



TEST REPORT

REGULATION :

FCC Part 1.1310 , RSS-102 Issue5 2015
(General Population/Uncontrolled Exposure)

Applicant	Testing Laboratory
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Equipment type	UHF DIGITAL TRANSCEIVER
Trademark	KENWOOD
FCC Model(s)	TK-D840-M2, TK-D840H-K2, TK-D840HU-K2
IC Model(s)	TK-D840H-K2
Serial No.	ES2-5
FCC ID	K44475700
IC CN and UPN	282F-475700
Test Result	Complied
Report Number	15080011JKA-001
Report issue date	September 14, 2015

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Approved by

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Tested by

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[Engineer]

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SECTION 1. INFORMATION**APPLICANT**

Company	JVC KENWOOD Corporation
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Contact Person	Tamaki Shimamura

MANUFACTURER

Company	JVC KENWOOD Corporation
Address	1-16-2, Hakusan, Midori-ku, Yokohama-shi Kanagawa, 226-8525 Japan

EQUIPMENT UNDER TEST

FCC Model(s)	TK-D840-M2, TK-D840H-K2, TK-D840HU-K2		
IC Model(s)	TK-D840H-K2		
Serial No.	ES2-5		
Frequency range	FCC: 406.1 to 470 MHz IC: 406.1 to 430 MHz and 450 to 470 MHz		
FCC ID	K44475700		
IC CN and UPN	282F-475700		
Maximum Power Rating	45	W	
Duty cycle	50	%	
Collector Current, A	15.0	amps (Maximum)	
Collector Voltage, Vdc	13.6	Vdc	
Supply Voltage, Vdc	13.6	Vdc	

TEST DATE OF ISSUE AND TEST ENGINEER

Date of Issue	August 25, 2015		
temperature	22	to	24 [degree C]
Humidity Variation	45	to	55 [%]
Atmospheric Pressure	101	to	101 [kPa]
Test Engineer	Koichi Wagatsuma		
Test Location	Kashima Immunity Test Room		
Regulations	FCC Part 1.1310 , RSS-102 Issue5 2015		
Test method/Guide	KDB 447498 D01 General RF Exposure Guidance v05r02		
Test Procedure	RJP-TE103		

Revision Summary

Revised Date	Section	Description of Changes

SECTION 2. TEST DATA

The TX antenna place was inside a semi anechoic chamber at height of 0.8 m from the Ground reference plane to simulate being mounted on a vehicle.

The isotropic probe position was a distance of 0.4 m from the TX antenna and the power density was measured from 0.1 m to 2.0 m (at 0.1 m increments) with the peak value.

The EUT is a PTT radio for mobile application with a peak output power of 45 W.

The 1/4 wave antenna (0 dBd gain) was utilized for testing.

(Model No : QWFT120 / Manufacturer : Laird Technologies)

Measurement Result

TX frequency (MHz)	Output Power W	Measurement distance (m)	Power Density (mW/cm ²)	Limit (mW/cm ²)		Result
				RSS	FCC	
406.15	45	0.4	0.155	0.159	0.271	PASS
429.95	45	0.4	0.107	0.165	0.287	PASS
438.05	45	0.4	0.100	0.167	0.292	PASS
469.95	45	0.4	0.074	0.175	0.313	PASS

Power Density = 20 measurements data (0.1m - 2.0m) has been averaged.

Limit : General Population/Uncontrolled Exposure

Measurement data

406.15 MHz

Probe Height (m)	Reading Power Density (mW/cm ²)	Probe Factor	Power Density (mW/cm ²)
0.1	0.046	1.18	0.027
0.2	0.009	1.18	0.005
0.3	0.058	1.18	0.034
0.4	0.121	1.18	0.071
0.5	0.109	1.18	0.064
0.6	0.071	1.18	0.042
0.7	0.123	1.18	0.072
0.8	0.310	1.18	0.183
0.9	0.343	1.18	0.202
1.0	0.485	1.18	0.286
1.1	0.592	1.18	0.349
1.2	0.491	1.18	0.289
1.3	0.409	1.18	0.241
1.4	0.443	1.18	0.261
1.5	0.470	1.18	0.277
1.6	0.429	1.18	0.253
1.7	0.314	1.18	0.185
1.8	0.210	1.18	0.124
1.9	0.138	1.18	0.082
2.0	0.099	1.18	0.058

Power Density = Reading Power Density x Probe Factor x Duty cycle (50%)

429.95 MHz

Probe Height (m)	Reading Power Density (mW/cm ²)	Probe Factor	Power Density (mW/cm ²)
0.1	0.029	1.22	0.018
0.2	0.016	1.22	0.010
0.3	0.048	1.22	0.029
0.4	0.063	1.22	0.038
0.5	0.050	1.22	0.030
0.6	0.063	1.22	0.038
0.7	0.128	1.22	0.078
0.8	0.226	1.22	0.138
0.9	0.303	1.22	0.185
1.0	0.377	1.22	0.230
1.1	0.394	1.22	0.240
1.2	0.303	1.22	0.185
1.3	0.256	1.22	0.156
1.4	0.299	1.22	0.182
1.5	0.306	1.22	0.186
1.6	0.243	1.22	0.148
1.7	0.171	1.22	0.104
1.8	0.116	1.22	0.071
1.9	0.079	1.22	0.048
2.0	0.053	1.22	0.032

Power Density = Reading Power Density x Probe Factor x Duty cycle (50%)

438.05 MHz

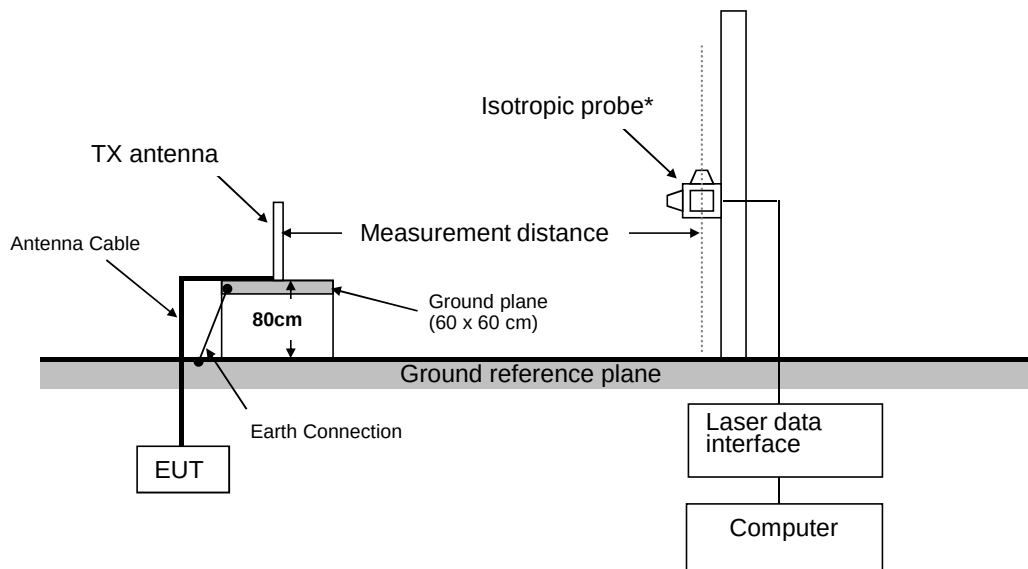
Probe Height (m)	Reading Power Density (mW/cm ²)	Probe Factor	Power Density (mW/cm ²)
0.1	0.019	1.23	0.012
0.2	0.018	1.23	0.011
0.3	0.044	1.23	0.027
0.4	0.052	1.23	0.032
0.5	0.041	1.23	0.025
0.6	0.061	1.23	0.037
0.7	0.121	1.23	0.075
0.8	0.220	1.23	0.135
0.9	0.296	1.23	0.182
1.0	0.340	1.23	0.209
1.1	0.326	1.23	0.201
1.2	0.253	1.23	0.156
1.3	0.228	1.23	0.140
1.4	0.278	1.23	0.171
1.5	0.286	1.23	0.177
1.6	0.229	1.23	0.141
1.7	0.168	1.23	0.104
1.8	0.113	1.23	0.070
1.9	0.082	1.23	0.050
2.0	0.060	1.23	0.037

Power Density = Reading Power Density x Probe Factor x Duty cycle (50%)

469.95 MHz

Probe Height (m)	Reading Power Density (mW/cm ²)	Probe Factor	Power Density (mW/cm ²)
0.1	0.011	1.29	0.007
0.2	0.021	1.29	0.014
0.3	0.026	1.29	0.017
0.4	0.026	1.29	0.017
0.5	0.033	1.29	0.021
0.6	0.053	1.29	0.034
0.7	0.085	1.29	0.055
0.8	0.190	1.29	0.122
0.9	0.225	1.29	0.145
1.0	0.207	1.29	0.134
1.1	0.193	1.29	0.124
1.2	0.167	1.29	0.108
1.3	0.179	1.29	0.115
1.4	0.223	1.29	0.144
1.5	0.218	1.29	0.141
1.6	0.168	1.29	0.108
1.7	0.116	1.29	0.075
1.8	0.078	1.29	0.051
1.9	0.053	1.29	0.034
2.0	0.035	1.29	0.023

Power Density = Reading Power Density x Probe Factor x Duty cycle (50%)

SECTION 3. TEST CONFIGURATION

* : The Isotropic probe position was Vertical orientation from the Ground reference plane from 0.1m to 2m (10cm increments) .

Setup Photos

SECTION 4. MEASUREMENT UNCERTAINTY

30 MHz – 1000 MHz	17.7 % (k=2)
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SECTION 5. LIST OF MEASURING INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Cal Date	Cal Due Date
Isotropic probe	HI-6105	00130665	ETS Lindgren	2015/2/16	2016/2/29
Laser data interface	HI 6113	00130903	ETS Lindgren	N/A	N/A
Testing software	ProbeView™ Laser	Version 2.0.8	ETS Lindgren	N/A	N/A