CIRCUIT DESIGN, INC.

TEST board for
STD-302N-R/STD-302S/LMD-400-R
TB-STD302

Operation Guide

Version 2.0 (Jan.2016)

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GENERAL DESCRIPTION & FEATURES

General description

The TB-STD302 is a test board for the STD-302N-R / STD-302S / LMD-400-R radio modules and will save your time and effort for evaluating the modules.

The TB-STD302 is equipped with a CPU which controls the PLL IC in the STD-302N-R /STD-302S and LMD-400-R. Without making a PLL control program, you can conveniently perform data communication and range tests with the TB-STD302.
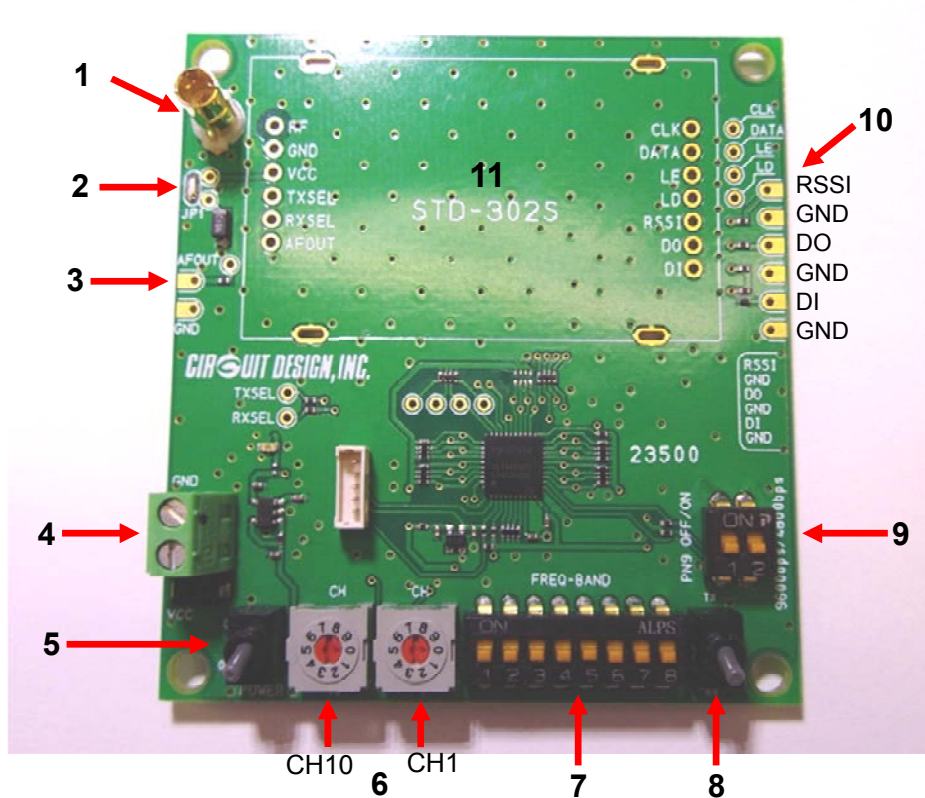
Features

Data IN/OUT terminals.
Easy to use rotary and DIP switches to set frequency band/channel.
RSSI output terminal

TB-STD302 BOARD OPERATION

1. RF output/input

2. Jumper for power supply (JP1)
   Normally used with this jumper closed. (Factory setting: close)
   By opening the jumper, the current consumption of the radio module can be measured with an ammeter connected to the adjacent pads (TP1 and TP2).

3. AFOUT

4. Connector for power supply
   3.3 - 12.0 V
   Reverse connection is not allowed.

5. Power SW
   Power ON/OFF.

6. Channel setting SW
   Sets the channel within the current frequency band.
      CH10: for the "tens" digit of the channel
      CH1 : for the "ones" digit of the channel
   Refer to the frequency setting table.

7. Frequency band setting Dip-SW
   Sets the model and the frequency band. Refer to the frequency setting table.

8. Receive/Transmit SW
   Switches between transmission and reception.

9. PN9 modulation / bit rate (for measurement of transmission spectrum)
   Enables/disables PN9 modulation and selects the bit rate.
        1 (Left switch): PN9 modulation ON/OFF
        2 (Right switch): PN9 bit rate select 4800bps or 9600bps

10. Terminals for RSSI / DO / DI / GND

11. Area for installing the radio module

FREQUENCY SETTING PROCEEDURE

1. Ensure the power switch is off. Mount the STD-302N-R, STD-302S or LMD400-R module onto the test board and apply Vcc and GND.
2. According to the frequency setting tables, set the frequency band using the frequency band setting DIP-SW and channel using the Channel setting SW.
3. Turn power on and desired band and channel are set.

Example
     Set the frequency band to 429 MHz and frequency to 429.5 MHz (ch27) using STD-302S.

Looking at the frequency table, to select 429 MHz band requires 7 and 8 of the frequency band setting Dip-SW to be ON (Binary 1 = ON) and the channel setting switches CH10 and CH1 to be set to 2 and 7 respectively.
After performing this operation, the band and channel can be re-selected at anytime while the power is on.

FREQUENCY SETTING FOR TB-STD302

STD-302N-R/STD-302S

Model name		STD-302N-R/STD-302S									
Freq. Band		220MHz	335MHz	419MHz	429MHz	434MHz	447MHz	458MHz	480MHz	869MHz	1216MHz	1252MHz
Freq. Band setting SW		12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
(Dip-SW)		00000000	00000001	00000010	00000011	00000100	00000101	00000110	00000111	00001000	00001001	00001010
Channel step			25.0kHz	25.0kHz	12.5kHz	25.0kHz	12.5kHz	25.0kHz	12.5kHz	25.0kHz	25.0kHz	25.0kHz
CH setting SW												
CH 10	CH 1											
0	0	223.1000	335.7125	418.7250	429.2500	433.0750	447.2750	458.5250	480.0000	868.0250	1216.0125	1252.0125
0	1	223.7000	335.7375	418.7500	429.1750	433.1000	447.2875	458.5500	480.0125	868.0500	1216.0125	1252.0125
0	2	223.9750	335.7625	418.7750	429.1875	433.1250	447.3000	458.5750	480.0250	868.0750	1216.0375	1252.0375
0	3	224.6000	335.7875	418.8000	429.2000	433.1500	447.3125	458.6000	480.0375	868.1000	1216.0625	1252.0625
0	4	225.0250	335.8125	418.8250	429.2125	433.1750	447.3250	458.6250	480.0500	868.1250	1216.0875	1252.0875
0	5	225.3250	335.8375	418.8500	429.2250	433.2000	447.3375	458.6500	480.0625	868.1500	1216.1125	1252.1125
0	6	223.1000	335.7125	418.8750	429.2375	433.2250	447.3500	458.6750	480.0750	868.1750	1216.1375	1252.1375
0	7	"	"	418.9000	429.2500	433.2500	447.3625	458.7000	480.0875	868.2000	1216.1625	1252.1625
0	8	"	"	418.9250	429.2625	433.2750	447.3750	458.7250	480.1000	868.2250	1216.1875	1252.1875
0	9	"	"	418.9500	429.2750	433.3000	447.3875	458.7500	480.1125	868.2500	1216.2125	1252.2125
1	0	"	"	418.9750	429.2875	433.3250	447.4000	458.7750	480.1250	868.2750	1216.2375	1252.2375
1	1	"	"	419.0000	429.3000	433.3500	447.4125	458.8000	480.1375	868.3000	1216.2625	1252.2625
1	2	"	"	419.0250	429.3125	433.3750	447.4250	458.8250	480.1500	868.3250	1216.2875	1252.2875
1	3	"	"	419.0500	429.3250	433.4000	447.4375	458.8500	480.1625	868.3500	1216.3125	1252.3125
1	4	"	"	419.0750	429.3375	433.4250	447.4500	458.8750	480.1750	868.3750	1216.3375	1252.3375
1	5	"	"	419.1000	429.3500	433.4500	447.4625	458.9000	480.1875	868.4000	1216.3625	1252.3625
1	6	"	"	419.1250	429.3625	433.4750	447.4750	458.9250	480.2000	868.4250	1216.3875	1252.3875
1	7	"	"	419.1500	429.3750	433.5000	447.4875	458.9500	480.2125	868.4500	1216.4125	1252.4125
1	8	"	"	419.1750	429.3875	433.5250	447.5000	458.9750	480.2250	868.4750	1216.4375	1252.4375
1	9	"	"	419.2000	429.4000	433.5000	447.5125	459.0000	480.2375	868.5000	1216.4625	1252.4625
2	0	"	"	419.2250	429.4125	433.5750	447.5250	459.0250	480.2500	868.5250	1216.4875	1252.4875
2	1	"	"	419.2500	429.4250	433.6000	447.5375	459.0500	480.2625	868.5500	1216.5125	1252.5125
2	2	"	"	419.2750	429.4375	433.6250	447.5500	459.0750	480.2750	868.5750	1216.5375	1252.5375
2	3	"	"	419.3000	429.4500	433.6500	447.5625	459.1000	480.2875	868.6000	1216.5625	1252.5625

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2	4	"	"	419.3250	429.4625	433.6750	447.5750	459.1250	480.3000	868.6250	1216.5875	1252.5875
2	5	"	"	419.3500	429.4750	433.7000	447.5875	459.1500	480.3125	868.6500	1216.6125	1252.6125
2	6	"	"	419.3750	429.4875	433.7250	447.6000	459.1750	480.3250	868.6750	1216.6375	1252.6375
2	7	"	"	419.4000	429.5000	433.7500	447.6125	458.5250	480.3375	868.7000	1216.6625	1252.6625
2	8	"	"	419.4250	429.5125	433.7750	447.6250	"	480.3500	868.7250	1216.6875	1252.6875
2	9	"	"	418.7250	429.5250	433.8000	447.6375	"	480.3625	868.7500	1216.7125	1252.7125
3	0	"	"	"	429.5375	433.8250	447.6500	"	480.3750	868.7750	1216.7375	1252.7375
3	1	"	"	"	429.5500	433.8500	447.6625	"	480.3875	868.8000	1216.7625	1252.7625
3	2	"	"	"	429.5625	433.8750	447.6750	"	480.4000	868.8250	1216.7875	1252.7875
3	3	"	"	"	429.3575	433.9000	447.6875	"	480.4125	868.8500	1216.8125	1252.8125
3	4	"	"	"	429.5875	433.9250	447.7000	"	480.4250	868.8750	1216.8375	1252.8375
3	5	"	"	"	429.6000	433.9500	447.7125	"	480.4375	868.9000	1216.8625	1252.8625
3	6	"	"	"	429.6125	433.9750	447.725	"	480.4500	868.9250	1216.8875	1252.8875
3	7	"	"	"	429.6250	434.0000	447.7375	"	480.4625	868.9500	1216.9125	1252.9125
3	8	"	"	"	429.6375	434.0250	447.7500	"	480.4750	868.9750	1216.9375	1252.9375
3	9	"	"	"	429.6500	434.0500	447.7625	"	480.4875	869.0000	1216.9625	1252.9625
4	0	"	"	"	429.6625	434.0750	447.7750	"	480.5000	869.0250	1216.9875	1252.9875
4	1	"	"	"	429.6750	434.1000	447.7875	"	480.5125	869.0500	1216.0125	1252.0125
4	2	"	"	"	429.6875	434.1250	447.8000	"	480.5250	869.0750	"	"
4	3	"	"	"	429.7000	434.1500	447.8125	"	480.5375	869.1000	"	"
4	4	"	"	"	429.7125	434.1750	447.8250	"	480.5500	869.1250	"	"
4	5	"	"	"	429.7250	434.2000	447.8375	"	480.5625	869.1500	"	"
4	6	"	"	"	429.7375	434.2250	447.8500	"	480.5750	869.1750	"	"
4	7	"	"	"	429.2500	434.2500	447.8625	"	480.5875	869.2000	"	"
4	8	"	"	"	"	434.2750	447.8750	"	480.6000	869.2250	"	"
4	9	"	"	"	"	434.3000	447.8875	"	480.6125	869.2500	"	"
5	0	"	"	"	"	434.3250	447.9000	"	480.6250	869.2750	"	"
5	1	"	"	"	"	434.3500	447.9125	"	480.6375	869.3000	"	"
5	2	"	"	"	"	434.3750	447.9250	"	480.6500	869.3250	"	"
5	3	"	"	"	"	434.4000	447.9375	"	480.6625	869.3500	"	"
5	4	"	"	"	"	434.4250	447.9500	"	480.6750	869.3750	"	"
5	5	"	"	"	"	434.4500	447.9625	"	480.6875	869.4000	"	"
5	6	"	"	"	"	434.4750	447.9750	"	480.7000	869.4250	"	"
5	7	"	"	"	"	434.5000	447.9875	"	480.7125	869.4500	"	"
5	8	"	"	"	"	434.5250	447.2750	"	480.7250	869.4750	"	"

5	9	"	"	"	"	434.5500	"	"	480.7375	869.5000	"	"
6	0	"	"	"	"	434.5750	"	"	480.7500	869.5250	"	"
6	1	"	"	"	"	434.6000	"	"	480.7625	869.5500	"	"
6	2	"	"	"	"	434.6250	"	"	480.7750	869.5750	"	"
6	3	"	"	"	"	434.6500	"	"	480.7875	869.6000	"	"
6	4	"	"	"	"	434.6750	"	"	480.0000	869.6250	"	"
6	5	"	"	"	"	434.7000	"	"	"	869.6500	"	"
6	6	"	"	"	"	434.7250	"	"	"	869.6750	"	"
6	7	"	"	"	"	434.7500	"	"	"	869.7000	"	"
6	8	"	"	"	"	434.7750	"	"	"	869.7250	"	"
6	9	"	"	"	"	433.0750	"	"	"	869.7500	"	"
7	0	"	"	"	"	"	"	"	"	869.7750	"	"
7	1	"	"	"	"	"	"	"	"	869.8000	"	"
7	2	"	"	"	"	"	"	"	"	869.8250	"	"
7	3	"	"	"	"	"	"	"	"	869.8500	"	"
7	4	"	"	"	"	"	"	"	"	869.8750	"	"
7	5	"	"	"	"	"	"	"	"	869.9000	"	"
7	6	"	"	"	"	"	"	"	"	869.9250	"	"
7	7	"	"	"	"	"	"	"	"	869.9500	"	"
7	8	"	"	"	"	"	"	"	"	869.9750	"	"
7	9	"	"	"	"	"	"	"	"	868.0250	"	"
8	0	"	"	"	"	"	"	"	"	"	"	"
8	1	"	"	"	"	"	"	"	"	"	"	"
8	2	"	"	"	"	"	"	"	"	"	"	"
8	3	"	"	"	"	"	"	"	"	"	"	"
8	4	"	"	"	"	"	"	"	"	"	"	"
8	5	"	"	"	"	"	"	"	"	"	"	"
8	6	"	"	"	"	"	"	"	"	"	"	"
8	7	"	"	"	"	"	"	"	"	"	"	"
8	8	"	"	"	"	"	"	"	"	"	"	"
8	9	"	"	"	"	"	"	"	"	"	"	"
9	0	"	"	"	"	"	"	"	"	"	"	"
9	1	"	"	"	"	"	"	"	"	"	"	"
9	2	"	"	"	"	"	"	"	"	"	"	"
9	3	"	"	"	"	"	"	"	"	"	"	"

9	4	"	"	"	"	"	"	"	"	"	"	"
9	5	"	"	"	"	"	"	"	"	"	"	"
9	6	"	"	"	"	"	"	"	"	"	"	"
9	7	"	"	"	"	"	"	"	"	"	"	"
9	8	"	"	"	"	"	"	"	"	"	"	"
9	9	"	"	"	"	"	"	"	"	"	"	"

LMD-400-R

Model name		LMD-400-R							
Freq. Band		438-442MHz				458-462.5MHz			
Freq. Band setting SW		12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
(Dip-SW)		1000000	1000001	1000010	1000011	1000100	1000101	1000110	1000111
Channel step		12.5kHz				12.5kHz			
CH setting SW									
CH 10	CH 1								
0	0	438.0000	439.2500	440.5000	441.7500	458.0000	459.2500	460.5000	461.7500
0	1	438.0125	439.2625	440.5125	441.7625	458.0125	459.2625	460.5125	461.7625
0	2	438.0250	439.2750	440.5250	441.7750	458.0250	459.2750	460.5250	461.7750
0	3	438.0375	439.2875	440.5375	441.7875	458.0375	459.2875	460.5375	461.7875
0	4	438.0500	439.3000	440.5500	441.8000	458.0500	459.3000	460.5500	461.8000
0	5	438.0625	439.3152	440.5625	441.8125	458.0625	459.3152	460.5625	461.8125
0	6	438.0750	439.3250	440.5750	441.8250	458.0750	459.3250	460.5750	461.8250
0	7	438.0875	439.3375	440.5875	441.8375	458.0875	459.3375	460.5875	461.8375
0	8	438.1000	439.3500	440.6000	441.8500	458.1000	459.3500	460.6000	461.8500
0	9	438.1125	439.3625	440.6125	441.8625	458.1125	459.3625	460.6125	461.8625
1	0	438.1250	439.3750	440.6250	441.8750	458.1250	459.3750	460.6250	461.8750
1	1	438.1375	439.3875	440.6375	441.8875	458.1375	459.3875	460.6375	461.8875
1	2	438.1500	439.4000	440.6500	441.9000	458.1500	459.4000	460.6500	461.9000
1	3	438.1625	439.4125	440.6625	441.9125	4581625	459.4125	460.6625	461.9125
1	4	438.1750	439.4250	440.6750	441.9250	458.1750	459.4250	460.6750	461.9250
1	5	438.1875	439.4375	440.6875	441.9375	458.1875	459.4375	460.6875	461.9375
1	6	438.2000	439.4500	440.7000	441.9500	458.2000	459.4500	460.7000	461.9500
1	7	438.2125	439.4625	440.7125	441.9625	458.2125	459.4625	460.7125	461.9625
1	8	438.2250	439.4750	440.7250	441.9750	458.2250	459.4750	460.7250	461.9750
1	9	438.2375	439.4875	440.7375	441.9875	458.2375	459.4875	460.7375	461.9875
2	0	438.2500	439.5000	440.7500	442.0000	458.2500	459.5000	460.7500	462.0000
2	1	438.2625	439.5125	440.7625	441.7500	458.2625	459.5125	460.7625	462.0125
2	2	438.2750	439.5250	440.7750	"	458.2750	459.5250	460.7750	462.0250
2	3	438.2875	439.5375	440.7875	"	458.2875	459.537	460.7875	462.0375
2	4	438.3000	439.5500	440.8000	"	458.3000	459.5500	460.8000	462.0500
2	5	438.3125	439.5625	440.8125	"	458.3125	459.5625	460.8125	462.0625
2	6	438.3250	439.5750	440.8250	"	458.3250	459.5750	460.8250	462.0750
2	7	438.3375	439.5875	440.8375	"	458.3375	459.5875	460.8375	462.0875
2	8	438.3500	439.6000	440.8500	"	458.3500	459.6000	460.8500	462.1000
2	9	438.3625	439.6125	440.8625	"	458.3625	459.6125	460.8625	462.1125
3	0	438.3750	439.6250	440.8750	"	458.3750	459.6250	460.8750	462.1250
3	1	438.3875	439.6375	440.8875	"	458.3875	459.6375	460.8875	462.1375
3	2	438.4000	439.6500	440.9000	"	458.4000	459.6500	460.9000	462.1500
3	3	438.4125	439.6625	440.9125	"	458.4125	459.6625	460.9125	462.1625
3	4	438.4250	439.6750	440.9250	"	458.4250	459.6750	460.9250	462.1750
3	5	438.4375	439.6875	440.9375	"	458.4375	459.6875	460.9375	462.1875
3	6	438.4500	439.7000	440.9500	"	458.4500	459.7000	460.9500	426.2000
3	7	438.4625	439.7125	440.9625	"	458.4625	459.7125	460.9625	462.2125
3	8	438.4750	439.7250	440.9750	"	458.4750	459.7250	460.9750	462.2250
3	9	438.4875	439.7375	440.9875	"	458.4875	459.7375	460.9875	462.2375

4	0	438.5000	439.7500	441.0000	"	458.5000	459.7500	461.0000	462.2500
4	1	438.5125	439.7625	441.0125	"	458.5125	459.7625	461.0125	462.2625
4	2	438.5250	439.7750	441.0250	"	458.5250	459.7750	461.0250	462.2750
4	3	438.5375	439.7875	441.0375	"	458.5375	459.7875	461.0375	462.2875
4	4	438.5500	439.8000	441.0500	"	458.5500	459.8000	461.0500	462.3000
4	5	438.5625	439.8125	441.0625	"	458.5625	459.8125	461.0625	462.3125
4	6	438.5750	439.8250	441.0750	"	458.5750	459.8250	461.0750	462.3250
4	7	438.5875	439.8375	441.0875	"	458.5875	459.8375	461.0875	462.3375
4	8	438.6000	439.8500	441.1000	"	458.6000	459.8500	461.1000	462.3500
4	9	438.6125	439.8625	441.1125	"	458.6125	459.8625	461.1125	462.3625
5	0	438.6250	439.8750	441.1250	"	458.6250	459.8750	461.1250	462.3750
5	1	438.6375	439.8875	441.1375	"	458.6375	459.8875	461.1375	462.3875
5	2	438.6500	439.9000	441.1500	"	458.6500	459.9000	461.1500	462.4000
5	3	438.6625	439.9125	441.1625	"	458.6625	459.9125	461.1625	462.4125
5	4	438.6750	439.9250	441.1750	"	458.6750	459.9250	461.1750	462.4250
5	5	438.6875	439.9375	441.1875	"	458.6875	459.9375	461.1875	462.4375
5	6	438.7000	439.9500	441.2000	"	458.7000	459.9500	461.2000	462.4500
5	7	438.7125	439.9625	441.2125	"	458.7125	459.9625	461.2125	462.4625
5	8	438.7250	439.9750	441.2250	"	458.7250	459.9750	461.2250	462.4750
5	9	438.7375	439.9875	441.2375	"	458.7375	459.9875	461.2375	462.4875
6	0	438.7500	440.0000	441.2500	"	458.7500	460.0000	461.2500	462.5000
6	1	438.7625	440.0125	441.2625	"	458.7625	460.0125	461.2625	461.7500
6	2	438.7750	440.0250	441.2750	"	458.7750	460.0250	461.2750	"
6	3	438.7875	440..0375	441.2875	"	458.7875	460.0375	461.2875	"
6	4	438.8000	440.0500	441.3000	"	458.8000	460.0500	461.3000	"
6	5	438.8125	440.0625	441.3125	"	458.8125	460.0625	461.3125	"
6	6	438.8250	440.0750	441.3250	"	458.8250	460.0750	461.3250	"
6	7	438.8375	440.0875	441.3375	"	458.8375	460.0875	461.3375	"
6	8	438.8500	440.1000	441.3500	"	458.8500	460.1000	461.3500	"
6	9	438.8625	440.1125	441.3625	"	458.8625	460.1125	461.3625	"
7	0	438.8750	440.1250	441.3750	"	458.8750	460.1250	461.375	"
7	1	438.8875	440.1375	441.3875	"	458.8875	460.1375	461.3875	"
7	2	438.9000	440.1500	441.4000	"	458.9000	460.1500	461.4000	"
7	3	438.9125	440.1625	441.4125	"	458.9125	460.1625	461.4125	"
7	4	438.9250	440.1750	441.4250	"	458.9250	460.1750	461.4250	"
7	5	438.9375	440.1875	441.4375	"	458.9375	460.1875	461.4375	"
7	6	438.9500	440.2000	441.4500	"	458.9500	460.2000	461.4500	"
7	7	438.9625	440.2125	441.4625	"	458.9625	460.2125	461.4625	"
7	8	438.9750	440.2250	441.4750	"	458.9750	460.2250	461.4750	"
7	9	438.9875	440.2375	441.4875	"	458.9875	460.2375	461.4875	"
8	0	439.0000	440.2500	441.5000	"	459.0000	460.2500	461.5000	"
8	1	439.0125	440.2625	441.5125	"	459.0125	460.2625	461.5125	"

8	2	439.0250	440.2750	441.5250	"	459.0250	460.2750	461.5250	"
8	3	439.0375	440.2875	441.5375	"	459.0375	460.2875	461.5375	"
8	4	439.0500	440.3000	441.550	"	459.0500	460.3000	461.5500	"
8	5	439.0625	440.3125	441.5625	"	459.0625	460.3125	461.5625	"
8	6	439.0750	440.3250	441.5750	"	459.0750	460.3250	461.5750	"
8	7	439.0875	440.3375	441.5875	"	459.0875	460.3375	461.5875	"
8	8	439.1000	440.3500	441.6000	"	459.1000	460.3500	461.6000	"
8	9	439.1125	440.3625	441.6125	"	459.1125	460.3625	461.6125	"
9	0	439.1250	440.3750	441.6250	"	459.1250	460.3750	461.6250	"
9	1	439.1375	440.3875	441.6375	"	459.1375	460.3875	461.6375	"
9	2	439.1500	440.4000	441.6500	"	459.1500	460.4000	461.6500	"
9	3	439.1625	440.4125	441.6625	"	459.1625	460.4125	461.6625	"
9	4	439.1750	440.4250	441.6750	"	459.1750	460.4250	461.6750	"
9	5	439.1875	440.4375	441.6875	"	459.1875	460.4375	461.6875	"
9	6	439.2000	440.4500	441.7000	"	459.2000	460.4500	461.7000	"
9	7	439.2125	440.4625	441.7125	"	459.2125	460.4625	461.7125	"
9	8	439.2250	440.4750	441.7250	"	459.2250	460.4750	461.7250	"
9	9	439.2375	440.4875	441.7375	"	459.2375	460.4875	461.7375	"

DIMENSIONS
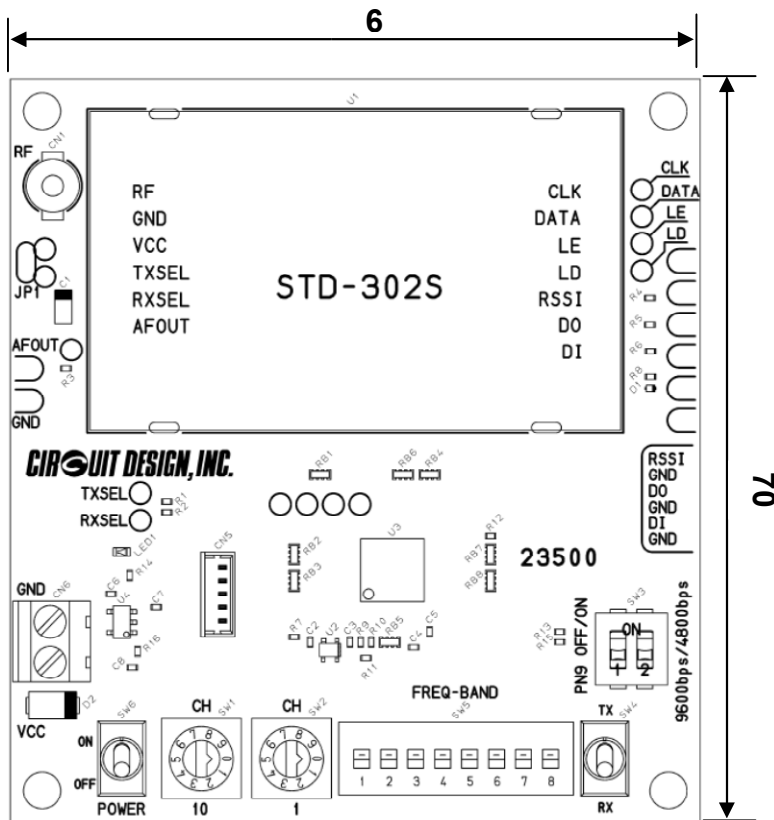
CONNECTION EXAMPLE

CIRCUIT DIAGRAM

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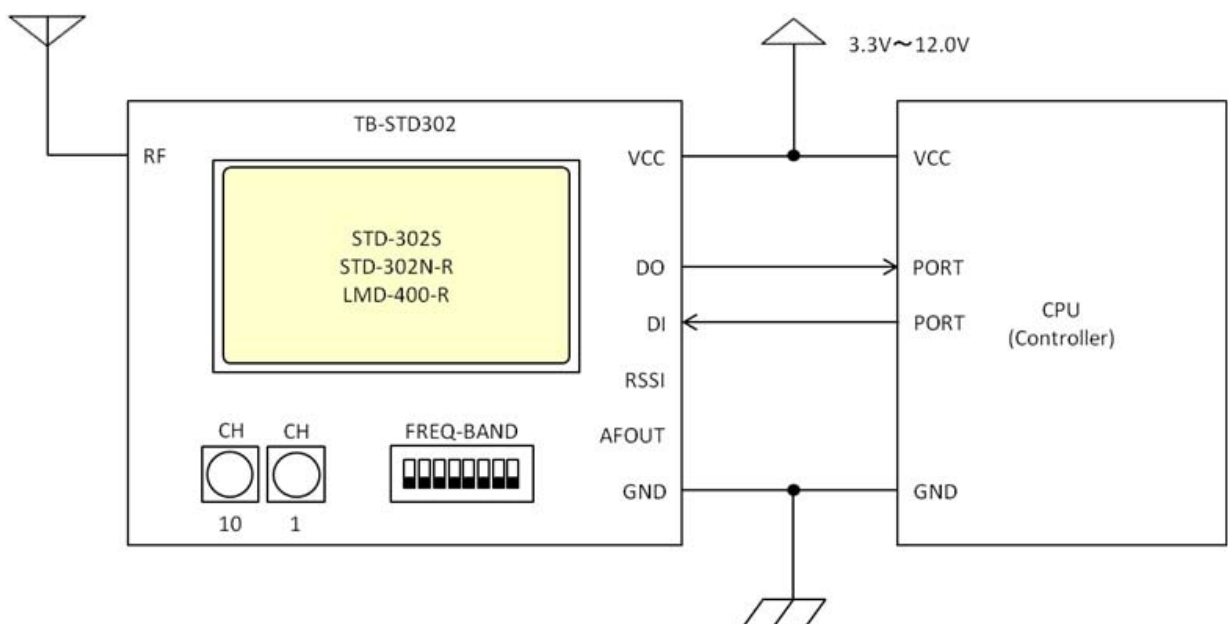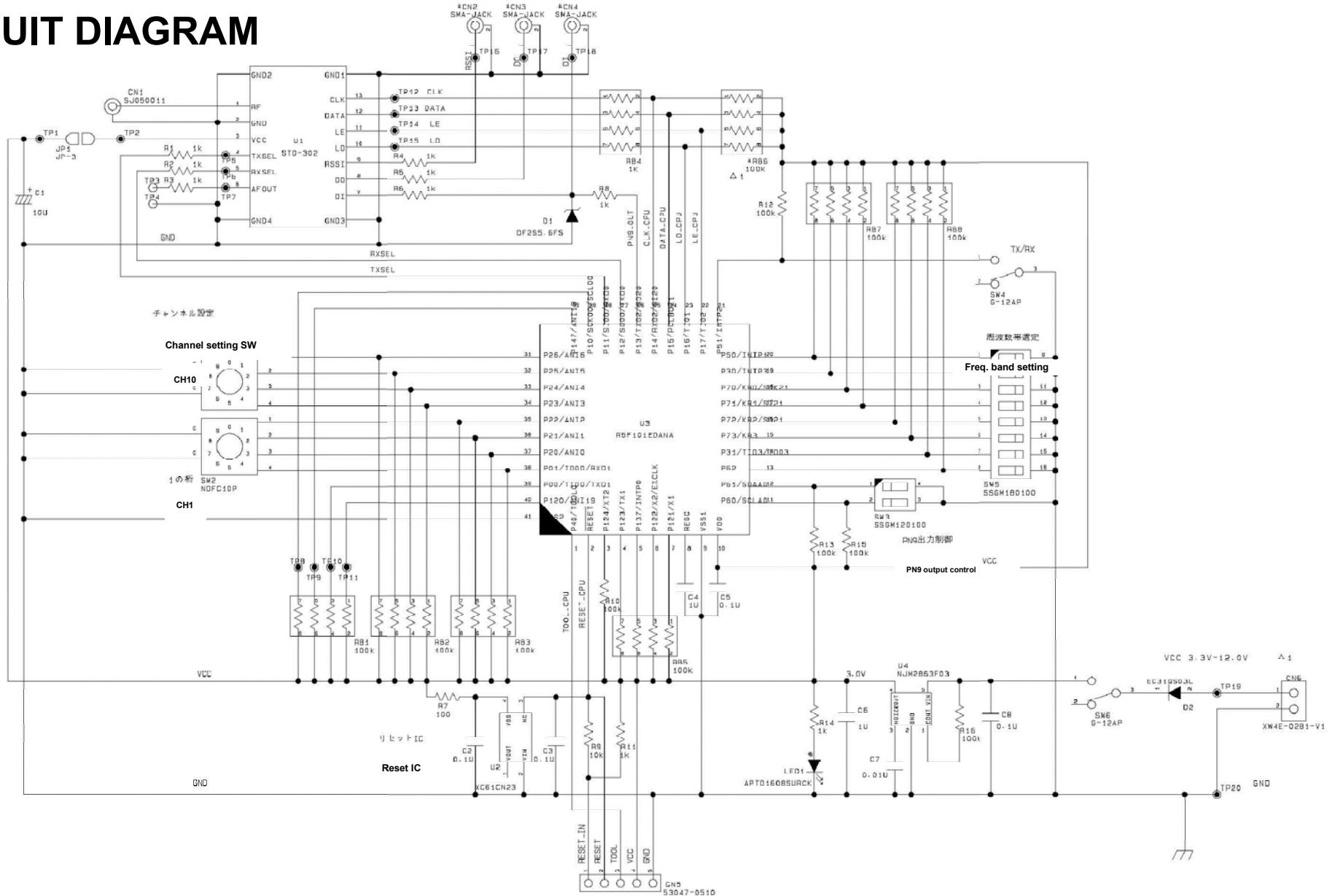
Cautions

- As the product communicates using electronic radio waves, there are cases where transmission will be temporarily cut off due to the surrounding environment and method of usage. The manufacturer is exempt from all responsibility relating to resulting harm to personnel or equipment and other secondary damage.
- Do not use the equipment within the vicinity of devices that may malfunction as a result of electronic radio waves from the product.
- The manufacturer is exempt from all responsibility relating to secondary damage resulting from the operation, performance and reliability of equipment connected to the product.
- Communication performance will be affected by the surrounding environment, so communication tests should be carried out before actual use.
- Ensure that the power supply for the product is within the specified rating. Short circuits and reverse connections may result in overheating and damage and must be avoided at all costs.
- Ensure that the power supply has been switched off before attempting any wiring work.
- The case is connected to the GND terminal of the internal circuit, so do not make contact between the '+' side of the power supply terminal and the case.
- When batteries are used as the power source, avoid short circuits, recharging, dismantling, and pressure. Failure to observe this caution may result in the outbreak of fire, overheating and damage to the equipment. Remove the batteries when the equipment is not to be used for a long period of time. Failure to observe this caution may result in battery leaks and damage to the equipment.
- Do not use this product in vehicles with the windows closed, in locations where it is subject to direct sunlight, or in locations with extremely high humidity.
- The product is neither waterproof nor splash proof. Ensure that it is not splashed with soot or water. Do not use the equipment if water or other foreign matter has entered the case.
- Do not drop the product or otherwise subject it to strong shocks.
- Do not subject the equipment to condensation (including moving it from cold locations to locations with a significant increase in temperature.)
- Do not use the equipment in locations where it is likely to be affected by acid, alkalis, organic agents or corrosive gas.
- The GND for the product will also affect communication performance. If possible, ensure that the case GND and the circuit GND are connected to a large GND pattern.

Warnings

- Do not take apart or modify the equipment.
- Do not remove the product label (the label attached to the upper surface of the product.) Using a product from which the label has been removed is prohibited.

CIRCUIT DESIGN, INC.

REVISION HISTORY

Version	Date	Description	Remark
2.0	Jan. 2016	The first issue	