

Date: February 05, 2024

To whom it may concern

FCC ID: RI7SE250B4

Ref.: Declaration for KDB 996369 Module Q&A

Question 1. Information that includes permitted variances (e.g., trace boundary limits, thickness, length, width, shape(s), dielectric constant, and impedance as applicable for each type of antenna);

Description: For trace layout info, please refer to the attached Gerber file and PCB trace dimension table file.

WLAN

ANT. No.	Type	Connector	Frequency Range	Gain (dBi)
2.4G	Monopole	RP SMA	2400~2483.5MHz	3.757
5G	Monopole	RP SMA	5150~5250MHz	2.475
			5250~5350MHz	1.879
			5470~5725MHz	2.122
			5725~5850MHz	1.672

WWAN

Antenna Type		Monopole	
Antenna Connector		SMA	
LTE Band			
Band	Freq. Range (MHz)	Gain (dBi)	
		Ant. 1	Ant. 2
LTE B2	1850 ~ 1910	2.16	2.16
LTE B4	1710 ~ 1755	2.06	2.06
LTE B5	824 ~ 849	2.31	2.31
LTE B7	2500 ~ 2570	3.12	3.12
LTE B12	698 ~ 716	1.47	1.47
LTE B13	777 ~ 787	1.29	1.29
LTE B14	788 ~ 798	1.47	1.47
LTE B17	704 ~ 716	1.47	1.47
LTE B25	1850 ~ 1915	2.16	2.16
LTE B26	814 ~ 849	2.31	2.31
LTE B41	2535~2655	2.83	2.83
LTE B66	1710 ~ 1780	2.06	2.06
LTE B71	663 ~ 698	1.58	1.58

Question 2. Each design shall be considered a different type (e.g., antenna length in multiple(s) of frequency, the wavelength, and antenna shape (traces in phase) can affect antenna gain and must be considered);

Description: Please refer to Antenna Datasheet and manual by the module manufacturer.

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Question 3. The parameters shall be provided in a manner permitting host manufacturers to design the printed circuit (PC) board layout;

Description: Please follow the guideline provided by the module manufacturer to design the antenna trace and antenna. Only 50 ohm transmission line is connecting module to antenna.

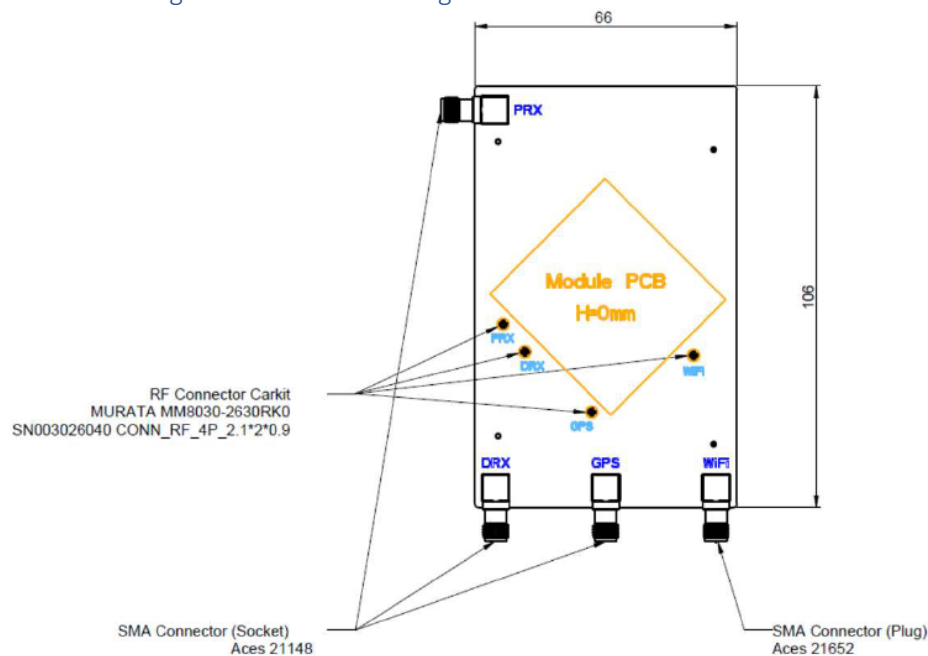
Question 4. Appropriate parts by manufacturer and specifications.

Description: Please refer to Antenna Datasheet and manual by the module manufacturer.

Question 5. Test procedures for design verification.

Description: Antenna connection trace design.

The connecting trace is for connecting external antenna to module.



Please use supplied Gerber file and PCB material info for antenna connection trace design.

Question 6. Production test procedures for ensuring compliance.

Description: After trace production, please verify all RF trace impedance with a vector network analyzer and make sure the trace impedance is within $50 \pm 2\text{ohm}$.

If you should have any question(s) regarding this declaration, please don't hesitate to contact us.
Thank you!

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