



# MPR7050 - Hong Kong

## Multi-Protocol RFID Reader Module Gen1, ISO 18000-6C (Gen2) in PCMCIA Type II Package



### Product Features

Compliant to Global Standards

- Class1 Gen1
- Class 0, 0+, Zuma
- ISO 18000-6C (UHF Gen2)

Designed for Hong Kong Market\*

1W Transmit Power (+30 dBm)

Antenna Ports

- Single Antenna Operation
- Switchable to 2 Separate Antennas
- 50Ω MMCX Coaxial Connectors

PCMCIA Type II Form Factor

Serial Interface 3.3V CMOS Levels, 5V tolerant

\*Pending certification

### Highly Scalable

WJ Communications' MPR7050 RFID multi-protocol reader module is designed specifically for the Hong Kong market. Operating at the UHF frequency, this product offers OEMs and System Integrators the ability to deliver highly reliable, best-in-class, high performing RFID enabled printers, RFID handholds and other RFID enabled devices. The MPR7050 reader module supports Class1, Gen1, Class 0, 0+, Zuma and ISO 18000-6C(UHF Gen2) international standards and meets the requirements to operate in Gen2 Multiple Reader Environment (MRE) mode.

### Superior Performance

WJ's innovative, cost-effective and easy to integrate reader module delivers a full 1 watt of RF power and boasts two antenna ports with the flexibility to customize RFID devices to meet application specific needs. Typical applications for the MPR7050 include Handheld RFID Readers, RFID Enabled Printers, Fork Lift Readers, Portal Readers, and Mobile RFID devices.

### Ease of Integration

The MPR7050 is packaged in a PCMCIA Type II PC Card™ form factor with serial interface, for ease of integration into various RFID devices.



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### Absolute Maximum Rating\*

Parameter	Rating	Units
ESD Protection (per ISO 7816-1)	2	KV
Maximum Operating Voltage	6	V
Operating Case Temperature	-20 to +55	°C
Storage Temperature	-40 to +65	°C

\*Operation of this device above any of these parameters may cause permanent damage.

### Specifications

Operating Conditions:  $V_{CC} = 5.00$  VDC,  $T_{AMB} = 25^{\circ}\text{C}$ ,  $50 \Omega$  System.

Symbol	Parameter	Min	Typ	Ma x	Units
$f_{RFID}$	RF Frequency—UHF Operation	920		925	MHz
$f_{CH}$	Channel Spacing		500		kHz
CH	Frequency Hopping Channels (See Hop Frequency Channels Table below)		8		Channels
$V_{CC}$	Supply Voltage @ 1.3A, Connected to System*	4.900	5.00	5.5	V
$I_{PEAK\ OP}$	Peak Operating Current		1.1	1.3	A
$P_{TX-Max}$	Maximum Transmit Power		+29.6	+30	dBm
$P_{RANGE}$	Power Control Range		12		dB
	Step Size		1		dB
$T_{OPERATING}$	Operating Temperature Range	-20		+50	°C
$S_f$	Frequency Stability			$\pm 10$	ppm

\*Measured at connector for 1.3A load.



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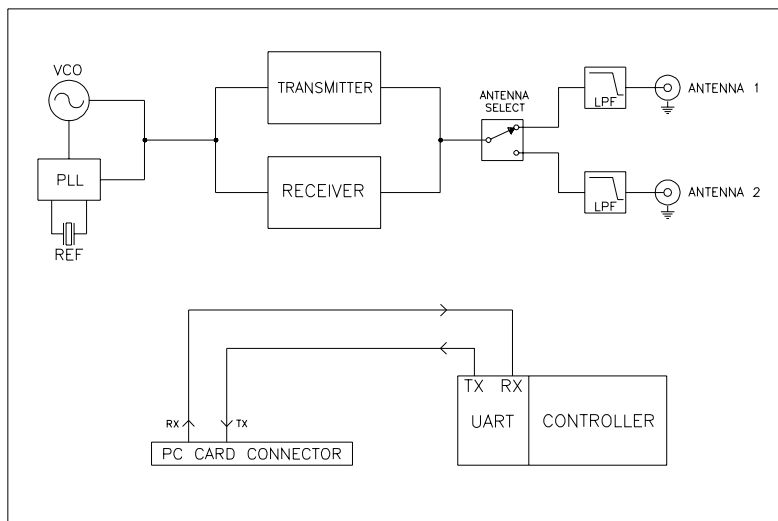
### Protocol Support

Protocol	ID Read	ID Write	Data Read	Data Write	Password Write	Lock	Kill
EPC Class1 Gen1	X	X			X	X	X
Class 0	X		X				X
Class 0+	X	X	X	X	X	X	X
Class 0+ (ZUMA)	X	X	X	X	X	X	X
ISO 18000-6C (UHF Gen2)	X	X	X	X	X	X	X

### Hop Frequency Channels

Channel	Hop Frequencies (MHz)
1	920.75
2	921.25
3	921.75
4	922.25
5	922.75
6	923.25
7	923.75
8	924.25

### Block Diagram



\*Simplified block diagram of the MPR7020 reader module



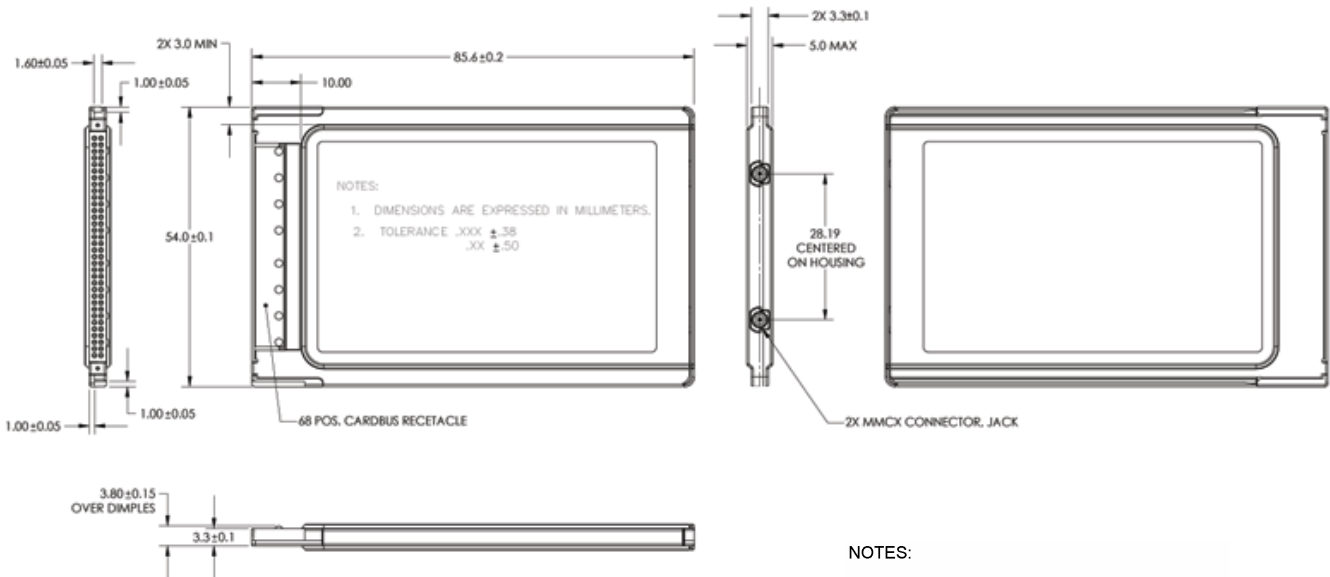
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### Mechanical Information

#### PC Card™ Mechanical Specifications

The MPR7050 is housed in a standard 68-pin PCMCIA Type II PC Card™ form factor and the physical dimensions are listed in the diagram below.



- NOTES:
1. DIMENSIONS ARE EXPRESSED IN INCHES.
  2. TOLERANCE .XXX  $\pm .015$   
.XX  $\pm .02$