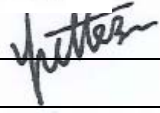


## RF Exposure Evaluation Report

<b>Report Reference No.</b> .....:	<b>MTWC21110887-H</b>	
<b>FCC ID</b> ..... :	<b>2AOT9-NBDVR322GW-B</b>	
Compiled by ( position+printed name+signature)..:	File administrators Alisa Luo	
Supervised by ( position+printed name+signature)..:	Test Engineer Sunny Deng	
Approved by ( position+printed name+signature)..:	Manager Yvette Zhou	
Date of issue.....:	<b>December 24, 2021</b>	
<b>Representative Laboratory Name .:</b>	<b>Shenzhen Most Technology Service Co., Ltd.</b>	
Address .....	No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.	
<b>Applicant's name</b> .....:	<b>Portable Multimedia Limited</b>	
Address .....	Unit 2, Caerphilly Business Park, Caerphilly Mid Glamorgan. CF83 3ED. United Kingdom	
<b>Test specification/ Standard</b> .....	<b>47 CFR Part 1.1307</b> <b>47 CFR Part 1.1310</b> <b>KDB447498D01 General RF Exposure Guidance v06</b>	
TRF Originator.....:	Shenzhen Most Technology Service Co., Ltd.	
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This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen Most Technology Service Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen Most Technology Service Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.		
<b>Test item description</b> .....	Dash Cam	
Trade Mark .....	Nextbase and Voyager	
Manufacturer .....	<b>Shenzhen Samoon Technology Co., Ltd.</b>	
Model/Type reference.....:	NBDVR322GW	
Listed Models .....	FE-NBDVR322GW,NBDVR322GW-WHT,FE-NBDVR322GW-WHT,VYDVR322GW,FE-VYDVR322GW,NBDVR322GWL, FE-NBDVR322GWL	
Modulation Type .....	GFSK, $\pi/4$ DQPSK, 8DPSK CCK/DSSS/ OFDM	
Operation Frequency.....:	From 2402MHz to 2480MHz for BT From 2412 - 2462MHz for Wifi	
Hardware Version.....	A7	
Software Version .....	R21.5	
Rating .....	DC 3.7V by Battery DC 5V(by USB) DC5V(by Carcharger)	
Result.....:	<b>PASS</b>	

**TEST REPORT**

Equipment under Test : Dash Cam

Model /Type : NBDVR322GW

Listed Models : FE-NBDVR322GW,NBDVR322GW-WHT,FE-NBDVR322GW-WHT,VYDVR322GW,FE-VYDVR322GW,NBDVR322GWL, FE-NBDVR322GWL

Remark : Only different in model name .

Applicant : **Portable Multimedia Ltd.**

Address : Unit 2, Caerphilly Business Park, Caerphilly Mid Glamorgan. CF83 3ED. United Kingdom

Manufacturer : **Shenzhen Samoon Technology Co., Ltd.**

Address : Floor 5-6&9, Building 7, Zhongyuntai Ind. Park, Yingrenshi Road Crossing,Shiyan Town, Bao'an District, Shenzhen, Guangdong,China. Post code: 518108.

<b>Test Result:</b>	<b>PASS</b>
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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

## 1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2021.12.24	Initial Issue	Alisa Luo

## 2. SAR Evaluation

### 2.1 RF Exposure Compliance Requirement

#### 2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

#### 4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

#### 2.1.2 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3–3.0 .....	614	1.63	*(100)	6
3.0–30 .....	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300 .....	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34 .....	614	1.63	*(100)	30
1.34–30 .....	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30–300 .....	27.5	0.073	0.2	30
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * R^2)$  Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

R = distance between observation point and center of the radiator in cm

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

### 2.1.3 EUT RF Exposure

Antenna Gain: 1.5dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.4 in linear scale. Output Power Into Antenna & RF Exposure Evaluation Distance:

BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	2.45	$2.45 \pm 1$	3.45
Middle(2441MHz)	4.56	$4.56 \pm 1$	5.56
Highest(2480MHz)	6.12	$6.12 \pm 1$	7.12

$\pi/4$ DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	1.55	$1.55 \pm 1$	2.55
Middle(2441MHz)	3.20	$3.20 \pm 1$	4.20
Highest(2480MHz)	5.22	$5.22 \pm 1$	6.22

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	1.80	$1.80 \pm 1$	2.80
Middle(2441MHz)	3.55	$3.55 \pm 1$	4.55
Highest(2480MHz)	5.42	$5.42 \pm 1$	6.42

## BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	2.03	$2.03 \pm 1$	3.03
Middle(2440MHz)	4.22	$4.22 \pm 1$	5.22
Highest(2480MHz)	5.66	$5.66 \pm 1$	6.66

## WIFI2.4G

802.11b			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	13.24	$13.24 \pm 1$	14.24
Middle(2437MHz)	13.44	$13.44 \pm 1$	14.44
Highest(2462MHz)	13.42	$13.42 \pm 1$	14.42

802.11g			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	8.84	$8.84 \pm 1$	9.84
Middle(2437MHz)	10.21	$10.21 \pm 1$	11.21
Highest(2462MHz)	9.25	$9.25 \pm 1$	10.25

802.11n			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	8.84	$8.84 \pm 1$	9.84
Middle(2437MHz)	9.55	$9.55 \pm 1$	10.55
Highest(2462MHz)	9.54	$9.54 \pm 1$	10.54

BLE

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum Peak Conducted Output Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit	Result
Highest(2480MHz)	6.66	4.63	1.5	0.001	1.0	Pass

Note: 1) Refer to report **MTWC21120930-R1** for EUT test Max Conducted average Output Power value.  
 Note: 2)  $P_d = (P_{out} * G) / (4 * \pi * R^2) = (4.63 * 1.41) / (4 * 3.1416 * 20^2) = 0.001$

BT classic

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum Peak Conducted Output Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit	Result
Highest(2480MHz)	7.12	5.15	1.5	0.001	1.0	Pass

Note: 1) Refer to report **MTWC21120930-R2** for EUT test Max Conducted average Output Power value.  
 Note: 2)  $P_d = (P_{out} * G) / (4 * \pi * R^2) = (5.15 * 1.41) / (4 * 3.1416 * 20^2) = 0.001$

WIFI2.4G

Worst case: 802.11b						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum Peak Conducted Output Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit	Result
Highest(2440MHz)	14.44	27.797	1.5	0.008	1.0	Pass

Note: 1) Refer to report **MTWC21120930-R3** for EUT test Max Conducted average Output Power value.  
 Note: 2)  $P_d = (P_{out} * G) / (4 * \pi * R^2) = (27.797 * 1.41) / (4 * 3.1416 * 20^2) = 0.008$

.....THE END OF REPORT.....