S76G Rev.05
Product Brief

FEATURE

Platform Features

- ST micro controller: STM32L073Z
- High performance ARM® Cortex®-M0+ 32-bit RISC core operating at a 32 MHz frequency
- 192 Kbytes of Flash memory
- 20 Kbytes of SRAM
- Serial wire debug (SWD) & JTAG
- USB 2.0 full-speed device/host

LORA Features

- LORA chip: Semtech SX1276
- LoRa Modem
- +20 dBm constant RF output vs. V supply
- Programmable bit rate up to 37500 bps
- High sensitivity: down to -137 dBm
- Excellent blocking immunity
- Preamble detection
- Automatic RF Sense and CAD with ultra-fast AFC
- Payload up to 128 bytes with CRC

GNSS Features

- GNSS chip: SONY CXD5603GF
- GPS/GLONASS receiver
- Ultra-low power consumption
- Supports SBAS/QZSS

Other Features

- Periphery components inside S76G:
  1. 24MHz crystal for STM32L073Z and 32MHz TCXO for SX1276
  2. 16Mbits Flash for CXD5603GF
  3. Level shifter for communication between STM32L073Z and CXD5603GF
  4. LoRa FEM/matching circuit and GNSS FEM/matching circuit
- Additional components needed for S76G operation:
  1. 32.768KHz crystal for STM32L073Z
  2. 26MHz TCXO for CXD5603GF
  3. Please see section 2-4 and 2-5 for more details
- Epoxy molding finished module in LGA type
- Small size : 13mm X 11mm X 1.55 mm

- RoHS & Halogen free compliant / Lead free

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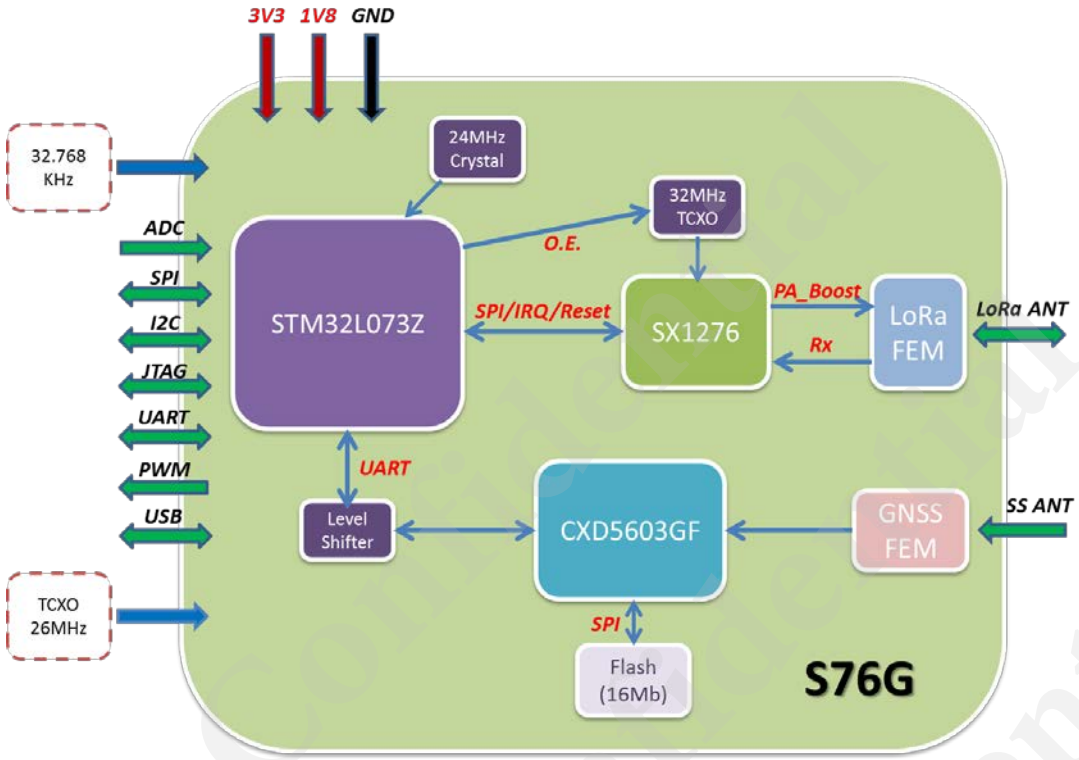
Product Brief

S76G Block Diagram



Technical Specification	
Model Name	S76G
Product Description	LoRa and GNSS Wireless Communication Module
Package	LGA type
Host Interface	UART
Dimension	13 mm x 11 mm x 1.55 mm
Operation Conditions	
Operating Voltage	■ 3.3V for MCU / LoRa function ■ 1.8V for GNSS function
Temperature	■ Storage：-50℃ ~ +105℃ ■ Operating：-25℃ ~ +85℃
Humidity	■ Operating：10 ~ 95% (Non-Condensing) ■ Storage：5 ~ 95% (Non-Condensing)
Electrical Specifications	
Frequency	■ LoRa frequency band: EU868 / US915 / AS923 ■ GNSS frequency band: GPS (L1 C/A) / GLONASS (L1OF)

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S76G PIN Definition

Pin No.	Pin Name	Pin No.	Pin Name
1	VDD_3V3	32	GND
2	GND	33	NC
3	GND	34	GND
4	MCU_Reset	35	GND
5	GND	36	NC
6	OSC32_IN	37	GND
7	OSC32_OUT	38	NC
8	GND	39	GND
9	PA0	40	NC
10	PA2	41	GND
11	PA3	42	NC
12	GND	43	GND
13	GPS_I2C_SDA	44	GPS_ANT
14	GPS_I2C_SCL	45	PA8
15	PA4	46	PA9_USART1_TX
16	PA5	47	PA10_USART1_RX
17	PA6	48	PA11
18	PA7	49	PA12
19	PC4	50	PA13_SWDIO
20	PB0	51	PA14_SWCLK
21	PB1	52	GPS_TCXO_CLK_IN
22	GPS_TCXO_EN	53	GND
23	GPS_1PPS_OUT	54	VDD_1V8
24	GPS_RST_X	55	NC
25	GPS_UART_TXD	56	PB5
26	GPS_UART_RXD	57	PB6_SCL
27	GND	58	PB7_SDA
28	RXTX/RFMOD	59	BOOT0
29	GND	60	PB8
30	RF_ANT	61	GND
31	PA1_RF_FEM_CPS	62	GND

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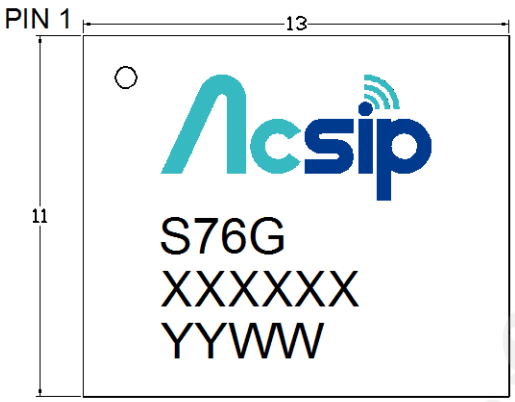
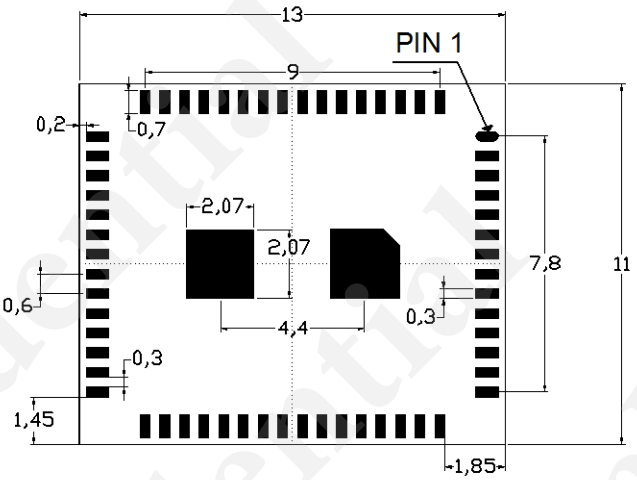
S76G Mechanical Dimension

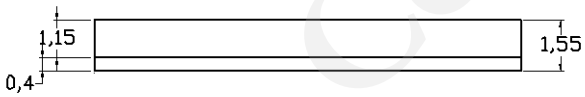
Unit: mm



TOP VIEW



BOTTOM VIEW



SIDE VIEW

Unit : ±0.05mm

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