



FCC RF EXPOSURE EVALUATION REPORT

Product Name: Ultra HD Multimedia Conferencing System
Trade Mark: GRANDSTREAM
Model No.: GVC3220
Report Number: 200512001RFC-6
Test Standards: FCC 47 CFR Part 1 Subpart I
FCC ID: YZZGVC3220
Test Result: PASS
Date of Issue: September 27, 2020

Prepared for:

Grandstream Networks, Inc.
126 Brookline Ave., 3rd Floor Boston, MA 02215, USA

Prepared by:

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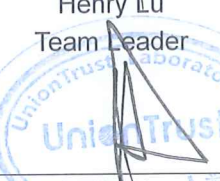
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UTTR-RF-FCCPART1-V1.0

Version

Version No.	Date	Description
V1.0	September 27, 2020	Original



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1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	Grandstream Networks, Inc.
Address of Applicant:	126 Brookline Ave., 3rd Floor Boston, MA 02215, USA
Manufacturer:	Grandstream Networks, Inc.
Address of Manufacturer:	126 Brookline Ave., 3rd Floor Boston, MA 02215, USA

1.2 EUT INFORMATION

Product Name:	Ultra HD Multimedia Conferencing System		
Model No.:	GVC3220		
Trade Mark:	GRANDSTREAM		
DUT Stage:	Production Unit		
EUT Supports Function:	2.4 GHz ISM Band:	IEEE 802.11b/g/n	
		Bluetooth 5.0	
		2.4G Radio	
	5 GHz U-NII Bands:	5 150 MHz to 5 250 MHz	IEEE 802.11a/n/ac
		5 250 MHz to 5 350 MHz	IEEE 802.11a/n/ac
		5 470 MHz to 5 725 MHz	IEEE 802.11a/n/ac
		5 725 MHz to 5 850 MHz	IEEE 802.11a/n/ac
Sample Received Date:	May 12, 2020		
Sample Tested Date:	May 12, 2020 to September 23, 2020		

1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

For BT_LE		
Frequency Band:	2400 MHz to 2483.5 MHz	
Frequency Range:	2402 MHz to 2480 MHz	
Bluetooth Version:	Bluetooth LE/2LE	
Type of Modulation:	GFSK	
Number of Channels:	40	
Channel Separation:	2 MHz	
Antenna Type:	Dipole Antenna	
Antenna Gain:	LE	3.0 dBi
	2LE	3.0 dBi
Maximum Peak Power:	4.53 dBm	

For BT_EDR			
Frequency Band:	2400 MHz to 2483.5 MHz		
Frequency Range:	2402 MHz to 2480 MHz		
Bluetooth Version:	Bluetooth BR + EDR		
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)		
Type of Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK		
Number of Channels:	79		
Channel Separation:	1 MHz		
Antenna Type:	Dipole Antenna		
Antenna Gain:	3.0 dBi		

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Maximum Peak Power:	8.313 dBm
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For 2.4G Radio	
Frequency Band:	2400 MHz to 2483.5 MHz
Frequency Range:	2402 MHz to 2480 MHz
Type of Modulation:	GFSK
Number of Channels:	40
Channel Separation:	2 MHz
Antenna Type:	Dipole Antenna
Antenna Gain:	2.0 dBi
Maximum Peak Power:	5.49 dBm

For 2.4 GHz ISM Band of Wi-Fi		
Frequency Band:	2400 MHz to 2483.5 MHz	
Frequency Range:	2412 MHz to 2462 MHz	
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20	
Type of Modulation:	IEEE 802.11b: DSSS(CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM(64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11n-HT20: OFDM(64-QAM, 16-QAM, QPSK, BPSK)	
Data Rate:	IEEE 802.11b: Up to 11 Mbps IEEE 802.11g: Up to 54 Mbps IEEE 802.11n-HT20: Up to MCS15	
Number of Channels:	IEEE 802.11b: 11 IEEE 802.11g: 11 IEEE 802.11n-HT20: 11	
Channel Separation:	5 MHz	
Antenna Type:	Dipole Antenna	
Antenna Gain:	Chain 0	3.0 dBi
	Chain 1	2.5 dBi
Directional gain:	5.76 dBi	
Maximum Peak Power:	IEEE 802.11b: 24.49 dBm IEEE 802.11g: 26.71 dBm IEEE 802.11n-HT20: 23.48 dBm	

For 5 GHz U-NII Bands of Wi-Fi	
Frequency Bands:	5150 MHz to 5250 MHz (U-NII-1)
	5250 MHz to 5350 MHz (U-NII-2A)
	5470 MHz to 5725 MHz (U-NII-2C)
	5 725 MHz to 5 850 MHz (U-NII-3)
Frequency Ranges:	5180 MHz to 5240 MHz
	5260 MHz to 5320 MHz
	5500 MHz to 5700 MHz
	5 745 MHz to 5 825 MHz
Support Standards:	IEEE 802.11a/n/ac
TPC Function:	Not Support
DFS Operational mode:	Slave without radar Interference detection function
Type of Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK)
	IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK)
	IEEE 802.11ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)

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Channel Spacing:	IEEE 802.11a/n-HT20/ac-VHT20: 20 MHz				
	IEEE 802.11n-HT40/ac-VHT40: 40 MHz				
	IEEE 802.11ac-VHT80: 80 MHz				
Data Rate:	IEEE 802.11a: Up to 54 Mbps				
	IEEE 802.11n-HT20: Up to MCS15				
	IEEE 802.11n-HT40: Up to MCS15				
	IEEE 802.11ac-VHT20: Up to MCS8				
	IEEE 802.11ac-VHT40: Up to MCS9				
	IEEE 802.11ac-VHT80: Up to MCS9				
Number of Channels:	5150 MHz to 5250 MHz: 4 for IEEE 802.11a/n-HT20/ac-VHT20 2 for IEEE 802.11n-HT40/ac-VHT40 1 for IEEE 802.11acVHT80				
	5250 MHz to 5350 MHz: 4 for IEEE 802.11a/n-HT20/ac-VHT20 2 for IEEE 802.11n-HT40/ac-VHT40 1 for IEEE 802.11acVHT80				
	5470 MHz to 5725 MHz: 11 for IEEE 802.11a/n-HT20/ac-VHT20 5 for IEEE 802.11n-HT40/ac-VHT40 2 for IEEE 802.11ac-VHT80				
	5725 MHz to 5850 MHz: 5 for IEEE 802.11a/n-HT20/ac-VHT20 2 for IEEE 802.11n-HT40/ac-VHT40 1 for IEEE 802.11ac-VHT80				
Antenna Type:	Chain 0	Dipole Antenna			
	Chain 1	Dipole Antenna			
Antenna Gain:	Chain 0	5150 MHz to 5250 MHz: 5.0 dBi			
		5250 MHz to 5350 MHz: 5.0 dBi			
		5470 MHz to 5725 MHz: 5.0 dBi			
		5725 MHz to 5850 MHz: 5.0 dBi			
	Chain 1	5150 MHz to 5250 MHz: 5.0 dBi			
		5250 MHz to 5350 MHz: 5.0 dBi			
		5470 MHz to 5725 MHz: 5.0 dBi			
		5725 MHz to 5850 MHz: 5.0 dBi			
Maximum Power (dBm):	MIMO_Chain 0+1	U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
	IEEE 802.11a:	19.23	19.36	13.18	18.17
	IEEE 802.11n-HT20:	13.29	14.79	10.95	16.76
	IEEE 802.11n-HT40:	9.80	10.34	7.42	17.30
	IEEE 802.11ac-VHT20:	14.96	16.88	13.13	18.05
	IEEE 802.11ac-VHT40:	9.87	10.42	7.54	17.34
	IEEE 802.11ac-VHT80:	9.28	9.50	14.73	17.52

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1.4 OTHER INFORMATION

Test channels for BT_LE				
Type of Modulation	Tx/Rx Frequency	Test RF Channel Lists		
GFSK	2402 MHz to 2480 MHz	Lowest(L)	Middle(M)	Highest(H)
		Channel 0	Channel 19	Channel 39
		2402 MHz	2440 MHz	2480 MHz

Test channels for BT_2LE				
Type of Modulation	Tx/Rx Frequency	Test RF Channel Lists		
GFSK	2402 MHz to 2480 MHz	Lowest(L)	Middle(M)	Highest(H)
		Channel 0	Channel 19	Channel 39
		2402 MHz	2440 MHz	2480 MHz

Test channels for BT_EDR				
Mode	Tx/Rx Frequency	Test RF Channel Lists		
GFSK (DH1, DH3, DH5)	2402 MHz to 2480 MHz	Lowest(L)	Middle(M)	Highest(H)
		Channel 0	Channel 39	Channel 78
π /4DQPSK (DH1, DH3, DH5)	2402 MHz to 2480 MHz	Channel 0	Channel 39	Channel 78
		2402 MHz	2441 MHz	2480 MHz
8DPSK (DH1, DH3, DH5)	2402 MHz to 2480 MHz	Channel 0	Channel 39	Channel 78
		2402 MHz	2441 MHz	2480 MHz

Test channels for 2.4G Radio				
Type of Modulation	Tx/Rx Frequency	Test RF Channel Lists		
GFSK	2402 MHz to 2480 MHz	Lowest(L)	Middle(M)	Highest(H)
		Channel 0	Channel 19	Channel 39
		2402 MHz	2440 MHz	2480 MHz

Test channels for 2.4 GHz ISM Band of Wi-Fi				
Mode	Tx/Rx Frequency	Test RF Channel Lists		
IEEE 802.11b	2412 MHz to 2462 MHz	Lowest(L)	Middle(M)	Highest(H)
		Channel 1	Channel 6	Channel 11
IEEE 802.11g	2412 MHz to 2462 MHz	Channel 1	Channel 6	Channel 11
		2412 MHz	2437 MHz	2462 MHz
IEEE 802.11n-HT20	2412 MHz to 2462 MHz	Channel 1	Channel 6	Channel 11
		2412 MHz	2437 MHz	2462 MHz

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Test channels for 5 GHz U-NII Bands of Wi-Fi				
Mode	Tx/Rx Frequency	Test RF Channel Lists		
		Lowest(L)	Middle(M)	Highest(H)
IEEE 802.11a IEEE 802.11n-HT20 IEEE 802.11ac-VHT20	5150 MHz to 5250 MHz	Channel 36	Channel 44	Channel 48
		5180 MHz	5220 MHz	5240 MHz
	5250 MHz to 5350 MHz	Channel 52	Channel 60	Channel 64
		5260 MHz	5300 MHz	5320 MHz
	5470 MHz to 5725 MHz	Channel 100	Channel 116	Channel 140
		5500 MHz	5580 MHz	5700 MHz
	5725 MHz to 5850 MHz	Channel 149	Channel 157	Channel 161
		5745 MHz	5785 MHz	5805 MHz
IEEE 802.11n-HT40 IEEE 802.11ac-VHT40	5150 MHz to 5250 MHz	Channel 38	--	Channel 46
		5190 MHz	--	5230 MHz
	5250 MHz to 5350 MHz	Channel 54	--	Channel 62
		5270 MHz	--	5310 MHz
	5470 MHz to 5725 MHz	Channel 102	Channel 110	Channel 134
		5510 MHz	5550 MHz	5670 MHz
	5725 MHz to 5850 MHz	Channel 151	--	Channel 159
		5755 MHz	--	5795 MHz
IEEE 802.11ac-HT80	5150 MHz to 5250 MHz	--	Channel 42	--
		--	5210 MHz	--
	5250 MHz to 5350 MHz	--	Channel 58	--
		--	5290 MHz	--
	5470 MHz to 5725 MHz	Channel 106	--	Channel 122
		5530 MHz	--	5610 MHz
	5725 MHz to 5850 MHz	--	Channel 155	--
		--	5775 MHz	--

1.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC 47 CFR Part 1 Subpart I

All test items have been performed and recorded as per the above standards

1.6 TEST LOCATION

All tests were performed at:

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1.7 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories

CAB identifier: CN0032

FCC Accredited Lab.

Designation Number: CN1194

Test Firm Registration Number: 259480

1.8 DEVIATION FROM STANDARDS

None.

1.9 ABNORMALITIES FROM STANDARD CONDITIONS

None.

1.10 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

2. EQUIPMENT LIST

Please refer to the RF test report.

3. MPE EVALUATION

3.1 REFERENCE DOCUMENTS FOR EVALUATION

No.	Identity	Document Title
1	FCC 47 CFR Part 1 Subpart I	PROCEDURES IMPLEMENTING THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969
2	KDB 447498 D01 General RF Exposure Guidance v06	RF EXPOSURE PROCEDURES AND EQUIPMENT AUTHORIZATION POLICIES FOR MOBILE AND PORTABLE DEVICES

3.2 MPE COMPLIANCE REQUIREMENT

3.2.1 Limits

According to §1.1307(b)(1), system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for 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 Times 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)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	F/300	6
1500-100000	/	/	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 Times 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)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100000	/	/	1	30

Note: f = frequency in MHz: * = Plane-wave equivalents power density.

3.2.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3.3 MPE CALCULATION METHOD

$$S = PG/4\pi R^2 = EIRP/4\pi R^2$$

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, the power gain factor is normally numeric gain.

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

3.4 MPE CALCULATION RESULTS

Note: For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test

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report.

3.4.1 For WLAN

For Wi-Fi function, operating at 2412MHz to 2462 MHz for IEEE802.11b/g/n and operating at 5150 MHz to 5250 MHz for IEEE802.11a/n/ac and operating at 5250 MHz to 5350 MHz for IEEE802.11a/n/ac and operating at 5470 MHz to 5725 MHz for IEEE802.11a/n/ac and operating at 5725 MHz to 5850 MHz for IEEE802.11a/n/ac.

3.4.1.1 Antenna Type:

Chain 0: Dipole Antenna

Chain 1: Dipole Antenna

3.4.1.2 Antenna Gain:

Chain 0: 2412MHz to 2462 MHz: 3.0 dBi
5150 MHz to 5250 MHz: 5.0 dBi
5250 MHz to 5350 MHz: 5.0 dBi
5470 MHz to 5725 MHz: 5.0 dBi
5725 MHz to 5850 MHz: 5.0 dBi

Chain 1: 2412MHz to 2462 MHz: 2.5 dBi
5150 MHz to 5250 MHz: 5.0 dBi
5250 MHz to 5350 MHz: 5.0 dBi
5470 MHz to 5725 MHz: 5.0 dBi
5725 MHz to 5850 MHz: 5.0 dBi

3.4.1.3 Results for WLAN

Operating Mode		Freq.	Declared maximum conducted output power	Max. positive tolerance according manufacturer	Antenna Gain	Calculated maximum EIRP	Declared maximum EIRP	MPE Limit	MPE Value
		(MHz)	(dBm)		(dBi)	(dBm)	(mW)	(mw/cm ²)	
MIMO	IEEE 802.11b	2412	24	1	5.76	30.26	1061.6956	1	0.2112
		2437	24	1	5.76	30.26	1061.6956	1	0.2112
		2462	24	1	5.76	30.26	1061.6956	1	0.2112
	IEEE 802.11g	2412	26	1	5.76	32.76	1887.9913	1	0.3756
		2437	26	1	5.76	32.76	1887.9913	1	0.3756
		2462	26	1	5.76	32.76	1887.9913	1	0.3756
	IEEE 802.11n-HT20	2412	23	1	5.76	29.76	946.2372	1	0.1882
		2437	23	1	5.76	29.76	946.2372	1	0.1882
		2462	23	1	5.76	29.76	946.2372	1	0.1882
	IEEE 802.11a	5180	19	1	8.01	28.01	632.4119	1	0.1258
		5220	19	1	8.01	28.01	632.4119	1	0.1258
		5240	19	1	8.01	28.01	632.4119	1	0.1258
		5260	19	1	8.01	28.01	632.4119	1	0.1258
		5300	19	1	8.01	28.01	632.4119	1	0.1258
		5320	19	1	8.01	28.01	632.4119	1	0.1258
		5500	13	1	8.01	22.01	158.8547	1	0.0316
		5580	13	1	8.01	22.01	158.8547	1	0.0316
		5700	13	1	8.01	22.01	158.8547	1	0.0316
		5745	18	1	8.01	27.01	502.3426	1	0.0999
		5785	18	1	8.01	27.01	502.3426	1	0.0999
		5805	18	1	8.01	27.01	502.3426	1	0.0999
	IEEE 802.11n-HT20 IEEE 802.11ac-VHT20	5180	14	1	8.01	23.01	199.9862	1	0.0398
		5220	14	1	8.01	23.01	199.9862	1	0.0398
		5240	14	1	8.01	23.01	199.9862	1	0.0398
		5260	15	2	8.01	25.01	316.9567	1	0.0631
		5300	15	2	8.01	25.01	316.9567	1	0.0631
		5320	15	2	8.01	25.01	316.9567	1	0.0631
		5500	12	2	8.01	22.01	158.8547	1	0.0316
		5580	12	2	8.01	22.01	158.8547	1	0.0316
		5700	12	2	8.01	22.01	158.8547	1	0.0316
		5745	17	1.5	8.01	26.51	447.7133	1	0.0891
		5785	17	1.5	8.01	26.51	447.7133	1	0.0891
		5805	17	1.5	8.01	26.51	447.7133	1	0.0891
	IEEE 802.11n-HT40 IEEE 802.11ac-VHT40	5190	9	1	8.01	18.01	63.2412	1	0.0126
		5230	9	1	8.01	18.01	63.2412	1	0.0126
		5270	10	1	8.01	19.01	79.6159	1	0.0158
		5310	10	1	8.01	19.01	79.6159	1	0.0158
		5510	7	1	8.01	16.01	39.9025	1	0.0079
		5550	7	1	8.01	16.01	39.9025	1	0.0079
		5670	7	1	8.01	16.01	39.9025	1	0.0079
		5755	17	1	8.01	26.01	399.0249	1	0.0794
		5795	17	1	8.01	26.01	399.0249	1	0.0794
	IEEE 802.11ac-VHT80	5230	9	1	8.01	18.01	63.2412	1	0.0126
		5290	9	1	8.01	18.01	63.2412	1	0.0126
		5530	9	1	8.01	18.01	63.2412	1	0.0126
		5610	14	1	8.01	23.01	199.9862	1	0.0079
		5775	17	1	8.01	26.01	399.0249	1	0.0794

3.4.2 For BT

For BT_LE/2LE function, operating at 2402MHz to 2480 MHz for GFSK and

For BT_EDR function, operating at 2402MHz to 2480 MHz for GFSK, $\pi/4$ DQPSK, 8DPSK

3.4.2.1 Antenna Type:

Chain 0: Dipole Antenna

3.4.2.2 Antenna Gain:

Chain 0: 2402MHz to 2480 MHz: 3 dBi

3.4.2.3 Results for BT

Operating Mode	Freq.	Declared maximum conducted average output power	Max. positive tolerance according manufacturer	Antenna Gain	Calculated maximum EIRP	Declared maximum EIRP	MPE Limit	MPE Value
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(mW)	(mw/cm ²)	
LE/2LE	2402	4	1	3	8	6.3096	1	0.0013
	2440	4	1	3	8	6.3096	1	0.0013
	2480	4	1	3	8	6.3096	1	0.0013
EDR	2402	7	2	3	12	15.8489	1	0.0032
	2441	7	2	3	12	15.8489	1	0.0032
	2480	7	2	3	12	15.8489	1	0.0032

3.4.3 For 2.4G Radio

For 2.4G Radio function, operating at 2402MHz to 2480 MHz for GFSK and

3.4.3.1 Antenna Type:

Chain 0: Dipole Antenna

3.4.3.2 Antenna Gain:

Chain 0: 2402MHz to 2480 MHz: 2 dBi

3.4.3.3 Results for 2.4G Radio

Operating Mode	Freq.	Declared maximum conducted average output power	Max. positive tolerance according manufacturer	Antenna Gain	Calculated maximum EIRP	Declared maximum EIRP	MPE Limit	MPE Value
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(mW)	(mw/cm ²)	
2.4G Radio	2402	4	1.5	2	7.5	5.6234	1	0.0011
	2440	4	1.5	2	7.5	5.6234	1	0.0011
	2480	4	1.5	2	7.5	5.6234	1	0.0011

3.4.4 Simultaneous Multi-band Transmission MPE Analysis

3.4.4.1 List of Mode for Simultaneous Multi-band Transmission

No.	Configurations	Support/Not Support
1	2.4G_MIMO_WLAN + BT	Not Support
2	5G_MIMO_WLAN + BT	Not Support
3	2.4G_MIMO_WLAN +2.4G Radio	Support
4	5G_MIMO_WLAN +2.4G Radio	Support
5	BT+2.4G Radio	Support

3.4.4.2 Results for transmit simultaneously

No.	Configurations	Maximum MPE Value (mw/cm ²)			Limits (mw/cm ²)
		WLAN	2.4G Radio	Transmit simultaneously	
1	2.4G_MIMO_WLAN +2.4G Radio	0.3756	0.0011	0.3767	1
2	5G_MIMO_WLAN +2.4G Radio	0.1258	0.0011	0.1269	1
No.	Configurations	BT	2.4G Radio	Transmit simultaneously	Limits (mw/cm ²)
3	BT+2.4G Radio	0.0032	0.0011	0.0043	1

Note 1: According to KDB 447498 D01 General RF Exposure Guidance v06, At the transmit simultaneously calculation method is as follows:

$$\text{Transmit simultaneously MPE} = \sum \text{of MPE ratios}$$

$$\text{MPE ratios} = \text{Field strengths or power density} / \text{MPE limit at the test frequency}$$

APPENDIX 1 PHOTOS OF TEST SETUP

N/A

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

*** End of Report ***

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