+20dBm 2Mbps HiMOD RADIO TRANSCEIVER

FEATURES

- +20dBm (100mW) Maximum Transmit Power
- Micro 27mm x 14mm x 10mm form factor (SMA)
- Long range-up to ½ mile LOS
- Worldwide 2.4GHz ISM band operation
- 250Kbps / 1Mbps / 2Mbps selectable data rate
- 79 Selectable RF channels
- Enhanced ShockBurstTM hardware accelerator
- Automatic Packet Handling
- Nordic Gazell Protocol Stack
- Low power modes (<2μA in sleep mode)
- SMA or trace antenna
- Nordic Radio plus PA/LNA
- SMT or right angle through-hole mounting
- -40C to +85C Operation
- 2.0v to 3.6v Operation
- 5.0v tolerant inputs
- RoHS Compliant
- FCC/CE/IC Certified

APPLICATIONS

- Security
- Video / JPEG
- M2M
- Long Range Monitoring
- Industrial Control
- Commercial Automation
- Lighting Control
- Asset Tracking

DESCRIPTION

The 24 HiMOD is a low power, high over the air data rate, FCC certified 2.4GHz RF Module with a 100mW PA/LNA for extended range operations. The micro form factor module includes either an SMA antenna connector or a built in trace antenna. The 24 HiMOD is based on the Nordic nRF24L01+ radio incorporating an Enhanced ShockBurst™ hardware protocol accelerator which offloads time critical protocol functions from the application microcontroller enabling the implementation of advanced and robust wireless connectivity with low cost 3rd-party microcontrollers.

The 24 HiMOD can be used with the nRFgo SDK for easy code development. The nRFgo SDK is a fully featured Software Development Kit for Nordic nRF24L Series 2.4GHz RF System-on-Chips (SoCs). Used in conjunction with the nRFgo Starter Kit and nRFgo Studio, it contains everything needed for code development and debugging, including integration with Keil μVision™ IDE, a comprehensive library of hardware abstraction layers (HAL), Nordic Gazell 2.4GHz RF protocol stack, USB stack, and example applications.

The module brings out all the functional pins of the nRF24L01+ and PA for maximum useability and flexibility including:

- SPI Bus
- Maskable Interrupt
- Power Amplifier Tx and Rx Enable

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TALON HiMOD MODULE PINOUT

MODULE PIN #	nRF24L01+ PIN #	PIN NAME	TYPE	DESCRIPTION
P1	7,15,18,19	VDD	POWER	2.0 - 3.6V power supply 3.3v Typical
P2	8,14,17,20	GND	POWER	GROUND
P3	1	CE	DIGITAL INPUT	CHIP ENABLE ACTIVATES TX or RX
P4	2	CSN	DIGITAL INPUT	SPI CHIP SELECT (ACTIVE LOW)
P5	3	SCK	DIGITAL INPUT	SPI SERIAL DATA CLOCK
P6	4	MOSI	DIGITAL INPUT	SPI SLAVE DATA INPUT
P7	8,14,17,20	GND	POWER	GROUND
P8	6	IRQ	DIGITAL OUTPUT	MASKABLE INTERRUPT (ACTIVE LOW)
P9	5	MISO	DIGITAL OUTPUT	SPI SLAVE DATA OUTPUT (TRISTATE OPTION)
P10	NC	NC	N/A	DO NOT CONNECT
P11	N/A	TXEN	DIGITAL INPUT	POWER AMPLIFIER TRANSMIT ENABLE
P12	N/A	RXEN	DIGITAL INPUT	POWER AMPLIFIER RECEIVE ENABLE
P13	8,14,17,20	GND	POWER	GROUND

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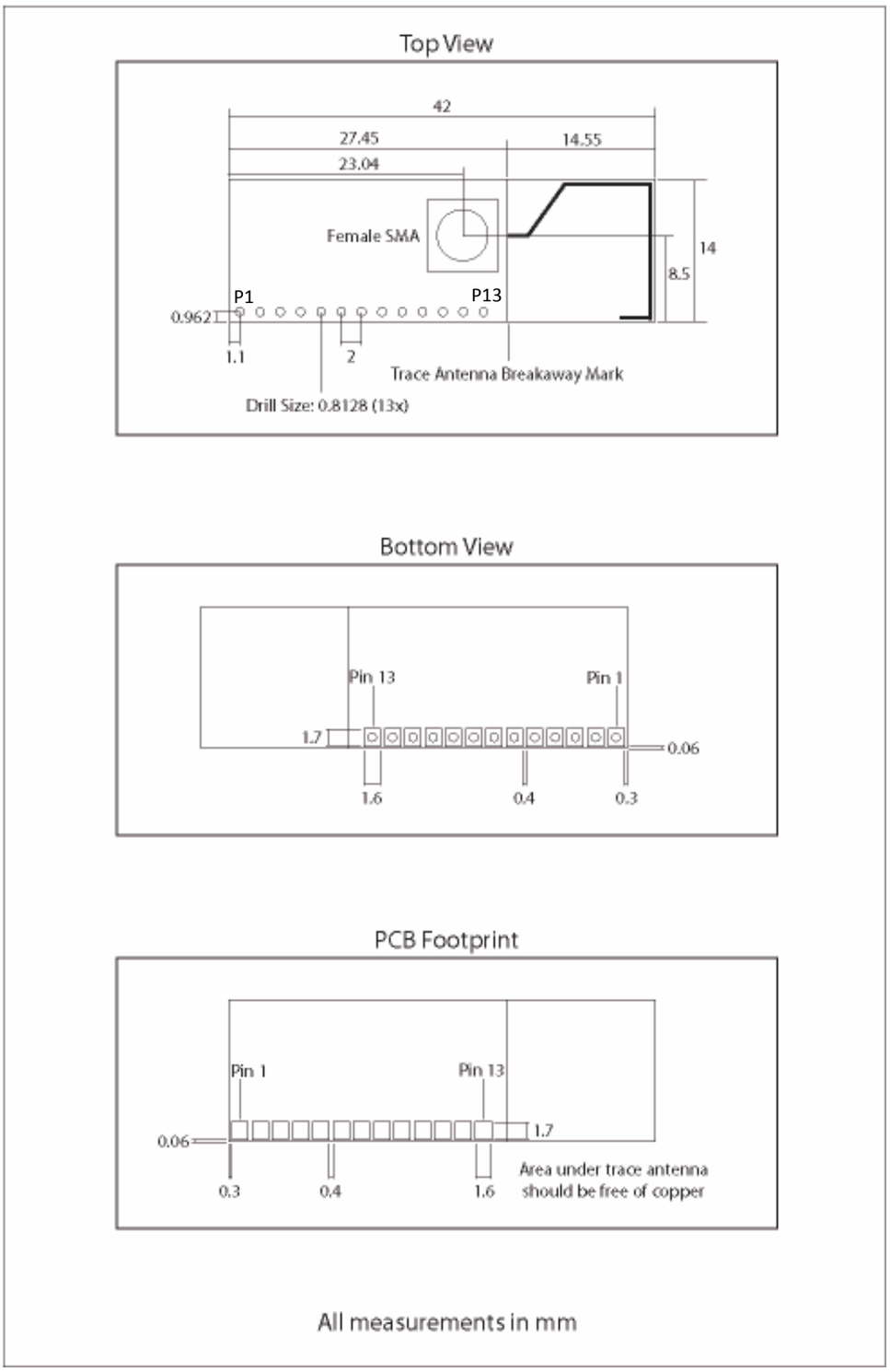
TALON HiMOD MODULE DIMENSIONS / PADS



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TALON HiMOD ORDERING INFORMATION

MODULE	RF CONNECTOR
TCI-24HiMOD-RPSMA	RP-SMA
TCI-24HiMOD-PCBANT	N/A - Trace Antenna

FCC OPERATING NOTES

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ☐ **Reorient or relocate the receiving antenna.**
- ☐ **Increase the separation between the equipment and receiver.**
- ☐ **Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- ☐ **Consult the dealer or an experienced radio/TV technician for help.**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

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Industry Canada OPERATING NOTES

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

European OPERATING NOTES

CE0979

"Hereby, Talon Communications, Inc., declares that this radio module is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

(1).The.declaration.of.conformity.may.be.consulted.at.www.taloncom.com/HiMOD_doc.pdf".

RF Exposure Declatation: This Transmitter must be installed to provide a separation distance of at least 20 cm from all persons.