Product Description

ATEK9292 is a 2.92mm/K PCB End-Launch connector operating to 40 GHz and above, supporting Microwave and mmWave applications covering 5G and Ka-Band SATCOM frequencies.

ATEK9292 provides better than 20 dB return loss up to 40 GHz and beyond, enabling Ka-Band telecommunication applications.

Easy installation does not require soldering, allowing the connector to be easily re-used on multiple evaluation applications.

Precision manufacturing of the connectors enables superior electrical and RF performance.

Evaluation Board for evaluating connector performance is available upon request.

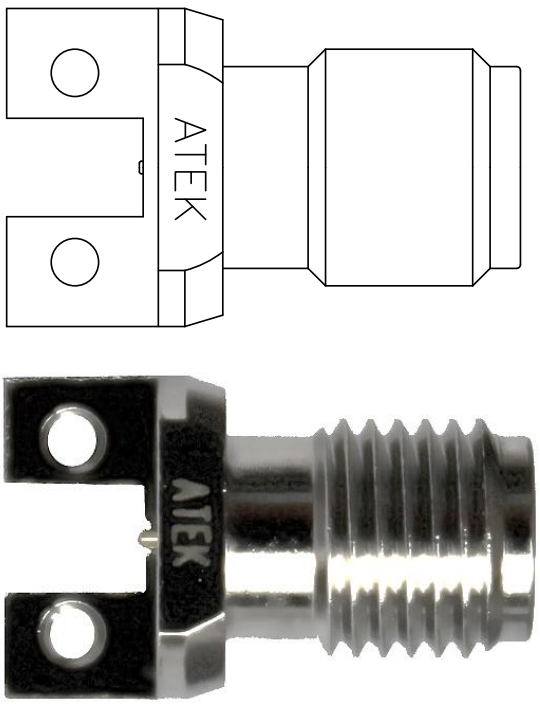
Product Features

- Frequency Range: DC to 40+ GHz
- Low Loss: 0.8 dB at 40 GHz
- 22 dB Return Loss at 40 GHz
- Solder free interconnect
- Compact size

Applications

- Wideband RF/Microwave Systems
- Evaluation Boards
- RF Test Systems
- Telecommunication

Functional Diagram



Electrical Specifications

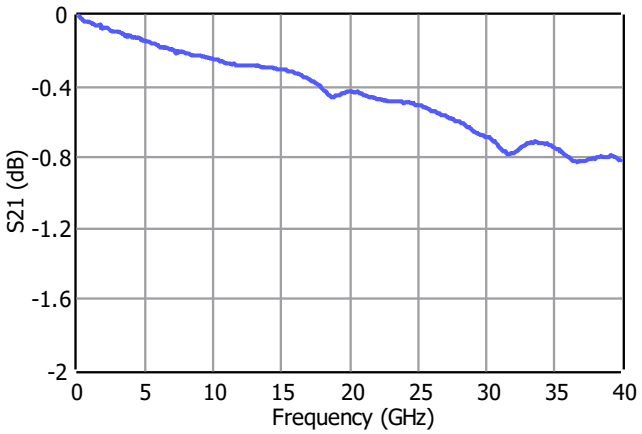
Conditions unless otherwise specified: T = 25 C, CW.

Parameter		Min	Typ	Max	Units
Operational Frequency Range		DC		40+	GHz
Insertion Loss	5 GHz		-0.15		dB
	10 GHz		-0.25		
	20 GHz		-0.43		
	30 GHz		-0.68		
	40 GHz		-0.82	-1	
Input Return Loss	5 GHz		-29		dB
	10 GHz		-30		
	20 GHz		-34		
	30 GHz		-22		
	40 GHz		-22		
Operating Temperature		-40	25	85	°C

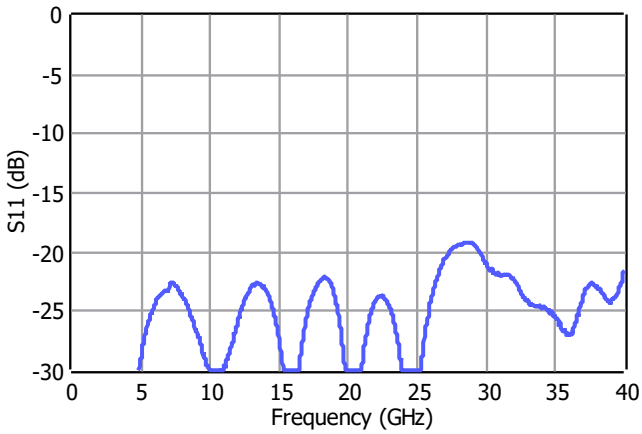
Typical Performance Plots

Conditions unless otherwise specified: T = 25 C, CW.

S21 – Each Connector

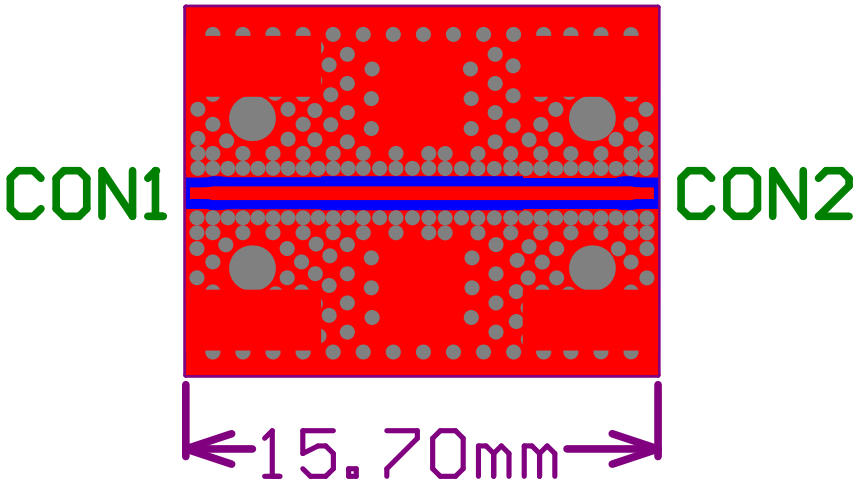


S11 – Both Connectors



Applications Information

2.92 mm PCB end-launch connector is characterized by the evaluation PCB (EVB) is given below.



Backside of PCB is ground

The EVB is 15.7 mm in length. In order to replicate the real-world application scenario, the stack-up consists of 4 metal layers. Top metal layout is shown on the figure above. 2nd, 3rd, and 4th layers are full ground metal. The substrate between 1st and 2nd metal layers are 10-mil thick RO4350B.

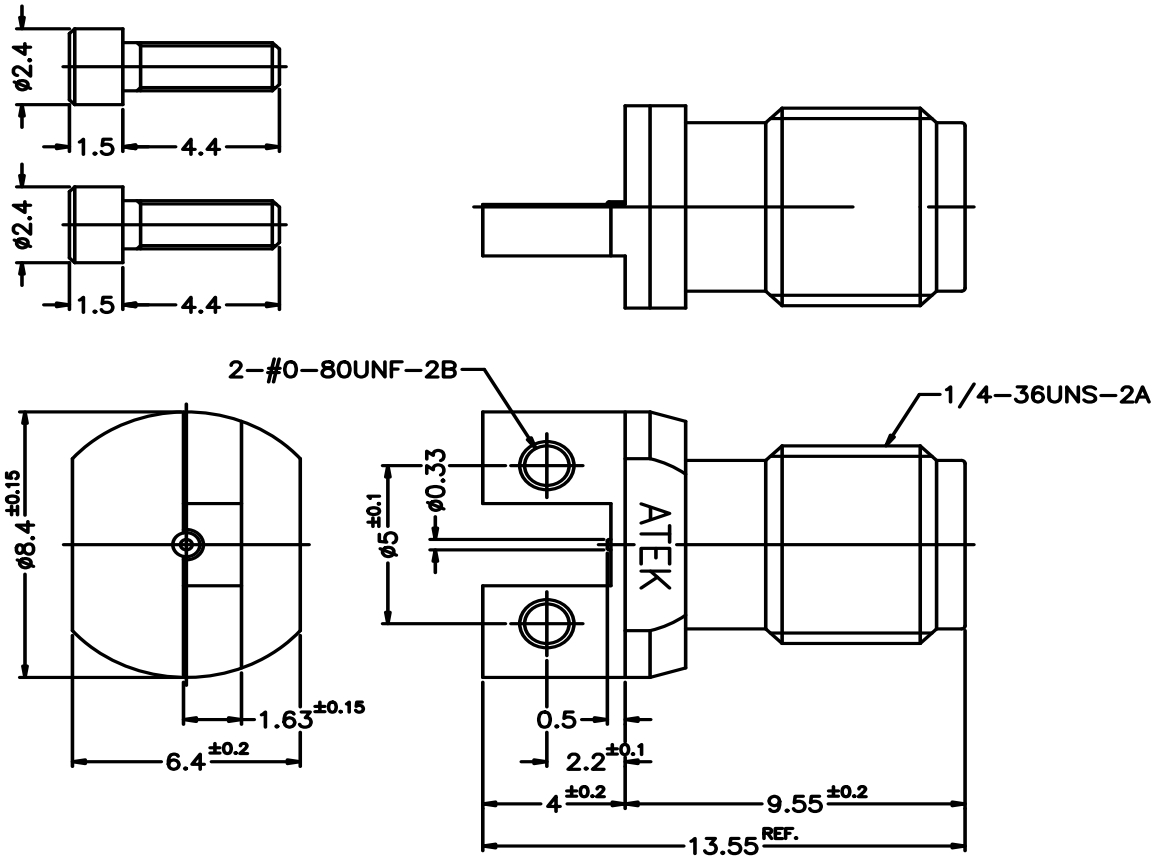
Connector to EVB transition loss can be improved by using a substrate with lower loss compared to RO4350B.

S21 performance measurements provided in this document are generated with the EVB provided above, with 2 connectors installed. Then the S21 data is divided into 2 to show the performance of a single connector alone.
Return loss data is not de-embedded, showing the combined performance of 2 connectors and the EVB.

Absolute Maximum Ratings

Parameter	Value/Range
RF Input Power	TBD
Storage Temperature	−55 to +125°C
Operation of this device outside the parameter ranges given above may cause damage. These parameters should not be applied simultaneously.	

Mechanical and Marking Information



Units: millimeters
NOTES

1. Body: BRASS NICKEL
2. Contact: BERYLLIUM COPPER, GOLD PLATED

Handling Precautions

Caution!
ESD-Sensitive Device
Handle Accordingly

Contact Information

For the latest specifications, additional product information, support, and sales.
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Revisions

Revision No	Revision Date	Revision Reason	Section / Page No
1.0	2021	Initial Release	
1.1	28.06.2022	Mechanical Info Updated	