



Neutron Engineering Inc.

FCC RF EXPOSURE REPORT

FCC ID: ACJ-SH-ALL1C

Project No. : 1312C280
Equipment : NETWORK AUDIO CONNECTOR
Model : SC-ALL1C
Applicant : Panasonic Corporation of North America
Address : Two Riverfront Plaza, 9th Floor, Newark, New Jersey, United States

According: : **FCC Guidelines for Human Exposure IEEE C95.1**

Neutron Engineering Inc.

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MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

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

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

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Internal	N/A	3.1
2	N/A	N/A	Internal	N/A	3.0

Note:

(1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed two transmitters and two receivers (2T2R),

Operating Mode TX Mode	1TX	2TX
	802.11a	V (ANT 1 or ANT 2)
802.11n(20MHz)	-	V (ANT 1 + ANT 2)
802.11n(40MHz)	-	V (ANT 1 + ANT 2)



TEST RESULTS

EUT:	NETWORK AUDIO CONNECTOR	Model Name	SH-ALL1C
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage :	120V/60Hz		
Test Mode :	Band 1/TX A Mode		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.1	2.0417	15.98	39.6278	0.01610462	1	Complies
3.1	2.0417	15.61	36.3915	0.01478939	1	Complies
3.1	2.0417	15.32	34.0408	0.01383408	1	Complies

EUT:	NETWORK AUDIO CONNECTOR	Model Name	SH-ALL1C
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage :	120V/60Hz		
Test Mode :	Band 1/TX N20 Mode-Total		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.1	2.0417	16.62	45.9198	0.01866166	1	Complies
3.1	2.0417	16.73	47.0977	0.01914037	1	Complies
3.1	2.0417	16.84	48.3059	0.01963136	1	Complies

EUT:	NETWORK AUDIO CONNECTOR	Model Name	SH-ALL1C
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage :	120V/60Hz		
Test Mode :	Band 1/TX N40 Mode-Total		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.1	2.0417	16.36	43.2514	0.01757723	1	Complies
3.1	2.0417	16.76	47.4242	0.01927305	1	Complies



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EUT:	NETWORK AUDIO CONNECTOR	Model Name	SH-ALL1C
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage :	120V/60Hz		
Test Mode :	Band 2/TX A Mode		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.1	2.0417	17.4	54.9541	0.02233317	1	Complies
3.1	2.0417	17.86	61.0942	0.02482849	1	Complies
3.1	2.0417	14.62	28.9734	0.01177471	1	Complies

EUT:	NETWORK AUDIO CONNECTOR	Model Name	SH-ALL1C
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage :	120V/60Hz		
Test Mode :	Band 2/TX N20 Mode-Total		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.1	2.0417	18.81	76.0326	0.03089942	1	Complies
3.1	2.0417	18.98	79.0679	0.03213293	1	Complies
3.1	2.0417	18.61	72.6106	0.02950872	1	Complies

EUT:	NETWORK AUDIO CONNECTOR	Model Name	SH-ALL1C
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage :	120V/60Hz		
Test Mode :	Band 2/TX N40 Mode-Total		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.1	2.0417	16.78	47.6431	0.01936201	1	Complies
3.1	2.0417	16.45	44.1570	0.01794529	1	Complies



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EUT:	NETWORK AUDIO CONNECTOR	Model Name	SH-ALL1C
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage :	120V/60Hz		
Test Mode :	Band 3/TX A Mode		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.1	2.0417	14.92	31.0456	0.01261683	1	Complies
3.1	2.0417	18.99	79.2501	0.03220701	1	Complies
3.1	2.0417	13.64	23.1206	0.00939616	1	Complies

EUT:	NETWORK AUDIO CONNECTOR	Model Name	SH-ALL1C
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage :	120V/60Hz		
Test Mode :	Band 3/TX N20 Mode-Total		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.1	2.0417	18.34	68.2339	0.02773003	1	Complies
3.1	2.0417	18.86	76.9130	0.03125722	1	Complies
3.1	2.0417	17.16	51.9996	0.02113248	1	Complies

EUT:	NETWORK AUDIO CONNECTOR	Model Name	SH-ALL1C
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage :	120V/60Hz		
Test Mode :	Band 3/TX N40 Mode-Total		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.1	2.0417	16.14	41.1150	0.01670900	1	Complies
3.1	2.0417	16.83	48.1948	0.01958621	1	Complies
3.1	2.0417	16.87	48.6407	0.01976744	1	Complies

Note:the calculation distance is 20cm.