



Test Report - FCC PART 1.1310 / MPE

Prepared For: Ness Corporation Pty. Ltd.

Approved for Release By:

Signature: Bruno Clavier

Name & Title: Bruno Clavier, General Manager

Date of Signature

(YYYY-MM-DD): 2020-10-02

This test report shall not be reproduced except in full without the written and signed permission of Timco Engineering Inc. (IIA). This test report relates only to the items tested as identified and is not valid for any subsequent changes or modifications made to the equipment under test.



Timco Engineering, Inc., an IIA Company
849 NW State Road 45, Newberry, Florida 32669
(352) 472-5500 / testing@timcoengr.com

Table of Contents

1.	CUSTOMER INFORMATION.....	3
2.	LOCATION OF TESTING	3
2.1	TEST LABORATORY	3
2.2	TESTING WAS PERFORMED, REVIEWED BY	4
3.	TEST SAMPLE(S) (EUT/DUT)	5
3.1	DESCRIPTION OF THE EUT.....	5
4.	TEST METHODS & APPLICABLE REGULATORY LIMITS.....	6
4.1	TEST METHODS/STANDARDS/GUIDANCE:	6
4.1.1	<i>FCC Limits for Maximum Permissible Exposure (MPE)</i>	6
4.2	EQUATIONS.....	7
5.	RF EXPOSURE RESULTS	8
6.	HISTORY OF TEST REPORT CHANGES	9



Timco Engineering, Inc., an IIA Company
849 NW State Road 45, Newberry, Florida 32669
(352) 472-5500 / testing@timcoengr.com

1. Customer Information

Applicant: Ness Corporation Pty. Ltd.
Address: 4/167 Prospect Highway
Seven Hills, Sydney NSW 2147

2. Location of Testing

2.1 Test Laboratory

Timco Engineering Inc. is a subsidiary of Industrial Inspection & Analysis, Inc. ("IIA"). Testing was performed at Timco's permanent laboratory located at 849 NW State Road 45, Newberry, Florida 32669

FCC test firm # 578780

FCC Designation # US1070

FCC site registration is under A2LA certificate # 0955.01

ISED Canada test site registration # 2056A

EU Notified Body # 1177

For all designations see A2LA scope # 0955.01



Timco Engineering, Inc., an IIA Company
849 NW State Road 45, Newberry, Florida 32669
(352) 472-5500 / testing@timcoengr.com

2.2 Testing was performed, reviewed by

Dates of Testing: September 21 - 23, 2020

Signature:

Name & Title: Franklin Rose, EMC Specialist

Date of Signature

(YYYY-MM-DD): 2020-09-24

Signature:

Sr. EMC Engineer
EMC-003838-NE



Name & Title: Tim Royer, EMC Engineer

Date of Signature

(YYYY-MM-DD): 2020-09-24



3. Test Sample(s) (EUT/DUT)

The test sample was received: June 12, 2020

3.1 Description of the EUT

A description as well as unambiguous identification of the EUT(s) tested. Where more than one sample is required for technical reasons (such as the use of connected units for the purpose of conducted output power testing where the product units will have integral antennas), each specific test shall identify which unit was tested.

Identification	
FCC ID:	O2K-TRM915
Brief Description	Smartfall Blue Pendant
Type of Modular	n/a
Model(s) #	TRMBF915, TRMBV915
Trade name	Smartfall Blue Pendant, Vibrating Blue Pendant
Firmware version	1.0
Software version	n/a
Serial Number	n/a

Technical Characteristics	
Technology	DSS/FHSS
Frequency Range	903 – 927 MHz
RF O/P Power (Max.)	7.89 dBm
Modulation	GFSK
Bandwidth & Emission Class	269.79 kHz, F1D
Number of Channels	25
Duty Cycle	13.54%
Antenna Type	Integrated
Antenna Gain (for each ant.)	0 dBi
Antenna Connector	N/A
Voltage Rating (AC or Batt.)	Battery 1.5 V

Antenna Characteristics		
Frequency Range	Mode / BW	Antenna Gain
902-928 MHz	n/a	0 dBi



4. Test methods & Applicable Regulatory Limits

4.1 Test methods/Standards/Guidance:

The following guidance FCC KDB 447498 D01 General RF Exposure Guidance v06 was used for RF exposure evaluation as per FCC Part 1.1310 and FCC Part 2.1091 and part 2.1093. Full test results are available in this report.

4.1.1 FCC Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging Time (minutes)
A Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
B Limits for General Population/Uncontrolled Exposure				
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
300-1,500			f/1500	<30
1,500-100,000			1.0	<30



4.2 Equations

POWER DENSITY

$$E(V/m) = \text{SQRT} (30 * P * G) / d$$

$$Pd(W/m^2) = E^2 / 377$$

$$S = \text{EIRP} / (4 * \text{Pi} * D^2)$$

Where:

S = Power density, in mW/cm²

EIRP = Equivalent Isotropic Radiated Power, in mW

D = Separation distance in cm

Power density is converted from units of mW/cm² to units of W/m² by multiplying by 10.

DISTANCE

$$D = \text{SQRT} (\text{EIRP} / (4 * \text{Pi} * S))$$

Where:

D = Separation distance in cm

EIRP = Equivalent Isotropic Radiated Power, in mW

S = Power density in mW/cm²

SOURCE-BASED DUTY CYCLE (When applicable (for example, multi-slot mobile phone applications) A duty cycle factor may be applied.)

$$\text{Source-based time-average EIRP} = (\text{DC} / 100) * \text{EIRP}$$

Where:

DC = Duty Cycle in % as applicable.

EIRP = Equivalent Isotropic radiated Power, in mW



Timco Engineering, Inc., an IIA Company
849 NW State Road 45, Newberry, Florida 32669
(352) 472-5500 / testing@timcoengr.com

5. RF Exposure Results

MPE

Frequency Band	Separation Distance (mm)	Max Power + Tolerance (dBm)	Max Power + Tolerance (mW)	SAR Exclusion Value	Limit for 1-g SAR	Limit for 10-g SAR (Extremities)	SAR Exclusion
903-927 MHz	5	7.89	6.15	1.18	3.0	7.5	SAR EXEMPT



Timco Engineering, Inc., an IIA Company
849 NW State Road 45, Newberry, Florida 32669
(352) 472-5500 / testing@timcoengr.com

6. History of Test Report Changes

Test Report #	Revision #	Description	Date of Issue
TR_3465-20_FCC_MPE_1	1	Initial release	September 24, 2020



Timco Engineering, Inc., an IIA Company
849 NW State Road 45, Newberry, Florida 32669
(352) 472-5500 / testing@timcoengr.com

END OF TEST REPORT
