

# **FCC RF EXPOSURE REPORT**

**FCC ID: 2ADBM-LS9-AC11DBT**

**Project No. : 1602C104**  
**Equipment : media/audio streaming module**  
**Model : LS9-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:

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

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

Table for Filed Antenna

Bluetooth

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	Libre Sync	N/A	Dipole	N/A	2

2.4G WIFI

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	Libre Sync	N/A	Dipole	N/A	4

5G WIFI

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	Libre Sync	N/A	Dipole	N/A	4

# TEST RESULTS

## Bluetooth

EUT:	media/audio streaming module	Model Name :	LS9-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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2	1.5849	7.03	5.0466	0.00159203	1	Complies
2	1.5849	7.16	5.2000	0.00164040	1	Complies
2	1.5849	7.02	5.0350	0.00158837	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2	1.5849	6.81	4.7973	0.00151339	1	Complies
2	1.5849	6.96	4.9659	0.00156657	1	Complies
2	1.5849	6.87	4.8641	0.00153444	1	Complies

## BLE

EUT:	media/audio streaming module	Model Name :	LS9-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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2	1.5849	7.14	5.1761	0.00163287	1	Complies
2	1.5849	7.03	5.0466	0.00159203	1	Complies
2	1.5849	6.91	4.9091	0.00154864	1	Complies

## 2.4G WIFI

EUT:	media/audio streaming module	Model Name :	LS9-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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	16.79	47.7529	0.02387538	1	Complies
4	2.5119	16.47	44.3609	0.02217943	1	Complies
4	2.5119	16.33	42.9536	0.02147585	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	14.67	29.3089	0.01465380	1	Complies
4	2.5119	15.43	34.9140	0.01745623	1	Complies
4	2.5119	13.54	22.5944	0.01129667	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N20M MODE /CH01, CH06, CH11		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	14.69	29.4442	0.01472144	1	Complies
4	2.5119	14.41	27.6058	0.01380227	1	Complies
4	2.5119	13.48	22.2844	0.01114167	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N40M MODE /CH03, CH06, CH09		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	12.43	17.4985	0.00874884	1	Complies
4	2.5119	13.82	24.0991	0.01204898	1	Complies
4	2.5119	10.96	12.4738	0.00623664	1	Complies

## UNII-1

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE_Total / CH36, CH40, CH48		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	14.97	31.4051	0.01570183	1	Complies
4	2.5119	15.21	33.1894	0.01659397	1	Complies
4	2.5119	14.67	29.3089	0.01465380	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-20M MODE_Total / CH36, CH40, CH48		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	13.83	24.1546	0.01207676	1	Complies
4	2.5119	14.23	26.4850	0.01324190	1	Complies
4	2.5119	14.29	26.8534	0.01342612	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-40M MODE_Total / CH38, CH46		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	12.46	17.6198	0.00880948	1	Complies
4	2.5119	13.87	24.3781	0.01218850	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-20M MODE_Total / CH36, CH40, CH48		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	12.99	19.9067	0.00995292	1	Complies
4	2.5119	13.32	21.4783	0.01073867	1	Complies
4	2.5119	12.62	18.2810	0.00914009	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-40M MODE_Total / CH38, CH46		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	12.25	16.7880	0.00839364	1	Complies
4	2.5119	12.73	18.7499	0.00937455	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-80M MODE_Total /CH42		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	11.09	12.8529	0.00642614	1	Complies

### UNII-3

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE_Total / CH149, CH157, CH165		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	12.38	17.2982	0.00864869	1	Complies
4	2.5119	14.58	28.7078	0.01435325	1	Complies
4	2.5119	12.43	17.4985	0.00874884	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-20M MODE_Total / CH149, CH157, CH165		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	13.18	20.7970	0.01039801	1	Complies
4	2.5119	13.66	23.2274	0.01161316	1	Complies
4	2.5119	13.48	22.2844	0.01114167	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-40M MODE_Total / CH151, CH159		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	9.86	9.6828	0.00484117	1	Complies
4	2.5119	9.40	8.7096	0.00435462	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-20M MODE_Total / CH149, CH157, CH165		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	12.12	16.2930	0.00814611	1	Complies
4	2.5119	12.74	18.7932	0.00939616	1	Complies
4	2.5119	13.02	20.0447	0.01002191	1	Complies

EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-40M MODE_Total / CH151, CH159		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	12.70	18.6209	0.00931001	1	Complies
4	2.5119	12.64	18.3654	0.00918228	1	Complies



EUT:	media/audio streaming module	Model Name :	LS9-AC11DBT
Temperature:	22 °C	Relative Humidity:	56%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-80M MODE_Total / CH155		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4	2.5119	11.01	12.6183	0.00630885	1	Complies

Note: the calculated distance is 20 cm.