

REPORT NUMBER 1985-A Supplement

JUNE 2004

RADIO PERFORMANCE MEASUREMENTS

On the TMAB12-D100 Mobile Transceiver

FCC ID: CASTMAD1A

SN: 19005533

In accordance with

FCC 47 CFR Part 90 Subpart-T

PREPARED BY:

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REPORT ON :

Type Approval Testing of the TMAB12-D100 (Serial No 19005533)
in accordance with:

FCC CFR 47 Part 90 Subpart-T

Report No 1985-A Supplement

FCC ID: CASTMAD1A

PREPARED FOR :

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APPROVED :

S. A. Crompton

Compliance Laboratory Manager

Date :

All tests reported herein have been performed in accordance with the
laboratory's scope of accreditation

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DECLARATION OF CONFORMITY

We, TELTEST LABORATORIES of 558 Wairakei Road, Christchurch New Zealand, declare under our sole responsibility that the product:

Equipment: Mobile Transceiver
Type: TMAD1A
Product code: TMAB12-D100
Serial Numbers: 19005533
Quantity: 1

To which this declaration relates is in conformity with the following standards:

FCC CFR 47 Part 90 Subpart-T

Signature: _____

S. A. Crompton
Compliance Laboratory Manager.

Date: _____

Test Results

OCCUPIED BANDWIDTH

TEST CONDITIONS: Ambient Temperature 22.5 °C
 Relative Humidity 48 %
 Standard Voltage 13.8 V DC

SPECIFICATION: FCC 47 CFR 90.733 (e)

GUIDE: TIA/EIA-603 2.2.11

MEASUREMENT PROCEDURE:

1. The Equipment Under Test was set up as shown in the following diagram.
2. For analogue measurements: The EUT was modulated by a 2500Hz tone at an input level 16dB above a level that produced 50% deviation. The input level was established at the frequency of maximum response of the audio modulating circuit .
For Data measurements: The EUT was modulated with an internally generated pseudorandom bit sequence at the appropriate Baud rates.
3. The Occupied Bandwidth was measured on the Spectrum Analyser with the controls set as shown on the following plots.

MEASUREMENT RESULTS:

See the plots on the following pages for 12.5 kHz channel spacing.

LIMIT CLAUSE: FCC 47 CFR 90.210 (f)

EMISSION MASKS

Emission Mask F modified 12.5 kHz Channel Spacing Analog; FFSK; THSD

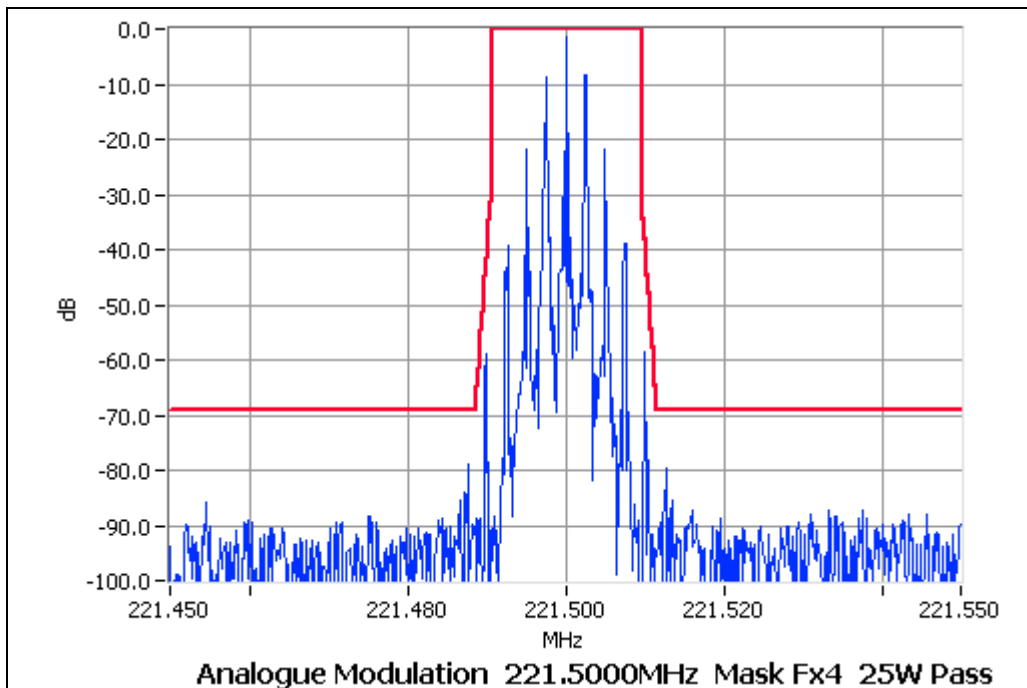
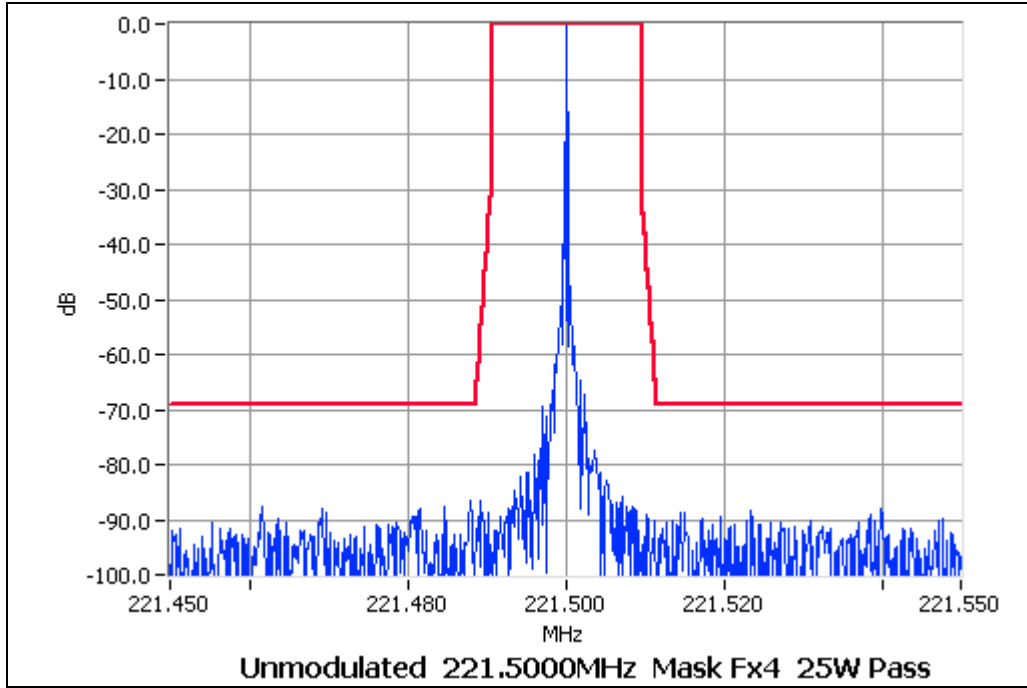
DATA SPEED

FFSK 1200 bps 12.5 kHz Channel Spacing

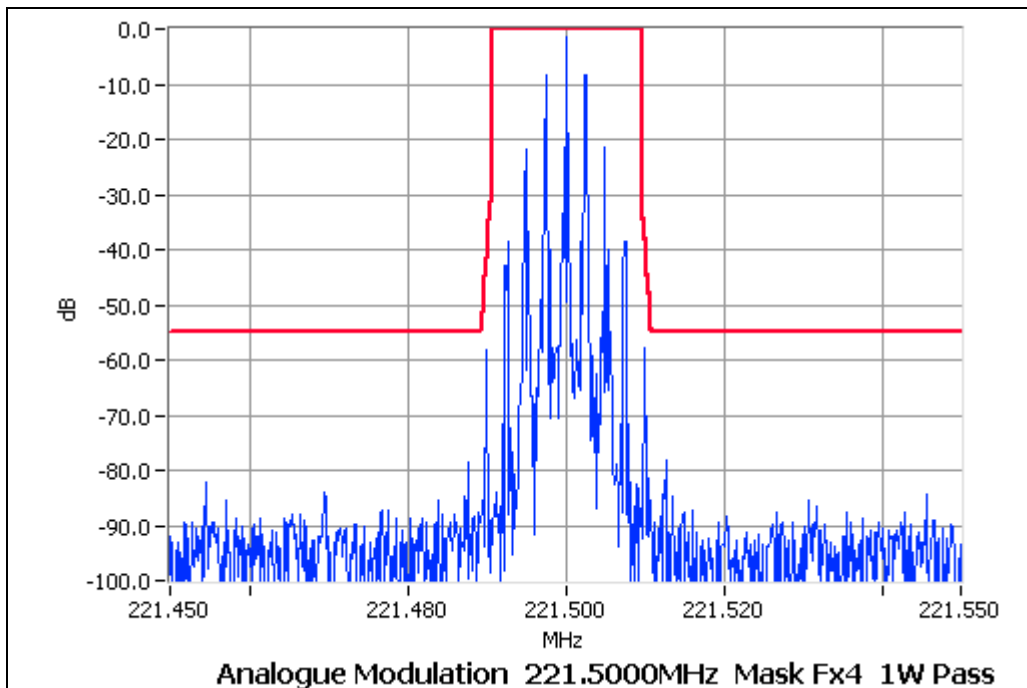
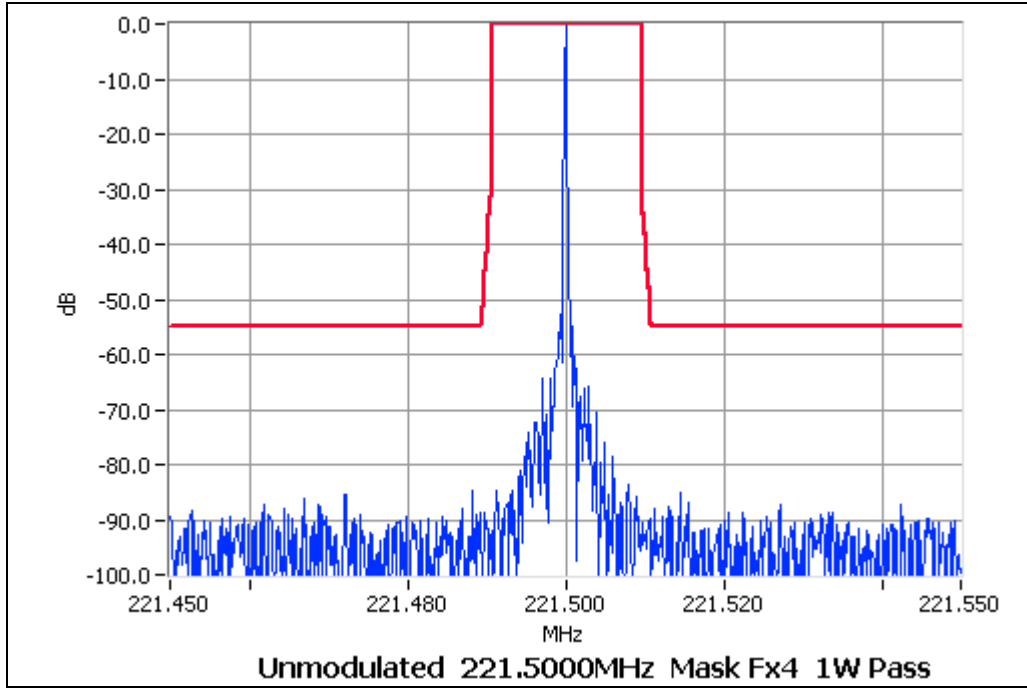
THSD 12000 bps 12.5 kHz Channel Spacing

(FFSK is Fast Frequency Shift Keying; THSD is Tait High Speed Data – CP4GFSK)

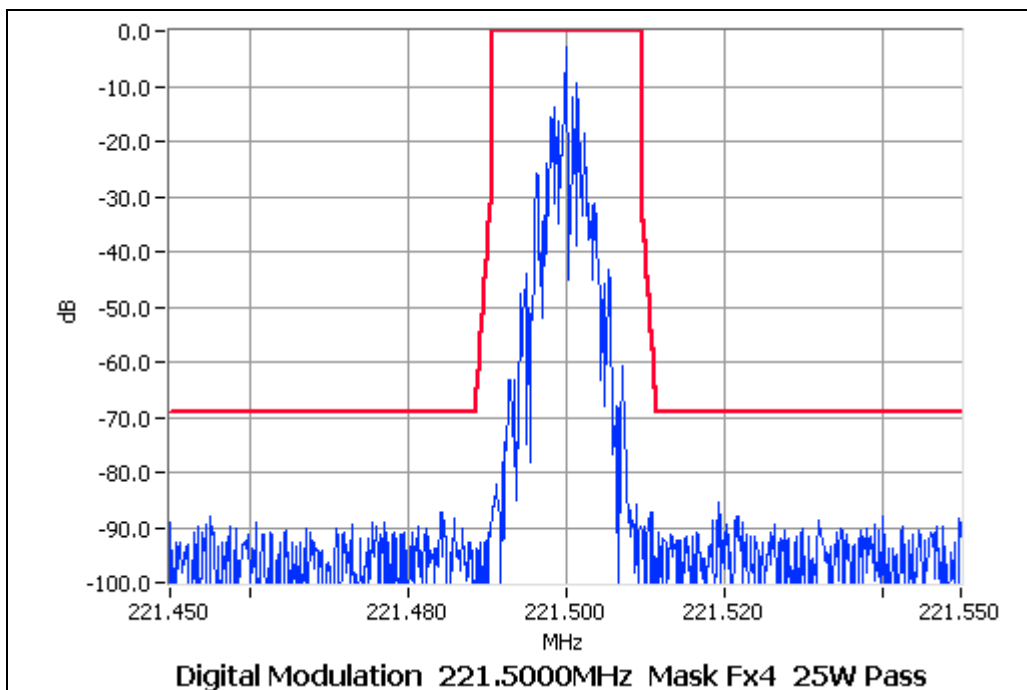
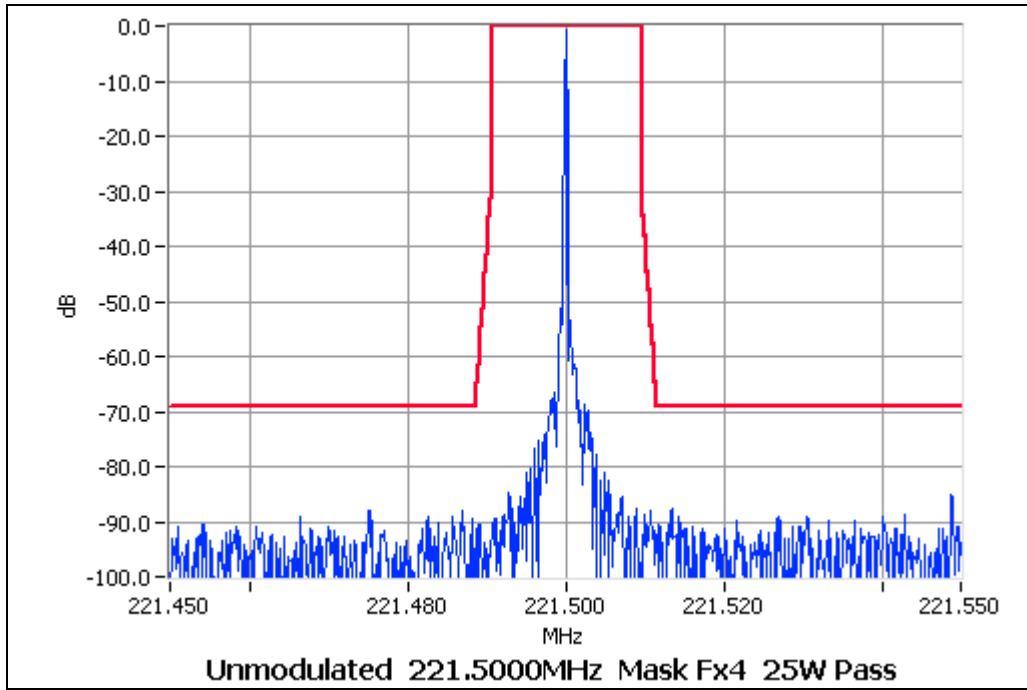
NAME OF TEST: OCCUPIED BANDWIDTH VOICE
SPECIFICATION: FCC CFR 47 90.733 (e)
Tx FREQUENCY: 221.5 MHz 25W 12.5 kHz Channel Spacing



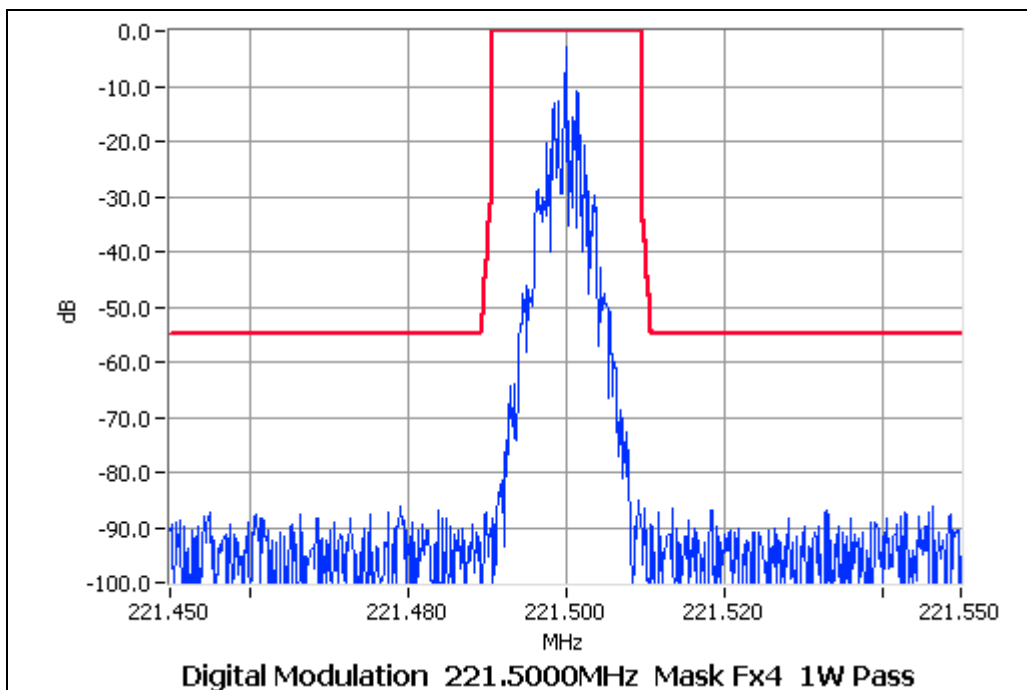
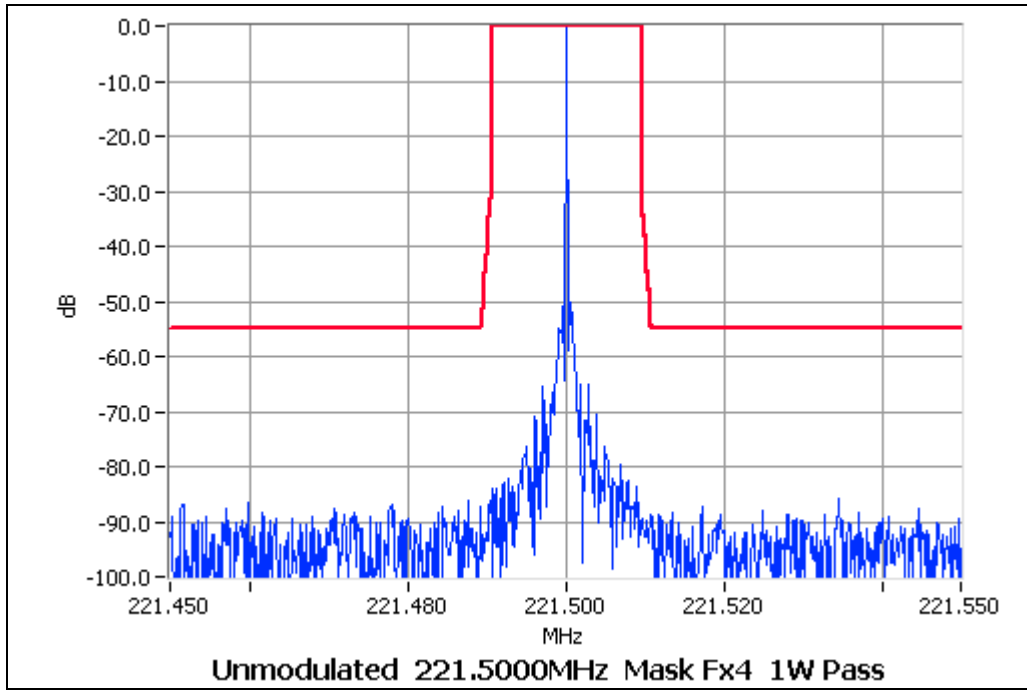
NAME OF TEST: OCCUPIED BANDWIDTH VOICE
SPECIFICATION: FCC CFR 47 90.733 (e)
Tx FREQUENCY: 221.5 MHz 1W 12.5 kHz Channel Spacing



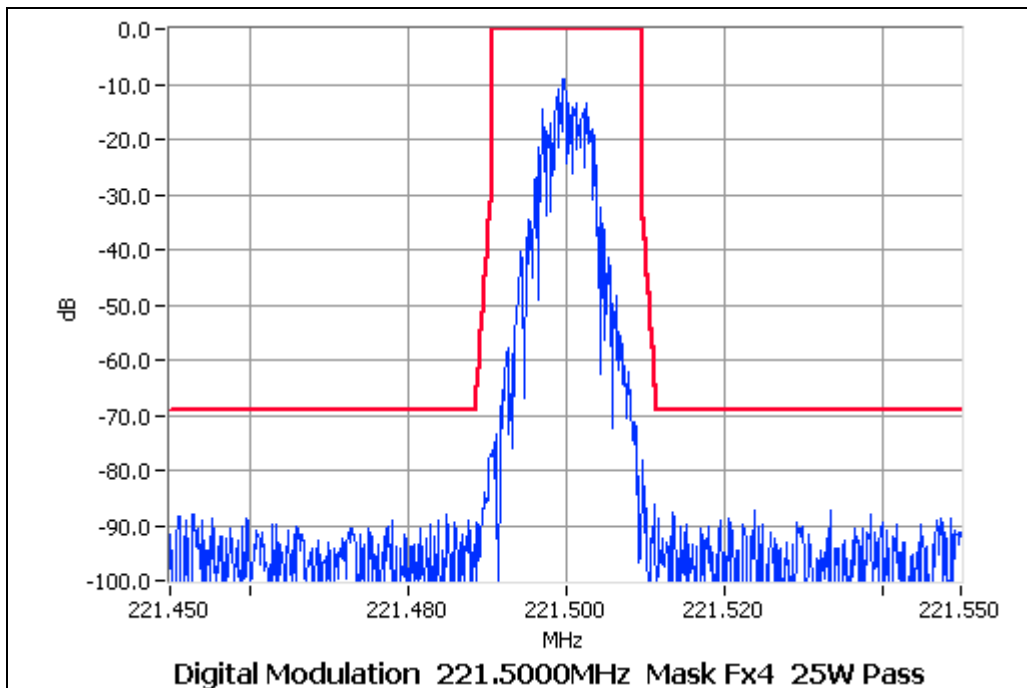
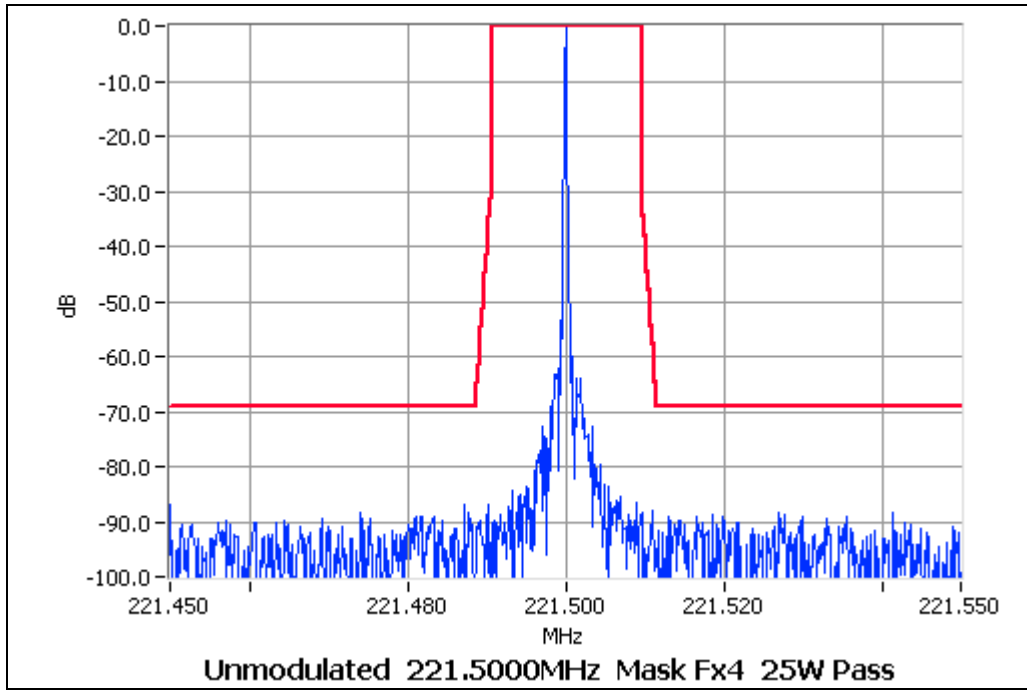
NAME OF TEST: OCCUPIED BANDWIDTH DATA FFSK
SPECIFICATION: FCC CFR 47 90.733 (e)
Tx FREQUENCY: 221.5 MHz 25W 12.5 kHz Channel Spacing



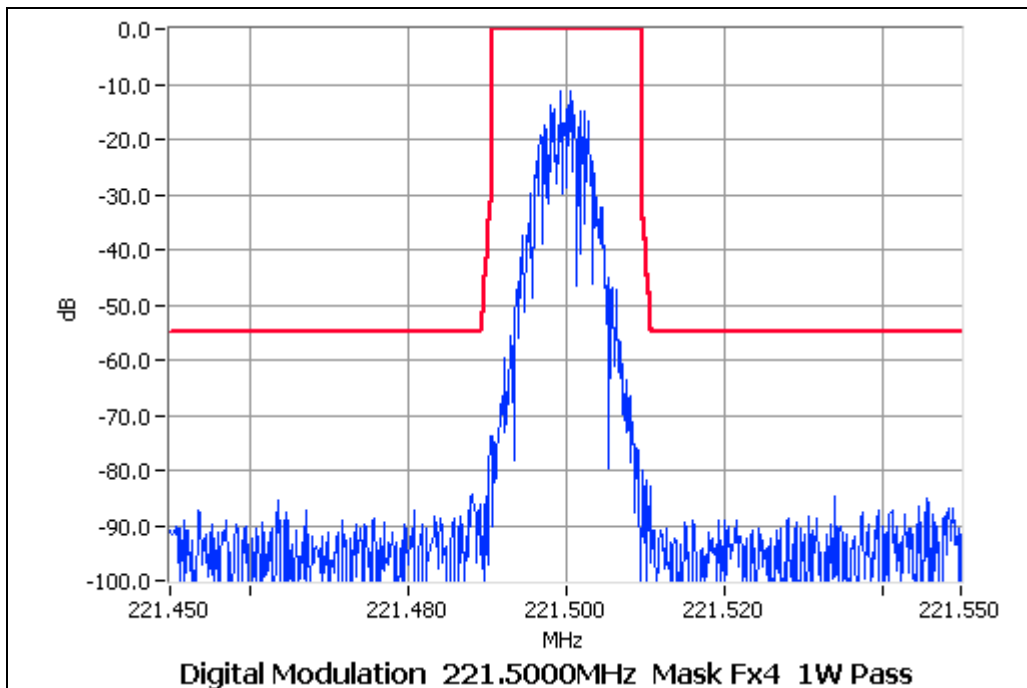
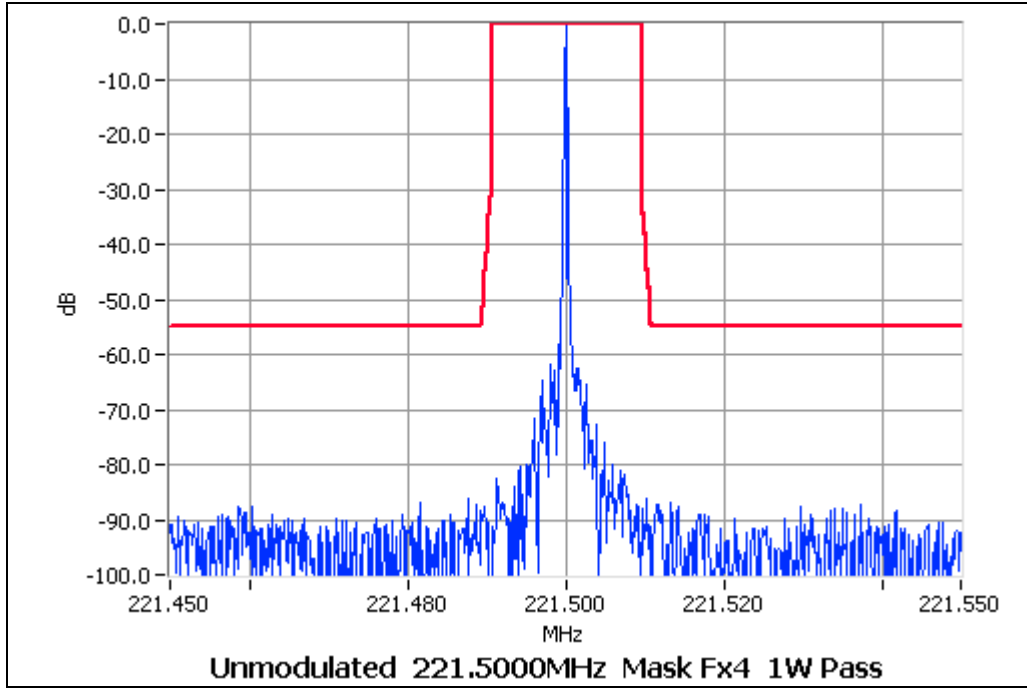
NAME OF TEST: OCCUPIED BANDWIDTH DATA FFSK
SPECIFICATION: FCC CFR 47 90.733 (e)
Tx FREQUENCY: 221.5 MHz 1W 12.5 kHz Channel Spacing



NAME OF TEST: OCCUPIED BANDWIDTH DATA THSD
SPECIFICATION: FCC CFR 47 90.733 (e)
Tx FREQUENCY: 221.5 MHz 25W 12.5 kHz Channel Spacing



NAME OF TEST: OCCUPIED BANDWIDTH DATA THSD
SPECIFICATION: FCC CFR 47 90.733 (e)
Tx FREQUENCY: 221.5 MHz 1W 12.5 kHz Channel Spacing



Test Equipment list

TELTEST LABORATORIES Test Equipment

List

To facilitate inclusion on each page, the Test Equipment used is numbered and listed against the related test in the Report.

No#	Equipment	Manufacturer	Model No	Serial No#	Tait ID	Cal Due
21	Power Supply	Rohde & Schwarz	NGS M32/10	192.0810.31	Fnr 434	E3556 14-Jun-05
62	RF Attenuator 150W	Weinschel	57-10-34	LB590	E3674	09-Jul-04
66	RF Attenuator 25W	Weinschel	33-20-33	BD5871	E3673	09-Jul-04
84	1m Coax Cable (BLUE)	Suhner	Sucoflex 104A	25005/4A	E3692	09-Jul-04
86	1m Coax Cable (BLUE)	Suhner	Sucoflex 104A	25003/4A	E3690	11-Aug-04
87	Audio Analyser	Hewlett Packard	HP8903B	2818A04275	E3710	25-Nov-04
123	Spectrum Analyser	Agilent	E4445A	MY42510072	E4139	23-Apr-05

APPENDIX A

Test Setup Details

Testing is performed using the Teltest Radio **EVAL**uation system (TREVA), which is configured as shown below. The Environmental Chamber is used when testing is required at extremes of temperature. The Spectrum Analyser is connected to the EUT via the attenuator network for Conducted Emissions testing, and Occupied Bandwidth.

