



# SPOT CHECK EVALUATION

**FCC ID** : A4RGC3VE  
**Equipment** : Phone  
**Applicant** : Google LLC  
1600 Amphitheatre Parkway,  
Mountain View, California, 94043 USA  
**Standard** : 47 CFR Part 2, 22(H), 24(E), 27, 90(R), 90(S), 96  
FCC Part 15 Subpart C §15.209  
FCC Part 15 Subpart C §15.225  
FCC Part 15 Subpart F §15.519

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.

Approved by: Louis Wu

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## **1. Introduction Section**

FCC ID: A4RG1MNW (parent model) and FCC ID: A4RGC3VE (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, the FCC Part 15C (equipment class: DCD, DXX), FCC Part 15F (UWB) and FCC Part 22, 24, 27, 90, 96 (equipment class: PCE, CBE) 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: A4RGC3VE.



## **2. Model Difference Information**

A4RG1MNW and A4RGC3VE use the identical internal printed circuit board layout, and the difference in the components population:

- A4RGC3VE: 5G NR FR2 mmWave related components are depopulated.
- A4RGC3VE: WLAN and BT Ant 4 antenna matching is different.
- A4RGC3VE: WWAN Ant 1 antenna matching is different

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	A4RG1MNW Parent Worst Result	A4RGC3VE Variant Check Result	Difference (dB)
Conducted Power (dBm)	WWAN GPRS 850	32.51	32.25	0.26
	WWAN GPRS 1900	29.78	29.71	0.07
	WWAN WCDMA Band V	25.02	24.82	0.20
	WWAN WCDMA Band II	24.91	24.64	0.27
	WWAN WCDMA Band IV	24.97	24.90	0.07
	WWAN LTE Band 2	24.76	24.51	0.25
	WWAN LTE Band 5	24.42	24.40	0.02
	WWAN LTE Band 7	25.13	25.08	0.05
	WWAN LTE Band 48	22.92	22.88	0.04
	WWAN NR n5	24.97	24.77	0.20
	WWAN NR n7	25.26	25.12	0.14
	WWAN NR n25	24.76	24.57	0.19
	WWAN NR n77	26.99	26.50	0.49



Test Item	Mode	ANT	A4RG1MNV Parent Worst Result	A4RGC3VE Variant Check Result	Difference (dB)
<b>Field Strength (dBuV/m)</b>	NFC 13.56MHz	-	24.84	24.71	0.13
	WPT 148.5kHz	-	-6.08	-6.82	0.74
	UWB_AoA_CH9	2	53.85	53.21	0.64
<b>Radiated Spurious Emission (dBuV/m)</b>	NFC 13.56MHz	-	33.68	32.61	1.07
	WPT 148.5kHz	-	32.52	32.50	0.02
	UWB_AoA_CH9	2	15.90	15.15	0.75
<b>Radiated Spurious Emission (dBm)</b>	WWAN GPRS 850	0	-41.99	-42.61	0.62
	WWAN GPRS 850	1	-57.68	-58.61	0.93
	WWAN GPRS 1900	2	-47.52	-48.25	0.73
	WWAN WCDMA Band V	0	-43.46	-44.68	1.22
	WWAN WCDMA Band II	2	-46.91	-46.32	-0.59
	WWAN WCDMA Band IV	2	-49.37	-47.59	-1.78
	WWAN LTE Band 2/25	2	-48.22	-49.57	1.35
	WWAN LTE Band 5/26	0	-39.95	-39.63	-0.32
	WWAN LTE Band 7	2	-45.24	-45.14	-0.10
	WWAN LTE Band 48	6	-51.69	-51.62	-0.07
	WWAN LTE Band 48	7	-52.00	-51.78	-0.22
	WWAN NR n5	0	-53.24	-53.13	-0.11
	WWAN NR n7	2	-37.09	-38.61	1.52
	WWAN NR n25	2	-42.62	-42.91	0.29
	WWAN NR n77	5+7	-28.53	-28.43	-0.10
		6	-28.86	-28.71	-0.15
7		-28.67	-28.57	-0.10	

**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	Reference FCC ID (Parent)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)
15C	DXX	NFC	13.56MHz	A4RG1MNW	Original Grant	FR2D0206-01D	A4RGC3VE
	DCD	WPT	110~148.5kHz	A4RG1MNW	Original Grant	FR2D0206-01H	A4RGC3VE
15F	UWB	UWB	CH5 / CH9	A4RG1MNW	Original Grant	FR2D0206-01F	A4RGC3VE
22, 24, 27, 90, 96	PCE CBE	GSM	GSM 850/1900	A4RG1MNW	Original Grant	FG2D0206-01A	A4RGC3VE
		WCDMA	Band II, IV, V	A4RG1MNW	Original Grant	FG2D0206-01A	A4RGC3VE
		LTE	2/4/5/7/12/13 /14/17/25/26 /30/38/41 /48/66/71 ULCA 5B/7C/ 41C/66B/66C	A4RG1MNW	Original Grant	FG2D0206-01B FG2D0206-01F FG2D0206-01H	A4RGC3VE
		NR	n2/n5/n7/ n12/n25/n30/ n41/n66/n71/ n77/n78	A4RG1MNW	Original Grant	FG2D0206-01C FG2D0206-01D FG2D0206-01E	A4RGC3VE





## 5. List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 17, 2022	Jun. 09, 2023~ Jun. 20, 2023	Nov. 16, 2023	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO 12 (NO:113)	10MHz~6GHz	Dec. 13, 2022	Jun. 09, 2023~ Jun. 20, 2023	Dec. 12, 2023	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101905	10Hz~40GHz (amp)	Aug. 03, 2022	Jun. 09, 2023~ Jun. 20, 2023	Aug. 02, 2023	Conducted (TH05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 20, 2022	Jun. 09, 2023~ Jun. 20, 2023	Sep. 19, 2023	Radiation (03CH22-HY)
Bilog Antenna with 6dB pad	TESEQ & WOKEN	CBL 6111D & 00802N1D-06	63304 & 002	N/A	Oct. 04, 2022	Jun. 09, 2023~ Jun. 20, 2023	Oct. 03, 2023	Radiation (03CH22-HY)
Amplifier	SONOMA	310N	421581	N/A	Jul. 16, 2022	Jun. 09, 2023~ Jun. 20, 2023	Jul. 15, 2023	Radiation (03CH22-HY)
Double Ridged Guide Horn Antenna	RFSPIN	DRH18-E	LE2C05A18E N	1GHz~18GHz	Jul. 06, 2022	Jun. 09, 2023~ Jun. 20, 2023	Jul. 05, 2023	Radiation (03CH22-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	00991	18GHz~40GHz	May 14, 2022	Jun. 09, 2023~ Jun. 20, 2023	May 13, 2023	Radiation (03CH22-HY)
Amplifier	EMEC	EM01G18GA	060877	N/A	Sep. 29, 2022	Jun. 09, 2023~ Jun. 20, 2023	Sep. 28, 2023	Radiation (03CH22-HY)
Preamplifier	EMEC	EM18G40G	060872	18-40GHz	Sep. 28, 2022	Jun. 09, 2023~ Jun. 20, 2023	Sep. 27, 2023	Radiation (03CH22-HY)
Signal Analyzer	Keysight	N9010B	MY60241058	N/A	Jul. 07, 2022	Jun. 09, 2023~ Jun. 20, 2023	Jul. 06, 2023	Radiation (03CH22-HY)
Hygrometer	TECPEL	DTM-303B	TP140325	N/A	Nov. 07, 2022	Jun. 09, 2023~ Jun. 20, 2023	Nov. 06, 2023	Radiation (03CH22-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 09, 2023~ Jun. 20, 2023	N/A	Radiation (03CH22-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Jun. 09, 2023~ Jun. 20, 2023	N/A	Radiation (03CH22-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Jun. 09, 2023~ Jun. 20, 2023	N/A	Radiation (03CH22-HY)
Software	Audix	E3 6.09824_2019 122	RK-002347	N/A	N/A	Jun. 09, 2023~ Jun. 20, 2023	N/A	Radiation (03CH22-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 07, 2023	Jun. 09, 2023~ Jun. 20, 2023	Mar. 06, 2024	Radiation (03CH22-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804390/2,804 611/2,804615/ 2	N/A	Oct. 25, 2022	Jun. 09, 2023~ Jun. 20, 2023	Oct. 24, 2023	Radiation (03CH22-HY)

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