

1. Description Of General Information

1.1 Applicant {2.983(a)}

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Mailing Address:
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1.2 Manufacturer

Mitsubishi Consumer Electronics America, Inc.
CMT Group
2001 Cherry Drive
Braselton, GA 30517

1.3 Equipment {2.983(b)}

Mobile Telephone, Class IV, Cellular/PCS Mobile Telephone
Type: MT-2531F0R6A
Type: MT-2533F0R6A

1.4 Identification Of The Equipment

FCC ID: BGBMT253XF0R6A

1.5 Service

47 CFR 22 Subpart K
Domestic Public Cellular Radio
Telecommunications Service

47 CFR 24 Subpart E
Broadband PCS
Personal Communications Service

1.6 Quantity Production {2.983(c)}

Quantity production is planned.

6. Measurement Procedures

6.1 Radio Frequency Power Output Measurement Data {2.985(a)}

(800MHz Analog, 800MHz Digital, 1900MHz Digital)

6.1.1 Radio Frequency Power Output Measurement Data

6.1.2 Radio Frequency Power Output with Voltage Variation Measurement Data

6.2 Modulation Characteristics {2.987(a)(d)}

6.2.1 Transmitter Audio Frequency Response (800MHz Analog)

6.2.3 Modulation Limiting (800MHz Analog)

6.3 Occupied Bandwidth Measurement Data {2.989 (c) (h)}

(800MHz Analog, 800MHz Digital, 1900MHz Digital)

6.4 Spurious Emissions at Antenna Terminal Measurement Data {2.991}

(800MHz Analog, 800MHz Digital, 1900MHz Digital)

6.5 Field Strength of Spurious Emissions Measurement Data {2.993}

(800MHz Analog, 800MHz Digital, 1900MHz Digital)

6.6 Frequency Stability Measurement Data {2.995}

(800MHz Analog, 800MHz Digital, 1900MHz Digital)

6.6.1 Frequency Stability with Voltage Variation Measurement Data

6.6.2 Frequency Stability with Temperature Variation Measurement Data

6.7 Test Equipment

6.8 SAR Measurements

6 Measurement Procedures

6.1 Radio Frequency Power Output Measurement Data {2.985(a)} (800MHz Analog, 800MHz Digital, 1900MHz Digital)

6.1.1 Radio Frequency Power Output Measurement Data

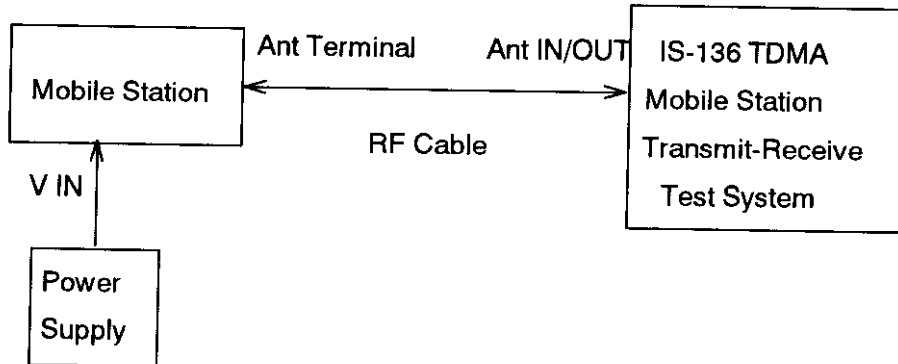


Figure 6.1.1.1 Test System of Radio Frequency Power Output

Radio frequency power output was measured with the test system as shown in Figure 6.1.1.1. The measurement data includes the loss of RF cable. Details of the test equipment are listed in Table 6.7.1.

Parameters:

Power Supply Voltage : 4.8V

Temperature : +25 degree C

RF Power Level : 0 to 7 (800MHz Analog), 0 to 10 (800MHz Digital, 1900MHz Digital)

RF channel : 991, 384, 799 (800MHz Analog, 800MHz Digital)
2,1001,1998 (1900MHz Digital)

Modulation : unmodulated (800MHz Analog)

: 48.6kbps Pseudo-random Data (800MHz Digital, 1900MHz Digital)

6.1.2 Radio Frequency Power Output with Voltage Variation Measurement Data

Radio frequency power output was measured with the test system as shown in Figure 6.1.1.1. The measurement data includes the loss of RF cable. Details of the test equipment are listed in Table 6.7.1.

Parameters:

Power Supply Voltage :4.2V to 6.5V (0.2V step)

Temperature : +25 degree C

RF Power Level : 0

RF channel : 384 (800MHz Analog, 800MHz Digital), 1001 (1900MHz Digital)

Modulation : unmodulated (800MHz Analog)

: 48.6kbps Pseudo-random Data (800MHz Digital,1900MHz Digital)

6.2 Modulation Characteristics {2.987(a)(d)}

6.2.1 Transmitter Audio Frequency Response (800MHz Analog)

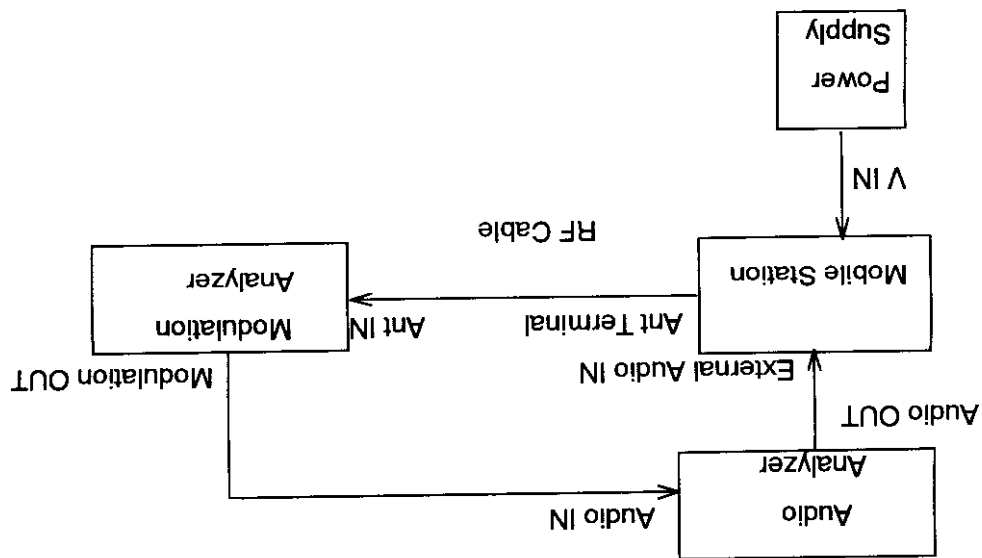


Figure 6.2.1.1 Test System of Transmitter Audio Frequency Response

Transmit audio frequency response was measured with the test system as shown in Figure 6.2.1.1. Details of the Test equipment are listed in Table 6.7.1. The measurement were made per TIA/EIA/IS-137-A.

(a) Transmit frequency response of audio modulation circuits

Parameters:

Audio Analyzer Audio Output Frequency : 200Hz to 4000Hz

Audio Analyzer Audio Output Level : -30.2dBV

(This Level produces 2.9kHz deviation at 1kHz audio frequency)

Power Supply Voltage : 4.8V

Temperature : +25 degree C

RF Power Level : 0

RF channel : 384

Modulation : Audio

(b) Transmit frequency response of audio low pass filter

Parameters:

Audio Analyzer Audio Output Frequency : 3000Hz to 30,000Hz

6.2.3 Modulation Limiting (800MHz Analog)

Modulation limiting was measured with the test system as shown in Figure 6.2.1.1. Details of the test equipment are listed in Table 6.7.1. The measurement were made per TIA/EIA/IS-137-A.

Parameters:
Audio Analyzer Audio Output Frequency : 300HZ, 1000HZ, 3000HZ
Audio Analyzer Audio Output Level : -40dBV to 10dBV step 2.5dB
Power Supply Voltage :4.8V
Temperature : +25 degree C
RF Power Level : 0
RF channel : 384
Modulation : Audio

Audio Analyzer Audio Output Level : -2.2dBV
(This Level is maximum input audio level which mobile station permits)
Power Supply Voltage :4.8V
Temperature : +25 degree C
RF Power Level : 0
RF channel : 384
Modulation : Audio

6.3 Occupied Bandwidth Measurement Data {2,989 (c) (h)} (800MHz Analog,800MHz Digital,1900MHz Digital)

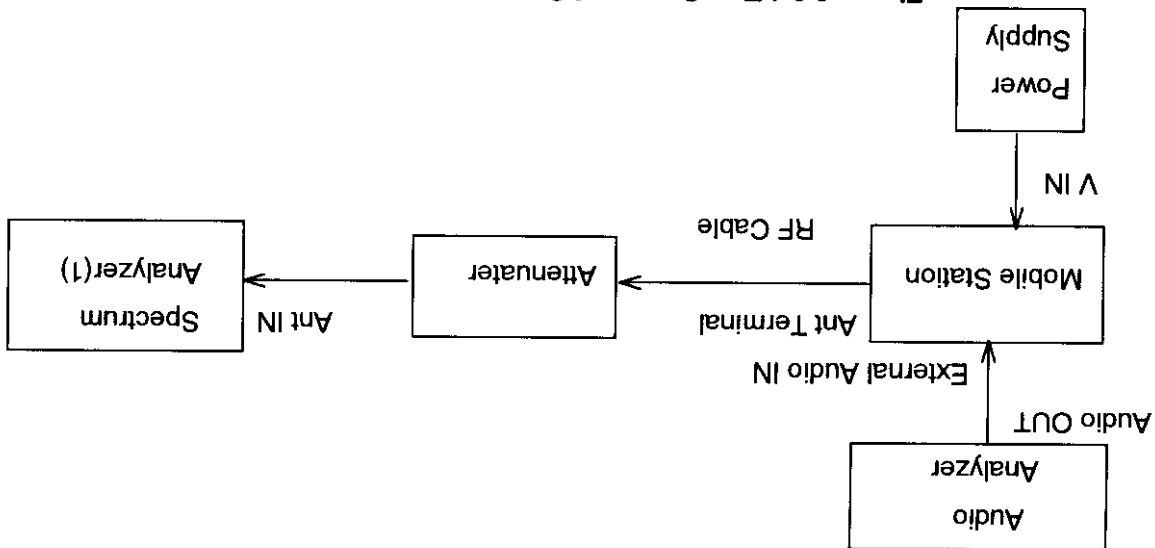


Figure 6.3.1 Test System of Occupied Bandwidth

Occupied Bandwidth was measured with the test system as shown in Figure 6.3.1. Details of the test equipment are listed in Table 6.7.1.

Parameters:

Audio Analyzer Audio Output Frequency : 2500Hz
 Audio Analyzer Audio Output Level : -7.9dBV
 (This Level is 16dB greater than the level which produces 6kHz deviation)
 Power Supply Voltage :4.8V
 Temperature : +25 degree C
 RF Power Level : 0
 RF channel : 384 (800MHz Analog, 800MHz Digital), 1001 (1900MHz Digital)
 Modulation : unmodulated (800MHz Analog)
 : Audio (800MHz Analog)
 : Signaling Tone (800MHz Analog)
 : SAT (6000Hz) (800MHz Analog)
 : Audio + SAT (6000Hz) (800MHz Analog)
 : Wideband Data (800MHz Analog)
 : DTMF (Keys) + SAT (6000Hz) (800MHz Analog)
 : 48.6kbps Pseudo-random Data (800MHz Digital,1900MHz Digital)

6.4 Spurious Emissions at Antenna Terminal Measurement Data (2.991) (800MHz Analog, 800MHz Digital, 1900MHz Digital)

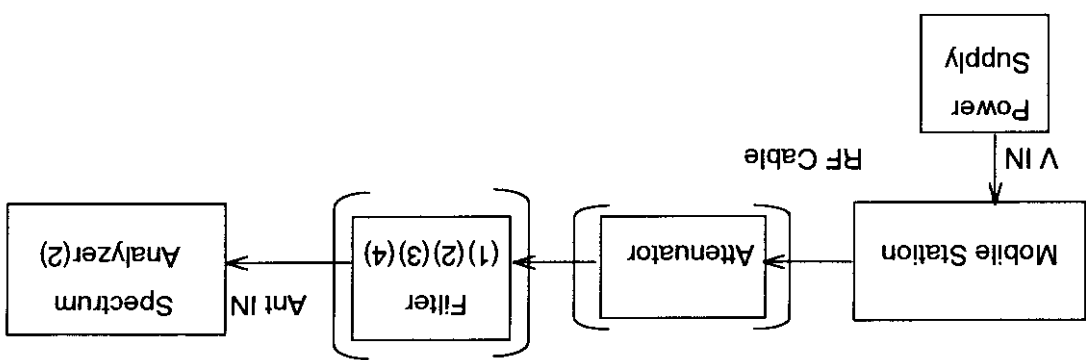


Figure 6.4.1 Test System of Spurious Emissions at Antenna Terminal

Spurious emissions at antenna terminal was measured with the test system as shown in Figure 6.4.1. The measurement were made per TIA/EIA/IS-137-A.

- (a) 800MHz Analog, 800MHz Digital
1. Put Attenuator and Filter(1) between mobile station and spectrum analyzer, and measure the 2nd to 10th harmonics level.
 2. Put off Filter(1), and measure the carrier output power level and other spurious emissions level from 19.44MHz to 8490MHz.
 3. Put off Attenuator and put Filter(3) between mobile station and spectrum analyzer, and measure the spurious emissions level in Rx band (869MHz to 894MHz).

- (b) 1900MHz Digital
1. Put Attenuator and Filter(2) between mobile station and spectrum analyzer, and measure the 2nd to 10th harmonics level.
 2. Put off Filter(2), and measure the carrier output power level and other spurious emissions level from 19.44MHz to 19100MHz.
 3. Put off Attenuator and put Filter(4) between mobile station and spectrum analyzer, and measure the spurious emissions level in Rx band (1930MHz to 1990MHz).

The measurement data includes the loss and attenuation of RF Cable, Attenuator, Filter(1)(2)(3)(4). Details of the test equipment are listed in Table 6.7.1.

Parameters:

Power Supply Voltage :4.8V

Temperature : +25 degree C

RF Power Level : 0

RF channel : 799, 384, 991 (800MHz Analog, 800MHz Digital),

2, 1001, 1998 (1900MHz Digital)

Modulation : Wideband Data (800MHz Analog)

: 48.6kbps Pseudo-random Data (800MHz Digital, 1900MHz Digital)

6.5 Field Strength of Spurious Emissions Measurement Data {2.993} (800MHz Analog,800MHz Digital,1900MHz Digital)

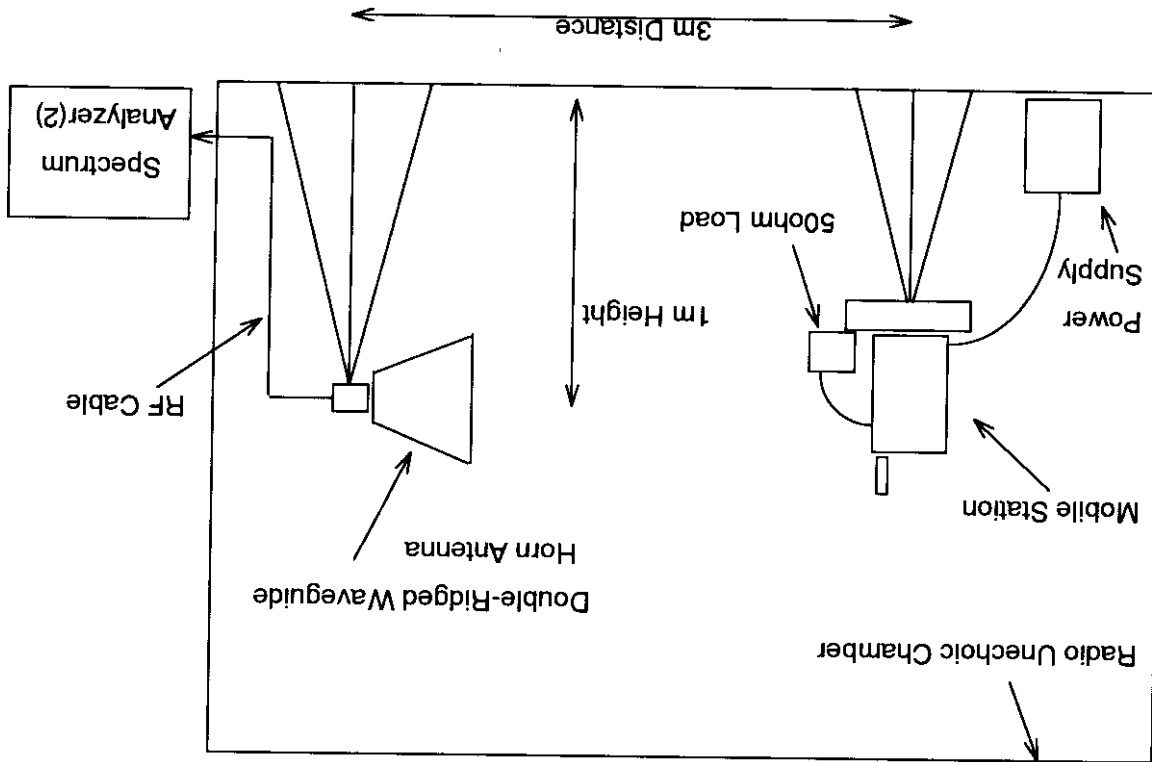


Figure 6.5.1 Test System of Field Strength of Spurious Emissions

Field strength of spurious emissions was measured with the test system as shown in Figure 6.5.1. Details of the test equipment are listed in Table 6.7.1. The measurement were made per TIA/EIA/IS-137-A.

(a) Procedure of Measurement

1. Set the mobile station, horn antenna and other equipment as shown as figure 6.5.1. Terminate the antenna connector of the mobile station in 50ohm load.
2. Adjust the center frequency of spectrum analyzer to 2nd harmonics frequency.
3. Rotate the mobile station manually, and read the maximum value monitored by spectrum analyzer at specified frequency.
4. Repeat 2. and 3. Procedure to 10th harmonics.
5. Search spurious emissions from 19.44MHz to 8490MHz (800MHz Analog, 800MHz Digital), 19.44MHz to 19100MHz (1900MHz Digital).
6. If spurious or harmonics emissions is found, rotate the mobile station manually, and read

the maximum value monitored by spectrum analyzer at specified frequency.

(b) Calculation of Emission Limits

Per Section 2.993 of the FCC Rules, the relative radiated power of each spurious emission must be referenced to the rated power output of the transmitter, assuming all emissions are radiated from half-wave dipole antennas. The reference level relative to the transmitter output power is determined by applying the following equation:

$$ERP = \{ (30 * P * G)^{1/2} / d \} \quad [V/m]$$

where: P = rated output power in Watts (= 0.6Watts)

G = gain of a half-wave dipole antenna (= 1.64)

d = distance from the transmitter to the receive antenna in meters (= 3m)
Therefore: $ERP = \{ (30 * 0.6 * 1.64)^{1/2} / 3 \} = 1.81 [V/m] = 125.2 [dBuV/m]$

Per Section 3.4.3 of the IS-137-A all spurious emissions must be attenuated below the transmitter power by at least :

$$43 + 10 * \log(P) [dB] \quad (800MHz \text{ Analog})$$

$$45 [dB] \quad (800MHz \text{ Digital, 1900MHz Digital})$$

This results in a spurious emission limit of:

$$125.2 - \{ 43 + 10 * \log(0.6) \} = 84.4 [dBuV/m] \quad (800MHz \text{ Analog})$$

$$125.2 - 45 = 80.2 [dBuV/m] \quad (600MHz \text{ Digital, 1900MHz Digital})$$

(c) Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss. The field strength is calculated by applying the following equation.

$$FS = RR + AF + CL$$

where: FS = Field Strength [dBuV/m]

RR = Receiver Reading [dBuV]

AF = Antenna Factor [dB]

CL = Cable Loss [dB]

The actual value of these parameter is shown in Table 5.5.1, 5.5.2, 5.5.3. The antenna factor is supplied by the manufacturer.

Parameters:

Power Supply Voltage : 4.8V

Temperature : +25 degree C

RF Power Level : 0
RF channel : 799, 384, 991 (800MHz Analog, 800MHz Digital),
2, 1001, 1998 (1900MHz Digital)
Modulation : Wideband Data (800MHz Analog)
: 48.6kbps Pseudo-random Data (800MHz Digital, 1900MHz Digital)

6.6 Frequency Stability Measurement Data {2.995}
(800MHz Analog,800MHz Digital,1900MHz Digital)

6.6.1 Frequency Stability with Voltage Variation Measurement Data

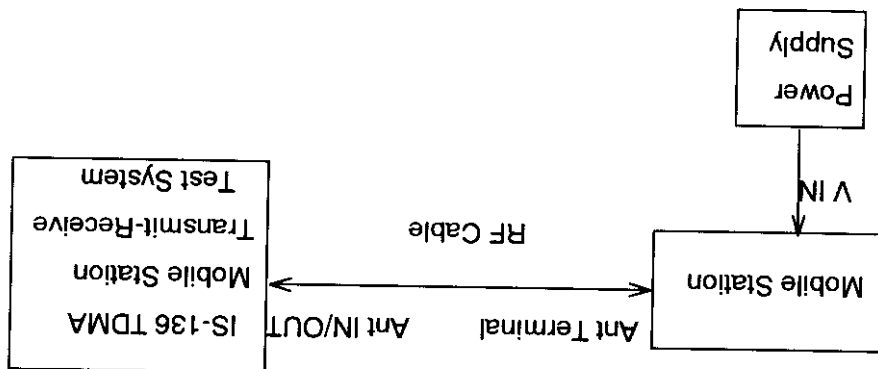


Figure 6.6.1.1 Test System of Frequency Stability with Voltage Variation

Frequency stability with voltage variation was measured with the test system as shown in Figure 6.6.1.1. Details of the test equipment are listed in Table 6.7.1. The measurement were made per TIA/EIA/IS-137-A.

Parameters:

- Power Supply Voltage :4.2V to 6.5V (0.2V step)
- Temperature : +25 degree C
- RF Power Level : 0
- RF channel : 384 (800MHz Analog, 800MHz Digital), 1001 (1900MHz Digital)
- Modulation : unmodulated (800MHz Analog)
- : 48.6kbps Pseudo-random Data (800MHz Digital,1900MHz Digital)

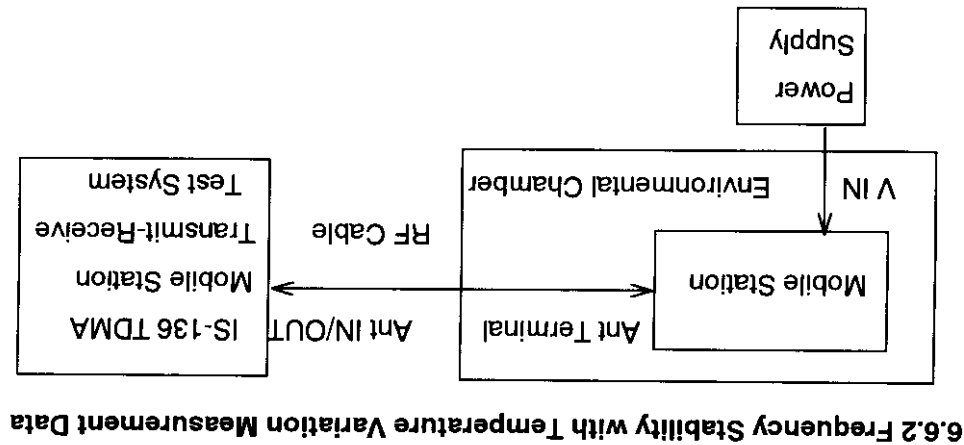


Figure 6.6.2.1 Test System of Frequency Stability with Temperature Variation

Frequency stability with voltage variation was measured with the test system as shown in Figure 6.6.2.1. Details of the test equipment are listed in Table 6.7.1. The measurement were made per TIA/EIA/IS-137-A.

Parameters:

- Power Supply Voltage : 4.8V
- Temperature : -30 degree C to +60 degree C (10 degree C step)
- RF Power Level : 0
- RF channel : 384 (800MHz Analog, 800MHz Digital), 1001 (1900MHz Digital)
- Modulation : unmodulated (800MHz Analog)
- : 48.6kbps Pseudo-random Data (800MHz Digital, 1900MHz Digital)

6.7 Test Equipment

Type	Model Number	Manufacturer
IS-136 TDMA Mobile Station	Block Diagram of system is as shown as Figure 6.7.1	HEWLETT PACKARD
Transmit-Receive Test System,		
Power Supply	PMC35-2A	KIKUSUI
Spectrum Analyzer	(1) TR4173 (2) 8593E	ADVANTEST HEWLETT PACKARD
Environmental Chamber	MC-710	TABAI
Audio Analyzer	8903B	HEWLETT PACKARD
Modulation Analyzer	8901B	HEWLETT PACKARD
Attenuator	8498A 30dB Attenuate	HEWLETT PACKARD
Filter	(1) TR1401 900MHz Rejection Filter (2) 2.3GHz High-Pass Filter (3) DFC5R881P025BFDI (4) 852MHz Band-Pass Filter EZFBPCT 1960MHz Band-Pass Filter	ADVANTEST TAMAGAWA DENSHI MURATA MATSUBISHI
Double-Ridged Waveguide	3115	HEWLETT PACKARD
Horn Antenna		

Table 6.7.1 Test Equipment list

SYSTEM INTERFACE #2 Rev. 98/3/9

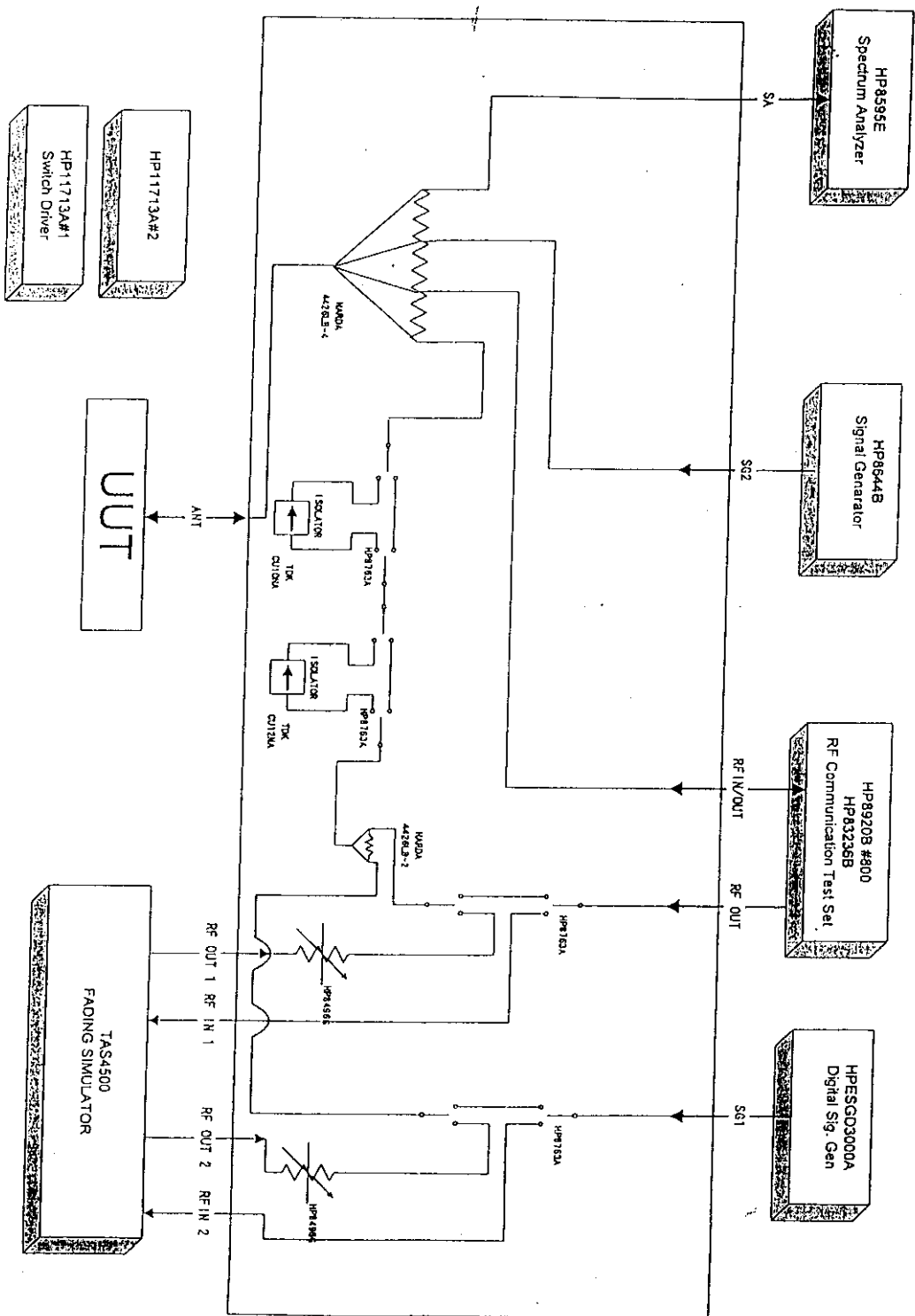


Figure 6.7.1 Block Diagram of IS-136 TDMA Mobile Station Transmit-Receive Test System

6.8 SAR Measurements

SAR was measured using the DASV3 System shown in Fig. 5.7.1 of Exhibit 5.

Parameters:

Power Supply Voltage	: 4.8V
Temperature	: 22 Deg. C
RF Power Level	: 0 @ 800 MHz Analog
	: 0 @ 800 MHz Digital
	: 0 @ 1900 Mhz Digital
RF Channel	: 991, 384, 799 (800 MHz Analog, 800, 800 MHz Digital)
	: 2, 1001, 1998 (1900 MHz Digital)
Modulation	: Unmodulated (800 MHz analog)
	: 48.6 Kbps Pseudo - random Data
	: (800 MHz Digital, 1900 MHz Digital)

6.8.1 Simulated Tissue

Medium	900 MHz Brain	1800 MHz Brain
Water	40.16 %	53.93
Cellulose	1.00%	1.00
Salt	0.69%	-
Prevento I	0.11%	0.10
Sugar	58.04%	44.97

6.8.2 Test Procedure

1. Set the Device Holder Position (Left Hand or Right Hand.)
2. Set the Antenna Position (Extended or Retracted) of the Mobile Station.
3. Adjust the RF Channel and the RF Power Level of the Mobile Station.
4. Put the Mobile Station on the Device Holder under the Phantom.
5. The center of the ear piece of the Mobile Station is placed at the entry of the auditory canal.
5. Adjust the sliding carriages of the Device Holder to intended use position (80 degrees and 65 degrees.)
6. Start the Application DASV3 on PC.
7. Measure SAR.
8. Confirm the RF Power Level.

2. Technical Description {2.983(d)}

2.1 Type of Emission {2.983(d)(1)}

800MHZ: 40K0F8W, 40K0F1D, 40K0GXW
1900MHZ: 40K0GXW

2.2 Frequency Range {2.983(d)(2)}

824 MHz to 849 MHz, 1850 MHz to 1910 MHz

2.3 Power Rating {2.983(d)(3-5)}

(1) Input Power for Final Amplifier	4 dBm	800MHZ
(2) Input Voltage for Final Amplifier	4.8 V	
(3) Input Current for Final Amplifier	600 mA	
(4) Rated Output Power	0.6 Watts	1900MHZ

2.4 Functions of All Active Devices {2.983(d)(6)}

Table 2.4-1 Active Devices of Transceiver Unit

Symbol	Part Number	Manufacturer	Function
D	103 RB491D-T146	ROHM	DIODE
D	107 RB491D-T146	ROHM	DIODE
D	108 1SR154-400-TE25	ROHM	DIODE
D	110 RB520S-30TE61	ROHM	DIODE
D	112 UDZTE-175.1B	ROHM	DIODE
D	122 UDZTE-175.1B	ROHM	DIODE
D	123 HZU2.0BTRF	HITACHI	DIODE
D	124 RB521S-30TE61	ROHM	DIODE
D	125 RB520S-30TE61	ROHM	DIODE
D	126 1SS400TE61/MA2S111-T	ROHM	DIODE
D	127 UDZTE-173.3B	ROHM	DIODE
D	860 HVC202ATRU	HITACHI	DIODE
D	880 HVC202ATRU	HITACHI	DIODE
D	940 1SS295-TE85L	TOSHIBA	DIODE
D	970 1SS295-TE85L	TOSHIBA	DIODE
FL	700 LMS30K1880H103	MURATA	SWITCH<PF
FL	710 MDR131A-T	SOSHIN	BPF
FL	720 MDR132A-T	SOSHIN	BPF
FL	730 DFYGR836CR881NHA-TA2	MURATA	DUPLEXER
FL	740 TQS-776A-7R	TOYOCOM	FILTER-SAW
FL	750 TS3-D8A01-138.15MHZ	TOYOCOM	FILTER-XTAL
FL	760 CFUXC450B101H-TC01	MURATA	FILTER-CER
FL	780 MLF-KR36D-450	NP-TOTO	FILTER-CER
FL	840 GSF606-SEP1021	SOSHIN	DUPLEXER
FL	920 FAR-F6CE-1G8800-L2XA	FUJITSU	FILTER-SAW

Exhibit 2-2

FL	930 FAR-F6CE-1G8800-L2XZ	FUJITSU	FILTER-SAW
FL	950 TQS-775A-7R	TOYOCOM	FILTER-SAW
FL	960 TQS-775A-7R	TOYOCOM	FILTER-SAW
FL	990 LFDP25N0013A	MURATA	DUPLEXER
IC	101 TA75S393F-TE85R	TOSHIBA	
IC	106 RNSRG33AA-TR	RICOH	
IC	108 TK11333BMCL	TOKO	
IC	109 RNSRL32AA-TR	RICOH	
IC	110 RNSVD18CA-TR	RICOH	
IC	201 PCI3601	PRAIRIECOMM	
IC	202 PCI3602	PRAIRIECOMM	
IC	203 TE28F400B3T120	INTEL	
IC	204 TC55V1001AST1LT(I)	TOSHIBA	
IC	205 X25642S8-2.7T4	XICOR	
IC	206 NJM2135V-TE2	JRC(SHIN)	
IC	207 NJM2135V-TE2	JRC(SHIN)	
IC	210 TC4W53FU-TE12L	TOSHIBA	
IC	600 TK11233BMCL	TOKO	
IC	610 TK11233BMCL	TOKO	
IC	620 TK11233BMCL	TOKO	
IC	710 CXG1013N-T4	SONY	
IC	740 NJG1551F-TE1	JRC(SHIN)	
IC	750 SPM3252-MBS-TL	SANYO	
IC	760 TA31136FN-EL	TOSHIBA	
IC	780 AD607ARS	ANALOG DEVICES	
IC	810 LMX2331LTMX	NS	
IC	820 MQE911-1035-T7	MURATA	VCO
IC	821 TC7S66FU-TE85R	TOSHIBA	
IC	840 SPM3252-MBS-TL	SANYO	
IC	860 MB15S91PFV-G-BND-ER	FUJITSU	
IC	870 MB15S91PFV-G-BND-ER	FUJITSU	
IC	900 ATTW2013CBY-TR	AT&T	
IC	910 SPM3252-MBS-TL	SANYO	
IC	920 FMM5022MUT	FUJITSU	
IC	930 CMM1333-AK-00TT	CELESTREK	
IC	950 FMM5020MUT	FUJITSU	
IC	960 MRFIC0913R2	MOTOROLA	
IC	970 TC4W53FU-TE12L	TOSHIBA	
IC	980 M62261FP-600D	MITSUBISHI ELE	
IC	981 TA75S01F-TE85R	TOSHIBA	
TR	101 UMH2N-TN	ROHM	
TR	102 UMH2N-TN	ROHM	
TR	103 UMH2N-TN	ROHM	
TR	105 UMH2N-TN	ROHM	
TR	107 UMH2N-TN	ROHM	
TR	108 UMH2N-TN	ROHM	
TR	111 2SB1205-R.S-TL	SANYO	
TR	112 2SA1362-GR-TE85R	TOSHIBA	

Exhibit 2-3

Connect the RF terminal to the power meter.

2.7.1 Set Up

2.7 Tune-Up Procedure {2.983(d)(9)}

As the instruction book is not yet available, a set of draft instructions is attached at the back of this application. The complete instruction book will be submitted as soon as available.

2.6 Instruction Book {2.983(d)(8)}

Refer to Exhibit 10

2.5 Schematic Diagrams {2.983(d)(7)}

TR	113 2SC4617-TR	ROHM	TR
TR	114 2SB798-T2	NEC	TR
TR	120 2SB1205-R.S-TL	SANYO	TR
TR	123 UMC4N-TR	ROHM	TR
TR	124 2SC4617-TR	ROHM	TR
TR	125 UMC4N-TR	ROHM	TR
TR	126 UMW1N-TR	ROHM	TR
TR	127 DTB123TK-T146	ROHM	TR
TR	128 2SC4617-TR	ROHM	TR
TR	201 UMH2N-TN	ROHM	TR
TR	202 IMD9A-T108	ROHM	TR
TR	203 IMD9A-T108	ROHM	TR
TR	204 IMD16A-T108	ROHM	TR
TR	600 UMC4N-TR	ROHM	TR
TR	601 UMC4N-TR	ROHM	TR
TR	602 UMC4N-TR	ROHM	TR
TR	603 2SJ347-TE85L	TOSHIBA	TR
TR	610 IMD10A-T108	ROHM	TR
TR	611 IMD10A-T108	ROHM	TR
TR	710 UMC4N-TR	ROHM	TR
TR	730 UMC4N-TR	ROHM	TR
TR	731 3SK309XV-TL	HITACHI	TR
TR	750 2SC4619-TR-SP.SQ	ROHM	TR
TR	800 2SJ347-TE85L	TOSHIBA	TR
TR	802 2SC4619-TR-SP.SQ	ROHM	TR
TR	830 2SC4784-TR	HITACHI	TR
TR	840 3SK309XV-TL	HITACHI	TR
TR	860 UMX5N-TR	ROHM	TR
TR	880 UMX5N-TR	ROHM	TR
TR	881 UMC4N-TR	ROHM	TR
TR	930 UMH11N-TN	ROHM	TR
TR	931 HAT1031T-EL	HITACHI	TR
TR	960 UMH11N-TN	ROHM	TR
TR	980 UMC4N-TR	ROHM	TR

Power on MS and enter test mode.

2.7.2 Analog Mode Power adjustment

Issue following test commands pushing ten Key.

402 SEND : enter analog mode

832 SEND : APC ON

01 SEND : Carrier ON

In the case of Power Level X adjustment :

9X SEND : Set Power Level X (See following table)

983 SEND : Set Reference Power level

Adjust the RF power to 28.8+/-1.0 dBm by Up/Down Key.
After adjustment, Push END Key and store the value.

62 SEND : Set Initial APC level

Adjust each RF power levels within the tolerance as Table 2.7-1

Adjust each RF power levels within the tolerance as Table 2.7-2

In the case of Power Level X adjustment :

9X SEND : Set Power Level X (See following table)

983 SEND : Set Reference Power level

62 SEND : Adjust the RF power to 28.8+/-1.0 dBm by Up/Down Key.
After adjustment, Push END Key and store the value.
Set Initial APC level

Issue following test commands pushing ten Key.

401 SEND : enter cellular band digital mode
(In the case of PCS band, Issue 400 SEND instead of 401 SEND)

832 SEND : APC ON

405 SEND : Asynchronous Transmission mode

408 SEND : Normal Burst transmission

01 SEND : Transmit ON

2.7.3 Digital Mode Power adjustment

Power Level	Test Command	Output Power
0	90 SEND	28.8 +/-1.0dBm
1	91 SEND	27.8 +/-1.0dBm
2	92 SEND	25.8 +/-1.0dBm
3	93 SEND	23.8 +/-1.0dBm
4	94 SEND	19.8 +/-1.0dBm
5	95 SEND	15.8 +/-1.0dBm
6	96 SEND	11.8 +/-1.0dBm
7	97 SEND	7.8 +/-1.0dBm

Table 2.7-1 Power adjustment for Analog mode

Power Level	Test Command	Output Power
0	90 SEND	28.8 +/-1.0dBm
1	91 SEND	27.8 +/-1.0dBm
2	92 SEND	25.8 +/-1.0dBm
3	93 SEND	23.8 +/-1.0dBm
4	94 SEND	19.8 +/-1.0dBm
5	95 SEND	15.8 +/-1.0dBm
6	96 SEND	11.8 +/-1.0dBm
7	97 SEND	7.8 +/-1.0dBm
8	958 SEND	2.8 +/-1.0dBm
9	959 SEND	-1.8 +/-1.0dBm
10	960 SEND	-6.8 +/-1.0dBm

Table 2.7-2 Power adjustment for Digital mode

2.8 Description of Oscillator and Synthesizer Circuits {2.983(d)}(10)

The transmitter output frequency of this equipment is produced by the synthesizer circuits and its stability is determined by the voltage controlled temperature compensated crystal oscillator (VC-TCXO) located in the synthesizer circuits on the RF/BB board.

2.8.1 Oscillator Circuits

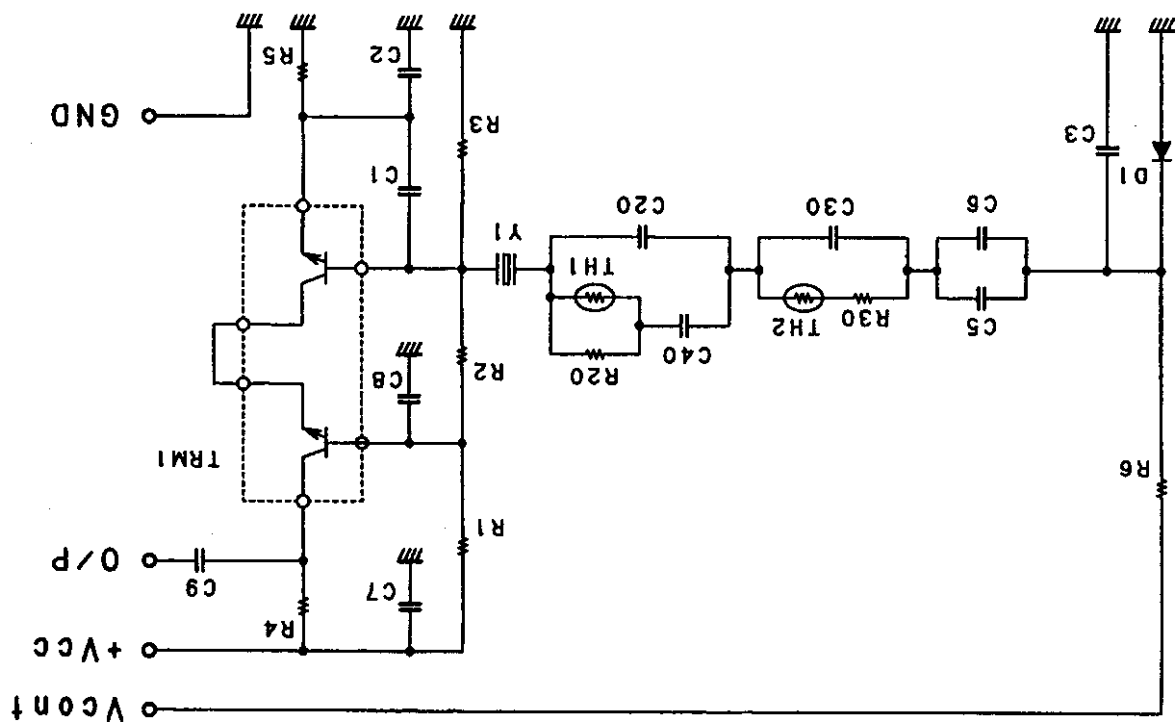
The VC-TCXO is made by TOYO COMMUNICATION EQUIPMENT CO., LTD. This specification is shown in Table 2.8-1. TCXO Specifications.

The schematic diagram of this temperature compensated crystal oscillator element is shown in Figure 2.8-1 TCXO Oscillator. This oscillator circuits, in which the frequency adopted with a Colpitts type oscillator as the oscillator system.

Table 2.8-1 TCXO Specifications

1.	Output Frequency	19.44MHz
2.	Supply voltage	DC +3.0V +/- 5%
3.	Current drain	2.0mA max.
4.	Output level	0.8 V p-p min. / Clipped sine wave (DC-cut)
5.	Harmonics	-5 dBc max.
6.	Load	(10 k ohm // 10pF) +/- 10%
7.	Operating Temperature	-30 degrees C to +75 degrees C
8.	Storage temperature	-30 degrees C to +85 degrees C
9.	Frequency stability	
9.1	vs. Temperature	+/- 2.5ppm max. /-30 degrees C to +75 degrees C (Referenced to + 25 degrees C)
9.2	vs. Supply voltage	+/- 0.3 ppm max. / DC + 3.0V +/- 5%
9.3	vs. Load	+/- 0.3 ppm max. / (10k ohm // 10pF) +/- 10%
9.4	vs. Aging	+/- 1.0 ppm max. / year
10.	Vibration	5 to 150 Hz, 2G
11.	Shock	30G
12.	Humidity	90 to 95 % at 40 degrees C 24 hours
13.	Dimension	9.0 mm

Figure 2.8-1 TCXO Oscillator Schematic Diagram



2.8.2 Synthesizer Circuits

There are three PLL synthesizers: UHF, TX_{IF}_Lo and RX_{IF}_Lo synthesizers. UHF and TX_{IF}_Lo synthesizers are programmable via three wire-serial bus. RX_{IF}_Lo synthesizer is fixed frequency and divide ratio is preset on chip, therefore programming is not necessary. All synthesizers operate with reference frequency of 19.44MHz master clock generated by the VC-TCXO (X800).

In the low band operation, the RF PLL synthesizer operates at the frequency band of 1007.19MHz to 1032.12MHz and the output signal of the PLL synthesizer is fed to the receiver as RX_{1st}_Lo signal and transmitter as TX_{RF}_Lo signal. The RF VCO use micro strip line/varactor tuning, and operates at the frequency band of 1007.19MHz to 1032.12MHz.

Output signal of the RF VCO double by TR830 and passes through band separate filter (FL840). The low port of band separate filter (FL840) output (1007.19MHz to 1032.12MHz) is fed to the receiver as RX_{1st}_Lo signal and transmitter as TX_{RF}_Lo signal. The high port of band separate filter (FL840) output (2014.38MHz to 2064.24MHz) is divided by the 128/129 dual modulus prescaler, the programmable counter and the swallow counter in IC800.

In the high band operation, the RF PLL synthesizer operates at the frequency band of 2064.42 MHz to 2124.30 MHz for the transmitter section and the output signal of the PLL synthesizer is fed to transmitter as TX_{RF}_Lo signal. And for the receiver section, the RF PLL synthesizer operates at the frequency band of 2068.23MHz to 2128.11MHz and the output signal of the PLL synthesizer is fed to the receiver as RX_{IF}_Lo signal.

The RF VCO operates at the frequency band of 1032.21MHz to 1064.05MHz. Output signal of the RF VCO double by TR830 and passes through band separate filter (FL840). The high port of band separate filter (FL840) output (2064.42MHz to 2124.30MHz) is fed to the receiver as RX_{1st}_Lo signal and transmitter as TX_{RF}_Lo signal. Output signal of the high port is divided by the 128/129 dual modulus prescaler, the programmable counter and the swallow counter in IC800.

The output signal of the VC-TCXO is divided by the reference counter (1/648) so that reference frequency is set at 30KHz. The TX_{IF}_Lo synthesizer operates at the frequency of 183.15MHz for low band, 214.38 MHz for high band and is used as an FM modulator in the analog operation. The output signal of the PLL synthesizer is fed to the transmitter as TX_{IF}_Lo signal. The TX_{IF}_VCO use inductor/varactor tuning, and operates at frequency of 183.15MHz for low band, 214.38 MHz for high band by switching varactor. Output signal of the TX_{IF}_VCO is divided by the 16/17 dual modulus prescaler, the programmable counter and the swallow counter in IC800. The output signal of the VC-TCXO is divided by the reference counter (1/216) so that reference frequency is set at 90KHz.

The RX_{2nd}_Lo synthesizer operates at the frequency of 137.7MHz. The output signal of the PLL synthesizer is fed to the receiver as RX_{2nd}_local signal. The RX_{2nd}_Lo VCO use inductor/varactor tuning, and operates at a fixed frequency of 137.7MHz. Output signal of the RX_{2nd}_Lo VCO is divided by the 16/17 dual modulus prescaler, the programmable counter and the swallow counter in IC800. The output signal of the VC-TCXO is divided by the reference counter (1/72) so that reference frequency is set at 270KHz.

The setting data of the divide ratio for UHF PLL is calculated as follows:

Reference counter : $(19.44 \times 10^6) / (30 \times 10^3) = 648$
 Programmable counter : Integer part of $(F / (30 \times 10^3)) / 128$
 Swallow counter : Modulo of $(F / (30 \times 10^3)) / 128$

For Low band RX 1st Lo, TX RF Lo
 $F = 2 \times (0.030N + 1008.150) \times 10^6$ [Hz]
 $F = 2 \times (0.030(N - 1023) + 1008.150) \times 10^6$ [Hz]
 For High band RX 1st Lo
 $F = (0.030N + 2068.170) \times 10^6$ [Hz]
 $F = (0.030N + 2064.360) \times 10^6$ [Hz]
 For High band TX RF Lo
 $F = (0.030N + 2064.360) \times 10^6$ [Hz]
 N: Channel number.
 $(1 \leq N \leq 1999)$
 $(1 \leq N \leq 1999)$
 $(990 \leq N \leq 1023)$
 $(1 \leq N \leq 799)$

The setting data of the divide ratio for TX_IF_Lo PLL is calculated as follows:

Reference counter ; $(19.44 \times 10^9) / (90 \times 10^3) = 216$
Programmable counter ; Integer part of $(F / (90 \times 10^3)) / 16$
Swallow counter ; Modulo of $(F / (90 \times 10^3)) / 16$
 $F = 183.150 \times 10^6$ [Hz] for low band
 $F = 214.380 \times 10^6$ [Hz] for high band

The setting data of the divide ratio for RX_2nd_Lo PLL is calculated as follows:

Reference counter ; $(19.44 \times 10^9) / (270 \times 10^3) = 72$
Programmable counter ; Integer part of $(F / (270 \times 10^3)) / 16$
Swallow counter ; Modulo of $(F / (270 \times 10^3)) / 16$
 $F = 137.700 \times 10^6$ [Hz]

The diagram illustrates the internal architecture of the IC201, divided into RX (Receiver) and TX (Transmitter) sections. The RX section starts with RXIP and RXQIP inputs, which are mixed with a 1st IF signal in IC760 and IC780. The resulting signals pass through a Digital 2nd IF block and are then mixed with a 2nd Lo signal in IC860. The output of IC860 is filtered by IC870 (1/306) and then mixed with a 1st Lo signal in IC840. The final RX output is taken from IC840. The TX section starts with TXIP and TXQIP inputs, which are mixed with a 1st Lo signal in IC840. The output of IC840 is filtered by IC870 (1/306) and then mixed with a 2nd Lo signal in IC860. The output of IC860 is filtered by IC870 (1/306) and then mixed with a 1st Lo signal in IC840. The final TX output is taken from IC840. The TX section also includes a TX output filter (TXO_OUT) and a TX output amplifier (TR802). The TX output is connected to the TXO_OUT pin, which is also connected to the TXO_OUT pin of the IC201. The TX output is also connected to the TXO_OUT pin of the IC201. The TX output is also connected to the TXO_OUT pin of the IC201.

2.9 Method of Suppression of Spurious Radiation and Limiting Power {2.983(d)(1)}

The PA stage amplifies the signal from the frequency synthesizer circuits to appropriate output power and employs no multiplier.

2.9.1 Suppression of Spurious Components in the Synthesizer

Band pass filters eliminates the output harmonics and spurious. FL950 and FL 960 are for 800MHz band (FL950 and FL960 are same), and FL920 and FL930 are for 1900MHz band. Their frequency characteristics are shown in Figure 2.9-1 (FL950, FL960), Figure 2.9-2 (FL920) and Figure 2.9-3 (FL930).

2.9.2 Duplex Filter

Duplex filter FL730 of the transceiver units is provided to eliminate the outband noise fall into receiver frequency band and spurious or harmonics from transmitter.

The frequency characteristics of the duplex filter are shown in Figure 2.9-4.

2.9.3 Suppression of Spurious falling in the Receiver Frequency Band

The band pass filters FL950 and FL960 in the TX circuit sufficiently suppress the spurious falling within the receiver frequency band (869MHz to 894MHz).

The band pass filters FL920 and FL930 in the TX circuit sufficiently suppress the spurious falling within the receiver frequency band (1930MHz to 1990MHz).

The total attenuation of these filters is more than 60dB.

Figure 2.9-2 Band Pass Filter Response Characteristic (FL920)
Exhibit 2-14

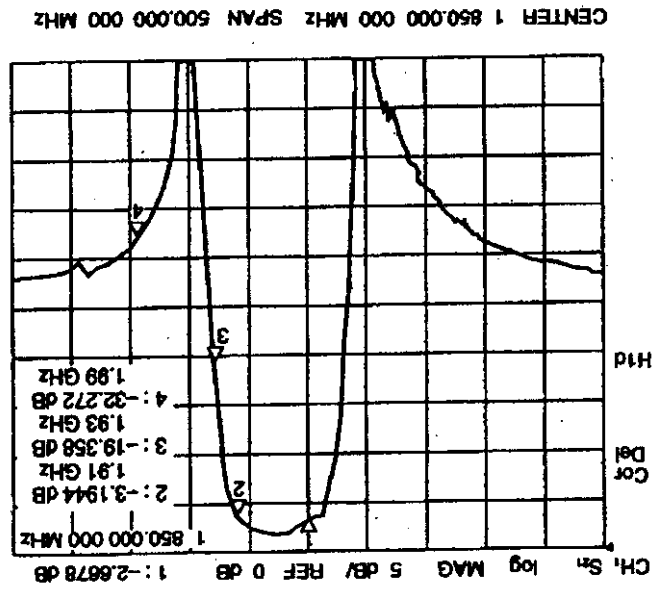


Figure 2.9-1 Band Pass Filter Response Characteristic (FL950, FL960)

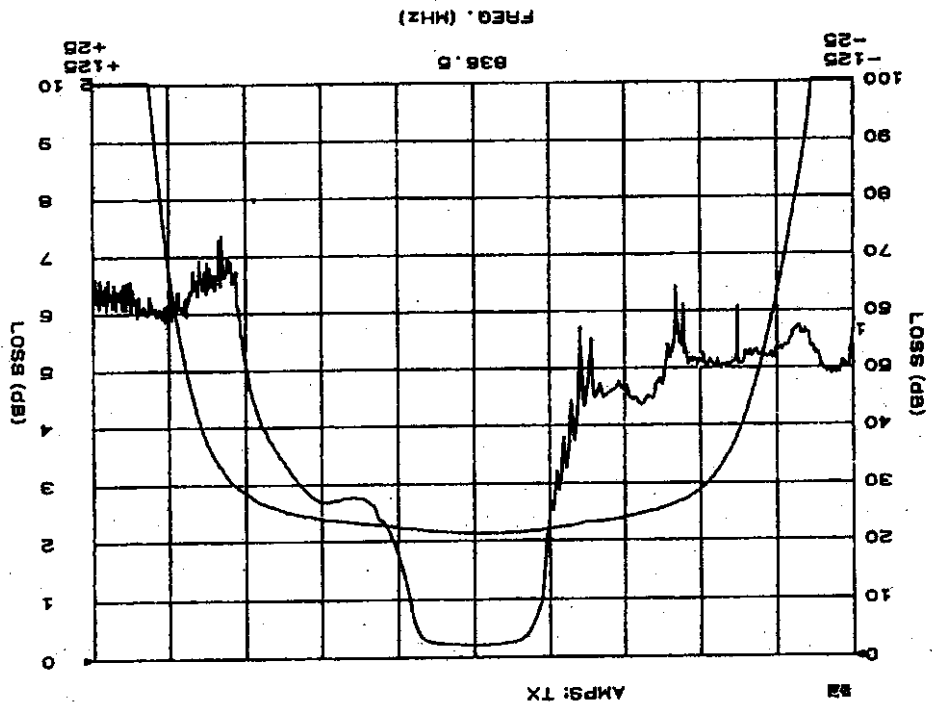


Figure 2.9-4 Frequency Characteristic of Duplex Filter

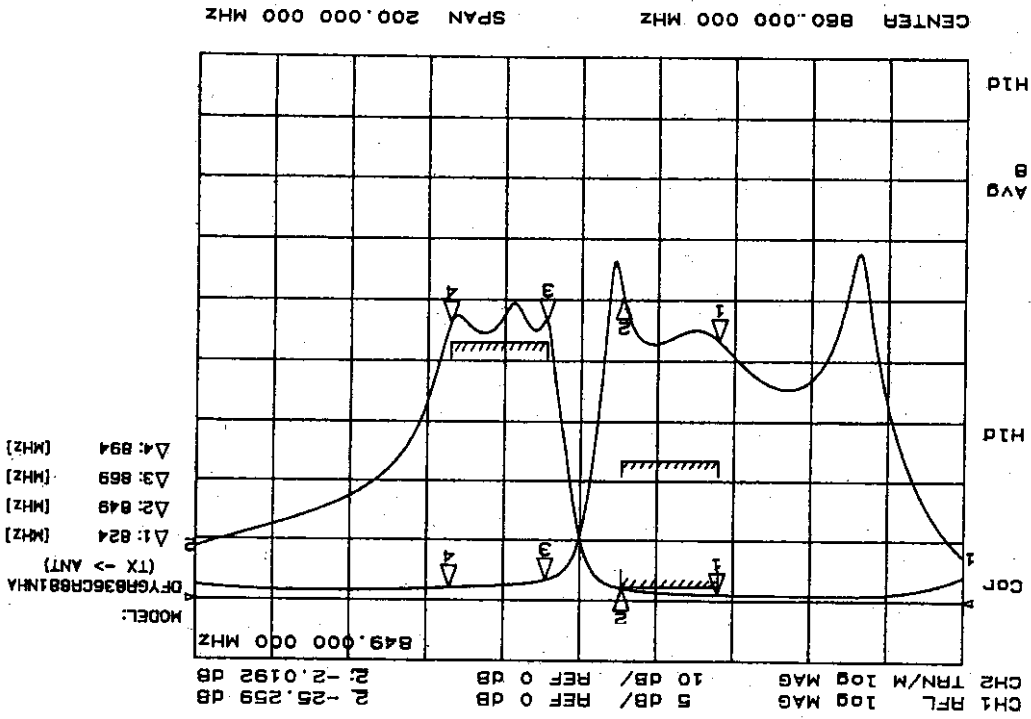
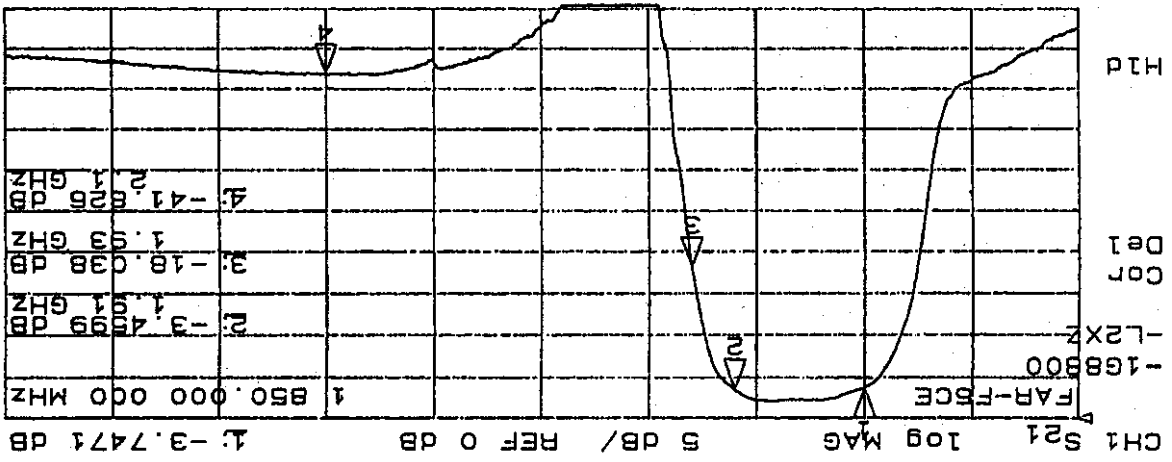


Figure 2.9-3 Band Pass Filter Response Characteristic (FL930)



2.9.4 Suppression of Spurious Emission by Cabinet

The spurious emissions radiated from devices are suppressed using appropriate shielding techniques.

Each high frequency device is covered with a shield.

Each connection between the printed circuit board and the interface connector terminals at the bottom of the transceiver are protected with the necessary capacitors.

2.9.5 Method of Output Power Control

Part of the RF output is coupled and rectified to provide a DC level called TXPOW. This is proportional to the actual RF output power and the signal is used to maintain the RF output power at the level commanded from the base station. The RF output power is controlled by valuable gain Amp.(IC900) which gain is settled by DAC output (APC). The CPU calculate RF output power by using TXPOW and write the APC DAC to keep TXPOW level constant

2.9.6 Abnormal Transmit Countermeasure

The transmit power is continuously monitored by the microprocessor (IC201) through A/D converter in IC 202. The RF transmit power is output only in case of the processor command (TXON) is active and the output frequency of the synthesizer is locked. At any moment when any of the above-mentioned conditions are not met, the transmitter is disabled by turning off the transistor TR931 .

2.10 Description of Modulation System {2.983(d)(12)}

2.10.1 Low band digital operation

The TX_{IF}_Lo signal (183.15MHz) from synthesizer enters into the Q-MOD (IC900). A double balanced IQ signal (24.3KHz pair/DQPSK) enters into the Q-MOD (IC900) from the MIXED SIGNAL ASIC (IC202).

The modulated IF signal (183.15MHz) is amplified by the valuable gain Amp.(IC900) which can control the gain over 40dB

The IF signal (183.15MHz) and TX_{RF}_Lo signal (1007.19-1032.12MHz) is mixed in UP Converter (IC900) to change the RF signal to the final operating frequency of (824.04-848.97MHz), and output level is -50 to -10dBm.

The RF switch (IC910) connects the UP converter(IC900) output to the band pass filter (FL950) at the low band operation.

The RF signal passes through the band pass filter (FL950) which attenuates 3dB and attenuates 3dB by discrete attenuator.

The RF signal passes through the RF amp (IC950) with a gain of 32dB.

The RF signal passes through the band pass filter (FL960) which attenuates 3dB and then is amplified by RF power amp (IC960) by 24dB.

The RF signal passes through the isolator (Z960) and duplex filter (FL730)

2.10.2 High band digital operation

The TX_{IF}_Lo signal (214.38MHz) from synthesizer enters into the Q-MOD (IC900).

A double balanced IQ signal (24.3KHz pair/DQPSK) enters into the Q-MOD (IC900) from the MIXED SIGNAL ASIC (IC202).

The modulated IF signal (214.38MHz) is amplified by the valuable gain Amp.(IC900) which can control the gain over 40dB

The IF signal (214.38MHz) and TX_{RF}_Lo signal (2064.42-2124.30MHz) is mixed in UP Converter (IC900) to change the RF signal to the final operating frequency of (1850.04-1909.92MHz), and output level is -55 to -15dBm.

The RF switch (IC910) connects the UP converter(IC900) output to the band pass filter (FL920) at the high band operation.

The RF signal passes through the band pass filter (FL920) which attenuates 3dB and attenuates 2dB by discrete attenuator.

The RF signal passes through the RF amp (IC930) with a gain of 31dB.

The RF signal passes through the band pass filter (FL930) which attenuates 4dB and then is amplified by RF power amp (IC930) by 27dB.

The RF signal passes through the isolator (Z930) and antenna switch (FL700)

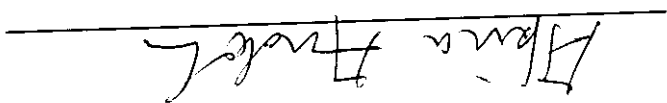
Exhibit 2-18

3. Certification{2.909}

Certification of Measurement Data of Transceiver

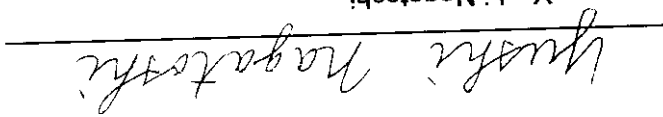
Type MT-253XFOR6A Handheld Cellular Personal Radio System

I certify that the data contained in this technical data was collected under my supervision and at my request. To the best of my knowledge and belief, the facts set forth herein are true and correct.


Akira Andoh
Manager

Radio Terminal Engineering Department
North America Radio Terminal Business Department
Mobile Communication Business Division
Mitsubishi Electric Corporation

I certify that the data contained in this technical data was measured and listed by me. To the best of my knowledge and belief, the facts set forth herein are true and correct.


Yushi Nagatoshi

Radio Terminal Engineering Department
North America Radio Terminal Business Department
Mobile Communication Business Division
Mitsubishi Electric Corporation

4. Statement of Qualification

Name: Akira Andoh
Born: June 19, 1955
Education: Bachelor of Engineering
Experience: 19 years

Name: Yushi Nagatoshi
Born: January 19, 1972
Education: Master of Engineering
Experience: 3 years

- 5. Measurement Data For Transmitter {2.983(e)}
- 5.1 Radio Frequency Power Output Measurement Data {2.985(a)}
- 5.1.1 Radio Frequency Power Output Measurement Data
(800MHz Analog, 800MHz Digital, 1900MHz Digital)
- 5.1.2 Radio Frequency Power Output with Voltage Variation Measurement Data
- 5.2 Modulation Characteristics {2.987(a)(d)}
- 5.2.1 Transmitter Audio Frequency Response (800MHz Analog)
- 5.2.2 Post Limiter Filter Attenuation (800MHz Analog)
- 5.2.3 Modulation Limiting (800MHz Analog)
- 5.3 Occupied Bandwidth Measurement Data {2.989 (c) (h)}
- (800MHz Analog, 800MHz Digital, 1900MHz Digital)
- 5.4 Spurious Emissions at Antenna Terminal Measurement Data {2.991}
- (800MHz Analog, 800MHz Digital, 1900MHz Digital)
- 5.5 Field Strength of Spurious Emissions Measurement Data {2.993}
- (800MHz Analog, 800MHz Digital, 1900MHz Digital)
- 5.6 Frequency Stability Measurement Data {2.995}
- (800MHz Analog, 800MHz Digital, 1900MHz Digital)
- 5.6.1 Frequency Stability with Voltage Variation Measurement Data
- 5.6.2 Frequency Stability with Temperature Variation Measurement Data
- 5.7 Measurement Data for Transmitter {SAR}

5. Measurement Data For Transmitter {2.983(e)}

5.1 Radio Frequency Power Output Measurement Data {2.985(a)}
(800MHz Analog, 800MHz Digital, 1900MHz Digital)

5.1.1 Radio Frequency Power Output Measurement Data

Power Level	Limit		Measured Peak Output Power [dBm]	
	Nominal Peak Output Power [dBm]	Tolerance [dB]	991ch	384ch
0	27.78	+2 / -4	25.2	25.3
1	27.78	+2 / -4	25.2	25.3
2	27.78	+2 / -4	25.2	25.3
3	23.78	+2 / -4	25.1	24.6
4	19.78	+2 / -4	20.7	20.3
5	15.78	+2 / -4	16.3	16.0
6	11.78	+2 / -4	11.4	11.1
7	7.78	+2 / -4	8.9	8.6
				7.9

Table 5.1.1.1 Radio Frequency Power Output Measurement Data (800MHz Analog)

Power Level	Limit		Measured Peak Output Power [dBm]			
	Nominal Peak Output Power [dBm]	Tolerance [dB]	991ch	384ch	799ch	
0	27.78	+2 / -4	27.4	26.9	26.2	
1	27.78	+2 / -4	27.4	26.9	26.2	
2	27.78	+2 / -4	27.4	26.9	26.2	
3	23.78	+2 / -4	24.7	24.4	23.7	
4	19.78	+2 / -4	20.3	19.9	19.4	
5	15.78	+2 / -4	16.1	15.8	15.2	
6	11.78	+2 / -4	12.5	12.3	11.7	
7	7.78	+2 / -4	8.3	7.8	7.4	
8	2.78	+2 / -6	3.1	2.8	2.2	
9	-2.22	+2 / -6	-1.3	-1.5	-2.1	
10	-7.22	+2 / -6	-6.4	-6.8	-7.3	

Table 5.1.1.2 Radio Frequency Power Output Measurement Data (800MHz Digital)

Power Level	Limit		Measured Peak Output Power [dBm]			
	Nominal Peak Output Power [dBm]	Tolerance [dB]	2ch	1001ch	1998ch	
0	27.78	+2 / -4	24.9	24.9	25.1	
1	27.78	+2 / -4	24.9	25.0	25.1	
2	27.78	+2 / -4	24.9	25.0	25.1	
3	23.78	+2 / -4	22.0	21.9	22.2	
4	19.78	+2 / -4	18.1	18.0	18.3	
5	15.78	+2 / -4	15.7	15.7	15.9	
6	11.78	+2 / -4	12.1	11.9	12.0	
7	7.78	+2 / -4	7.8	7.5	7.7	
8	1.78	+2 / -6	2.7	2.4	2.6	
9	-3.22	+2 / -6	-2.1	-2.4	-2.0	
10	-8.22	+2 / -6	-7.0	-6.8	-6.6	

Table 5.1.1.3 Radio Frequency Power Output Measurement Data (1900MHz Digital Mode)

5.1.2 Radio Frequency Power Output with Voltage Variation Measurement Data

BGBMT253XF0R6A

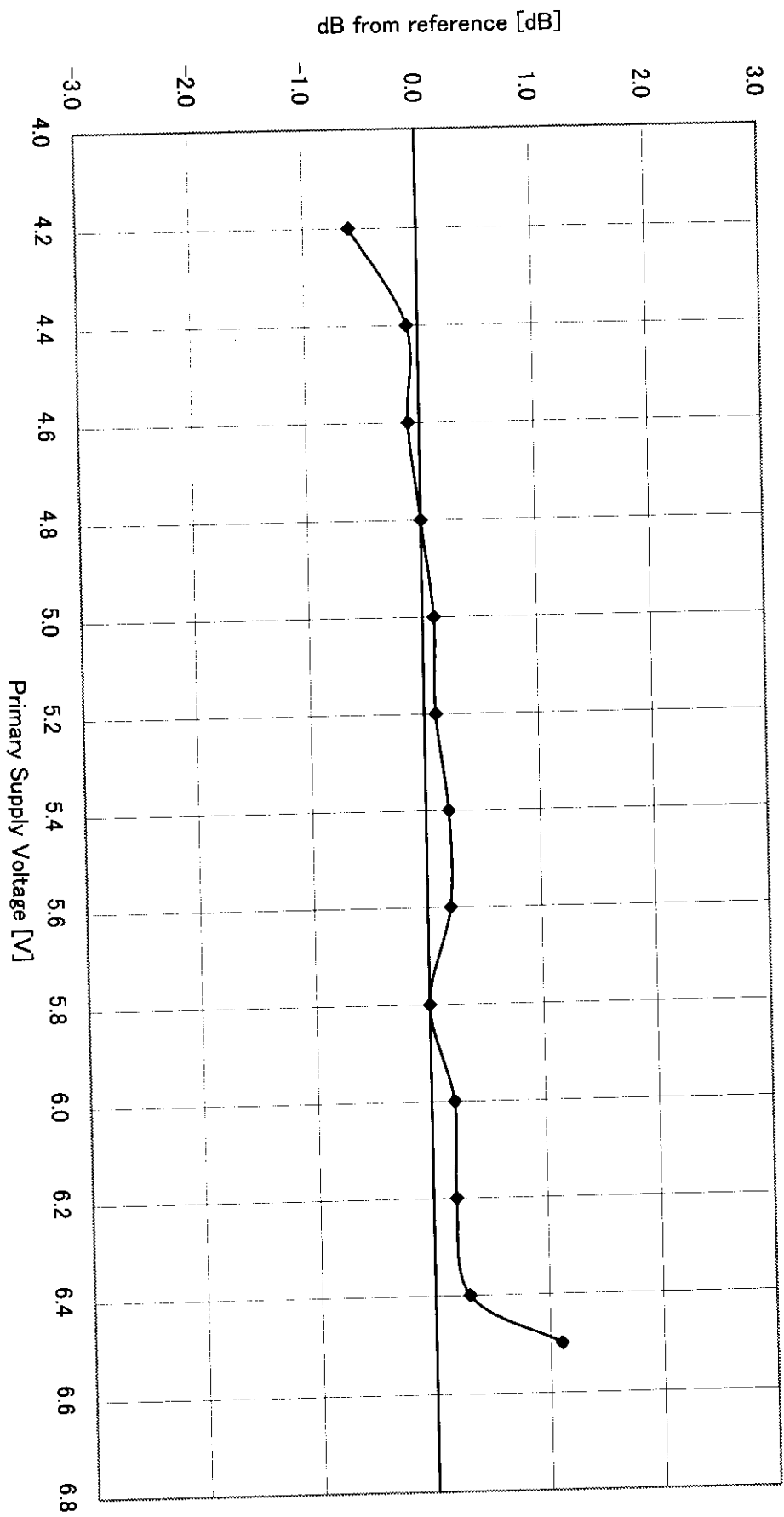


Figure 5.1.2.1 Radio Frequency Power Output with Voltage Variation (800MHz Analog)
Power Level 0, 384ch

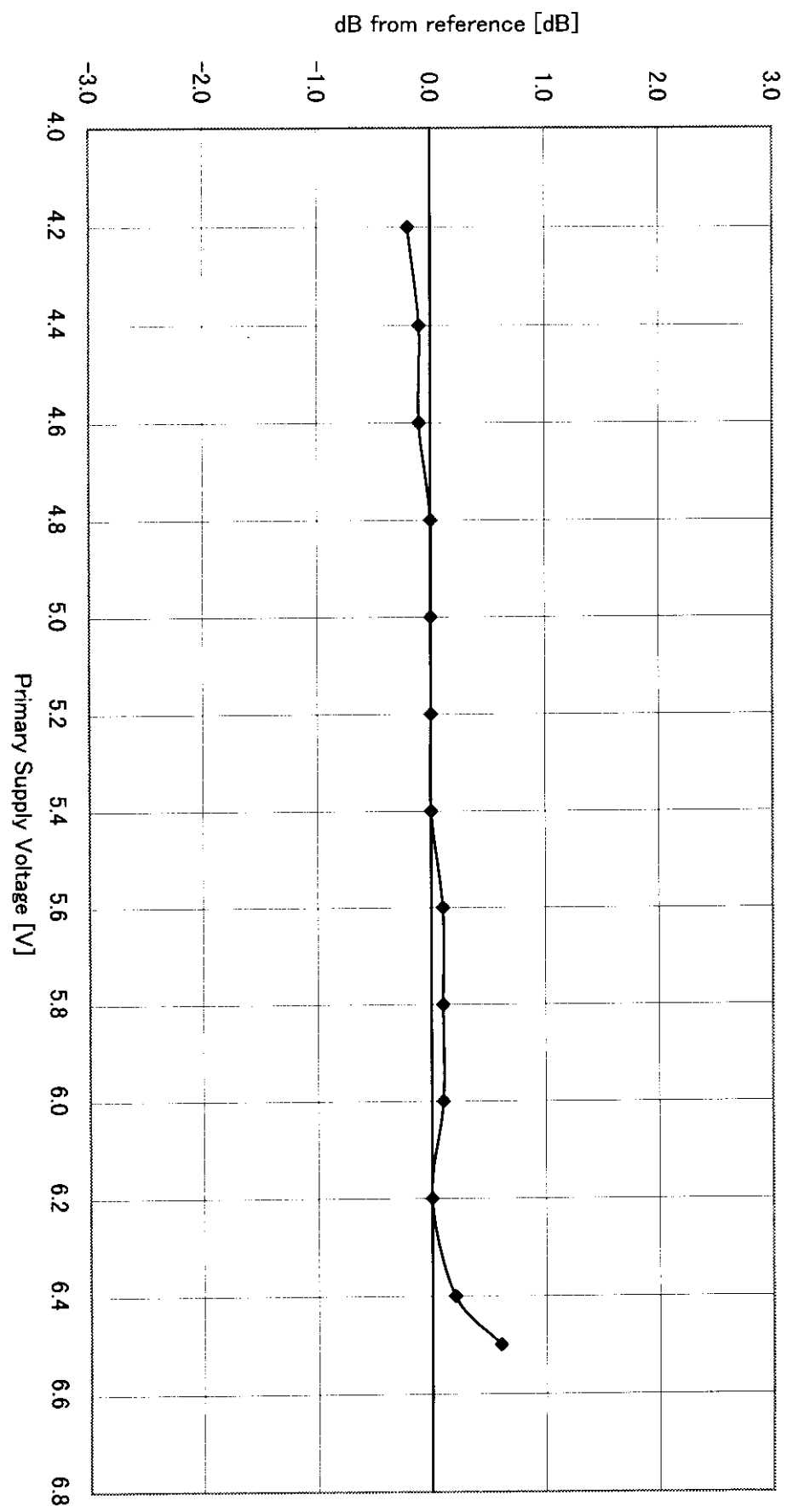


Figure 5.1.2.2 Radio Frequency Power Output with Voltage Variation (800MHz Digital)
Power Level 0, 384ch

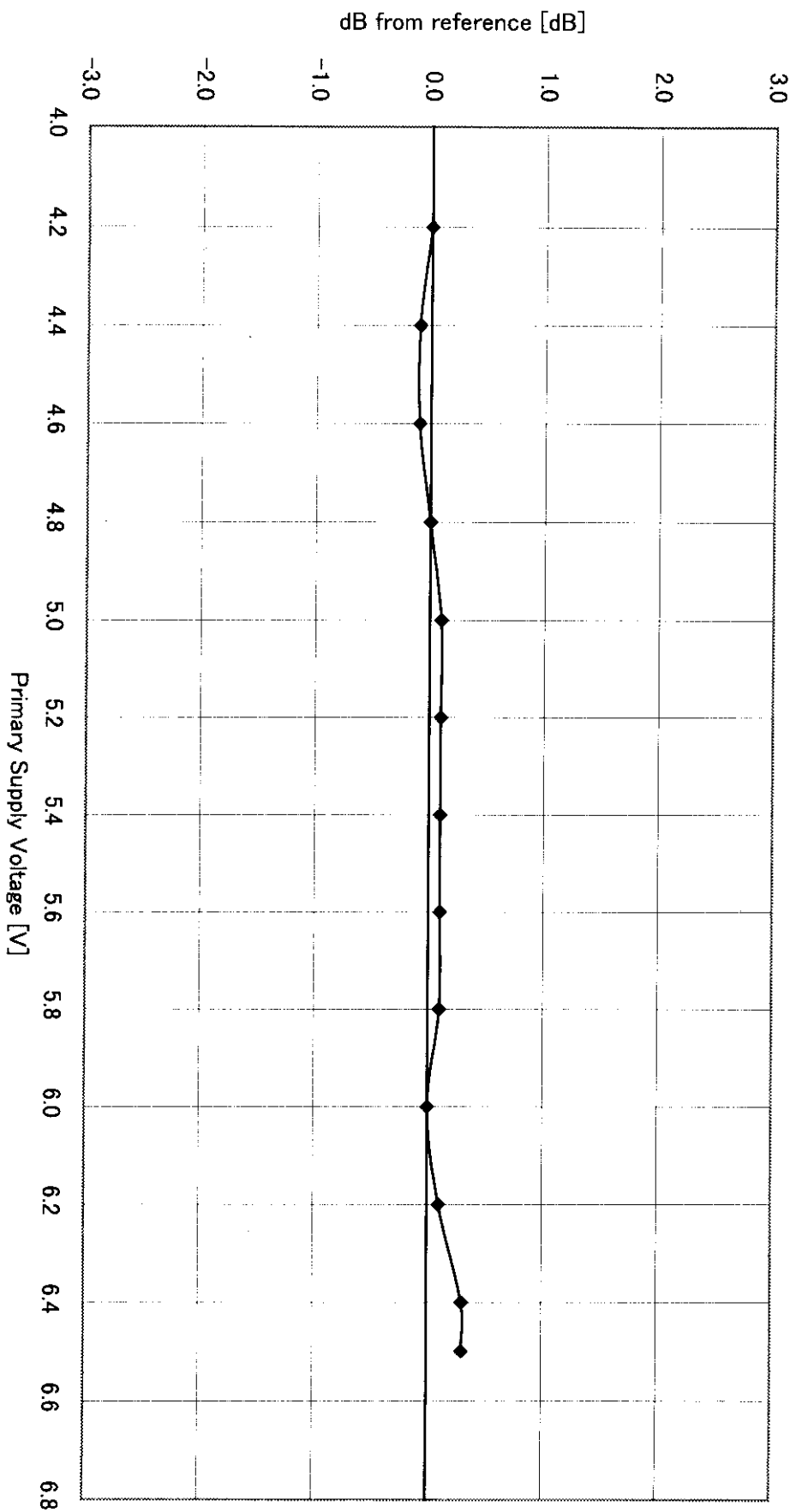


Figure 5.1.2.3 Radio Frequency Power Output with Voltage Variation (1900MHz Digital)
Power Level 0, 1001ch

5.2.1 Transmitter Audio Frequency Response (800MHz Analog)

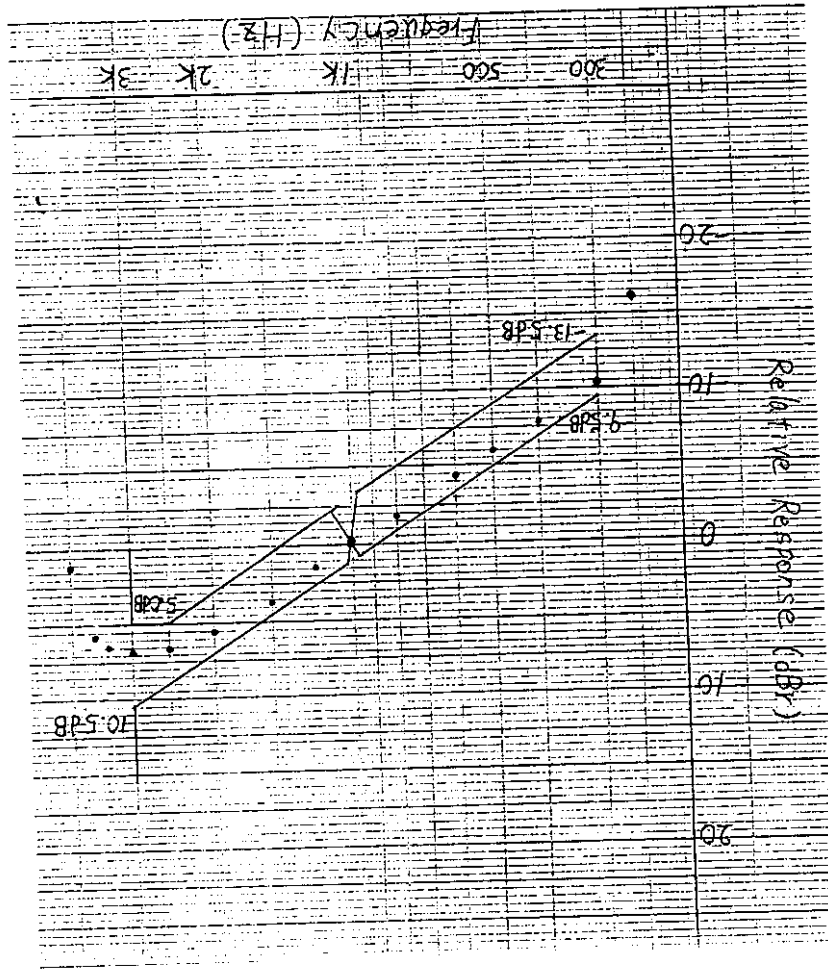
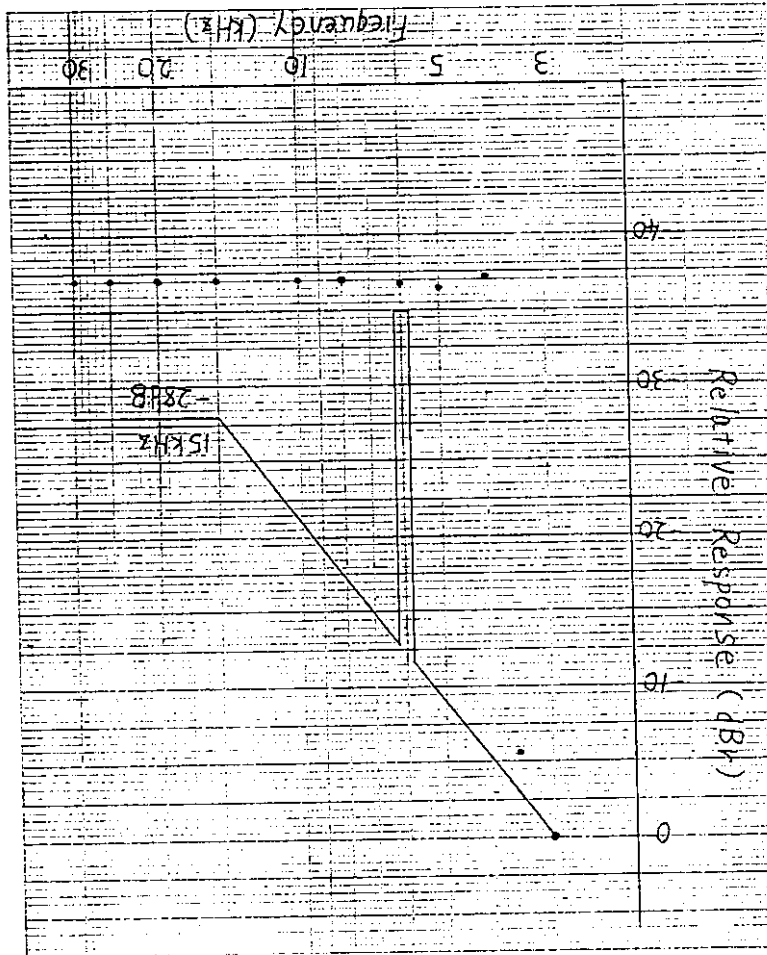


Figure 5.2.1.1 Transmitter Frequency Response of Audio Modulation Circuits
Measurement Data (800MHz Analog Mode)

Figure 5.2.1.2 Transmitter Frequency Response of Audio Low Pass Filter
Measurement Data (800MHz Analog Mode)



5.2.2 Post Limiter Filter Attenuation (800MHz Analog)

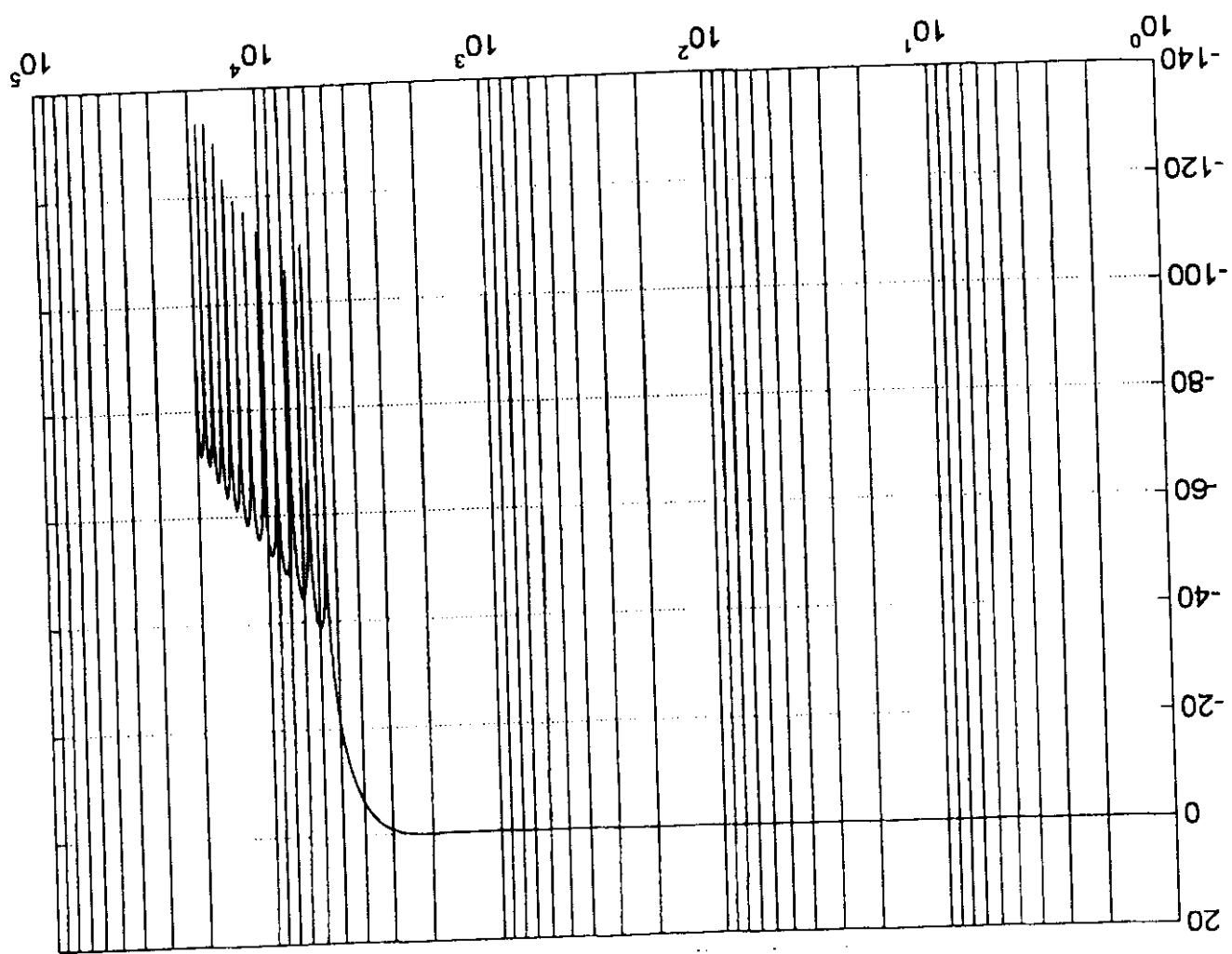
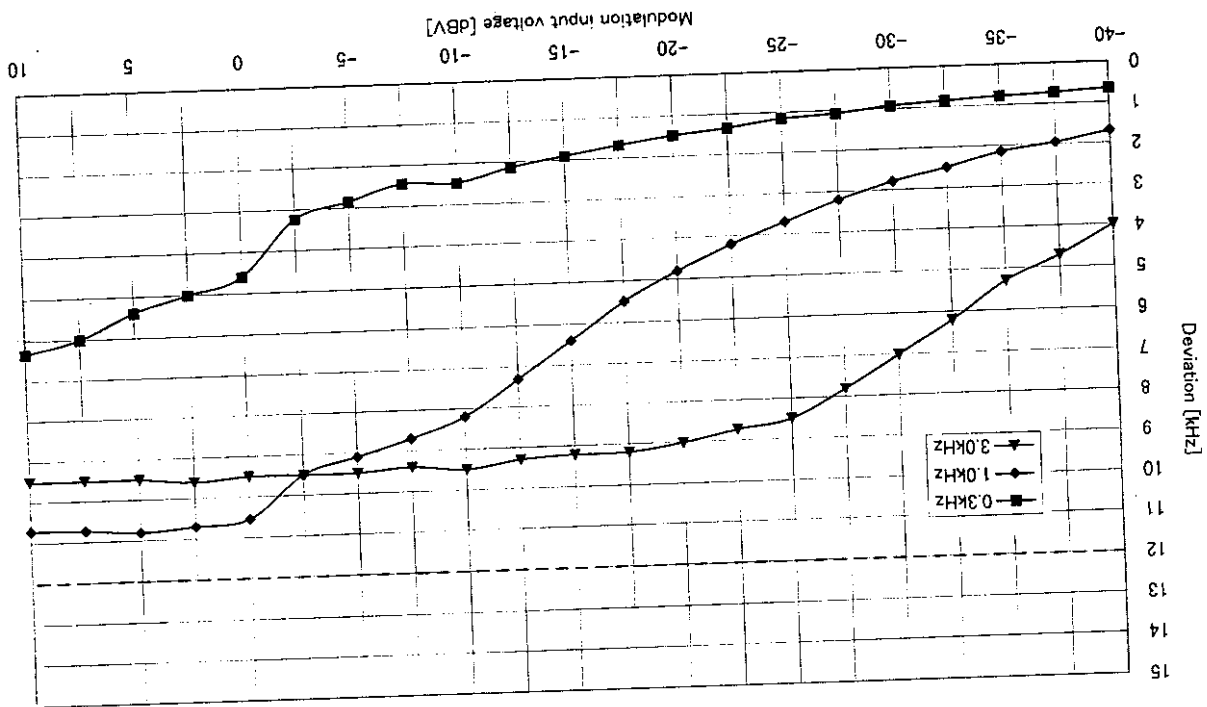


Figure 5.2.2.1 Frequency Response of Post Limiter Filter

Figure 5.2.3 Modulation Limiting (800MHz Analog)



5.2.3 Modulation Limiting (800MHz Analog)

5.3 Occupied Bandwidth Measurement Data {2.989 (c) (h)} (800MHz Analog, 800MHz Digital, 1900MHz Digital)

Figure 5.3.1 Occupied Bandwidth Measurement Data (800MHz Analog Mode)
Unmodulated Carrier (384ch, Power Level 0)

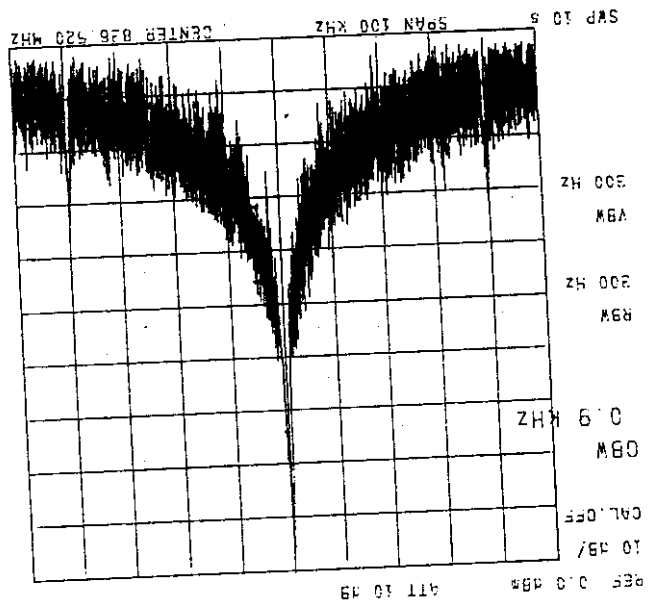


Figure 5.3.2 Occupied Bandwidth Measurement Data (800MHz Analog Mode)
Audio Frequency 16dB greater than 50% Modulation (384ch, Power Level 0)

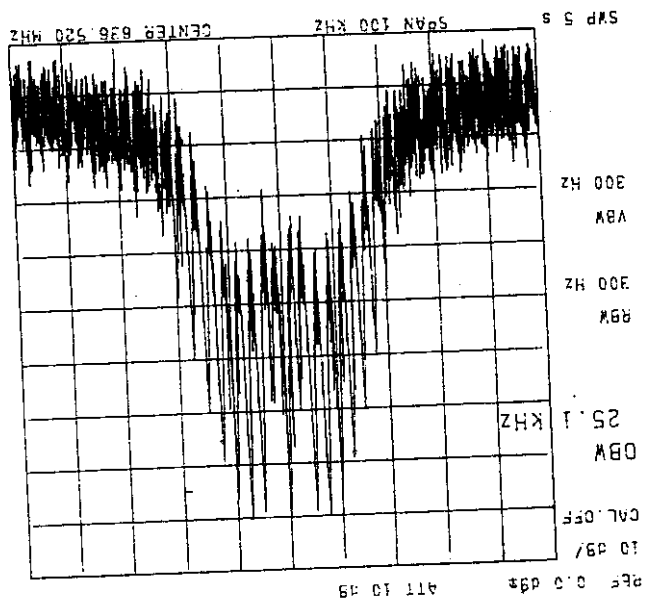


Figure 5.3.4 Occupied Bandwidth Measurement Data (800MHz Analog Mode)
SAT 6000Hz with +1.86kHz/-1.86kHz Deviation (384ch, Power Level 0)

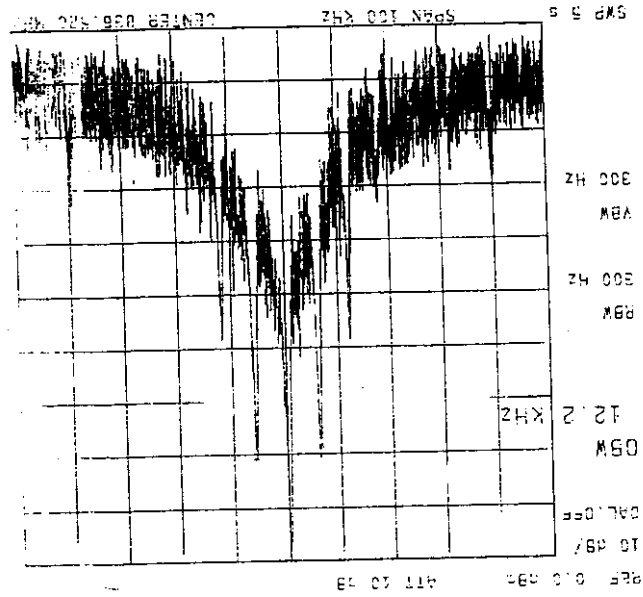


Figure 5.3.3 Occupied Bandwidth Measurement Data (800MHz Analog Mode)
Signaling Tone with +7.66kHz/-7.51kHz Deviation (384ch, Power Level 0)

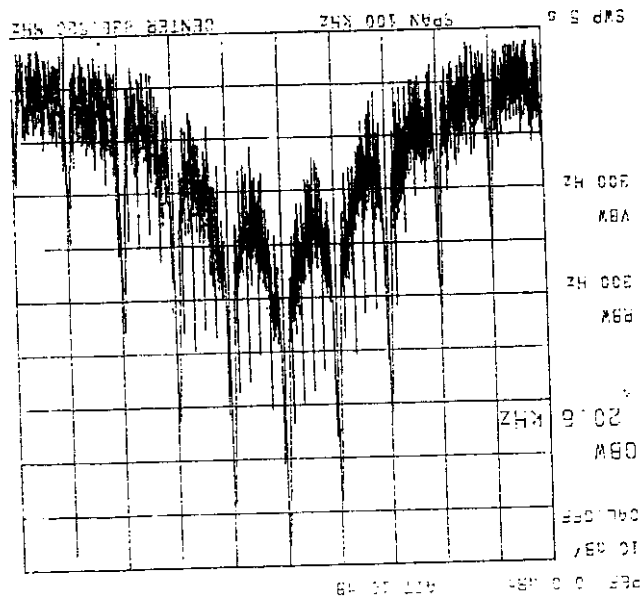


Figure 5.3.5 Occupied Bandwidth Measurement Data (800MHz Analog Mode)
 Wideband Data with +7.34kHz/-7.30kHz Deviation (384ch, Power Level 0)

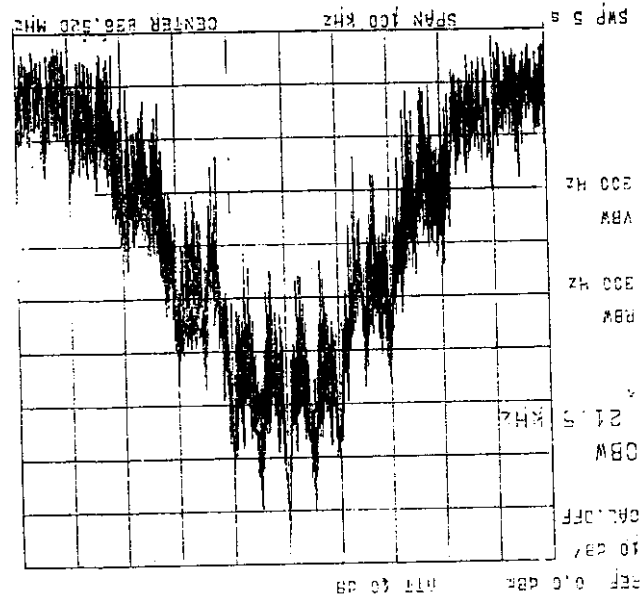


Figure 5.3.6 Occupied Bandwidth Measurement Data (800MHz Analog Mode)
 Audio Frequency 16dB greater than 50% Modulation
 + SAT 6000Hz with +1.86kHz/-1.86kHz Deviation (384ch, Power Level 0)

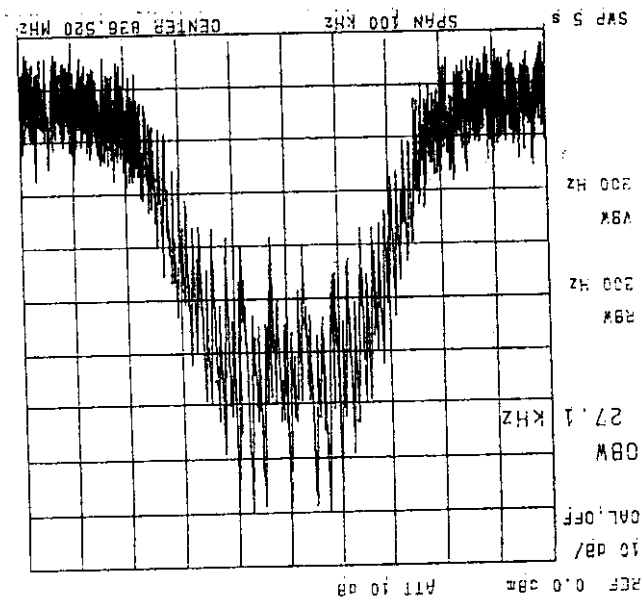


Figure 5.3.7 Occupied Bandwidth Measurement Data (800MHz Analog Mode)
DTMF (Keys) + SAT 6000Hz with $\pm 1.86\text{kHz}$ Deviation (384ch, Power Level 0)

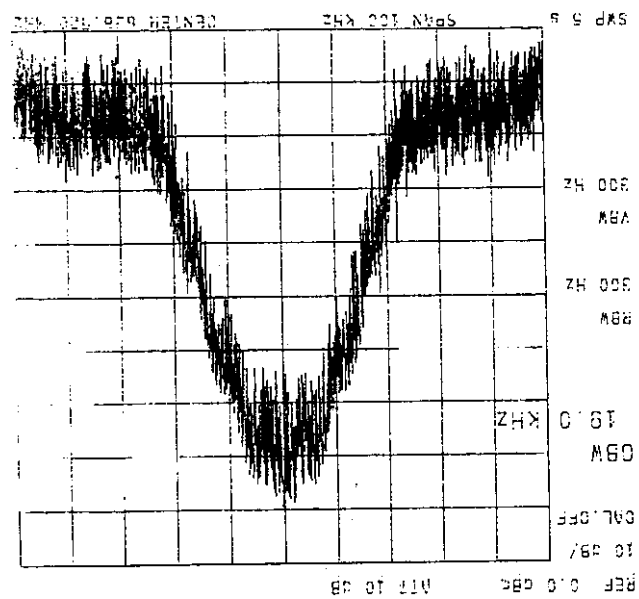


Figure 5.3.8 Occupied Bandwidth Measurement Data (800MHz Digital Mode)
Modulated with a 48.6kbps Pseudo-random Data sequence (384ch, Power Level 0)

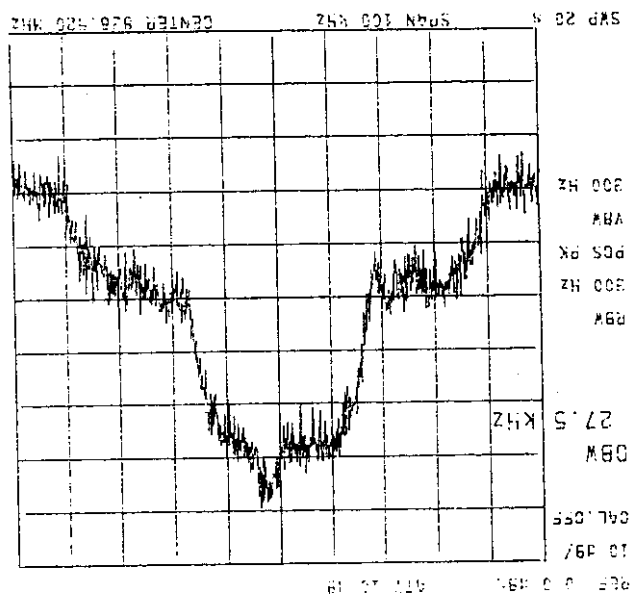
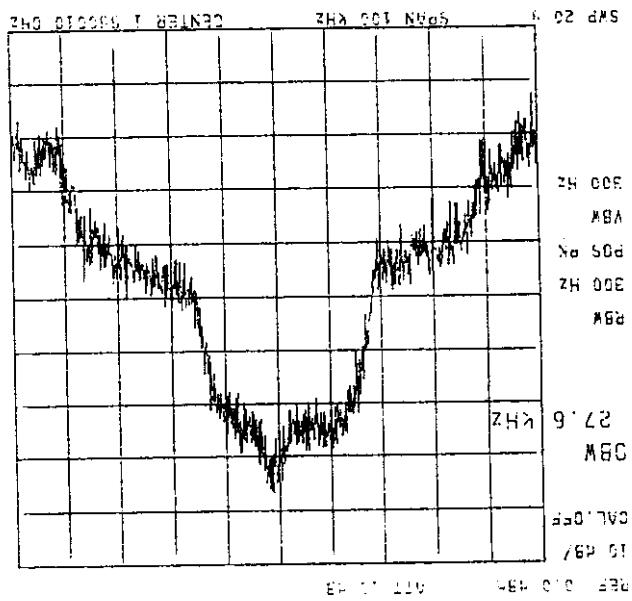


Figure 5.3.9 Occupied Bandwidth Measurement Data (1900MHz Digital Mode)
 Modulated with a 48.6kbps Pseudo-random Data sequence (1001ch, Power Level 0)



**5.4 Spurious Emissions at Antenna Terminal Measurement Data {2.991}
(800MHz Analog, 800MHz Digital, 1900MHz Digital)**

800A(WB)	Freq.	Reading	Attenuator	Filter	Net	Limit	Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]

991ch(824.04MHz)	Tx	824.04	-5.04	30.4	2.3	-48.3	-15.4	-32.9
		1648.08	-81.20	30.6	2.1	-65.4	-15.4	-50.0
	2nd	2472.12	-98.43	30.9	5.5	-60.0	-15.4	-44.6
		3296.16	-96.44	30.9	2.8	-51.6	-15.4	-36.2
	4th	4120.20	-84.98	30.6	8.7	-60.3	-15.4	-44.9
		4944.24	-101.34	33.2	2.3	-65.8	-15.4	-50.4
	6th	5768.28	-101.26	32.3	3.5	-59.2	-15.4	-43.7
		6592.32	-94.95	31.7	13.9	-48.6	-15.4	-33.1
	8th	7416.36	-94.16	31.8	7.0	-54.6	-15.4	-39.1
		8240.40	-93.35	30.4	55.4	-15.4	-40.0	-40.0
	10th	99.40	-85.80	30.4	39.4	-15.4	-24.0	-24.0
		2014.38	-70.19	30.6	53.2	-15.4	-37.8	-37.8
	Others	4028.76	-83.83	32.3	51.0	-15.4	-35.6	-35.6
		4863.65	-83.34	32.3	49.5	-15.4	-34.1	-34.1
		5035.96	-81.82	32.3	41.6	-15.4	-26.2	-26.2
		5870.85	-74.80	33.2				

384ch(836.52MHz)	Tx	836.52	-5.06	30.4	2.3	-55.7	-15.4	-40.2
		1673.04	-88.57	30.6	2.1	-69.2	-15.4	-53.7
	2nd	2509.56	-102.22	30.9	5.5	-64.1	-15.4	-48.7
		3346.08	-100.54	30.6	2.8	-59.2	-15.4	-43.7
	4th	4182.60	-92.57	30.6	8.7	-61.8	-15.4	-46.4
		5019.12	-102.84	32.3	2.3	-66.3	-15.4	-50.9
	6th	5855.64	-101.75	33.2	3.5	-58.5	-15.4	-43.0
		6692.16	-94.28	32.3	13.9	-47.9	-15.4	-32.5
	8th	7528.68	-93.51	31.7	7.0	-54.8	-15.4	-39.3
		8365.20	-93.58	31.8	58.1	-15.4	-42.6	-42.6
	10th	130.60	-88.48	30.4	41.4	-15.4	-26.0	-26.0
		2039.34	-72.19	30.8	49.8	-15.4	-34.4	-34.4
	Others	4078.69	-80.42	30.6	51.2	-15.4	-35.7	-35.7
		4848.34	-83.47	32.3	49.4	-15.4	-33.9	-33.9
		5098.35	-81.66	32.3	39.4	-15.4	-23.9	-23.9
		5868.08	-72.58	33.2				

799ch(848.97MHz)	Tx	848.97	-6.45	30.4	2.3	-58.9	-16.8	-42.0
		1697.94	-89.46	30.6	2.1	-71.5	-16.8	-54.7
	2nd	2546.91	-102.42	30.9	5.5	-65.0	-16.8	-48.2
		3395.88	-98.24	30.6	2.8	-53.8	-16.8	-37.0
	4th	4244.85	-86.58	32.3	8.7	-62.2	-16.8	-45.4
		5093.82	-100.01	33.2	2.3	-64.8	-16.8	-48.0
	6th	5942.79	-100.80	32.3	3.5	-53.7	-16.8	-36.9
		6791.76	-94.72	32.3	13.9	-59.2	-16.8	-42.4
	8th	7640.73	-93.14	31.7	7.0	-58.4	-16.8	-41.6
		8489.70	-93.73	31.8	26.4	-16.8	-9.6	-9.6
	10th	2064.25	-71.08	30.8	47.5	-16.8	-30.6	-30.6
		3096.37	-85.36	30.9	50.2	-16.8	-33.4	-33.4
	Others	4128.48	-80.80	30.6	53.8	-16.8	-36.9	-36.9
		4833.28	-86.05	32.3	55.9	-16.8	-39.0	-39.0
		5160.60	-88.16	32.3	38.3	-16.8	-21.5	-21.5
		5865.36	-71.53	33.2				

* : Measuring equipment noise-floor measurements at these frequencies.

Table 5.4.1 Spurious Emissions at Antenna Terminal Measurement Data
(800MHz Analog Mode)
Modulated with Wideband Data, Power Level 0

800D

Freq.	Reading	Attenuator	Filter	Net	Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]

991ch(824.04MHz)						
Tx	824.04	-1.37	30.4	2.3	-50.6	-16.0
2nd	1648.08	-83.52	30.6	2.1	-55.7	-16.0
3rd	2472.12	-88.69	30.9	5.5	-59.0	-16.0
4th	3296.16	-95.36	30.9	2.8	-56.6	-16.0
5th	4120.20	-89.96	30.6	8.7	-53.1	-16.0
6th	4944.24	-94.07	32.3	2.3	-65.3	-16.0
7th	5768.28	-100.75	33.2	3.5	-58.2	-16.0
8th	6592.32	-93.98	32.3	13.9	-47.8	-16.0
9th	7416.36	-93.43	31.7	54.3	-16.0	-31.9
10th	8240.40	-93.12	31.8	7.0	-51.5	-16.0
Others						
	823.65	-64.04	30.4		-33.2	-16.0
	824.43	-63.64	30.4		-62.8	-16.0
	1007.20	-93.22	30.4		-38.8	-16.0
	2014.44	-69.63	30.8		-16.0	-37.3
	4028.76	-83.83	30.6		-52.2	-16.0
	4872.60	-84.51	32.3		-52.8	-16.0
	5035.95	-85.07	33.2		-44.3	-16.0
	5879.73	-77.54	33.2			-28.4

384ch(836.52MHz)						
Tx	836.52	-1.94	30.4	2.3	-50.9	-16.5
2nd	1673.04	-83.84	30.6	2.1	-53.8	-16.5
3rd	2509.56	-86.84	30.9	5.5	-62.8	-16.5
4th	3346.08	-99.24	30.6	2.8	-50.8	-16.5
5th	4182.60	-84.18	30.6	8.7	-60.5	-16.5
6th	5019.12	-101.54	32.3	2.3	-66.0	-16.5
7th	5855.64	-101.49	33.2	3.5	-56.4	-16.5
8th	6692.16	-92.24	32.3	13.9	-46.6	-16.5
9th	7528.68	-92.24	31.7	7.0	-54.1	-16.5
10th	8365.20	-92.90	31.8		-50.7	-16.5
Others						
	130.60	-81.05	30.4		-35.0	-16.5
	836.13	-65.40	30.4		-34.7	-16.5
	836.91	-65.12	30.4		-39.1	-16.5
	2039.34	-69.92	30.8		-49.5	-16.5
	4078.69	-80.14	30.6		-57.2	-16.5
	4848.92	-89.51	32.3		-56.3	-16.5
	4851.19	-88.62	32.3		-48.3	-16.5
	4854.56	-80.60	32.3		-51.9	-16.5
	5868.70	-85.08	33.2		-42.2	-16.5
	5870.95	-75.44	33.2			-25.7
	5874.45	-72.68	33.2			-22.9

* : Measuring equipment noise-floor measurements at these frequencies.

Table 5.4.2(a) Spurious Emissions at Antenna Terminal Measurement Data
(800MHz Digital Mode)
Modulated with 48.6kbps Pseudo-random Data Sequence, Power Level 0

Freq.	Reading	Attenuator +Cable Loss	Filter Attenuation	Net	Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]

799ch(848.97MHz)						
Tx	848.97	-3.12	30.4	27.3	---	
2nd	9697.84	-83.26	30.6	2.3	-52.7	-34.9
3rd	14546.76	-90.92	30.9	2.1	-60.0	-42.3
4th	19395.68	-85.12	30.9	5.5	-51.9	-34.2
5th	24244.60	-77.95	30.6	2.8	-45.2	-27.5
6th	29093.52	-98.14	32.3	8.7	-60.3	-42.6
7th	33942.44	-99.83	33.2	2.3	-63.8	-46.1
8th	38791.36	-88.04	32.3	3.5	-47.0	-29.3
9th	43640.28	-93.36	31.7	13.9	-59.4	-41.7
10th	48489.20	-93.49	31.8	7.0	-58.2	-40.5
Others						
	161.74	-85.90	30.4		-41.6	-23.9
	1010.79	-94.52	30.4		-57.1	-39.4
	1032.13	-95.81	30.4		-65.4	-47.7
	2064.24	-70.64	30.8		-39.8	-22.1
	3096.36	-84.87	30.9		-54.0	-36.3
	4128.48	-79.82	30.6		-49.2	-31.5
	4835.09	-84.39	32.3		-52.1	-34.4
	4836.44	-84.11	32.3		-51.8	-34.1
	4838.55	-84.53	32.3		-52.2	-34.5
	5160.60	-88.92	32.3		-56.6	-38.9
	5870.59	-71.35	33.2		-38.2	-20.4

* : Measuring equipment noise-floor measurements at these frequencies.

Table 5.4.2(b) Spurious Emissions at Antenna Terminal Measurement Data
 (800MHz Digital Mode)
 Modulated with 48.6kbps Pseudo-random Data Sequence, Power Level 0

Freq	Reading	Attenuator +Cable Loss	Filter Attenuation	Net	Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]

Tx	1850.04	-5.39	30.8	30.8	25.4	---
	3700.08	-61.29	30.8	33.7	-47.2	-19.6
	5550.12	-82.09	31.7	0.1	-60.9	-19.6
	7400.16	-92.68	32.4	0.3	-55.4	-19.6
	9250.20	-88.07	32.4	0.2	-57.3	-19.6
	11100.24	-89.89	32.2	1.2	-56.7	-19.6
	12950.28	-90.07	32.3	1.0	-57.0	-19.6
	14800.32	-90.26	32.3	8.1	-49.7	-19.6
	16650.36	-90.10	32.5	2.9	-53.9	-19.6
	18500.40	-89.23	30.4	---	-65.7	-19.6
	469.14	-96.06	30.6	---	-27.4	-19.6
	814.36	-57.72	30.4	---	-27.4	-19.6
	1407.42	-96.20	30.6	---	-57.0	-19.6
Others	1635.67	-87.60	30.6	---	-36.2	-19.6
	1849.66	-67.01	30.8	---	-36.8	-19.6
	1850.44	-67.59	30.8	---	-37.5	-19.6
	2064.42	-68.28	30.8	---	-37.0	-19.6
	2068.23	-67.78	30.8	---	-61.8	-19.6
	2278.80	-92.68	30.9	---	-54.0	-19.6
	3096.63	-84.91	30.9	---	-53.2	-19.6
	3102.34	-84.12	30.9	---	-50.3	-19.6
	4128.84	-80.91	30.6	---	-49.5	-19.6
	4136.46	-80.12	30.6	---	-49.5	-19.6
	6193.26	-89.73	33.2	---	-54.3	-19.6
	6204.69	-87.45	33.2	---	-61.9	-19.6
	7828.94	-83.88	31.7	---	-52.2	-19.6

2ch(1850.04MHz)

Tx	1880.01	-6.00	30.8	30.8	24.8	---
	3760.02	-56.08	30.8	33.7	-51.9	-20.3
	5640.03	-86.73	31.7	0.1	-59.2	-20.3
	7520.04	-90.92	32.4	0.3	-57.9	-20.3
	9400.05	-90.63	32.4	0.2	-57.0	-20.3
	11280.06	-89.61	32.2	1.2	-57.0	-20.3
	13160.07	-90.38	32.2	1.0	-56.9	-20.3
	15040.08	-90.22	32.3	8.1	-48.1	-20.3
	16920.09	-88.53	32.5	2.9	-53.2	-20.3
	18800.10	-88.55	30.4	---	-26.6	-20.3
	859.32	-57.04	30.6	---	-50.0	-20.3
	1665.63	-80.55	30.8	---	-35.8	-20.3
	1879.63	-66.62	30.8	---	-36.4	-20.3
Harmonics	2nd	3760.02	-56.08	30.8	33.7	-51.9
	3rd	5640.03	-86.73	31.7	0.1	-59.2
	4th	7520.04	-90.92	32.4	0.3	-57.9
	5th	9400.05	-90.63	32.4	0.2	-57.0
	6th	11280.06	-89.61	32.2	1.2	-57.0
	7th	13160.07	-90.38	32.2	1.0	-56.9
	8th	15040.08	-90.22	32.3	8.1	-48.1
	9th	16920.09	-88.53	32.5	2.9	-53.2
	10th	18800.10	-88.55	30.4	---	-26.6
	859.32	-57.04	30.6	---	-50.0	-20.3
	1665.63	-80.55	30.8	---	-35.8	-20.3
	1879.63	-66.62	30.8	---	-36.4	-20.3
	1880.41	-67.19	30.8	---	-39.2	-20.3
Others	2094.99	-69.97	30.8	---	-40.9	-20.3
	2098.20	-71.68	30.8	---	-46.7	-20.3
	3141.58	-77.63	30.9	---	-47.0	-20.3
	3147.30	-77.91	30.9	---	-61.6	-20.3
	3974.40	-92.20	30.6	---	-61.1	-20.3
	4188.78	-91.65	30.6	---	-59.4	-20.3
	4196.40	-90.02	30.6	---	---	-20.3
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1001ch(1880.01MHz)

*: Measuring equipment noise-floor measurements at these frequencies.

Table 5.4.3(a) Spurious Emissions at Antenna Terminal Measurement Data
 (1900MHz Digital Mode)
 Modulated with 48.6kbps Pseudo-random Data Sequence, Power Level 0

Freq	Reading	Reading	+Cable Loss	Filter	Net	Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[dBm]	[dB]

Harmonics	2nd	3819.84	-55.09	33.7	1.1	-54.9	-20.7	-34.3
	3rd	5729.76	-88.65	30.8	0.5	-24.3	-20.7	-3.7
	4th	7639.68	-79.76	31.7	0.1	-48.1	-20.7	-27.4
	5th	9549.60	-93.90	32.4	0.3	-61.5	-20.7	-40.9
	6th	11459.52	-91.54	32.4	0.2	-59.1	-20.7	-38.5
	7th	13369.44	-90.05	32.2	1.2	-57.8	-20.7	-37.2
	8th	15279.36	-90.22	32.3	1.0	-58.0	-20.7	-37.3
	9th	17189.28	-87.90	32.3	8.1	-55.6	-20.7	-34.9
	10th	19099.20	-89.07	32.5	2.9	-56.6	-20.7	-36.0
	Others	904.18	-59.07	30.4		-28.7	-20.7	-8.0
		1481.17	-94.48	30.6		-63.9	-20.7	-43.2
		1695.54	-92.63	30.6		-62.0	-20.7	-41.4
		1909.54	-66.54	30.8		-35.7	-20.7	-15.1
		1910.31	-68.99	30.8		-38.2	-20.7	-17.5
		2124.30	-67.22	30.9		-36.3	-20.7	-15.7
		2128.11	-74.64	30.9		-43.7	-20.7	-23.1
		3186.45	-69.73	30.9		-38.8	-20.7	-18.2
		3192.17	-69.99	30.9		-39.1	-20.7	-18.4
		4034.23	-83.72	30.6		-53.1	-20.7	-32.5
		4248.60	-80.20	30.6		-49.6	-20.7	-29.0
		4256.22	-78.10	30.6		-47.5	-20.7	-26.9
		4462.98	-91.50	30.6		-60.9	-20.7	-40.3
		5729.68	-85.79	33.2		-52.6	-20.7	-31.9
		6158.52	-87.47	33.2		-54.3	-20.7	-33.6
		6372.90	-78.84	32.3		-46.5	-20.7	-25.9
		6384.33	-76.70	32.3		-44.4	-20.7	-23.8
		7425.32	-83.04	31.7		-51.3	-20.7	-30.7

In Rx Band (1930MHz to 1990MHz), harmonics and spurious : below -80dBm
 * : Measuring equipment noise-floor measurements at these frequencies.

Table 5.4.3(b) Spurious Emissions at Antenna Terminal Measurement Data
 (1900MHz Digital Mode)
 Modulated with 48.6kbps Pseudo-random Data Sequence, Power Level 0

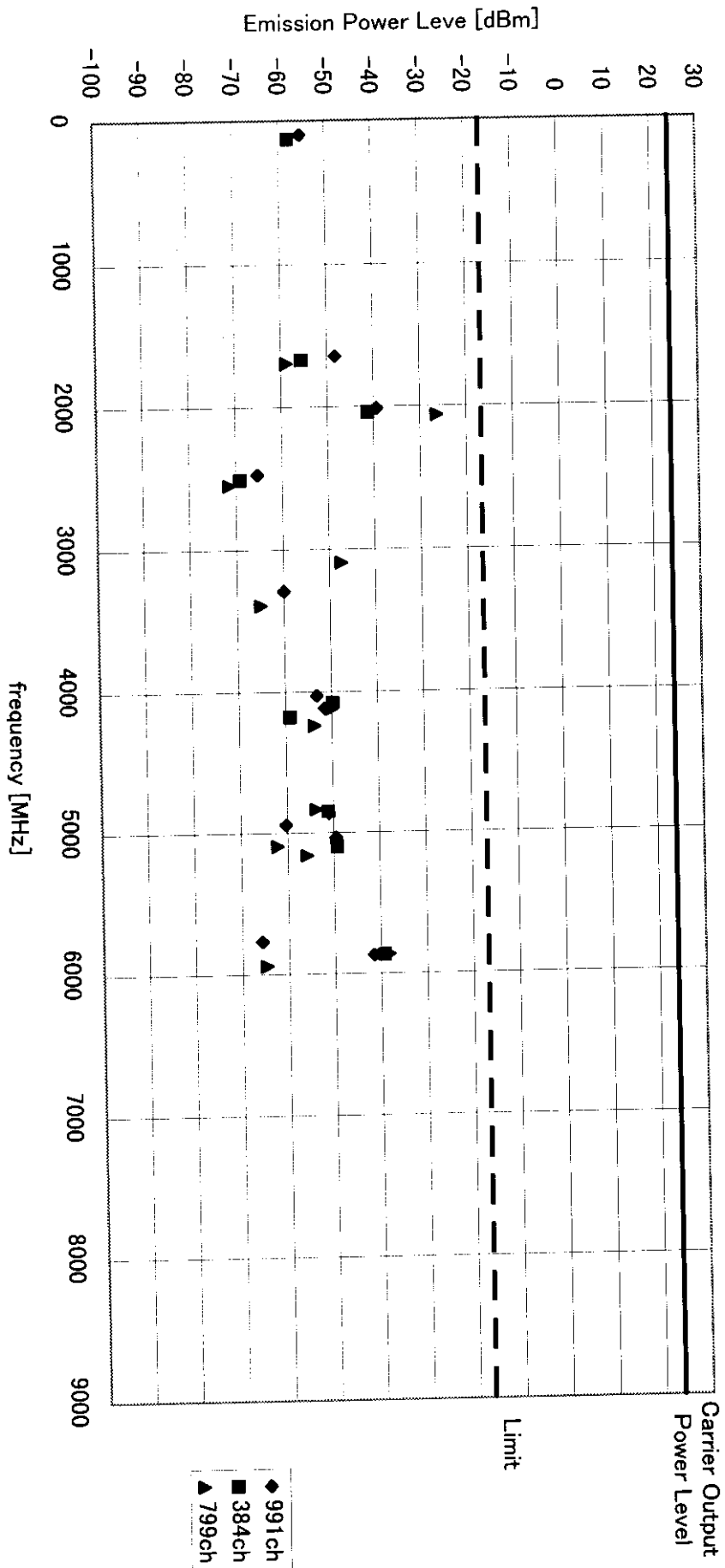


Figure 5.4.1 Spurious Emission at Antenna Terminal (800MHz Analog Mode)
Modulated with Wideband Data, Power Level 0

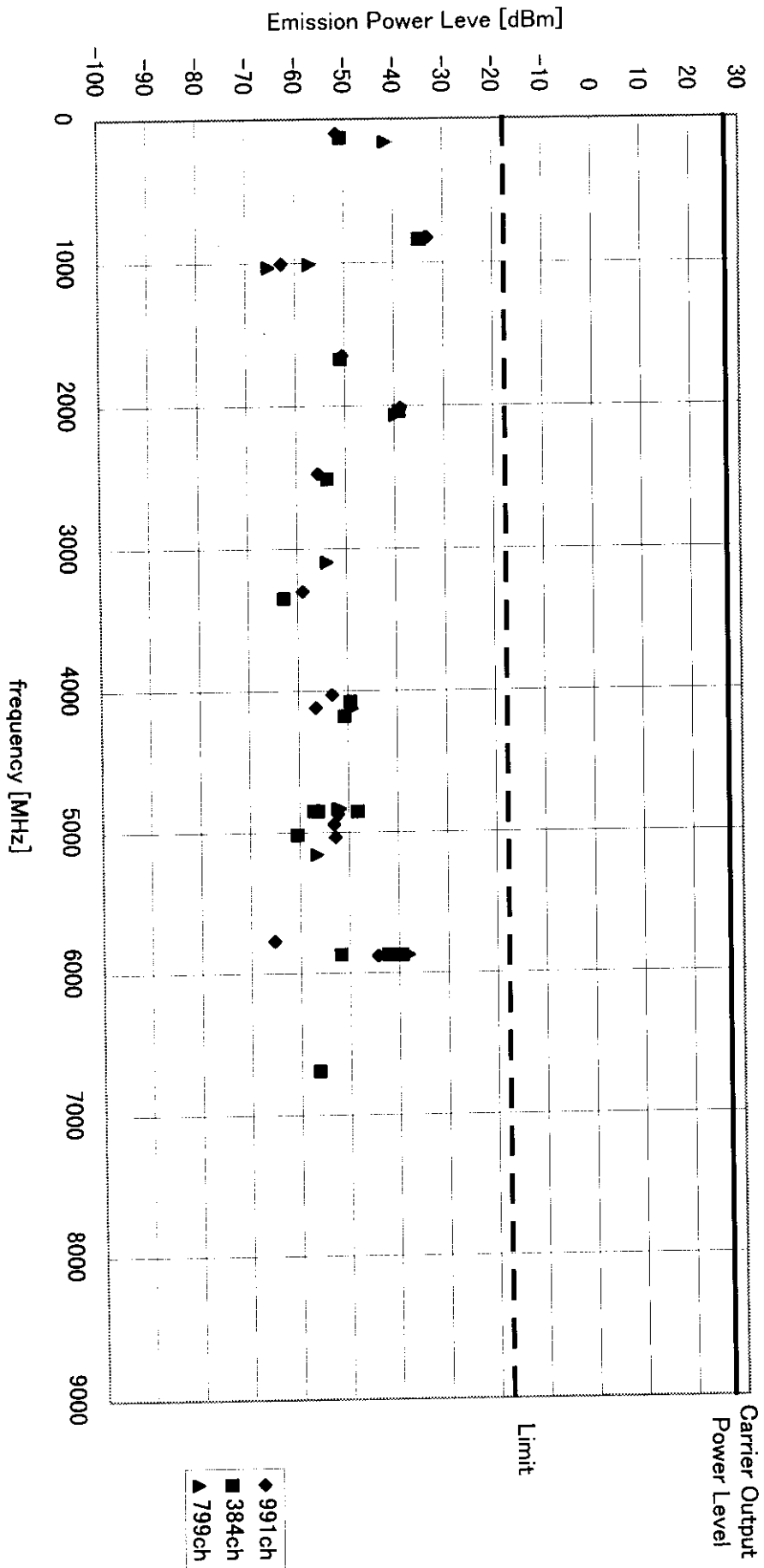


Figure 5.4.2 Spurious Emission at Antenna Terminal (800MHz Digital Mode)
Modulated with 48.6kbps Pseudo-random Data Sequence, Power Level 0

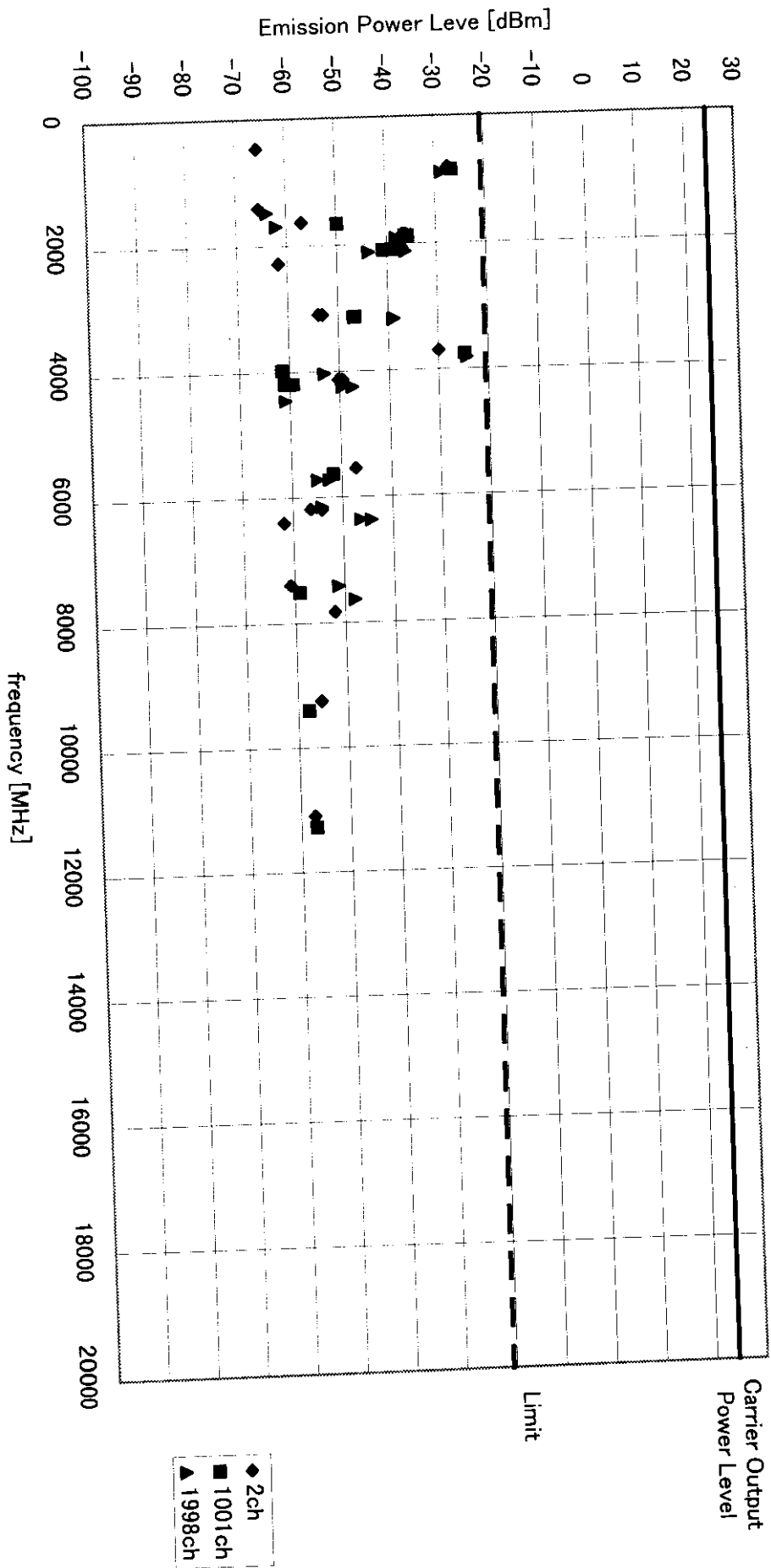


Figure 5.4.3 Spurious Emission at Antenna Terminal (1900MHz Digital Mode)
Modulated with 48.6kbps Pseudo-random Data Sequence, Power Level 0

5.5 Field Strength of Spurious Emissions Measurement Data {2.993}
(800MHz Analog, 800MHz Digital, 1900MHz Digital)

800A(WBD)

Margin	Limit	Net	Cable Loss	Antenna Factor	Reading	Freq.
[dB]	[dB μ V/m]	[dB μ V/m]	[dB]	[dB]	[dB μ V]	[MHz]

Tx	824.04	90.96	24.2	1.6	116.8	---	-42.5
Harmonics 2nd	1648.08	14.67	25.0	2.2	41.9	84.4	-34.8
3rd	2472.12	18.15	28.8	2.7	49.7	84.4	-42.3
4th	3296.16	5.96	33.0	3.1	42.1	84.4	-42.6
5th	4120.20	6.47	32.1	3.2	41.8	84.4	-43.5
6th	4944.24	4.36	33.8	2.7	40.9	84.4	-39.1
7th	5768.28	5.17	35.2	4.9	45.3	84.4	-33.2
8th	6592.32	11.65	35.1	4.5	54.1	84.4	-30.3
9th	7416.36	12.09	37.0	5.0	56.1	84.4	-28.3
10th	8240.40	12.79	37.2	6.1	61.2	84.4	-23.2
Others	2014.38	31.20	27.3	2.7	47.9	84.4	-36.5
	4861.61	11.36	33.8	2.7	53.3	84.4	-31.1
	5035.96	16.82	33.8	2.7	59.3	84.4	-25.1
	5868.83	19.19	35.2	4.9	59.3	84.4	-25.1

991ch(824.04MHz)

Tx	836.52	84.86	24.2	1.6	110.7	---	-44.1
Harmonics 2nd	1673.04	13.09	25.0	2.2	40.3	84.4	-32.1
3rd	2509.56	20.79	28.8	2.7	52.3	84.4	-36.6
4th	3346.08	11.70	33.0	3.1	47.8	84.4	-37.3
5th	4182.60	11.84	32.1	3.2	47.1	84.4	-42.6
6th	5019.12	5.33	33.8	2.7	41.8	84.4	-39.9
7th	5855.64	4.45	35.2	4.9	44.6	84.4	-33.2
8th	6692.16	11.59	35.1	4.5	51.2	84.4	-30.2
9th	7528.68	12.19	37.0	5.0	57.0	84.4	-27.4
10th	8365.20	12.78	38.1	6.1	65.9	84.4	-18.5
Others	2039.35	36.27	27.3	2.3	65.9	84.4	-28.3
	5864.42	16.03	35.2	4.9	56.1	84.4	-28.3

384ch(836.52MHz)

Tx	848.97	83.98	24.2	1.6	109.8	---	-47.7
Harmonics 2nd	1697.94	9.46	28.8	2.7	50.4	84.4	-34.0
3rd	2546.91	18.91	33.0	3.1	41.3	84.4	-43.2
4th	3395.88	5.15	32.1	3.2	49.5	84.4	-34.9
5th	4244.85	14.18	33.8	2.7	42.3	84.4	-42.1
6th	5093.82	5.80	35.2	4.9	47.3	84.4	-37.1
7th	5942.79	7.24	36.1	4.5	51.6	84.4	-32.8
8th	6791.76	11.04	37.0	5.0	54.1	84.4	-30.3
9th	7640.73	12.33	38.1	6.1	56.5	84.4	-27.9
10th	8489.70	12.33	38.1	6.1	56.5	84.4	-27.9
Others	2064.25	35.21	27.3	2.3	64.8	84.4	-19.6
	3096.37	13.90	30.8	3.1	47.8	84.4	-36.6
	5861.22	19.56	35.2	4.9	59.7	84.4	-24.7

799ch(848.97MHz)

* : Measuring equipment noise-floor measurements at these frequencies at a distance of 3m.

Table 5.5.1 Field Strength of Spurious Emissions Measurement Data
(800MHz Analog Mode)
Modulated with Wideband Data, Power Level 0

Freq	Reading	Antenna Factor	Cable Loss	Net	Limit	Margin
[MHz]	[dB μ V]	[dB]	[dB]	[dB μ V/m]	[dB μ V/m]	[dB]

991ch(824.04MHz)						
Tx	824.04	100.20	24.2	1.6	126.0	---
2nd	1648.08	11.48	25.0	2.2	38.7	80.2
3rd	2472.12	32.45	28.8	2.7	64.0	80.2
4th	3296.16	14.66	33.0	3.1	50.8	80.2
5th	4120.20	19.99	32.1	3.2	55.3	80.2
6th	4944.24	10.70	33.8	2.7	47.2	80.2
7th	5768.28	5.22	35.2	4.9	45.3	80.2
8th	6592.32	11.73	35.1	4.5	51.3	80.2
9th	7416.36	12.48	37.0	5.0	54.5	80.2
10th	8240.40	12.32	37.2	6.1	55.6	80.2
Others	823.66	8.33	24.2	1.6	34.1	80.2
	824.44	9.02	24.2	1.6	34.8	80.2
	2014.39	13.92	27.3	2.3	43.5	80.2
	5035.96	19.91	33.8	2.7	56.4	80.2
	5874.89	12.12	35.2	4.9	52.2	80.2
	5874.89	11.27	35.2	4.9	51.4	80.2

384ch(836.52MHz)						
Tx	836.52	99.20	24.2	1.6	125.0	---
2nd	1673.04	2.81	25.0	2.2	30.0	80.2
3rd	2509.56	28.49	28.8	2.7	60.0	80.2
4th	3346.08	20.60	33.0	3.1	56.7	80.2
5th	4182.60	15.63	32.1	3.2	50.9	80.2
6th	5019.12	7.69	33.8	2.7	44.2	80.2
7th	5855.64	5.86	35.2	4.9	46.0	80.2
8th	6692.16	11.85	35.1	4.5	51.5	80.2
9th	7528.68	11.85	37.0	5.0	53.9	80.2
10th	8365.20	12.75	38.1	6.1	57.0	80.2
Others	836.14	8.14	24.2	1.6	33.9	80.2
	836.91	7.63	24.2	1.6	33.4	80.2
	2039.35	30.79	27.3	2.3	60.4	80.2
	4078.68	13.42	32.1	3.2	48.7	80.2
	4854.07	9.05	33.8	2.7	45.6	80.2
	5098.31	18.86	33.8	2.7	55.4	80.2
	5867.92	12.23	35.2	4.9	52.3	80.2
	5870.29	20.26	35.2	4.9	60.4	80.2
	5873.65	23.83	35.2	4.9	63.9	80.2

799ch(848.97MHz)						
Tx	848.97	97.45	24.2	1.6	123.3	---
2nd	1697.94	12.78	25.0	2.2	40.0	80.2
3rd	2546.91	17.33	28.8	2.7	48.8	80.2
4th	3395.88	19.31	33.0	3.1	55.4	80.2
5th	4244.85	18.39	32.1	3.2	53.7	80.2
6th	5093.82	5.39	33.8	2.7	41.9	80.2
7th	5942.79	5.20	35.2	4.9	45.3	80.2
8th	6791.76	11.04	36.1	4.5	51.6	80.2
9th	7640.73	12.08	37.0	5.0	54.1	80.2
10th	8489.70	12.33	38.1	6.1	56.5	80.2
Others	848.59	6.58	24.2	1.6	32.4	80.2
	849.37	6.44	24.2	1.6	32.2	80.2
	2064.24	25.57	27.3	2.3	55.2	80.2
	4836.79	14.69	33.8	2.7	51.2	80.2
	5866.94	17.94	35.2	4.9	58.0	80.2

* : Measuring equipment noise-floor measurements at these frequencies at a distance of 3m.

Table 5.5.2 Field Strength of Spurious Emissions Measurement Data
(800MHz Digital Mode)
Modulated with 48.6kbps Pseudo-random Data Sequence, Power Level 0

Margin	Limit	Net	Cable	Antenna	Factor	Loss	Reading	Reading	Freq.
[dB]	[dB μ V/m]	[dB μ V/m]	[dB]	[dB]	[dB]	[dB]	[dB μ V]	[dB μ V]	[MHz]

2ch(1850.04MHz)

1850.04	92.65	27.3	2.3	122.3	—	80.2	-10.2	3700.08	33.53	33.0	3.4	69.9	80.2	-11.9	80.2	-17.3	80.2	-18.2	80.2	-20.0	80.2	-15.7	80.2	-16.9	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2	
1850.04	92.65	27.3	2.3	122.3	—	80.2	-10.2	3700.08	33.53	33.0	3.4	69.9	80.2	-11.9	80.2	-17.3	80.2	-18.2	80.2	-20.0	80.2	-15.7	80.2	-16.9	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2	
2nd	3700.08	33.53	33.0	3.4	69.9	80.2	-11.9	5550.12	27.37	34.7	6.2	68.3	80.2	-11.9	80.2	-17.3	80.2	-18.2	80.2	-20.0	80.2	-15.7	80.2	-16.9	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2	
3rd	5550.12	27.37	34.7	6.2	68.3	80.2	-11.9	7400.16	21.01	37.0	4.9	62.9	80.2	-17.3	80.2	-18.2	80.2	-20.0	80.2	-15.7	80.2	-16.9	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2			
4th	7400.16	21.01	37.0	4.9	62.9	80.2	-17.3	9250.20	15.77	38.8	7.4	62.0	80.2	-18.2	80.2	-20.0	80.2	-15.7	80.2	-16.9	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2					
5th	9250.20	15.77	38.8	7.4	62.0	80.2	-18.2	11100.24	14.08	38.9	7.2	60.2	80.2	-20.0	80.2	-15.7	80.2	-16.9	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2							
6th	11100.24	14.08	38.9	7.2	60.2	80.2	-20.0	12950.28	15.98	40.5	8.0	64.5	80.2	-15.7	80.2	-16.9	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2									
7th	12950.28	15.98	40.5	8.0	64.5	80.2	-15.7	14800.32	15.90	39.9	7.5	63.3	80.2	-16.9	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2											
8th	14800.32	15.90	39.9	7.5	63.3	80.2	-16.9	16650.36	17.38	40.9	8.2	66.5	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2													
9th	16650.36	17.38	40.9	8.2	66.5	80.2	-13.7	18500.40	17.82	49.9	8.3	76.0	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2															
10th	18500.40	17.82	49.9	8.3	76.0	80.2	-4.1	1849.65	18.99	27.3	2.3	48.6	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2																	
Others	1849.65	18.99	27.3	2.3	48.6	80.2	-31.6	1850.43	19.28	27.3	2.3	48.9	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2																			
Harmonics	3700.08	33.53	33.0	3.4	69.9	80.2	-11.9	5550.12	27.37	34.7	6.2	68.3	80.2	-11.9	80.2	-17.3	80.2	-18.2	80.2	-20.0	80.2	-15.7	80.2	-16.9	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2	
1x	1850.04	92.65	27.3	2.3	122.3	—	80.2	-10.2	3700.08	33.53	33.0	3.4	69.9	80.2	-11.9	80.2	-17.3	80.2	-18.2	80.2	-20.0	80.2	-15.7	80.2	-16.9	80.2	-13.7	80.2	-4.1	80.2	-31.6	80.2	-31.3	80.2	-33.2	80.2	-34.1	80.2	-36.8	80.2	-27.6	80.2	-25.6	80.2	-27.1	80.2	-30.4	80.2	-27.8	80.2	-28.8	80.2	-30.2	80.2	-28.9	80.2

Freq.	Reading	Antenna Factor	Cable Loss	Net	Limit	Margin
[MHz]	[dB μ V]	[dB]	[dB]	[dB μ V/m]	[dB μ V/m]	[dB]

1998ch(1909.92MHz)	1909.92	93.06	27.3	2.3	122.7	---	80.2	-8.3
2nd	3819.84	36.34	32.1	3.4	71.8	72.2	80.2	-18.4
3rd	5729.76	31.28	34.7	6.2	61.8	80.2	80.2	-20.6
4th	7639.68	19.89	37.0	4.9	59.5	80.2	80.2	-14.5
5th	9549.60	13.43	38.7	7.4	60.1	80.2	80.2	-10.7
6th	11459.52	13.52	39.4	7.2	65.7	80.2	80.2	-1.5
7th	13369.44	16.76	40.9	8.0	69.5	80.2	80.2	-17.8
8th	15279.36	16.39	38.5	7.5	62.4	80.2	80.2	-10.7
9th	17189.28	18.20	43.1	8.2	78.7	80.2	80.2	-1.5
10th	19099.20	17.85	52.5	8.3	52.3	80.2	80.2	-27.9
Others	1910.31	22.18	27.3	2.3	51.8	80.2	80.2	-28.4
	1919.66	16.63	27.3	2.3	46.2	80.2	80.2	-33.9
	2124.30	18.64	27.3	2.3	48.2	80.2	80.2	-31.9
	3186.50	25.17	30.8	3.1	59.1	80.2	80.2	-21.1
	3192.25	23.81	30.8	3.1	57.7	80.2	80.2	-22.5
	4248.65	21.65	32.1	3.2	57.0	80.2	80.2	-23.2
	4256.35	20.58	32.2	3.2	56.0	80.2	80.2	-24.2
	6158.63	15.44	32.2	3.2	50.8	81.2	80.2	-30.3
	6372.95	21.11	32.2	3.2	56.5	82.2	80.2	-25.7
	6384.50	16.17	35.1	6.2	57.5	80.2	80.2	-22.7

* : Measuring equipment noise-floor measurements at these frequencies at a distance of 3m.

Table 5.5.3(b) Field Strength of Spurious Emissions Measurement Data
(1900MHz Digital Mode)
Modulated with 48.6kbps Pseudo-random Data Sequence, Power Level 0

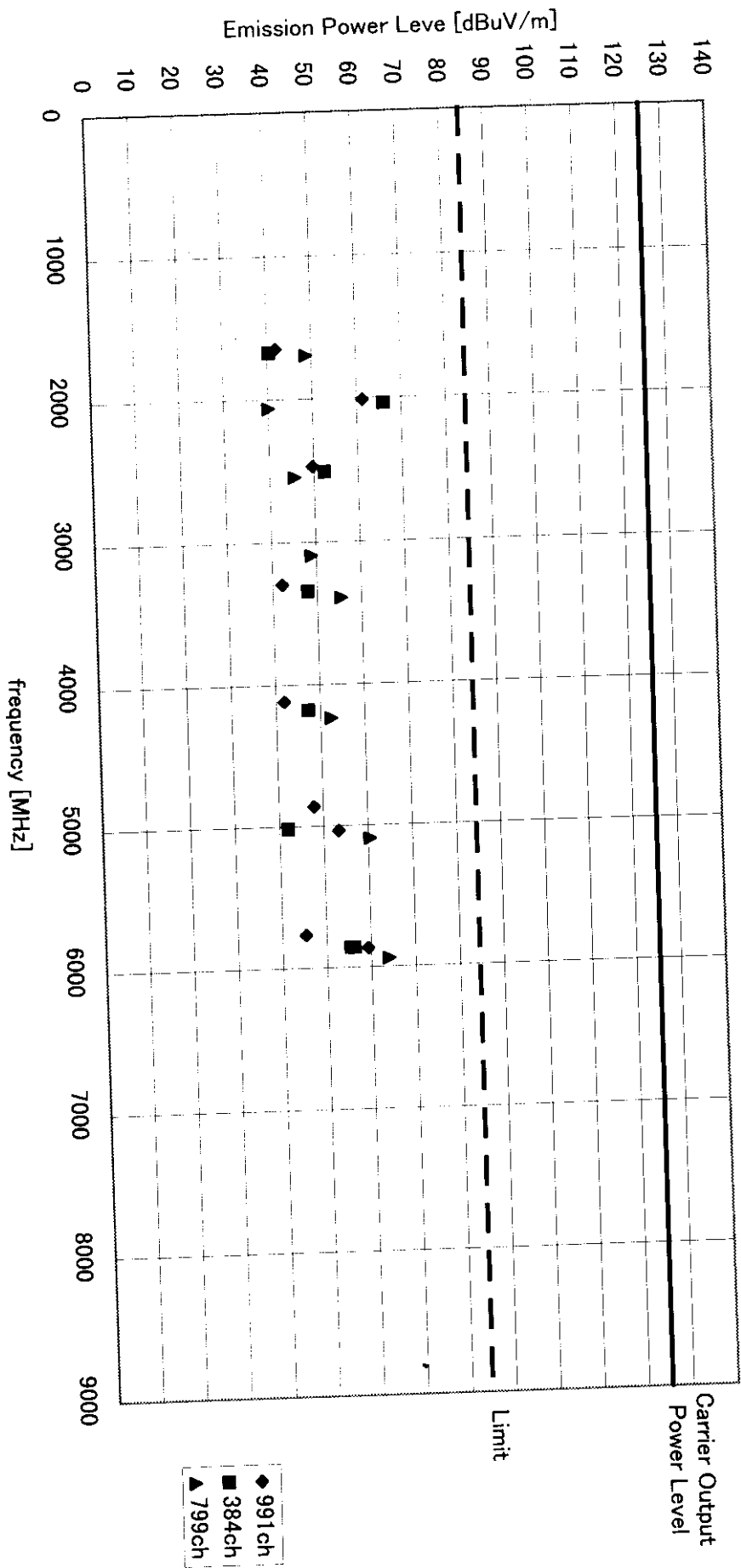


Figure 5.5.1 Field Strength of Spurious Emissions (800MHz Analog Mode)
Modulated with Wideband Data, Power Level 0

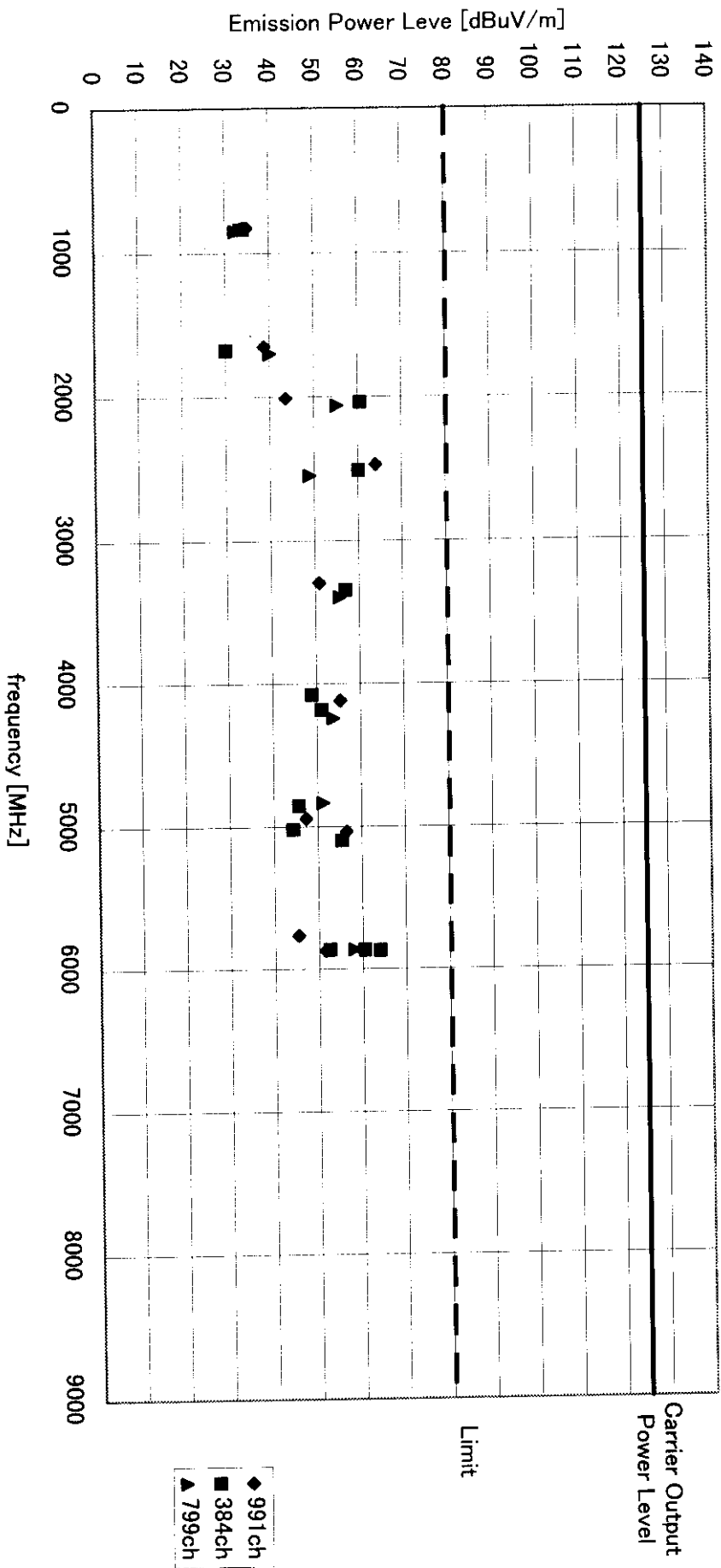


Figure 5.5.2 Field Strength of Spurious Emissions (800MHz Digital Mode)
Modulated with 48.6kbps Pseudo-random Data Sequence, Power Level 0

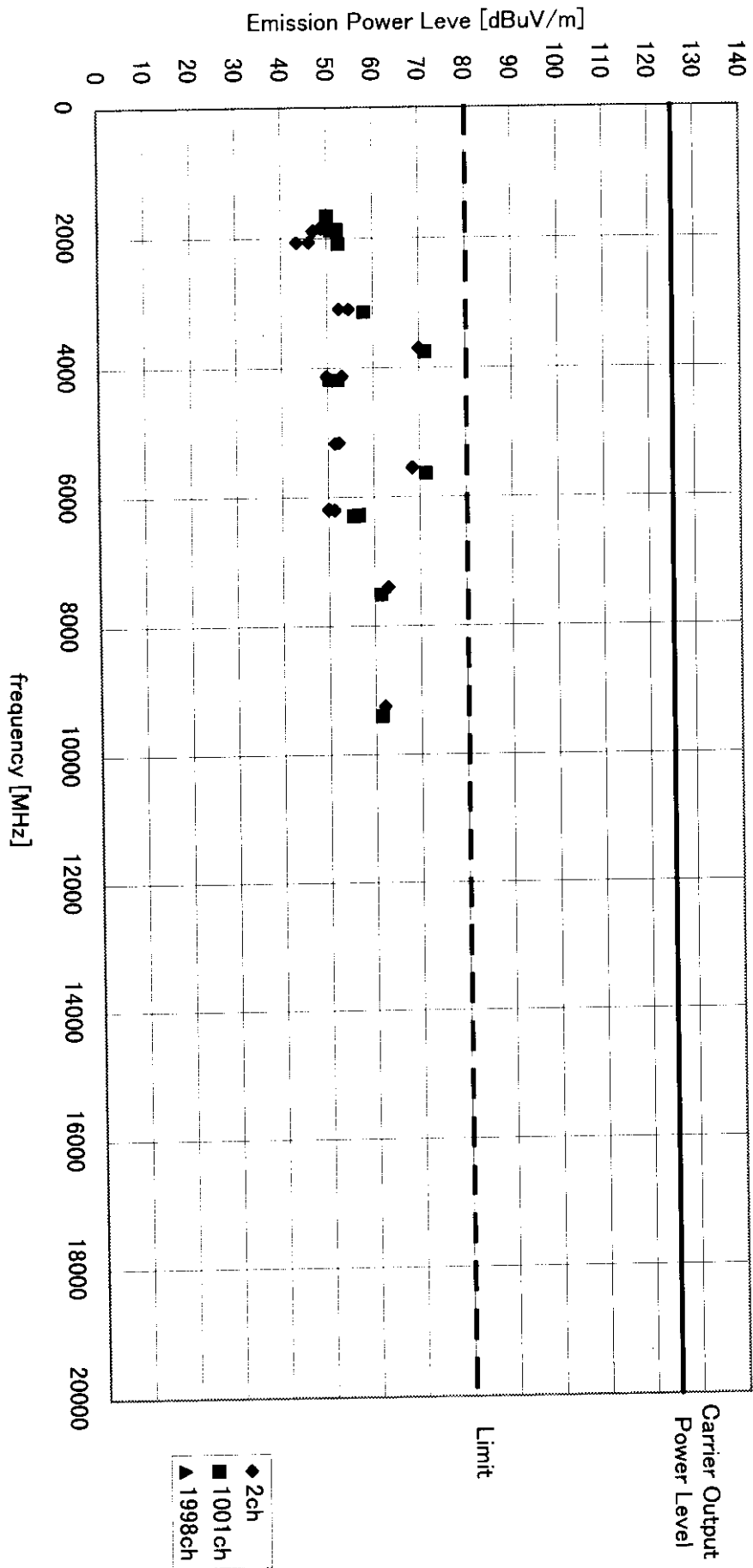
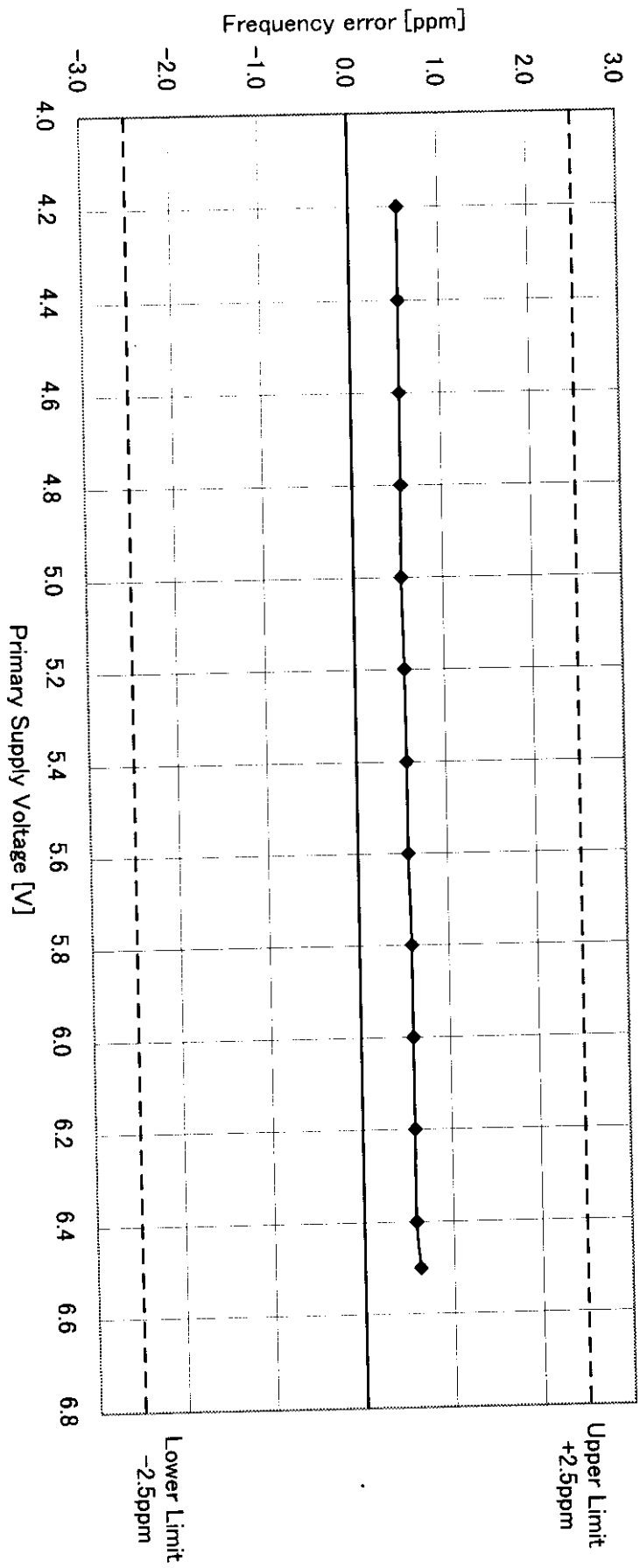


Figure 5.5.3 Field Strength of Spurious Emissions (1900MHz Digital Mode)
Modulated with 48.6kbps Pseudo-random Data Sequence, Power Level 0

5.6.1 Frequency Stability with Voltage Variation Measurement Data

5.6 Frequency Stability Measurement Data {2.995}
(800MHz Analog, 800MHz Digital, 1900MHz Digital)



BGBMT253XF0R6A

Figure 5.6.1.1 Frequency Stability with Voltage Variation (800MHz Analog Mode)

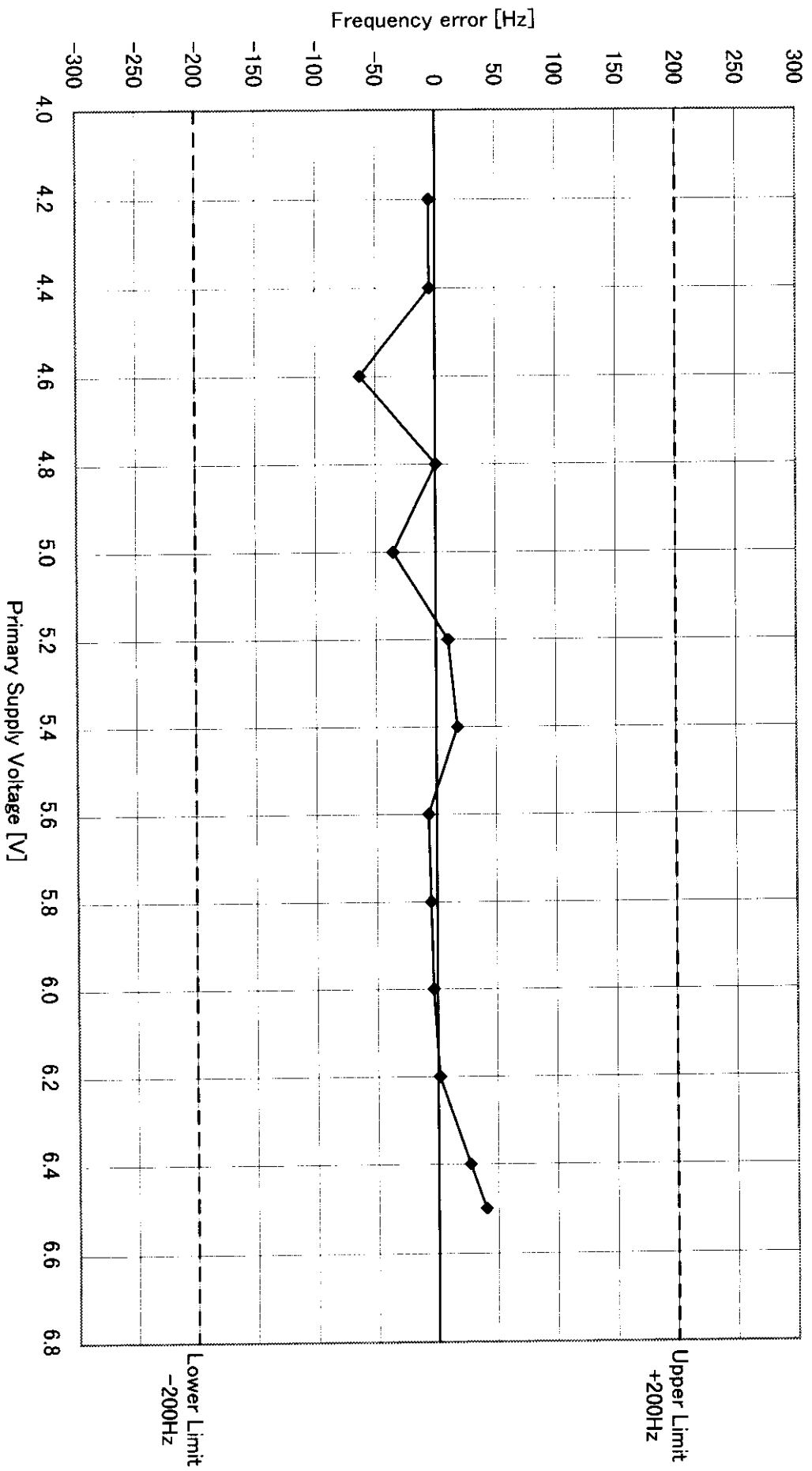


Figure 5.6.1.2 Frequency Stability with Voltage Variation (800MHz Digital Mode)

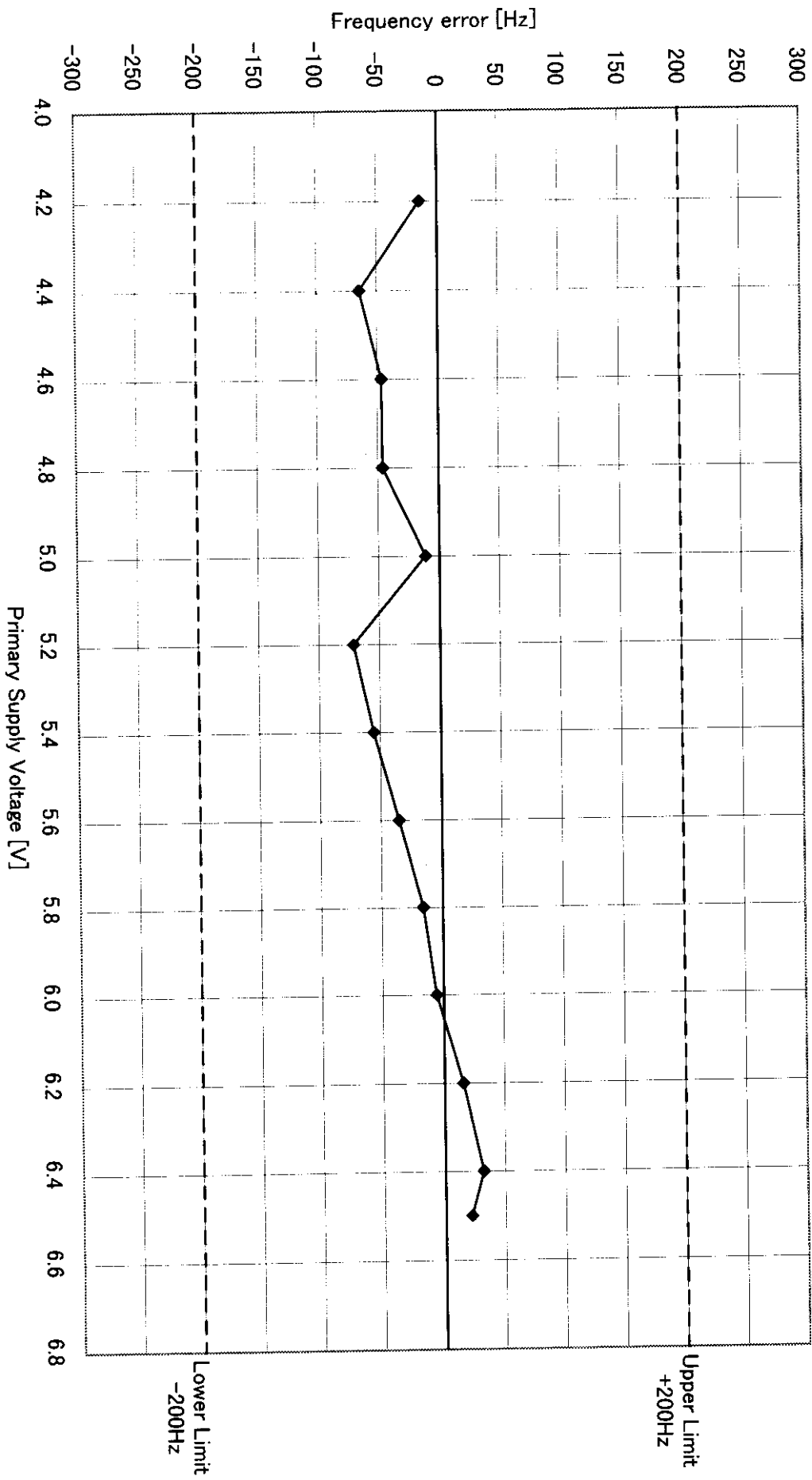


Figure 5.6.1.3 Frequency Stability with Voltage Variation (1900MHz Digital Mode)

5.6.2 Frequency Stability with Temperature Variation Measurement Data

BGBMT253XF0R6A

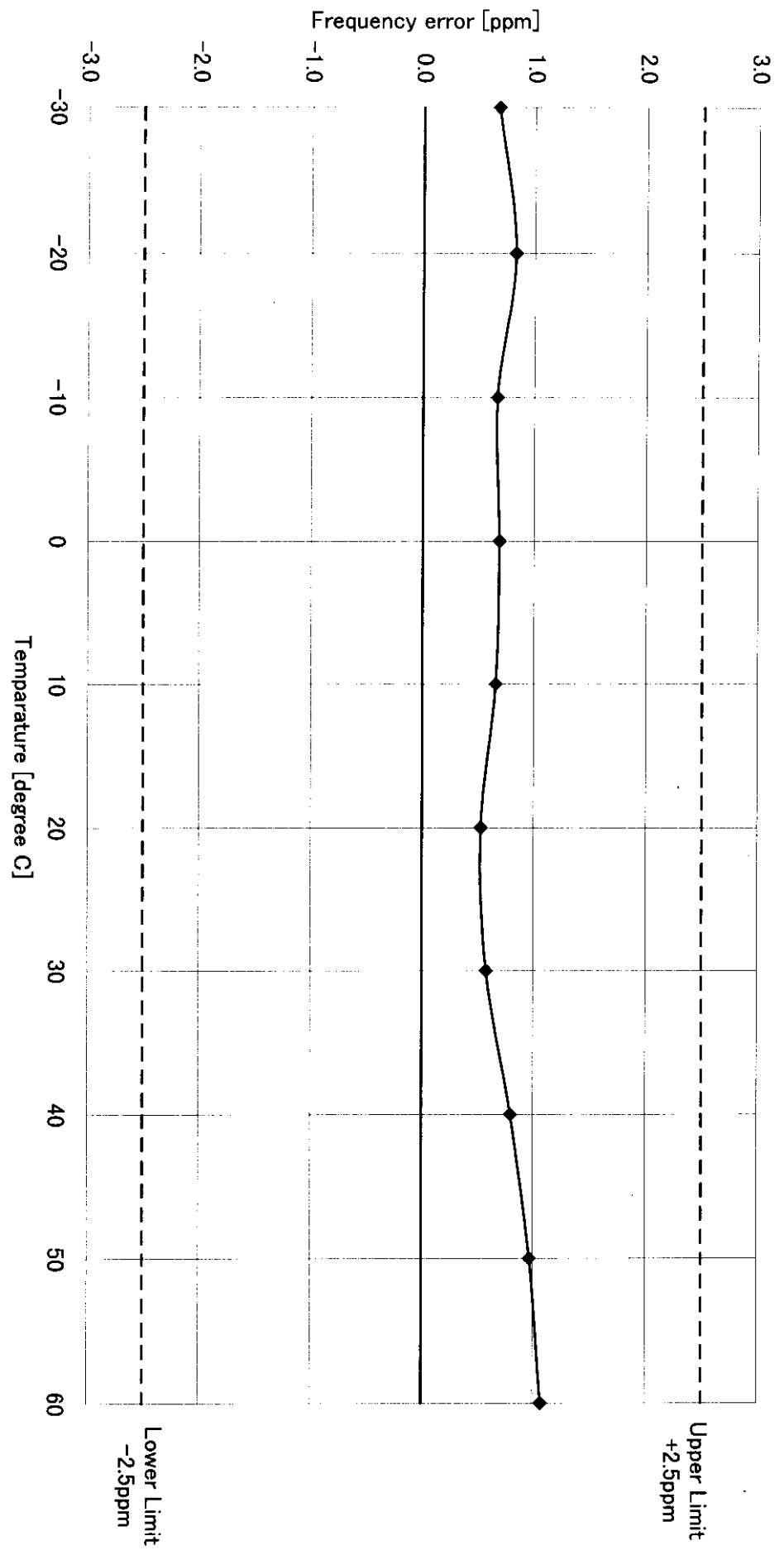


Figure 5.6.2.1 Frequency Stability with Temperature Variation
(800MHz Analog Mode)

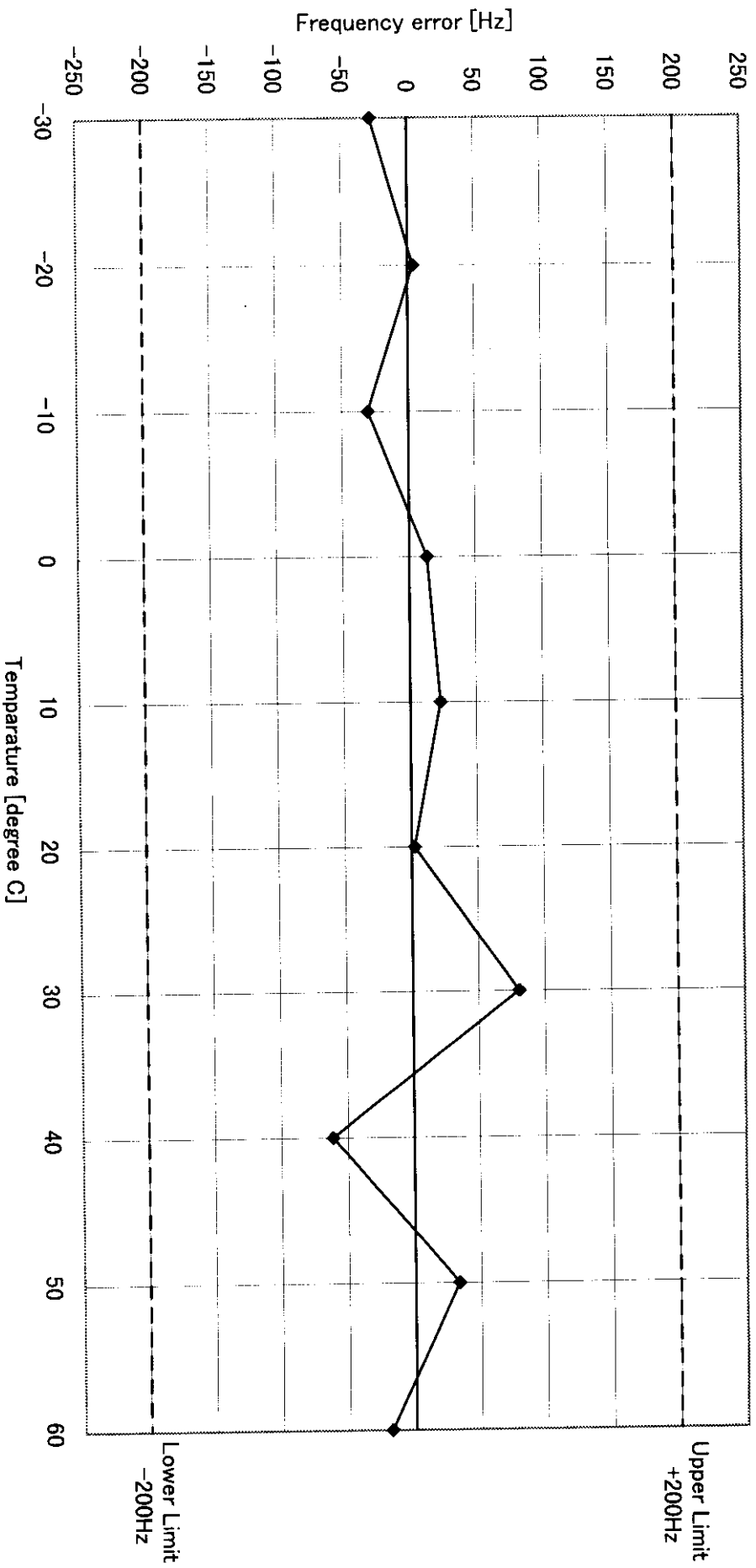


Figure 5.6.2.2 Frequency Stability with Temperature Variation
(800MHz Digital Mode)

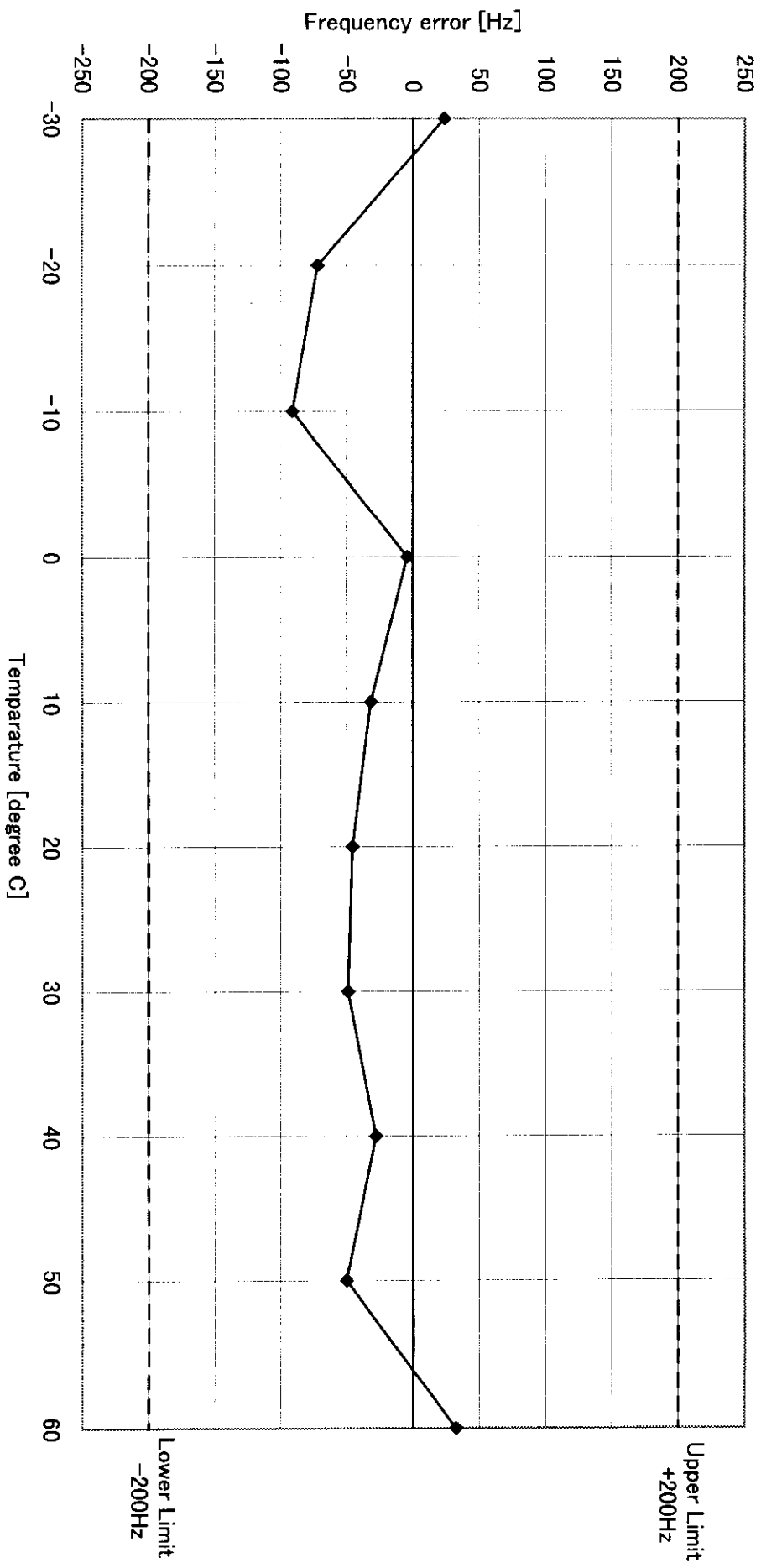


Figure 5.6.2.3 Frequency Stability with Temperature Variation
(1900MHz Digital Mode)

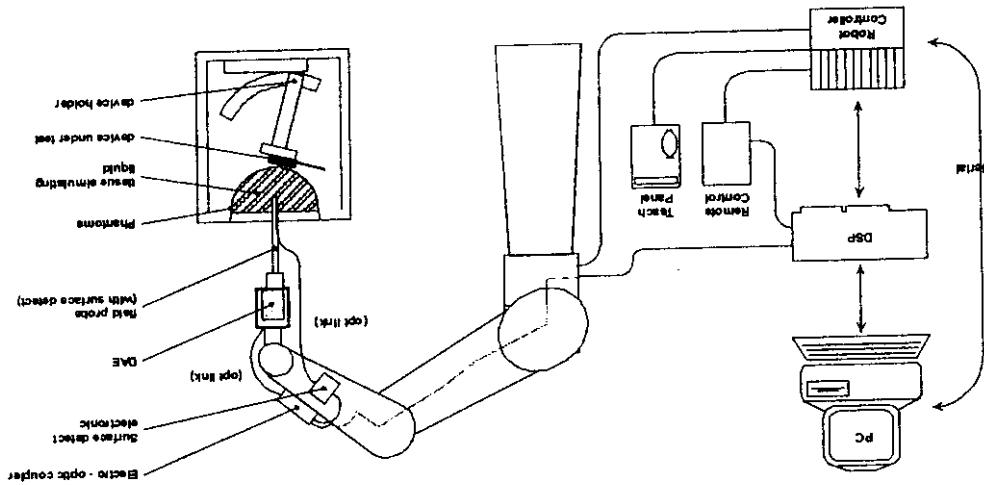
Frequency(MHz)	1850	1880	1910
ϵ_r	38.93	38.85	38.3
σ (mho/m)	1.73	1.76	1.77

Probe: ET3DV5-SN1331
Data Acquisition: DAE3SN340
Medium: Brain 1800MHz
Device: MT253XF0R6A
Phantom: Generic Twin

Frequency(MHz)	824	836	849
ϵ_r	40.1	40.1	39.96
σ (mho/m)	0.77	0.78	0.8

Probe: ET3DV5-SN1331
Data Acquisition: DAE3SN340
Medium: Brain 900MHz
Device: MT253XF0R6A
Phantom: Generic Twin

Figure 5.7.1 DASY3 system



Mode:800MHz Analog

Frequency	<Left position>	Extended	Retracted	Extended	Retracted
824MHz	1.06 mW/g	1.28 mW/g	1.01 mW/g	1.22 mW/g	1.21 mW/g
836MHz	0.985 mW/g	1.28 mW/g	0.906 mW/g	1.21 mW/g	1.28 mW/g
849MHz	0.747 mW/g	1.33 mW/g	0.699 mW/g	1.28 mW/g	

Mode:800MHz Digital

Frequency	<Left position>	Extended	Retracted	Extended	Retracted
824MHz	0.756 mW/g	0.916 mW/g	0.734 mW/g	0.896 mW/g	
836MHz	0.692 mW/g	0.926 mW/g	0.644 mW/g	0.858 mW/g	
849MHz	0.496 mW/g	0.877 mW/g	0.468 mW/g	0.815 mW/g	

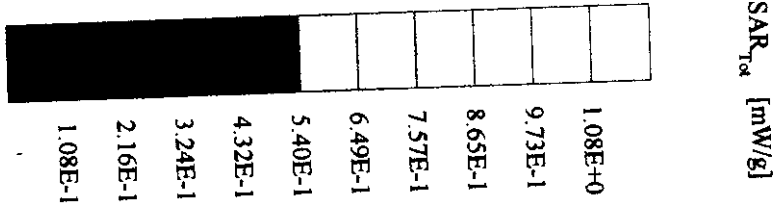
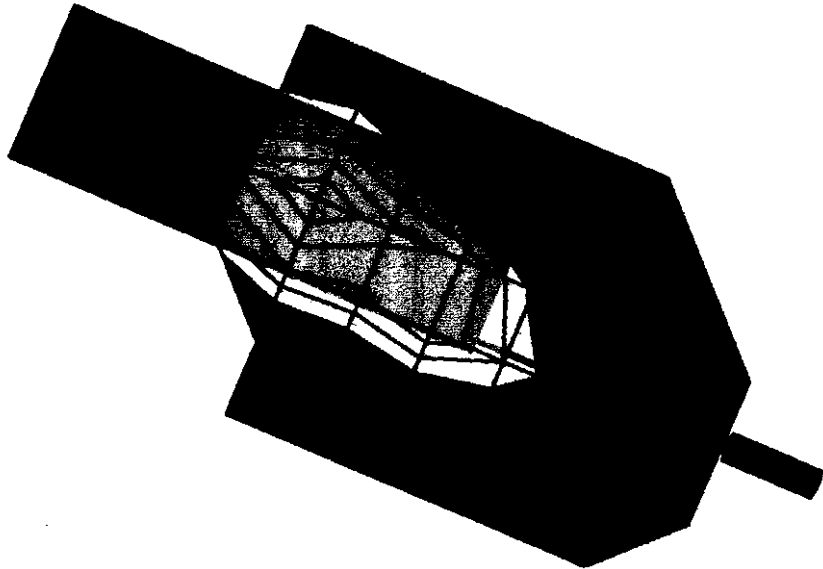
Mode:1900MHz Digital

Frequency	<Left position>	Extended	Retracted	Extended	Retracted
1850MHz	0.926 mW/g	0.967 mW/g	0.799 mW/g	0.924 mW/g	
1880MHz	0.9 mW/g	1.07 mW/g	0.861 mW/g	0.984 mW/g	
1910MHz	0.848 mW/g	0.919 mW/g	0.812 mW/g	0.928 mW/g	

Temperature:22 degrees C

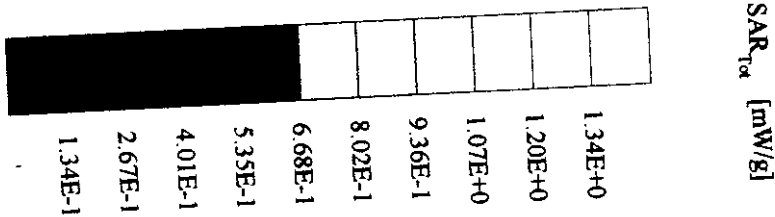
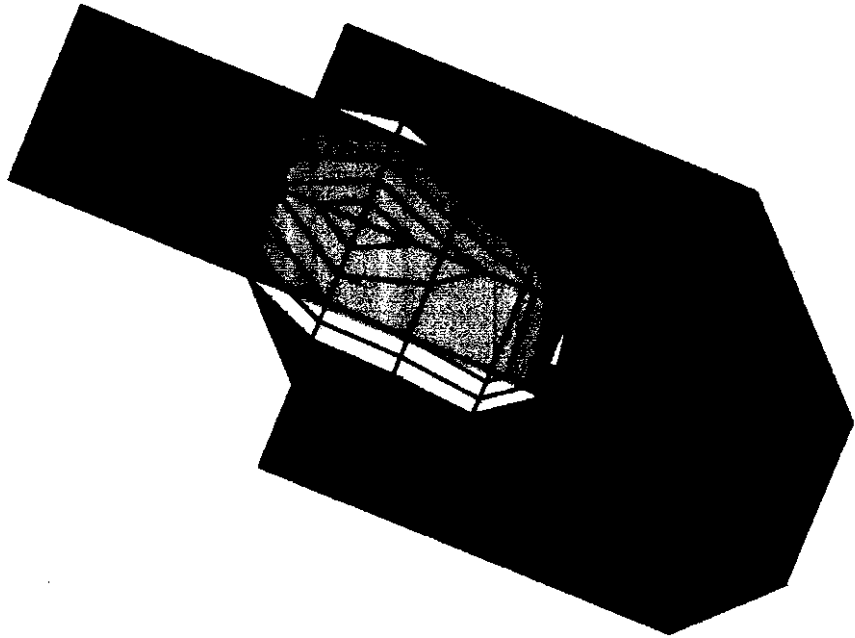
MT253x

Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 824 [MHz] Analog;
Probe: ET3DV5 - SN 1331; ConvF(4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 1.06 [mW/g], SAR (10g): 0.775 [mW/g] * Max outside, (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0



MT253x

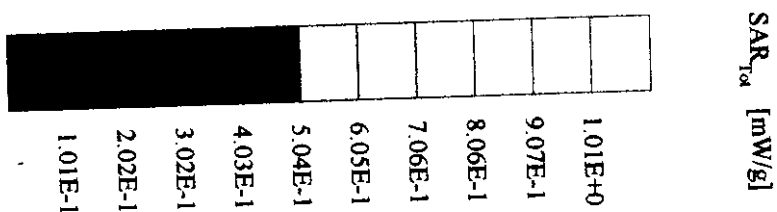
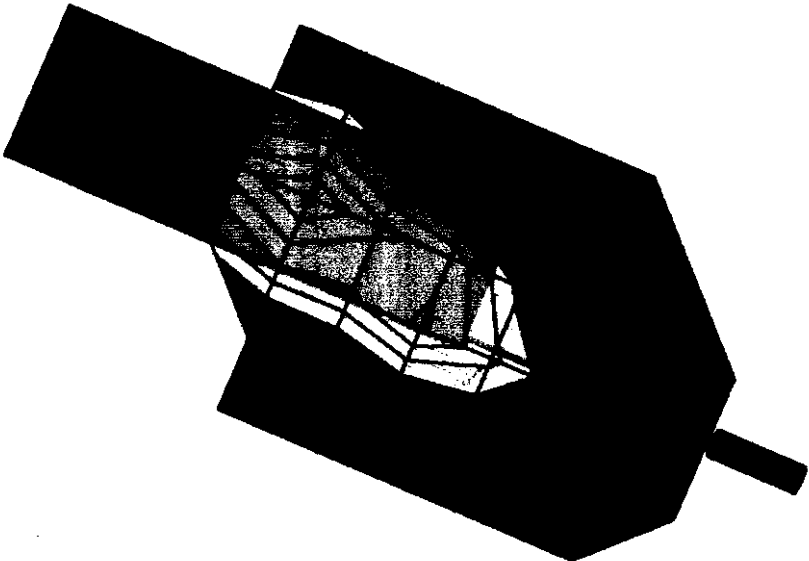
Generic Twin Phantom, Left Hand Section; Position: (80°, 65°); Frequency: 824 [MHz] Analog;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 1.28 [mW/g], SAR (10g): 0.945 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0



10/21/08

MT253x

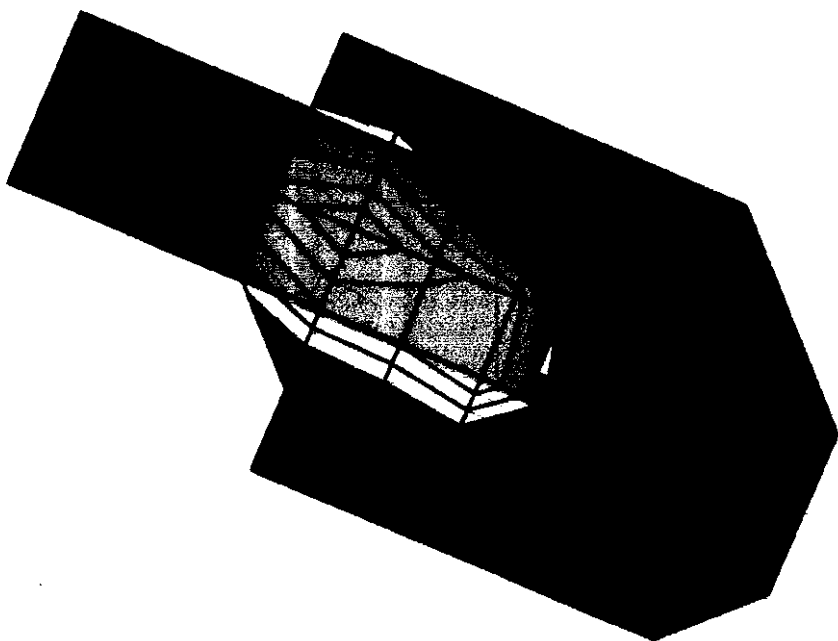
Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 836[MHz] Analog;
Probe: ET3DVS - SN1331; ConvF(4.93, 4.93); Crest factor: 1.0; Cube 5x5x7:
SAR (1g): 0.985 [mW/g], SAR (10g): 0.726 [mW/g] * Max outside, (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0



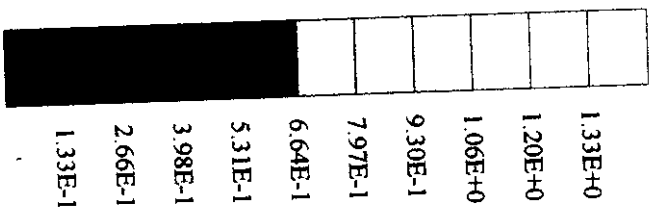
10/21/08

MT253x

Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 836 [MHz] Analog;
Probe: ET3DVS - SN1331; ConvP(4.93, 4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 1.28 [mW/g], SAR (10g): 0.943 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0



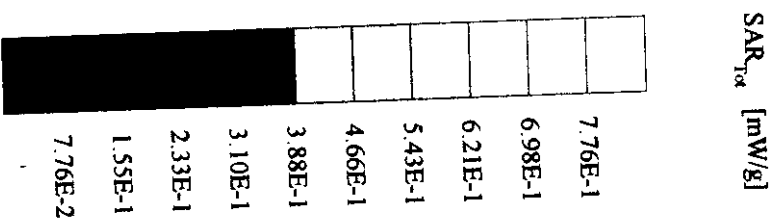
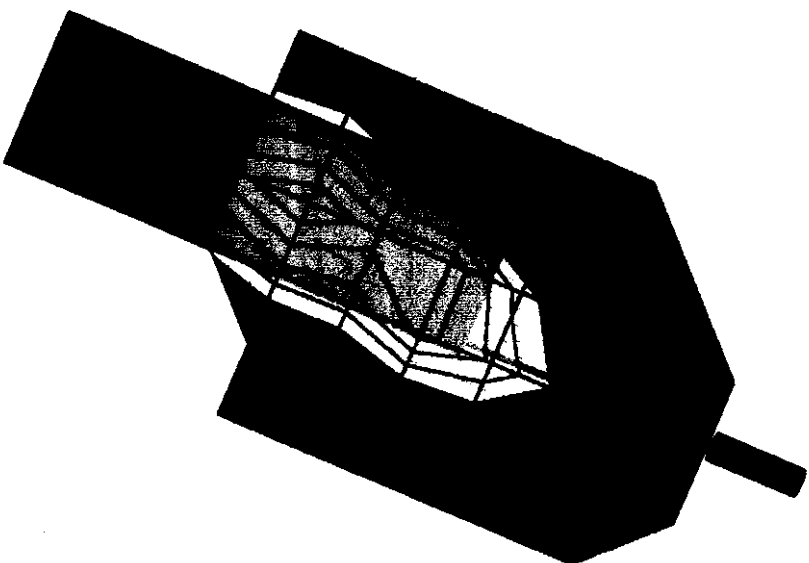
SAR_{1g} [mW/g]



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MT253x

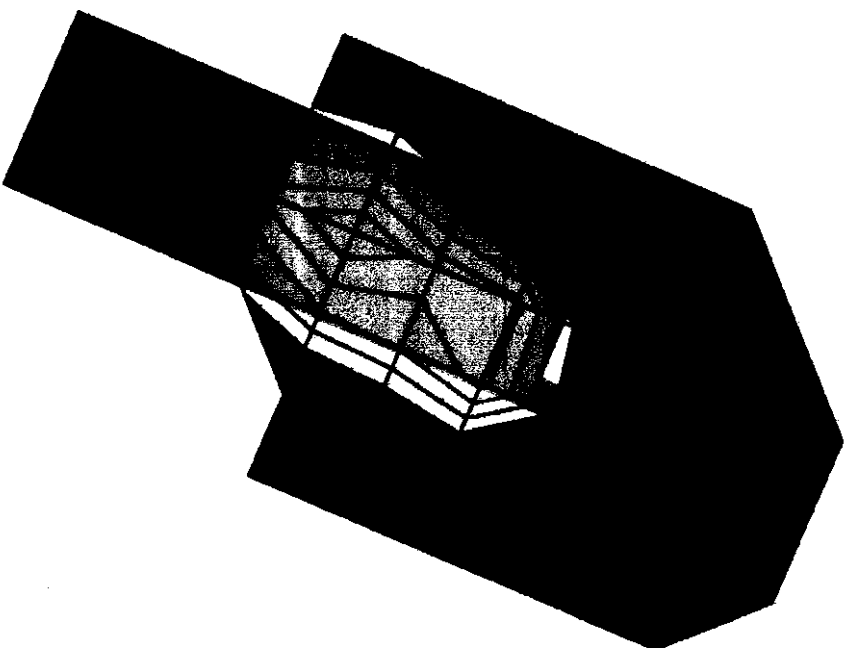
Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 849 [MHz] Analog;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 0.747 [mW/g], SAR (10g): 0.548 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0



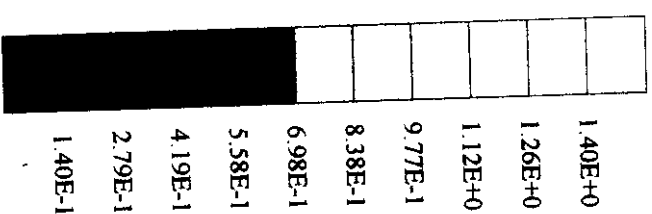
10/21/99

MT253x

Generic Twin Phantom: Left Hand Section; Position: (80°, 65°); Frequency: 849 [MHz] Analog;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 1.33 [mW/g], SAR (10g): 0.978 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0



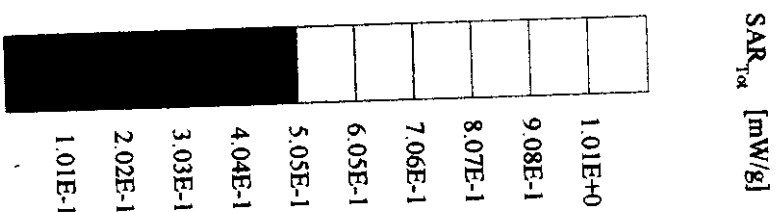
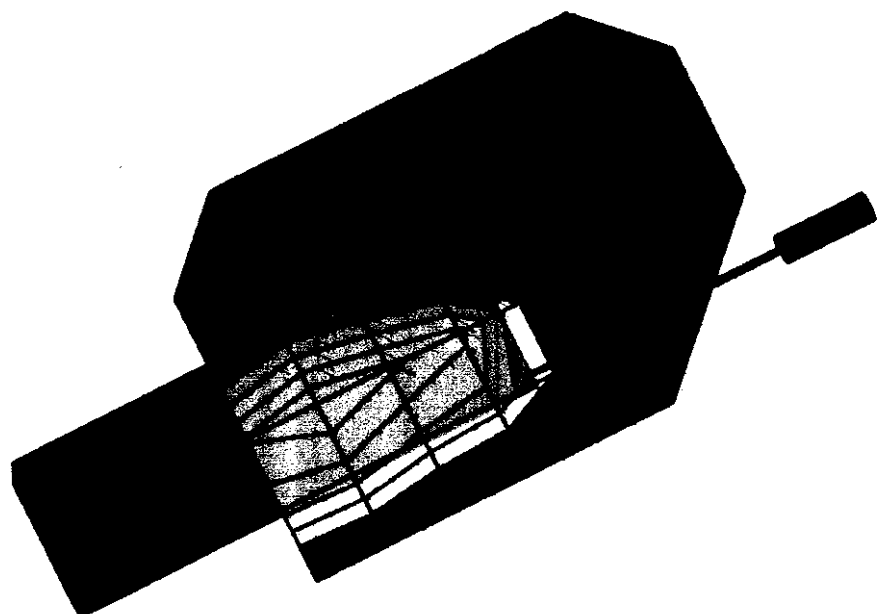
SAR_{Tot} [mW/g]



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MT253x

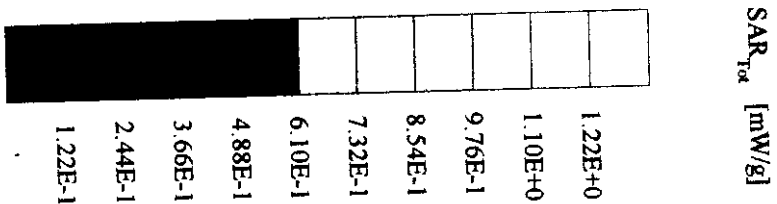
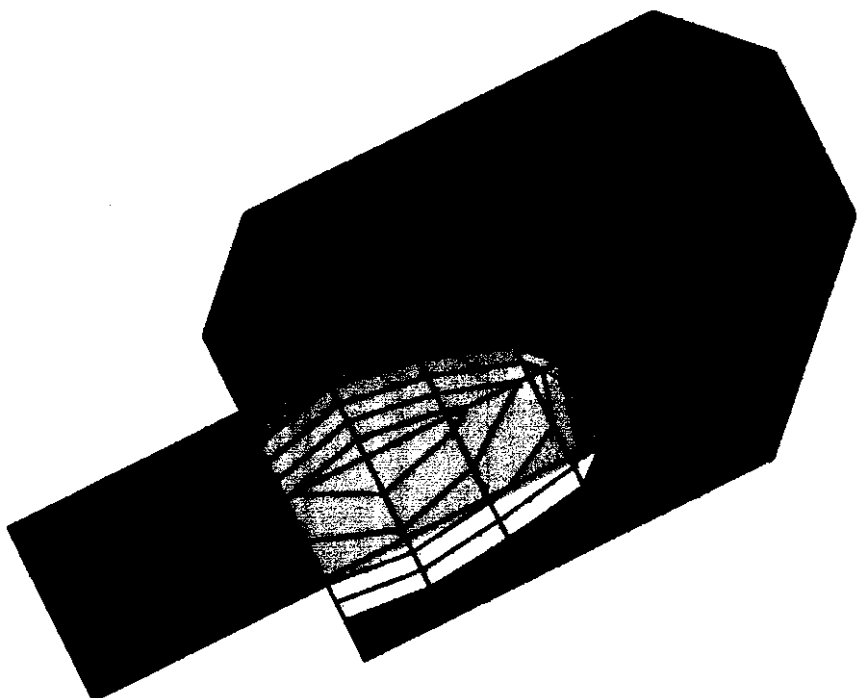
Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 824 [MHz] Analog;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 1.01 [mW/g], SAR (10g): 0.745 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0



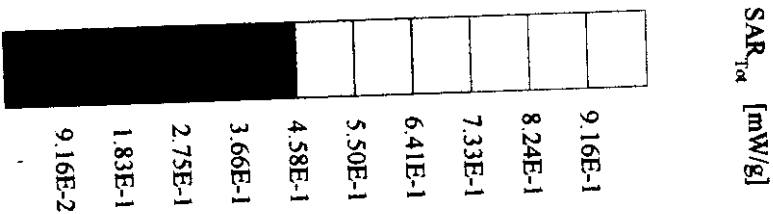
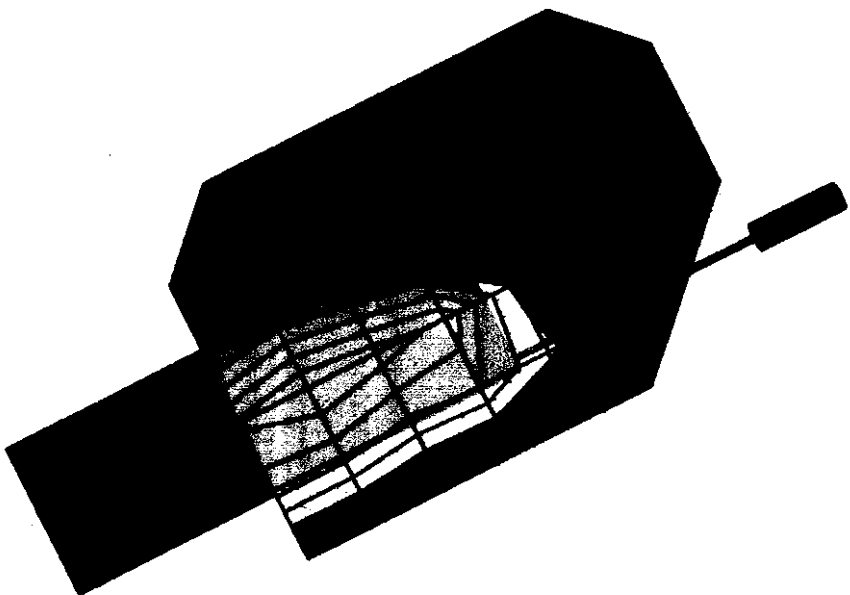
10/21/08

MT253x

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 824 [MHz] Analog;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 1.22 [mW/g], SAR (10g): 0.910 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0

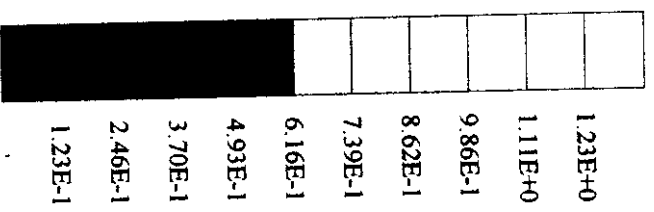
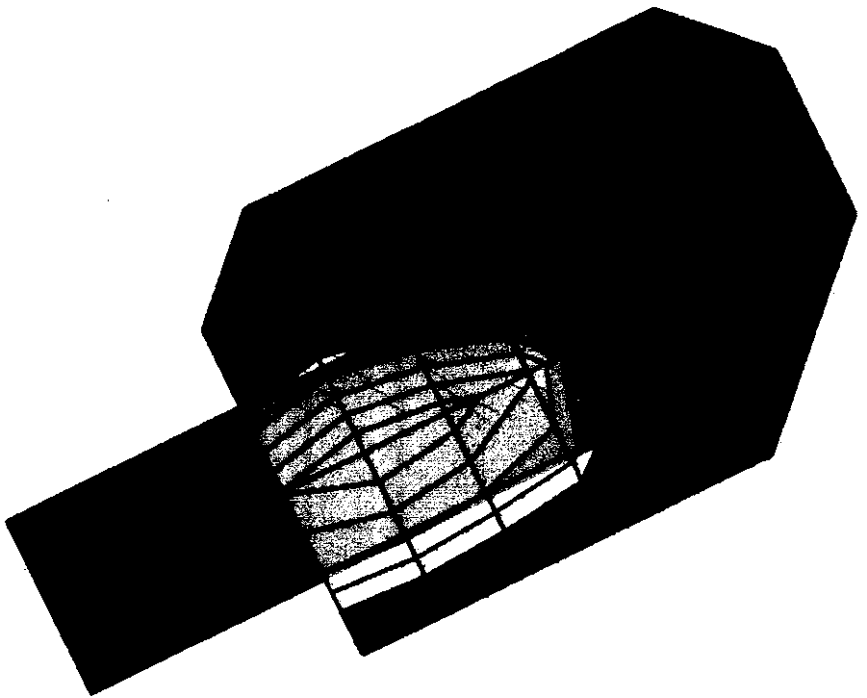


MT253x
Generic Twin Phantom; Right Hand Section: (80°, 65°); Frequency: 836 [MHz] Analog;
Probe: ET3DVS - SN1331; ConvF(4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 0.906 [mW/g], SAR (10g): 0.676 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0



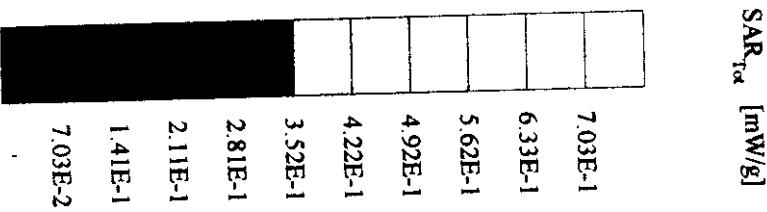
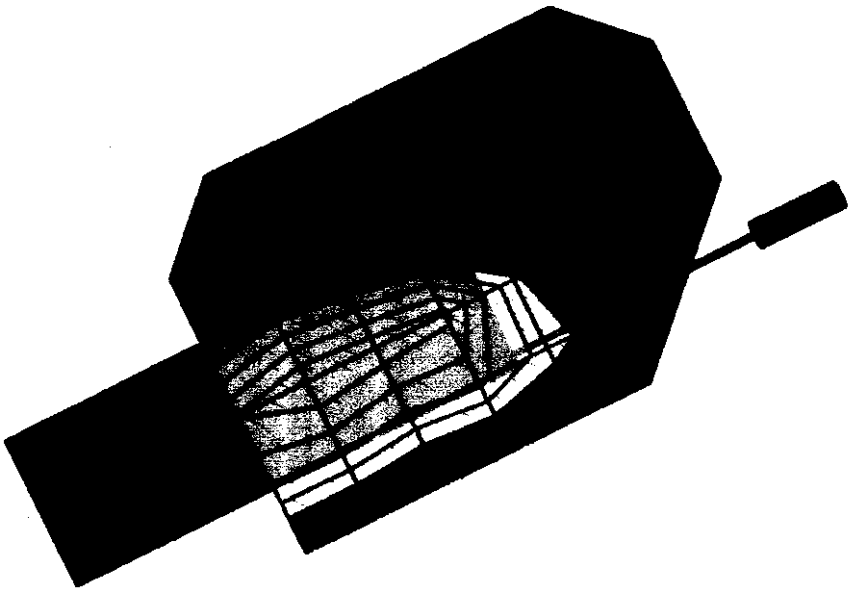
MT253x

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 836 [MHz] Analog;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 1.21 [mW/g], SAR (10g): 0.907 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0



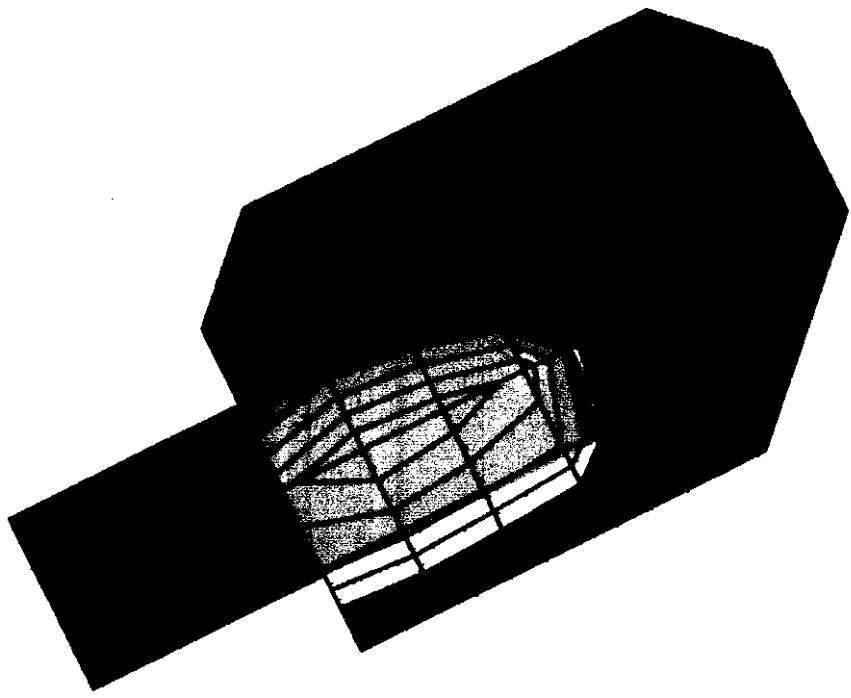
MT253x

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 849 [MHz] Analog;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 0.699 [mW/g], SAR (10g): 0.519 [mW/g] * Max outside, (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0

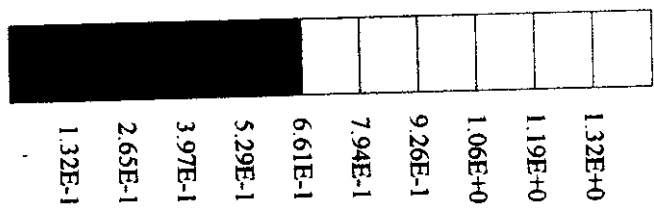


MT253x

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 849 [MHz] Analog;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93); Crest factor: 1.0; Cube 5x5x7;
SAR (1g): 1.28 [mW/g], SAR (10g): 0.961 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0



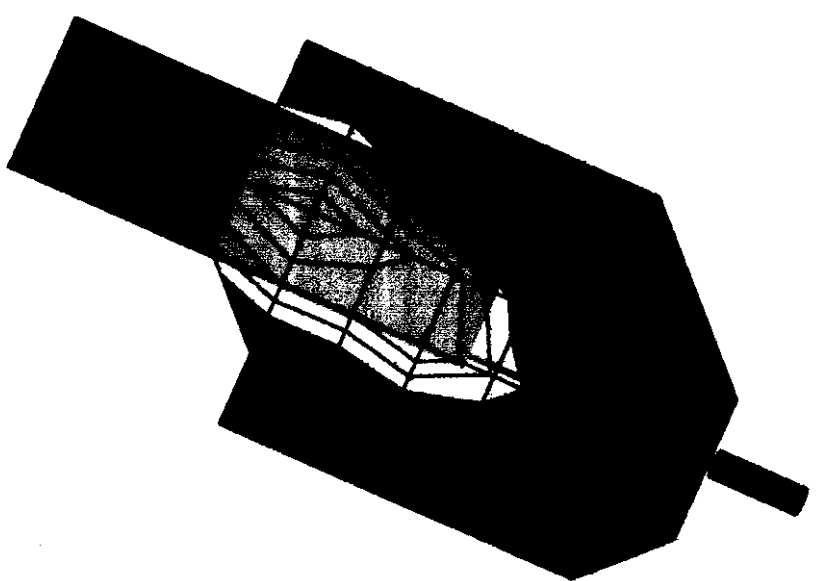
SAR_{Tot} [mW/g]



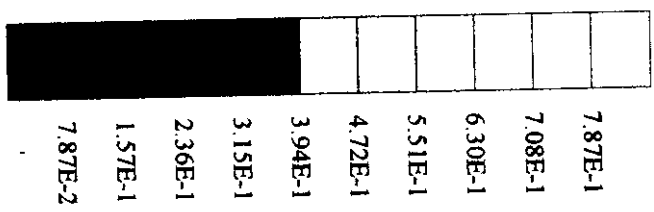
10/21/98

MT253x

Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 824 [MHz] Digital;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.756 [mW/g], SAR (10g): 0.556 [mW/g] * Max outside, (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0

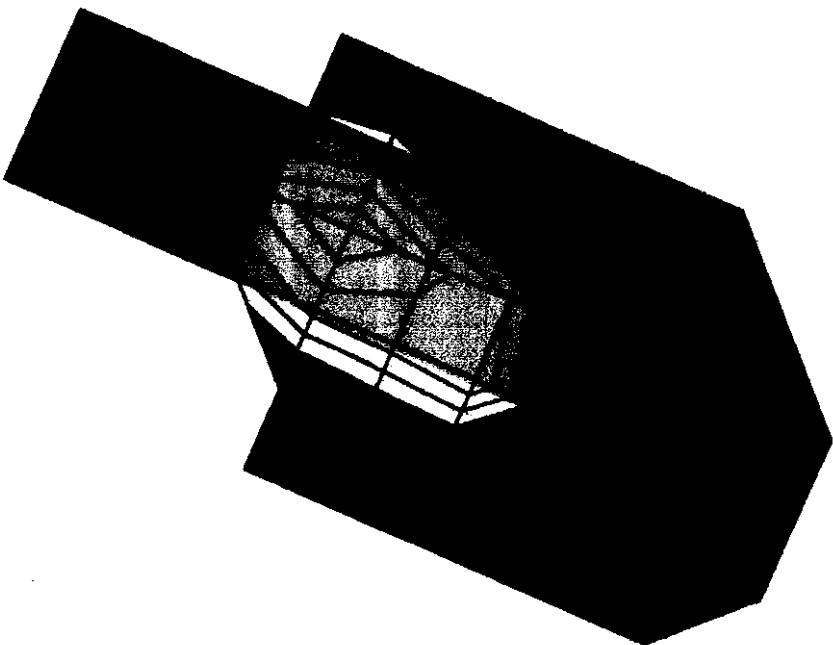


SAR_{1g} [mW/g]

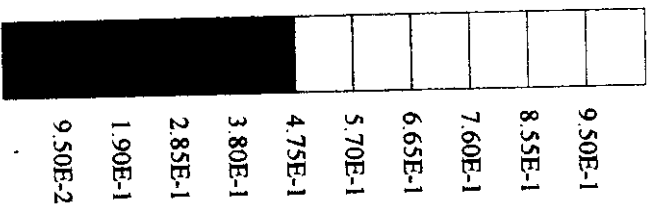


MT253x

Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 824 [MHz] Digital;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.916 [mW/g], SAR (10g): 0.671 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0

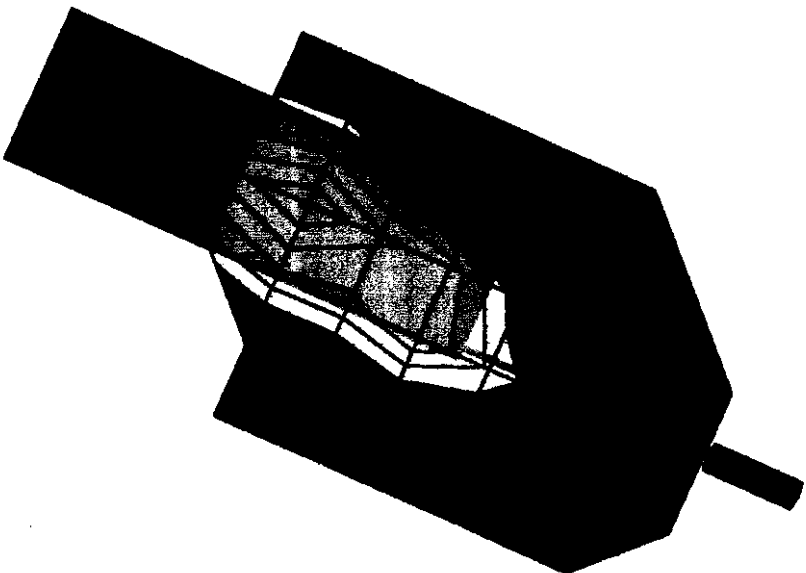


SAR_{10g} [mW/g]

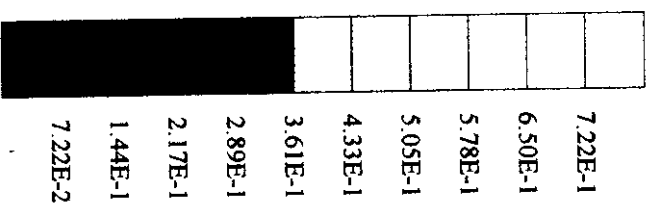


MT253X

Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 836 [MHz]; Digital;
Probe: ET3DVS - SN1331; ConvF(4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.692 [mW/g], SAR (10g): 0.505 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0

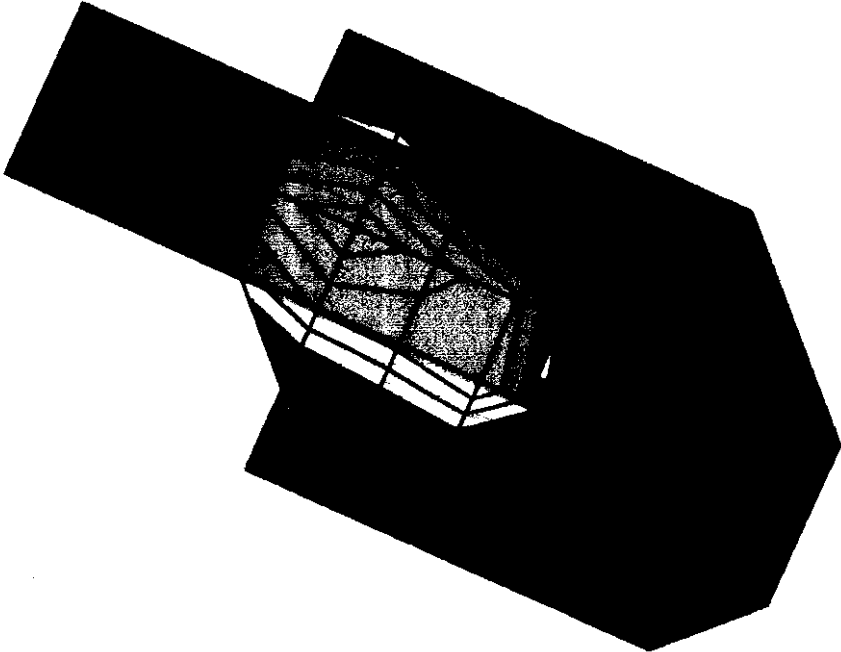


SAR_{Tot} [mW/g]

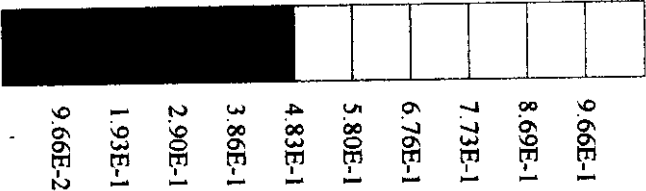


MT253X

Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 836 [MHz] Digital;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.926 [mW/g], SAR (10g): 0.680 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0

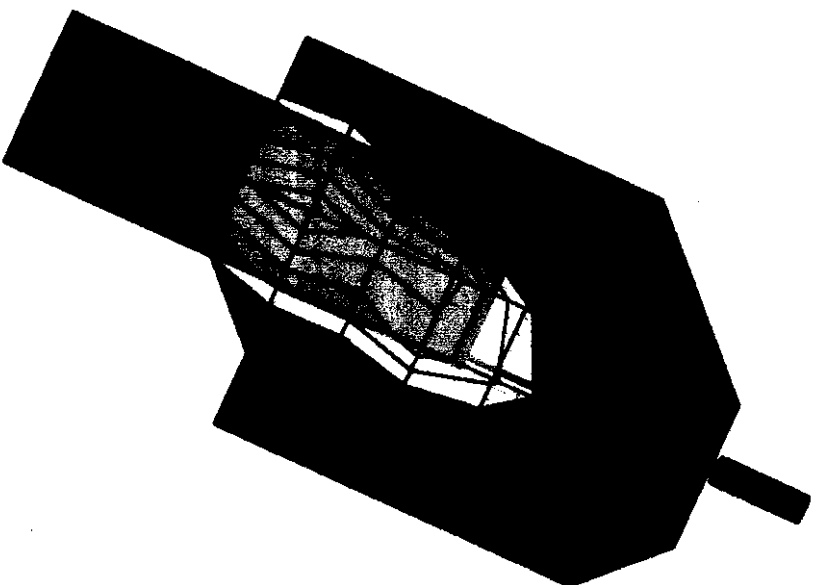


SAR_{Tot} [mW/g]

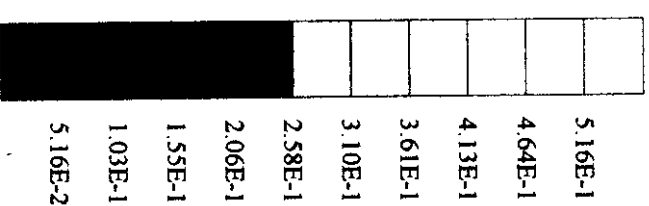


MT253x

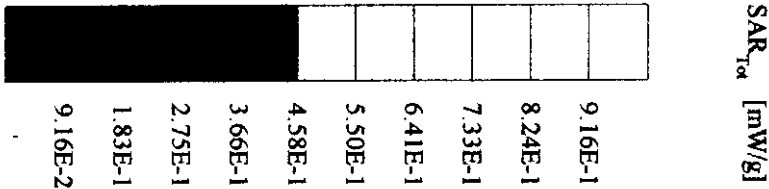
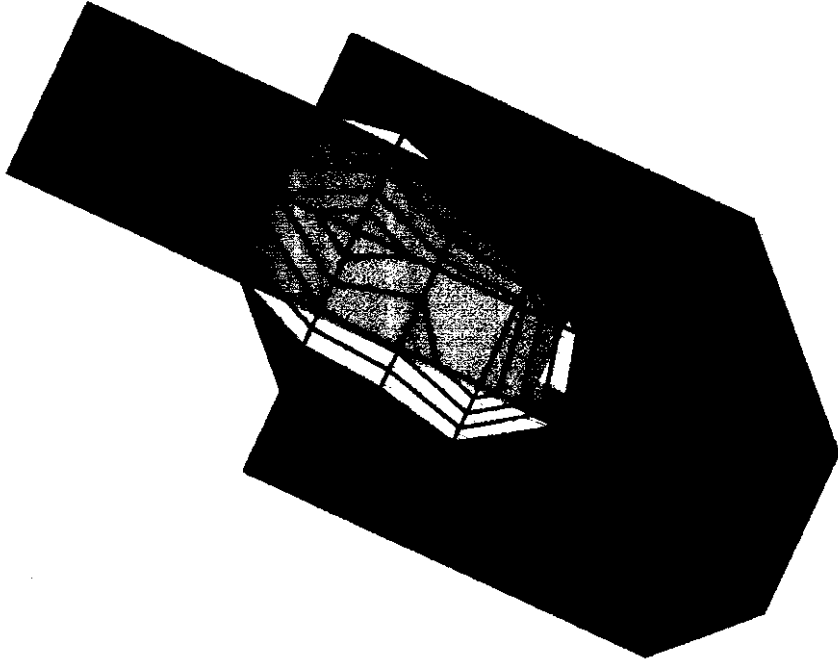
Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 849 [MHz] Digital;
Probe: ET3DVS - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.496 [mW/g], SAR (10g): 0.362 [mW/g] * Max outside, (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0



SAR_{Tα} [mW/g]

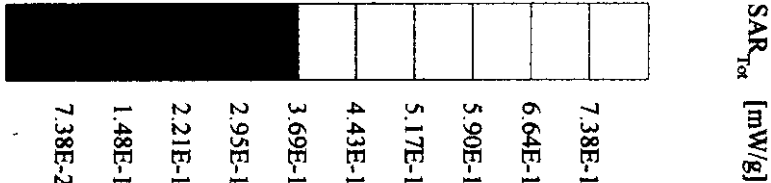
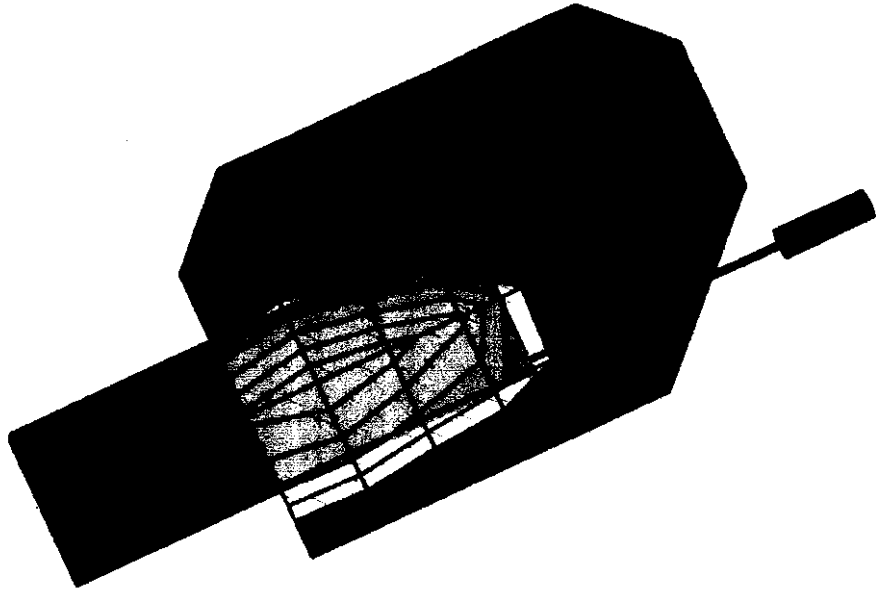


MT253x
Generic Twin Phantom: Left Hand Section; Position: (80°, 65°); Frequency: 849 [MHz] Digital;
Probe: ET3DVS - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.877 [mW/g], SAR (10g): 0.644 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0



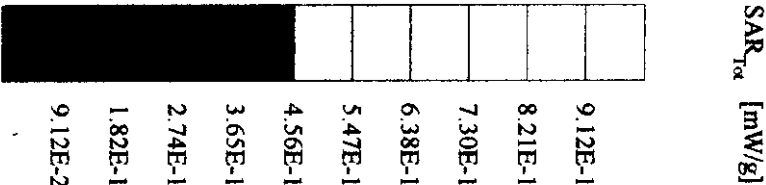
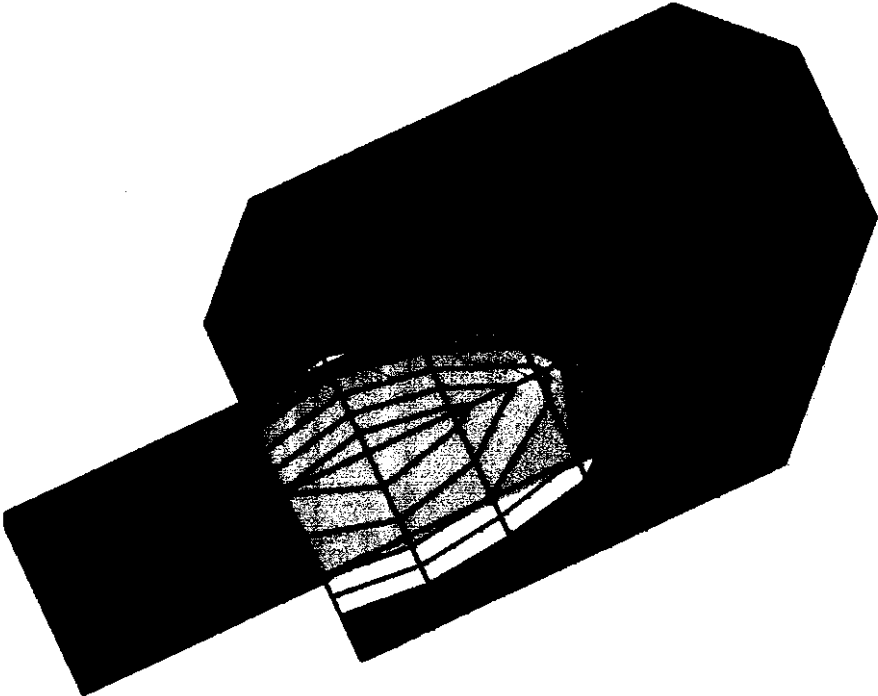
MT253x

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 824 [MHz]; Digital;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.734 [mW/g], SAR (10g): 0.546 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0



MT253x

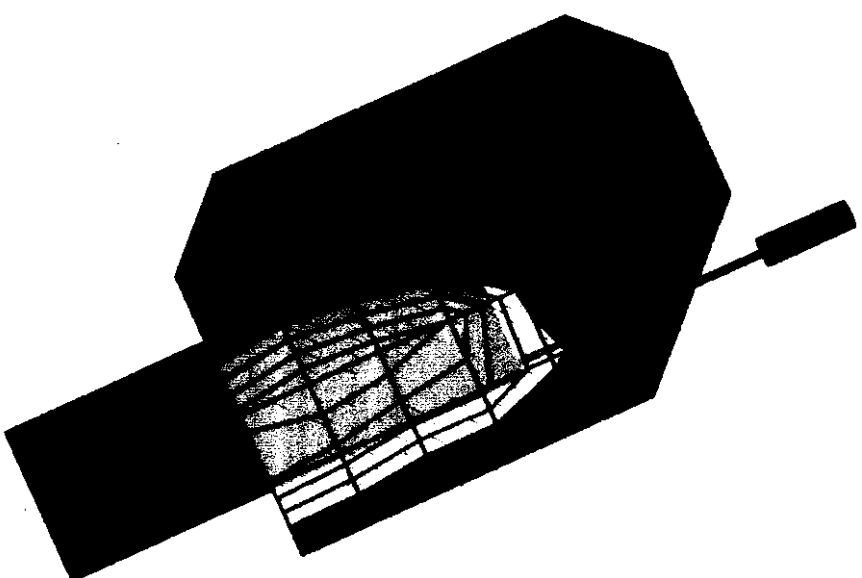
Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 824 [MHz] Digital;
Probe: ET3DV3 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.896 [mW/g], SAR (10g): 0.672 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0



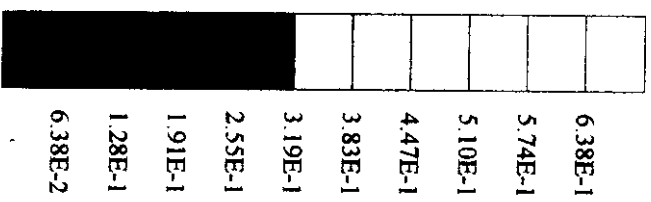
10/21/28

MT253X

Generic: Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 836 [MHz]; Digital;
Probe: E13DV5 - SN 1331; ConvE(4.93, 4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.644 [mW/g], SAR (10g): 0.473 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0

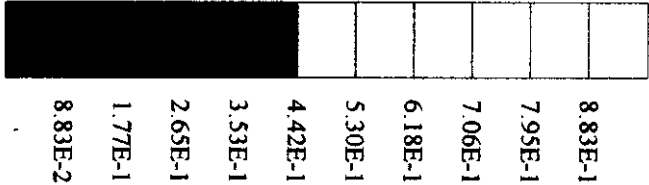
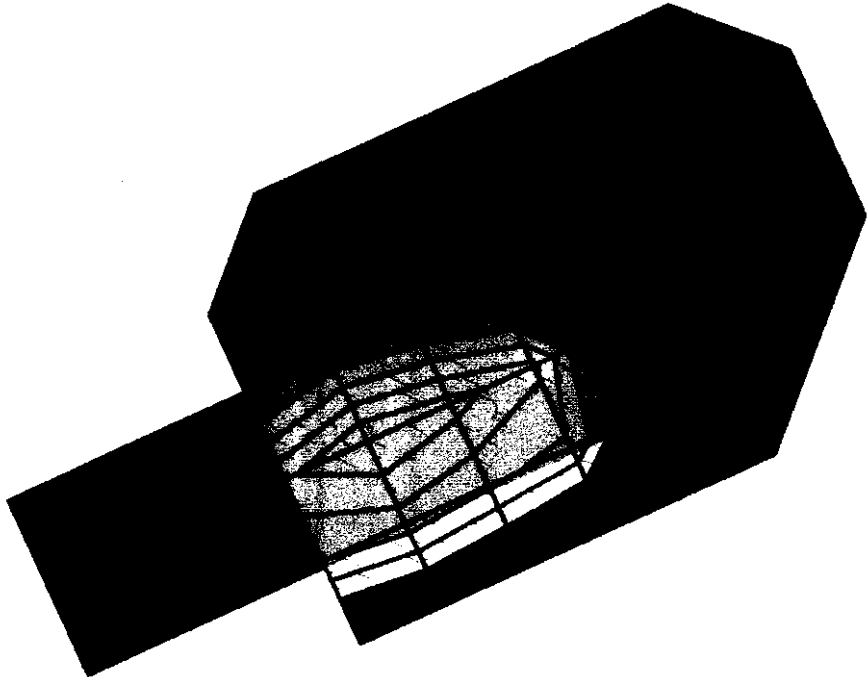


SAR_{Tot} [mW/g]



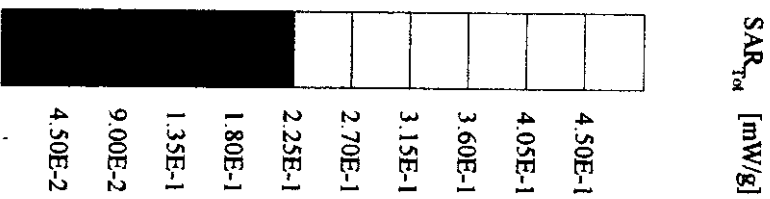
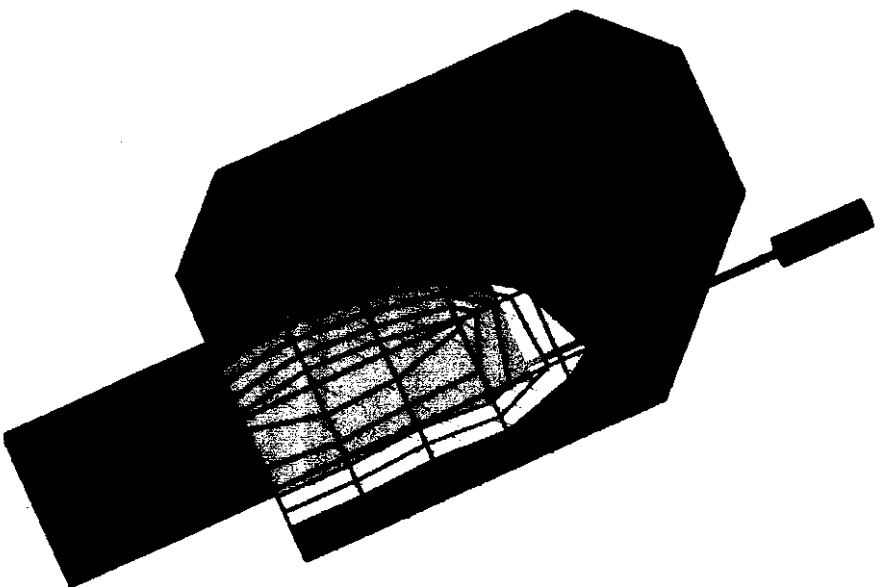
MT253x

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 836 [MHz] Digital;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.858 [mW/g], SAR (10g): 0.643 [mW/g] * Max outside, (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0



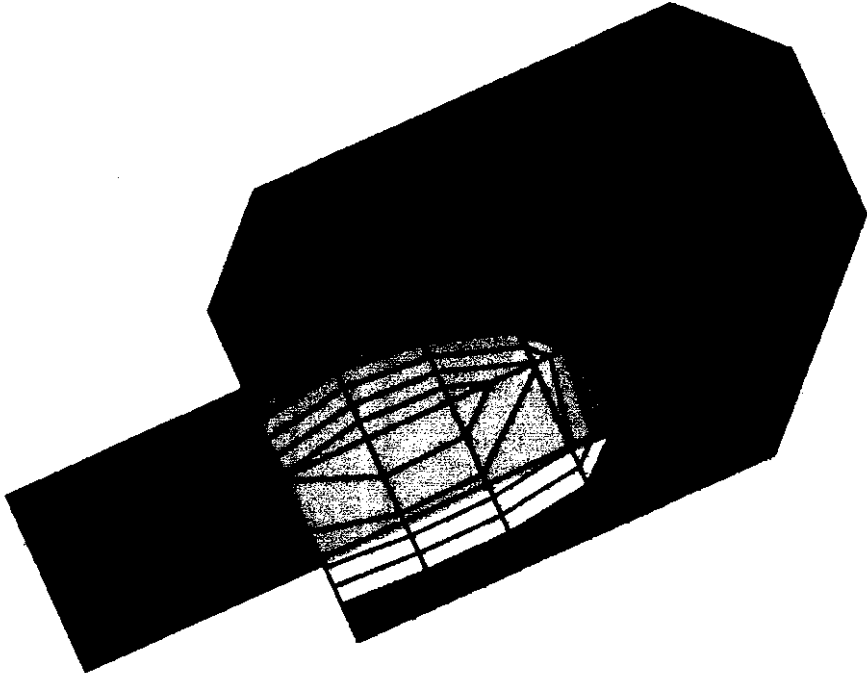
MT253x

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 849 [MHz] Digital;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.468 [mW/g], SAR (10g): 0.323 [mW/g] * Max outside, (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0

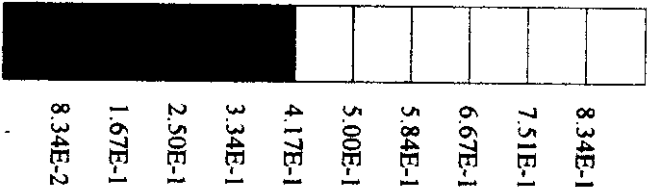


MT253X

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 849 [MHz] Digital;
Probe: ET3DV5 - SN1331; ConvF(4.93, 4.93, 4.93); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.815 [mW/g] *, SAR (10g): 0.614 [mW/g] * Max outside, (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0

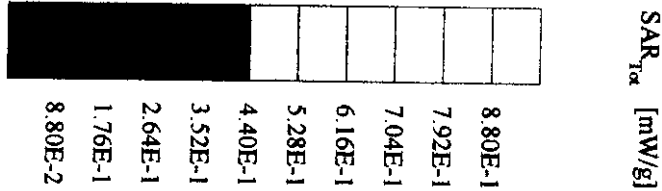
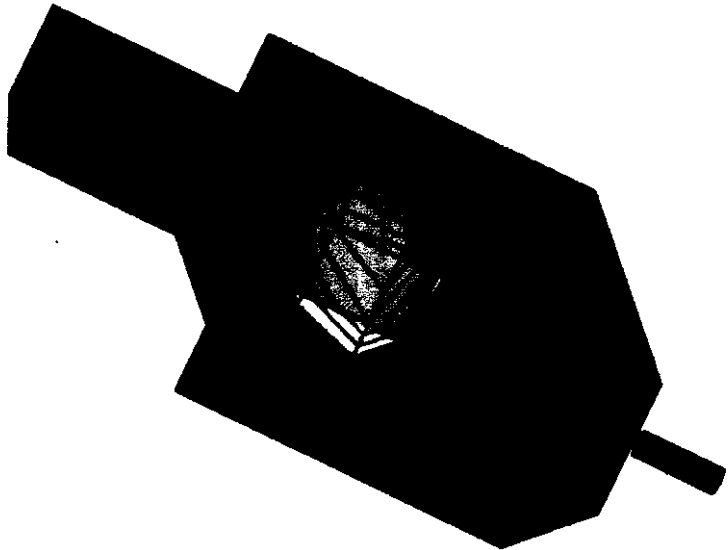


SAR_{Tot} [mW/g]



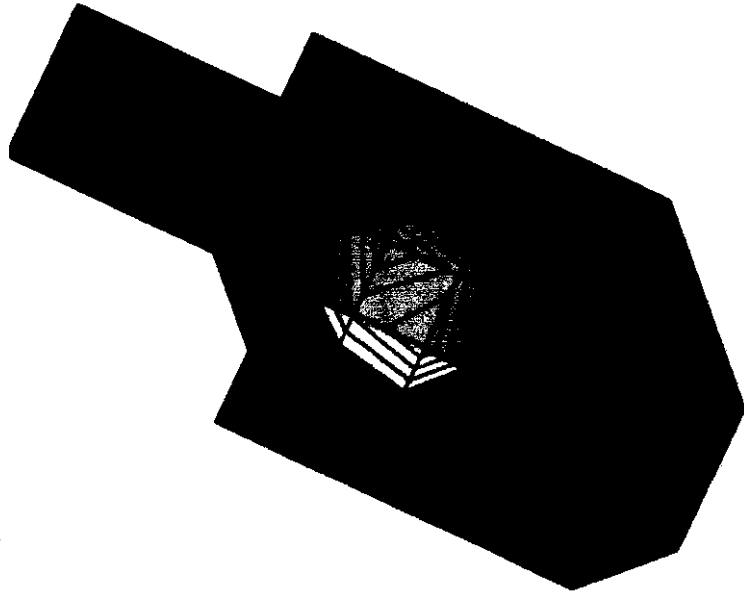
MT253x

Generic Twin Phantom: Left Hand Section; Position: (80°, 65°); Frequency: 1850 [MHz];
Probe: ET3DV5 - SN1331; ConvF(4.22,4.22,4.22); Crest factor: 3.0;
 $\sigma = 1.73$ [mho/m] $\epsilon_r = 38.9$ $\rho = 1.00$ [g/cm³]; Cube 5x5x7;
SAR (1g): 0.926 [mW/g], SAR (10g): 0.547 [mW/g] * Max outside, (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0

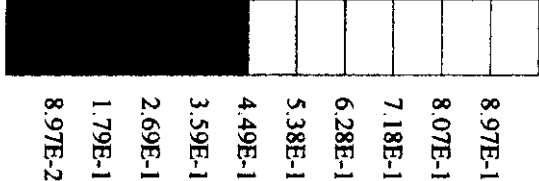


MT253x

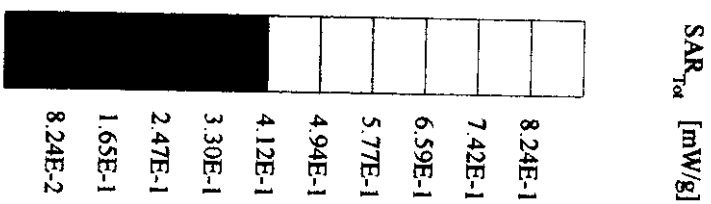
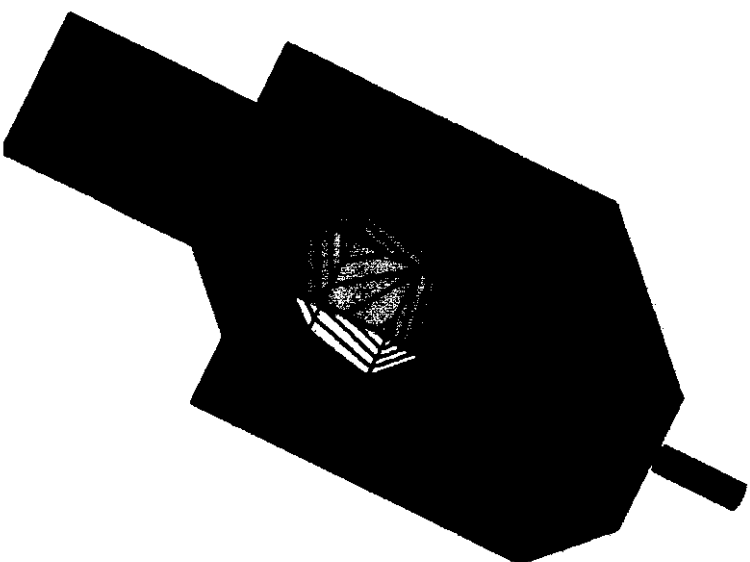
Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 1850 [MHz];
Probe: ET3DV5 - SN1331; ConvF(4.22,4.22,4.22); Crest factor: 3.0;
 $\sigma = 1.73$ [mho/m] $\epsilon_r = 38.9$ $\rho = 1.00$ [g/cm³]; Cube 5x5x7;
SAR (1g): 0.967 [mW/g], SAR (10g): 0.547 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0



SAR_{1g} [mW/g]

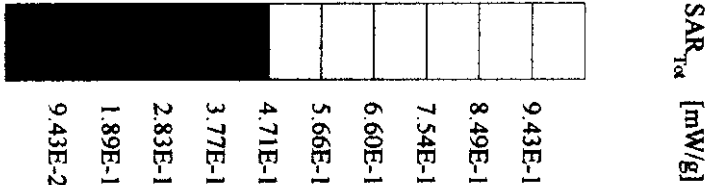
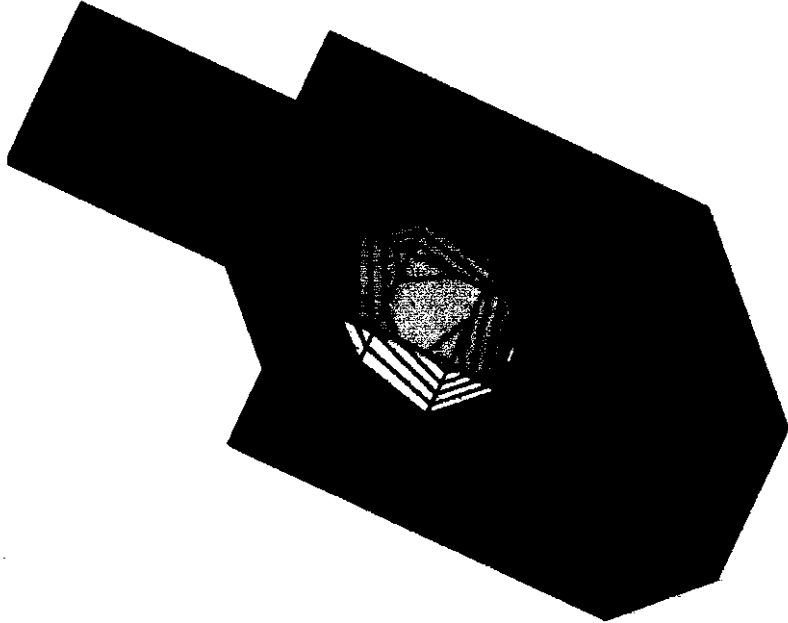


MT253x
Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 1880 [MHz];
Probe: ET3DV5 - SN1331; ConvF(4.22, 4.22, 4.22); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.900 [mW/g], SAR (10g): 0.506 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0



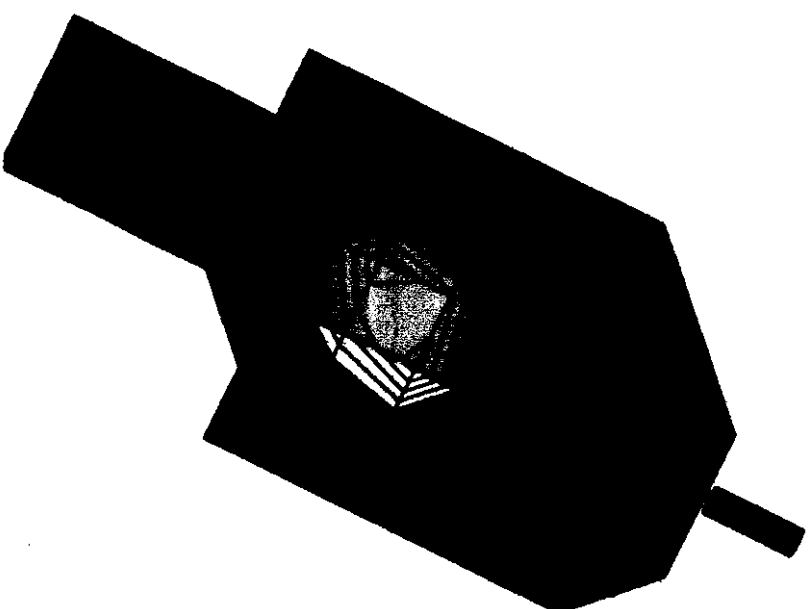
MT253X

Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 1880 [MHz];
Probe: ET3DV5 - SN1331; ConvF(4.22, 4.22, 4.22); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 1.07 [mW/g], SAR (10g): 0.595 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0

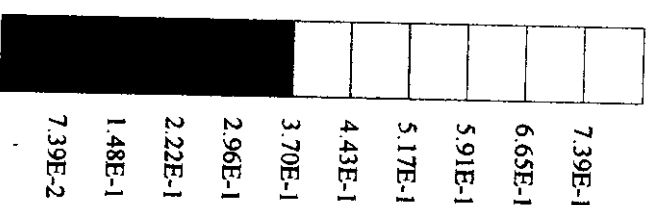


MT253X

Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 1910 [MHz];
Probe: ET3DV5 - SN1331; ConvF(4.22, 4.22, 4.22); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.848 [mW/g], SAR (10g): 0.467 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0

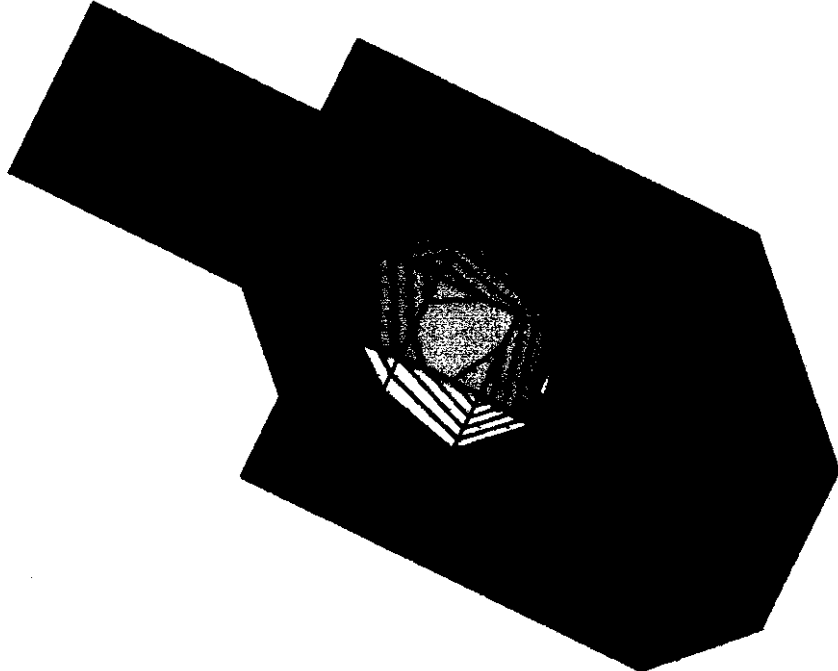


SAR_{Tot} [mW/g]

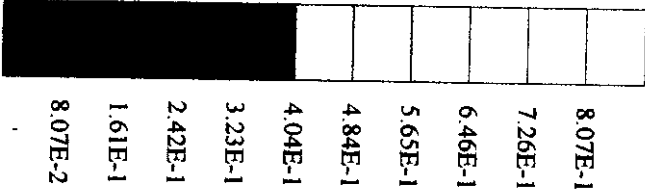


MT253x

Generic Twin Phantom; Left Hand Section; Position: (80°, 65°); Frequency: 1910 [MHz];
Probe: ET3DV5 - SN1331; ConvF(4.22, 4.22, 4.22); Crest factor: 3.0; Cube 5x5x7:
SAR (1g): 0.919 [mW/g], SAR (10g): 0.507 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0

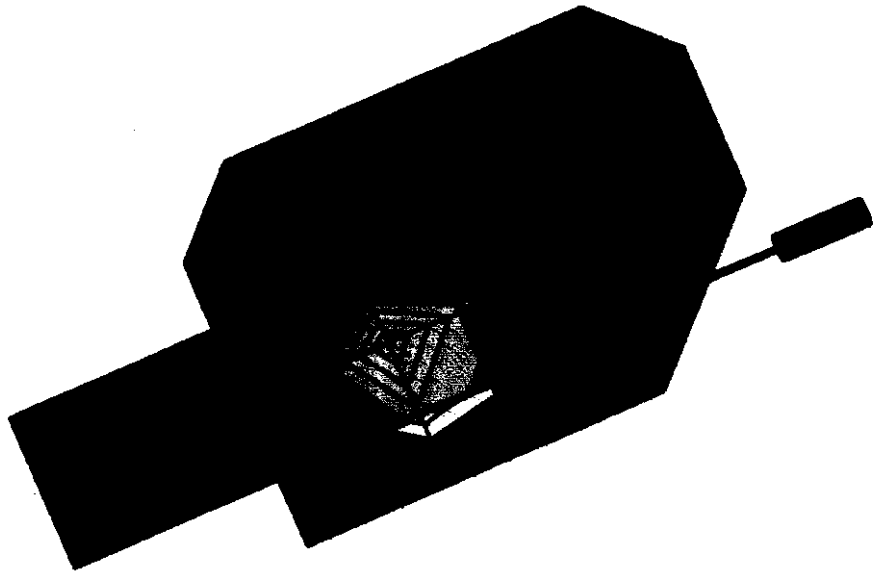


SAR_{tot} [mW/g]

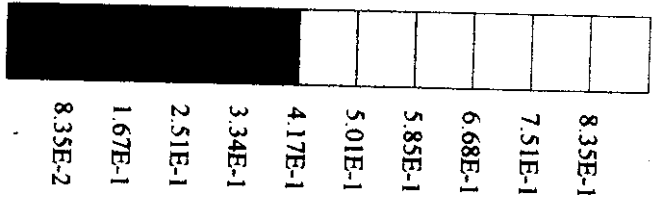


MT253x

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 1850 [MHz];
Probe: ET3DV5 - SN1331; ConvF(4.22, 4.22, 4.22); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.799 [mW/g], SAR (10g): 0.452 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0

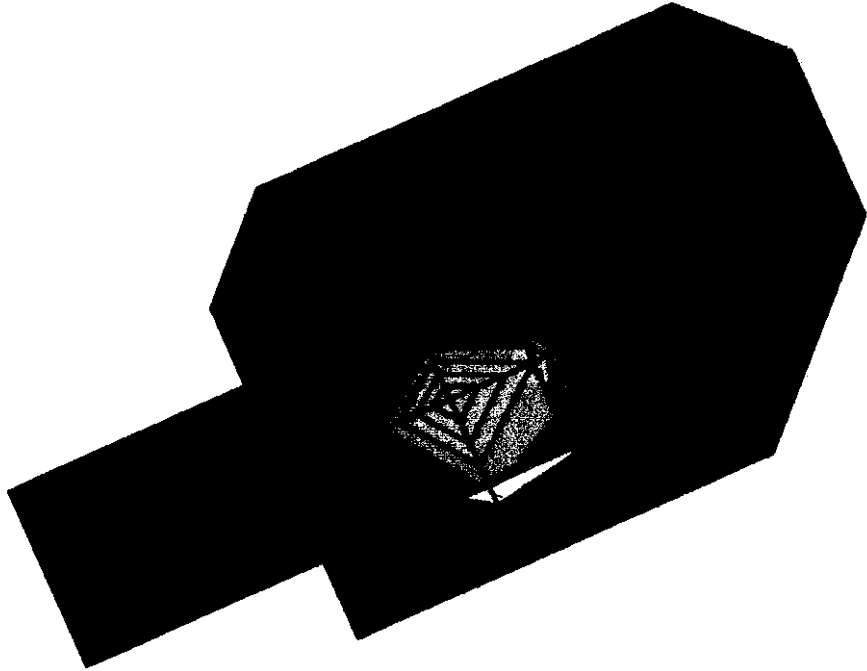


SAR_{Tot} [mW/g]

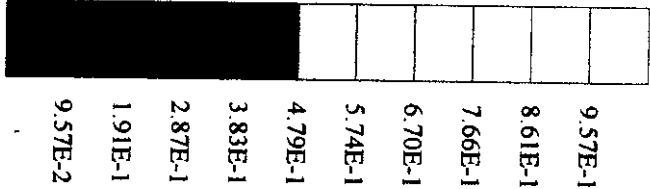


MT253x

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 1850 [MHz];
Probe: ET3DV3 - SN1331; ConvF(4.22, 4.22, 4.22); Crest factor: 3.0; Cube 5x5x7:
SAR (1g): 0.924 [mW/g], SAR (10g): 0.527 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0

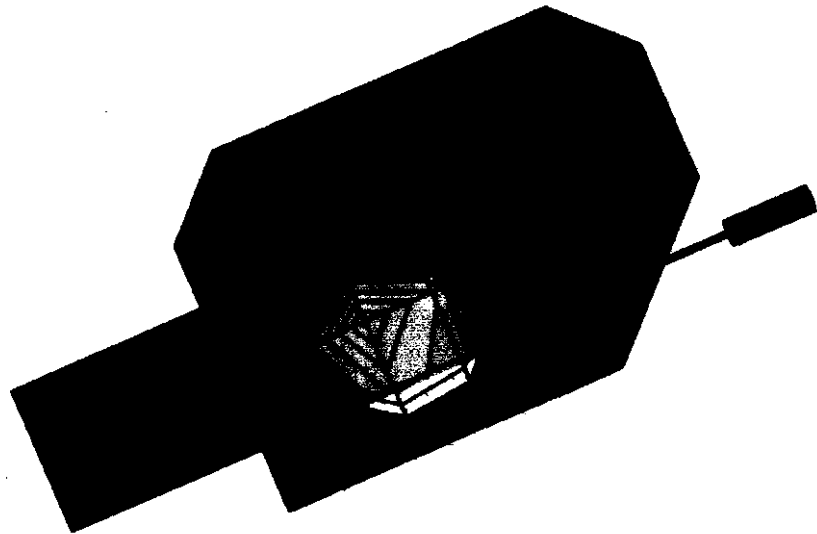


SAR_{Tot} [mW/g]

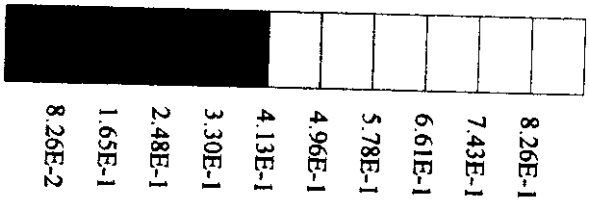


MT253X

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 1880 [MHz];
Probe: ET3DV5 - SN1331; ConvF(4.22, 4.22, 4.22); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.861 [mW/g], SAR (10g): 0.486 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0

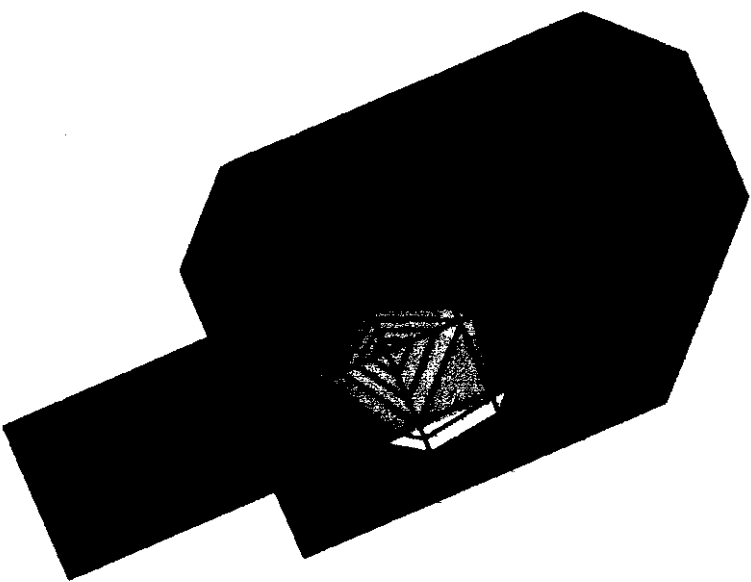


SAR_{Tα} [mW/g]

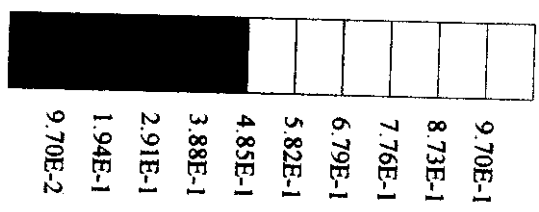


MT253X

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 1880 [MHz];
Probe: ET3DV5 - SN1331; ConvF(4.22, 4.22, 4.22); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.984 [mW/g], SAR (10g): 0.555 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0

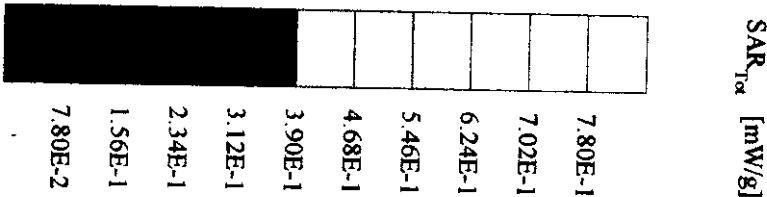
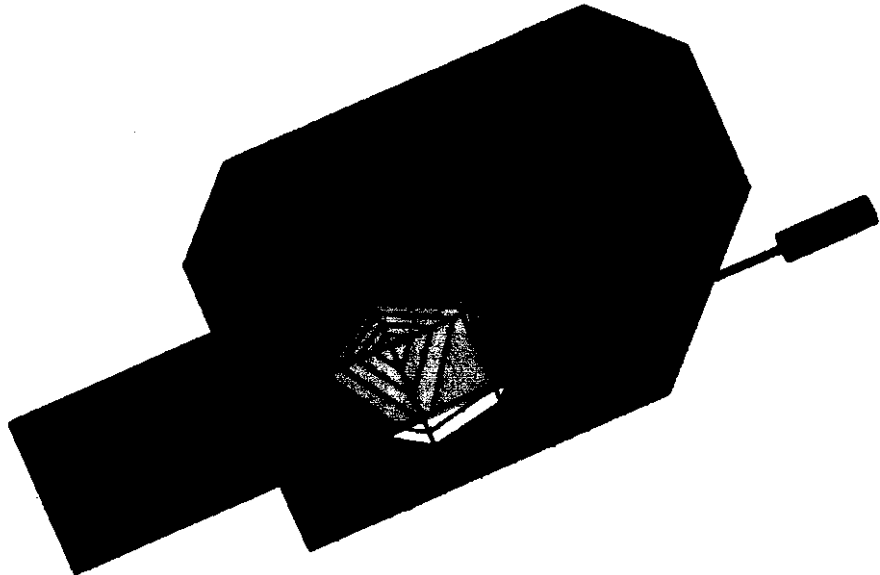


SAR_{1g} [mW/g]



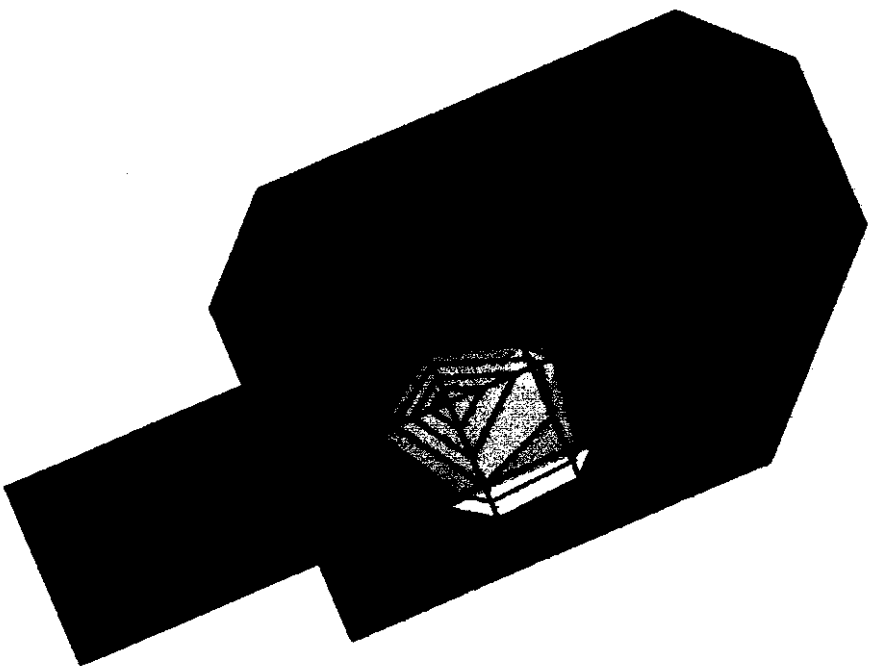
MT253X

Generic Twin Phantom: Right Hand Section; Position: (80°, 65°); Frequency: 1910 [MHz];
Probe: ET3DVS - SN1331; ConvF(4.22, 4.22, 4.22); Crest factor: 3.0; Cube 5x5x7:
SAR (1g): 0.812 [mW/g], SAR (10g): 0.453 [mW/g], (Worst-case extrapolation)
Antenna out: Dx = 20.0, Dy = 20.0, Dz = 10.0



MT253X

Generic Twin Phantom; Right Hand Section; Position: (80°, 65°); Frequency: 1910 [MHz];
Probe: ET3DV5 - SN1331; ConvF(4.22, 4.22, 4.22); Crest factor: 3.0; Cube 5x5x7;
SAR (1g): 0.928 [mW/g], SAR (10g): 0.521 [mW/g], (Worst-case extrapolation)
Antenna In: Dx = 20.0, Dy = 20.0, Dz = 10.0



SAR_{Tot} [mW/g]

