Radio Modules

Flexible Configuration & Spectrum Diversity

The MPU5 and Embedded Module are both built on Persistent's Interchangeable Frequency Architecture. Both products are compatible with all of Persistent's Interchangeable Frequency Modules. This design allows you to adapt and select an operational band best suited to your environment and application without replacing your entire radio inventory or redesigning your embedded radio integration.

Additionally, as global spectrum regulations continue to evolve, the Interchangeable Frequency Module protects your investment or design from obsolescence; the module can be quickly and easily changed to ensure compliance.

ONE SOLUTION. INFINITE POSSIBILITIES.

PERSISTENT SYSTEMS

RF-1150

High Power L-Band Interchangeable Frequency Module

Specifications

Frequency Range
1350 - 1390 MHz

RF Modulation
OFDM (64QAM, 16QAM, QPSK, BPSK)

Antenna Chains
3 Independent RF Chains

TX/RX Operating Modes
All MIMO modes from SISO to 3x3

Channel Bandwidth
5, 10, and 20 MHz
Software Configurable

Peak TCP Throughput
150 Mbps at 20 MHz Channel

MIMO Techniques
Maximal Ratio Combining
Space-Time Block Coding
Spatial Multiplexing

Max. Aggregate Transmit Power
10W (3.3W per RF Chain)

Antenna Ports
(3) SMP (50 Ohms)

TX Power Control
35 to 16.5 dBm, 0.5 dB per step

Power Control Accuracy
+/- 2 dB

Frequency Accuracy
+/- 4 ppm, max.

Minimum Receiver Sensitivity
-98 dBm at 5 MHz bandwidth, BPSK

Max. RF Input
-20 dBm

Max. RF Input without Damage
+10 dBm

Max. Peak Power Consumption, TX
TBD

Power Consumption, RX
TBD

Operating Temperature
-40°C to +85°C

ESD Protection
+/- 8KV Contact discharge, per IEC 6100-4-2

Dimensions
3.8 x 2.6 x 0.5 in.
9.7 x 6.6 x 1.3 cm.

Weight
4.6 oz.
130 g

RF-2125

BAS Interchangeable Frequency Module

Specifications

Frequency Range
2025 - 2145 MHz

RF Modulation
OFDM (64QAM, 16QAM, QPSK, BPSK)

Antenna Chains
3 Independent RF Chains

TX/RX Operating Modes
All MIMO modes from SISO to 3x3

Channel Bandwidth
5, 10, and 20 MHz
Software Configurable

Peak TCP Throughput
150 Mbps at 20 MHz Channel

MIMO Techniques
Maximal Ratio Combining
Space-Time Block Coding
Spatial Multiplexing

Max. Aggregate Transmit Power
6W (2W per RF Chain)

Antenna Ports
(3) SMP (50 Ohms)

TX Power Control
33 to 16.5 dBm, 0.5 dB per step

Power Control Accuracy
+/- 2 dB

Frequency Accuracy
+/- 4 ppm, max.

Minimum Receiver Sensitivity
-95 dBm at 5 MHz bandwidth, BPSK

Max. RF Input
-5 dBm, min.

Max. RF Input without Damage
+10 dBm, min.

Max. Peak Power Consumption, TX
30.8W

Power Consumption, RX
4W

Operating Temperature
-40°C to +85°C

ESD Protection
+/- 8KV Contact discharge, per IEC 6100-4-2
+/- 15KV Air discharge, per IEC 61000-4-2

Dimensions
3.8 x 2.6 x 0.5 in.
9.7 x 6.6 x 1.3 cm.

Weight
4.6 oz.
130 g

RF-2150

High Power S-Band Interchangeable Frequency Module

Specifications

Frequency Range
2200 - 2507 MHz

RF Modulation
OFDM (64QAM, 16QAM, QPSK, BPSK)

Antenna Chains
3 Independent RF Chains

TX/RX Operating Modes
All MIMO modes from SISO to 3x3

Channel Bandwidth
5, 10, and 20 MHz
Software Configurable

Peak TCP Throughput
150 Mbps at 20 MHz Channel

MIMO Techniques
Maximal Ratio Combining
Space-Time Block Coding
Spatial Multiplexing

Max. Aggregate Transmit Power
10W (3.3W per RF Chain)

Antenna Ports
(3) SMP (50 Ohms)

TX Power Control
35 to 16.5 dBm, 0.5 dB per step

Power Control Accuracy
+/- 2 dB

Frequency Accuracy
+/- 4 ppm, max.

Minimum Receiver Sensitivity
-98 dBm at 5 MHz bandwidth, BPSK

Max. RF Input
-20 dBm

Max. RF Input without Damage
+10 dBm

Max. Peak Power Consumption, TX
40W (3 Chains @ 10W)

Power Consumption, RX
1.8W (3 Chains)

Operating Temperature
-40°C to +85°C

ESD Protection
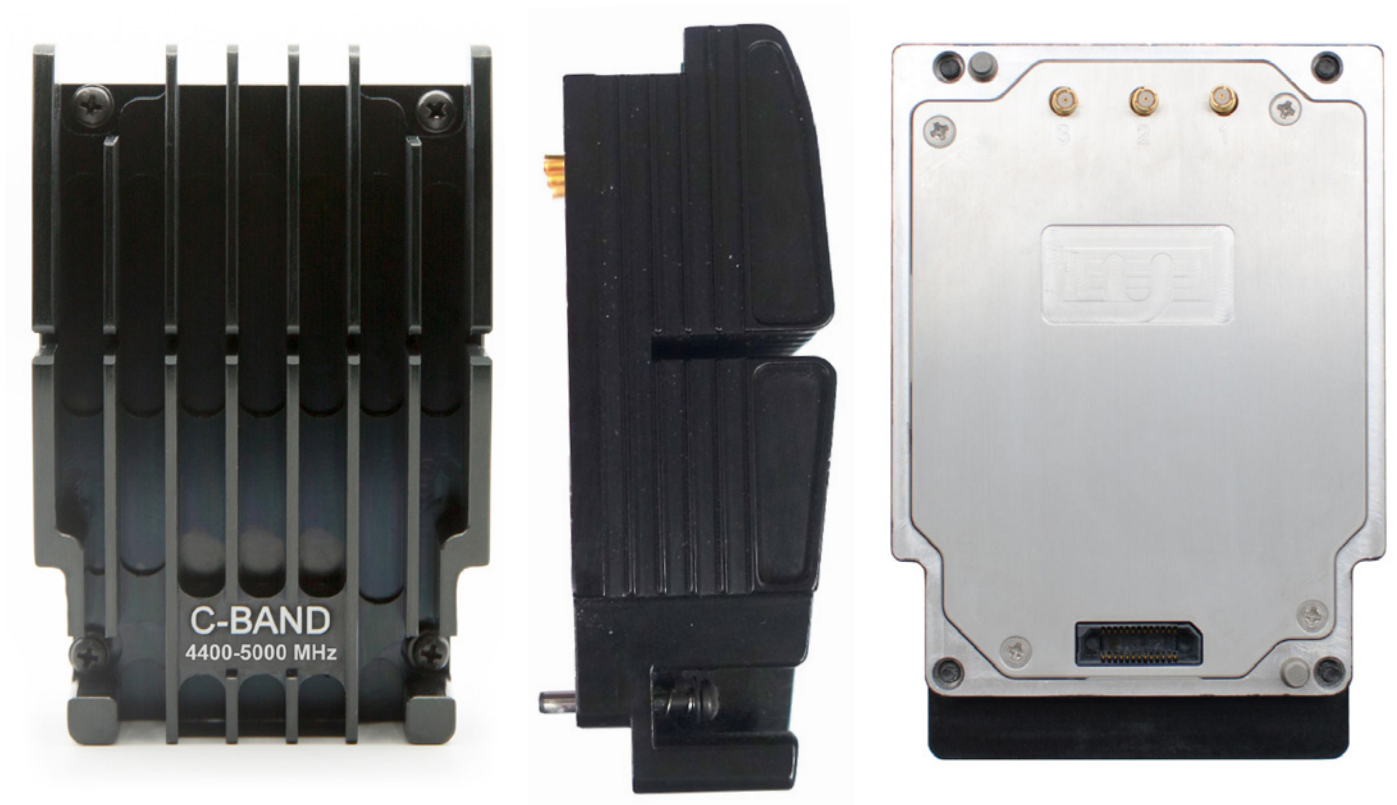+/- 8KV Contact discharge, per IEC 6100-4-2

Dimensions
3.8 x 2.6 x 0.5 in.
9.7 x 6.6 x 1.3 cm.

Weight
4.6 oz.
130 g

RF-4100

Lower C-Band Interchangeable Frequency Module

Specifications

Frequency Range
4430 - 5000 MHz

RF Modulation
OFDM (64QAM, 16QAM, QPSK, BPSK)

Antenna Chains
3 Independent RF Chains

TX/RX Operating Modes
All MIMO modes from SISO to 3x3

Channel Bandwidth
5, 10, and 20 MHz
Software Configurable

Peak TCP Throughput
150 Mbps at 20 MHz Channel

MIMO Techniques
Maximal Ratio Combining
Space-Time Block Coding
Spatial Multiplexing

Max. Aggregate Transmit Power
6W (2W per RF Chain)

Antenna Ports
(3) SMP (50 Ohms)

TX Power Control
33 to 16.5 dBm, 0.5 dB per step

Power Control Accuracy
+/- 2 dB

Frequency Accuracy
+/- 4 ppm, max.

Minimum Receiver Sensitivity
-95 dBm at 5 MHz bandwidth, BPSK

Max. RF Input
-10 dBm

Max. RF Input without Damage
+10 dBm

Max. Peak Power Consumption, TX
50W

Power Consumption, RX
5W

Operating Temperature
-40°C to +85°C

ESD Protection
+/- 8KV Contact discharge, per IEC 6100-4-2

Dimensions
4.0 x 2.6 x 1.4 in.
10.3 x 6.6 x 1.4 cm

Weight
6.98 oz.
197 g

RF-5100

Upper C-Band Interchangeable Frequency Module

Specifications

Frequency Range
5100 - 5945 MHz

RF Modulation
OFDM (64QAM, 16QAM, QPSK, BPSK)

Antenna Chains
3 Independent RF Chains

TX/RX Operating Modes
All MIMO modes from SISO to 3x3

Channel Bandwidth
5, 10, and 20 MHz
Software Configurable

Peak TCP Throughput
150 Mbps at 20 MHz Channel

MIMO Techniques
Maximal Ratio Combining
Space-Time Block Coding
Spatial Multiplexing

Max. Aggregate Transmit Power
4W (1.3W per RF Chain)

Antenna Ports
(3) SMP (50 Ohms)

TX Power Control
31 to 16.5 dBm, 0.5 dB per step

Power Control Accuracy
+/- 2 dB

Frequency Accuracy
+/- 4 ppm, max.

Minimum Receiver Sensitivity
-95 dBm at 5 MHz bandwidth, BPSK

Max. RF Input
-10 dBm

Max. RF Input without Damage
+10 dBm

Max. Peak Power Consumption, TX
50W

Power Consumption, RX
2.5W

Operating Temperature
-40°C to +85°C

ESD Protection
+/- 8KV Contact discharge, per IEC 6100-4-2

FCC Certification
FCC Part 15, Subpart B
FCC Part 15, Subpart E, 15.407, for UNII band I and III

Japan Type Certification
Article 2, Paragraph 1, Item 72
Category RB (Unmanned Mobile Image Transmission System)

Dimensions
3.8 x 2.6 x 0.5 in.
9.7 x 6.6 x 1.3 cm.

Weight
4.6 oz.
130 g

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