



SPOT CHECK EVALUATION

FCC ID : A4RGHL1X
Equipment : Phone
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : 47 CFR Part 2,
FCC Part 15 Subpart C §15.225
FCC Part 15 Subpart C §15.247
FCC Part 15 Subpart E §15.407

We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

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TABLE OF CONTENTS

History of this test report.....	3
1. Introduction Section	4
2. Model Difference Information	5
3. Spot Check Verification Data Section	6
4. Reference detail Section	7
5. List of Measuring Equipment.....	8
6. Radiated Emission Setup Plots	



History of this test report

Version	Description	Issued Date
01	Initial issue of report	Dec. 13, 2022



1. Introduction Section

FCC ID: A4RG0DZQ (parent model for NFC), FCC ID: A4RGWKK3 (parent model for BT/WLAN) and FCC ID: A4RGHL1X (variant model) use the same identical internal printed circuit board layouts, while the variant models depopulate mmWave related components and populate a different MHB ENDC module, details are available in the operational description. Based on their similarity, the FCC Part 15C (equipment class: DTS, DSS, DXX) and FCC Part 15E (equipment class: NII, 6XD) reuse the test result from parent models and do spot-check, following the FCC KDB 484596 D01 v01. The spot check data in this report is used to justify the data reuse

The applicant should take full responsibility that the test data as referenced in this report represent compliance for this FCC ID: A4RGHL1X.



2. Model Difference Information

A4RG0DZQ / A4RGWKK3 and A4RGHL1X use the identical internal printed circuit board layout, and the difference in the components population:

- A4RGHL1X: 5G NR FR2 mmWave related components are depopulated.
- A4RGHL1X: For WWAN function, a different MHB ENDC module is populated.

The detail of similarity and difference is illustrated in the operational description, and based on the information spot check on conducted power and emission was performed for ensure compliance



3. Spot Check Verification Data Section

Conducted power test and radiated spurious emission test configurations were selected from the worst cases identified in the parent model and tested to demonstrate the test data from original model remains representative for the variant model.

Summary for power and RSE spot check for each FCC rule part is listed as below:

Test Item	Mode	A4RGWKK3 Parent Worst Result	A4RGHL1X Variant Check Result	Difference (dB)
Conducted Power (dBm)	BT	19.90	19.68	-0.08
	BLE	18.80	18.68	-0.12
	WLAN 2.4GHz	22.86	22.84	-0.02
	WLAN 5GHz	21.86	21.82	-0.04
	WLAN 6GHz	13.71	13.62	-0.09

Test Item	Mode	ANT	A4RGWKK3 Parent Worst Result	A4RGHL1X Variant Check Result	Difference (dB)
Radiated Spurious Emission (dBuV/m)	BT	4+3	67.71	67.21	-0.50
	BLE	4+3	48.17	48.42	0.25
	WLAN 2.4GHz	4+3	52.02	52.22	0.20
	WLAN 5GHz	4+3	66.47	66.15	-0.32
	WLAN 6GHz	4+3	34.73	36.23	1.50

Test Item	Mode	ANT	A4RG0DZQ Parent Worst Result	A4RGHL1X Variant Check Result	Difference (dB)
Field Strength (dBuV/m)	NFC 13.56MHz	-	20.86	19.92	-0.94
Radiated Spurious Emission (dBuV/m)	NFC 13.56MHz	-	33.53	33.42	-0.11

Conclusion:

Radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

The spot check emission level is not degraded more than 3dB, and the margin to the limit is greater than 1.5dB, data referencing is justified according to the guidance in the KDB inquiry



4. Reference detail Section

Rule Part	Equipment Class	Wireless Technology	Frequency Band (MHz)	Reference FCC ID (Parent)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)
15C	DSS	Bluetooth	2400~2483.5	A4RGWKK3	Original Grant	FR280208-01A	A4RGHL1X
	DTS	BLE Wi-Fi	2400~2483.5	A4RGWKK3	Original Grant	FR280208-01B FR280208-01C	A4RGHL1X
	DXX	NFC	13.56	A4RG0DZQ	Original Grant	FR241215-02D	A4RGHL1X
15E	NII	Wi-Fi	5150~5250 5250~5350 5470~5725 5725~5895	A4RGWKK3	Original Grant	FR280208-01E FR280208-01F	A4RGHL1X
		DFS	5250~5350 5470~5725	A4RGWKK3	Original Grant	FZ280208-01	A4RGHL1X
	6XD	WiFi	5925~7125	A4RGWKK3	Original Grant	FR280208-01G	A4RGHL1X

5. List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECPEL	DTM-303B	TP200886	N/A	Mar. 21, 2022	Nov. 22, 2022	Mar. 20, 2023	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W #010	RPR6W-2101002(NO: 123)	10MHz~8GHz	Jan. 13, 2022	Nov. 22, 2022	Jan. 12, 2023	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101905	10Hz - 40GHz(amp)	Aug. 03, 2022	Nov. 22, 2022	Aug. 02, 2023	Conducted (TH05-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz~30 MHz	Mar. 18, 2022	Nov. 22, 2022	Mar. 17, 2023	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	41912 & 05	30MHz~1GHz	Feb. 06, 2022	Nov. 22, 2022	Feb. 05, 2023	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 27, 2021	Nov. 22, 2022	Dec. 26, 2022	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02294	1GHz~18GHz	Jun. 23, 2022	Nov. 22, 2022	Jun. 22, 2023	Radiation (03CH15-HY)
Amplifier	EMEC	EM1G18G	060837	1GHz~18GHz	Sep. 01, 2022	Nov. 22, 2022	Aug. 31, 2023	Radiation (03CH15-HY)
Preamplifier	EM Electronics	EM01G18G	060803	1GHz-18GHz	Dec. 16, 2021	Nov. 22, 2022	Dec. 15, 2022	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010	MY54200485	10Hz~44GHz	May 07, 2022	Nov. 22, 2022	May 06, 2023	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Nov. 22, 2022	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Nov. 22, 2022	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24(k5)	RK-000451	N/A	N/A	Nov. 22, 2022	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804011/2,804 012/2	30MHz-40GHz	Jan. 04, 2022	Nov. 22, 2022	Jan. 03, 2023	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 10, 2022	Nov. 22, 2022	Mar. 09, 2023	Radiation (03CH15-HY)

—THE END—