RF Exposure Requirements

Product Description: Z-wave Smart sensor
Model No.: Shelly Wave H&T, QLHT-0U2ZUS
FCC ID: 2BDC6-WAVEHT

According to the KDB 447498 D01 v06 section 4.3.1, for 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where
- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation17
- The result is rounded to one decimal place for comparison

Calculation Result:
SRD
Tx frequency range: 912MHz; 920MHz
Min. test separation distance: 5mm
Maximum Conducted Output Power: 8.41dBm
Tune-Up output power: 9.0dBm
RF channel transmit frequency: 920MHz
Result: 1.52
Limit: 3.0

The exclusion thresholds is 1.52 < 3, so the transmitter complies with the RF exposure requirements and the SAR is not required.

SRD
Tx frequency range: 908.42MHz
Min. test separation distance: 5mm
Max. Field Strength: 78.32dBuV/m @3m
EIRP=E-104.8+20logD=78.32-104.8+20log3= -7.48dBm
Maximum Conducted Output Power: -7.48 dBm
Tune-Up output power: -7.0dBm
RF channel transmit frequency: 908.42MHz
Result: 0.0038
Limit: 3.0

The exclusion thresholds is 0.0038 < 3, so the transmitter complies with the RF exposure requirements and the SAR is not required.
Can’t transmit at the same time. So the transmitter complies with the RF exposure requirements and the SAR is not required.