

# Hugs BLE Antenna

The tag is attached to baby's leg, so its performance should be optimal for such a use-case

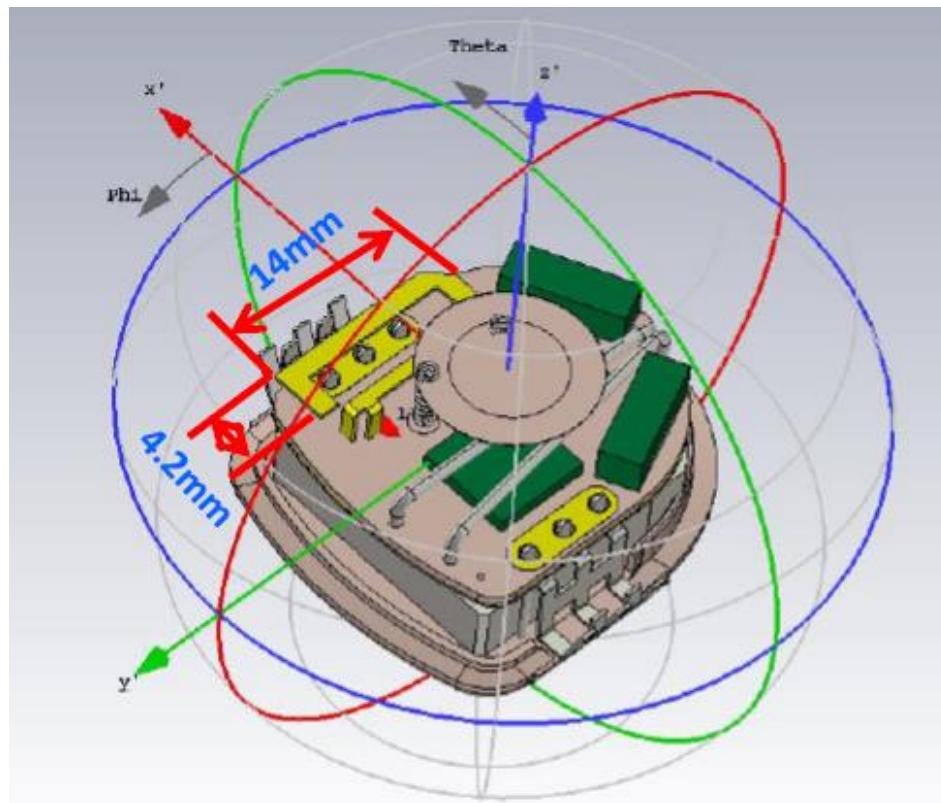
Antenna type: Metal Inverted F antenna

Frequency band: 2402-2480MHz

Omni-directional

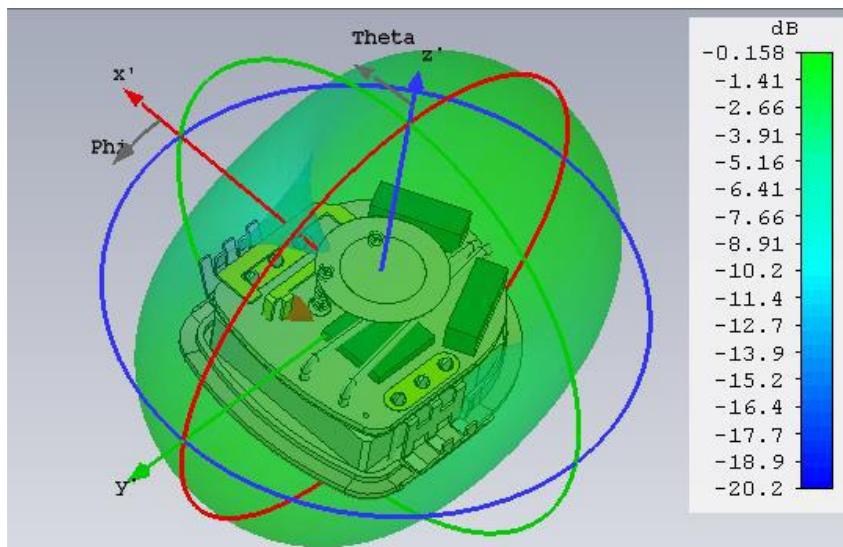
Integral antenna

Maximum gain (folded metal better than printed)

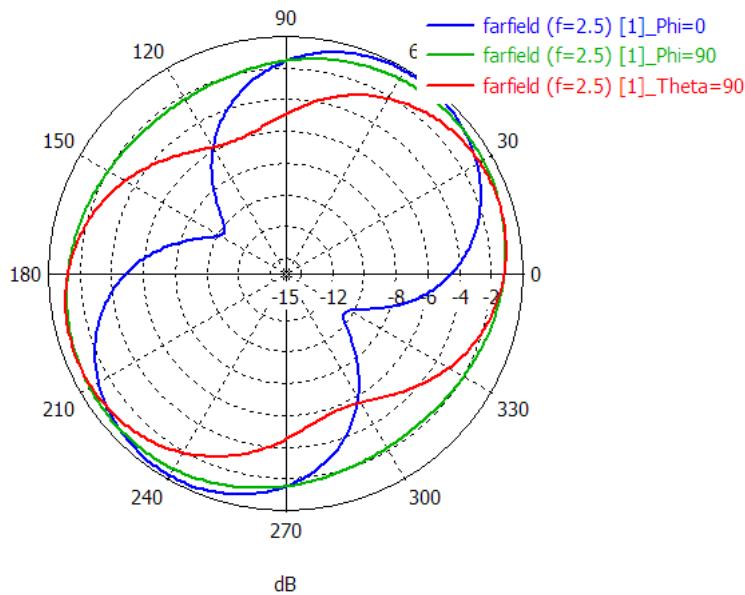


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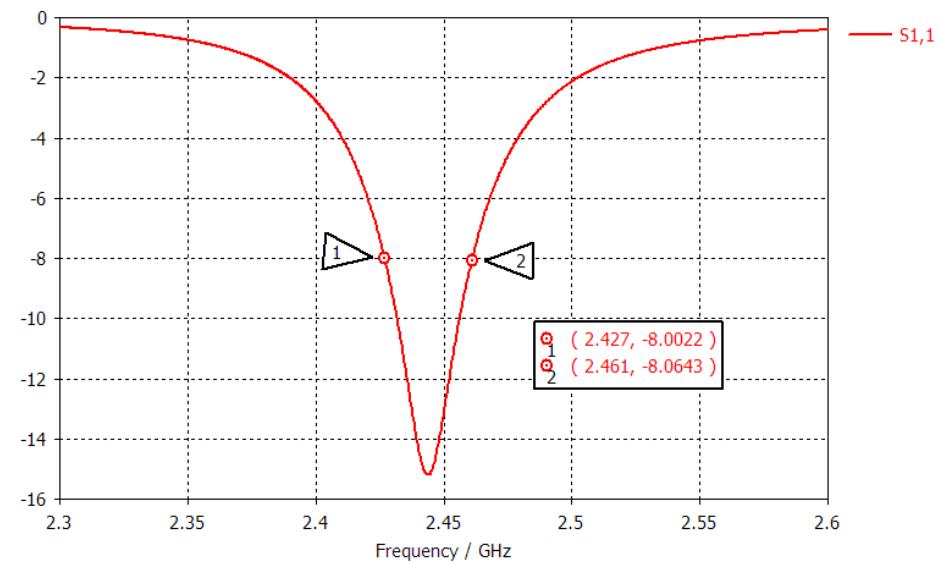
## Simulation



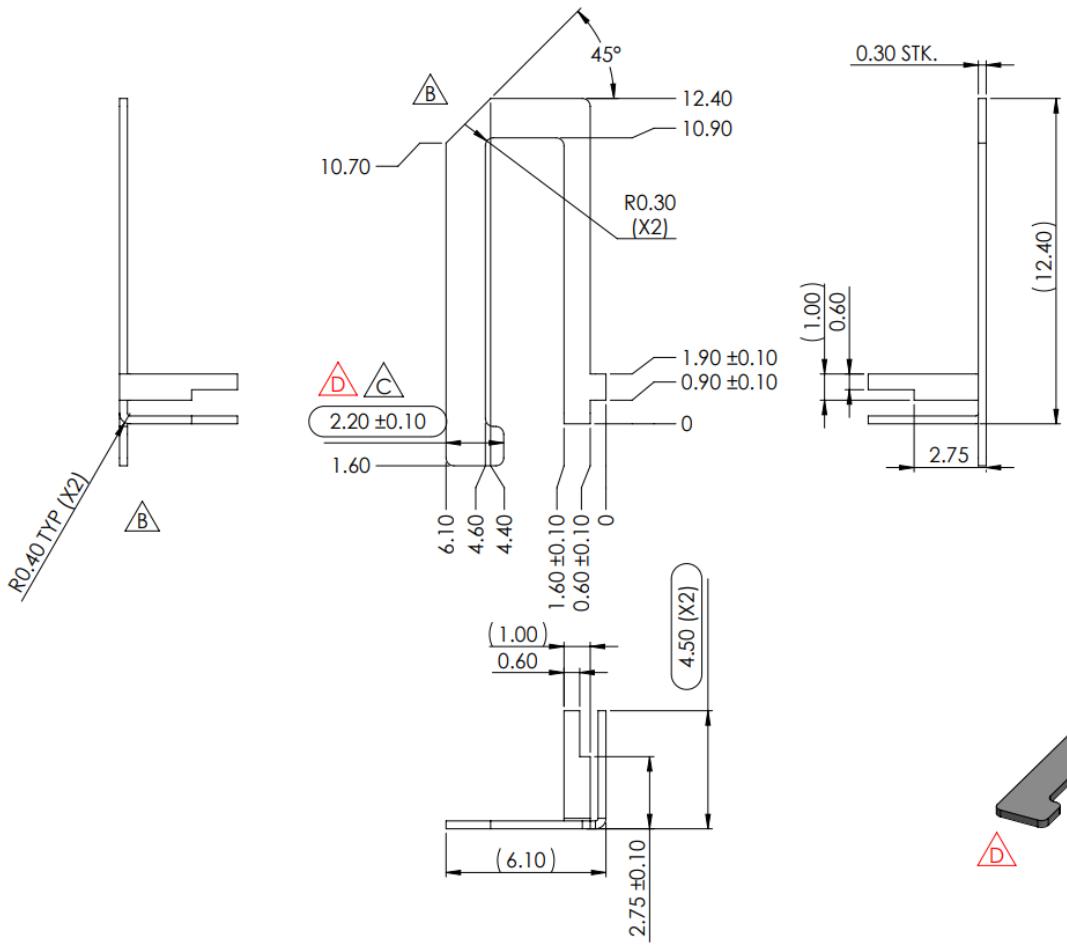
1D Results\New Folder 1



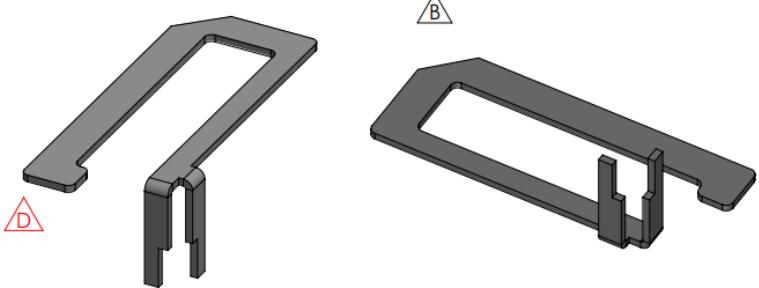
S-Parameters [Magnitude in dB]



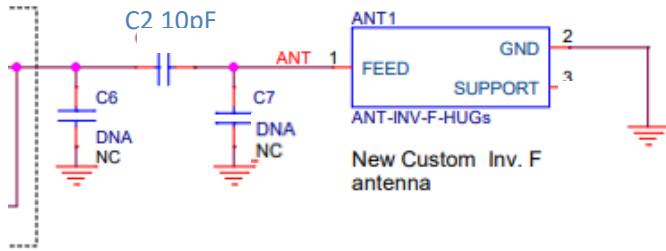
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REVISED DRAWING				
[3D-MODEL AND DRAWING ARE IN SAME REVISION: DRAWING - ALL SHEETS ARE IN SAME REVISION]				
REV.	ECO	DESCRIPTION	DATE	APPROVED
A	23000069	RELEASE FOR PRODUCTION	07/12/2023	DROR E.
B		DIMENSION UPDATED AND LEG REMOVED	18/03/2024	MEIR
C		DIMENSION UPDATED - 3.1MM	16/05/2024	MEIR
D		DIMENSION UPDATED - 2.2MM	07/07/2024	MEIR



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GND reference layer (L6) → 6.7 → Antenna layer (bottom) →

14	Lyr	5	L5	Plane	Plane				1.4	0	0	5	Copper
15	Lyr			Dielectric	Dielectric				4	0	0		Fr-4
16	Lyr	6	L6	Plane	Plane				1.4	0	0	6	Copper
17	Lyr			Dielectric	Dielectric				3	0	0		Fr-4
18	Lyr	7	L7	Conductor	Conductor			cnd	0.7	0	0	7	Copper
19	Lyr			Dielectric	Dielectric				3	0	0		Fr-4
20	Lyr	8	BOTTOM	Conductor	Conductor			EXTERNAL	1.4	0	0	8	Copper
21	Lyr		SOLDERMASK_BOTTOM	Mask	Solder Mask				0.5	0	0		Polyimide
22	Lyr			Surface									

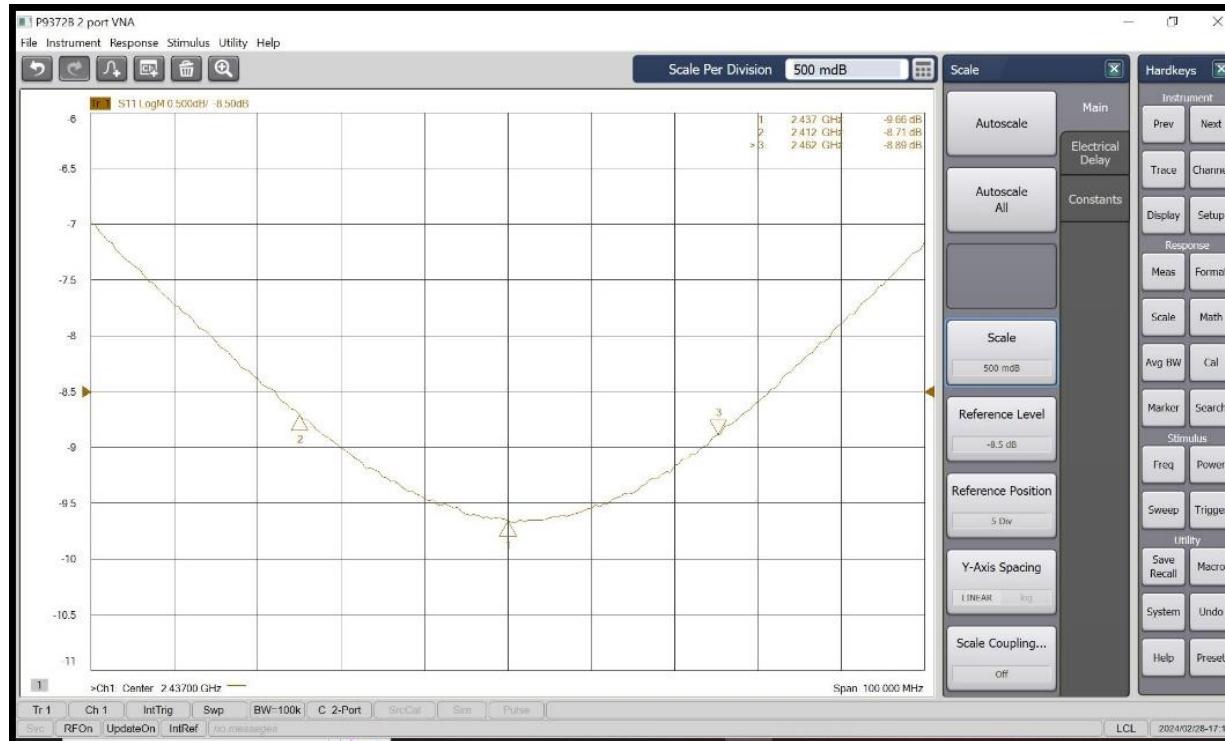
Gnd layer at L6, thickness from antenna layer= 6.7 mil

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## Measurement

Tag is attached to a water bottle to best simulates the human body)

## S11 Measurement



Peak gain = -1dB

Average gain=-3dBi