REPORT NUMBER 2142 December 2004

Class II Permissive Change to Report Number 2041

FCC ID: CASTBAB1
FCC ID: CASTBAB1A

Consisting of:

FUNCTIONAL DESCRIPTION	PRODUCT DESIGNATION CODE	SERIAL NUMBERS
Base Station Transceiver	TBA81B1-0000 TBA71B1-0000 TBA40B3-0B00	18006634 18006633 18005706

In accordance with

FCC 47 CFR Parts 22, 74 and 90

PREPARED BY: Marcus Ludwig _____
Test Technician

CHECKED & APPROVED BY: Hamish Newton _____
Senior Technician

577
new zealand accredited
laboratory

TELTEST Laboratories
Tait Electronics Limited
PO Box 1645
558 Wairakei Road
Christchurch
New Zealand
Phone : (64) (3) 3583399
Fax: (64) (3) 3580432

REPORT ON :

Type Approval Testing of the 12 volt power amplifier module type TBA71B1 (5 watt) and TBA81B1 (50W) for the TBAB1 Base Station Transceiver.

in accordance with:

FCC CFR 47 Parts 22, 74 & 90

FCC ID: CASTBAB1
CASTBAB1A

PREPARED FOR :

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

DISTRIBUTION :

TELTest Laboratory	Mr S Crompton	Copy No 1
Tait Electronics Ltd	Mr. Des Fox	Copy No 2
Tait Electronics Ltd	Mr. Ian Mackay	Copy No 3

APPROVED :

Hamish Newton

Senior Technician

Date :

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

Copy No:

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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:	Base Station Transceiver
Type:	TBAB (fitted with 12V dc power amplifier)
Product codes:	50 W PA: TBA81B1-0000 5 W PA: TBA71B1-0000 RECITER: TBA40B3-0B00
Serial Numbers:	50 W PA: 18006634 5 W PA: 18006633 RECITER: 18005706
Quantity:	1 each

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

FCC CFR 47 Parts 22, 74 & 90

Signature:_____

S. A. Crompton
Compliance Laboratory Manager.

Date:_____

Test Conditions

Environmental

All testing was performed at the following conditions.

Ambient Temperature	15°C to 30°C
Relative Humidity	20% to 75%
Standard Test Voltage	13.8VDC

Test Results

SPURIOUS EMISSIONS (RADIATED)

SPECIFICATION: FCC 47 CFR 2.1053

GUIDE: TIA/EIA-603B 2.2.12

MEASUREMENT PROCEDURE:
1. Refer Appendix A for equipment set up.
2. The EUT was placed on a wooden turntable at a distance of three metres from the test antenna. The output terminal was connected to an RF dummy load.
3. The turntable was rotated through 360^{o} to obtain the maximum response of each spurious emission. Valid emissions were determined by switching the EUT on and off.
4. The EUT was replaced by a signal generator and substitution antenna to make measurements by the substitution method.

MEASUREMENT RESULTS:
See the tables on the following pages

LIMIT CLAUSE: FCC 47 CFR 90.210

SPURIOUS EMISSIONS (RADIATED)

SPECIFICATION: FCC CFR 2.1053

Tx FREQUENCY: 155.1 MHz

Power Amplifier: 50W		
12.5 kHz Channel Spacing	155.1 MHz @ 50 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
620.4	-30.27	-77.27
775.5	-28.38	-75.38
No other emissions were detected at a level greater than 20 dB below the limit.		

LIMITS:

Carrier Output Power Watts	Emission Mask D 12.5 kHz Channel Spacing $50 + 10 \text{ Log}_{10} (P_{Watts})$	
50 W	-20 dBm	-67 dBc
5 W	-20 dBm	-57 dBc

SPURIOUS EMISSIONS (RADIATED)

SPECIFICATION: FCC CFR 2.1053

Tx FREQUENCY: 155.1 MHz

Power Amplifier: 5W		
12.5 kHz Channel Spacing	155.1 MHz @ 5 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
No emissions were detected at a level greater than 20 dB below the limit.		

LIMITS:

Carrier Output Power Watts	Emission Mask D 12.5 kHz Channel Spacing $50 + 10 \text{ Log}_{10} (P_{Watts})$	
50 W	-20 dBm	-67 dBc
5 W	-20 dBm	-57 dBc

SPURIOUS EMISSIONS (CONDUCTED)

SPECIFICATION: FCC 47 CFR 2.1051

GUIDE: TIA/EIA-603B 2.2.13

MEASUREMENT PROCEDURE:
1. Refer Appendix A for equipment set up.
2. The frequency range examined was from the lowest frequency generated within the EUT, to a frequency higher than the 10th Harmonic: 100kHz to Fc-BW
   Fc+BW to 1.5 GHz
3. A Pre-scan is performed with a resolution bandwidth of 1 kHz, and a video bandwidth of 3 kHz. If any emissions are found to be within 20dB of the limit a second measurement is made with the carrier modulated, and a resolution bandwidth of 10 kHz, and a video bandwidth of 30kHz.
4. Spurious emissions which were attenuated more than 20dB below the limit were not recorded.

MEASUREMENT RESULTS:
See the tables on the following pages for 12.5 kHz channel spacing.

LIMIT CLAUSE: FCC 47 CFR 90.210

SPURIOUS EMISSIONS (CONDUCTED)

SPECIFICATION: FCC CFR 2.1053

Tx FREQUENCY: 155.1 MHz

Power Amplifier: 50W		
12.5 kHz Channel Spacing	155.1 MHz @ 50 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
154.8320	-38.1	-85.1
155.3677	-36.1	-83.1
No other emissions were detected at a level greater than 20 dB below the limit.		

LIMITS:

Carrier Output Power Watts	Emission Mask D 12.5 kHz Channel Spacing 50 + 10 Log_{10} (P_{Watts})	
50 W	-20 dBm	-67 dBc
5 W	-20 dBm	-57 dBc

SPURIOUS EMISSIONS (CONDUCTED)

SPECIFICATION: FCC CFR 2.1053

Tx FREQUENCY: 155.1 MHz

Power Amplifier: 5W		
12.5 kHz Channel Spacing	155.1 MHz @ 5 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
310.2	-39.9	-76.9
No other emissions were detected at a level greater than 20 dB below the limit.		

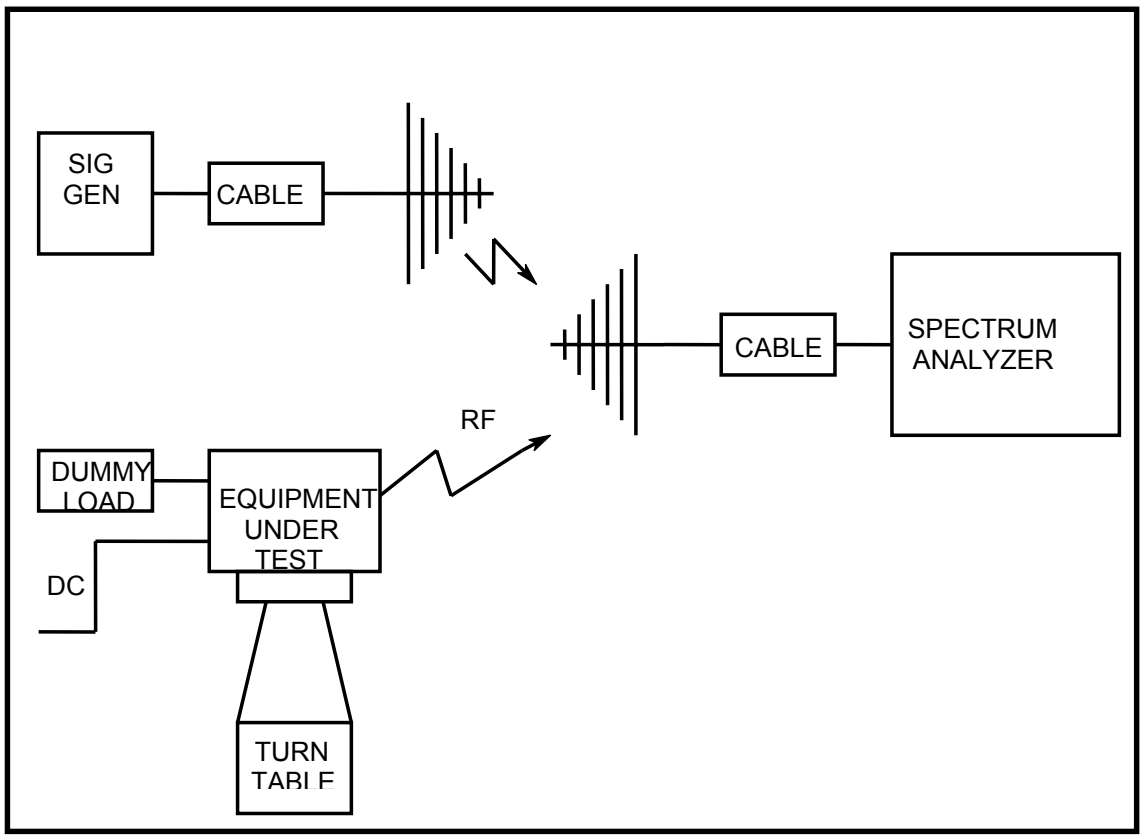
LIMITS:

Carrier Output Power Watts	Emission Mask D 12.5 kHz Channel Spacing $50 + 10 \text{ Log}_{10} (P_{Watts})$	
50 W	-20 dBm	-67 dBc
5 W	-20 dBm	-57 dBc

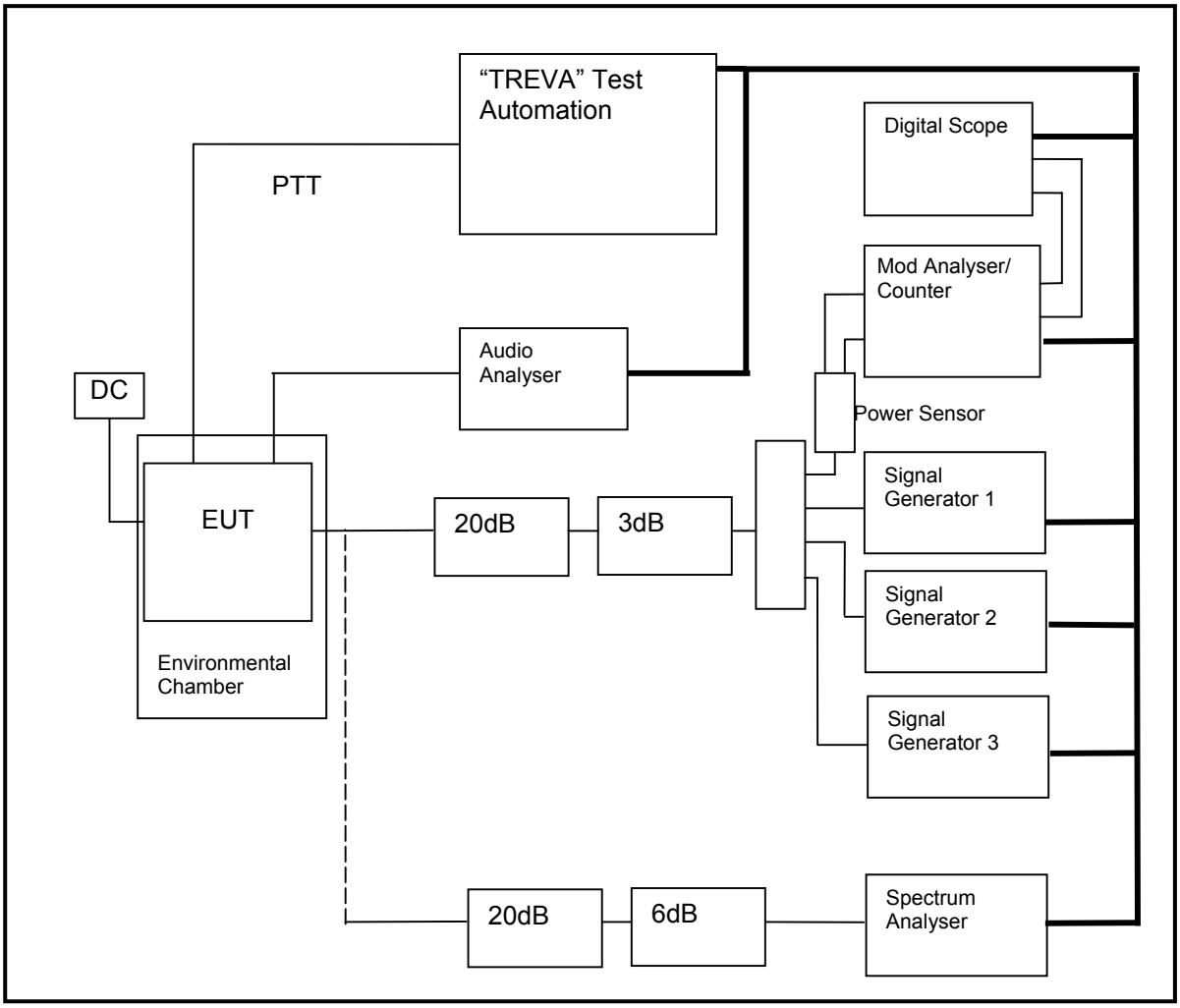
APPENDIX A

TEST SETUP DETAILS

Radiated Emissions Set up.



All other testing is performed using the **T**eltest **R**adio **EVA**luation 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.



TEST EQUIPMENT USED

No#	Equipment	Manufacturer	Model No	Serial No#	Tait ID	Cal Due
3	Signal Generator	Agilent	E4422B	GB40050320	E3788	22-Jan-05
40	Reference Dipoles	Emco	3121C DB1	9510-1164	E3559	17-Oct-06
42	Reference Horn Antenna	Emco	DRG3115	9512-4638	E3560	27-Sep-06
43	Horn Antenna	Emco	DRG3115	2084	E3076	27-Sep-06
64	RF Attenuator 50W	Weinschel	24-10-34	AZ0401	E3388	11-Sep-05
70	RF Load 150W	Bird	8166	524	E3625	15-Nov-05
82	3m Coax Cable BLUE)	Suhner	Sucoflex 104A	25033/4A	E3694	19-Nov-05
85	1m Coax Cable (BLUE)	Suhner	Sucoflex 104A	25004/4A	E3691	15-Jul-05
86	1m Coax Cable (BLUE)	Suhner	Sucoflex 104A	25003/4A	E3690	13-Aug-05
88	Spectrum Analyser	Hewlett Packard	HP8562E	3821A00779	E3715	14-Nov-05
123	Spectrum Analyser	Agilent	E4445A	MY42510072	E4139	23-Apr-05
128	RF Attenuator	Minicircuits	BW-N10W5	2		21-Sep-05
129	Antenna Tower	Electrometrics	EM-4720-2	112		
130	Controller	Electrometrics	EM-4700	119		
131	Turntable	Electrometrics	EM-4704A	105		
133	RF Termination 2W	MCL	NTRM-50	02		28-May-05