台灣安潔電子股份有限公司
Taiwan Anjie Electronics Co., Ltd

承 認 書
APPROVAL SHEET

Customer:	研華
Customer Model No.:	1751000195-01
Part No.:	AJDQ1J-G0001
Product Description:	Antenna Internal WIFI 1.13/460mm(Green)IPEX_IV
Issue Date:	20210406
REV.:	A

客戶承認用印	安潔承認用印

核准	審核	承辦
		Anders

Taiwan Anjie Electronics Co., Ltd
台灣安潔電子股份有限公司
ADD: 1F,No.236,Sec.3,Huanbei Rd.,Jubei City,Hsinchu County,30265,Taiwan
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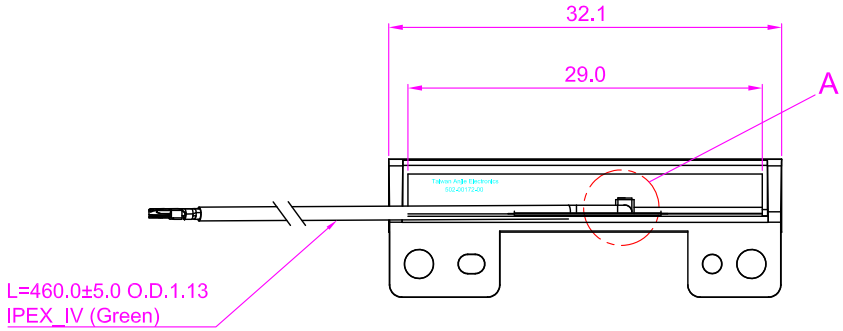
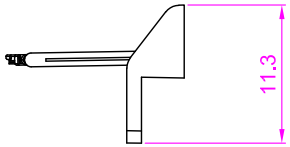
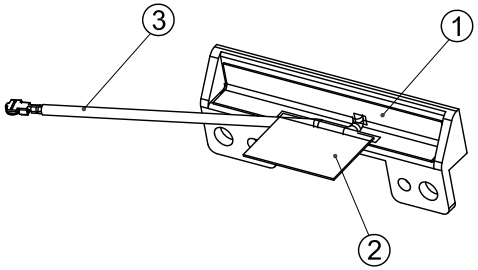
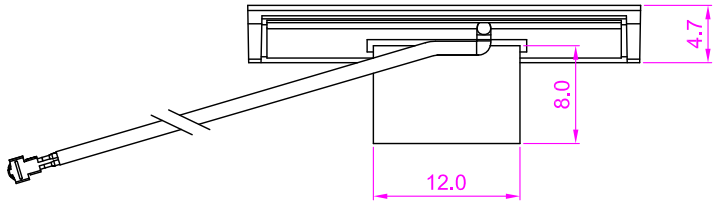
SPECIFICATION	
Frequency Range	2400~5850MHz
Impedance	50Ω
V.S.W.R	≦ 2.5
Radiation	Omni
Gain	2.4G<4.25dBi 5G<2.02 dBi
Type	PIFA
Polarization	Vertical
Mechanical Properties	
Connector	I-PEX_IV

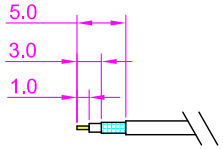
REV	DATE	DESCRIPTION
X1	2021.01.07	New Release











DETAIL A

No.	Part No.	Description	Q'ty
3	901-02700-00	O.D. 1.13mm IPEX_IV Part No. 20565-001R-13 ; Lengh=460mm(Green)	1
2	801-03369-00	銅箔12*8mm	1
1	502-00172-00	FPCB 29*6*0.15mm	1

UNLESS OTHERWISE SPECFIED Tolerance ON:

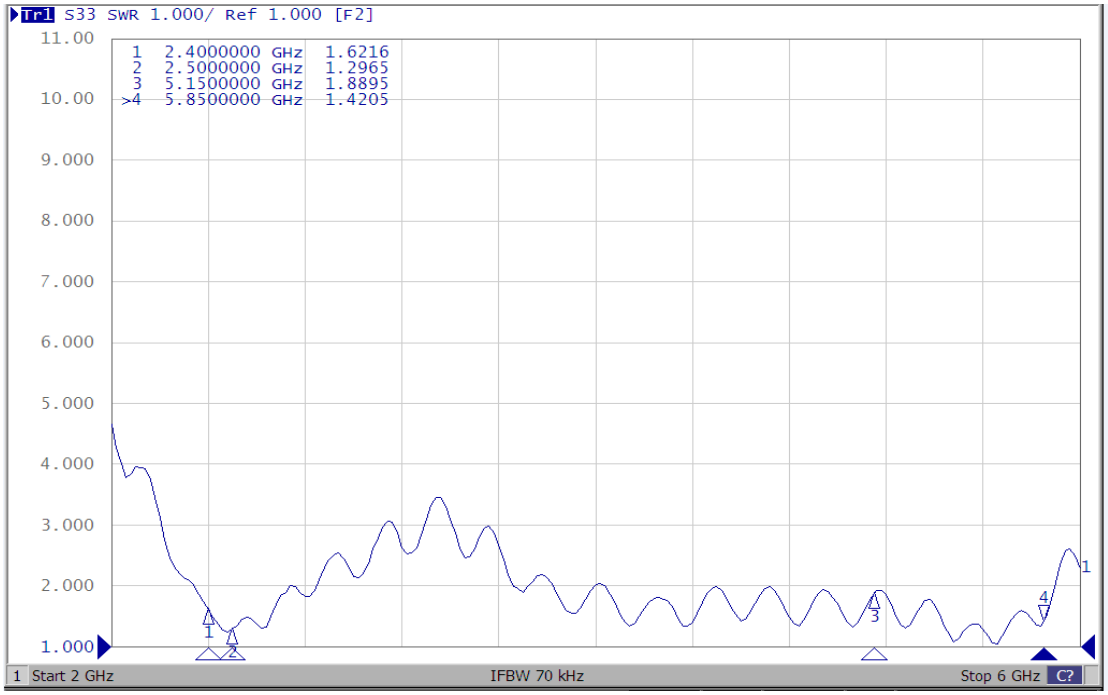
X.X ±0.5 X° ±1.0
X.XX ±0.2

Taiwan Anjie Electronics Co.,Ltd

Customer Model: AIM78
Customer Number: --
TITLE: Antenna Internal WiFi AUX
PART NO.: AJDQ1J-G0001

APP BY	CHK BY	DES BY	Sheet	UNITS	SCALE	REV
Lin 2021.01.07 Grant	Kuo 2021.01.07 Doris	Kuo 2021.01.07 Doris	1 of 1	mm	2 /1	X1

Electrical test



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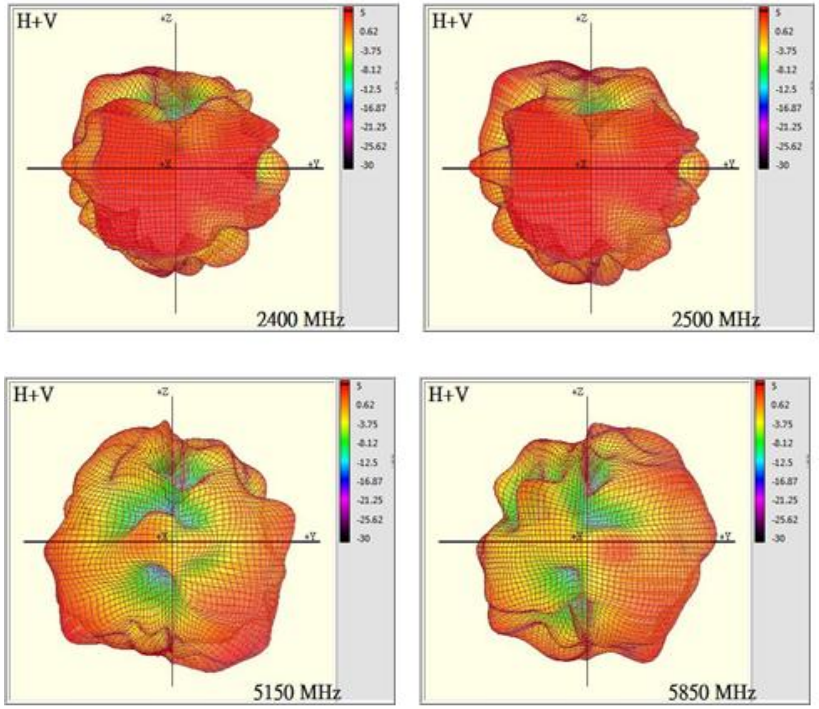
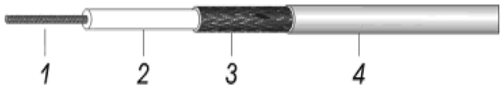
Antenna Gain and Efficiency

Frequency(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	4.19	4.09	4.25	4.12	4.07	3.95	3.86	3.86	3.71	3.46	3.43
Directivity (dBi)	7.87	7.74	7.89	7.76	7.61	7.43	7.34	7.25	7.03	6.82	6.67
Efficiency (dB)	-3.68	-3.66	-3.64	-3.64	-3.54	-3.48	-3.48	-3.39	-3.32	-3.37	-3.24
Efficiency (%)	42.82	43.09	43.23	43.22	44.3	44.86	44.91	45.87	46.59	46.07	47.43

Frequency(MHz)	5150	5250	5350	5450	5550	5650	5750	5850
Gain (dBi)	0.97	1.81	2.02	1.08	1.63	1.95	0.3	0.41
Directivity (dBi)	4.63	5.5	5.56	4.68	4.94	5.53	3.96	4.33
Efficiency (dB)	-3.66	-3.69	-3.54	-3.59	-3.32	-3.58	-3.66	-3.93
Efficiency (%)	43.01	42.78	44.26	43.71	46.58	43.87	43.05	40.46

Antenna 3D Pattern



型号 Type	RF-1.13/50	料号 P/N	SY113/50-023(Green)
结构图 Structure drawing			

结构特性 Structure characteristics

结构 Structure	项目 Item	标准值 Standard value
①内导体 Inner conductor	材料 Material	镀银铜线 Silverplated copper wire
	组成:总根数/单根外径(mm) Makeup:total / O.D. of every wire(mm)	7/0.08
	(绞合)标称外径(mm) (Intertwist)NOM.O.D.(mm)	0.24±0.02
②绝缘层 Insulation	材料 Material	聚全氟乙丙烯 FEP
	颜色 Color	透明 Clarity
	标称外径(mm) NOM.O.D.(mm)	0.7±0.03
③外导体 Outer conductor	材料 Material	镀锡铜线 Tinned copper wire
	组成:总根数/单根外径(mm) Makeup:total / O.D. of every wire(mm)	4/0.05
	标称外径(mm) NOM.O.D.(mm)	0.92±0.05
	覆盖率(%) Coverage ratio(%)	90±5
④护套层 Jacket	材料 Material	聚全氟乙丙烯 FEP
	颜色 Color	绿Green
	标称外径(mm) NOM.O.D.(mm)	1.13±0.05

电性能特性 Electrical characteristics

项目 Item	标准值 Standard value	项目 Item	频率 Frequency	标准值 Standard value 单位 Unit:dB/m
电容(pF/m) Capacitance(pF/m)	98	衰减 Attenuation	1GHz	≤2.2
速率(%) Velocity(%)	70		2GHz	≤3.1
阻抗(Ω) Impedance(Ω)	50±2		3GHz	≤3.8
驻波比 Standing wave ratio	≤1.3@0~6GHz		4GHz	≤4.4
最大工作电压(V) Max.operating voltage(V)	1000		5GHz	≤4.9
最大工作频率(GHz) Max.operating frequency(GHz)	6		6GHz	≤5.4

可靠性 Dependability

项目 Item	单位 Unit	标准值 Standard value
最小弯曲半径(一次) Min.bending radius static	mm	4
最小弯曲半径(重复) Min.bending radius repeated	mm	—
工作温度范围 Operating temperature	℃	-55~+200

包装 Packing

项目 Item	单位 Unit	标准值 Standard value
包装方式 Packing mode	/	纸盘 Papery plate
每盘长度 The length of each plate	m	500
每盘接头数 Each connector plate number	/	≤3
每段最短长度 The shortest length of each root	m	≥10

使用提示 Use tips

存储环境 Storage environment	温度：30℃以下：湿度：20%~65%
保质期 Quality guarantee period	1年（上锡效果除外）
最佳保存周期 The best save cycle	2个月；2个月以上作业性下降，如上锡效果变差,但电性能不受影响。夏季高温高湿环境开剥后需尽快流转
加工温度 Processing temperature	260℃的极限情况下，可短时间承受；300℃以上分子通常带有的等端基会分解；400℃以上发生显著的热分解
铁氟龙收缩 Teflon Shrink	固有材料特性。绝缘：0.2mm以下；护套：0.3mm以下
护套窜动 Jacket traverse	加工长度（护套残留长度）低于5cm易发生

其他 Other

特殊加工工艺，请与供方协商后使用

型号 Type	RF-1.37/50	料号 P/N	SY137/50-044(Green)
结构图 Structure drawing			

结构特性 Structure characteristics

结构 Structure	项目 Item	标准值 Standard value
①内导体 Inner conductor	材料 Material	镀锡铜线 Tinned copper wire
	组成:总根数/单根外径(mm) Makeup:total / O.D. of every wire(mm)	7/0.102
	(绞合)标称外径(mm) (Intertwist)NOM.O.D.(mm)	0.306±0.02
②绝缘层 Insulation	材料 Material	聚全氟乙丙烯 FEP
	颜色 Color	透明 Clarity
	标称外径(mm) NOM.O.D.(mm)	0.9±0.03
③外导体 Outer conductor	材料 Material	镀锡铜线 Tinned copper wire
	组成:总根数/单根外径(mm) Makeup:total / O.D. of every wire(mm)	5/0.05
	标称外径(mm) NOM.O.D.(mm)	1.13±0.05
	覆盖率(%) Coverage ratio(%)	90±5
④护套层 Jacket	材料 Material	聚全氟乙丙烯 FEP
	颜色 Color	绿 Green
	标称外径(mm) NOM.O.D.(mm)	1.37±0.05

电性能特性 Electrical characteristics

项目 Item	标准值 Standard value	项目 Item	频率 Frequency	标准值 Standard value 单位 Unit:dB/m
电容(pF/m) Capacitance(pF/m)	96	衰减 Attenuation	1GHz	≤1.82
速率(%) Velocity(%)	70		2GHz	≤2.67
阻抗(Ω) Impedance(Ω)	50±2		3GHz	≤3.21
驻波比 Standing wave ratio	≤1.3@0~6GHz		4GHz	≤3.74
最大工作电压(V) Max.operating voltage(V)	1000		5GHz	≤4.27
最大工作频率(GHz) Max.operating frequency(GHz)	6		6GHz	≤4.80

可靠性 Dependability

项目 Item	单位 Unit	标准值 Standard value
最小弯曲半径(一次) Min.bending radius static	mm	5
最小弯曲半径(重复) Min.bending radius repeated	mm	—
工作温度范围 Operating temperature	℃	-55~+150

包装 Packing

项目 Item	单位 Unit	标准值 Standard value
包装方式 Packing mode	/	纸盘 Papery plate
每盘长度 The length of each plate	m	500
每盘接头数 Each connector plate number	/	≤3
每段最短长度 The shortest length of each root	m	≥10

使用提示 Use tips

存储环境 Storage environment	温度：30℃以下；湿度：20%~65%
最佳保存周期 The best save cycle	2个月；2个月以上作业性下降，如上锡效果变差,但电性能不受影响。夏季高温高湿环境开剥后需尽快流转
加工温度 Processing temperature	260℃的极限情况下，可短时间承受；300℃以上分子通常带有的等端基会分解；400℃以上发生显著的热分解
铁氟龙收缩 Teflon Shrink	固有材料特性。绝缘：0.2mm以下；护套：0.3mm以下
护套窜动 Jacket traverse	加工长度（护套残留长度）低于5cm易发生

其他 Other

特殊加工工艺，请与供方协商后使用

Micro RF Coax Connector

MHF® Series

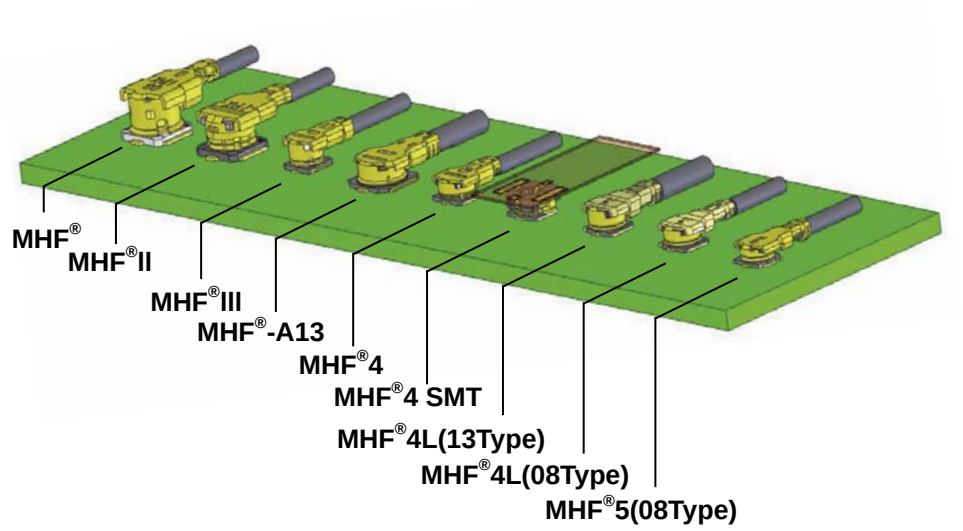
IEEE802.11a/b/g/n, WiMAX,
Bluetooth, ZigBee and
MIMO (Multiple input and multiple output)

RoHS Compliance

Halogen - Free*1

DAI-ICHI SEIKO CO.,LTD.
I-PEX Business Company

MHF® Series　Micro RF coax connector



【Major Application】

Wireless LAN Antenna

- Mobile Phone
- Smart Phone
- Note Book PC
- Gaming Device
- Access Point

【Key Features 】

- SMT Receptacle and Cable plug Connector
- Super low profile : 1.2mm to 2.5mm MAX. Mating profile
- Applicable Cable :
  φ0.64mm / 0.81mm / 0.95mm / 1.13mm / 1.32mm / 1.37mm and 1.80mm Coaxial Cable
- High productivity and stable performance
- Solderless and easy cable termination by " i-Fit®" technology
- Applicable Technology :
  IEEE802.11 a/b/g/n, WiMAX, Zigbee, Bluetooth, MIMO, WiGig, M.2(MHF®4L) etc.

【Specifications】

- Frequency Range : DC to 6GHz (V.S.W.R. : 1.3MAX at 0.1~3GHz, 1.45MAX at 3~6GHz)
- Characteristic Impedance : 50 ohm (Nominal)
- Temperature : -40℃ to +90℃
- Rated Voltage : AC 60V
- Contact Resistance : 20m ohm MAX. (Signal) and 20m ohm MAX. (Ground)
- Withstand Voltage : AC 200V
- Insulation Resistance : 500M ohm MIN. / DC 100V

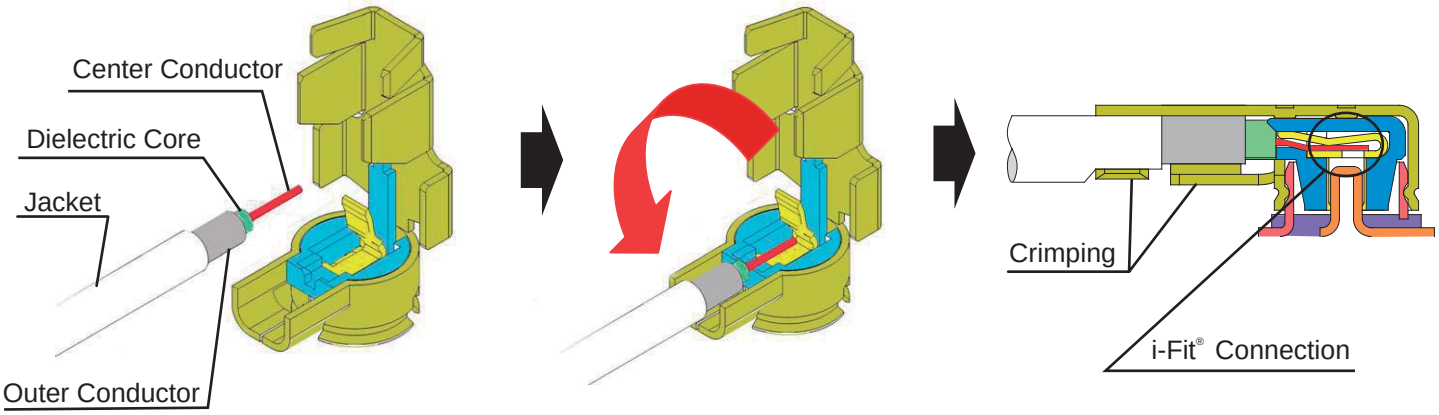
＊1･････ [Halogen-Free]

Definition of Halogen-free : IEC 61249-2-21

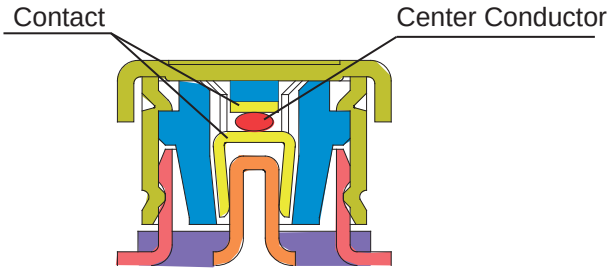
- Bromine < 900ppm
- Chlorine < 900ppm
- Bromine + Chlorine < 1,500ppm

【i-Fit® Termination mechanism】

i-Fit® : One action, instant termination without soldering process.
Stable electric performance by special assembling machine.

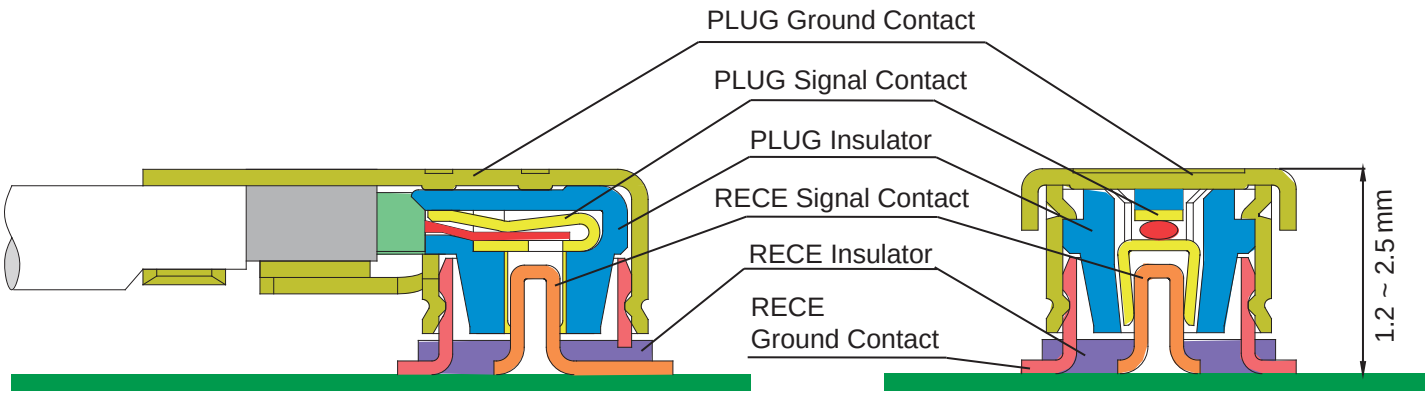


i-Fit® PATENT NO.
U.S.A. PAT.6,790,082
JAPAN PAT.4148339

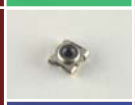
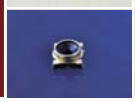


i-Fit® Cross-section

【Product Mechanism】



MHF® Series product overview

Type	Photo	Product Name	Plug Prefix P/N	Rece Prefix P/N	Applicable cable gauge									Mating Height Max. (mm)
					AWG 30 φ1.80	AWG 30 φ1.37	AWG 32 φ1.32	AWG 32 φ1.13	AWG 33 φ0.95	AWG 36 φ0.81	AWG 36 φ0.64	AWG 38 φ0.48	FPC	
RF coaxial connector		MHF®	20278-1*2R-**	20279-001E-** 20441-001E-01	●		●	●		●				2.5
		MHF®	20351-1*2R-37	20279-001E-** 20441-001E-01		●								2.5
		MHF® (Ag plating)	20308-1*2R-**	20314-001E-01			●	●						2.5
		MHF® II	20311-011R-**	20279-001E-** 20441-001E-01					●	●	●			2.1
		MHF® II (Ag plating)	20312-011R-**	20314-001E-01					●	●				2.1
		MHF® III	20367-001R	20369-001E						●	●			1.6
		MHF®-A13	20428-001R	20429-001E				●						1.45
		MHF® 4	20448-001R-081	20449-001E-** 20579-001E						●				1.2
		MHF® 4 SMT	20462-001E	20449-001E-** 20579-001E									●	1.2
		MHF® 4L	20565-001R-13	20449-001E-** 20579-001E				●	●					1.4
		MHF® 4L	20572-001R-08	20449-001E-** 20579-001E						●	●			1.2
		MHF® 5	20567-001R-81 20615-001R-48	20566-001E-01						●	●			1.0
RF switch		MHF®-SW18	20608-001E***		-	-	-	-	-	-	-	-	-	0.85 (Max. height)
		MHF®-SW23	20549-001E(-01)		-	-	-	-	-	-	-	-	-	1.35 (Max. height)

MHF® 4L Plug Cable Assembly

Mating profile : 1.40mm MAX. for AWG32 (O.D. 1.13mm) Cable
1.40mm MAX. for AWG33 (O.D. 0.95mm) Cable
1.20mm MAX. for AWG36 (O.D. 0.81mm / O.D. 0.64mm) Cable

【Part Number】

O.D. 1.13mm / 0.95mm type

20565 - 001 R - 13

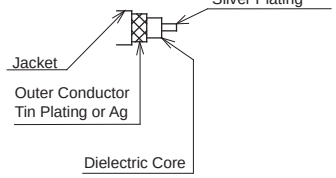
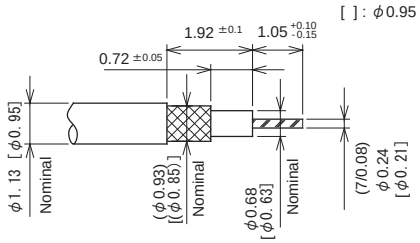
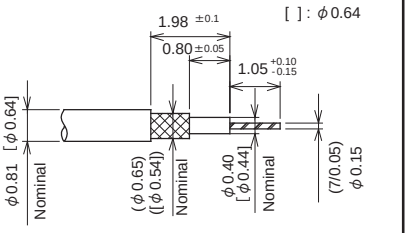
Packing : Reel
1 reel : 2,000pcs

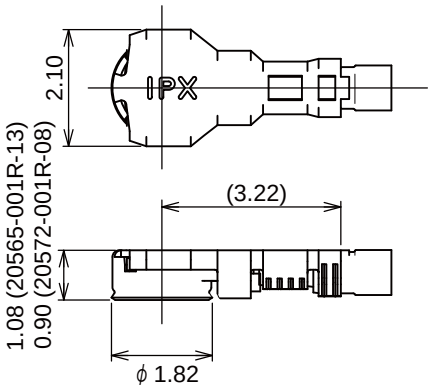
O.D. 0.81mm / 0.64mm type

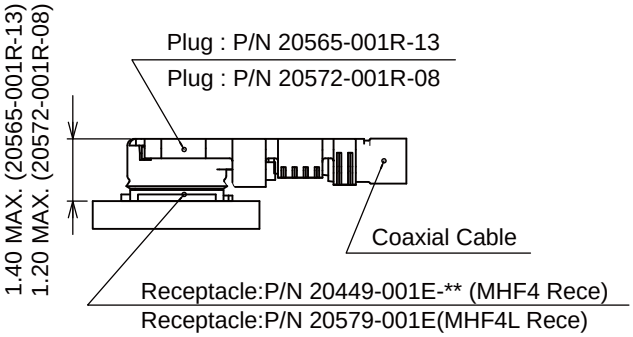
20572 - 001 R - 08

Packing : Reel
1 reel : 2,000pcs

【Applicable Cable gauge】

Part No. (O.D. 1.13mm 0.95mm)	20565-001R-13	-
Part No. (O.D. 0.81mm 0.64mm)	-	20572-001R-08
	for AWG#32 [AWG#33]	for AWG#36
Applicable Cable Nominal Dimension 		
Coaxial Cable	Single Braided Shield	Single Braided Shield [Spiral Shield]





MATED VIEW

【Material and Finish】

Parts	Material	Plating / Color
HOUSING	PBT UL94V-0	BLACK
CONTACT	COPPER ALLOY	Au
GROUND CONTACT	COPPER ALLOY	Partial Au