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Break Out Board 20

User Manual

Rev.1.1
2015-12-10
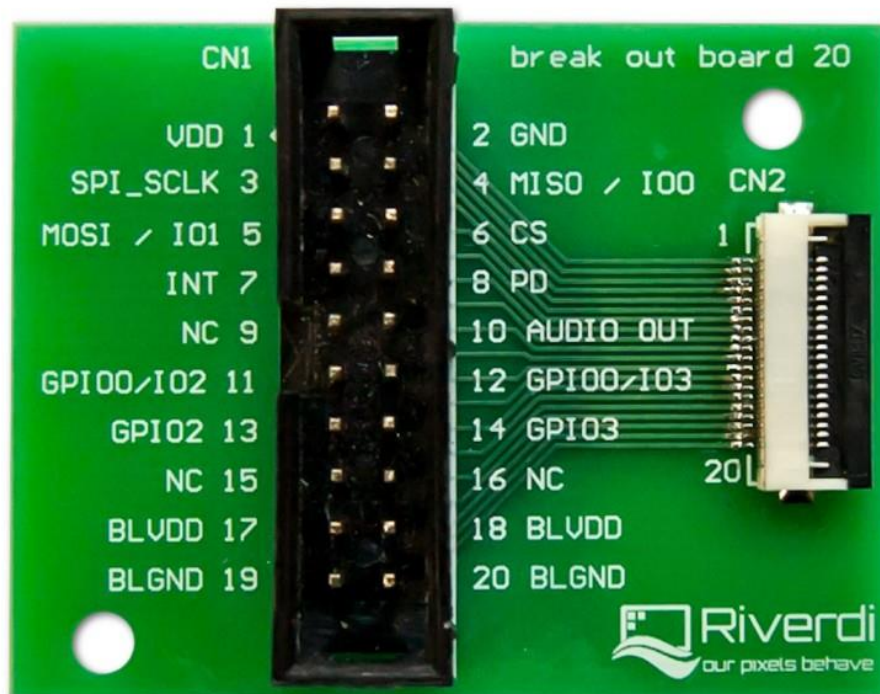
REVISION RECORD

REVNO.	REVDATE	CONTENTS	REMARKS
	2015-06-02	Preliminary edition	
1.0	2015-07-03	Initial Release	
1.1	2015-12-10	Add development kit information	

CONTENTS

1. DESCRIPTION

Break Out Board 20 is an evaluation tool which allows to expand Riverdi TFT module pins to user friendly 2.54 mm pins header. This tool can be used for 3.5", 4.3''and 7.0" Riverdi displays with all types of FT8xx controllers (FT800, FT801, FT812 and FT813).

Break Out Board 20 has two connectors: CN2, 20 pin downside ZIF connector, for connecting display module via 150 mm FFC and CN1, 20 pin IDC connector, for connecting users free cables.

2. DEVELOPMENT KIT SET

Break Out Board 20 kit contains:

- Break Out Board 20,
- 20 pin, 0.5mm, 15 cm length FFC

3. PIN CONFIGURATION

Pin configuration depends on controller model: FT812/FT813 or FT800/FT801. Pin configurations are shown in the tables below. To check which controller is used in TFT module refer to specific datasheet.

Table 1. PIN configuration for FT812 and FT813 controller

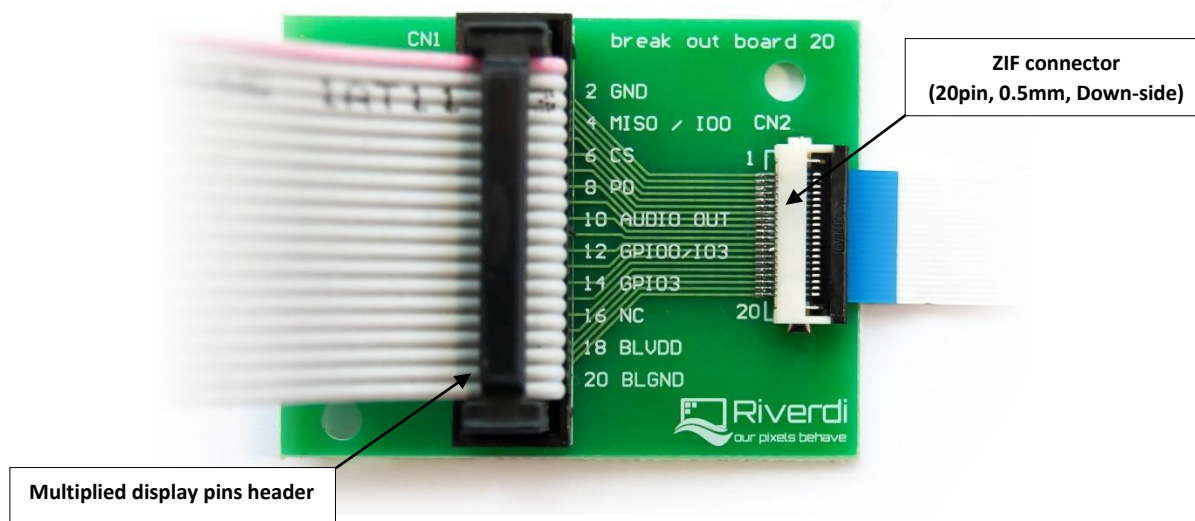| PIN NO	SYMBOL	DESCRIPTION
1	VDD	Power Supply
2	GND	Ground
3	SPI_SCLK	SPI SCK Signal, Internally 47k Pull UP
4	MISO/ IO0	SPI MISO Signal / IO0 Signal, Internally 47k Pull UP
5	MOSI/ IO1	SPI MOSI Signal / IO1 Slave Address Bit 0, Internally 47k Pull UP
6	CS	SPI Chip Select Signal , Internally 47k Pull UP
7	INT	Interrupt Signal, Active Low, Internally 47k Pull UP
8	PD	Power Down Signal, Active Low, Internally 47k Pull UP
9	NC	Not Connected
10	AUDIO_OUT	Audio Out Signal
11	GPIO0/IO2	SPI Single mode: General purpose IO0/ SPI Quad mode: SPI data line 2
12	GPIO1/IO3	SPI Single mode: General purpose IO1/ SPI Quad mode: SPI data line 3
13	GPIO2	General purpose IO2
14	GPIO3	General purpose IO3 or analog input for ADC
15	NC	Not Connected
16	NC	Not Connected
17	BLVDD	Backlight Power Supply, Can Be Connected to VDD
18	BLVDD	Backlight Power Supply, Can Be Connected to VDD
19	BLGND	Backlight Ground, Internally connected to GND
20	BLGND	Backlight Ground, Internally connected to GND

Table 2. PIN configuration for FT800 and FT801 controller

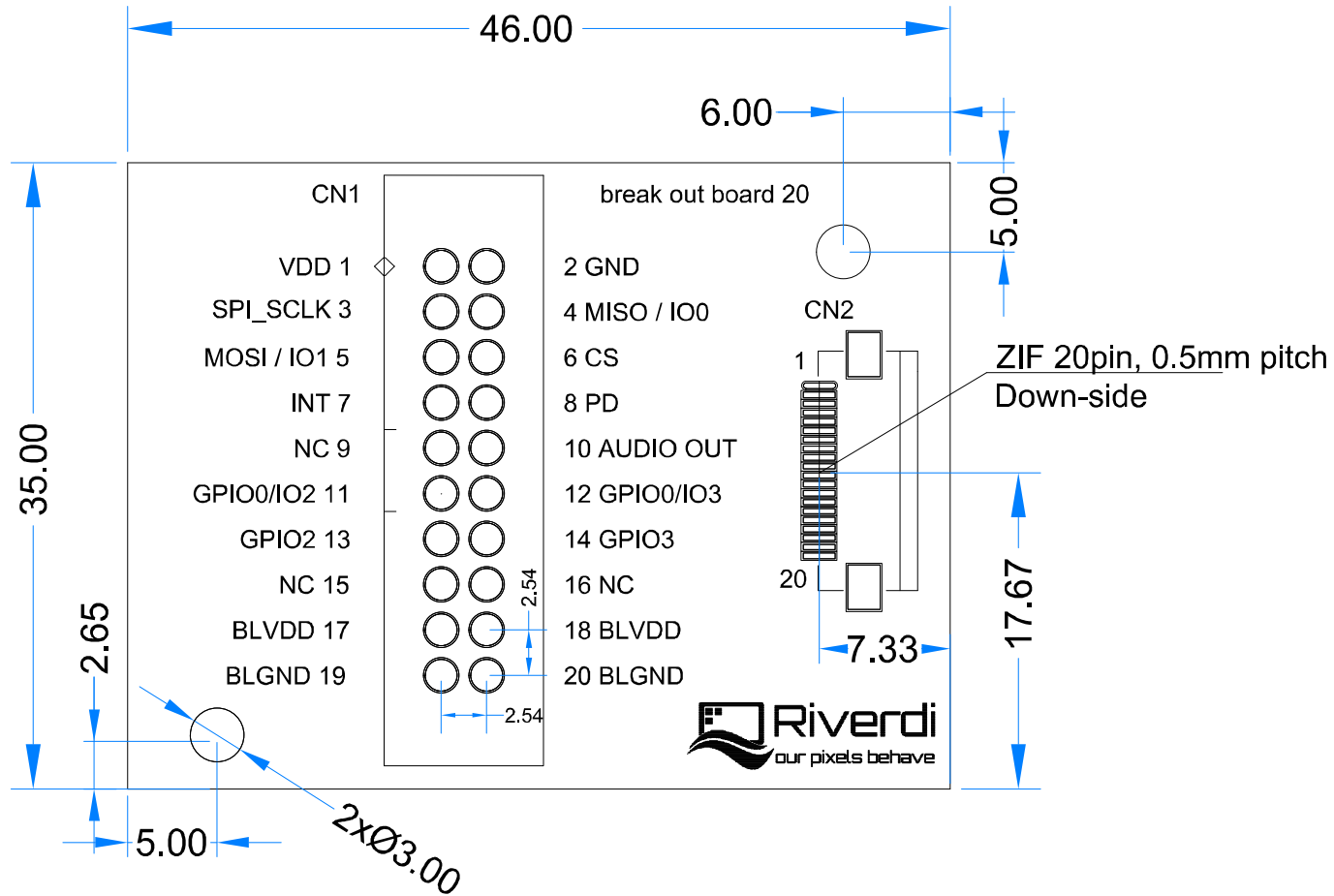| PIN NO	SYMBOL	DESCRIPTION
1	VDD	Power Supply
2	GND	Ground
3	SPI_SCLK/ I2C_SCL	SPI SCK Signal / I2C SCL Signal, Internally 47k Pull UP
4	MISO/ I2C_SDA	SPI MISO Signal / I2C SDA Signal, Internally 47k Pull UP
5	MOSI/ I2C_SA0	SPI MOSI Signal / I2C Slave Address Bit 0, Internally 47k Pull UP
6	CS/I2C_SA1	SPI Chip Select Signal / I2C Slave Address Bit 1, Internally 47k Pull UP
7	INT	Interrupt Signal, Active Low, Internally 47k Pull UP
8	PD	Power Down Signal, Active Low, Internally 47k Pull UP
9	MODE	Host Interface SPI(Pull Low) or I2C(Pull Up) Mode Select Input, Internally 10k Pull DOWN
10	AUDIO_OUT	Audio Out Signal
11	NC	Not Connected
12	NC	Not Connected
13	NC	Not Connected
14	NC	Not Connected
15	NC	Not Connected
16	NC	Not Connected
17	BLVDD	Backlight Power Supply, Can Be Connected to VDD
18	BLVDD	Backlight Power Supply, Can Be Connected to VDD
19	BLGND	Backlight Ground, Internally connected to GND
20	BLGND	Backlight Ground, Internally connected to GND

4. CONNECTION
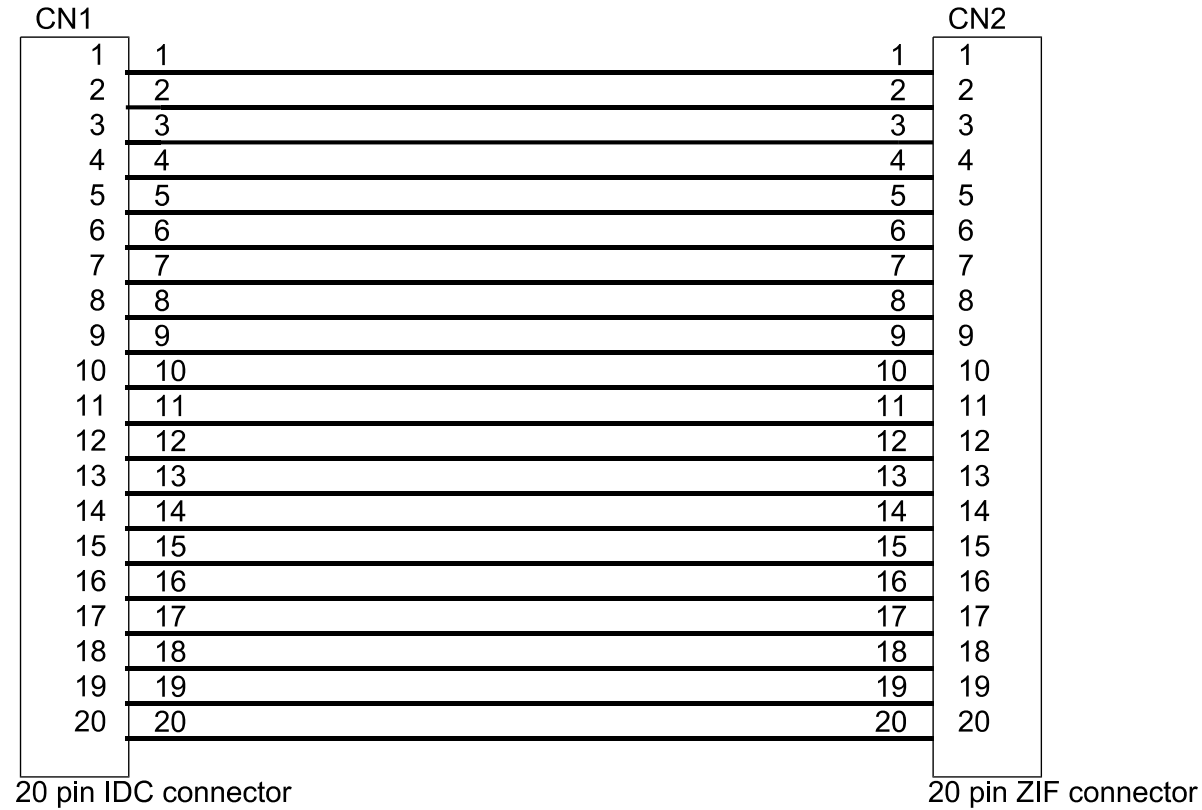
Connection method is shown in Figure 1.

Figure 1. Break Out Board 20 connection method

5. MECHANICAL DRAWING

CN1   break out board 20

VDD 1   2 GND
SPI_SCLK 3   4 MISO / IO0
MOSI / IO1 5   6 CS
INT 7   8 PD
NC 9   10 AUDIO OUT
GPIO0/IO2 11   12 GPIO0/IO3
GPIO2 13   14 GPIO3
NC 15   16 NC
BLVDD 17   18 BLVDD
BLGND 19   20 BLGND

CN2

ZIF 20pin, 0.5mm pitch
Down-side

46.00
6.00
5.00
35.00
2.65
2.54
2.54
5.00
2xØ3.00
17.67
7.33

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6. ELECTRICAL SCHEMATIC

CN1

CN2

20 pin IDC connector

20 pin ZIF connector

7. LEGAL INFORMATION

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