

FCC RF EXPOSURE REPORT

FCC ID: 2ADBM-LS9AD-AC11DBT

Project No. : 1610C103
Equipment : media/audio streaming module
Model : LS9AD-AC11DBT
Applicant : Libre Wireless Technologies Inc
Address : 5405 Alton Parkway, Suite A-563, Irvine, CA 92604, USA
According: : FCC Guidelines for Human Exposure IEEE C95.1

B T L I N C .

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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

Table for Filed Antenna

Bluetooth

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	Librewireless	LSANT-1A-250	PCB	N/A	4

2.4G WIFI

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	Librewireless	LSANT-1A-250	PCB	N/A	4
2	Librewireless	LSANT-1A-250	PCB	N/A	4

5G WIFI

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	Librewireless	LSANT-1A-250	PCB	N/A	4
2	Librewireless	LSANT-1A-250	PCB	N/A	4

TEST RESULTS

Bluetooth

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX MODE_1Mbps		

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
4	2.5119	3.48	2.2284	0.00111417	1	Complies
4	2.5119	3.24	2.1086	0.00105427	1	Complies
4	2.5119	3.16	2.0701	0.00103502	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX MODE_3Mbps		

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
4	2.5119	3.94	2.4774	0.00123866	1	Complies
4	2.5119	3.72	2.3550	0.00117747	1	Complies
4	2.5119	3.69	2.3388	0.00116937	1	Complies

BLE

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	24 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode:	TX MODE_1Mbps		

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
4	2.5119	8.30	6.7608	0.00338026	1	Complies
4	2.5119	8.00	6.3096	0.00315464	1	Complies
4	2.5119	8.02	6.3387	0.00316921	1	Complies

2.4G WIFI

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX B MODE /CH01, CH06, CH11		

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
4	2.5119	19.32	85.5067	0.04275140	1	Complies
4	2.5119	19.29	84.9180	0.04245710	1	Complies
4	2.5119	18.89	77.4462	0.03872134	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX G MODE /CH01, CH06, CH11		

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
4	2.5119	25.10	323.5937	0.16178951	1	Complies
4	2.5119	26.58	454.9881	0.22748374	1	Complies
4	2.5119	26.64	461.3176	0.23064836	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N20 MODE /CH01, CH06, CH11		

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
4	2.5119	26.26	422.6686	0.21132475	1	Complies
4	2.5119	27.29	535.7967	0.26788622	1	Complies
4	2.5119	26.75	473.1513	0.23656493	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N40 MODE /CH03, CH06, CH09		

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
4	2.5119	24.02	252.3481	0.12616833	1	Complies
4	2.5119	27.87	612.3504	0.30616135	1	Complies
4	2.5119	26.71	468.8134	0.23439609	1	Complies

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EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE / CH36, CH40, CH48		

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
4	2.5119	15.74	37.4973	0.01874780	1	Complies
4	2.5119	15.70	37.1535	0.01857592	1	Complies
4	2.5119	15.49	35.3997	0.01769907	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N20 MODE / CH36, CH40, CH48		

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
4	2.5119	14.78	30.0608	0.01502970	1	Complies
4	2.5119	15.00	31.6228	0.01581067	1	Complies
4	2.5119	15.06	32.0627	0.01603062	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N40 MODE / CH38, CH46		

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
4	2.5119	14.06	25.4683	0.01273358	1	Complies
4	2.5119	14.25	26.6073	0.01330302	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC20 MODE / CH36, CH40, CH48		

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
4	2.5119	13.52	22.4905	0.01124476	1	Complies
4	2.5119	13.63	23.0675	0.01153321	1	Complies
4	2.5119	13.78	23.8781	0.01193852	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC40 MODE / CH38, CH46		

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
4	2.5119	11.84	15.2757	0.00763748	1	Complies
4	2.5119	11.99	15.8125	0.00790588	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC80 MODE / CH42		

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
4	2.5119	9.92	9.8175	0.00490852	1	Complies

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EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE / CH149, CH157, CH165		

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
4	2.5119	14.60	28.8403	0.01441951	1	Complies
4	2.5119	15.52	35.6451	0.01782175	1	Complies
4	2.5119	15.01	31.6957	0.01584712	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N20 MODE / CH149, CH157, CH165		

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
4	2.5119	14.69	29.4442	0.01472144	1	Complies
4	2.5119	15.49	35.3997	0.01769907	1	Complies
4	2.5119	15.17	32.8852	0.01644184	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N40 MODE / CH151, CH159		

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
4	2.5119	14.76	29.9226	0.01496065	1	Complies
4	2.5119	14.27	26.7301	0.01336443	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC20 MODE / CH149, CH157, CH165		

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
4	2.5119	12.81	19.0985	0.00954883	1	Complies
4	2.5119	13.49	22.3357	0.01116736	1	Complies
4	2.5119	13.00	19.9526	0.00997586	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC40 MODE / CH151, CH159		

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
4	2.5119	11.81	15.1705	0.00758491	1	Complies
4	2.5119	11.42	13.8676	0.00693347	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9AD-AC11DBT
Temperature:	25 °C	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC80 MODE / CH155		

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
4	2.5119	9.71	9.3541	0.00467682	1	Complies

Note: the calculated distance is 20 cm.