

Sony Group Corporation

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Declaration for KDB 996369 Module Q&A

FCC ID: [AK8J20H105](#)

To whom it may concern,

Question 1. Layout of trace design, parts, antenna, connectors, and isolation requirements;

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

Thickness:

-Copper thickness: 30um

-Dielectric thickness between ground plane (layer3) and track (layer4): 81.56um

Antenna information as below.

Antenna NO.	Antenna Net Gain(dBi)	Frequency range (GHz)	Antenna Type
WiFi 0	0.19	2.4~2.4835	Monopole
	1.74	5.15~5.25	
	1.41	5.25~5.35	
	2.97	5.47~5.725	
	2.2	5.725~5.85	
	2.5	5.925~6.425	
	2.76	6.425~6.525	
	2.9	6.525~6.875	
WiFi 1	2.74	6.875~7.125	Monopole
	3.5	2.4~2.4835	
	1.84	5.15~5.25	
	1.9	5.25~5.35	
	2.3	5.47~5.725	
	2.1	5.725~5.85	
	2.3	5.925~6.425	
	1.11	6.425~6.525	
BT0	1.83	6.525~6.875	PIFA
	3.66	6.875~7.125	
BT1	0.2	2.4~2.4835	PIFA

Note: Bluetooth has diversity function, the max. gain antenna was chosen for the test.

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Question 2. Boundary limits of size, thickness, length, width, shape(s), dielectric constant, and impedance must be clearly described for each type of antenna;

Description: Please refer to antenna test report and manual by the module manufacturer.

Question 3. Different antenna length and shapes affect radiated emissions, and each design shall be considered a different type; e.g., antenna length in multiple(s) of frequency wavelength and antenna shape (traces in phase) can affect antenna gain and must be considered

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

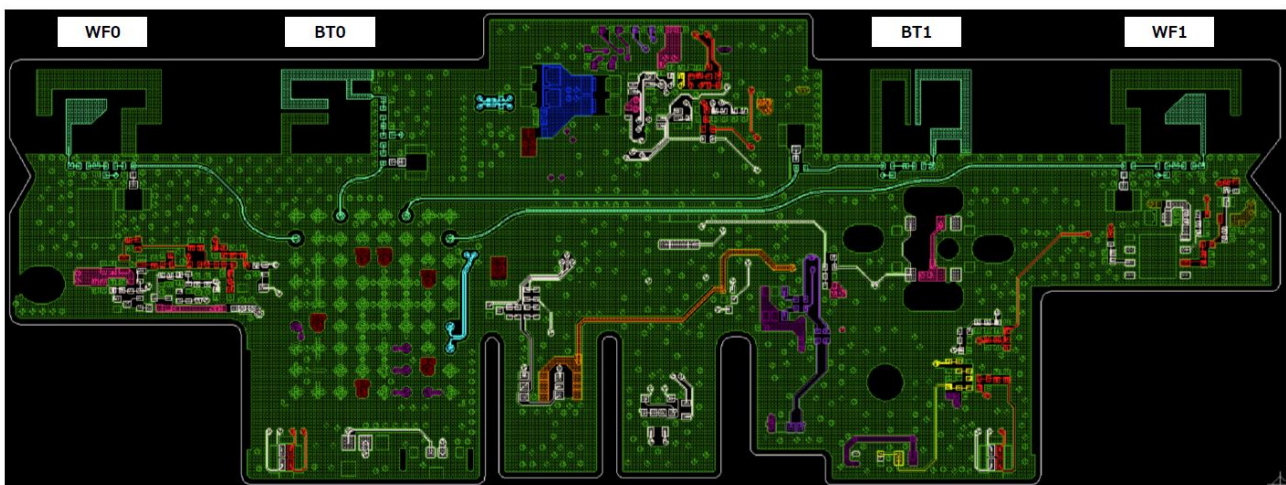
Question 4. Appropriate parts by manufacturer and specifications.

Description: Please refer to antenna test report and manual by the module manufacturer.

Question 5. Test procedures for design verification.

Description: Antenna connection trace design.

The connection trace is for connecting external antenna to module.



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

Verify antenna test report from vendor, and check Wi-Fi/BT RSSI.

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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 $50 \pm 2 \Omega$.

Thank you for your attention.

Sincerely yours,



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