



## SPOT CHECK EVALUATION

**FCC ID** : A4RGLU0G  
**Equipment** : Phone  
**Applicant** : Google LLC  
1600 Amphitheatre Parkway,  
Mountain View, California, 94043 USA  
**Standard** : FCC Part 15 Subpart E §15.407

The product was received on Jun. 09, 2021 and testing was performed from Nov. 01, 2022 to Nov. 19, 2022. 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 spot check 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.

*Louis Wu*

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Approved by: Louis Wu

***Sporton International Inc. Wensan Laboratory***

*No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)*



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## History of this test report

| Version | Description             | Issue Date    |
|---------|-------------------------|---------------|
| 01      | Initial issue of report | Dec. 02, 2022 |
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## 1. Introduction Section

FCC ID: A4RG8V0U (parent model) and FCC ID: A4RGLU0G (variant model) use the same identical internal printed circuit board layouts, while the variant model depopulates mmWave related components, details are available in the operational description. Based on their similarity, FCC Part 15E (equipment class: NII, 6CD) reuse the original model's result 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: A4RGLU0G.



## 2. Model Difference Information

A4RG8V0U and A4RGLU0G use the identical internal printed circuit board layout, and the difference in the components population:

- A4RGLU0G: 5GNR FR2 mmWave related components are depopulated.

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 rule entry and technology is listed as below:

| Test Item                        | Mode                               | A4RG8V0U<br>Parent<br>Worst Result | A4RGLU0G<br>Variant<br>Check Result | Difference (dB) |
|----------------------------------|------------------------------------|------------------------------------|-------------------------------------|-----------------|
| <b>Conducted Power<br/>(dBm)</b> | WLAN 5GHz UNII4                    | 23.92                              | 23.56                               | 0.36            |
|                                  | WLAN 6GHz<br>standard power client | 22.97                              | 22.85                               | 0.12            |



| Test Item                                          | Mode                               | ANT | A4RG8V0U<br>Parent<br>Worst Result | A4RGLU0G<br>Variant<br>Check Result | Difference (dB) |
|----------------------------------------------------|------------------------------------|-----|------------------------------------|-------------------------------------|-----------------|
| <b>Radiated Spurious<br/>Emission<br/>(dBuV/m)</b> | WLAN 5GHz UNII4                    | 7+3 | 88.41                              | 88.38                               | 0.03            |
|                                                    | WLAN 6GHz<br>standard power client | 7+3 | 65.73                              | 63.25                               | 2.48            |

**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) |
|-----------|-----------------|---------------------|------------------------|---------------------------|-------------------------------|-----------------|--------------------------|
| 15E       | NII             | Wi-Fi               | 5850~5895              | A4RG8V0U                  | Original Grant                | FR121931-24A    | A4RGLU0G                 |
|           | 6CD             | WiFi                | 5925~6425<br>6525~6875 | A4RG8V0U                  | Original Grant                | FR121931-24B    | A4RGLU0G                 |





## 5. List of Measuring Equipment

| Instrument           | Brand Name        | Model No.                     | Serial No.                             | Characteristics      | Calibration Date | Test Date                       | Due Date      | Remark                   |
|----------------------|-------------------|-------------------------------|----------------------------------------|----------------------|------------------|---------------------------------|---------------|--------------------------|
| Hygrometer           | TECPEL            | DTM-303B                      | TP200735                               | N/A                  | Mar. 22, 2022    | Nov. 15, 2022~<br>Nov. 19, 2022 | Mar. 21, 2023 | Conducted<br>(TH05-HY)   |
| Hygrometer           | TECPEL            | DTM-303A                      | TP201996                               | N/A                  | Nov. 16, 2021    | Nov. 01, 2022~<br>Nov. 14, 2022 | Nov. 15, 2022 | Conducted<br>(TH05-HY)   |
| Power Sensor         | DARE              | RPR3006W #010                 | RPR6W-2101<br>002(NO:123)              | 10MHz~8GHz           | Jan. 13, 2022    | Nov. 01, 2022~<br>Nov. 19, 2022 | Jan. 12, 2023 | Conducted<br>(TH05-HY)   |
| Signal Analyzer      | Rohde & Schwarz   | FSV40                         | 101905                                 | 10Hz -<br>40GHz(amp) | Aug. 03, 2022    | Nov. 01, 2022~<br>Nov. 19, 2022 | Aug. 02, 2023 | Conducted<br>(TH05-HY)   |
| Loop Antenna         | TESEQ             | HLA 6120                      | 31244                                  | 9 kHz~30 MHz         | Mar. 18, 2022    | Nov. 09, 2022~<br>Nov. 19, 2022 | Mar. 17, 2023 | Radiation<br>(03CH15-HY) |
| Bilog Antenna        | TESEQ             | CBL 6111D &<br>00800N1D01N-06 | 41912 & 05                             | 30MHz~1GHz           | Feb. 06, 2022    | Nov. 09, 2022~<br>Nov. 19, 2022 | Feb. 05, 2023 | Radiation<br>(03CH15-HY) |
| Amplifier            | SONOMA            | 310N                          | 363440                                 | 9kHz~1GHz            | Dec. 27, 2021    | Nov. 09, 2022~<br>Nov. 19, 2022 | Dec. 26, 2022 | Radiation<br>(03CH15-HY) |
| Horn Antenna         | SCHWARZBECK       | BBHA 9120 D                   | 9120D-02294                            | 1GHz~18GHz           | Jun. 23, 2022    | Nov. 09, 2022~<br>Nov. 19, 2022 | Jun. 22, 2023 | Radiation<br>(03CH15-HY) |
| SHF-EHF Horn Antenna | SCHWARZBECK       | BBHA 9170                     | 00993                                  | 18GHz~40GHz          | Nov. 30, 2021    | Nov. 09, 2022~<br>Nov. 19, 2022 | Nov. 29, 2022 | Radiation<br>(03CH15-HY) |
| Amplifier            | EMEC              | EM1G18G                       | 060837                                 | 1GHz~18GHz           | Sep. 01, 2022    | Nov. 09, 2022~<br>Nov. 14, 2022 | Aug. 31, 2023 | Radiation<br>(03CH15-HY) |
| Amplifier            | EMEC              | EM1G18G                       | 060838                                 | 1GHz~18GHz           | Sep. 01, 2022    | Nov. 15, 2022~<br>Nov. 19, 2022 | Aug. 31, 2023 | Radiation<br>(03CH15-HY) |
| Preamplifier         | EM Electronics    | EM01G18G                      | 060803                                 | 1GHz-18GHz           | Dec. 16, 2021    | Nov. 09, 2022~<br>Nov. 19, 2022 | Dec. 15, 2022 | Radiation<br>(03CH15-HY) |
| Preamplifier         | EMEC              | EM18G40G                      | 060802                                 | 18-40GHz             | Mar. 08, 2022    | Nov. 09, 2022~<br>Nov. 19, 2022 | Mar. 07, 2023 | Radiation<br>(03CH15-HY) |
| EMI Test Receiver    | Keysight          | N9038A(MXE)                   | MY54130085                             | 20MHz~8.4GHz         | Oct. 18, 2022    | Nov. 09, 2022~<br>Nov. 19, 2022 | Oct. 17, 2023 | Radiation<br>(03CH15-HY) |
| Spectrum Analyzer    | Keysight          | N9010                         | MY54200485                             | 10Hz~44GHz           | May 07, 2022     | Nov. 09, 2022~<br>Nov. 19, 2022 | May 06, 2023  | Radiation<br>(03CH15-HY) |
| Antenna Mast         | ChainTek          | MBS-520-1                     | N/A                                    | 1m~4m                | N/A              | Nov. 09, 2022~<br>Nov. 19, 2022 | N/A           | Radiation<br>(03CH15-HY) |
| Turn Table           | ChainTek          | T-200-S-1                     | N/A                                    | 0~360 Degree         | N/A              | Nov. 09, 2022~<br>Nov. 19, 2022 | N/A           | Radiation<br>(03CH15-HY) |
| Software             | Audix             | E3<br>6.2009-8-24(k5)         | RK-000451                              | N/A                  | N/A              | Nov. 09, 2022~<br>Nov. 19, 2022 | N/A           | Radiation<br>(03CH15-HY) |
| RF Cable             | HUBER +<br>SUHNER | SUCOFLEX 104,<br>102E         | MY582185/4,<br>MY9838/4PE,<br>519228/2 | N/A                  | Jun. 21, 2022    | Nov. 09, 2022~<br>Nov. 19, 2022 | Jun. 20, 2023 | Radiation<br>(03CH15-HY) |
| RF Cable             | HUBER +<br>SUHNER | SUCOFLEX 102                  | 804011/2,804<br>012/2                  | 30MHz-40GHz          | Jan. 04, 2022    | Nov. 09, 2022~<br>Nov. 19, 2022 | Jan. 03, 2023 | Radiation<br>(03CH15-HY) |
| RF Cable             | HUBER +<br>SUHNER | SUCOFLEX 104                  | MY9837/4PE                             | 9kHz~30MHz           | Mar. 10, 2022    | Nov. 09, 2022~<br>Nov. 19, 2022 | Mar. 09, 2023 | Radiation<br>(03CH15-HY) |

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