



Spot Check Evaluation

FCC ID : UZ7PS30JB
EQUIPMENT : Personal Shopper
BRAND NAME : ZEBRA
MODEL NAME : PS30JB
APPLICANT : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
MANUFACTURER : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
STANDARD : FCC Part 15 Subpart E §15.407
TEST DATE(S) : Jan. 09, 2024 ~ Jan. 30, 2024

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

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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APPENDIX A. SETUP PHOTOGRAPHS



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Personal Shopper
Brand Name	ZEBRA
Model Name	PS30JB
FCC ID	UZ7PS30JB
HW Version	EV2
SW Version	13-13-11.00-TG-U00-PRD-NEM-04
MFD	13Dec23
EUT Stage	Identical Prototype

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

Specification of Accessory				
Battery 1	Brand Name	Zebra	Part Number	BT-000355-0020
Battery 2	Brand Name	Zebra	Part Number	BT-000355-5020

Supported Unit used in test configuration and system				
1-slot cradle	Brand Name	Zebra	Part Number	CRD-MC18-1SLOT-01
Adapter	Brand Name	Zebra	Part Number	PWR-BGA12V108W0WW
Programming USB cable	Brand Name	Zebra	Part Number	CBL-PS30-USBCHG-01
Soft Holster	Brand Name	Zebra	Part Number	SG-PS20-SFTHLT-01

1.2 Modification of EUT

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



1.3 Testing Site

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		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH08-KS TH01-KS DFS01-KS	CN1257	314309

1.4 Test Software

Item	Site	Manufacturer	Name	Version
1.	TH01-KS	SPORTON	FCC 15C-15E Test Tools Ver10.0_210607	10.0
2.	TH01-KS	SPORTON	FCC BT2.0 Ver3.0_For_CHINA_190111	3.0
3.	03CH08-KS	AUDIX	E3	210616
4.	DFS01-KS	Sporton	Test Tools	1.0

1.5 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC KDB 484596 D01 Referencing Test Data v02r02
- ♦ 47 CFR Part 15 Subpart E §15.407
- ♦ ANSI C63.10-2013



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: PS30JB, FCC ID: UZ7PS30JB) is electrically identical to the reference device (Model: PS30JP, FCC ID: UZ7PS30JP) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part 15E (equipment class: NII, 6CD) referencing the original model's result and do spot-check, following the FCC KDB 484596 D01 Referencing Test Data v02r02.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: UZ7PS30JB .

2.2 Model Difference Information

The main difference between FCC ID: UZ7PS30JP and FCC ID: UZ7PS30JB is as below:

- Remove NFC function.

Other differences and all the details of similarity and difference can be found in the confidential documents (PS30JB_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
15E	6CD	5925~7125	UZ7PS30JP	Original Grant	FR3D0816A FR3D0816B	UZ7PS30JB	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.

All test procedures follow the related section of parent report.

Spot-check measurements, while being always compliant with the applicable rule part(s) for the test under consideration, show a deviation d_{dB} from the reference data no larger than 3 dB:

$$d_{dB} = |V_{dB} - R_{dB}| \leq 3 \text{ dB} \tag{1}$$

V_{dB} , the variant spot-check level

R_{dB} , the corresponding measurement level for the reference model

An alternative to the limit of eq. (1) is available, and is based on considering how far the reference data R_{dB} is from the compliance threshold C_{dB} (also expressed in dB), for the particular test under consideration. In this case, if $M_{dB} = |C_{dB} - R_{dB}|$ is the margin in dB from the compliance limit, a spot check may be considered acceptable when the deviation d_{dB} from the reference data satisfies the following condition:

$$d_{dB} = |V_{dB} - R_{dB}| \leq (3 + M_{dB} / 20) \text{ dB} , \text{ for } 0 \leq M_{dB} \leq 60 \text{ dB} \tag{2}$$

$$d_{dB} = |V_{dB} - R_{dB}| = 6 \text{ dB} , \text{ for } M_{dB} > 60 \text{ dB}$$

where “| |” is the absolute value of the measured quantity.

When using the option in eq. (2), d_{dB} increases linearly from 3 dB to 6 dB.



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

Test Item	Mode	UZ7PS30JP Parent Worst mode Test Result	UZ7PS30JB Variant Check Test Result	Deviation (dB)	Limit (dB)
Conducted Power for indoor client mode (dBm)	11a UNII-5	2.45	2.26	0.19	3
	11a UNII-6	2.62	2.60	0.02	3
	11a UNII-7	3.83	3.77	0.06	3
	11a UNII-8	5.51	5.31	0.20	3
	11ax20 UNII-5	5.72	5.69	0.03	3
	11ax20 UNII-6	6.19	6.17	0.02	3
	11ax20 UNII-7	7.05	6.98	0.07	3
	11ax20 UNII-8	9.03	8.81	0.22	3
	11ax40 UNII-5	8.26	7.86	0.40	3
	11ax40 UNII-6	8.56	8.39	0.17	3
	11ax40 UNII-7	9.81	9.77	0.04	3
	11ax40 UNII-8	11.82	11.62	0.20	3
	11ax80 UNII-5	10.75	10.41	0.34	3
	11ax80 UNII-6	11.07	11.02	0.05	3
	11ax80 UNII-7	12.16	12.01	0.15	3
	11ax80 UNII-8	14.06	13.81	0.25	3
	11ax160 UNII-5	13.60	13.55	0.05	3
	11ax160 UNII-6	13.50	13.37	0.13	3
11ax160 UNII-7	13.45	13.20	0.25	3	
11ax160 UNII-8	14.12	13.99	0.13	3	
Conducted Power for standard client mode (dBm)	11a UNII-5	16.61	16.14	0.47	3
	11a UNII-7	13.63	13.59	0.04	3
	11ax20 UNII-5	16.47	16.08	0.39	3
	11ax20 UNII-7	13.24	13.20	0.04	3
	11ax40 UNII-5	16.89	16.70	0.19	3
	11ax40 UNII-7	13.63	13.61	0.02	3
	11ax80 UNII-5	16.67	16.18	0.49	3
	11ax80 UNII-7	13.41	13.33	0.08	3
	11ax160 UNII-5	16.91	16.78	0.13	3
11ax160 UNII-7	13.65	13.20	0.45	3	

Test Item	Mode	UZ7PS30JP Parent Worst Result	UZ7PS30JB Variant Check Result	Deviation (dB)	Limit (dB)
Radiated Spurious Emission (dBuV/m)	802.11ax20 CH233	66.51	66.20	0.31	3

Test Item	Mode	UZ7PS30JP Parent Worst Result	UZ7PS30JB Variant Check Result	Deviation (dB)	Limit (dB)
CBP (dBm)	UNII-8 BW160M CH Freq. 6985MHz	-68.86	-69.38	0.52	3



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 and EIRP measurements from the original parent model reports to list on the grant.

The same CBP detection mechanism/software/antenna gain is used in the variant. Hence, all test cases refer to parent report for CBP.

We confirm that the test data referencing policy of FCC KDB 484596 D01 Referencing Test Data v02r02 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. 11, 2023	Jan. 25, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 04, 2024	Jan. 25, 2024	Jan. 03, 2025	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 04, 2024	Jan. 25, 2024	Jan. 03, 2025	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400023	3Hz~8.5GHz;Max 30dBm	Jan. 04, 2024	Jan. 30, 2024	Jan. 03, 2025	Radiation (03CH08-KS)
Spectrum Analyzer	R&S	FSV40	101932	10kHz~40GHz;Max 30dBm	Oct. 10, 2023	Jan. 30, 2024	Oct. 09, 2024	Radiation (03CH08-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Oct. 10, 2023	Jan. 30, 2024	Oct. 09, 2024	Radiation (03CH08-KS)
Bilog Antenna	TESEQ& VGT	CBL 61110	59915	30MHz-1GHz	Aug. 12, 2023	Jan. 30, 2024	Aug. 11, 2024	Radiation (03CH08-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Mar. 18, 2023	Jan. 30, 2024	Mar. 17, 2024	Radiation (03CH08-KS)
high gain Amplifier	EM	EM01G18GA	060845	1Ghz-18Ghz	Jan. 05, 2024	Jan. 30, 2024	Jan. 04, 2025	Radiation (03CH08-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2024	Jan. 30, 2024	Jan. 04, 2025	Radiation (03CH08-KS)
Amplifier	SONOMA	310N	413741	9KHz-1GHz	Jan. 05, 2024	Jan. 30, 2024	Jan. 04, 2025	Radiation (03CH08-KS)
Amplifier	EM	EM01G18GA	060834	1Ghz-18Ghz	Oct. 10, 2023	Jan. 30, 2024	Oct. 09, 2024	Radiation (03CH08-KS)
Amplifier	MITEQ	EM18G40GG A	060728	18~40GHz	Jan. 04, 2024	Jan. 30, 2024	Jan. 03, 2025	Radiation (03CH08-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Jan. 30, 2024	NCR	Radiation (03CH08-KS)
Turn Table	EM	EM 1000-T	N/A	0~360 degree	NCR	Jan. 30, 2024	NCR	Radiation (03CH08-KS)
Antenna Mast	EM	EM 1000-A	N/A	1 m~4 m	NCR	Jan. 30, 2024	NCR	Radiation (03CH08-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 11, 2023	Jan. 09, 2024	Oct. 10, 2024	CBP (DFS01-KS)
MXG-B RF Vector Signal Genertor	Keysight	5182B /5182BX07	MY56200417 /MY59360210	9kHz~7.2GHz	May 16, 2023	Jan. 09, 2024	May 15, 2024	CBP (DFS01-KS)
Combiner	MTJ Cooperation	MTJ7114-M	N/A	0.5GHz~18GHz	NCR	Jan. 09, 2024	NCR	CBP (DFS01-KS)

NCR: No Calibration Required.



4 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	±0.46 dB

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.28dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.90dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.26dB
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-THE END-