MeiG-MA922

Auto-Grade 5G R16+C-V2X Module

Integrated CPU(~20K DMIPS)

MeiG MA922 series are based on Qualcomm's latest second-generation Snapdragon® automotive 5G modem and RF platform, which support 3GPP Release 16 standard, 5G NR SA and NSA while compatible with 4G/3G/2G network and frequency band from mainstream countries worldwide. It integrates multi-core CPU with a maximum computing power of 20K DMIPS. The module support optional C-V2X functions using ITS 5.9GHz frequency band, capable of direct communication via PC5 Mode4. In addition, it also has GNSS service, which can support L1+L5, QDR, PPE and data fixes, and owns rich interfaces such as PCIe 3.0, USB 2.0 & 3.1, SDIO, I2S, SPI, I2C, UART, PCM, ADC, (U)SIM, RGMII/SGMII, ADC, GPIO.

MA922 series modules can provide safe and reliable auto solutions, which can be widely used in TBOX, TCU, C-V2X, OBU, RSU and other automotive related products.

The internal chip of MA922 complies with AEC-Q100 standards and are developed and manufactured in strict accordance with IATF16949:2016 automotive industry quality management system standards, and have an ultra-wide work temperature range, which can withstand the test of harsh automotive application environment and maintain stable and efficient communication performance.

Main Advantage:

- ✓ Based on Qualcomm SA522M(AEC-Q100)

- ✓ Automotive-grade 5G NR Release 16 module

- ✓ Built-in ARM Cortex-A55 multi-core CPU （~20K DMIPS）

- ✓ C-V2X PC5 Mode 4 direct communication(R14/15/16*)

- ✓ L1+L5, PPE, QDR3 etc.

- ✓ Support eCall/NG-eCall in normal operation under +105°C

- ✓ Rich peripheral interfaces(SDIO, PCIe, RGMII/SGMII, etc.)

- ✓ Support ultra-wide temperature：-40°C~85°C

- ✓ Comply with IATF16949 auto industry quality management system

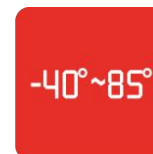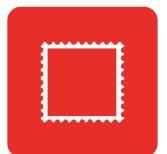|		
Up to 20K DMIPS CPU	5G NR R16	C-V2X PC5 Mode4
eCall/NG-eCall	Safe	MF-GNSS
-40°~85° Ultra-wide temperature	IATF 16949	LGA

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Integrated CPU(~20K DMIPS)

5G
MEIGLink
MA922
MA922XX-XXXX
IMEI:XXXXXXXXXXXXXXX
SN:XXXXXXXXXXXXXXXX
MeiG Smart Technology Co., LTD   Made in China
53mm
54.5mm   1.6mm
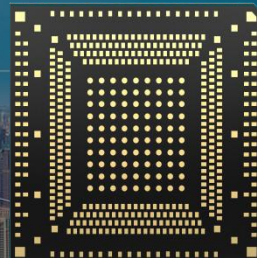
Frequency Band

MA922-CN

5G-NR	n1/n3/n28a/n41/n77/n78/n79 n41/n77/n78/n79, support PC2
LTE	B1/B3/B5/B7/B8/B34/B38/B39/B40/B41
UMTS	B1/B8
GSM	900/1800
5G-NR DL 4*4 MIMO	n1/n3/n41/n78/n79
LTE DL 4*4 MIMO	B1/B3/B41
LTE CA	LB+MHB 2DL CA
ENDC	LMHB+n78 /n79 & LB+n41
C-V2X	B47

MA922-EU

5G-NR	n1/n3/n5/n8/n20/n28a/n38/n40/n41/n78n n41/n78, support PC2
LTE	B1/B3/B5/B7/B8/B20/B28a/B32RX/38/B40/B41/B42
UMTS	B1/B3/B5/B8
GSM	900/1800
5G-NR DL 4*4 MIMO	n1/n3/n41/n77/n78
LTE DL 4*4 MIMO	B1/B3/B41
LTE CA	LB+MHB 2DL CA
ENDC	LMHB+n78 & LB+n41
C-V2X	B47

MA922-NA

5G-NR	n2/n5/n12/n25/n66/n71/n41/n78 n41/n77/n78, support PC2
LTE	B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B30RX/B66/B71/B41
UMTS	B2/B4/B5
5G-NR DL 4*4 MIMO	n2/n25/n41/n66
LTE DL 4*4 MIMO	B2/B4/B7/B38/B41/B66
LTE CA	LB+MHB 2DL CA
ENDC	LMHB+n78 & LB+n41
C-V2X	B47

MA922-JP

5G-NR	n1/n3/n77/n78/n79 n41/n77/n78/n79, support PC2
LTE	B1/B3/B5/B7/B8/B19/B28a/B41
UMTS	B1/B5/B8/B19

MA922-ROW

5G-NR	n1/n3/n5/n7/n8/n20/n28a/n38/n40/n41/n77/n78/n79 n41/n77/n78/n79, support PC2
LTE	B1/B3/B5/B7/B8/B18/B19/B26/B20/B28A/B34/B38/B39/B40/B41
UMTS	B1/B5/B8/B19
GSM	850/900/1800/1900

Function Description

eCall/NG-eCall	Support	
PCIe with external BT/WIFI Module	Support	
PPE（RTK）	Support	Optional
QDR3	Support	Optional
Echo cancellation/noise suppression	Support	
Short message	Support	

美格智能技术股份有限公司（股票代码：002881）

MeiG Smart Technology Co., Ltd（Stock Code：002881.SZ）

Electrical Feature

Work voltage	4.75V~5.25V	Typical value: 5.0V

Antenna Interface

Main antenna	1
Diversity antenna	1
MIMO antenna	2
C-V2X antenna	2
GNSS antenna	1
DSDA antenna	2

Other Interface

SIM	2	
SDIO	2	DSRC interface or eMMC v5.1
PCIe	2	External BT/WIFI interface
USB	1	USB 3.1 Gen2 compatible with USB 2.0
UART	4	2 support hardware flow control
Debug UART	1	Baud rate: 115200(default)
SPI	2	
I2C	2	
I2S	2	
PCM	1	
RGMII/SGMII/USXGMII	1	USXGMII support 2.5Gbps
ADC	3	
GPIO	15	

Optional Configuration

CPU	10K DMIPS	Default
	15K DMIPS	Optional
	20K DMIPS	Optional
Flash	8Gb+8Gb MCP(nand+LPDDR4x)	Default
	4Gb+4Gb MCP(nand+LPDDR4x)	Optional
	16Gb+16Gb MCP(nand+LPDDR4x)	Optional
GNSS	L1+L5	Default
	L1	Optional
	NO	Optional
C-V2X	NO	Default
	Support	Optional

Temperature Range

Work temperature	-35°C ~ +75°C
Extension temperature	-40°C ~ +85°C
eCall work temperature	-40°C ~ +105°C
Storage temperature	-40°C ~ +95°C

Package

Size	54.5 mm × 53.0 mm × 3.45 mm
Package	LGA

Certification

Compulsory	CCC*/CE*/JATE*/TELEC*/FCC*
Operator	

* means in developing