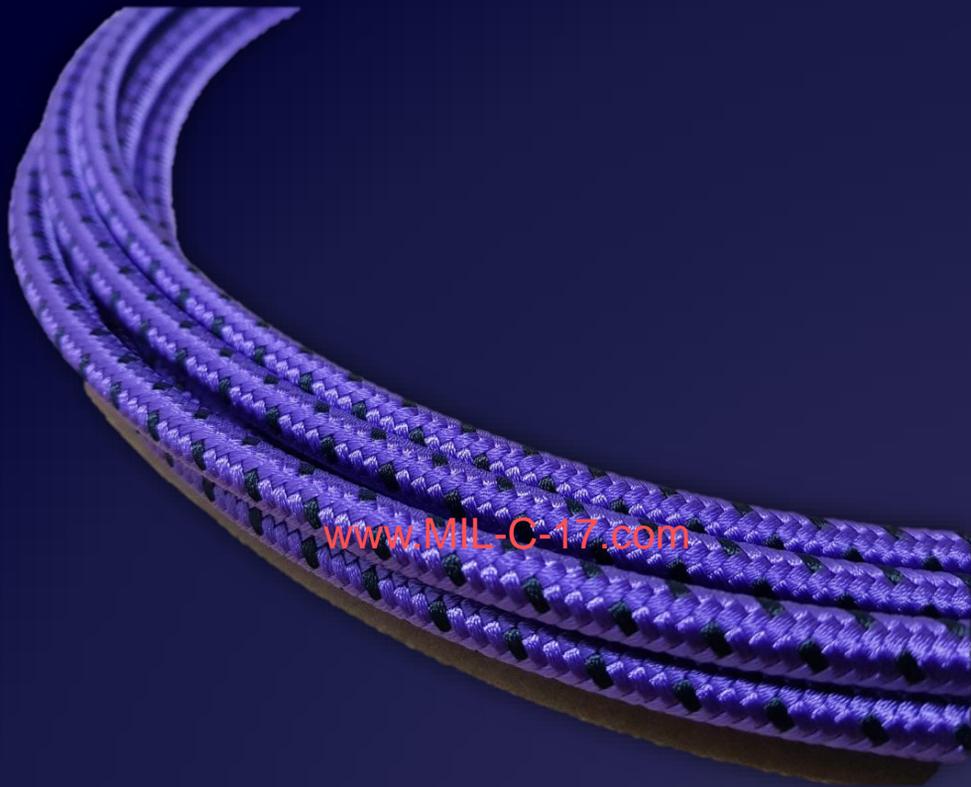


For up to ~ 67GHz
Low Loss, MIL-C-17 Standard
RF, Microwave & Milimeter-Wave
Cables, Connector & Assembly

Low Loss RF, Microwave, Milimeter-Wave Coaxial Cables, Connector & Assemblies
with Highly Excellent Electrical and Physical Performances
for Test & Measurement Field, EMC Applications,
Military & Communication Fields,
5G Solutions, Lab & Medical Industries
Automotive & Autonomous Car Industries, Electronic Field

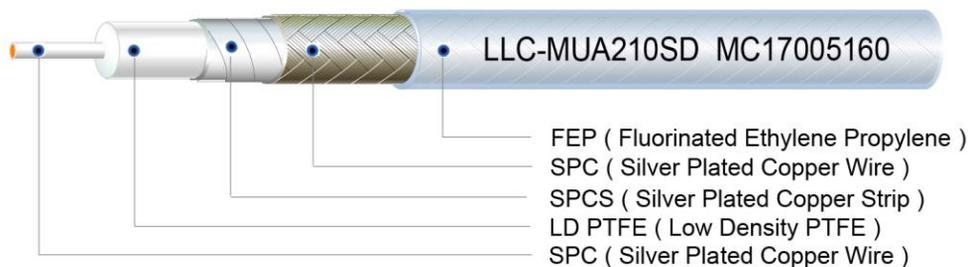


DESIGN - DEVELOPMENT - MANUFACTURE

www.MIL-C-17.com

<p>Low Loss Microwave Cable (~ 18.0 GHz) (~ 26.5 GHz)</p> <p>Low Loss Milimeter -Wave Cable (~ 33.0 GHz) (~ 40.0 GHz) (~ 50.0 GHz) (~ 70.0 GHz)</p>	<p>MUA210SD (~ 18.0 GHz) (~ 26.5 GHz) (~ 33.0 GHz) MUA210SD DJA (Armored)</p>	<p>Low Density PTFE Dielectric Low Loss Microwave Cable . Equivalent with Micro-Coax Utiflex UFA210A, Rosenberger RTK 161 . Replacement Cable of Huber+Suhner (Sucoflex 104), Semflex HP190 IW Microwave 1801, 1803 (Armored MUA210SD DJA) Times Microwave Systems SilverLine VNA Test Cable for 26.5 GHz ...</p>
	<p>MUA210ST (~ 18.0 GHz), (~ 26.5 GHz) MUA210ST DJA (Armored)</p>	<p>Low Density PTFE Dielectric Low Loss Microwave Cable . Equivalent with Micro-Coax Utiflex UFA210B, Rosenberger RTK 162 . Replacement Cable of Huber+Suhner (Sucoflex 104P) IW Microwave 1806, 1808 (Armored MUA210ST DJA) ...</p>
	<p>MUA165SD (~ 40.0 GHz) MUA165SD DJA (Armored)</p>	<p>Low Density PTFE Dielectric Low Loss Milimeter-Wave Cable . Replacement Cable of Micro-Coax Utiflex UFA147A Huber+Suhner (Sucoflex 102), Gore CXN3507, Rosenberger RTK 106 Semflex HP160, Carlisle (Tensolite) TLL40-1130A Times Microwave Systems (Silver Line Type VNA Test Cable for 40.0 GHz) ...</p>
	<p>MUA147SD (~ 40.0 GHz) MUA147SD DJA (Armored)</p>	<p>Low Density PTFE Dielectric Low Loss Milimeter-Wave Cable . Equivalent with Micro-Coax Utiflex UFA147A, Rosenberger RTK 106 . Replacement Cable of Gore CXN3507, Semflex HP160 Huber+Suhner (Sucoflex 102), Carlisle (Tensolite) TLL40-1130A Times Microwave Systems (Silver Line Type VNA Test Cable for 40.0 GHz) ...</p>
	<p>MUB142SD (~ 40.0 GHz) MUB142SD SAM (Armored)</p>	<p>Low Density PTFE Dielectric Low Loss Milimeter-Wave Cable . Equivalent with Micro-Coax Utiflex UFB142A . Replacement Cable of Huber+Suhner (Sucoflex 102) IW Microwave 1501, 1503 (Armored MUB142SD SAM), Semflex HP160 Gore CXN3507, Carlisle (Tensolite) TLL40-1130B Times Microwave Systems (Silver Line Type VNA Test Cable for 40.0 GHz) ...</p>
	<p>MUA-F050SD (~ 50.0 GHz) MUA-F050SD SAM (Armored)</p>	<p>Low Density PTFE Dielectric Low Loss Milimeter-Wave Coaxial Cable . Equivalent with Micro-Coax Utiflex UFA125A, Rosenberger RTK 125 . Replacement Cable of Huber+Suhner (Sucoflex 101), Semflex HP120 IW Microwave 1401, 1403 (Armored MUA-F050SD SAM) ...</p>
	<p>MUA-F070SD (~ 70.0 GHz) MUA-F070SD SAM (Armored)</p>	<p>Low Density PTFE Dielectric Low Loss Milimeter-Wave Coaxial Cable . Replacement Cable of IW Microwave IW 1251, 1151 Rosenberger RTK 092-70 ...</p>
	<p>MUA331SD 180 (~ 18.0 GHz) MUA331SD 060 (~ 6.0 GHz)</p>	<p>Low Density PTFE Dielectric Low Loss Microwave Cable . Replacement Cable of Huber+Suhner (Sucoflex 106), Semflex HP305 ...</p>
<p>Spiral Strip Shield Microwave Cable (~ 18.0 GHz) (~ 26.5 GHz)</p> <p>Spiral Strip Shield Milimeter -Wave Cable (~ 40.0 GHz) (~ 50.0 GHz)</p>	<p>MUB311SD (~ 18.0 GHz)</p>	<p>Low Density PTFE Dielectric Ultra Low Loss Microwave Coaxial Cable . Replacement Cable of Micro-Coax Utiflex UFB311A Harbour Industries LL335, IW Microwave IW 2801 Huber+Suhner (Sucoflex 106), Semflex (LA290, HP305) Times Microwave Systems (HF-290) ...</p>
	<p>RG-402SS (~ 18.0 GHz, ~ 26.5 GHz)</p>	<p>Phase-Stable PTFE Microwave Coaxial Cable . Replacement Cable of Harbour Industries SS402, Semflex SM402 Huber+Suhner Multiflex_141, Rosenberger RTK Flex 402 Times Microwave Systems Tflex-402, Habia Multibend 402, Micro-Coax HFE 160D ...</p>
	<p>RG-405SS (~ 18.0 GHz, ~ 26.5 GHz)</p>	<p>Phase-Stable PTFE Microwave Coaxial Cable . Replacement Cable of Harbour Industries SS405, Semflex SM405 Huber+Suhner Multiflex_86, Rosenberger RTK Flex 405 Times Microwave Systems Tflex-405, Habia Multibend 405, Micro-Coax HFE 100D ...</p>
	<p>RG-401SS (~ 18.0 GHz)</p>	<p>Phase-Stable PTFE Microwave Coaxial Cable . Replacement Cable of Harbour Industries SS401 Times Microwave Systems Tflex-401, Habia Multibend 401 ...</p>
<p>High Performance Semi-Flexible Cable (~ 18.0 GHz)</p>	<p>RG-405SS SE40/SE50 (~ 40.0 GHz, ~ 50.0 GHz)</p>	<p>Phase-Stable Microwave Coaxial Cable . RG-405SS SE40 : Spiral Strip Shield Milimeter-Wave Cable for up to ~ 40.0 GHz . RG-405SS SE50 : Spiral Strip Shield Milimeter-Wave Cable for up to ~ 50.0 GHz</p>
	<p>SF-141 HTA, SF-141 HTA FEP SF-085 HTA, SF-085 HTA FEP (~ 18.0 GHz)</p>	<p>High Performance (VSWR & Insertion Loss) Semi-Flexible (Hand-Formable) Cable . For High Performance Applications for up to ~ 18.0 GHz</p>
	<p>SF-113 HTA SF-113 HTA FEP</p>	<p>High Performance (VSWR & Insertion Loss) Semi-Flexible (Hand-Formable) Cable . Equivalent with HUBER+SUHNER SUCOFORM_113_CU_FEP</p>

RG Flexible Coaxial Cable (PTFE Dielectric)	MIL-C-17 Standard & Customized	RG-142, RG-142 LSZH, RG-142 PVC, RG-400, RG-400 LSZH, RG-393 PTFE Dielectric, RG-393 FEP Dielectric, RG-393 PFA Dielectric, RG-316S, RG-316D, RG-316S White FEP (Replacement of RG-188), RG-178, RG-179, RG-179 Double, RG-179 LSZH, RG-179 Triaxial, RG-180, RG-188, RG-196, RG-302 , RG-302 LSZH, RG-303, RG-304, RG-403, RG-404 ...
High Temperature Micro Coaxial Cable (PTFE Dielectric)	Micro-Coaxial (Outer Diameter)	MIC-0.81 (0.81mm) , MIC-0.98 (0.98mm) , MIC-1.13 (1.13mm) MIC-1.32 (1.32mm) , MIC-1.37 (1.37mm)
Semi-Flexible (Hand-Formable) Coaxial Cable (PTFE Dielectric)	High Performance (VSWR & Insertion Loss) (~ 18.0 GHz)	. SF-085 HTA, SF-085 HTA FEP (~ 18.0 GHz) . SF-141 HTA, SF-141 HTA FEP (~ 18.0 GHz) . SF-113 HTA, SF-113 HTA FEP (~ 18.0 GHz) (Equivalent with HUBER+SUHNER SUCOFORM_113_CU_FEP)
	Low Loss & High Performance Semi-Flexible (~ 18.0 GHz)	Low Density PTFE Dielectric Low Loss Semi-Flexible Cable . SF-141 LLC, SF-141 LLC FEP . SF-085 LLC, SF-085 LLC FEP
	SF-041 / SF-047	SF-041, SF-047, SF-047 FEP, SF-047 (75Ω), SF-047 (75Ω) FEP ...
	SF-085	SF-085, SF-085 FEP, SF-085 LSZH, SF-085 (75Ω) , SF-085 (75Ω) FEP SF-085 SPC, SF-085 SPC FEP, SF-085 SPC LSZH Replacement Cable of Huber+Suhner SUCOFORM_86, Habia Flexiform 405 Micro-Coax UT-085-FORM, UT-085C-FORM ...
	SF-141	SF-141, SF-141 FEP, SF-141 LSZH SF-141 SPC, SF-141 SPC FEP, SF-141 SPC LSZH SF-141 (75Ω), SF-141 (35Ω), SF-141 (12.5Ω), SF-141 (100Ω) ... Replacement Cable of Huber+Suhner SUCOFORM_141, Habia Flexiform 402 Micro-Coax UT-141-FORM, UT-141C-FORM ...
	SF-250	SF-250 SPC , SF-250 SPC FEP, SF-250 SPC LSZH ... Replacement Cable of Huber+Suhner SUCOFORM_250, Habia Flexiform 401 Micro-Coax UT-250-FORM, UT-250C-FORM ...
Semi-Rigid Coaxial Cable (PTFE Dielectric)	SR-031 / SR-034	Tin Plated Copper Tube, Bare Copper Tube Replacement Cable of Micro-Coax UT-34, UT-34-TP ...
	SR-047	Tin Plated Copper Tube, Bare Copper Tube Replacement Cable of Micro-Coax UT-47, UT-47-TP ...
	SR-085	Tin Plated Copper Tube, Bare Copper Tube, Tin Plated Aluminum Tube Replacement Cable of Micro-Coax UT-85, UT-85-TP, UT-85-AL-TP, UT-85-75 UT-85-75 TP, UT-85-75-AL-TP, UT-85C, UT-85C-TP, UT-85C-AL-TP ...
	SR-141	Tin Plated Copper Tube, Bare Copper Tube, Tin Plated Aluminum Tube Replacement Cable of Micro-Coax UT-141A, UT-141A-TP, UT-141A-AL-TP UT-141C, UT-141C-TP, UT-141C-AL-TP, UT-141C-15, UT-141C-25, UT-141C-35 UT-141-70, UT-141-75, UT-141-75-TP, UT-141-75-AL-TP ...
	SR-250	Tin Plated Copper Tube, Bare Copper Tube, Tin Plated Aluminum Tube Replacement Cable of Micro-Coax UT-250C, UT-250C-TP, UT-250C-AL-TP ...
RG Flexible Coaxial Cable (Solid PE Dielectric)	MIL-C-17 Standard & Customized	RG-6 A/U, RG-8 /U, RG-8 A/U, RG-11 /U, RG-11 A/U, RG-58 /U, RG-58 C/U RG-58 A/U, RG-59 /U, RG-59 A/U, RG-59 B/U, RG-174/U, RG-212 /U, RG-213 /U RG-214 /U, RG-216 /U, RG-223 /U ...
Flexible Low Loss Communication Coaxial Cable (PE Foam Dielectric)	LMR-XXX Type	MFT-100A, MFT-195, MFT-200, MFT-240, MFT-300, MFT-400, MFT-500, MFT-600, MFT-900
Ultra Flexible (UF) Low Loss Communication Coaxial Cable (PE Foam Dielectric)	LMR-XXX UF Type	MFT-195 UF, MFT-200 UF , MFT-240 UF , MFT-300 UF, MFT-400 UF, MFT-500 UF, MFT-600 UF
Flexible Low Loss Plenum Coaxial Cable (Low density PTFE Dielectric)	LMR-XXX LLPL Type	MPFT-195 LLPL, MPFT-200 LLPL, MPFT-240 LLPL, MPFT-300 LLPL MPFT-400 LLPL, MPFT-500 LLPL, MPFT-600 LLPL
Flexible Low Loss High Power Communication Plenum Coaxial Cable (Low density PTFE Dielectric)	FBT-XXX Type	MHP-PFT 195, MHP-PFT 200, MHP-PFT 240, MHP-PFT 300, MHP-PFT 400, MHP-PFT 600

MUA210SD (UFA210A Type)**Low Loss Microwave Cable**

*. Equivalent with Micro-Coax Utiflex UFA210A, Rosenberger RTK 161
 . Replacement Cable of Huber+Suhner (Sucoflex 104), Semflex HP190
 IW Microwave 1801, 1803 (Armored MUA210SD DJA)
 Times Microwave Systems SilverLine VNA Test Cable for 26.5 GHz ...*

Construction

Item	Material	Diameter	Remark
Center Conductor	SPC	1.40 mm (0.055 inch)	Solid Silver Plated Copper Wire
Dielectric	LD PTFE	4.06 mm (0.160 inch)	Low Density PTFE
Inner Shield	SPCS	4.22 mm (0.166 inch)	Silver Plated Copper Strip Taping
Outer Shield	SPC	4.72 mm (0.186 inch)	Round Silver Plated Copper Wire Braiding
Jacket	FEP	5.33 mm (0.210 inch)	Sky Blue

Electrical & Mechanical Data

Impedance	50Ω
Frequency Range	DC-26.5 GHz
Velocity of Propagation	80 %
Capacitance	26.2pf/ft (86.0pf/m)
Operating Temperature	- 55°C ~ 165°C
Shield Effectiveness	> 100 dB
Power Handling Watts	286 (CW) @ 10 GHz
Flexures	10,000
Min. Bending Radius	0.38 inch (9.65mm)

Attenuation

Frequency (GHz)	Max. Attenuation	
	(dB/m)	(dB/ft)
1.0	0.26	0.08
10.0	0.89	0.27
18.0	1.25	0.38
26.5	1.57	0.48

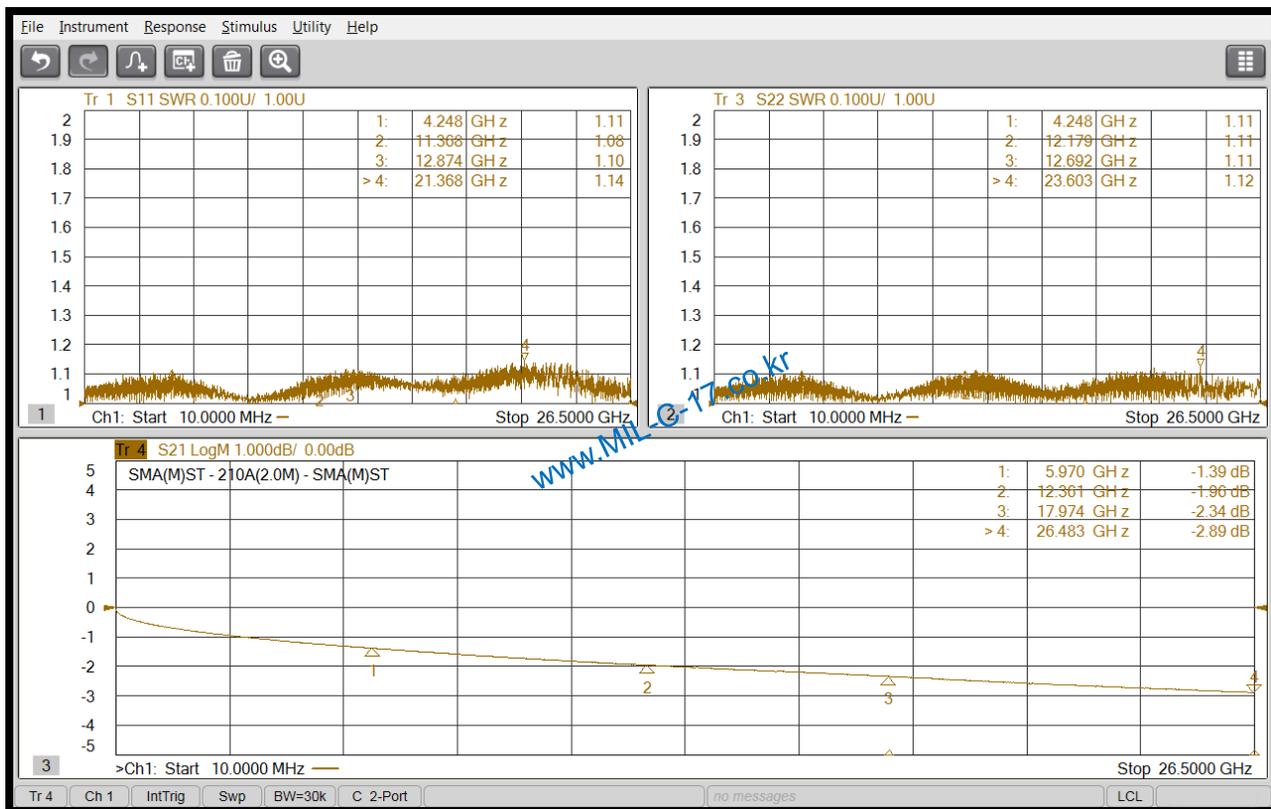
SMA Male

to

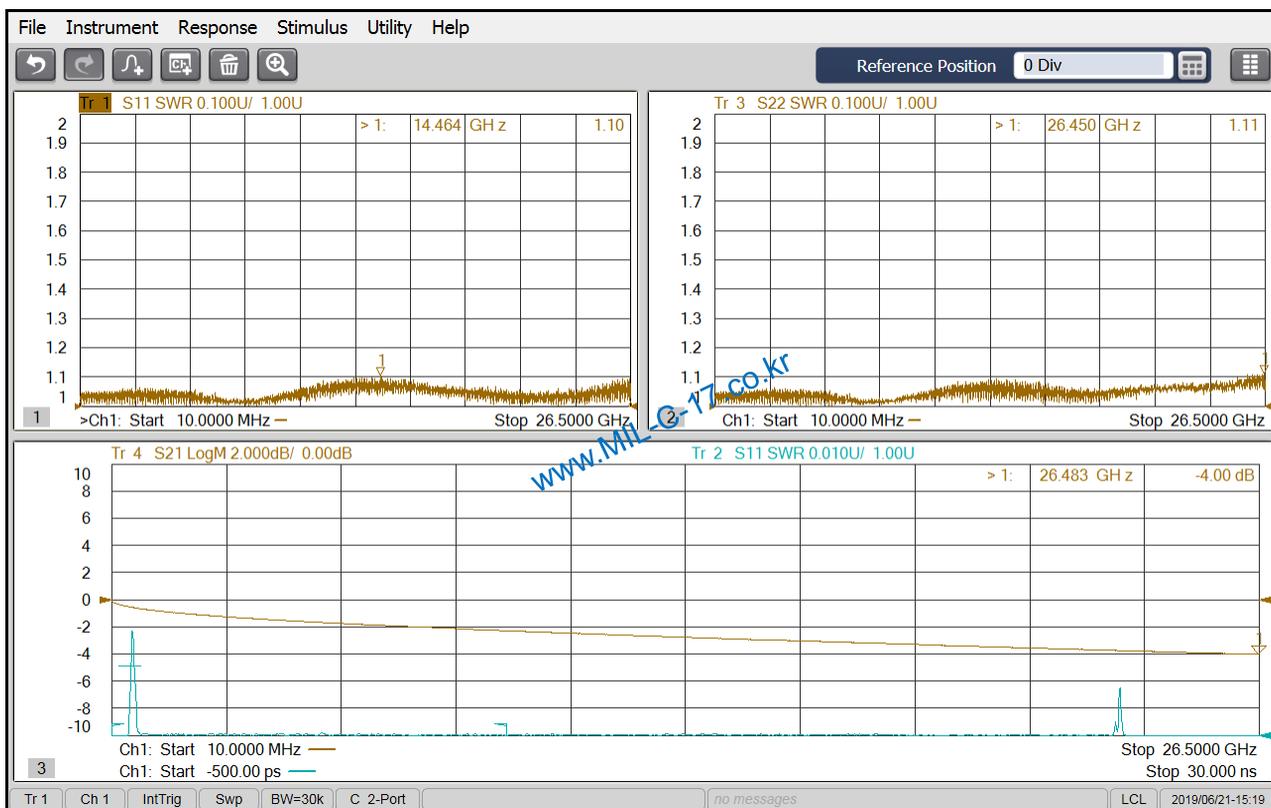
SMA Male

~ 26.5 GHz

SMA Male/Male Assembly for ~26.5 GHz (MUA210SD 2.0 Meter)



SMA Male/Male Assembly for ~ 26.5 GHz (MUA210SD 3.0 Meter)



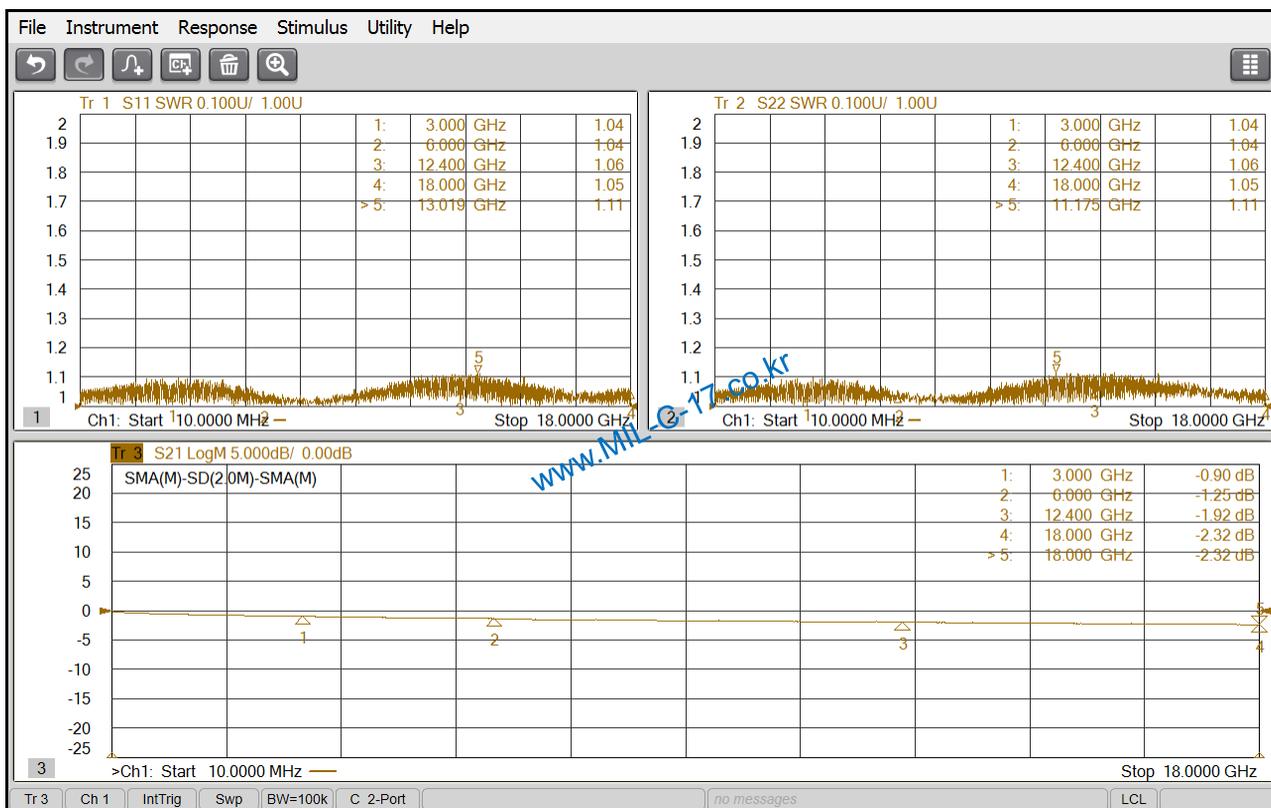
SMA Male

to

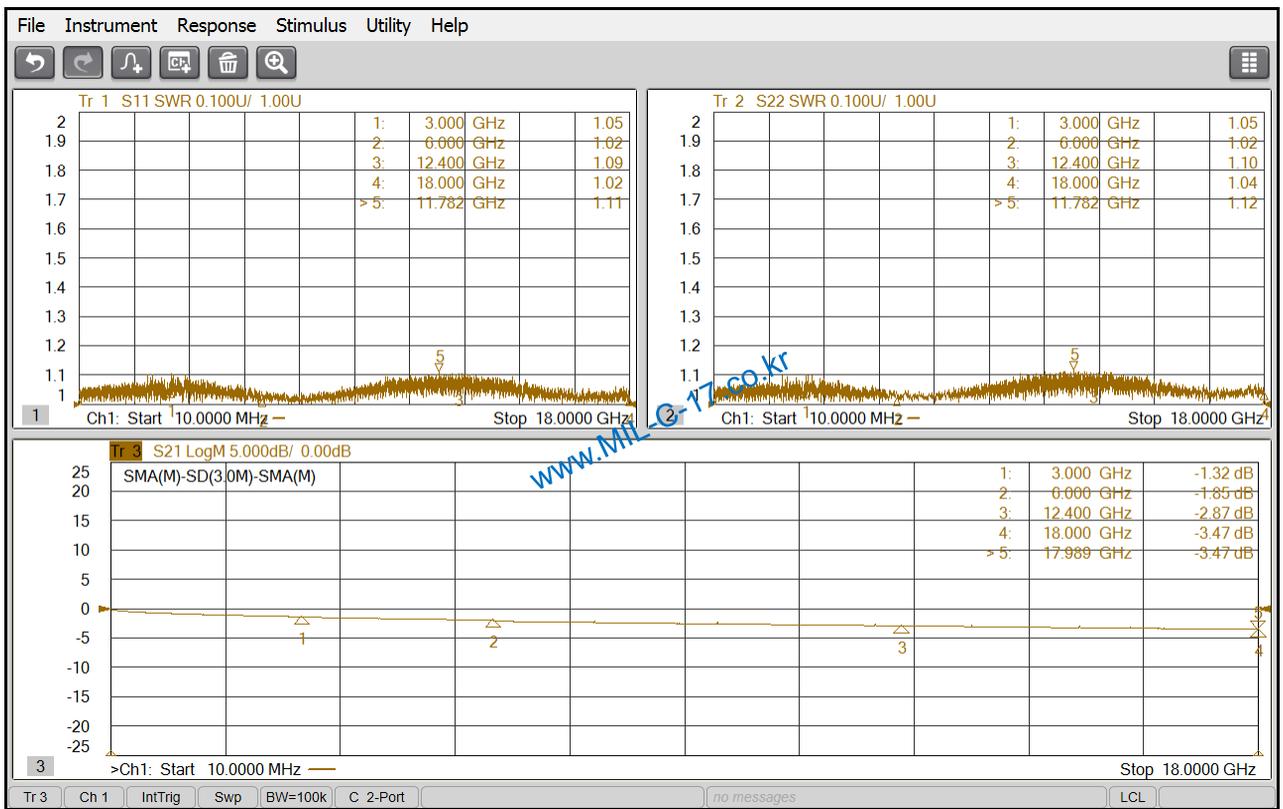
SMA Male

~ 18.0 GHz

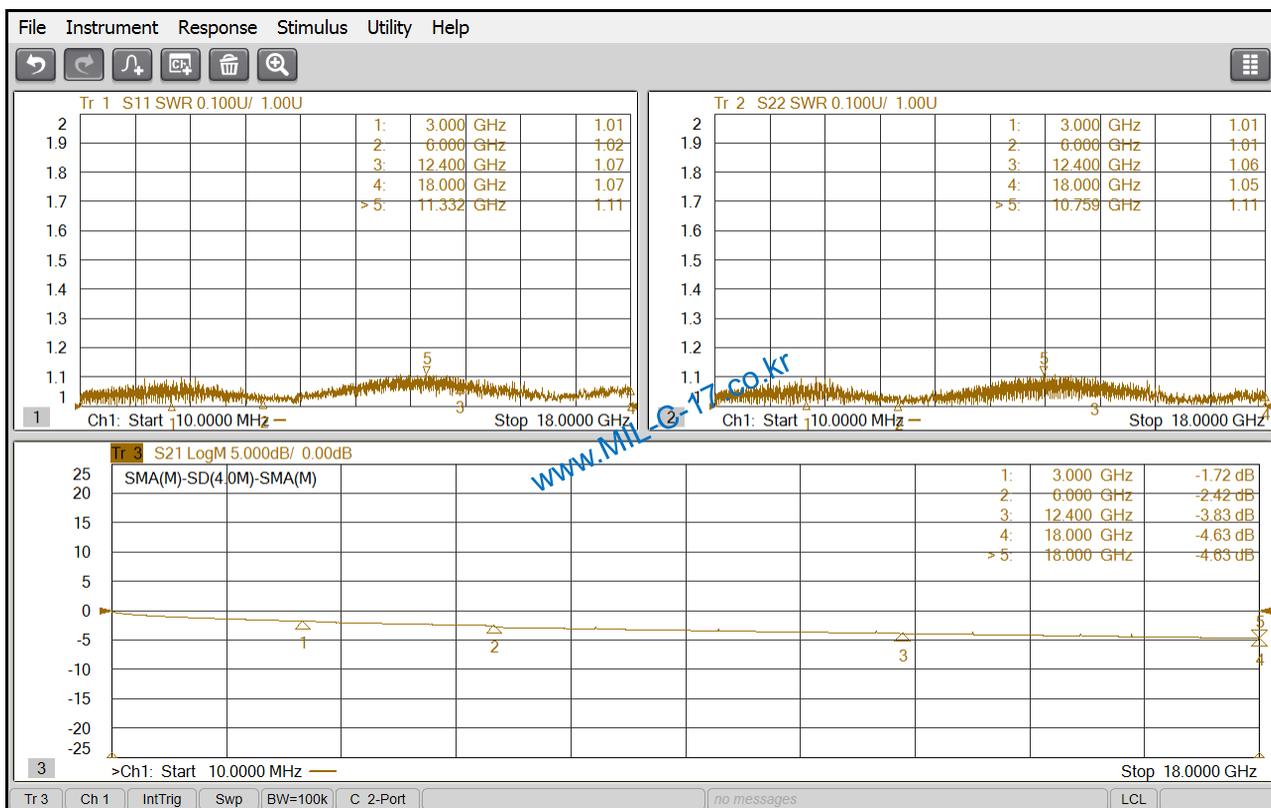
SMA Male/Male Assembly for ~ 18.0 GHz (MUA210SD 2.0 Meter)



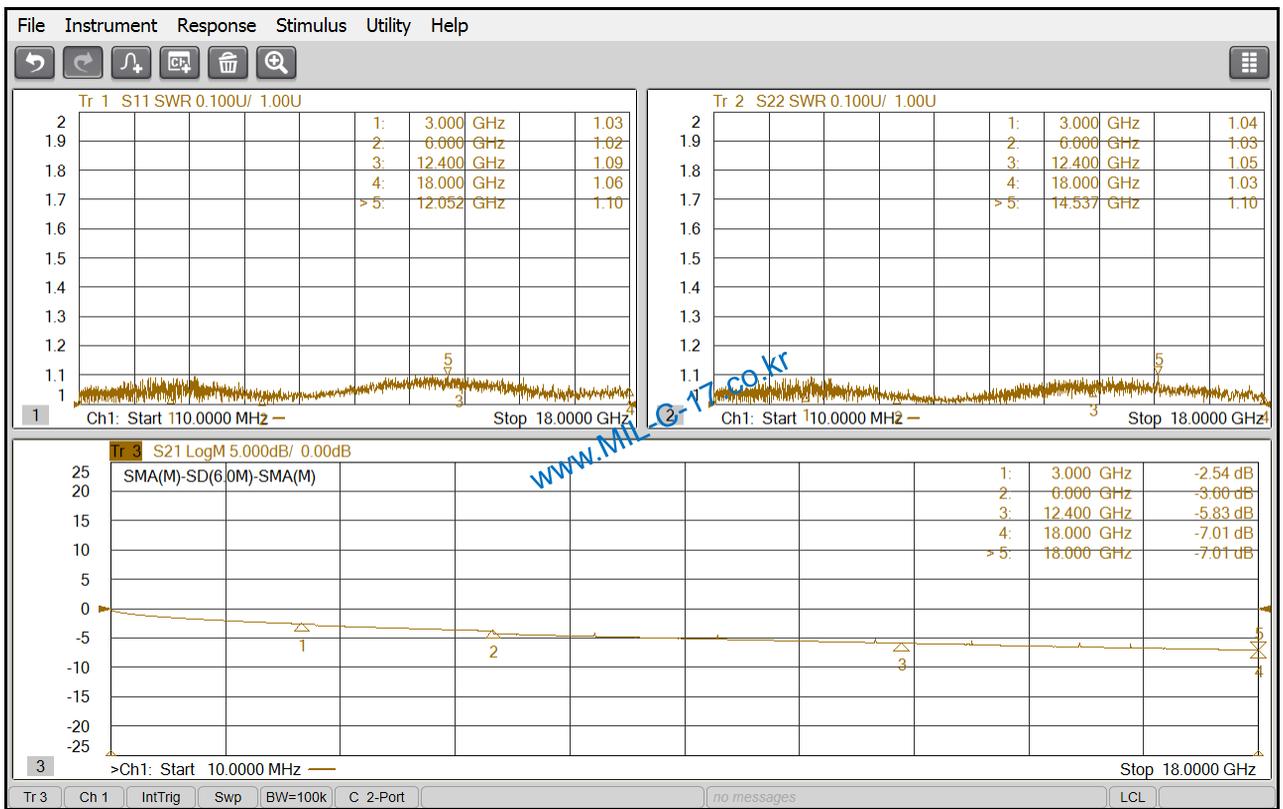
SMA Male/Male Assembly for ~ 18.0 GHz (MUA210SD 3.0 Meter)



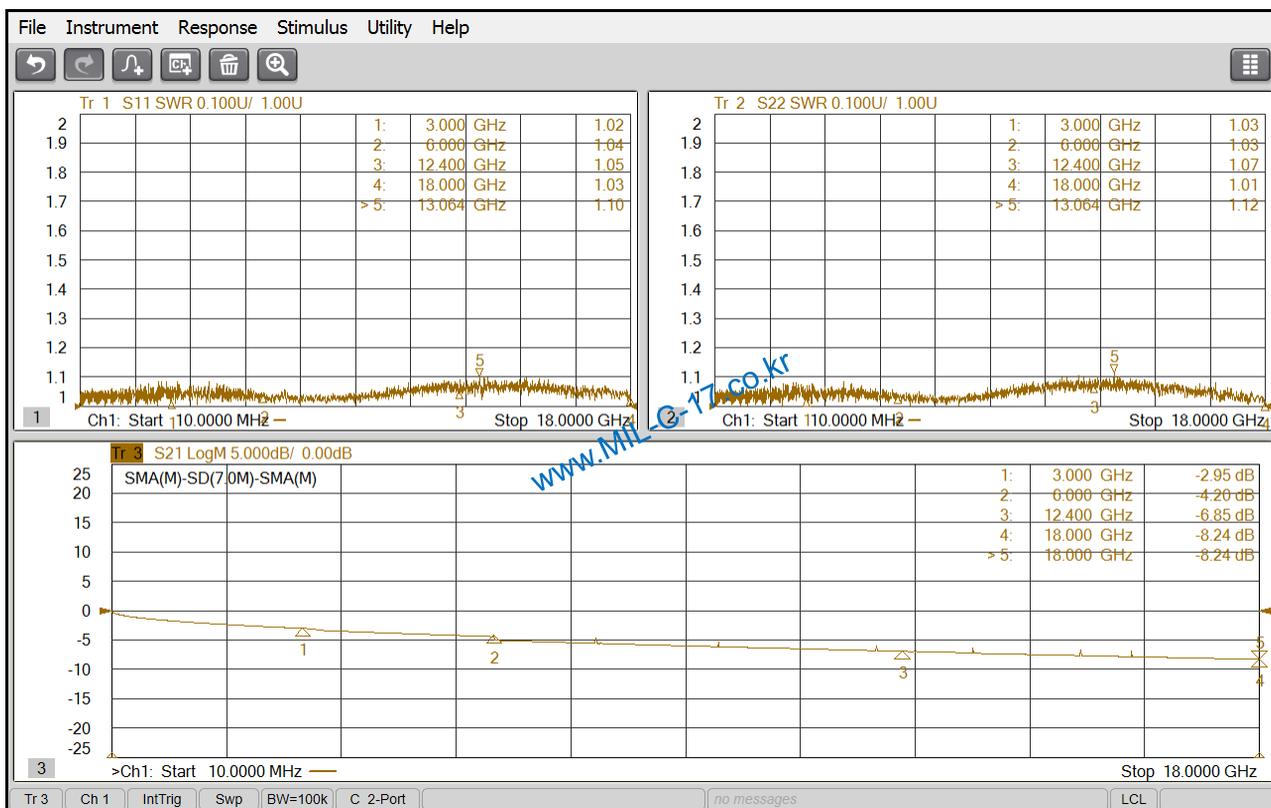
SMA Male/Male Assembly for ~ 18.0 GHz (MUA210SD 4.0 Meter)



SMA Male/Male Assembly for ~ 18.0 GHz (MUA210SD 6.0 Meter)



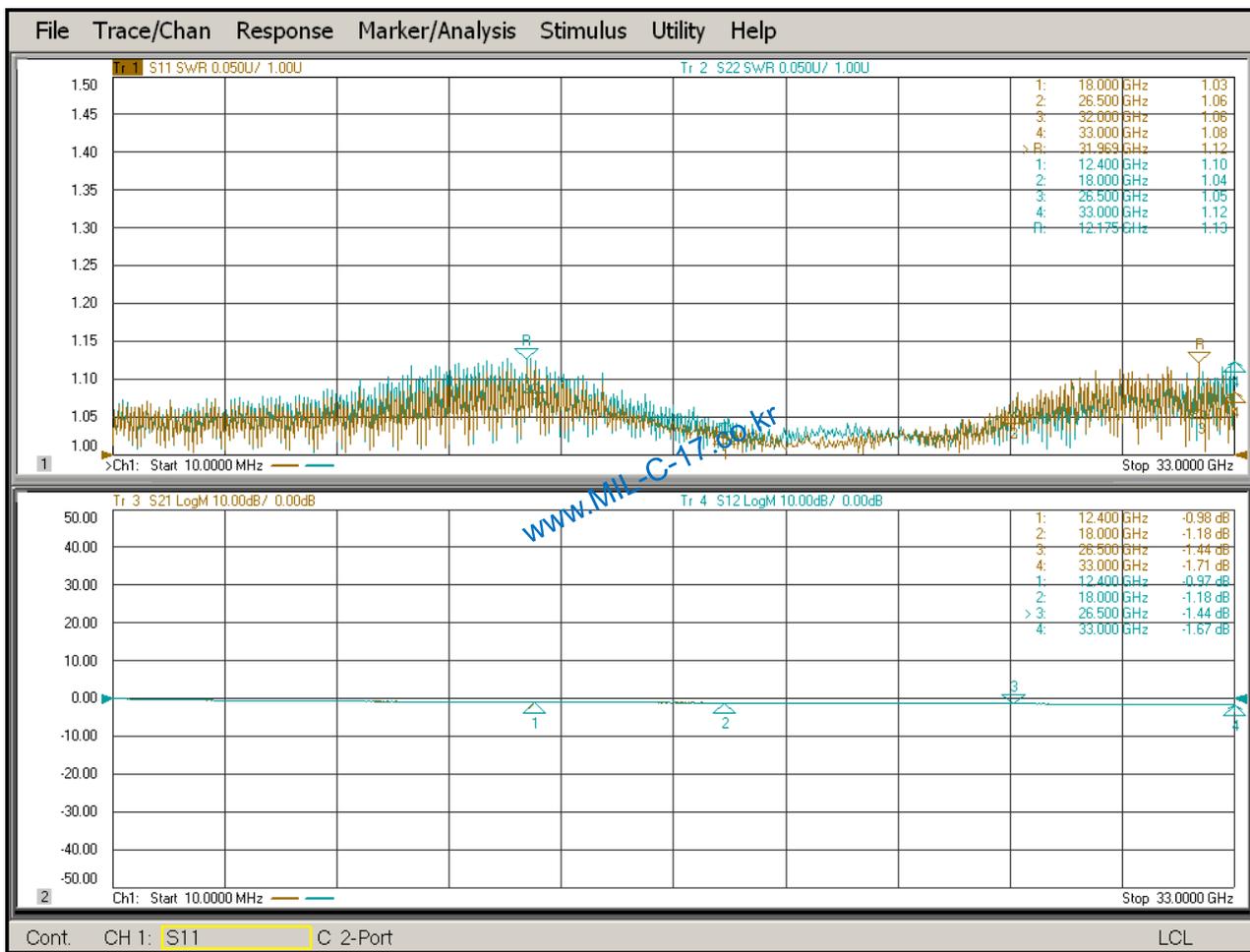
SMA Male/Male Assembly for ~ 18.0 GHz (MUA210SD 7.0 Meter)



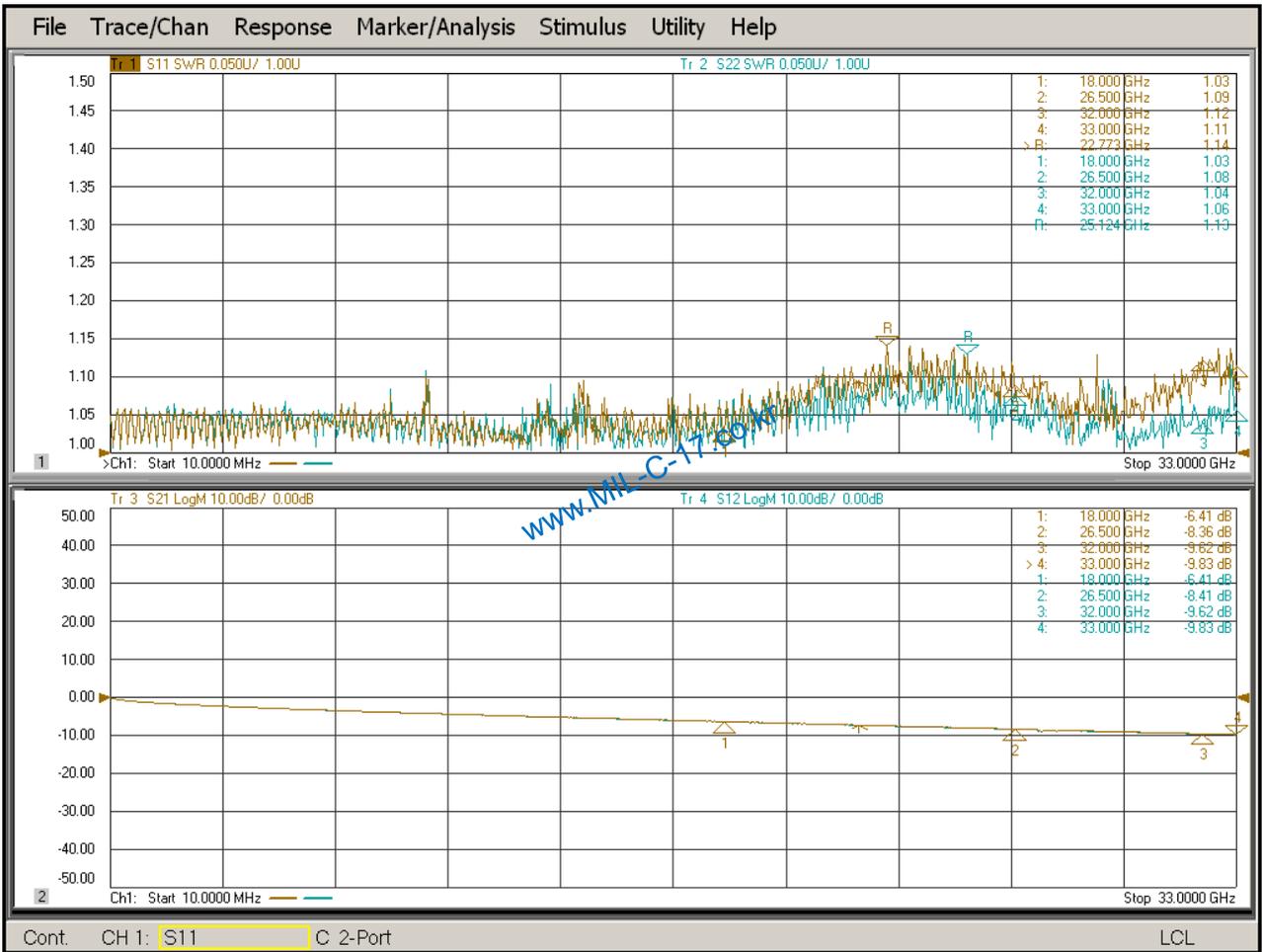
2.92mm Male
to
2.92mm Male

33.0 GHz

**2.92mm Male/Male Assembly for ~ 33.0 GHz
(MUA210SD 1.0 Meter)**



**2.92mm Male/Male Assembly for ~ 33.0 GHz
(MUA210SD 5.0 Meter)**



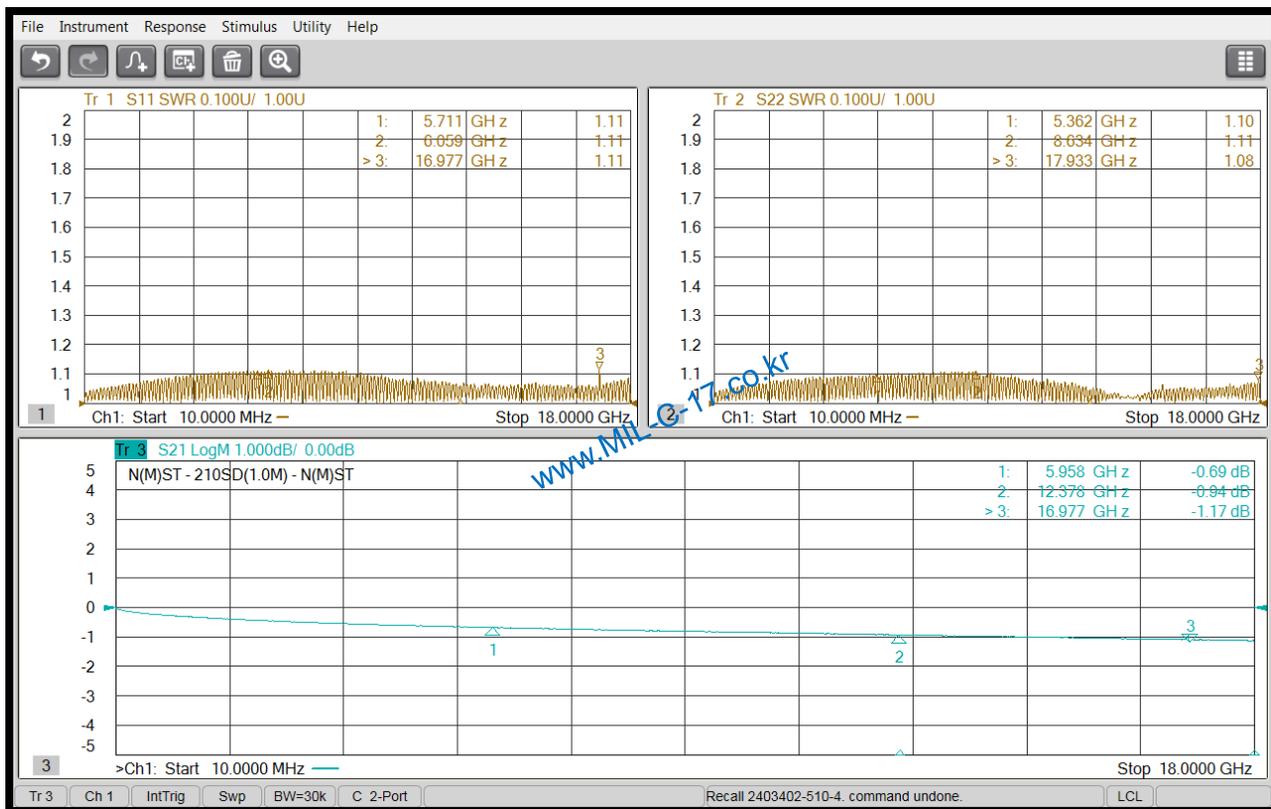
N Male

to

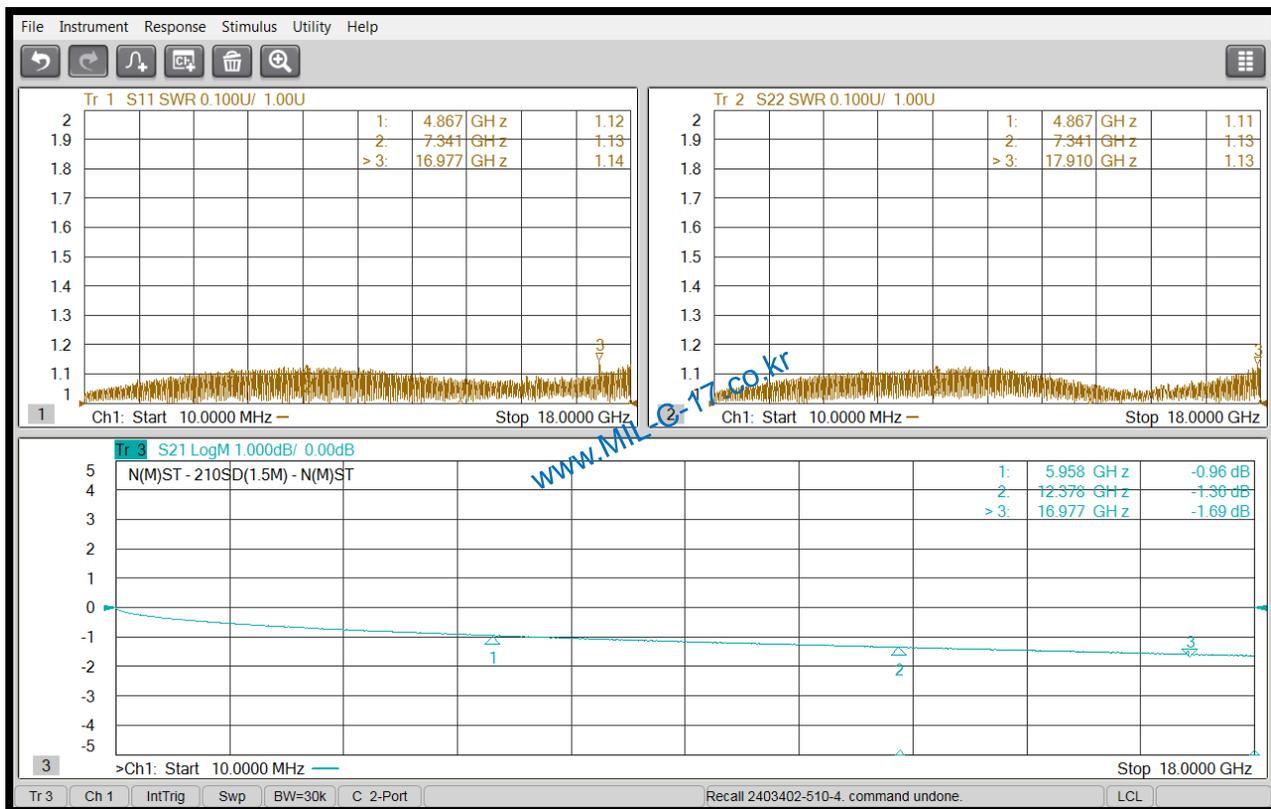
N Male

~ 18.0 GHz

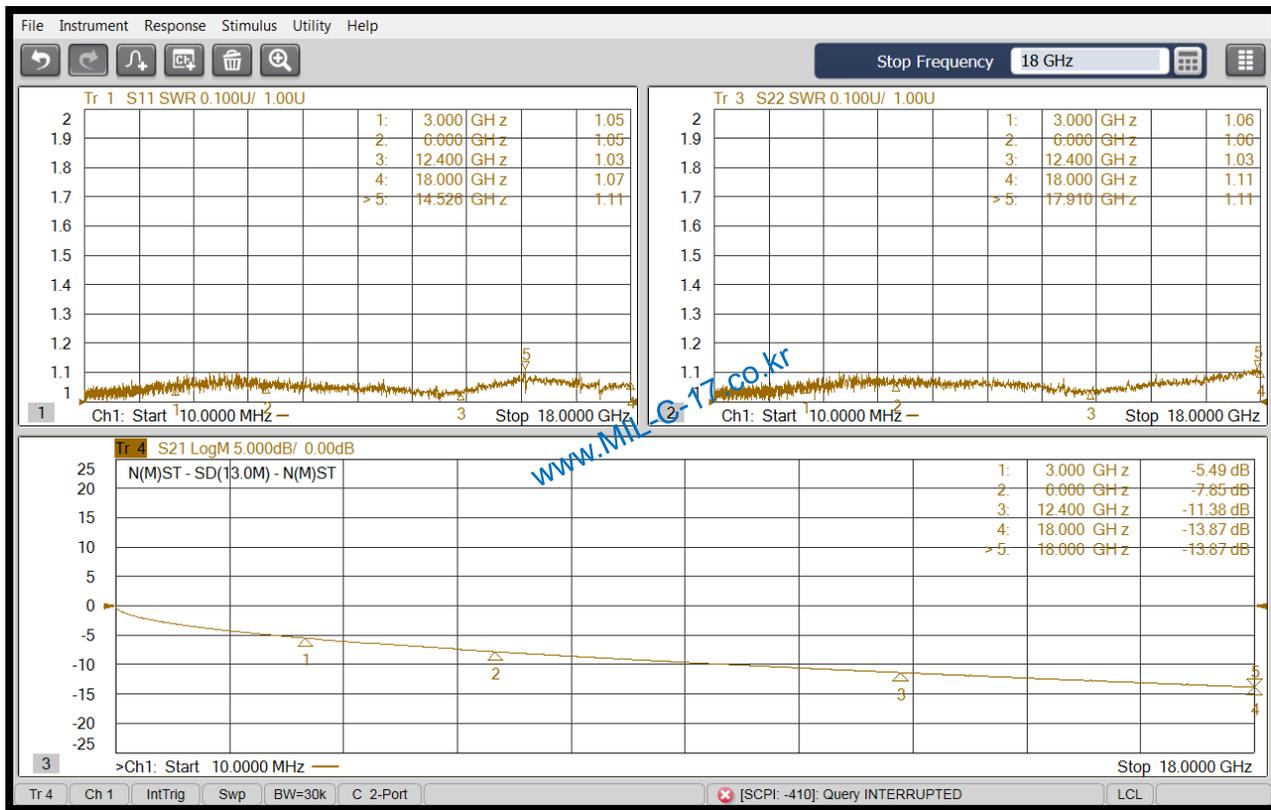
N Male/Male Assembly for ~ 18.0 GHz (MUA210SD 1.0 Meter)



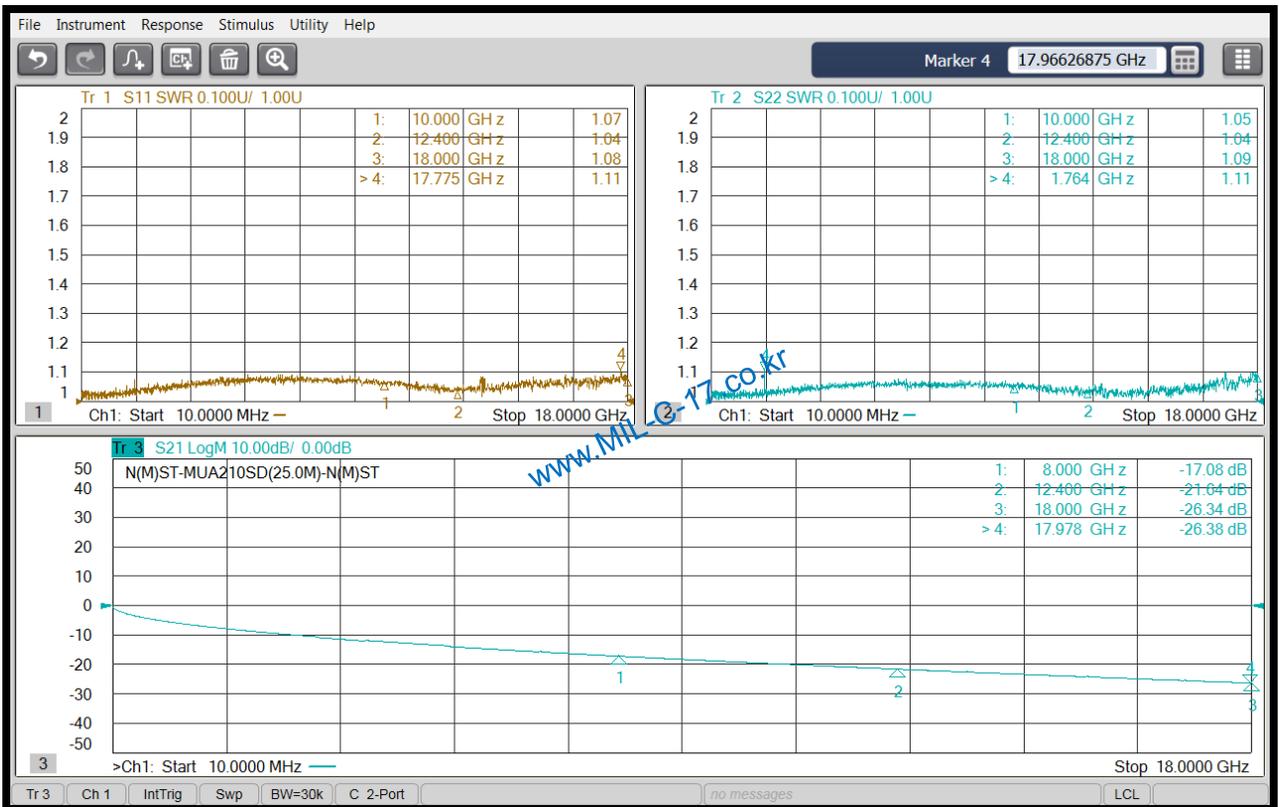
N Male/Male Assembly for ~ 18.0 GHz (MUA210SD 1.5 Meter)



N Male/Male Assembly for ~ 18.0 GHz (MUA210SD 13.0 Meter)



N Male/Male Assembly for ~ 18.0 GHz **(MUA210SD 25.0 Meter)**



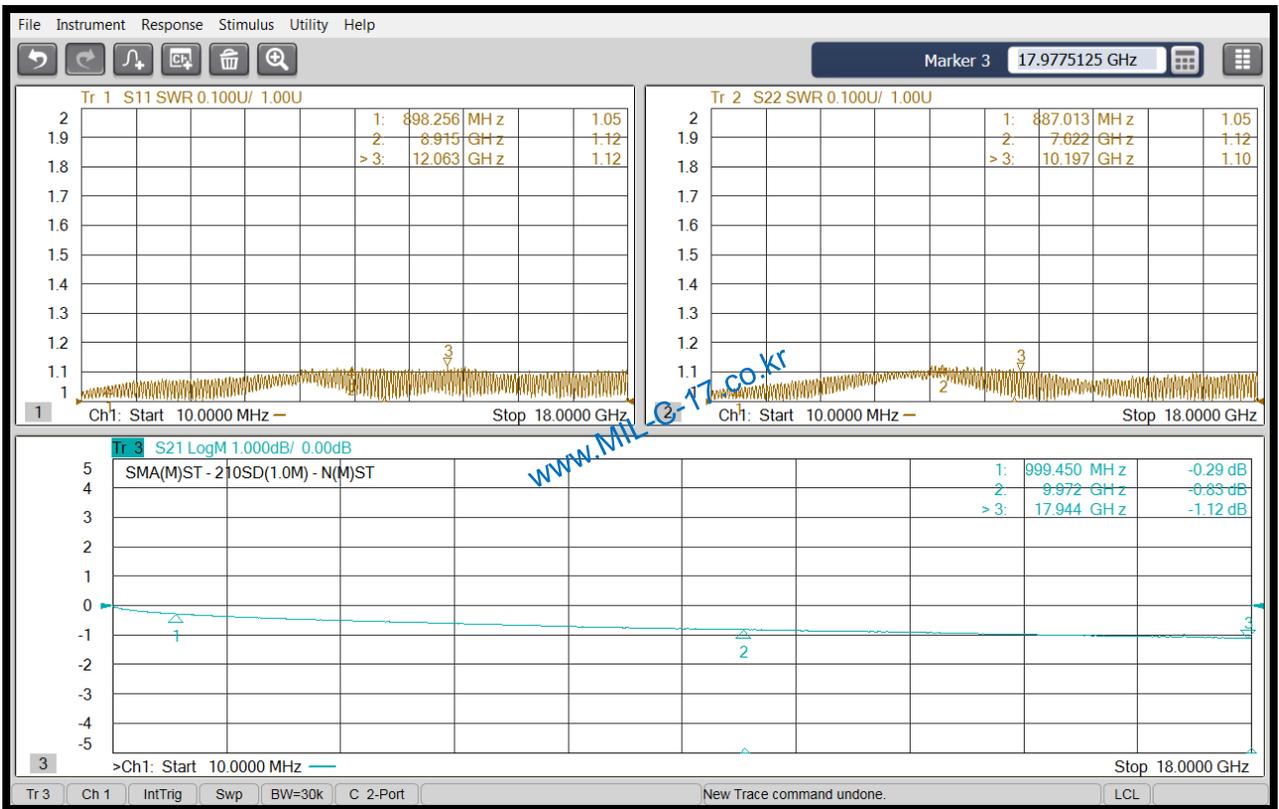
SMA Male

to

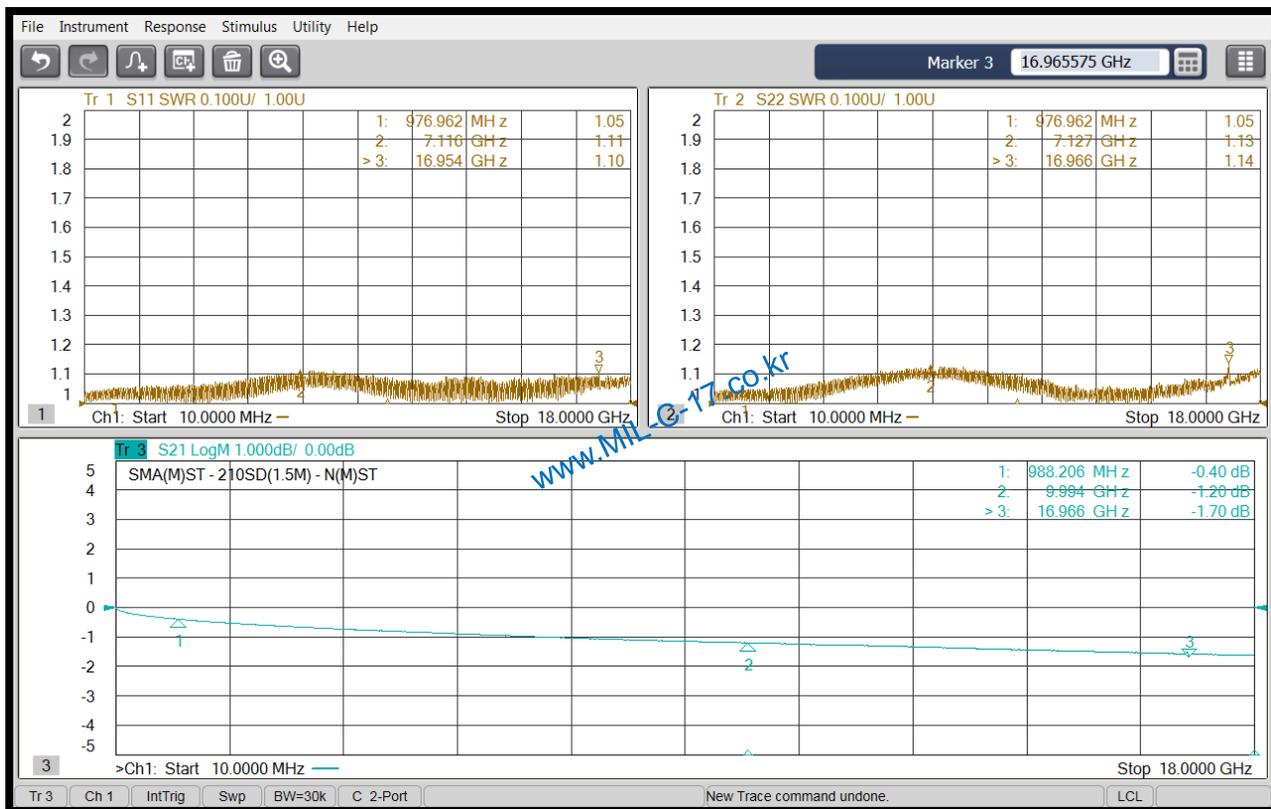
N Male

~ 18.0 GHz

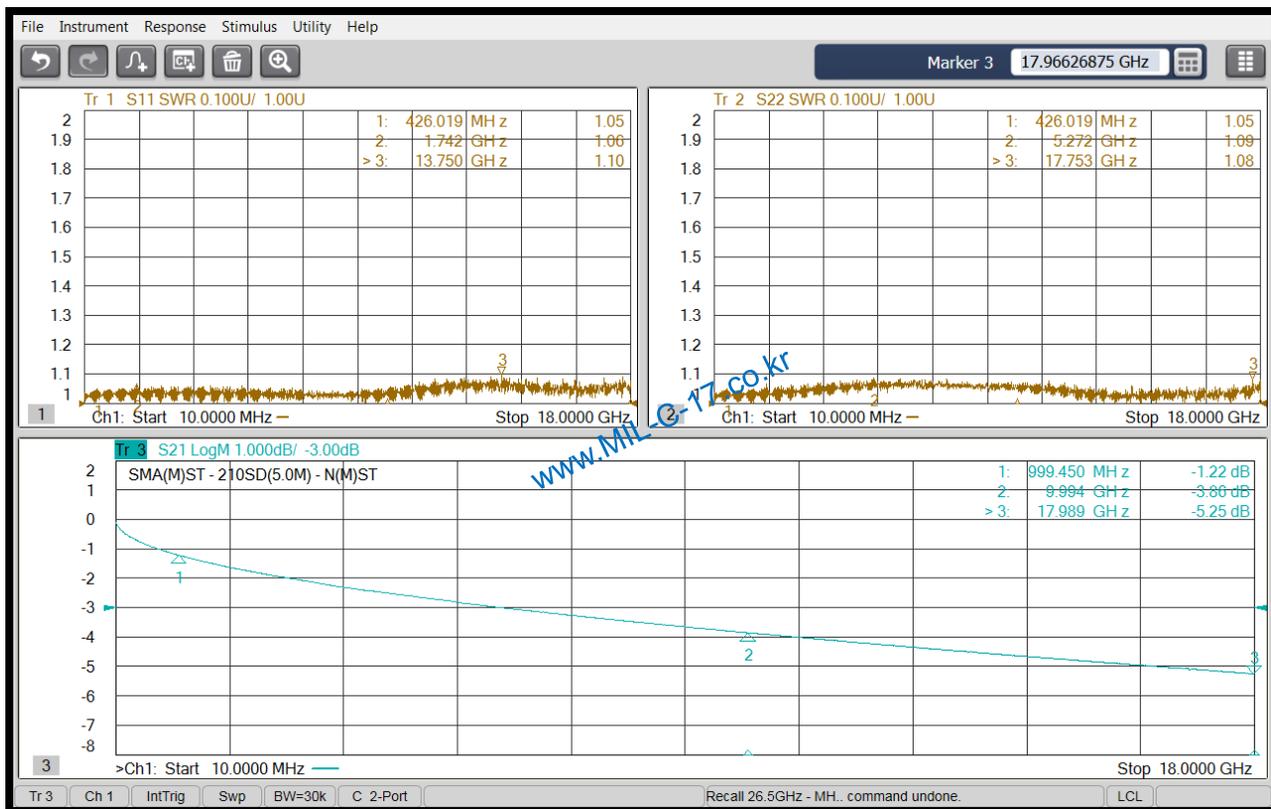
SMA Male / N Male Assembly for ~ 18.0 GHz
(MUA210SD 1.0 Meter)



SMA Male / N Male Assembly for ~ 18.0 GHz
(MUA210SD 1.5 Meter)



**SMA Male / N Male Assembly for ~ 18.0 GHz
(MUA210SD 5.0 Meter)**



Assembly

SMA

~ 26.5 GHz

~ 18.0 GHz

MUA210SD
SMA Male/Male Assembly for ~ 18.0 GHz, ~ 26.5 GHz



***. Equivalent with Micro-Coax Utiflex UFA210A, Rosenberger RTK 161
. Replacement Cable of Huber+Suhner (Sucoflex 104), Semflex HP190
IW Microwave 1801, 1803 (Armored MUA210SD DJA)
Times Microwave Systems SilverLine VNA Test Cable for 26.5 GHz ...***

SMA Male Connector for ~ 26.5 GHz



1	2	3	4	5	6		
			REV	DESCRIPTION	DATE	ECO	APPR
<p>NOTE</p> <ol style="list-style-type: none"> 1. Specification <ol style="list-style-type: none"> 1.1 Frequency Range : DC ~ 26.5GHz 1.2 Impedance : 50 Ohm Nom. 1.3 V.S.W.R : Max. ≤ 1.15 ~ 26.5 GHz 1.4 Dielectric Withstanding Voltage : 750V rms 1.5 Working Voltage : 250V rms 1.6 Mating : 500 Cycle Min. 1.7 Insulation Resistance : 5000 MΩ Min. 1.8 Operating Temperature : -45C ~ 125C 2. Material and Finish <ol style="list-style-type: none"> 2.1 Body : Stainless Steel / Gold Plated 2.2 Coupling Nut : Stainless Steel 303 / Passivated 2.3 Pin : Beryllium Copper / Gold Plated 2.4 Insulator : PTFE 2.5 Clamp : Brass / Nickel Plated 3. 2011/65/EU(RoHS) compliant 							
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS AND TOLERANCES ARE: 1 PLACE DECIMAL ± 0.20 mm 2 PLACE DECIMAL ± 0.10 mm ANGLES ± 1° 1.6 g			MATERIAL SEE PART LIST	DRAWN B.H. Park	DATE 2015.09.20	TITLE Low Loss Cable Connector SMA Male Straight UFA210A & MUA210SD UFA210B & MUA210ST	
REMOVE BURRS. BREAK SHARP EDGES			FINISH SEE PART LIST	ENGINEER B.G. Park	DATE 2015.09.20	MHD	
This document contains proprietary information and may not be reproduced or copied without the express written permission of a duly authorised representative of MHD			REFERENCE	APPROVED B.G. Park	DATE 2015.09.20	SCALE N / A	SHEET 1 of 1
				CAD FILE SMA Connector for UFA210A & UFA210B Type Cable	DWG SIZE A4	DRAWING No. MCD-26.5GMKAC-A10	REV. A

Assembly

N Type

~ 18.0 GHz

MUA210SD
N Male/Male Assembly for ~ 18.0 GHz



***. Equivalent with Micro-Coax Utiflex UFA210A, Rosenberger RTK 161
. Replacement Cable of Huber+Suhner (Sucoflex 104), Semflex HP190
IW Microwave 1801, 1803 (Armored MUA210SD DJA)
Times Microwave Systems SilverLine VNA Test Cable for 26.5 GHz ...***

N Male Connector for ~ 18.0 GHz



1	2	3	4	5	6		
			REV	DESCRIPTION	DATE	ECO	APPR
<p>Notes.</p> <p>1. Electrical :</p> <p>1.1 Impedance : 50 Ohm</p> <p>1.2 Insulation Resistance : Min 5000 M Ohm</p> <p>1.3 Frequency Range : DC ~ 18.0 GHz</p> <p>1.4 Dielectric Withstanding Voltage : Max. 1,000V at SEA Level</p> <p>1.5 V.S.W.R : Max. \leq 1.15 ~ 18.0 GHz</p> <p>2. Environmental :</p> <p>2.1 Temperature Range : -55°C ~ 165°C</p> <p>3. Material and Finish</p> <p>3.1 Body : Stainless Steel Type 303, Passivate</p> <p>3.2 Nut : Stainless Steel Type 303, Passivate</p> <p>3.3 Center Contact : Brass, Gold Plating</p> <p>3.4 Dielectric : PTFE</p>							
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS AND TOLERANCES ARE: 1 PLACE DECIMAL ± 0.20 mm 2 PLACE DECIMAL ± 0.10 mm ANGLES ± 1° 1.8 a			MATERIAL SEE PART LIST	DRAWN B.H. Park	DATE 2017.08.23	TITLE Low Loss Cable Connector N Male Straight UFA210A & MUA210SD UFA210B & MUA210ST	
REMOVE BURRS. BREAK SHARP EDGES			FINISH SEE PART LIST	ENGINEER B.G. Park	DATE 2017.08.23	MHD	
This document contains proprietary information and may not be reproduced or copied without the express written permission of a duly authorised representative of MHD			APPROVED B.G. Park	CAD FILE N Male Connector for UFA210A & UFA210B Type Cable	DWG SIZE A4	SCALE N/A	SHEET 1 of 1
			REFERENCE	REV. -			DRAWING No. UABMSDT_N-MSTC-A10