

## Laboratory Test Report

For the

TMAH6E (450 MHz to 530 MHz) Mobile Transceiver

Tested In accordance with

FCC 47 CFR Parts 22 and 90

Report Revision: 1  
Issue Date: 24-Apr-2007  
FCC ID: CASTMAH6E

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

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Tait Electronics Limited  
Report Number 2615

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**REVISION HISTORY**

Date	Revision	Comments
24-Apr-2007	1	Initial test report

## INTRODUCTION

This *Class 2 Permissive Change* report adds Tait Simulcast Modulation (TSM) to the original test report 2081, and confirms the radio's performance for Occupied Bandwidth.

Type Approval Testing of the TMAB32-H600A (Serial No 19056256) in accordance with:

FCC CFR 47 Parts 22 & 90

## REPORT PREPARED FOR

Tait Electronics Ltd  
PO Box 1645  
558 Wairakei Rd  
Christchurch  
New Zealand

## DESCRIPTION OF SAMPLE

Equipment: Mobile Transceiver  
Type: TMAH6E  
Product code: TMAB32-H600A  
Serial Numbers: 19056256  
Quantity: 1

## STATEMENT OF COMPLIANCE

The TMAB32-H600A Mobile transceiver as tested in this report was found to conform to the following standards:

**FCC CFR 47 Parts 22 & 90**

## TEST CONDITIONS

All testing was performed at the following conditions.

Ambient Temperature	15°C → 30°C
Relative Humidity	20% → 75%
Standard Test Voltage	13.8 V <sub>DC</sub>

## NECESSARY BANDWIDTH AND EMISSION DESIGNATORS

SPECIFICATION: FCC 47 CFR 2.202

The Necessary Bandwidth is the minimum value of the occupied bandwidth sufficient to ensure the transmission of information at the rate and with the quality required for the system employed.

### 99 % Bandwidth Measurement Results

460.1 MHz		
Channel Spacing	Power	99% BW TSM
12.5 kHz	25W	6.08 kHz
12.5 kHz	1W	6.09 kHz

## TEST RESULTS

### OCCUPIED BANDWIDTH

SPECIFICATION: FCC 47 CFR 2.1049 (c)

GUIDE: TIA/EIA-603C 2.2.11

#### MEASUREMENT PROCEDURE:

1. Refer Annex A for Equipment Set up.
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 pseudo random bit sequence at the appropriate Baud rates.
3. The Occupied Bandwidth was measured on the Spectrum Analyser, with bandwidth settings as follows.

Emission Mask D – Resolution Bandwidth = 100Hz, Video Bandwidth = 1 kHz

#### MEASUREMENT RESULTS:

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

LIMIT CLAUSE: FCC 47 CFR 90.210

#### EMISSION MASKS

Emission Mask D	12.5 kHz Channel Spacing	TSM
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#### DATA SPEED

9600 bps	12.5 kHz Channel Spacing	TSM
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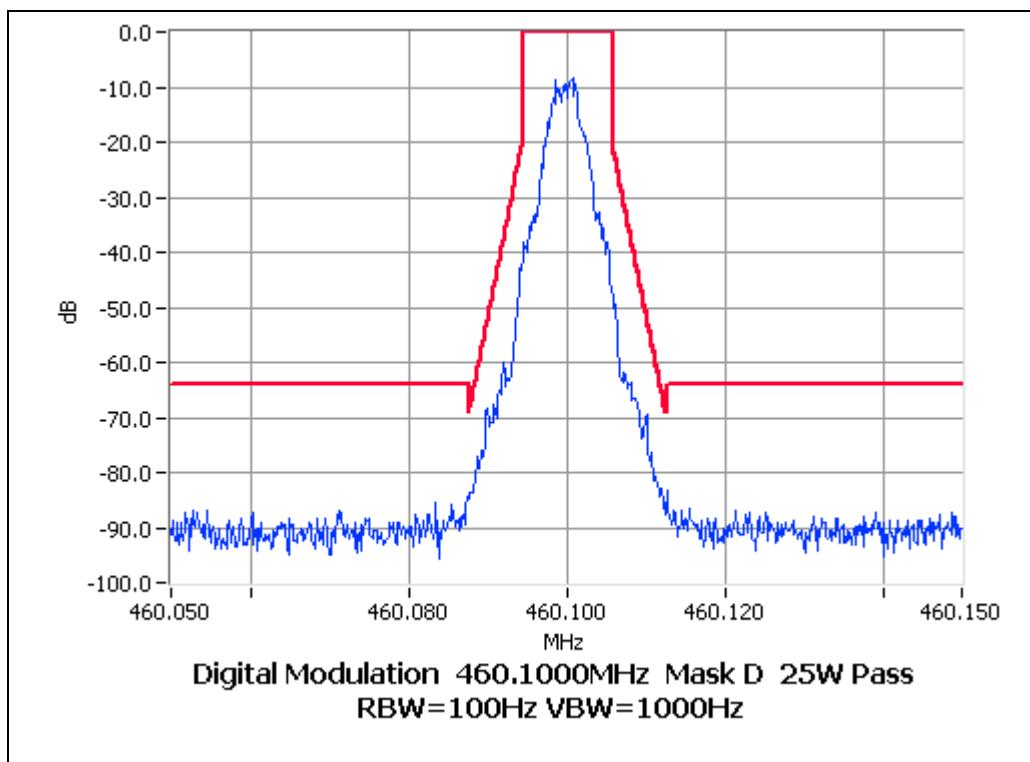
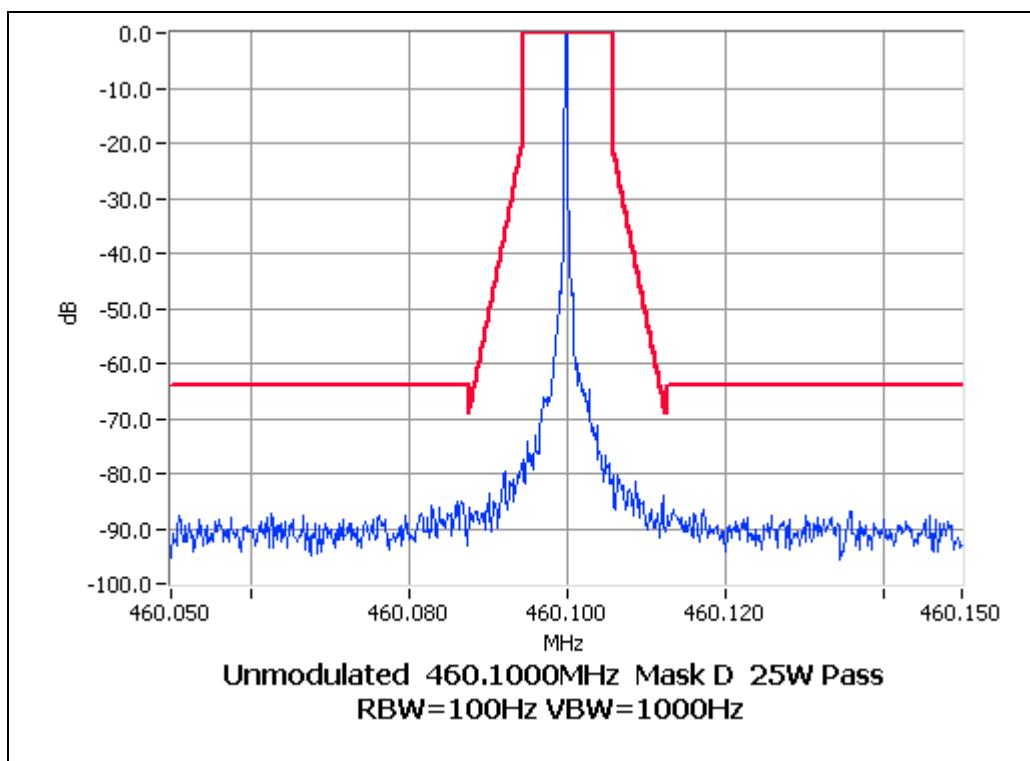
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OCCUPIED BANDWIDTH

TSM

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 460.1 MHz 25 W 12.5 kHz Channel Spacing



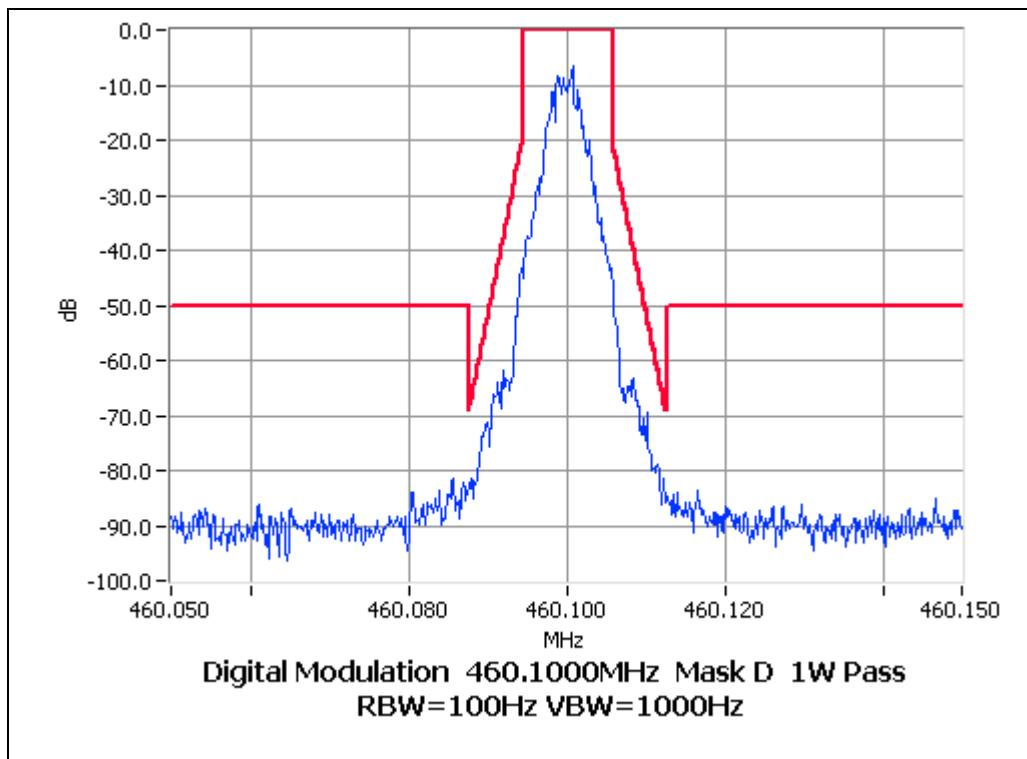
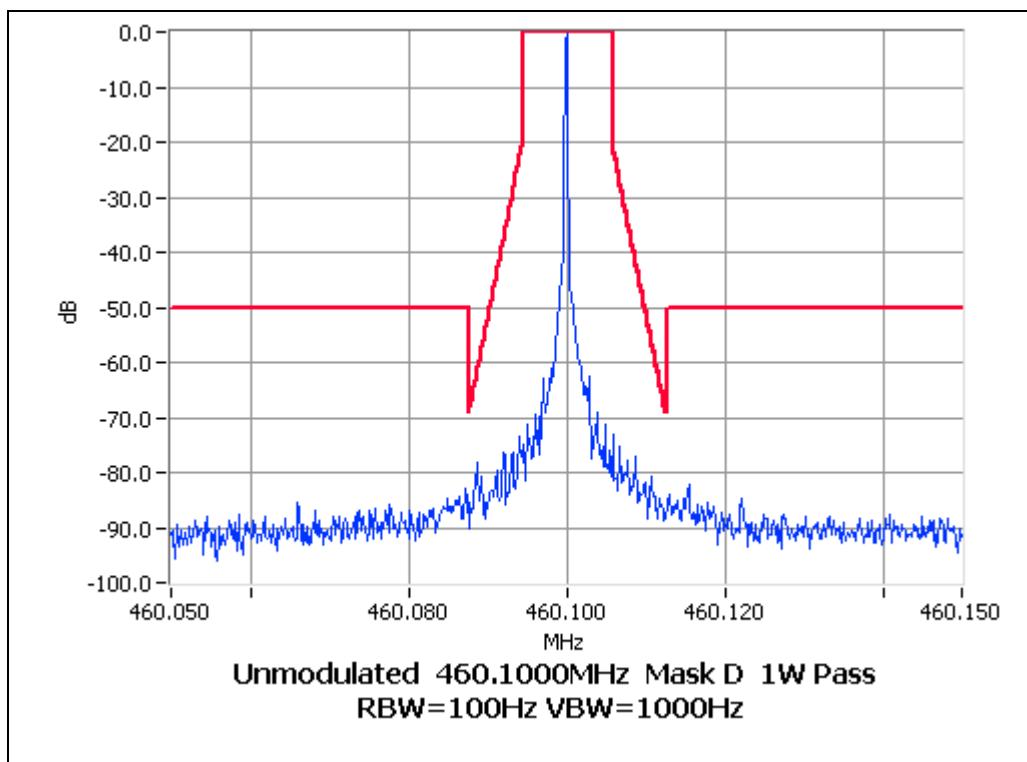
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OCCUPIED BANDWIDTH

TSM

SPECIFICATION: FCC CFR 2.1049 (c)

Tx FREQUENCY: 460.1 MHz 1 W 12.5 kHz Channel Spacing



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**TEST EQUIPMENT USED**

No#	Equipment	Manufacturer	Model No	Serial No#	Tait ID	Cal Due
			NGS M32/10			
21	Power Supply	Rohde & Schwarz	192.0810.31	Fnr 434	E3556	16-Oct-07
123	Spectrum Analyser	Agilent	E4445A	MY42510072	E4139	04-Jul-07
135	Attenuator	Weinschel	67-30-33	BR0531	E4280	10-Jan-08
137	1m Multiflex Cable	Suhner	MF141	TT007	E4443	30-Oct-07
138	1m Multiflex Cable	Suhner	MF141	TT086	E4444	30-Oct-07

**ANNEX A**

All other testing is performed using the Teltest Radio EVAluation system (TREVA), which is configured as shown below. The Spectrum Analyser is connected to the EUT via the attenuator network for Conducted Emissions testing, and Occupied Bandwidth.

