

BK68				
SRD	TRX	PLL	868 - 870 MHz	BAND

TABLE 1 – BK68 VERSIONS

BK68F5 (1)	868 - 870 MHz	35 mW	5Vdc
BK68F3 (1)	868 - 870 MHz	25 mW	3Vdc

Note (1) STANDARD VERSIONS WITH EX STOCK AVAILABILITY.
 PLEASE CONTACT THE FACTORY FOR SAMPLES AND AVAILABILITY OF NON STANDARD VERSIONS.



- PLL Synthesized
- Data rate to 64 KB
- -106dbm Rx Sensitivity

General Description

The BK68F5 is a synthesized UHF transceiver for use in wireless data transmission applications. The transceiver operates on the 868 – 870 MHz ISM band and it is designed to comply to the European Standards EN 300-220-3 and EN 301-489-3, in accordance with the CEPT-ERC-REC 70-03 recommendation (Annex 1 – Non Specific Short Range Devices). Together with a precision and low phase-noise crystal controlled PLL architecture, the transceiver has high reception sensitivity (-105 dBm) and high RF output power (40 mW). High RF output power allows to employ poor efficiency antennas (helical, patch, loop or a trace on a PCB) to remain under legal 25 mW ERP (Effective Radiated Power) limit. The BK68F5 is designed to be directly interfaced to a microcontroller (MCU) to control and to monitor the receive and transmit mode and to program (through a 3 wires serial interface) the appropriate Rx and Tx frequencies. In a typical application the MCU manages also the communication protocol i.e. the switching between transmit and receive mode, the preamble, the start byte, the bit encoding and decoding and other important operations.

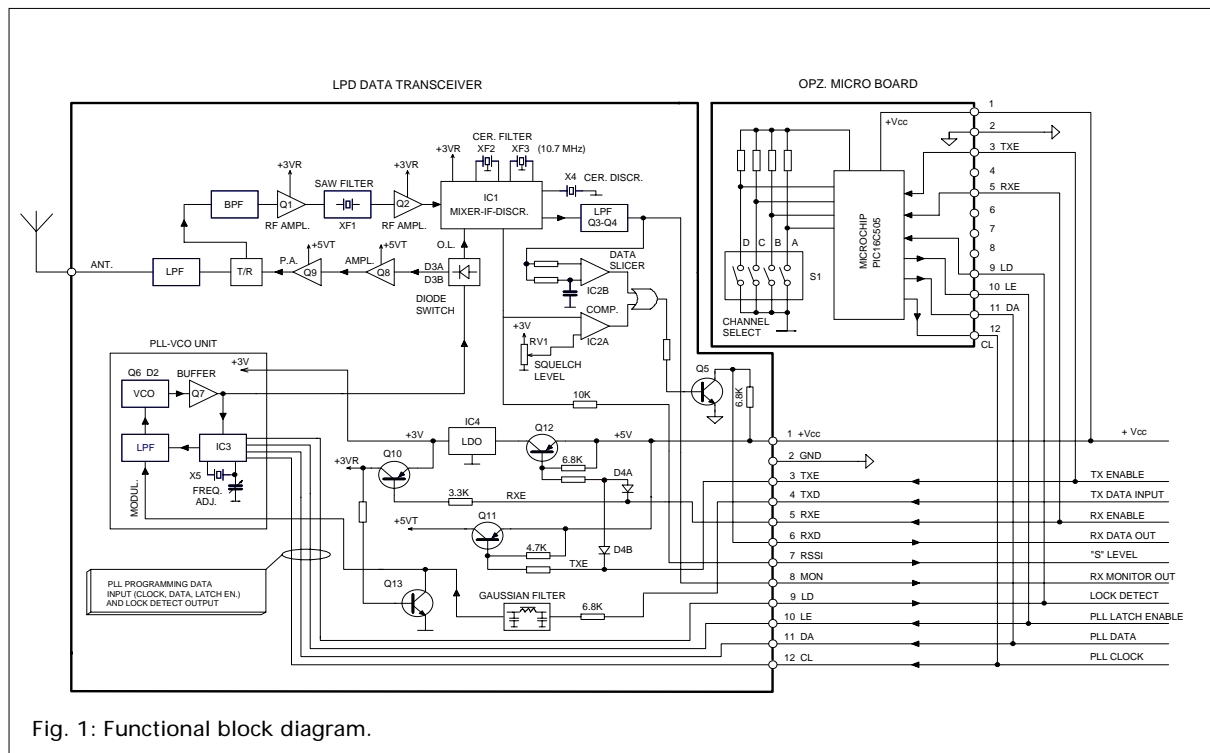
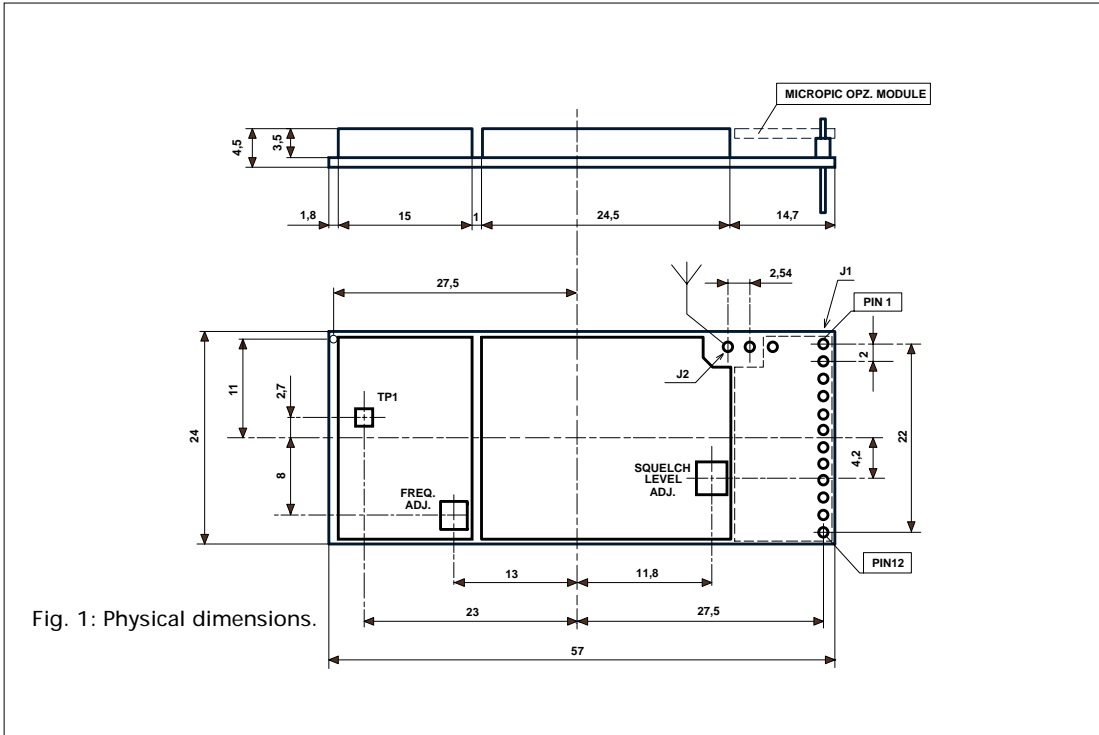
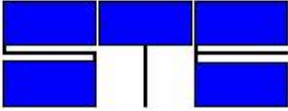
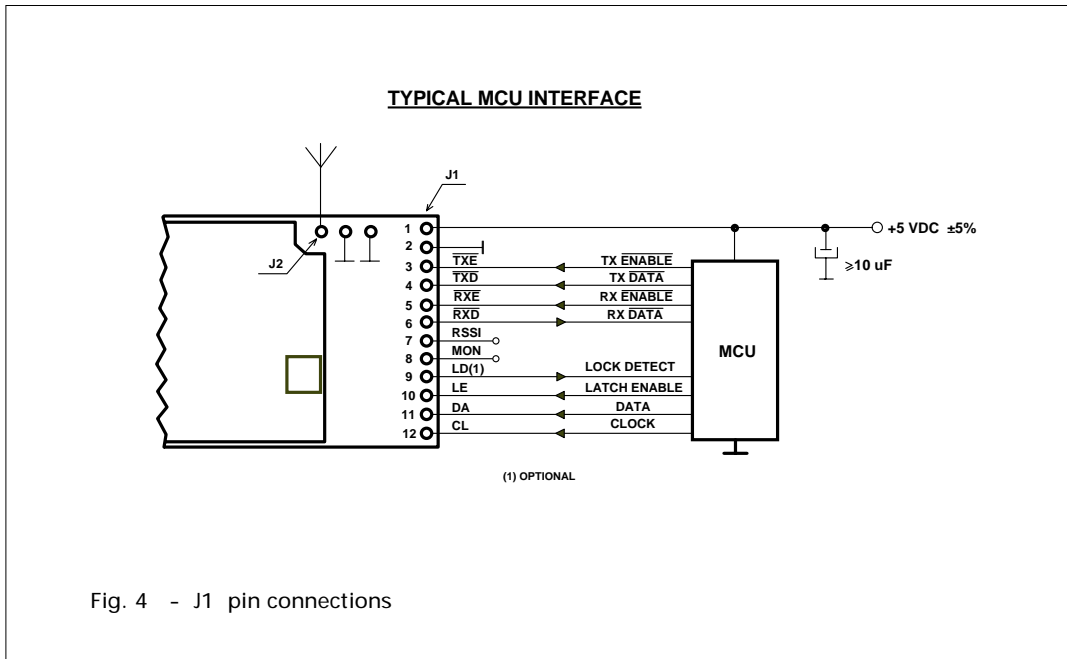


Fig. 1: Functional block diagram.



Optional microboard.

An optional small μ C board (Micropic Module – part.n° 015917) can be directly mounted on the transceiver J1 connector. The Micropic Module eliminates the necessity of an external programming of Tx and Rx frequencies. Up to 16 factory pre-programmed RF channels can be easily selected by means of a four positions dip-switch.



BK68F5 Specifications					
	Min	Typ	Max	Units	Notes
GENERAL					
FREQUENCY RANGE	867.000		871.000	MHz	(1)
CHANNEL SPACING	150	200		KHz	
FREQUENCY PROGR. STEP	25	50	100	KHz	
FREQUENCY STABILITY		±6	±15	KHz	(2)
DATA RATE	7.2		64	Kbaud	
ANTENNA IMPEDANCE		50		Ω	
SUPPLY VOLTAGE	4.75	5	5.25	V	
SUPPLY CURRENT - SLEEP		1	10	μA	
SUPPLY CURRENT - Rx MODE		21	24	mA	
SUPPLY CURRENT - Tx MODE		40	48	mA	
OPERATING TEMPERATURE	- 20		+ 60	°C	
TRANSMITTER					
RF OUTPUT POWER	30		40	mW	(3)
SPURIOUS EMISSION			- 50	dBc	
MODULATION FREQUENCY	3.5		32	KHz	(4)
FM DEVIATION		30		KHz	(4)
R/T SWITCHING TIME		2		ms	(5)
CHANNEL SWITCHING TIME		1		ms	(5)
RECEIVER					
SENSITIVITY	- 102	- 106		dBm	
SELECTIVITY		40	30	dB	(6)
IMAGE REJECTION		50		dB	
DYNAMIC RANGE		100		dB	
SQUELCH LEVEL ADJ. RANGE	- 115	- 110	- 70	dBm	
T/R SWITCHING TIME		1.5		ms	(5)
CHANNEL SWITCHING TIME		500		μs	(5)
DIMENSIONS	57 x 24 x 4.5 mm				
WEIGHT	10 g				
NOTE :					
(1) CEPT SRD BAND LIMITS = 868 - 870 MHz					
(2) OVER OPERATING TEMPERATURE RANGE					
(3) POWER ON 50 Ω . CEPT MAX ERP SUB BAND F (868 – 868,6 MHz) = 25 mW					
POWER ON 50 Ω . CEPT MAX ERP SUB BAND G (868,7 – 869,2 MHz) = 25 mW					
POWER ON 50 Ω . CEPT MAX ERP SUB BAND I (869,4 – 869,65 MHz) = 500 mW					
POWER ON 50 Ω . CEPT MAX ERP SUB BAND K (869,7 – 870 MHz) = 5 mW					
(4) SQUARE WAVE 0-5 Vdc LEVEL					
(5) PLL LOCK-UP TIME					
(6) AT Fo ± 200 KHz					

