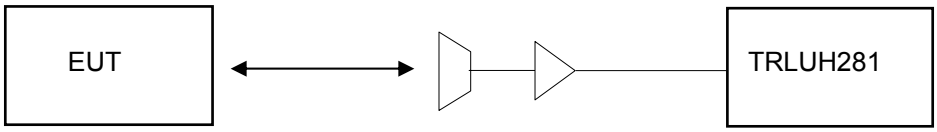
RADIO FREQUENCY RADIATION EXPOSURE

Test setup 1:



ERP – Field Strength Calculation

The carrier power field strength of 26.9µV/m @ 3m operating at a frequency of 914.5MHz is the worst case peak level measured as reported in TRaC test report 9F2421WUS1. An ERP can be calculated using the formula below.

Formula:

$$\mathbf{ERP = (E*d/7.02)^2}$$

E = Field Strength (V/m)
D = Test Distance
ERP = Radiated power (dBm)

Calculation:

$$\mathbf{ERP = (0.0269*3/7.02)^2\ W}$$

$$\mathbf{ERP = 0.00013\ W}$$

This calculation gives us an ERP of 0.00013W.

MPE calculation:

Formula:

$$\mathbf{S=EIRP / 4\pi R^2}$$

S = Power Density (mW/cm^2)
EIRP = Radiated power (mW)
R = distance for body (cm)

For EIRP see TRaC Telecoms & Radio Test report 8F2021WUS1

Calculation:

$$S = 0.13 / 4\ \pi\ 0.2\ mW/cm^2$$

$$\mathbf{S = ?\ mW/cm^2}$$

Notes:

1. The unit will be mounted at least 0.2cm away from the body.
2. The carrier power EIRP of 0.13mW was the worst case peak level measured.

Limit

The limit of Power density for the General Population/ Uncontrolled Exposure is 1 mW/cm^2.

Result

The EUT meet the 1 mW/cm^2 limit.