RF Exposure Evaluation Report

Product Name : KENWOOD Motorsports CAM

Model No. : STZ-RF200WD

FCC ID : IOMZ1059

Applicant : JVCKENWOOD Corporation

Address : 3-12 Moriya-cho, Kanagawa-ku, Yokohama.Kanagawa 221-0022, Japan

Date of Receipt	:	Feb. 20, 2021
Date of Declaration	:	Apr. 07, 2021
Report No.	:	2120401R-E3082100013
Report Version	:	V1.0

Testing Laboratory
3023

The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
This report must not be used to claim product endorsement by TAF or any agency of the government.
The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Issued Date: Apr. 07, 2021
Report No.: 2120401R-E3082100013

Product Name	KENWOOD Motorsports CAM	
Applicant	JVCKENWOOD Corporation	
Address	3-12 Moriya-cho, Kanagawa-ku, Yokohama.Kanagawa 221-0022, Japan	
Manufacturer	Altek Corporation	
Model No.	STZ-RF200WD	
FCC ID.	IOMZ1059	
Trade Name	JVCKENWOOD	
Applicable Standard	KDB 447498 D01 v06	☒ Minimum test separation distance ≥ 20 cm ☐ For low power devices
Test Result	Complied	

Documented By : Genie Chang
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Tested By : wen Lee
(Senior Engineer / Wen Lee)

Approved By :
(Director / Vincent Lin)

Revision History

Report No.	Version	Description	Issued Date
2120401R-E3082100013	V1.0	Initial issue of report.	2021-04-07

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	KENWOOD Motorsports CAM
Trade Name	JVCKENWOOD
Model No.	STZ-RF200WD
FCC ID.	IOMZ1059
Frequency Range	2412-2462MHz for 802.11b/g/n-20MHz, 2422-2452MHz for 802.11n-40MHz 802.11a/n-20MHz: 5745-5825MHz 802.11n-40MHz: 5755-5795MHz 802.11ac-80MHz: 5775MHz
Channel Number	802.11b/g/n-20MHz: 11, 802.11n-40MHz: 7 802.11a/n-20MHz: 5, 802.11n-40MHz: 2 802.11ac-80MHz: 1
Type of Modulation	DSSS/OFDM/BPSK/QPSK/16QAM/64QAM/256QAM
Antenna Type	Ceramic Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	PulseLARSEN	W3006	Dipole Antenna	2.2dBi for 2.4 GHz 4.5dBi for 5.725~5.85GHz

2. RF Exposure Evaluation

2.1. Standard Applicable

According to KDB 447498 D01 (7.1), A minimum test separation distance ≥ 20 cm is required between the antenna and radiating structures of the device and nearby persons to apply mobile device exposure limits.

2.2. Limits

According to FCC 1.1310: 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 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm^2

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

2.3. Test Result of RF Exposure Evaluation

Product : KENWOOD Motorsports CAM
Test Item : RF Exposure Evaluation

WLAN 2.4G Peak Gain: 2.2dBi

Channel	Frequency	Conducted Peak Power (dBm)	Worst case Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mWc/m^2)	Pass/Fail
06	2437	21.48	76.17	184.593	0.0609	1	Pass

Note: The conducted output power is refer to report No.: 2120401R-E3032110113 from the DEKRA.

WLAN 5G Peak Gain: 4.5dBi

Channel	Frequency	Conducted Peak Power (dBm)	Worst case Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mWc/m^2)	Pass/Fail
155	5775	11.96	55.20	28.449	0.0160	1	Pass

Note: The conducted output power is refer to report No.: 2120401R-E3032110123 from the DEKRA.