

rfid as a feature



## SkyePlus MXU



860-960MHz UHF Multiplexer

### APPLICATIONS:

- Retail Item-Level Management
- Manufacturing Lines
- Other Multiple Read-Point Applications

### FEATURES:

- Low Insertion Loss
- Configurable as 4 Way or 8 Way
- Added Flexibility
- Excellent Signal Integrity
- Fast Switching Speed

### BENEFITS:

- Robust Signal Processing
- Straightforward Customization
- 360° Spatial Diversity
- Minimize Reader Deployment Costs

### Product Overview

The SkyePlus™ MXU expands a UHF reader's capability by adding support for up to 8 antennas. Digital control of the MXU is accomplished by either the host processor or reader module allowing any of the 8 antennas to be explicitly addressed using 3 GPIO pins. Additional multiplexers can be added to increase the number of antennas a module can support beyond 8 presenting a scalable solution.

- Low Insertion Loss: <1.4 dB
- Isolation: 30 dB
- Control Voltage: CMOS or TTL Levels

### About SkyePlus MXU

The MXU can be equipped with 4 or 8 antenna ports depending on the application requirements. Infrastructure costs are reduced by using the MXU to minimize the number of readers required to support multiple read-points.

### Electrical Specifications

| Parameter      | Frequency   | Min | Typ | Max | Units |
|----------------|-------------|-----|-----|-----|-------|
| Insertion Loss | 860-960 MHz |     | 1   | 1.4 | dB    |
| Isolation      | 860-960 MHz | 28  | 30  |     | dB    |
| Return Loss    | 860-960 MHz |     | 22  |     | dB    |

### Applications

The SkyePlus MXU, used in conjunction with a SkyeTek UHF reader, eases integration efforts for those devices requiring multiple read-points by eliminating the need for multiple modules in such applications as:

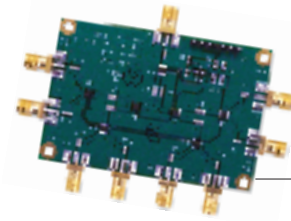
- Retail Item-Level Management
- Manufacturing Lines
- Other Multiple Read-Point Applications

The MXU compliments SkyeTek UHF Tagnostic® reader technology which is offered in a variety of form factors making it easy to embed in any device.

**About Skyetek:**

SkyeTek, Inc., maker of ReaderWare™ is the leading supplier of RFID reader software and reference designs that enable the pervasive adoption of RFID technology. SkyeTek's Tagnostic™ reader technology works with most industry standard tags and smart labels, its low power requirements and a small form factor make it the optimal choice for embedding into new or existing products. SkyeTek's RFID reader technology is available in several formats including reader modules, hardware reference designs, and the ReaderWare™ software suite. SkyeTek markets to OEM customers in targeted vertical markets with several high-volume licensing options available. For more information about SkyeTek, visit [www.skyetek.com](http://www.skyetek.com) or call 720-565-0441.

SkyeTek is based in Colorado.  
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 Ste 300, Westminster, CO 80020 USA



**SkyePlus MXU**

**SkyePlus MXU Specifications**

**Physical Characteristics**

|                    |   |                 |                    |
|--------------------|---|-----------------|--------------------|
| Dimensions (LxWxH) | 95.5x70.4x11.3 mm<br>(Including 8 SMAs) | RF Connections: | 50 ohm SMA (input) |
| Weight             | TBD                                     | - 4x Output     | 50 ohm SMA         |
|                    |   | - 8x Output     | 50 ohm SMA         |

**Absolute Maximum Ratings**

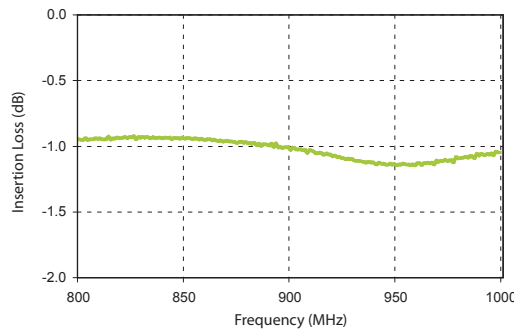
|   |                  |        |
|---|------------------|--------|
| Max Input Power<br>V <sub>ctl</sub> = 0/+5V                   | 860 - 960 MHz    | 39 dBm |
| Control Voltage Range (A&B)                                   | -0.2 to +5.5 Vdc |        |
| Hot Switching Power Level<br>V <sub>ctl</sub> = 0/+5V         | 39 dBm           |        |
| Channel Temperature   | 150° C           |        |
| Continuous Pdiss (T = +85° C)<br>(derate 6 mW/°C above 85° C) | 0.38W            |        |
| Max Allowed switching Capacity                                | 2W               |        |
| Thermal Resistance  | 173°C/W          |        |
| Storage Temperature   | -65 to 150° C    |        |
| Operating Temperature   | -40 to +85° C    |        |

**Electrical Characteristics**

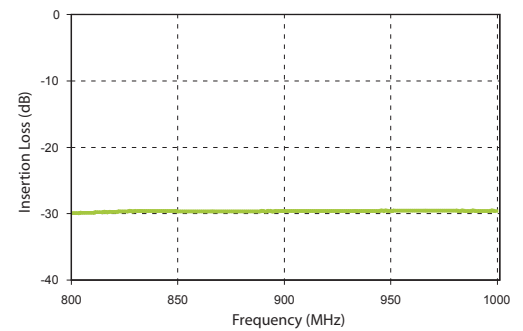
|                     |                          |
|---------------------|--------------------------|
| Power Supply        | 3.2 – 5.5V               |
| Power Consumption   | 200 µA                   |
| Operating Frequency | 860 - 960 MHz            |
| Digital Inputs      | 3 inputs<br>0/3.3V, 0/5V |

|       |                 |
|-------|-----------------|
| State | Bias Condition  |
| Low   | 0 to +0.2Vdc    |
| High  | +3 Vdc<br>+5Vdc |

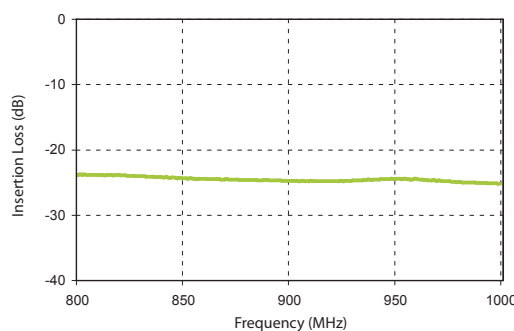
**Insertion Loss**



**Isolation**



**Return Loss**



**Other Offerings from Skyetek**

SkyeTek provides a variety of reader technology at both 13.56 MHz (HF) and ~900 MHz (UHF). The M1-Mini, also part of the SkyeModule HF line, offers an even smaller design with comparable features. ReaderDNA is a comprehensive reference design available for component level integration of RFID reader technology, including complete design files, BOM, and test fixtures. ReaderWare, an open-architected software suite residing on all SkyeTek's modules and available with ReaderDNA, provides intelligence to the RFID reader hardware. The SkyeModule M8 is a low power, compact, UHF reader compatible with EPC and ISO transponders. All SkyeModules are controlled via the SkyeTek Protocol, a powerful but simple communication protocol that grants the user access to all features of an RFID transponder. Further, they have been designed with flexible and modular embedded software that allows one to select only the desired features.



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