



FCC RF EXPOSURE

TEST REPORT

For

Base Station Hub Edition

MODEL NUMBER: NM30011A30, NM300W4A00, NM30045A00

FCC ID: 2AJYRNM30011A30

REPORT NUMBER: 4789432896.1-4

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Prepared for

Nomad Goods Inc.

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Prepared by

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TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. DESCRIPTION OF EUT	6
5. REQUIREMENT	7



1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Nomad Goods Inc.
Address: 1187 Coast Village Rd. #638 Suite 1 Santa Barbara, CA 93108, United State

Manufacturer Information

Company Name: Zhongshan Zen Factory Ltd.
Address: 6th.Industrial Area,Nanlang Town,Zhongshan City, Guangdong,China

EUT Information

EUT Name: Base Station Hub Edition
Model: NM300W4A00
Series Model: NM30011A30, NM30045A00
Model Difference: Refer to section 4 for details
Brand: NOMAD
Sample Received Date: March 26, 2020
Sample Status: Normal
Sample ID: 2981551
Date of Tested: March 26, 2020 ~ April 13 2020

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§1.1307	PASS
FCC 47CFR§1.1310	PASS
FCC 47CFR§2.1093	PASS
FCC 47CFR§2.1091	PASS

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC 47CFR§1.1307(b)(1), FCC 47CFR§1.1310, FCC 47CFR§2.1093, 680106 D01 RF Exposure wireless charging apps v03.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p>A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p>FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p>IC (Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report Filed with Industry Canada. The Company Number is 21320.</p> <p>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011</p>
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Note: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China



4. DESCRIPTION OF EUT

EUT Name	Base Station Hub Edition
EUT Description	The EUT is a wireless charger with USB type-A and type-C output.
Model	NM300W4A00
Series Model	NM30011A30, NM30045A00
Model Difference	Their electrical circuit design, layout and internal wiring are identical, all models have wireless charging function, the appearance are different. We select "NM300W4A00" as the representative model for formal test
Operation Frequency	119.74kHz (for Left coils) 121.55kHz (for Right coils) 110.09kHz (for Middle coils)
Modulation Type	MSK
Antenna type	Coil
Ratings	DC input: 12V/4A from Adapter Type-C output: 5V/3A or 9V/2A USB A Output: 5V/1A Wireless Output: 10W(left coil)+10W(middle coil)+10W(right coil)

Note 1: The middle coil is not able to work together with two sides coils (left and right), option one is that two sides coils work at same time, option two is that middle coil work alone. In order to ensure all worst case conditions were measured, even though only left and right can operate simultaneously, all three coils were loaded for some modes by overriding the device mechanism that allows correct operating conditions.

Note 2: All three models were evaluated, only the data of the worst Model NM300W4A00 was recorded in this report.

Note 3: the Type-C output port support 5V/3A and 9V/2A, these two modes have been evaluated, but only the worst case (9V/2A output) was recorded in this report.

5. REQUIREMENT

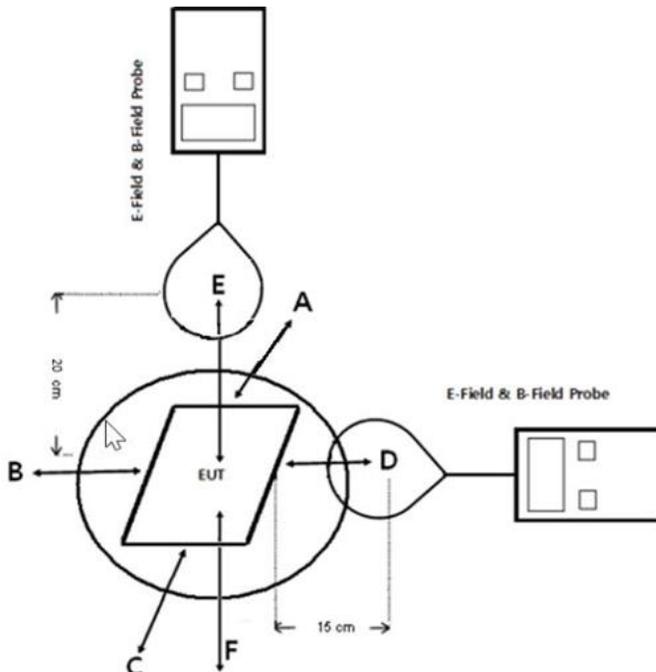
LIMIT

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (Minutes)
0.3 -- 1.34	614	1.63	(100)*	30
1.34 -- 30	824/f	2.19/f	(180/f ²)*	30
30 -- 300	27.5	0.073	0.2	30
300 -- 1500	--	--	f/1500	30
1500 -- 100,000	--	--	1.0	30

METHOD OF MEASUREMENT

- a) The RF exposure test was performed in shielded chamber.
- b) The measurement probe was placed at test distance (15 cm) which is between the edge of the charger and the geometric centre of probe. The measurement probe was placed at test distance (20cm) which is between the top of the charger and the geometric centre of probe.
- c) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- d) The EUT were measured according to the dictates of KDB 680106D01v03.

BLOCK DIAGRAM OF TEST SETUP



Note1: As bottom point is not required to test for desktop devices, so we scanning all the surfaces and recorded the worst level in F.

Note2: The measurement probe was placed at test distance (15cm) which is between the edge of the charger and the geometric centre of probe. The measurement probe was placed at test distance (20cm) which is between the top of the charger and the geometric centre of probe.

Note 3: the maximum exposure position was check on each point (checked from 0cm to 15cm for Points A, B, C and D and checked from 0cm to 20cm for Point E checking), the exposure value on 15cm position and 20cm position was recorded base on the worst position.

EQUIPMENT APPROVAL CONSIDERATIONS

The EUT does comply with KDB 680106D01v03.

1) Power transfer frequency is less than 1MHz.

Yes; the device operated in the frequency range from 110.09kHz to 121.55kHz.

2) Output power from each primary coil is less than or equal to 15 watts.

Yes; the maximum output power of each primary coil is 10 watts.

3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.

The WPT device has three independent primary coils, each coil can only charge a single device and there is no multiple coil to single device charging, the RF exposure meet RSS-102 H-Field Strength and E-Field Strength limit.

4) Client device is placed directly in contact with the transmitter.

Yes; Client device is placed directly in contact with the transmitter.



- 5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
Yes; The EUT is a mobile device.
- 6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
Yes, The EUT field strength levels are less than 50% of the MPE limit.

MEASURING INSTRUMENT USED

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Electric and Magnetic Field Analyzer	Narda	EHP-200A	170WX90204	April 21, 2019	April 21, 2020

**E FIELD AND H FIELD STRENGTH TEST RESULT**

Test mode for wireless charger:

Config	Test Mode	Description
Mode 1	Standby	EUT alone
Mode 2	Operating	10W load on left coil USB Type-A output 5V1A USB Type-C output 9V2A
Mode 3	Operating	10W load on right coil USB Type-A output 5V1A USB Type-C output 9V2A
Mode 4	Operating	10W load on middle coil USB Type-A output 5V1A USB Type-C output 9V2A
Mode 5	Operating	10W load on left coil 10W load on right coil 10W load on middle coil USB Type-A output 5V1A USB Type-C output 9V2A
Mode 6	Operating	9W load on left coil (90% load) USB Type-A output 5V1A USB Type-C output 9V2A
Mode 7	Operating	9W load on right coil (90% load) USB Type-A output 5V1A USB Type-C output 9V2A
Mode 8	Operating	9W load on middle coil (90% load) USB Type-A output 5V1A USB Type-C output 9V2A
Mode 9	Operating	9W load on left coil (90% load) 9W load on right coil (90% load) 9W load on middle coil (90% load) USB Type-A output 5V1A USB Type-C output 9V2A
Mode 10	Operating	5W load on left coil (50% load) USB Type-A output 5V1A USB Type-C output 9V2A
Mode 11	Operating	5W load on right coil (50% load) USB Type-A output 5V1A USB Type-C output 9V2A
Mode 12	Operating	5W load on middle coil (50% load) USB Type-A output 5V1A USB Type-C output 9V2A
Mode 13	Operating	5W load on left coil (50% load) 5W load on right coil (50% load) 5W load on middle coil (50% load) USB Type-A output 5V1A USB Type-C output 9V2A
Mode 14	Operating	1W load on left coil (10% load) USB Type-A output 5V1A USB Type-C output 9V2A



Mode 15	Operating	1W load on right coil (10% load) USB Type-A output 5V1A USB Type-C output 9V2A
Mode 16	Operating	1W load on middle coil (10% load) USB Type-A output 5V1A USB Type-C output 9V2A
Mode 17	Operating	1W load on left coil (10% load) 1W load on right coil (10% load) 1W load on middle coil (10% load) USB Type-A output 5V1A USB Type-C output 9V2A

Note 1: The EUT have 3 coils, the middle coil is not able to work together with two sides coils (left and right), option one is that two sides coils work at same time, option two is that middle coil works alone.

Note 2: all modes have been tested, but only the worst data was recorded in this report.



H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 1		
	A/m		
A	0.06		1.63
B	0.05		1.63
C	0.04		1.63
D	0.11		1.63
E	0.04		1.63
F	0.12		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 1		
	V/m		
A	0.23		614
B	0.27		614
C	0.21		614
D	0.36		614
E	0.69		614
F	0.47		614

H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 2		
	A/m		
A	0.18		1.63
B	0.07		1.63
C	0.06		1.63
D	0.16		1.63
E	0.16		1.63
F	0.17		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 2		
	V/m		
A	0.42		614
B	0.25		614
C	0.26		614
D	0.28		614
E	0.29		614
F	0.69		614



H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 3		
	A/m		
A	0.16		1.63
B	0.13		1.63
C	0.15		1.63
D	0.16		1.63
E	0.19		1.63
F	0.11		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 3		
	V/m		
A	1.28		614
B	0.78		614
C	0.66		614
D	1.22		614
E	1.27		614
F	1.34		614

H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 4		
	A/m		
A	0.05		1.63
B	0.06		1.63
C	0.15		1.63
D	0.11		1.63
E	0.13		1.63
F	0.16		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 4		
	V/m		
A	0.58		614
B	0.48		614
C	0.31		614
D	0.49		614
E	0.77		614
F	0.59		614

H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top



surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 5		
	A/m		
A	0.13		1.63
B	0.26		1.63
C	0.14		1.63
D	0.17		1.63
E	0.13		1.63
F	0.18		1.63

E-Field Strength at 15 cm from the edges surrounding the and 20cm above the top surface of the EUT EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 5		
	V/m		
A	2.48		614
B	1.56		614
C	2.19		614
D	2.54		614
E	2.11		614
F	2.56		614

H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 6		
	A/m		
A	0.15		1.63
B	0.08		1.63
C	0.05		1.63
D	0.12		1.63
E	0.15		1.63
F	0.16		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 6		
	V/m		
A	0.38		614
B	0.23		614
C	0.27		614
D	0.25		614
E	0.24		614
F	0.57		614



H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 7		
	A/m		
A	0.13		1.63
B	0.11		1.63
C	0.13		1.63
D	0.14		1.63
E	0.16		1.63
F	0.12		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 7		
	V/m		
A	1.09		614
B	0.75		614
C	0.68		614
D	1.14		614
E	1.13		614
F	1.22		614

H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 8		
	A/m		
A	0.06		1.63
B	0.07		1.63
C	0.12		1.63
D	0.13		1.63
E	0.10		1.63
F	0.13		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 8		
	V/m		
A	0.49		614
B	0.43		614
C	0.32		614
D	0.45		614
E	0.72		614
F	0.46		614



H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 9		
	A/m		
A	0.14		1.63
B	0.23		1.63
C	0.15		1.63
D	0.12		1.63
E	0.11		1.63
F	0.15		1.63

E-Field Strength at 15 cm from the edges surrounding the and 20cm above the top surface of the EUT EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 9		
	V/m		
A	2.32		614
B	1.25		614
C	2.06		614
D	2.19		614
E	2.13		614
F	2.20		614

H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 10		
	A/m		
A	0.09		1.63
B	0.05		1.63
C	0.04		1.63
D	0.08		1.63
E	0.09		1.63
F	0.10		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 10		
	V/m		
A	0.29		614
B	0.19		614
C	0.16		614
D	0.15		614
E	0.17		614
F	0.33		614



H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 11		
	A/m		
A	0.08		1.63
B	0.07		1.63
C	0.10		1.63
D	0.11		1.63
E	0.12		1.63
F	0.08		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 11		
	V/m		
A	0.95		614
B	0.58		614
C	0.36		614
D	0.85		614
E	0.76		614
F	0.82		614

H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 12		
	A/m		
A	0.03		1.63
B	0.04		1.63
C	0.09		1.63
D	0.08		1.63
E	0.09		1.63
F	0.10		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 12		
	V/m		
A	0.39		614
B	0.31		614
C	0.19		614
D	0.35		614
E	0.39		614
F	0.29		614



H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 13		
	A/m		
A	0.09		1.63
B	0.15		1.63
C	0.10		1.63
D	0.11		1.63
E	0.08		1.63
F	0.09		1.63

E-Field Strength at 15 cm from the edges surrounding the and 20cm above the top surface of the EUT EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 13		
	V/m		
A	1.54		614
B	1.01		614
C	1.31		614
D	1.03		614
E	1.25		614
F	1.49		614

H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 14		
	A/m		
A	0.05		1.63
B	0.02		1.63
C	0.02		1.63
D	0.05		1.63
E	0.06		1.63
F	0.03		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 14		
	V/m		
A	0.21		614
B	0.13		614
C	0.12		614
D	0.14		614
E	0.12		614
F	0.22		614



H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 15		
	A/m		
A	0.05		1.63
B	0.06		1.63
C	0.02		1.63
D	0.04		1.63
E	0.05		1.63
F	0.02		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 15		
	V/m		
A	0.47		614
B	0.25		614
C	0.27		614
D	0.35		614
E	0.37		614
F	0.41		614

H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 16		
	A/m		
A	0.02		1.63
B	0.03		1.63
C	0.06		1.63
D	0.05		1.63
E	0.03		1.63
F	0.06		1.63

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 16		
	V/m		
A	0.21		614
B	0.18		614
C	0.15		614
D	0.19		614
E	0.24		614
F	0.22		614



H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Field Strength Measure Result		Limits (A/m)
	Mode 17		
	A/m		
A	0.04		1.63
B	0.06		1.63
C	0.03		1.63
D	0.04		1.63
E	0.04		1.63
F	0.05		1.63

E-Field Strength at 15 cm from the edges surrounding the and 20cm above the top surface of the EUT EUT (V/m)

Test Position	E-Field Strength Measure Result		Limits (V/m)
	Mode 17		
	V/m		
A	0.81		614
B	0.56		614
C	0.43		614
D	0.45		614
E	0.39		614
F	0.82		614

END OF REPORT