

Maximum Permissible Exposure

Equipment : Wireless Video Bridge
Brand Name : COMTREND Corporation
Model No. : WAP-5940
FCC ID : L9VWAP-5940
Standard : IEEE C95.1
Applicant : COMTREND Corporation
3F-1, 10 Lane 609, Chung Hsin Road, Section 5,
San Chung Dist, New Taipei City 24159, Taiwan
Manufacturer : Datamax Electronics (Dong Guan) Co., Ltd.
Niu shan Foreign Economic Industrial park, Dong
Cheng District, Dong Guan City, Guang Dong , China.

The product sample received on Oct. 26, 2016 and completely tested on Nov. 08, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in IEEE C95.1 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:


Kevin Liang / Assistant Manager





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Revision History

Report No.	Version	Description	Issued Date
FA6O2511	Rev. 01	Initial issue of report	Nov. 29, 2016
FA6O2511	Rev. 02	Update Applicant Company Address	Nov. 30, 2016



1 Human Exposure Assessment

1.1 Product Details

The difference between the report no. : N/A	
The Difference	N/A

Evaluated Test Items	N/A
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1.2 Maximum Permissible Exposure

1.2.1 Limit of Maximum Permissible Exposure

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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
Limits for General Population / Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density
 Note 2: For the applicable limit, see FCC 1.1310

1.2.2 MPE Calculation Method

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)



1.2.3 Result of Maximum Permissible Exposure (5.2G)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N _{TX})	RF Output Power (dBm)
5150-5250	a	5180-5240	36-48 [4]	4	22.93
5150-5250	n (HT20)	5180-5240	36-48 [4]	4	23.66
5150-5250	n (HT40)	5190-5230	38-46 [2]	4	23.77
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	4	23.67
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	4	23.79
5150-5250	ac (VHT80)	5210	42 [1]	4	21.46

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.

Worst Maximum RF Output Power Result					
Exposure Environment		General Population / Uncontrolled Exposure			
Separation Distance (cm)		20			
Condition		RF Output Power (dBm)			
Modulation Mode	N _{TX}	RF Output Power	DG (dBi)	EIRP Power	PD (S) (mW/cm ²)
ac (VHT40)	4	23.79	10.36	34.15	0.051729
Maximum Permissible Exposure Limit (mW/cm²)					10

Note 1: N_{TX} = Number of Transmit Chains



1.2.4 Result of Maximum Permissible Exposure (5.8G)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N _{TX})	RF Output Power (dBm) Co-location
5725-5850	a	5745-5825	149-165 [5]	4	22.72
5725-5850	n (HT20)	5745-5825	149-165 [5]	4	23.58
5725-5850	n (HT40)	5755-5795	151-159 [2]	4	24.00
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	4	23.64
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	4	24.06
5725-5850	ac (VHT80)	5775	155 [1]	4	25.31

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.

Worst Maximum RF Output Power Result					
Exposure Environment		General Population / Uncontrolled Exposure			
Separation Distance (cm)		20			
Condition		RF Output Power (dBm)			
Modulation Mode	N _{TX}	RF Output Power	DG (dBi)	EIRP Power	PD (S) (mW/cm ²)
ac (VHT80)	4	25.31	10.36	35.67	0.073406
Maximum Permissible Exposure Limit (mW/cm²)					10

Note 1: N_{TX} = Number of Transmit Chains