

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



TELTEST Laboratories

Tait Electronics Limited

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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
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Christchurch
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APPROVED :

Hamish Newton

Senior Technician

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:	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° 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 $50 + 10 \log_{10}(P_{\text{Watts}})$	
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 $50 + 10 \log_{10} (P_{\text{Watts}})$	
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 $50 + 10 \log_{10}(P_{\text{Watts}})$	
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.		

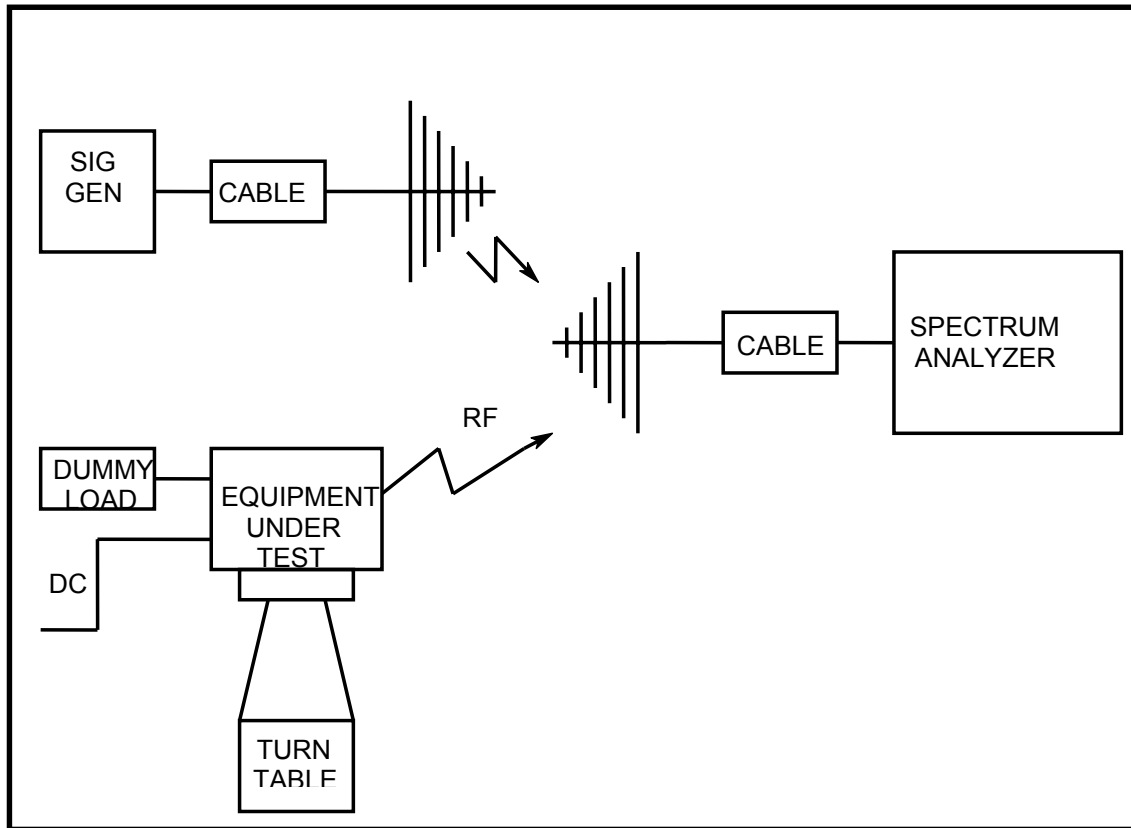
LIMITS:

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

APPENDIX A

TEST SETUP DETAILS

Radiated Emissions Set up.



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