

RF Assembly Manual

The new PT-704 RF Assembly **Personal Alert Device** has two eight pin connectors labeled J6 and J7. Both connectors have three grounds, and five signal and power connectors. Listed below are the purposes of those signals.

J6

- Pin 1 – Power signal from the main board. Power supplied for the Swarm Bee Module.
- Pin 2 – Swarm Radio reset is used to reset the Swarm Bee Radio Module. Connected to the Radio Module via an AND gate at pin 5.
- Pin 3 – Ground
- Pin 4 – MODEN1 signal connected directly to the Swarm Bee Radio Module's MOD_EN at Pin 6 used to enable the radio.
- Pin 5 – Ground
- Pin 6 – SWARM_TX signal connected to the Swarm Bee Radio Module's UART_TX, Pin 29, via a 22 Ohm Resistor. Used for communication to the Microcontroller on the main board.
- Pin 7 – Ground
- Pin 8 – SWARM_RX signal connected to the Swarm Bee Radio Module's UART_RX, Pin 30, via a 22 Ohm Resistor. Used for communication from the Microcontroller on the main board.

J7

- Pin 1 – Power signal from the main board. Power supplied for the Amplifier Circuit.
- Pin 2 – PDET is used to sample the ambient RF Power. (Not implemented)
- Pin 3 – Ground
- Pin 4 – DIVERSITY_ANT_CONTROL used to control which of the two antennas is currently to be used.
- Pin 5 – Ground
- Pin 6 – RX_LNA_BYPASS is used to enable or bypass the LNA control on the RX channel.
- Pin 7 – Ground
- Pin 8 – SWBEE_TX_ON is connected to the logic that provides TX control via the amplifier circuit.

Nominal Transmit Frequency

2.4 to 2.483 GHz – signals transmitted are chirps (frequency sweeps).

Modulation Scheme and Power Averaging Factor

Modulation scheme – CSS.

Power Averaging Factor – 0.4. A ranging operation takes 4 milliseconds, with an average of 10 ranging operations per second.

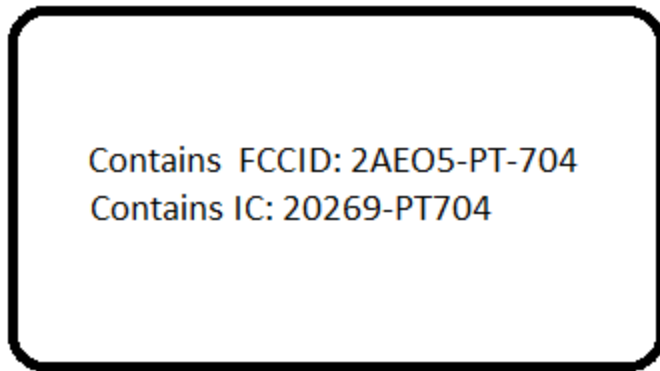
Maximum RF Output Power

20 dBm/100 mW.

***Note:** This module is only to be used in a system that has an FCC and IC Certified Power Supply.

Labelling requirement:

The final host must be label with the following



Limited Modular Approval (LMA). *The Grant for this transmitter is valid only when this transmitter is installed by the Grantee. Installation by the end user or other OEMs is expressly prohibited. Compliance of this device in all final host configurations is the responsibility of the Grantee.*

RF Exposure statement

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter

FCC Statements

“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..”

Changes or modifications not expressly approved by the Harso Rail could void the user's authority to operate the equipment.

Industry Canada Statements

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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.