



SPOT CHECK EVALUATION

FCC ID : A4RGPJ41
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 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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History of this test report

Version	Description	Issue Date
01	Initial issue of report	Jun. 23, 2023



1. Introduction Section

FCC ID: A4RGKWS6 (parent model), FCC ID: A4RG9BQD(parent model) and FCC ID: A4RGPJ41 (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), and FCC Part 22, 24, 27, 90, 96 (equipment class: PCE, CBE) reuse the FCC ID: A4RGKWS6 original model's result and do spot-check.

The FCC Part 15C (equipment class: DSS, DTS) and FCC Part 15E (equipment class: NII, 6CD) reuse the FCC ID: A4RG9BQD 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: A4RGPJ41.



2. Model Difference Information

A4RGKWS6, A4RG9BQD and A4RGPJ41 use the identical internal printed circuit board layout, and the difference in the components population:

- A4RGPJ41: 5GNR FR2 mmWave related components are depopulated.
- A4RGPJ41: Depopulated module for n77 UL MIMO and populated transceiver for n77

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	A4RGKWS6 Parent Worst Result	A4RGPJ41 Variant Check Result	Difference (dB)
Conducted Power (dBm)	WWAN GPRS 850	32.31	31.90	0.41
	WWAN GPRS 1900	30.36	29.96	0.40
	WWAN WCDMA Band V	24.62	24.16	0.46
	WWAN WCDMA Band II	24.89	24.83	0.06
	WWAN WCDMA Band IV	24.93	24.66	0.27
	WWAN LTE Band 2	24.44	24.20	0.24
	WWAN LTE Band 5	24.45	24.06	0.39
	WWAN LTE Band 7	24.32	24.29	0.03
	WWAN LTE Band 48	22.98	22.98	0.00
	WWAN NR n5	24.83	24.78	0.05
	WWAN NR n7	24.86	24.40	0.46
	WWAN NR n25	25.03	24.78	0.25
	WWAN NR n77	27.91	27.48	0.43

Test Item	Mode	A4RG9BQD Parent Worst Result	A4RGPJ41 Variant Check Result	Difference (dB)
Conducted Power (dBm)	BT	20.89	20.72	0.17
	BLE	22.41	22.32	0.09
	WiFi 2.4GHz	24.96	24.80	0.16
	WiFi 5GHz	23.79	23.75	0.04
	WiFi 6GHz	23.46	22.99	0.47



Test Item	Mode	ANT	A4RGKWS6 Parent Worst Result	A4RGPJ41 Variant Check Result	Difference (dB)
Field Strength (dBuV/m)	NFC 13.56MHz	-	26.97	26.31	0.66
	WPT 148.5kHz	-	-18.03	-19.67	1.64
Radiated Spurious Emission (dBuV/m)	NFC 13.56MHz	-	36.97	36.96	0.01
	WPT 148.5kHz		33.86	31.72	2.14
Radiated Spurious Emission (dBm)	WWAN GPRS 850	0	-34.23	-35.71	1.48
	WWAN GPRS 850	1	-64.39	-66.58	2.19
	WWAN GPRS 1900	2	-52.14	-54.63	2.49
	WWAN WCDMA Band V	0	-47.21	-47.59	0.38
	WWAN WCDMA Band II	2	-56.24	-57.00	0.76
	WWAN WCDMA Band IV	2	-56.56	-57.24	0.68
	WWAN LTE Band 2/25	2	-52.76	-54.17	1.41
	WWAN LTE Band 5/26	0	-39.27	-39.95	0.68
	WWAN LTE Band 7	2	-50.62	-51.71	1.09
	WWAN LTE Band 48	6	-51.90	-54.21	2.31
	WWAN LTE Band 48	7	-51.94	-53.64	1.70
	WWAN NR n5	0	-50.56	-50.69	0.13
	WWAN NR n7	2	-48.53	-50.85	2.32
	WWAN NR n25	2	-51.67	-52.08	0.41
	WWAN NR n77	6	-49.12	-50.94	1.82
		7	-46.92	-48.54	1.62

Test Item	Mode	ANT	A4RG9BQD Parent Worst Result	A4RGPJ41 Variant Check Result	Difference (dB)
Radiated Spurious Emission (dBuV/m)	BT	3+4	55.91	55.14	0.77
	BT HR	3+4	52.30	50.27	2.03
	WiFi 2.4GHz	3+4	52.19	50.85	1.34
	WiFi 5GHz	3+4	52.36	51.43	0.93
	WiFi 6GHz	3+4	66.44	64.67	1.77

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	A4RGKWS6	Original Grant	FR2D0208-01D	A4RGPJ41
	DCD	WPT	110~148.5kHz	A4RGKWS6	Original Grant	FR2D0208-01H	A4RGPJ41
	DSS	BT	2.4GHz	A4RG9BQD	Original Grant	FR2D0208-07A	A4RGPJ41
	DTS	BLE / BT HR	2.4GHz	A4RG9BQD	Original Grant	FR2D0208-07B	A4RGPJ41
	DTS	WiFi	2.4GHz	A4RG9BQD	Original Grant	FR2D0208-07C	A4RGPJ41
15E	NII	WiFi	5GHz	A4RG9BQD	Original Grant	FR2D0208-07E FR2D0208-07H FR2D0208-07I FZ2D0208-07	A4RGPJ41
	6CD	WiFi	6GHz	A4RG9BQD	Original Grant	FR2D0208-07F FR2D0208-07G	A4RGPJ41
22, 24, 27, 90, 96	PCE CBE	GSM	GSM 850/1900	A4RGKWS6	Original Grant	FG2D0208-01A	A4RGPJ41
		WCDMA	Band II, IV, V	A4RGKWS6	Original Grant	FG2D0208-01A	A4RGPJ41
		LTE	2/4/5/7/12/13 /14/17/25/26 /30/38/41 /48/66/71 ULCA 5B/7C/ 41C/66B/66C	A4RGKWS6	Original Grant	FG2D0208-01B FG2D0208-01F FG2D0208-01H	A4RGPJ41
		NR	n2/n5/n7/ n12/n25/n26/ n30/n41/n66/ n71/n77/n78	A4RGKWS6	Original Grant	FG2D0208-01C FG2D0208-01D FG2D0208-01E	A4RGPJ41



5. List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECEPIL	DTM-303A	TP201996	N/A	Nov. 17, 2022	Jun. 02, 2023~ Jun. 20, 2023	Nov. 16, 2023	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO 12 (NO:113)	10MHz~6GHz	Dec. 13, 2022	Jun. 02, 2023~ Jun. 20, 2023	Dec. 12, 2023	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101905	10Hz - 40GHz(amp)	Aug. 03, 2022	Jun. 02, 2023~ Jun. 20, 2023	Aug. 02, 2023	Conducted (TH05-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1522	1GHz~18GHz	Mar. 23, 2023	Jun. 02, 2023~ Jun. 20, 2023	Mar. 22, 2024	Radiation (03CH16-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	00993	18GHz-40GHz	Nov. 24, 2022	Jun. 02, 2023~ Jun. 20, 2023	Nov. 23, 2023	Radiation (03CH16-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00802N1D01N -06	47020 & 06	30MHz~1GHz	Oct. 08, 2022	Jun. 02, 2023~ Jun. 20, 2023	Oct. 07, 2023	Radiation (03CH16-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 20, 2022	Jun. 02, 2023~ Jun. 20, 2023	Sep. 19, 2023	Radiation (03CH16-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	Jun. 28, 2022	Jun. 02, 2023~ Jun. 20, 2023	Jun. 27, 2023	Radiation (03CH16-HY)
Preamplifier	EMEC	EM1G18G	060812	1GHz~18GHz	Dec. 26, 2022	Jun. 02, 2023~ Jun. 20, 2023	Dec. 25, 2023	Radiation (03CH16-HY)
Preamplifier	Keysight	83017A	MY53270264	1GHz~26.5GHz	Dec. 09, 2022	Jun. 02, 2023~ Jun. 20, 2023	Dec. 08, 2023	Radiation (03CH16-HY)
Amplifier	SONOMA	310N	371607	9kHz~1GHz	Jul. 04, 2022	Jun. 02, 2023~ Jun. 20, 2023	Jul. 03, 2023	Radiation (03CH16-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY57290111	3Hz~26.5GHz	Dec. 15, 2022	Jun. 02, 2023~ Jun. 20, 2023	Dec. 14, 2023	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	805935/4	N/A	Aug. 09, 2022	Jun. 02, 2023~ Jun. 20, 2023	Aug. 08, 2023	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	802434/4	N/A	Aug. 09, 2022	Jun. 02, 2023~ Jun. 20, 2023	Aug. 08, 2023	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	EC-A5-300-5 757	N/A	Aug. 09, 2022	Jun. 02, 2023~ Jun. 20, 2023	Aug. 08, 2023	Radiation (03CH16-HY)
Software	Audix	E3 6.2009-8-24	RK-001136	N/A	N/A	Jun. 02, 2023~ Jun. 20, 2023	N/A	Radiation (03CH16-HY)
Controller	ChainTek	3000-1	N/A	Control Turn table & Ant Mast	N/A	Jun. 02, 2023~ Jun. 20, 2023	N/A	Radiation (03CH16-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Jun. 02, 2023~ Jun. 20, 2023	N/A	Radiation (03CH16-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Jun. 02, 2023~ Jun. 20, 2023	N/A	Radiation (03CH16-HY)

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