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SLM759 Smart Module Specification

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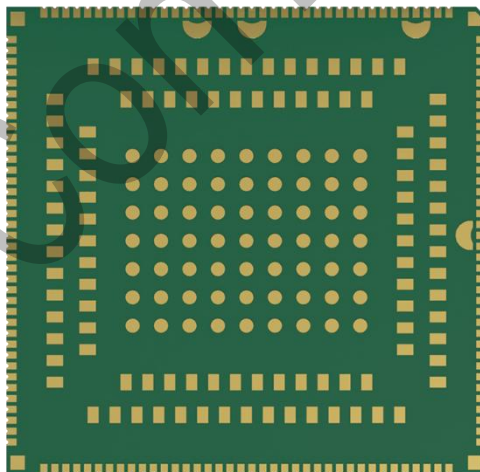
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SLM759 Smart Module Specification _V1.00



1. Product Overview

SLM759 series module adopts MSM8953 of Qualcomm Snapdragon 600 series. The CPU uses advanced 14nm FinFET. It has built-in 64bit ARM, 8-core Cortex A-53 and 1.8Ghz/2.0Ghz processor. The module supports Decode/encode up to 4K 30fps and H.265, supports the global multi-mode LTE smart module with 16GB/32GB/64GB memory. It is applicable to the broadband smart cellular modules with TD-LTE/FDD-LTE/WCDMA/EVDO/TD-SCDMA/CDMA/GSM network standards. SLM759 adopts Android 7.1 OS, and can support throughput as below:

TD-LTE: 117/30Mbps

FDD-LTE: 150Mbps/50Mbps

WCDMA (DC HSPA+): 42Mbps/5.76Mbps

EVDO (EVDO RevA): 3.1Mbps/1.8Mbps

TD-SCDMA (HSPA): 4.2Mbps/2.2Mbps

CDMA1x: 153.6kbps/153.6kbps

GSM (EDGE): 236.8kbps/236.8kbps

While providing high-speed broadband data access, SLM759 can provide voice, SMS, address book, 2.4G/5G WiFi, BT and GPS functions; it supports dual 13M 3D camera or depth-of-field camera, which can be widely used in POS cash registers, logistics terminals, VR Camera, intelligent robots, video recording, security, automotive equipment, intelligent handheld terminals and other products.

2. Feature List

Feature	Description (Optional may exist cost difference)	
Platform	Qualcomm SDM450& MSM8953	
CPU	Octa-core A53 (64bit) 8*1.8GHz (SLM759L) Optional *Octa-core A53 (64bit) 8*2.0GHz (SLM759N)	
GPU	Adreno506; 650MHz	
System Memory	16GB eMMC + 2GB LPDDR3 933Mhz *Optional 32GB+4GB or larger memory	
OS	Android 7.1	
Size	43.0x44.0x2.85mm, LCC + LGA (323pin)	
Operating Temperature	-30~75°C	
Storage Temperature	-40~85°C	
Network Band (eg. China)	TDD-LTE: B38/39/40/41 FDD-LTE: B1/3/5/8 TD-SCDMA: B34/39 WCDMA: B1/5/8 EVDO: BC0 CDMA: BC0 GSM: B5/3/8	
Wi-Fi	IEEE 802.11 a/b/g/n 2.4G&5G *optional 11ac (different HW cost) *optional 5GFEM (different HW cost)	
Bluetooth	BT4.1	
GNSS	GPS/Beidou/Glonass/Galileo	
Data	TD-LTE	Cat4 TD-LTE 117/30Mbps
	FDD-LTE	Cat4 FDD-LTE 150/50Mbps
	DC-HSPA+	42/11.2Mbps
	TD-HSPA	2.8/2.3Mbps
	EVDO Rev.A	3.1/1.8Mbps
	EDGE	Class12, 236.8kbps/236.8kbps
	GPRS	Class12, 85.6kbps/85.6kbps
SIM	DSDS (Dual SIM-card Dual Standby) 3.0/1.8V Support SIM hot plug L/W/G/T+G L/W/G/T+W	

	L/W/G/T+1X L/EVDO/CDMA1X+G Don't support dual CDMA card	
Display	Matrix: FULL HD: 1920*1200 60fps;	
	LCM Size: User defined	
	Interface: 1st LCM: MIPI DSI 4-lane; 2nd LCM: MIPI DSI 4-lane	
Camera (Front and rear)	Interface: Support 3 CSI, Each CSI is 4-Lane	
	Pixel: Rear 13-24Mp/Front up to 13Mp; Dual ISP can support dual 13MP Camera at the same time	
	Video decode	4K 30fps (SLM759L not support) , 1080p 60fps, H.264/H.265 MP4/ WMV9/ VC1/ DivX/ VP8/VP9
	Video encode	4K 30fps (SLM759L not support) ,1080p 60 fps: H.264/ H.265/ MP4/ VP8, 1080P 60fps De +1080p 30fps En (SLM759L not support)
Input Device	Key (Power on/off, Home, Volume+, Volume-)	
	Capacitive TP	
Reset	Support HW Reset	
Application Interface	Interface	Main function description
	VBAT	3pin, Power input, 3.4V~4.2V, normal 3.8V
	SDIO *1	SD3.0; eMMC v5.1
	USB2.0/3.0	Support OTG USB_BOOT (emergency download)
	BLSP ports	8 ports(BLSP1-8), 4-bits each, multiplexed serial interface functions
	UART*4	BLSP2,BLSP4-6 support UART, up to 4 Mbps
	I2C	All BLSPs support I2C and SPI, These BLSPs use
	SPI(master only)	bits [1:0] for I2C
	GPIO	SPI is only support via BLSP
	ADC*2	TBD
	Charger	Standard interface uses external charging chip *optional increase Qcharger 3.0 (different HW cost)
	Vibrator	Support
	GPIO	50 GPIO, not including BLSP multiplexing GPIO
	VCOIN	Backup battery
	RF PIN	LTE Main Antenna LTE Diversity Antenna GPS Antenna 2.4G Wi-Fi Antenna 5G Wi-Fi Antenna
Audio	One is for main MIC	

		One is for denoise MIC One is for Speaker (Built-in 0.8W ClassD PA) One is for Receiver One is for Earphone
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3.Other Standard Version

Network Band (Eurasia) SLM759-E	TDD-LTE: B38/40/41 FDD-LTE: B1/3/5/7/8/20/28A WCDMA: B1/2/5/8 GSM: B2/3/5/8
Network Band (North America) SLM759-A*	FDD-LTE: B2/4/5/7/12/13/17/25/26 TDD-LTE: B41 WCDMA: B1/2/4/5 GSM: B2/5
Network Band (Japan) SLM759-J*	FDD-LTE: B1/3/8/19/26 TDD-LTE: B41 WCDMA: B1/6/8/19
Network Band (Australia) SLM759-AU*	FDD-LTE: B1/3/5/7/8/28 TDD-LTE: B40 WCDMA: B1/2/5/8 GSM: B2/3/5/8
Network Band (South America) SLM759-LA*	FDD-LTE: B2/4/5/7/8/28 TDD-LTE: B40 WCDMA: B2/5/8 GSM: B2/5/8
WIFI-Only SNM759	WIFI: 802.11a/b/g/n/ac* BT4.2

4.SLM759 Interface

SLM759 Module 272pin Definition:

PIN#	SLM759 PIN Name	Pad characteristics	Functional description
PIN1	VDD_RF	PO	Power for RF in SLM759 module
PIN2	VDD_RF	PO	Power for RF in SLM759 module
PIN3	GND	GND	GND
PIN4	GND	GND	GND
PIN5	UART2_MSM_TX	B-PD:nppukp	Configurable I/O,UART2 TX
PIN6	UART2_MSM_RX	B-PD:nppukp	Configurable I/O,UART2 RX
PIN7	GPIO12_UART4_TX	B-PD:nppukp	Configurable I/O,UART4 TX
PIN8	GPIO13_UART4_RX	B-PD:nppukp	Configurable I/O,UART4 RX
PIN9	VREG_L5_1P8	PO	PMIC output 1.8V for LCD,CAM,TP, sensor
PIN10	VREG_L6_1P8	PO	PMIC output 1.8V for digital I/Os
PIN11	VREG_L10_2P8_SENSOR	PO	PMIC output 2.8V for sensor
PIN12	VREG_L17_2P85	PO	PMIC output 2.8V for LCD,CAM,TP
PIN13	VREG_L2_1P1	PO	PMIC output 1.1V for main camera DVDD
PIN14	VREG_L22_2P8	PO	PMIC output 2.8V for camera AVDD
PIN15	VREG_L23_1P175	PO	PMIC output 1.175V for front camera DVDD
PIN16	VCOIN	AI,AO	Coin-cell battery or backup battery
PIN17	BAT_CON_ID	AI	Battery ID input to ADC
PIN18	GND	GND	GND
PIN19	RF_MAIN	AI	RF signal for main ANT
PIN20	GND	GND	GND
PIN21	LCD_BL_LED_A	PO	LCD Backlight anode
PIN22	LCD_BL_LED_K1	AI	LCD Backlight cathode1(20mA)
PIN23	LCD_BL_LED_K2	AI	LCD Backlight cathode2(20mA)
PIN24	LCD_BL_LED_K3	AI	LCD Backlight cathode3(20mA)
PIN25	LCD_BL_LED_K4	AI	LCD Backlight cathode4(20mA)
PIN26	FLASH_LED1+	AO	FLASH LED anode(1A)
PIN27	BAT_PLUS	AI	Battery plus(+)terminal sense input
PIN28	BAT_MINUS	AI	Battery minus(-)terminal sense input
PIN29	BAT_THERM	AI	Battery temperature input to ADC
PIN30	USB_ID	AI	USB ID
PIN31	GND	GND	GND
PIN32	USB_DP	AI,AO	USB data plus
PIN33	USB_DM	AI,AO	USB data minus

PIN34	GND	GND	GND
PIN35	GND	GND	GND
PIN36	VBAT_SNS	AI	battery voltage input to ADC
PIN37	VBAT	PI,PO	Battery,3.5V-4.2V,default 3.8V
PIN38	VBAT	PI,PO	Battery,3.5V-4.2V,default 3.8V
PIN39	KYPD_PWR_N1	DI	KEY POWER ON/OFF
PIN40	GND	GND	GND
PIN41	VBUS	PI,PO	USB Voltage
PIN42	VBUS	PI,PO	USB Voltage
PIN43	GND	GND	GND
PIN44	MIC_IN1_P	AI	Microphone 1 input plus
PIN45	MIC_IN1_M	AI	Microphone 1 input minus
PIN46	MIC_IN2_P	AI	Microphone input 2
PIN47	GND	GND	GND
PIN48	CDC_HS_DET	AI	MBHC mechanical insertion/removal-detection
PIN49	CDC_HPH_L	AO	Headphone output, left channel
PIN50	CDC_HPH_REF	AI	Headphone ground reference
PIN51	CDC_HPH_R	AO	Headphone output, right channel
PIN52	CDC_EAR_M	AO	Earpiece output, minus
PIN53	CDC_EAR_P	AO	Earpiece output, plus
PIN54	SPKR_DRV_M	AO	Class-D speaker driver output, minus
PIN55	SPKR_DRV_P	AO	Class-D speaker driver output, plus
PIN56	GND	GND	GND
PIN57	FORCE_USB_BOOT	DI	Pull up with VREG_L5 to forced USB boot
PIN58	GPIO22_I2C6_SDA	B-PD:nppukp	Configurable I/O, I2C SDA
PIN59	GPIO23_I2C6_SCL	B-PD:nppukp	Configurable I/O, I2C SCL
PIN60	GPIO20_UART6_TX	B-PD:nppukp	Configurable I/O,UART6 TX
PIN61	GPIO21_UART6_RX	B-PD:nppukp	Configurable I/O,UART6 RX
PIN62	GND	GND	GND
PIN63	VREG_L11_2P95	PO	PMIC output 2.95V for SD-card power
PIN64	GPIO133_SDCARD_DET_N	B-PD:nppukp	Configurable I/O,SD card detection
PIN65	SDC2_SDCARD_D3	BH-NP:pdpukp	Secure digital controller 2 data bit 3
PIN66	SDC2_SDCARD_D2	BH-NP:pdpukp	Secure digital controller 2 data bit 2
PIN67	SDC2_SDCARD_D1	BH-NP:pdpukp	Secure digital controller 2 data bit 1
PIN68	SDC2_SDCARD_D0	BH-NP:pdpukp	Secure digital controller 2 data bit 0
PIN69	SDC2_SDCARD_CMD	BH-NP:pdpukp	Secure digital controller 2 command
PIN70	SDC2_SDCARD_CLK	BH-NP:pdpukp	Secure digital controller 2 clock
PIN71	GPIO130_SCAM_PWD_N	B-PD:nppukp	Configurable I/O, front CAM PWDN
PIN72	GPIO129_SCAM_RST_N	B-PD:nppukp	Configurable I/O, front CAM RESET
PIN73	GPIO39_MCAM_PWD_N	B-PD:nppukp	Configurable I/O, main CAM PWDN
PIN74	GPIO40_MCAM_RST_N	B-PD:nppukp	Configurable I/O, main CAM RESET
PIN75	CAM_I2C_SCL0	B-PD:nppukp	Configurable I/O, Dedicated camera I2C0

			SCL
PIN76	CAM_I2C_SDA0	B-PD:nppukp	Configurable I/O, Dedicated camera I2C0 SDA
PIN77	MIPI_CSI2_CLK_P	AI	MIPI camera serial interface 2 clock+
PIN78	MIPI_CSI2_CLK_N	AI	MIPI camera serial interface 2 clock-
PIN79	MIPI_CSI2_LANE0_P	AI	MIPI camera serial interface 2 lane0+
PIN80	MIPI_CSI2_LANE0_N	AI	MIPI camera serial interface 2 lane0-
PIN81	MIPI_CSI2_LANE1_P	AI	MIPI camera serial interface 2 lane1+
PIN82	MIPI_CSI2_LANE1_N	AI	MIPI camera serial interface 2 lane1-
PIN83	MIPI_CSI2_LANE2_P	AI	MIPI camera serial interface 2 lane2+
PIN84	MIPI_CSI2_LANE2_N	AI	MIPI camera serial interface 2 lane2-
PIN85	MIPI_CSI2_LANE3_P	AI	MIPI camera serial interface 2 lane3+
PIN86	MIPI_CSI2_LANE3_N	AI	MIPI camera serial interface 2 lane3-
PIN87	GND	GND	GND
PIN88	MIPI_CSI0_CLK_P	AI	MIPI camera serial interface 0 clock+
PIN89	MIPI_CSI0_CLK_N	AI	MIPI camera serial interface 0 clock-
PIN90	MIPI_CSI0_LANE0_P	AI	MIPI camera serial interface 0 lane0+
PIN91	MIPI_CSI0_LANE0_N	AI	MIPI camera serial interface 0 lane0-
PIN92	MIPI_CSI0_LANE1_P	AI	MIPI camera serial interface 0 lane1+
PIN93	MIPI_CSI0_LANE1_N	AI	MIPI camera serial interface 0 lane1-
PIN94	MIPI_CSI0_LANE2_P	AI	MIPI camera serial interface 0 lane2+
PIN95	MIPI_CSI0_LANE2_N	AI	MIPI camera serial interface 0 lane2-
PIN96	MIPI_CSI0_LANE3_P	AI	MIPI camera serial interface 0 lane3+
PIN97	MIPI_CSI0_LANE3_N	AI	MIPI camera serial interface 0 lane3-
PIN98	GND	GND	GND
PIN99	GPIO26_CAM_MCLK0	B-PD:nppukp	Configurable I/O, main CAM MCLK
PIN100	GPIO27_CAM_MCLK1	B-PD:nppukp	Configurable I/O, front CAM MCLK
PIN101	GND	GND	GND
PIN102	MIPI_DSI1_CLK_P	AO	MIPI display serial interface 1 clock+
PIN103	MIPI_DSI1_CLK_N	AO	MIPI display serial interface 1 clock-
PIN104	MIPI_DSI1_LANE0_P	AO	MIPI display serial interface 1 lane0+
PIN105	MIPI_DSI1_LANE0_N	AO	MIPI display serial interface 1 lane0-
PIN106	MIPI_DSI1_LANE1_P	AO	MIPI display serial interface 1 lane1+
PIN107	MIPI_DSI1_LANE1_N	AO	MIPI display serial interface 1 lane1-
PIN108	MIPI_DSI1_LANE2_P	AO	MIPI display serial interface 1 lane2+
PIN109	MIPI_DSI1_LANE2_N	AO	MIPI display serial interface 1 lane2-
PIN110	MIPI_DSI1_LANE3_P	AO	MIPI display serial interface 1 lane3+
PIN111	MIPI_DSI1_LANE3_N	AO	MIPI display serial interface 1 lane3-
PIN112	GND	GND	GND
PIN113	GPIO87_LCD1_RST	B-PD:nppukp	Configurable I/O, secondary LCD RESET
PIN114	GPIO25_LCD_TE1	B-PD:nppukp	Configurable I/O, secondary LCD TE
PIN115	MIPI_DSI0_CLK_P	AO	MIPI display serial interface 0 clock+

PIN116	MIPI_DSI0_CLK_N	AO	MIPI display serial interface 0 clock-
PIN117	MIPI_DSI0_LANE0_P	AI	MIPI display serial interface 0 lane0+
PIN118	MIPI_DSI0_LANE0_N	AI	MIPI display serial interface 0 lane0-
PIN119	MIPI_DSI0_LANE1_P	AI	MIPI display serial interface 0 lane1+
PIN120	MIPI_DSI0_LANE1_N	AI	MIPI display serial interface 0 lane1-
PIN121	MIPI_DSI0_LANE2_P	AI	MIPI display serial interface 0 lane2+
PIN122	MIPI_DSI0_LANE2_N	AI	MIPI display serial interface 0 lane2-
PIN123	MIPI_DSI0_LANE3_P	AI	MIPI display serial interface 0 lane3+
PIN124	MIPI_DSI0_LANE3_N	AI	MIPI display serial interface 0 lane3-
PIN125	GND	GND	GND
PIN126	GPIO24_LCD_TE0	B-PD:nppukp	Configurable I/O, primary LCD TE
PIN127	GPIO61_LCD_RST_N	B-PD:nppukp	Configurable I/O, primary LCD RESET
PIN128	GND	GND	GND
PIN129	2.4G/5G_ANT	AI	RF signal for 2.4G/5G WIFI&BT
PIN130	GND	GND	GND
PIN131	GPIO15_SENSOR_I2C4_SCL	B-PD:nppukp	Configurable I/O,SENSOR I2C SCL
PIN132	GPIO14_SENSOR_I2C4_SDA	B-PD:nppukp	Configurable I/O, SENSOR I2C SDA
PIN133	GND	GND	GND
PIN134	GPS_ANT	AI	RF signal for GPS ANT
PIN135	GND	GND	GND
PIN136	GPIO8_TP1_RST	B-PD:nppukp	Configurable I/O,secondary TP RESET
PIN137	GPIO9_TP1_INT	B-PD:nppukp	Configurable I/O,secondary TP INT
PIN138	GPIO64_TP_RST_N	B-PD:nppukp	Configurable I/O,primary TP RESET
PIN139	GPIO65_TP_INT_N	B-PD:nppukp	Configurable I/O,primary TP INT
PIN140	GPIO11_TP_I2C3_SCL	B-PD:nppukp	Configurable I/O, CTP I2C SCL
PIN141	VREG_L14_UIM1	PO	PMIC output for UIM1
PIN142	UIM1_DATA	B-PD:nppukp	Configurable I/O,UIM1 data
PIN143	UIM1_CLK	B-PD:nppukp	Configurable I/O,UIM1 clock
PIN144	UIM1_RESET	B-PD:nppukp	Configurable I/O,UIM1 reset
PIN145	GPIO54_UIM1_DET	B-PD:nppukp	Configurable I/O,UIM1 removal detection
PIN146	GPIO85_KEY1_VOL+	B-PD:nppukp	Configurable I/O,KEY VOL+
PIN147	PM_RESIN_N1	DI	KEY RESET or VOL-
PIN148	GND	GND	GND
PIN149	RF_DIV	AI	RF signal for diversity ANT
PIN150	GND	GND	GND
PIN151	PM8953_MPP2	AO-Z,AI,DO	Configurable MPP,PWM,ADC
PIN152	PM8953_MPP4	AO-Z,AI,DO	Configurable MPP,PWM,ADC
PIN153	PMI8952_MPP1	AO-Z,AI,DO	Configurable MPP,PWM,ADC
PIN154	Reserved		Reserved
PIN155	Reserved		Reserved
PIN156	Reserved		Reserved
PIN157	CHG_LED	AO	Current sink for charging indication

PIN158	PMI8952_MPP2	AO-Z,AI,DO	Configurable MPP,PWM,ADC
PIN159	GND	GND	GND
PIN160	PMI_HAP_OUT_N	AO	Haptics driver output negative
PIN161	PMI_HAP_OUT_P	AO	Haptics driver output positive
PIN162	FLASH_LED2+	AO	FLASH LED anode(1A)
PIN163	GND	GND	GND
PIN164	VREF_BAT_THERM	AI	Battery temperature input to ADC
PIN165	CS_PLUS	AI	Current sense resistor-plus side
PIN166	CS_MINUS	AI	Current sense resistor-minus side
PIN167	MIC_BIAS1	AO	Microphone bias #1
PIN168	GND_MIC	GND	Microphone bias filter ground
PIN169	MIC_IN3_P	AI	Microphone input 3
PIN170	GND	GND	GND
PIN171	USB3_SS_RX_P	AI	USB super-speed receive – plus
PIN172	USB3_SS_RX_M	AI	USB super-speed receive – minus
PIN173	GND	GND	GND
PIN174	USB3_SS_TX_P	AO	USB super-speed transmit – plus
PIN175	USB3_SS_TX_M	AO	USB super-speed transmit – minus
PIN176	GND	GND	GND
PIN177	GPIO98_I2C8_SDA	B-PD:nppukp	Configurable I/O, I2C SDA
PIN178	GPIO99_I2C8_SCL	B-PD:nppukp	Configurable I/O, I2C SCL
PIN179	VREG_L12_VDDPX2_SDC	PO	PMIC output 2.95V for SDC2 signal
PIN180	GPIO131_DCAM_RST_N	B-PD:nppukp	Configurable I/O, Depth camera reset
PIN181	GPIO132_DCAM_PWD_N	B-PD:nppukp	Configurable I/O, Depth camera pwn
PIN182	GND	GND	GND
PIN183	MIPI_CSI1_CLK_P	AI	MIPI camera serial interface 1 clock+
PIN184	MIPI_CSI1_CLK_N	AI	MIPI camera serial interface 1 clock-
PIN185	MIPI_CSI1_LANE0_P	AI	MIPI camera serial interface 1 lane0+
PIN186	MIPI_CSI1_LANE0_N	AI	MIPI camera serial interface 1 lane0-
PIN187	MIPI_CSI1_LANE1_P	AI	MIPI camera serial interface 1 lane1+
PIN188	MIPI_CSI1_LANE1_N	AI	MIPI camera serial interface 1 lane1-
PIN189	MIPI_CSI1_LANE2_P	AI	MIPI camera serial interface 1 lane2+
PIN190	MIPI_CSI1_LANE2_N	AI	MIPI camera serial interface 1 lane2-
PIN191	MIPI_CSI1_LANE3_P	AI	MIPI camera serial interface 1 lane3+
PIN192	MIPI_CSI1_LANE3_N	AI	MIPI camera serial interface 1 lane3-
PIN193	GND	GND	GND
PIN194	GPIO28_CAM_MCLK2	B-PD:nppukp	Configurable I/O, Depth camera MCLK
PIN195	GND	GND	GND
PIN196	CAM_I2C_SCL1	B-PD:nppukp	Configurable I/O, Dedicated camera I2C1 SCL
PIN197	CAM_I2C_SDA1	B-PD:nppukp	Configurable I/O, Dedicated camera I2C1 SDA
PIN198	GPIO17_UART5_RX	B-PD:nppukp	Configurable I/O,UART5 RX

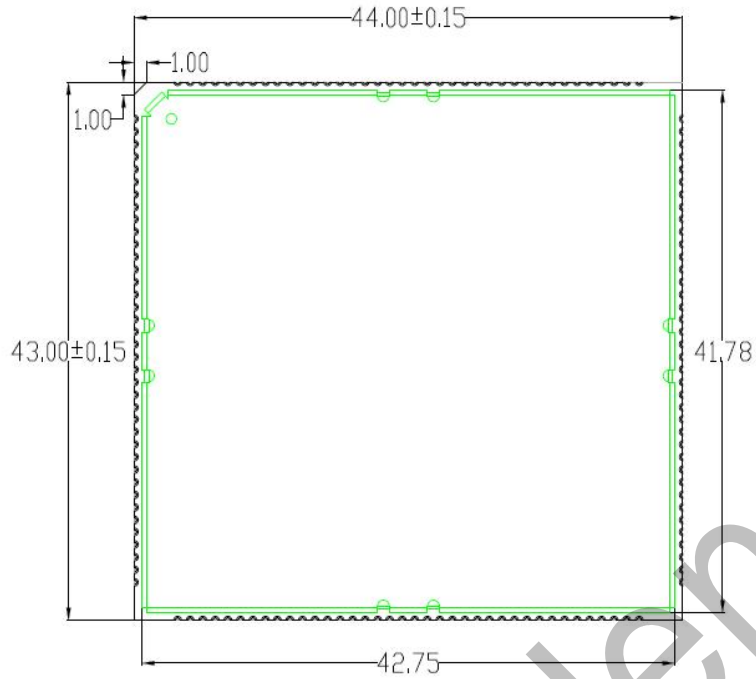
PIN199	GPIO16_UART5_TX	B-PD:nppukp	Configurable I/O,UART5 TX
PIN200	GPIO3_SPI1_CLK	B-PD:nppukp	Configurable I/O, SPI CLK
PIN201	GPIO2_SPI1_CS	B-PD:nppukp	Configurable I/O, SPI CS
PIN202	GPIO50_LNA_EN	B-PD:nppukp	Configurable I/O, LNA_EN
PIN203	GPIO136_FP_SPI_CS	B-PD:nppukp	Configurable I/O, fingerprint SPI CS
PIN204	GPIO6_I2C2_SDA	B-PD:nppukp	Configurable I/O, I2C SDA
PIN205	GPIO7_I2C2_SCL	B-PD:nppukp	Configurable I/O, I2C SCL
PIN206	GPIO10_TP_I2C3_SDA	B-PD:nppukp	Configurable I/O, CTP I2C SDA
PIN207	UIM2_RESET	B-PD:nppukp	Configurable I/O,UIM2 reset
PIN208	UIM2_CLK	B-PD:nppukp	Configurable I/O,UIM2 clock
PIN209	UIM2_DATA	B-PD:nppukp	Configurable I/O,UIM2 data
PIN210	VREG_L15_UIM2	PO	PMIC output for UIM2
PIN211	S2A		connect to S2B
PIN212	Reserved		Reserved
PIN213	Reserved		Reserved
PIN214	CBL_PWR_N1	DI	Cable power-on;
PIN215	GPIO48_FP_INT_N	B-PD:nppukp	Configurable I/O, fingerprint INT
PIN216	GPIO46_PRESSURE_INT	B-PD:nppukp	Configurable I/O, Pressure INT
PIN217	Reserved		Reserved
PIN218	Reserved		Reserved
PIN219	GND	GND	GND
PIN220	Reserved		Reserved
PIN221	Reserved		Reserved
PIN222	USB_VCONN	AI	Power input pin to drive active cables during the DFP mode
PIN223	USB_CC2	AI;AO	USB type C connector configuration channel2
PIN224	USB_CC1	AI;AO	USB type C connector configuration channel1
PIN225	GND	GND	GND
PIN226	GPIO139_USB_SS_SEL	B-PD:nppukp	Configurable I/O, USB Type C switch control
PIN227	Reserved		Reserved
PIN228	Reserved		Reserved
PIN229	GPIO97_WSA_INT	B-PD:nppukp	Configurable I/O, WSA_INT
PIN230	GPIO96_WSA_EN	B-PD:nppukp	Configurable I/O, WSA_EN
PIN231	GPIO90_DMIC0_DATA	B-PD:nppukp	Configurable I/O,DMIC0_DATA
PIN232	GPIO89_DMIC0_CLK	B-PD:nppukp	Configurable I/O,DMIC0_CLK
PIN233	S2B		connect to S2A
PIN234	GPIO66	B-PD:nppukp	Configurable I/O
PIN235	Reserved		Reserved
PIN236	GPIO128	B-PD:nppukp	Configurable I/O
PIN237	GPIO36	B-PD:nppukp	Configurable I/O

PIN238	GPIO33	B-PD:nppukp	Configurable I/O
PIN239	Reserved		Reserved
PIN240	Reserved		Reserved
PIN241	GRFC7_SEL	B-PD:nppukp	Configurable I/O,GRFC7_SEL
PIN242	GRFC5_SEL	B-PD:nppukp	Configurable I/O,GRFC7_SEL
PIN243	GND	GND	GND
PIN244	Reserved		Reserved
PIN245	GPIO19_NFC_I2C5_SCL	B-PD:nppukp	Configurable I/O,NFC I2C SCL
PIN246	GPIO18_NFC_I2C5_SDA	B-PD:nppukp	Configurable I/O, NFC I2C SDA
PIN247	GPIO1_SPI_MISO	B-PD:nppukp	Configurable I/O, SPI MISO
PIN248	GPIO0_SPI_MOSI	B-PD:nppukp	Configurable I/O, SPI MOSI
PIN249	GPIO137_FP_SPI_MOSI	B-PD:nppukp	Configurable I/O, fingerprint SPI MOSI
PIN250	GPIO135_FP_SPI_CLK	B-PD:nppukp	Configurable I/O, fingerprint SPI CLK
PIN251	GPIO138_FP_SPI_MISO	B-PD:nppukp	Configurable I/O, fingerprint SPI MISO
PIN252	GPIO42_ACCL_INT1	B-PD:nppukp	Configurable I/O,ACCL INT
PIN253	GPIO43_ALSP_INT_N	B-PD:nppukp	Configurable I/O,ALSP INT
PIN254	GPIO44_MAG_INT	B-PD:nppukp	Configurable I/O,MAG INT
PIN255	GPIO45_GYRO_INT	B-PD:nppukp	Configurable I/O,GYRO INT
PIN256	GPIO58_UIM2_DET	B-PD:nppukp	Configurable I/O,UIM2 removal detection
PIN257- PIN323	GND	GND	GND

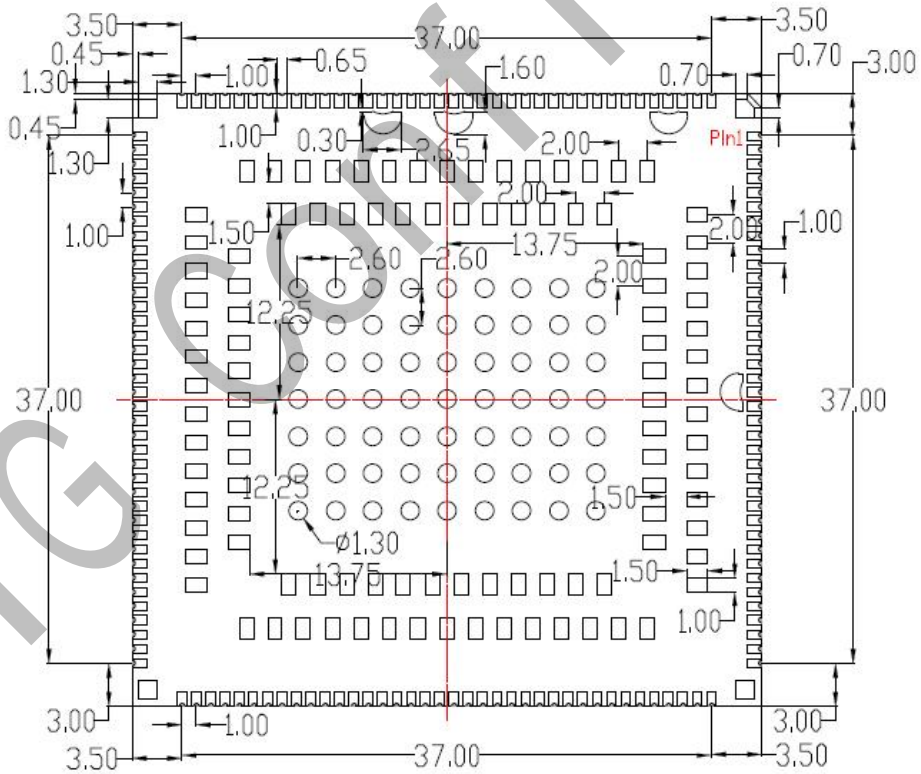
	GND
	GPIO
	POWER
	AUDIO
	PMIC
	MIPI
	RF
	OTHERS
	Reserved

5.Module 2D Structure Chart

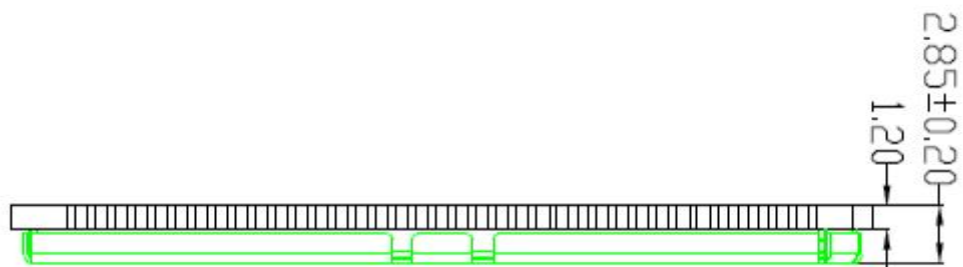
TOP:



BOTTOM:



Side:



Recommended pad:

