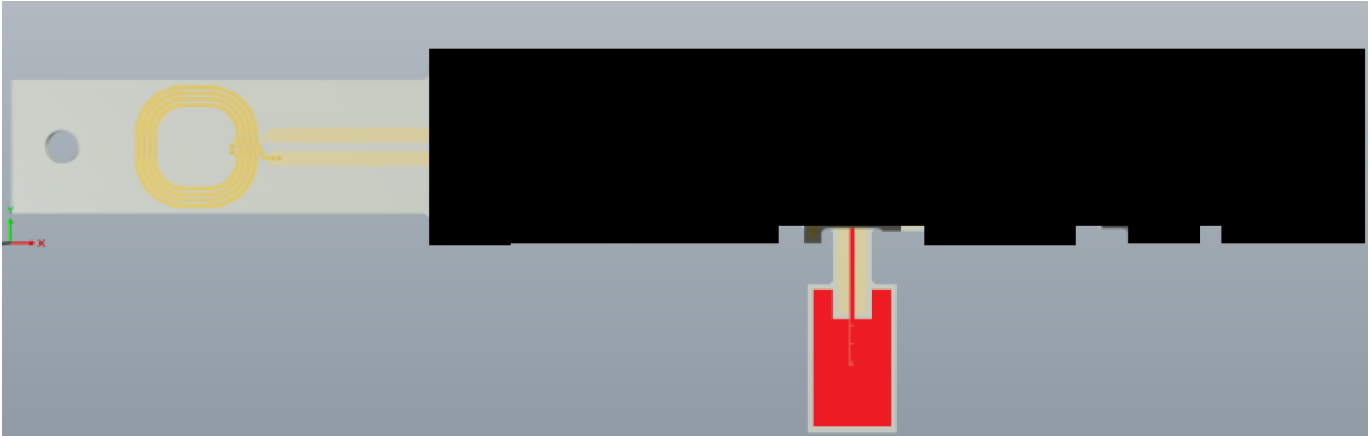


## Antenna

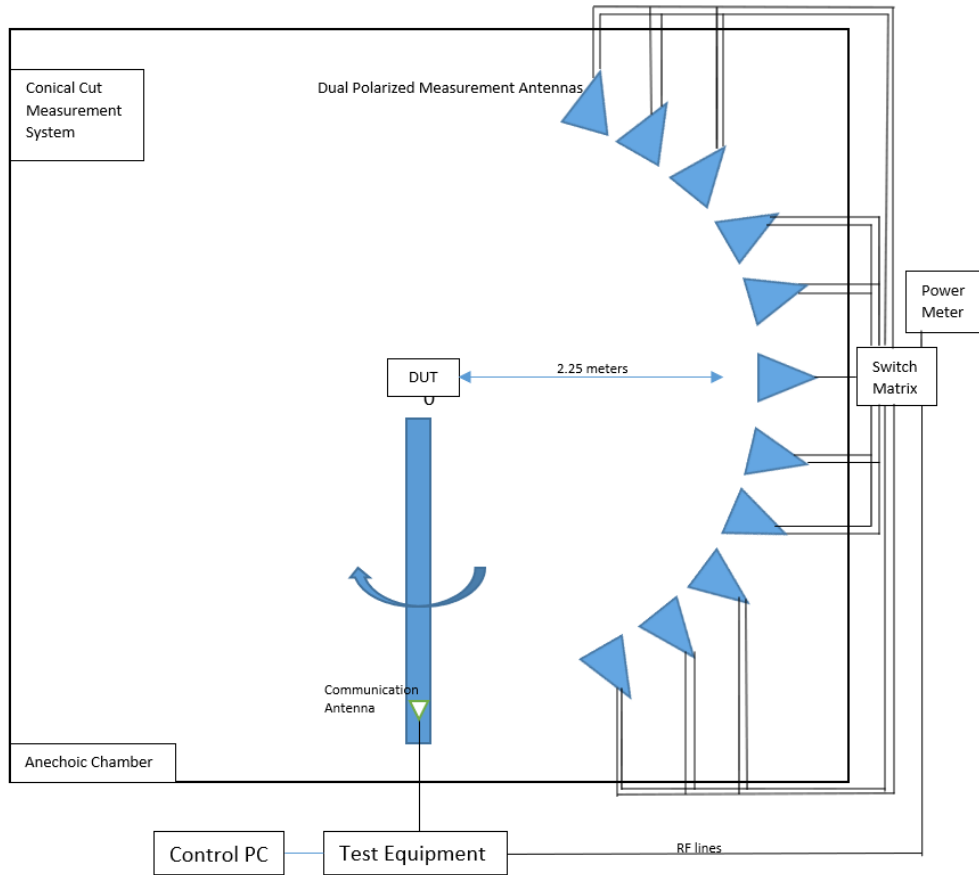
The product under certification's board has an integrated antenna marked as red



- BLE antenna **position** in the product marked as red rectangle. The antenna is bent towards the outer cover.

There are a total of 12 different product sizes with different antenna gain as below table:

Ring size	Antenna gain
4	-26,8 dBi
5	-24,4 dBi
6	-21,6 dBi
7	-17,5 dBi
8	-14,7 dBi
9	-11,5 dBi
10	-9,6 dBi
11	-10,9 dBi
12	-12,9 dBi
13	-14,5 dBi
14	-13,0 dBi
15	-13,8 dBi



**Figure 3. Laboratory 4 chamber schematic.**

## RESULTS

### BLE Total Radiated Power

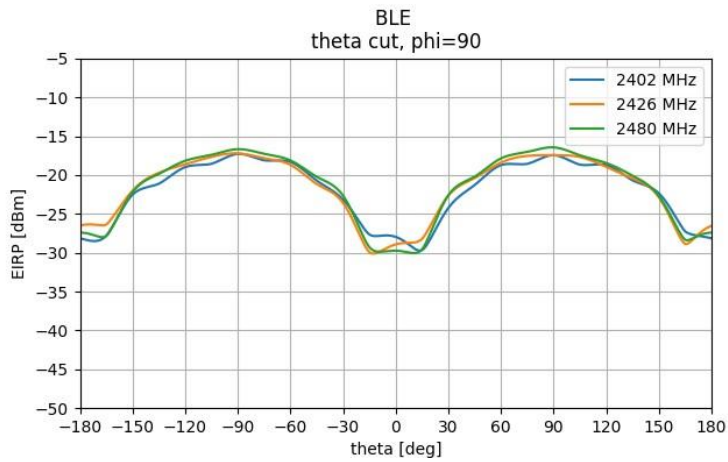
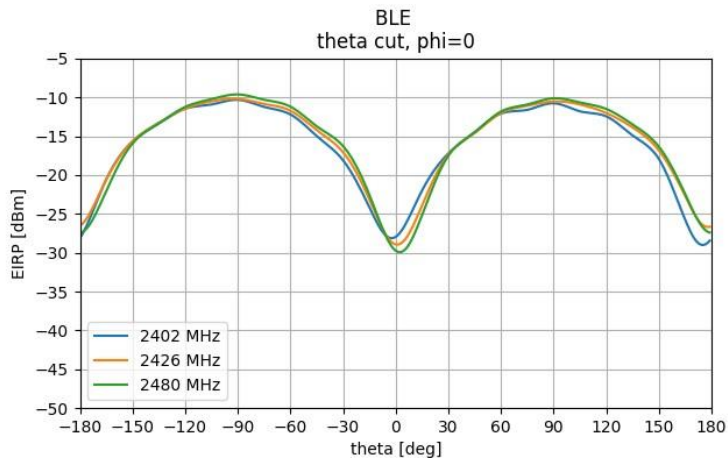
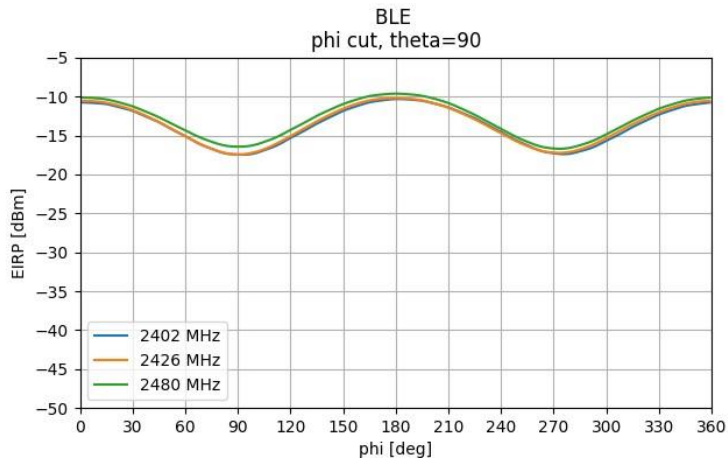
#### Free Space

Band info	Bandwidth [MHz]	Uplink Channel	Frequency [MHz]	TRP [dBm]
BLE	CW	37	2402	-15.1
	CW	38	2426	-14.7
	CW	39	2480	-14.4

Band info	Bandwidth [MHz]	Uplink Channel	Frequency [MHz]	Max EIRP [dBm]
BLE	CW	37	2402	-10.3
	CW	38	2426	-10.2
	CW	39	2480	-9.6

# ANTENNA PATTERN CUTS

## BLE



# ANTENNA PATTERNS

## Antenna pattern results BLE

### 7.1.1 Total Radiated Power

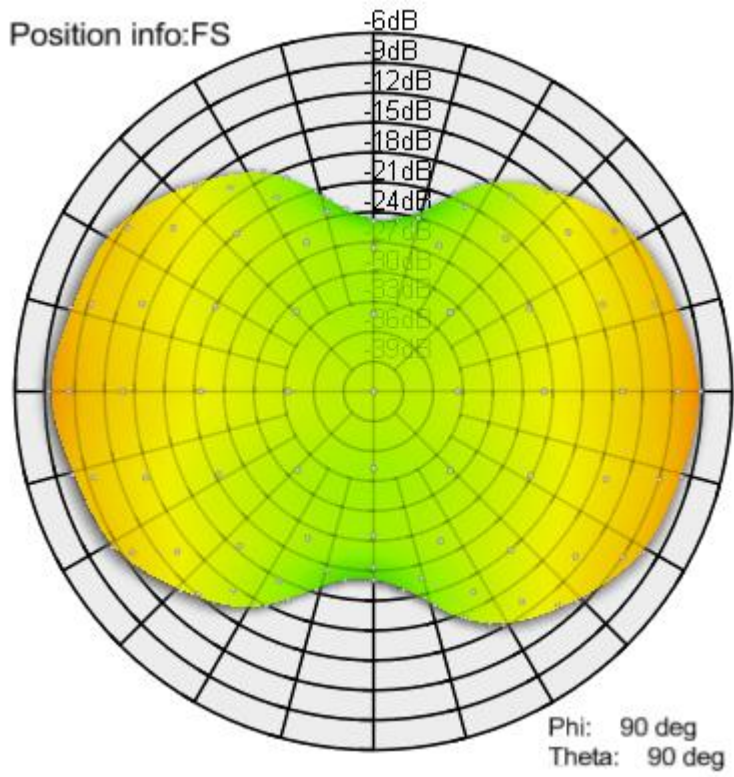
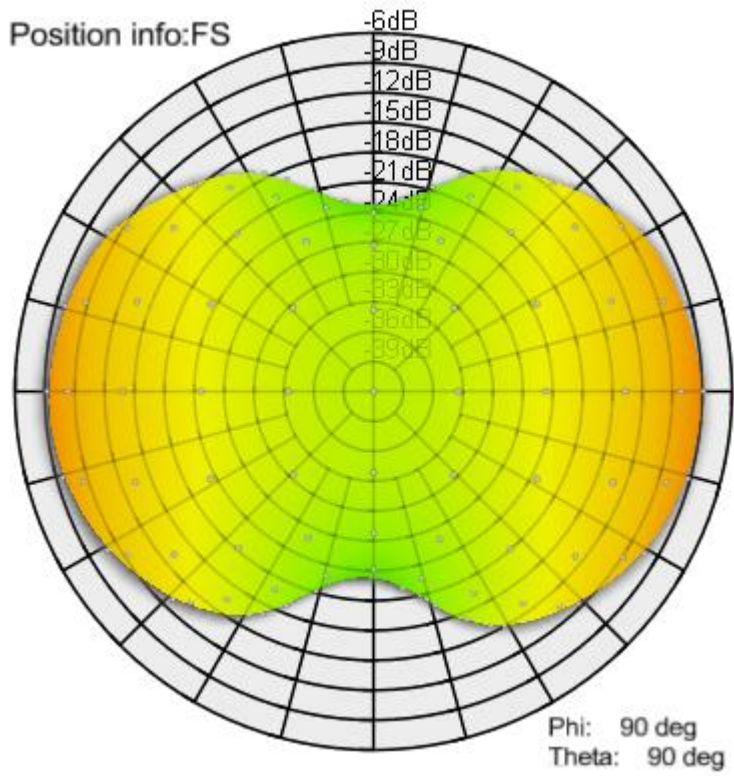
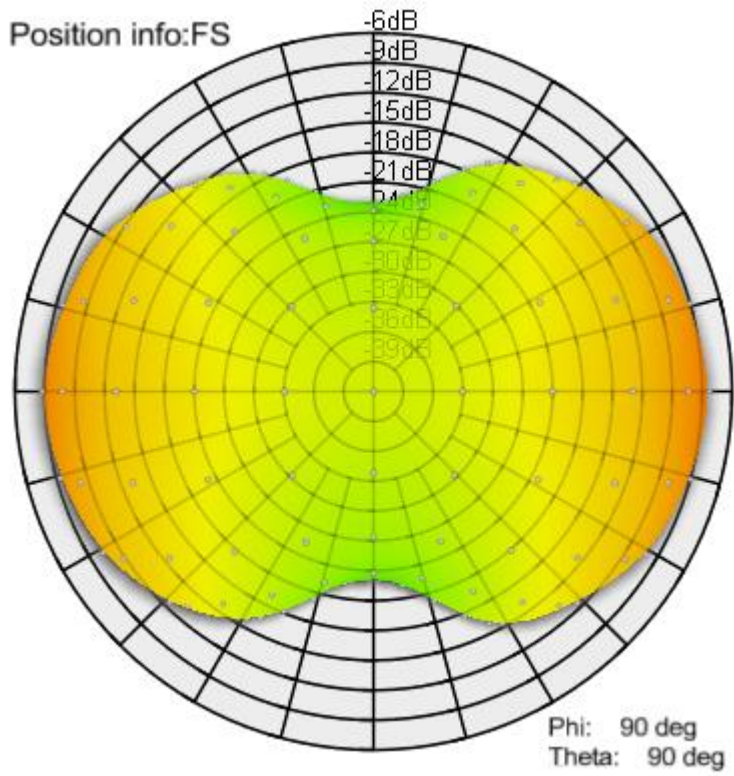


Figure 5 Antenna pattern BLE channel 37 [dBm]



**Figure 6 Antenna pattern BLE channel 38 [dBm]**



**Figure 7 Antenna pattern BLE channel 39 [dBm]**