




SPECIFICATION SHEET

High Precision GNSS Antenna 4G LTE MIMO ANTENNA

MESSERS.	
DESCRIPTION	4G LTE MIMO+GNSS Combination Antenna
PART No.	FES-2BBHLM

ACCEPTANCE		
PREPARED	CHECKED	APPROVED
/	/	/

SUPPLIER		
PREPARED	CHECKED	APPROVED
		
10/02	10/02	10/02

◆ INDEX

— INDEX	-----	2
— REVISION HISTORY	-----	2
— APPLICATION	-----	3
— KEY FEATURES	-----	3
— ELECTRICAL SPECIFICATION	-----	4
— ENVIRONMENTAL SPECIFICATION	-----	5
— MECHANICAL SPECIFICATION	-----	5
— ANTENNA DIMENSION	-----	6

◆ REVISION HISTORY

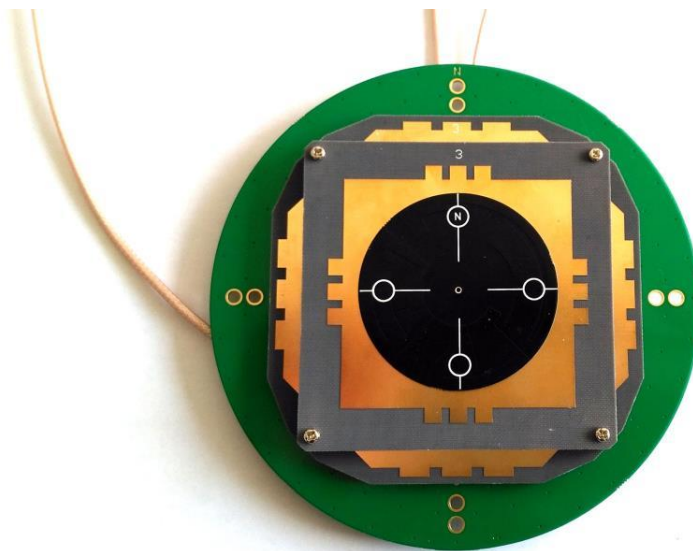
NO	DATE	REVISION	NOTE	AUTHORS
1	2024.10.02	00	First Draft	LEE.

◆ APPLICATION

- WEARABLE DEVICES, GIS SYSTEM, MOBILE WEB
- FULL HD MOBILE TV , SMART METERING,AUTOMOTIVE
- GAMING SERVICES ,ENERGY SYSTEM ,SURVEYING
- SMART BLACK BOX ,VEHICLE TRACKING DEVICE
- MONITORING, HIGH SPEED DATA etc. OTHERS

◆ KEY FEATURES

- 4G LTE MIMO ANTENNA,GPS/GLONASS/BEIDOU/QZSS/Galileo/RTK/L1/L2
- 3 x 1 Combination Antenna
- 4G LTE Gain 2.5dBi(Zenith)
- Frequency : 698~960MHz/1710~2690MHz
- Active GNSS Gain 40 ± 2 dB
- GNSS Voltage Range 3.0V~12.0V



◆ 4G LTE ELECTRICAL SPECIFICATION

ITEM		SPECIFICATIONS
4G LTE MIMO Antenna	Frequency Range	698~960/1710~2690MHz
	Polarization	Linear
	Gain	MAIN : 2.5dBi(Zenith) AUX: 2.0dBi(Zenith)
	V.S.W.R(min)	< 3.0
	Impedance	50Ω

◆ GNSS ELECTRICAL SPECIFICATION

ITEM		SPECIFICATIONS
GNSS Antenna	Frequency	GPS L1/L2 , GLONASS G1/G2 BEIDOU B1/B2b, Galileo E1/E5b
	Polarization	RHCP Right-hand-circulator
	Axial Ratio	≤3dB
	V.S.W.R	≤2.0
	Peak Gain	5.0dBi
	Impedance	50Ω
GNSS LNA	Gain	40 ± 2.0dB
	Noise Figure	≤2.0
	Supply Voltage	3.0-12.0V
	Current Consumption	≤45mA Typ.
	V.S.W.R	≤2.0

◆ ENVIRONMENTAL SPECIFICATION

ITEM	SPECIFICATIONS
Operating Temperature	-40°C~+85°C
Storage Temperature	-40°C~+85°C
Relative Humidity	65°C, 95%RH for 96 hours

RoHS Compliant

◆ MECHANICAL SPECIFICATION

ITEM	SPECIFICATIONS
Dimensions	Ø122.0x20.5mm
Cable	GNSS ANTENNA: RG316 or others LTE ANTENNA : RG178 or others
Connector	MCX/SMA(M) or others
Mounting Method	Screw or Embedded

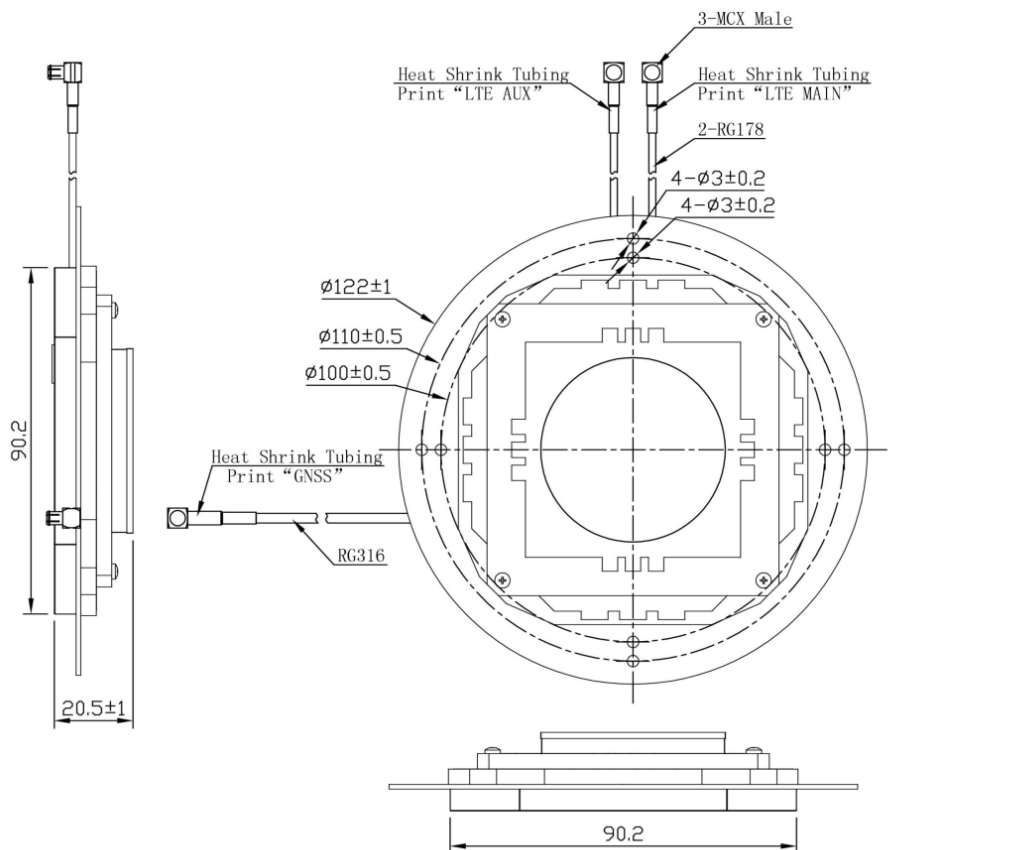
❖ GNSS FREQUENCY BAND

GPS/GNSS FREQUENCY BAND					
GPS /QZSS	L1 1575.42MHz	L2 1227MHz	L5 1176MHz	L6 1278MHz	
GLONASS	G1 1602MHz	G2 1248MHz	G3 1207MHz		
GALILEO	E1 1575.42MHz	E5a 1176MHz	E5b 1202MHz	E6 1278MHz	
BEIDOU	B1 1561MHz	B2a 1176MHz	B2b 1207MHz	B3 1268MHz	
SBAS	L1 1575.42MHz	G1 1602MHz	L5 1176MHz	G2 1248MHz	G3 1207MHz
L-BAND IRNSS	L-BAND 1542MHz	IRNSS 1176MHz			

❖ 4G LTE FREQUENCY BAND

Frequency		4G LTE Bands	3G Bands	2G Bands	CDMA Bands
698-960MHz	700/850/900MHz	B5 B6 B8 B12 B13 B14 B17 B18 B19 B20 B26 B27 B28 B29 B44 B67 B68 B85	B5 B6 B8 B12 B13 B14 B19 B20 B26	710 750 810 850 900	BC0 BC2 BC3 BC7 BC9 BC10 BC12 BC18 BC19
1710-2170MHz	1700/1800/1900/ 200/2100MHz	B1 B2 B3 B4 B9 B10 B25 B33 B34 B35 B36 B37 B39 B65 B66 B70	B1 B2 B3 B4 B9 B10 B25 B33 B34 B35 B36 B37 B39	DCS(1800) PCS(1900)	BC1 BC4 BC6 BC8 BC14 BC15
2500-2690MHz	2500/2600MHz	B7 B38 B41 B69	B7 B38		BC13 BC16 BC20 BC21

◆ ANTENNA DIMENSION



Unit: mm