WISMO Quik Q26

Development Kit Q26
User Guide

Reference : **WM_BBD_Q26_UGD_001**
Revision : **002**
Date : **19th Sept 2005**

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Document Information

Revision	Date	History of the evolution	
001	24 June 2005	Creation	
002	08 Sept 2005	Update for the development kit Q26 version2	

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Cautions

This Development Kit Q26 integers a modular transmitter. This device is to be used only for mobile and fixed applications.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. The antenna(s) used for this transmitter must not exceed a gain of 3 dBi for mobile operation and 7 dBi for fixed operation.

Users and OEM integrators must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance. OEM must also be provided with labelling instructions.

This device contains GSM and GPRS functions that are not operational in U.S. territories. This filing is applicable for GSM850 MHz, E-GSM900 MHz, DCS1800 MHz and PCS1900 MHz operations. And GPRS class 10.

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Overview

This document is a description of the Development Kit for WISMO Quik Q26 Series module based on a mother board V2 Ref. WM0402301-111-20.

This Development Kit is an equipment which can be used to start software and hardware development based on WISMO Quik Q26 Series module .

Refer to the documentation of the WISMO Quik Q268x Series module for further information.

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Reference documents

[1] MOTHER BOARD Development Kit Schematics and PCB, Release 2.0
Ref.: WM0402301-110-20.

[2] WISMO Quik Q2686 Product Technical Specification
Ref.: WM_PRJ_Q2686_PTS_001

[3] WISMO Quik Q2686 Customer Design Guideline
Ref.: WM_PRJ_Q2686_PTS_003

[4] Title AT Commands Interface Guide for revision X55.
Reference: WM_ASW_OAT_UGD_00044.

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List of abbreviations

ADC	Analog to Digital Converter
AUX	AUXiliary
CLK	CLocK
CTS	Clear To Send
DAI	Digital Audio Interface
DC	Direct Current
DCD	Data Carrier Detect
DCE	Data Communication Equipment
DSR	Data Set Ready
DTE	Data Terminal Equipment
DTR	Data Terminal Ready
ESD	ElectroStatic Discharges
GND	GrouND
GPI	General Purpose Input
GPIO	General Purpose Input Output
GPO	General Purpose Output
I/O	Input / Output
MIC	MICrophone
PC	Personal Computer
PCB	Printed Circuit Board.
PCM	Pulse Code Modulation
PWM	Pulse Width Modulation
RF	Radio Frequency
RI	Ring Indicator
RTC	Real Time Clock
RTS	Request To Send
RXD	Receive Data
SCI	Smart Card Interface
SIM	Subscriber Identity Module
SPI	Serial Peripheral Interface
SPK	SPeaKer
TP	Test Point
TXD	Transmit Data

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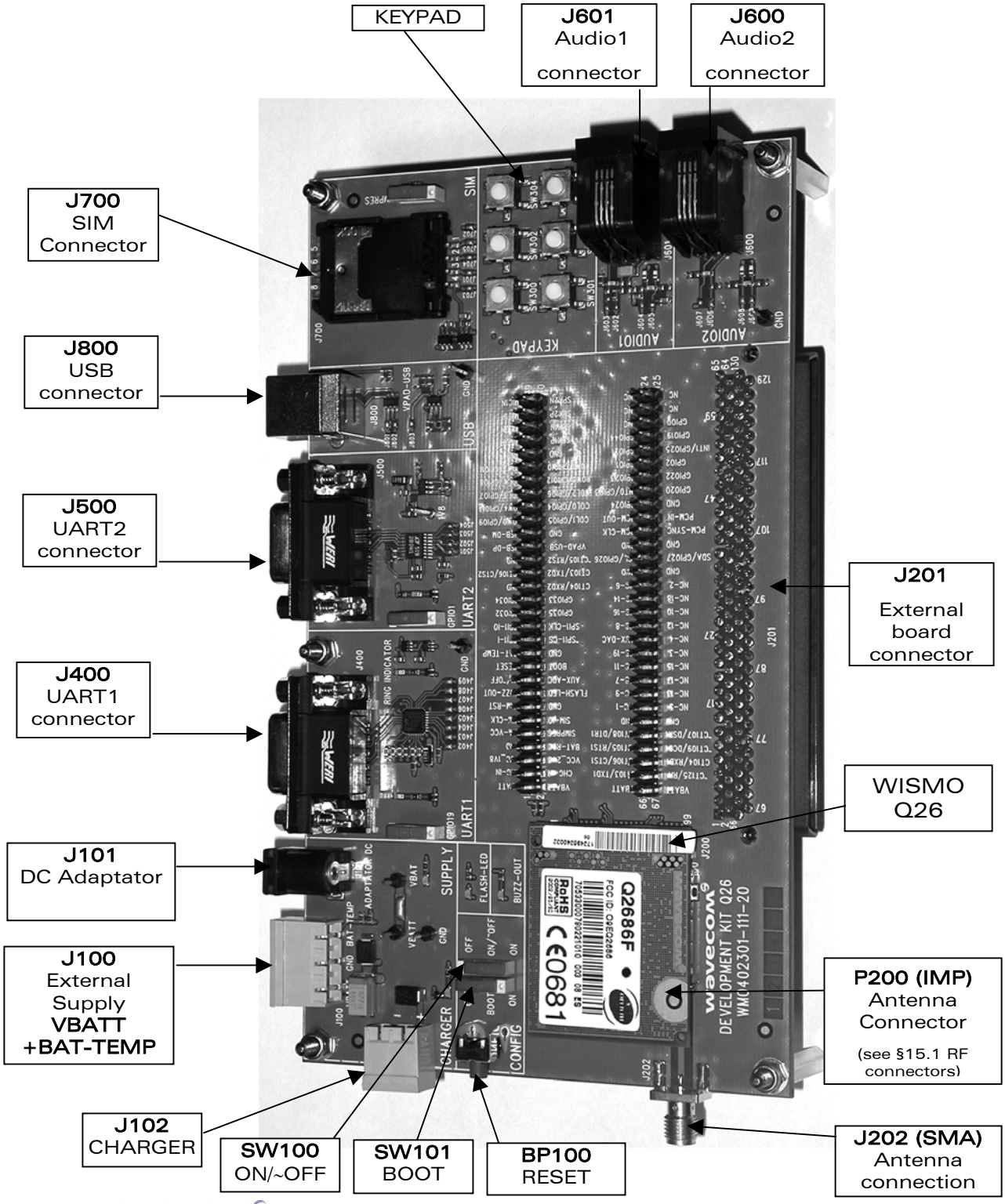
1 Development Kit Q26 description

Refer to implementation.pdf file for further information about the component designation.



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2 General description

2.1 Development Kit Q26

All functions of the Development Kit Q26 are provided by the WISMO Quik Q26 Series module.

Interfaces on board:

- 1 external connector and TP to access all signals of WISMO Quik Q26 Series module
- Main serial link RS232, UART1* with full signals
- Ring Indicator
- Auxiliary serial link RS232, UART2* with 4 signals
- Slave USB* 1.1
- SIM* 1.8/3v with gestion of Sim presence
- 6-button Keypad
- 2 AUDIO* connectors (AUDIO 1, AUDIO 2)
- LEDs for several indications
- RESET Pushbutton
- Power supply connectors
- ON/OFF switch
- BOOT switch
- Buzzer LED
- Flash LED (for network presence)
- Charger LED

*The particularity of the Development Kit Q26 it is that each signals peripheral can be electrically removed independently via special solder. (cf § 2.2).

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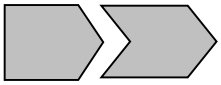
2.2 Special solder

The PCB print is used for the peripherals that are electrically removable.

To connect signals between the WISMO module and the dedicated connector on the Development Kit Q26, solder these PCB print.

To connect signals between the WISMO module and the external board connector (J201) it is recommended not to solder these PCB print. (i.e. prototyped a daughter board)



These interfaces are electrically removable via the "special solder":

- UART1 (from J402 to J409)
- UART2 (from J501 to J504)
- AUDIO1 (from J602 to J605)
- AUDIO2 (from J606 to J609)
- SIM (from J701 to J705)
- USB (from J801 to J803,signals plus power)
- Power supply of Development Kit (from J103, all components except the WISMO module).

2.3 RoHS compliance

The Q26 module is now compliant with RoHS (Restriction of Hazardous Substances in Electrical and Electronic Equipment) Directive 2002/95/EC which sets limits for the use of certain restricted hazardous substances. This directive states that "from 1st July 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE)".

Modules which are compliant with this directive are identified by the RoHS logo on their label.

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3 External board connector (J201) description

3.1 WISMO Quik Q2686 signals

All signals of the WISMO module are connected to the external board connector (J201). and are available via TP on the center of Development Kit Q26. The pinouts of J201 connector are listing below.

For further information about the WISMO Quik Q2686 signals and multiplexing, refer to document [2].

3.2 External board connector (J201)

Pin #	Name	I/O*	I/O type	Description
1	VBATT	I	Supply	Battery Input
2	VBATT	I	Supply	Battery Input
3	CHG-IN	I	Supply	Current source input
4	CHG-IN	I	Supply	Current source input
5	VCC_1V8	O	Supply	1.8V digital supply output
6	VCC_2V8	O	Supply	2.8V digital supply output
7	GND			
8	BAT-RTC	I/O	Supply	RTC back-up supply
9	SIM-VCC	O	Supply	SIM card supply
10	SIMPRES/ GPIO18	I	1V8	SIM card detect
11	SIM-CLK	O	1V8 / 2V9	SIM clock
12	SIM-IO	I/O	1V8 / 2V9	SIM data
13	~SIM-RST	O	1V8 / 2V9	SIM reset
14	GND			
15	BUZZ-OUT	O	Open drain	PWM / Buzzer output
16	FLASH-LED	O	Open Drain	Charging indicator
17	ON/ ~OFF	I	VBATT	Module Power ON
18	AUX-ADC	I	Analog	Auxiliary ADC

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Pin #	Name	I/O*	I/O type	Description
19	~RESET	I/O	1V8	Module Reset
20	BOOT	I	1V8	SW download (with a Wavecom software "DWLwin")
21	BAT-TEMP	I	Analog	ADC input for battery temperature measurement
22	GND			
23	SPI1-I / GPIO30	I	2V8	SPI1 Serial input (Multiplexed)
24	~SPI1-CS / GPIO31	O	2V8	SPI1 Enable (Multiplexed)
25	SPI1-IO / GPIO29	I/O	2V8	SPI1 Serial input/output (Multiplexed)
26	SPI1-CLK / GPIO28	O	2V8	SPI1 Serial Clock (Multiplexed)
27	SPI2-CLK / GPIO32	O	2V8	SPI2 Serial Clock (Multiplexed)
28	SPI2-CS / GPIO35	O	2V8	SPI2 Enable (Multiplexed)
29	SPI2-I / GPIO34	I	2V8	SPI2 Serial input (Multiplexed)
30	SPI2-IO / GPIO33	I/O	2V8	SPI2 Serial input/output (Multiplexed)
31	GND			
32	CT104-RXD2 / GPIO15	O	1V8	Auxiliary RS232 Receive Serial Data (According to PC view and Multiplexed)
33	~CT106-CTS2 / GPIO16	O	1V8	Auxiliary RS232 Clear To Send (According to PC view and Multiplexed)
34	CT103-TXD2 / GPIO14	I	1V8	Auxiliary RS232 Transmit Serial Data (According to PC view and Multiplexed)
35	GND			
36	~CT105-RTS2 / GPIO17	I	1V8	Auxiliary RS232 Request To Send (According to PC view and Multiplexed)

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Pin #	Name	I/O*	I/O type	Description
37	USB-DP	I/O	3V3	Differential data interface positive
38	VPAD-USB	I	3V3	USB power supply
39	USB-DM	I/O	3V3	Differential data interface negative
40	GND			
41	ROW0 / GPIO9	I/O	1V8	Row scan (Multiplexed)
42	COL1 / GPIO5	I/O	1V8	Column scan (Multiplexed)
43	ROW4 / GPIO13	I/O	1V8	Row scan (Multiplexed)
44	COL0 / GPIO4	I/O	1V8	Column scan (Multiplexed)
45	COL3 / GPIO7	I/O	1V8	Column scan (Multiplexed)
46	COL2 / GPIO6	I/O	1V8	Column scan (Multiplexed)
47	COL4 / GPIO8	I/O	1V8	Column scan (Multiplexed)
48	ROW3 / GPIO12	I/O	1V8	Row scan (Multiplexed)
49	ROW2 / GPIO11	I/O	1V8	Row scan (Multiplexed)
50	ROW1 / GPIO10	I/O	1V8	Row scan (Multiplexed)
51	GND			
52	GND			
53	MIC2P	I	Analog	Microphone 2 positive input
54	SPK1P	O	Analog	Speaker 1 positive output
55	MIC2N	I	Analog	Microphone 2 negative input
56	SPK1N	O	Analog	Speaker 1 negative output
57	MIC1P	I	Analog	Microphone 1 positive input
58	SPK2P	O	Analog	Speaker 2 positive output
59	MIC1N	I	Analog	Microphone 1 negative input
60	SPK2N	O	Analog	Speaker 2 negative output
61	NC			Not connected
62	NC			Not connected
63	NC			Not connected
64	NC			Not connected
65	NC			Not connected
66	VBATT	I	Supply	Battery Input

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Pin #	Name	I/O*	I/O type	Description
67	VBATT	I	Supply	Battery Input
68	CT103-TXD1 / GPIO36	I	2V8	Main RS232 Transmit Serial Data (According to PC view and Multiplexed)
69	~CT125-RI1 / GPIO42	O	2V8	Main RS232 Ring indicator (According to PC view and Multiplexed)
70	~CT106-CTS1 / GPIO39	O	2V8	Main RS232 Clear To Send (According to PC view and Multiplexed)
71	CT104-RXD1 / GPIO37	O	2V8	Main RS232 Receive Serial Data (According to PC view and Multiplexed)
72	~CT105-RTS1 / GPIO38	I	2V8	Main RS232 Request To Send (According to PC view and Multiplexed)
73	~CT109-DCD1 / GPIO43	O	2V8	Main RS232 Data Carrier Detect (According to PC view and Multiplexed)
74	~CT108-2-DTR1 / GPIO41	I	2V8	Main RS232 Data Terminal Ready (According to PC view and Multiplexed)
75	~CT107-DSR1 / GPIO40	O	2V8	Main RS232 Data Set Ready (According to PC view and Multiplexed)
76	GND			
77	GND			
78	NC-1			Not connected
79	NC-5			Not connected
80	NC-9			Not connected
81	NC-13			Not connected
82	NC-7			Not connected
83	NC-17			Not connected

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Pin #	Name	I/O*	I/O type	Description
84	NC-11			Not connected
85	NC-15			Not connected
86	NC-19			Not connected
87	NC-3			Not connected
88	AUX-DAC	O	2V2	DAC
89	NC-4			Not connected
90	NC-8			Not connected
91	NC-12			Not connected
92	NC-16			Not connected
93	NC-10			Not connected
94	NC-14			Not connected
95	NC-18			Not connected
96	NC-6			Not connected
97	NC-2			Not connected
98	GND			
99	GND			
100	SCL / GPIO26	I/O	Open drain	Serial Clock / General purpose input-output
101	SDA / GPIO27	I/O	Open drain	Serial Data / General purpose input-output
102	GND			
103	GND			
104	PCM-CLK	O	1V8	Data clock
105	PCM-SYNC	O	1V8	Frame synchronization 8Khz
106	PCM-OUT	O	1V8	Data output
107	PCM-IN	I	1V8	Data input
108	GPIO24	I/O	2V8	General purpose input / output
109	GND			
110	INT0/ GPIO3	I/O	1V8	Interruption 0 / General purpose input-output
111	GPIO20	I/O	2V8	General purpose input / output

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Pin #	Name	I/O*	I/O type	Description
2	GPIO23	I/O	2V8	General purpose input / output
113	GPIO22	I/O	2V8	General purpose input / output
114	GPIO1	I/O	1V8	General purpose input / output
115	GPIO2	I/O	1V8	General purpose input / output
116	GPIO21	I/O	2V8	General purpose input / output
117	INT1/ GPIO25	I/O	2V8	Interruption 1 / General purpose input-output
118	GPIO44	I/O	2V8	General purpose input / output
119	GPIO19	I/O	2V8	General purpose input / output
120	NC			Not connected
121	GPIO0	I/O	1V8	General purpose input / output
122	NC			Not connected
123	NC			Not connected
124	NC			Not connected
125	NC			Not connected
126	NC			Not connected
127	NC			Not connected
128	NC			Not connected
129	NC			Not connected
130	NC			Not connected

Figure 2: Pin out of the external board connector (J201)

*According to WISMO view.

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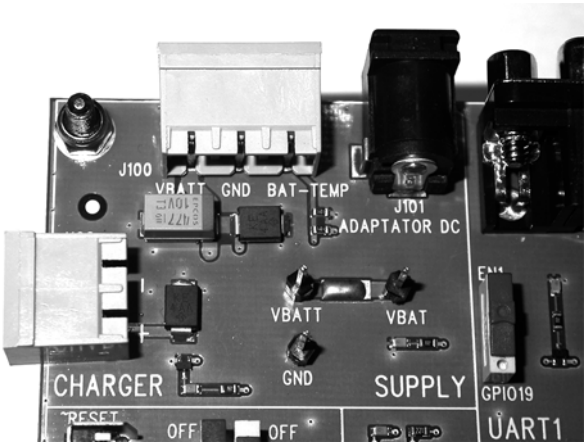
4 Power supply

There are at choice two power supply for starting the Development Kit Q26.

These power supplies are protected by a transient voltage suppressor.

- External supply in DC (via J100).
- Sector adaptator AC/DC (via J101).



Each of these power supply are used for the WISMO module AND the peripherals on the Development Kit Q26.

It is possible to dissociate the power supply for the WISMO module (“VBATT”, measurable via the TP153) and for the peripherals (“VBAT”, measurable via the TP157).

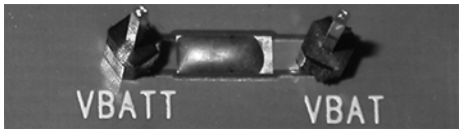


Figure 10: Zoom on “J103”

A measure of current is possible between the VBATT and VBAT via J103 (cf § 17).

4.1 LED signalization (“VBAT”)

“VBAT” indicator is a green LED. It signalizes the external power supply presence. In other words, peripherals AND WISMO Quik Q268x Series module are respectively powered via VBAT and VBATT.

So the Development Kit Q26 is operational.

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LED	VBATT	VBAT
Light ON	ON	ON
Light OFF	Can be ON*	OFF

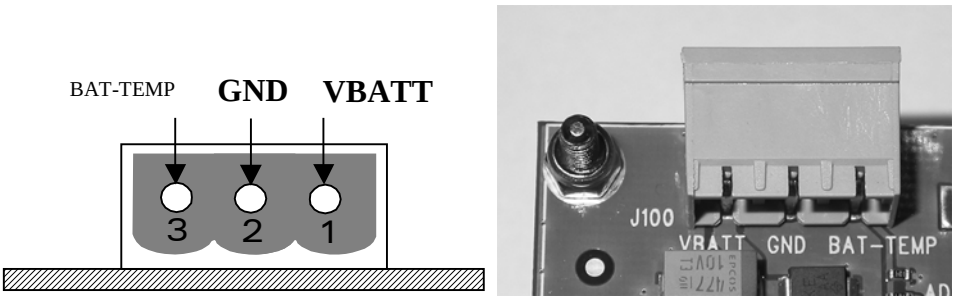
Figure 10: LED of "VBAT"

* If the special solder, J103, is not soldered and external power supply is plugged in.

4.2 External supply

The J100 connector has three contacts. This is **J100:1-2** who provide the power supply.

For J100:2-3 cf §4.2.1.



	V_{MIN}	V_{NOM}	V_{MAX}
VBATT[1,2]	3.2v	3.6v	4.5v

Figure 11: Power supply voltage

(1) : This value has to be guarantied during the burst (with 2.0A Peak in GSM or GPRS mode)
(2) : max operating Voltage Stationary Wave Ratio (VSWR) 2:1

4.2.1 BAT-TEMP

This signal is an input (ADC) in the WISMO module.

Also J100:2-3 allows simulating the temperature level from a sensor inside the battery.

	V_{MIN}	V_{NOM}	V_{MAX}
BAT-TEMP	0	-	2v

Figure 12: **Electrical Characteristics**

The divisor bridge with R100, R101 is not finalized (cf doc[2]).

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4.3 Sector adaptator

The J101 connector allows to power the Development Kit Q26 from AC power supply cable.

The only supported reference is:

Manufacturer	Reference
SINPRO	SPU12C-101

Figure 12: **Sector adaptator reference**

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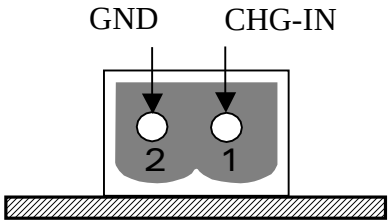
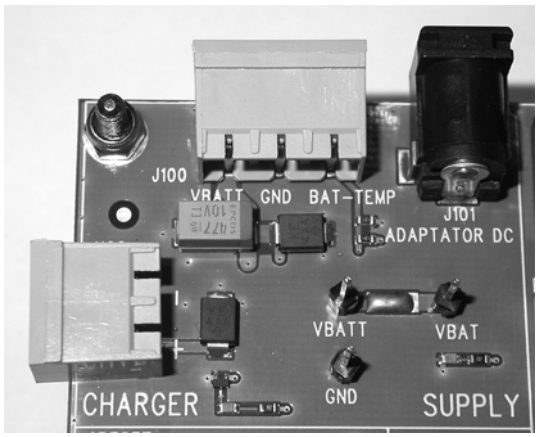
5 Charger supply & LED

5.1 Charger supply

The J102 is used to simulate a charger.

This power supply is protected by a transient voltage suppressor.



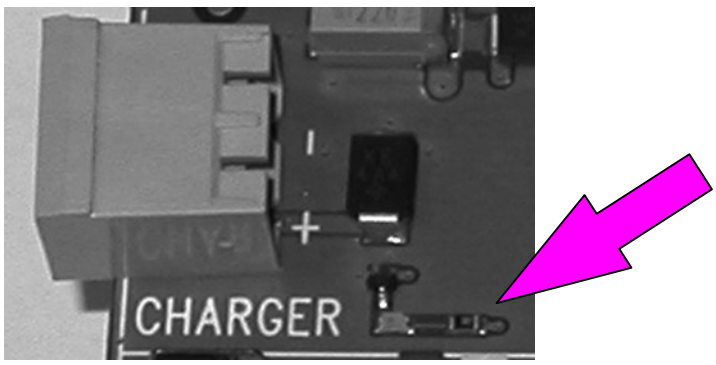


	V_{MIN}	V_{NOM}	V_{MAX}
CHG-IN Voltage (for I=Imax)	4.6*v		6v

Figure 13: Power supply voltage

* To be parametrized as per battery manufacturer

5.2 LED signalization ("CHARGER")



"CHARGER" indicator is a red LED controlled by the signal CHARGER-LED provided by the WISMO module. It is the GPIO0.

This LED indicates (via software) if a charger (power supply into J102) has been seeing by the WISMO module.

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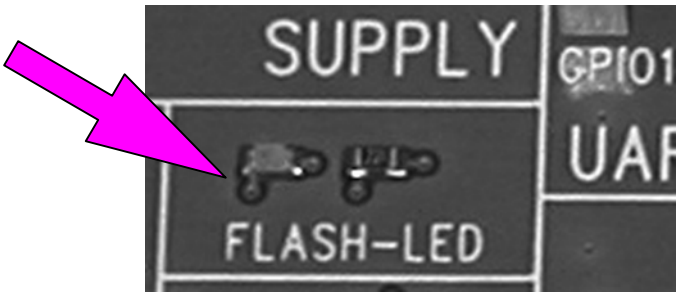
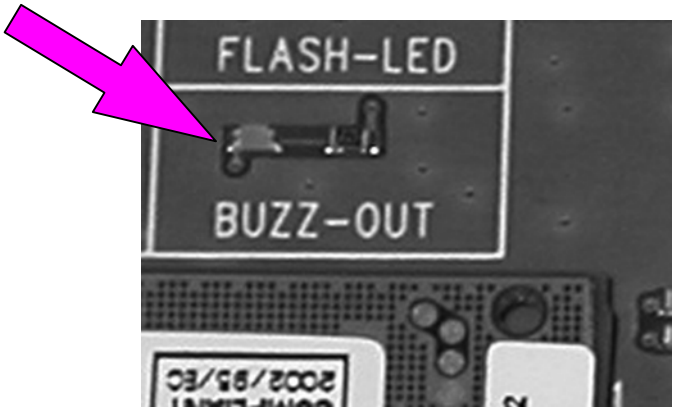
6 Flash LED ("FLASH-LED")



When 2.8V<VBATT<3.2V and the charger is connected:

- the green LED "FLASH-LED" flashes
- the pre-charging phase of the battery starts
- a current generator is connected to the CHARGER connector (J102).

7 Buzzer LED ("BUZZ-OUT")



"BUZZ-OUT" indicator is a yellow LED controlled by the signal with the same name provided by the WISMO module. It is drove by the PWM signal (open drain).

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8 Control functions

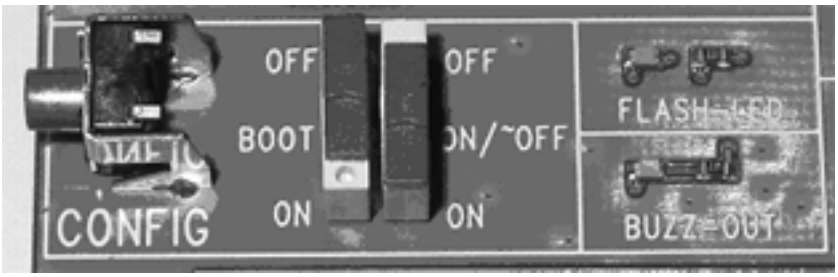

Figure 14: Switches configuration

8.1 ON/~OFF

Once the Development Kit Q26 is supplied by the external source (via J100 or J101), the ON/~OFF switch provides the VBATT to the module when it is push to "ON".

After 1 second it can be switch off. (cf doc [2] and doc [3]).

8.2 ~RESET

The pushbutton ~RESET start a general reset when it is pushed.

A Operating System reset will be preferred to a HW reset.

8.3 BOOT

The BOOT switch it only use for download new software to the module via UART1 with the Wavecom software "DWLWin".

It must be on "OFF" position.

Mode	BOOT	ON/~OFF
Normal	OFF	ON
Backup download With „DWLWin"	ON	ON

Figure 15: BOOT configuration

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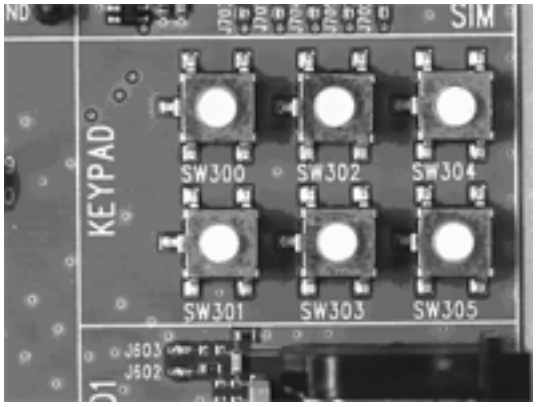
9 Keypad function

Only 6 keypads are connected on the Development Kit Q26.



The following table shows the matrix of the keyboard:

	COL0	COL1	COL2	COL3	COL4
ROW0	SW300	-	-	-	-
ROW1	-	SW301	-	-	-
ROW2	-	-	SW302	-	-
ROW3	-	-	-	SW303	SW304
ROW4	-	-	-	-	SW305

Figure 16: Matrix of the keyboard

Example: If you press the key SW300, an electric detection will be made on ROW0 and COL0.

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10 UART1 function

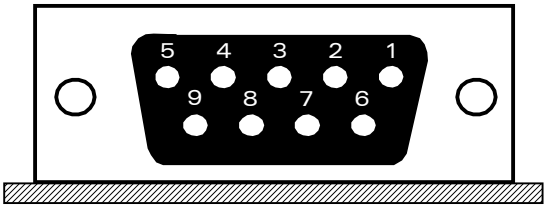
The UART1 function is the main RS232 serial link of WISMO module in 2.8v.

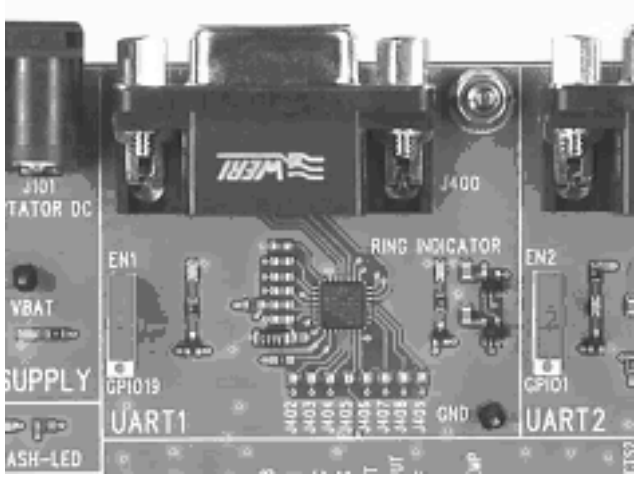
This function can be electrically detached with special solder not soldered (from J402 to J409).

For example if you want use this signals via the external connector (J201) without perturbed these.

By default, the UART1 is available on its dedicated connector J400 (with from J402 to J409 soldered).

10.1 UART1 connector (J400)





J400 is a SUB-D 9-pin female connector. The Table bellow gives the description of the signals of this connector.

Pin Number	Signal Name	I/O	I/O Type	Description
1	CT109 DCD	O	RS232 (V24/V28)	Data Carrier Detect
2	CT104 RXD	O	RS232 (V24/V28)	Receive serial data
3	CT103 TXD	I	RS232 (V24/V28)	Transmit serial data
4	CT108-2 DTR	I	RS232 (V24/V28)	Data Terminal Ready
5	GND			Ground

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6	CT107 DSR	O	RS232 (V24/V28)	Data Set Ready
7	CT105 RTS	I	RS232 (V24/V28)	Request To Send
8	CT106 CTS	O	RS232 (V24/V28)	Clear To Send
9	CT125 RI	O	RS232 (V24/V28)	Ring Indicator

Figure 3: Pin out of the UART1 connector

10.2 Configuration of the UART1

The Development Kit Q26 acts as a DCE (Data Communication Equipment) and is connected to a DTE (Data Terminal Equipment - PC or terminal) with a "straight cable".

This is a full UART.

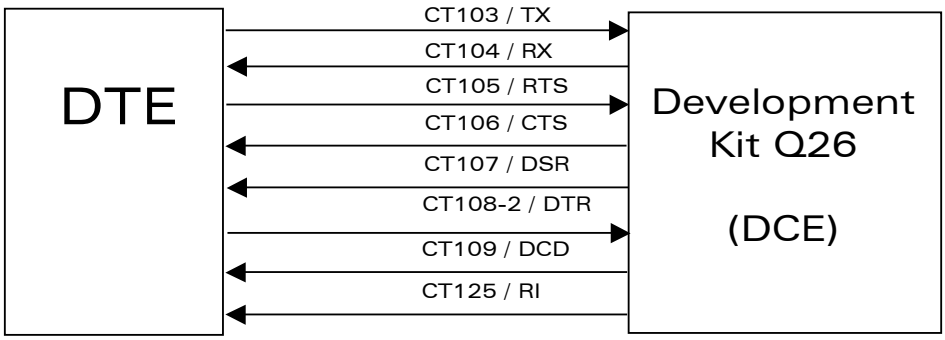

Figure 17: RS232 main serial link

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10.3 Enable UART1 ("EN1/GPIO19")

A switch "EN1/GPIO19" can drive the shutdown mode of the RS232 transceiver.

By default the RS232 transceiver is in active mode. (switch to "EN1"). In the other case (switch to "GPIO19") this is this GPIO who drive the shutdown mode.

Switch "EN1/GPIO19"		UART1	LED "EN1"
EN1		ON (in hardware)	LIGHTS
GPIO19	0L	ON	LIGHTS
	1L	OFF	EXTINCT

Figure 18: Enable UART1 configuration

10.4 LED signalization

10.4.1 LED "RING INDICATOR"

"RING INDICATOR" indicator is a yellow LED controlled by the ~CT125-RI1/GPIO42 signal provided by the WISMO module.

It is possible to active a « visual » mode with Command AT (AT+WRIM=0, cf doc.[3]). And when there is an incoming call, this signal is low and high all 0.5sec.

So the "RING INDICATOR" LED blinking.

10.4.2 LED "EN1"

"EN1" indicator is a green LED controlled by the EN1 or GPIO19 signals provided by the WISMO module.

LED "EN1" lights when the RS232 transceiver is operational (cf configuration in Figure 18)

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11 UART2 function

The UART2 function is the auxiliary RS232 serial link of WISMO module in 1.8v.

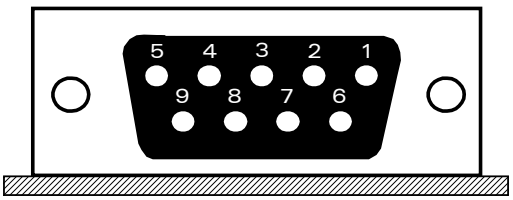
A regulator provides the 1.8v from VBAT (VBAT available for peripherals).

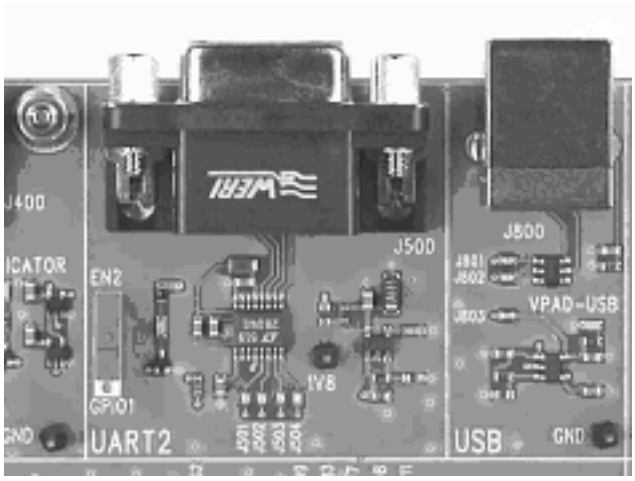
This function can be electrically detached with special solder not soldered (from J501 to J504).

For example if you want use this signals via the external connector (J201) without perturbed these.

By default, the UART2 is available on its dedicated connector J500 (with from J501 to J504 soldered).

11.1 UART2 connector (J500)





J500 is a SUB-D 9-pin female connector. The Table bellow gives the description of the signals of this connector.

Pin Number	Signal Name	I/O	I/O Type	Description
1	Not used*	-	-	-
2	CT104 RXD	O	RS232 (V24/V28)	Receive serial data
3	CT103 TXD	I	RS232 (V24/V28)	Transmit serial data
4	Not used*	-	-	-
5	GND			Ground
6	Not used*	-	-	-

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7	CT105 RTS	I	RS232 (V24/V28)	Request To Send
8	CT106 CTS	O	RS232 (V24/V28)	Clear To Send
9	Not used*	-	-	-

Figure 4: Pin out of the UART2 connector

*Only these 4 signals are used.

11.2 Configuration of the UART2

The Development Kit Q26 acts as a DCE (Data Communication Equipment) and is connected to a DTE (Data Terminal Equipment - PC or terminal) with a "straight cable".

There are only 4 signals on the UART2.

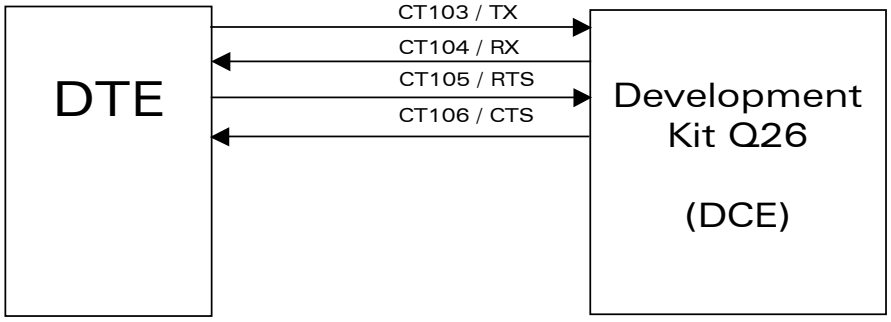

Figure 19: RS232 auxiliary serial link

11.3 Enable UART2 ("EN2/GPIO1")

A switch "EN2/GPIO1" can drive the shutdown mode of the RS232 transceiver.

By default the RS232 transceiver is in active mode. (switch to "EN2"). In the other case (switch to "GPIO1") this is this GPIO who drive the shutdown mode.

Switch "EN2/GPIO1"		UART2	LED "EN2"
EN2		ON (in hardware)	LIGHTS
GPIO1	1L	ON	LIGHTS
	0L	OFF	EXTINCT

Figure 20: Enable UART2 configuration

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11.4 LED signalization (“EN2”)

“EN2” indicator is a green LED controlled by the EN2 or GPIO1 signals provided by the WISMO module.

LED “EN2” lights when the RS232 transceiver is operational (cf configuration in Figure 20).

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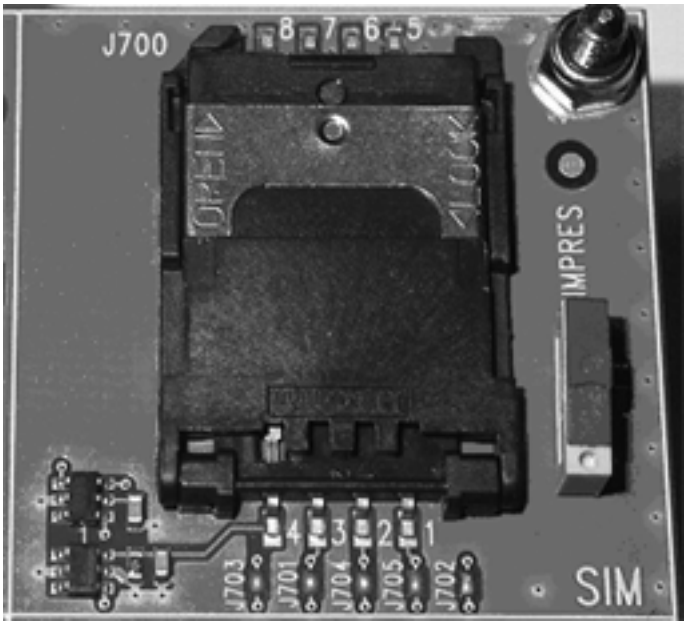
12 SIM function

12.1 SIM connector (J700)



J700 is a standard 1V8 or 3V SIM socket.

The Table bellow gives the description of the signals of this connector.

Pin Number	Signal Name	I/O	I/O Type	Description	Comment
1	SIM-VCC	O	1V8 or 2V9	SIM Power Supply	
2	SIM-RST	O	1V8 or 2V9	SIM Reset	
3	SIM-CLK	O	1V8 or 2V9	SIM Clock	
4	SIMPRES	I	1V8 max.(*)	SIM Card Detect	Multiplexed with GPIO18
5	GND			Ground	
6	VPP	Not connected			
7	SIM_DATA	I/O	1V8 or 2V9	SIM Data	
8	CC8		1V8	SIMPRES signal supply	

Figure 7: Pin out of the SIM connector

(*) For either 1V8 or 3V SIM cards.

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The SIM interface controls 2.9V and 1.8V SIM cards.

ESD protections are used on the 5 SIM signals

This function can be electrically detached with special solder not soldered (from J701 to J705).

For example if you want use this signals via the external connector (J201) without perturbed these.

By default, the SIM signals are available on its dedicated connector J700 (with from J701 to J705 soldered).

There is an option on the SIMPRES. If the SIMPRES signal is used by the application (detection of SIM card presence by the SIM socket), the "SIMPRES" switch must move to "SIMPRES" (contact 1-2 used).

Else for simulate all the time the SIM card presence (without the SIM socket) the "SIMPRES" switch must move to other side (contact 2-3 used).

Switch "SIMPRES"	SIM card presence
SIMPRES	Depend of the real SIM presence
Other side	Simulate a SIM presence

Figure 21: SIMPRES configuration

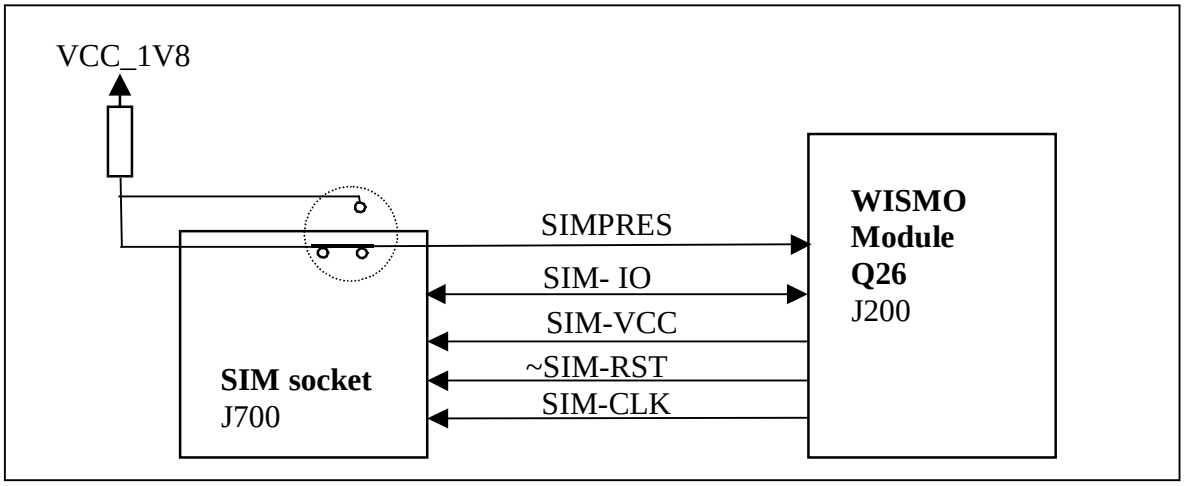

Figure 22: Schematic of switch "SIMPRES"

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13 USB function

ESD protections are used on the 2 USB signals.

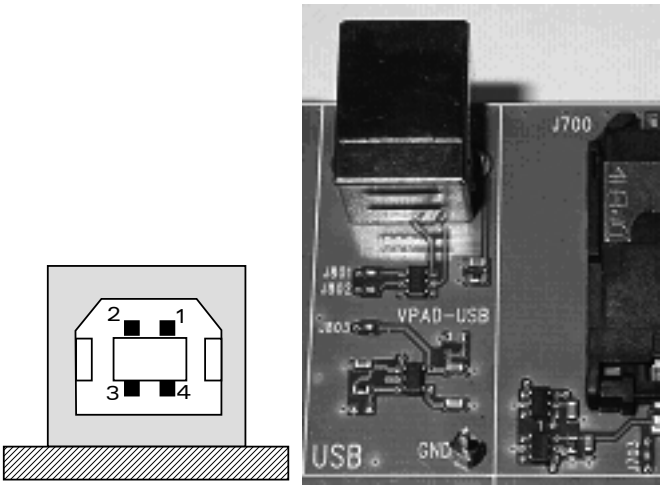
This function can be electrically removed with special solder not soldered (from J801 to J803).

For example if you want use this signals via the external connector (J201) without perturbed these.

By default, the USB signals are available on its dedicated connector J800 (from J801 to J803). soldered).

13.1 USB connector (J800)

J800 is a USB Series type B receptacle.



Pin Number	Signal Name	I/O	I/O Type	Description
1	VBUS	I	Power supply	+ 5 VDC
2	DM	I/O	Digital	USB negative line
3	DP	I/O	Digital	USB positive line
4	GND		Power supply	Ground
Shell	Shielding			

Figure 8: Pin out of the USB connector

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13.2 LED signalization ("VPAD-USB")

"VPAD-USB" indicator is a green LED controlled by the presence of VBUS (when the plug is in the USB connector).

The power supply for the USB interface in the WISMO module is providing from the USB connector.

If a USB cable is plugged the LED light and VPAD-USB (the output of a regulator (LDO)) is to 3.3v.

But the special solder (J803) must be soldered for to power the USB interface in the WISMO module. So by default J803 is soldered.

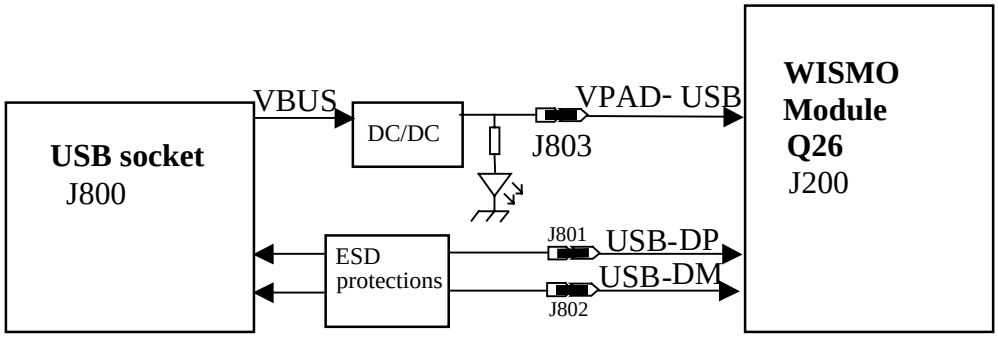

Figure 23: USB schematic

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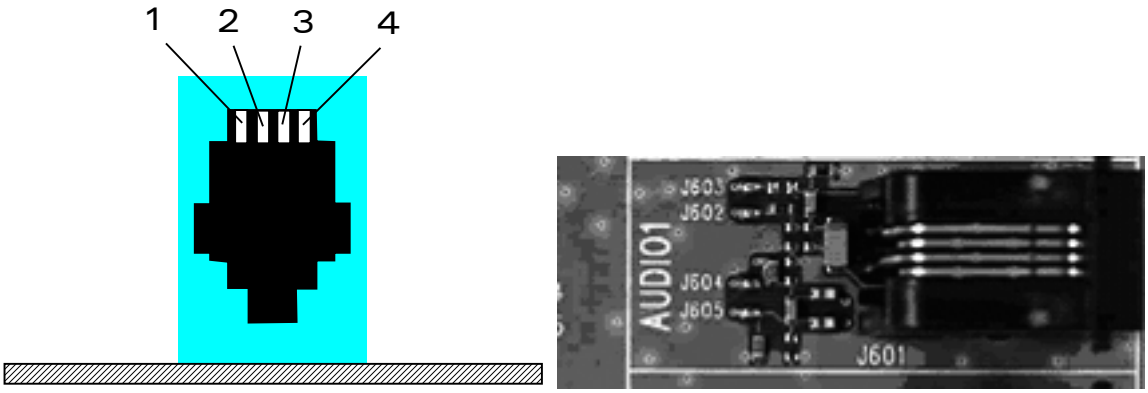
14 AUDIO functions

There are 2 AUDIO interfaces in the WISMO module.

14.1 AUDIO1 connector (J601)



J601 is a RJ9 4-pin connector.

The Table bellow gives the description of the signals of this connector.

Pin Number	Signal Name	I/O	I/O Type	Description
1	MIC1N	I	Analog	Auxiliary microphone negative input
2	SPK1N	O	Analog	Auxiliary speaker negative output
3	SPK1P	O	Analog	Auxiliary speaker positive output
4	MIC1P	I	Analog	Auxiliary microphone positive input

Figure 5: Pin out of the AUDIO1 connector

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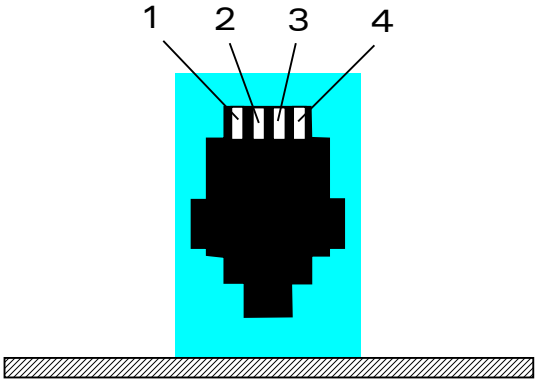
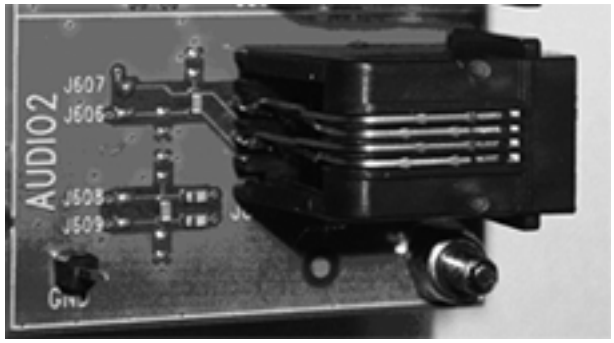
14.2 AUDIO2 connector (J600)





J600 is a RJ9 4-pin connector.

The Table bellow gives the description of the signals of this connector.

Pin Number	Signal Name	I/O	I/O Type	Description
1	MIC2N	I	Analog	Main microphone negative input
2	SPK2N	O	Analog	Main speaker negative output
3	SPK2P	O	Analog	Main speaker positive output
4	MIC2P	I	Analog	Main microphone positive input

Figure 6: Pin out of the AUDIO2 connector

14.3 Audio functions description

These functions can be electrically removed with special solder not soldered (from J602 to J609).

For example if you want use this signals via the external connector (J201) without perturbed these.

By default, AUDIO signals are available on its dedicated connector J601 (for AUDIO1), and J600 (for AUDIO2) (from J602 to J609 soldered).

The microphone inputs of AUDIO2 already include the biasing for an electret microphone allowing an easy connection.

The microphone inputs of AUDIO1 needs to have an external biasing if an electret micro is used.

The Main Audio is named “AUDIO2”.

The Auxiliary Audio is named “AUDIO1”.

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Mode	Single ended	Differential
AUDIO2	NO	YES
AUDIO1	YES	NO

Figure 24: AUDIO configuration

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15 Antenna function

The antenna is connected to the board via the SMA connector.

The antenna cable is fitted with a FME connector. An SMA/FME adaptator is supplied to permit the connection to the board.

15.1 RF connectors (P200+J202)

Pin Number	Signal Name	I/O	I/O Type	Description
1	ANT		RF 50 Ω	RF signal
2, 3	GND			Ground

Figure 9: Pin out of the RF connector

WARNING
Be careful with the IMP connector. It is only made for 20 mating and unmating.

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16 ESD functions

External ESD protections are added on the Development Kit Q26 for the following signals:

- SIM interface signals: SIMPRES, SIM-VCC, SIM-IO, SIM-CLK, SIM-RST.
- USB interface signals: USB-DP, USB-DM.

The others interfaces signals are protected in interne:

- UART1 signals with the ADM3307 tranceiver (±15kV).
- UART2 signals with the LTC2804 tranceiver (±10kV).
- AUDIO1 and AUDIO2 (±15kV).

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17 Measures of courant

For the measure of courant consumed from the WISMO module see the figure 25.

Procedure:

- Remove R203
- Connect “VBAT” with “VCC_2V8”
- Do not solder the “special solder”, J103.
- Plug an external power supply (2.8V) on “VBAT”(+), and (GND) on “GND”(-).

The current consumed by VBATT is ONLY current consumed by the module. (You can use all peripherals).

NOTE: No power supply during the work. Use pewter and a soldering iron (ref.WS80 from Weller or similar) to solder.

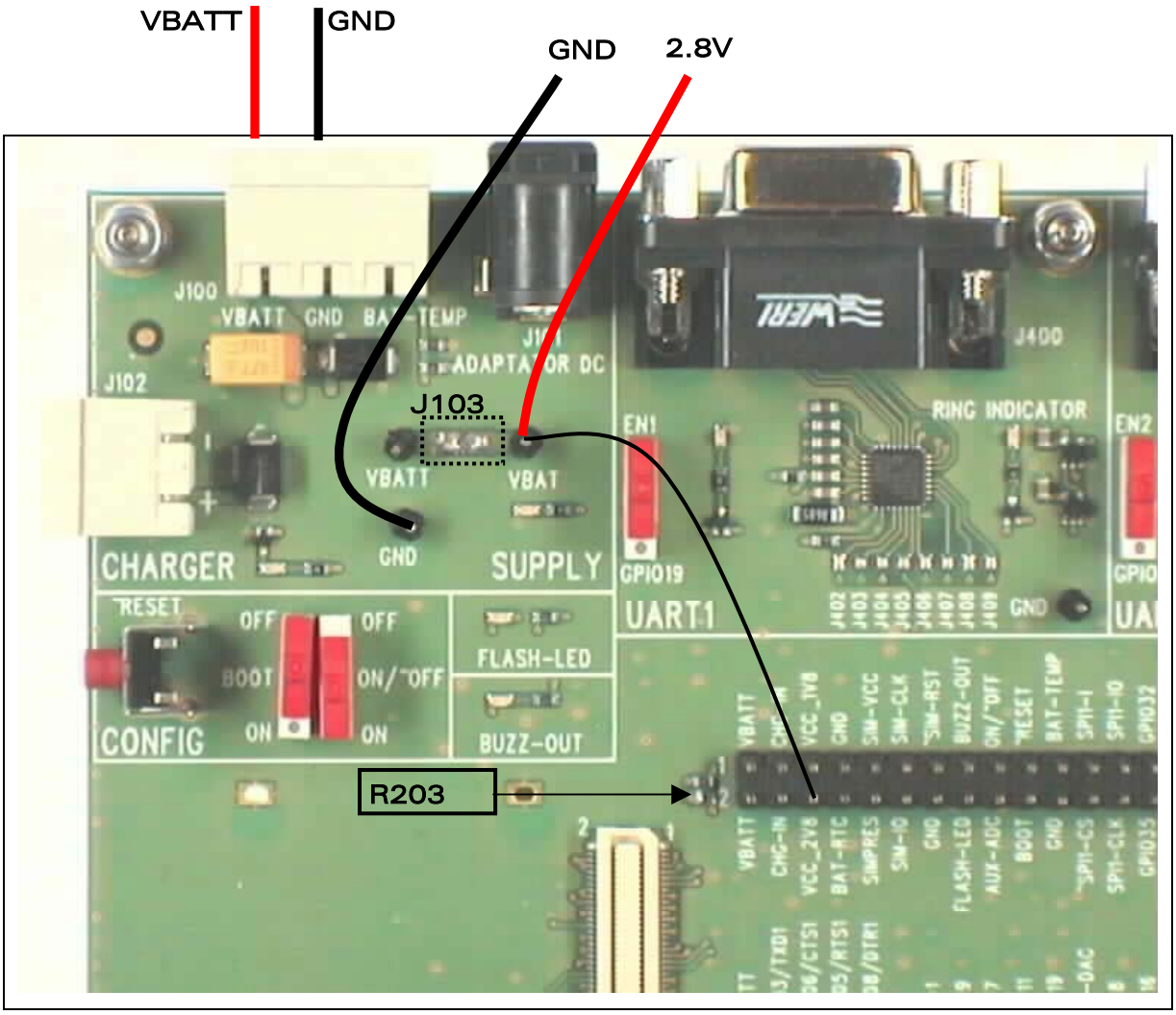

Figure 25: Configuration for the measure of courant

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18 Starting procedure

18.1 Unpacking the Development Kit Q26 components

There is in the Quik WISMO box:

- 1 Development Kit Q26.
- 1 WISMO Quik Q2686 module soldered. (and 1 free).
- 1 SMA/FME antenna connector.
- 1 Power supply connector (3 pins).
- 1 Adaptator AC/DC.
- 1 RS232 cable.
- 1 USB cable.
- 1 handset.
- 1 RJ9 cable (for handset).
- 1 CDROM with all specifications inside.

Refer to doc [4] for communicate between the PC and the WISMO module Q2686.

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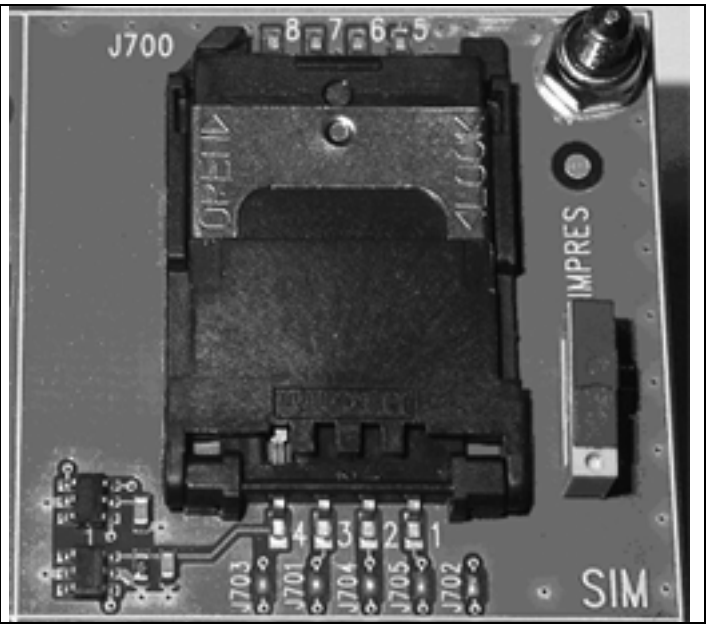
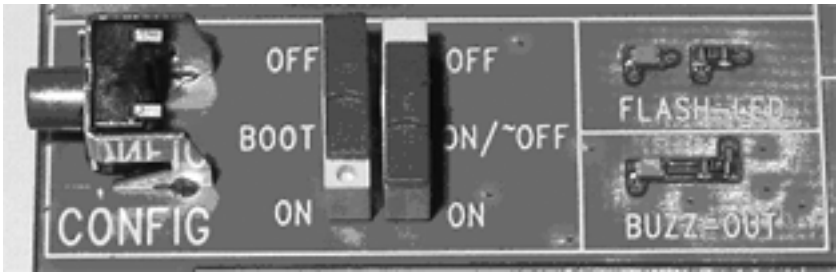
18.2 Setting the accessories

Follow the instrctions below step by step.

▪ Insert a SIM card into the SIM card holder, J700 (if communications are required).	

▪ Make sure that: o The "ON/OFF" switch is on position "ON". o The "BOOT" switch is on position "OFF".	

- Also make sure that:
  - The UART1 switch is on "EN1" position.
  - The UART2 switch is on "EN2" position.
  - The SIM switch is on "SIMPRES" position.
  - The all specials solders are soldered.

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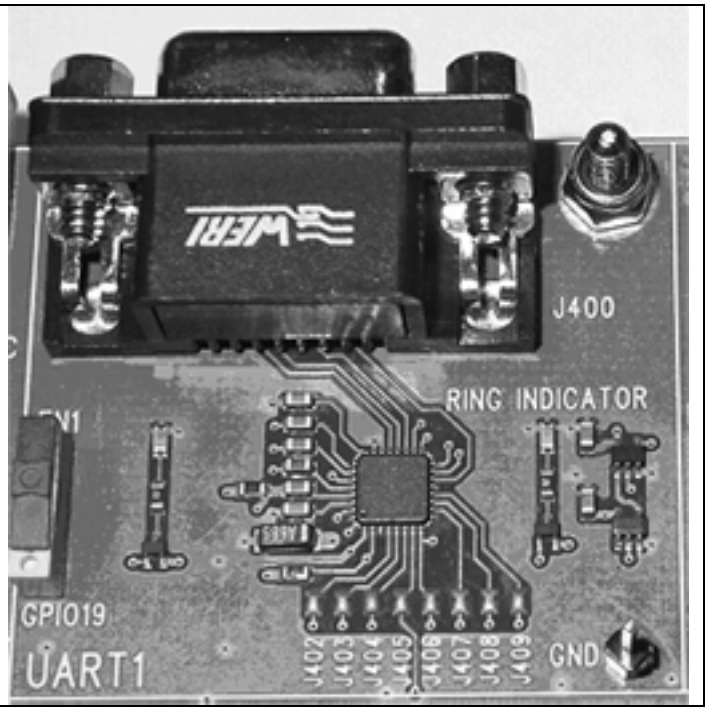
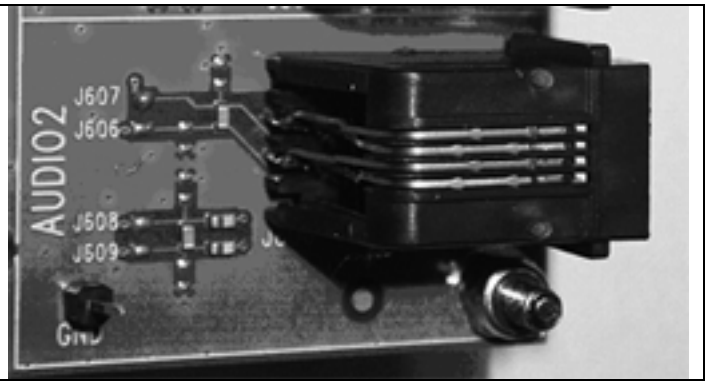
• Connect the RS232 cable, provided with the Development Kit Q268x, between PC port and **J400** of the board. (baud rate by default is 115.2 kbps,8N1)	
• Connect the antenna to the **SMA** connector (J202), (if communications are required).	
• Connect the handset, provided with the Development Kit Q268x, to the Main Audio connector **J600** (if communications are required).	

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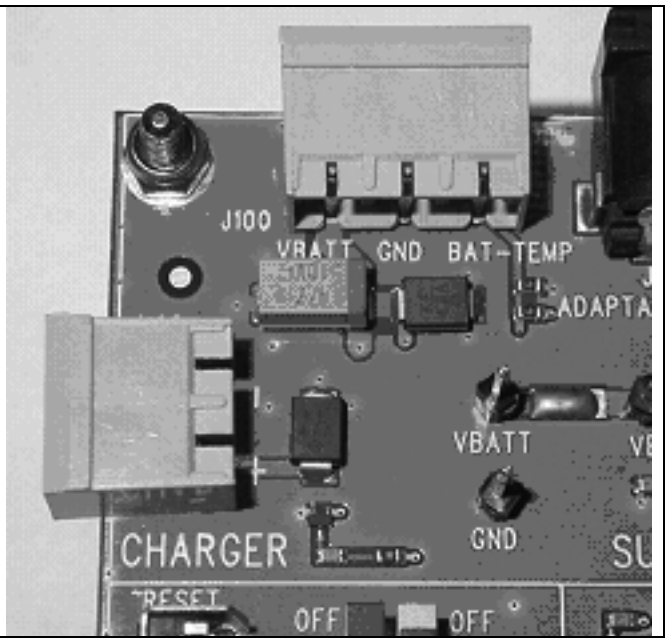
18.3 Power supply

• Plug the power supply (via the adaptator DC (J101) or external power supply, 4V/2.5A (J100)).	

18.4 Communication test

- Using the terminal emulator, send the following command on COM port to communicate with the WISMO module: **AT**↵.
- When the communication is established between the PC and the WISMO module, the last one sends the message **"OK"** as a reply. The message is displayed in the terminal emulator window.

Refer to doc [4] for communicate between the PC and the WISMO module Q2686.

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19 APPENDIXES

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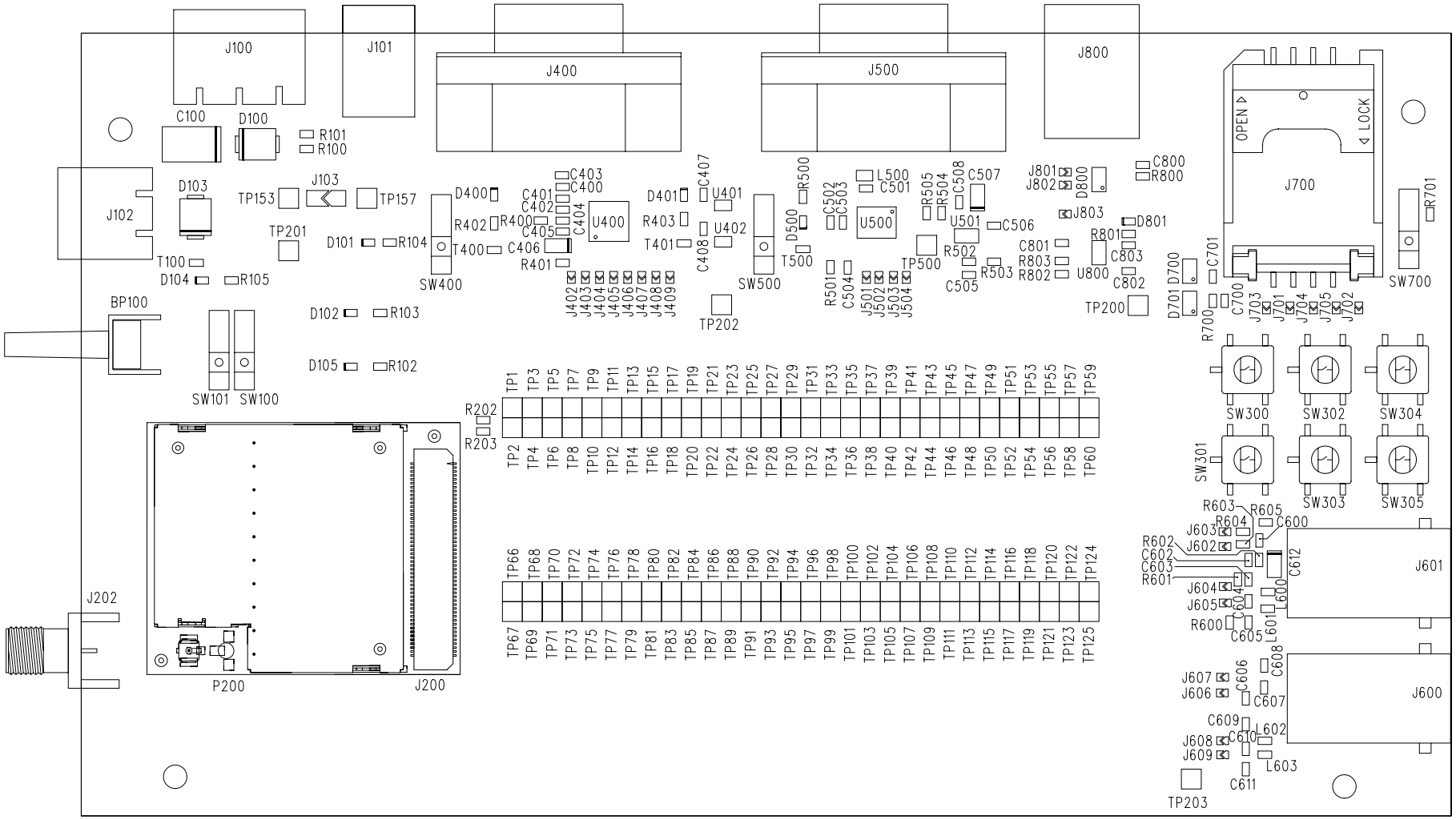

DATE	11/07/2005	wavecom confidential ©
VERSION	V2.0	
ENG	GGI MLR	
TITLE	ASSEMBLY DRAWING TOP	SCALE 0 2 4 mm
PROJECT	DEVELOPMENT KIT Q26	FORMAT --
N° D'IDENTIFIANT	WM0402301-111-20	

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CONNECTORS

RS232 (UART1)

CT104-RXD1/GPIO37
CT103-TXD1/GPIO36
~CT105-RTS1/GPIO38
~CT106-CTS1/GPIO39
~CT108-2-DTR1/GPIO41
~CT107-DSR1/GPIO40
~CT125-RI1/GPIO42
~CT109-DCD1/GPIO43
SHD-UART1

CT104-RXD1/GPIO37
CT103-TXD1/GPIO36
~CT105-RTS1/GPIO38
~CT106-CTS1/GPIO39
~CT108-2-DTR1/GPIO41
~CT107-DSR1/GPIO40
~CT125-RI1/GPIO42
~CT109-DCD1/GPIO43
SHD-UART1

CT104-RXD1/GPIO37
CT103-TXD1/GPIO36
~CT105-RTS1/GPIO38
~CT106-CTS1/GPIO39
~CT108-2-DTR1/GPIO41
~CT107-DSR1/GPIO40
~CT125-RI1/GPIO42
~CT109-DCD1/GPIO43
GPIO19

FULL UART1

RS232 (UART2)

SHD-UART2
CT104-RXD2/GPIO15
CT103-TXD2/GPIO14
~CT105-RTS2/GPIO17
~CT106-CTS2/GPIO16

SHD-UART2
CT104-RXD2/GPIO15
CT103-TXD2/GPIO14
~CT105-RTS2/GPIO17
~CT106-CTS2/GPIO16

GPIO1
CT104-RXD2/GPIO15
CT103-TXD2/GPIO14
~CT105-RTS2/GPIO17
~CT106-CTS2/GPIO16

UART2/IO

POWER & APPLI

BOOT
~RESET
ON/~OFF
CHG-IN
FLASH-LED
BAT-TEMP
BUZZ-OUT
CHARGER-LED

BOOT
~RESET
ON/~OFF
CHG-IN
FLASH-LED
BAT-TEMP
BUZZ-OUT
CHARGER-LED

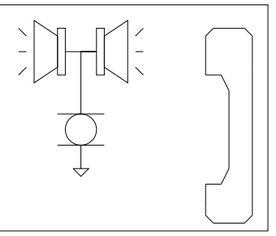
BOOT
~RESET
ON/~OFF
CHG-IN
FLASH-LED
BAT-TEMP
BUZZ-OUT
GPIO0

AUDIO

AUDIO
MIC2P
MIC2N
MIC1P
MIC1N
SPK2P
SPK2N
SPK1P
SPK1N

MIC2P
MIC2N
MIC1P
MIC1N
SPK2P
SPK2N
SPK1P
SPK1N

AUDIO
MIC2P
MIC2N
MIC1P
MIC1N
SPK2P
SPK2N
SPK1P
SPK1N



KEYPAD

KEYPAD
COL0/GPIO4
COL1/GPIO5
COL2/GPIO6
COL3/GPIO7
COL4/GPIO8
ROW0/GPIO9
ROW1/GPIO10
ROW2/GPIO11
ROW3/GPIO12
ROW4/GPIO13

COL0/GPIO4
COL1/GPIO5
COL2/GPIO6
COL3/GPIO7
COL4/GPIO8
ROW0/GPIO9
ROW1/GPIO10
ROW2/GPIO11
ROW3/GPIO12
ROW4/GPIO13

COL0/GPIO4
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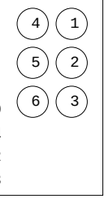
ROW3/GPIO12
ROW4/GPIO13



USB

USB
VPAD-USB
USB-DP
USB-DM

VPAD-USB
USB-DP
USB-DM

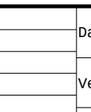
VPAD-USB
USB-DP
USB-DM

SIM

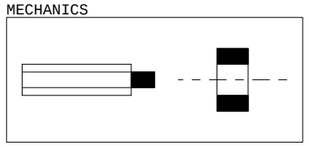
SIM
SIM-VCC
~SIM-RST
SIM-CLK
SIM-IO
SIMPRES/GPIO18

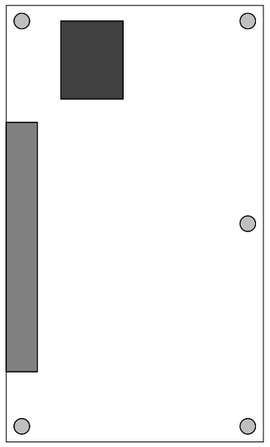
SIM-VCC
~SIM-RST
SIM-CLK
SIM-IO
SIMPRES/GPIO18

SIM-VCC
~SIM-RST
SIM-CLK
SIM-IO
SIMPRES/GPIO18



MECHANICS





PCB=V2.0
MISC1

P1 P2 P3 P4

TROU1
TM3.2P6.5

TROU2
TM3.2P6.5

TROU5
TM3.2P6.5

TROU3
TM3.2P6.5

TROU4
TM3.2P6.5

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SCHEMATIC:	HIERARCHIC	
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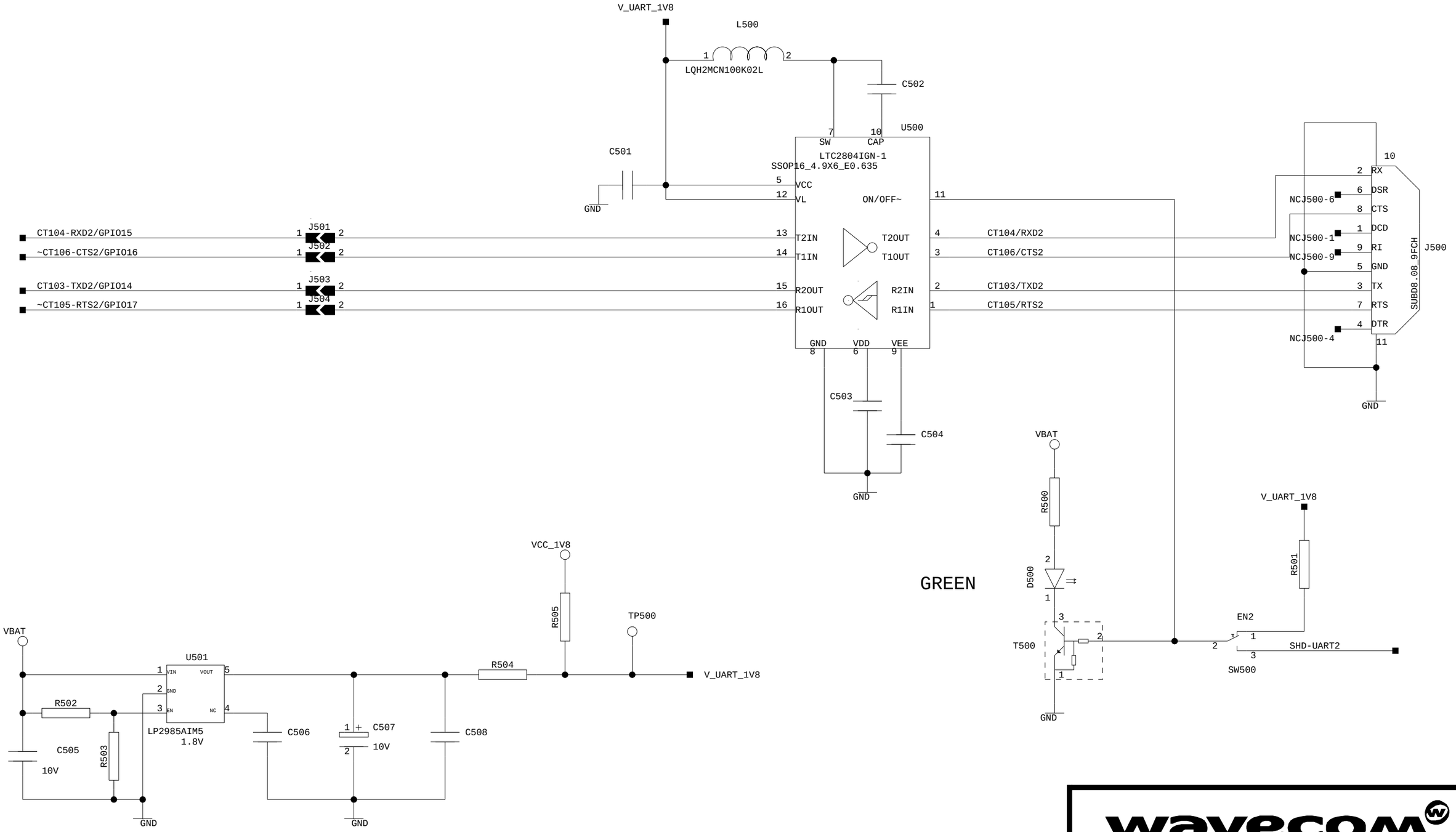
Verify by:	FDL	Sheet : 0/8
Made-by:	GGI	



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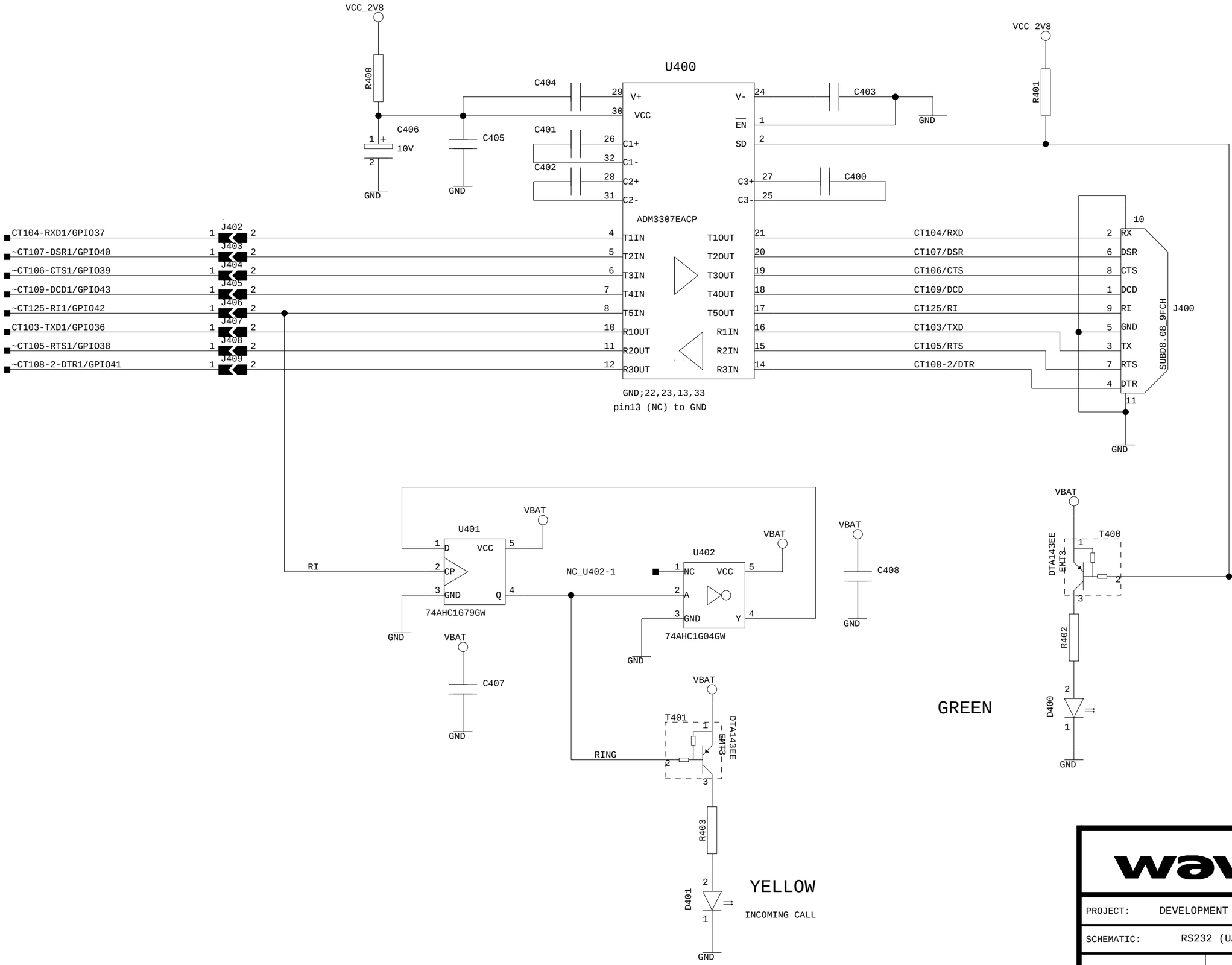

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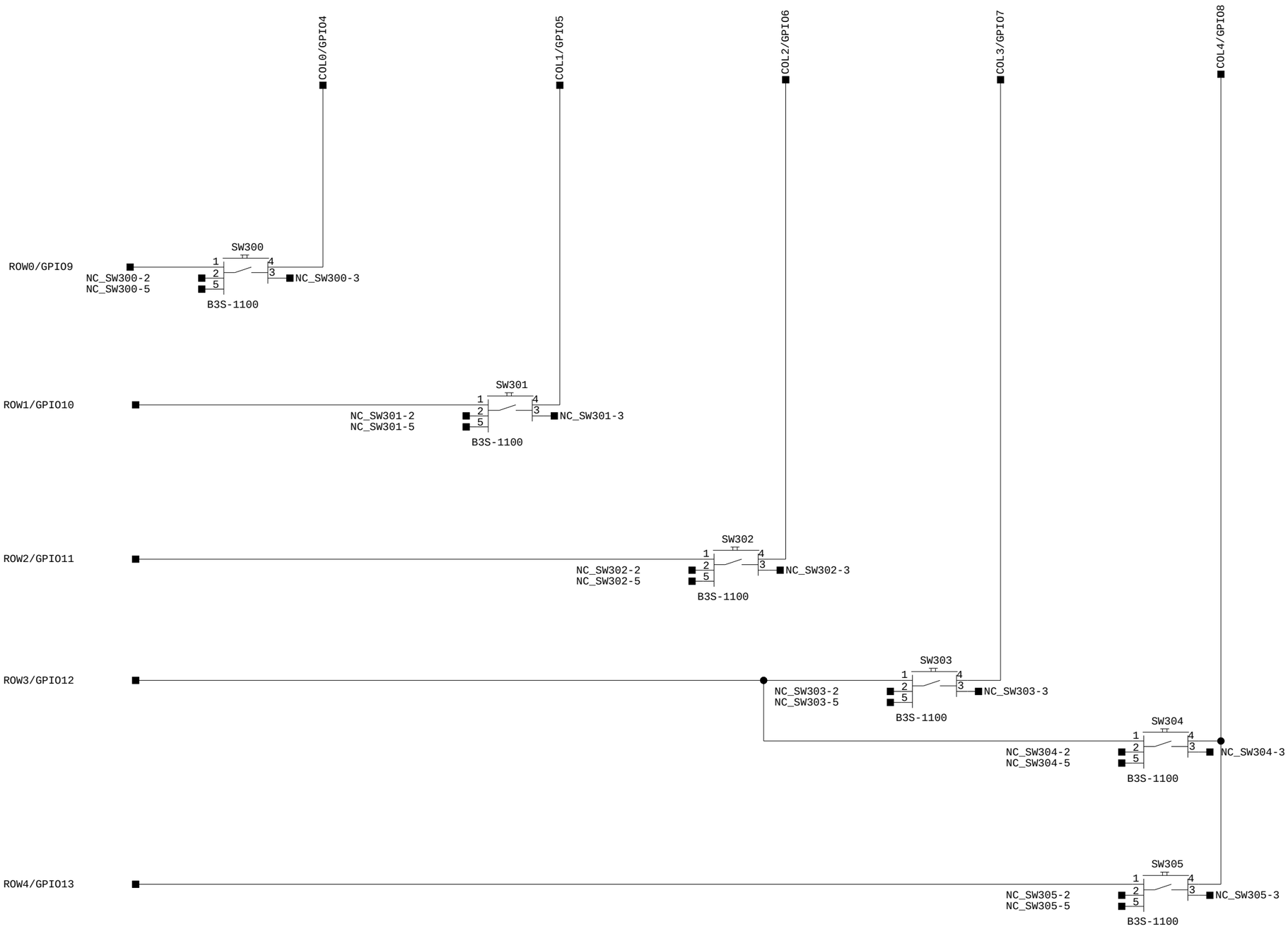

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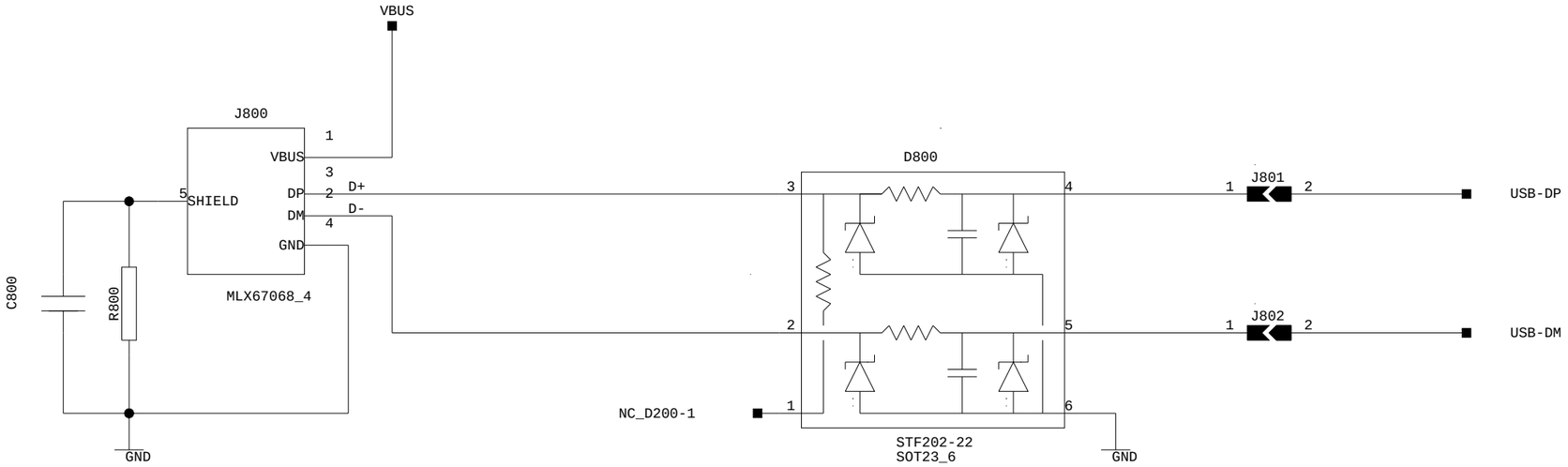

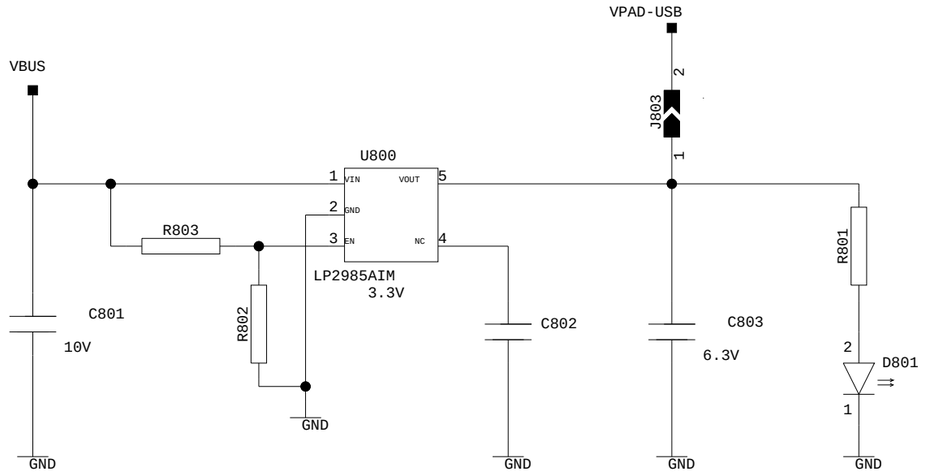

GREEN

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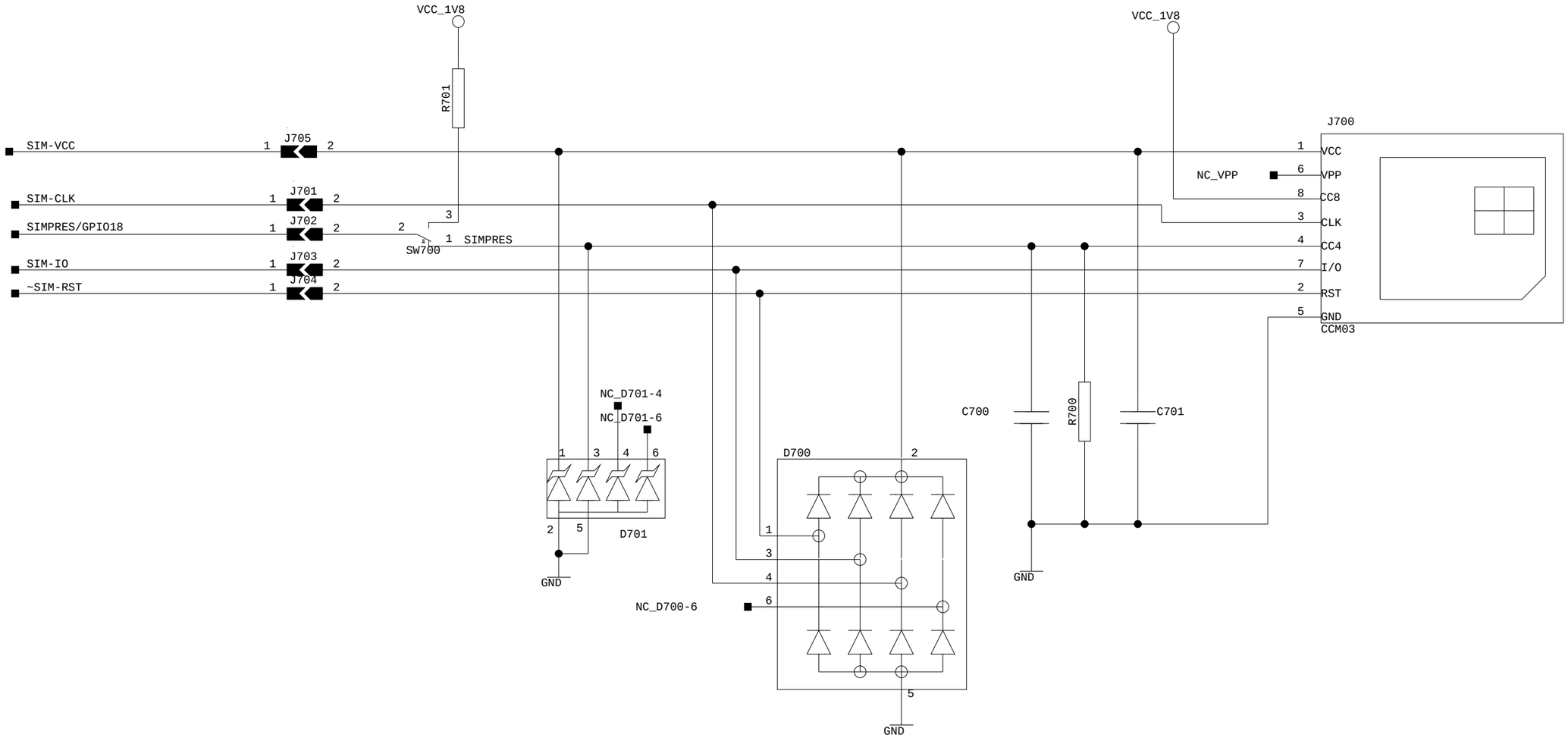

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Verify by:	FDL		Sheet : 7/8
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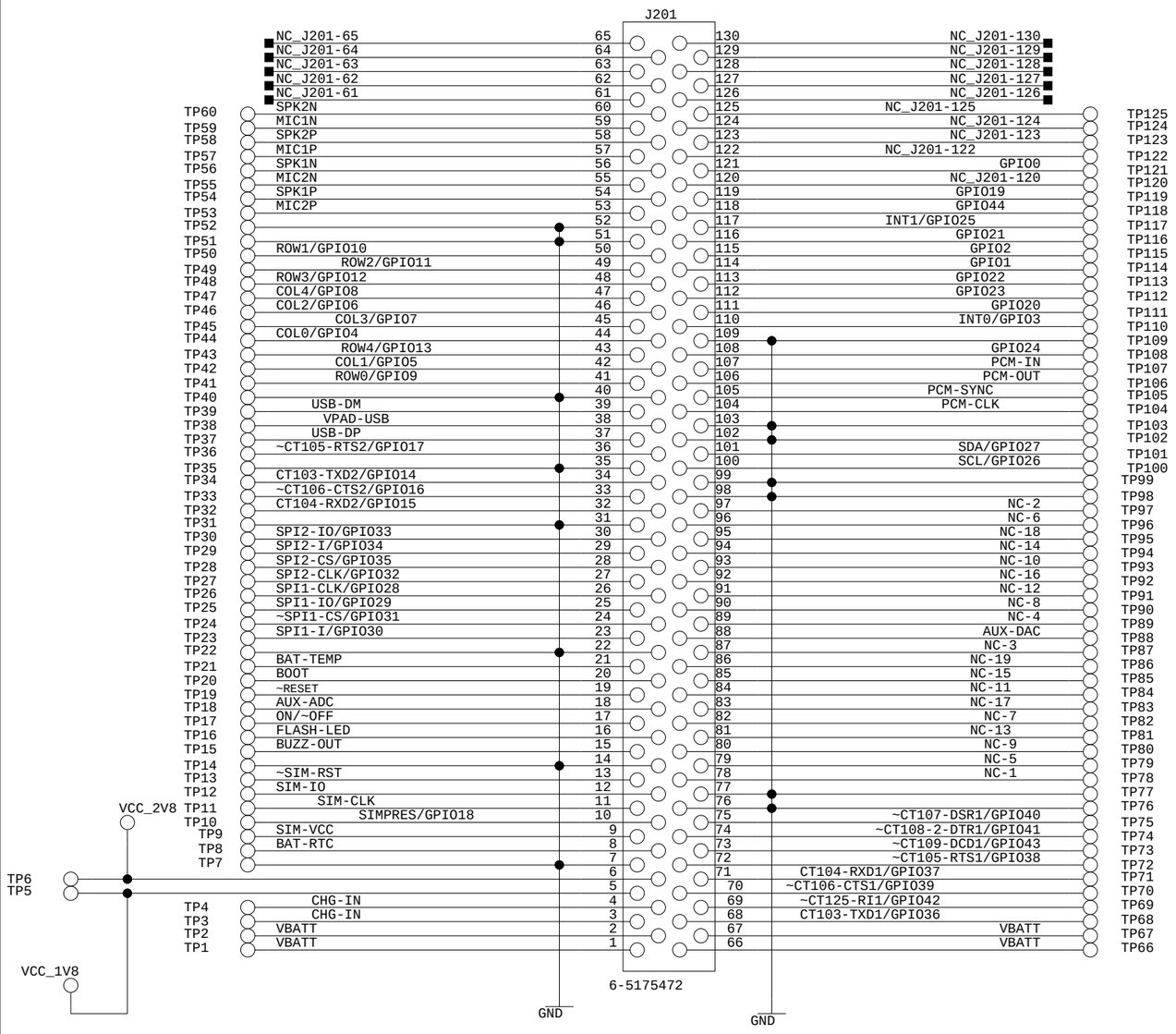
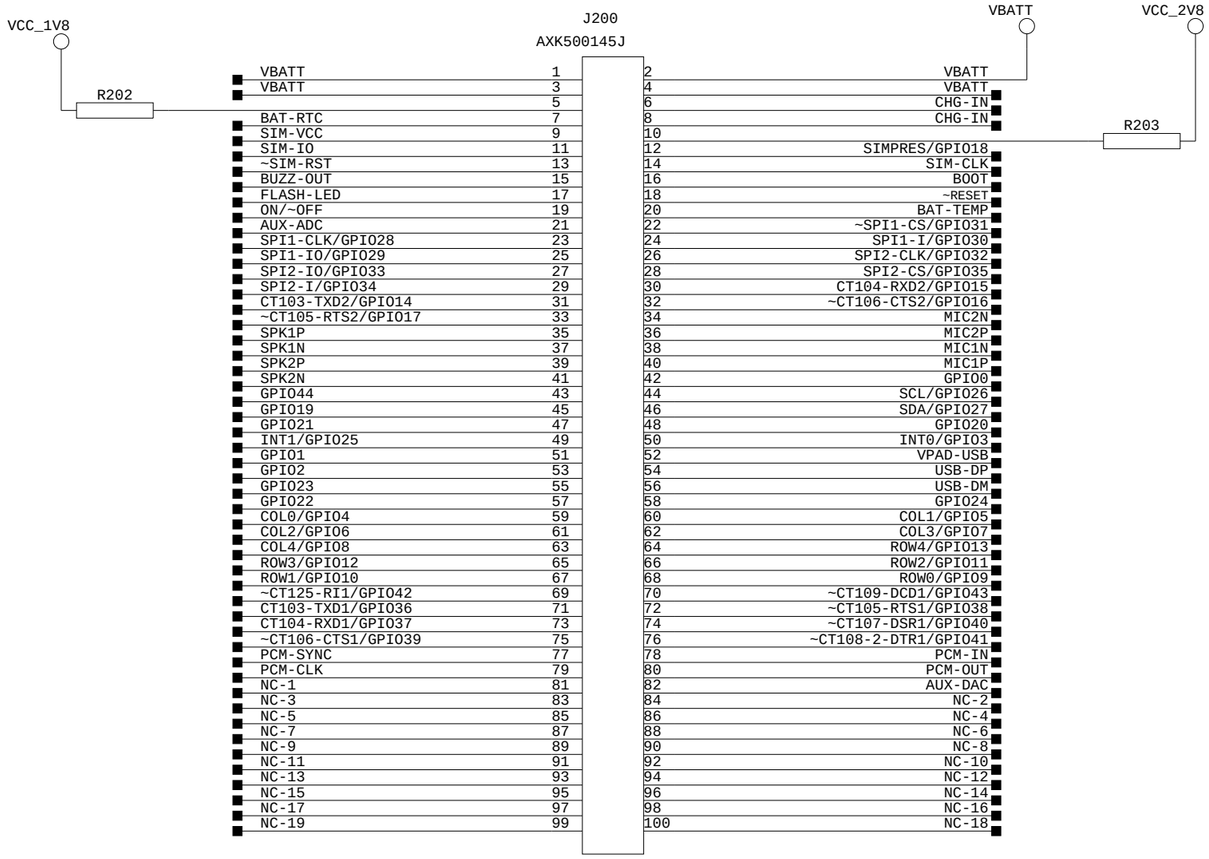
EXTERNAL BOARD CONNECTOR



MODULE CONNECTOR



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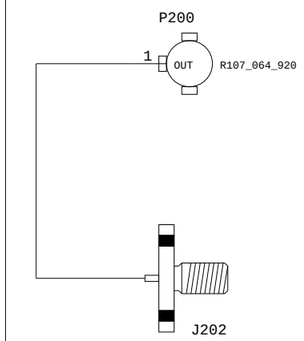

TP200 TP201 TP202 TP203

GND GND GND GND

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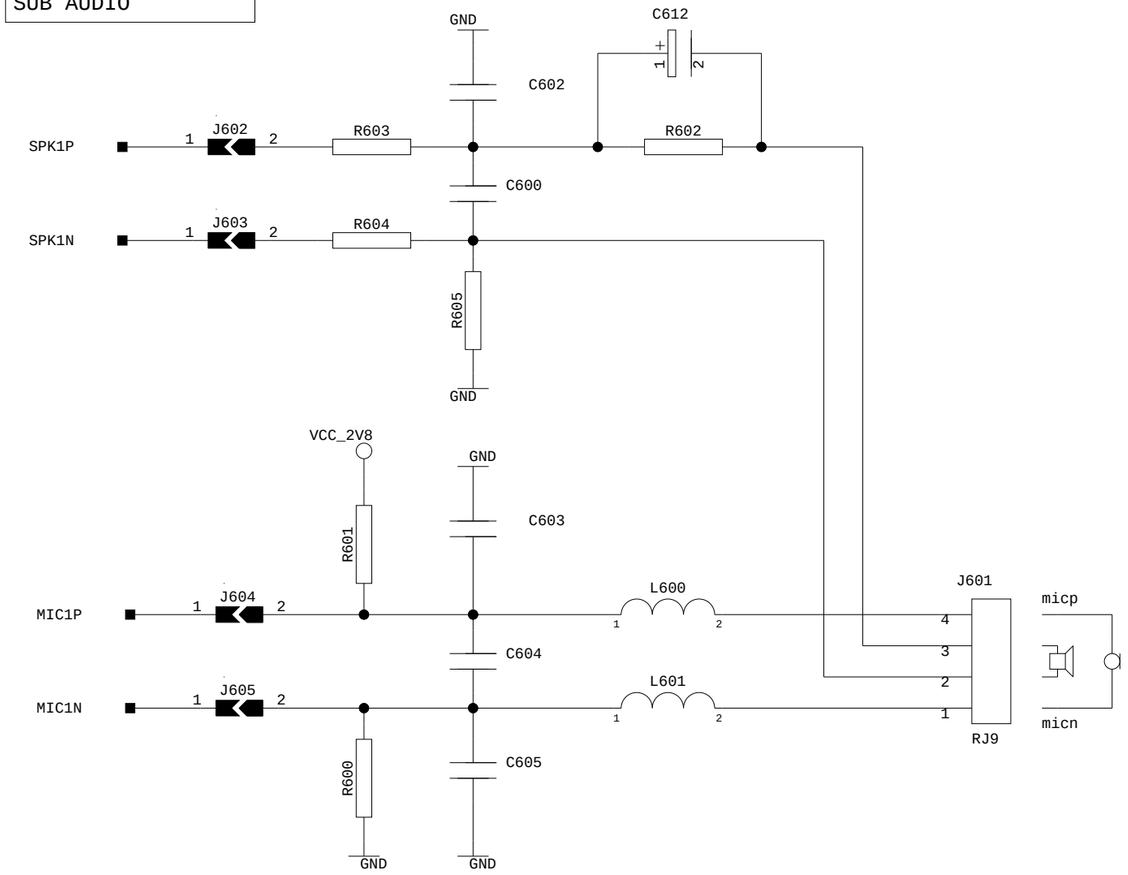
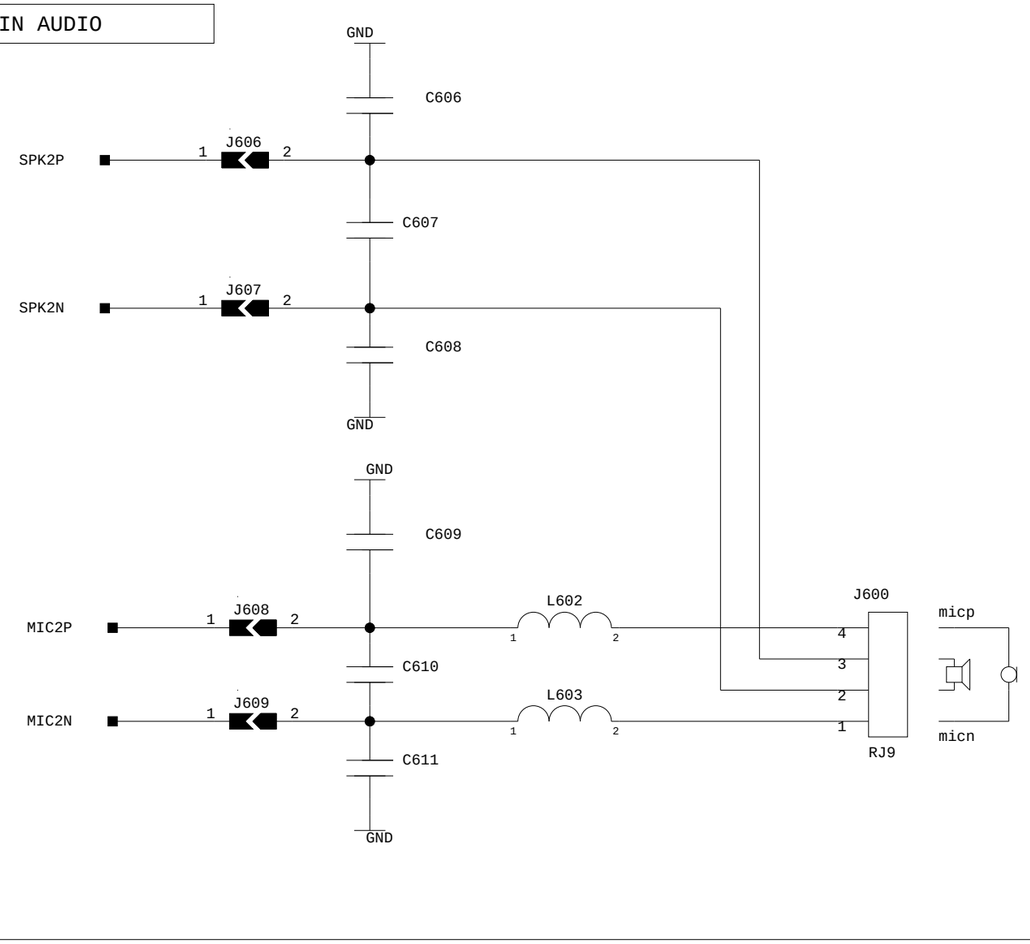
Made-by:	GGI		

SUB AUDIO



MAIN AUDIO



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		Version: 2.0
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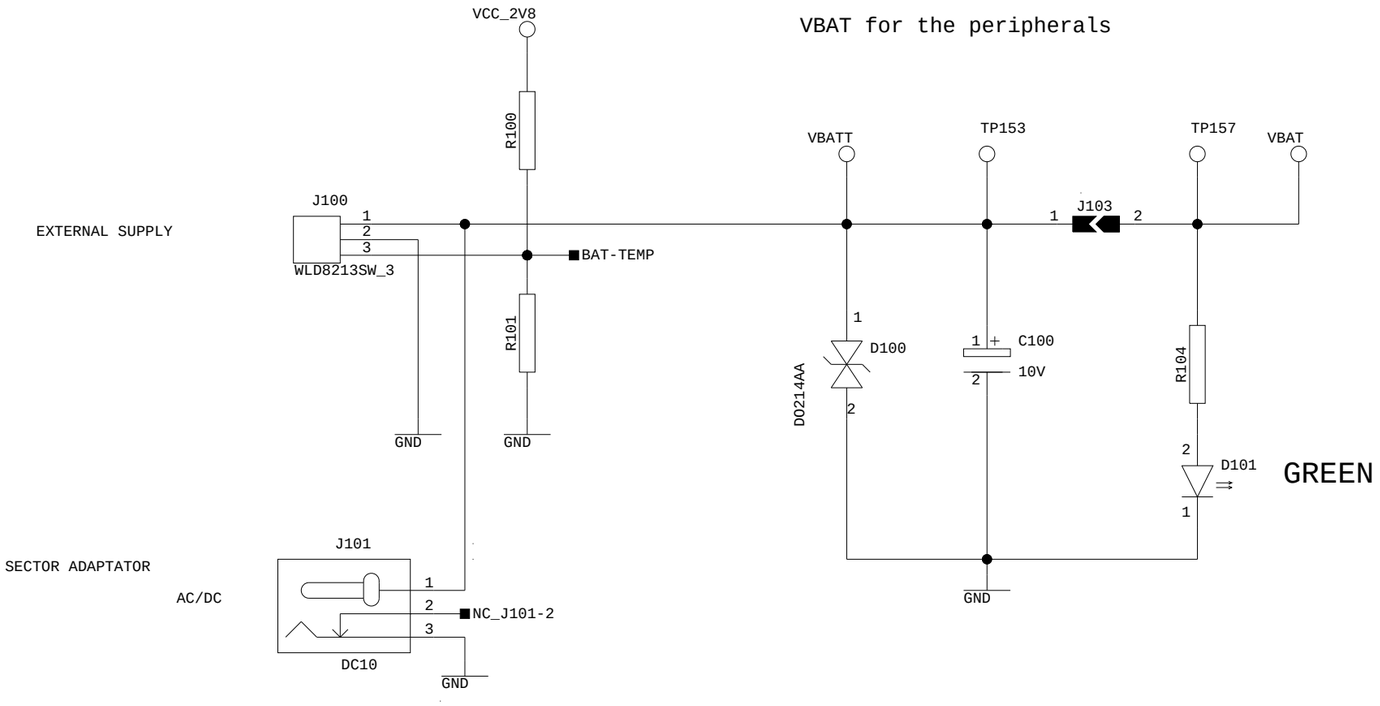
Verify by:	FDL	Sheet : 6/8
Made-by:	GGI	

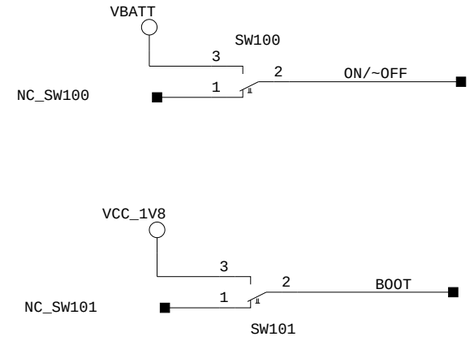
POWER SUPPLY

VBATT for the module

VBAT for the peripherals



CONFIG



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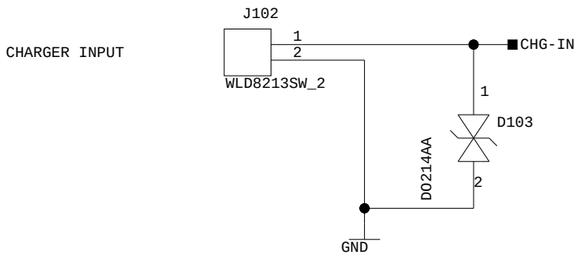
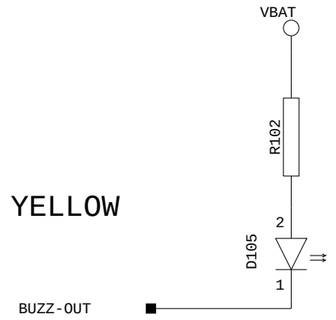
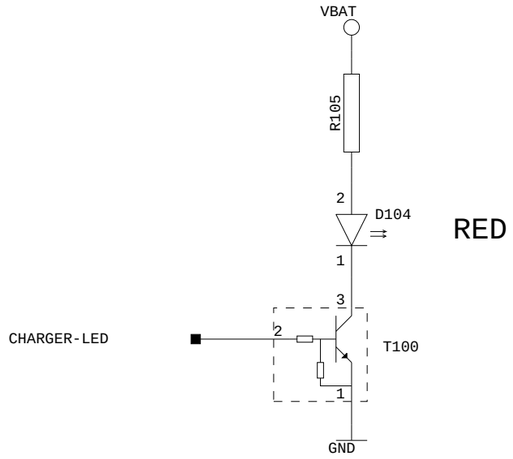


BUZZER





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PROJECT:	DEVELOPMENT KIT Q26
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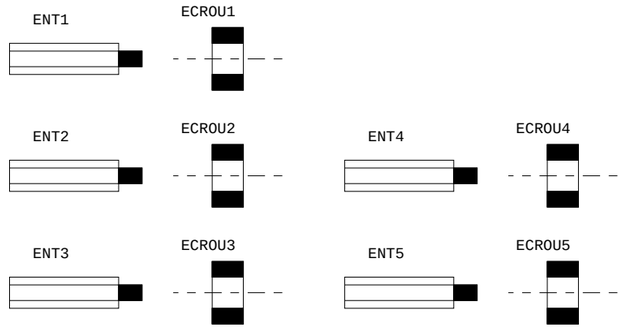
Made-by: GGI	Sheet : 1/8



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