

z48811

6:1 6 GHz Multiplexer Module



Port Descriptions



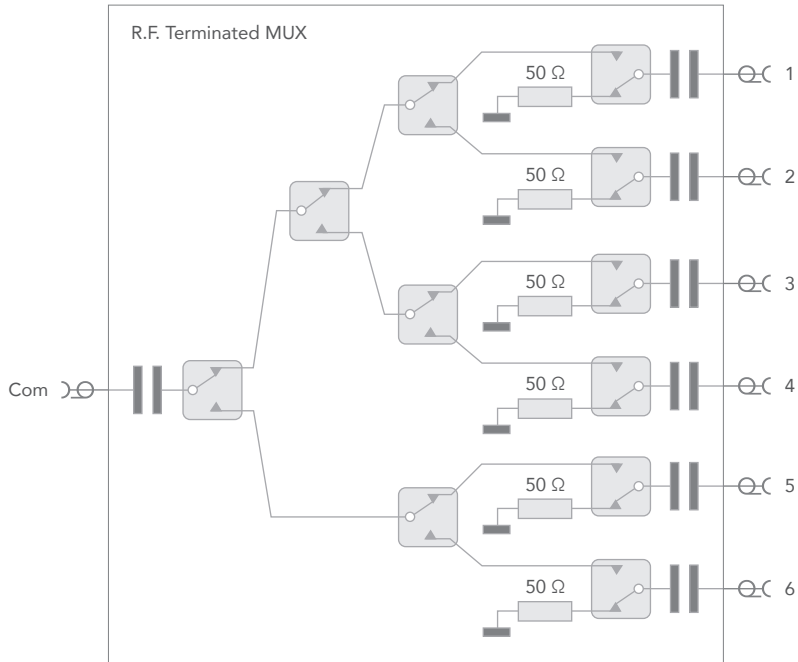
Front Panel

Label	Type	Description
1,2,3,4,5,6	SMA	RF1 to RF6 Multiplexer Input/Output Channels

RF Specifications

Specification	Value
RF Frequency Range	10 MHz to 6 GHz
Insertion Loss	<2.8 dB @ 50 MHz typical <3.6 dB to 3 GHz typical <4.7 dB to 6 GHz typical
VSWR Channel to COM	<1.45:1 to 6 GHz typical
VSWR COM to Channel	<1.50:1 to 6 GHz typical
VSWR Internal termination	<1.40:1 to 6 GHz typical
Isolation	>70 dB to 6 GHz typical
Crosstalk	<-70 dB to 6 GHz typical
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 μ s
RF Switching Time	10 μ s typical rise and fall time
RF Connectors	SMA

Block Diagram



Typical Characteristics

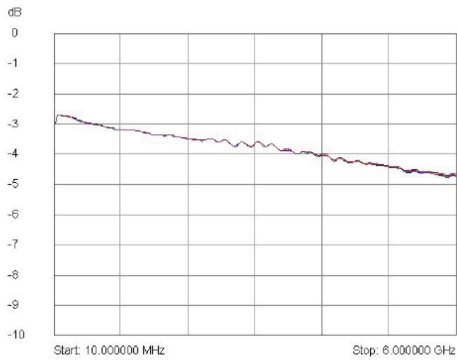


Figure 1: z48811 insertion loss all paths up to 6 GHz

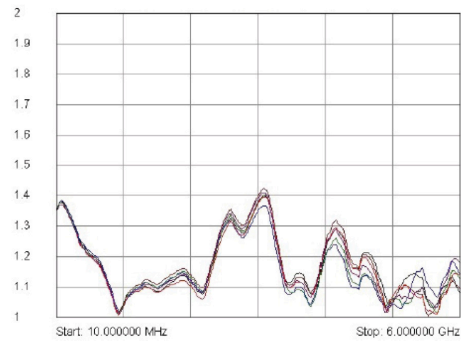


Figure 2: z48811 VSWR Channel to COM all paths up to 6 GHz

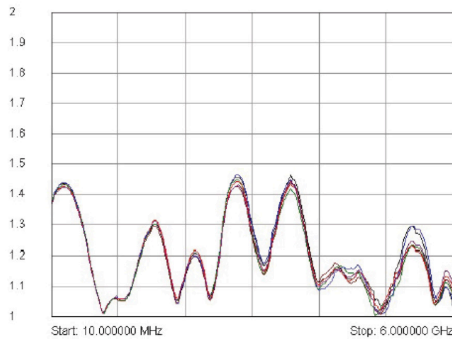


Figure 3: z48811 VSWR COM to Channel all paths up to 6 GHz

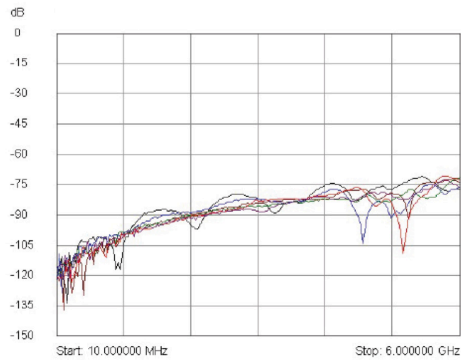


Figure 4: z48811 isolation between adjacent channels all paths up to 6 GHz

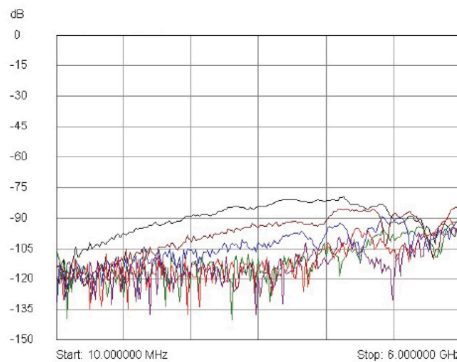


Figure 5: z48811 max isolation for each channel with distant path up to 6 GHz

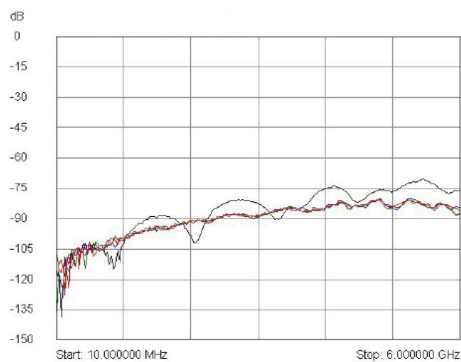


Figure 6: z48811 Crosstalk between channel 1 and all other paths (worst case) up to 6 GHz

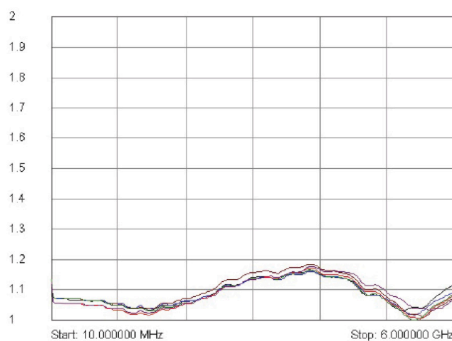


Figure 7: z48811 internal termination on channel for all paths up to 6 GHz

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
Physical size	1 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

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)	$1/(1000 \times 1000 \times 1000)$
μ (micro)	$1/(1000 \times 1000)$
m (milli)	$1/1000$
k/K (kilo)	1000
M (Mega)	1000×1000
G (Giga)	$1000 \times 1000 \times 1000$
Ki (Kibi)	1024
Mi (Mebi)	1024×1024
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

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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