



# PR-3-M

## 3 GHz PhotoReceiver, Module



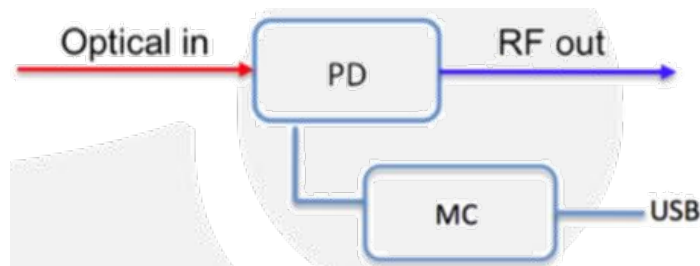
- アンテナリモーティング及び光ファイバーを介したRF伝送アプリケーション向け 3GHzフォトダイオードモジュールです。
- USB2.0ポートを介して、検出データが得られます。
- このモジュールは、3GHzを越える光からRFへの変換をします。

### FEATURES

- Remote Monitoring via USB Port
- Status Monitoring: RS-485 (standard)
- Highly Linear for Analog Signals Transmission
- High Dynamic Range
- Integrated TIA
- RF Bandwidth up to 3 GHz

### USE IN

- RF Transmission over Fiber
- RF/IF Signal Distribution
- Broadband Delay-line
- LIDAR Receivers
- Phase Array Antenna



### SPECIFICATIONS

#### GENERAL

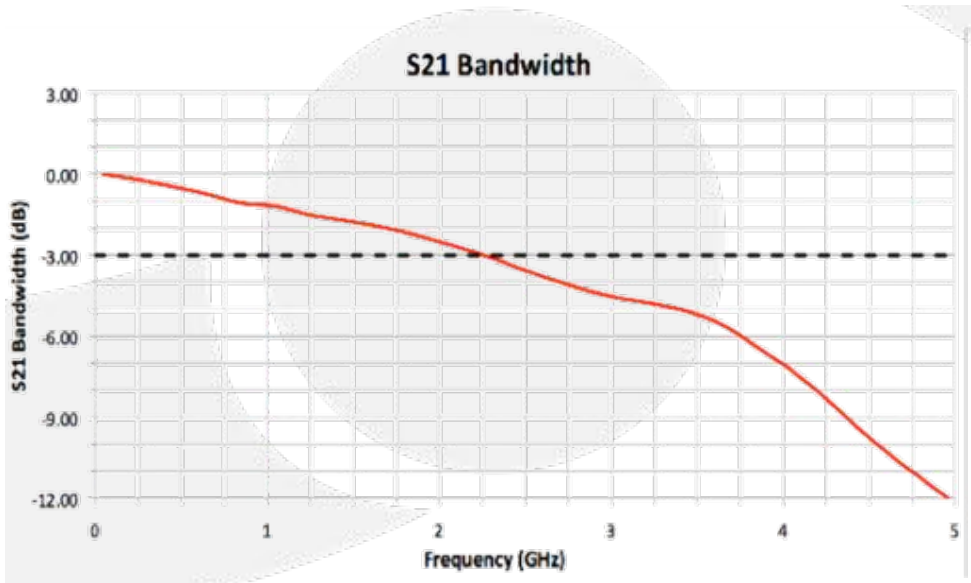
Photodiode Wavelength Range	1260 nm to 1600 nm
Operational Bandwidth	60 KHz to 3.5 GHz
Optical Input Level	1 mW max.
Responsivity	0.85 A/W @ 1550 nm typ., 0.80 A/W @ 1310 nm typ.
S21 3 dB Bandwidth	2 GHz typ.
S22 Characteristics	< -10 dB @ 2 GHz
Optical Return Loss	-30.0 dB typ.
2 <sup>nd</sup> Harmonics Distortion	-60.0 dBc max.
3 <sup>rd</sup> Harmonics Distortion	-65.0 dBc max.
Optical PDL @ 1550 nm	0.05 dB max.
Output Coupling	AC Coupled
RF Impedance	50 Ω
Ripple over Bandwidth	± 1.0 dB max.

#### MECHANICAL

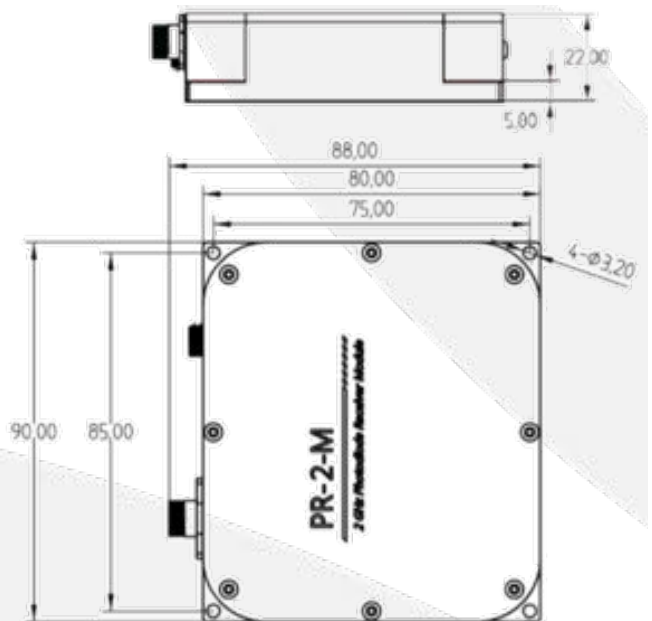
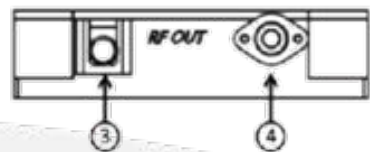
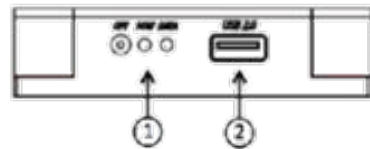
Operating Temperature	-10 °C to +50 °C
Storage Temperature	-20 °C to +80 °C
Power Supply Requirements	+5 V DC, 500 mA max.
Optical Connector	FC/APC, SC/PAC Optional
RF Input Connector	SMA Connector Female, 50 Ω
Local Alarm	LED: Optional Input Power
Remote Alarms	RS-232 Interface (standard) via USB
Dimensions	90 mm x 80 mm x 22 mm
Accessories Included	USB Adaptor & Cable
Housing	Precision Mach. Anodized Aluminum



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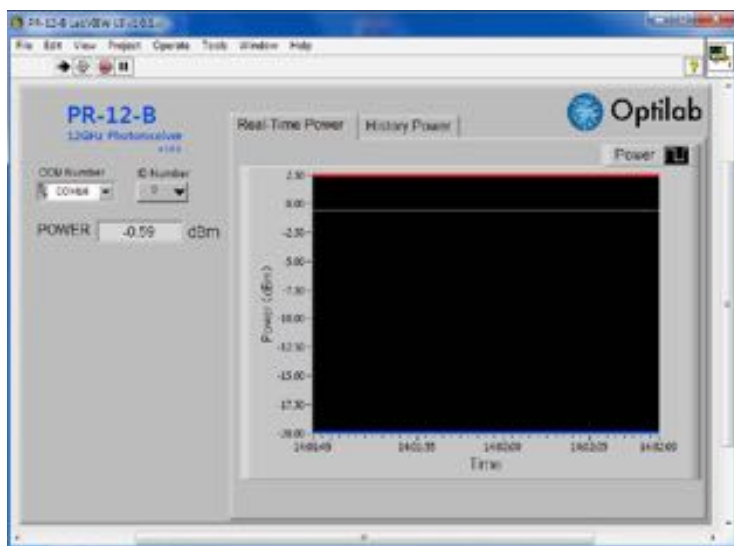
MECHANICAL DRAWING



Port Function Description

1	Status LED
2	USB 2.0
3	RF Output
4	Optical Input

via Labview software





# 12GHz ハイゲインフォトレシーバー

## PR-12-B-M

### 10 GHz High-Gain Photo Receiver



## PR-12-C-M

### 12 GHz High-Gain Photo Receiver



- **10GHzタイプ/12GHzタイプ** PINフォトレシーバーモジュールです。
- シングルモード光ファイバーを使用したRFオーバーファイバー、アンテナリーモテイングブロードバンドRF信号伝送アプリケーション向けに設計されています。
- このモジュールは、広帯域幅のPINフォトダイオードに加え、**10GHz/12GHz**を越える周波数範囲への光からRFへの変換をします。制御トランスインピーダンス (TIA) を使用します。

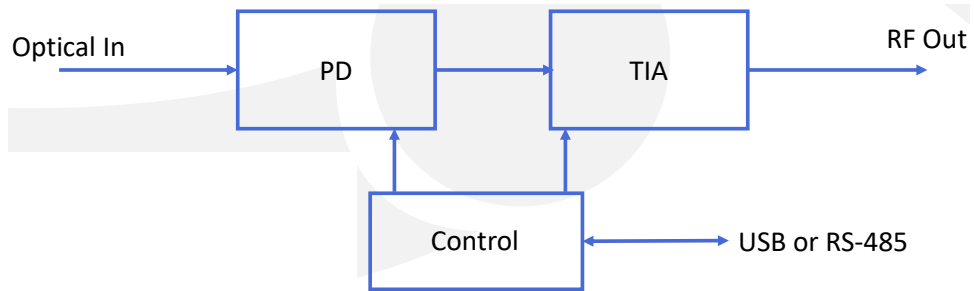
#### FEATURES

- RFoF Receiver, 0.01 GHz to 12 GHz
- Remote monitor through USB 2.0 or RS-485
- Housing designed for RF shielding

#### USE IN

- 12 GHz RF Transmission over Fiber
- RF/IF signal distribution
- Satcom microwave antenna signal distribution
- Broadband delay-line and signal processing
- Radar system link
- Phased and interferometric array antenna

#### FUNCTION DIAGRAM



#### SPECIFICATIONS

##### GENERAL

Photodiode Wavelength Range	1250 nm to 1650 nm
Operational Bandwidth	0.01 GHz to 12 GHz
Optical Input Level	+3 dBm Maximum
Responsivity	0.85 A/W @ 1550 nm Typical
Conversion Gain	300 V/W typ.
Bandwidth	12 GHz typ.
S22 Characteristics	<-10 dB to 10 GHz typ.
Optical Return Loss	-30.0 dB typ.
2 <sup>nd</sup> Harmonic Distortion	-60.0 dBc max.
3 <sup>rd</sup> Harmonic Distortion	-70.0 dBc max
Optical PDL @ 1550 nm	0.05 dB typ., 0.1 dB max.
Output Coupling	AC Coupled
RF Impedance	50 Ω
Ripple Over Bandwidth	± 1.0 dB
Noise Equivalent Power (NEP)	11 pW/√Hz @ 1 GHz

##### MECHANICAL

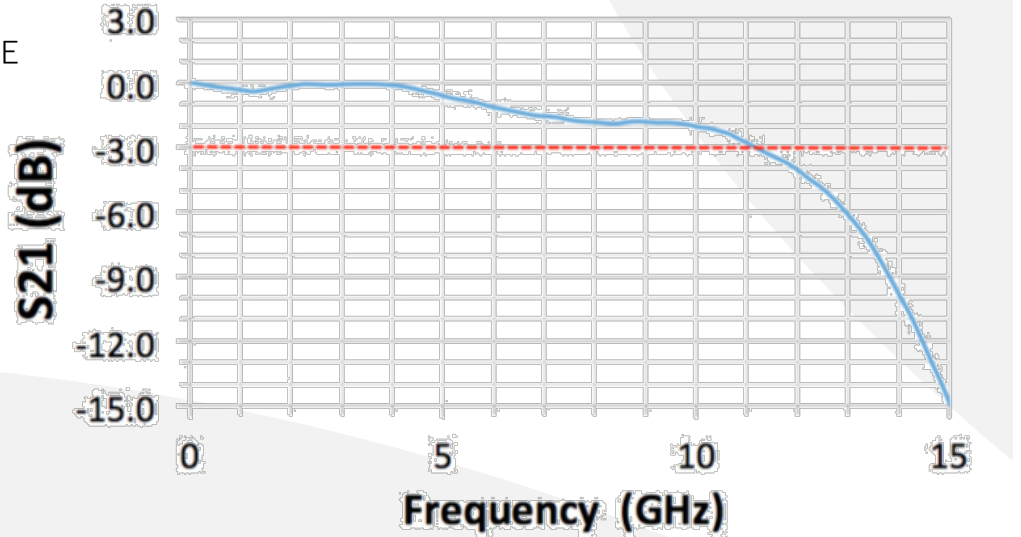
Operating Temperature	-20°C to +70 °C
Storage Temperature	-55 °C to +85 °C
Power Supply Requirements	±5 V DC, 2 A max.
Optical Connector	FC/APC
RF Input Connector	K Connector Female, 50 Ω
DC Connector	USB 2.0
Local Alarm	LED: Optional Input Power
Remote Alarms	RS-232 Interface (optional)
Dimensions	90mm x 80mm x 22mm
Included Accessories	110 V - 240 V AC Adaptor & Cable
Housing	Precision Mach. Anodized Aluminum



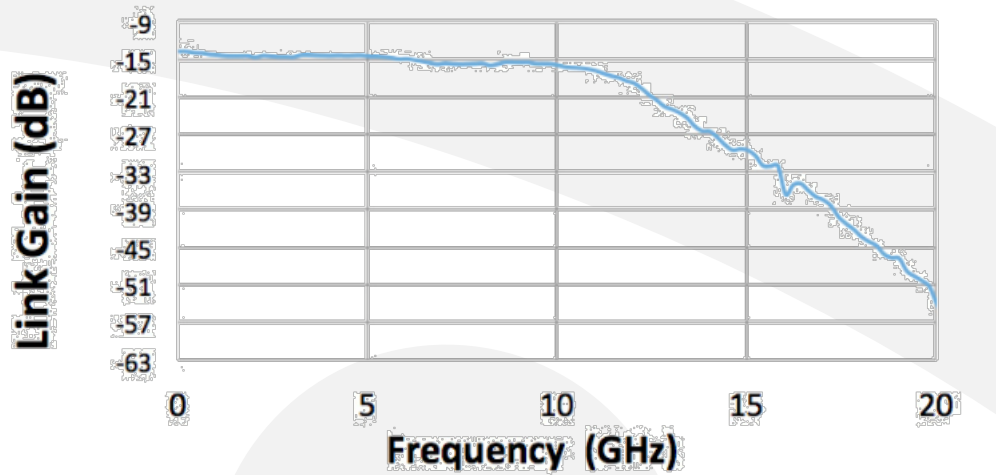
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# 10 GHz High-Gain Photo Receiver

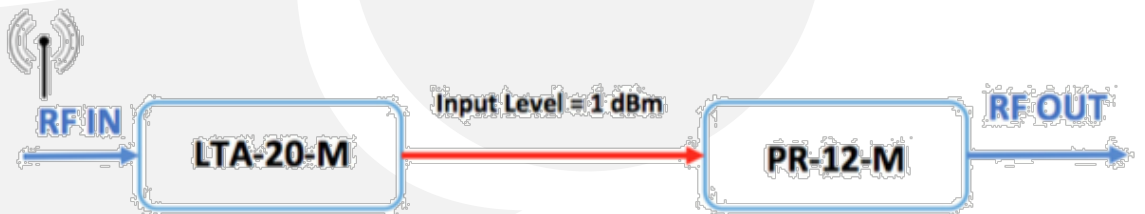
TYPICAL S21 RESPONSE



LINK GAIN

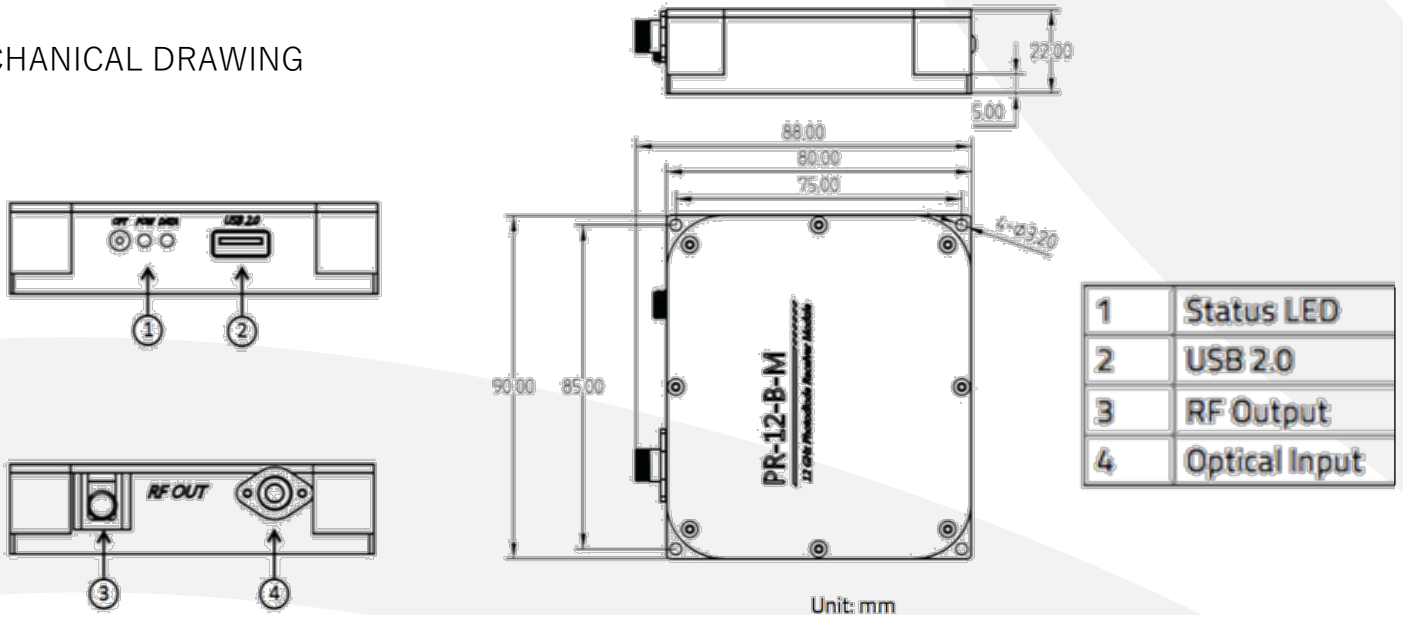


TEST CONDITIONS & LINK GAIN MEASUREMENTS

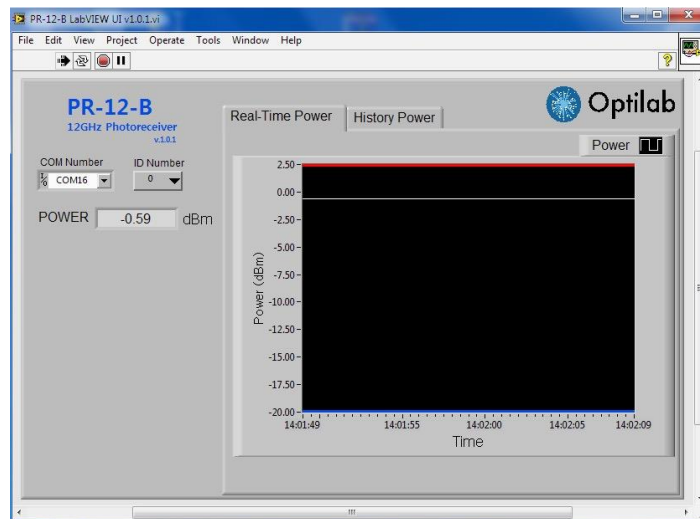


# 10 GHz High-Gain Photo Receiver

## MECHANICAL DRAWING



## remote interface via LabVIEW software





## 12 GHz High-Gain Photo Receiver

### SPECIFICATIONS

GENERAL	Photodiode Wavelength Range	1250 nm to 1650 nm
	Operational Bandwidth	0.01 GHz to 12 GHz
	Optical Input Level	+3 dBm Maximum
	Responsivity	0.85 A/W @ 1550 nm Typical
	Conversion Gain	350 V/W min., 400V/W typ.
	Bandwidth	12 GHz typ.
	S22 Characteristics	<-10 dB to 10 GHz typ.
	Optical Return Loss	-30.0 dB typ.
	2 <sup>nd</sup> Harmonic Distortion	-60.0 dBc max.
	3 <sup>rd</sup> Harmonic Distortion	-70.0 dBc max.
	Optical PDL @ 1550 nm	0.05 dB typ., 0.1 dB max.
	Output Coupling	AC Coupled
	RF Impedance	50 Ω
	Ripple Over Bandwidth	± 1.0 dB
Noise Equivalent Power (NEP)	10 pW/√Hz @ 1 GHz	

MECHANICAL	Operating Temperature	-20°C to +70 °C
	Storage Temperature	-55 °C to +85 °C
	Power Supply Requirements	±5 V DC, 2 A max.
	Optical Connector	FC/APC
	RF Input Connector	K Connector Female, 50 Ω
	DC Connector	USB 2.0
	Local Alarm	LED: Optional Input Power
	Remote Alarms	RS-232 Interface (optional)
	Dimensions	90mm x 80mm x 22mm
	Included Accessories	110 V - 240 V AC Adaptor & Cable
	Housing	Precision Mach, Anodized Aluminum

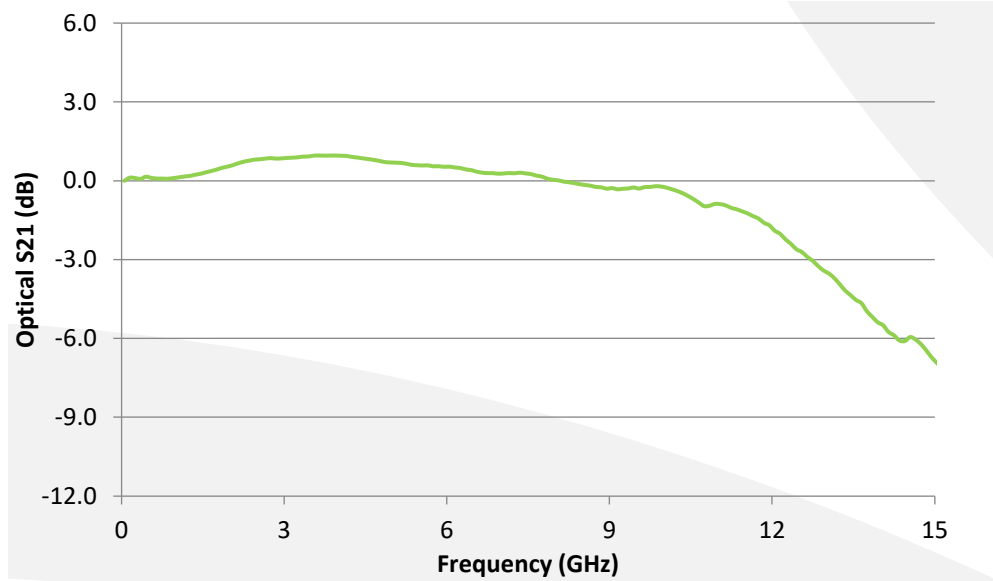


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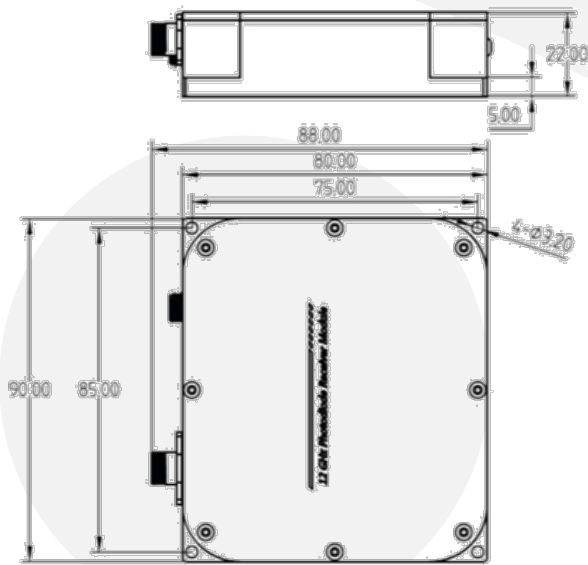
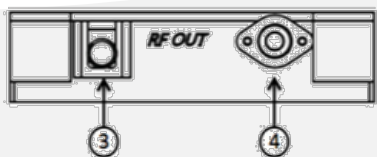
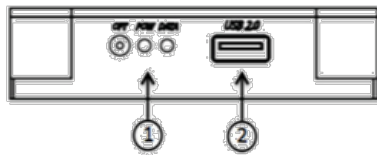


# 12 GHz High-Gain Photo Receiver

## TYPICAL S21 RESPONSE



## MECHANICAL DRAWING



1	Status LED
2	USB 2.0
3	RF Output
4	Optical Input

Unit: mm



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