Shenzhen Most Technology Service Co., Ltd.
No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.

RF Exposure Evaluation Report

Report Reference No......:	**MTWC21110900-H**
FCC ID..... **:**	2AOT9-NBDVR522GW-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.....:	**December 28, 2021**
Representative Laboratory Name .:	**Shenzhen Most Technology Service Co., Ltd.**
Address.....:	No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.
Applicant's name.....:	**Portable Multimedia Limited**
Address .....:	Unit 2, Caerphilly Business Park, Caerphilly, Mid Glamorgan CF83 3ED，United Kingdom
Test specification/ Standard .....**:**	**47 CFR Part 1.1307** **47 CFR Part 1.1310** **KDB447498D01 General RF Exposure Guidance v06**
TRF Originator.....:	Shenzhen Most Technology Service Co., Ltd.

Test item description .....:	Dash Cam
Trade Mark .....:	Nextbase and Voyager
Manufacturer .....:	**Shenzhen Samoon Technology Co., Ltd.**
Model/Type reference.....:	NBDVR522GW
Listed Models .....:	FE-NBDVR522GW, NBDVR522GW-WHT, FE-NBDVR522GW-WHT, VYDVR522GW, FE-VYDVR522GW, NBDVR523GW, FE-NBDVR523GW, NBDVR524GW, FE-NBDVR524GW, NBDVR522GWL, FE-NBDVR522GWL
Modulation Type .....:	GFSK, π/4DQPSK, 8DPSK CCK/DSSS/ OFDM
Operation Frequency.....:	From 2402MHz to 2480MHz for BT From 2412 - 2462MHz for Wifi
Hardware Version.....	A8
Software Version	R21.5
Rating .....:	DC 3.7V by Battery DC 5V(by USB) DC5V(by Carcharger)
Result.....:	**PASS**

T E S T R E P O R T

Equipment under Test	:	Dash Cam
Model /Type	:	NBDVR522GW
Listed Models	:	FE-NBDVR522GW, NBDVR522GW-WHT, FE-NBDVR522GW-WHT, VYDVR522GW, FE-VYDVR522GW, NBDVR523GW, FE-NBDVR523GW, NBDVR524GW, FE-NBDVR524GW, NBDVR522GWL, FE-NBDVR522GWL
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.

Test Result:	**PASS**

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	2021.12.28	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^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
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
300–1500			f/300	6
1500–100,000			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
300–1500			f/1500	30
1500–100,000			1.0	30

F= Frequency in MHz
Friis Formula
Friis transmission formula: Pd = (Pout*G)/(4* Pi * R 2) Where
Pd = power density in mW/cm2
Pout = 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
Pd id the limit of MPE, 1 mW/cm2 . 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)	2.48	2.48±1	3.48
Middle(2441MHz)	4.62	4.62±1	5.62
Highest(2480MHz)	6.23	6.23±1	7.23

π/4DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2402MHz)	1.61	1.61±1	2.61
Middle(2441MHz)	3.19	3.19±1	4.19
Highest(2480MHz)	5.22	5.22±1	6.22

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2402MHz)	1.85	1.85±1	2.85
Middle(2441MHz)	3.42	3.42±1	4.42
Highest(2480MHz)	5.48	5.48±1	6.48

BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2402MHz)	2.13	2.13±1	3.13
Middle(2440MHz)	4.08	4.08±1	5.08
Highest(2480MHz)	5.56	5.56±1	6.56

WIFI2.4G

802.11b			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2412MHz)	13.42	13.42±1	14.42
Middle(2437MHz)	13.41	13.41±1	14.41
Highest(2462MHz)	13.33	13.33±1	14.33

802.11g			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2412MHz)	8.76	8.76±1	9.76
Middle(2437MHz)	10.18	10.18±1	11.18
Highest(2462MHz)	9.24	9.24±1	10.24

802.11n			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2412MHz)	8.85	8.85±1	9.85
Middle(2437MHz)	9.56	9.56±1	10.56
Highest(2462MHz)	9.55	9.55±1	10.55

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/cm2)	Limit	Result
Highest(2480MHz)	7.23	5.28	1.5	0.0016	1.0	Pass

Note: 1) Refer to report **MTWC21120900-R2** for EUT test Max Conducted average Output Power value.
Note: 2) Pd = (Pout*G)/(4* Pi * R2)=(5.28*1.4)/(4*3.1416*20^2)=0.0016

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/cm2)	Limit	Result
Highest(2480MHz)	6.56	4.53	1.5	0.0013	1.0	Pass

Note: 1) Refer to report **MTWC21120900-R1** for EUT test Max Conducted average Output Power value.
Note: 2) Pd = (Pout*G)/(4* Pi * R2)=(4.53*1.4)/(4*3.1416*20^2)=0.0013

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/cm2)	Limit	Result
Highest(2412MHz)	14.42	27.67	1.5	0.0077	1.0	Pass

Note: 1) Refer to report **MTWC21120900-R3** for EUT test Max Conducted average Output Power value.
Note: 2) Pd = (Pout*G)/(4* Pi * R2)=(27.67*1.4)/(4*3.1416*20^2)=0.0077

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