

## Data Sheet

# STM32-comStick

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Rev. 07/2009 – 001

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## 1 Scope

This data sheet is for the STM32-comStick debugger system. It contains architecture- and device-specific information and all technical data of the system.

The STM32-comStick is a specific debugger system being able to emulate the integrated STM32F107VCT6 microcontroller with on-chip debug support. It provides a USB communication port for connecting the STM32-comStick to a PC.

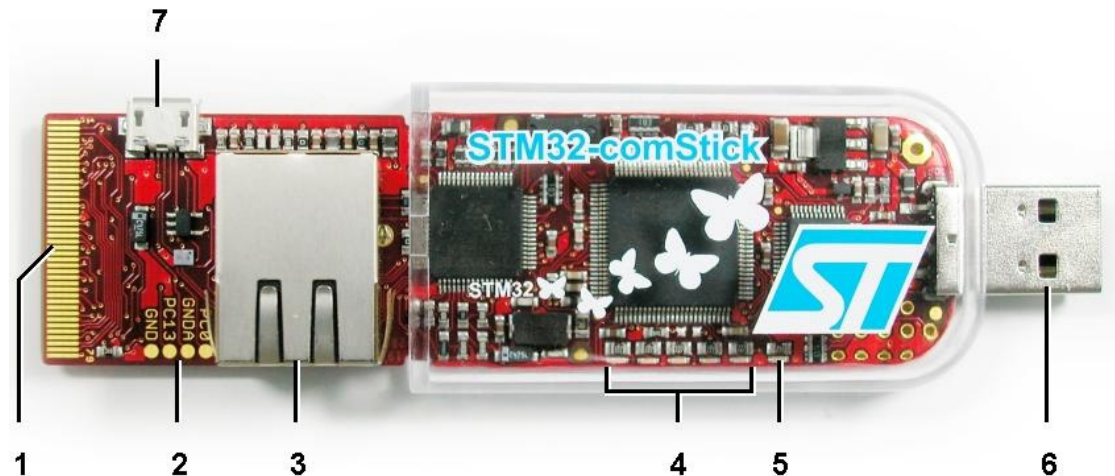
For operation, the overall system requires the STM32-comStick component only.

For more details see the [Schematics](#).

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## 2 Connections and Controls

The STM32-comStick has the connectors and LEDs as shown in the following figure:




1 Extension Board Connector (for the pin assignment see below)

2 Test Points:

Test Point	GND	PC13	GNDA	PC0
Function	System Ground	Tamper-RTC	Analog Ground	ADC12-IN10

3 Ethernet Connector

4 5x GPIO / USER LED (yellow):

LEDs					
	V507	V506	V505	V504	V503
Port	PB1	PB0	PB9	PE15	PB5

Set the desired port to 'high' in order to light up the corresponding LED.



5 Enumeration / Power LED (green)

6 USB PC Connector

7 Micro USB-AB Connector

### Status Indication LEDs

6 LEDs are provided to indicate the STM32-comStick's current state:

LED	Colour		Meaning
5x GPIO / USER		Yellow	Can be controlled by the user application.
1x USB		Green	USB enumeration and powering enabled.

### 3 Interfaces

#### Communication

The STM32-comStick's USB interface is implemented in accordance with the USB specification 2.0.

As far as the transmission rate is concerned, the STM32-comStick is a full-speed device.

Since the STM32-comStick is a USB-bus powered device, no external power supply is required. STM32-comStick consumes up to 350 mA (depending on the extension board used) and thus requires a powered hub connection.

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#### Note

With some external USB 2.0 hubs, the STM32-comStick will not always be recognized the first time it is connected.

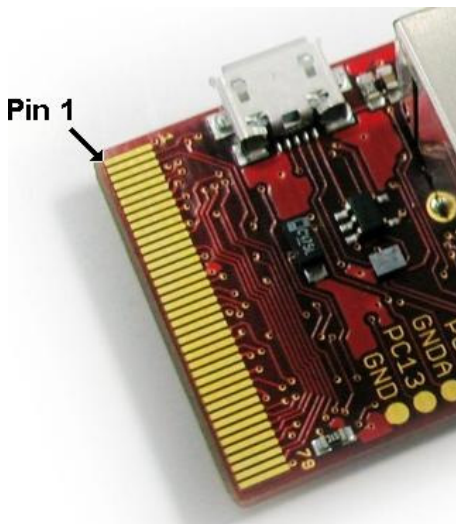
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#### External Signals and Interfaces

The extension connector of the STM32-comStick has the pin numbering scheme as shown in the figure and the table:

#### Extension Connector:



**Pin Assignment X400:**

Pin	Signal name
1	+3.3V
3	Reset
5	PC0
7	--
9	--
11	PE4
13	PE6
15	PA5
17	PA6
19	--
21	GND
23	PD5
25	--
27	PB2
29	PD0
31	--
33	GND
35	PC8
37	PD15
39	PD14
41	PC12
43	--
45	--
47	PE8
49	PD2
51	PC7
53	GND
55	--
57	PE14
59	PB14
61	PC6
63	--

Pin	Signal name
2	+3.3V
4	Enum
6	PA4
8	--
10	GND
12	--
14	--
16	PE2
18	--
20	--
22	GND
24	PC5
26	PD6
28	PD1
30	--
32	GNDA
34	--
36	--
38	PA7
40	PC9
42	--
44	GND
46	--
48	BOOT0
50	PE9
52	PC13
54	GND
56	(reserved)
58	PB7
60	--
62	PA8
64	--

Pin	Signal name
65	PE10
67	PE11
69	PD3
71	PD4
73	PE12
75	PE0
77	PE1
79	+5V

Pin	Signal name
66	--
68	PB15
70	PE13
72	PB6
74	PE5
76	GND
78	(PC4)
80	+5V

## 4 Technical Data

Power Supply		
Mains connection	not present, USB bus powered (4.2V to 5.0V)	
Power consumption	max. 3.5 W	
Current consumption	max. 350 mA	
Dimensions		
STM32-comStick	W x H x D	appr. 115 x 20 x 34 mm
	Weight	approx. 40 g
Environmental Conditions		
Operation	5 to 45°C ambient temperature	
Storage	0°C to +65°C, less than 90% relative humidity, non-condensing	
External Connections		
Interface to host	1 USB interface, Ethernet	
Interface to target	STM32-comStick-dependent connector	
Transfer Rates		
STM32-comStick ↔ Host	USB	12 Mbit/s
Supported Target Voltage		
IO level	DIO: 3.3V (± 10%)	
	PIN: 0V to 3.3V	

\*) If the STM32-comStick is connected to a USB hub that can not deliver the current needed the operating system will deny the enumeration of the STM32-comStick. Bus-powered hubs and USB keyboards with downstream ports often source only 100mA.

