Spot Check Evaluation

APPLICANT	:	**Ring LLC**
EQUIPMENT	:	**Video Doorbell Pro 2**
BRAND NAME	:	**Ring**
MODEL NAME	:	**5AT2S2**
FCC ID	:	**2AEUPBHALP032**
STANDARD	:	**47 CFR Part 15 Subpart C §15.247** **47 CFR Part 15 Subpart E §15.407** **47 CFR Part 15 Subpart B**

We, Sporton International Inc. (Kunshan), 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. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

ACCREDITED Cert #5145.02

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
090815-03A	Rev. 01	Initial issue of report	Jul. 05, 2022

1 General Description

1.1 Applicant

Ring LLC
1523 26th St, Santa Monica, CA 90404, USA

1.2 Manufacturer

Goertek Inc.
No.268 Dongfang Road High-Tech Industrial Development District, Weifang Shandong, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Video Doorbell Pro 2
Brand Name	Ring
Model Name	5AT2S2
FCC ID	2AEUPBHALP032
HW Version	R6
SW Version	7.1.61
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Modification of EUT

No modifications are made to the EUT during all test items.

1.5 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-KS 03CH06-KS 03CH02-KS CO01-KS	CN1257	314309

1.6 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH06-KS	AUDIX	E3	6.2009-8-24al
2.	03CH02-KS	AUDIX	E3	6.2009-8-24a
3.	CO01-KS	AUDIX	E3	6.2009-8-24

2 Re-use of Measured Data

2.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: 5AT2S2, FCC ID: 2AEUPBHALP032) is electrically identical to the reference device (Model: 5AT2S2, FCC ID: 2AEUPBHALP031) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, FCC Part15B (equipment class: JAB), the FCC Part 15C (equipment class: DTS, DSS) and FCC Part 15E (equipment class: NII) 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: 2AEUPBHALP032 .

2.2 Model Difference Information

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

- Change the Lora.

Other differences and all the details of similarity and difference can be found in the confidential documents (5AT2S2_Operational Description of Product Equality Declaration).

2.3 Reference detail Section:

Rule Part	Equipment Class	Frequency Band (MHz)	Reference FCC ID(Parent)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)	Report Title/Section
15C	DSS (BR/EDR)	2400~2483.5	2AEUPBHALP031	Original Grant	FR090815A	2AEUPBHALP032	All sections applicable
	DTS (BLE)	2400~2483.5	2AEUPBHALP031	Original Grant	FR090815B	2AEUPBHALP032	All sections applicable
	DTS (WLAN)	2400~2483.5	2AEUPBHALP031	Original Grant	FR090815C	2AEUPBHALP032	All sections applicable
15E	U-NII-1	5180~5240	2AEUPBHALP031	Original Grant	FR090815G	2AEUPBHALP032	All sections applicable
	U-NII-2A	5260~5320	2AEUPBHALP031	Original Grant	FR090815G	2AEUPBHALP032	All sections applicable
	U-NII-2C	5500~5720	2AEUPBHALP031	Original Grant	FR090815G	2AEUPBHALP032	All sections applicable
	U-NII-3	5745~5825	2AEUPBHALP031	Original Grant	FR090815H	2AEUPBHALP032	All sections applicable
	DFS	5260~5320 5500~5720	2AEUPBHALP031	Original Grant	FZ090815	2AEUPBHALP032	All sections applicable
15B	JAB	-	2AEUPBHALP031	Original Grant	FC090815	2AEUPBHALP032	All sections applicable

2.4 Spot Check Verification Data Section

Conducted power test and 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

Summary for power and RSE spot check for each rule entry and technology is listed as below:

Test Item	Mode	2AEUPBHALP031 Parent Worst Result	2AEUPBHALP032 Variant Check Result	Difference (dB)
Conducted Power (dBm)	BT2.0	9.93	9.61	-0.32
	BLE 1M	9.51	9.06	-0.45
	BLE 2M	9.77	9.44	-0.33
	WLAN 2.4GHz 11b	23.21	22.87	-0.34
	WLAN 2.4GHz 11g	27.67	27.48	-0.19
	WLAN 2.4GHz 11N20	27.72	27.55	-0.17
	WLAN 5GHz 11A B1	20.56	20.15	-0.41
	WLAN 5GHz 11A B2	20.53	20.08	-0.45
	WLAN 5GHz 11A B3	20.54	20.30	-0.24
	WLAN 5GHz 11A B4	19.84	19.76	0.08
	WLAN 5GHz 11N20 B4	18.76	18.62	0.14
	WLAN 5GHz 11N40 B4	19.05	18.87	0.18
	WLAN 5GHz 11AC20 B1	20.69	19.94	-0.75
	WLAN 5GHz 11AC20 B2	20.75	20.37	-0.38
	WLAN 5GHz 11AC20 B3	20.61	20.26	-0.35
	WLAN 5GHz 11AC20 B4	18.79	18.62	0.17
	WLAN 5GHz 11AC40 B1	21.71	20.93	-0.78
	WLAN 5GHz 11AC40 B2	21.58	20.80	-0.78
	WLAN 5GHz 11AC40 B3	21.40	20.85	0.55
	WLAN 5GHz 11AC40 B4	18.98	18.80	0.18
	WLAN 5GHz 11AC80 B1	15.74	15.11	-0.63
	WLAN 5GHz 11AC80 B2	15.52	14.83	-0.69
	WLAN 5GHz 11AC80 B3	21.41	20.66	-0.75
	WLAN 5GHz 11AC80 B4	17.28	17.08	0.20

Test Item	Mode	2AEUPBHALP031 Parent Worst Result	2AEUPBHALP032 Variant Check Result	Difference (dB)
Radiated Spurious Emission (dBuV/m) @ 3m	BT(3M)_Tx_Ch00	53.97	55.44	1.47
	BLE_Tx_Ch39	36.69	34.07	-2.62
	11g(n20)_Tx_Ch02	50.92	49.21	-1.71
	11a_Tx_Ch100	65.00	62.38	-2.62
	11ac(80)_Tx_Ch155	61.99	61.12	-0.87

Test Item	2AEUPBHALP031 Parent Worst Result	2AEUPBHALP032 Variant Check Result	Difference (dB)
Radiated Emission (dBuV/m)	41.78	37.37	-4.41
Conducted Emission (dBuV)	44.15	42.19	-1.96

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 power level and RSE spot check are shown within expected level compliant to limit line.

We are using power measurements from the original parent model reports to list on the grant.

The same DFS detection mechanism/software is used in the variant. Hence, there is no spot check data for DFS hand-shaking mechanism.

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

3 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 14, 2021	Mar. 31, 2022	Oct. 13, 2022	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 16, 2021	May 10, 2022	Oct. 15, 2022	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz-44GHz	Apr. 11, 2022	May 10, 2022	Apr. 10, 2023	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	May 10, 2022	Oct. 29, 2022	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz-1GHz	May 27, 2021	May 10, 2022	May 26, 2022	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 24, 2022	May 10, 2022	Apr. 23, 2023	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101093	18GHz~40GHz	Jan. 05, 2022	May 10, 2022	Jan. 04 2023	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Apr. 11, 2022	May 10, 2022	Apr. 10, 2023	Radiation (03CH06-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2022	May 10, 2022	Jan. 04 2023	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Jul. 30, 2021	May 10, 2022	Jul. 29, 2022	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5GHz	Apr. 12, 2022	May 10, 2022	Apr. 11, 2023	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	May 10, 2022	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	May 10, 2022	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	May 10, 2022	NCR	Radiation (03CH06-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 20, 2022	Apr. 21, 2022	Apr. 19, 2023	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 14, 2021	Apr. 21, 2022	Oct. 13, 2022	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 20, 2022	Apr. 21, 2022	Apr. 19, 2023	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 14, 2021	Apr. 21, 2022	Oct. 13, 2022	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Oct. 16, 2021	Mar. 29, 2022	Oct. 15, 2022	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44G,MAX 30dB	Oct. 16, 2021	Mar. 29, 2022	Oct. 15, 2022	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Dec. 22, 2021	Mar. 29, 2022	Dec. 21, 2022	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 30, 2021	Mar. 29, 2022	Oct. 29, 2022	Radiation (03CH02-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2022	Mar. 29, 2022	Jan. 04, 2023	Radiation (03CH02-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2022	Mar. 29, 2022	Jan. 04, 2023	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Apr. 13, 2021	Mar. 29, 2022	Apr. 12, 2022	Radiation (03CH02-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5GHz	Oct. 16, 2021	Mar. 29, 2022	Oct. 15, 2022	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Mar. 29, 2022	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Mar. 29, 2022	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Mar. 29, 2022	NCR	Radiation (03CH02-KS)

NCR: No Calibration Required.

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