STE sas ELETTRONICA TELECOMUNICAZIONI
15, Via Maniago – 20134 – Milan – Italy
Tel.: +39.02.2153524 / 2153525 / 2157891 Fax: +39.02.26410928
ste@stecom.com www.stecom.com

BK78

SRD	TRX	SAW	ISM 868 - 870 MHz

General Description:

The BK78A5 and the BK78B5 are "PLL" synthesized UHF transceivers for use in Wireless "Voice" (Analogue Signal) or Data transmission applications. The transceivers operate on the 868-870 MHz ISM Band and are designed to comply to the European Standards EN 300-220-3 (class I) and EN 301-489-3.The transceivers employ NBFM (Narrow Band Frequency Modulation) with a 25 KHz channel separation.

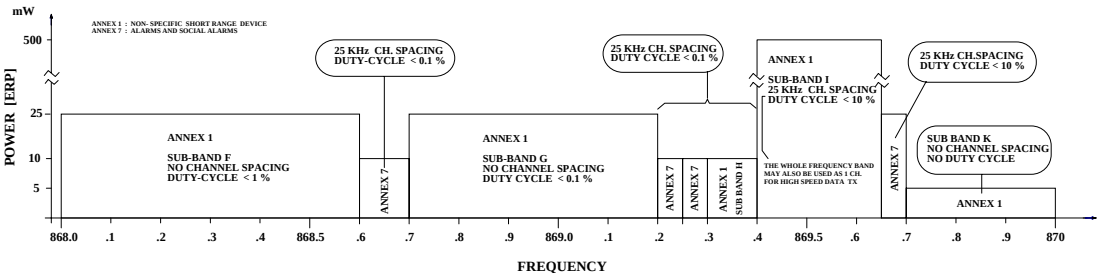
A) BK78A5

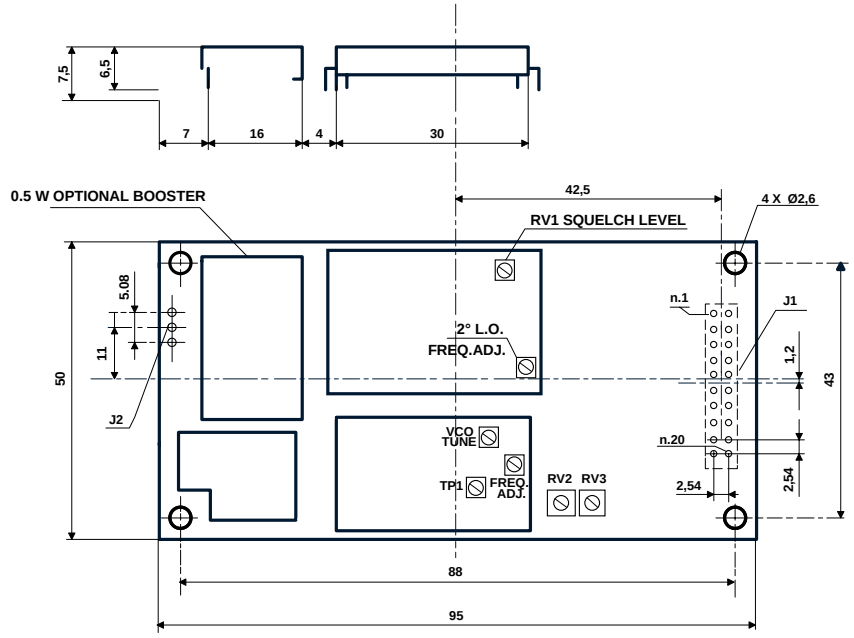
The BK78A5 is designed in accordance with CEPT-ERC/REC 70-03 recommendation (Annex 1 – Non specific short range devices) for applications employing a 10 mW or 25 mW max radiated power (ERP).

B) BK78B5

The BK78B5 has 500 mW output RF power (100mW in " Low Power") and it is programmable from 868 MHz to 870 MHz .

Fig. 1 CEPT ERC/REC 70-03 SRD 868 MHz Band.





Rev.	BK78 1.1	date	17 September	App.	

BK78A5 – BK78B5 Specifications

GENERAL	Min	Typ	Max	Units	Notes
FREQUENCY RANGE	867.000		871.000	MHz	(1)
CHANNEL SPACING		25		KHz	
FREQUENCY PROGR. STEP		12.5		KHz	
FREQUENCY STABILITY		±2.5	±3	ppm	(2)
DATA RATE (DATA MODE)	1200		9600	Baud	
ANTENNA IMPEDANCE		50		Ω	
FREQ. RESPONSE (VOICE MODE)	100		7000	Hz	
SUPPLY VOLTAGE	4.75	5	5.25	V	
SUPPLY CURRENT - Rx MODE		50	60	mA	
SUPPLY CURRENT - Tx MODE : a) BK78A5 (100 mW) b) BK78B5 (500 mW)		 120 250		 mA mA	
OPERATING TEMPERATURE	- 20		+ 60	°C	
DIMENSIONS	95 x 50 x 7.5 mm				
WEIGHT	25 g				
TRANSMITTER					
RF OUTPUT POWER : a) BK78A5 low high b) BK78B5 low high	 20 80 80 400	 35 100 100 500		 mW mW mW mW	(3)
SPURIOUS EMISSION		-40	- 36	dBm	
FM DEVIATION			5	KHz	
R/T SWITCHING TIME		5	10	ms	(4)
MODULATION : VOICE MODE (PM MOD.) VOICE MODE (FM MOD.) DATA MODE (GMSK MOD.)	 100 100 DC		 3000 5000 4800	 Hz Hz Hz	(5)
RECEIVER					
SENSITIVITY : VOICE MODE (PM MOD.) VOICE MODE (FM MOD.) DATA MODE (4800 Baud)		 -125 -115 -115		 dBm dBm dBm	 (6) (6) (7)
SELECTIVITY	65	70		dB	(8)
IMAGE REJECTION		50		dB	
DYNAMIC RANGE	100	110		dB	
BLOCKING	+84	+85		dB	(9)
T/R SWITCHING TIME		5	10	ms	(4)

NOTE :

(1) CEPT SRD BAND LIMITS = 868 – 870 MHz

(2) OVER OPERATING TEMPERATURE RANGE

(3) CEPT MAX ERP SUB BAND F (868-868.6 MHz) = 25 mW
CEPT MAX ERP SUB BAND G (868.7-869.2 MHz) = 25 mW
CEPT MAX ERP SUB BAND I (869.4-869.65 MHz) = 500 mW
CEPT MAX ERP SUB BAND K (869.7-870 MHz) = 5 mW

(4) PLL LOCK-UP TIME

(5) SQUARE WAVE 0-5 Vdc LEVEL

(6) 20dB SINAD – 1KHz dev. 3KHz

(7) 1/10E2 BER

(8) ADJACENT CHANNEL SELECTIVITY

(9) Fc ± 1 MHz

STE sas ELETTRONICA TELECOMUNICAZIONI
15, Via Maniago – 20134 – Milan – Italy e-mail:ste@stecom.com http:// www.stecom.com