Timco Test Report # TR\_3846-20\_RF Exp SAR Exclusion Rpt\_1 Revision: 1 Issue Date: November 3, 2020 Final Test Date: November 2, 2020





An IIA Company

# Test Report - RF Exposure Evaluation Report for SAR Exclusion Prepared For: TANDD CORPORATION

Approved for Release By:

Signature: Brund Claur

Name & Title:Bruno Clavier, General ManagerDate of Signature2020-11-03

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

#### 1. Customer Information

Applicant:	TANDD Corporation				
Address:	817-1-Shimadachi				
	Matsumoto City, Nagano, Japan	390-0852			

Contact:Akemo OanaTelephone:81-263-40-0131Email address:oana@tandd.co.jp

#### 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



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### 2.2 Testing was performed, reviewed by

Dates of Testing: June 12 – September 18, 2020

Signature:

Name & Title: Franklin Rose, EMC Specialist Date of Signature (YYYY-MM-DD): 2020-11-3

Sr. EMC Engineer EMC-003838-NE una D.

Signature:

Name & Title: Tim Royer, EMC Engineer Date of Signature (YYYY-MM-DD): 2020-11-3



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

The test sample was received: October 27, 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:	SRD10100
Brief Description	Data Logger Base Unit
Type of Modular	NA
Model(s) #	RTR500BW, RTR500BC
Trade name	TANDD
Firmware version	NA
Software version	NA
Serial Number	NA

### Technical Characteristics

Technology	BLE
Frequency Range	902-928
RF O/P Power (Max.)	7.2 dBm, 0.005248 Watts
Modulation	FSK
Bandwidth & Emission Class	552.55 kHz
Number of Channels	21
Duty Cycle	10%
Antenna Type	External
Antenna Gain (for each ant.)	2.15 dBi
Antenna Connector	N/A
Voltage Rating (AC or Batt.)	Batt

# Antenna Characteristics

Frequency Range	Mode / BW	Ant Gain 1	Ant Gain 2
902-928		2.15 dBi	

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#### 4. SAR EXCLUSION CALCULATION:

## **SAR EXCLUSION CALCULATION:**

Min Separation  5  mm  applied to determine SAR test exclusion.    Answer  1.00  Must be less than or equal to 3.0 for SAR Exclusion  7.5 for extremities    Answer  1.00  Must be less than or equal to 3.0 for SAR Exclusion  7.5 for extremities    Answer  1.00  Must be less than or equal to 3.0 for SAR Exclusion  7.5 for extremities    Answer  1.00  Must be less than or equal to 3.0 for SAR Exclusion  7.5 for extremities    Answer  1.00  Must be less than or equal to 3.0 for SAR Exclusion  7.5 for extremities    Answer  1.00  Must be less than or equal to 3.0 for SAR Exclusion  7.5 for extremities    Answer  1.00  Must be less than or equal to 3.0 for SAR Exclusion  7.5 for extremities    Answer  1.00  Must be less than or equal to 3.0 for SAR Exclusion  7.5 for extremities    Answer  1.00  Must be less than or equal to 3.0 for SAR Exclusion  1.00    Answer  1.00  Must be less than or equal to 0 regreater than 24 (8x threshold)    Controlled Use: The Answer is equal to or greater than 60 (20x threshold)  and, when published RF exposure KDB procedures are not established for SAR testing or when SAR data is not provided to support compliance.    Please also note the											
100 MHz to 6 GHz at separation distance less than or equal to 50 mm    SAR Test Exclusion Calculator for Portable Devices    nsert values in yellow highlighted boxes to determine SAR Exclusion    Max Power  5.248    MW    Vin Separation  5    0.902  GHz    Answer  1.00 Must be less than or equal to 3.0 for SAR Exclusion    Answer  1.00 Must be less than or equal to 3.0 for SAR Exclusion    Vin Separation  7.5 for extremities    Answer  1.00 Must be less than or equal to 3.0 for SAR Exclusion    Vin Separation  7.5 for extremities    Answer  1.00 Must be less than or equal to 3.0 for SAR Exclusion    Vin Separation  7.5 for extremities    Answer  1.00 Must be less than or equal to 3.0 for SAR Exclusion    Vin Separation  7.5 for extremities    Answer  1.00 Must be less than or equal to 3.0 for SAR Exclusion    Controlled Use:  Required if:    General Population:  The Answer is equal to or greater than 24 (8x threshold)    and, when published RF exposure KDB procedures are not established for SAR testing or when SAR data is not provided to support compliance.    Please also note the following: [FCC KDB quote]  These test exclusion conditions are based on	KDB 447498 D01	General RF	Exposure	Guidance	v05r02						
SAR Test Exclusion Calculator for Portable Devices    nsert values in yellow highlighted boxes to determine SAR Exclusion    Max Power  5.248 mW    Win Separation  5    0.902  GHz    When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.	4.3.1. Standalone	e SAR test e	exclusion o	considerati	ons						
nsert values in vellow highlighted boxes to determine SAR Exclusion    Max Power  5.248    Min Separation  5    O.902  GHz    applied to determine SAR test exclusion.    Answer  1.00 Must be less than or equal to 3.0 for SAR Exclusion    Reserver  7.5 for extremities    KDB 388624 D02Permit But Ask List v15r03, Item II. A. 5.    PBA is required if:  6    General Population: The Answer is equal to or greater than 24 (8x threshold)    Controlled Use: The Answer is equal to or greater than 60 (20x threshold)    and, when published RF exposure KDB procedures are not established for SAR testing or when SAR data is not provided to support compliance.    Please also note the following: [FCC KDB quote] These test exclusion conditions are based on source-based ime-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions. The minimum test separation distance required for the exposure conditions. The minimum test separation distance required for the antenna and radiating structures or	100 MHz to 6 GH	lz at separa	tion distar	nce less tha	an or equa	l to 50 mm					
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	up tolerance, an	d the miniı	mum test s	eparation	distance re	equired for	r the expos	sure condit	tions. The i	minimum	
outer surface. [End quote]	test separation distance is determined by the smallest distance from the antenna and radiating structures or										
	outer surface. [E	nd quote]									

# **Conclusion: SAR testing is not required.**



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## 5. History of Test Report Changes

Test Report #	Revision #	Description	Date of Issue
TR_3846-20_RF Exp SAR Exclusion Rpt	1	Initial release	November 13, 2020



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END OF TEST REPORT

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