

GMMD DIFFERENTIAL TWINAX Modular High-Speed Micro-D Connectors



Selection Guide • Coax and combo coax contact arrangements materials and finishes • panel cutouts

The Series GMMD is an innovative modular Micro-D connector for RF coax and high-speed differential datalink applications. The unique micro miniature design of the GMMD also accommodates standard analog signal and power contacts, making it the most versatile Micro-D rectangular in the industry. GMMD leverages RF Coax contacts with Glenair Signature Micro-D and Nano TwistPin contact inserts. GMMD is supplied as factory-terminated pigtailed, point-to-point connectors, and SMT receptacles for easy PCB mounting.

Connector Selection Guide



GMMD-HRE / -HRPE
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GMMD-FP / -FPE / -FR / -FRP / -FPCC
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GMMD COAX AND COMBO COAX CONTACT ARRANGEMENTS (additional arrangements are available, consult factory)				
Contact Arrangement	2C	4C	6C	
Shell Size	9	21	25	
No. / type of contacts	2 X 50Ω Coax	4X 50Ω Coax	6X 50Ω Coax	
Contact Arrangement	8C		16C	
Shell Size	37		67	
No. / type of contacts	8 X 50Ω Coax		16X 50Ω Coax	
Contact Arrangement	2C9	1V9	2V9	4V
Shell Size	21	21	31	21
No. / type of contacts	2X 50Ω Coax, 9 X #24	1 X 75Ω Coax, 9 X #24	2 X 75Ω Coax, 9 X #24	4 X 75Ω Coax

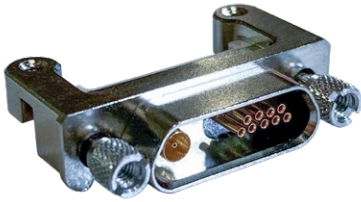
GMMD MODULAR HIGH-SPEED MICRO-D STANDARD MATERIALS AND FINISHES	
Connector Shell, Metal	Aluminum Alloy 6061 IAW SAE AMS-QQ-A-250/11: Plating code 2: electroless nickel IAW ASTM B733 / Plating code 5: gold plated IAW ASTM B488 over electroless nickel IAW ASTM B733-90. / Plating code 6: chem film IAW MIL-C-5541 Class 3 Stainless Steel, 300 Series: Plating Code 3: Passivated IAW SAE AMS 2700
#24 Insulator and organizer tray	High-grade, high-temperature thermoplastic
Interfacial Seal (where applicable)	Fluorosilicone rubber IAW MIL-R-25988
#24 Pin Contact (TwistPin)	Beryllium copper, gold plated IAW ASTM B 488 Type II Class 1.27 (50 Min minimum) Code C, over nickel underplate IAW SAE AMS-QQ-N-290, class 2, (50-150 μin).
#24 Socket Contact	Phos bronze IAW ASTM 139 gold plated IAW ASTM B 488 Type II Class 1.27 (50 Min minimum) Code C, over nickel underplate IAW SAE-AMS-QQ-N-290, Class 2, (50-150 μin).
Coax isolating bush	High-grade thermoplastic
Encapsulant	High-temperature potting
Jackscrews, Jackposts, Float Mounts	Stainless steel, 300 series, passivated IAW SAE AMS 2700

RECOMMENDED PANEL CUTOUT								
Layout Diagram		Layout	A	B	C	D	E	F
Front Panel Mount	Rear Panel Mount		mm. ± 0.08	mm. ± 0.05	mm. ± 0.05	mm. ± 0.05	mm. + 0.13, - 0.00	mm. ± 0.05
		9	14.35	10.41	2.31	7.04	6.50	3.20
		15	18.16	14.22	2.31	7.04	6.50	3.20
		21	21.97	18.03	2.31	7.04	6.50	3.20
		25	24.51	20.57	2.31	7.04	6.50	3.20
		31	28.32	24.38	2.31	7.04	6.50	3.20
		37	32.13	28.19	2.31	7.04	6.50	3.20
		51-2	41.02	37.08	2.31	7.04	6.50	3.20
		67	51.18	47.19	2.31	7.04	6.50	3.20

GMMD COAX AND COMBO COAX CONNECTORS

Horizontal PCB-mount coax and combo coax receptacles Surface-mount termination • edge-launched

GMMD COAX AND COMBO COAX CONNECTORS



GMMD-HRE horizontal PCB-mount receptacle (combo 1V9 layout shown)

CONNECTOR FEATURES

- One of the smallest rugged multiway RF coax connectors available
- 50Ω on 3.18mm pitch for combo arrangements
- 50Ω on 2.54 pitch for coax-only arrangements
- Shield isolated from connector shell
- PCB edge-launched for optimized 20GHz high-bandwidth performance
- Compatible with RG-178, semi-rigid and flexible 047 cables for 50Ω / RG-179 and semi-rigid cables for 75Ω

HOW TO ORDER								
Sample Part Number		GMMD	-HRE	2C9	-2	P	M	1
Series	GMMD = Glenair Modular High-Speed Micro-D							
Connector Format	-HRE = Horizontal edge-launched receptacle -HRPE = Horizontal panel-sealed edge launched recept.							
Contact Arrangement	See Table. Consult factory for additional arrangements.							
Shell Material / Finish	-2 = Aluminum / Electroless Nickel		-5 = Aluminum / Gold					
	-3 = Stainless Steel / Passivated		-6 = Aluminum / Achromate					
	-7 = Aluminum / Nickel-PTFE		-8 = Aluminum / Zinc-Nickel, Black					
Jackpost Options	Specify per Jackpost / Hardware Options in table below							
Board-Mount Options	Specify per Board-Mount Thread Options in table below							
Sealing Options for HRPE (omit for HRE)	0 = No O-ring		1 = Fluorosilicone					
	2 = Passivated silver-plated aluminum-filled fluorosilicone		3 = Nickel-plated aluminum-filled fluorosilicone					

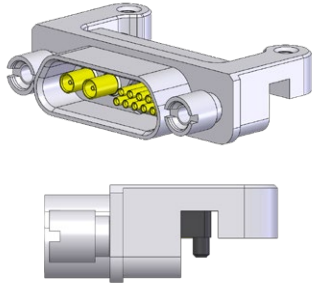
CONNECTOR FORMAT			
GMMD-HRE Horizontal PCB-Mount Edge-Launched Receptacle		GMMD-HRPE Horizontal PCB-Mount Panel-Sealed Edge-Launched Receptacle	

JACKPOST / HARDWARE OPTIONS and BOARD-MOUNT THREAD OPTIONS				
		Jackpost option		Board-Mount Thread Option
		Code	Panel Thickness	
Rear panel mount jackpost			T 2.4mm	M M2 metric
			U 2.0mm	
			V 1.6mm	
			W 1.2mm	U #2-56 UNC
			X 0.8mm	
		Y 0.6mm		
Factory installed jackpost			S	M M2 metric
				U #2-56 UNC

GMMD COAX AND COMBO COAX CONTACT ARRANGEMENTS			
Code	Shell Size	Coax Contacts	#24 Contacts
2C	9	2x50Ω	
4C	21	4x50Ω	
6C	25	6x50Ω	
8C	31	8x50Ω	
16C	67	16x50Ω	
1C9	15	1x50Ω	9
2C9	21	2x50Ω	9
1V9	21	1x75Ω	9
2V9	31	2x75Ω	9
4V	21	4x75Ω	

Horizontal PCB-mount coax and combo coax receptacles Surface-mount termination • edge-launched

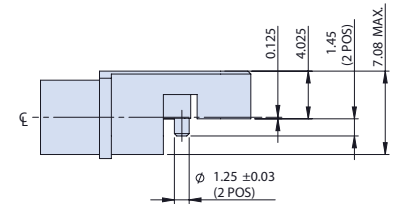
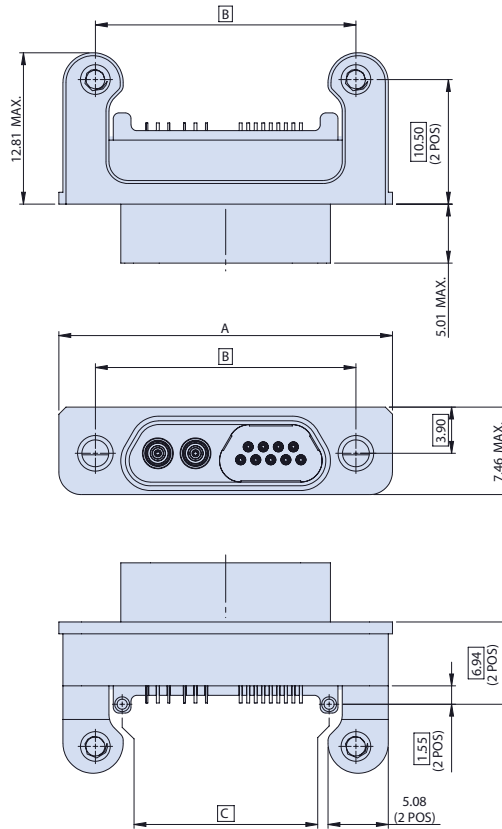
GMMD-HRE HORIZONTAL EDGE-LAUNCHED PCB-MOUNT CONNECTOR DIMENSIONS



GMMD-HRE

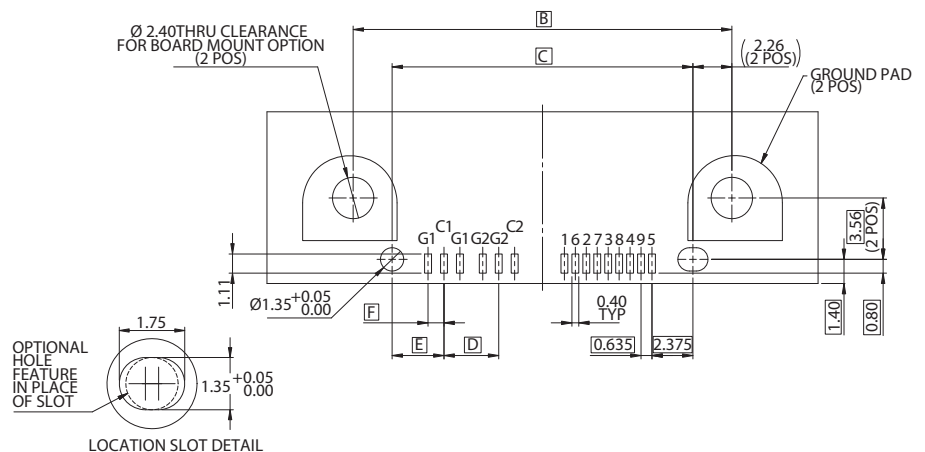
Horizontal PCB-Mount Edge-Launched Receptacle

Shell size	A (mm)	B (mm)	C (mm)
9	20.56	14.35	9.83
15	24.37	18.16	13.64
21	28.18	21.97	17.45
25	30.72	24.51	19.99
31	34.53	28.32	23.80
67	57.39	51.18	46.66



PCB MOUNTING PATTERN FOR GMMD-HRE HORIZONTAL EDGE-LAUNCHED PCB-MOUNT CONNECTOR (SMT MOUNT - COMPONENT SIDE)

		D	E	F	
50ohm hybrid		3.175	3.01	0.925	
75ohm hybrid		4.15	3.53	1.325	
Shell size	Arrangement				
50ohm only	9	2C	2.54	3.645	0.925
	21	4C	2.54	4.915	0.925
	25	6C	2.54	3.645	0.925
	3	8C	2.54	3.01	0.925
	51-2	12C	2.54	4.28	0.925
67	16C	2.54	4.28	0.925	
75ohm only	9	2V	3.5	3.165	1.325
	15	3V	3.5	3.32	1.325
	21	4V	3.5	3.475	1.325

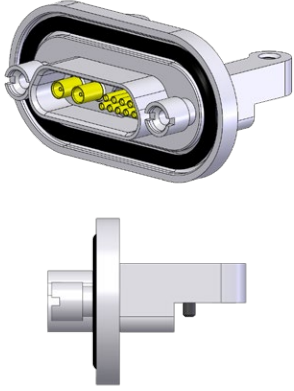


GMMD COAX AND COMBO COAX CONNECTORS

Horizontal PCB-mount coax and combo coax receptacles Surface-mount termination • panel-sealed edge-launched

GMMD COAX AND COMBO COAX CONNECTORS

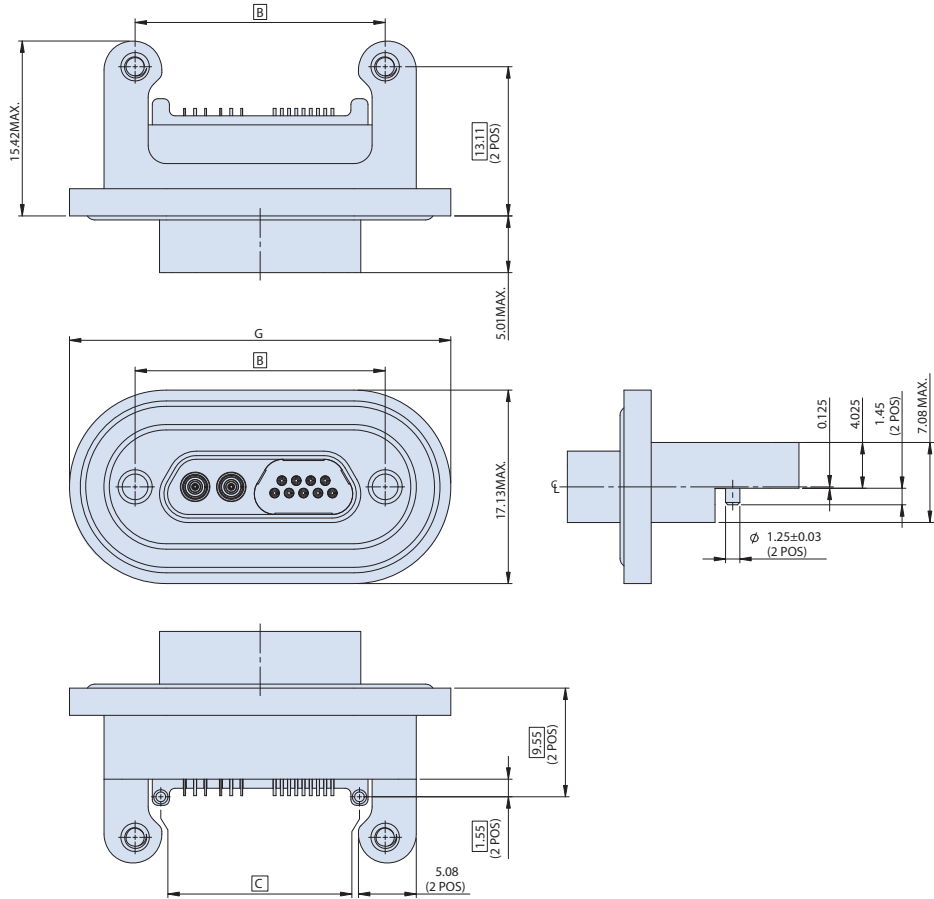
GMMD-HRPE HORIZONTAL PANEL-SEALED EDGE-LAUNCHED PCB-MOUNT CONNECTOR DIMENSIONS



GMMD-HRPE

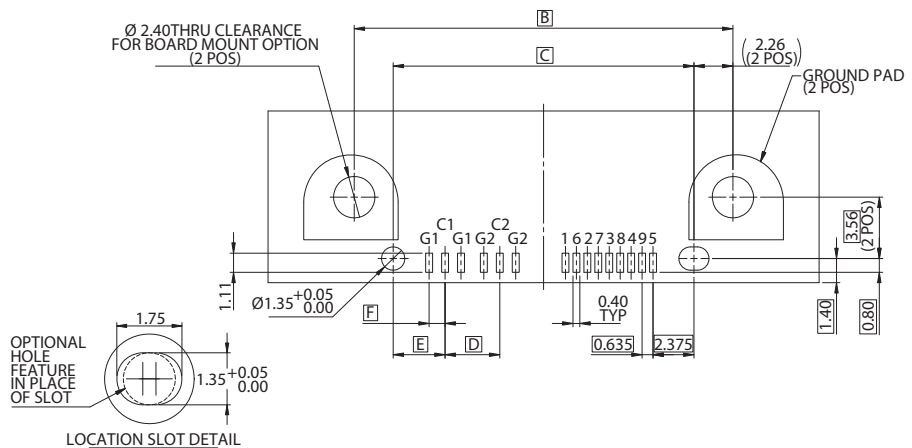
Horizontal PCB-Mount Panel-Sealed
Edge-Launched Receptacle

Shell size	B (mm)	C (mm)	G (mm)
9	9.83	25.88	25.88
15	13.64	29.69	26.69
21	17.45	33.50	33.50
25	19.99	36.04	36.04
31	23.80	39.85	39.85
67	46.66	62.71	62.71



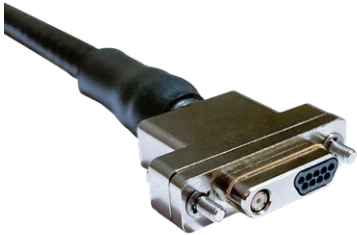
PCB MOUNTING PATTERN FOR GMMD-HRPE HORIZONTAL PANEL-SEALED EDGE-LAUNCHED PCB-MOUNT (SMT MOUNT - COMPONENT SIDE)

		D	E	F	
50ohm hybrid		3.175	3.01	0.925	
75ohm hybrid		4.15	3.53	1.325	
Shell size	Arrangement				
50ohm only	9	2C	2.54	3.645	0.925
	21	4C	2.54	4.915	0.925
	25	6C	2.54	3.645	0.925
	3	8C	2.54	3.01	0.925
	51-2	12C	2.54	4.28	0.925
75ohm only	67	16C	2.54	4.28	0.925
	9	2V	3.5	3.165	1.325
	15	3V	3.5	3.32	1.325
21	4V	3.5	3.475	1.325	





Coax and combo coax jumper assemblies Plug-to-plug • plug-to-receptacle • receptacle-to-receptacle



Back-to-back Coax cable assemblies provide a turnkey solution for easy on-site installation. Assemblies are supplied with GMMD plug or receptacle on each end in a choice of any coax or combo contact arrangement. Environmental seal options are available for plug connectors. 50Ω and 75Ω Coax cable may be ordered in flexible or semi-rigid configurations, standard M22759/33 signal cable in 24 – 30 AWG. EMI shielded with five optional braid materials, including Glenair Signature weight-saving composite microfilament AmberStrand or microfilament stainless steel ArmorLite. Outer jacket options available for environmental and abrasion protection. Integral backshells, hardware, and wire exit direction all fully customizable.

GMMD COAX AND COMBO COAX CONNECTORS

HOW TO ORDER	
Sample Part Number	GMMD -FPE 2C15 -C M A N R L 5 -FPE T S 3 2 -800 -2
Series	GMMD = Glenair Modular High-Speed Micro-D
Connector 1 Type	FP = Plug FPE = Plug Environmental FR = Receptacle FRP = Rear Panel Mount Receptacle
Contact Arrangement	2C9 = 2 X 50Ω Coax + 9 X #24 discrettes 4V15 = 4 X 75Ω Coax + 15 X #24 discrettes 8C = 8 X 50Ω Coax
Coax Cable	-C = 50Ω RG178 -V = 75Ω RG179 -D = 50Ω 047 Semi-Rigid -W = 75Ω Semi-Rigid -E = 50Ω 047 Flexible
Signal Cables*	L = 24AWG M22759/33 wire N = 28AWG M22759/33 wire M = 26AWG M22759/33 wire O = 30AWG M22759/33 wire
Shield Options	A = SnCu braid (100-001A) B = 100% AmberStrand (103-026) C = 100% ArmorLite (103-051) E = AgCu braid (100-002A) F = NiCu braid (100-003A) N = no braid
Jacket Options	D = Thin-Wall Heatshrink (VG 95343 part 5 type D) G = Monofilament PEEK braid (102-051) H = Nomex® Braid (103-013) J = LSZH Heatshrink (-30°C to +105°C; VG 95343 part 5 type L) N = No Jacket
Backshell 1 Type	T = Straight Backshell R = 90° Backshell F = 45° Backshell O = no backshell
Wire Exit Direction	L = in direction of long row of D-form S = in direction of short row of D-form (for straight or no backshell, L is the default)
Hardware Options 1	See Hardware Options Table
Connector 2 Type	FP = Plug FPE = Plug Environmental FR = Receptacle FRP = Rear Panel Mount Receptacle
Backshell 2 Type*	T = Straight Backshell R = 90° Backshell F = 45° Backshell O = no backshell
Wire Exit Direction*	L = in direction of long row of D-form S = in direction of short row of D-form
Hardware Options 2*	See Hardware Options Table
Shell Material / Finish	-2 = Aluminum / Electroless Nickel -3 = Stainless Steel / Passivated -5 = Aluminum / Gold -6 = Aluminum / Alocromate -7 = Aluminum / Nickel-PTFE -8 = Aluminum / Zinc-Nickel, Black
Overall Length	mm (metric)
Gasket Material for FPE and FRP*	-1 = Fluorosilicone -2 = Passivated silver-plated aluminum-filled fluorosilicone -3 = Nickel-plated aluminum-filled fluorosilicone

* - Omit if not used



Coax and combo coax single-ended flying lead pigtail assemblies Shielded and unshielded • plug or receptacle

GMMD COAX AND COMBO COAX CONNECTORS

Flying lead Coax cable assemblies provide a flexible solution for easy on-site installation. Assemblies are supplied with GMMD plug or receptacle on one end in a choice of any Coax or combo contact arrangement. Environmental seal options are available for plug connectors. 50Ω and 75Ω Coax cable may be ordered in flexible or semi-rigid configurations. Signal cable available in 24 – 30 AWG. EMI shielded with five optional braid materials, including Glenair Signature weight-saving composite microfilament AmberStrand or microfilament stainless steel ArmorLite. Outer jacket options available for environmental and abrasion protection. Integral backshell, hardware, and wire exit direction all fully customizable. Consult factory for space-flight specific applications.

HOW TO ORDER	
Sample Part Number	GMMD -FPE 2C9 -A M A N R L 5 0 2 -800
Series	GMMD = Glenair Modular High-Speed Micro-D
Connector 1 Type	FP = Plug FPE = Plug Environmental FR = Flying Lead Receptacle FRP = Rear Panel Mount Flying Lead Receptacle
Contact Arrangement	See Table. Consult factory for additional arrangements.
Coax Cable	-C = 50Ω RG178 -V = 75Ω RG179 -D = 50Ω 047 Semi-Rigid -W = 75Ω Semi-Rigid -E = 50Ω 047 Flexible
Signal Cables*	L = 24AWG M22759/33 wire N = 28AWG M22759/33 wire M = 26AWG M22759/33 wire O = 30AWG M22759/33 wire
Shield Options	A = SnCu braid (100-001A) B = 100% AmberStrand (103-026) C = 100% ArmorLite (103-051) E = AgCu braid (100-002A) F = NiCu braid (100-003A) N = no braid
Jacket Options	D = Thin-Wall Heatshrink (VG 95343 part 5 type D) G = Monofilament PEEK braid (102-051) H = Nomex® Braid (103-013) J = LSZH Heatshrink (-30°C to +105°C; VG 95343 part 5 type L) N = No Jacket
Backshell Type	T = Straight Backshell R = 90° Backshell F = 45° Backshell O = no backshell
Wire Exit Direction	L = in direction of long row of D-form S = in direction of short row of D-form (for straight or no backshell, L is the default)
Hardware Options	See Hardware Options Table
[no second connector]	0
Shell Material / Finish	-2 = Aluminum / Electroless Nickel -3 = Stainless Steel / Passivated -5 = Aluminum / Gold -6 = Aluminum / Achromate -7 = Aluminum / Nickel-PTFE -8 = Aluminum / Zinc-Nickel, Black
Overall Length	mm (metric)
Gasket Material for FPE and FRP*	-1 = Fluorosilicone -2 = Passivated silver-plated aluminum-filled fluorosilicone -3 = Nickel-plated aluminum-filled fluorosilicone

* - Omit if not used

Coax and combo coax jumpers and pigtails Selection guide • plug backshell options • hardware

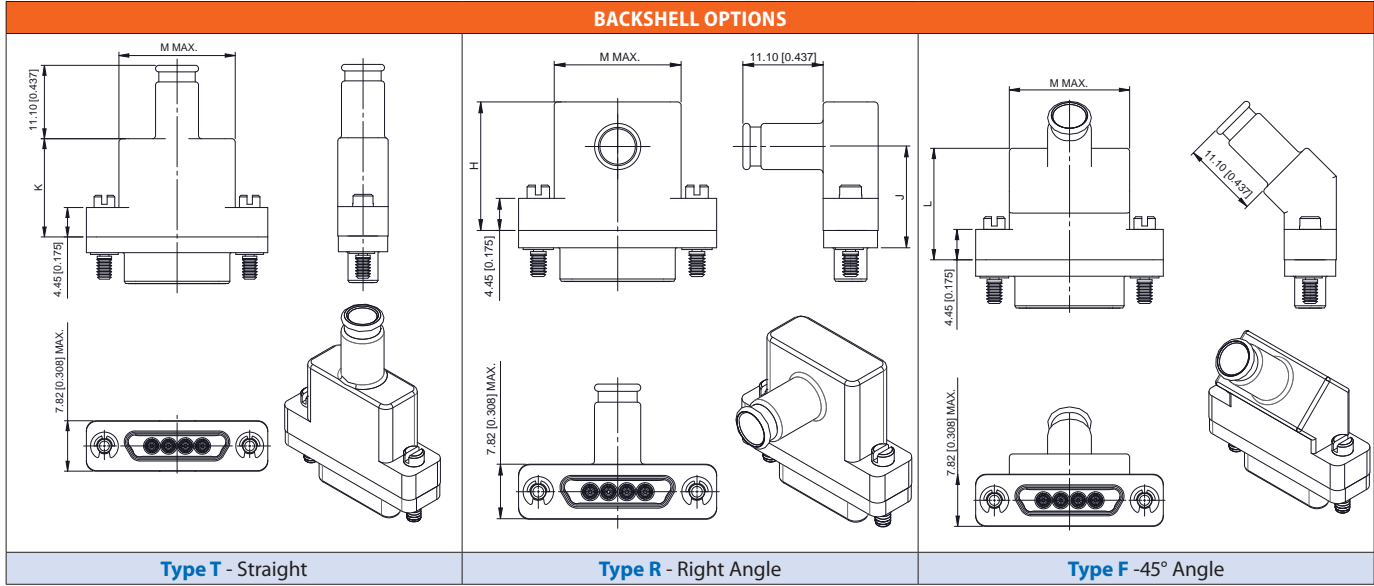
COAX AND COMBO COAX CABLE ASSEMBLY CONNECTOR SELECTION GUIDE			
GMMD-FP Cable Plug	GMMD-FPE Cable Plug, Environmental	GMMD-FR Cable Receptacle	GMMD-FRP Rear Panel Mount Cable Receptacle

PLUG BACKSHELL OPTIONS		
GMMD-***-T Top Entry	GMMD-***-F 45° Entry	GMMD-***-R 90° Side Entry

HARDWARE OPTIONS (BACKSHELLS SHOWN FOR REFERENCE ONLY)			
1 - Circlip-Retained Jackscrew	Rear Panel Mount Jackpost Nut (specify letter for panel thickness) T=2.4 U=2.0 V=1.6 W=1.2 X=0.8 Y=0.6	3 - Clip-Retained Fillister Head Jackscrew	
4 - Clip-Retained Socket Head Jackscrew	5 - Clip-Retained Extended Jackscrew	6 - Hexagonal Jackpost, Nut and Spring Washer	7 - Circlip-retained socket head jackscrew

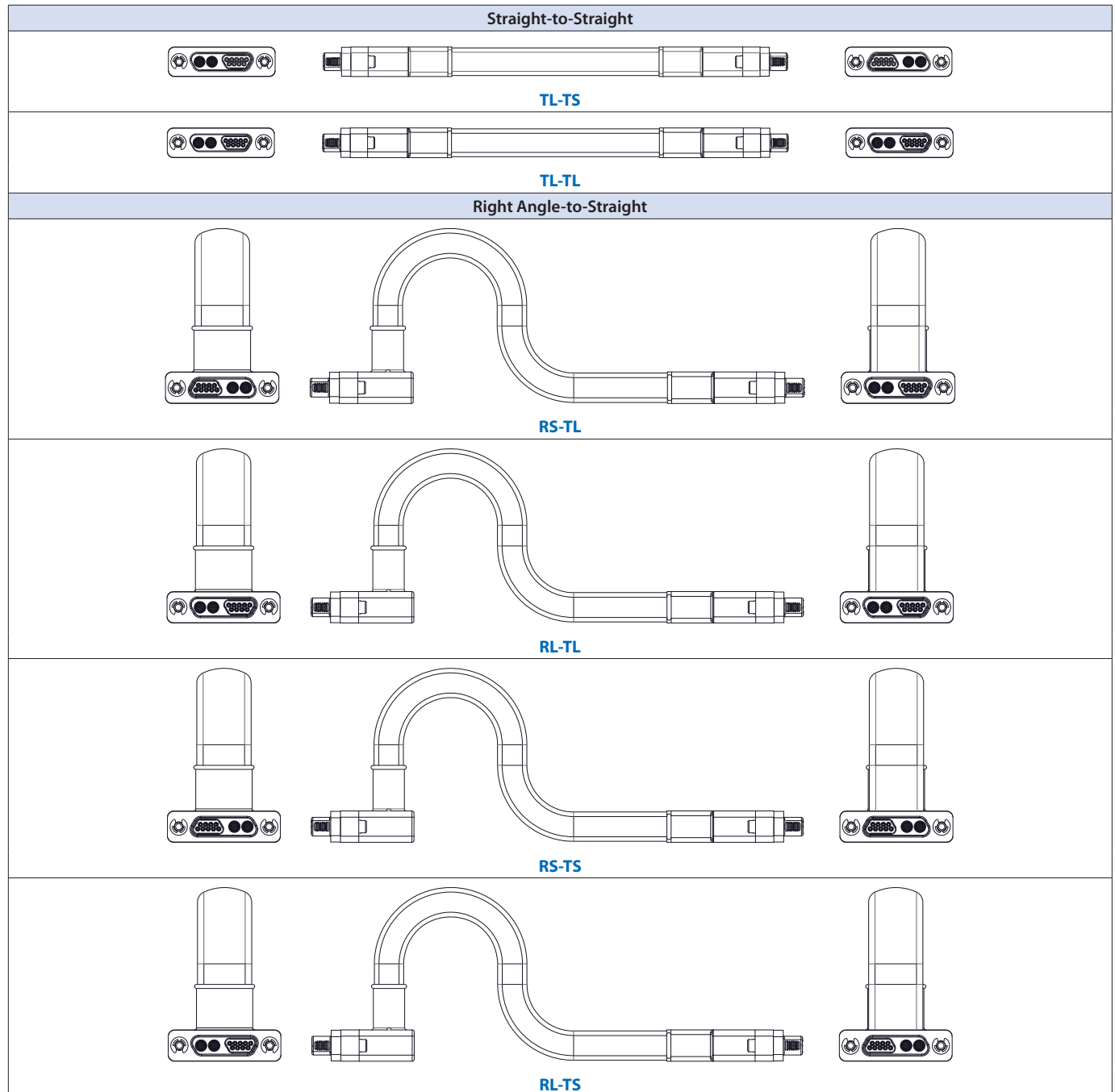
Coax and combo coax jumpers and pigtails
Backshell dimensional details

GMMD COAX AND COMBO COAX CONNECTORS



PLUG AND BACKSHELL DIMENSIONS					
Shell size	H (mm)	J (mm)	K (mm)	L (mm)	M (mm)
9	16.20	11.10	8.90	15.01	10.16
15	17.10	11.20	11.95	16.01	13.97
21	18.00	11.70	15.00	16.76	17.78
25	19.00	12.30	16.50	16.81	20.32
31	19.20	12.10	18.00	16.84	27.94
37	19.70	12.10	19.00	17.24	36.83
51-2	21.80	13.90	19.80	17.24	47.18
67	21.80	13.90	19.80	18.86	57.34

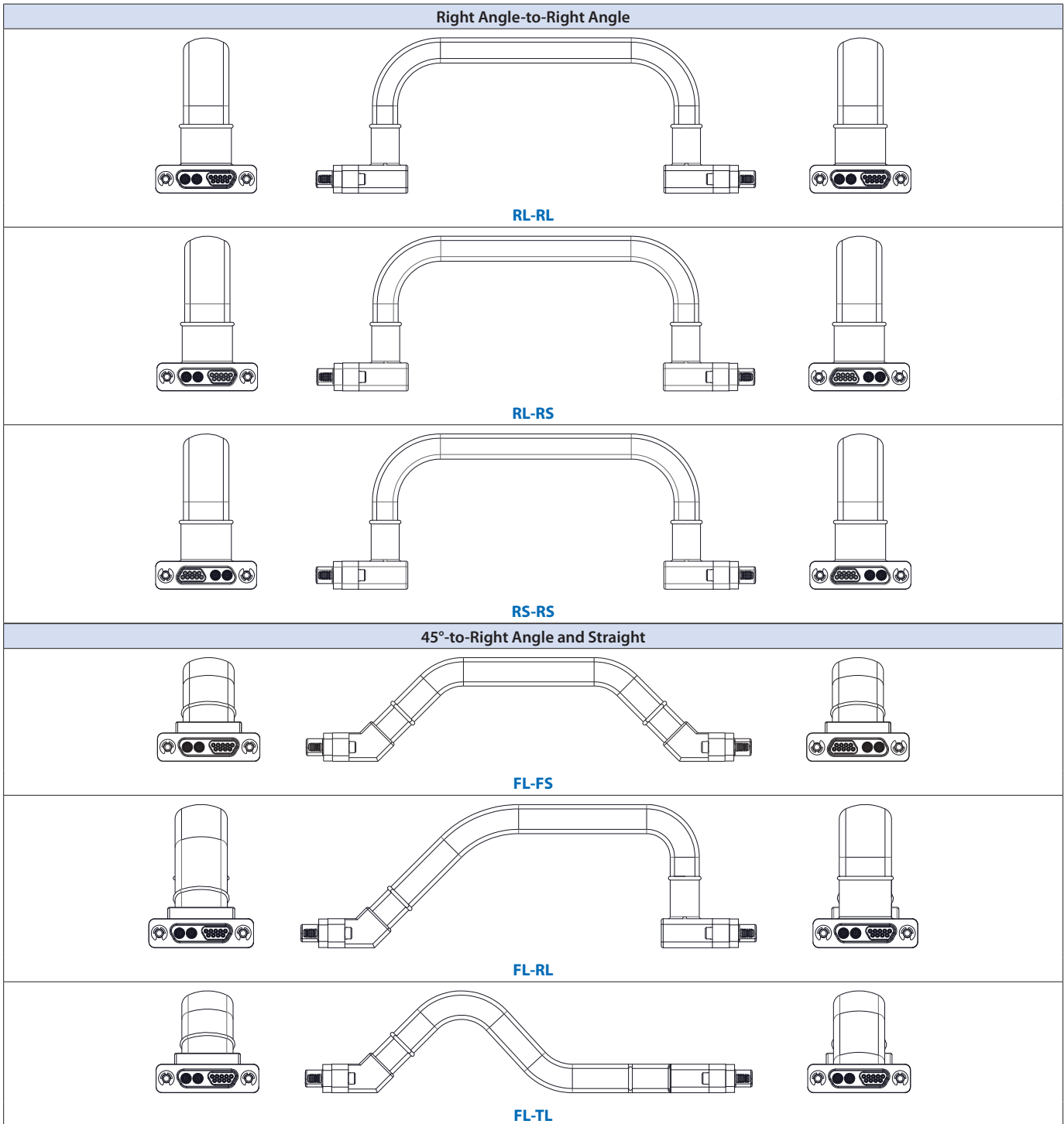
Coax and combo coax jumpers and pigtails Cable configurations



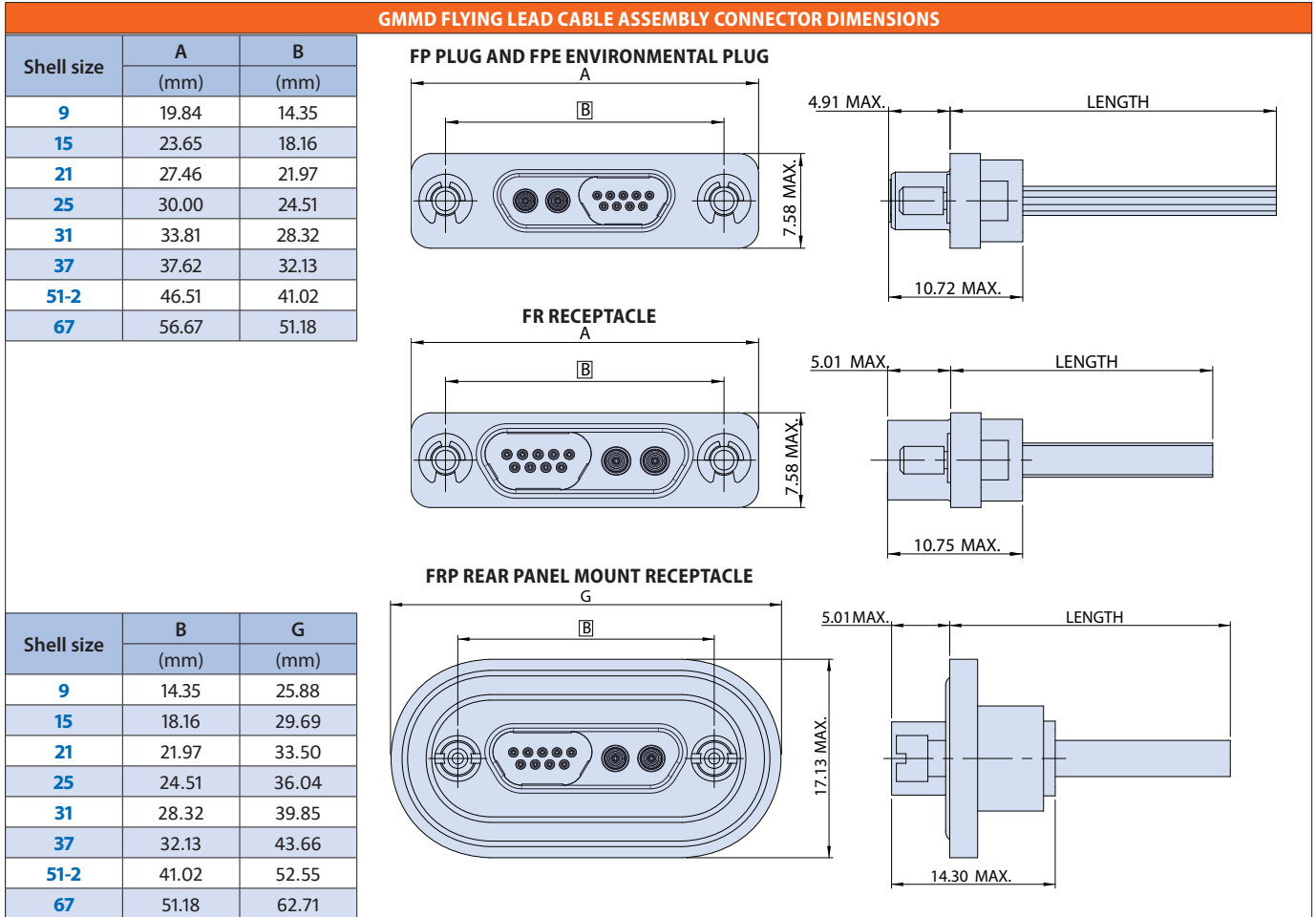
GMMD COAX AND COMBO COAX CONNECTORS

Coax and combo coax jumpers and pigtails Cable configurations

GMMD COAX AND COMBO COAX CONNECTORS



Coax and combo coax jumpers and pigtails
 Plug-to-plug • plug-to-receptacle • receptacle-to-receptacle



GMMD COAX AND COMBO COAX CONNECTORS

GMMD COAX AND COMBO COAX CONTACT ARRANGEMENTS (additional arrangements are available, consult factory)					
Contact Arrangement	2C		4C		6C
Shell Size	9		21		25
No. / type of contacts	2 X 50Ω Coax		4X 50Ω Coax		6X 50Ω Coax
Contact Arrangement	8C			16C	
Shell Size	31			67	
No. / type of contacts	8 X 50Ω Coax			16X 50Ω Coax	
Contact Arrangement	1C9	2C9	1V9	2V9	4V
Shell Size	15	21	21	31	21
No. / type of contacts	1 X 50Ω Coax 9 X #24	2X 50Ω Coax, 9 X #24	1 X 75Ω Coax, 9 X #24	2 X 75Ω Coax, 9 X #24	4 X 75Ω Coax

GMMD Plug-to-Coax contact jumper assembly for inside-the-box coax contact connectivity

GMMD COAX AND COMBO COAX CONNECTORS

GMMD Plug-to-Coax contact jumpers provide a turnkey solution for inside-the-box coax contact connectivity. Sixteen contact arrangements in eight shell sizes are offered for Size #8 BMB, Size #12 SMPM, or Size #16 SMPS Coax contacts, with three cable type options.

HOW TO ORDER	
Sample Part Number	GMMD -FPCC 2C -E -SMPM -S -2 -150
Series	GMMD = Glenair Modular High-Speed Micro-D
GMMD Connector	-FPCC = Plug
Contact Arrangement	See Table.
Coax Cable Type (see Compatibility table)	-D = 962-014-047 Semi-Rigid 50Ω Coax -E = 047 Flexible 50Ω Coax
Coax Contact Type (see Compatibility table)	-BMB = #8 Pin -SMPM = #12 Pin -SMPS = #16 Pin
Coax Contact Orientation	S = Straight
Shell Material / Finish	2 = Aluminum / Electroless Nickel
Flying Lead Length	mm (metric). e.g. -150 = 150mm (see length tolerance table)

FLYING LEAD LENGTH TOLERANCE PER IPC 620	
<0.3m [<1.0 ft]	+25mm -0mm [+0.98" -0"]
>0.3m - 1.5m [>1.0 ft - 4.9 ft]	+50mm -0mm [+1.96" -0"]
>1.5m - 3.0m [>4.9 ft - 9.8 ft]	+100mm -0mm [+3.94" -0"]
>3.0m - 7.5m [>9.8 ft - 24.6 ft]	+150mm -0mm [+5.91" -0"]
>7.5m [24.6ft]	+5% -0%

COAX CABLE / CONTACT COMPATIBILITY			
Coax Contact Type	Coax Cable Type		
	-D = 962-014-047 Semi-Rigid 50Ω Coax	-E = 047 Flexible 50Ω Coax	-F = 962-010-405 Flexible 50Ω Coax
-BMB #8 Pin	852-071-06	852-071-06	852-071-05
-SMPM #12 Pin	852-099-03	852-099-03	852-099-01
-SMPS #16 Pin	852-133-01	852-133-01	N/A

CONTACT ARRANGEMENTS / DIMENSIONS

GMMD CONNECTOR
Example: GMMD-FP2C

Example Assembly Shown: GMMD-FPCC2C-E-SMPM-S-2-L

COAX CONTACTS
Example: 2X SMPM

COAX COUNT	SHELL SIZE	A MAX.	B
1C,2C	9	19.89 [0.782]	14.35 [0.565]
3C	15	23.70 [0.932]	18.16 [0.715]
4C,5C	21	27.51 [1.082]	21.97 [0.865]
6C	25	30.05 [1.182]	24.51 [0.965]
7C	31	33.86 [1.332]	28.32 [1.115]
8C,9C	37	37.67 [1.482]	32.13 [1.265]
10C,11C,12C	51-2	46.56 [1.832]	41.02 [1.615]
13C,14C,15C,16C	67	56.72 [2.232]	46.48 [1.830]