

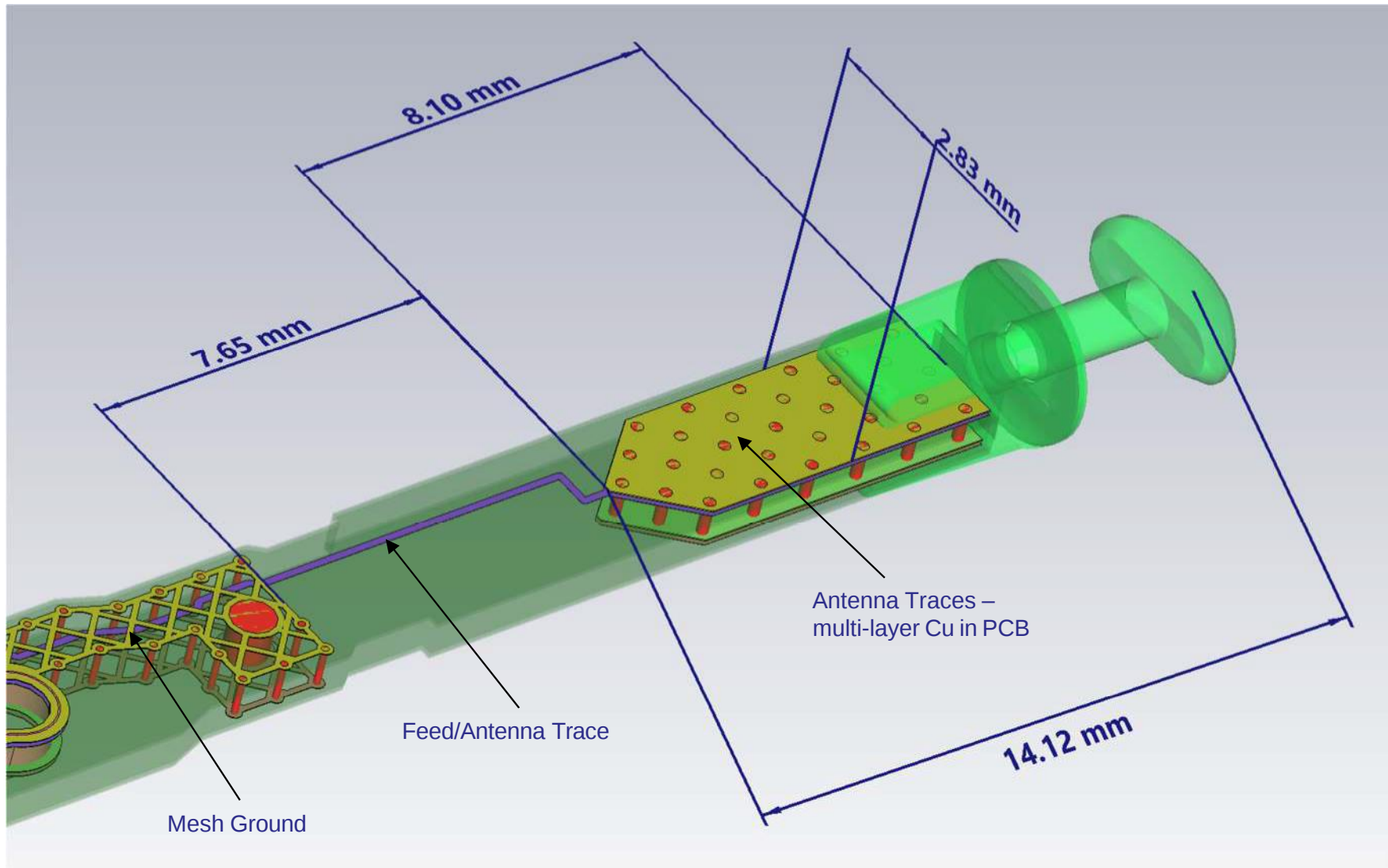
Combustion Inc. Temperature Probe: Antenna Specification

Version	Date	Description	Report
1	10-21-2022	Description of BLE Antenna Configuration	JCM-EM: Joseph C. Modro

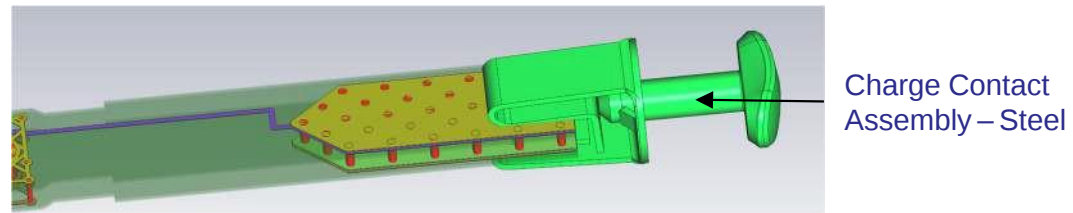
A 3D CAD model of a probe assembly, shown in a perspective view. The model is composed of several parts: a long, thin, green cylindrical probe frame; a shorter, wider, light blue cylindrical handle; and a small, green, cylindrical charge contact assembly at the tip. The probe frame is labeled "Probe Frame - Steel" and has a dimension line indicating a length of 130.0 mm. The handle is labeled "Probe Handle - Alumina" and has a dimension line indicating a length of 33.0 mm. The charge contact assembly is labeled "Charge Contact Assembly - Steel". The entire assembly is shown against a light gray background.

- Slide 2

Antenna-Probe Internal View



- PCB Thickness: 1mm



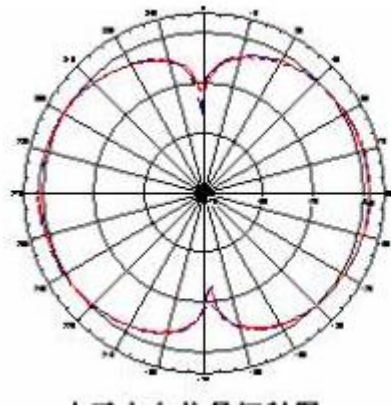
Summary of Antenna Properties

- Antenna Type: Integrated PCB and Metal Contact Antenna
- Peak Antenna Gain: 3.2dBi Max
- Frequency Range: 2.402GHz – 2.48GHz [BLE]
- Antenna Dimensions: ref. previous slide [3]: PCB trace 8.1mm x 2.83mm x 1mm [height]

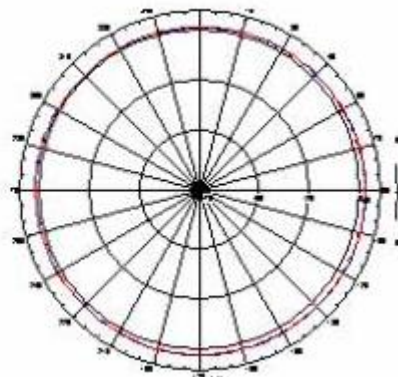
Frequency	Efficiency	Gain. dB
2402	0.47	3.01
2404	0.48	3.04
2406	0.48	3.16
2408	0.48	3.14
2410	0.49	3.12
2412	0.50	3.15
2414	0.50	3.19
2416	0.49	3.18
2418	0.50	3.17
2420	0.50	3.18
2422	0.52	3.14
2424	0.51	3.15
2426	0.52	3.15
2428	0.53	3.05
2430	0.47	3.20
2432	0.47	3.15
2434	0.48	3.18
2436	0.48	3.09
2438	0.48	3.17
2440	0.49	3.15
2442	0.49	3.14

Summary of Antenna Properties

Frequency	Efficiency	Gain. dB
2444	0.50	3.17
2446	0.50	3.06
2448	0.50	3.14
2450	0.52	3.12
2452	0.52	3.05
2454	0.51	3.14
2456	0.51	3.17
2458	0.51	3.15
2460	0.51	3.09
2462	0.52	3.17
2464	0.52	3.09
2466	0.53	3.09
2468	0.53	3.14
2470	0.53	3.12
2472	0.54	3.08
2474	0.54	3.12
2476	0.54	3.00
2478	0.47	3.20
2480	0.51	3.03



Horizontal



Vertical