOARDS				
Function	Model & Rev	Clocks, MHz	Layers	Location
RF TX, CPU, ECG	DS, E3	4.3 MHz & 20 MHz	6	

PHOTOGRAPH SHOWING RADIATED EMISSIONS



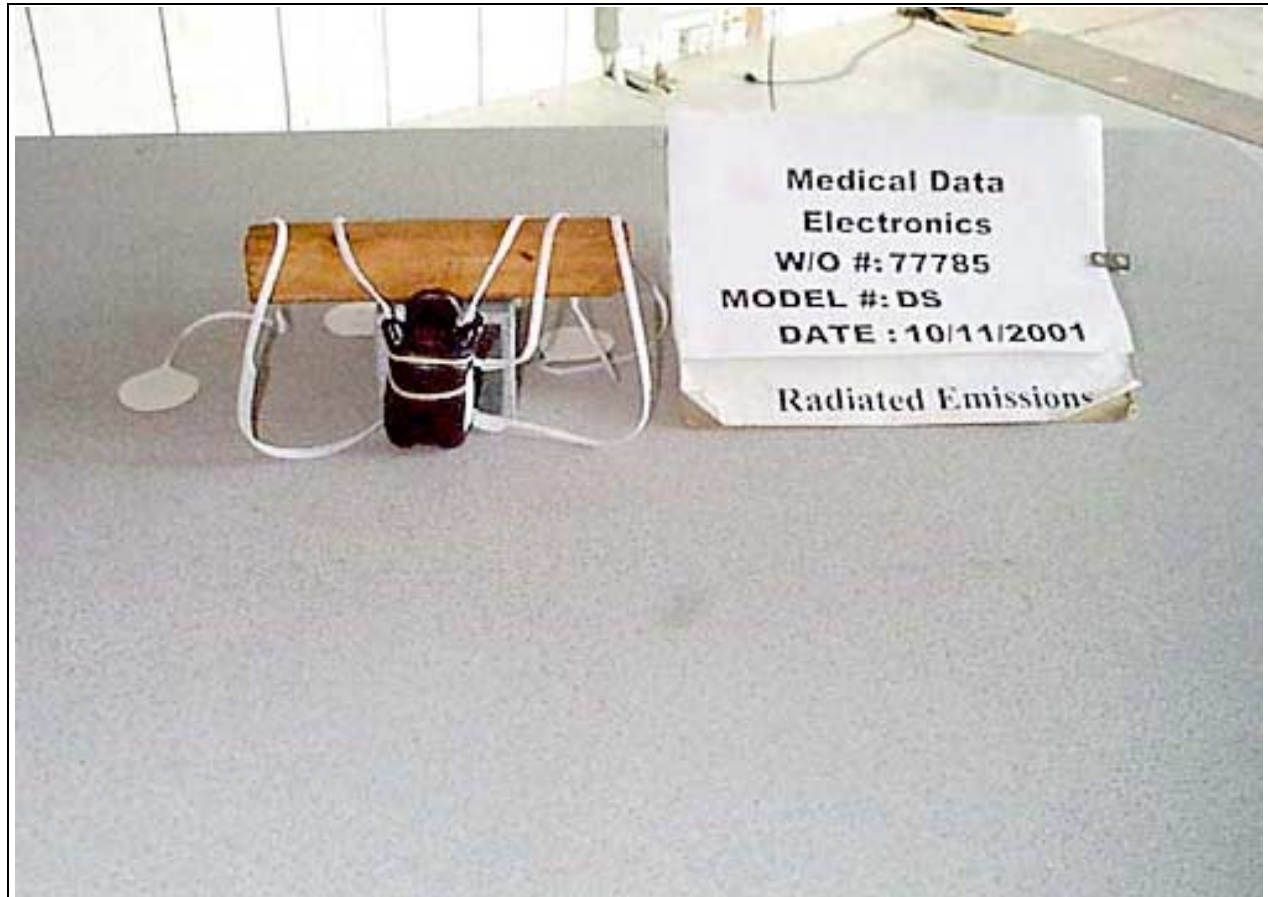
X-Y Axis Orientation

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Front of Z Axis Orientation

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Back of Z Axis Orientation

APPENDIX B

TEST EQUIPMENT LIST

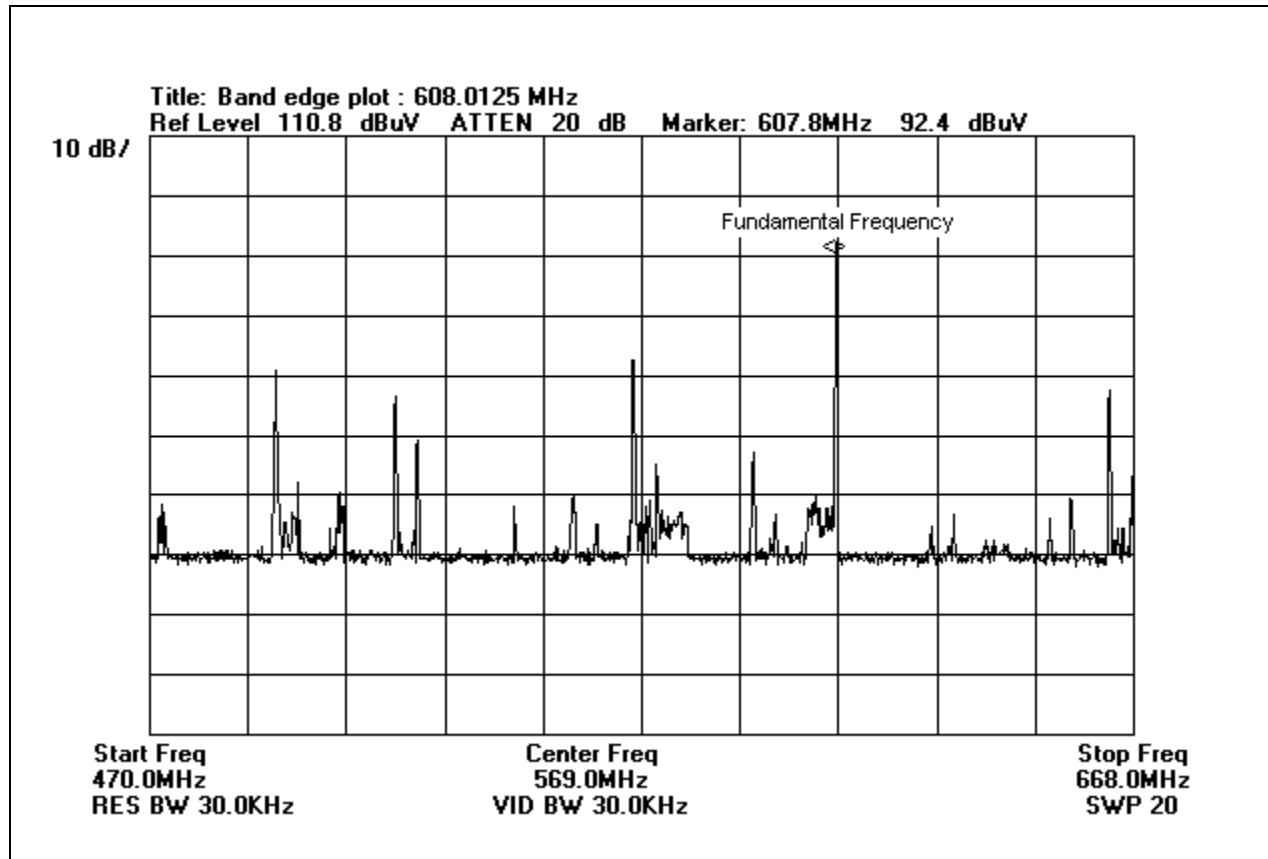
Radiated Emissions

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
1 Spectrum Analyzer	01865	HP	8566B	2532A02509	092801	092802
2 QP Adapter	01437	HP	85650A	3303A01884	092801	092802
3 Bicon Antenna	306	AH	SAS200/540	220	092401	092402
4 Log Periodic Antenna	331	AH	SAS 00/516	330	092401	092402
5 Pre-amp	00309	HP	8447D	1937A02548	090501	090502
6 Antenna cable	NA	NA	RG214	Cable#15	122000	122001
7 Pre-amp to SA cable	NA	Harbour	RG223/U	Cable#10	071601	071602
8 Mag Loop antenna	00314	Emco	6502	2014	073101	073102
9 Horn Antenna	0646	EMCO	3115	4683	022801	022802
10 Microwave Pre-amp	00786	HP	83017A	3123A00281	091201	091202
11 ¼" Helix Coaxial Cable	NA	Andrew	FSJ-50A-4	Cable#7 (6 ft)	071701	071702
12 ¼" Helix Coaxial Cable	NA	Andrew	FSJ-50A-4	Cable#14 (60ft)	071701	071802

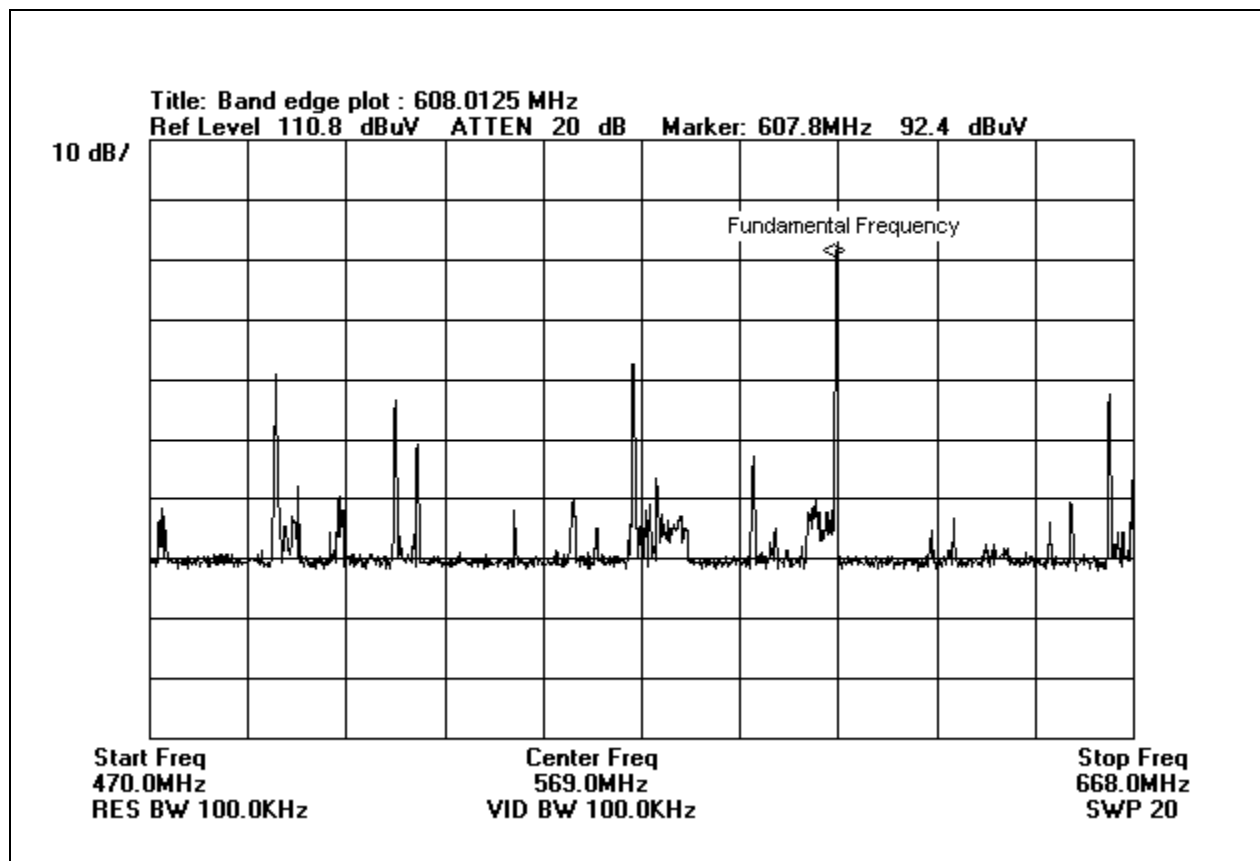
APPENDIX C

MEASUREMENT DATA SHEETS

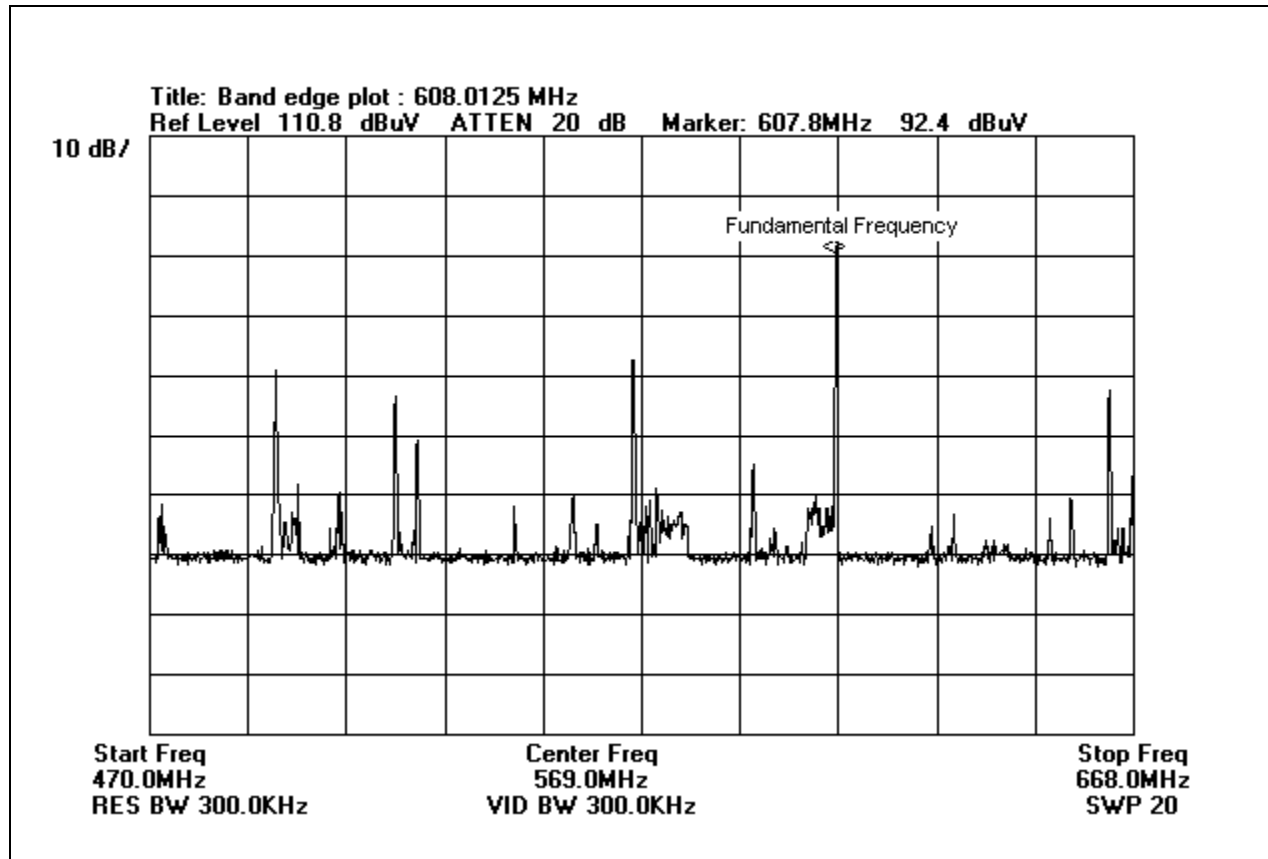
Band Edge - Low Channel @ 30 kHz



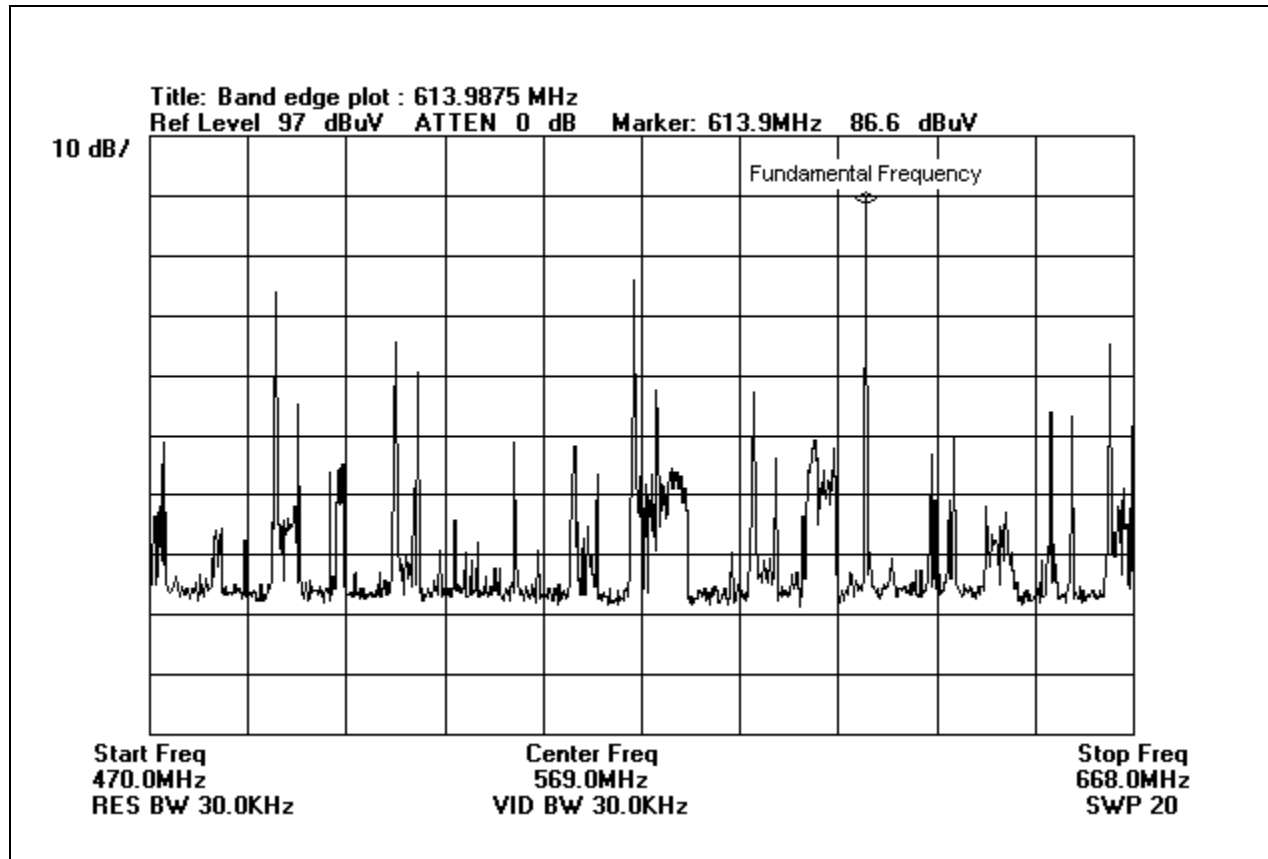
Band Edge - Low Channel @ 100 kHz



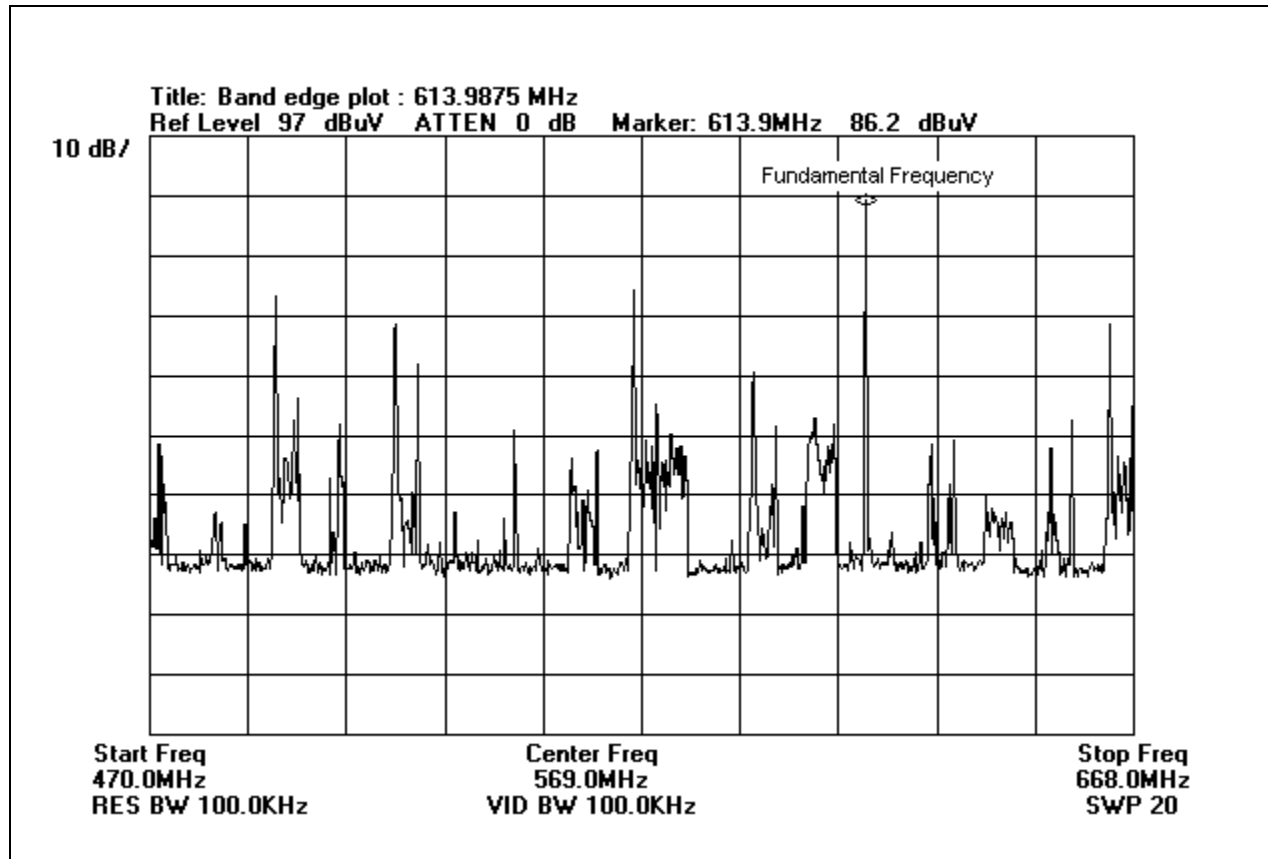
Band Edge - Low Channel @ 300 kHz



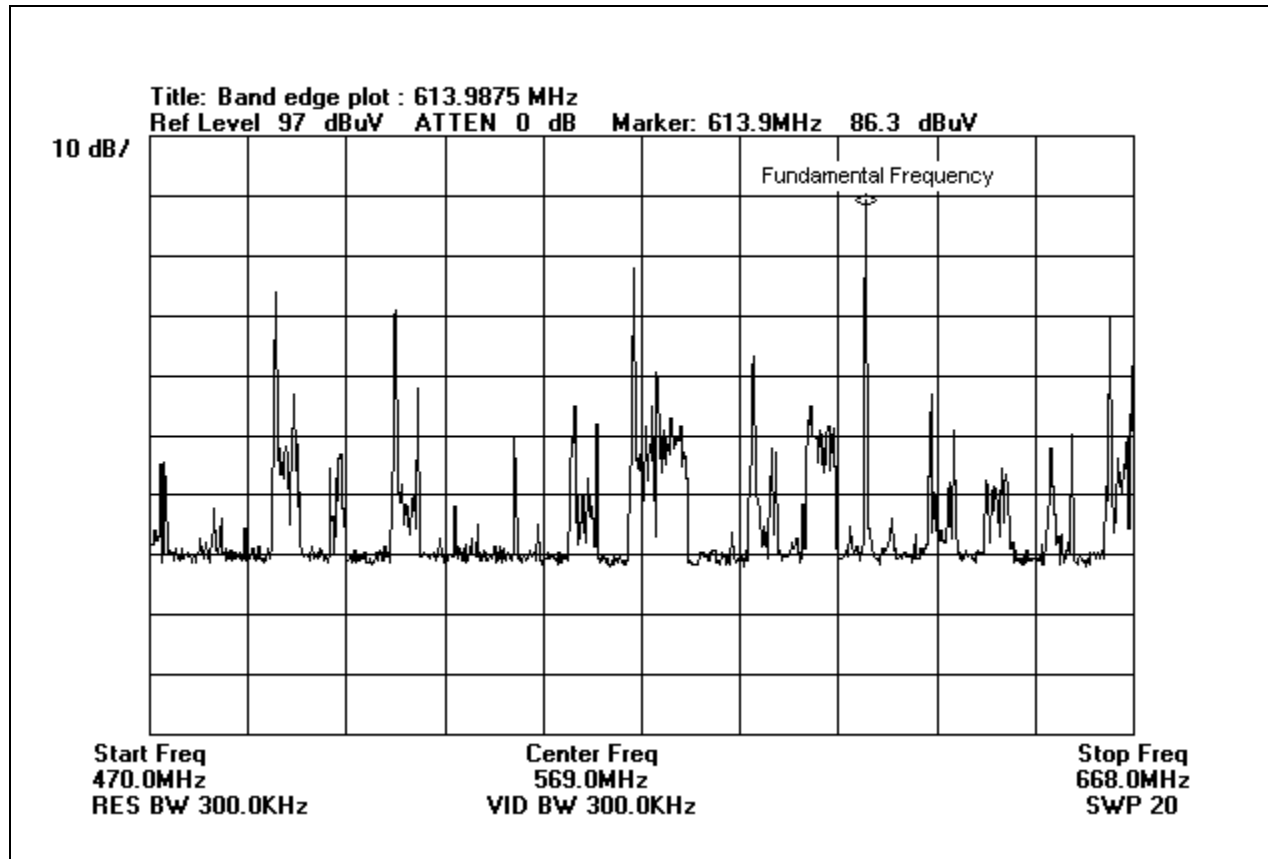
Band Edge - High Channel @ 30 kHz



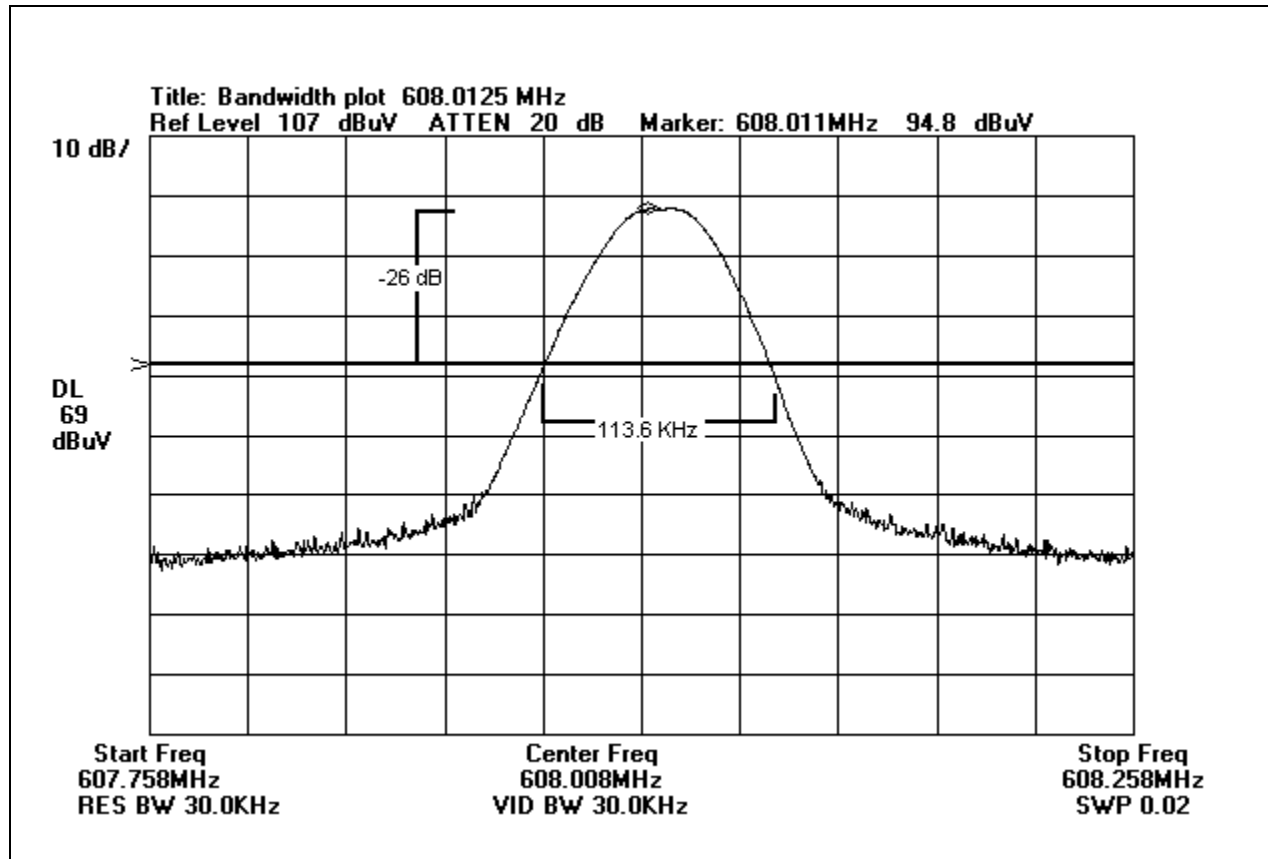
Band Edge - High Channel @ 100 kHz



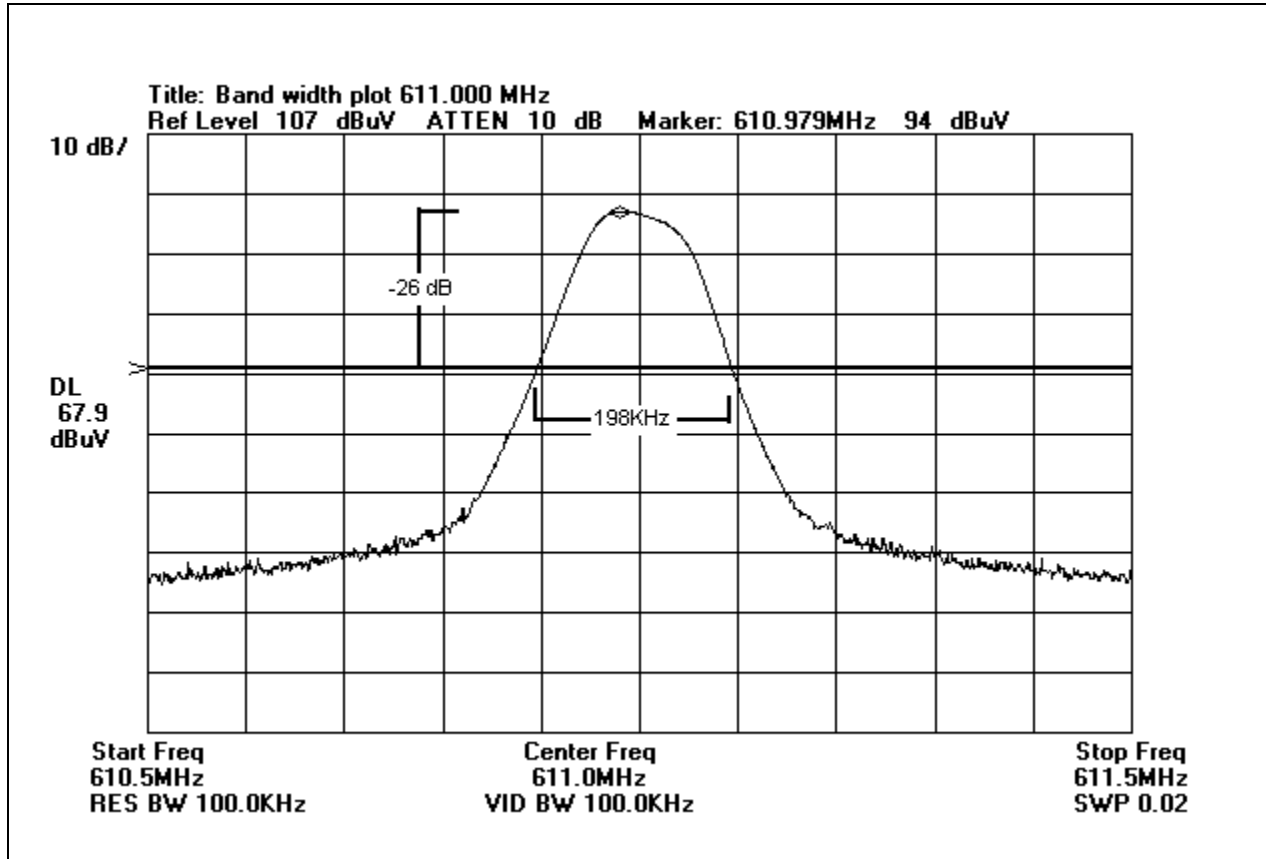
Band Edge - High Channel @ 300 kHz



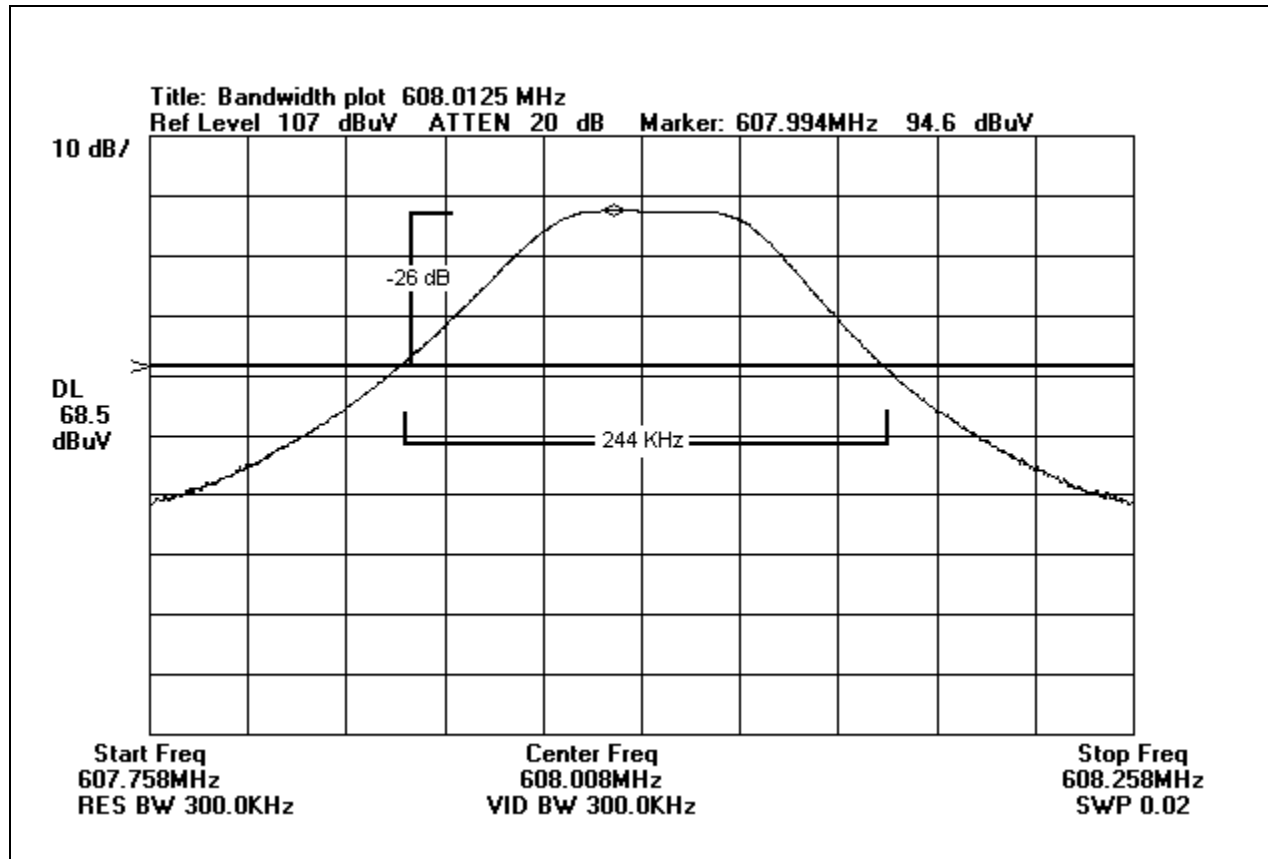
Bandwidth - Low Channel @ 30 kHz



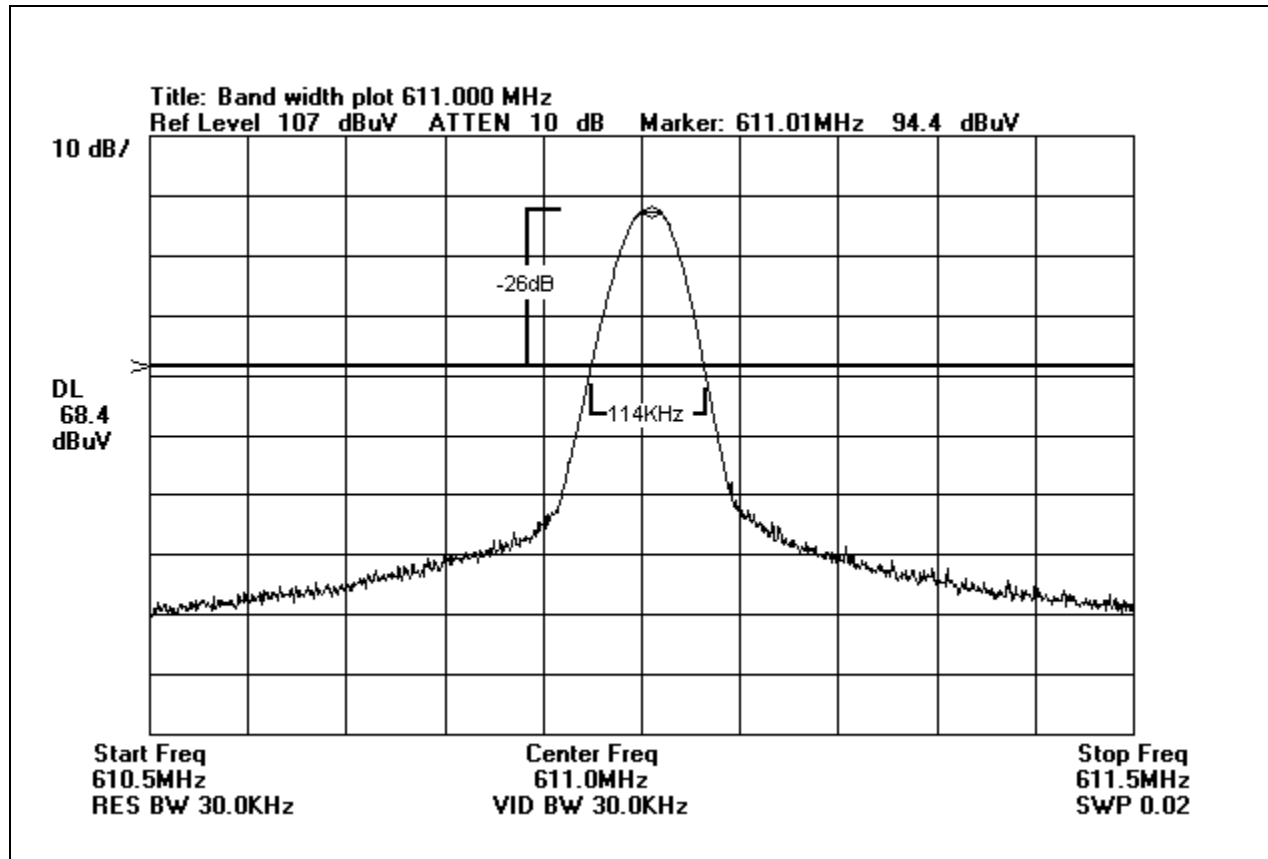
Bandwidth - Low Channel @ 100 kHz



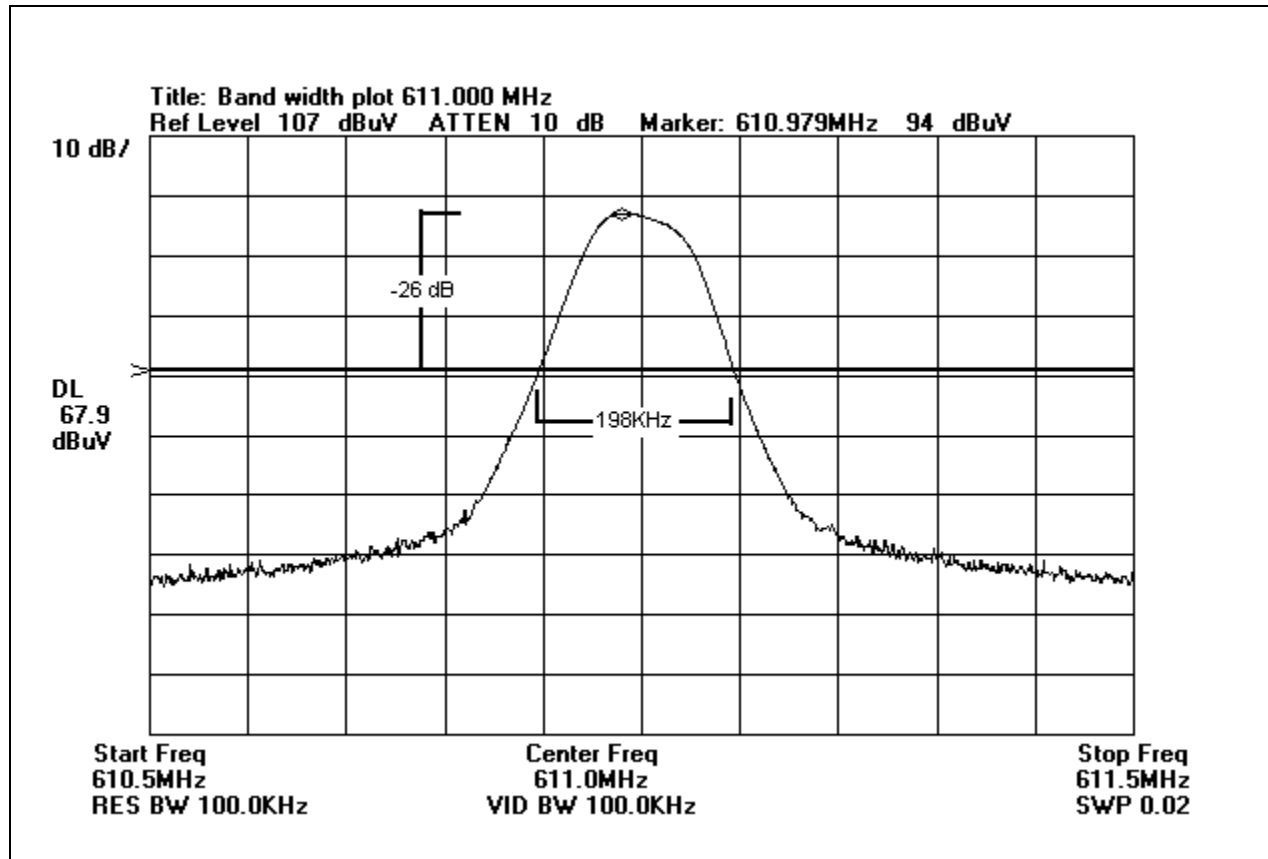
Bandwidth - Low Channel @ 300 kHz



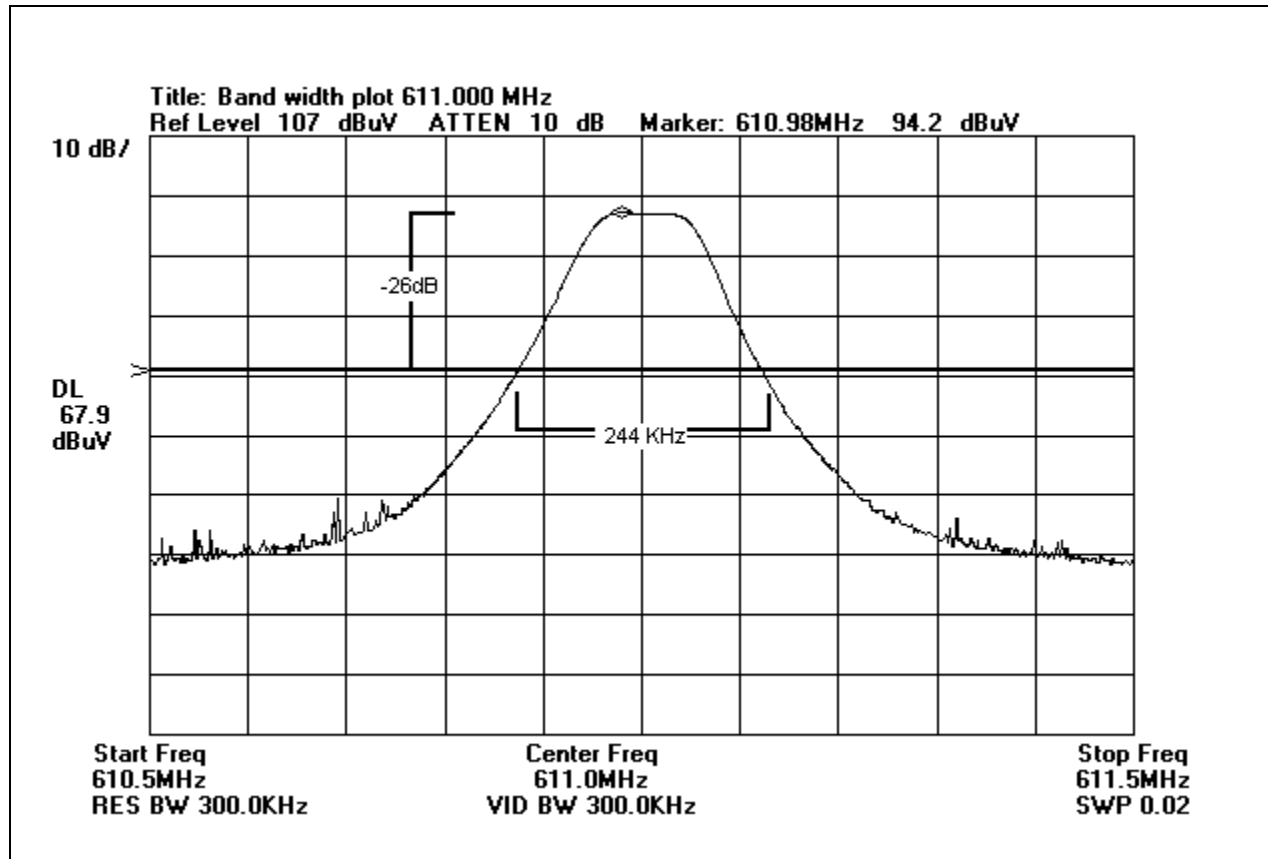
Bandwidth - Middle Channel @ 30 kHz



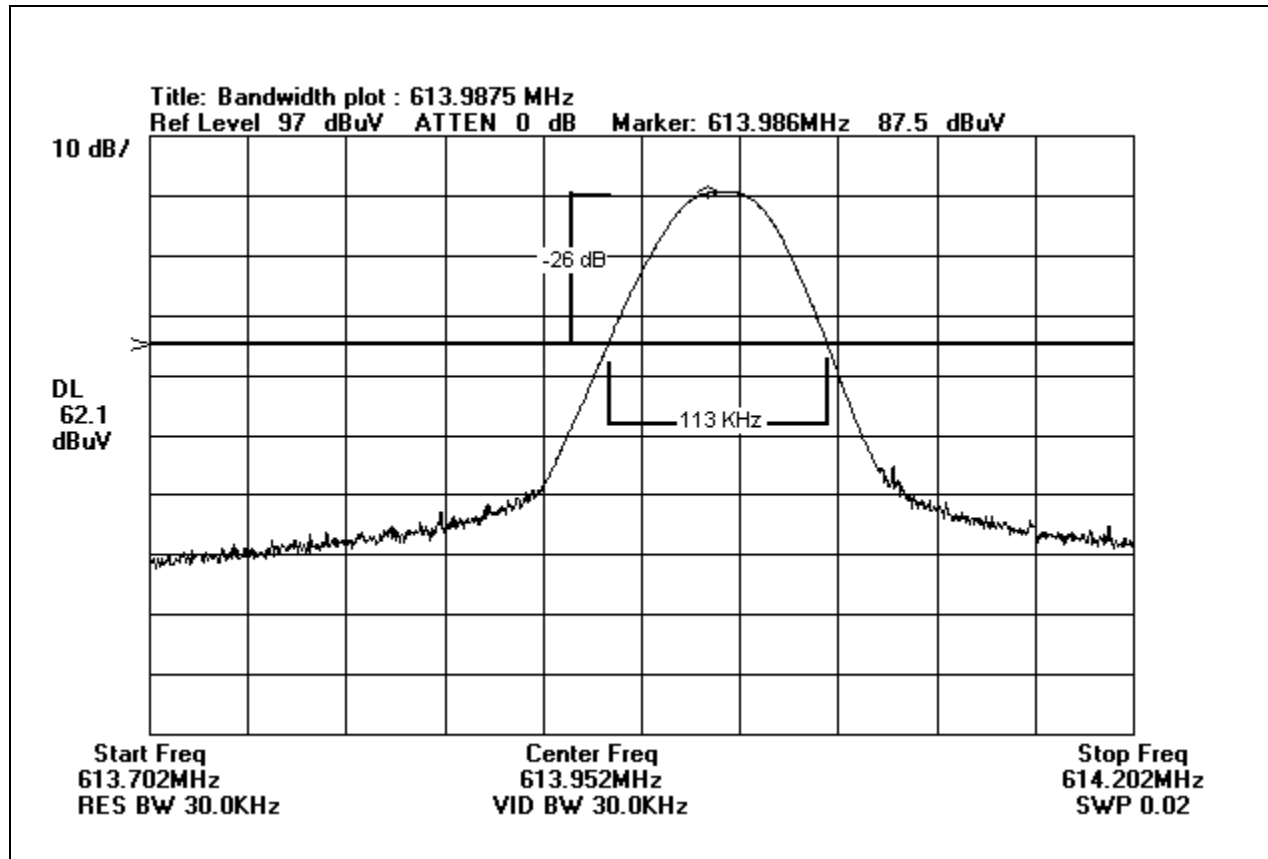
Bandwidth - Middle Channel @ 100 kHz



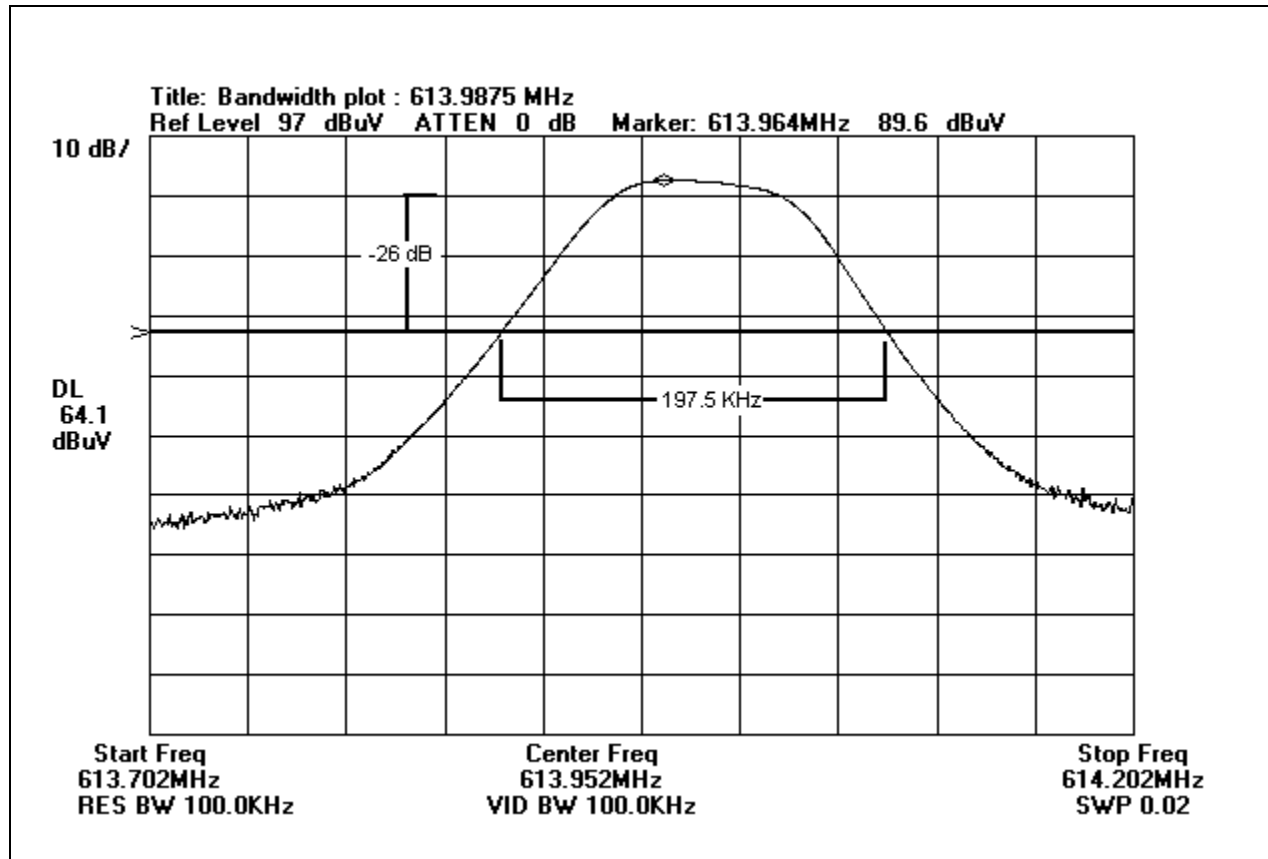
Bandwidth - Middle Channel @ 300 kHz



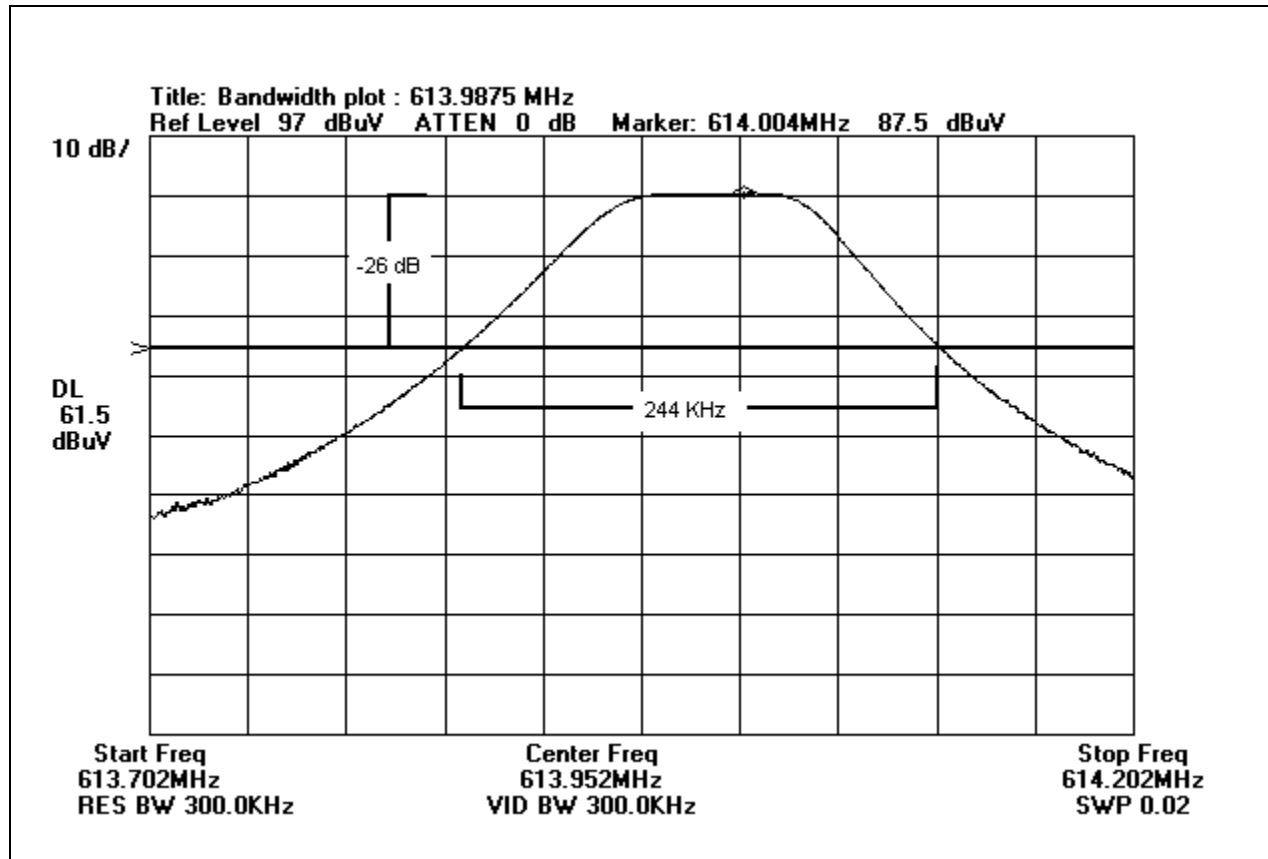
Bandwidth - High Channel @ 30 kHz



Bandwidth - High Channel @ 100 kHz



Bandwidth - High Channel @ 300 kHz



Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**

Specification: **FCC 15.242(c)**

Work Order #: **77785**

Date: 10/12/2001

Test Type: **Maximized Emissions**

Time: 14:27:42

Equipment: **Medical Transmitter**

Sequence#: 1

Manufacturer: Medical Data Electronics

Tested By: Eddie Wong

Model: DS

S/N: 4101-1002

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

COMMENTS: Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Low, Freq = 608.0125 MHz. Channel: Mid, Freq = 611.000 MHz. Channel: High, Freq = 613.9875 MHz. Orientation: X-Y (EUT laying flat on the wooden table), Z (EUT placed in up right position). Spec limit: 200mV/m at 3 meters = 106 dBuV/m. RBW = 120 kHz, VBW = 120 kHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Bicon Pream dB	Log 3 dB	Cable dB	Cable dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	611.000M	101.2	+0.0 -28.0	+19.3	+0.4	+4.5	+0.0 113	97.4	106.0 X-Y	-8.6	Horiz 200
2	608.024M	99.1	+0.0 -28.1	+19.2	+0.4	+4.5	+0.0 304	95.1	106.0 X-Y	-10.9	Horiz 275
3	608.024M	97.9	+0.0 -28.1	+19.2	+0.4	+4.5	+0.0 301	93.9	106.0 Z	-12.1	Horiz 225
4	608.024M	95.4	+0.0 -28.1	+19.2	+0.4	+4.5	+0.0 342	91.4	106.0 Z	-14.6	Vert 156
5	613.967M	94.7	+0.0 -28.0	+19.5	+0.4	+4.6	+0.0 317	91.2	106.0 X-Y	-14.8	Horiz 114
6	611.000M	91.9	+0.0 -28.0	+19.3	+0.4	+4.5	+0.0 139	88.1	106.0 Z	-17.9	Horiz 160
7	608.025M	91.5	+0.0 -28.1	+19.2	+0.4	+4.5	+0.0 57	87.5	106.0 X-Y	-18.5	Vert 221
8	611.000M	89.9	+0.0 -28.0	+19.3	+0.4	+4.5	+0.0	86.1	106.0 X-Y	-19.9	Vert 233
9	611.000M	89.3	+0.0 -28.0	+19.3	+0.4	+4.5	+0.0 360	85.5	106.0 Z	-20.5	Vert 103
10	613.967M	87.5	+0.0 -28.0	+19.5	+0.4	+4.6	+0.0 359	84.0	106.0 Z	-22.0	Horiz 229
11	613.968M	87.5	+0.0 -28.0	+19.5	+0.4	+4.6	+0.0 92	84.0	106.0 Z	-22.0	Vert 100
12	613.967M	86.8	+0.0 -28.0	+19.5	+0.4	+4.6	+0.0 250	83.3	106.0 X-Y	-22.7	Vert 100

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**

Specification: **FCC 15.242(c)(15.209)**

Work Order #: **77785**

Date: 10/11/2001

Test Type: **Maximized Emissions**

Time: 15:20:05

Equipment: **Medical Transmitter**

Sequence#: 4

Manufacturer: Medical Data Electronics

Tested By: Eddie Wong

Model: DS

S/N: 4101-1002

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Low, Freq = 608.0125 MHz. Orientation: Z (EUT placed upright on the wooden table). Frequency range of measurement: 4-30 MHz. RBW = 9 kHz, VBW = 9 kHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Activ dB	Cable dB	Cable dB	15.31 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	5.874M	33.2	+11.3	+0.0	+0.9	-40.0	+0.0 271	5.4	29.5	-24.1	None 105
2	7.261M	32.7	+11.2	+0.0	+0.9	-40.0	+0.0 142	4.8	29.5	-24.7	None 105
3	5.873M	32.3	+11.3	+0.0	+0.9	-40.0	+0.0 178	4.5	29.5	-25.0	None 105
4	17.188M	22.5	+10.7	+0.1	+0.9	-40.0	+0.0 -1	-5.8	29.5	-35.3	None 105
5	12.899M	21.7	+11.1	+0.0	+0.9	-40.0	+0.0 102	-6.3	29.5	-35.8	None 105
6	4.319M	21.5	+11.3	+0.0	+0.9	-40.0	+0.0 291	-6.3	29.5	-35.8	None 105

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**
 Specification: **FCC 15.242(c)(15.209)**
 Work Order #: **77785**
 Test Type: **Maximized Emissions**
 Equipment: **Medical Transmitter**
 Manufacturer: Medical Data Electronics
 Model: DS
 S/N: 4101-1002

Date: 10/12/2001
 Time: 12:18:07
 Sequence#: 8
 Tested By: Eddie Wong

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Mid, Freq = 611.000 MHz. Orientation: Z (EUT placed upright on the wooden table). Frequency range of measurement: 4-30 MHz. RBW = 9 kHz, VBW = 9 kHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Activ dB	Cable dB	Cable dB	15.31 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	19.998M	28.6	+10.2	+0.1	+0.9	-40.0	+0.0 203	-0.2	29.5	-29.7	None 100
2	4.000M	22.7	+11.3	+0.0	+0.9	-40.0	+0.0 110	-5.1	29.5	-34.6	None 100
3	7.745M	21.8	+11.2	+0.0	+0.9	-40.0	+0.0 335	-6.1	29.5	-35.6	None 100
4	29.495M	22.4	+8.5	+0.1	+0.9	-40.0	+0.0 91	-8.1	29.5	-37.6	None 100
5	25.745M	20.7	+9.2	+0.1	+0.9	-40.0	+0.0 93	-9.1	29.5	-38.6	None 100
6	12.750M	13.9	+11.1	+0.0	+0.9	-40.0	+0.0 332	-14.1	29.5	-43.6	None 100

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**

Specification: **FCC 15.242(c)(15.209)**

Work Order #: **77785**

Date: 10/12/2001

Test Type: **Maximized Emissions**

Time: 11:46:08

Equipment: **Medical Transmitter**

Sequence#: 7

Manufacturer: Medical Data Electronics

Tested By: Eddie Wong

Model: DS

S/N: 4101-1002

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: High, Freq = 613.9875 MHz. Orientation: Z (EUT placed upright on the wooden table). Frequency range of measurement: 4-30 MHz. RBW = 9 kHz, VBW = 9 kHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Activ dB	Cable dB	Cable dB	15.31 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	19.999M	33.0	+10.2	+0.1	+0.9	-40.0	+0.0 105	4.2	29.5	-25.3	None 100
2	11.684M	19.7	+11.2	+0.0	+0.9	-40.0	+0.0 238	-8.2	29.5	-37.7	None 100
3	4.184M	19.0	+11.3	+0.0	+0.9	-40.0	+0.0 64	-8.8	29.5	-38.3	None 100
4	17.684M	19.4	+10.6	+0.1	+0.9	-40.0	+0.0 317	-9.0	29.5	-38.5	None 100
5	23.684M	19.2	+9.6	+0.1	+0.9	-40.0	+0.0 343	-10.2	29.5	-39.7	None 100
6	28.934M	19.4	+8.6	+0.1	+0.9	-40.0	+0.0 265	-11.0	29.5	-40.5	None 100

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**

Specification: **FCC 15.242 (c)(15.209)**

Work Order #: **77785**

Date: 10/11/2001

Test Type: **Maximized Emissions**

Time: 12:17:27

Equipment: **Medical Transmitter**

Sequence#: 2

Manufacturer: Medical Data Electronics

Tested By: Eddie Wong

Model: DS

S/N: 4101-1002

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Low, Freq = 608.0125 MHz. Orientation: Z (EUT placed upright on the wooden table). Frequency range of measurement: 30-1000 MHz. RBW= 120 kHz, VBW = 120 kHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Bicon Pream dB	Log 3 dB	Cable dB	Cable dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	782.304M	32.6	+0.0 -27.7	+21.7	+0.6	+5.3	+0.0 107	32.5	46.0	-13.5	Horiz 181
2	304.014M	33.4	+0.0 -28.3	+22.2	+0.3	+3.0	+0.0 197	30.6	46.0	-15.4	Horiz 142
3	891.858M	28.6	+0.0 -27.6	+22.9	+0.6	+5.7	+0.0 126	30.2	46.0	-15.8	Vert 100
4	729.237M	30.0	+0.0 -27.9	+22.3	+0.5	+5.1	+0.0 131	30.0	46.0	-16.0	Horiz 181
5	911.986M	27.5	+0.0 -27.6	+23.2	+0.6	+5.8	+0.0 119	29.5	46.0	-16.5	Horiz 181
6	823.314M	29.0	+0.0 -27.6	+21.9	+0.6	+5.4	+0.0 259	29.3	46.0	-16.7	Horiz 181
7	584.004M	33.3	+0.0 -28.3	+18.6	+0.4	+4.5	+0.0 233	28.5	46.0	-17.5	Horiz 181
8	688.876M	28.6	+0.0 -28.0	+22.3	+0.5	+4.9	+0.0 357	28.3	46.0	-17.7	Horiz 181
9	726.836M	27.2	+0.0 -27.9	+22.4	+0.5	+5.1	+0.0	27.3	46.0	-18.7	Horiz 181
10	624.004M	29.7	+0.0 -28.0	+19.9	+0.4	+4.6	+0.0 126	26.6	46.0	-19.4	Vert 100
11	294.910M	29.3	+21.8 -28.3	+0.0	+0.3	+3.0	+0.0 206	26.1	46.0	-19.9	Vert 116
12	197.775M	32.2	+16.9 -28.4	+0.0	+0.3	+2.4	+0.0 190	23.4	43.5	-20.1	Horiz 166
13	528.046M	31.2	+0.0 -28.6	+17.5	+0.4	+4.3	+0.0 161	24.8	46.0	-21.2	Horiz 142

14	120.001M	32.5	+15.3 -28.4	+0.0	+0.2	+1.9	+0.0 301	21.5	43.5	-22.0	Vert 116
15	147.024M	29.3	+17.3 -28.4	+0.0	+0.2	+2.1	+0.0 305	20.5	43.5	-23.0	Horiz 166
16	415.971M	29.9	+0.0 -28.4	+15.7	+0.4	+3.7	+0.0 254	21.3	46.0	-24.7	Horiz 142

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**
 Specification: **FCC 15.242 (c)(15.209)**
 Work Order #: **77785**
 Test Type: **Maximized Emissions**
 Equipment: **Medical Transmitter**
 Manufacturer: Medical Data Electronics
 Model: DS
 S/N: 4101-1002

Date: 10/12/2001
 Time: 15:11:29
 Sequence#: 9
 Tested By: Eddie Wong

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Mid, Freq = 611.000 MHz Orientation: Z (EUT placed upright on the wooden table). Frequency range of measurement = 30-1000 MHz. RBW= 120 kHz, VBW=120 kHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Bicon Pream dB	Log 3 dB	Cable dB	Cable dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	916.519M	27.3	+0.0 -27.6	+23.2	+0.6	+5.9	+0.0 288	29.4	46.0	-16.6	Vert 121
2	916.494M	27.2	+0.0 -27.6	+23.2	+0.6	+5.9	+0.0 89	29.3	46.0	-16.7	Horiz 164
3	585.489M	33.8	+0.0 -28.2	+18.6	+0.4	+4.5	+0.0 129	29.1	46.0	-16.9	Horiz 164
4	766.508M	28.3	+0.0 -27.8	+21.9	+0.5	+5.3	+0.0 260	28.2	46.0	-17.8	Vert 121
5	305.497M	30.6	+0.0 -28.3	+22.1	+0.3	+3.0	+0.0 333	27.7	46.0	-18.3	Horiz 164
6	160.052M	32.6	+17.6 -28.3	+0.0	+0.2	+2.2	+0.0 210	24.3	43.5	-19.2	Vert 100
7	565.509M	31.9	+0.0 -28.4	+18.3	+0.4	+4.4	+0.0 258	26.6	46.0	-19.4	Horiz 164
8	825.737M	26.3	+0.0 -27.7	+21.9	+0.6	+5.4	+0.0 156	26.5	46.0	-19.5	Horiz 164
9	305.500M	29.0	+0.0 -28.3	+22.1	+0.3	+3.0	+0.0 135	26.1	46.0	-19.9	Vert 121
10	616.487M	28.4	+0.0 -28.0	+19.6	+0.4	+4.6	+0.0 268	25.0	46.0	-21.0	Horiz 164
11	350.014M	30.5	+0.0 -28.2	+18.7	+0.3	+3.4	+0.0 43	24.7	46.0	-21.3	Vert 121
12	214.831M	30.5	+17.1 -28.3	+0.0	+0.3	+2.4	+0.0 3	22.0	43.5	-21.5	Vert 100
13	240.012M	31.8	+17.6 -28.2	+0.0	+0.3	+2.6	+0.0 360	24.1	46.0	-21.9	Vert 100

14	167.346M	29.5	+17.5 -28.3	+0.0	+0.3	+2.2	+0.0 283	21.2	43.5	-22.3	Vert 100
15	126.000M	30.7	+15.9 -28.4	+0.0	+0.2	+1.9	+0.0 290	20.3	43.5	-23.2	Vert 100
16	123.750M	29.5	+15.7 -28.4	+0.0	+0.2	+1.9	+0.0 10	18.9	43.5	-24.6	Vert 100
17	129.320M	28.4	+16.2 -28.4	+0.0	+0.2	+1.9	+0.0 39	18.3	43.5	-25.2	Horiz 125
18	448.920M	28.7	+0.0 -28.7	+16.2	+0.4	+3.9	+0.0 127	20.5	46.0	-25.5	Horiz 164
19	464.075M	27.0	+0.0 -28.6	+16.4	+0.4	+4.0	+0.0 51	19.2	46.0	-26.8	Vert 121

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**

Specification: **FCC 15.242 (c)(15.209)**

Work Order #: **77785**

Date: 10/12/2001

Test Type: **Maximized Emissions**

Time: 09:42:39

Equipment: **Medical Transmitter**

Sequence#: 5

Manufacturer: Medical Data Electronics

Tested By: Eddie Wong

Model: DS

S/N: 4101-1002

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: High, Freq = 613.9875 MHz. Orientation: Z (EUT placed upright on the wooden table). Frequency range of measurement = 30 -1000 MHz. RBW= 120 kHz, VBW=120 kHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Bicon Pream dB	Log 3 dB	Cable dB	Cable dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	167.038M	44.0	+17.5 -28.3	+0.0	+0.3	+2.2	+0.0 113	35.7	43.5	-7.8	Horiz 147
2	161.356M	41.4	+17.6 -28.3	+0.0	+0.2	+2.2	+0.0 289	33.1	43.5	-10.4	Horiz 147
3	159.049M	38.0	+17.6 -28.3	+0.0	+0.2	+2.2	+0.0 2	29.7	43.5	-13.8	Horiz 126
4	920.977M	28.4	+0.0 -27.6	+23.3	+0.6	+5.9	+0.0 4	30.6	46.0	-15.4	Horiz 196
5	306.982M	33.2	+0.0 -28.3	+21.9	+0.3	+3.1	+0.0 332	30.2	46.0	-15.8	Vert 100
6	920.977M	27.8	+0.0 -27.6	+23.3	+0.6	+5.9	+0.0 360	30.0	46.0	-16.0	Vert 197
7	799.999M	29.5	+0.0 -27.6	+21.5	+0.6	+5.4	+0.0 23	29.4	46.0	-16.6	Horiz 134
8	306.995M	32.4	+0.0 -28.3	+21.9	+0.3	+3.1	+0.0 72	29.4	46.0	-16.6	Horiz 100
9	600.002M	33.1	+0.0 -28.1	+18.9	+0.4	+4.5	+0.0 241	28.8	46.0	-17.2	Horiz 134
10	420.020M	35.9	+0.0 -28.5	+15.8	+0.4	+3.7	+0.0 247	27.3	46.0	-18.7	Horiz 100
11	239.985M	32.1	+17.6 -28.2	+0.0	+0.3	+2.6	+0.0 359	24.4	46.0	-21.6	Vert 100

12	480.004M	31.3	+0.0 -28.6	+16.6	+0.4	+4.0	+0.0 66	23.7	46.0	-22.3	Horiz 100
13	540.004M	29.8	+0.0 -28.6	+17.7	+0.4	+4.3	+0.0 100	23.6	46.0	-22.4	Horiz 134
14	180.004M	28.7	+17.3 -28.2	+0.0	+0.3	+2.3	+0.0 111	20.4	43.5	-23.1	Vert 100
15	399.990M	31.1	+0.0 -28.3	+15.5	+0.4	+3.6	+0.0 259	22.3	46.0	-23.7	Horiz 100

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**

Specification: **FCC 15.242 (c)(15.209)**

Work Order #: **77785**

Date: 10/11/2001

Test Type: **Maximized Emissions**

Time: 14:36:23

Equipment: **Medical Transmitter**

Sequence#: 3

Manufacturer: Medical Data Electronics

Tested By: Eddie Wong

Model: DS

S/N: 4101-1002

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Low, Freq = 608.0125 MHz. Orientation: Z (EUT placed upright on the wooden table). Frequency range of measurement: 1 GHz - 7 GHz. RBW = 1 MHz, VBW = 1 MHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Horn dB	Cable dB	Helia dB	HP301 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	4012.500M	43.2	+31.9	+6.1	+2.5	-37.6	+0.0 262	46.1	54.0	-7.9	Horiz 105
2	1615.340M	51.6	+25.0	+3.5	+1.3	-38.6	+0.0 264	42.8	54.0	-11.2	Vert 100
3	3024.000M	42.1	+30.0	+4.9	+2.0	-37.6	+0.0 360	41.4	54.0	-12.6	Horiz 105
4	1826.007M	47.2	+25.8	+3.6	+1.1	-38.4	+0.0 -1	39.3	54.0	-14.7	Vert 100
5	1216.020M	48.1	+24.2	+2.9	+0.8	-39.6	+0.0 102	36.4	54.0	-17.6	Vert 104
6	1216.011M	46.2	+24.2	+2.9	+0.8	-39.6	+0.0 175	34.5	54.0	-19.5	Horiz 187

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**

Specification: **FCC 15.242 (c)(15.209)**

Work Order #: **77785**

Date: 10/12/2001

Test Type: **Maximized Emissions**

Time: 16:37:40

Equipment: **Medical Transmitter**

Sequence#: 10

Manufacturer: Medical Data Electronics

Tested By: Eddie Wong

Model: DS

S/N: 4101-1002

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: Mid, Freq = 611.000 MHz. Orientation: Z (EUT placed upright on the wooden table). Frequency range of measurement = 1GHz - 7 GHz. RBW= 1MHz, VBW=1 MHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Horn dB	Cable dB	Helia dB	HP301 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	1222.000M	52.6	+24.2	+2.9	+0.9	-39.6	+0.0 149	41.0	54.0	-13.0	Vert 110
2	2622.506M	44.0	+28.4	+4.3	+2.4	-38.6	+0.0 229	40.5	54.0	-13.5	Vert 110
3	1741.080M	45.2	+25.5	+3.6	+2.9	-38.6	+0.0 226	38.6	54.0	-15.4	Horiz 112
4	1528.060M	46.0	+24.6	+3.4	+2.7	-38.8	+0.0 21	37.9	54.0	-16.1	Vert 110
5	1832.976M	44.4	+25.8	+3.6	+1.1	-38.4	+0.0 316	36.5	54.0	-17.5	Horiz 112
6	1833.005M	39.9	+25.8	+3.6	+1.1	-38.4	+0.0 360	32.0	54.0	-22.0	Vert 110
7	1434.310M	13.9	+24.4	+3.2	+2.5	-39.0	+0.0 77	5.0	54.0	-49.0	Vert 110

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**

Specification: **FCC 15.242 (c)(15.209)**

Work Order #: **77785**

Date: 10/12/2001

Test Type: **Maximized Emissions**

Time: 08:56:29

Equipment: **Medical Transmitter**

Sequence#: 6

Manufacturer: Medical Data Electronics

Tested By: Eddie Wong

Model: DS

S/N: 4101-1002

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: High, Freq = 613.9875 MHz. Orientation: Z (EUT placed upright on the wooden table). Frequency range of measurement = 1GHz - 7 GHz. RBW= 1MHz, VBW=1 MHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Horn dB	Cable dB	Helia dB	HP301 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	3990.949M	39.9	+31.9	+6.1	+2.7	-37.6	+0.0 2	43.0	54.0	-11.0	Horiz 100
2	1841.949M	46.8	+25.9	+3.6	+1.0	-38.4	+0.0 171	38.9	54.0	-15.1	Vert 100
3	1534.949M	45.4	+24.7	+3.4	+2.8	-38.8	+0.0 242	37.5	54.0	-16.5	Horiz 100
4	1534.953M	44.7	+24.7	+3.4	+2.8	-38.8	+0.0 154	36.8	54.0	-17.2	Vert 100
5	1841.949M	44.6	+25.9	+3.6	+1.0	-38.4	+0.0 39	36.7	54.0	-17.3	Horiz 100
6	1227.961M	47.0	+24.2	+3.0	+1.1	-39.6	+0.0 82	35.7	54.0	-18.3	Horiz 170
7	1227.953M	46.6	+24.2	+3.0	+1.1	-39.6	+0.0 187	35.3	54.0	-18.7	Vert 100
8	6970.932M Ave	26.4	+35.4	+8.0	+1.2	-37.5	+0.0 164	33.5	54.0	-20.5	Vert 107

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Medical Data Electronics**

Specification: **FCC 15.109 Class B**

Work Order #: **77785**

Date: 10/12/2001

Test Type: **Maximized Emissions**

Time: 09:42:39

Equipment: **Medical Transmitter**

Sequence#: 5

Manufacturer: Medical Data Electronics

Tested By: Eddie Wong

Model: DS

S/N: 4101-1002

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Medical Transmitter*	Medical Data Electronics	DS	4101-1002

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Body worn EUT placed on the wooden table. The EUT is sending data packets. Channel: High, Freq = 613.9875 MHz. Orientation: Z (EUT placed upright on the wooden table). Frequency range of measurement = 30 - 1000 MHz. RBW= 120 kHz, VBW=120 kHz. DC 4.5 V, 19°C, 56 % rh.

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	Bicon Pream dB	Log 3 dB	Cable dB	Cable dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	167.038M	44.0	+17.5 -28.3	+0.0	+0.3	+2.2	+0.0 113	35.7	43.5	-7.8	Horiz 147
2	161.356M	41.4	+17.6 -28.3	+0.0	+0.2	+2.2	+0.0 289	33.1	43.5	-10.4	Horiz 147
3	159.049M	38.0	+17.6 -28.3	+0.0	+0.2	+2.2	+0.0 2	29.7	43.5	-13.8	Horiz 126
4	920.977M	28.4	+0.0 -27.6	+23.3	+0.6	+5.9	+0.0 4	30.6	46.0	-15.4	Horiz 196
5	306.982M	33.2	+0.0 -28.3	+21.9	+0.3	+3.1	+0.0 332	30.2	46.0	-15.8	Vert 100
6	920.977M	27.8	+0.0 -27.6	+23.3	+0.6	+5.9	+0.0 360	30.0	46.0	-16.0	Vert 197
7	799.999M	29.5	+0.0 -27.6	+21.5	+0.6	+5.4	+0.0 23	29.4	46.0	-16.6	Horiz 134
8	306.995M	32.4	+0.0 -28.3	+21.9	+0.3	+3.1	+0.0 72	29.4	46.0	-16.6	Horiz 100
9	600.002M	33.1	+0.0 -28.1	+18.9	+0.4	+4.5	+0.0 241	28.8	46.0	-17.2	Horiz 134
10	420.020M	35.9	+0.0 -28.5	+15.8	+0.4	+3.7	+0.0 247	27.3	46.0	-18.7	Horiz 100
11	239.985M	32.1	+17.6 -28.2	+0.0	+0.3	+2.6	+0.0 359	24.4	46.0	-21.6	Vert 100

12	480.004M	31.3	+0.0 -28.6	+16.6	+0.4	+4.0	+0.0 66	23.7	46.0	-22.3	Horiz 100
13	540.004M	29.8	+0.0 -28.6	+17.7	+0.4	+4.3	+0.0 100	23.6	46.0	-22.4	Horiz 134
14	180.004M	28.7	+17.3 -28.2	+0.0	+0.3	+2.3	+0.0 111	20.4	43.5	-23.1	Vert 100
15	399.990M	31.1	+0.0 -28.3	+15.5	+0.4	+3.6	+0.0 259	22.3	46.0	-23.7	Horiz 100