

Circuit Description

The EUT is Controller, it can support BLE,GPS,4G,FM wireless technology. the 4G LTE module has been certified , the FCC ID is "XMR201903EG25G".the GPS, FM only has receiver function.

The MCU is GD32F450IGH6 , the BLE chip is QCA1023.

there are two 25MHz crystal, one 12MHz crystal , one 4MHz crystal , two 27MHz crystals and one 12.288MHz crystal for MCU. there are one 48MHz crystal and one 32.768kHz crystal for BLE chip.

The RF detailed information as below:

Power supply:	DC 24V
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For BLE

Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Antenna Type:	PCB Antenna
Antenna Gain:	-1.58dBi (Provided by manufacturer)
Antenna Number:	1

For GSM

Operation Frequency Band:	GSM850/GSM1900
Modulation Type:	GMSK for GSM/GPRS 8PSK for EGPRS
Antenna Type:	PIFA Antenna
Antenna Gain:	GSM850: -0.42dBi (Provided by the manufacturer) GSM1900: -0.27dBi (Provided by the manufacturer)

For WCDMA

Operation Frequency Band:	UMTS B2, B4, B5
Modulation Type:	QPSK, BPSK
Antenna Type:	PIFA Antenna
Antenna Gain:	UMTS B2: -0.27dBi (Provided by the manufacturer) UMTS B4: -0.27dBi (Provided by the manufacturer) UMTS B5: -0.42dBi (Provided by the manufacturer)

For LTE

LTE Operation Frequency Band:	LTE Band 2,4,5,7,12,13,25,26,38,41
Modulation Type:	QPSK, 16QAM, 64QAM
Antenna Type:	PIFA Antenna
Antenna Gain:	Band 2: -0.27dBi (Provided by the manufacturer) Band 4: -0.27dBi (Provided by the manufacturer) Band 5: -0.42dBi (Provided by the manufacturer) Band 7: -0.27dBi (Provided by the manufacturer) Band 12: -0.42dBi (Provided by the manufacturer) Band 13: -0.42dBi (Provided by the manufacturer) Band 25: -0.27dBi (Provided by the manufacturer) Band 26: -0.42dBi (Provided by the manufacturer) Band 38: -0.27dBi (Provided by the manufacturer) Band 41: -0.27dBi (Provided by the manufacturer)