



SIM8262A-M2

5G Module

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4.1.1 3G/4G/5G Operating Frequency

Table 1: The module operating frequency

Frequency bands	Uplink (UL)	Downlink (DL)	Antenna Gain (dBi)
WCDMA B2	1852.4~1907.6MHz	1932.4~1987.6MHz	0.98
WCDMA B4	1712.4~1752.6MHz	925~960MHz	1.25
WCDMA B5	824~849MHz	869~894MHz	1.58
LTE B2	1850~1910MHz	1930~1990MHz	1.35
LTE B4	1710~1785 MHz	1805~1880MHz	1.25
LTE B5	824~849 MHz	869~894MHz	1.58
LTE B7	2500~2570MHz	2620~2690MHz	1.15
LTE B8	880~915MHz	925~960MHz	2.15
LTE B12	698~716MHz	728~746MHz	0.73
LTE B13	777~787MHz	746~756MHz	1.01
LTE B14	788~798MHz	758~768MHz	1.32
LTE B17	704~716MHz	734~746MHz	1.15
LTE B18	815~830MHz	860~875MHz	1.48
LTE B19	830~845MHz	875~890MHz	1.63
LTE B20	832~862MHz	791~821MHz	1.63
LTE B25	1850~1915MHz	1930~1995MHz	0.83
LTE B26	814~849MHz	859~894MHz	1.48
LTE B29	/	717~728MHz	
LTE B30	2305~2315MHz	2350~2360MHz	1.25
LTE B34	2010~2025MHz	2010~2025MHz	1.55
LTE B38	2570~2620MHz	2570~2620MHz	1.01
LTE B39	1880~1920MHz	1880~1920MHz	1.32
LTE B40	2300~2400MHz	2300~2400MHz	1.45
LTE B41	2496~2690MHz	2496~2690MHz	1.13
LTE B42	3400~3600MHz	3400~3600MHz	1.44
LTE B43	3600~3800MHz	3600~3800MHz	1.12
LTE B46	/	5150~5925MHz	2.23
LTE B48	3550~3700MHz	3550~3700MHz	1.13
LTE B66	1710~1780MHz	2110~2180MHz	1.25
LTE B71	663~698MHz	617~652MHz	0.74
5G n2	1850~1910MHz	1930~1990MHz	1.35
5G n5	824~849 MHz	869~894MHz	1.58
5G n7	2500~2570MHz	2620~2690MHz	1.15
5G n8	880~915MHz	925~960MHz	2.15
5G n12	699~716MHz	729~746MHz	0.73

5G n13	777~787MHz	746~756MHz	1.01
5G n14	788~798MHz	758~768MHz	1.32
5G n25	1850~1915MHz	1930~1995MHz	0.83
5G n26	814~849MHz	859~894MHz	1.48
5G n30	2305~2315MHz	2350~2360MHz	1.25
5G n38	2570~2620MHz	2570~2620MHz	1.01
5G n40	2300~2400MHz	2300~2400MHz	1.45
5G n41	2496~2690MHz	2496~2690MHz	1.13
5G n48	3550~3700MHz	3550~3700MHz	1.13
5G n66	1710~1780MHz	2110~2180MHz	1.25
5G n71	663~698MHz	617~652MHz	0.74
5G n77	3300~4200MHz	3300~4200MHz	1.44
5G n78	3300~3800MHz	3300~3800MHz	1.12
5G n79	4400~5000MHz	4400~5000MHz	1.68

4.2 Antenna Installation

4.2.1 Antenna Requirements

The following table shows the requirements on 3G/4G/5G antennas and GNSS antenna.

Table 2: 3G/4G/5G/GNSS antennas

Parameter	Requirement
Operating Frequency	See Table 42 for each antenna
Direction	Omni Directional
Gain	> -3dBi (Avg)
Impedance	50 Ω
Efficiency	> 50 %
Max. Input Power	50W
VSWR	< 2
Isolation	20dB is preferred
Cable Insertion Loss <1GHz	<1dB
Cable Insertion Loss 1GHz~2.2GHz	<1.5dB
Cable Insertion Loss 2.3GHz~2.7GHz	<2dB
Cable Insertion Loss 3.3GHz~6GHz	<2.5dB

Table 3: GNSS antenna (for dedicated GNSS antenna only)*

Parameter	Requirement
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Operating Frequency	L1: 1559~1609MHZ L5: 1166~1187MHz
Direction	Hemisphere, face to sky
Antenna Gain	> 2 dB _{ic}
Impedance	50 Ω
Efficiency	> 50 %
Max. Input Power	50W
VSWR	< 2
Polarization	RHCP or Linear
Noise Figure for Active Antenna	< 1.5
Total Gain for Active Antenna	< 17 dB
Cable Insertion Loss	<1.5dB

NOTE

“*” means these recommendations are for dedicated GNSS antenna which the application need best of class GNSS tracking performance.

4.2.2 RF Plug Recommendation

SIM8262A-M2 is mounted with I-PEX's receptacle RF connectors 20449-001E-03, which size is 2.0mm*2.0mm*0.6mm. The connector dimensions are shown as below.

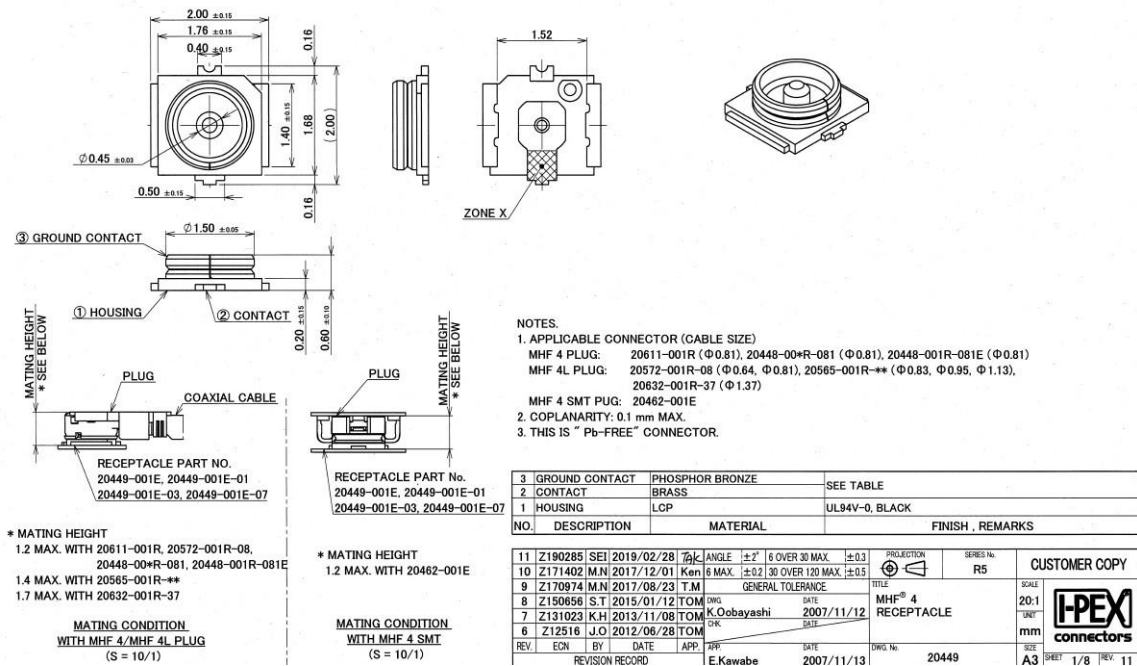


Figure 1: 3D view of 20449-001E-03

The following table shows the RF connector's electrical specifications.

Table 4: Electrical Specifications of 20449-001E-03

Item	Specification
Voltage Rating	60V r.m.s. maximum
Nominal Frequency Range	DC to 6GHz
Nominal Impedance	50Ω
Temperature Rating	-40°C to +90°C
Insulation Resistance	500 MΩ minimum
Withstanding Voltage	No evidence of breakdown
Initial Contact Resistance (without conductor resistance)	Center contact 20.0mΩmax. Outer contact 20.0mΩmax.
Voltage Standing Wave Ratio (V.S.W.R.)	Meet the requirements of 1.3max.(DC~3GHz) 1.45max.(3GHz~6GHz)

To get best RF performance, the RF plug connector should be designed to match the receptacle 20449-001E-03, and the parts come from I-PEX is the recommended.

The following is the mechanical information of the Murata's RF coaxial cable MXHJD3HJ1000 for reference.

For further technical support, the customer could visit the Murata's website (www.murata.com) or contact the local sales team.

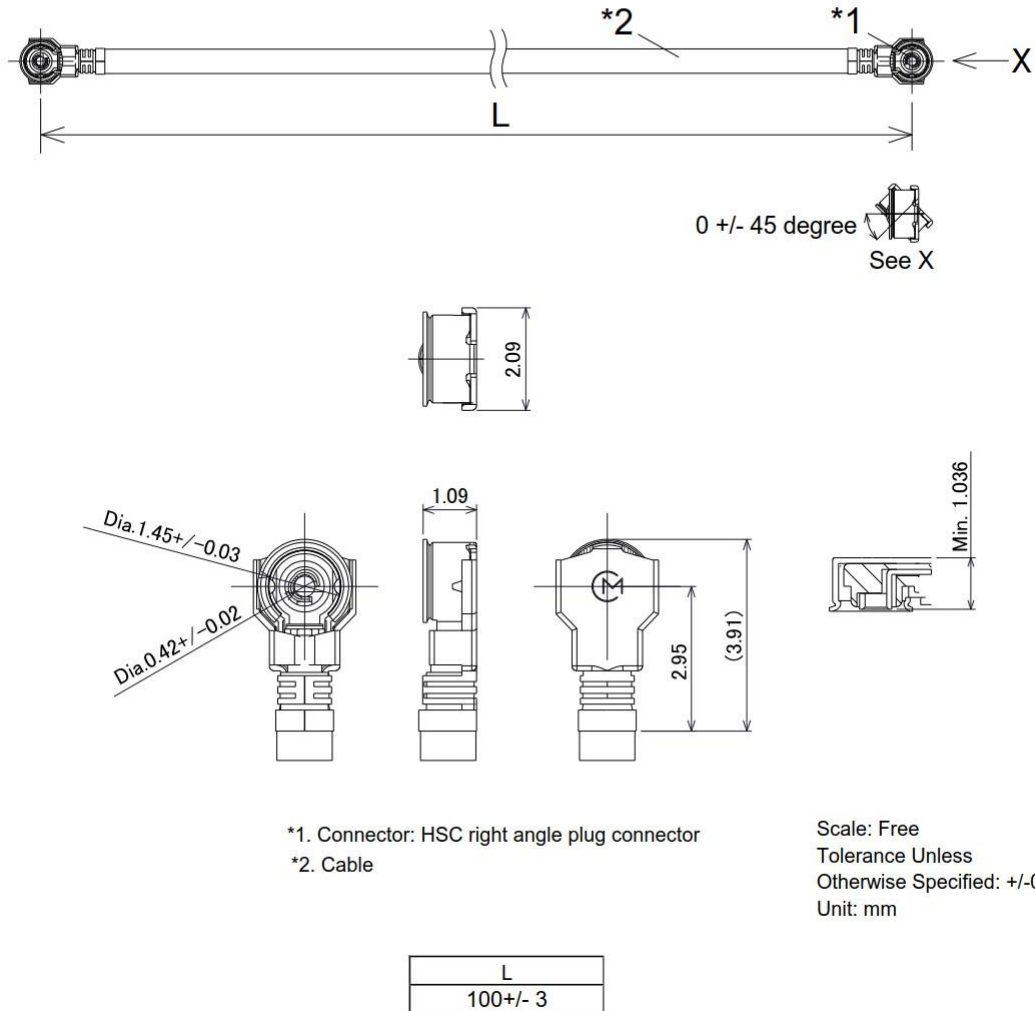


Preliminary Specification of COAXIAL CONNECTOR
 Preliminary SPEC No. : NMM04-PH0938A
 Part Number : MXHJD3HJ1000

Written by H. Toda
 Checked by T. Kuriyama
 Date 25/Jan./2018
 Revised A: 26/Feb./19 IU

SPECIFICATION

1. MECHANICAL



*1. Connector: HSC right angle plug connector
 *2. Cable

Scale: Free
 Tolerance Unless
 Otherwise Specified: ± 0.3
 Unit: mm

Figure 2: 3D view of MXHJD3HJ1000