

**QUALITY CONTROL FLOW CHART OF IDM OPTICAL JUMPER UNIT****Document No.: 4-QC-0208**

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**I. Purpose**

- To set up the manufacturing processes which are implemented in Fujikura Fiber Optics Vietnam
- To determine Quality control items of each process

**II. Application**

- This guideline is applied for IDM optical jumper unit product manufactured in Fujikura Fiber Optics Vietnam Co., Ltd.
- This document concerns to Production function, Production engineering function, Quality Assurance function and Planning function.

**III. Reference document**

- 4-OP-0208: OPERATION PROCEDURE OF IDM OPTICAL JUMPER UNIT products.
- Purchase specifications:

No.	FOV code	Product name	Specification
1	SCI0116	IDM-ZNS-R	S-GAISHI-71-2097-3(temporary)
2	SCI0138	IDM-CNS-R	S-GAISHI-71-2103-2(temporary)
3	SCI0144	IDM-DNS-R	S-GAISHI-71-2092-1
4	SCI0117	IDM-NS-R	S-GAISHI-71-2094-3(temporary)
5	SCI0037	IDM-FNS-R	S-GAISHI-71-2100-3
6	SCI0145	IDM-DSS-R	S-GAISHI-71-2114-1(temporary)
7	SCI0030	IDM-RSS-R	S-GAISHI-71-2105-1 (temporary)
8	SCI0120	IDM-ZSS-R	S-GAISHI-71-2098-1(temporary)
9	SCI0036	IDM-FSS-R	S-GAISHI-71-2096-2
10	SCI0105	IDM-D8-R	S-GAISHI-71-2115-1(temporary)
11	SCI0118	IDM-Z8-R	S-GAISHI-71-2125-1(temporary)
12	SCI0119	IDM-Z4-R	S-GAISHI-71-2084-2
13	SCI0121	IDM-P8-R	S-GAISHI-71-2083-1 (temporary)
14	SCI0146	IDM-DW4-R	S-GAISHI-71-2106-1(temporary)
15	SCI0127	IDM-P32-R	S-GAISHI-71-2093-1(temporary)
16	SCI0126	IDM-Z32-R	S-GAISHI-71-2121-2 (temporary)
17	SCI0102	IDM-C32-R	S-GAISHI-71-2090-1
18	SCI0050	IDM-C16-R	S-GAISHI-71-2119-1
19	SCI0047	IDM-R4-R	S-GAISHI-71-2112-2 (temporary)
20	SCI0122	IDM-SS-R	S-GAISHI-71-2155-1
21	SCI0130	IDM-LSS-R	
22	SCI0123	IDM-P4H-R	S-GAISHI-71-2156-1
23	SCI0131	IDM-LP4H-R	
24	SCI0114	IDM-CW4-R	S-GAISHI-71-2157-1
25	SCI0113	IDM-LCW4-R	
26	SCI0124	IDM-WM4-R	S-GAISHI-71-2159-1
27	SCI0133	IDM-LW4-R	
28	SCI0140	IDM-FW4-R	S-GAISHI-71-2161-1
29	SCI0141	IDM-LFW4-R	
30	SCI0134	IDM-LZW4-R	S-GAISHI-71-2160-1
31	SCI0125	IDM-ZW4-R	

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32	SCI0086	IDM-C4H-R	S-GAISHI-71-2164-1
33	SCI0137	IDM-LC4H-R	
34	SCI0087	IDM-F4-R	S-GAISHI-71-2165-1
35	SCI0079	IDM-LF4-R	
36	SCI0088	IDM-CSS-R	S-GAISHI-71-2163-1
37	SCI0142	IDM-LCSS-R	
38	SCI0136	IDM-D4-R	S-GAISHI-71-2166-1
39	SCI0135	IDM-LD4-R	
40	SCI0132	IDM-LW1-R	S-GAISHI-71-2158-1
41	SCI0111	IDM-LCW1-R	S-GAISHI-71-2162-1
42	SCI0139	IDM-C8-R	S-GAISHI-71-2167-1
43	SCI0143	IDM-LC8-R	
44	SCI0033	IDM-RW4-R	S-GAISHI-71-2154-1
45	SCI0038	IDM-D16-R	S-GAISHI-71-2116-1
46	SCI0039	IDM-D32-R	S-GAISHI-71-2117-1
47	SCI0045	IDM-F8-R	S-GAISHI-71-2095-1
48	SCI0046	IDM-F16-R	S-GAISHI-71-2113-1
49	SCI0048	IDM-R8-R	S-GAISHI-71-2153-1
50	SCI0052	IDM-DWM-R	S-GAISHI-71-2118-1
51	SCI0055	IDM-F32-R	S-GAISHI-71-2173-1
52	SCI0152	IDM-LZ4-R	S-GAISHI-71-2168-2
53	SCI0157	IDM-LZW1-R	S-GAISHI-71-2169-1
54	SCI0158	IDM-LFW1-R	S-GAISHI-71-2170-1
55	SCI0179	IDM-LD8-R	S-GAISHI-71-2171-1
56	SCI0176	IDM-D8-R	
57	SCI0043	IDM-P16-R	S-GAISHI-71-2172-2
58	SCI0220	IDM-LF8-R	S-GAISHI-71-2174-1
59	SCI0221	IDM-LP8-R	S-GAISHI-71-2175-1
60	SCI0222	IDM-LZSS-R	S-GAISHI-71-2176-1
61	SCI0223	IDM-LFSS-R	S-GAISHI-71-2177-1
62	SCI0224	IDM-LRSS-R	S-GAISHI-71-2178-1
63	SCI0225	IDM-LDSS-R	S-GAISHI-71-2179-1
64	SCI0226	IDM-LR4-R	S-GAISHI-71-2180-1
65	SCI0227	IDM-LDW1-R	S-GAISHI-71-2182-1
66	SCI0228	IDM-LRW4-R	S-GAISHI-71-2183-1
67	SCI0229	IDM-LDW4R	S-GAISHI-71-2184-1
68	SCI0230	IDM-LRW1-R	S-GAISHI-71-2181-1

(\*) FOV code (original) is just for reference. Substitution code with same spec &amp; name can be applied as same as original code

- FMEA: 0-PR-012-0-FO-001-4-RC-0116 version 06

**IV. Term definition**

- QAE: Quality Assurance Engineering Section
- PRD: Production Section
- PRE: Production Engineering Section
- LOG: Logistic Section
- PLN: Planning Section
- No.: Number
- ECS: E-Check Sheet

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**V. Content**

1. QC flow chart for all processes
2. Quality Control Items for each process

## QUALITY CONTROL FLOW CHART OF IDM OPTICAL JUMPER UNIT

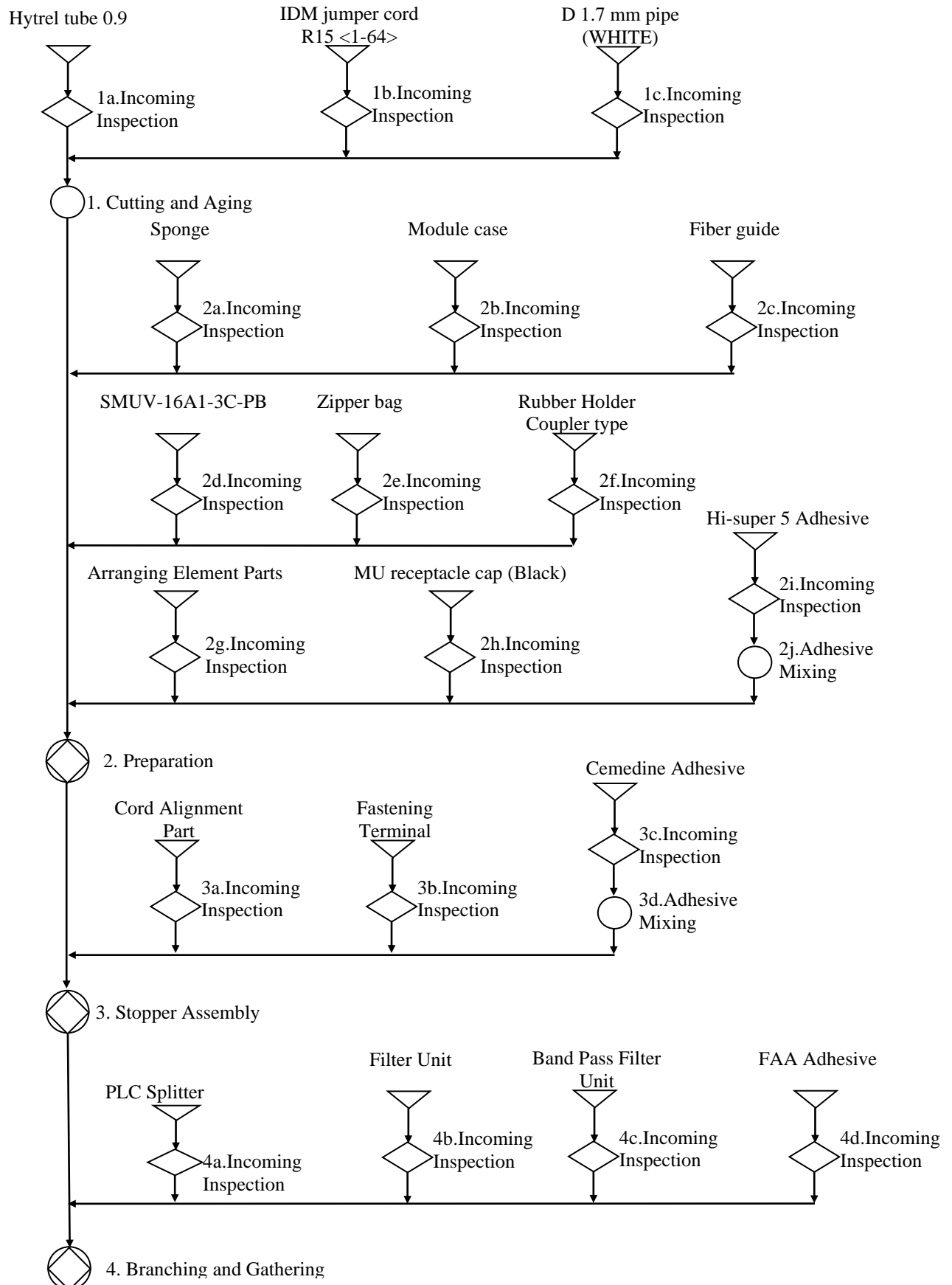
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## 1. QC Flow chart:

## A. QC Flow chart for IDM product:

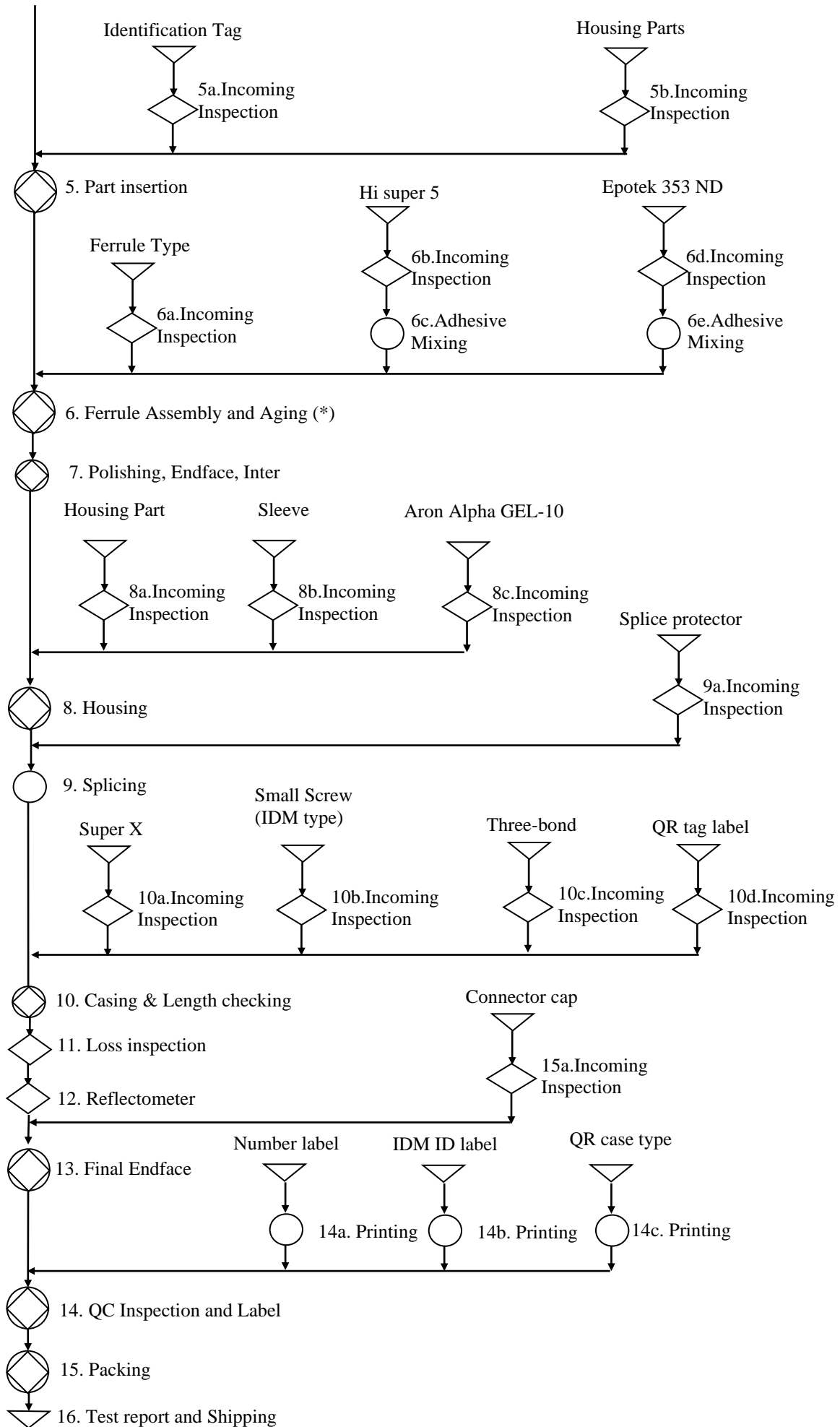


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**Remark:** (\*) 6. Ferrule Assembly and Aging: Included adhesive pumping and ferrule assembly operation, Aging is applied for MU ferrule type (Metal flange) only just after finished ferrule insertion and curing.

- In case, product have both Simple MU and MU type only, it's applied adhesive pumping at starting of each ferrule type assembly step.

**B. Process flow for Sub-product:**

- IDM products need to separate to Sub-products for suitable operation and record for 4M information, Sub-product will be made by some processes that suitable for operation, please refer to below table:

+ Yes: Sub-product need to do that process

+ No: Sub-product no need to do that process

No	Sub-Product Code	Sub-Product Name	Process flow		
			Branching & gathering	Ferrule assembly	Polishing, End face, Inter
1	SCI0060	Sub for SCI0017, SCI0026, SCI0051	Yes	No	No
2	SCI0019	Sub of SCI0017, SCI0026	Yes	Yes	Yes
3	SCI0013	Sub of SCI0004,SCI0014,SCI0015,SCI0024,SCI0030	Yes	Yes	Yes
4	SCI0058	Sub for SCI0025, SCI0034, SCI0041, SCI0044, SCI0047, SCI0079, SCI0081	Yes	No	No
5	SCI0149	Sub of SCI0130, SCI0142	Yes	Yes	Yes
6	SCI0018	Sub OCP0133 (4cons)	Yes	Yes	Yes
7	SCI0181	Sub for SCI0179,176 (Splitter)	Yes	No	No
8	SCI0180	Sub of SCI0179	Yes	Yes	Yes
9	SCI0057	Sub for SCI0003, SCI0040, SCI0064, SCI0078	Yes	No	No
10	SCI0023	Sub of SCI0003, SCI0040	Yes	Yes	Yes
11	SCI0068	Sub of SCI0064,SCI0066, SCI0078, SCI0082	Yes	Yes	Yes
12	SCI0059	Sub for SCI0024, SCI0042, SCI0049	Yes	No	No
13	SCI0069	Sub-1 of SCI0065	Yes	Yes	Yes
14	SCI0022	Sub-2 of SCI0005,SCI0006,SCI0020,SCI0031,SCI0065	Yes	Yes	Yes
15	SCI0021	Sub-1 of SCI0005,SCI0006,SCI0020,SCI0031	Yes	Yes	Yes
16	SCI0070	Sub of SCI0066,SCI0082	Yes	Yes	Yes
17	SCI0110	Sub of SCI0111,SCI0112	Yes	Yes	Yes
18	SCI0067	Sub of SCI0063,SCI0079, SCI0081	Yes	Yes	Yes
19	SCI0211	Sub OCP0118 (4pc) gathering	Yes	No	No
20	SCI0212	SUB Splitter 1x32 (cut fiber only)	Yes	No	No

- Applying of Sub product for Main IDM product as below table:

Sub code	Applied for Main product name
SCI0013	IDM-RSS-R;IDM-Z4-R;IDM-FSS-R;IDM-P4-R;IDM-R4-R;IDM-F4-R;IDM-CSS-R;IDM-Z8-R;IDM-Z4-R;IDM-ZSS-R;IDM-P8-R;IDM-SS-R;IDM-C8-R;IDM-DSS-R;IDM-Z4-R;IDM-C8-R;IDM-RSS-R;IDM-C8-R;IDM-Z8-R;
SCI0018	IDM-P16-R;IDM-F8-R;IDM-R8-R;IDM-C16-R;IDM-D8-R;IDM-D8-R;
SCI0019	IDM-D16-R;IDM-F16-R;IDM-C32-R;IDM-Z32-R;IDM-P32-R;IDM-Z32-R;
SCI0021	IDM-RW4-R;IDM-CW4-R;IDM-WM4-R;IDM-ZW4-R;IDM-FW4-R;IDM-DW4-R;IDM-WM4-R;IDM-DW4-R;
SCI0022	IDM-RW4-R;IDM-LCW4-R;IDM-CW4-R;IDM-WM4-R;IDM-ZW4-R;IDM-LW4-R;IDM-LZW4-R;IDM-FW4-R;IDM-LFW4-R;IDM-DW4-R;IDM-LCW4-R;IDM-LFW4-R;IDM-WM4-R;IDM-LW4-R;IDM-LZW4-R;IDM-DW4-R; IDM-LRW4-R; IDM-LDW4-R
SCI0023	IDM-C4H-R;IDM-P4H-R;IDM-C4H-R;IDM-P4H-R;

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SCI0057	IDM-C4H-R;IDM-P4H-R;IDM-LP4H-R;IDM-LC4H-R;IDM-C4H-R;IDM-LC4H-R;IDM-P4H-R;IDM-LP4H-R;
SCI0058	IDM-Z4-R;IDM-P4-R;IDM-R4-R;IDM-LF4-R;IDM-F4-R;IDM-Z4-R;IDM-LD4-R;IDM-D4-R;IDM-Z4-R;IDM-LZ4-R; IDM-LR4-R;
SCI0059	IDM-Z8-R;IDM-P8-R;IDM-C8-R;IDM-LC8-R;IDM-C8-R;IDM-C8-R;IDM-Z8-R;IDM-LC8-R; IDM-LP8-R
SCI0060	IDM-C32-R;IDM-Z32-R;IDM-P32-R;IDM-Z32-R;
SCI0067	IDM-LF4-R;IDM-LD4-R;IDM-LC8-R;IDM-LZ4-R;IDM-LC8-R; IDM-LP8-R; IDM-LZSS-R; IDM-LFSS-R; IDM-LRSS-R; IDM-LDSS-R; IDM-LR4-R
SCI0068	IDM-LP4H-R;IDM-LW1-R;IDM-LC4H-R;IDM-LC4H-R;IDM-LZW1-R;IDM-LFW1-R;IDM-LP4H-R;IDM-LW1-R;IDM-LZW1-R;
SCI0069	IDM-LCW4-R;IDM-LW4-R;IDM-LZW4-R;IDM-LFW4-R;IDM-LCW4-R;IDM-LFW4-R;IDM-LW4-R;IDM-LZW4-R; IDM-LRW4-R; IDM-LDW4-R
SCI0070	IDM-LCW1-R;IDM-LW1-R;IDM-LZW1-R;IDM-LFW1-R;IDM-LCW1-R;IDM-LW1-R;IDM-LZW1-R; IDM-LDW1-R, IDM-LDW1-R
SCI0110	IDM-LCW1-R; IDM-LDW1-R, IDM-LDW1-R
SCI0149	IDM-LSS-R; IDM-LCSS-R
SCI0180	IDM-LD8-R, IDM-LF8-R
SCI0181	IDM-R8-R;IDM-D8-R;IDM-LD8-R; IDM-LF8-R
SCI0211	IDM-P16-R
SCI0212	IDM-F32-R

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## 2. Quality Control Items for each process

Quality control items is shown in the following table

Process		Quality Control Items	Instrument	Sampling size	Related document	SIC
No.	Name					
1a	Incoming Inspection (0.9mm hytel tube)	9-PR-012 Incoming inspection procedure				LOG, QAE
1b	Incoming Inspection (IDM jumper cord R15 <1-64>)	9-PR-012 Incoming inspection procedure				LOG, QAE
1c	Incoming Inspection (d 1.7 mm pipe (WHITE))	9-PR-012 Incoming inspection procedure				LOG, QAE
1	Cutting and Aging	Lot No., type, quantity	Manual, software	All	4-OP-0208 9-PR-008-4-WI-0001	PRD, PRE
		0.9mm hytel tube cutting length	Machine	3pcs when machine stops or reruns, and every 30 minutes.		
		IDM jumper cord, D1.7 mm cutting length	Manual	All		
		Jumper cord aging condition	Chamber, Recorder	All		
2a	Incoming Inspection (Sponge)	9-PR-012 Incoming inspection procedure				LOG, QAE
2b	Incoming Inspection (Module case)	9-PR-012 Incoming inspection procedure				LOG, QAE
2c	Incoming Inspection (Fiber guide)	9-PR-012 Incoming inspection procedure				LOG, QAE
2d	Incoming Inspection (SMUV-16A1-3C-PB)	9-PR-012 Incoming inspection procedure				LOG, QAE
2e	Incoming Inspection (Zipper bag)	9-PR-012 Incoming inspection procedure				LOG, QAE

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2f	Incoming Inspection (Rubber Holder Coupler type)	9-PR-012 Incoming inspection procedure				LOG, QAE
2g	Incoming Inspection (Arranging Element Parts)	9-PR-012 Incoming inspection procedure				LOG, QAE
2h	Incoming Inspection (MU receptacle cap (Black))	9-PR-012 Incoming inspection procedure				LOG, QAE
2i	Incoming Inspection (Hi-super5)	9-PR-012 Incoming inspection procedure				LOG, QAE
2j	Hi super 5 mixing	Lot No., Expiry date. Mixing ratio Mixing time Pot life.	Manual, ECS system  Timer	All	4-OP-500 9-PR-008- 4-WI-0001	PRD, PRE
2	Preparation	Material Lot No., type, quantity Sponge, Rubber Holder cutting length and Spacer position Tape dimension, position Adhesive position Arranging Element Parts, fiber guide direction, position Assembly direction, position Accessories preparation	Manual, ECS system  Manual, Visual	All	4-OP-0208 9-PR-008- 4-WI-0001	PRD, PRE
3a	Incoming Inspection (Cord alignment part)	9-PR-012 Incoming inspection procedure				LOG, QAE
3b	Incoming Inspection (Fastening terminal)	9-PR-012 Incoming inspection procedure				LOG, QAE
3c	Incoming Inspection (Cemedine Adhesive)	9-PR-012 Incoming inspection procedure				LOG, QAE
3d	Cemedine Adhesive Mixing	Lot No., Expiry date. Mixing ratio, Mixing time Pot life.	Manual, ECS system  Timer	All	4-OP-500 9-PR-008- 4-WI-0001	PRD, PRE
3	Stopper Assembly	Jumper cord marking position Outer jacket stripping position Cord order arrangement, direction Cord grouping Kevlar cutting length, position UV cord marking position Stripping UV cord position Gathering adhesive area, appearance Adhesive curing time Fastening terminal position, direction, Kevlar fixing Tracer mark length, position	Jig/Ruler Stripper Manual, Visual Manual, Jig Jig/Ruler, Scissor, Visual Jig/Ruler Micro stripper Manual, Visual Timer Jig, Crimping tool Manual/Visual	All	4-OP-0208 9-PR-008- 4-WI-0001	PRD, PRE.
4a	Incoming Inspection (PLC Splitter)	9-PR-012 Incoming inspection procedure				LOG, QAE
4b	Incoming Inspection (Filter Unit)	9-PR-012 Incoming inspection procedure / SASHIJI-17116-1(3)				LOG, QAE
4c	Incoming Inspection (Band Pass Filter Unit)	9-PR-012 Incoming inspection procedure				LOG, QAE
4d	Incoming Inspection (FAA Adhesive)	9-PR-012 Incoming inspection procedure				LOG, QAE
4	Branching	Lot No., type, quantity	Manual, ECS system	All	4-OP-0208 9-PR-008-	PRD, PRE



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	Gathering	Main fiber direction, position	Jig/Visual		4-WI-0001						
		Fiber branching length	Jig/ Ruler								
		Gathering adhesive area	Manual/Visual								
		Adhesive curing time	Timer								
		Fiber order arrangement after gathering	Visual								
		Tracer mark position, length	Manual/Visual								
5a	Incoming Inspection (Identification Tag)	9-PR-012 Incoming inspection procedure				LOG, QAE					
5b	Incoming Inspection (Housing part)	9-PR-012 Incoming inspection procedure				LOG, QAE					
5	Part insertion MU, SC	Lot No., type, quantity	Manual, ECS system	All	4-OP-0208 9-PR-008-4-WI-0001	PRD, PRE					
		Parts order, direction	Jig/Visual								
		Stripping jumper cord position	Stripper/Visual								
		Kevlar cutting length	Scissors/Visual								
		MU Ring assembly position	Jig/Manual, Visual								
		Flaring d1.7mm pipe WHITE tube (for SC2 connector): - Heating temperature - Appearance	Machine, Manual, Visual								
6a	Incoming Inspection (Ferrule type)	9-PR-012 Incoming inspection procedure				LOG, QAE					
6b	Incoming Inspection (Hi-super5)	9-PR-012 Incoming inspection procedure				LOG, QAE					
6c	Hi-super5 Mixing	Lot No., Expiry date. Mixing ratio	Manual, ECS system	All	4-OP-500 9-PR-008-4-WI-0001	PRD, PRE					
		Mixing time	Timer								
		Pot life.	Clock								
6d	Incoming Inspection (Epotek 353ND)	9-PR-012 Incoming inspection procedure				LOG, QAE					
6e	Epotek Mixing	Lot No., Expiry date.	Manual, ECS system	All	4-OP-500 9-PR-008-4-WI-0001	PRD, PRE					
		Mixing ratio	Balancer								
		Mixing time	Clock/ mixer								
		Air bubble separation	Centrifugal machine								
		Pot life.	Clock								
6	Ferrule assembly	Hot stripper No. Cleaver No. Ferrule Lot No. Epotek mixing Lot No. Heater No.	Manual, ECS system	All	4-OP-524 4-OP-503 4-OP-0208 9-PR-008-4-WI-0001 000-5-WI-037	PRD, PRE					
		Heating temperature Heating time	Heater								
		Bare fiber cutting length	Cleaver/Template								
		Marking position	Template/Jig								
		Bare fiber lifetime	Timer/ Clock								
		Fiber cleaning, screening	Manual								
		Cut fiber protrusion after curing Adhesive on fiber	Ring gauge								
		Appearance	Visual								
		MU Ferrule aging: temperature, time	Chamber/ Recorder								
		7	Polishing, Endface & Inter checking				Polishing machine No. Polishing condition	Manual, Program	All	4-OP-526 4-OP-528 9-PR-008-4-WI-0001	PRD, PRE
							Polishing sheet lifetime	Manual/Polisher			
							Ferrule & fiber surface check	Microscope			

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		Ferrule length before re-polishing	Dial gauge				
		Interferometer checking	Interferometer	02 cons/Jig			
8a	Incoming Inspection (Housing part)	9-PR-012 Incoming inspection procedure				LOG, QAE	
8b	Incoming Inspection (Sleeve)	9-PR-012 Incoming inspection procedure				LOG, QAE	
8c	Incoming Inspection (Aron alpha GEL-10)	9-PR-012 Incoming inspection procedure				LOG, QAE	
8	Housing	Lot No., type, quantity	Manual, ECS system	All	3pcs / 1000 times of crimping	4-OP-0208 9-PR-008-4-WI-0001	PRD, PRE
		Stop ring, ferrule flange, key, frame direction	Visual, Manual				
		Eyelet Position	Manual, Jig				
		Crimping ring position, direction	Visual				
		Clamp ring appearance after crimping	Visual				
		Frame, stop ring assembly	Jig/Manual	All			
		Clamp ring dimension after crimping	Micrometer, Caliper				
		Assembly crimping ring to housing part	Tool/Manual				
		Adhesive GEL-10 area, amount	Visual/ Manual				
		Adhesive GEL-10 harden status (for SC2 connector)	Manual				
		D1.7mm pipe WHITE fixing position (for SC2 connector)	Visual				
		Connector appearance after housing	Visual				
Ferrule moving inside housing (only for SC2 connector)	Jig/Manual						
9a	Incoming Inspection (Splice protector)	9-PR-012 Incoming inspection procedure				LOG, QAE	
9	Splicing	Lot No., type, quantity	Manual, ECS system	All	4-OP-565 4-OP-0208 9-PR-008-4-WI-0001	PRD, PRE	
		Machine No.					
		Bare fiber length	Template/Jig				
		Tracer mark direction	Manual				
		Splicing mode and heating mode					
		Splicing tube appearance	Visual				
10a	Incoming Inspection (Super X)	9-PR-012 Incoming inspection procedure				LOG, QAE	
10b	Incoming Inspection (Small screw (IDM type))	9-PR-012 Incoming inspection procedure				LOG, QAE	
10c	Incoming Inspection (Three-bond)	9-PR-012 Incoming inspection procedure				LOG, QAE	
10c	Incoming Inspection (QR tag label)	9-PR-012 Incoming inspection procedure				LOG, QAE	
10	Casing & Length checking	Lot No., type, color	Manual, ECS system	All	4-OP-0208 9-PR-008-4-WI-0001	PRD, PRE	
		Splitter, filter, Fiber, Part direction, position	Manual/Visual				
		Fiber arrangement, bending, pinching in module case	Visual				
		Adapter key direction	Visual				
		Connector fixing with adapter	Manual				
		Parts assembly inside Module case	Manual/Visual				

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		Super X area, amount	Visual/ Manual			
		Curing time	Clock			
		Jumper cord length checking	Ruler/Manual			
		QR tag label: product code, ID on label	Visual	1 pc/ID		
		QR tag label: direction, position	Visual, Manual	All		
		QR tag label: content	Visual, Label program, Manual			
		Three-bond area, amount on nut & screw	Visual/ Manual			
		Arranging Element parts fixing to module case	Torque driver			
		Appearance of cord, tube	Visual			
11	Loss Inspection	Machine type, No.	Manual, ECS system	All	4-OP-506	PRD, PRE
		Master cord type, No.	Manual, software			
		Master cord endface check	Microscope	1 set/time		
		- Wavelength - P0 value - Insertion Loss, Return loss value	Loss system	All	4-OP-0208 9-PR-008- 4-WI-0001	
		Port checking control	Visual, temporary cap			
12	Reflectometer	Machine type, No.	Manual	All	4-OP-511 000-5-WI-037	PRD, PRE
		Master cord type	Manual			
		Master cord endface check	Microscope	1 set/time		
		Fiber break checking area	Reflectometer	All		
		Port checking control	Visual, temporary cap	02 cons/shift	4-OP-0208	
13a	Incoming inspection (Connector cap)	9-PR-012 Incoming inspection procedure				LOG, QAE
13	Final Endface	Ferrule Endface checking	Microscope	All	4-OP-526	PRD, PRE
		Port checking control	Visual		4-OP-0208	
		Attach cap to connector	Tool/Manual		9-PR-008- 4-WI-0001	
		Cap quantity	Visual			
14a	Printing (Number label)	Content Size of label Appearance	Visual	All	4-OP-0208	LOG, QAE
14b	Printing (IDM ID label)	Content Size of label Appearance	Visual	All	4-OP-0208	LOG, QAE
14c	Printing (QR case type)	Content Size of label Appearance	Visual	All	4-OP-0208	LOG, QAE
14	QC Inspection and Label	Module case appearance	Visual	All	4-OP-0208 9-PR-008- 4-WI-0001	PRD, QAE
		Cord appearance		All except winding area		
		Cord order No.		All		
		Cover assembly fixing				
		Housing parts (Connector, Boot, crimping ring, Cap) appearance				
		Receptacle direction, appearance				
		Receptacle caps type/quantity				
		Arranging element appearance				
		White mark appearance				
		Screw and nut appearance				
		QR tag position, direction, appearance				
		Matching between QR tag and cord no.				

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		Number label and IDM ID label: no drop letter; unclear letter; correct position, direction					
		QR case/ IDM ID label direction, position on module case	Manual, Jig				
		Content of QR case, IDM ID label	Label program/Visual				
		Case gap	Visual/ Ruler				
		Cord length	Manual, Jig				1 pc/ID
		Module case's bending	Visual, jig/ruler				100%
		Module case's height	Caliper				1 pc/PO
15	Packing	Content, position, direction of label	Visual/Jig	All	4-OP-0208	PRD, QAE	
		Product type/name	Visual/ Program				
		Product quantity					
		Carton box type/appearance	Visual				
16	Test report and Shipping	PO No. Product type/name Product specification Product serial	Manual/Program	All	4-OP-0208	QAE	
		Shipping quantity/ Shipping date	Manual/Program	All			
		Optical characteristics data					
		Distribution histogram of optical characteristics					
		Judgment of product dimension, appearance					
		Judgment of label dimension (Number label, IDM ID label, QR label for case and QR label for tag)					
		PO No. Invoice Number Shipping quantity					
							All

**VI. Review**

This document shall be yearly reviewed by engineering section or when anybody find unsuitable point(s) of this QC flow chart and would like to suggest revising it.

(Refer to 0-Pr-001: Control of Document).

**VII. Record:**

No.	Record	Retention time	Responsibility for keeping
-	-	-	-

Identification, storage, protection, retrieval & disposition of these records refer to 0-PR-004 Control of record.

**Note:** Nonconforming product/material shall be identified & controlled according to relevant procedures: 9-PR-008.

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## REVISION HISTORY

Date	Person	Version	Description		Reason	Change Requester
			Old	New		
30-Apr-2016	Tran Duc Cong	01	-	-	Establishment	Nguyen Trung Kien
15-Oct-2016	Tran Duc Cong	02	-	+ Add: IDM-D8-R, IDM-P32-R, IDM-DW4-R	Add new products	Nguyen Trung Kien
			-	+ Add items no.4f, 4g, 8c, 8d		
15-Feb-2019	Tran Phuc Tan	03		+Add product spec	Add new products	Deputy Division Manager - Nguyen Trung Kien
			- Item V.1: Have item 14.PRD, PRE appearance	- Item V.1: Cancel item 14: PRD, PRE appearance	4M change: 4-PR-007-4-Fo-001-9-RC-0161	
			- Item V.2.-No.1: Cutting and winding cord by manual	- Item V.2.-No.1: Cutting and winding cord by machine	4M Change: 4-PR-007-4-FO-001-5-RC-0152	
			- Item V.1: 15. QCS Appearance and Label	- Item V.1: 14. QC Inspection and Label	Standardize process name	
09-Sep-2019	Khanh NT	04	-	- Item V.1: 10. Casing, QR tag attachment, and Length Check Cancel: Dummy checking	4M Change: 4-PR-007-4-FO-001-4-RC-0754	Deputy Division Manager - Nguyen Trung Kien
15-Nov-19	Khanh NT	05	-	- Add new products specification Item V: + Add new Filter for checking TDL: Filter type 8C-1.31·1.625/1.645SWPF (SG code: 60001342) + Add cut d 1.7 mm pipe (WHITE) at Cutting & Aging process + Add new Filter: 1500-1560nm Band Pass Filter (SG code: 60001552)	Add new products	Manager Phuc NH
17-Dec-19	Khanh NT	06	-	- Item III: Add products specification	Add new products	Manager Phuc NH
01-Feb-2021	Khanh NT	07	III: - V/2: - Document No.: 9-QC-001 V/14:	III: - Update FOV code V/2: - Document No.: 9-PR-012 V/14:	Document review	Tien DT
			- QC Inspection check appearance jumper cord, d1.7mm pipe WHITE 100%	- Cancel checking appearance at QC Inspection	- 4M Change: 4-PR-007-4-FO-001-9-RC-0320	
23-May-2022	Thu DTM Nhung NTC	08	III. Reference document: SCI0033: S-GAISHI-71-2111-1	III. Reference document: - Update for SCI0033: S-GAISHI-71-2154-1 - Add specification	- Spec change for SCI0033. - Process review	Tien DT DucTNM
			13. Loss inspection: 4-OP-506 and 4-OP-507	13. Loss inspection: 4-OP-506	Combined document	
			7. Polishing 10. Casing	7. Polishing, Endface, Inter 10. Casing & Length checking	Document review	
			10.b HEX NUT M5x2.7, SUS 10.c FLAT HEAD MACHINE SCREW, M5x9, SUS	10.b Small Screw (IDM type)	Document review	
			*. All operation process	Remove/combine some quality control items are not suitable	Document review	
			7. Interferometer: All	15. Interferometer: Sampling 02 cons/Jig	4-PR-007-4-FO-001-4-RC-0212	

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			15. Reflectometer: All	15. Reflectometer: Sampling 02 cons/shift	4-PR-007-4-Fo-001-4-RC-0221	
			<b>Item V.2.</b> -All process with 9-PR-012 -5a,5b: 9-QC-001	<b>Item V.2.</b> -9-PR-012 Incoming inspection procedure -5a,5b: 9-PR-012 Incoming inspection procedure	-Add procedure name to make clear -Document review, add procedure name to make clear	
			<b>QC inspection and Label: Control item</b> - -L; L1	<b>QC inspection and Label: Control item</b> -Add cord appearance (sampling size: all except winding area), cord order No. -Cord length; Module case's height	- Correct mistake of ver07, follow 4-PR-007-4-FO-001-9-RC-0320 -Make clear	
			<b>Packing: Control item</b> - Content, position, direction of label: by Visual -Item, PO No. on box	<b>Packing: Control item</b> - Content, position, direction of label: by Visual/Jig: -Remove	-Add actual instrument	
			<b>Test report and Shipping:</b> -	<b>Test report and Shipping: Control item</b> -Add product serial, Shipping quantity, shipping date. Add Judgment of product dimension, appearance. Add PO No. Invoice Number Shipping quantity for Shipping by Log - Add Judgment of label dimension in Test report	-Duplicated with label content  -Document review  -Additional Specification/ Customer's requirement	
01-Oct-2022	Thu DTM, Truc NPT	09	III. Reference document - N/A - SCI0055: S-GAISHI-71-2120-2	III. Reference document: Add new code: - SCI0043: S-GAISHI-71-2172-1 - SCI0055: S-GAISHI-71-2173-1 - SCI0043: S-GAISHI-71-2172-2	New product	Tien DT
			N/A	Add 1. B. Process flow for Sub-product:	Spec updated due to Error correcting in version 1	
			3. Stopper Assembly: have item checking: - Jumper cord length: 3pcs/ID	3. Stopper Assembly: - <Cancel> item checking: Jumper cord length: 3pcs/ID	4M: 4-Pr-007-4-Fo-0007-4-RC-0017	
14-Sep-2023	Nguyen TD, Truc NPT	10	III. Reference document - N/a	III. Reference document: Add new code SCI0220: S-GAISHI-71-2174-1 SCI0221: S-GAISHI-71-2175-1 SCI0222: S-GAISHI-71-2176-1 SCI0223: S-GAISHI-71-2177-1 SCI0224: S-GAISHI-71-2178-1 SCI0225: S-GAISHI-71-2179-1 SCI0226: S-GAISHI-71-2180-1 SCI0227: S-GAISHI-71-2182-1 SCI0228: S-GAISHI-71-2183-1 SCI0229: S-GAISHI-71-2184-1	New product	Tien DT
			<b>V.1.B. Process flow for Sub-product</b> - N/a	<b>V.1.B. Process flow for Sub-product</b> - Add new main product		
			<b>3e. Incoming Inspection (FAA Adhesive)</b>	<b>Remove 3e. Incoming Inspection (FAA Adhesive)</b>	Correction follow actual production	
			<b>9. Splicing</b> - Quality Control Items: Splicing point appearance by	<b>9. Splicing</b> - Quality Control Items: Splicing tube appearance by Visual		

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			Manual <b>14. QC inspection and Label: Control item</b> - N/A	<b>14. QC inspection and Label: Control item</b> - Adding the inspection of LC Connector and Housing parts (Cap, Boot, Crimping Ring) - Adding the inspection of Case Bending height	Document Review & SGI requirement	
			<b>10. Casing: Control item</b> QR tag label: direction, position, content, match with jumper cord No., appearance	<b>10. Casing: Control item</b> QR tag label: direction, position, content, match with jumper cord No.,	Follow Change order: 4-Pr-007-4-Fo-0007-4-RC-0132	
			V.3. Reference additional control items from FMEA <b>0-PR-012-0-FO-001-4-RC-0116 version 02</b>	Remove V.3 III. Reference document: Add <b>FMEA: 0-PR-012-0-FO-001-4-RC-0116 version 05</b>	Update document	
			V.2. Quality Control Items for each process N/A	V.2. Quality Control Items for each process Add Related document 9-PR-008-4-WI-0001		
27-Oct-2023	Nguyen TD	11	V.2. Quality Control Items for each process: -	V.2. Quality Control Items for each process: - Update content of Quality control items of Process no. 2, 3, 5	Update content more clear follow actual process control	Tien DT
				- Update content of Instrument of Process no. 1, 2j, 2, 3d, 3, 4, 5, 6c, 6e, 6, 9, 10, 11, 14		
				- Add Related document 9-PR-008-4-WI-0001 for Preparation, Mixing adhesive processes		
				- Add Related document 000-5-WI-037 for Ferrule Assembly, Reflectometer process		
			8. Housing - Quality control items: Curing time - Instrument: Clock	8. Housing - Quality control items: Adhesive GEL-10 harden status (for SC2 connector) - Instrument: Manual	- Correction for content follow CAPA-SGI-23-006	
20-Mar-24	Nguyen TD	12	<b>III. Reference document</b> - N/a  <b>V.1.B. Process flow for Sub-product</b> - N/a	<b>III. Reference document:</b> Add new code SCI0230: S-GAISHI-71-2181-1 <b>V.1.B. Process flow for Sub-product</b> - Add new main product: IDM-LDW1-R	New product	Tien DT
			FMEA: 0-PR-012-0-FO-001-4-RC-0116 version 05	FMEA: 0-PR-012-0-FO-001-4-RC-0116 version 06	Document review	
			V.2. Quality Control Items for each process: <b>8. Housing</b> - Sampling size of Clamp ring dimension after crimping: 3pcs at beginning of each shift	V.2. Quality Control Items for each process: <b>8. Housing</b> - Sampling size of Clamp ring dimension after crimping: 3pcs / 1000 times of crimping	Update content follow actual process control (000-5-CS-235)	

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			<b>10. Casing &amp; Length checking</b> - Control item: QR tag label: direction, position, content, match with jumper cord No. - Instrument: Visual, Label program, Manual - Sampling size: All	<b>10. Casing &amp; Length checking</b> - Control item: QR tag label: direction, position - Instrument: Visual, Manual - Sampling size: All  - Control item: QR tag label: content - Instrument: Visual, Label program, Manual - Sampling size: All	Update follow Change order: 9-PR-0014-9-FO-0001-4-RC-0006	
			<b>10. Casing &amp; Length checking</b> - N/a	<b>10. Casing &amp; Length checking</b> - Control item: QR tag label: product code, ID on label - Instrument: Visual - Sampling size: 1 pc/ID	Update content follow actual process control	
18-Sep-24	Nguyen TD	13	<b>8. Housing:</b> - Control item: Ferrule moving inside housing	<b>8. Housing:</b> - Control item: Ferrule moving inside housing (only for SC2 connector)	Change order: 9-PR-0014-9-FO-0001-4-RC-0097 (Cancel spring moving checking of MU connector for IDM Jumper cord product)	Tien DT