FCC ID: U4A-SCYMCA1

There are 3 radios on the module <u>without</u> simultaneous transmission.

Frequency	Equipment Code	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)
125kHz	DXX	Categorically excluded per §2.1091(c)(3)	N/A
13.56MHz	DXX	Categorically excluded per §2.1091(c)(3)	N/A
2405MHz-2475MHz	DTS	0.000239	1

In addition a certified BLE module (FCC ID: Y88-MBM1CC2640) is added to the device which can simultaneously transmit with the 2.4GHz DTS radio above. MPE calculation for each and combined calculation for simultaneous operation of both is shown below.

<u>For 2.4GHz DTS radio:</u>

<u>Prediction of MPE limit at a given distance</u>

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

Maximum peak output power at the antenna terminal:	-3.70	(dBm)
Maximum peak output power at the antenna terminal:	0.426579519	(mW)
Antenna gain(typical):	4.5	(dBi)
Maximum antenna gain:	2.818382931	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	2440	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)
Power density at prediction frequency:	0.000239	(mW/cm^2)

For certified BLE module (FCC ID: Y88-MBM1CC2640):
From the RF exposure exhibit on file with the FCC
Highest output power to antenna is -2.0 dBm peak.
Antenna gain: 1.1dBi

		Prediction of MPE limit at a given distance					
		Equation from page 18 of OET Bulletin 65, Edition 97-01					

$$S = \frac{PG}{4\pi R^2}$$

	where:	S = power density					
		P = power input to the antenna					
		G = power gain of the antenna in the direction of interest relative to an isotropic radiator					
		R = distance to the center of radiation of the antenna					
Maximum peak output power at the antenna terminal:				-2.00	(dBm)		
Maximum peak output power at the antenna terminal:				0.630957344	(mW)		
Antenna gain(typical):				1.1	(dBi)		
Maximum antenna gain:				1.288249552	(numeric)		
Prediction distance:				20	(cm)		
Prediction frequency:				2450	(MHz)		
MPE limit for uncontrolled exposure at prediction frequency:				1	(mW/cm^2)		
		Power density at prediction frequency:		0.000162	(mW/cm^2)		

Simultaneous Transmission:
Per 447498 D01 General RF Exposure Guidance v06 Section 7.2
"Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0, according to calculated/estimated, numerically modeled, or measured field strengths or power density. The MPE ratio of each antenna is determined at the minimum test separation distance required by the operating configurations and exposure conditions of the host device, according to the ratio of field strengths or power density to the MPE limit at the test frequency."

Sum of MPE ratios is:
0.000239/1 + 0.000162/1 = 0.000401
0.000401 < 1

Therefore device complies with FCC RF radiation exposure limits for general population in mobile exposure category (distance > 20cm).