



SPOT CHECK EVALUATION

FCC ID : 2AEUPBHALP032
Equipment : Video Doorbell Pro 2
Brand Name : Ring
Model Name : 5AT2S2
Applicant : Ring LLC
1523 26th St, Santa Monica, CA 90404, USA
Manufacturer : Goertek Inc.
No.268 Dongfang Road High-Tech Industrial
Development District, Weifang Shandong, China
Standard : FCC Part 15 Subpart C §15.249

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 variant 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

Approved by: Louis Wu

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History of this test report

Version	Description	Issued Date
01	Initial issue of report	Aug. 04, 2022



1. Introduction Section

FCC ID: 2AEUPBHALP031 (parent model) and FCC ID: 2AEUPBHALP032 (variant model) use the same identical internal printed circuit board layouts, while the variant model design change remove LoRa FEM module and filter and Change LoRa radio-frequency chip.

Based on their similarity, the FCC Part 15C (equipment class: DXX) reuse the original model's result and do spot-check, following the FCC KDB 484596 D01 v01.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID (FCC ID: 2AEUPBHALP032).



2. Model Difference Information

The difference between FCC ID: 2AEUPBHALP031 and FCC ID: 2AEUPBHALP032 is as below:

Difference in Hardware:

The difference between products with design change and original products are:

Products with design change remove LoRa FEM module (SKY66420-11) and filter.

Change LoRa radio-frequency chip SX1261 to SX1262.

Difference in hardware will not impart Conducted Radio Performance for supported 24G Radar radios.

The details of similarity and difference can be found in the confidential documents.



3. Spot Check Verification Data Section

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.

RSE spot check for rule and technology is listed as below:

Test Item	Mode	2AEUPBHALP031 Parent Worst Result	2AEUPBHALP032 Variant Check Result	Difference (dB)
Radiated Spurious Emission (dB μ V/m)	24G Radar	-3.04	-3.29	-0.25

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.

Based on the spot check test result, the test data from the original model is representative for the variant model. The RSE spot check are shown within expected level compliant to limit line.

We confirm that the test data reuse policy of FCC KDB 484596 D01 Referencing Test Data v01 has been followed and that the test data as referenced from the parent model report represents compliance for the new FCC ID.



4. Reference detail Section

Rule Part	Equipment Class	Wireless Technology	Frequency Band (GHz)	Reference FCC ID (Parent)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)
15C	DXX	24G Radar	24.05-24.25	2AEUPBHALP031	Original Grant	FR093009	2AEUPBHALP032



5. List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 07, 2021	Apr. 21, 2022	Sep. 06, 2022	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Oct. 09, 2021	Apr. 21, 2022	Oct. 08, 2022	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1328	1GHz~18GHz	Dec. 03, 2021	Apr. 21, 2022	Dec. 02, 2022	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	00993	18GHz~40GHz	Nov. 30, 2021	Apr. 21, 2022	Nov. 29, 2022	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 23, 2022	Apr. 21, 2022	Mar. 22, 2023	Radiation (03CH12-HY)
Preamplifier	Aglient	8449B	3008A02375	1GHz~26.5GHz	May 25, 2021	Apr. 21, 2022	May 24, 2022	Radiation (03CH12-HY)
Preamplifier	E-INSTRUMENT TECH LTD.	ERA-100M-18G-56-01-A70	EC1900249	1GHz-18GHz	Dec. 22, 2021	Apr. 21, 2022	Dec. 21, 2022	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 24, 2021	Apr. 21, 2022	Dec. 23, 2022	Radiation (03CH12-HY)
Spectrum Analyzer	Keysight	N9010A	MY53470118	10Hz~44GHz	Jan. 12, 2022	Apr. 21, 2022	Jan. 11, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 10, 2022	Apr. 21, 2022	Mar. 09, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 10, 2021	Apr. 21, 2022	Dec. 09, 2022	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Feb. 21, 2022	Apr. 21, 2022	Feb. 20, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803953/2	30MHz~40GHz	Mar. 08, 2022	Apr. 21, 2022	Mar. 07, 2023	Radiation (03CH12-HY)
Filter	Wainwright	WLKS1200-12SS	SN2	1.2GHz Low Pass Filter	Mar. 16, 2022	Apr. 21, 2022	Mar. 15, 2023	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP140349	N/A	Sep. 30, 2021	Apr. 21, 2022	Sep. 29, 2022	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Apr. 21, 2022	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Apr. 21, 2022	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Apr. 21, 2022	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Apr. 21, 2022	N/A	Radiation (03CH12-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSV30	103738	9kHz to 30GHz	May 19, 2021	Apr. 25, 2022	May 18, 2022	Radiation (03CH18-HY)
Harmonic Mixer	Rohde & Schwarz	RPG FS-Z60	100986	40GHz to 60GHz	Apr. 09, 2021	Apr. 25, 2022	Apr. 08, 2024	Radiation (03CH18-HY)
Harmonic Mixer	Rohde & Schwarz	FSZ-90	101811	60GHz to 90GHz	Nov. 16, 2021	Apr. 25, 2022	Nov. 15, 2024	Radiation (03CH18-HY)
Harmonic Mixer	Rohde & Schwarz	RPG FS-Z140	101128	90GHz to 140GHz	Oct. 26, 2020	Apr. 25, 2022	Oct. 25, 2023	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-UPRR00	QWH-UPRR00-01	40-60 GHz	Jul. 06, 2021	Apr. 25, 2022	Jul. 05, 2024	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-VP RR00	1371800009	50-75 GHz	Jul. 06, 2021	Apr. 25, 2022	Jul. 05, 2024	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-EPRR00	1372000000	60-90 GHz	Jul. 06, 2021	Apr. 25, 2022	Jul. 05, 2024	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-FPRR00	1011500008	90-140 GHz	Jul. 06, 2021	Apr. 25, 2022	Jul. 05, 2024	Radiation (03CH18-HY)
Solid State Amplifier	Quinstar	QLW-50754530-I2	953600006	50-75 GHz	Jul. 06, 2021	Apr. 25, 2022	Jul. 05, 2024	Radiation (03CH18-HY)
Solid State Amplifier	Quinstar	QLW-40605030-00	953500005	40-60 GHz	Jul. 06, 2021	Apr. 25, 2022	Jul. 05, 2024	Radiation (03CH18-HY)
Solid State Amplifier	Quinstar	QLW-70905030-I2	953700007	70-90 GHz	Jul. 06, 2021	Apr. 25, 2022	Jul. 05, 2024	Radiation (03CH18-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 19, 2022	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Dec. 01, 2021	May 19, 2022	Nov. 30, 2022	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 17, 2021	May 19, 2022	Nov. 16, 2022	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 03, 2021	May 19, 2022	Dec. 02, 2022	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	May 19, 2022	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-FN	00691	N/A	Jul. 28, 2021	May 19, 2022	Jul. 27, 2022	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 30, 2021	May 19, 2022	Dec. 29, 2022	Conduction (CO05-HY)

Note: Test equipment calibration is traceable to the procedure of ISO17025.