

RF BOOSTER

TFBad5-f

The RF booster units TFB are intended to enhance the transmit power capabilities of the BriteCell remote transceivers TFA (2 x 10 dBm), in order to maintain an output power level of 10dBm per carrier when operating with up to 8 RF carriers.

The various versions are intended for TRUNKING RADIO, AMPS, GSM, DCS and PCS frequency bands.

TECHNICAL SPECIFICATIONS

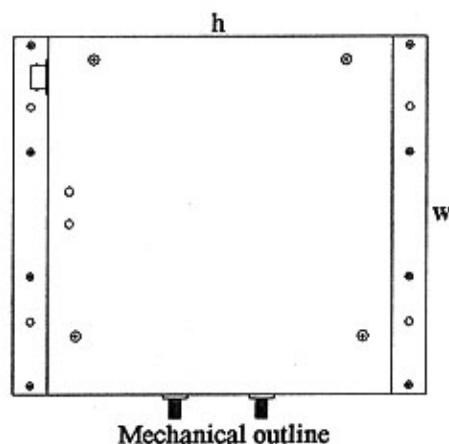
Characteristics	Conditions	TFBab5
Operating frequency band		See table 1
RF power gain	DL UL	14dB $\pm$ 0.5dB 4dB $\pm$ 0.5dB
Flatness	DL&UL	$\pm$ 1.5dB
RF output level under ALC	DL	1 CW tone 19dBm $\pm$ 1.5dB
Rf maximum input level	DL	1 CW tone 18dBm
Noise figure	DL UL	< 16 dB < 5 dB
Output IP3	DL DL UL	note1 $\geq$ 45 dBm note2 $\geq$ 42 dBm 2 x -10dBm $\geq$ 13 dBm
Return loss	DL&UL	> 9 dB
RF connectors		SMA-female (N on request)
Power supply		Universal mains: 85 – 265 Vac, 50 – 60Hz, 20VAmx. Low voltage ac/dc: 15+24 Vac/dc, 17Wmax
Operating temperature		-20 to + 55°C
Alarm		Power amplifier bias current monitor (relay driver)
Mechanical dimensions		240h x 200w x 36d

Note1: Measured with 2 x +16dBm (trunking radio, amps, gsm)

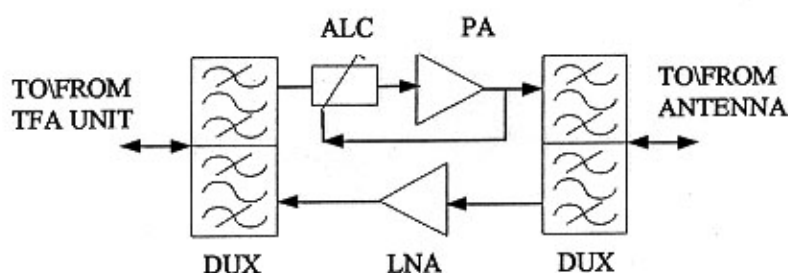
Note2: Measured with 2 x +16dBm (dcs, pcs)

Frequency assignments (table 1)

Frequency bands	Trunking radio	amps	gsm	dcs	pcs
DL (MHz)	850+870	869+894	935+960	1805+1880	1930+1990
UL (MHz)	805+825	824+849	890+915	1710+1785	1850+1910



Mechanical outline



BOOSTER BLOCK DIAGRAM

System performance, 1/4TFL+ TFA + TFBad5-f

DL	
RF power gain	21 dB
Output power	> 10 dBm/carrier, 8 carriers
Spurious and intermodulation	< -36 dBm f<1GHz < -30 dBm f>1GHz
Wideband noise	< -105 dBm/Hz
UL	
RF power gain	21 dB
Noise figure	< 11 dB
Blocking at 3dB C/N degradation	> -22 dBm
Spurious free dynamic range	> 70 dB

Ordering information – part numbers

TFB	a	d	5	-	f
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a	Frequency band	7	tranking radio
		8	amps
		9	gsm
		18	dcs
		19	pcs
d	Power supply	1	universal main
		2	low voltage ac/dc
f	RF connector	3	N-female
			SMA-female