

MVE Low Loss Flexible

40GHz Test Cables

MCBL-LL403P.50 *Phase Stable



Features:

- FREQUENCY: 40GHz
- High Flexibility
- Phase & Loss Stable
- High Matching Cycles, Stainless Steel Connectors
- ROHS compliant

Applications:

- RF & Microwave Test and Calibration
- Research and Development Labs
- Interconnect RF Equipment in Narrow Environment
- Military / Commercial Communication Systems Interconnect

Specifications

CONSTRUCTION		
ITEM	MATERIAL	DIAMETER
INNER CONDUCTOR	Silver Plated Copper	0.72 ±0.02mm
DIELECTRIC	PTFE	2.21mm
OUTER CONDUCTOR	Silver-plated Copper Foil	2.38mm (2.45mm Max.)
INNER TAPE	PTFE	2.68mm
OUTER SHIELDING	Round Silver-plated Copper	3.14mm (3.25mm Max.)
JACKET	FEP (Blue)	3.60±0.1mm

ELECTRICAL DATA	
ITEM	SPECIFICATION
FREQUENCY	40GHz
CHARACTERISTIC IMPEDANCE	50 Ohm
BEND RADIUS(mm)	14.4mm MIN./ 36mm MIN. (Repetition)
OPERATING TEMP	-55°C~ +165°C
SHIELDING EFFECTIVENESS	Typically <-90 dB
WORKING VOLTAGE	1000V RMS MAX.
VELOCITY OF PROPAGATION	74.0 %
WEIGHT(g/m)	34
*OPTION-P (PASSE STABILITY)	± 5° TYP. (P/N# MCBL-LL403P.50)

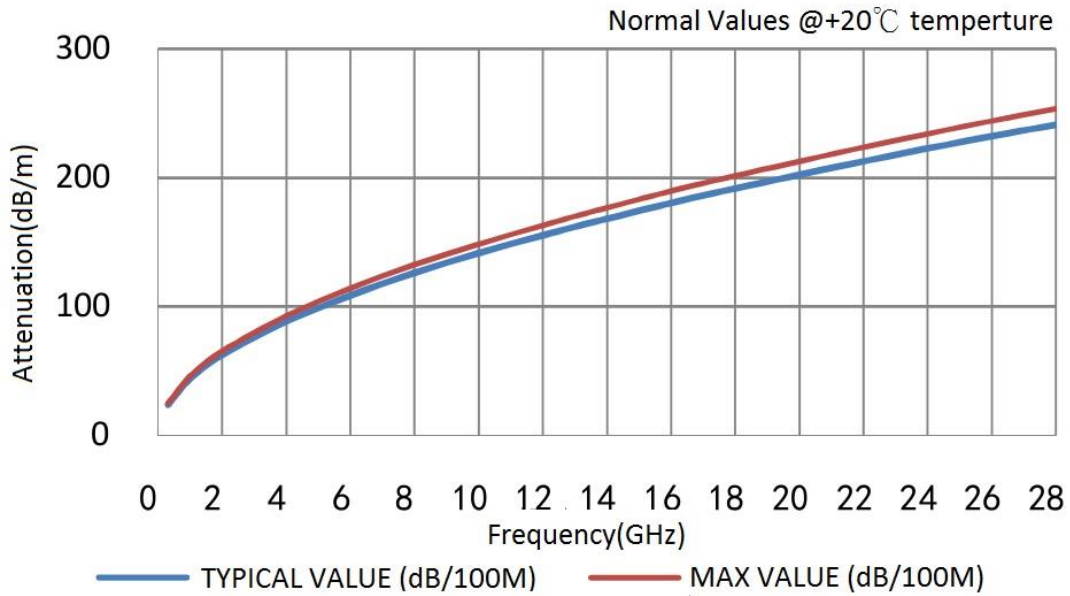
TYP. ATTENUATION(25°C) and TYP. AVG. POWER (40°C)												
Freq.(GHz)	0.3	1	2	4	6	8	10	12	14	18	26.5	40
dB/100m	23.9	43.8	62.2	88.5	108.8	126.1	141.5	155.4	168.3	191.8	234.8	291.7
Power kW	0.750	0.409	0.288	0.202	0.165	0.142	0.127	0.115	0.106	0.093	0.076	0.061

K1= 1.3707349

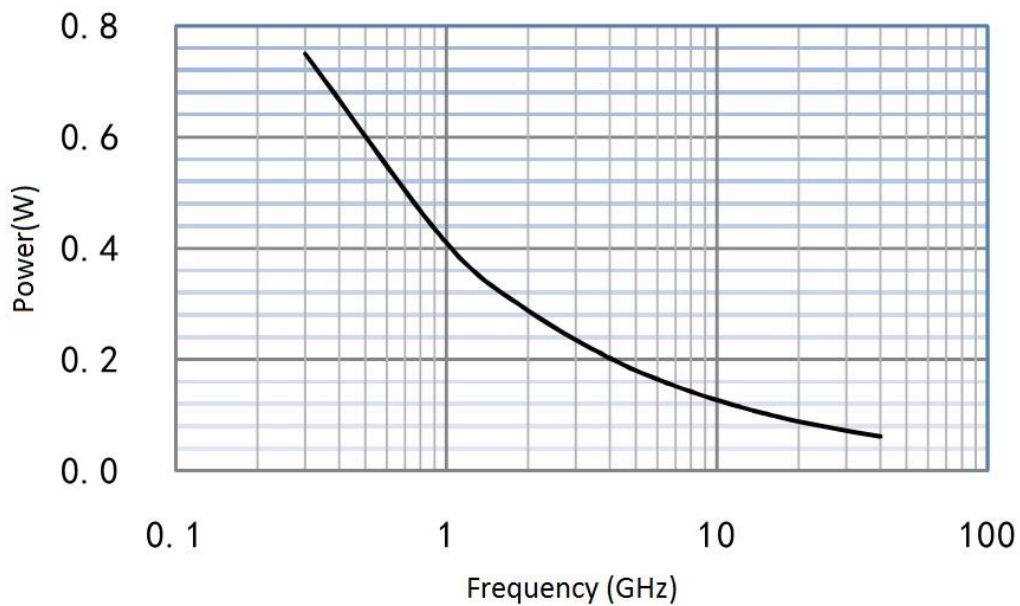
K2= 0.0004400

Equation= K1*√FMHz+K2*FMHz

Cable Attenuation



Average Power



NOTES:

1. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME
2. CUSTOMER OUTLINE DRAWING FOR REFERENCE ONLY





Cable Assembly Part Number

MVE PART NUMBER	CONECTOR 1	CONNECTOR 2	LENGTH (cm)	FREQUENCY (GHz)	VSWR
120120.LL403P.XX	2.4mm Male	2.4mm Male	15, 30, 50, 60, 90, 100	40	1.30
120130.LL403P.XX	2.4mm Male	2.4mm Female	15, 30, 50, 60, 90, 100	40	1.30
120140.LL403P.XXB	2.4mm Male	2.92mm Male	15, 30, 50, 60, 90, 100	40	1.30
140140.LL403P.XX	2.9mm Male	2.9mm Male	15, 30, 50, 60, 90, 100	40	1.30
140140.LL403P1.XX	2.92mm Male	2.92mm Male	15, 30, 50, 60, 90, 100	40	1.30
140150.LL403P.XX	2.92 mm Male	2.92mm Female	15, 30, 50, 60, 90, 100	40	1.30

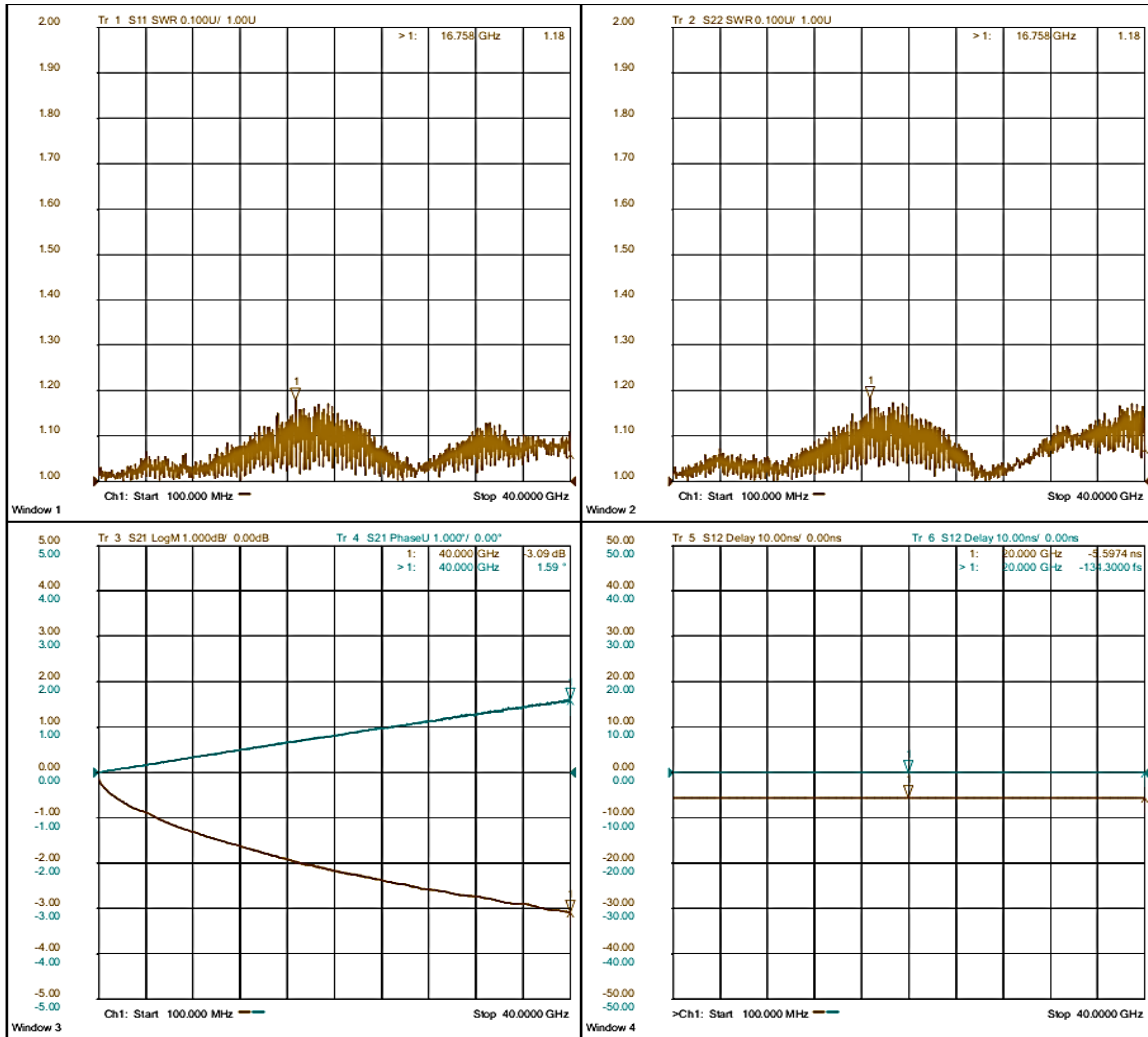
NOTES:

1. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME
2. CUSTOMER OUTLINE DRAWING FOR REFERENCE ONLY



Typical Test Result

PART NUMBER	DESCRIPTION
140140.LL403P1.100	2.92mm Male To 2.92mm Male, DC-40GHz LL403P Cable(Phase $\leq \pm 5^\circ$, Delay $\leq 2ps$, Loss stability $\leq \pm 0.1dB$)/L:100cm



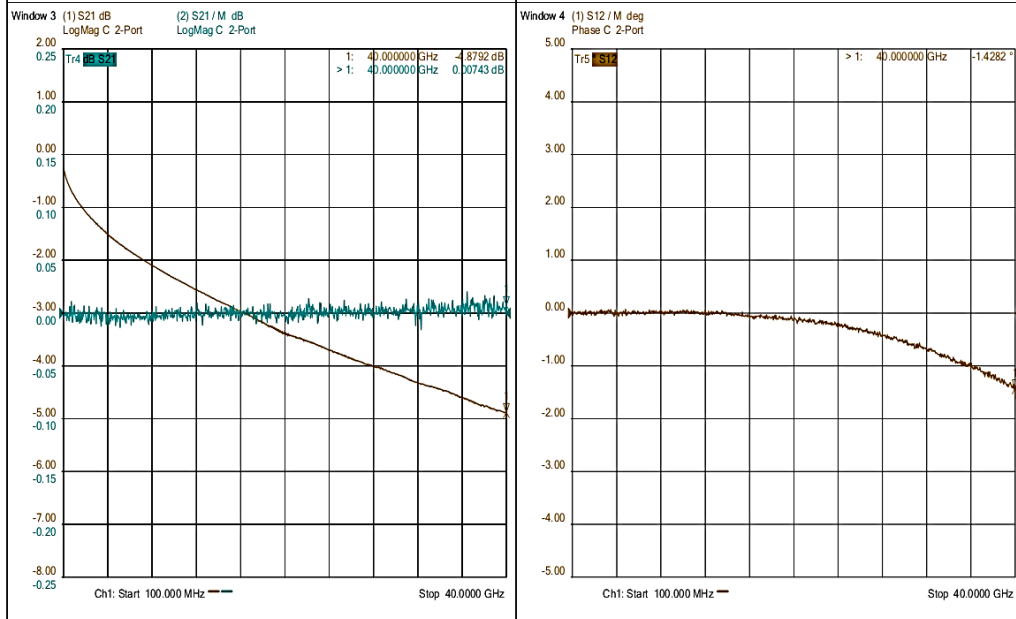
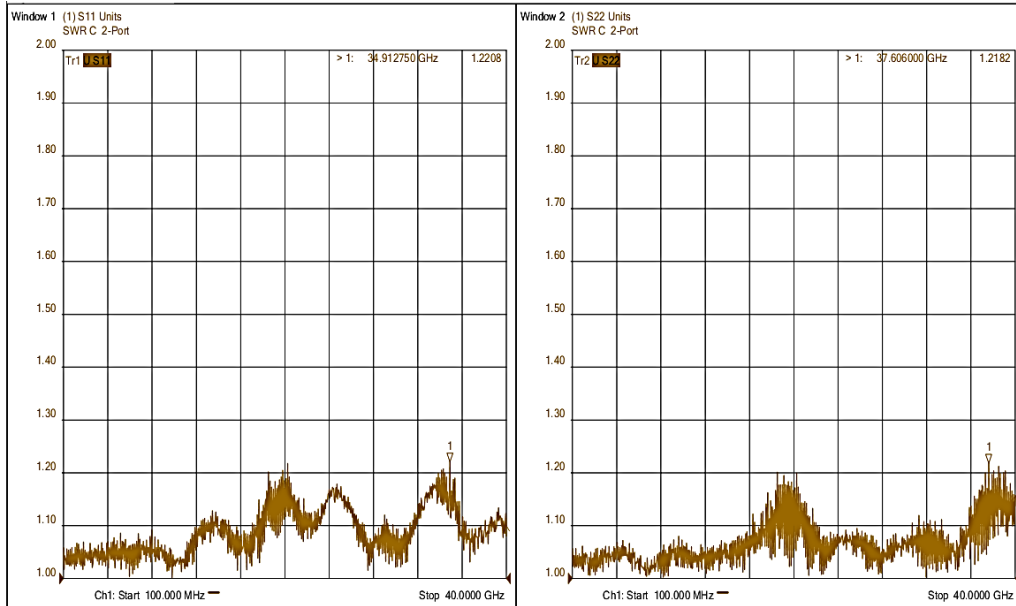
Channel Settings								
Channel	Sweep Type	Points	Start (MHz)	Stop (GHz)	IF BW (kHz)	Sweep Time (s)	Pow 1 (ydBm)	Pow 2 (ydBm)
1	LinFreq	801	100.000000	40.000000	10.000000	1.000000	0.000000	0.000000

Trace Attributes									
Window	ID	Trace	Channel	Correction	Options	Smooth	Marker	Position	Response
1	1	S11	1	C 2-Port			1	16758.25 MHz	1.1786
2	1	S22	1	C 2-Port			1	16758.25 MHz	1.1822
3	1	S21	1	C 2-Port			1	40000 MHz	-3.0871 dB
2	2	S21 / M	1	C 2-Port			1	40000 MHz	1.5892 °
4	1	S12	1	C 2-Port		1.00	1	20000 MHz	-5.5974 ns
2	2	S12 / M	1	C 2-Port		1.00	1	20000 MHz	-134.30 fs

NOTES:

- ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME
- CUSTOMER OUTLINE DRAWING FOR REFERENCE ONLY

PART NUMBER	DESCRIPTION
120130.LL403P.150	2.4mm Male To 2.4mm Female, DC-40GHz LL403P Cable/L:150cm(VSWR ≤ 1.30)



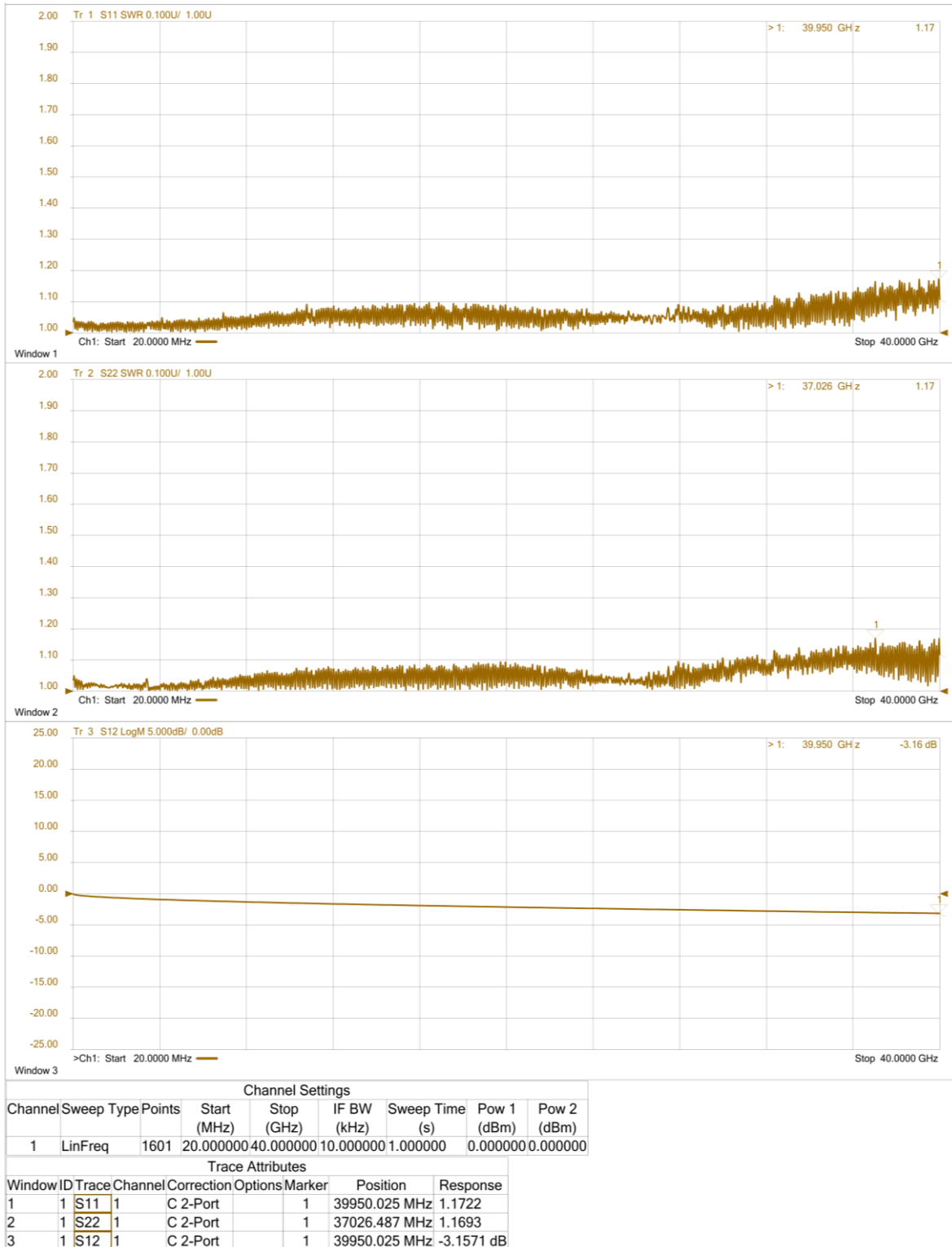
Channel Settings									
Channel	Sweep Type	Points	Start (MHz)	Stop (GHz)	IF BW (kHz)	Sweep Time (s)	Pow 1 (dBm)	Pow 2 (dBm)	
1	LinFreq	801	100.000000	40.000000	10.000000	1.000000	0.000000	0.000000	

Trace Attributes							
Window	D	Trace	Channel	Correction	Options	Marker	Response
1	1	S11	1	C 2-Port		1	34912.75 MHz 1.2208
2	1	S22	1	C 2-Port		1	37606 MHz 1.2182
3	1	S21	1	C 2-Port		1	40000 MHz -4.8792 dB
2	2	S21 / M1	1	C 2-Port		1	40000 MHz 0.00743 dB
4	1	S12 / M1	1	C 2-Port		1	40000 MHz -1.4282 °

NOTES:

1. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME
2. CUSTOMER OUTLINE DRAWING FOR REFERENCE ONLY

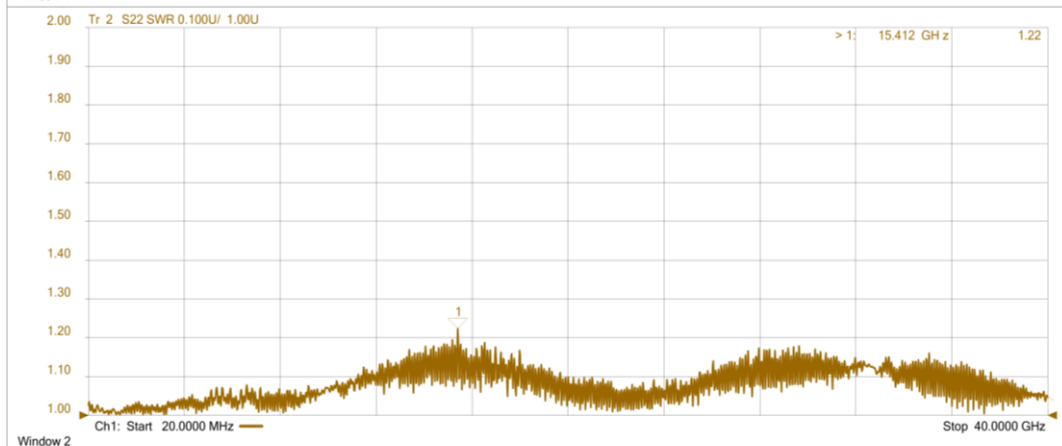
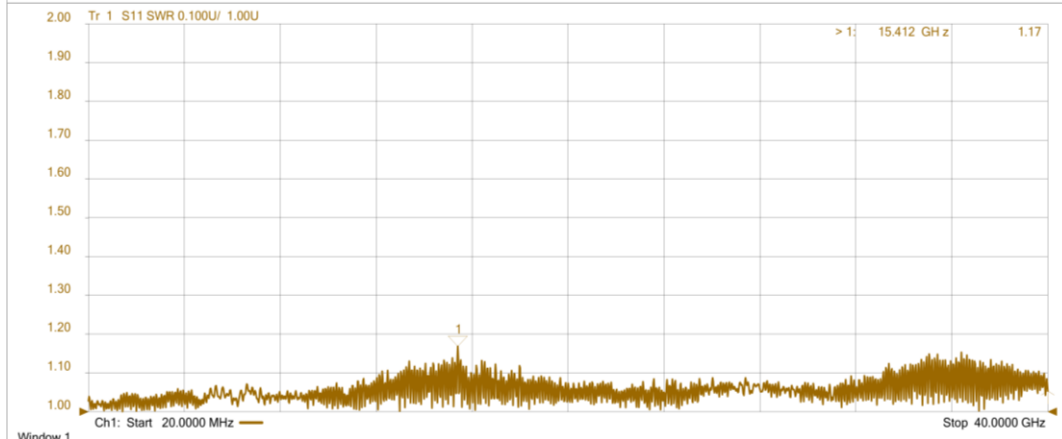
PART NUMBER	DESCRIPTION
120140.LL403P.100B	2.4mm Male To 2.92mm Male/Stainless, DC-40GHz LL403P Cable/L:100cm/Triple Rigid Tubing



NOTES:

1. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME
2. CUSTOMER OUTLINE DRAWING FOR REFERENCE ONLY

PART NUMBER	DESCRIPTION
140150.LL403P.100	2.92mm Male/Stainless To 2.92mm Female/Stainless, DC-40GHz LL403P Low Loss, Phase Stable Cable/L:100cm



Channel Settings									
Channel	Sweep	Type	Points	Start (MHz)	Stop (GHz)	IF BW (kHz)	Sweep Time (s)	Pow 1 (dBm)	Pow 2 (dBm)
1	Lin	Freq	1601	20.000000	40.000000	10.000000	1.000000	0.000000	0.000000

Trace Attributes								
Window	ID	Trace	Channel	Correction	Options	Marker	Position	Response
1	1	S11	1	C	2-Port	1	15412.3 MHz	1.1681
2	1	S22	1	C	2-Port	1	15412.3 MHz	1.2229
3	1	S12	1	C	2-Port	1	39950.025 MHz	-3.1606 dB

NOTES:

1. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME
2. CUSTOMER OUTLINE DRAWING FOR REFERENCE ONLY