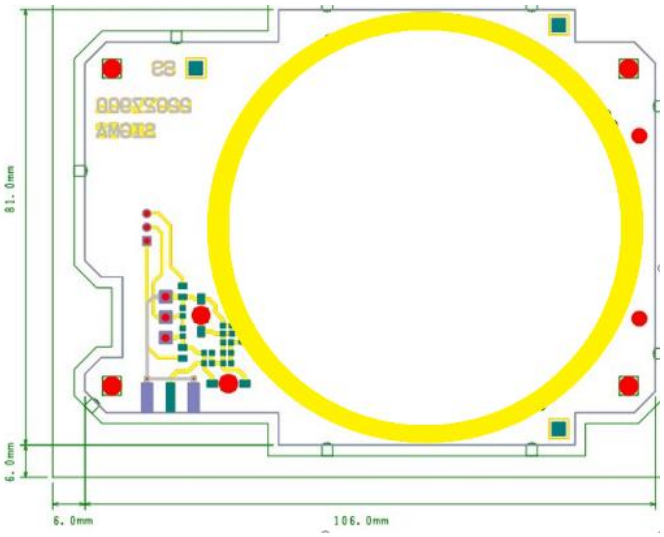
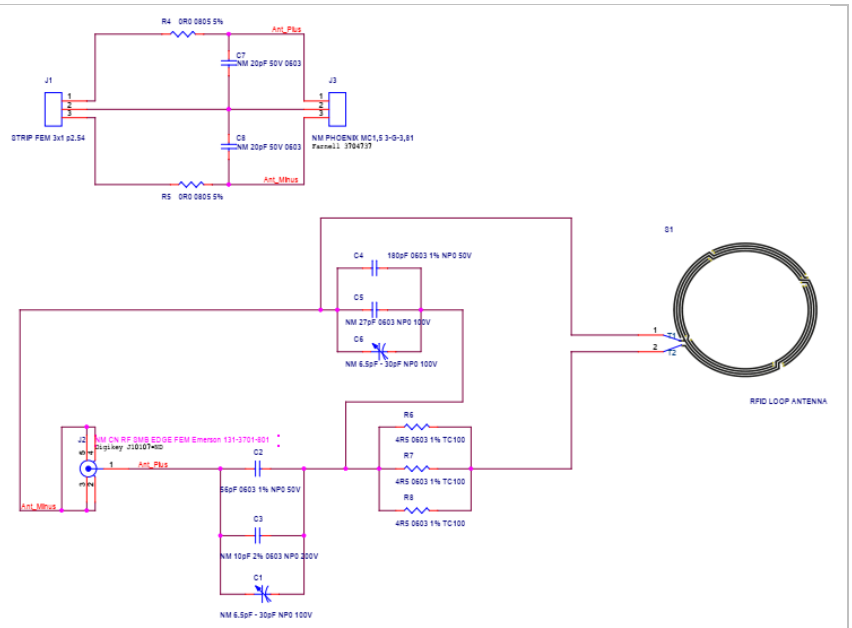
Datasheet loop antenna RFID SIGMA

Manufacturer information	Name	Sigma S.p.A.
	Logo	SIGMA Our Job, Your Solution
	Address	Via dell'industria, 19 63825 Monterubbiano (FM), Italy www.sigmaspa.com
Antenna identification	Model	SCHEDA LOOP ANTENNA RFID (Sigma code 56000053800)
	Description	Sigma antenna connectable to CPL528 RFID reader produced by Paragon ID (ex ASK manufacturer)
Antenna Information	Operating frequency	13.56 MHz
	Reader reference standard	ISO/IEC 14443 type A & B, MiFare
	Typology	Circular loop antenna on PCB made of nr. 3 concentrical loops of size from 70mm to 78 mm
	Constituent materials	Copper (nets) and FR4 (pcb)
	Impedance	50 Ohm
	Antenna connector	STRIP FEM 3x1 passo 2.54 mm Samtec model SSQ-103-01-G-S
	Notes	Adaptation network on antenna PCB.
Antenna PCB mechanical characteristics	External Dimension	Length: 106 mm Width: 81 mm Depth: 1,6 mm (pcb only), 11 mm maximum footprint
	Weight	26 g
	Shape details with dimensions	

Antenna Bom & schematic

Schematic



Bill of materials

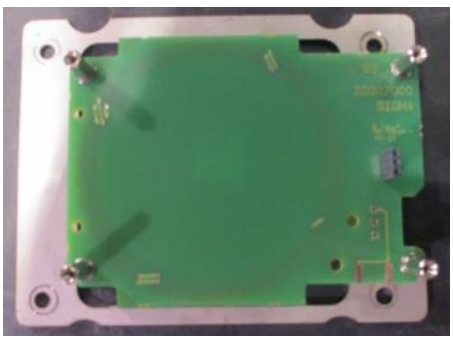
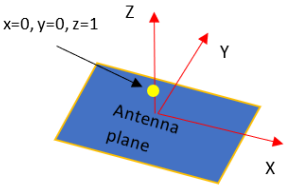
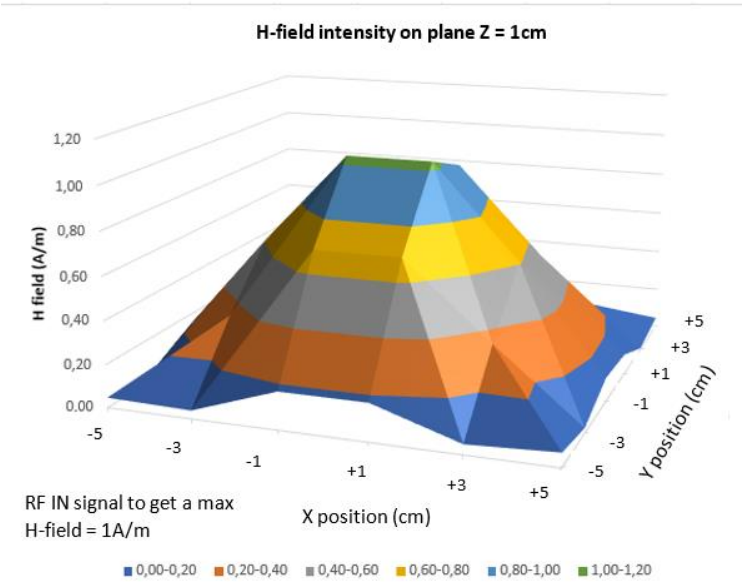
Item	Q.ty	Codice	Reference	Value
1	2	12000111500	C1,C6	NM 6.5pF - 30pF NP0 100V
2	1	12000112300	C2	56pF 0603 1% NP0 50V
3	1	12000111600	C3	NM 10pF 2% 0603 NP0 200V
4	1	12000112400	C4	180pF 0603 1% NP0 50V
5	1	12000111700	C5	NM 27pF 0603 NP0 100V
6	2	12000104500	C7,C8	NM 20pF 50V 0603
7	1	13000142100	J1	STRIP FEM 3x1 p2.54
8	1	13000140900	J2	NM CN RF SMB EDGE FEM Emerson 131-3701-801
9	1	13000140900	J3	NM PHOENIX MC1,5 3-G-3,81
10	1	22000027900	PCB1	C.S. SCHEDA
11	2	12000051300	R4,R5	0R0 0805 5%
12	3	12000112500	R6,R7,R8	4R5 0603 1% TC100

Yellow highlhted means N.M. (No Mount)

Antenna appearance

Front view (with mechanical support)

Rear view (with mechanical support)



Full kit antenna + reader appearance	Inside application CPL528 (ASK) + LOOP ANTENNA RFID ADM	
Antenna H field	Qualitative distribution on plane z = 1cm in some points near loop center