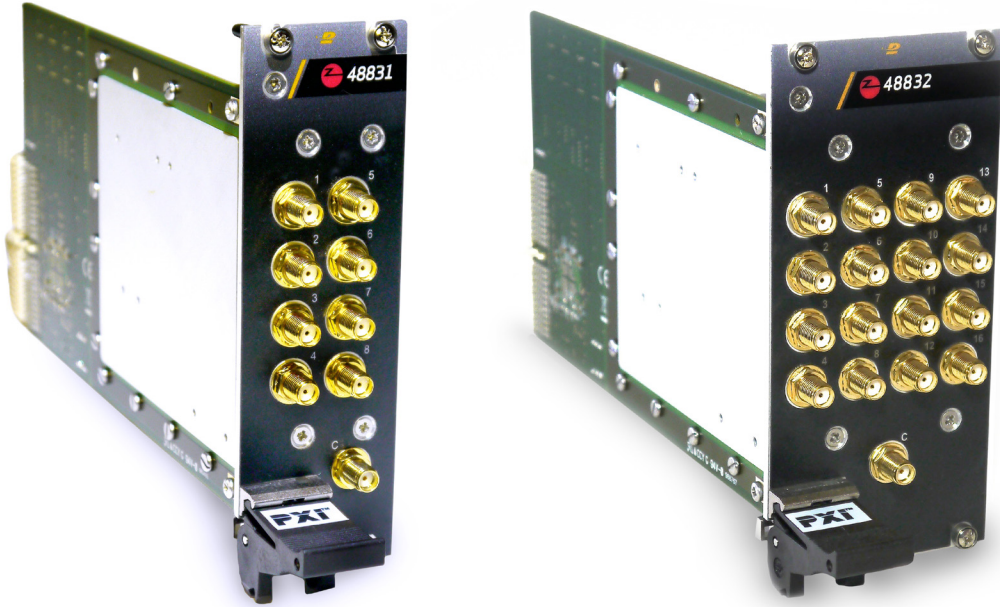


z48831 / z48832  
8:1/ 16:1 6 GHz  
Multiplexer Module



# Port Descriptions



## Front Panel

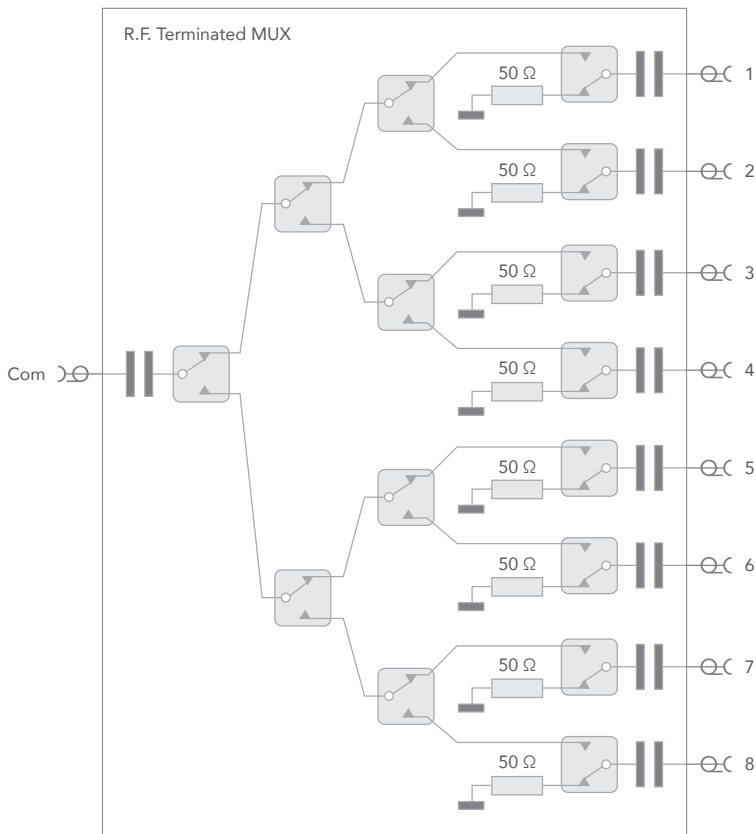
Label	Type	Description
1-16	SMA	RF1 to RF16 Multiplexer Input/Output Channels
C	SMA	RF COM port for corresponding RF1 to RF8/ RF1 to RF16 channels

---

## General Specifications

Specification	Value
Characteristic Impedance	50 $\Omega$
Maximum RF Power	+30 dBm (hot or cold switching)
Maximum DC Voltage	16 V (AC coupled)
Life Expectancy	Indefinite when used within ratings
Operate Time	50 $\mu$ s
RF Switching Time	10 $\mu$ s typical rise and fall time
RF Connectors	SMA

## z48831 Electrical Specifications



### z48831 RF Specification 8:1

Specification	Value
Bandwidth	6 GHz (useable to 7 GHz)
Insertion Loss	<2.1 dB @ 10 MHz typical <3.5 dB to 3 GHz typical <5 dB to 6 GHz typical
VSWR COM-CH CH-COM:	<1.5:1 to 6 GHz typical
VSWR termination	<1.4:1 to 6 GHz typical
Isolation	>70 dB to 6 GHz typical
Crosstalk	<-63 dB to 6 GHz typical

# Typical Characteristics

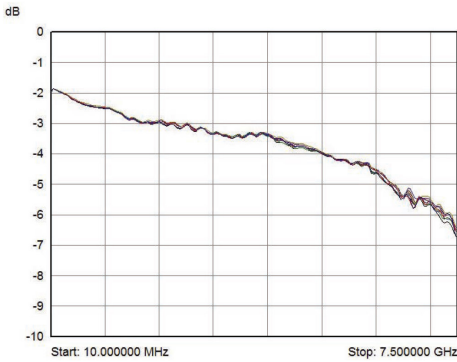


Figure 1: z48831 insertion loss all paths up to 6 GHz

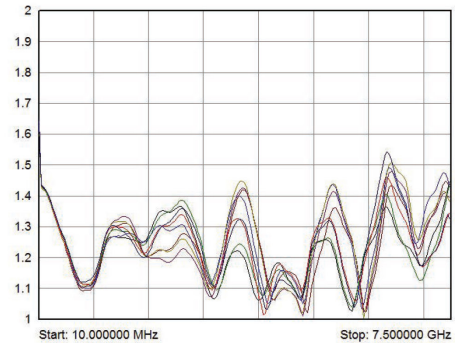


Figure 2: z48831 VSWR Channel to COM all paths up to 7.5 GHz

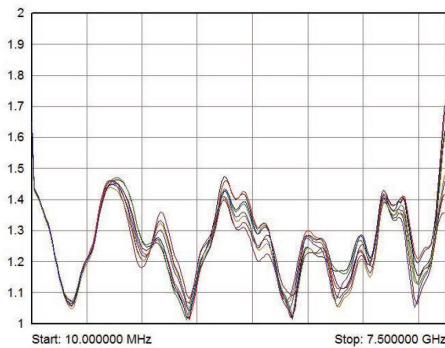


Figure 3: z48831 VSWR COM to Channel all paths up to 7.5 GHz

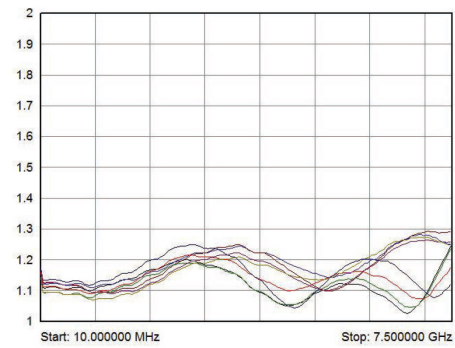


Figure 4: z48831 internal termination on channel showing all paths up to 7.5 GHz

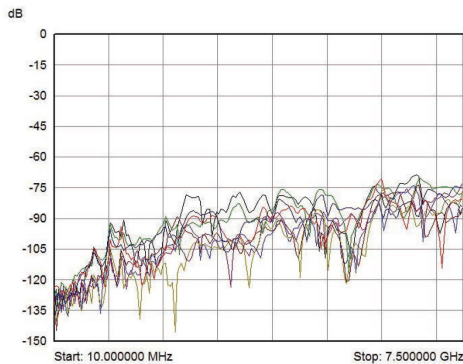


Figure 5: z48831 max isolation for each channel with distant path up to 7.5 GHz

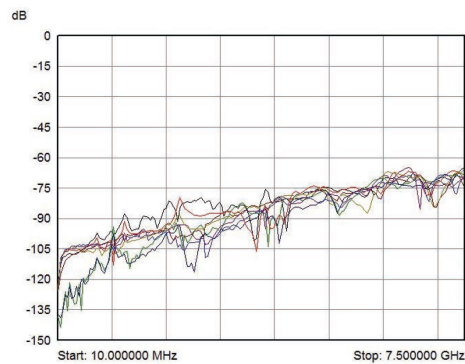
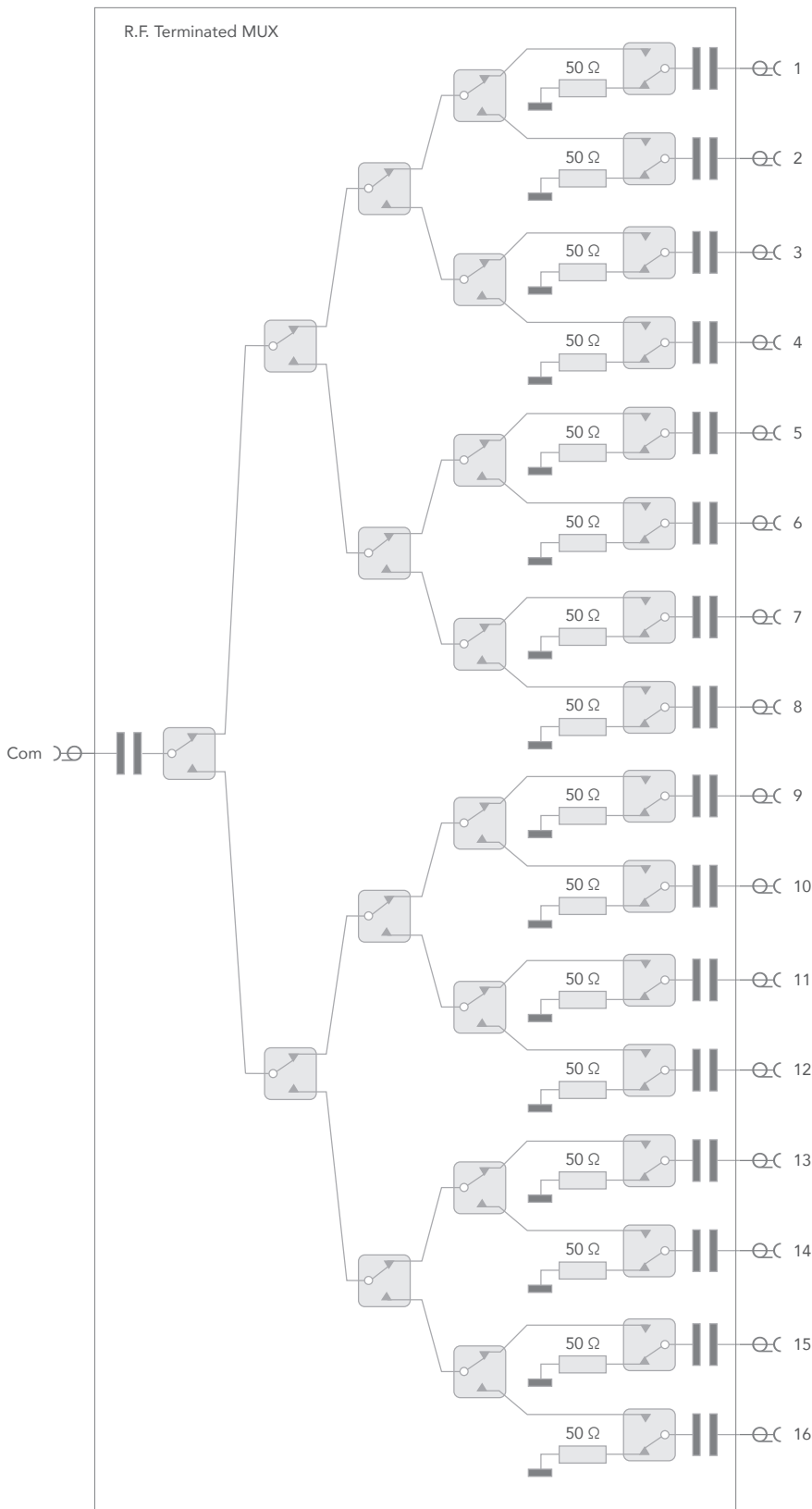


Figure 6: z48831 Crosstalk between adjacent channels all paths up to 7.5 GHz

# z48832 Electrical Specifications



## z48832 RF Specification 16:1

Specification	Value
Bandwidth	6 GHz (useable to 7GHz)
Insertion Loss	<2.2 dB @ 10 MHz typical <3.7 dB to 3 GHz typical <5.5 dB to 6 GHz typical
VSWR CH-COM	<1.6:1 to 6 GHz typical
VSWR COM-CH	<1.7:1 to 6 GHz typical
VSWR termination	<1.4:1 to 6 GHz typical
Isolation	>63 dB to 6 GHz typical
Crosstalk	<-63 dB to 6 GHz typical

# Typical Characteristics

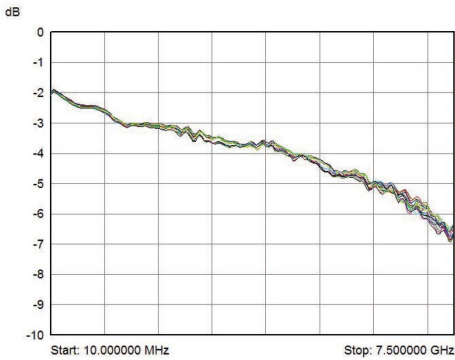


Figure 7: z48832 insertion loss all paths up to 6 GHz

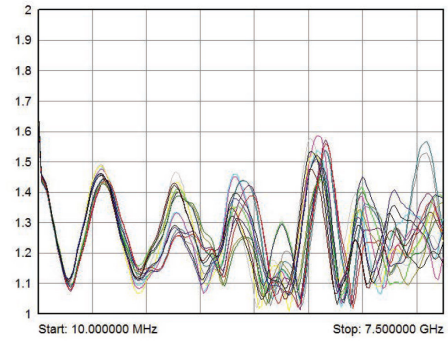


Figure 8: z48832 VSWR Channel to COM all paths up to 7.5 GHz

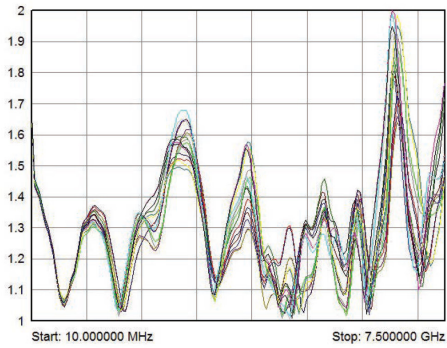


Figure 9: z48832 VSWR COM to Channel all paths up to 7.5 GHz

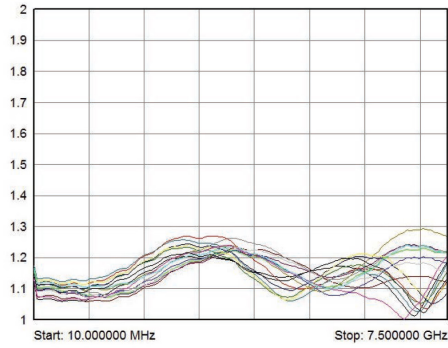


Figure 10: z48832 internal termination on channel showing all paths up to 7.5 GHz

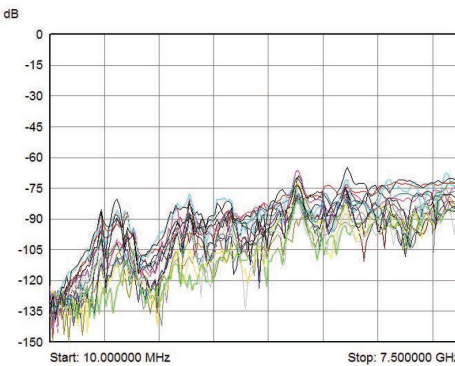


Figure 11: z48832 max isolation for each channel with distant path up to 7.5 GHz

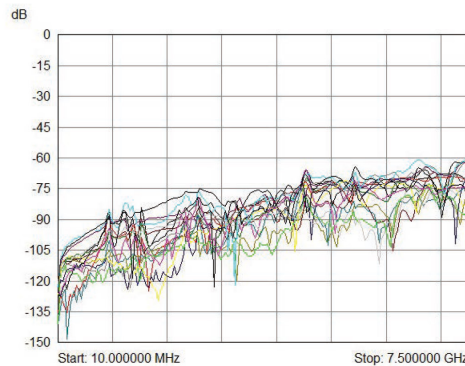


Figure 12: z48832 Crosstalk between adjacent channels all paths up to 7.5 GHz



## Power Supplies

Voltage	Maximum Current
+3.3 V	0.03 A
+5 V	0.10 A
+12 V	0.00 A
-12 V	0.00 A

## Physical & Environmental

### Size & Weight

Specification	Value
8:1 Physical Size	2 slot 3U PXI Instrument
16:1 Physical Size	3 slot 3U PXI Instrument

### Temperature & Humidity

Specification	Value
Operating Temperature	0° C to +55° C
Storage Temperature	-20° C to +75° C
Operating Humidity	Up to 90%, non-condensing
Storage Humidity	Up to 90%, non-condensing

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## Terminology

### Numeric Prefixes

When referring to numeric values, this document will use SI (International System of Units) and IEC (International Electrotechnical Commission) standard prefixes. Prefix definitions are in the following table.

Prefix	Multiplier
n (nano)	$1/(1000 \times 1000 \times 1000)$
$\mu$ (micro)	$1/(1000 \times 1000)$
m (milli)	$1/1000$
k/K (kilo)	1000
M (Mega)	$1000 \times 1000$
G (Giga)	$1000 \times 1000 \times 1000$
Ki (Kibi)	1024
Mi (Mebi)	$1024 \times 1024$
Gi (Gibi)	$1024 \times 1024 \times 1024$

### Differential Outputs

**Single-Ended** is used to refer to the output on either the + or – output pin

**Differential** is used to refer to the output between the + and- output pins

**Vd indicates** Volts differential

**Vppd** indicates Volts peak-to-peak differential

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## Safety

This product is designed to meet the requirements of the following standard of safety for electrical equipment for measurement, control and laboratory use: EN 61010-1

## Electromagnetic Compatibility

CE Marking EN 61326-1:1997 with A1:1998 and A2:2001 Compliant

FCC Part 15 (Class A) Compliant

## Emissions

EN 55011	Radiated Emissions, ISM Group 1, Class A, distance 10 m, emissions < 1 GHz
EN 55011	Conducted Emissions, Class A, emissions < 30 MHz Immunity
EN 61000-4-2	Electrostatic Discharge (ESD), 4 kV by Contact, 8 kV by Air
EN 61000-4-3	RF Radiated Susceptibility, 10 V/m
EN 61000-4-4	Electrical Fast Transient Burst (EFTB), 2 kV AC Power Lines
EN 61000-4-5	Surge
EN 61000-4-6	Conducted Immunity
EN 61000-4-8	Power Frequency Magnetic Field, 30 A/m
EN 61000-4-11	Voltage Dips and Interrupts

## CE Compliance

This product meets the necessary requirements of applicable European Directives for CE Marking as follows:

73/23/EEC Low Voltage Directive (Safety)

89/336/EEC Electromagnetic Compatibility Directive (EMC)

See Declaration of Conformity for this product for additional regulatory compliance information.

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#### CONTACT INFORMATION

LitePoint Corporation  
575 Maude Court  
Sunnyvale, CA 94085-2803  
United States of America

+1.866.363.1911  
+1.408.456.5000

#### LITEPOINT TECHNICAL SUPPORT

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