FCC RF EXPOSURE REPORT

FCC ID: G95SBG50

Project No.	:	2409C051B
Equipment	:	Cable gateway
Brand Name	:	Vantiva
Test Model	:	CGA438APLT2
Model Name	:	CGA438APLT2, SBG50
Applicant	:	Vantiva USA LLC
Address	:	4855 Peachtree Industrial Blvd. Suite 200 Norcross, Georgia 30092
Manufacturer	:	Vantiva USA LLC
Address	:	4855 Peachtree Industrial Blvd. Suite 200 Norcross, Georgia 30092
Factory	:	PT Pegaunihan Technology Indonesia
Address	:	Jalan Markisa Lot 127 sampai dengan Lot 138, Kawasan Industri Batamindo, Kelurahan Muka Kuning, Kecamatan Sei Beduk, Kota Batam, Provinsi Kepulauan Riau, 29433, Indonesia. Party Site: 3518372
Date of Receipt	:	Mar. 24, 2025
Date of Test	:	Mar. 25, 2025 ~ Jul. 22, 2025
Issued Date	:	Jul. 30, 2025
Test Sample	:	Engineering Sample No.: DG2025032491
Standard(s)	:	FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091 FCC Title 47 Part 2.1091 & KDB 447498 D01 v06

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc. (Dongguan)

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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2409C051B	R00	Original Report.	Jul. 30, 2025	Valid

1. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

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

where:
S = power density
P = power input to the antenna
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

2. ANTENNA SPECIFICATION

For 2.4GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PCB	N/A	3.6
2	N/A	N/A	PCB	N/A	3
3	N/A	N/A	PCB	N/A	3.6

Note:
1) For CDD: Directional gain=0.9 dBi.

$$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$$

where
Each antenna is driven by no more than one spatial stream;
N_{SS} = the number of independent spatial streams of data;
N_{ANT} = the total number of antennas
$g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;
G_k is the gain in dBi of the kth antenna.

2) For TXBF: Directional gain= 5.3 dBi.
3) The antenna gain and beamforming gain are provided by the manufacturer.

For 5GHz:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)	Note
1	N/A	N/A	PCB	N/A	5.6	UNII-1
2	N/A	N/A	PCB	N/A	5.3	
3	N/A	N/A	PCB	N/A	5.1	
4	N/A	N/A	PCB	N/A	5.2	
1	N/A	N/A	PCB	N/A	5.6	UNII-2A
2	N/A	N/A	PCB	N/A	5.3	
3	N/A	N/A	PCB	N/A	5.4	
4	N/A	N/A	PCB	N/A	5.1	
1	N/A	N/A	PCB	N/A	5.7	UNII-2C
2	N/A	N/A	PCB	N/A	5.6	
3	N/A	N/A	PCB	N/A	5.4	
4	N/A	N/A	PCB	N/A	5.0	
1	N/A	N/A	PCB	N/A	5.7	UNII-3
2	N/A	N/A	PCB	N/A	5.6	
3	N/A	N/A	PCB	N/A	5.2	
4	N/A	N/A	PCB	N/A	5.3	

Note:

1) For CDD: UNII-1, UNII-2A, UNII-2C Directional gain=1.0 dBi; UNII-3 Directional gain=0.9 dBi.

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;
N_{SS} = the number of independent spatial streams of data;
N_{ANT} = the total number of antennas
$g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;
G_k is the gain in dBi of the kth antenna.

2) For TXBF: UNII-1, UNII-2A Directional gain=6.4 dBi. The UNII-2C, UNII-3 Directional gain=6.2 dBi.
3) The antenna gain and beamforming gain are provided by the manufacturer.

3. CALCULATED RESULT

For 2.4GHz_ Non Beamforming:

Directional gain (dBi)	Directional gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
0.9	1.2303	29.30	851.1380	0.17225	1	Complies

For 2.4GHz_ Beamforming:

Directional gain (dBi)	Directional gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5.3	3.3884	27.23	528.4453	0.29455	1	Complies

For 5GHz_ Non Beamforming:

Band	Directional gain (dBi)	Directional gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
UNII-1	1	1.2589	29.80	954.9926	0.19777	1	Complies
UNII-2A	1	1.2589	23.82	240.9905	0.04991	1	Complies
UNII-2C	1	1.2589	23.88	244.3431	0.05060	1	Complies
UNII-3	0.9	1.2303	29.84	963.8290	0.19506	1	Complies

For 5GHz_Beamforming:

Band	Directional gain (dBi)	Directional gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
UNII-1	6.4	4.3652	29.57	905.7326	0.65038	1	Complies
UNII-2A	6.4	4.3652	23.51	224.3882	0.16113	1	Complies
UNII-2C	6.2	4.1687	23.69	233.8837	0.16039	1	Complies
UNII-3	6.2	4.1687	29.66	924.6982	0.63411	1	Complies

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
2.4GHz	5GHz			
0.29455	0.65038	0.94493	1	Complies

Note:
(1) The calculated distance is 22 cm.
(2) Ratio=Power Density (S) (mW/cm^2)/Limit of Power Density (S) (mW/cm^2)

End of Test Report