

Datasheet _ MG215M

Products (Part number)

- MG215M Receptacle (MG215MRE02)
- MG215M Plug to MG215M plug cable assembly 300mm (MGC15203)
- MG215M Plug to MG215M plug cable assembly 400mm (MGC15204)
- MG215M Plug to MS15A plugs cable assembly 75mm (MGC15205)

Accessory (Part number)

- MG215M Plug to SMA(Female) cable assembly 400mm (TRA2P01)
- MG215M Test board (TPA2PA3)
- Tweezer for mating and un-mating (GJSZZA7)





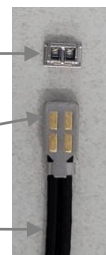
1. MG215M Products

1.1. Receptacle (P/N : MG215MRE02)

1.2. Plug to plug cable assembly (P/N : MGC152XX)

1.2.1. Plug for cable (P/N : MG215PL03)

1.2.2. Raw cable (P/N : FXPL30D1)



Made by its length and customer

2. Electrical & Mechanical Specification

2.1 Raw Cable (P/N : FXPL30D1)

Layers		Material	Thickness
1	Center Conductor	Silver Plated Copper [Solid]	0.25 [mm] / 0.01 [inch]
2	Dielectric	LDPFA [Extruded]	-
3	Outer Conductor	Silver plated copper wire /Copper tape	
4	Jacket	FEP	1.1 [mm] / 0.04 [inch]

Characteristic Impedance	Typ. 50 Ω
Operating Frequency	DC to 15 GHz
Temperature	-40 °C ~ +85 °C
Velocity of Propagation	78% nominal
Minimum Bend Radius	5 mm / 0.197 inch

Insertion Loss		[25°C, at Sea Level]
Frequency	[dB/10cm]	[dB/FT]
5 GHz	- 0.33	- 1.01
10 GHz	- 0.47	- 1.43
15 GHz	- 0.62	- 1.89



2.2 MGC15203(300mm cable assembly) with MG215MRE02(receptacle) mated at both ends

2.2.1 Electrical Performance

Specification	Frequency	Performance
Return Loss (Max.)	DC ~ 15GHz	-15dB
Insertion Loss (Typ.)	DC ~ 15GHz	-1.8dB
Crosstalk (Typ.)	DC ~ 15GHz	-50dB

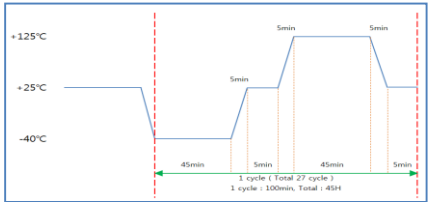
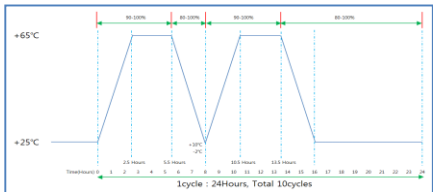
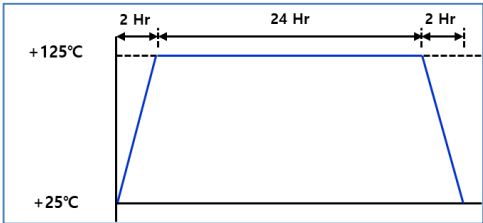
2.2.2 Mechanical performance

Mating & Un-mating Force	1. Mating & Un-mating Force after test. - Mating : 30N•m Max. - Un-mating :5N•m Min.	EIA-364-13 1. Test Equipment : Universal Testing Machine 2. Test Method : Receptacle(Connector) & Plug Cable Mating & Un-mating. - Speed : 25±3mm/min - Measure : After 20 times
Durability	1. Mating & Un-mating Force after test. - Mating : 30N•m Max. - Un-mating : 3N•m Min.	EIA-364-09 1. Test Equipment : Universal Testing Machine 2. Test Method : Receptacle(Connector) & Plug Cable Mating & Un-mating. - Speed : 25±3mm/min - Measure : After 20 times Min
Cable Retention Force	1. No disconnection (0.1s Max) 2. No mechanical deformation or damage.	1. Test Equipment : Push-Pull Gauge Power Supply 2. Test Method : 100mA DC power supply at insertion state. - Measure : at 0degree 10N•m



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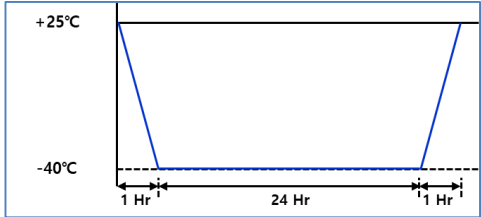
2.2.3 Environmental Performance

Thermal Shock	1. Satisfy the electrical characteristics. 2. No mechanical deformation or damage.	UL 83 & UL 12771. 1. Test Equipment : Thermal Shock Chamber 2. Test Method : $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ - 1 cycle : -40°C (45 min) $\rightarrow 25^{\circ}\text{C}$ (5 min) $\rightarrow 125^{\circ}\text{C}$ (45 min) $\rightarrow 25^{\circ}\text{C}$ (5min) - Total 27cycles (45hours) - Measure : After leaving at room temperature for 1hour 
Moisture Resistance	1. Satisfy the electrical characteristics. 2. No mechanical deformation or damage.	MIL-STD-202G Method 10 1. Test Equipment : Temperature & Humidity Chamber 2. Test Method : $+25^{\circ}\text{C} \sim +65^{\circ}\text{C}$ / 80% ~ 100% RH - Total 10 cycles (1 cycle : 24 hours) - Measure : After removing moisture and leaving it at room temperature for 1 hour. 
High Temperature	1. Satisfy the electrical characteristics. 2. No mechanical deformation or damage.	1. Test Equipment : Temperature & Humidity Chamber 2. Test Method : $+125^{\circ}\text{C}$, 24 hours - Measure : After leaving at room temperature for 1 hour 



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2.2.3 Environmental Performance

Low Temperature	1. Satisfy the electrical characteristics. 2. No mechanical deformation or damage.	1. Test Equipment : Temperature & Humidity Chamber 2. Test Method : -40 °C, 24 hours - Measure : After leaving at room temperature for 1 hour 
Vibration	1. No disconnection (0.1s Max) 2. No mechanical deformation or damage.	MIL-STD-202G Method 204, Condition A 1. Test Equipment : Vibration Testing Machine, Power Supply 2. Test Method : 100mA DC power supply at insertion state. - Frequency : 10-50-10Hz/min - Amplitude, acceleration : 0.76 ~ 1.52mm/S2 (6G) - Test Time : 2 hours for each X, Y, Z axis (Total 6 hours)
Salt Spray (Corrosion)	1. No corrosion, red rust, defect	1. Test Equipment : Salt Spray Chamber 2. Test Method : - Salinity : NaCl 5% Spray - Chamber Temperature : 35°C - Test Time : 72 Hours - Remove all salt water with water, dry it for 12 hours and check.

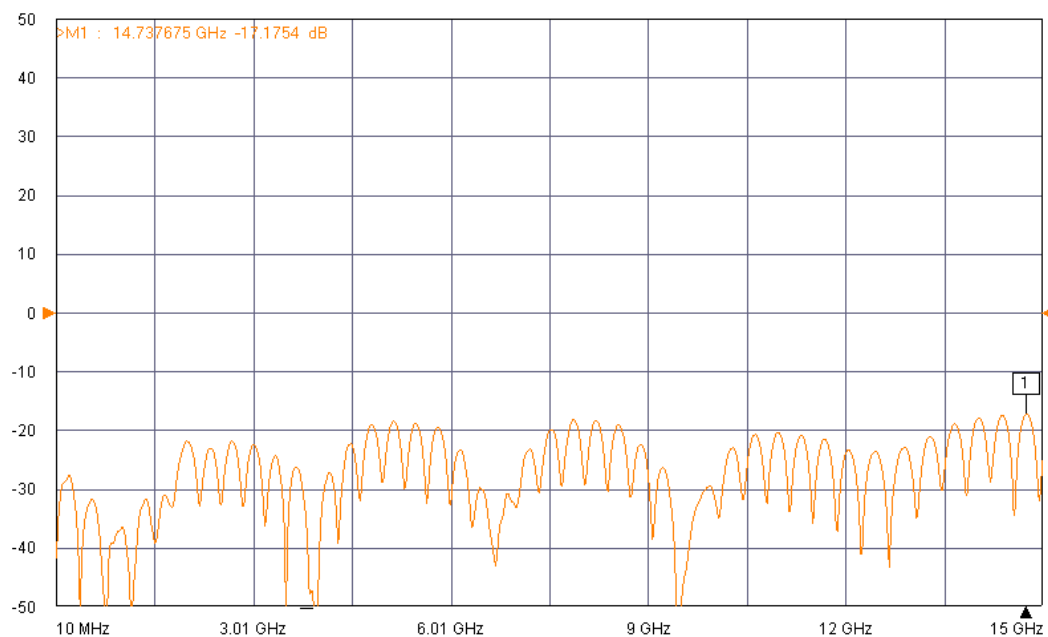


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2.3 RF Test data

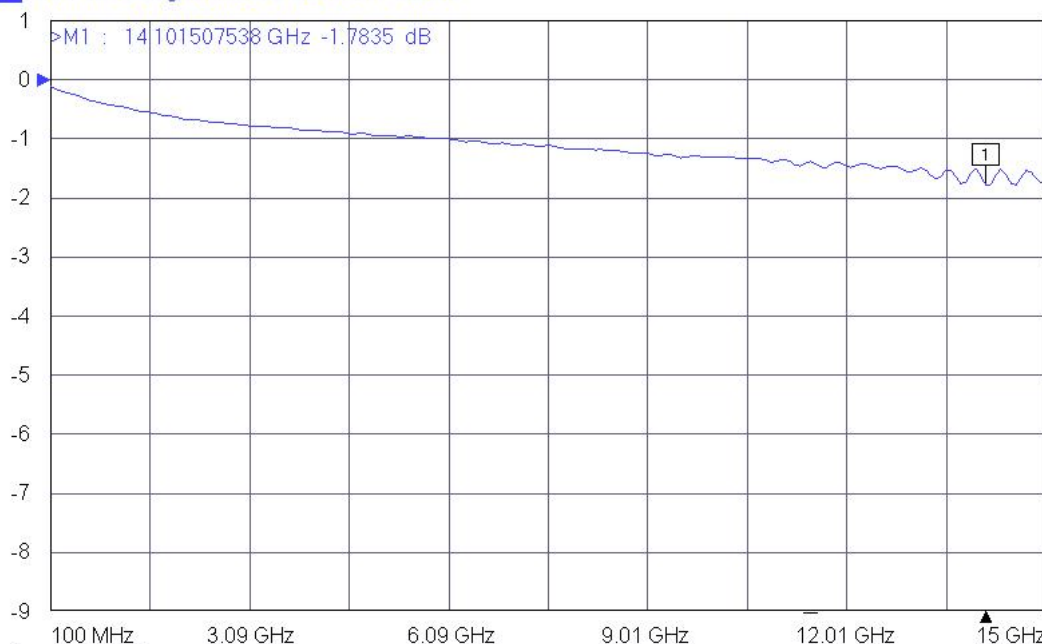
2.3.1. Return loss

Tr1 S11 Refl LogM RefLvl: 0 dB Res: 10 dB/Div



2.3.2. Insertion loss

Tr3 S21 Trans LogM RefLvl: 0 dB Res: 1 dB/Div

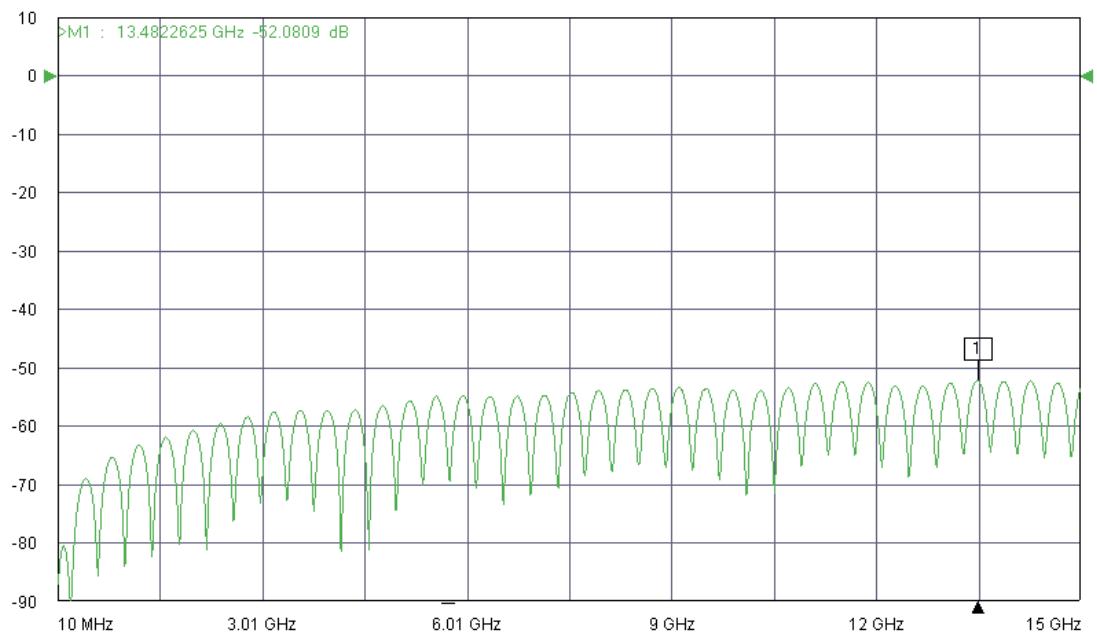




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2.3.3. Cross talk

Tr2 S12 Trans LogM RefLvl: 0 dB Res: 10 dB/Div

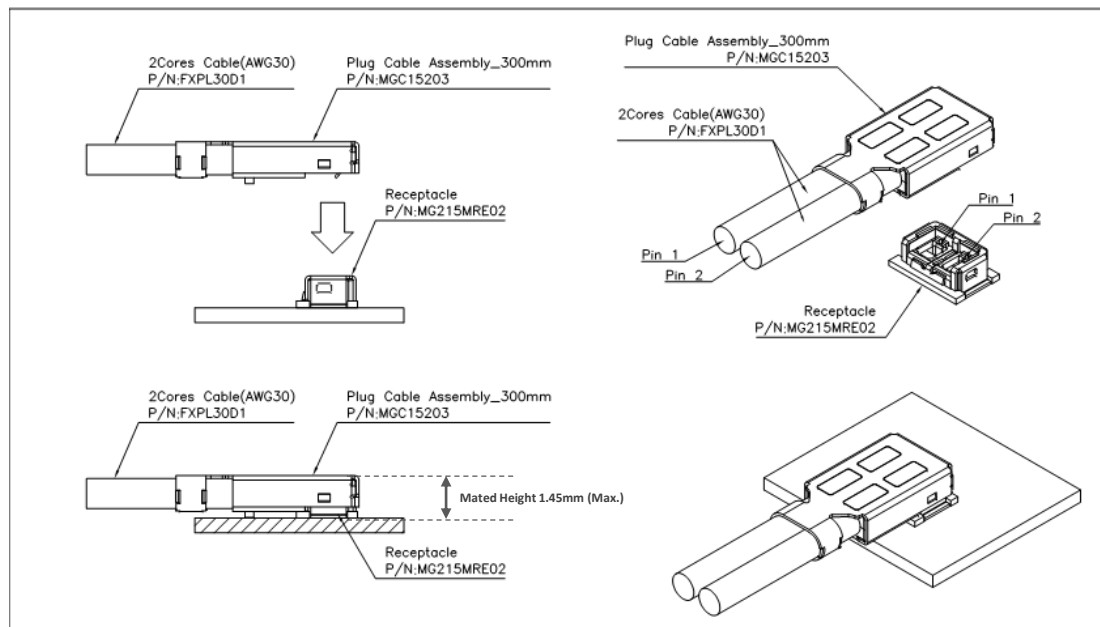




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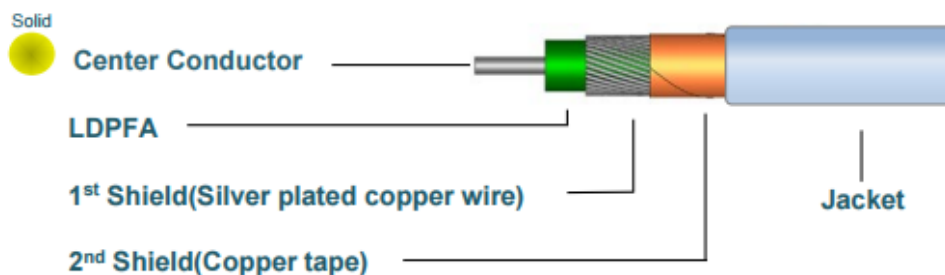
3. Structure Figure

3.1. Plug and receptacle



- Plug can be provided as being assembled with cable

3.2. Outer Diameter 1.1mm cable (P/N : FXPL30D1)



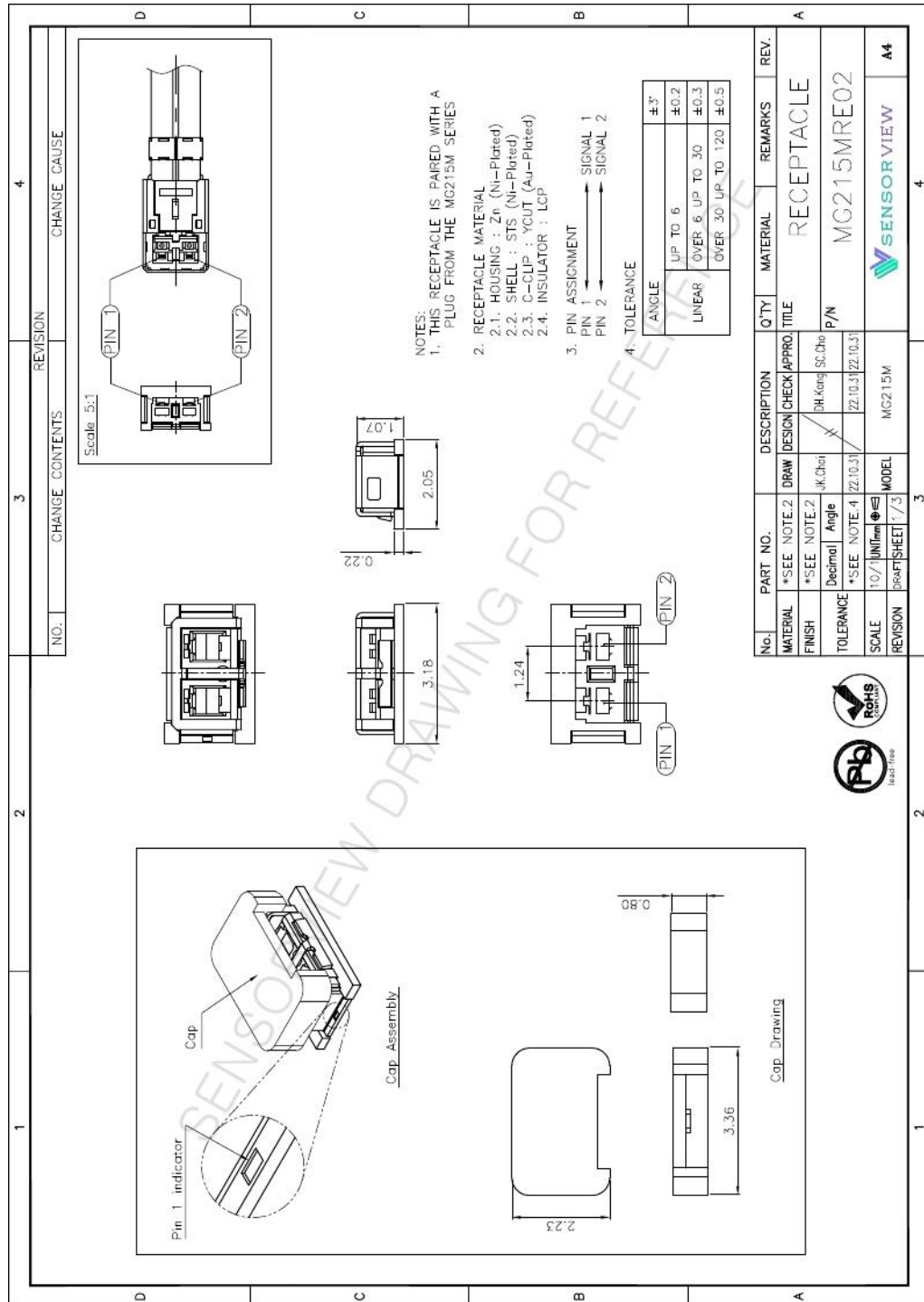


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4. Drawing

4.1. MG215M Receptacle (P/N : MG215MRE02) _ 1/3





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4.1. MG215M Receptacle (P/N : MG215MRE02) _ 2/3

No.	Parameter	Unit	Specification
1	Item		MG215M Receptacle
2	Applicable country		Korea
3	Environmental Conditions		Indoor
4	Operating frequency range	GHz	DC ~ 15
5	Connector type		Vertical type
6	Weight (Ass'y)	g	about 0.02
7	Impedance	Ω	50 (Typ.)
8	Insertion Loss	dB	See MG215M Plug Cable Assembly Specification
9	Return Loss	dB	-15.0dB (Max.)
10	Crosstalk	dB	< With MG215M Plug Cable Assembly >
11	Contact Resistance	mΩ	-50 (Typ.)
12	Insulation Resistance	MΩ	Center / Outer 40 (Max.)
13	Dielectric voltage-withstand	V	< With MG215M Plug Cable Assembly >
14	Rated Voltage	Vrms	AC / 60 sec / 5mA
15	Durability	Cycle	85
16	Mating Force	N·m	< With MG215M Plug Cable Assembly >
17	De-Mating Force	N·m	20 (Max.)
18	Operating Temperature	℃	30 (Max.)
19	Storage Temperature	℃	5 (Min.), After Test : 3 (Min.)
20	Salt Spray (Corrosion)		-40 ~ 85
21	Thermal Shock		-40 ~ 110
22	High/Low Temperature		MIL-STD-202G, Method 101, Condition B
23	Vibration		MIL-STD-202G, Method 107, Condition B1
24	Moisture Resistance		EIA-364-17
			MIL-STD-202G, Method 204, Condition A
			MIL-STD-202G, Method 106

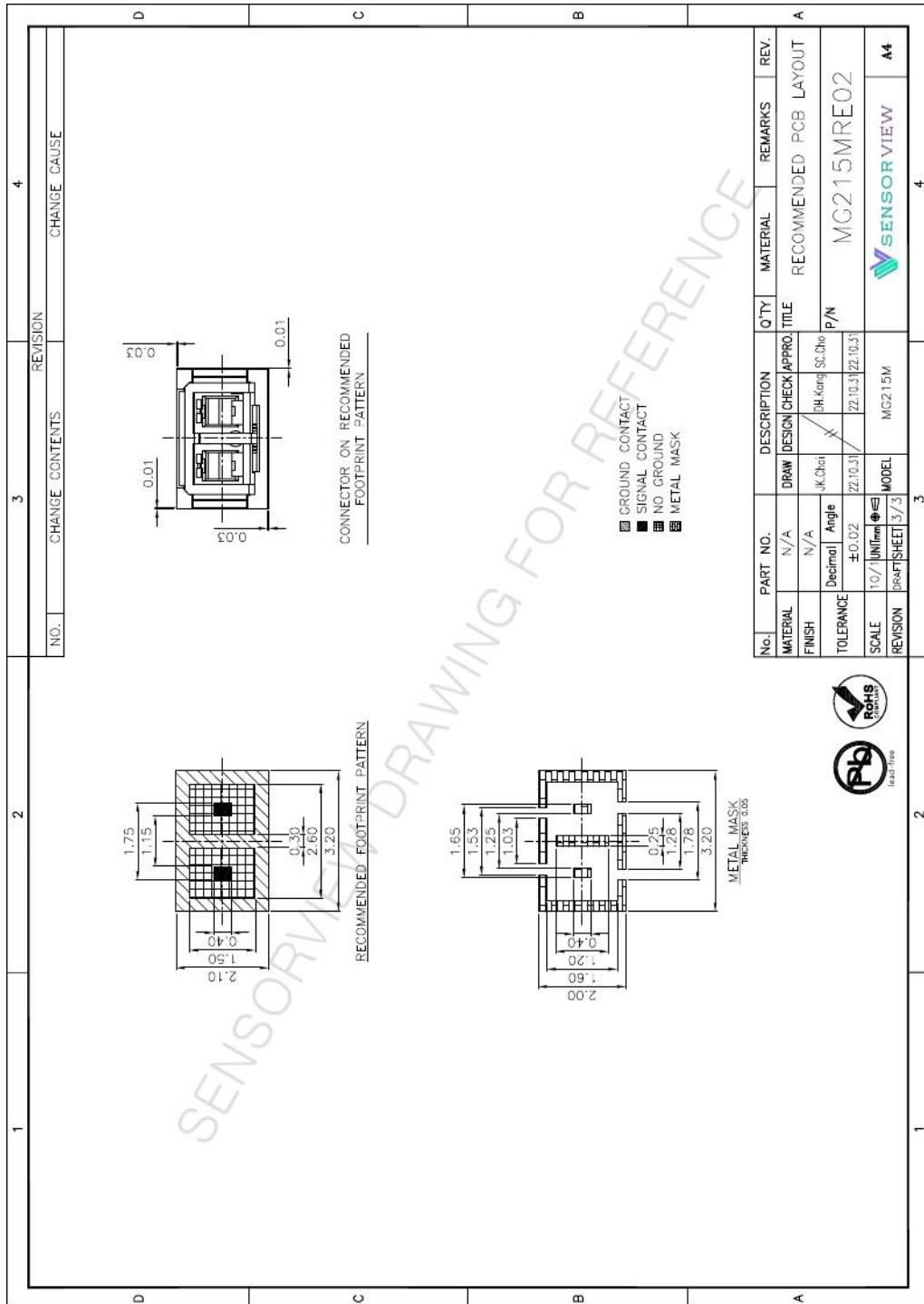
No.	PART NO.	DESCRIPTION	QTY	MATERIAL	REMARKS	REV.
MATERIAL	N/A	DRAW	DESIGN CHECK APPRO.	RECEPTACLE SPECIFICATION		
FINISH	N/A	Angle	J.K. Choi	P/N		
TOLERANCE	N/A	Decimal	22.10.31	MG215MRE02		
SCALE	10 / UNIT	UNIT	22.10.31	MG215M		
REVISION	DRAFT SHEET 2/3	MODEL	MG215M	SENSORVIEW		
				A4		



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4.1. MG215M Receptacle (P/N : MG215MRE02) _ 3/3



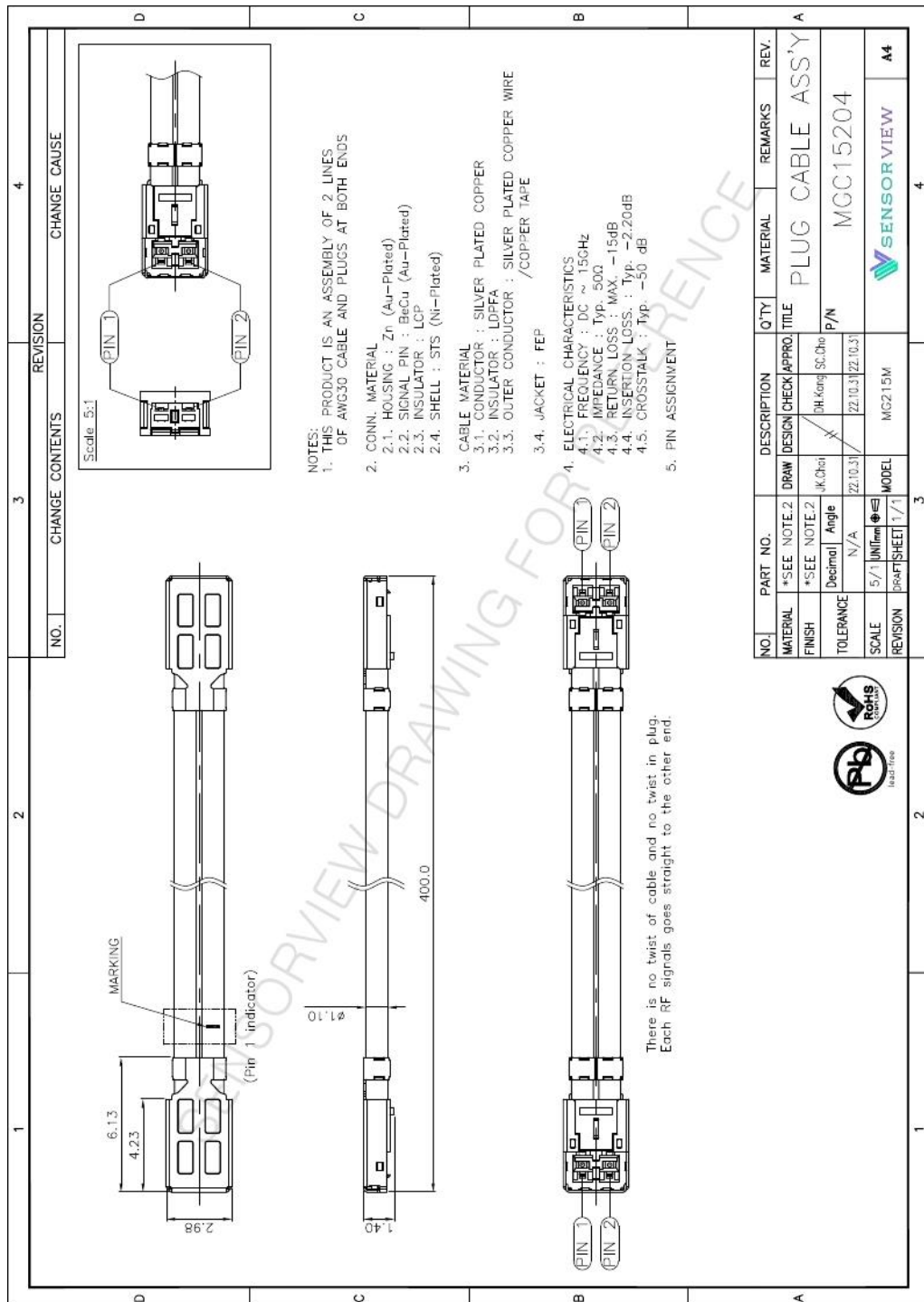


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Length of cable can be modified by request

4.3. MG215M Plug to MG215M plug cable assembly 400mm (P/N : MGC15204)



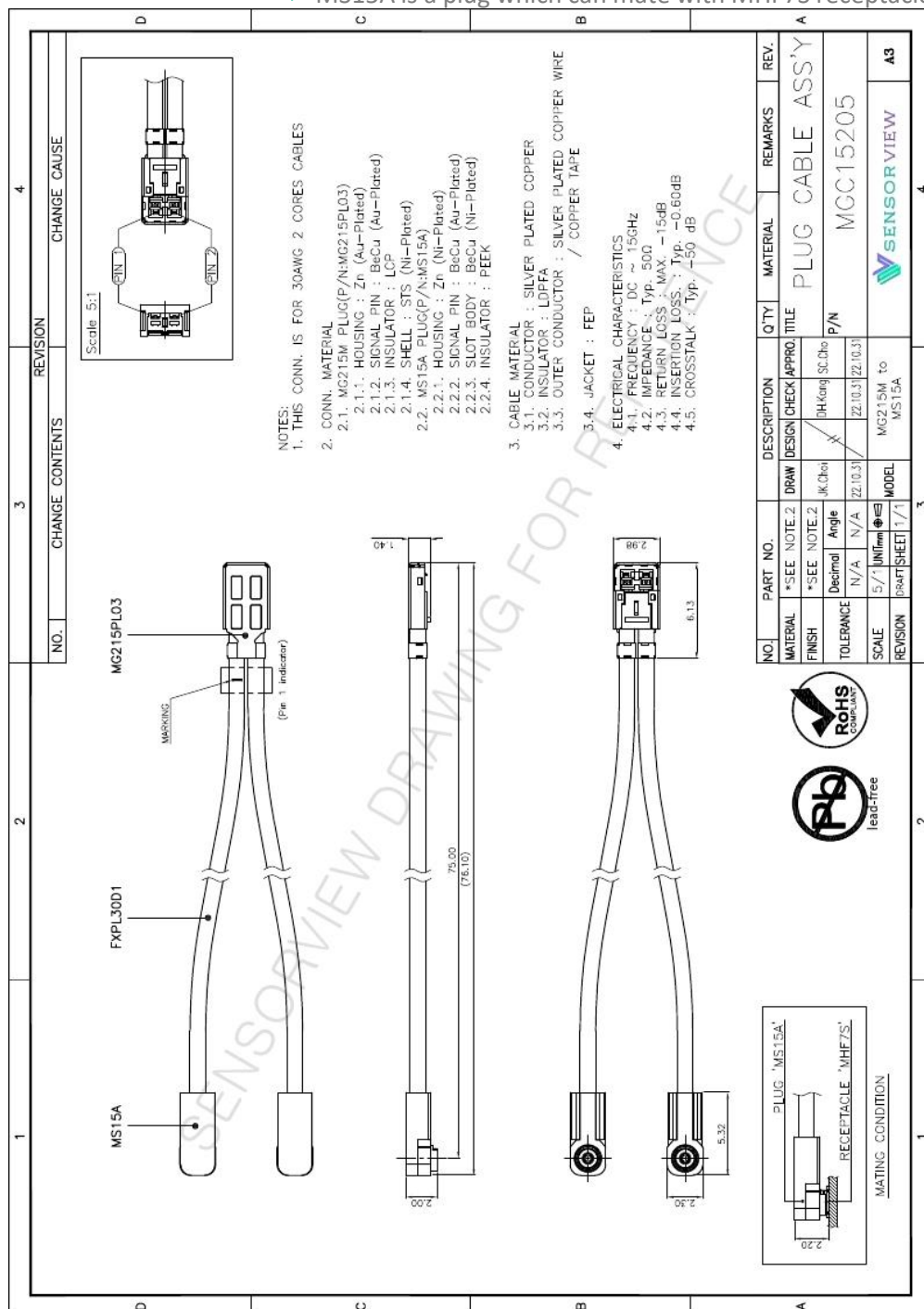


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4.4. MG215M Plug to MS15A plugs cable assembly 75mm (P/N : MGC15205)

MS15A is a plug which can mate with MHF7S receptacle



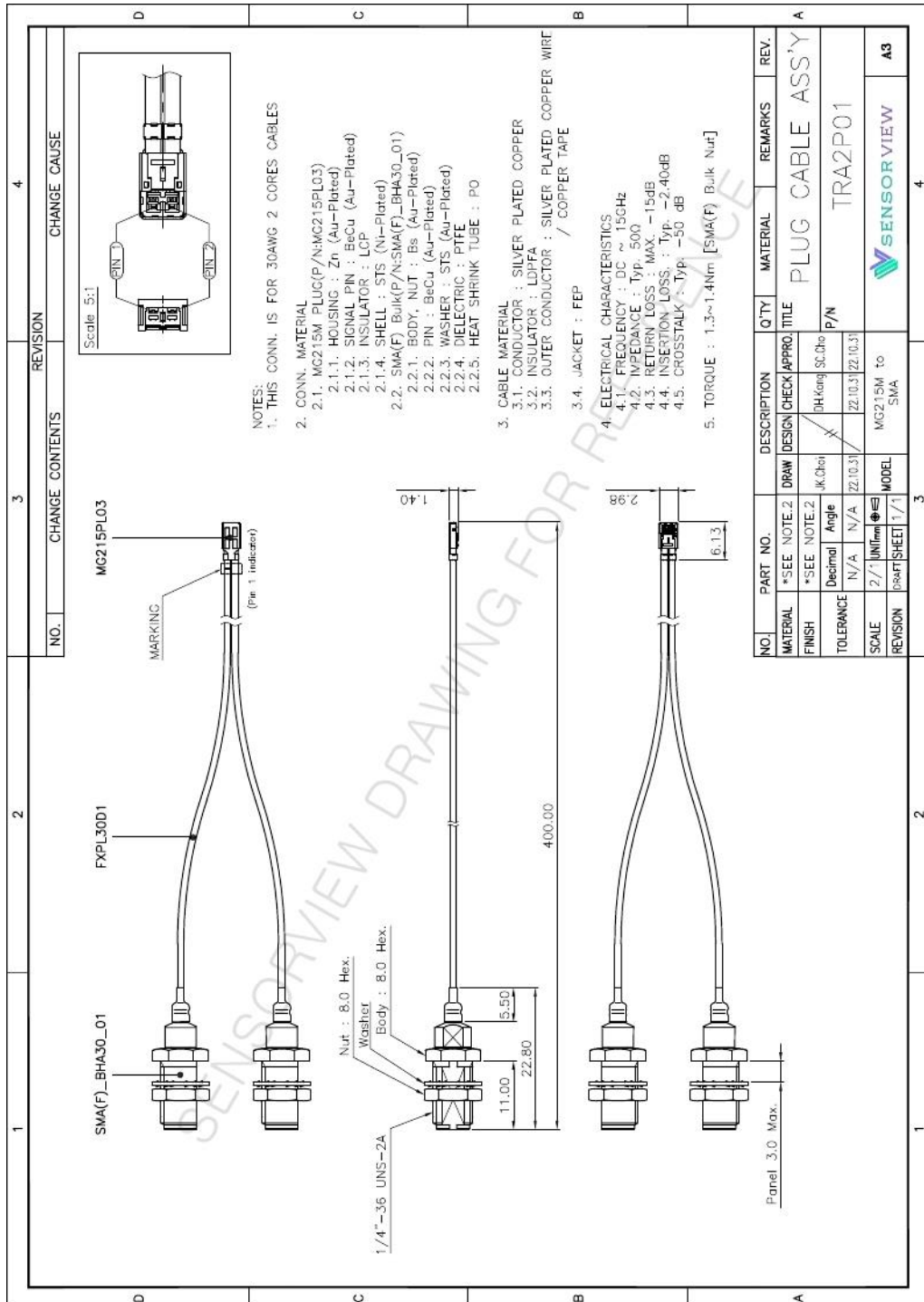


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Length of cable can be modified by request

4.5. MG215M Plug to SMA(Female) cable assembly 400mm (P/N : TRA2P01)

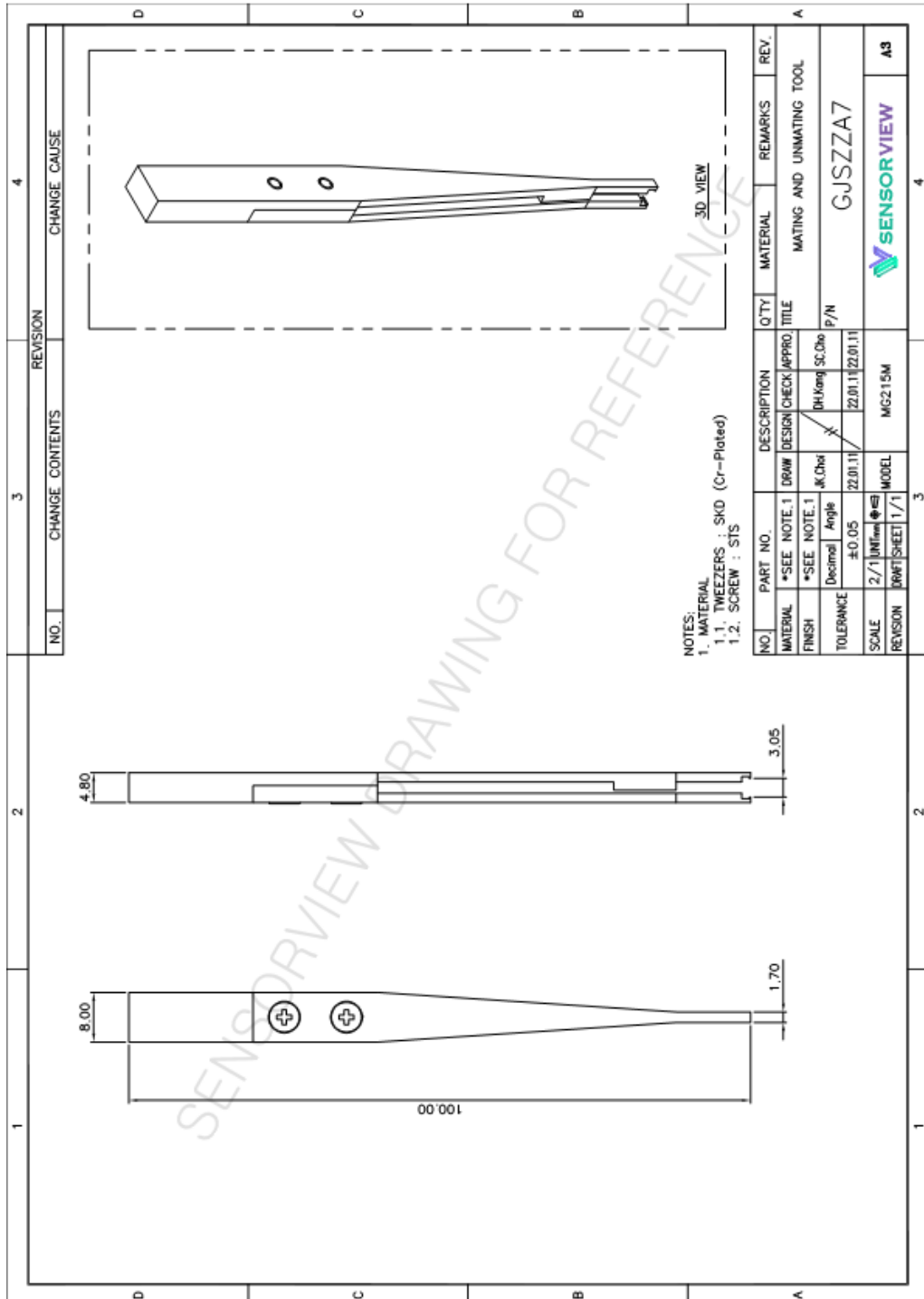




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4.7. Tweezer for mating and unmating (GJSZZA7)

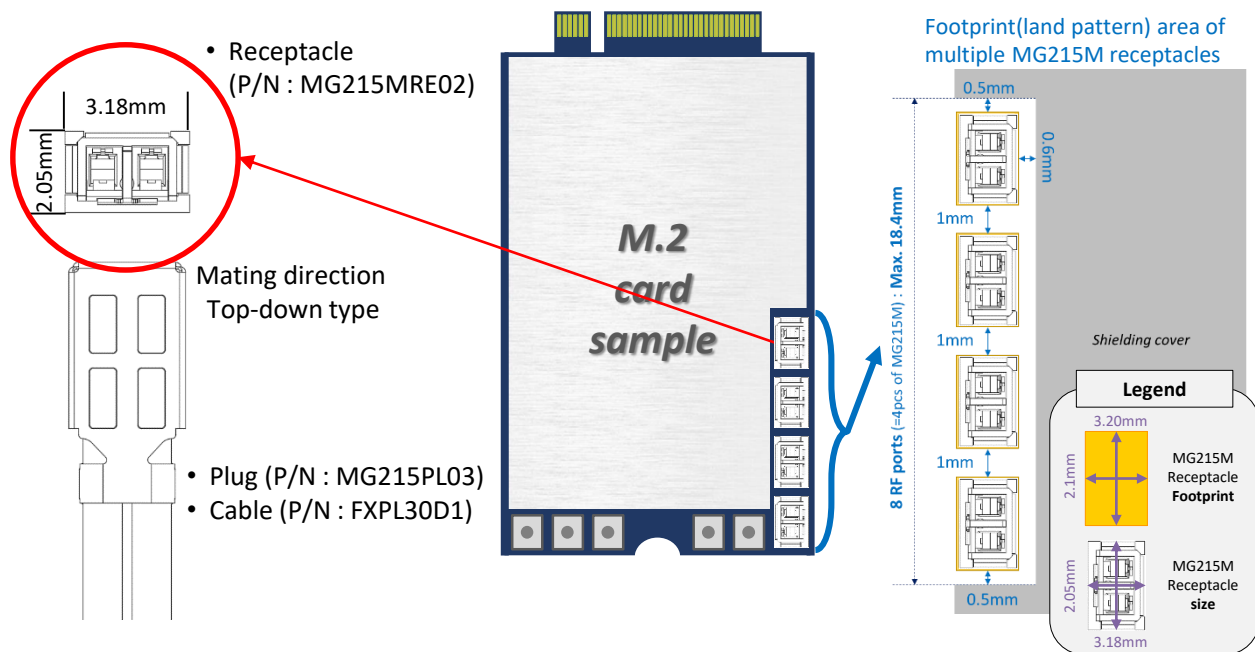




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5. Use case _ Main application of MG215M

- RF or IF(Intermediate frequency) transmission in between M.2 card and RF/Antenna module



6. Product package

Receptacle
(MPN : MG215MRE02)



[Packaged In a tape and reel]

Cable assembly
(MPN : MGC152XX)



[Packaged In ESD bag and carton]