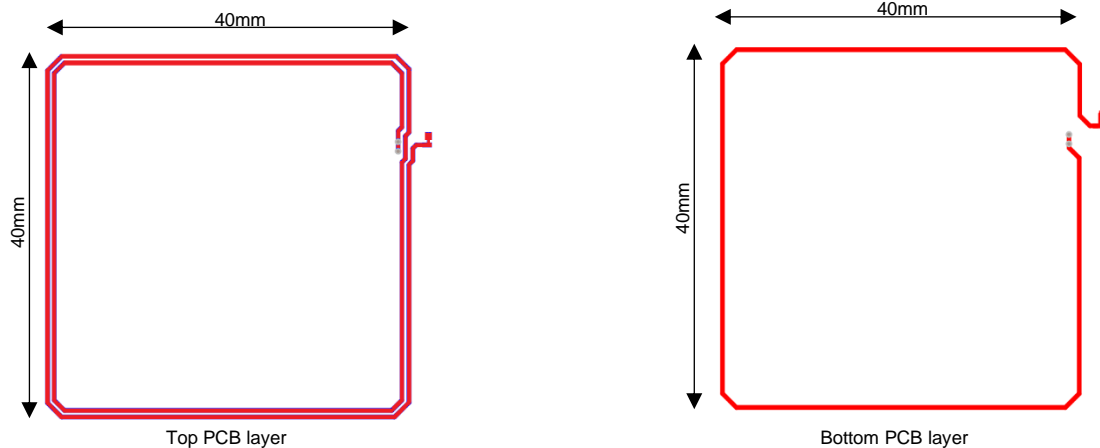


# VTAP200ESS Antenna Specification (CONFIDENTIAL)

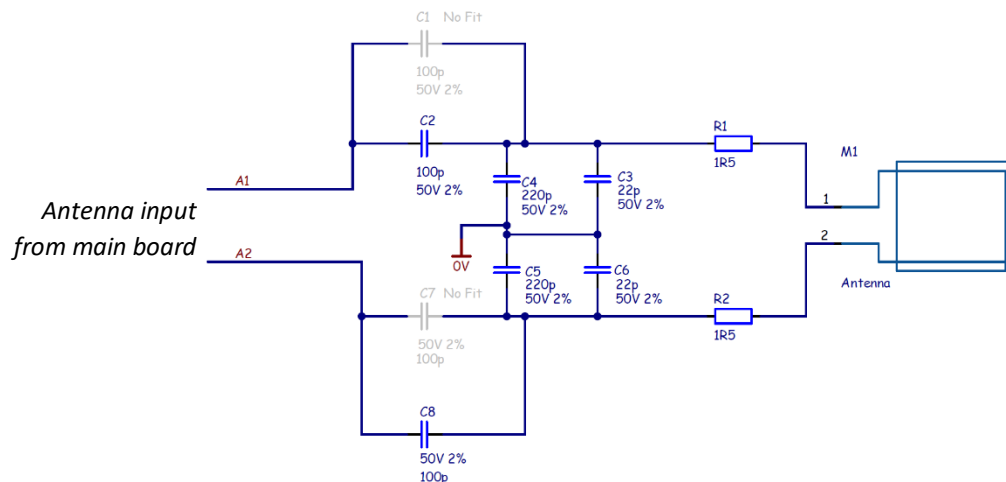
## NFC Antenna Description

	VTAP200ESS Antenna
Antenna Model	VTAP200ANT1
Brand Name	Dot Origin
Antenna type	Internal (PCB printed) Loop antenna
Max. antenna gain	Not applicable
Antenna pattern	Not applicable
Centre frequency	13.56MHz (Near field)
Location	Etched on VTAP200ANT1PCB board

The VTAP200ESS consists of an NFC antenna board (**Model: VTAP200ANT1**) with integrated (PCB printed) loop NFC antenna measuring 40mm x 40mm. This antenna is tuned on 13.56MHz near field communication, and is used for reading mobile phone wallet passes and NFC forum (1,2,3,4,5 + MIFARE Classic and DESFire applications). The NFC antenna generates a magnetic field, to communicate over 13.56MHz frequency only within 10cm of the generated magnetic field, and is only compatible for near field read applications. The copper patterns, only on the top and back PCB layers of the VTAP200ANT1 board, and circuit diagram (tuning circuit and antenna) are provided below.



**VTAP200ANT1 NFC Antenna Copper Patterns**



# VTAP200ESS Antenna Specification (CONFIDENTIAL)

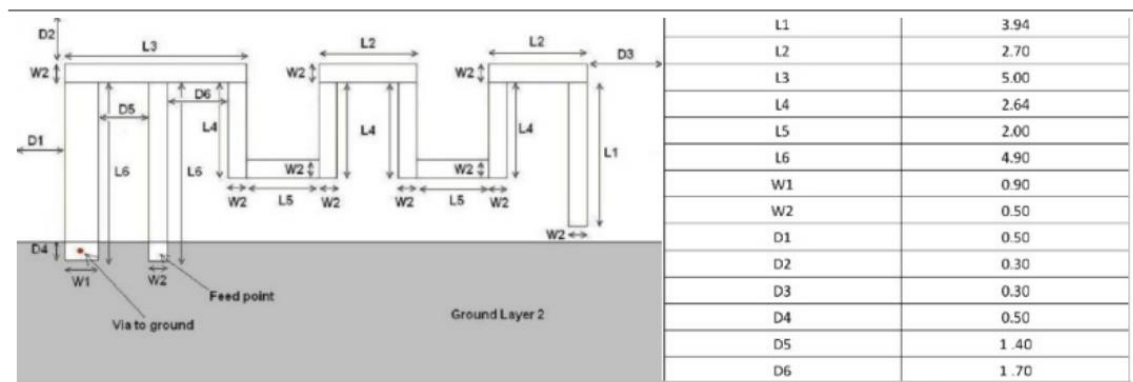
## Wi-Fi + Bluetooth Antenna

	ESPRESSIF Module Antenna
Antenna Model	ESP32-WROOM-32E (FCC ID: 2AC7Z-ESP32WROOM32E)
Brand Name	Espressif
Antenna type	Internal (PCB printed)
Max. antenna gain	2.4G Wi-Fi & BLE: 3.4dBi
Centre frequency	2.4G Wi-Fi: 2412-2462 MHz, BLE: 2402-2480MHz
Location	Etched on ESP32-WROOM-32E module

The ESP32-WROOM module on VTAP200ESS includes a 2.4GHz Wi-Fi / Bluetooth antenna which is used for connectivity with the host system. The module follows IEEE 802.11b/g/n for Wi-Fi; and BR/EDR or Bluetooth (V4.2). The antenna location is marked in the below figures. The module is [FCC approved](#) (FCC ID: 2AC7Z-ESP32WROOM32E). Antenna pattern is provided in annex. A.

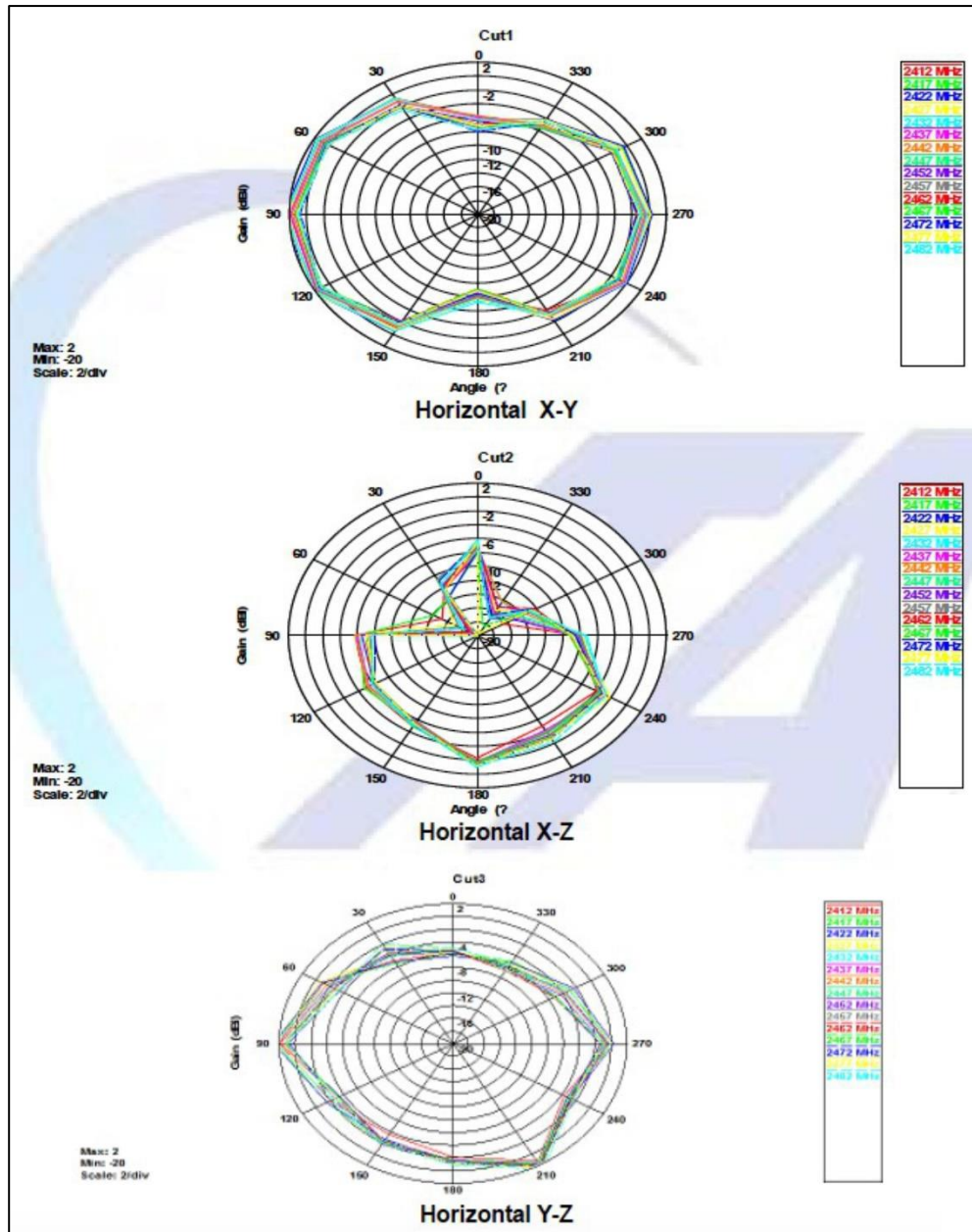


Dimensions:



## ANNEX. A

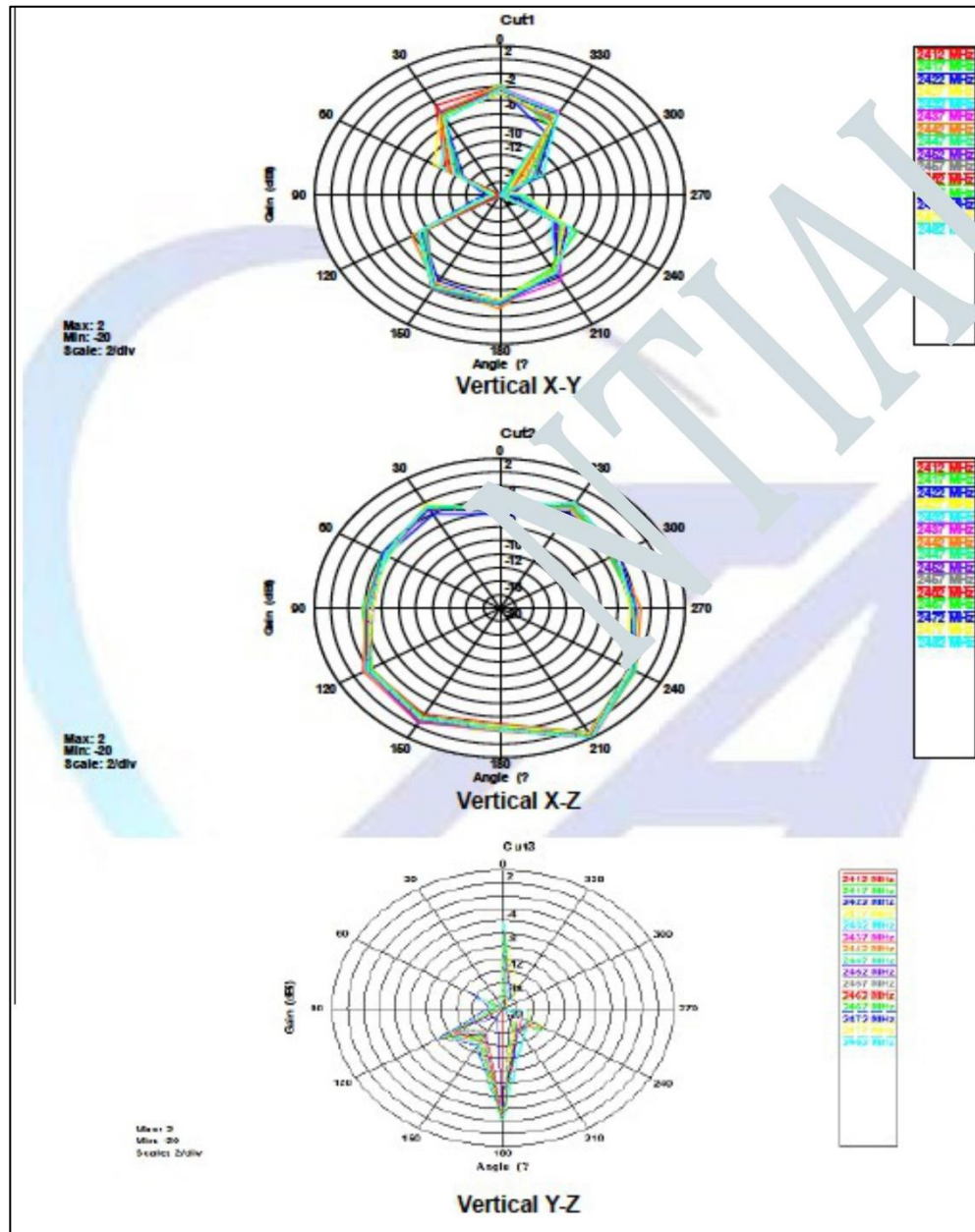
### ESP32-WROOM Wi-Fi + Bluetooth Module Antenna Pattern



From section 6 of [ESP32-WROOM32E user manual](#)

## ANNEX. A (continued)

### ESP32-WROOM Wi-Fi + Bluetooth Module Antenna Pattern



From section 6 of [ESP32-WROOM32E user manual](#)