# EMC Test Data

A N	E ENGINEER SUCCESS		
Client:	GE MDS LLC	Job Number:	J97895
Model:	SD4 Master Module	T-Log Number:	Т97900
	SD4 Master Module	Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 15, 22 & 90, EN 300 113-2	Class:	A

## Maximum Permissible Exposure

### Test Specific Details

NTS

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

Date performed: 6/16/2015 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<sup>2</sup>), 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):	5.4m

#### Deviations From The Standard

No deviations were made from the requirements of the standard.

	: GE MDS LLC						Job Number:	: J97895
	Model: SD4 Master Module						T-Log Number:	T97900
Model:	: SD4 Master Module						Project Manager:	Christine Krebill
Contact:	: Dennis McCarthy						Project Coordinator:	
	E FCC Part 15, 22 & 90, EN 300 113-2					Class: A		
		-,,						
CC MPE C	Calculation							
Jse:	General							
ntenna:		aximum gain						
	GE MDS st	atted that the	output power	is the maxi	imum power	given manufac	cturing tolerances/tune-u	up procedures.
	F	UT	Cable Loss	Ant	Power		Power Density (S)	MPE Limit
Freq.		ower	Loss	Gain	at Ant	EIRP	at 20 cm	at 20 cm
MHz	dBm	mW*	dB	dBi	dBm	mW	mW/cm^2	mW/cm^2
406.1	41.1	12882.5	0	16.5	41.1	575439.94	114.480	0.271
406.1	41.1	12882.5	0	10	41.1	128824.96	25.629	0.271
406.1	41.1	12882.5	0	5	41.1	40738.03	8.105	0.271
			- '1					
or the case	7	<u>the MPE Lin</u>		linait	Dieten	a whore		
<b>F</b> ree		Density (S)	MPE Limit		Distance where S <= MPE Limit			
Freq. MHz		at 20 cm mW/cm^2		at 20 cm				
406.1			mW/cm^2 0.271		cm 411.3			
400.1	114.480				194.6			
406.1	25	.629	0.2	71	19	94.6		
	25			71	19			
406.1 406.1	<u>25</u> 8.	.629	0.2	71	19	94.6		
406.1 406.1 ndustry Ca	<u>25</u> 8.	. <u>629</u> 105	0.2	71	19	94.6		
406.1 406.1 ndustry Ca Jse:	25 8. anada MPE General	. <u>629</u> 105	0.2	71	19	94.6		
406.1 406.1	25 8. anada MPE General 16.5 dBi ma	.629 105 Calculation aximum gain	0.2	71 71	19	94.6		
406.1 406.1 ndustry Ca Jse: Antenna:	25 8. anada MPE General 16.5 dBi ma	.629 105 Calculation aximum gain	0.2 0.2 Cable Loss	71 71 Ant	19 10 Power	94.6	Power Density (S)	
406.1 406.1 ndustry Ca Jse: Antenna: Freq.	25 8. anada MPE General 16.5 dBi ma E Pc	.629 105 Calculation aximum gain UT	0.2 0.2 Cable Loss Loss	71 71 Ant Gain	Power at Ant	94.6 199.4 EIRP	at 20 cm	MPE Limit at 20 cm
406.1 406.1 Industry Ca Jse: Intenna: Freq. MHz	25 8. anada MPE General 16.5 dBi ma E Pc dBm	.629 105 Calculation aximum gain UT SWer MW*	0.2 0.2 Cable Loss Loss dB	71 71 Ant Gain dBi	Power at Ant dBm	14.6 19.4 EIRP mW	at 20 cm mW/cm^2	at 20 cm mW/cm^2
406.1 406.1 Industry Ca Jse: Intenna: Freq. MHz 406.1	25 8. anada MPE General 16.5 dBi ma Po dBm 41.1	.629 105 Calculation aximum gain UT Swer mW* 12882.5	0.2 0.2 Cable Loss Loss dB 0	71 71 Ant Gain dBi 16.5	Power at Ant dBm 41.1	EIRP mW 575439.94	at 20 cm <u>mW/cm^2</u> 114.480	at 20 cm mW/cm^2 0.159
406.1 406.1 ndustry Ca Jse: Intenna: Freq. MHz 406.1 406.1	25 8. anada MPE General 16.5 dBi ma E Pc dBm 41.1 41.1	.629 105 Calculation aximum gain UT ower mW* 12882.5 12882.5	0.2 0.2 Cable Loss Loss dB 0 0	71 71 Gain dBi 16.5 10	Power at Ant dBm 41.1 41.1	EIRP mW 575439.94 128824.96	at 20 cm mW/cm^2 114.480 25.629	at 20 cm mW/cm^2 0.159 0.159
406.1 406.1 ndustry Ca Jse: Antenna: Freq. MHz 406.1	25 8. anada MPE General 16.5 dBi ma Po dBm 41.1	.629 105 Calculation aximum gain UT Swer mW* 12882.5	0.2 0.2 Cable Loss Loss dB 0	71 71 Ant Gain dBi 16.5	Power at Ant dBm 41.1	EIRP mW 575439.94	at 20 cm <u>mW/cm^2</u> 114.480	at 20 cm mW/cm^2 0.159
406.1 406.1 ndustry Ca Jse: Antenna: Freq. MHz 406.1 406.1 406.1	25 8. anada MPE General 16.5 dBi ma E Pc dBm 41.1 41.1 41.1	.629 105 Calculation aximum gain UT ower mW* 12882.5 12882.5	0.2 0.2 Cable Loss Loss dB 0 0 0	71 71 Gain dBi 16.5 10	Power at Ant dBm 41.1 41.1	EIRP mW 575439.94 128824.96	at 20 cm mW/cm^2 114.480 25.629	at 20 cm mW/cm^2 0.159 0.159
406.1 406.1 ndustry Ca Jse: Antenna: Freq. MHz 406.1 406.1	25 8. anada MPE General 16.5 dBi ma Po dBm 41.1 41.1 41.1 41.1 es where S	.629 105 Calculation aximum gain UT wer 12882.5 12882.5 12882.5	0.2 0.2 Cable Loss Loss dB 0 0 0	71 71 Gain dBi 16.5 10 5	Power at Ant dBm 41.1 41.1 41.1	EIRP mW 575439.94 128824.96	at 20 cm mW/cm^2 114.480 25.629	at 20 cm mW/cm^2 0.159 0.159
406.1 406.1 ndustry Ca Jse: Antenna: Freq. MHz 406.1 406.1 406.1	25 8. anada MPE General 16.5 dBi ma Pc dBm 41.1 41.1 41.1 41.1 es where S > Power E	.629 105 Calculation aximum gain UT wer 12882.5 12882.5 12882.5 > the MPE Lir	0.2 0.2 Cable Loss Loss dB 0 0 0	71 71 Gain dBi 16.5 10 5 Limit	Power at Ant dBm 41.1 41.1 Distanc	EIRP mW 575439.94 128824.96 40738.03	at 20 cm mW/cm^2 114.480 25.629	at 20 cm mW/cm^2 0.159 0.159
406.1 406.1 hdustry Ca Jse: intenna: Freq. MHz 406.1 406.1 406.1	25 8. anada MPE General 16.5 dBi ma Po dBm 41.1 41.1 41.1 41.1 es where S > Power D at 2	.629 105 Calculation aximum gain UT wer 12882.5 12882.5 12882.5 > the MPE Lir Density (S)	0.2 0.2 Cable Loss Loss dB 0 0 0 0 0	71 71 Ant Gain dBi 16.5 10 5 Limit cm	19   10   10   10   11   11   11   11   11   11   11   11   11   11   11   11   11   11	EIRP mW 575439.94 128824.96 40738.03	at 20 cm mW/cm^2 114.480 25.629	at 20 cm mW/cm^2 0.159 0.159
406.1 406.1 hdustry Ca Jse: intenna: Freq. MHz 406.1 406.1 406.1 for the case Freq.	25 8. anada MPE General 16.5 dBi ma Po dBm 41.1 41.1 41.1 41.1 es where S = Power D at 2 mW	.629 105 Calculation aximum gain UT ower 12882.5 12882.5 12882.5 2 the MPE Lir Density (S) 20 cm	0.2 0.2 0.2 Cable Loss Loss dB 0 0 0 0 0 0 0 0 1 0 2 0 0 2 0 0 2 0 0 0 0	71 71 Gain dBi 16.5 10 5 Limit cm m^2	19   10   10   10   11   11   11   11   11   11   11   11   11   11   11   11   11   11   11	EIRP mW 575439.94 128824.96 40738.03 2e where PE Limit	at 20 cm mW/cm^2 114.480 25.629	at 20 cm mW/cm^2 0.159 0.159
406.1 406.1 ndustry Ca Jse: Antenna: Freq. <u>MHz</u> 406.1 406.1 For the case Freq. MHz	25 8. anada MPE General 16.5 dBi ma 16.5 dBi ma Po dBm 41.1 41.1 41.1 41.1 41.1 41.1 41.1 41.	.629 105 Calculation aximum gain UT ower <u>mW*</u> 12882.5 12882.5 12882.5 > the MPE Lir Density (S) 20 cm /cm^2	0.2 0.2 0.2 0 2 0 0 0 0 0 0 0 0 0 0 0 0	71 71 71 Gain dBi 16.5 10 5 5 Limit cm cm 2 59 59	19   10   10   10   11   11   11   11   11   11   11   11   11   11   11   11   11   11   11   11   11   11   12   13   14   15   16   17   17   18   11   11   12   13   14   15   16   17   17   18   19   10   10   11   11   12   13   14   15   16   17   17	EIRP mW 575439.94 128824.96 40738.03 20 where PE Limit cm	at 20 cm mW/cm^2 114.480 25.629	at 20 cm mW/cm^2 0.159 0.159