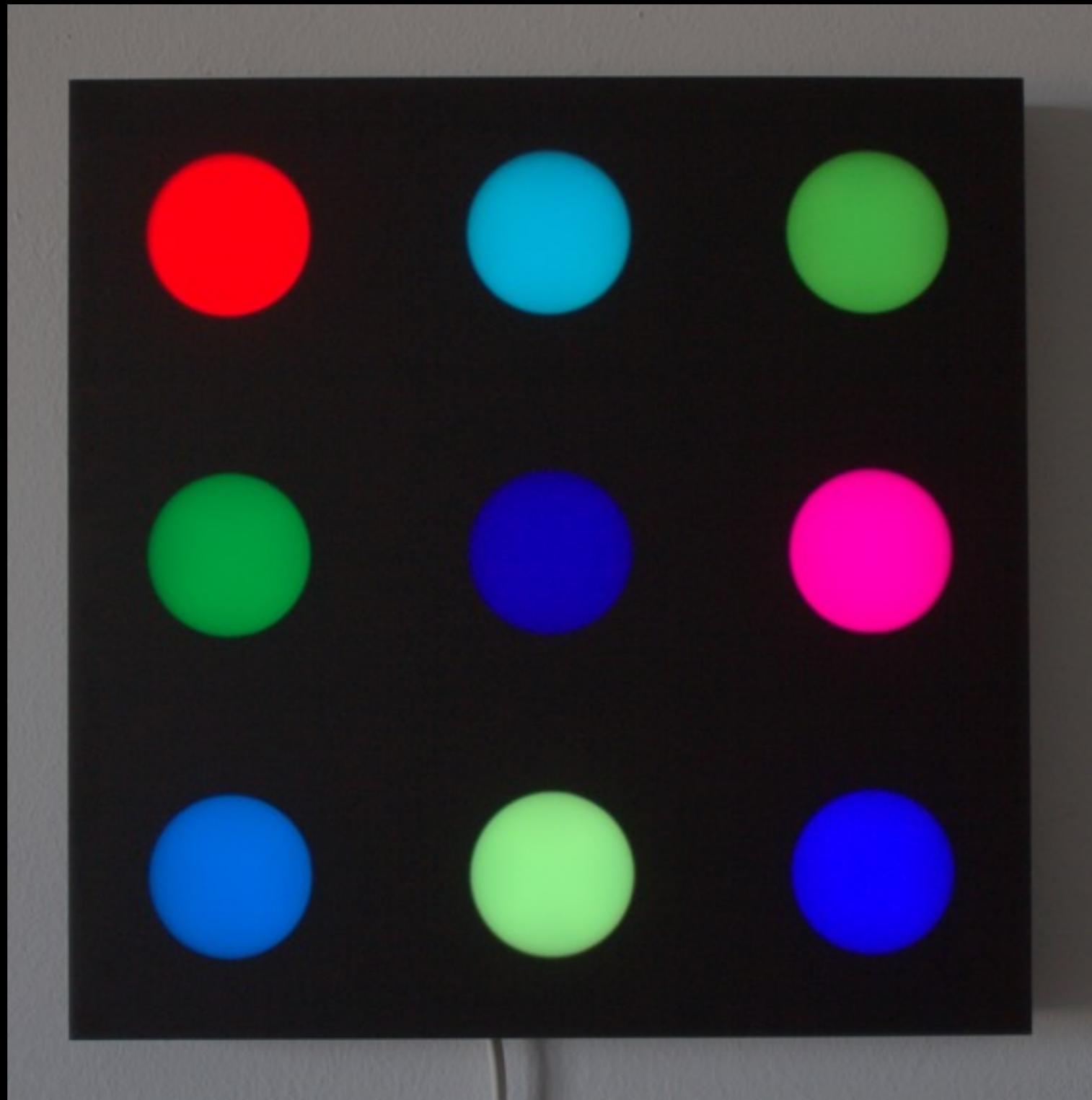
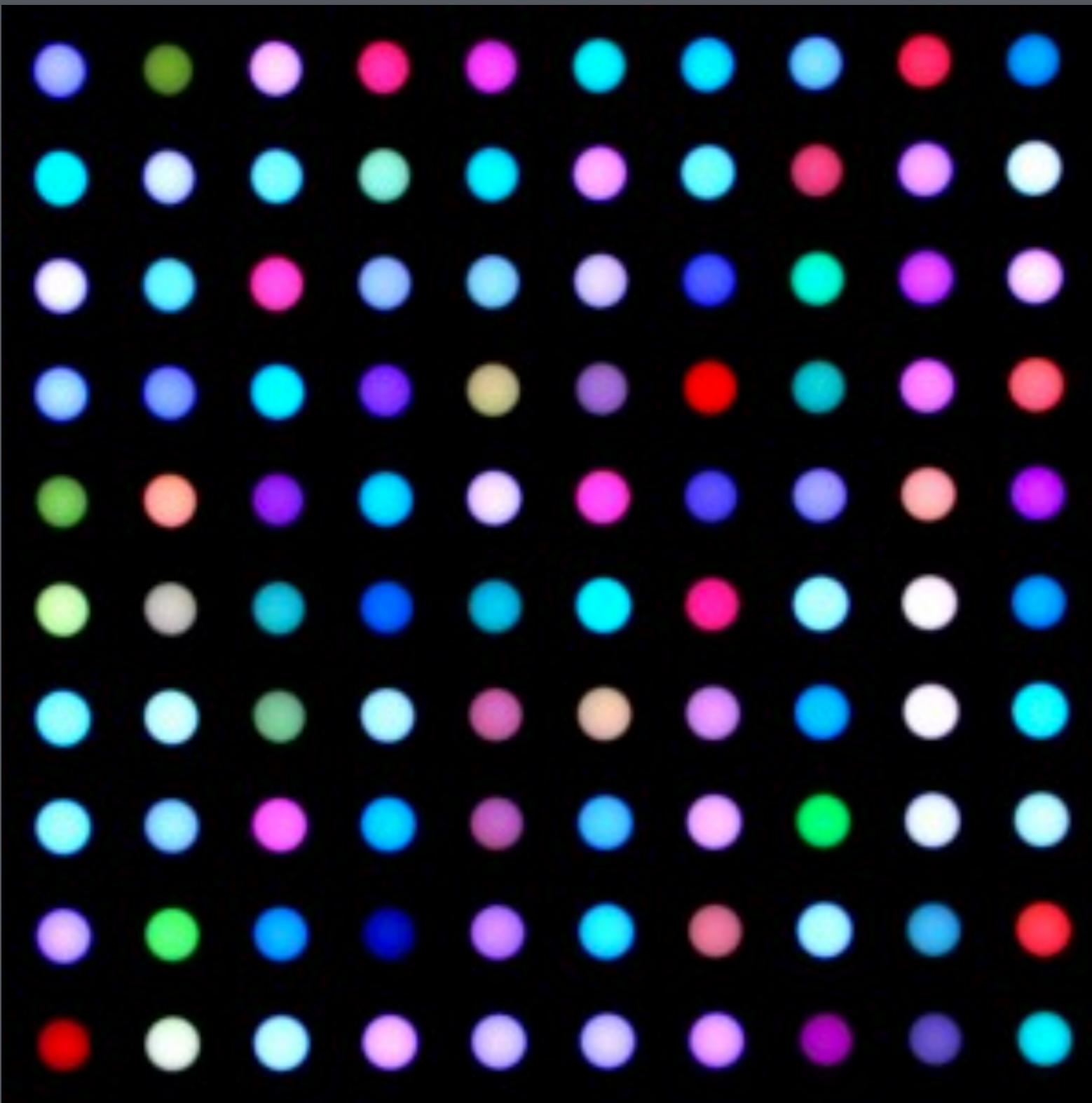


# 9randomSpots from... Casa Jasmina

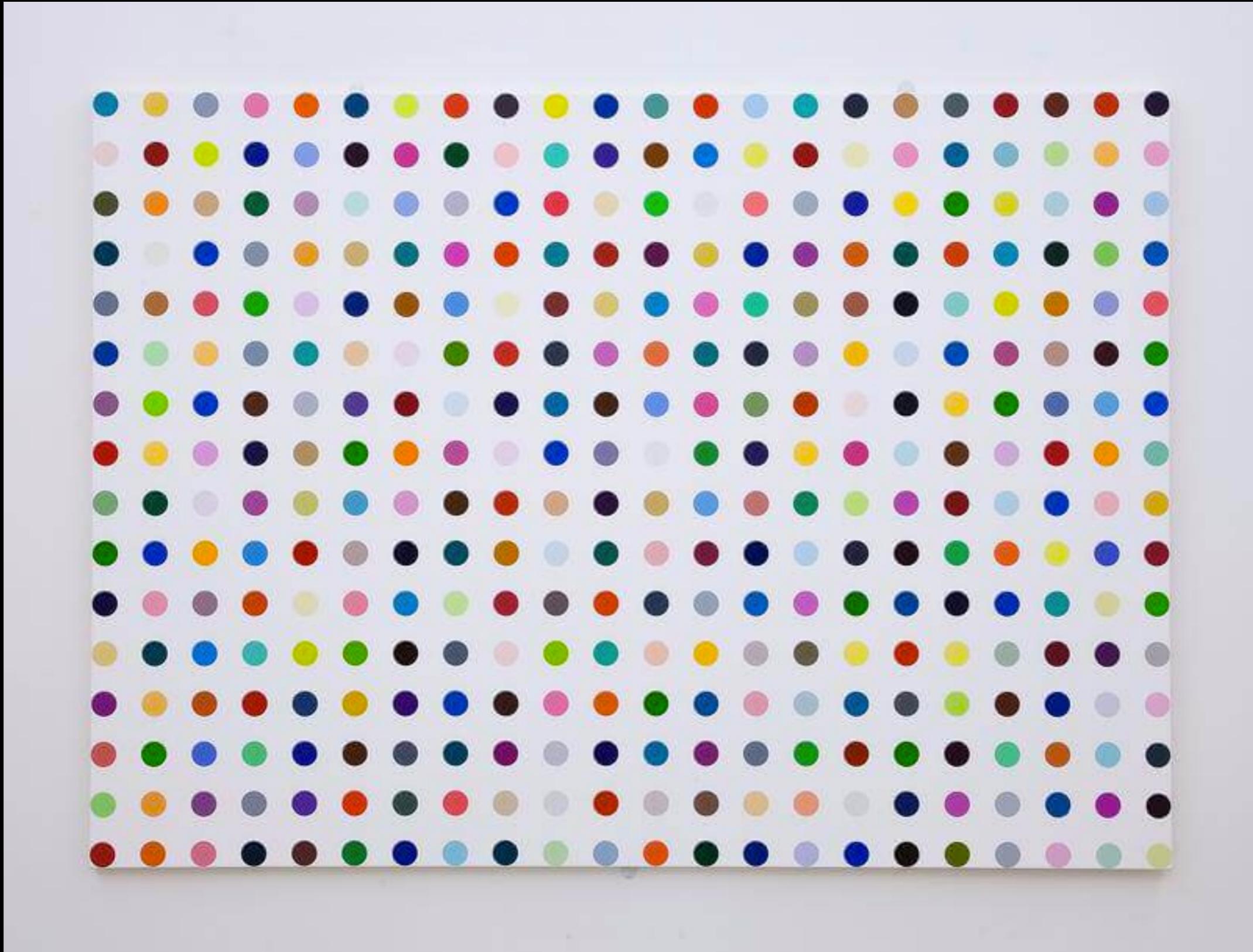
2015 + 2018



<https://www.marcobrianza.it/9-random-spots-from-casa-jasmina/>



100% Random  
2012



Spot paintings  
Damien Hirst



4096 Farben - 1974, 254 cm x 254 cm, Lack auf Leinwand  
Gerhard Richter



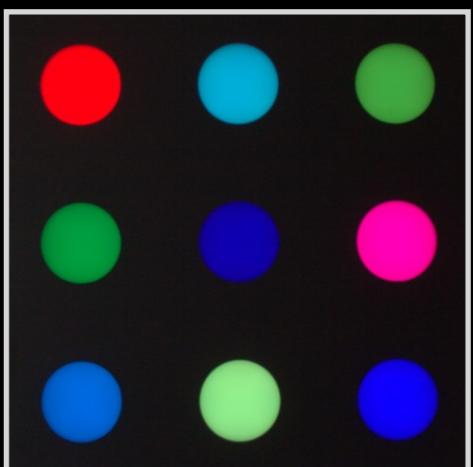
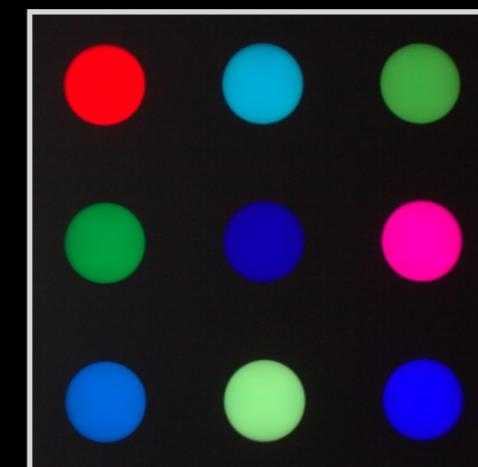
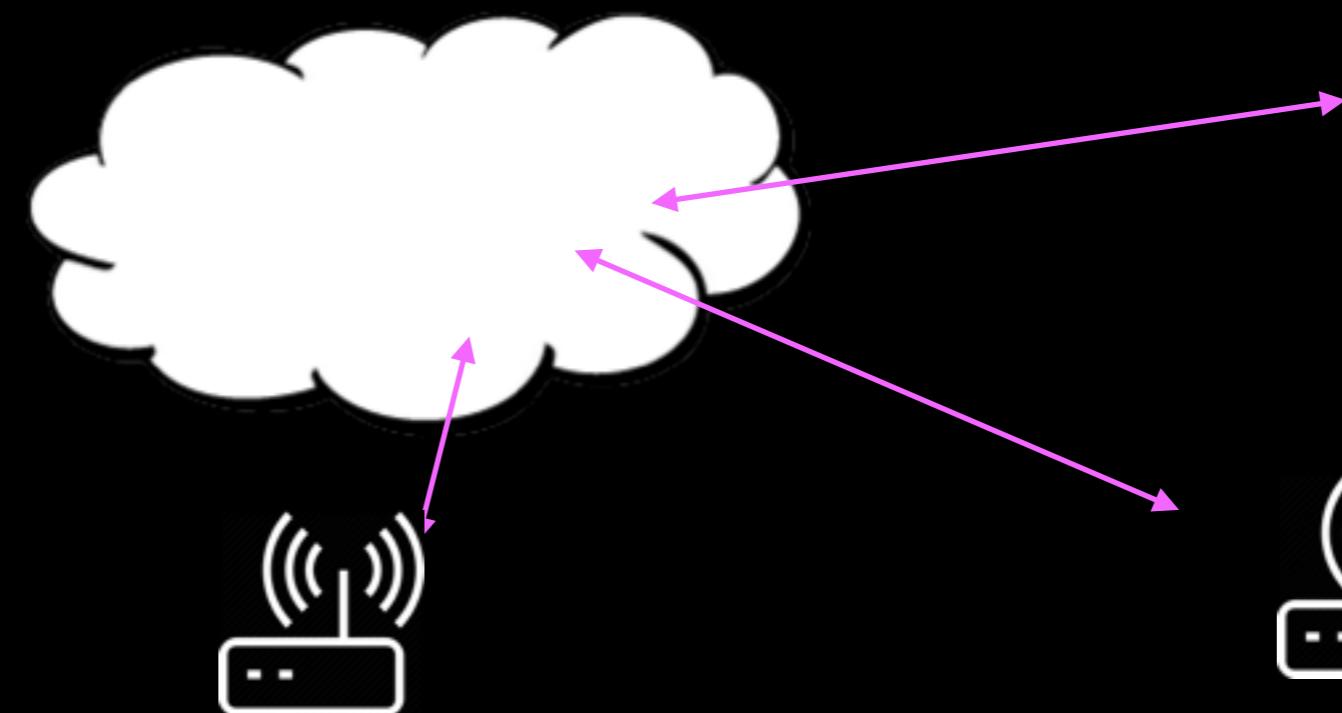
Cologne Cathedral  
Gerhard Richter - 2007

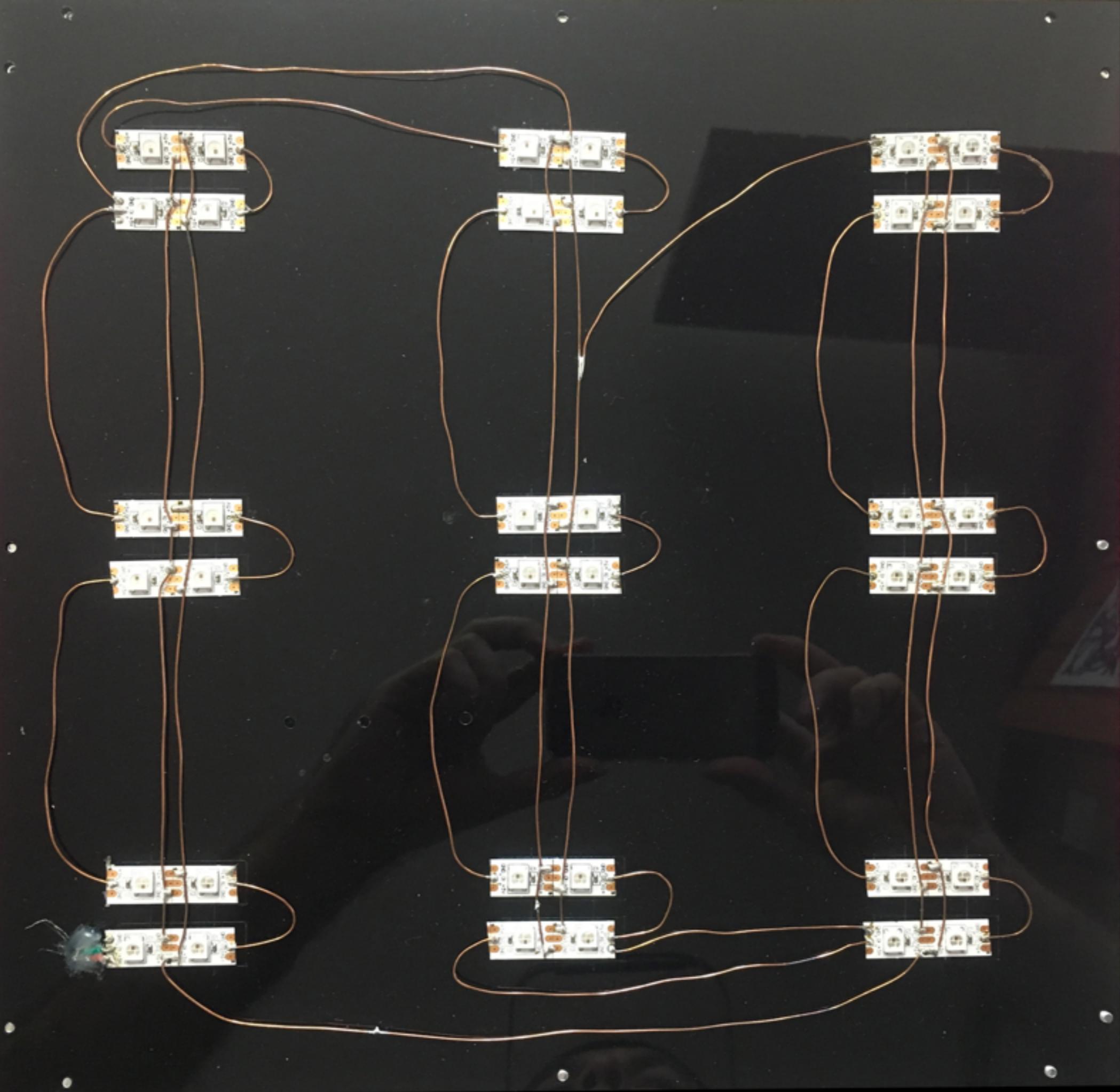


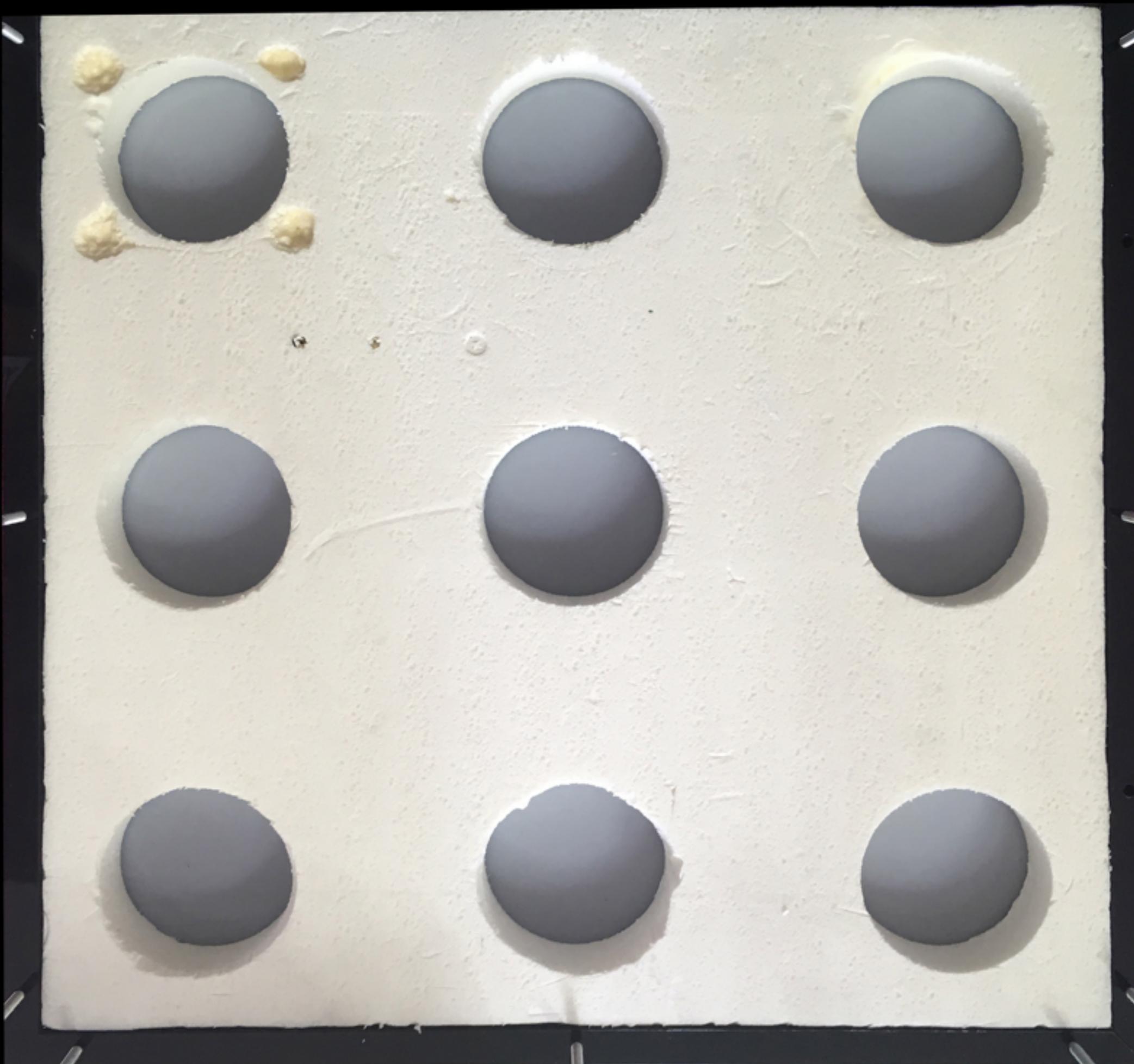
wmc.marcobrianza.it

9randomSpots/9RS\_2C:3A:E8:43:A2:87/randomColor

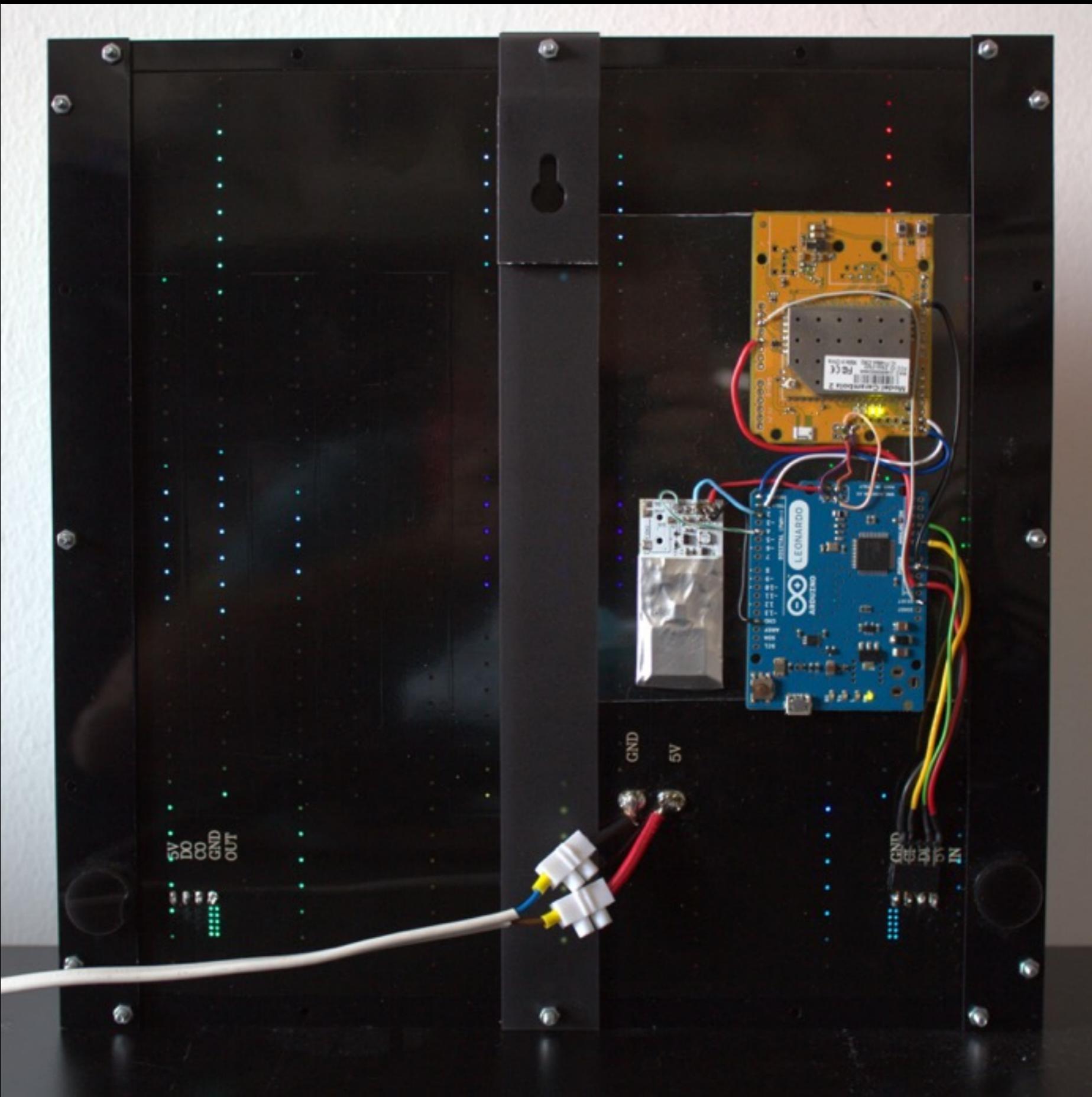
```
{  
  "p" : 8,  
  "h" : 87,  
  "s" : 159,  
  "v" : 191,  
  "random" : 69771,  
  "count" : 103,  
  "cpm" : 5.163779,  
  "uSv/h" : 0.097371,  
  "uSv/h Error" : 0.009594  
}
```



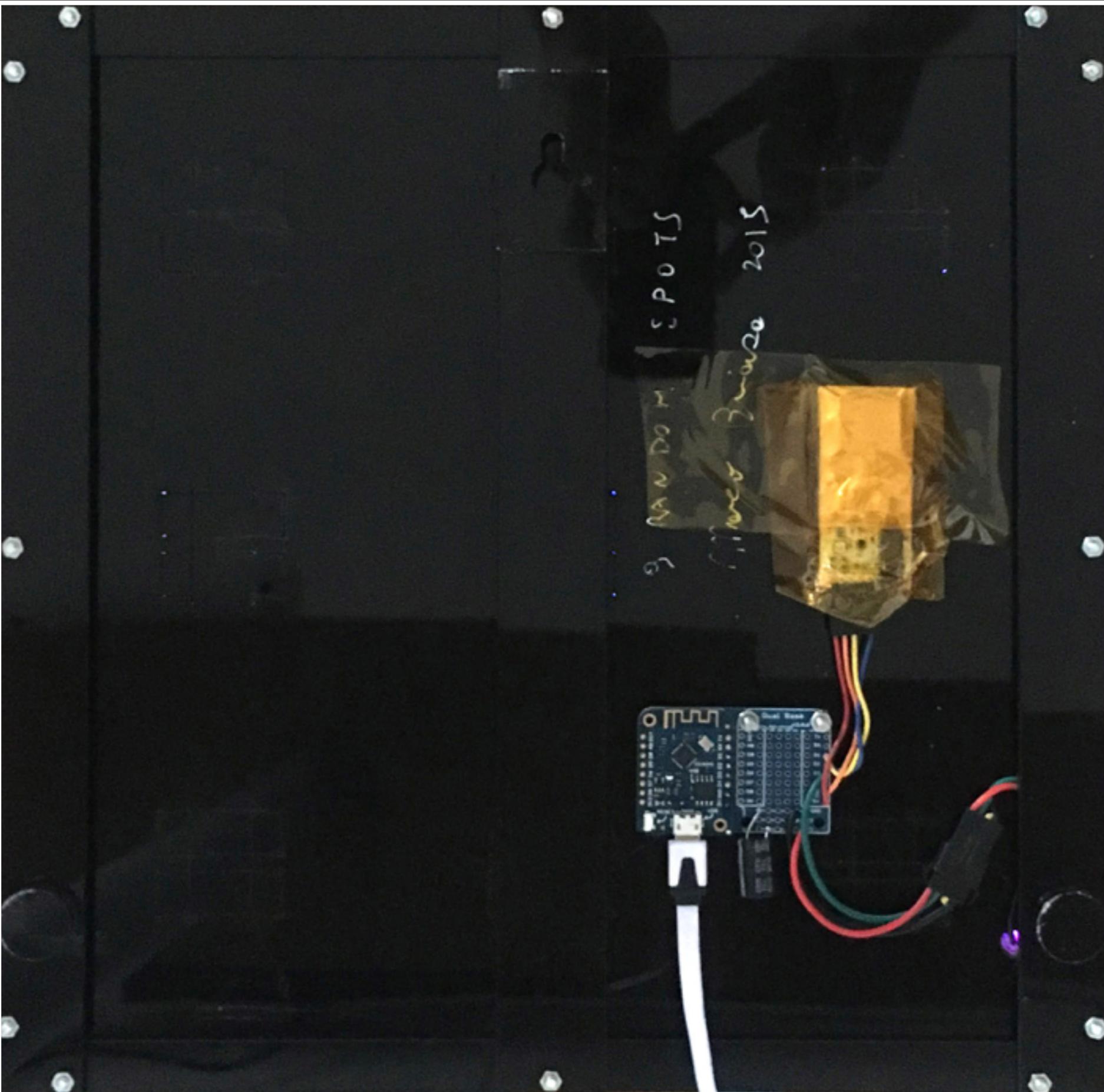








2015



2018



## Silicon photodiodes for gamma ray detection



First Sensor AG expands its detector series for ionizing radiation. The new X100-7 targets high volume gamma detection applications by combining low dark current and low capacitance silicon photodiodes with reliable and cost-efficient packaging.

Recent events like the nuclear disaster in Japan have raised awareness of risks from nuclear radiation and created an additional demand for commercial as well as personal radiation detection devices.

Typical products of plutonium and uranium nuclear fission processes are isotopes of Iodine  $^{131}\text{I}$  and  $^{132}\text{I}$ , Cesium  $^{132}\text{Cs}$  and  $^{137}\text{Cs}$ , as well as Tellurium-132 and Strontium-90. While  $^{132}\text{Te}$ ,  $^{131}\text{I}$ ,  $^{132}\text{I}$  and  $^{132}\text{I}$  are relatively short-lived,  $^{134}\text{Cs}$  has a half-life of about 2 years and  $^{137}\text{Cs}$  as well as  $^{90}\text{Sr}$  even of about 30 years. Accordingly,  $^{134}\text{Cs}$ ,  $^{137}\text{Cs}$  and  $^{90}\text{Sr}$  are the dominant radioactive isotopes regarding health impacts months and years after the nuclear disasters of Chernobyl and Fukushima. The mentioned Cesium and Iodine isotopes decay mainly emitting high energy gamma radiation between 300 and 800 keV.  $^{90}\text{Sr}$  emits beta radiation of 546 keV energy. Specifically, gamma radiation from Cesium-137 (662 keV) is often used to identify contamination from the Fukushima disaster.



スマートフォン接続型放射線センサ  
Smartphone-connected Radiation Detector

POCKET Geiger



About us

プロジェクト紹介

Get Now

今すぐ購入

Support

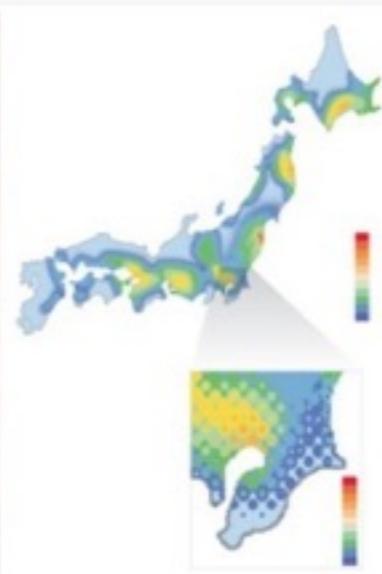
サポート

Developer

開発資料

2011/06/08

私たちのミッション / Our mission

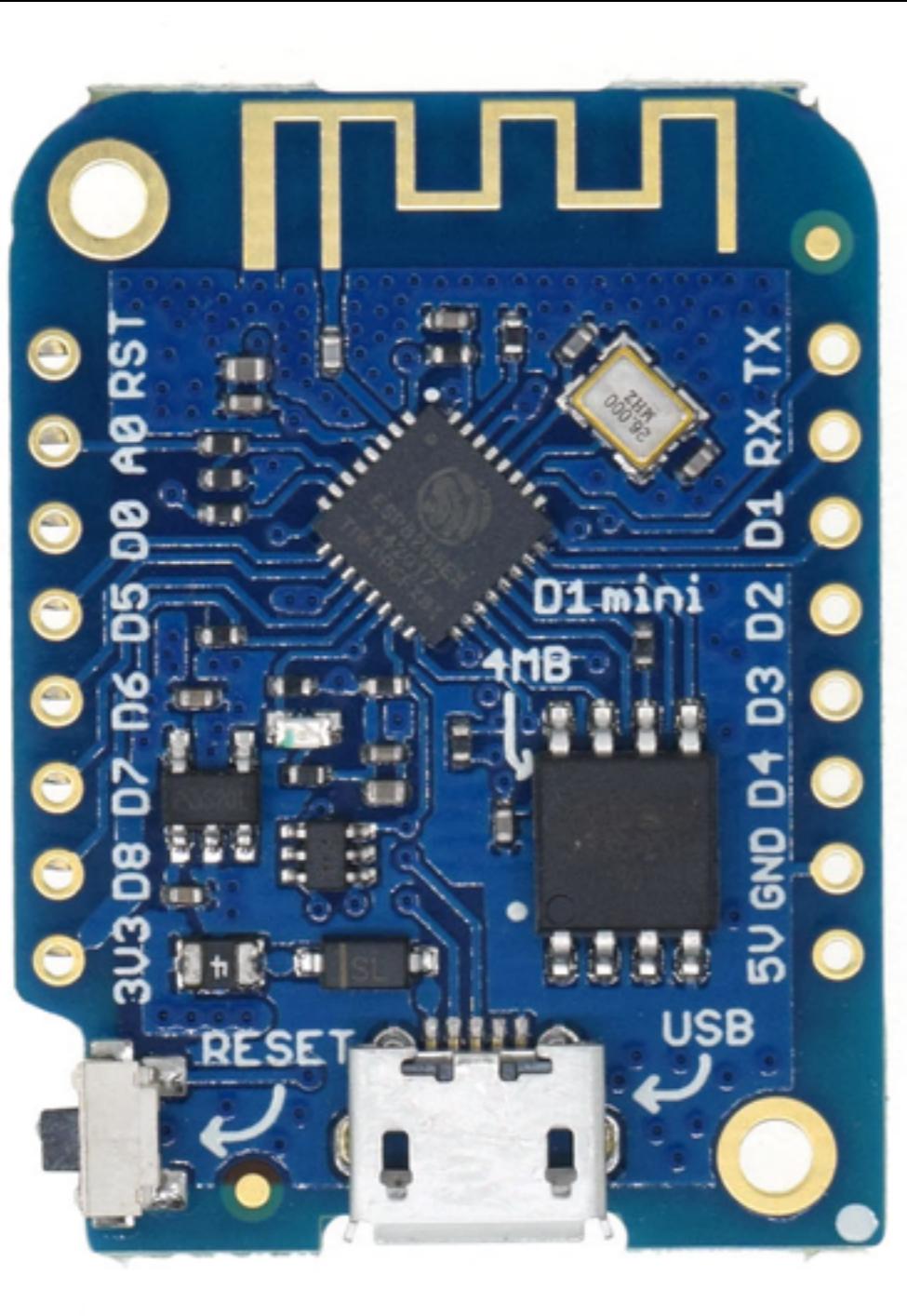


子供や両親、外国人旅行者まで。私たちは生活圏の放射線量を正しく知る権利があります。時計を見たり、天気予報を聞いたり、温度を測るのと同じくらい、放射線の情報を身近なものにすること。これが私たちの目標です。

そのためには、小型で持ち運びやすいスマート空間線量計が適しています。このプロジェクトは、多くの専門家、研究者、エンジニア、プログラマーそして投資家（購入者）の協力によって成り立っています。みなさまのご支援をどうぞお願い申

# WeMos D1 mini ESP8266

# Arduino IDE



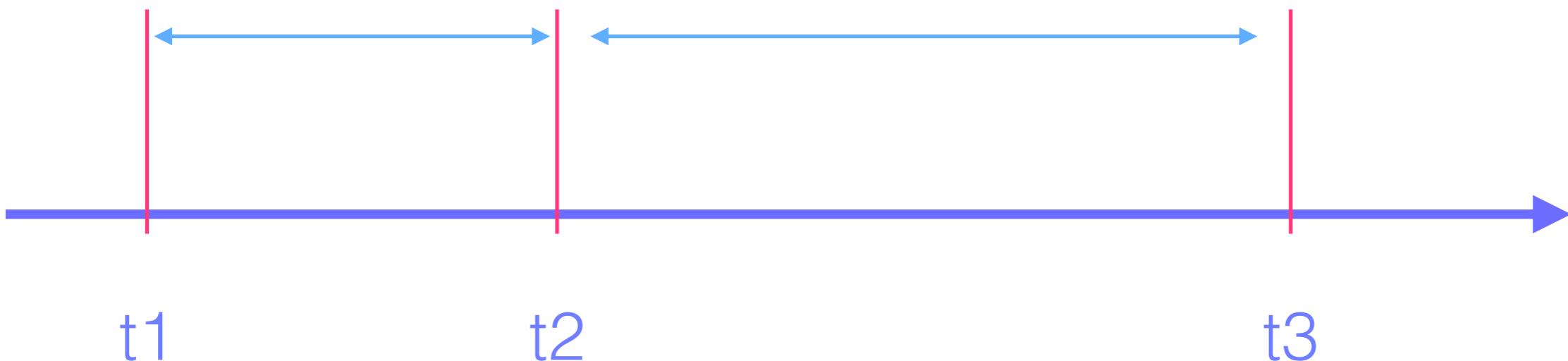
```
9randomSpots | Arduino 1.8.5

9randomSpots IoT light mqtt

1 String softwareName = "9randomSpots";
2 String softwareVersion = "1.0.1"; //
3 String software = "";
4
5
6 //boot Count
7 #include <EEPROM.h>
8
9 //Wi-Fi
10 #include <ESP8266WiFi.h> // ESP8266 core 2.4.1
11 WiFiClient wifi;
12
13 //Wi-FiManager
14 #include <DNSServer.h>
15 #include <ESP8266WebServer.h>
16 #include <WiFiManager.h> // Version 0.12.0
17 #include "FS.h"
18
19 #define MAX_PARAM 40
20 #define MQTT_MAX MQTT_MAX_PACKET_SIZE
21
22 char THING_ID[MAX_PARAM];
23 String thingId = "";
24 String appId = "9RS_";
25
26 #define THING_NAME_DEFAULT ""
27 char THING_NAME[MAX_PARAM] = THING_NAME_DEFAULT;
28 String s_thingName = "";
29 char MQTT_SERVER[MAX_PARAM] = "wmc.marcobrianza.it";
30 String s_mqttServer = "";
31
32 // name, prompt, default, length
33 WiFiManagerParameter wfm_thingName("thingName", "Thing Name", THING_NAME, sizeof(THING_NAME));
34 WiFiManagerParameter wfm_mqttServer("mqttServer", "MQTT Server", MQTT_SERVER, sizeof(MQTT_SERVER));
35
36 //OTA
37 #include <ESP8266mDNS.h>
38 #include <ArduinoOTA.h>
39 const char* OTA_PASSWORD = "12345678";
40
```

loops

loops



9randomSpots - light.ino | Arduino 1.8.5

```
23 }
24
25
26 CHSV makeColor() {
27     unsigned long turns = loops / MAX_NUM;
28     unsigned long r = loops % MAX_NUM;
29
30     unsigned int p = r / MAX_CCC % SPOTS; // number of the spot
31     unsigned int c = r % MAX_CCC;
32
33     byte h = c % MAX_H ; // hue
34     byte s = c / MAX_H % MAX_S; //saturation
35     byte v = c / MAX_H / MAX_S % MAX_V; //value
36
37     spots[p].h = map(h, 0, MAX_H, 0, 255);
38     spots[p].s = map(s, 0, MAX_S, 128, 255);
39     spots[p].v = map(v, 0, MAX_V, 128, 255);
40
41
```

# Published messages

gamma Ray detector

message is sent when the particle is detected

9randomSpots/9RS\_2C:3A:E8:43:A2:87/randomColor

```
{  
    "p" : 8,  
    "h" : 87,  
    "s" : 159,  
    "v" : 191,  
    "random" : 69771,  
    "count" : 103,  
    "cpm" : 5.163779,  
    "uSv/h" : 0.097371,  
    "uSv/h Error" : 0.009594  
}
```

9randomSpots/9RS\_2C:3A:E8:43:A2:87/cpm

3.56

multicast dns



heartbeat 9randomSpots/9RS\_2C:3A:E8:43:A2:87/beat  
every 15 minutes

```
{  
  "count" : "79",  
  "softwareName" : "9randomSpots",  
  "softwareVersion" : "1.0.1",  
  "thingName" : "9RS_2C:3A:E8:43:A2:87"  
}
```

# Subscribed messages

## global light intensity

9randomSpots/9RS\_2C:3A:E8:43:A2:87/brightness

128

## spot color

9randomSpots/9RS\_2C:3A:E8:43:A2:87/color

```
{  
  "p": 1,  
  "h": 128,  
  "s": 128,  
  "v": 255  
}
```

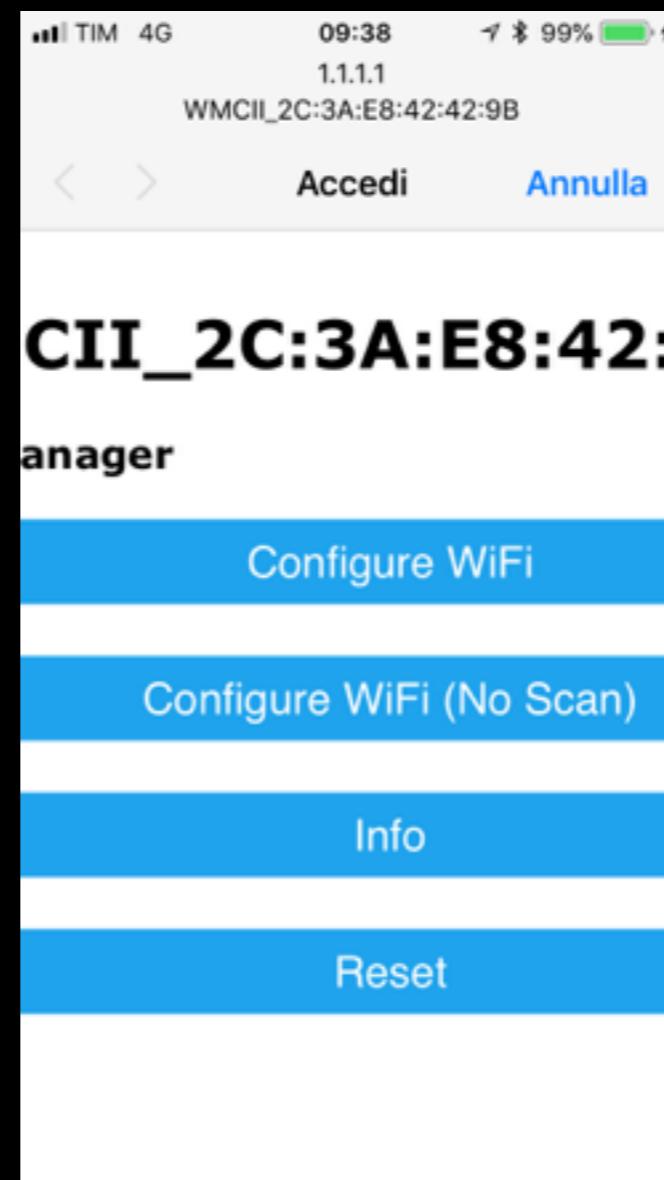
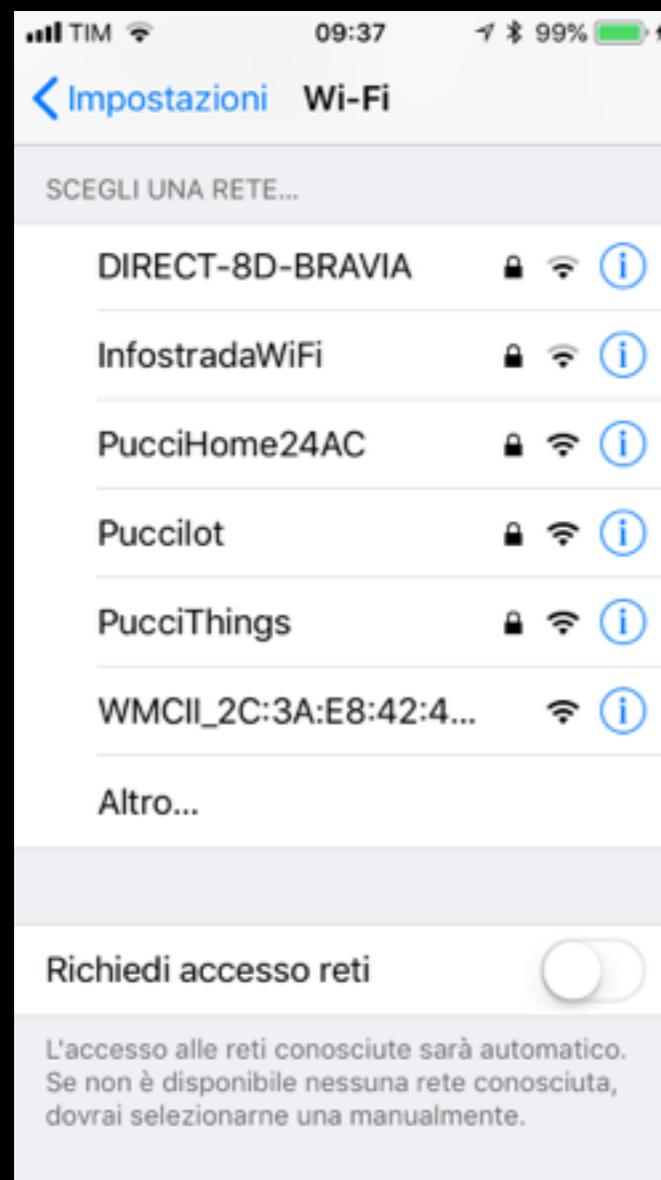
## remote configuration

9randomSpots/9RS\_2C:3A:E8:43:A2:87/config

```
{  
  "command": "update",  
  "option": "http://iot.marcobrianza.it/art/9randomSpots.ino.d1_mini.bin"  
}
```

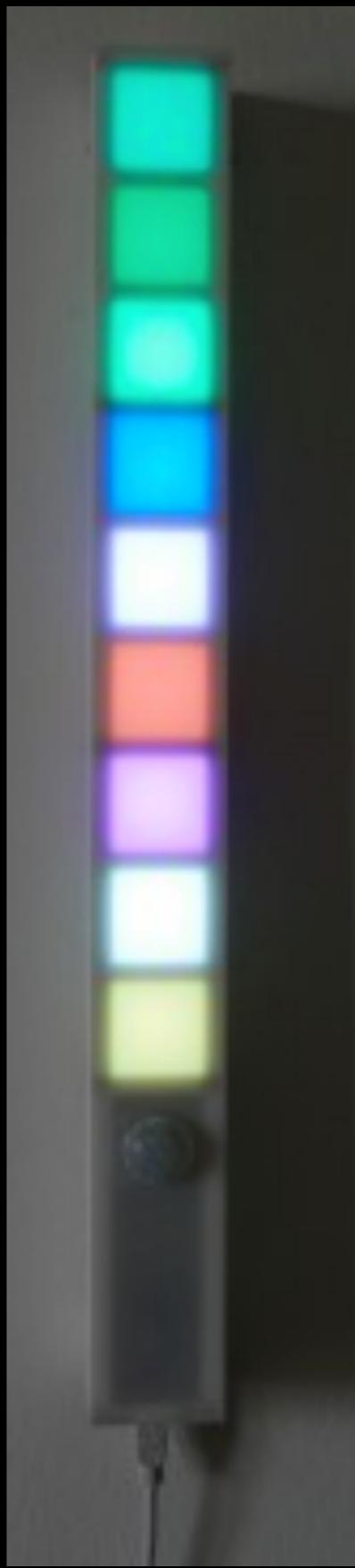
# Network parameters and options

## Wi-Fi captive portal web page



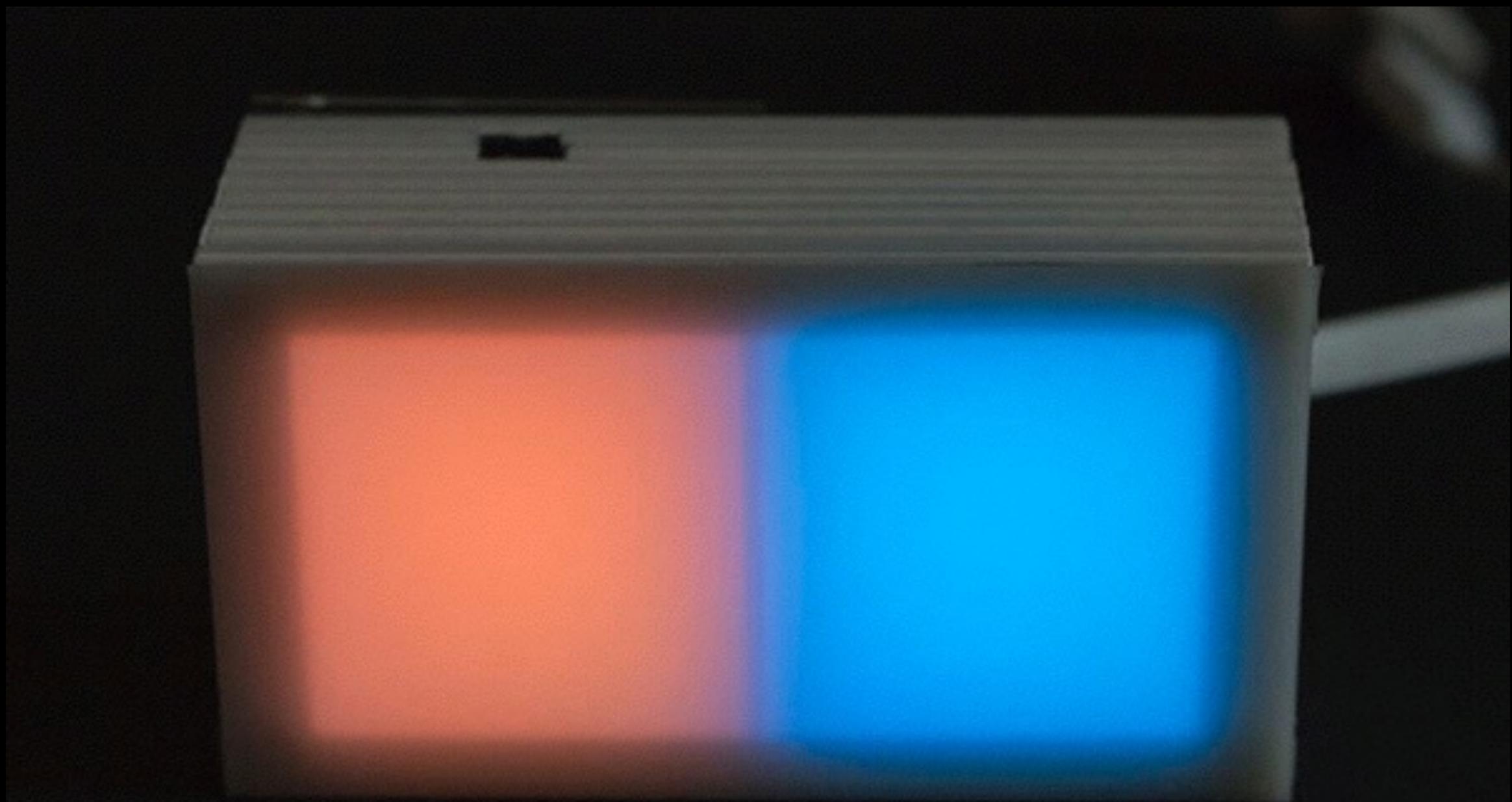
# WeMakeColors

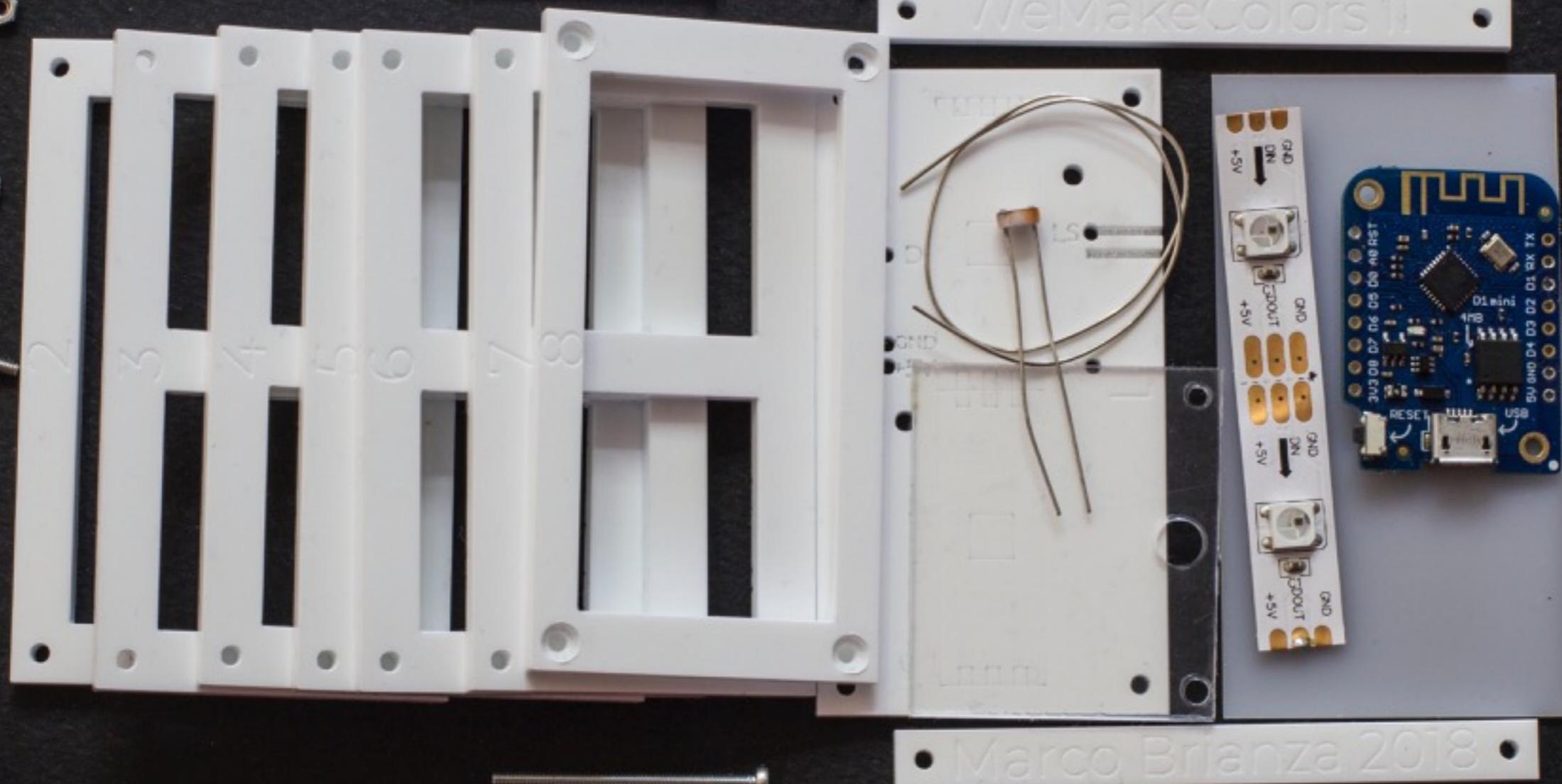
2016



# WeMakeColors II

2018





[wmc.marcobrianza.it](http://wmc.marcobrianza.it)



MosQuiTTo

WeMakeColorsII/randomColor

```
{  
  "h": "42",  
  "s": "128",  
  "v": "255"  
}
```

