



# RF Exposure Evaluation Report

**Equipment** : 802.11a/b/g/n/ac Wireless Access Point  
**Brand Name** : CISCO  
**Model No.** : MR53E-HW  
**FCC ID** : UDX-60064010  
**Standard** : 47 CFR Part 2.1091  
**Applicant** : Cisco Systems, Inc.  
170 West Tasman Drive San Jose, CA 95134 USA  
**Manufacturer** : Cisco Systems, Inc.  
170 West Tasman Drive San Jose, CA 95134 USA

The product sample received on Jun. 16, 2017 and completely tested on Sep. 01, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with 47 CFR Part 2.1091 and pass the limit.

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Cliff Chang  
SPORTON INTERNATIONAL INC.





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### **PHOTOGRAPHS OF EUT V02**

## REVISION HISTORY

[illegible]

# 1 General Description

## 1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5240 5260-5320 5500-5720 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Bluetooth	2400-2483.5	2402-2480	LE: DSSS (GFSK)

Note: The EUT has four radios, Radio 1 supports WLAN 2.4GHz, Radio 2 supports WLAN 5GHz, Radio 3 supports WLAN 2.4GHz + 5GHz (scanning radio) and Radio 4 supports Bluetooth function.



## 1.2 Antenna Information

Ant.	Brand	Official Model Number	Antenna Type	Connector	Gain (dBi)
1	Cisco	MA-ANT-3-A	Dipole Antenna	I-PEX	Note
2	Cisco	MA-ANT-3-B	Dipole Antenna	I-PEX	
3	Cisco	MA-ANT-3-F	Patch Antenna	I-PEX	
4	Cisco	MA-ANT-3-E	Patch Antenna	I-PEX	
5	Cisco	MA-ANT-3-C	Omni Antenna	I-PEX	
6	Cisco	MA-ANT-3-D	Omni Antenna	I-PEX	

Note:

Radio 1 (2.4GHz)												
Set	Antenna Gain (dBi)				Cable Loss (dB)				True Gain (dBi)			
	Port 1	Port 2	Port 3	Port 4	Port 1 (175mm)	Port 2 (280mm)	Port 3 (285mm)	Port 4 (205mm)	Port 1	Port 2	Port 3	Port 4
1	5	5	5	5	0.77	0.93	0.92	0.75	4.23	4.07	4.08	4.25
2	3.7	3.7	3.7	3.7	0.77	0.93	0.92	0.75	2.93	2.77	2.78	2.95
3	11.55	11.55	11.55	11.55	0.77	0.93	0.92	0.75	10.78	10.62	10.63	10.8
4	6.7	6.7	6.7	6.7	0.77	0.93	0.92	0.75	5.93	5.77	5.78	5.95
5	5.1	5.1	5.1	5.1	0.77	0.93	0.92	0.75	4.33	4.17	4.18	4.35
6	3.16	3.16	3.16	3.16	0.77	0.93	0.92	0.75	2.39	2.23	2.24	2.41

Radio 2 (5GHz)												
Set	Antenna Gain (dBi)				Cable Loss (dB)				True Gain (dBi)			
	Port 1	Port 2	Port 3	Port 4	Port 1 (175mm)	Port 2 (280mm)	Port 3 (285mm)	Port 4 (205mm)	Port 1	Port 2	Port 3	Port 4
1	6.3	6.3	6.3	6.3	1.47	1.65	1.69	1.52	4.83	4.65	4.61	4.78
2	7.2	7.2	7.2	7.2	1.47	1.65	1.69	1.52	5.73	5.55	5.51	5.68
3	10.94	10.94	10.94	10.94	1.47	1.65	1.69	1.52	9.47	9.29	9.25	9.42
4	6.93	6.93	6.93	6.93	1.47	1.65	1.69	1.52	5.46	5.28	5.24	5.41
5	5.4	5.4	5.4	5.4	1.47	1.65	1.69	1.52	3.93	3.75	3.71	3.88
6	3.95	3.95	3.95	3.95	1.47	1.65	1.69	1.52	2.48	2.3	2.26	2.43



Radio 3 (2.4GHz + 5GHz)						
Set	Antenna Gain (dBi)		Cable Loss (dB)		True Gain (dBi)	
	Port 1		Port 1 (100mm)		Port 1	
	2.4GHz	5GHz	2.4GHz	5GHz	2.4GHz	5GHz
1	5	6.3	0.54	0.83	4.46	5.47
2	3.7	7.2	0.54	0.83	3.16	6.37
3	11.55	10.94	0.54	0.83	11.01	10.11
4	6.7	6.93	0.54	0.83	6.16	6.1
5	5.1	5.4	0.54	0.83	4.56	4.57
6	3.16	3.95	0.54	0.83	2.62	3.12

Radio 4 (Bluetooth)			
Set	Antenna Gain (dBi)	Cable Loss (dB)	True Gain (dBi)
	Port 1	Port 1 (100mm)	Port 1
1	5	0.53	4.47
2	3.7	0.53	3.17
3	11.55	0.53	11.02
4	6.7	0.53	6.17
5	5.1	0.53	4.57
6	3.16	0.53	2.63



Correlated Composite Gain(dBi) for Radio 1 and Radio 2						
Set	Frequency (MHz)	4T1S Composite Gain(dBi)	4T2S Composite Gain(dBi)	Cable Loss (dB)	4T1S True Gain (dBi)	4T2S True Gain (dBi)
1	2.4GHz	6.47	3.48	0	6.47	3.48
3	2.4GHz	12.73	9.72	0.75	11.98	8.97
	5GHz Band 1	11.74	8.80	1.47	10.27	7.33
	5GHz Band 2	11.87	8.86	1.47	10.4	7.39
	5GHz Band 3	11.19	8.18	1.47	9.72	6.71
	5GHz Band 4	12.57	9.85	1.47	11.1	8.38
	80+80	-	-	-	-	8.38
4	2.4GHz	9.37	6.47	0.75	8.62	5.72
	5GHz Band 1	10.11	7.1	1.47	8.64	5.63
	5GHz Band 2	10.8	7.81	1.47	9.33	6.34
	5GHz Band 3	11.2	8.21	1.47	9.73	6.74
	5GHz Band 4	10.17	7.23	1.47	8.7	5.76
	80+80	-	-	-	-	6.74
5	2.4GHz	7.41	4.42	0.75	6.66	3.67
	5GHz Band 1	9.55	6.54	1.47	8.08	5.07
	5GHz Band 2	9.71	6.7	1.47	8.24	5.23
	5GHz Band 3	9.67	6.68	1.47	8.2	5.21
	5GHz Band 4	8.89	6.09	1.47	7.42	4.62
	80+80	-	-	-	-	5.23
6	2.4GHz	4.07	1.33	0.75	3.32	0.58
	5GHz Band 1	5.6	2.72	1.47	4.13	1.25
	5GHz Band 2	5.5	2.57	1.47	4.03	1.1
	5GHz Band 3	5.42	2.43	1.47	3.95	0.96
	5GHz Band 4	6.8	3.87	1.47	5.33	2.4
	80+80	-	-	-	-	2.4

Directional Gain(dBi) for Radio 2		
Set	4T1S	4T2S
2	11.64	8.63

Note: The EUT has six sets of antennas, and each set contains six antennas.

The EUT has four radios, Radio 1 supports WLAN 2.4GHz, Radio 2 supports WLAN 5GHz, Radio 3 supports WLAN 2.4GHz + 5GHz (scanning radio) and Radio 4 supports Bluetooth function.

Set 1 and Set 2 antennas are the same type antennas; only the higher gain antennas Set 1 for 2.4GHz, Set 2 for 5GHz were tested.

**< Radio 1 (2.4GHz Functions) >**

**For 4TX/4RX:**

Port 1, Port 2, Port 3 and Port 4 can be use as transmitting/receive antennas.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

**< Radio 2 (5GHz Functions) >**

**For 4TX/4RX:**

Port 1, Port 2, Port 3 and Port 4 can be use as transmitting/receive antennas.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

**<For Radio 3 / 2.4GHz + 5GHz Functions>**

Only Port 1 can be use as transmitting/receiving antenna.

**<For Radio 4 / Bluetooth Functions>**

Only Port 1 can be use as transmitting/receiving antenna.

### 1.3 Testing Location

Testing Location		
<input type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085



## 2 Maximum Permissible Exposure

### 2.1 Limit of Maximum Permissible Exposure

(A) 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	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

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; \*Plane-wave equivalent power density

### 2.2 MPE Calculation Method

The MPE was calculated at 30 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = RF output power (W)

**G** = EUT Antenna numeric gain (numeric)

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

## 2.3 Calculated Result and Limit

**Exposure Environment: General Population / Uncontrolled Exposure**

**Simultaneous Transmission Analysis Mode (Dipole Antenna (Set 1 and Set 2)):**

**MPE**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )
2.4G;D1D (Radio 1)	6.47	27.06	33.53	34.03	2.52930	30	0.22375	1.00000
5.2G;D1D (Radio 2)	8.63	27.35	35.98	36.48	4.44631	30	0.39333	1.00000
5.3G;D1D (Radio 2)	8.65	21.23	29.88	30.38	1.09144	30	0.09655	1.00000
5.6G;D1D (Radio 2)	8.63	21.33	29.96	30.46	1.11173	30	0.09834	1.00000
5.8G;D1D (Radio 2)	11.64	24.32	35.95	36.45	4.41570	30	0.39063	1.00000
2.4G;D1D (Radio 3)	4.46	24.72	29.18	29.68	0.92897	30	0.08218	1.00000
5.2G;D1D (Radio 3)	6.37	22.90	29.27	29.77	0.94842	30	0.08390	1.00000
5.3G;D1D (Radio 3)	6.37	23.41	29.78	30.28	1.06660	30	0.09435	1.00000
5.6G;D1D (Radio 3)	6.37	22.22	28.59	29.09	0.81096	30	0.07174	1.00000
5.8G;D1D (Radio 3)	6.37	22.22	28.59	29.09	0.81096	30	0.07174	1.00000
2.4G;BT-LE (Radio 4)	4.47	-2.68	1.79	2.29	0.00169	30	0.00014	1.00000



Radio 1 (2.4GHz) + Radio 2 (5GHz) + Radio 3 (2.4GHz) + Radio 4 (BT4.0)

Mode	Gain (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (W/m <sup>2</sup> )	S Limit (W/m <sup>2</sup> )	Ratio (S/Limit)
2.4G;D1D (Radio 1)	6.47	27.06	33.53	34.03	2.52930	30	0.22375	1.00000	0.22375
5.2G;D1D (Radio 2)	8.63	27.35	35.98	36.48	4.44631	30	0.39333	1.00000	0.39333
2.4G;D1D (Radio 3)	4.46	24.72	29.18	29.68	0.92897	30	0.08218	1.00000	0.08218
2.4G;BT-LE (Radio 4)	4.47	-2.68	1.79	2.29	0.00169	30	0.00014	1.00000	0.00014
								Sum Ratio	0.69940
								Ratio Limit	1

Radio 1 (2.4GHz) + Radio 2 (5GHz) + Radio 3 (5GHz) + Radio 4 (BT4.0)

Mode	Gain (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (W/m <sup>2</sup> )	S Limit (W/m <sup>2</sup> )	Ratio (S/Limit)
2.4G;D1D (Radio 1)	6.47	27.06	33.53	34.03	2.52930	30	0.22375	1.00000	0.22375
5.2G;D1D (Radio 2)	8.63	27.35	35.98	36.48	4.44631	30	0.39333	1.00000	0.39333
5.3G;D1D (Radio 3)	6.37	23.41	29.78	30.28	1.06660	30	0.09435	1.00000	0.09435
2.4G;BT-LE (Radio 4)	4.47	-2.68	1.79	2.29	0.00169	30	0.00014	1.00000	0.00014
								Sum Ratio	0.71157
								Ratio Limit	1

**Simultaneous Transmission Analysis Mode (Patch Antenna (Set 3)):****MPE**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )
2.4G;D1D (Radio 1)	10.80	25.08	35.88	36.00	3.98107	30	0.35218	1.00000
5.2G;D1D (Radio 2)	10.27	25.71	35.98	36.00	3.98107	30	0.35218	1.00000
5.3G;D1D (Radio 2)	9.47	20.49	29.96	30.46	1.11173	30	0.09834	1.00000
5.6G;D1D (Radio 2)	9.47	20.51	29.98	30.48	1.11686	30	0.09880	1.00000
5.8G;D1D (Radio 2)	9.47	26.33	35.80	36.00	3.98107	30	0.35218	1.00000
2.4G;D1D (Radio 3)	11.01	24.08	35.09	35.20	3.31131	30	0.29293	1.00000
5.2G;D1D (Radio 3)	10.11	23.07	33.18	33.68	2.33346	30	0.20642	1.00000
5.3G;D1D (Radio 3)	10.11	19.70	29.81	30.31	1.07399	30	0.09500	1.00000
5.6G;D1D (Radio 3)	10.11	19.79	29.90	30.40	1.09648	30	0.09699	1.00000
5.8G;D1D (Radio 3)	10.11	22.22	32.33	32.83	1.91867	30	0.16973	1.00000
2.4G;BT-LE (Radio 4)	11.02	-2.68	8.34	8.84	0.00766	30	0.00067	1.00000



Radio 1 (2.4GHz) + Radio 2 (5GHz) + Radio 3 (2.4GHz) + Radio 4 (BT4.0)

Mode	Gain (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (W/m <sup>2</sup> )	S Limit (W/m <sup>2</sup> )	Ratio (S/Limit)
2.4G;D1D (Radio 1)	10.80	25.08	35.88	36.00	3.98107	30	0.35218	1.00000	0.35218
5.2G;D1D (Radio 2)	10.27	25.71	35.98	36.00	3.98107	30	0.35218	1.00000	0.35218
2.4G;D1D (Radio 3)	11.01	24.08	35.09	35.20	3.31131	30	0.29293	1.00000	0.29293
2.4G;BT-LE (Radio 4)	11.02	-2.68	8.34	8.84	0.00766	30	0.00067	1.00000	0.00067
								Sum Ratio	0.99796
								Ratio Limit	1

Radio 1 (2.4GHz) + Radio 2 (5GHz) + Radio 3 (5GHz) + Radio 4 (BT4.0)

Mode	Gain (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (W/m <sup>2</sup> )	S Limit (W/m <sup>2</sup> )	Ratio (S/Limit)
2.4G;D1D (Radio 1)	10.80	25.08	35.88	36.00	3.98107	30	0.35218	1.00000	0.35218
5.2G;D1D (Radio 2)	10.27	25.71	35.98	36.00	3.98107	30	0.35218	1.00000	0.35218
5.2G;D1D (Radio 3)	10.11	23.07	33.18	33.68	2.33346	30	0.20642	1.00000	0.20642
2.4G;BT-LE (Radio 4)	11.02	-2.68	8.34	8.84	0.00766	30	0.00067	1.00000	0.00067
								Sum Ratio	0.91145
								Ratio Limit	1

**Simultaneous Transmission Analysis Mode Patch Antenna (Set 4):****MPE**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )
2.4G;D1D (Radio 1)	8.62	27.06	35.68	36.00	3.98107	30	0.35218	1.00000
5.2G;D1D (Radio 2)	8.64	26.86	35.50	36.00	3.98107	30	0.35218	1.00000
5.3G;D1D (Radio 2)	9.33	20.62	29.95	30.45	1.10917	30	0.09812	1.00000
5.6G;D1D (Radio 2)	6.74	23.22	29.96	30.46	1.11173	30	0.09834	1.00000
5.8G;D1D (Radio 2)	8.70	27.28	35.98	36.00	3.98107	30	0.35218	1.00000
2.4G;D1D (Radio 3)	6.16	24.72	30.88	31.38	1.37404	30	0.12155	1.00000
5.2G;D1D (Radio 3)	6.10	22.90	29.00	29.50	0.89125	30	0.07884	1.00000
5.3G;D1D (Radio 3)	6.10	23.41	29.51	30.01	1.00231	30	0.08866	1.00000
5.6G;D1D (Radio 3)	6.10	22.22	28.32	28.82	0.76208	30	0.06741	1.00000
5.8G;D1D (Radio 3)	6.10	22.22	28.32	28.82	0.76208	30	0.06741	1.00000
2.4G;BT-LE (Radio 4)	6.17	-2.68	3.49	3.99	0.00251	30	0.00022	1.00000



Radio 1 (2.4GHz) + Radio 2 (5GHz) + Radio 3 (2.4GHz) + Radio 4 (BT4.0)

Mode	Gain (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (W/m <sup>2</sup> )	S Limit (W/m <sup>2</sup> )	Ratio (S/Limit)
2.4G;D1D (Radio 1)	8.62	27.06	35.68	36.00	3.98107	30	0.35218	1.00000	0.35218
5.8G;D1D (Radio 2)	8.70	27.28	35.98	36.00	3.98107	30	0.35218	1.00000	0.35218
2.4G;D1D (Radio 3)	6.16	24.72	30.88	31.38	1.37404	30	0.12155	1.00000	0.12155
2.4G;BT-LE (Radio 4)	6.17	-2.68	3.49	3.99	0.00251	30	0.00022	1.00000	0.00022
								Sum Ratio	0.82613
								Ratio Limit	1

Radio 1 (2.4GHz) + Radio 2 (5GHz) + Radio 3 (5GHz) + Radio 4 (BT4.0)

Mode	Gain (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (W/m <sup>2</sup> )	S Limit (W/m <sup>2</sup> )	Ratio (S/Limit)
2.4G;D1D (Radio 1)	8.62	27.06	35.68	36.00	3.98107	30	0.35218	1.00000	0.35218
5.8G;D1D (Radio 2)	8.70	27.28	35.98	36.00	3.98107	30	0.35218	1.00000	0.35218
5.3G;D1D (Radio 3)	6.10	23.41	29.51	30.01	1.00231	30	0.08866	1.00000	0.08866
2.4G;BT-LE (Radio 4)	6.17	-2.68	3.49	3.99	0.00251	30	0.00022	1.00000	0.00022
								Sum Ratio	0.79324
								Ratio Limit	1

**Simultaneous Transmission Analysis Mode (Omni Antenna (Set 5)):****MPE**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )
2.4G;D1D (Radio 1)	6.66	28.62	35.28	35.78	3.78443	30	0.33478	1.00000
5.2G;D1D (Radio 2)	8.08	27.62	35.70	36.00	3.98107	30	0.35218	1.00000
5.3G;D1D (Radio 2)	8.24	21.73	29.97	30.47	1.11429	30	0.09857	1.00000
5.6G;D1D (Radio 2)	8.20	21.72	29.92	30.42	1.10154	30	0.09744	1.00000
5.8G;D1D (Radio 2)	7.42	28.16	35.58	36.00	3.98107	30	0.35218	1.00000
2.4G;D1D (Radio 3)	4.56	25.65	30.21	30.71	1.17761	30	0.10417	1.00000
5.2G;D1D (Radio 3)	4.57	22.91	27.48	27.98	0.62806	30	0.05556	1.00000
5.3G;D1D (Radio 3)	4.57	23.72	28.29	28.79	0.75683	30	0.06695	1.00000
5.6G;D1D (Radio 3)	4.57	22.93	27.50	28.00	0.63096	30	0.05581	1.00000
5.8G;D1D (Radio 3)	4.57	22.80	27.37	27.87	0.61235	30	0.05417	1.00000
2.4G;BT-LE (Radio 4)	4.57	-2.68	1.89	2.39	0.00173	30	0.00015	1.00000





Radio 1 (2.4GHz) + Radio 2 (5GHz) + Radio 3 (2.4GHz) + Radio 4 (BT4.0)

Mode	Gain (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (W/m <sup>2</sup> )	S Limit (W/m <sup>2</sup> )	Ratio (S/Limit)
2.4G;D1D (Radio 1)	6.66	28.62	35.28	35.78	3.78443	30	0.33478	1.00000	0.33478
5.2G;D1D (Radio 2)	8.08	27.62	35.70	36.00	3.98107	30	0.35218	1.00000	0.35218
2.4G;D1D (Radio 3)	4.56	25.65	30.21	30.71	1.17761	30	0.10417	1.00000	0.10417
2.4G;BT-LE (Radio 4)	4.57	-2.68	1.89	2.39	0.00173	30	0.00015	1.00000	0.00015
								Sum Ratio	0.79128
								Ratio Limit	1

Radio 1 (2.4GHz) + Radio 2 (5GHz) + Radio 3 (5GHz) + Radio 4 (BT4.0)

Mode	Gain (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (W/m <sup>2</sup> )	S Limit (W/m <sup>2</sup> )	Ratio (S/Limit)
2.4G;D1D (Radio 1)	6.66	28.62	35.28	35.78	3.78443	30	0.33478	1.00000	0.33478
5.2G;D1D (Radio 2)	8.08	27.62	35.70	36.00	3.98107	30	0.35218	1.00000	0.35218
5.3G;D1D (Radio 3)	4.57	23.72	28.29	28.79	0.75683	30	0.06695	1.00000	0.06695
2.4G;BT-LE (Radio 4)	4.57	-2.68	1.89	2.39	0.00173	30	0.00015	1.00000	0.00015
								Sum Ratio	0.75406
								Ratio Limit	1

**Simultaneous Transmission Analysis Mode (Omni Antenna (Set 6)):****MPE**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )
2.4G;D1D (Radio 1)	3.32	29.43	32.75	33.25	2.11349	30	0.18696	1.00000
5.2G;D1D (Radio 2)	4.13	29.77	33.90	34.40	2.75423	30	0.24365	1.00000
5.3G;D1D (Radio 2)	4.03	23.84	27.87	28.37	0.68707	30	0.06078	1.00000
5.6G;D1D (Radio 2)	3.95	23.97	27.92	28.42	0.69502	30	0.06148	1.00000
5.8G;D1D (Radio 2)	5.33	29.97	35.30	35.80	3.80189	30	0.33633	1.00000
2.4G;D1D (Radio 3)	2.62	24.57	27.19	27.69	0.58749	30	0.05197	1.00000
5.2G;D1D (Radio 3)	3.12	22.91	26.03	26.53	0.44978	30	0.03978	1.00000
5.3G;D1D (Radio 3)	3.12	23.72	26.84	27.34	0.54200	30	0.04794	1.00000
5.6G;D1D (Radio 3)	3.12	22.93	26.05	26.55	0.45186	30	0.03997	1.00000
5.8G;D1D (Radio 3)	3.12	22.80	25.92	26.42	0.43853	30	0.03879	1.00000
2.4G;BT-LE (Radio 4)	2.63	-2.68	-0.05	0.45	0.00111	30	0.00009	1.00000



## RF Exposure Evaluation Report

Report No. : FA760624

Radio 1 (2.4GHz) + Radio 2 (5GHz) + Radio 3 (2.4GHz) + Radio 4 (BT4.0)

Mode	Gain (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (W/m <sup>2</sup> )	S Limit (W/m <sup>2</sup> )	Ratio (S/Limit)
2.4G;D1D (Radio 1)	3.32	29.43	32.75	33.25	2.11349	30	0.18696	1.00000	0.18696
5.8G;D1D (Radio 2)	5.33	29.97	35.30	35.80	3.80189	30	0.33633	1.00000	0.33633
2.4G;D1D (Radio 3)	2.62	24.57	27.19	27.69	0.58749	30	0.05197	1.00000	0.05197
2.4G;BT-LE (Radio 4)	2.63	-2.68	-0.05	0.45	0.00111	30	0.00009	1.00000	0.00009
								Sum Ratio	0.57535
								Ratio Limit	1

Radio 1 (2.4GHz) + Radio 2 (5GHz) + Radio 3 (5GHz) + Radio 4 (BT4.0)

Mode	Gain (dBi)	Power (dBm)	EIRP (dBm)	Tune-up Power (dBm)	EIRP (W)	Distance (cm)	S (W/m <sup>2</sup> )	S Limit (W/m <sup>2</sup> )	Ratio (S/Limit)
2.4G;D1D (Radio 1)	3.32	29.43	32.75	33.25	2.11349	30	0.18696	1.00000	0.18696
5.8G;D1D (Radio 2)	5.33	29.97	35.30	35.80	3.80189	30	0.33633	1.00000	0.33633
5.6G;D1D (Radio 3)	3.12	23.72	26.84	27.34	0.54200	30	0.04794	1.00000	0.04794
2.4G;BT-LE (Radio 4)	2.63	-2.68	-0.05	0.45	0.00111	30	0.00009	1.00000	0.00009
								Sum Ratio	0.57132
								Ratio Limit	1