U.S. TECH
A TRADITION IN TESTING SERVICES

May 25, 2004

Mr. Brian W. Jones
RELM Wireless Incorporated
DBA: BK Radio
7100 Technology Drive
West Melbourne, FL 32904

Dear Mr. Jones:

Enclosed please find the test report provided by RELM Wireless Incorporated. For RELM Wireless Incorporated's file copy of the FCC Parts 22, 74, and 90 Certification Report for the Model DPHX51.

RELM Wireless Incorporated should expect to receive a certification grant for this product within the next 8-12 weeks.

If you have any questions, please don't hesitate to call. Thank you for your business.

Sincerely,

Louis A. Feudi
Operations Manager

U.S. TECH
A TRADITION IN TESTING SERVICES

RELM Wireless Incorporated
FCC Parts 22, 74, and 90, Certification Application
Model DPHX51
(Testing provided by RELM Wireless Incorporated)
UST Project No: 04-0043
May 25, 2004

MEASUREMENT/TECHNICAL REPORT

COMPANY NAME: **RELM Wireless Incorporated**

MODEL: **DPHX51**

FCC ID: **K95DPHX51**

DATE: **May 25, 2004**

This report concerns (check one): Original grant_X_
Class II change_____

Equipment type: **__VHF Transceiver__**

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? yes_____ No_X_

If yes, defer until:_____
date

__N.A.__ agrees to notify the Commission by__N.A.___
date
of the intended date of announcement of the product so that the grant can be issued on that date.

Report prepared by:

United States Technologies, Inc.
3505 Francis Circle
Alpharetta, GA 30004

Phone Number: (770) 740-0717
Fax Number: (770) 740-1508

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Measured Data

Measurement
(Last Calibrated Date in Parenthesis)

RF Output Power
Test Method: TIA/EIA-603-A 2.2.1
Equipment Used: HP436A Power Meter (12-10-04), HP8482B Power Sensor(12-22-04)

Audio Frequency Response
Test Method: TIA/EIA-603-A 2.2.6
Equipment Used: HP8901B Modulation Analyzer(12-11-04), HP35670A Signal Analyzer (12-22-04) No filters were used on the modulation analyzer.

Low Pass Filter Response
Test Method: TIA/EIA-603-A 2.2.15
Equipment Used: HP8901B Modulation Analyzer(12-11-04), HP35670A Signal Analyzer(12-22-04)

Occupied Bandwidth /Emission Mask
16K0F3E
11K0F3E
8K10F1D
8K10F1E

Test Method: TIA/EIA-603-A 2.2.11
Equipment Used: HP8560E Spectrum Analyzer(12-19-04)

Modulation Limiting
Test Method: TIA/EIA-603-A 2.2.3
Equipment Used: HP8901B Modulation Analyzer(12-11-04), 33250A Function Gen (9-24-04)

Conducted Spurious Emissions
Test Method: TIA/EIA-603-A 2.2.13
Equipment Used: HP8560E Spectrum Analyzer(12-19-04), 33250A Function Gen (9-24-04)

Frequency Stability
Test Method: TIA/EIA-603-A 2.2.2
Equipment Used: HP8920A RF Communications Test Set(12-15-04)

Transient Frequency Behavior
Test Method: TIA/EIA-603-A 2.2.19.3 Equipment Used: HP 8920A Communications Test Set(12-15-04), Tek TDS3034B Scope(12-3-04),
Rohde&Schwarz SME02 Signal generator(12-13-04)
This test method doesn't specify what power level to trigger on. We triggered at

approximately 50% power**.**

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SECTION 2

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LABELING INFORMATION

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1.1 Product Description
1.2 Related Submittal(s)/Grant(s)

Provided By United States Technologies, Inc. iin separate document (04-0043.Relm USTTests.PDF)

SECTION 2

TESTS AND MEASUREMENTS

2.1 Configuration of Tested System
2.2 Test Facility
2.3 Test Equipment
2.4 Modifications
2.5 Antenna Description

Provided By United States Technologies, Inc. iin separate document (04-0043.Relm USTTests.PDF)

2.6 RF Power Output (FCC Section 2.1046)

Information regarding this requirement has been supplied by RELM Wireless Incorporated. The EUT was directly connected to an HP 8901A Modulation Analyzer (Cal Due 04/11/02). The measured results are shown in Table 3 and Figure 3.

FCC Minimum Standard

FCC Part 22
<150 Watts

FCC Part 74.461
Power delivered to antenna must be < 100 Watts

FCC Part 90.205
Power dependent upon station's antenna HAAT and required service area and may be from 1 to 500 Watts.

TABLE 3
RF POWER OUTPUT

Test Date: **March 23, 2004**
UST Project: **04-0043**
Customer: **RELM Wireless Incorporated**
Model: **DPHX51**

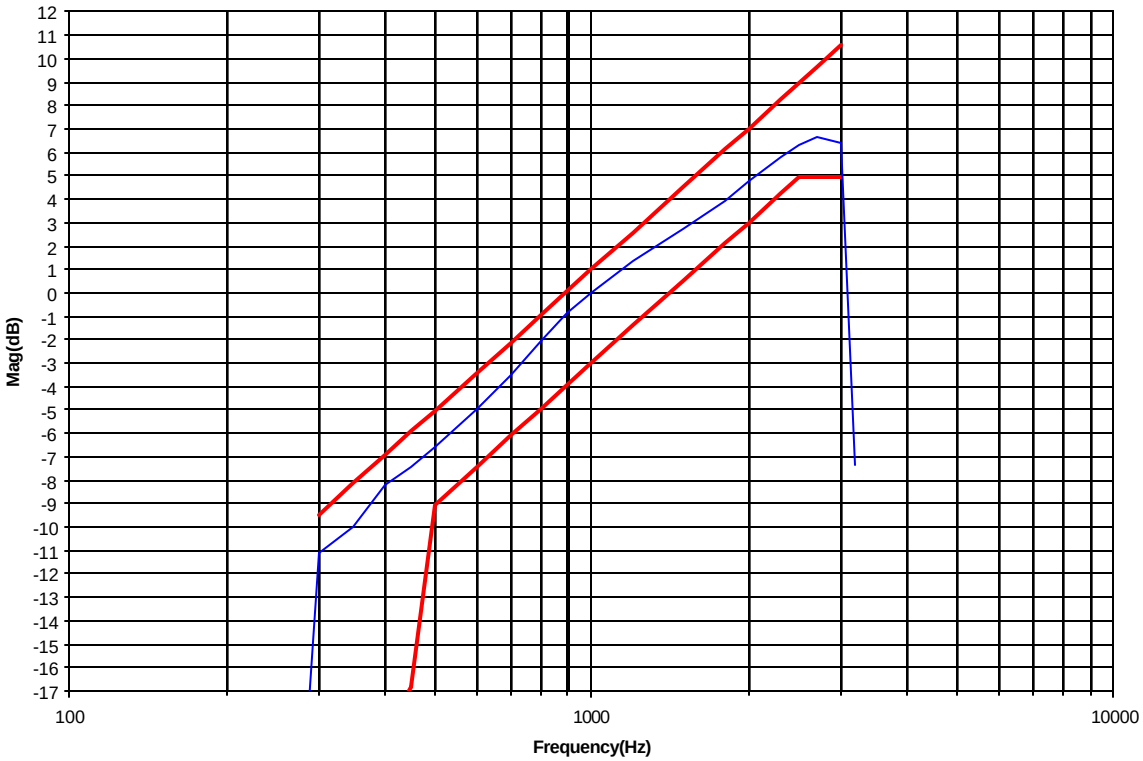
Frequency	Power	Voltage	Current
136.0	6.15W	10.0V	1.40A
155.0	6.05W	10.0V	1.28A
174.0	6.05W	10.0V	1.41A

Note: The power output may depend upon the intended use of the EUT. For all tests, the EUT was set to near maximum conditions. The EUT requires a FCC license and is programmed for use by local RELM Radio Dealers.

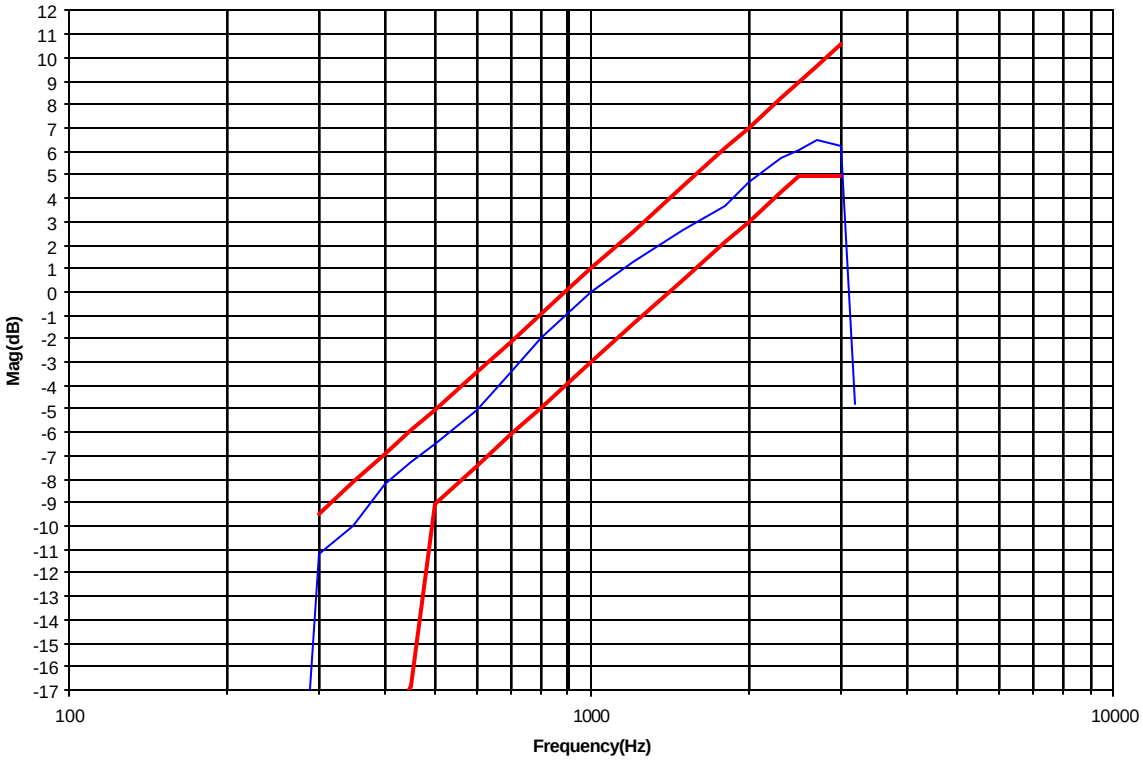
Test Results Reviewed By
Signature: _____ **Name:** **Louis A. Feudi**

Audio Frequency Response

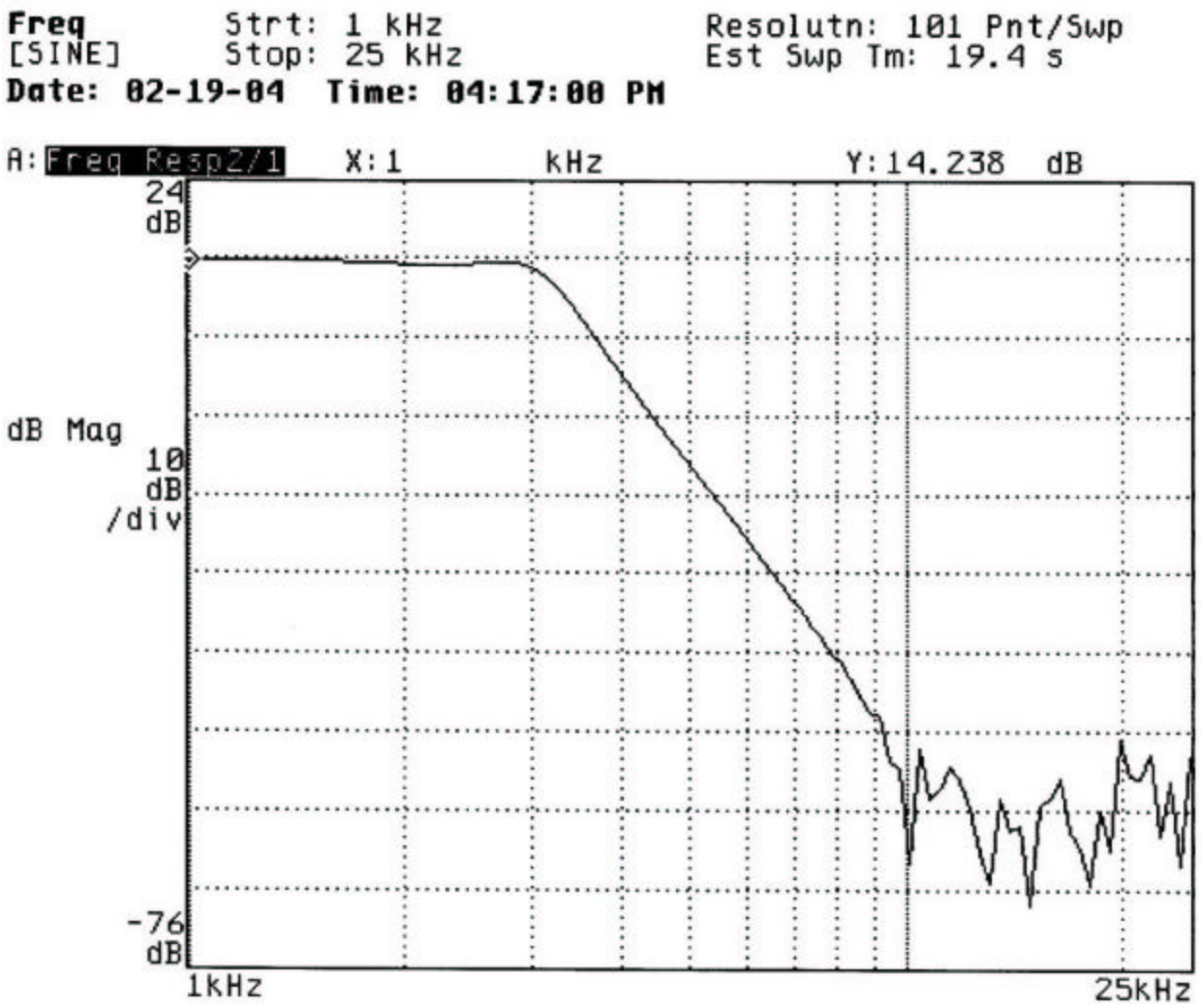
25KHz TX Audio Response 155.1MHz



12.5KHz TX Audio Response 155.1MHz



Low Pass Filter Response



2.7 Modulation Characteristics (FCC Section 2.1047)

Where applicable, the modulation characteristics of the EUT have been supplied by RELM Wireless Incorporated as stipulated by the following FCC requirements:

a) Equipment which utilizes voice modulated communication shall show the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz. For equipment which is required to have a low pass filter, the frequency response of the filter, or all of the circuitry installed between the modulation limited and the modulated stage shall be supplied.

b) Equipment which employs modulation limiting, a curve showing the percentage of modulation versus the modulation input voltage shall be supplied.

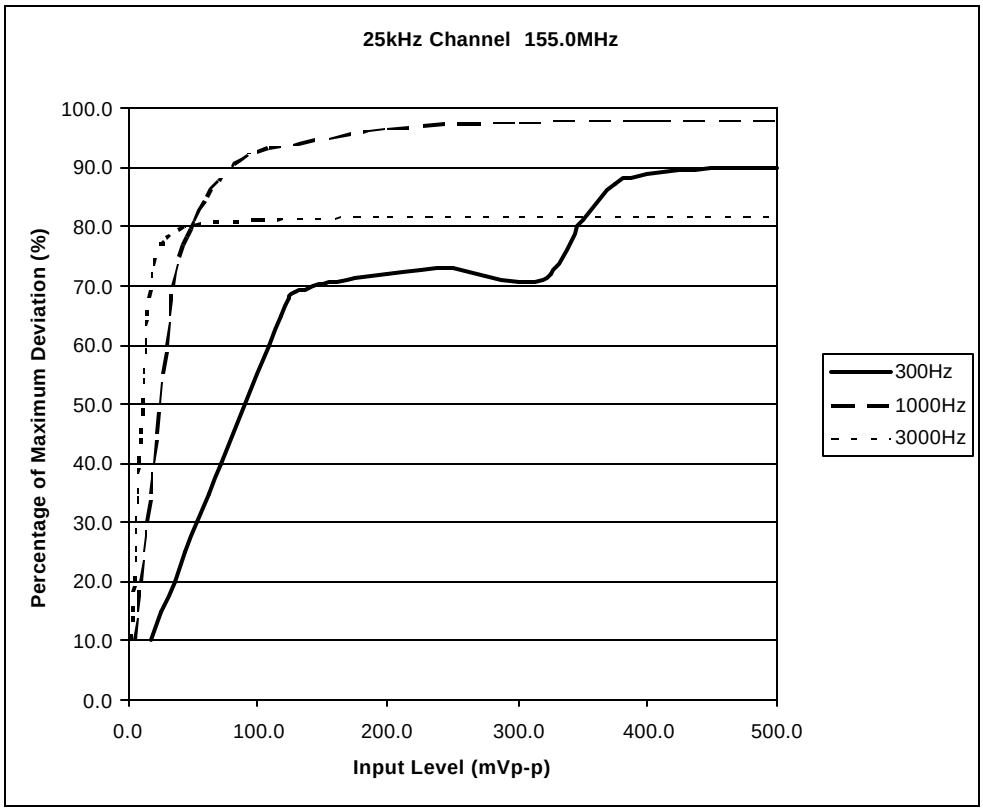
FCC Minimum Standard

FCC Part 22
None

FCC Part 74.463
Each new remote pickup broadcast station with a power output in excess of 3 watts shall be equipment with a device which will automatically prevent modulation in excess of the limits. If frequency modulation is employed, the emissions shall conform to the emission requirements of 74.462.

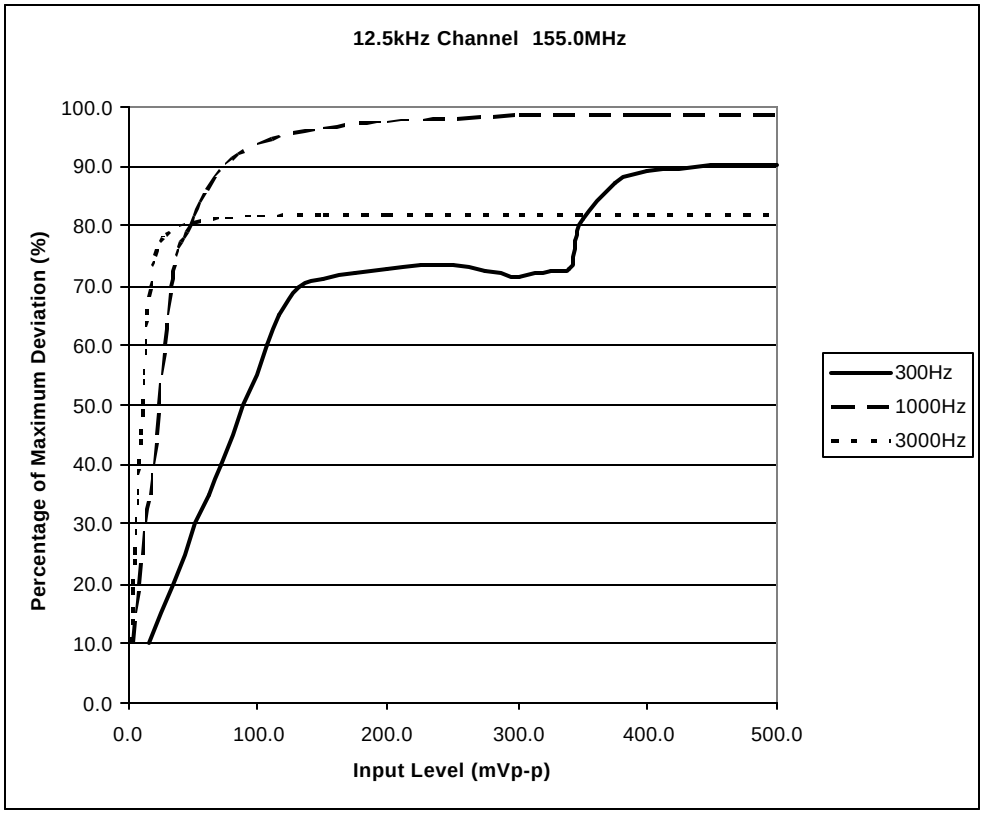
FCC Part 90.205
Transmitters utilizing analog emissions that are equipped with an audio low-pass filter must meet the emission limitations must meet proper emissions mask of 90.210.

Figure 3a.
Modulation Characteristics



Test Method: TIA/EIA-603-A 2.2.3
Equipment Used: HP8901B Modulation Analyzer(12-11-04), 33250A Function Gen (9-24-04)

Figure 3b.
Modulation Characteristics



Test Method: TIA/EIA-603-A 2.2.3
Equipment Used: HP8901B Modulation Analyzer(12-11-04), 33250A Function Gen (9-24-04)

2.8 Occupied Bandwidth (FCC Section 2.1049)

EUT was modulated by a 2500 Hz signal. The bandwidth of the fundamental was measured by RELM Wireless Incorporated using a spectrum analyzer, as shown in Figure 4a through Figure 4b.

FCC Minimum Standard

FCC Part 22.359, 74.462, and 90.210 (25 kHz bandwidth only)
For any frequency removed from the center of the assigned channel by more than 50 percent up to and including 100 percent of the authorized bandwidth, at least 25 dB.

On any frequency removed from the center of the assigned channel by more than 100 percent up to and including 250 percent, at least 35 dB.

On any frequency removed from the center of the assigned channel by more than 250 percent at least:

Low: $43 + 10 \log (P_{Watts}) = 43 + 10 \log (6.15) = 50.9$ dB
Middle: $43 + 10 \log (P_{Watts}) = 43 + 10 \log (6.05) = 50.8$ dB
High: $43 + 10 \log (P_{Watts}) = 43 + 10 \log (6.05) = 50.8$ dB

The resolution bandwidth was 300 Hz or greater for measuring up to 250 kHz from the edge of the authorized frequency segment, and 30 kHz or greater for measuring more than 250 kHz from the authorized frequency segment.

FCC Part 90.210 (12.5 kHz Bandwidth only)
For any frequency removed from the center of the authorized bandwidth f_0 to 5.625 kHz removed from f_0, 0 dB.

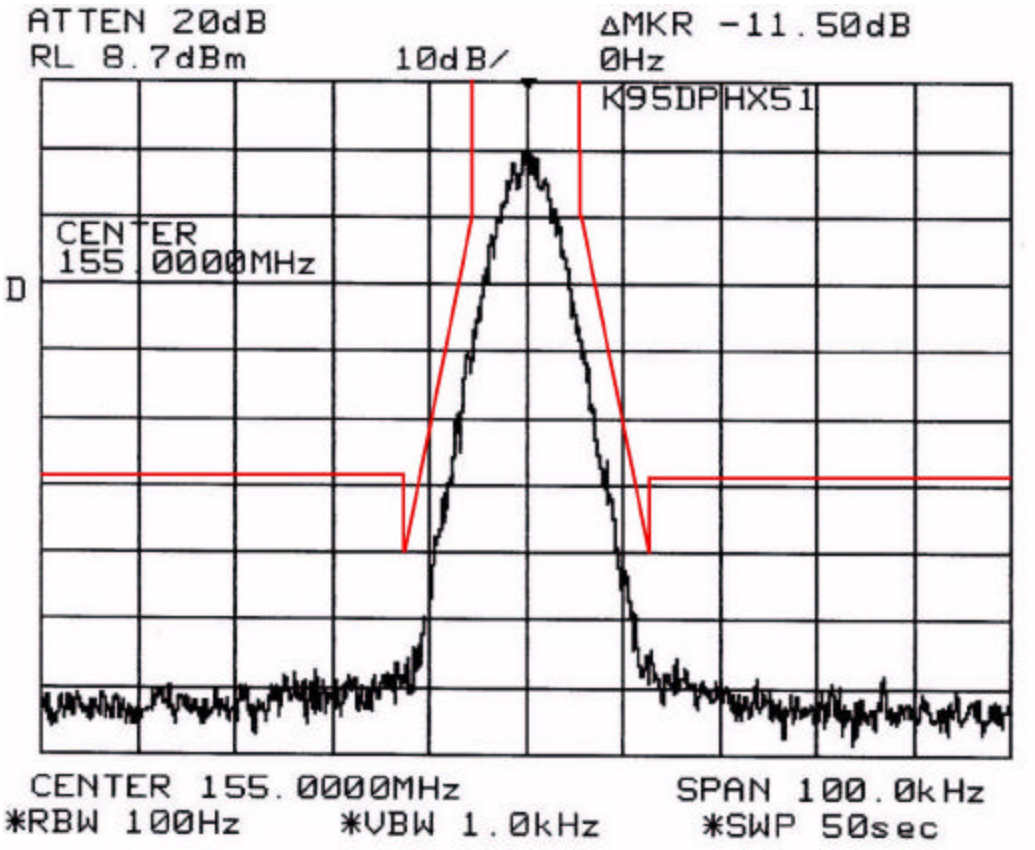
On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5.626 kHz but no more than 12.5 kHz, at least 7.27 (f_d - 2.88 kHz) dB.

On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 12.5 kHz at least:

Low: $50 + 10 \log (P_{Watts}) = 50 + 10 \log (6.15) = 57.9$ dB
Middle: $50 + 10 \log (P_{Watts}) = 50 + 10 \log (6.05) = 57.8$ dB
High: $50 + 10 \log (P_{Watts}) = 50 + 10 \log (6.05) = 57.8$ dB

Figure 4a.
Occupied Bandwidth

Occupied Bandwidth Digital Voice 8K10F1D Mask D

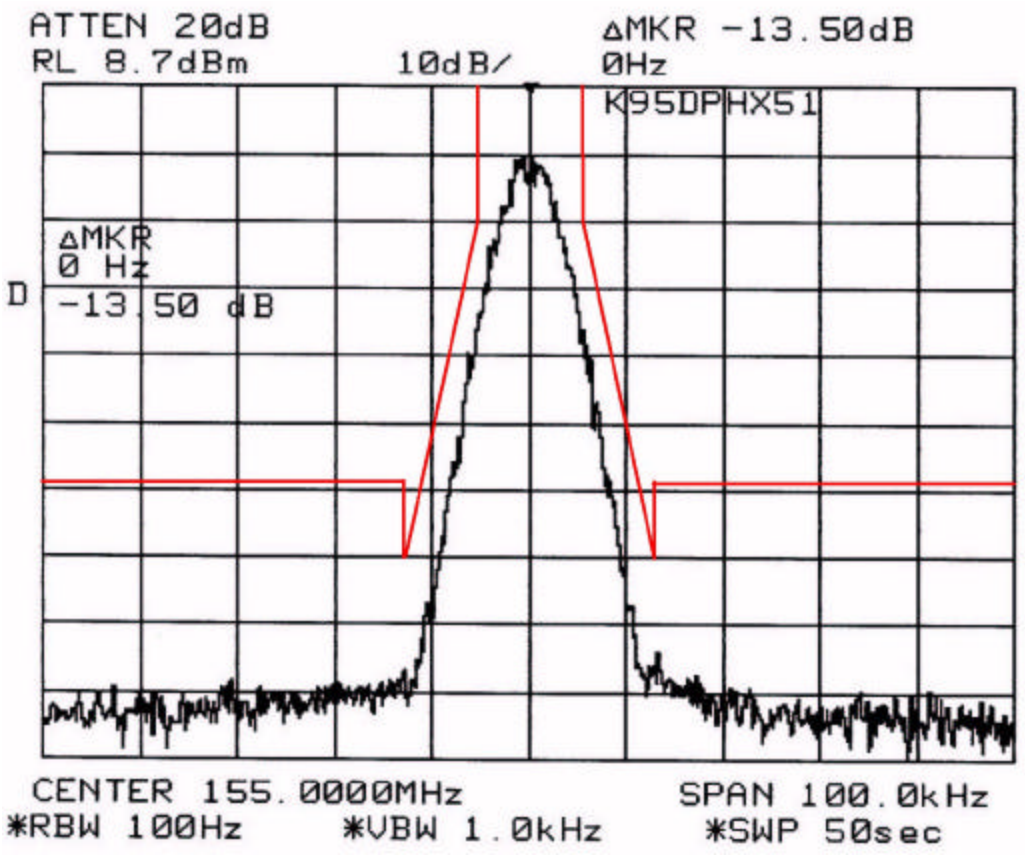


Occupied Bandwidth /Emission Mask
16K0F3E
11K0F3E
8K10F1D
8K10F1E

Test Method: TIA/EIA-603-A 2.2.11
Equipment Used: HP8560E Spectrum Analyzer(12-19-04)
.

Figure 4b.
Occupied Bandwidth

Occupied Bandwidth Digital Data 8K10F1E Mask D



Occupied Bandwidth /Emission Mask
16K0F3E
11K0F3E
8K10F1D
8K10F1E

Test Method: TIA/EIA-603-A 2.2.11
Equipment Used: HP8560E Spectrum Analyzer(12-19-04)

Figure 4c.
Occupied Bandwidth

Occupied Bandwidth Analog Voice 16K0F3E Mask B

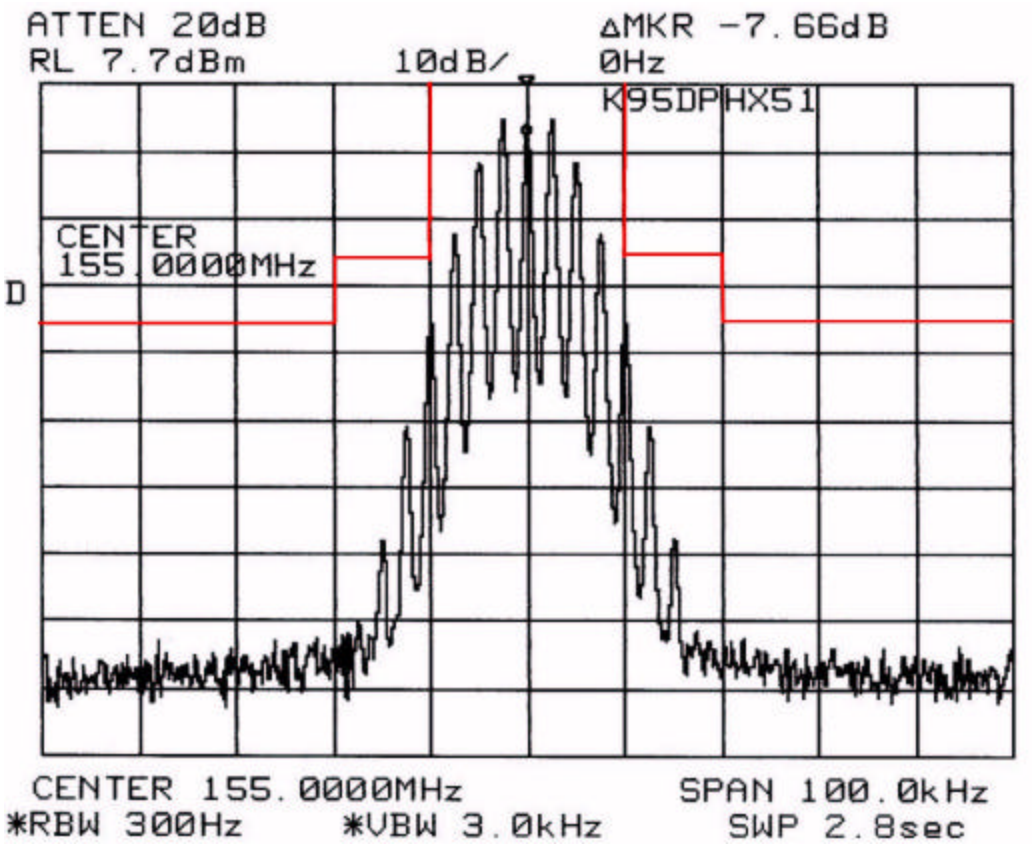
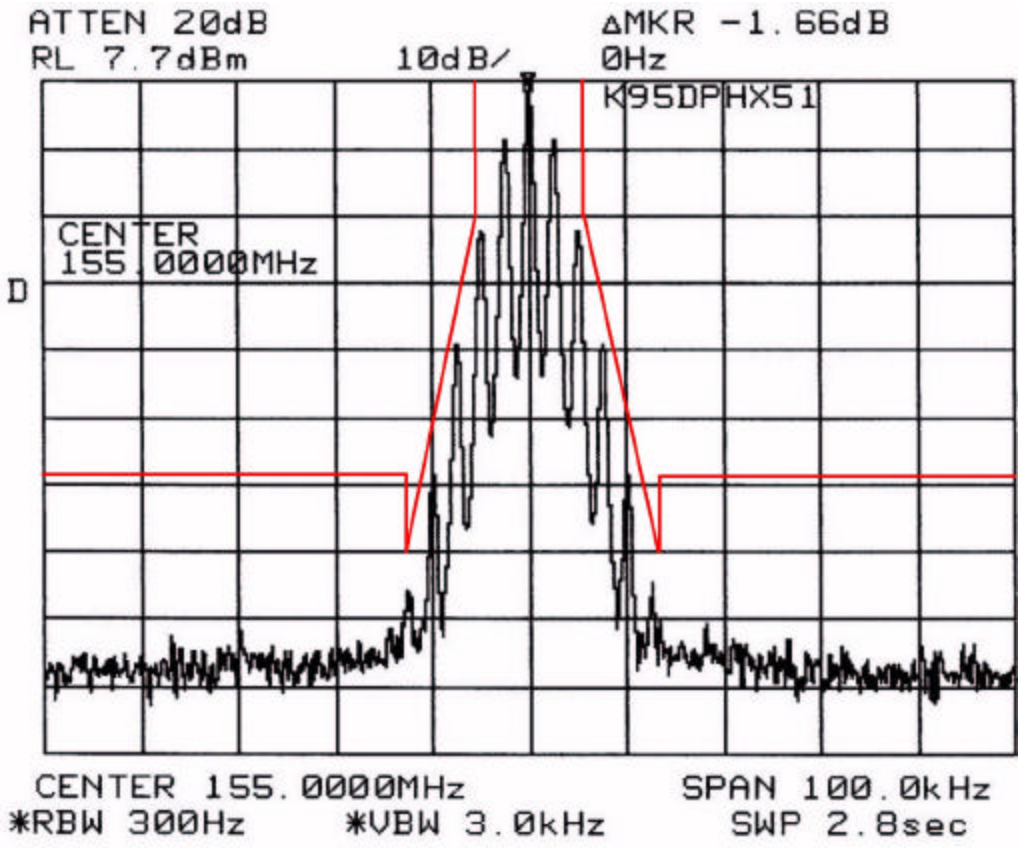


Figure 4d.
Occupied Bandwidth

Occupied Bandwidth Analog Voice 11K0F3E Mask D



2.9 Spurious Emissions at Antenna Terminals (FCC Section 2.1051)
2.10 Field Strength of Spurious Radiation (FCC Section 2.1053)

Provided By United States Technologies, Inc. iin separate document (04-0043.Relm USTTests.PDF)

2.11 Frequency Stability (FCC Section 2.1055)

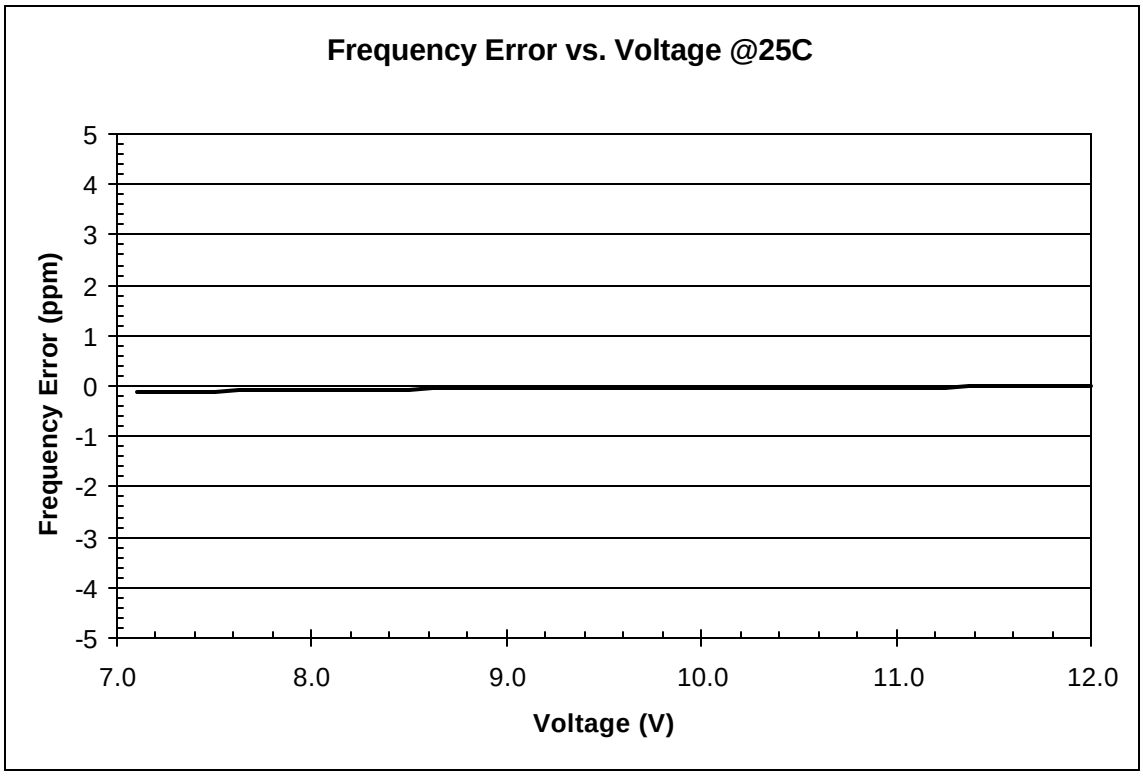
Information regarding this requirement has been supplied by RELM Wireless Incorporated. The frequency tolerance of the carrier signal was measured while ambient temperature was varied from -30 to 50 degrees centigrade. The frequency tolerance was verified at 10 degree increments. The EUT was tested while powered from 9.6 VDC. Additionally, the supply voltage was varied from 85% to 115% of the nominal value (except for hand carried, battery powered equipment which was additionally measured at battery endpoint). The data is shown in the following tables and figures.

FCC Minimum Standard

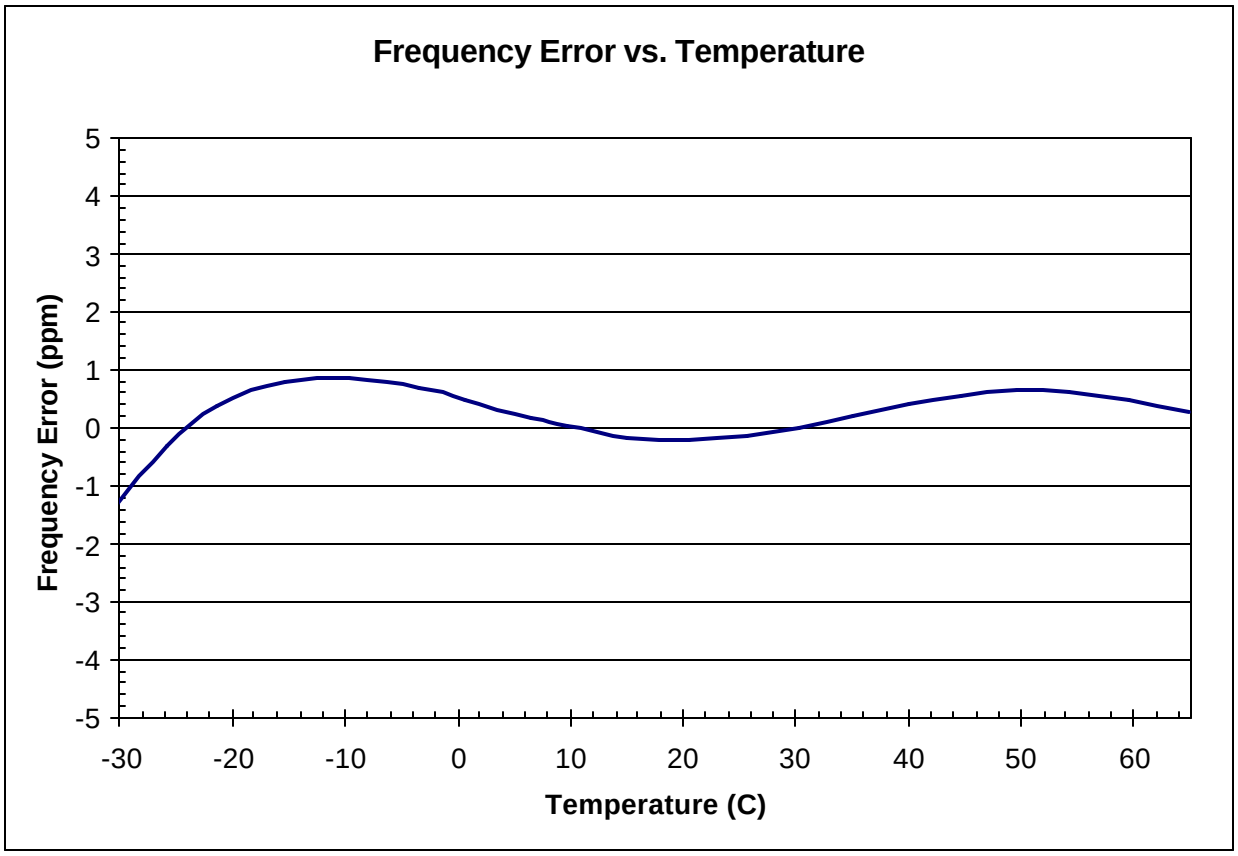
FCC Part 22.355
5.0 ppm for Mobile > 3 Watts, 50 ppm for ≤ 3 Watts

FCC Part 74.464
0.0005% (5 ppm) for > 3 Watts, 0.005% (50 ppm) for ≤ 3 Watts

FCC Part 90.213
5.0 ppm for > 2 Watts



Test Method: TIA/EIA-603-A 2.2.2
Equipment Used: HP8920A RF Communications Test Set(12-15-04)



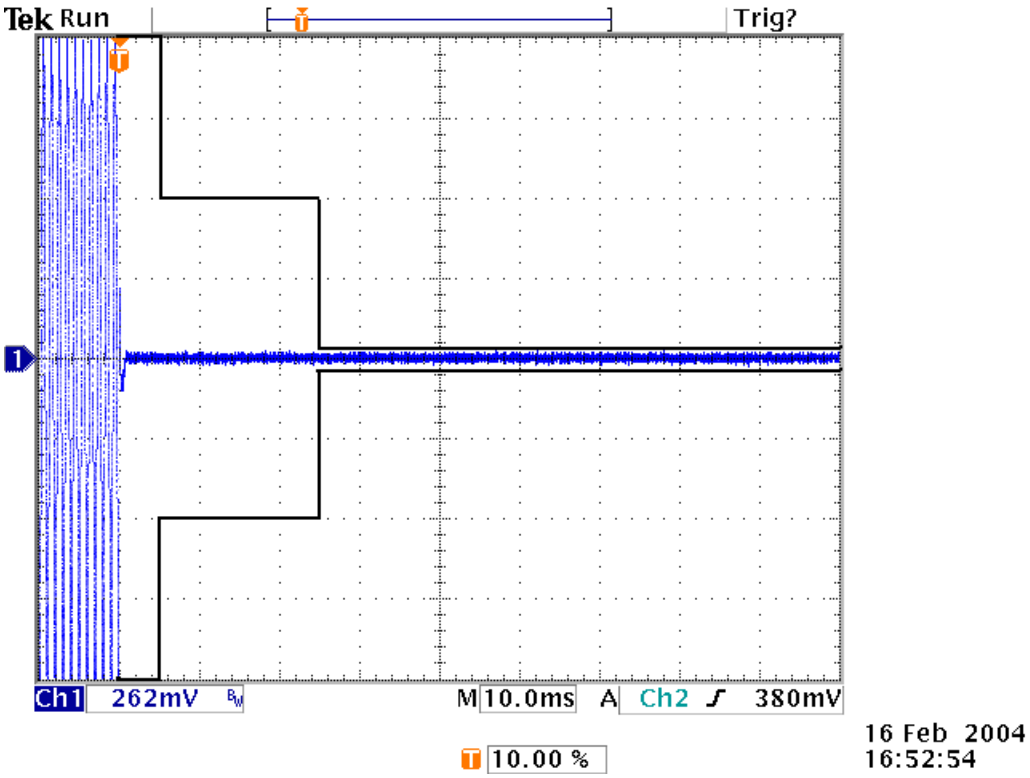
Test Method: TIA/EIA-603-A 2.2.2
Equipment Used: HP8920A RF Communications Test Set(12-15-04)

2.12 Transient Frequency Behavior (FCC Section 90.214)

Information regarding this requirement has been supplied by RELM Wireless Incorporated. Plots are provided in the following figures.

Transmitter Transient Frequency Behavior

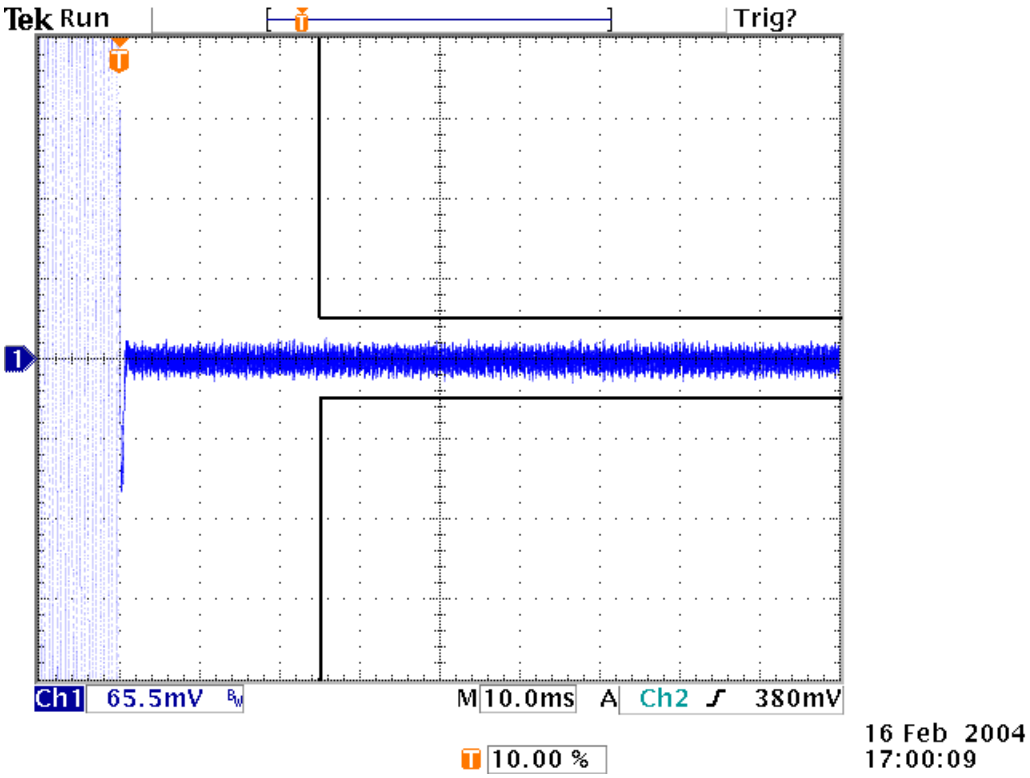
25Khz Channel 155.0MHz TX ON



Test Method: TIA/EIA-603-A 2.2.19
Equipment Used: HP 8920A Communications Test Set(12-15-04), Tek TDS3034B Scope(12-3-04),
Rhode & Schwarz SME02 Signal generator(12-13-04)

Transmitter Transient Frequency Behavior

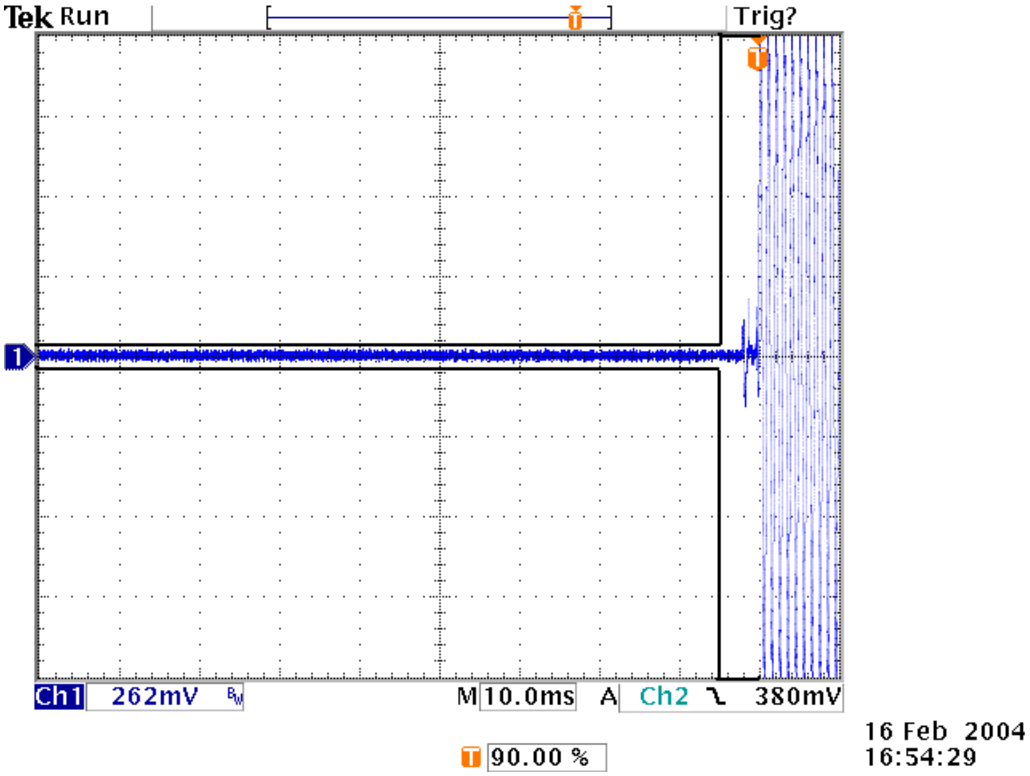
25KHz Channel 155.0MHz TX ON ZOOMED



Test Method: TIA/EIA-603-A 2.2.19
Equipment Used: HP 8920A Communications Test Set(12-15-04), Tek TDS3034B Scope(12-3-04),
Rhode & Schwarz SME02 Signal generator(12-13-04)

Transmitter Transient Frequency Behavior

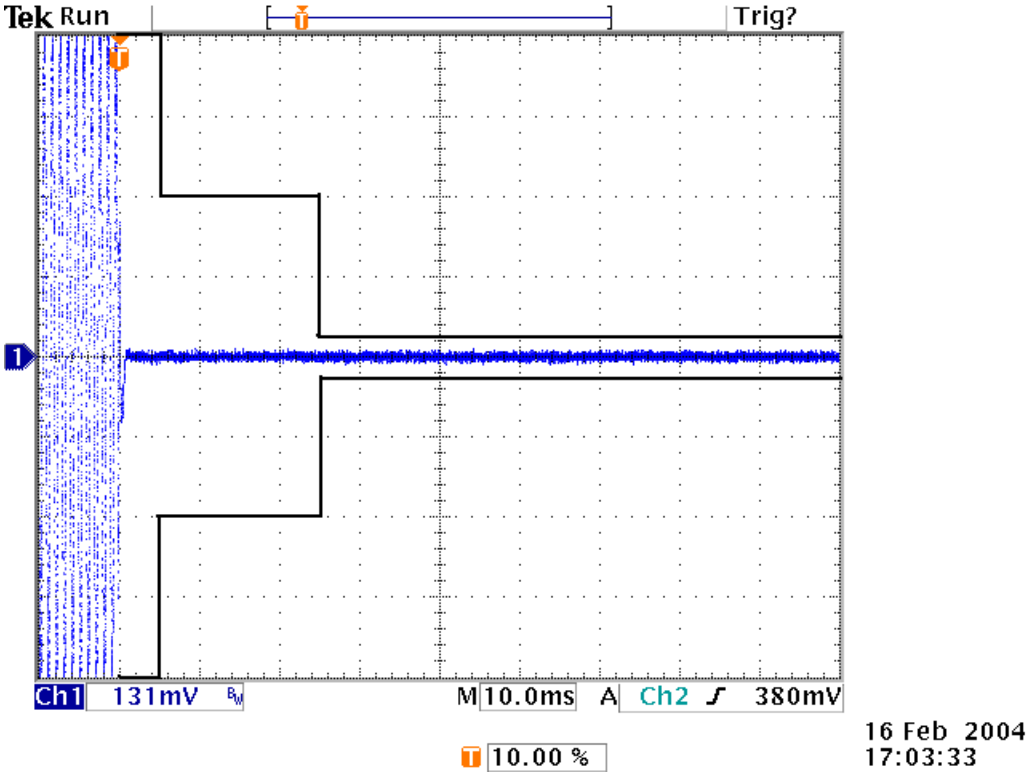
25Khz Channel 155.0MHz TX OFF



Test Method: TIA/EIA-603-A 2.2.19
Equipment Used: HP 8920A Communications Test Set(12-15-04), Tek TDS3034B Scope(12-3-04),
Rhode & Schwarz SME02 Signal generator(12-13-04)

Transmitter Transient Frequency Behavior

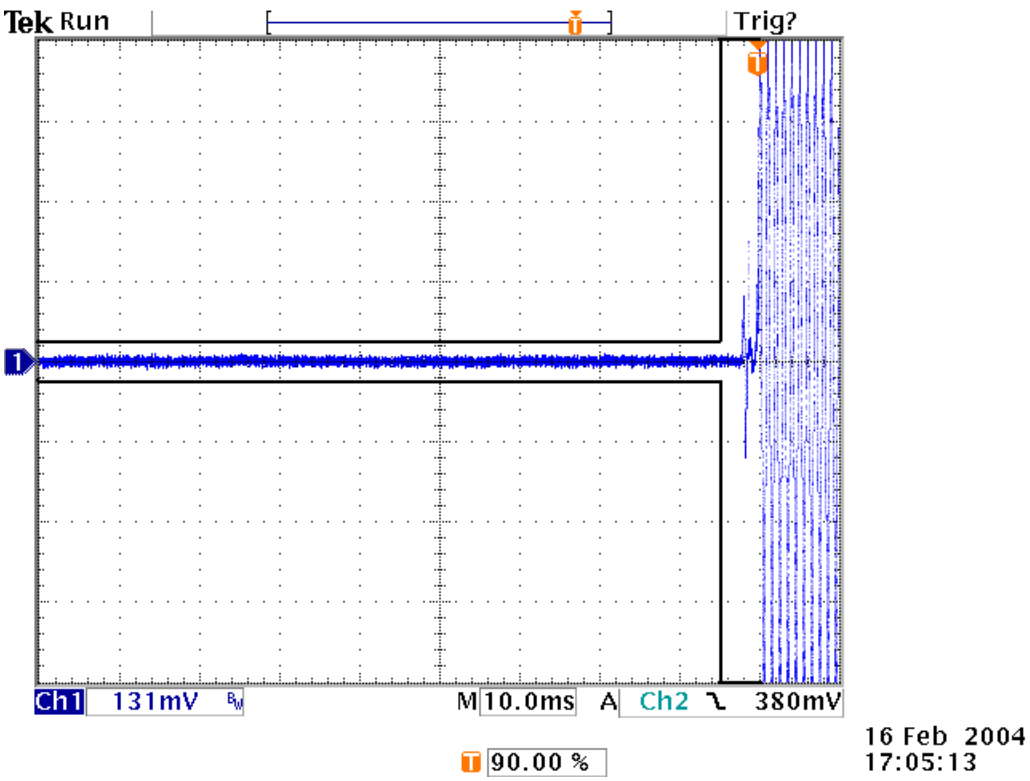
12.5Khz Channel 155.0MHz TX ON



Test Method: TIA/EIA-603-A 2.2.19
Equipment Used: HP 8920A Communications Test Set(12-15-04), Tek TDS3034B Scope(12-3-04),
Rhode & Schwarz SME02 Signal generator(12-13-04)

Transmitter Transient Frequency Behavior

12.5Khz Channel 155.0MHz TX OFF



Test Method: TIA/EIA-603-A 2.2.19
Equipment Used: HP 8920A Communications Test Set(12-15-04), Tek TDS3034B Scope(12-3-04),
Rhode & Schwarz SME02 Signgenerator(12-