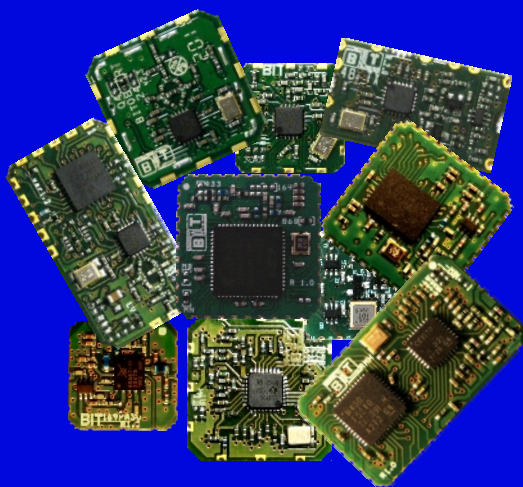




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	Module	RED Compliant	Freq [Mhz]	Channels	Data Rate [Kbps]	Pout [dBm]	Sensitivity [dBm]	RX curr [mA]	TX curr [mA]	Status
Transmitter	BIT04TXL		433	CFG	500	11	X	X	29	PROD
	BIT08TXL	✓	203/214	CFG	500	11	X	X	29	PROD
Receiver	BIT04RXL		433	CFG	500	X	-116	15	X	PROD
	BIT08RXL	✓	868/915	CFG	500	X	-116	15	X	PROD
Transceiver	BIT04RTL		433	CFG	500	11	-116	15	29	PROD
	BIT08RTL	✓	868/915	CFG	500	11	-116	15	29	PROD
	BIT04RT		433	CFG	500	11	-116	15	29	PROD
	BIT08RT		868/915	CFG	500	11	-116	15	29	PROD
	BIT169RTH		169	CFG	200	16	-127	23	54	PROD
	BIT433RTH		433	CFG	200	16	-127	23	54	PROD
	BIT868RTH	✓	868/915	CFG	200	16	-127	23	54	PROD
	BIT48RT		433 & 868	TBD	TBD	13 @ 433 20 @ 868	-140	TBD	TBD	Q4 2022
RadioModem	BIT04RML		433	11	19,2	11	-110	17	30	PROD
	BIT08RML		868/915	11	19,2	11	-110	17	30	PROD
	BIT169RMH		169	5	9,6	16	-123	22	45	PROD
	BIT868RM20	✓	433	5	40	20	-121	19	95	PROD
	BIT868MN	✓	868/915	28	40	16	-108	17	93	PROD
	BIT48LR	✓	433 & 868	TBD	TBD	13 @ 433 20 @ 868	-140	16 @ 433 15 @ 868	32 @ 433 110 @ 868	PROD
Power Amplifier	BIT169PA30		169	X	X	30	X	0,68	600	PROD
	BIT868PA27R2		868/915	X	X	27	X	16 HGM	350	PROD



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## **BITxxTXL**

## **Trasmitter**



Modulo Trasmettitore a basso costo per applicazioni a basso consumo disponibili a 433 MHz (BIT04TXL) e a 868 MHz (BIT08TXL) in package SMD 12 pin (14.4 mm x 14.4 mm)

### ***Application***

- *Ultra low power UHF wireless transmitter*
- *Consumer Electronics*
- *Home and building automation*
- *Wireless sensor networks*
- *Remote Key Entry*

### ***Key Features***

- *Programmable Data Rate from 0.6 to 500kbps*
- *Support 2-FSK, 4-FSK, GFSK, and OOK*
- *Current Consumption*
  - *29 mA in TX @ 10 dBm*
  - *200-nA Power Down*
- *Programmable output power up to +11dBm*
- *Supply voltage range 1.8V - 3.6V*
- *Operation Temperature -30 to 85*

## **BITxxRXL**

## **Receiver**



Modulo Ricevitore a basso costo per applicazioni a basso consumo disponibili a 433 MHz (BIT04RXL) e a 868 MHz (BIT08RXL) in package SMD 12 pin (14.4 mm x 14.4 mm)

### ***Application***

- *Ultra low power UHF wireless receiver*
- *Consumer Electronics*
- *Home and building automation*
- *Wireless sensor networks*

### ***Key Features***

- *Programmable Data Rate from 0.6 to 500kbps*
- *Support 2-FSK, 4-FSK, GFSK, and OOK*
- *Current Consumption*
  - *15 mA in RX @ 1.2 kbps*
  - *200-nA Power Down*
- *Sensitivity -116 dBm @ 0.6 kbps*
- *Supply voltage range 1.8V - 3.6V*
- *Operation Temperature -30 to 85*



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## **BITxxRTL**

## **Transceiver**



Modulo RiceTrasmettitore a basso costo per applicazioni a basso consumo disponibili a 433 MHz (BIT04RTL) e a 868 MHz (BIT08RTL) in package SMD 12 pin (14.4 mm x 14.4 mm)

### ***Application***

- *Ultra low power UHF wireless transmitter*
- *Consumer Electronics*
- *Home and building automation*
- *Wireless sensor networks*
- *Remote Key Entry*

### ***Key Features***

- *Programmable Data Rate from 0.6 to 500kbps*
- *Support 2-FSK, 4-FSK, GFSK, and OOK*
- *Current Consumption*
  - *29 mA in TX @ 11 dBm*
  - *15 mA in RX @ 1.2 kbps*
  - *200-nA Power Down*
- *Programmable output power up to +11dBm*
- *Supply voltage range 1.8V - 3.6V*
- *Operation Temperature -30 to 85*

## **BITxxRT**

## **Transceiver**



Modulo RiceTrasmettitore a basso costo per applicazioni a basso consumo disponibili a 433 MHz (BIT04RT) e a 868 MHz (BIT08RT) in package SMD 12 pin (19 mm x 19 mm)

### ***Application***

- *Ultra low power UHF wireless transceiver*
- *AMR-Automatic Meter Reading*
- *Consumer Electronics*
- *Home and building automation*
- *Wireless sensor networks*

### ***Key Features***

- *Programmable Data Rate from 0.6 to 500kbps*
- *Automatic WOR (WakeOn Radio)*
- *Support 2-FSK, 4-FSK, GFSK, and OOK*
- *Current Consumption*
  - *29 mA in TX @ 11 dBm*
  - *15 mA in RX @ 1.2 kbps*
- *Programmable output power up to +11dBm*
- *Supply voltage range 1.8V - 3.6V*
- *Operation Temperature -30 to 85*



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## **BITxxxRTH**



Modulo RiceTrasmettitore high performance per applicazioni a banda stretta a bassissimo consumo disponibili a 169 MHz (BIT169RTH) a 433 MHz (BIT433RTH) e a 868 MHz (BIT868RTH) in package SMD 13 pin (19 mm x 19 mm)

### **Application**

- *Ultra low power UHF wireless transceiver*
- *AMR-Automatic Meter Reading*
- *Consumer Electronics*
- *Home and building automation*
- *Wireless sensor networks*

### **Key Features**

- *Sensitivity -123 dBm @ 1.2 kbps,*
- *Programmable Data Rate up to 200kbps*
- *Current Consumption*
  - *3.7 mA in RX Sniff Mode @ 1.2 kbps*
  - *54 mA in TX @ 16 dBm*
- *Programmable output power up to +16dBm*
- *Supply voltage range 2.0V - 3.6V*
- *Operation Temperature -30 to 85*

## **BIT48RT**



Modulo RiceTrasmettitore doppia frequenza 433 Mhz e 868 Mhz in package SMD 20 pin(14.4 mm x 14.4 mm)

Compatibile con lo stack LORA

## **Future Product (Q4 2022)**

### **Application**

- *LORA Network*
- *Smart grid Wireless Network*
- *Home and building automation*
- *Wireless sensor networks*

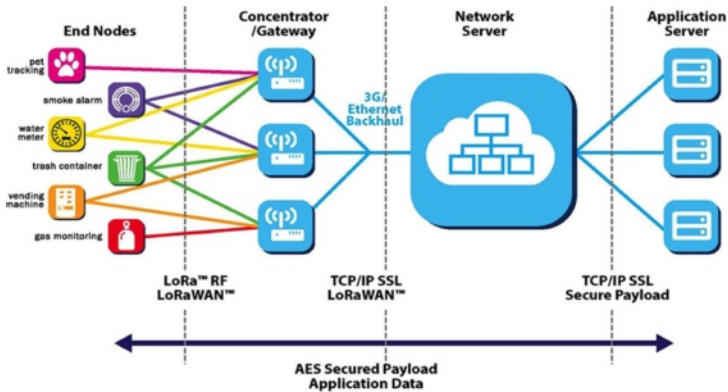
### **Key Features**

- *Current Consumption*
  - *< 1 mA in Power Down*
- *Output power*
  - *13 dBm @ 433 MHz*
  - *20 dBm @ 868 MHz*
- *Sensitivity up to -140 dBm*
- *Supply voltage range 1.8V - 3.7V*
- *Operation Temperature -30 to 85*



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## LoRaWAN® Product



## BIT48LR



Modulo RiceTrasmettitore con Microcontrollore ARM M0 a bordo con impostazioni totalmente custom delle proprietà RF tramite interfaccia UART (modulazione LoRa o FSK) doppia frequenza 433 Mhz e 868 Mhz in package SMD 20 pin (14.4 mm x 14.4mm)

Compatibile con lo stack LoRaWAN® spec. 1.1

Criptazione dei dati con AES (128 bit)

Gestione Multicasting e LBT

Gestione automatica duty-cycle

Region Code Configurabile (EU868, NA915, AU915, AS923, JPN923, KR920, IND865)

Interfacciamento semplificato ad API

### Application

- LORA Network
- Smart grid Wireless Network
- Home and building automation
- Wireless sensor networks
- Topologia di rete implementabile:
  - Punto Punto
  - Stella

### Key Features

- Current Consumption < 2 uA in Power Down
- Output power
  - 13 dBm @ 433 MHz
  - 20 dBm @ 868 MHz
- DataRate
  - fino a 300kbps in modulazione FSK
  - fino a 10937bps in modulazione LoRa
- Sensitivity up to -146dBm
- Supply voltage range 1.8V - 3.6
- Operation Temperature -30 to 85



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## **BIT868RM20**

## **RadioModem**



Modulo ricetrasmittitore a basso costo con microcontrollore a bordo per applicazioni a basso consumo disponibili a 868 MHz (433 Mhz disponibile a richiesta) in package SMD 36 pin (19 mm x 19 mm)

### ***Application***

- *OEM equipment*
- *Radio Modem*
- *Wireless alarm and security systems*
- *Home and building automation*
- *Wireless sensor networks*
- *Telemetry Station*

### ***Key Features***

- *Programmable Frequency: 4 channels at 868 Mhz and 1 channel at 869 Mhz*
- *WOR (Wake On Radio)*
- *LBT (Listen Before Talk)*
- *Programmable data rate up to 40 kbps*
- *Programmable output power up to +20dBm*
- *Supply voltage range 1.9V - 3.6V*
- *UART Interface for data and config*
- *1uA for each device in sleep mode*

## **BIT868MN Dynamic Mesh**

## **RadioModem**



Modulo ricetrasmittitore a basso costo con microcontrollore a bordo per applicazioni a basso consumo a 868 MHz con interfaccia UART (BIT868MN) o USB (BIT868MN-U) in package SMD 20 pin (14,4 mm x 14,4 mm)

### ***Application***

- *OEM equipment*
- *Radio Modem*
- *Wireless alarm and security systems*
- *Home and building automation*
- *Wireless sensor networks*
- *Telemetry Station*

### ***Key Features***

- *Dynamic Mesh with 250 node*
- *AES 128 encrypt*
- *Possible asynchronous devices*
- *TSCH (time Slotted Channel Hopping)*
- *LBT (Listen before Talk)*
- *UART or USB interface for data and config*
- *Programmable output power up to +16dBm*
- *Supply voltage range 1.9V - 3.6V*
- *Operation Temperature -30 to 85*



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## **BITxxRML**

## **RadioModem**



Modulo ricetrasmittitore a basso costo con microcontrollore a bordo per applicazioni a basso consumo disponibili a 433 MHz (BIT04RML) e a 868 MHz (BIT08RML) in package SMD 17 pin (15 mm x 28 mm)

### ***Application***

- *Ultra low power UHF wireless receiver*
- *Consumer Electronics*
- *Home and building automation*
- *Wireless sensor networks*

### ***Key Features***

- *Programmable Data Rate from 1.2 to 125kbps*
- *UART Data Rate up to 38.4 kBaud*
- *Current Consumption*
  - *17 mA in RX @ 1.2 kbps*
  - *30 mA in TX @ 10 dBm*
- *Sensitivity -110 dBm @ 1.2 kbps*
- *UART Interface for data and config*
- *Supply voltage range 1.8V - 3.6V*
- *Operation Temperature -30 to 85*

## **BIT169RMH**

## **RadioModem**



Modulo ricetrasmittitore a basso costo con microcontrollore a bordo per applicazioni a basso consumo disponibili a 169 MHz (433 e 868 Mhz disponibili a richiesta) in package SMD 44 pin (17 mm x 29 mm)

### ***Application***

- *Narrowband ultra low power wireless systems*
- *channel spacing down to 12.5 kHz*
- *Wireless Metering*
- *Wireless Smart Grid*
- *Home and building automation*
- *Wireless sensor networks and Active RFID*
- *Advanced metering infrastructure*

### ***Key Features***

- *Up to 9.6 kbps Data Rate*
- *Programmable output power up to +16dBm*
- *Supply voltage range 1.8V - 3.6V*
- *AT command set for configuration*
- *UART interface for data and config*
- *1uA for device in power down*





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## **BIT169PA30**

## **Power Amplifier**



Modulo Amplificatore RF da 1 Watt per applicazioni nel range da 169 a 170 MHz in package SMD 12 pin (14.4 mm x 14.4 mm)

### ***Application***

- *High power UHF wireless transmitter*
- *169 or 170 MHz ISM/SRD band systems*
- *Automated meter reading*
- *Advanced metering infrastructure*
- *ISM system*

### ***Key Features***

- *Current Consumption*
  - *600 mA in TX @ 30 dBm*
  - *680  $\mu$ A in RX*
  - *1  $\mu$ A in Power Down*
- *Output power up to +30dBm*
- *Supply voltage range 2V - 3,7V*

## **BIT868PA27R2**

## **Power Amplifier**



Modulo Amplificatore RF da 500 mWatt per applicazioni ad 868 MHz in package SMD 12 pin (14.4 mm x 14.4 mm)

### ***Application***

- *High power UHF wireless transmitter*
- *868 MHz ISM/SRD band systems*
- *Smart grid Wireless Network*
- *Home and building automation*
- *Wireless sensor networks*
- *Remote Key Entry*

### ***Key Features***

- *Current Consumption*
  - *350 mA in TX @ 27 dBm*
  - *16 mA in RX High Gain Mode*
  - *10 mA in RX Low Gain Mode*
- *1  $\mu$ A in Power Down*
- *Output power up to +27dBm*
- *Supply voltage range 2,7V - 3,6V*



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## Servizi

### **Prodotti RF Custom**

- Moduli RF custom
- Integrazione di soluzioni RF nella tua applicazione

### **Produzione**

- Produzione in Italia
- Test e collaudo Funzionale

### **Progettazione**

- Home Automation
- Alarm and Security System
- Automatic Meter Reading
- Industrial Automation
- Wireless Network

## Design Center



## I Nostri Clienti





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