

1 Cover Page

RF MPE REPORT

Application No.: KSEM2009001145CR
FCC ID: 2AD6I-SG-6000-E1100
Applicant: Hillstone Networks Corp.
Address of Applicant: 5201 Great America Pkwy, suite 420, Santa Clara, CA 95054
Manufacturer: Hillstone Networks Co., Ltd.
Address of Manufacturer: NO.181, Jingrun Road, High-Tech Zone, Suzhou
Factory: Sanmina-SCI Systems (Kunshan) Co., Ltd.
Address of Factory: 312 Qing Yang South Road Kun shan, Jiangsu Province
Equipment Under Test (EUT):
EUT Name: Firewall Appliance
Model No.: SG-6000-E1100WG4,SG-6000-E1100W,SG-6000-E1100G4,SG-6000-E1100WG4-IN,SG-6000-E1100W-IN,SG-6000-E1100G4-IN

Trade mark:



Standard(s) : FCC Rules 47 CFR §2.1091
 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2020-09-03
Date of Test: 2020-09-15 to 2020-10-14
Date of Issue: 2020-10-16

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Eric Lin
EMC Lab Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



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Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

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Revision Record			
Version	Description	Date	Remark
00	Original	2020-10-16	/

Authorized for issue by:			
		<i>Damon Zhou</i>	

		Damon Zhou / Project Engineer	
		<i>Eric Lin</i>	

		Eric Lin / Reviewer	



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 12V by adapter Adapter Model:ADP-36LH B INPUT:100-240V,1.2A OUTPUT:12V,3A
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3.2 Technical Specifications

2.4GHz

Antenna Gain:	Ant 1:1.5dBi, Ant 2:2.1dBi Directional gain:4.82dBi
Antenna Type:	Dipole Antenna
Channel Spacing:	5MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20):11
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz

2G

Sample Type:	Portable production
Support Network:	GPRS, EGPRS
Operation Frequency Band:	GSM850/GSM1900
Modulation Type:	GMSK for GPRS/EGPRS; 8PSK for EGPRS;
GPRS Class:	12
EGPRS Class:	12
Antenna Type:	Dipole
Antenna Gain:	GSM850: 2.8dBi GSM1900: 3.27dBi
Extreme temp. Tolerance:	-20°C to +70°C
Extreme vol. Limits:	102VAC to 138VAC (nominal: 120V AC)

4G

Sample Type:	Portable production
LTE Operation Frequency Band:	LTE FDD Band 5,38,40a,40b,41b,41c
Modulation Type:	QPSK, 16QAM
Antenna Type:	Dipole
Antenna Gain:	Band 5: 2.8dBi Band 38: 1.25dBi Band 40a: 1.45dBi Band 40b: 1.45dBi Band 41b: 2.21dBi Band 41c: 2.21 dBi
Extreme temp. Tolerance:	-20°C to +70°C
Extreme vol. Limits:	102VAC to 138VAC (nominal: 120V AC)

5G

Operation Frequency:	Band	Mode	Frequency Range(MHz)	Number of channels
	UNII Band I	802.11a/n(HT20)	5180-5240	4
		802.11n(HT40)	5190-5230	2
	UNII Band III	802.11a/n(HT20)	5745-5825	5
		802.11n(HT40)	5755-5795	2
Antenna Gain:	Ant 1:1.5dBi, Ant 2:2.1dBi Directional gain:4.82dBi			
Antenna Type:	Dipole Antenna			
Modulation Type:	802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM)			
Channel Spacing:	802.11a/n(HT20): 20MHz 802.11n(HT40): 40MHz			
Data Rate:	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: MCS0-15			

3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC (Designation Number: CN1172)**

Compliance Certification Services Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

CAB Identifier: CN0072.

- **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1600, C-1707, T-1499, G-10216 respectively.

4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSEM200900114501; KSEM200900114502; KSEM200900114503; KSEM200900114504;

2.4G WIFI

Test Mode	Channel	Antenna 1 Power[dBm]	Antenna 2 Power[dBm]	MIMO Power[dBm]	Antenna 1 Power[mW]	Antenna 2 Power[mW]	MIMO Power[mW]
11BSISO	2412	16.59	17.23	NA	45.60	52.84	N/A
11BSISO	2437	17.27	18.47	NA	53.33	70.31	N/A
11BSISO	2462	17.37	16.68	NA	54.58	46.56	N/A
11GSISO	2412	17.87	17.08	NA	61.24	51.05	N/A
11GSISO	2437	18.21	17.80	NA	66.22	60.26	N/A
11GSISO	2462	17.35	17.18	NA	54.33	52.24	N/A
11N20MIMO	2412	14.87	14.25	17.58	30.69	26.61	57.28
11N20MIMO	2437	15.53	15.35	18.45	35.73	34.28	69.98
11N20MIMO	2462	16.75	14.83	18.91	47.32	30.41	77.80



5GHz WiFi

Test Mode	Test Channel	Antenna 1 Power[dBm]	Antenna 2 Power[dBm]	MIMO Power[dBm]	Antenna 1 Power[mW]	Antenna 2 Power[mW]	MIMO Power[mW]
11A	5180	11.30	10.64	N/A	13.49	11.59	N/A
11A	5200	11.86	11.34	N/A	15.35	13.61	N/A
11A	5240	11.72	10.69	N/A	14.86	11.72	N/A
11A	5745	11.76	11.21	N/A	15.00	13.21	N/A
11A	5785	12.08	10.83	N/A	16.14	12.11	N/A
11A	5825	11.88	11.47	N/A	15.42	14.03	N/A
11N20MIMO	5180	10.31	10.23	13.28	10.74	10.54	21.28
11N20MIMO	5200	10.05	14.62	15.92	10.12	28.97	39.08
11N20MIMO	5240	10.67	9.65	13.20	11.67	9.23	20.89
11N20MIMO	5745	12.53	12.06	15.31	17.91	16.07	33.96
11N20MIMO	5785	12.45	12.00	15.24	17.58	15.85	33.42
11N20MIMO	5825	12.03	11.43	14.75	15.96	13.90	29.85
11N40MIMO	5190	9.68	9.73	12.72	9.29	9.40	18.71
11N40MIMO	5230	10.44	11.65	14.10	11.07	14.62	25.70
11N40MIMO	5755	11.82	11.60	14.72	15.21	14.45	29.65
11N40MIMO	5795	11.78	11.30	14.56	15.07	13.49	28.58

GSM 850

Test Mode		Conducted Power (dBm)			Conducted Power (mW)		
		LCH	MCH	HCH	LCH	MCH	HCH
EGPRS	1 TX Slot	27.87	28.83	29.17	612.35	763.84	826.04
	2 TX Slots	27.92	28.85	29.11	619.44	767.36	814.70
	3 TX Slots	27.89	28.78	29.07	615.18	755.09	807.24
	4 TX Slots	27.77	28.79	29.01	598.41	756.83	796.16
GPRS	1 TX Slot	30.63	30.51	30.45	1156.11	1124.60	1109.17
	2 TX Slots	30.6	30.33	30.43	1148.15	1078.95	1104.08
	3 TX Slots	30.55	30.27	30.37	1135.01	1064.14	1088.93
	4 TX Slots	30.5	30.37	30.36	1122.02	1088.93	1086.43

GSM 1900

Test Mode		Conducted Power (dBm)			Conducted Power (mW)		
		LCH	MCH	HCH	LCH	MCH	HCH
EGPRS	1 TX Slot	17.97	17.89	18.35	62.66	61.52	68.39
	2 TX Slots	17.96	17.87	18.31	62.52	61.24	67.76
	3 TX Slots	17.94	17.86	18.3	62.23	61.09	67.61
	4 TX Slots	17.83	17.84	18.31	60.67	60.81	67.76
GPRS	1 TX Slot	17.77	17.68	17.9	59.84	58.61	61.66
	2 TX Slots	17.74	17.66	17.89	59.43	58.34	61.52
	3 TX Slots	17.71	17.64	17.86	59.02	58.08	61.09
	4 TX Slots	17.67	17.6	17.83	58.48	57.54	60.67

LTE Band 5

Test Band: 5 _ 1.4MHz Bandwidth									
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)			
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH	
QPSK	1	0	19.67	20.38	20.37	92.68	109.14	108.89	
		2	19.68	20.44	20.49	92.90	110.66	111.94	
		5	19.71	20.42	20.74	93.54	110.15	118.58	
	3	0	19.72	20.45	20.45	93.76	110.92	110.92	
		2	19.74	20.53	20.69	94.19	112.98	117.22	
		3	19.73	20.52	20.72	93.97	112.72	118.03	
16QAM	6	0	18.75	19.42	19.57	74.99	87.50	90.57	
			18.61	19.11	19.16	72.61	81.47	82.41	
		1	2	18.61	19.06	19.22	72.61	80.54	83.56
	3	5	18.62	19.21	19.51	72.78	83.37	89.33	
			0	18.68	19.57	19.29	73.79	90.57	84.92
			2	18.64	19.65	19.44	73.11	92.26	87.90
		6	3	18.68	19.68	19.57	73.79	92.90	90.57
			0	17.65	18.45	18.4	58.21	69.98	69.18



Test Band: 5 _ 3MHz Bandwidth								
Modulation	RB Allocation		Modulation			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	19.66	20.32	20.04	92.47	107.65	100.93
		7	19.64	20.49	20.24	92.04	111.94	105.68
		14	19.59	20.67	20.76	90.99	116.68	119.12
	8	0	18.72	19.31	19.23	74.47	85.31	83.75
		4	18.67	19.45	19.31	73.62	88.10	85.31
		7	18.73	19.49	19.47	74.64	88.92	88.51
15	0	18.64	19.34	19.27	73.11	85.90	84.53	
16QAM	1	0	19.22	19.05	18.88	83.56	80.35	77.27
		7	19.15	19.18	19.13	82.22	82.79	81.85
		14	19.17	19.38	19.6	82.60	86.70	91.20
	8	0	17.81	18.44	18.04	60.39	69.82	63.68
		4	17.75	18.49	18.14	59.57	70.63	65.16
		7	17.83	18.5	18.38	60.67	70.79	68.87
	15	0	17.72	18.45	18.22	59.16	69.98	66.37

Test Band: 5 _ 5MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	19.75	20.47	19.85	94.41	111.43	96.61
		13	19.77	20.53	20.11	94.84	112.98	102.57
		24	19.7	20.59	20.77	93.33	114.55	119.40
	12	0	18.67	19.3	18.89	73.62	85.11	77.45
		6	18.71	19.45	19.11	74.30	88.10	81.47
		13	18.54	19.47	19.35	71.45	88.51	86.10
25	0	18.51	19.28	19.08	70.96	84.72	80.91	
16QAM	1	0	18.54	19.31	18.91	71.45	85.31	77.80
		13	18.52	19.38	19.18	71.12	86.70	82.79
		24	18.49	19.4	19.8	70.63	87.10	95.50
	12	0	17.77	18.3	17.98	59.84	67.61	62.81
		6	17.81	18.41	18.11	60.39	69.34	64.71
		13	17.73	18.46	18.36	59.29	70.15	68.55
	25	0	17.63	18.35	18.05	57.94	68.39	63.83

Test Band: 5 _ 10MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	19.64	19.75	20.31	92.04	94.41	107.40
		25	19.55	20.46	19.85	90.16	111.17	96.61
		49	20.06	20.13	20.68	101.39	103.04	116.95
	25	0	18.64	19.05	19.05	73.11	80.35	80.35
		13	18.55	19.28	18.84	71.61	84.72	76.56
		25	18.72	19.35	19	74.47	86.10	79.43
50	0	18.59	19.19	19	72.28	82.99	79.43	
16QAM	1	0	19.14	18.51	19.22	82.04	70.96	83.56
		25	19.12	19.14	18.71	81.66	82.04	74.30
		49	19.59	18.97	19.47	90.99	78.89	88.51
	25	0	17.65	18.12	18.02	58.21	64.86	63.39
		13	17.68	18.41	17.91	58.61	69.34	61.80
		25	17.8	18.45	18.06	60.26	69.98	63.97
	50	0	17.65	18.24	18.04	58.21	66.68	63.68

LTE Band 38

Test Band: 38 _ 5MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	20.75	20.1	21.38	118.85	102.33	137.40
		13	20.4	20.5	21.13	109.65	112.20	129.72
		24	20.02	20.76	20.99	100.46	119.12	125.60
	12	0	19.39	19.07	20.49	86.90	80.72	111.94
		6	19.11	19.26	20.35	81.47	84.33	108.39
		13	18.97	19.5	20.25	78.89	89.13	105.93
25	0	18.97	19.23	20.33	78.89	83.75	107.89	
16QAM	1	0	19.38	19	20.47	86.70	79.43	111.43
		13	19	19.25	20.3	79.43	84.14	107.15
		24	18.84	19.66	19.94	76.56	92.47	98.63
	12	0	18.37	18.13	19.46	68.71	65.01	88.31
		6	18.25	18.18	19.34	66.83	65.77	85.90
		13	17.94	18.4	19.23	62.23	69.18	83.75
	25	0	18.1	18.19	19.33	64.57	65.92	85.70

Test Band: 38 _ 10MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	20.77	20.3	21.53	119.40	107.15	142.23
		25	19.91	20.67	21.98	97.95	116.68	157.76
		49	19.65	21.09	21.49	92.26	128.53	140.93
	25	0	19.31	19.52	21.02	85.31	89.54	126.47
		13	18.95	19.79	20.91	78.52	95.28	123.31
		25	18.85	20.08	20.7	76.74	101.86	117.49
50	0	18.88	19.63	20.71	77.27	91.83	117.76	
16QAM	1	0	19.57	19.94	20.69	90.57	98.63	117.22
		25	18.97	20.35	20.84	78.89	108.39	121.34
		49	18.88	20.55	19.94	77.27	113.50	98.63
	25	0	18.29	18.57	19.95	67.45	71.94	98.86
		13	17.87	18.73	19.88	61.24	74.64	97.27
		25	17.81	18.96	19.66	60.39	78.70	92.47
	50	0	17.89	18.61	19.69	61.52	72.61	93.11

Test Band: 38 _ 15MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	20.8	20.23	21.27	120.23	105.44	133.97
		38	19.78	20.86	21.92	95.06	121.90	155.60
		74	19.76	21.17	21.45	94.62	130.92	139.64
	36	0	18.81	19.35	21.01	76.03	86.10	126.18
		18	18.69	19.58	20.87	73.96	90.78	122.18
		39	18.49	19.94	20.67	70.63	98.63	116.68
75	0	18.59	19.64	20.78	72.28	92.04	119.67	
16QAM	1	0	20.28	19.4	20.43	106.66	87.10	110.41
		38	19.43	20.27	21.31	87.70	106.41	135.21
		74	19.42	20.49	20.63	87.50	111.94	115.61
	36	0	17.92	18.31	19.94	61.94	67.76	98.63
		18	17.73	18.54	19.9	59.29	71.45	97.72
		39	17.7	18.87	19.72	58.88	77.09	93.76
	75	0	17.64	18.58	19.79	58.08	72.11	95.28

Test Band: 38 _ 20MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	20.84	19.84	20.97	121.34	96.38	125.03
		50	19.74	20.57	21.83	94.19	114.02	152.41
		99	20.22	21.21	21.42	105.20	132.13	138.68
	50	0	18.75	19.25	20.71	74.99	84.14	117.76
		25	18.57	19.6	20.83	71.94	91.20	121.06
		50	18.62	20.06	20.74	72.78	101.39	118.58
100	0	18.67	19.83	20.8	73.62	96.16	120.23	
16QAM	1	0	20.19	18.94	20.47	104.47	78.34	111.43
		50	19.18	19.68	21.03	82.79	92.90	126.77
		99	19.72	20.44	20.84	93.76	110.66	121.34
	50	0	17.75	18.11	19.74	59.57	64.71	94.19
		25	17.6	18.54	19.75	57.54	71.45	94.41
		50	17.65	19.03	19.71	58.21	79.98	93.54
	100	0	17.77	18.63	19.77	59.84	72.95	94.84

LTE 40a

Test Band: 40a _ 5MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	20.03	19.78	19.62	100.69	95.06	91.62
		13	20.03	19.9	19.74	100.69	97.72	94.19
		24	19.61	19.46	19.35	91.41	88.31	86.10
	12	0	20.02	19.92	19.73	100.46	98.17	93.97
		6	20.11	19.89	19.79	102.57	97.50	95.28
		13	19.9	19.75	19.63	97.72	94.41	91.83
25	0	19.96	19.78	19.63	99.08	95.06	91.83	
16QAM	1	0	18.89	18.97	18.9	77.45	78.89	77.62
		13	19.26	19.07	19.04	84.33	80.72	80.17
		24	18.81	18.71	18.6	76.03	74.30	72.44
	12	0	18.99	18.81	18.7	79.25	76.03	74.13
		6	19.01	18.9	18.72	79.62	77.62	74.47
		13	18.86	18.69	18.54	76.91	73.96	71.45
	25	0	18.95	18.7	18.66	78.52	74.13	73.45



Test Band: 40a _ 10MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	/	20.08	/	/	101.86	/
		25	/	20.27	/	/	106.41	/
		49	/	19.45	/	/	88.10	/
	25	0	/	20.2	/	/	104.71	/
		13	/	19.82	/	/	95.94	/
		25	/	19.91	/	/	97.95	/
50	0	/	20.01	/	/	100.23	/	
16QAM	1	0	/	19.5	/	/	89.13	/
		25	/	19.28	/	/	84.72	/
		49	/	18.89	/	/	77.45	/
	25	0	/	19.3	/	/	85.11	/
		13	/	19.31	/	/	85.31	/
		25	/	18.97	/	/	78.89	/
	50	0	/	19.15	/	/	82.22	/

LTE 40b

Test Band: 40b _ 5MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	19.91	20	19.97	97.95	100.00	99.31
		13	20.02	20.22	19.63	100.46	105.20	91.83
		24	20.03	20.15	19.03	100.69	103.51	79.98
	12	0	20.07	19.59	19.17	101.62	90.99	82.60
		6	19.76	19.68	18.75	94.62	92.90	74.99
		13	19.71	19.23	18.28	93.54	83.75	67.30
25	0	19.67	19.35	18.71	92.68	86.10	74.30	
16QAM	1	0	19.42	19.5	19.45	87.50	89.13	88.10
		13	19.46	19.5	18.14	88.31	89.13	65.16
		24	19.19	19.37	17.63	82.99	86.50	57.94
	12	0	19.32	18.53	18.17	85.51	71.29	65.61
		6	19.37	18.33	17.85	86.50	68.08	60.95
		13	19.3	18	17.19	85.11	63.10	52.36
	25	0	19.34	18.4	17.76	85.90	69.18	59.70

Test Band: 40b _ 10MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	/	19.84	/	/	96.38	/
		25	/	20.15	/	/	103.51	/
		49	/	20	/	/	100.00	/
	25	0	/	19.65	/	/	92.26	/
		13	/	19.32	/	/	85.51	/
		25	/	18.8	/	/	75.86	/
50	0	/	19.19	/	/	82.99	/	
16QAM	1	0	/	19.15	/	/	82.22	/
		25	/	19.32	/	/	85.51	/
		49	/	19.08	/	/	80.91	/
	25	0	/	18.73	/	/	74.64	/
		13	/	18.36	/	/	68.55	/
		25	/	17.8	/	/	60.26	/
50	0	/	18.27	/	/	67.14	/	

LTE 41b

Test Band: 41b _ 5MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	19.49	21.52	20.06	88.92	141.91	101.39
		13	19.73	21.58	20.13	93.97	143.88	103.04
		24	20.26	21.58	19.94	106.17	143.88	98.63
	12	0	18.31	20.91	20.13	67.76	123.31	103.04
		6	18.49	20.93	20.14	70.63	123.88	103.28
		13	18.82	20.88	20.05	76.21	122.46	101.16
25	0	18.47	20.82	19.97	70.31	120.78	99.31	
16QAM	1	0	18.29	20.85	19.58	67.45	121.62	90.78
		13	18.58	21.11	19.33	72.11	129.12	85.70
		24	18.99	20.89	19.16	79.25	122.74	82.41
	12	0	17.38	20.79	19.28	54.70	119.95	84.72
		6	17.56	20.84	19.36	57.02	121.34	86.30
		13	17.87	20.79	19.2	61.24	119.95	83.18
25	0	17.51	19.92	19.2	56.36	98.17	83.18	



Test Band: 41b _ 10MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	19.36	21.28	19.98	86.30	134.28	99.54
		25	20.19	21.46	20.02	104.47	139.96	100.46
		49	21.14	21.62	19.78	130.02	145.21	95.06
	25	0	18.55	20.72	19.98	71.61	118.03	99.54
		13	18.99	20.7	20	79.25	117.49	100.00
		25	19.42	20.81	19.9	87.50	120.50	97.72
50	0	18.95	20.68	19.87	78.52	116.95	97.05	
16QAM	1	0	18.21	20.55	19.34	66.22	113.50	85.90
		25	19.1	20.62	19.39	81.28	115.35	86.90
		49	20.29	20.77	19.18	106.91	119.40	82.79
	25	0	17.52	19.74	19.25	56.49	94.19	84.14
		13	17.8	19.76	19.25	60.26	94.62	84.14
		25	18.32	19.81	19.19	67.92	95.72	82.99
	50	0	17.86	19.73	19.19	61.09	93.97	82.99

Test Band: 41b _ 15MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	19.36	21.13	19.4	86.30	129.72	87.10
		38	20.68	21.47	20.1	116.95	140.28	102.33
		74	21.81	21.73	19.72	151.71	148.94	93.76
	36	0	18.61	20.54	19.56	72.61	113.24	90.36
		18	19.2	20.67	19.76	83.18	116.68	94.62
		39	20.04	20.79	19.82	100.93	119.95	95.94
75	0	19.37	20.63	19.67	86.50	115.61	92.68	
16QAM	1	0	18.77	20.53	18.62	75.34	112.98	72.78
		38	20.27	20.85	19.2	106.41	121.62	83.18
		74	21.06	21.16	18.87	127.64	130.62	77.09
	36	0	17.74	19.63	18.97	59.43	91.83	78.89
		18	18.3	19.62	19.18	67.61	91.62	82.79
		39	19.02	19.76	19.11	79.80	94.62	81.47
	75	0	18.39	19.57	19.02	69.02	90.57	79.80



Test Band: 41b _20MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	19.28	21.16	19.83	84.72	130.62	96.16
		50	20.99	21.47	19.94	125.60	140.28	98.63
		99	21.7	21.65	19.64	147.91	146.22	92.04
	50	0	19.01	20.51	19.32	79.62	112.46	85.51
		25	19.89	20.61	19.54	97.50	115.08	89.95
		50	20.5	20.87	19.82	112.20	122.18	95.94
100	0	19.85	20.76	19.62	96.61	119.12	91.62	
16QAM	1	0	18.92	20.43	19.25	77.98	110.41	84.14
		50	20.63	20.68	19.18	115.61	116.95	82.79
		99	21.07	20.94	19.13	127.94	124.17	81.85
	50	0	18.06	19.49	18.93	63.97	88.92	78.16
		25	18.74	19.55	19.08	74.82	90.16	80.91
		50	19.43	19.72	19.14	87.70	93.76	82.04
	100	0	18.78	19.64	19.03	75.51	92.04	79.98

LTE 41c

Test Band: 41c _5MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	20.89	21.34	19.91	122.74	136.14	97.95
		13	20.52	21.3	19.91	112.72	134.90	97.95
		24	20.03	21.46	19.65	100.69	139.96	92.26
	12	0	19.54	20.58	19.99	89.95	114.29	99.77
		6	19.34	20.61	20	85.90	115.08	100.00
		13	18.95	20.66	19.87	78.52	116.41	97.05
25	0	19.06	20.56	19.93	80.54	113.76	98.40	
16QAM	1	0	20.05	20.63	19.23	101.16	115.61	83.75
		13	18.95	20.81	19.17	78.52	120.50	82.60
		24	18.76	20.76	19.14	75.16	119.12	82.04
	12	0	18.56	20.48	19.12	71.78	111.69	81.66
		6	18.34	20.5	19.13	68.23	112.20	81.85
		13	17.95	20.55	18.99	62.37	113.50	79.25
	25	0	18.06	19.61	19.09	63.97	91.41	81.10

Test Band: 41c _10MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	20.8	21.33	19.95	120.23	135.83	98.86
		25	19.66	21.25	19.95	92.47	133.35	98.86
		49	19.46	21.41	19.67	88.31	138.36	92.68
	25	0	18.93	20.55	20.03	78.16	113.50	100.69
		13	18.49	20.55	20.03	70.63	113.50	100.69
		25	18.29	20.62	19.93	67.45	115.35	98.40
50	0	18.53	20.52	19.93	71.29	112.72	98.40	
16QAM	1	0	19.94	20.28	19.06	98.63	106.66	80.54
		25	18.91	20.41	19.25	77.80	109.90	84.14
		49	18.34	20.34	18.84	68.23	108.14	76.56
	25	0	18.17	19.54	19.23	65.61	89.95	83.75
		13	17.53	19.53	19.18	56.62	89.74	82.79
		25	17.33	19.6	19.1	54.08	91.20	81.28
50	0	17.56	19.5	19.12	57.02	89.13	81.66	

Test Band: 41c _15MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	20.8	21.25	19.35	120.23	133.35	86.10
		38	19.43	21.23	20	87.70	132.74	100.00
		74	19.88	21.23	19.51	97.27	132.74	89.33
	36	0	18.57	20.46	19.62	71.94	111.17	91.62
		18	18.22	20.49	19.84	66.37	111.94	96.38
		39	18.25	20.58	19.84	66.83	114.29	96.38
75	0	18.3	20.48	19.74	67.61	111.69	94.19	
16QAM	1	0	19.87	20.3	18.67	97.05	107.15	73.62
		38	18.41	20.52	19.08	69.34	112.72	80.91
		74	19.17	20.46	18.89	82.60	111.17	77.45
	36	0	17.52	19.63	18.9	56.49	91.83	77.62
		18	17.06	19.54	19.06	50.82	89.95	80.54
		39	17.09	19.61	18.96	51.17	91.41	78.70
75	0	17.31	19.53	18.89	53.83	89.74	77.45	



Test Band: 41c_20MHz Bandwidth								
Modulation	RB Allocation		Conducted Power (dBm)			Conducted Power (mW)		
	Size	Offset	LCH	MCH	HCH	LCH	MCH	HCH
QPSK	1	0	20.5	21.17	19.35	112.20	130.92	86.10
		50	19.31	21.18	20	85.31	131.22	100.00
		99	20.86	21.38	19.51	121.90	137.40	89.33
	50	0	18.4	20.42	19.62	69.18	110.15	91.62
		25	18.22	20.45	19.84	66.37	110.92	96.38
		50	18.81	20.65	19.84	76.03	116.14	96.38
100	0	18.67	20.6	19.74	73.62	114.82	94.19	
16QAM	1	0	19.85	20.34	18.67	96.61	108.14	73.62
		50	18.81	20.32	19.08	76.03	107.65	80.91
		99	19.71	20.77	18.89	93.54	119.40	77.45
	50	0	17.42	19.44	18.9	55.21	87.90	77.62
		25	17.2	19.43	19.06	52.48	87.70	80.54
		50	17.76	19.56	18.96	59.70	90.36	78.70
100	0	17.61	19.56	18.89	57.68	90.36	77.45	

5.2 MPE Calculation

According to the formula $S=PG/4\pi R^2$, we can calculate S which is MPE.

Note:

- 1) P (mW)
- 2) R = distance to the center of radiation of antenna (in meter) = 20cm
- 3) MPE limit = 1mW/cm²

Band Information	Antenna Gain (dBi)	Gain in Linear Scale G	Operation Distance R(cm)	Max Tune-up power(dBm)	Max Tune-up power(mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
2.4G WiFi	4.82	3.03	20	19	79.43	0.048	1	Pass
5G WiFi	4.82	3.03	20	16	39.81	0.024	1	Pass
GSM 850	2.8	1.91	20	31	1258.93	0.477	0.55	Pass
GSM 1900	3.27	2.12	20	19	79.43	0.034	1	Pass
LTE Band 5	2.8	1.91	20	21	125.89	0.048	0.55	Pass
LTE Band 38	1.25	1.33	20	22	158.49	0.042	1	Pass
LTE Band 40a	1.45	1.4	20	21	125.89	0.035	1	Pass
LTE Band 40b	1.45	1.4	20	21	125.89	0.035	1	Pass
LTE Band 41b	2.21	1.66	20	22	158.49	0.052	1	Pass
LTE Band 41c	2.21	1.66	20	22	158.49	0.052	1	Pass

The 2.4G & 5G & GSM function can simultaneous transmitting.so the maximum rate of MPE is $0.048/1.0+0.024/1.0+0.426/0.55=0.939\leq 1.0$.

The 2.4G & 5G & LTE function can simultaneous transmitting.so the maximum rate of MPE $0.048/1.0+0.024/1.0+0.048/0.55=0.159\leq 1.0$.

According to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

--End of the Report--