SRT341 Hardware specification

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Introduction to SRT341

Scope

This document specifies the hardware characteristics of SRT341.

General Characteristics

General

- LTE Cat1 module with 2G fallback
    - LTE bands B3 (1800 MHz), B7 (2600 MHz) and B20 (800 MHz)
    - GSM bands 900/1800 MHz
- Voice over LTE (VoLTE) with Circuit Switched Fall-Back (CSFB)
- SMS
- Firmware update Over The Air (FOTA)
- 9-36V DC main power supply with built-in battery backup
- 99 channel GNSS receiver supporting GPS/GLONASS/Galileo/Beidou satellite systems

Electrical

Device is compatible with 9-36V DC power supply.

Physical

95x77x30 mm external dimensions
Weight: 120g
Operating temperature: -20°C to +55°C
Storage temperature: -35°C to +85°C

Interfaces

- 1 x SMA type antenna connector, for LTE/GSM
- 1 x MCX type antenna connector, for GNSS
- 1 x SIM card reader, form factor 4FF (Nano)
- 1 x 16-pin (2x8) Microfit connector (Control A)
- 1 x 8-pin (1x8) Microfit connector (Control B)
- 2 x 3,5 mm stereo jack, one for speaker and one for microphone
- 1 x Mini-B USB connector

Hardware Interfaces

SIM interface

The SIM card holder is compatible with SIM cards with form factor 4FF ("Nano").

USB interface

The mini-B USB connector is only meant for recharging the internal battery and communication with a host computer. The device cannot be powered during general operation through the mini-B USB connector.

I/O interface

The SRT341 is equipped with two I/O connectors. The I/O signals are managed through the firmware commands.

Control A & Control B

Control A is a 16-pin Microfit connector with two rows of eight pins each.
Control B is an 8-pin Microfit connector with one row of eight pins.

SRT341 side view. From left to right: GSM/LTE antenna, GNSS antenna, Control A (top) and Control B (bottom) interfaces

SRT341 side view. From left to right: Mic in, Speaker out, mini USB and SIM card holder

Table 1 - Control A pinout

Pin #	Name	Description
1	VIN+	9-36V DC input
2	VIN-	Power ground
3	AUXAlarm0	Auxiliary alarm input 0
4	AIN1	Analog input 1
5	VBATT	3.3-4.2V DC output
6	AIN2	Analog input 2
7	Bat+	External battery positive pole
8	RL1IN	Relay input 1
9	Ignition	Ignition input
10	PBAlarm	Pushbutton alarm input
11	AUXCTRL0	Auxiliary control input 0
12	GPSOFF	GNSS event input
13	GND	Signal ground
14	AUXCTRL1/AUXAlarm1	Auxiliary control input 1/Auxiliary alarm input 1
15	Bat-/GND	External battery negative pole/Signal ground
16	RL1OUT	Relay output 1

Table 2 - Control B pinout

Pin #	Name	Description
1	IRSENSOR	Infrared sensor input
2	GND	Signal ground
3	VDD	Meant for use with IRSENSOR and ON/OFF
4	ON/OFF	Starts device when connected to VDD
5	RL2IN	Relay input 2
6	RL2OUT	Relay output 2
7	IN7	Auxiliary control input
8	IN8	Auxiliary alarm input

Power

SRT341 may be powered by a 9-36V DC power supply, an internal single-cell Li-Ion battery or an external battery. If an external power source of 9-36 VDC is to be used, it must be connected to VIN+ and VIN- pins. If using an external battery, which has to be equipped with a protection circuitry, it should be connected to Bat+ and Bat-/GND pins.

When an external power source is available, charging of the battery, whether it is external or internal, is controlled by the software. The maximum charge current is 500 mA.

VBATT

The internal working voltage VBATT may vary between 3.3 and 4.2V DC depending on the power supply alternative used and the current battery status. If an external power supply is used to power the unit, VBATT is fixed at 4.0V. If the unit is running on battery power (no power supply connected

or otherwise not used due to low power), VBATT follows the battery voltage, which should normally be between 3.3V and 4.2V DC.

AIN1/AIN2

These inputs can be used either as general purpose analog inputs or as analog alarm inputs. The permitted analog input signal level is 0-5V DC.

RL1IN/RL1OUT

RL1IN and RL1OUT are connected to input respective output of a relay inside the unit. The relay is controlled by software.

AUXAlarm0, PBAlarm and GPSOFF

These inputs can be used either as general purpose digital inputs or as digital alarm inputs. They can be configured either as normally closed inputs or as normally open inputs when used for alarm purposes. For closed condition, the input must be connected to GND. For open condition the input must be left floating.

Ignition and AUXCTRL0

The Ignition and AUXCTRL0 inputs are digital inputs. The inputs are active high, i.e. they are off when they are floating and on when they are connected to a signal of 9-36V DC. The Ignition input is meant to be connected to the host vehicle ignition output and can be used to control the SRT341 operations based on the vehicle's operational mode.

AUXCTRL1/AUXAlarm1

This input can be used either like AUXAlarm0 or like AUXCTRL0, depending on configuration.

IRSENSOR

This input signal is intended for use with an infrared motion detector sensor circuit type Napion AMN1 with digital output manufactured by Panasonic. Such a sensor requires three connections: digital output, power supply and ground. If your application requires such an IR sensor, connect the digital output of the sensor to this input. The power supply and ground leads of the sensor should be connected to VDD and GND respectively.

ON/OFF

This input signal is intended to be used to turn the unit on or off without cutting the power supply. If this signal is left open, the unit is off. To turn the unit on, this signal must be connected to VDD.

RL2IN/RL2OUT

Relay input and output. See section on RL1IN/RL1OUT for further information.

IN7

This is a general purpose digital input similar to AUXCTRL0.

IN8

This is a digital alarm input similar to AUXAlarm0.

RF interface

LTE/GSM RF connection

The integrated LTE/GSM antenna connector of the SRT341 is a SMA connector.

GNSS RF connection

The integrated GNSS antenna connector of the SRT341 is a MCX connector.

Speaker interface

The integrated speaker connector is a 3,5 mm stereo jack.

Microphone interface

The integrated microphone connector is a 3,5 mm stereo jack.

Indicators

As displayed on the image below SRT341 has three indicator LEDs corresponding to GNSS (labeled "GPS"), LTE/GSM (labeled "GSM") and power (labeled "PWR) statuses. These LEDs can be ON, OFF or FLASHING to indicate the operating status of the unit.
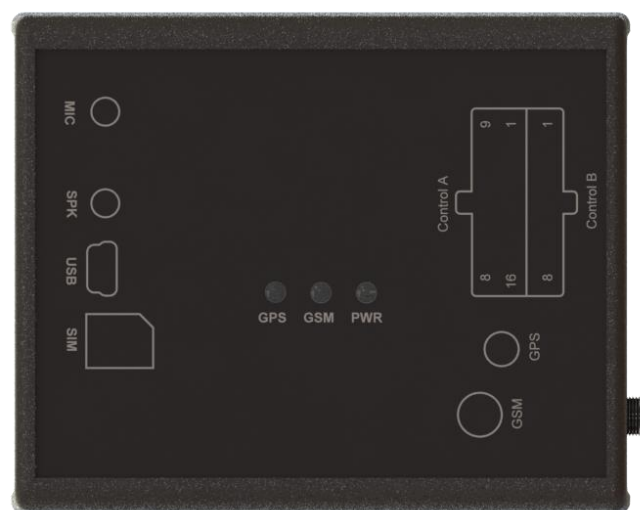
SRT341 top side view of indicator LED's and more

GSM LED

ON	The device is searching for a cellular network.
FLASHING	The unit is registered in a cellular network.
OFF	Cellular network connection is disabled.

GPS LED

FLASHING	GNSS is on, functional and supplies position information.
OFF	GNSS is off or signal conditions are so bad that it doesn't supply position information.

PWR LED

FLASHING	Device is powered on.
OFF	Device is powered off.