

Withwave's Vertical Launch Connectors are specially designed for solderless vertical PCB launch on test & measurement board.

These connectors have excellent electrical transition performance up to **26.5 GHz, 40 GHz, 50 GHz & 67 GHz** respectively as well as reduce installation time by eliminating soldering.

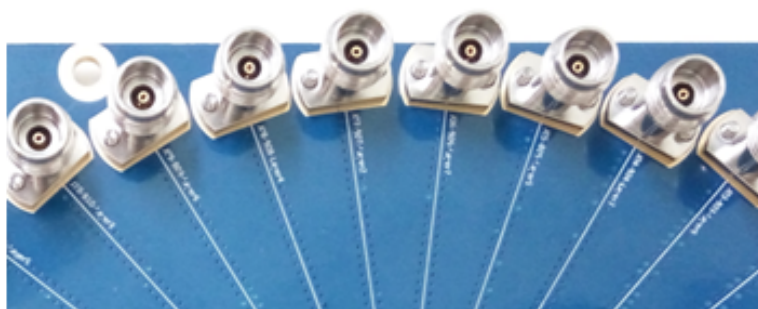


■ Features

- DC to 26.5 GHz(SMA), 40 GHz(2.92 mm) ,50 GHz(2.4 mm) & 67 GHz(1.85 mm)
- SMA, 2.92 mm, 2.4 mm & 1.85 mm type (Female, Male)
- Excellent Vertical transition (VSWR <1.3, 1.85 mm type: VSWR <1.6)
- Easy & Solderless Installation on designed substrate

■ Application

- Test and measurement
- High Speed Digital Test Boards
- Test and Characterization Boards



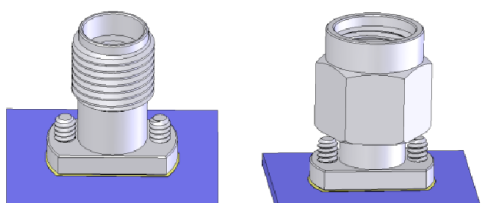
■ Specification (SMA Connector)

Scope	Items	Specification
Electrical	Freq. range	DC to 26.5 GHz
	Impedance	50 Ohm
	VSWR(Max)	1.3 : 1 (DC to 26.5 GHz)
Material	Connector type	SMA type (Female, Male)
	Body & Block	Stainless Steel
	PIN	BeCu with Gold Plated

* RoHS Compliant

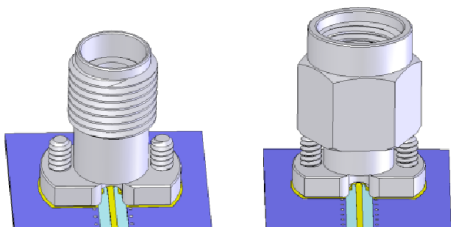
■ Ordering Information (SMA Connector)

Stripline type



Application	Type	Part No.
Stripline	Female	VC06FS001
	Male	VC06MS001

Microstrip type



Application	Type	Part No.
Microstrip	Female	VC06FS002
	Male	VC06MS002

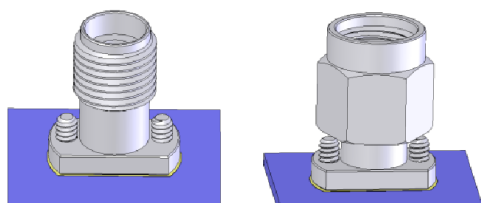
■ Specification (2.92 mm Connector)

Scope	Items	Specification
Electrical	Freq. range	DC to 40 GHz
	Impedance	50 Ohm
	VSWR(Max)	1.3 : 1 (DC to 40 GHz)
Material	Connector type	2.92 mm type (Female, Male)
	Body & Block	Stainless Steel
	PIN	BeCu with Gold Plated

* RoHS Compliant

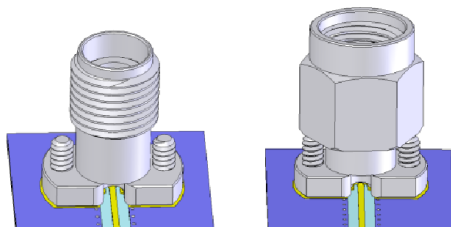
■ Ordering Information (2.92 mm Connector)

Stripline type



Application	Type	Part No.
Stripline	Female	VC03FS001
	Male	VC03MS001

Microstrip type



Application	Type	Part No.
Microstrip	Female	VC03FS002
	Male	VC03MS002

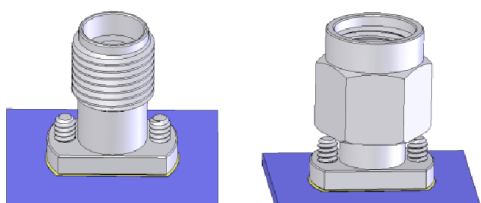
■ Specification (2.4 mm Connector)

Scope	Items	Specification
Electrical	Freq. range	DC to 50 GHz
	Impedance	50 Ohm
	VSWR(Max)	1.3 : 1 (DC to 50 GHz)
Material	Connector type	2.4 mm type (Female, Male)
	Body & Block	Stainless Steel
	PIN	BeCu with Gold Plated

* RoHS Compliant

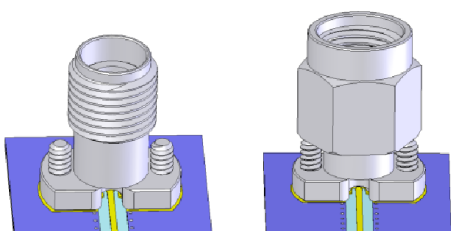
■ Ordering Information (2.4 mm Connector)

Stripline type



Application	Type	Part No.
Stripline	Female	VC02FS001
	Male	VC02MS001

Microstrip type



Application	Type	Part No.
Microstrip	Female	VC02FS002
	Male	VC02MS002

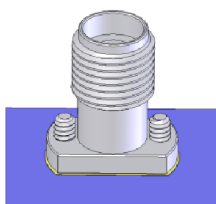
■ Specification (1.85 mm Connector)

Scope	Items	Specification
Electrical	Freq. range	DC to 67 GHz
	Impedance	50 Ohm
	VSWR(Max)	1.6 : 1 (DC to 67 GHz)
Material	Connector type	1.85 mm type (Female)
	Body & Block	Stainless Steel
	PIN	BeCu with Gold Plated

* RoHS Compliant

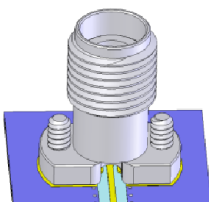
■ Ordering Information (1.85 mm Connector)

Stripline type



Application	Type	Part No.
Stripline	Female	VC01FS001

Microstrip type



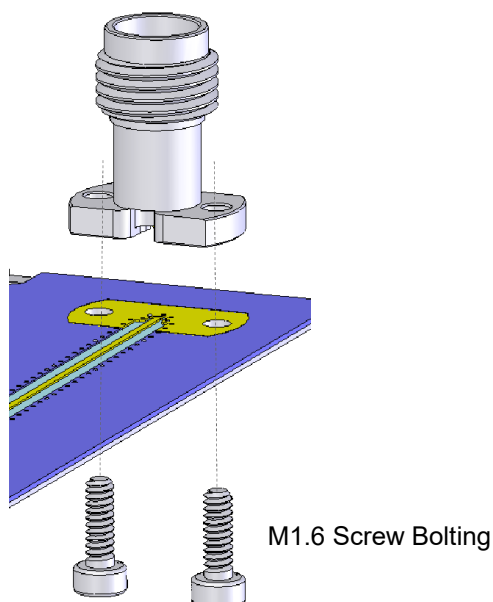
Application	Type	Part No.
Microstrip	Female	VC01FS002

■ Installation Procedure

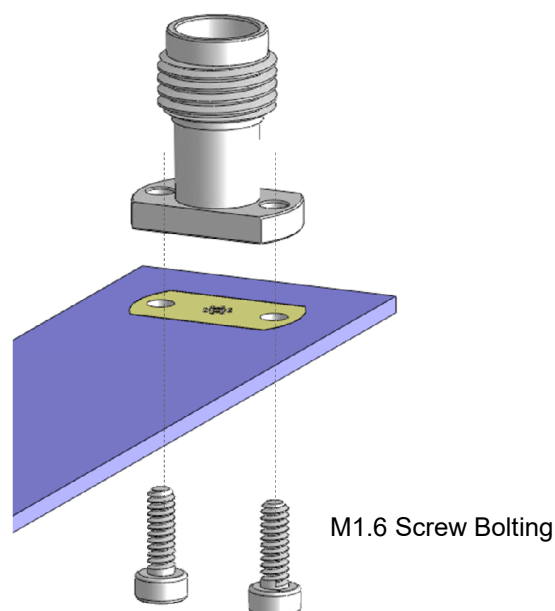
STEP 1 :

Launch vertical connector on the position of substrate.

Microstrip Line



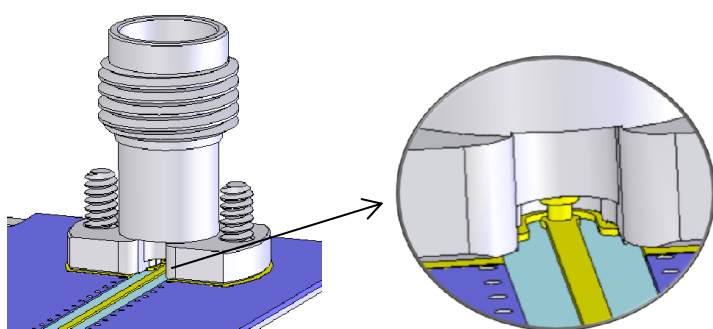
Stripline



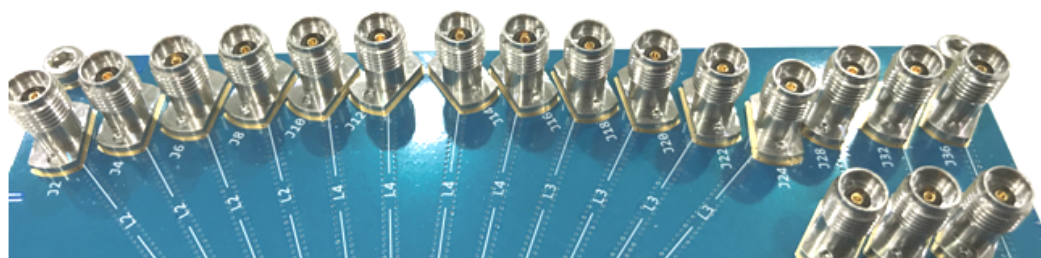
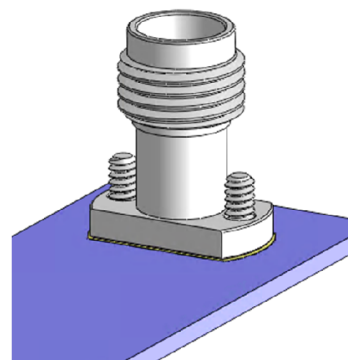
STEP 2:

Ensure Connector Body should be tighten against the substrate using two screws while ensuring center pin should be centered on the trace.

Microstrip Line



Stripline

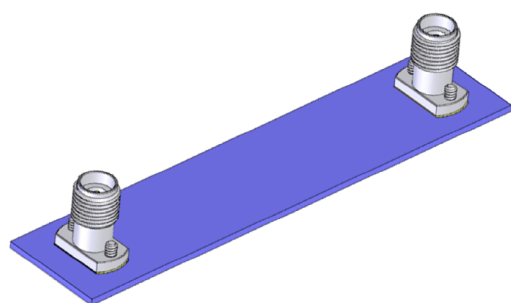


SMA Connector

■ Test Result (Stripline type)

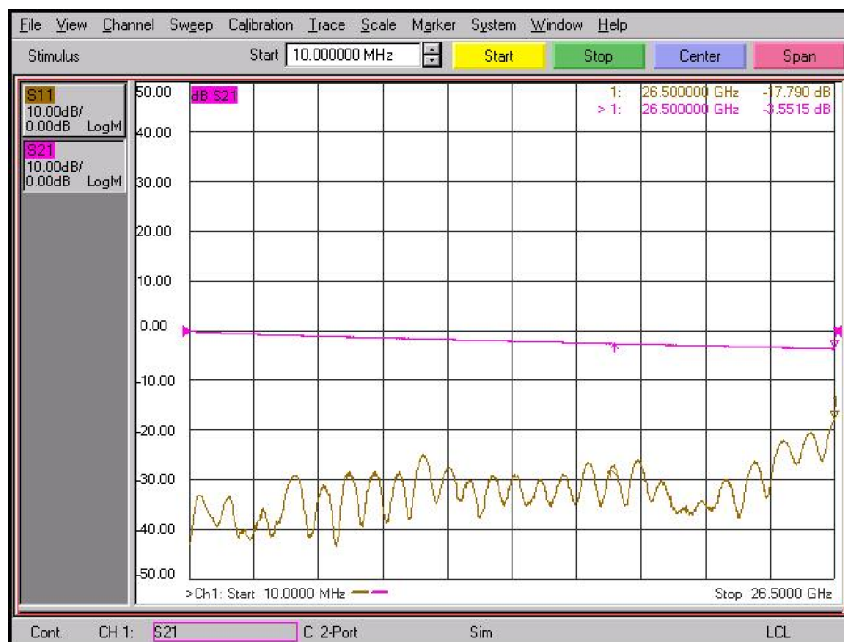
Female type

Part No. : VC06FS001



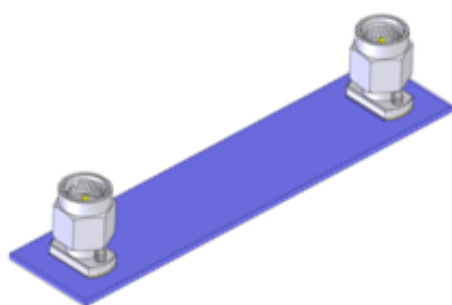
- Substrate : RO4003C(8 mil)
- Trace length : 70 mm (stripline)

Freq. : 10 MHz to 26.5 GHz



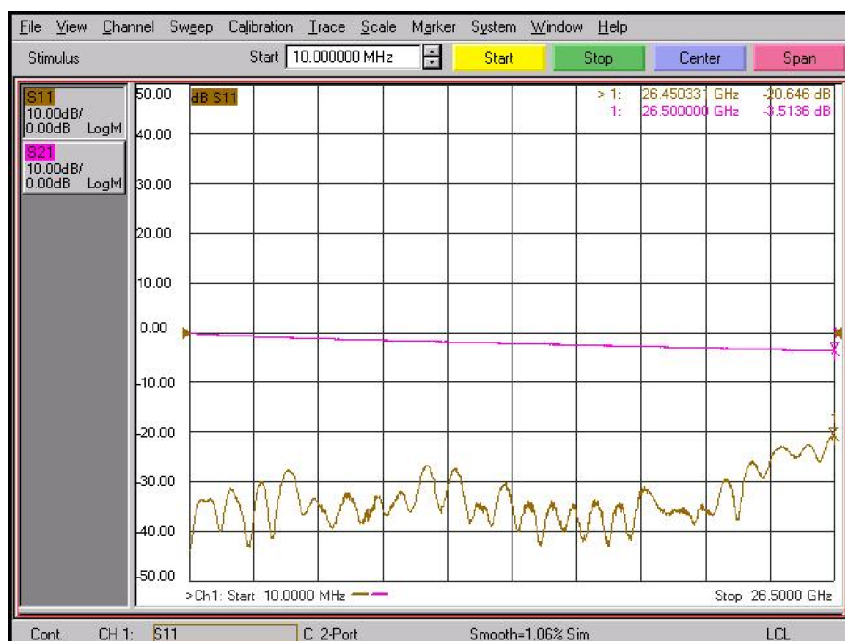
Male type

Part No. : VC06MS001



- Substrate : RO4003C(8 mil)
- Trace length : 70 mm (stripline)

Freq. : 10 MHz to 26.5 GHz

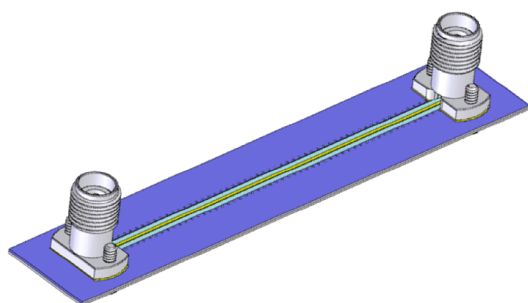


SMA Connector

■ Test Result (Microstrip type)

Female type

Part No. : VC06FS002



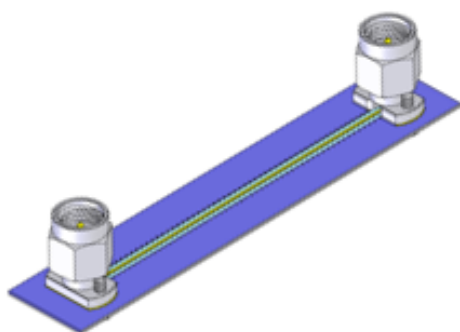
- Substrate : RO4003C(8 mil)
- Trace length : 60 mm (microstrip)

Freq. : 10 MHz to 26.5 GHz



Male type

Part No. : VC06MS002



- Substrate : RO4003C(8 mil)
- Trace length : 60 mm (microstrip)

Freq. : 10 MHz to 26.5 GHz

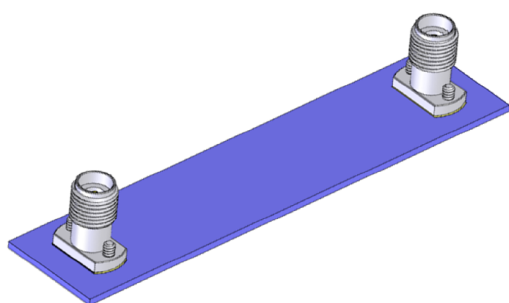


2.92 mm Connector

■ Test Result (Stripline type)

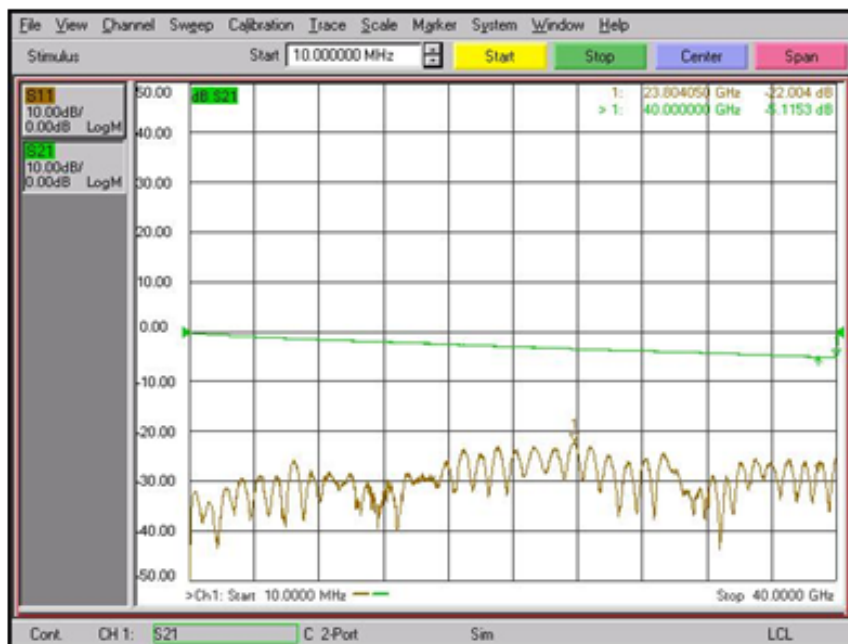
Female type

Part No. : VC03FS001



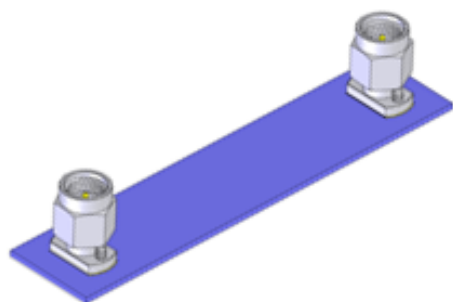
- Substrate : RO4003C(8 mil)
- Trace length : 70 mm (stripline)

Freq. : 10 MHz to 40 GHz



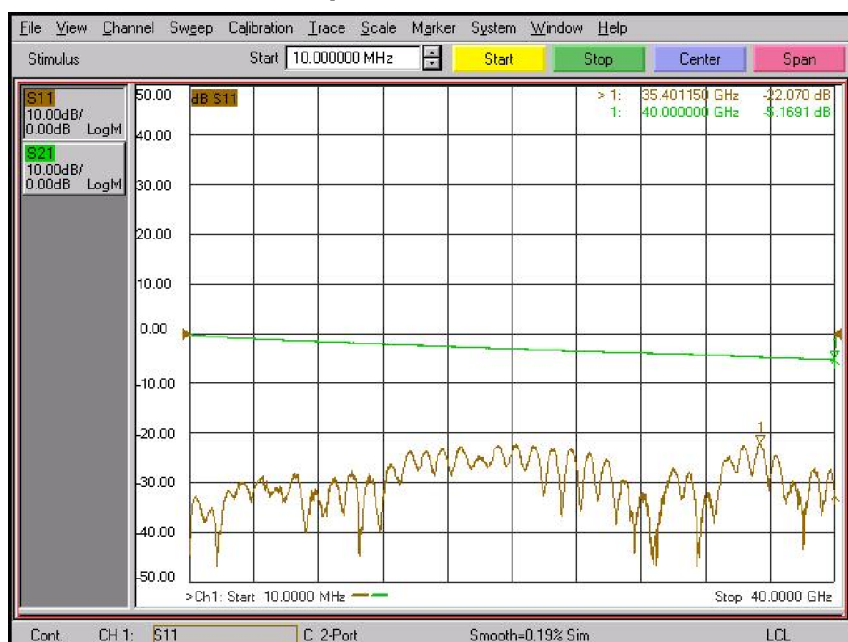
Male type

Part No. : VC03MS001



- Substrate : RO4003C(8 mil)
- Trace length : 70 mm (stripline)

Freq. : 10 MHz to 40 GHz

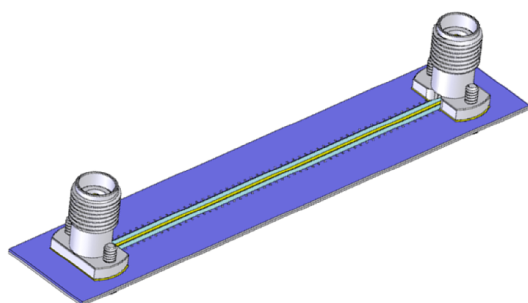


2.92 mm Connector

■ Test Result (Microstrip type)

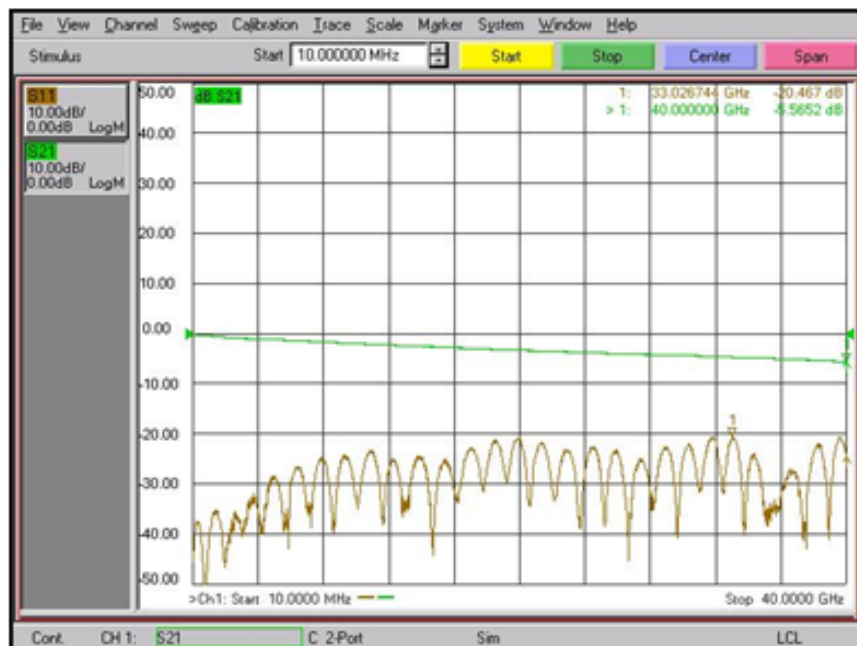
Female type

Part No. : VC03FS002



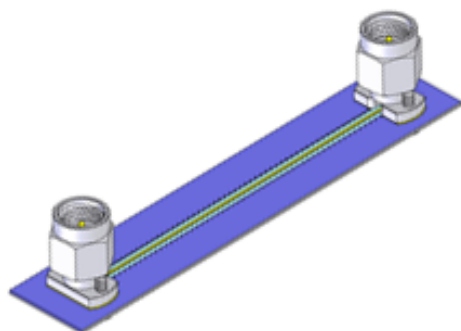
- Substrate : RO4003C(8 mil)
- Trace length : 60 mm (microstrip)

Freq. : 10 MHz to 40 GHz



Male type

Part No. : VC03MS002



- Substrate : RO4003C(8 mil)
- Trace length : 60 mm (microstrip)

Freq. : 10 MHz to 40 GHz

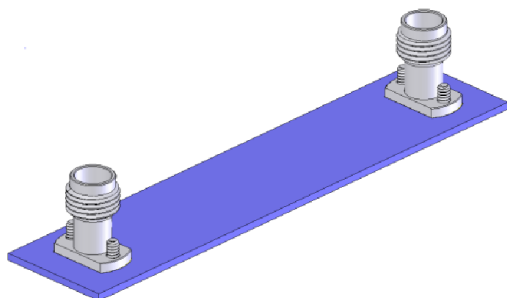


2.4 mm Connector

■ Test Result (Stripline)

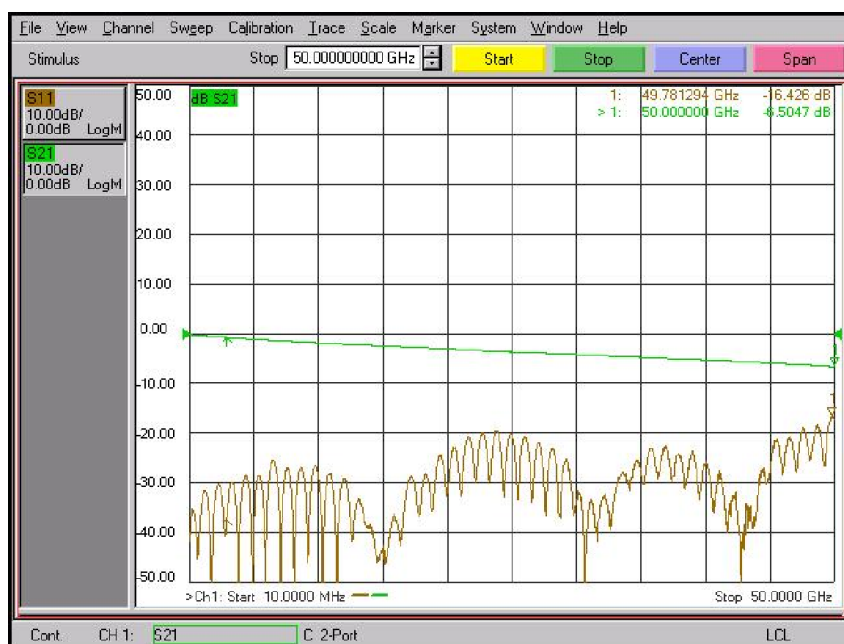
Female type

Part No. : VC02FS001



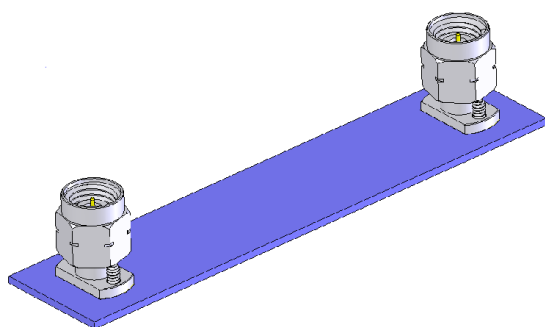
- Substrate : RO4003C(8 mil)
- Trace length : 70 mm (stripline)

Freq. : 10 MHz to 50 GHz



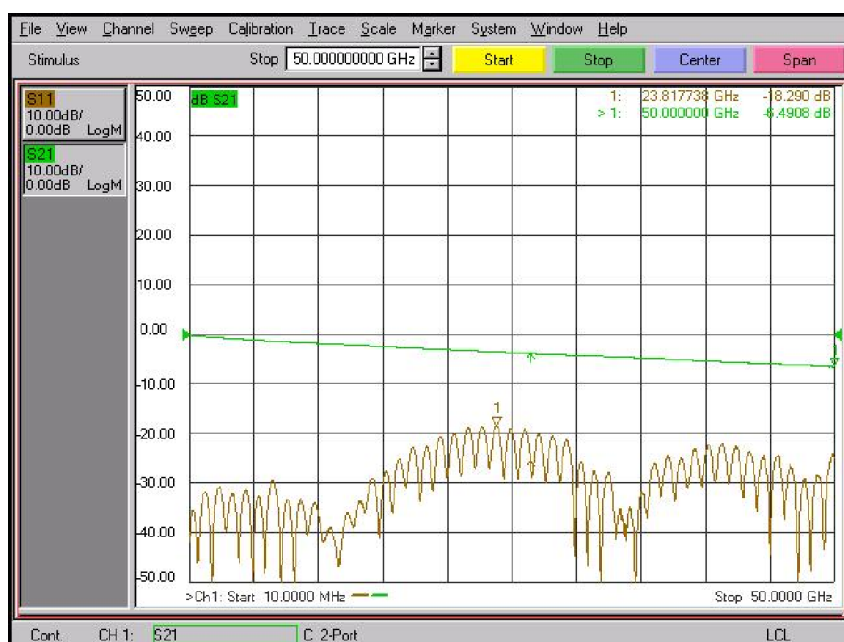
Male type

Part No. : VC02MS001



- Substrate : RO4003C(8 mil)
- Trace length : 70 mm (stripline)

Freq. : 10 MHz to 50 GHz

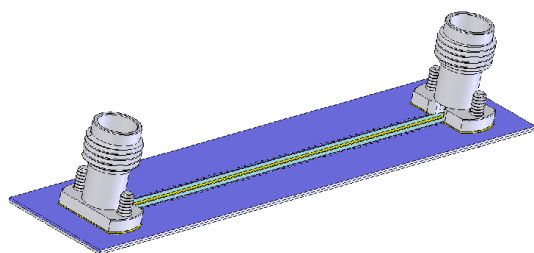


2.4 mm Connector

■ Test Result (Microstrip type)

Female type

Part No. : VC02FS002



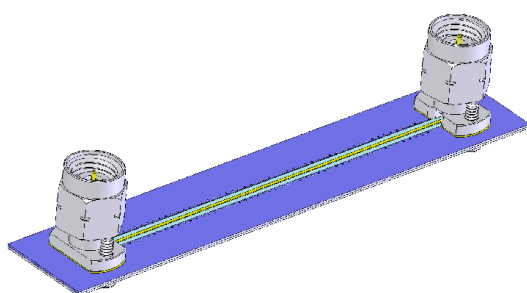
- Substrate : RO4003C(8 mil)
- Trace length : 60 mm (microstrip)

Freq. : 10 MHz to 50 GHz



Male type

Part No. : VC02MS002



- Substrate : RO4003C(8 mil)
- Trace length : 60 mm (microstrip)

Freq. : 10 MHz to 50 GHz



1.85 mm Connector

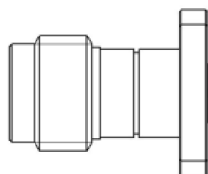
■ Test Result (Stripline)

Female type

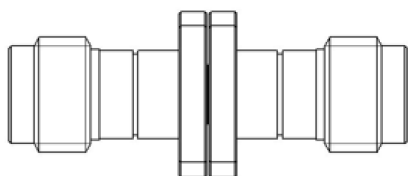
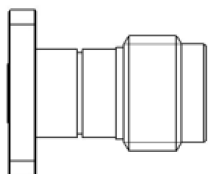
Part No. : VC01FS001

Back to Back Test

Vertical 1.85 mm



Vertical 1.85 mm



Freq. : 10 MHz to 67 GHz

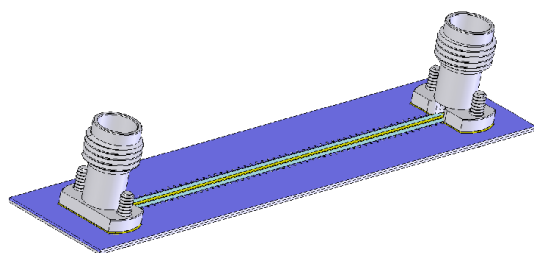


1.85 mm Connector

■ Test Result (Microstrip type)

Female type

Part No. : VC01FS002



- Substrate : RO4003C(8 mil)
- Trace length : 60 mm (microstrip)

Freq. : 10 MHz to 67 GHz



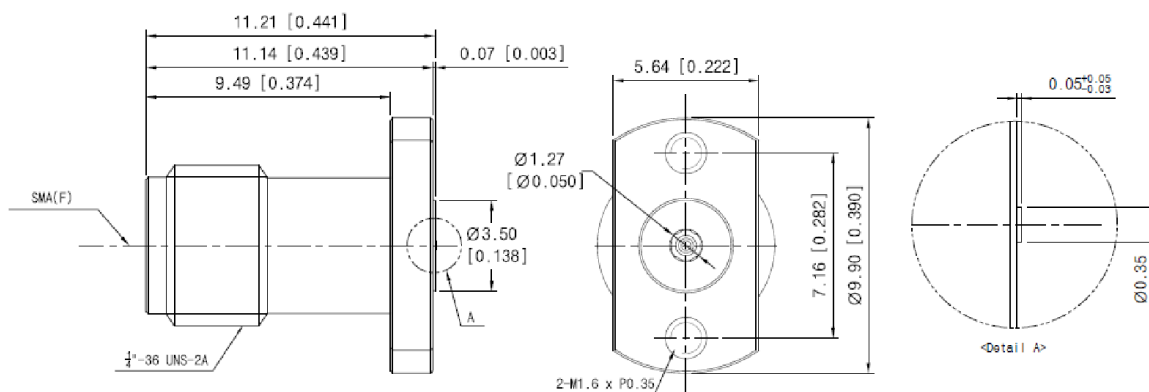
SMA Connector

■ Drawing

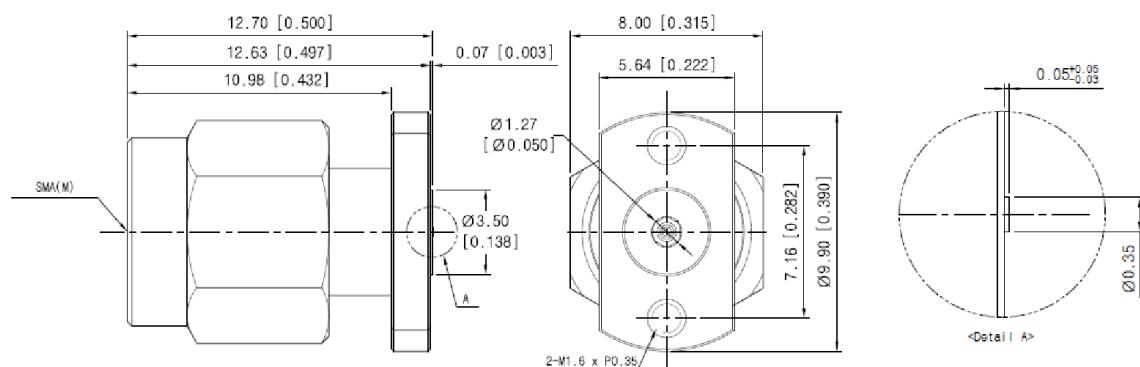
Stripline type

Unit : mm

Female type

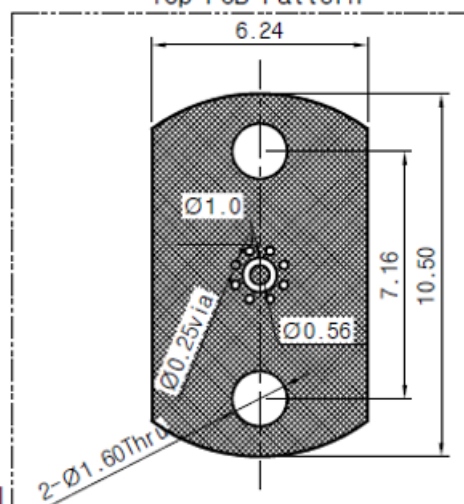


Male type



<Recommended PCB pattern>

Recommended Top PCB Pattern



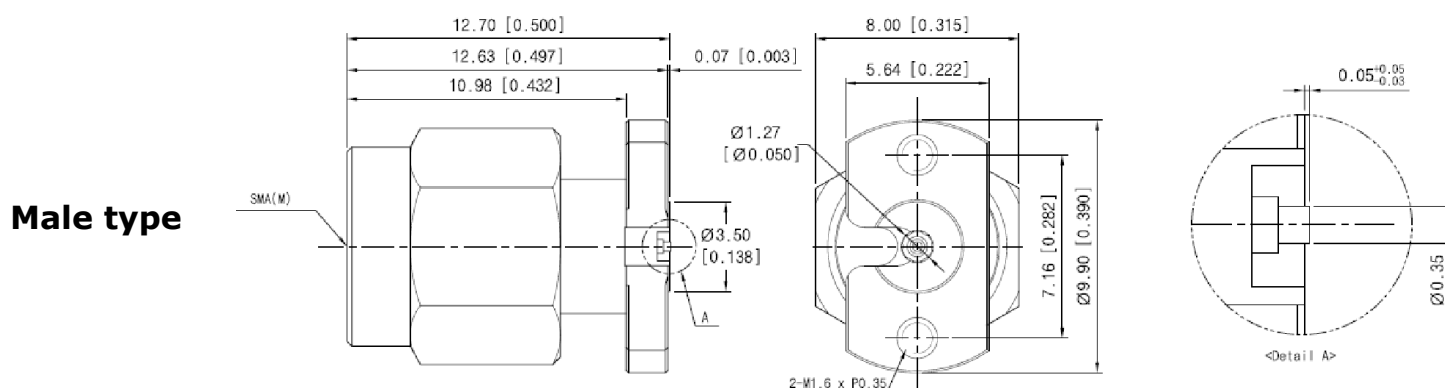
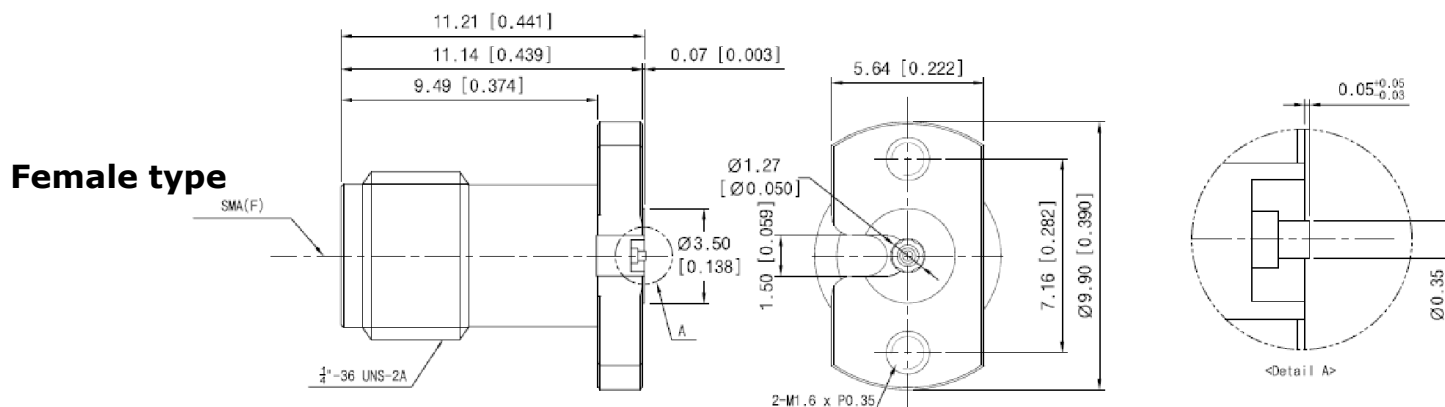
* PCB : R04003C 8mil

SMA Connector

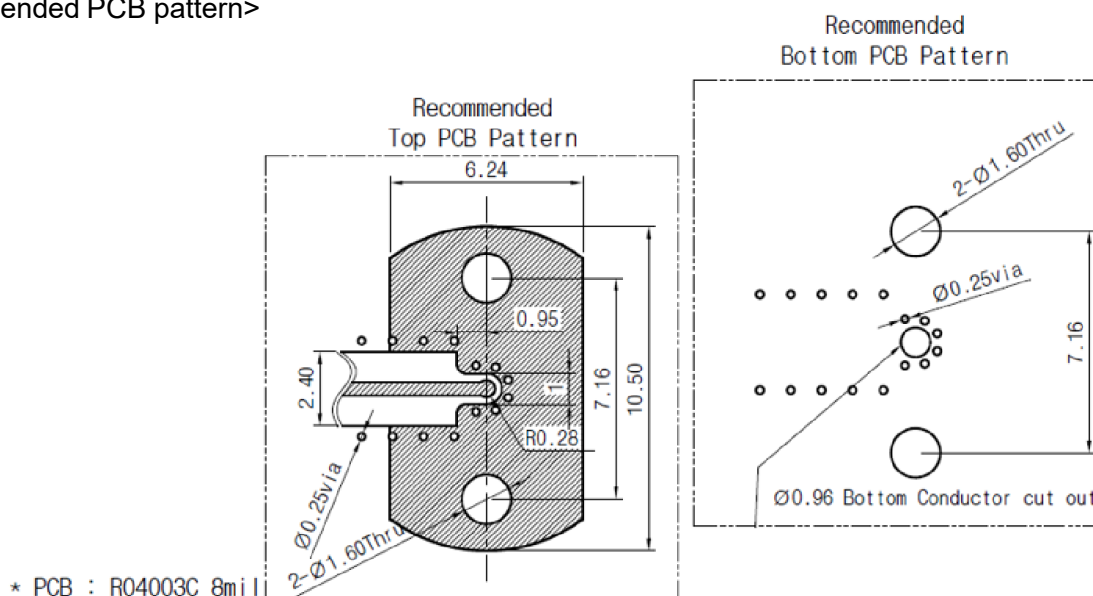
■ Drawing

Microstrip type

Unit : mm



<Recommended PCB pattern>



* PCB : R04003C 8mil

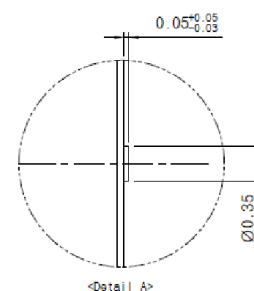
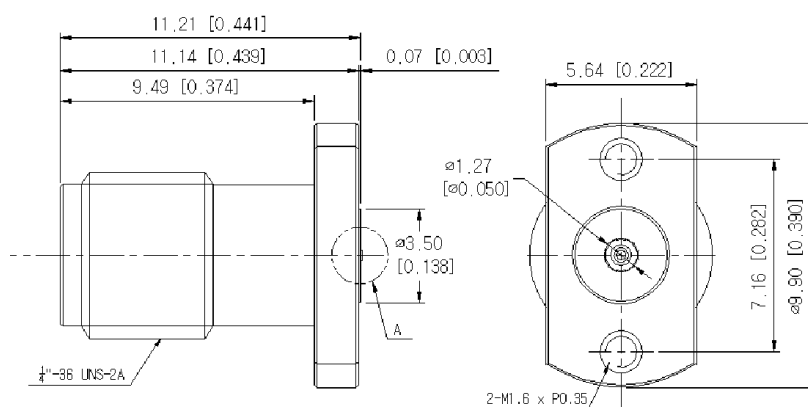
2.92 mm Connector

■ Drawing

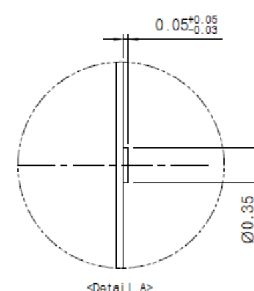
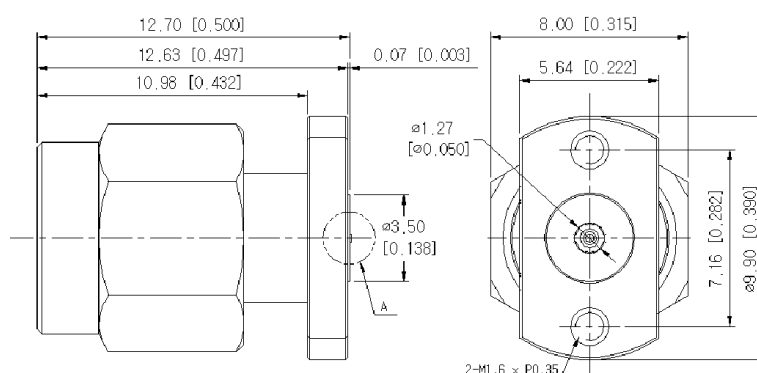
Stripline type

Unit : mm

Female type

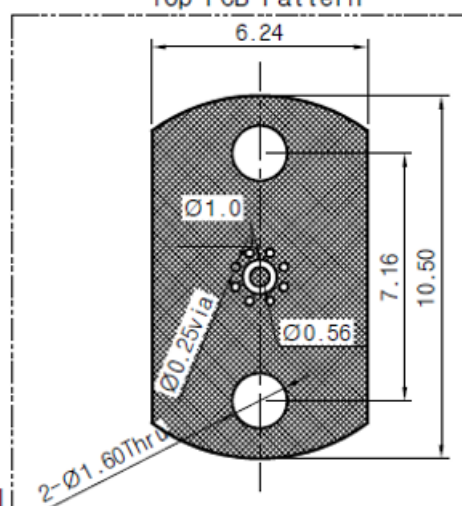


Male type



<Recommended PCB pattern>

Recommended Top PCB Pattern



* PCB : R04003C 8mil

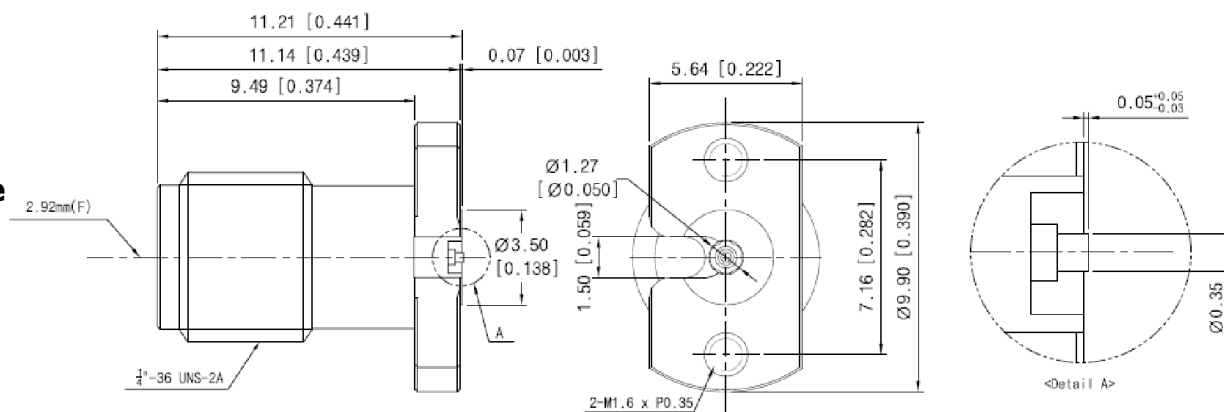
2.92 mm Connector

■ Drawing

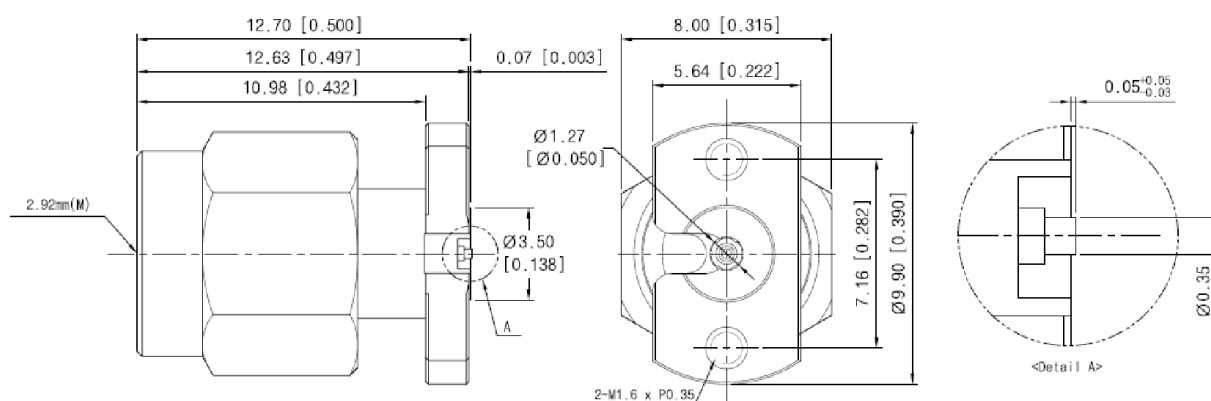
Microstrip type

Unit : mm

Female type

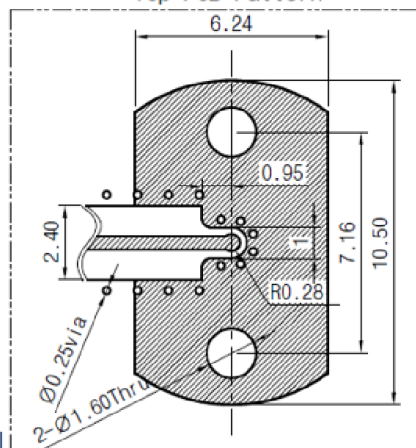


Male type

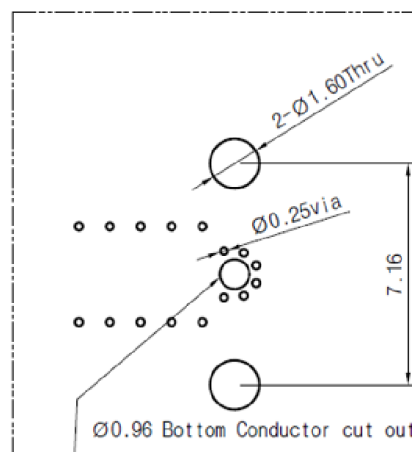


<Recommended PCB pattern>

Recommended
Top PCB Pattern



Recommended
Bottom PCB Pattern



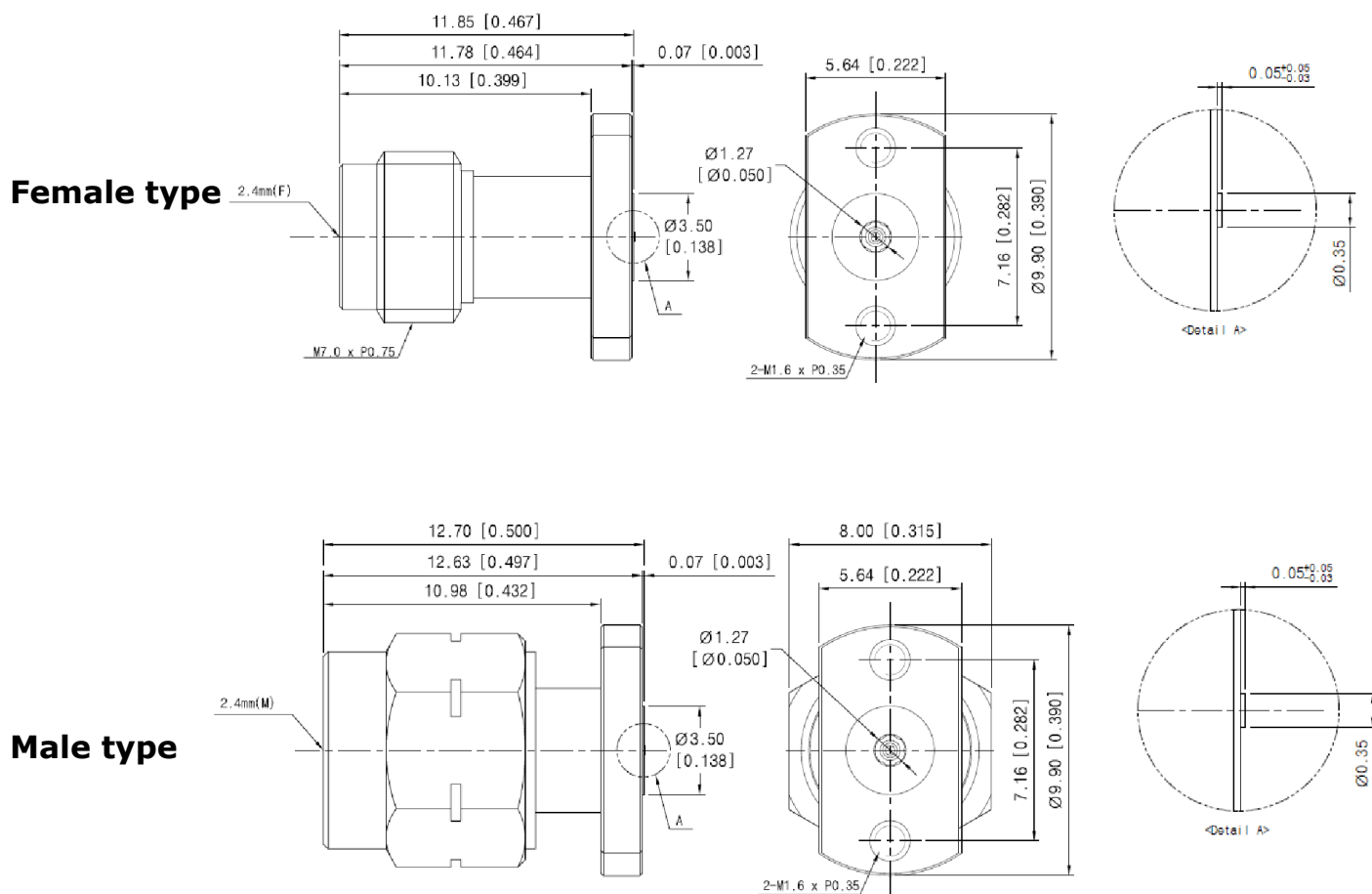
* PCB : R04003C 8mil

2.4 mm Connector

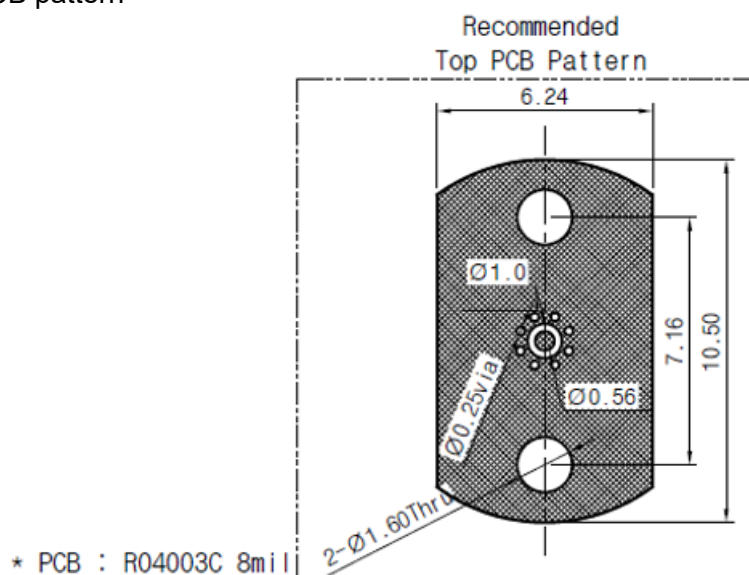
■ Drawing

Stripline type

Unit : mm



<Recommended PCB pattern>

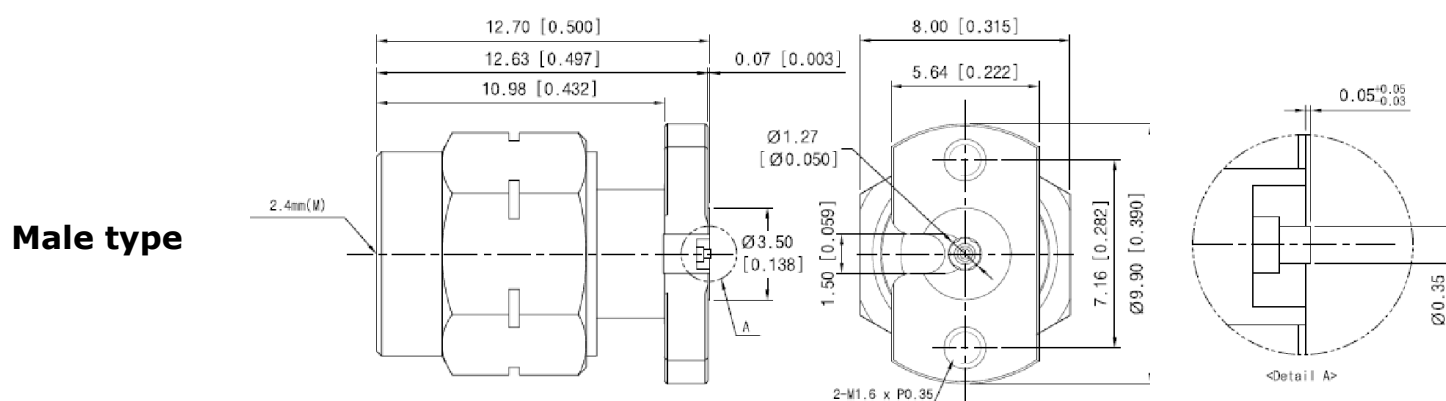
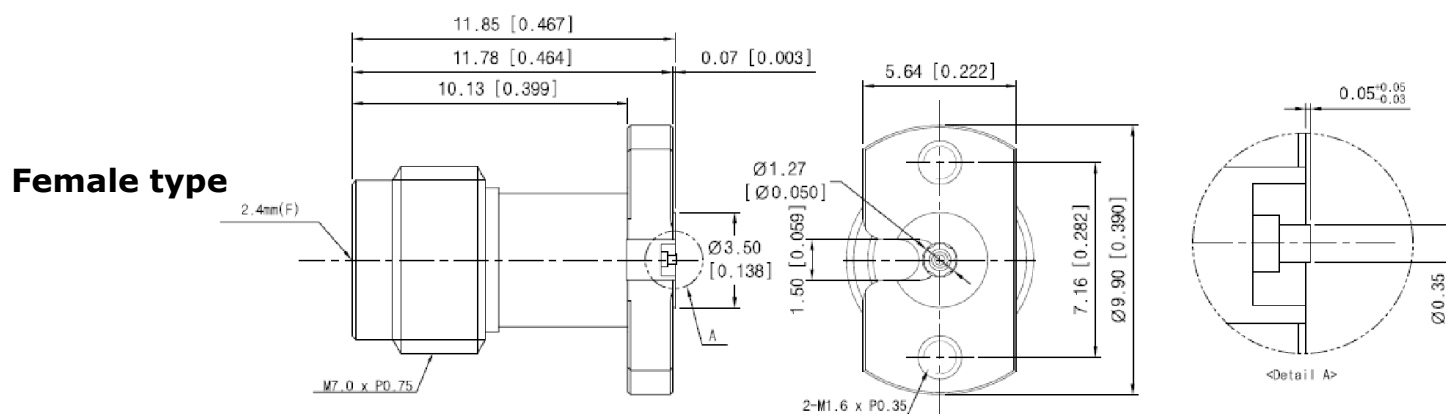


2.4 mm Connector

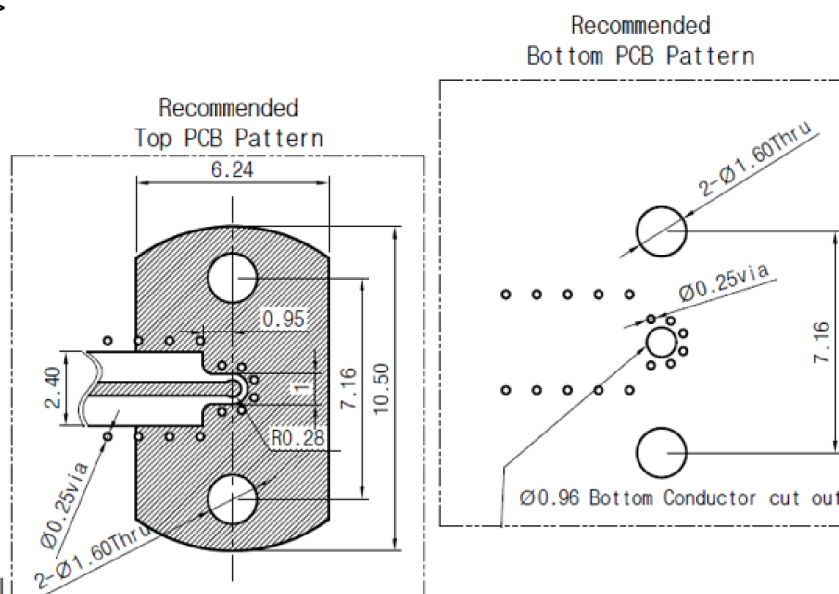
■ *Drawing*

Microstrip type

Unit : mm



<Recommended PCB pattern>



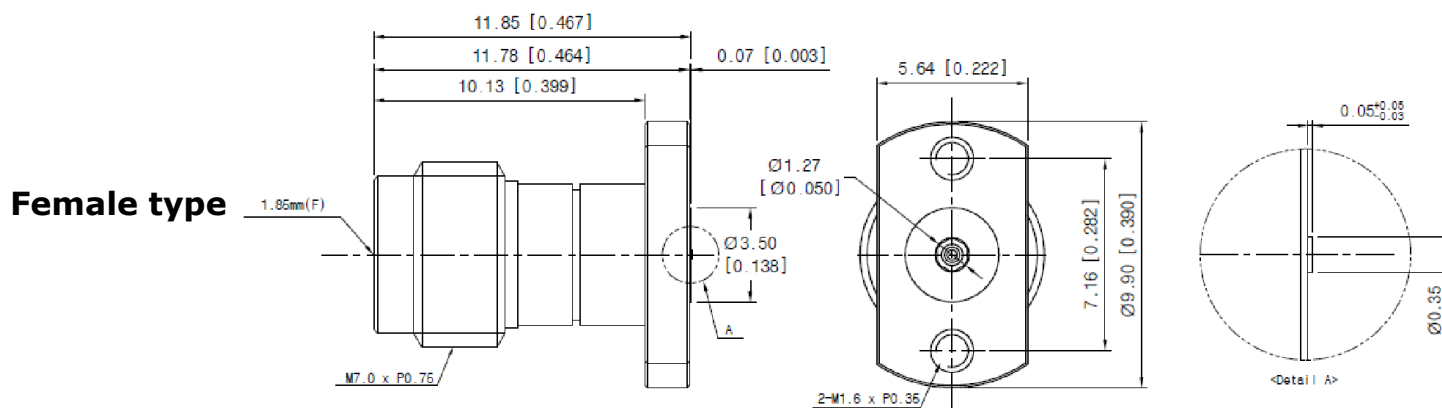
* PCB : R04003C 8mil

1.85 mm Connector

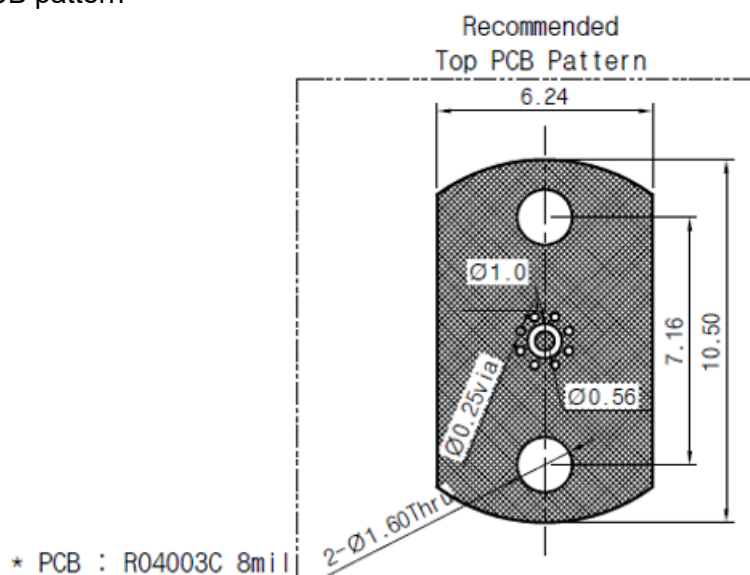
■ Drawing

Strip type

Unit : mm



<Recommended PCB pattern>



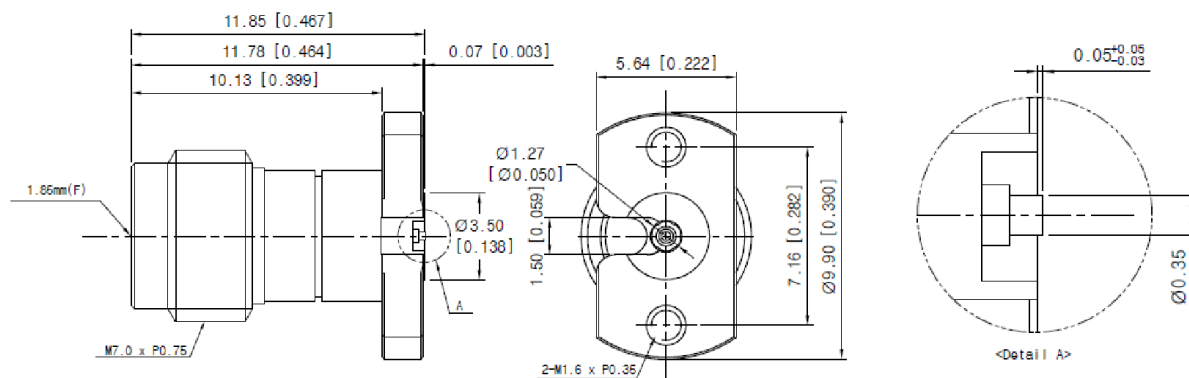
1.85 mm Connector

■ Drawing

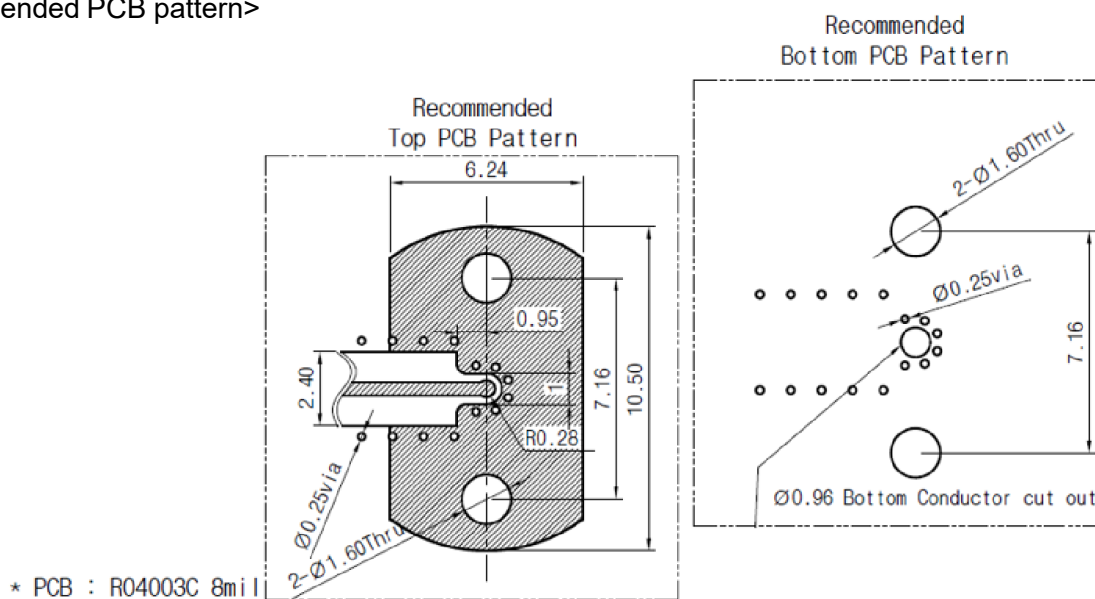
Microstrip type

Unit : mm

Female type



<Recommended PCB pattern>



* PCB : R04003C 8mil

■ Revision History

Revision	Date	Changes
Ver 1.1	June.30,2017	Changed Test result for stripline type
Ver 2.0	July.28, 2017	Add Vertical Launch 2.92 mm Connectors
Ver 2.1	Oct.12, 2017	Updated Recommended PCB pattern
Ver 2.2	Jan.02, 2018	Updated Drawing
Ver 3.0	Feb.27,2018	Add Vertical Launch SMA connectors
Ver 3.1	May.24,2018	Add installation procedure for stripline type
Ver.4.0	Feb.14, 2109	Add Vertical Launch 1.85 mm Connectors