

GRADConn

RF Coaxial Cables



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Coaxial Cable Assembly Overview



Micro coaxial cable assembly from (0.8mm to RG178) for wireless applications, such as GSM, GPS, Wireless LAN (WLAN), Wi-Fi, Wi-Max, Zigbee and Bluetooth.

GradConn offer Hirose and Murata and also offer economic and intermatable (pluggable to Hirose and Murata) alternatives from I-PEX.

I-PEX are a high quality Japanese manufacturer (established 1984). Customers should test samples to approve the use of I-PEX connectors, however GradConn have many satisfied customers who previously used major brands. GradConn use original I-PEX tooling.



Popular choices for the opposite end of micro cables are SMA female, RP SMA and FME male bulkhead connectors; These options allow customers to mount the interface connectors to a bulkhead through a cut out hole and plug in an antenna or further extension cable on the opposite side of the bulkhead.

Straight Bulkhead Mount (with washer & threaded nut)		
SMA Jack (Female Contact)	FME Plug (Male Contact)	Reverse Polarity (RP), SMA (Male Contact)
Example - Cable 028 RF	Example - Cable 030 RF	Example - Cable 044 RF

- Micro RF Connectors:
 - o Hirose: H.FL, U.FL and W.FL.
 - o Murata: GSC and HSC.
 - o I-PEX:
 - I-PEX MHF: Compatible with Hirose U.FL.
 - I-PEX MHF 2: Compatible with Hirose U.FL with 0.8mm Ø.
 - I-PEX MHF 3: Compatible with Hirose W.FL.
 - I-PEX MHF 4: Compatible with Murata HSC.
 - o Sunridge MCF: Compatible with Murata GSC.
 - o MMCX.
- Standard Interface Connectors:
 - o SMA Bulkhead jack with threaded nut.
 - o FME male bulkhead plug with threaded nut.
 - o RP SMA Bulkhead jack with threaded nut. (Normally used in Bluetooth or WLAN applications).
 - o Rubber 'O-rings' available, provide splashproof interface when mated with antenna.
- Other interface connectors:
 - o BNC, Fakra, FME Plug, FME Jack, MCX, SMA Bulkhead jack with square flange, SMA plug and TNC.
 - o Reverse polarity: RP MCX and RP TNC.
 - o Other connectors are available on request.



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- Other options:
 - o Stripped cable allows customer to terminate own connector.
 - o Tinned centre conductor and copper wire soldered to braid/shield allows solder to PCB.



- Cable:
 - o Variety of cable diameters Ø available.
 - Standard Ø offered: 0.8mm, 1.13mm, 1.32mm, RG178 (1.78mm).
 - o Standard lengths: 100, 150 and 200 mm.
 - Other lengths on request.
 - Special cable types on request such as Double Shielded or PTFE.
 - o Cable specifications on request.
- Quality:
 - o Automatic cable cut and strip machines provide stable and high efficient productivity.
 - o Strict production processes increase stability of quality control.
 - o All cables 100% conductivity tested (electrical test).
 - o Frequency analysis reports (insertion loss and VWSR) available on request.
 - o 100% production testing available on request.

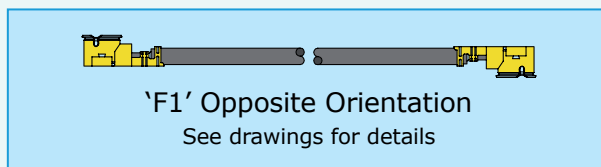
• Frequency range by Application:

Application By Frequency		Polpular Interface Connector Types
GSM:	Europe: 900 or 1,800 MHz USA: 1,900 or 2,100 MHz	SMA, FME
GPS:	1,575.41 MHz	SMA
Bluetooth:	2.4 GHz	RP SMA
Zigbee:	2.4 GHz	SMA or RP SMA
WIMAX:	2.4 GHz (mainly)	RP SMA
WiFi:	2.4 GHz	RP TNC
WLAN:	2.4 GHz or 2.4 GHz & 5.8 GHz	RP SMA Choose 'premium range' for frequencies up to 6GHz. Standard range is only suitable for 3GHz.

This is a quick reference guide, GradConn accept no responsibility for incorrect product choice. Check technical specifications of your wireless device to find the correct cable and test samples before volume order.

- Connector Orientation:
 - o Customer specifiable orientation (positioning) of right-angle connectors.

Example:



- Commercial:
 - o Minimum order quantity: 500 pieces.
 - o Samples of standard cables available from stock for approval.
 - o Check www.gradconn.com for details of distributor stock.

The cables shown on the following pages are only part of our capability, whatever your RF requirement [contact GradConn](mailto:contact@gradconn.com) for the perfect solution.

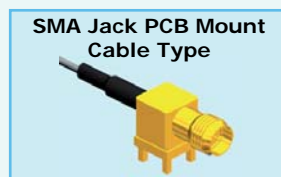


Coaxial Cable Products

Connector Type	GradConn Part Number	End A - Micro Connector P/N	End B - Interface Connector Description	Cable Diameter & Colour	Working Frequency
Hirose H.FL	Cable 062 RF	H.FL-LP	SMA straight Bulkhead Jack (Female with threaded nut)	1.48mm - Black	DC to 3 GHz
Hirose U.FL	Cable 070 RF	U.FL-LP(V)-040	SMA straight Bulkhead Jack (Female with threaded nut)	0.81mm - Grey	DC to 3 GHz
I-Pex MHF II	Cable 069 RF	20311-011R-08	SMA straight Bulkhead Jack (Female with threaded nut)	0.81mm - Grey	DC to 3 GHz
Hirose W.FL	Cable 040 RF	W.FL-LP-040	SMA straight Bulkhead Jack (Female with threaded nut)	0.81mm - Grey	DC to 3 GHz
I-Pex MHF III	Cable 039 RF	20367-001R	SMA straight Bulkhead Jack (Female with threaded nut)	0.81mm - Grey	DC to 3 GHz
	Cable 080 RF	20351-112R	RP SMA straight Bulkhead Jack (with threaded nut)	1.37mm - White	DC to 6 GHz

Connector Type	GradConn Part Number	End A - Micro Connector P/N	End B - Interface Connector Description	Cable Diameter & Colour	Working Frequency
Hirose U.FL	Cable 028 RF	U.FL-LP-068	SMA straight Bulkhead Jack (Female with threaded nut)	1.13mm - Grey	DC to 3 GHz
	Cable 030 RF	U.FL-LP-068	FME straight Bulkhead Plug (Male with threaded nut)	1.13mm - Grey	DC to 3 GHz
	Cable 082 RF	U.FL-LP-068	Hirose UFL: UFL-LP-068	1.13mm - Grey	DC to 6 GHz
	Cable 089 RF	U.FL-LP-068	RP SMA straight Bulkhead Jack (with threaded nut)	1.13mm - Grey	DC to 6 GHz
	Cable 088 RF	U.FL-LP-068	SMA Jack PCB Mount - Cable Type	1.13mm - Grey	DC to 6 GHz
I-Pex MHF	Cable 036 RF	20278-111R-13	SMA straight Bulkhead Jack (Female with threaded nut)	1.13mm - Grey	DC to 3 GHz
	Cable 063 RF	20278-111R-13	SMA straight Bulkhead Jack, with O-Ring	1.13mm - Grey	DC to 6 GHz
	Cable 075 RF	20278-112R-37	SMA straight Bulkhead Jack (Female with threaded nut)	1.37mm - Black	DC to 3 GHz
	Cable 078 RF	20278-112R-13	SMA straight Bulkhead Jack (Female with threaded nut)	1.13mm - Grey	DC to 6 GHz
	Cable 076 RF	20351-112R-37	SMA straight Plug (Male)	RG178 - Brown	DC to 6 GHz
	Cable 087 RF	20278-112R-13	SMA Jack PCB Mount - Cable Type	1.13mm - Grey	DC to 6 GHz
	Cable 041 RF	20278-111R-13	FME straight Bulkhead Plug (Male with threaded nut)	1.13mm - Grey	DC to 3 GHz
	Cable 043 RF	20278-111R-37	FME straight Bulkhead Plug (Male with threaded nut)	1.37mm - Grey	DC to 3 GHz
	Cable 044 RF	20278-111R-13	RP SMA straight Bulkhead Jack (with threaded nut)	1.13mm - Grey	DC to 3 GHz
	Cable 079 RF	20351-112R-37	RP SMA straight Bulkhead Jack, 10mm short version	1.37mm - White	DC to 3 GHz
	Cable 080 RF	20351-112R-37	RP SMA straight Bulkhead Jack (with threaded nut)	1.37mm - White	DC to 6 GHz
	Cable 090 RF	20351-112R-13	RP SMA straight Bulkhead Jack (with threaded nut)	1.13mm - Grey	DC to 6 GHz
	Cable 052 RF	I-Pex MHF	I-Pex MHF	Various Options	DC to 6 GHz
	Cable 067 RF	20278-111R-37	RP TNC straight Bulkhead Jack and O-Ring	1.37mm - Black	DC to 3 GHz
	Cable 068 RF	20278-111R-37	RP TNC straight Bulkhead Jack and O-Ring	RG178 - Brown	DC to 3 GHz

All details are subject to change



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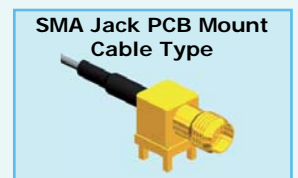
Connector Type	GradConn Part Number	End A - Micro Connector P/N	End B - Interface Connector Description	Cable Diameter & Colour	Working Frequency
Murata GSC	Cable 029 RF	MXTK92	SMA straight Bulkhead Jack (Female with threaded nut)	0.81mm - Grey	DC to 3 GHz
	Cable 047 RF	MXTK92	FME straight Bulkhead Plug (Male with threaded nut)	0.81mm - Grey	DC to 3 GHz
	Cable 056 RF	MXTK92	RP SMA straight Bulkhead Jack (with threaded nut)	0.81mm - Grey	DC to 3 GHz
	Cable 085 RF	MXTK92	SMA Jack R/A PCB Mount Cable Type	0.81mm - Grey	DC to 6 GHz
	Cable 094 RF	MXTK92	Murata GSC MXTK92	0.81mm - Grey	DC to 6 GHz
Sunridge	Cable 093 RF	Sunridge MCF	Sunridge MCF	1.13mm - Black	DC to 6 GHz

Connector Type	GradConn Part Number	End A - Micro Connector P/N	End B - Interface Connector Description	Cable Diameter & Colour	Working Frequency
MMCX R/A Plug	Cable 037 RF	MMCX R/A Plug	SMA straight Bulkhead Jack (Female with threaded nut)	RG174 - Black	DC to 3 GHz
	Cable 051 RF	MMCX R/A Plug	SMA straight Bulkhead Jack with O-Ring	RG174 - Black	DC to 3 GHz
	Cable 038 RF	MMCX R/A Plug	FME straight Bulkhead Plug (Male with threaded nut)	RG174 - Black	DC to 3 GHz

Termination Type	GradConn Part Number	End A - Micro Connector P/N	End B - Interface Connector Description	Cable Diameter & Colour	Working Frequency
Stripped or Stripped & Tinned	Cable 066 RF	FME Male Bulkhead (plug)	Strip OR Strip and Tin	1.32mm - Grey	n/a
	Cable 084 RF	I-PEX MHF 20278-112R-13	Strip OR Strip and Tin	1.13mm - Black	n/a
	Cable 064 RF	I-PEX MHF 20278-111R-32	Strip OR Strip and Tin	1.32mm - Grey	n/a
	Cable 083 RF	Hirose U.FL-LP-068	Strip OR Strip and Tin	1.13mm - Black	n/a
	Cable 065 RF	SMA straight Bulkhead Jack	Strip OR Strip and Tin	1.32mm - Grey	n/a
	Cable 055 RF	RP SMA straight Bulkhead Jack (with threaded nut)	Strip OR Strip and Tin	RG178 - Brown	n/a
	Cable 086 RF	SMA Jack R/A PCB Mount Cable Type	Strip OR Strip and Tin	1.32mm - Grey	n/a

Connector Type	GradConn Part Number	End A - Micro Connector P/N	End B - Interface Connector Description	Cable Diameter & Colour	Working Frequency
Adaptor Cables	Cable 071 RF	SMA straight Plug	SMA straight Bulkhead Jack (Female with threaded nut)	RG174 - Black	DC to 3 GHz
	Cable 072 RF	SMA straight Plug	FME straight Bulkhead Plug (Male with threaded nut)	RG174 - Black	DC to 3 GHz
	Cable 073 RF	FME straight Jack	SMA straight Bulkhead Jack (Female with threaded nut)	RG174 - Black	DC to 3 GHz

All details are subject to change





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About Grad Conn:

Grad Conn Ltd. is a Taiwanese company manufacturing cost effective Board to Board Connectors, SIM Connectors and RF Coaxial Cable Assemblies.

We are committed to servicing you from design through to volume production worldwide. Trust Grad Conn to work in partnership with your design and manufacturing teams every step of your process, with design/application advice, free samples and help with pre-production requirements.

Our factories are located in China and Taiwan and certified to ISO9001:2000. All parts are fully RoHS compliant (including Deca BDE compliance).

Grad Conn's footprint in Europe and North America includes offices in each continent with the added support of a representative network in the U.S.A and distribution network in Europe. Our aim is to offer a local contact in your time zone wherever you are in the world. We ship worldwide from Taiwan and offer door to door delivery in North America.

Our website www.gradconn.com includes details of all products with PDF drawings. Lead time and MOQ information can be found at: <http://www.gradconn.com/about/about.asp>

Contact us today with your connector and cable requirements.

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