**Antenna Spec**
**WST-621: Flood_Freeze_G2**

Rev 2, 02/02/2023

The device uses a wire antenna structure.  It is a loop type antenna. The antenna is not accessible or changeable by the user.  No modifications can be made to the radiating mechanism (antenna or tuning elements) by the user.
The peak antenna gain is estimated to be -33.9 dBi.

Peak antenna gain estimation :
Peak antenna gain is estimated by extracting the Gain ($G_T$) from the Friis transmission equation.

$$\frac{P_R}{P_T} = \frac{\lambda^2\, G_T G_R}{(4\pi R)^2}$$

Assuming polarization match (linearly polarized) and no mismatch loss (tuned) in the direction of peak antenna gain at 3m separation;
Freq = 319.5 MHz
Rx antenna and gain : Com-Power Log Periodic (ALP-100) at 300 MHz (5.9 dBi)
Tx : DUT
$P_T$ : 13 dBm (conducted measurement at antenna input)
$P_T$ : -47.1 dBm (received power at Log periodic antenna input)
$G_T$= -33.9 dBi (estimated)