SAW Devices and OOK

Transceivers (433MHz)

Transmitters

Two types of device have been tested:

TX33

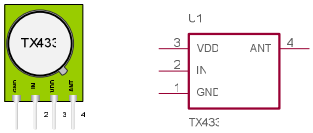

Figure 1: TX433 Transmitter

MX-FS-03V

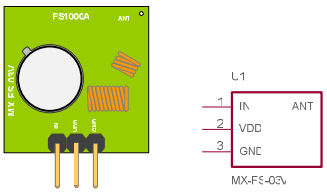

Figure 2: MX-FS-03V Transmitter

Receivers

RX33

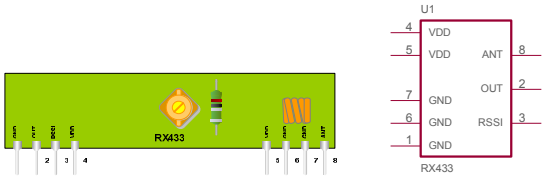

Figure 3: RX433 Receiver

XY-MK

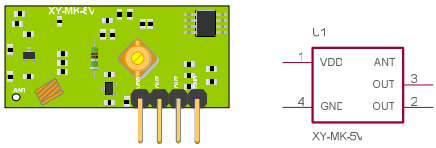

Figure 4: XY-MK-5V Receiver

SAW Transmitter boards

To make connection with Arduino modules, usage of a transceiver board is used

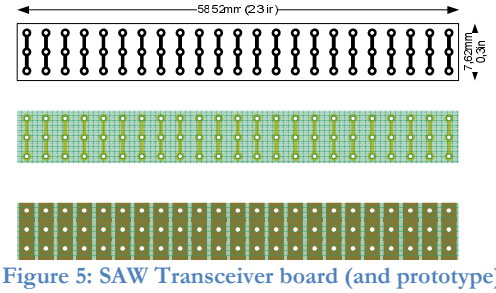

Figure 5: SAW Transceiver board (and prototype)

SAW Devices and OOK

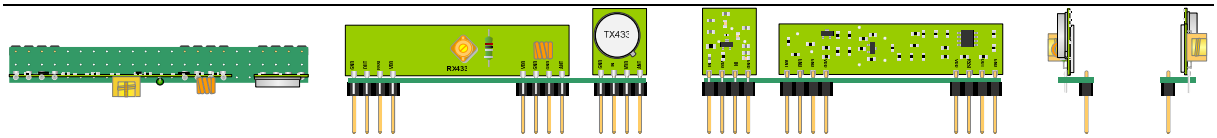

Figure 6: RX433-TX433 Transceiver board

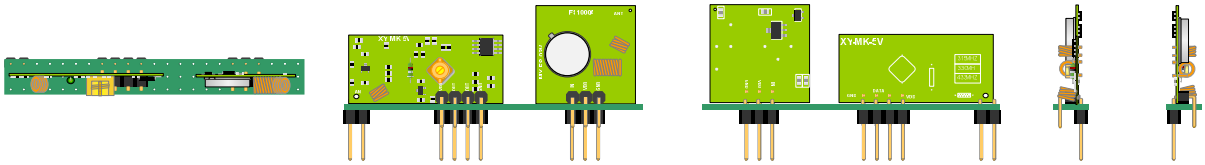

Figure 7: XY-MK-5V - MX-FS-03V -Transceiver board

Arduino UNO configuration

RX433-TX433 Transceiver board

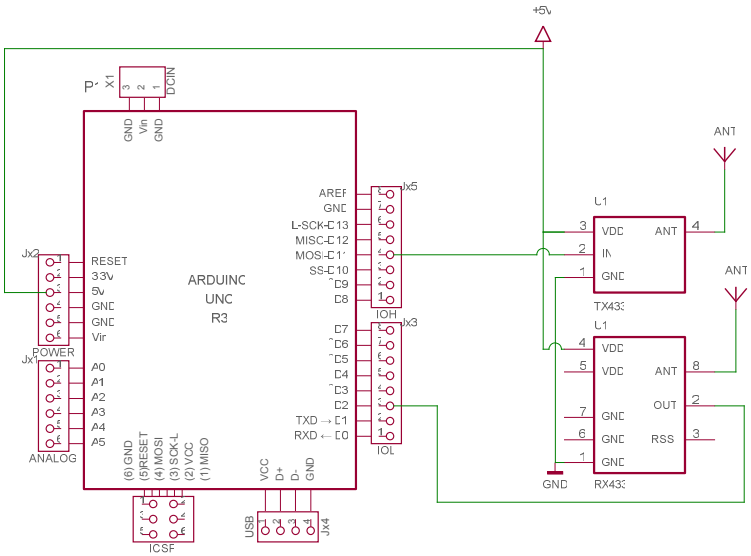

Figure 8: Arduino UNO and RX433-TX433 Transceiver board - Logical

Signal	Arduino	TX433	RX433
+5V	5V	VDD (3)	VDD (4,5)
GND	GND	GND (1)	GND (1,6,7)
OOK Transmit	11	IN (2)	
OOK Receive	2		OUT (2)
Antenna		ANT (4)	ANT (8)

Table 1: Arduino UNO RX433-TX433 Board interconnection

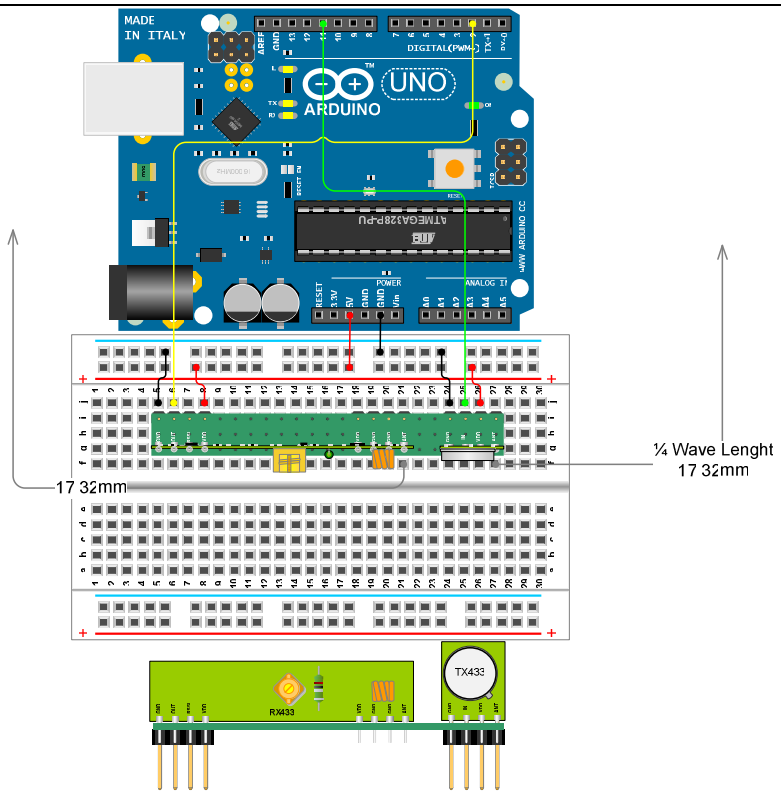

Figure 9: Arduino UNO and RX433-TX433 Transceiver board – Physical

MX-FS-03V – XY-MK-5V Transceiver board

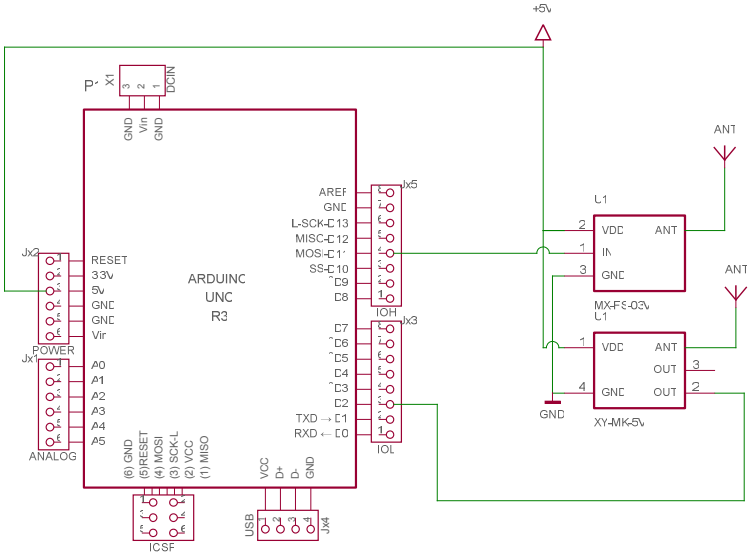

Figure 10: Arduino UNO and MX-FS-03V – XY-MK-5V Transceiver board - Logical

Signal	Arduino	MX-FS-03V	XY-MK-5V
+5V	5V	VDD (2)	VDD (1)
GND	GND	GND (3)	GND (4)
OOK Transmit	11	IN (1)	
OOK Receive	2		OUT (2,3)
Antenna		ANT	ANT

Table 2: Arduino UNO MX-FS-03V – XY-MK-5V Board interconnection

SAW Devices and OOK

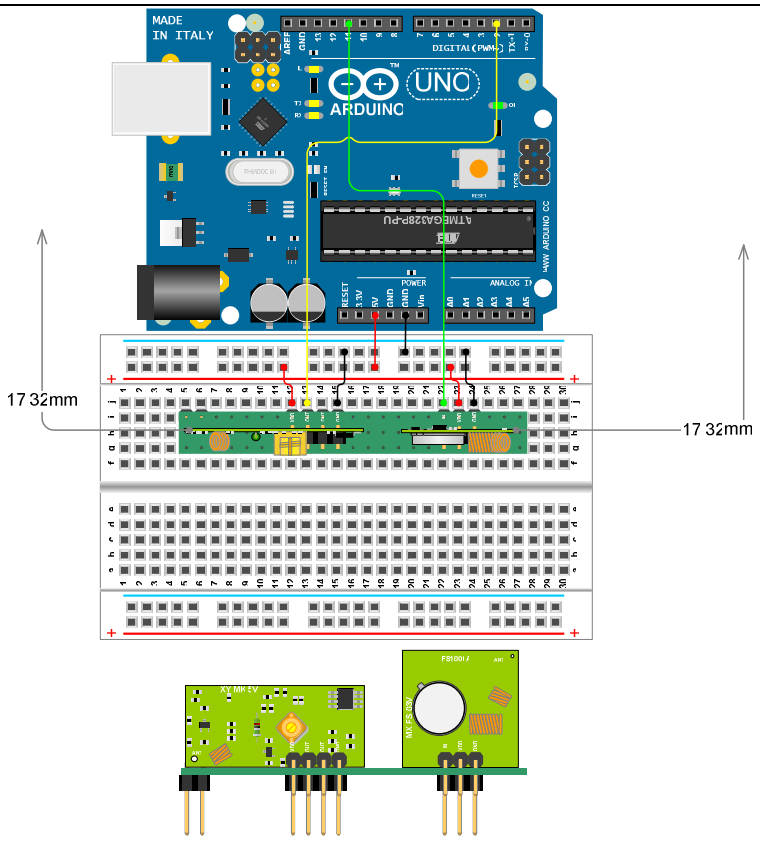

Figure 11: Arduino UNO and MX-FS-03V – XY-MK-5V Transceiver board – Physical

Antenna Length Calculation

Antenna length = ¼ Wave length
Wave length = (300.000km/s) / (433 MHz) = 69,29 mm
Antennal length = 41,732 /2 = 17,32 mm

OOK (KAKU) Libraries and Sketches

See:
https://bitbucket.org/fuzzillogic/433mhzforarduino/wiki/Home
Download:
https://bitbucket.org/fuzzillogic/433mhzforarduino/src

- ooOoo -