Client:	GE MDS LLC	PR Number:	PR147289
Model:	LN400	T-Log Number:	TL147289-RA
		Project Manager:	Christine Krebill
Contact:	Christopher Hughes	Project Engineer:	David Bare
Standard:	FCC Part 90, ISEDC RSS-119	Class:	N/A

Maximum Permissible Exposure / SAR Exclusion

Specific Details

Objective: Evaluate the RF Exposure requirements per FCC 1.1310, 2.1091, 2.1093 and RSS-102.

Date of Test: 1/31/2022
Test Engineer: David Bare

General Test Configuration

Calculation uses the free space transmission formula:

$$S = (PG)/(4 \pi d^2)$$

Where: S is power density (W/m^2), P is output power (W), G is antenna gain relative to isotropic, d is separation distance from the transmitting antenna (m).

Summary of Results

Device complies with Power Density requirements at 20cm separation:	No
If not, required separation distance (in cm):	507

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

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Run #1: FCC MPE Calculation for 300-1500 MHz single transmitters (General use)
Use: General
Antenna: 5 dBi, 10 dBi and 16 dBi

Run #1a: Antenna gain: 5 dBi

Freq. MHz	EUT Power dBm	EUT Power mW*	Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2
406.1	41.1	12882.5	0	5	41.1	40738.03	8.105	0.271
430	41.1	12882.5	0	5	41.1	40738.03	8.105	0.287
470	41.1	12882.5	0	5	41.1	40738.03	8.105	0.313

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2	Distance where S <= MPE Limit cm
406.1	8.105	0.271	109.4
430	8.105	0.287	106.3
470	8.105	0.313	101.7

Run #1b: Antenna gain: 10 dBi

Freq. MHz	EUT Power dBm	EUT Power mW*	Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2
406.1	41.1	12882.5	0	10	41.1	128824.96	25.629	0.271
430	41.1	12882.5	0	10	41.1	128824.96	25.629	0.287
470	41.1	12882.5	0	10	41.1	128824.96	25.629	0.313

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2	Distance where S <= MPE Limit cm
406.1	25.629	0.271	194.6
430	25.629	0.287	189.1
470	25.629	0.313	180.9

Note:	These power values include margin for acceptable tolerance, refer to user's guide.

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Standard:	FCC Part 90, ISEDC RSS-119	Class:	N/A

Run #1c: Antenna gain: 16 dBi

Freq. MHz	EUT Power dBm	EUT Power mW*	Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2
406.1	41.1	12882.5	0	16	41.1	512861.38	102.031	0.271
430	41.1	12882.5	0	16	41.1	512861.38	102.031	0.287
470	41.1	12882.5	0	16	41.1	512861.38	102.031	0.313

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2	Distance where S <= MPE Limit cm
406.1	102.031	0.271	388.3
430	102.031	0.287	377.3
470	102.031	0.313	360.9

Note:	These power values include margin for acceptable tolerance, refer to user's guide.

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		Project Manager:	Christine Krebill
Contact:	Christopher Hughes	Project Engineer:	David Bare
Standard:	FCC Part 90, ISEDC RSS-119	Class:	N/A

Run #2: Industry Canada MPE Calculation for 300-6000 MHz single transmitters (General use)
Use: General
Antenna: 5 dBi, 10 dBi and 16 dBi

Run #2a: Antenna gain: 5 dBi

Freq. MHz	EUT Power dBm	EUT Power mW*	Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2
406.1	41.1	12882.5	0	5	41.1	40738.03	8.105	0.159
430	41.1	12882.5	0	5	41.1	40738.03	8.105	0.165
470	41.1	12882.5	0	5	41.1	40738.03	8.105	0.175

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2	Distance where S <= MPE Limit cm
406.1	8.105	0.159	142.9
430	8.105	0.165	140.1
470	8.105	0.175	135.9

Run #2b: Antenna gain: 10 dBi

Freq. MHz	EUT Power dBm	EUT Power mW*	Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2
406.1	41.1	12882.5	0	10	41.1	128824.96	25.629	0.159
430	41.1	12882.5	0	10	41.1	128824.96	25.629	0.165
470	41.1	12882.5	0	10	41.1	128824.96	25.629	0.175

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2	Distance where S <= MPE Limit cm
406.1	25.629	0.159	254.1
430	25.629	0.165	249.2
470	25.629	0.175	241.7

Note:	These power values include margin for acceptable tolerance, refer to user's guide.

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Contact:	Christopher Hughes	Project Engineer:	David Bare
Standard:	FCC Part 90, ISEDC RSS-119	Class:	N/A

Run #2c: Antenna gain: 16 dBi

Freq. MHz	EUT Power dBm	EUT Power mW*	Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2
406.1	41.1	12882.5	0	16	41.1	512861.38	102.031	0.159
430	41.1	12882.5	0	16	41.1	512861.38	102.031	0.165
470	41.1	12882.5	0	16	41.1	512861.38	102.031	0.175

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2	Distance where S <= MPE Limit cm
406.1	102.031	0.159	506.9
430	102.031	0.165	497.1
470	102.031	0.175	482.2

Note:	These power values include margin for acceptable tolerance, refer to user's guide.