

Gigalane RF Test solution

- Mobile Coax Micro Plugs & Jack
- Flexible PCB Cable
- Test Jig Cable

Edition 2020



Mobile Coax Micro Plugs & Jack

GigaLane Coaxial Micro-plugs for mobile were designed effectively to improve board space efficiency. Even though these are installed vertically, they show excellent RF characteristics up to 6 GHz. GigaLane Coaxial Micro Cable is compatible with Hirose and I-PEX. CMP and SCMP are most compatible with U.FL/W.FL of Hirose MHF-II/MHF-III of I-PEX. UCMP and UCMJ is equivalent to I-PEX. XCMP and XCMJ is compatible with Hirose.



Application

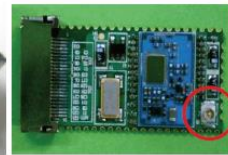
- Navigation, DMB, PDA, Laptop PC, GPS, Wireless LAN, Bluetooth, UWB, WiMax., Zigbee, Wibro
- GSM, GPS & CDMA Mobile Phones
- Measurement instruments and test systems.



<Mobile>



<GPS>



<Bluetooth>



<WiFi Module>

Specification

Electrical

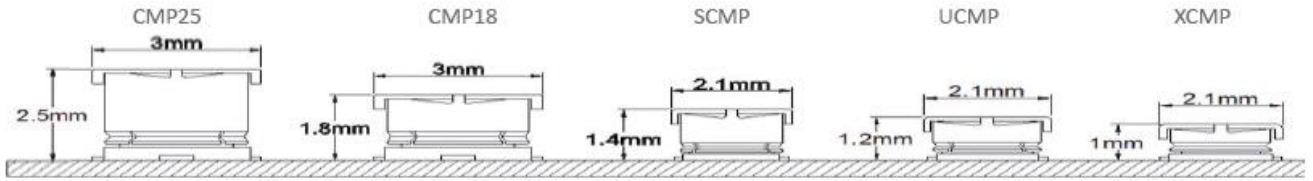
Frequency	DC to 6 GHz
Impedance	50 Ω
VSWR	1.3 : 1(@6GHz)
Insulation Resistance	500MΩ
Un-mating force	5.9 N min. (Measured by a 0.5mm pin gauge)
Durability	30 cycle Contact Resistance - Center: 20m Ohms max. - Outside: 10m Ohms max.
Humidity (Steady State)	No damage, cracks part dislocation Insulation resistance 100M Ohms min. (when high humidity) Insulation resistance 500M Ohms min. (when dry) 96 hours at temperature of 40 Celsius and humidity of 95%

Mechanical

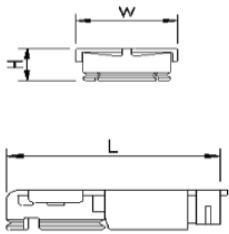
Parts	Components	Materials	Finish
Plug	Body	Phosphor Bronze	Gold plated
	Insulator	PBT	Black color
	Center Contact	Phosphor Bronze	Gold plated
Jack	Body	Phosphor Bronze	Gold plated
	Insulator	LCP	Beige color
	Center Contact	Brass	Gold plated

Mobile Coax Micro Plugs & Jack

► CMP Mating height



► Dimension of CMP



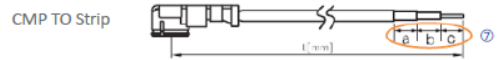
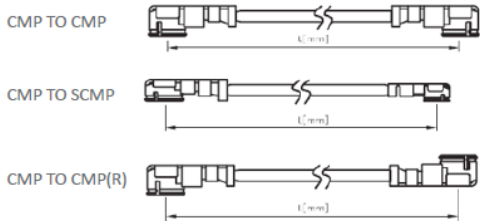
Plug type	W	H	L
CMP25	3.0 +/- 0.20	2.0 +/- 0.20	5.9 +/- 0.30
CMP18	3.0 +/- 0.20	1.44 +/- 0.20	5.3 +/- 0.30
SCMP	2.0 +/- 0.15	1.2 +/- 0.15	4.0 +/- 0.30
UCMP	2.1 +/- 0.15	0.95 +/- 0.15	4.15 +/- 0.15
XCMP	2.05 +/- 0.15	0.74 +/- 0.10	4.0 +/- 0.15

► Recommended cable size for CMP

Plug type	Plug Mated Height	Cable type						
		0.5mm	0.64mm	0.81mm	1.13mm	1.3mm	1.32mm	1.37mm
CMP25	2.5mm			0	0	0	0	0
CMP18	1.8mm			0	0			
SCMP	1.4mm		0	0				
UCMP	1.2mm	0	0					
XCMP	1mm	0	0					

Mobile Coax Micro Plugs & Jack

► CMP Part Numbering



<CMP to CMP>

G55 - W081G1 - G55 - 100 TN 00



<CMP to Strip>

G55 - W081G1 - 100 TN 00



①/③		②		④		⑤		⑥
Connector		Cable1	Cable2	Length	Cable orientation & The number of Clamp		Serial Number	
G51	CMP25 (More than cable OD 1.13mm)	Cable color 1) B: Black 2) W: White 3) G: Grey	Cable OD 1) 0.5mm 2) 0.64mm 3) 0.81mm 4) 1.13mm 5) 1.30mm 6) 1.37mm	Inquiry	CMP to CMP Without Clamp	TN	Inquiry	
G52	CMP25 (Less than cable OD 0.81mm)				CMP to CMP Clamp 1EA	T1		
G53	CMP18 (More than cable OD 1.13mm)				CMP to CMP Clamp 2EA	T2		
G62	CMP18 (Less than cable OD 0.81mm)				CMP to CMP Clamp 3EA	T3		
G55	SCMP				CMP to CMP(R) Without Clamp	RN		
G56	UCMP				CMP to CMP(R) Clamp 1EA	R1		
G57	XCMP				CMP to CMP(R) Clamp 2EA	R2		

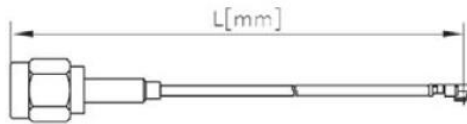
Mobile Coax Micro Plugs & Jack

▶ SMA connectors for CMP cable

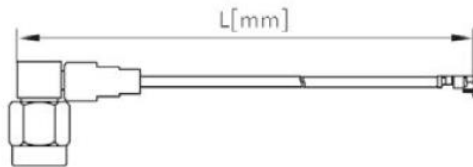
CMP25 – G113G1 – **XXXXX** – 120mm
① ②

① Cable type : G113 / G130

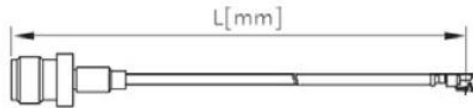
② Connector : See Connectors for CMP cable



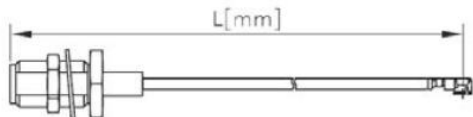
- **Type.** SMA Plug(M)
- **Part No.** CAMS2



- **Type.** Right Angle SMA Plug(M)
- **Part No.** CAMR2



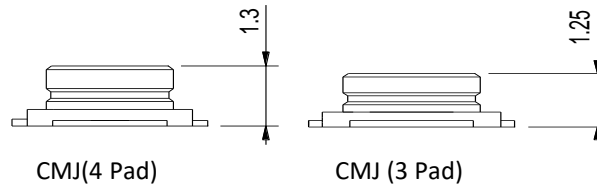
- **Type.** SMA Jack(F)
- **Part No.** CAFS1



- **Type.** SMA Bulkhead Jack(F)
- **Part No.** CAFS6

Mobile Coax Micro Plugs & Jack

▶ CMJ height



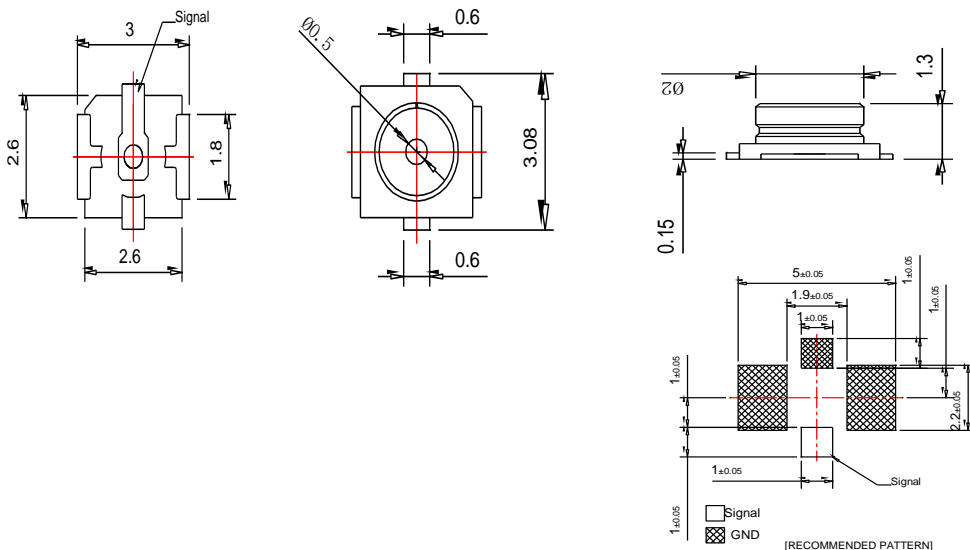
▶ Specification of CMJ

Impedance	50 Ω
Rated Voltage	60V AC (rms)
Rated Frequency	DC to 6 GHz
Temperature Range	-40°C~+90°C
Insulation Resistance	500mΩ
VSWR	1.5 Max. (up to 6 GHz)
Contact Resistance	Center : 20 m Ohm Max. Outer : 10 m Ohm Max.
Dielectric Withstanding Voltage	200V AC/ 1min.

▶ Material & Finish

Parts	Components	Materials	Finish
CMJ-S00-001 CMJ-S00-501	Body	Phosphor Bronze	Gold plated
	Insulator	LCP	Beige color
	Center Contact	Brass	Gold plated

▶ Drawing

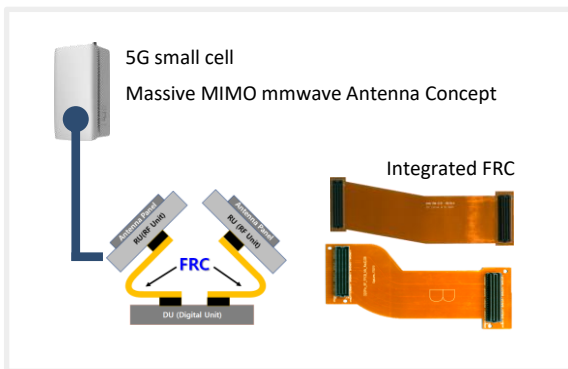


FRC – FPCB RF Cable



GigaLane FRC(FPCB RF Cable) is designed for optimum RF transmission using flat flexible transmission line up to 6GHz. This is ideal for mobile phone and antenna application. Gigalane FRC provides the solution of flexible design options for various RF interconnection.

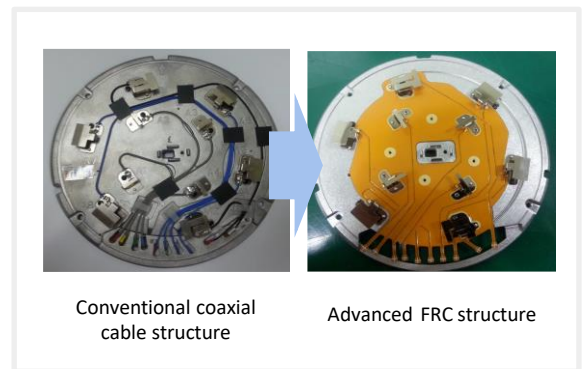
▶ Application for 5G Network equipment



- FRC solution for 5G Small Cell

Guarantees the RF performance while integrating Power, Control, and 10~50Gbps High Speed Differential Line
Interconnects RF unit and digital unit of 5G mmwave system

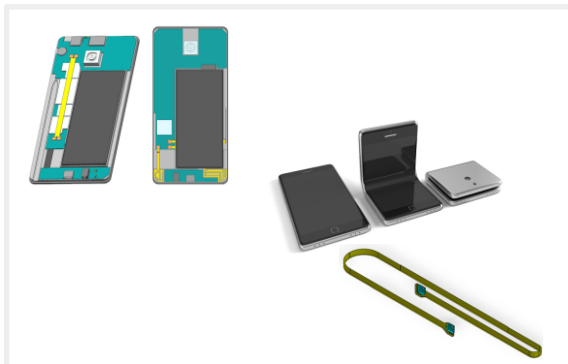
▶ Application for Enterprise AP



- FRC solution for enterprise AP

Provides ease of assembly and simplicity of structure with physical and mechanical benefits
Replaces complex coaxial cable structures of AP system

▶ Application for Mobile phone



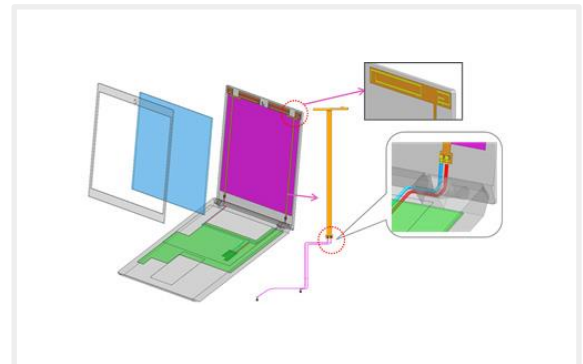
- PCB & Battery space maximization

RF Cable over electronic components for space maximization

- Bending FRC

Foldable & Bendable Phone
400K times of bending durability

▶ Application for Laptop & Tablet



- Bezel-less Device

Gigalane FRC provides the solution of minimizing signal loss

- Hybrid FRC (Micro Coax + FRC)

FRC – FPCB RF Cable

► Specification

RF 1 line type



Frequency	DC to 6 GHz
Length	50mm / 60mm
Thickness	0.28mm
Width	2.0mm
Insertion loss	50mm : -0.93 @ 3GHz / - 1.33 @ 6GHz 100mm: -1.20 @ 3GHz / -2.33 @ 6GHz
Impedance	50 Ohm
Temperature Range	-40 ~ +90 Celsius

RF 2-line integrated type



Frequency	DC to 6 GHz
Length	80mm
Thickness	0.25mm
Width	4.0mm
Insertion loss	-1.04 @ 3GHz / -1.61 @ 6GHz
Impedance	50 Ohm
Temperature Range	-40 ~ +90 Celsius

RF 2-line integrated type (SMT)



Frequency	DC to 6 GHz
Length	80mm
Thickness	0.60mm
Width	1.2mm
Insertion loss	-0.55 @ 3GHz / -0.93 @ 6GHz
Impedance	50 Ohm
Temperature Range	-40 ~ +90 Celsius

RF 26 line integrated type



Frequency	DC to 6 GHz
Length	150mm
Thickness	0.75mm
Width	54.5mm
Insertion loss	-1.58 @ 3GHz / -2.72 @ 6GHz
Impedance	50 Ohm
Temperature Range	-40 ~ +90 Celsius

FRC – FPCB RF Cable

► Specification

RF line(PI) for 5G Application



Frequency	DC to 30 GHz
Length	50mm / 100mm
Thickness	0.4mm
Width	2.15mm
Insertion loss	50mm : - 0.79 @ 6GHz/ -3.08 @ 30GHz 100mm: -1.57 @ 6GHz / -5.88 @ 30GHz
Impedance	50 Ohm
Temperature Range	-40 ~ +90 Celsius

RF line(PI) for 5G Application



Frequency	DC to 30 GHz
Length	50mm / 100mm
Thickness	0.4mm
Width	2.15mm
Insertion loss	50mm : - 0.69 @ 6GHz/ -3.03 @ 30GHz 100mm: -1.32 @ 6GHz / -4.92 @ 30GHz
Impedance	50 Ohm
Temperature Range	-40 ~ +90 Celsius

Test Jig Cable

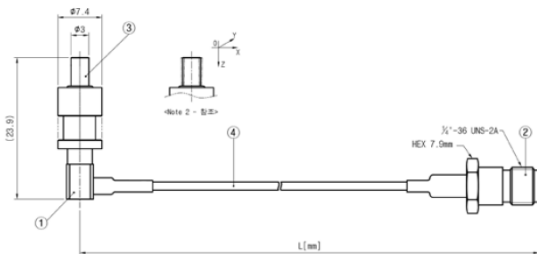
GigaLane is providing a test solution which allow customer can save their test cost and time. This Mobile cable assembly has designed for mobile test solution and operates up to 3 GHz.



► Specification

Frequency	DC to 5 GHz
Impedance	50 Ω
Conductor resistance	Max. 20.9 Ω /100ft
Test Voltage(1min)	2000 Vrms max.
Velocity of propagation	Nom. 69.5%
Capacitance	Max. 32pF/ft

► Configuration



Frequency	DC to 5 GHz
Impedance	50 Ω
Conductor resistance	Max. 20.9 Ω /100ft
Test Voltage(1min)	2000 Vrms max.
Velocity of propagation	Nom. 69.5%
Capacitance	Max. 32pF/ft