FCC PART 15C TEST REPORT FOR CERTIFICATION On Behalf of

Chunghsin Technology Group CO.,LTD

8" Android Tablet

Model Number: ONA19TB002

Additional Model: ONA19TB010

FCC ID: 2AE2WT0815M

Prepared for:	Chunghsin Technology Group CO.,LTD						
	No. 618-2 GONGREN WEST ROAD, JIAOJIANG AREA, TAIZHOU CITY,						
	ZHEJIANG, CHINA						
Prepared By:	EST Technology Co., Ltd.						
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Report Number:	ESTE-R1901013
Date of Test:	Dec. 11, 2018~Jan. 17, 2019
Date of Report:	Jan. 17, 2019



EST Technology Co., Ltd Report No. ESTE-R1901013

TABLE OF CONTENTS

Descr	<u>iptior</u>	1	<u> Page</u>
TEST R	EPORT	r Verification	3
1.	GEN	IERAL INFORMATION	5
	1.1.	Description of Device (EUT)	5
2.	SUM	MARY OF TEST	6
	2.1.	Summary of test result	
	2.2.	Test Facilities	
	2.3.	Measurement uncertainty	8
	2.4.	Assistant equipment used for test	
	2.5.	Block Diagram	8
	3.1.	Test mode	9
	3.2.	Channel List	9
	3.3.	Test Equipment.	10
4.	MAX	XIMUM PEAK OUTPUT POWER	11
	4.1.	Limit	11
	4.2.	Test Procedure	11
	4.3.	Test Result	11
	4.4.	Test Data	12
5.	20 E	OB bandwidth	16
	5.1.	Limit	16
	5.2.	Test Procedure	16
	5.3.	Test Result	16
	5.4.	Test Data	17
6.	CAR	RRIER FREQUENCY SEPARATION	21
	6.1.	Limit	21
	6.2.	Test Procedure	21
	6.3.	Test Result	21
	6.4.	Test Data	22
7.	Nun	MBER OF HOPPING CHANNEL	26
	7.1.	Limit	26
	7.2.	Test Procedure	26
	7.3.	Test Result	26
	7.4.	Test Data	27
8.	Dwi	ell Time	29
	8.1.	Limit	29
	8.2.	Test Procedure	29
	8.3.	Test Result	29
	8.4.	Test Data	30
9.	RAD	DIATED EMISSIONS	36
	9.1.	Limit	36
	9.2.	Block Diagram of Test setup	37
	9.3.	Test Procedure	
	9.4.	Test Result	
	9.5.	Test Data	39



FCC ID: 2AE2WT0815M

10.	BAND EDGE COMPLIANCE	55
	10.1. Limit	55
	10.2. Block Diagram of Test setup	55
	10.3. Test Procedure	55
	10.4. Test Result	55
	10.5. Test Data	56
11.	POWER LINE CONDUCTED EMISSIONS	72
	11.1. Limit	72
	11.2. Test Procedure	72
12.	Antenna Requirements	77
	12.1. Limit	
	12.2. Result	77
13.	TEST SETUP PHOTO	78
14	PHOTO EUT	80



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Applicant: Chunghsin Technology Group CO.,LTD Address: No. 618-2 GONGREN WEST ROAD, JIAOJIANG AREA, TAIZHOU CITY, ZHEJIANG, CHINA Manufacturer: Chunghsin Technology Group CO.,LTD Address: No. 618-2 GONGREN WEST ROAD, JIAOJIANG AREA, TAIZHOU CITY, ZHEJIANG CHINA E.U.T: 8" Android Tablet **ONA19TB002 Model Number:** ONA19TB010 **Additional Model:** (They are identical except model name only) **Power Supply:** DC 5V From Adapter Input AC 100~240V, 50/60Hz, 0.3A DC 3.7V From battery **Test Voltage:** DC 5V From Adapter Input AC 120V/60Hz, 0.3A DC 5V From Adapter Input AC 240V/50Hz, 0.3A **Trade Name:** onn Serial No.: Date of Receipt: Dec. 11, 2018 Date of Test: Dec. 11, 2018~Jan. 17, 2019 FCC Rules and Regulations Part 15 Subpart C:2018 **Test Specification:** ANSI C63.10:2013 **Test Result:** The device described above is tested by EST Technology Co., Ltd. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC Rules and Regulations Part 15 Subpart C requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd. Date: Jan. 17, 2019 Prepared by: Reviewed by: Ring / Assistant Tony / Engineer Other Aspects: None. Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested This test report is based on a single evaluation of one sample of above mentioned products, It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd.

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Product Name	:	8" Android Tablet
FCC ID	:	2AE2WT0815M
Model Number	:	ONA19TB002
Operation frequency	:	2402MHz~2480MHz
Number of channel	:	79
Antenna	:	Internal antenna (Antenna Gain:1.27 dBi)
Modulation	:	BT BDR: GFSK BT EDR: π/4-DQPSK BT EDR: 8-DPSK
Sample Type	:	Prototype production



EST Technology Co., Ltd Report No. ESTE-R1901013 Page 5 of 88

2. SUMMARY OF TEST

2.1. Summary of test result

Standard	Results
FCC Part 15: 15.247(b)(1) KDB 558074	PASS
FCC Part 15: 15.247a1 KDB 558074	PASS
FCC Part 15: 15.247(a)(1) KDB 558074	PASS
FCC Part 15: 15.247(a)(1)(iii) KDB 558074	PASS
FCC Part 15: 15.247(a)(1)(iii) KDB 558074	PASS
FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.10:2013 KDB 558074	PASS
FCC Part 15: 15.247(d) KDB 558074	PASS
FCC Part 15: 15.207 ANSI C63.10:2013 KDB 558074	PASS
FCC Part 15: 15.203	PASS
	FCC Part 15: 15.247(b)(1) KDB 558074 FCC Part 15: 15.247a1 KDB 558074 FCC Part 15: 15.247(a)(1) KDB 558074 FCC Part 15: 15.247(a)(1)(iii) KDB 558074 FCC Part 15: 15.247(a)(1)(iii) KDB 558074 FCC Part 15: 15.247(d) ANSI C63.10:2013 KDB 558074 FCC Part 15: 15.247(d) KDB 558074 FCC Part 15: 15.247(d) KDB 558074 FCC Part 15: 15.247(d) KDB 558074 FCC Part 15: 15.207 ANSI C63.10:2013 KDB 558074

Note: KDB 558074 D01 15.247 Meas Guidance v05



EST Technology Co., Ltd Report No. ESTE-R1901013 Page 6 of 88

2.2. Test Facilities

EMC Lab

: Certificated by CNAS, CHINA

Registration No.: L5288

Date of registration: November 13, 2017

Certificated by FCC, USA Designation Number: CN1215

Test Firm Registration Number: 722932 Date of registration: November 21, 2017

Certificated by A2LA, USA Registration No.: 4366.01

Date of registration: November 07, 2017

Certificated by Industry Canada CAB identifier No.: CN0035

Date of registration: January 04, 2019

Certificated by VCCI, Japan

Registration No.: R-13663; C-14103 Date of registration: July 25, 2017

This Certificate is valid until: July 24, 2020

Certificated by TUV Rheinland, Germany Registration No.: UA 50413872 0001 Date of registration: July 31, 2018

Certificated by TUV/PS, Shenzhen

Registration No.: SCN1017

Date of registration: January 27, 2011

Certificated by Intertek ETL SEMKO Registration No.: 2011-RTL-L2-64 Date of registration: April 28, 2011

Certificated by Nemko, Hong Kong

Registration No.: 175193

Date of registration: May 4, 2011

Name of Firm : EST Technology Co., Ltd.

Site Location : Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong,

China



2.3. Measurement uncertainty

Test Item	Uncertainty
Uncertainty for Conduction emission test	±3.48dB
Uncertainty for spurious emissions test	±4.60 dB(Polarize: H)
(30MHz-1GHz)	±4.68 dB(Polarize: V)
Uncertainty for spurious emissions test (1GHz to 18GHz)	±4.96dB
Uncertainty for radio frequency	7×10 ⁻⁸
Uncertainty for conducted RF Power	0.20dB
Uncertainty for Power density test	0.26dB

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2.4. Assistant equipment used for test

2.4.1. Adapter

M/N : BSY01J3050200U U

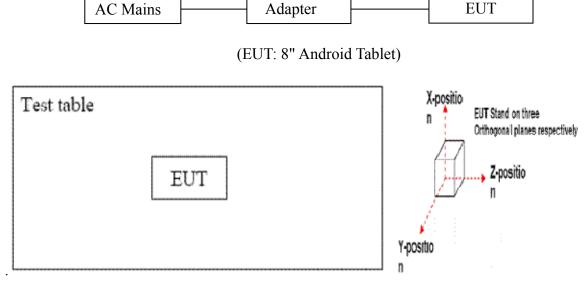
Manufacturer : Onn

Input : AC 100-240V, 50/60Hz, 0.3A

Output : DC 5.0V, 2.0A

2.5. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 (or 1.5) meter high above ground. EUT was be set into TX test mode by software before test.



Note: We test X-axis, Y-axis, and Z-axis,. The Y-axis is the worst mode, so only theworst mode test data was included in the report.



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3.1. Test mode

The test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode

Mode	Channel	Frequency
	Low	2402MHz
GFSK	Middle	2441MHz
	High	2480MHz
	Low	2402MHz
8-DPSK	Middle	2441MHz
	High	2480MHz

3.2. Channel List

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
No.	(MHz)	No.	(MHz)	No.	(MHz)	No.	(MHz)
1	2402	2	2403	3	2404	4	2405
5	2406	6	2407	7	2408	8	2409
9	2410	10	2411	11	2412	12	2413
13	2414	14	2415	15	2416	16	2417
17	2418	18	2419	19	2420	20	2421
21	2422	22	2423	23	2424	24	2425
25	2426	26	2427	27	2428	28	2429
29	2430	30	2431	31	2432	32	2433
33	2434	34	2435	35	2436	36	2437
37	2438	38	2439	39	2440	40	2441
41	2442	42	2443	43	2444	44	2445
45	2446	46	2447	47	2448	48	2449
49	2450	50	2451	51	2452	52	2453
53	2454	54	2455	55	2456	56	2457
57	2458	58	2459	59	2460	60	2461
61	2462	62	2463	63	2464	64	2465
65	2466	66	2467	67	2468	68	2469
69	2470	70	2471	71	2472	72	2473
73	2474	74	2475	75	2476	76	2477
77	2478	78	2479	79	2480	-	-



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3.3. Test Equipment

3.3.1. For conducted emission test

Equipment	Manufacturer	Model No.	Serial No.	Calibration	Last Cal.	Next Cal.
				Body		
EMI Test Receiver	Rohde	ESHS30	832354	CEPREI	June 15,18	1 Year
	& Schwarz					
Artificial Mains Network	Rohde	ENV216	101260	CEPREI	June 15,18	1 Year
	& Schwarz					
Pulse Limiter	Rohde	ESH3-Z2	101100	CEPREI	June 15,18	1 Year
	& Schwarz					
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

3.3.2. For radiated emission test(9 kHz-30MHz)

Equipment	Manufacturer	Model No.	Serial No.	Calibration	Last Cal.	Next Cal.
				Body		
EMI Test	Rohde	ESR7	101780	CEPREI	June 15,18	1 Year
Receiver	& Schwarz					
Active Loop Antenna	SCHWAREB	FMZB 1519B	1519B-088	N/A	Aug. 01,18	1 Year
	ECK					
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

3.3.3. For radiated emissions test (30-1000MHz)

Equipment	Manufacturer	Model No.	Serial No.	Calibration	Last Cal.	Next Cal.
				Body		
EMI Test	Rohde	ESR7	101780	CEPREI	June 15,18	1 Year
Receiver	& Schwarz					
Bilog Antenna	Teseq	CBL 6111D	27090	CEPREI	June 15,18	1 Year
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

3.3.4. For radiated emission test(above 1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Calibration	Last Cal.	Next Cal.
				Body		
Horn Antenna	SCHWARZB	BBHA 9120 D	BBHA912	CEPREI	June 18,18	1 Year
	ECK		0D1002			
Horn Antenna	SCHWARZB	BBHA9170	BBHA917	CEPREI	June 18,18	1Year
	ECK		0242			
Signal Amplifier	SCHWARZB	BBV9718	9718-212	CEPREI	June 15,18	1 Year
	ECK					
Spectrum Analyzer	Rohde	FSV	103173	CEPREI	June 15,18	1 Year
	&Schwarz					
PSA Series Spertrum	Agilent	E4447A	MY50180	CEPREI	June 15,18	1Year
Analyzer			031			
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

3.3.5. For connect EUT antenna terminal test

Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
Nnectrum Analyzer	Rohde &Schwarz	FSV	103173	CEPREI	June 15,18	1 Year
Spectrum Analyzer	Agilent	E4408B	MY44211139	CEPREI	June 15,18	1 Year



EST Technology Co., Ltd Report No. ESTE-R1901013 Page 10 of 88

4. MAXIMUM PEAK OUTPUT POWER

4.1. Limit

For FHSs operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1.0 W if the hopset employing at least 75 non-overlapping hopping channels; shall not exceed 0.125 W if the hopset employing at greater than or equal to 15 and less than 75 non-overlapping hopping channels.

4.2. Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.

4.3. Test Result

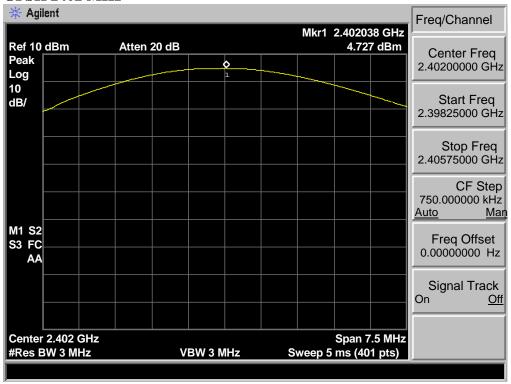
EUT: 8" Android Tablet							
M/N: ONA19TB002							
Test date: 2018-12-27 Test site: RF site Tested by: Seven							
Mode Freq		Result	L	Limit			
Wiode	(MHz)	(dBm)	dBm	W	Conclusion		
	2402	4.727	30.00	1	Pass		
GFSK	2441	5.851	30.00	1	Pass		
	2480	4.789	30.00	1	Pass		
	2402	4.278	30.00	1	Pass		
8-DPSK	2441	5.422	30.00	1	Pass		
	2480	4.283	30.00	1	Pass		



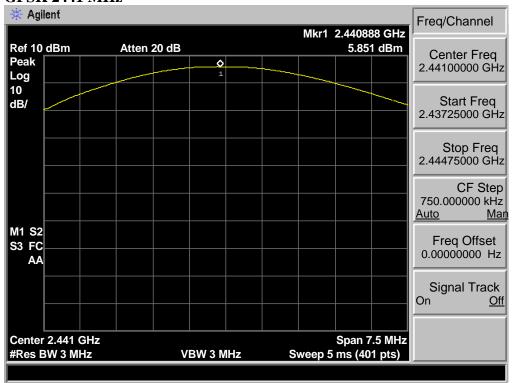
EST Technology Co., Ltd Report No. ESTE-R1901013 Page 11 of 88

4.4. Test Data

GFSK 2402 MHz



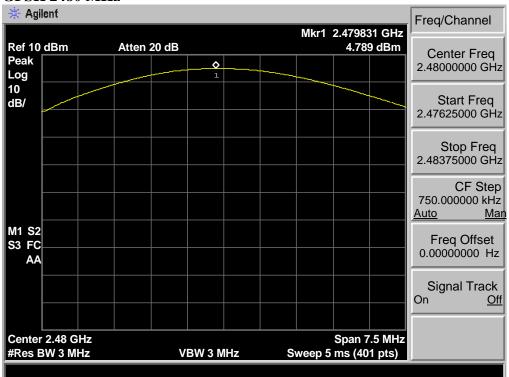
GFSK 2441 MHz





EST Technology Co., Ltd Report No. ESTE-R1901013 Page 12 of 88

GFSK 2480 MHz

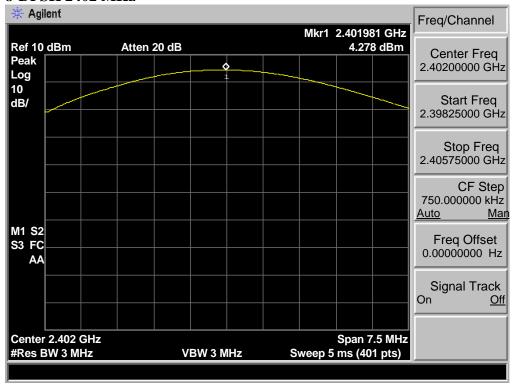




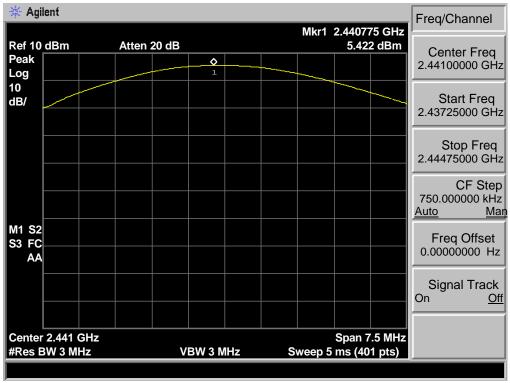
EST Technology Co., Ltd

Report No. ESTE-R1901013

8-DPSK 2402 MHz



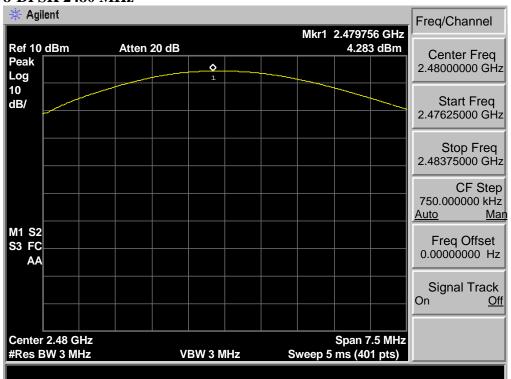
8-DPSK 2441 MHz





EST Technology Co., Ltd Report No. ESTE-R1901013 Page 14 of 88

8-DPSK 2480 MHz





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5. 20 DB BANDWIDTH

5.1. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

5.2. Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

5.3. Test Result

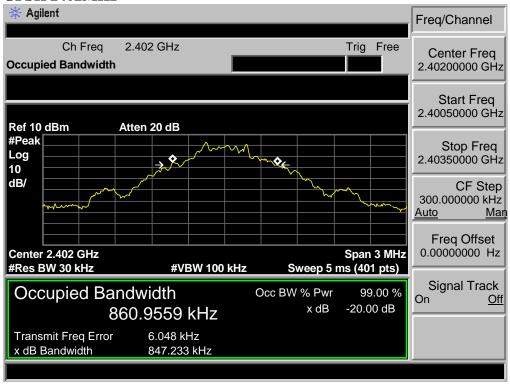
EUT: 8" Android Tablet						
M/N: ONA19TB002						
Test date: 20	18-12-27	Test site: RF site	Tested by: Seven			
Mode	Freq (MHz)	20dB Bandwidth (MHz)	Limit (kHz)	Conclusion		
	2402	0.847233	/	PASS		
GFSK	2441	0.846837	/	PASS		
	2480	0.848788	/	PASS		
	2402	1.153000	/	PASS		
8-DPSK	2441	1.144000	/	PASS		
	2480	1.151000	/	PASS		



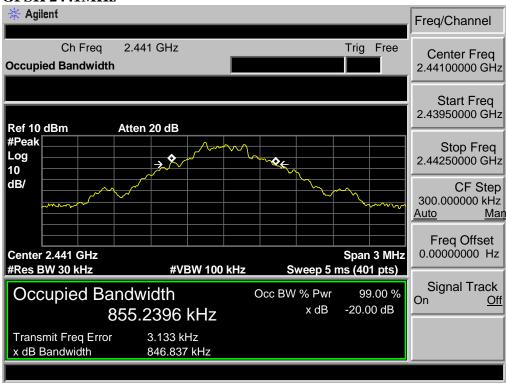
EST Technology Co., Ltd Report No. ESTE-R1901013 Page 16 of 88

5.4. Test Data

GFSK 2402MHz



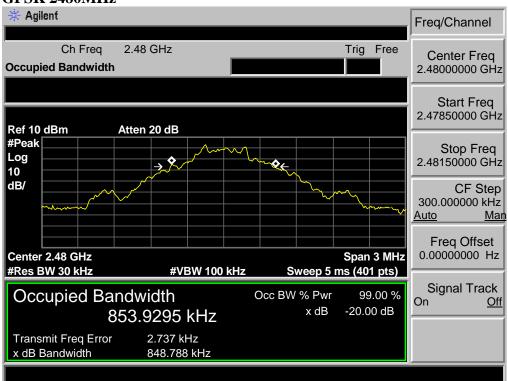
GFSK 2441MHz





EST Technology Co., Ltd Report No. ESTE-R1901013 Page 17 of 88

GFSK 2480MHz

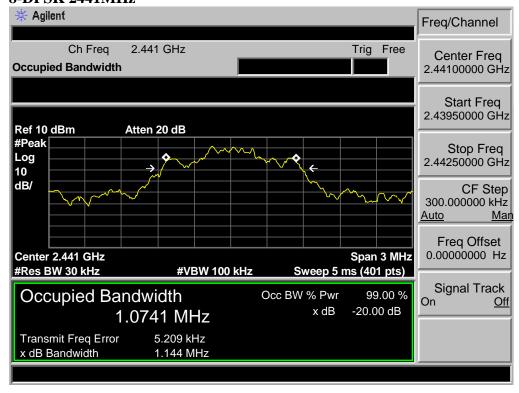




8-DPSK 2402MHz



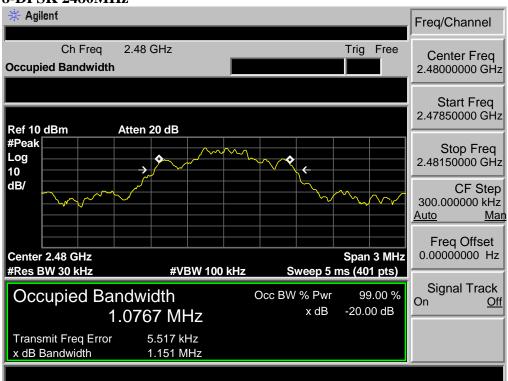
8-DPSK 2441MHz





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8-DPSK 2480MHz





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Report No. ESTE-R1901013

6. CARRIER FREQUENCY SEPARATION

6.1. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

6.2. Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable. The carrier frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW.

6.3. Test Result

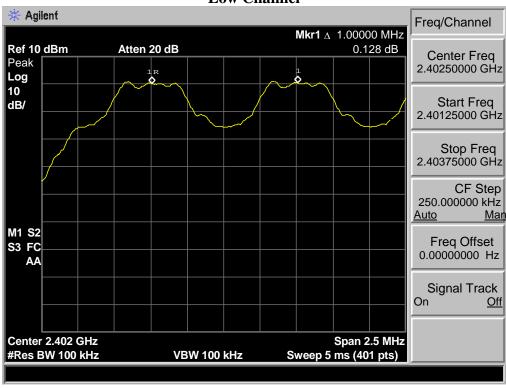
EUT: 8" Android Tablet							
M/N: ONA19TB002							
Test date: 2018-12-27 Test site: RF site Tested by: Seven							
Mode	Channel	Channel separation (MHz)	Limit (MHz)	Conclusion			
	Low CH	1.000000	0.847233	PASS			
GFSK	Mid CH	1.000000	0.846837	PASS			
	High CH	1.000000	0.848788	PASS			
	Low CH	1.000000	> 2/3 of the 20dB Bandwidth or	PASS			
8-DPSK	Mid CH	1.000000	25[kHz](whichever is greater)	PASS			
	High CH	1.000000	25[K112](winchever is greater)	PASS			



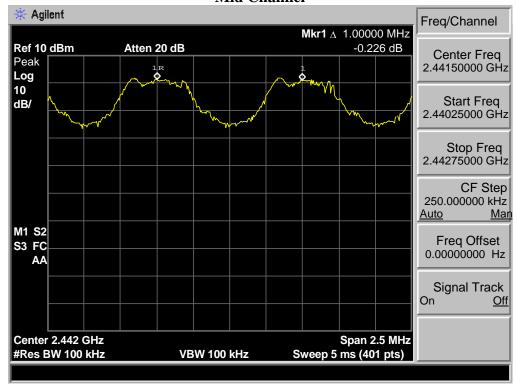
EST Technology Co., Ltd Report No. ESTE-R1901013 Page 21 of 88

6.4. Test Data

GFSK Low Channel

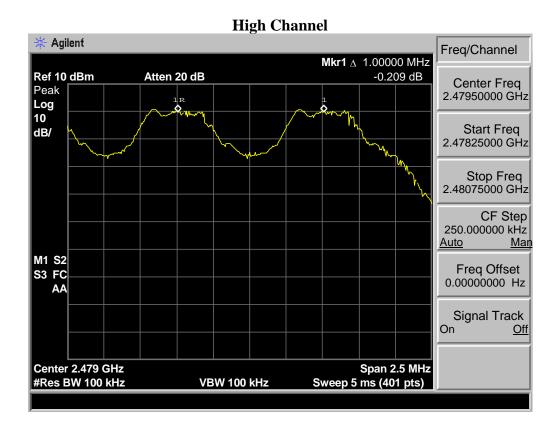


Mid Channel





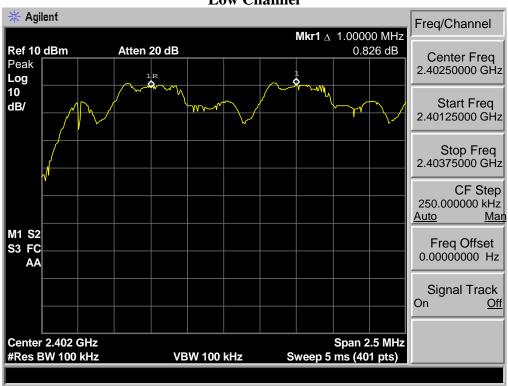
EST Technology Co., Ltd Report No. ESTE-R1901013 Page 22 of 88



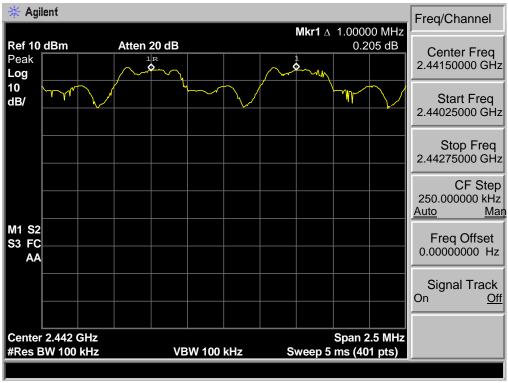


EST Technology Co., Ltd Report No. ESTE-R1901013 Page 23 of 88

8-DPSK Low Channel

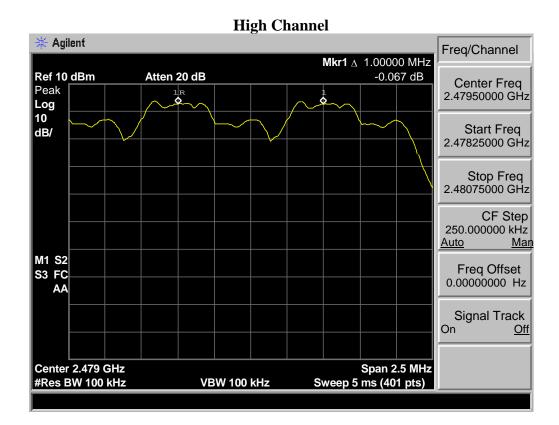


Mid Channel





EST Technology Co., Ltd Report No. ESTE-R1901013 Page 24 of 88





EST Technology Co., Ltd Report No. ESTE-R1901013 Page 25 of 88

7. NUMBER OF HOPPING CHANNEL

7.1. Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels

7.2. Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable. The number of hopping channel was measured by spectrum analyzer with 300kHz RBW and 300kHz VBW.

7.3. Test Result

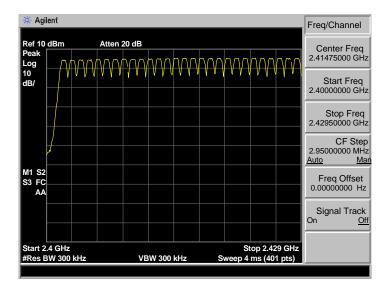
EUT: 8" Android Tablet							
M/N: ONA19TB002							
Test date: 2018-12-27 Test site: RF site Tested by: Seven							
Mode	Number of hopping channel		Limit	Conclusion			
GFSK 79)	>15	PASS			
8-DPSK	79		>15	PASS			

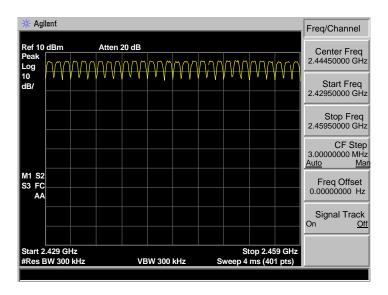


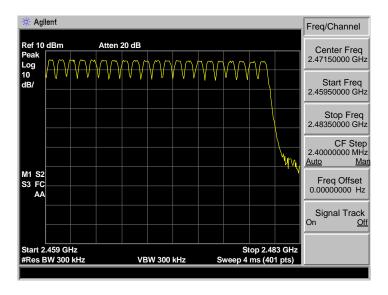
EST Technology Co., Ltd Report No. ESTE-R1901013 Page 26 of 88

7.4. Test Data

GFSK



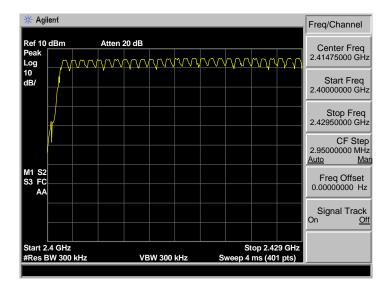


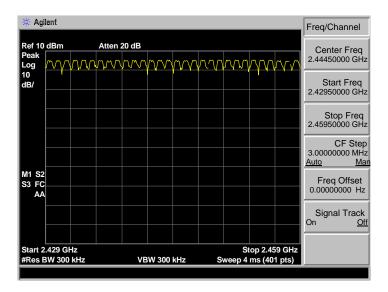


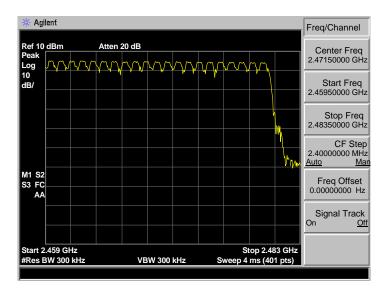


EST Technology Co., Ltd Report No. ESTE-R1901013 Page 27 of 88

8-DPSK









EST Technology Co., Ltd Report No. ESTE-R1901013

8. DWELL TIME

8.1. Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

8.2. Test Procedure

- 1. The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- 2. Set the EUT to proper test mode with relative test software and hardware.
- 3. Spectrum analyzer setting: Centered Frequency = measured channel, RBW = 1MHz, VBW= 1MHz, Frequency Span = 0 Hz.
- 4. Set sweep time properly to capture the entire dwell time per hopping channel.
- 5. Set detector type to Peak and trace mode to Max Hold and make the measurement.
- 6. Repeat step 3-5 until all channels measured were complete.

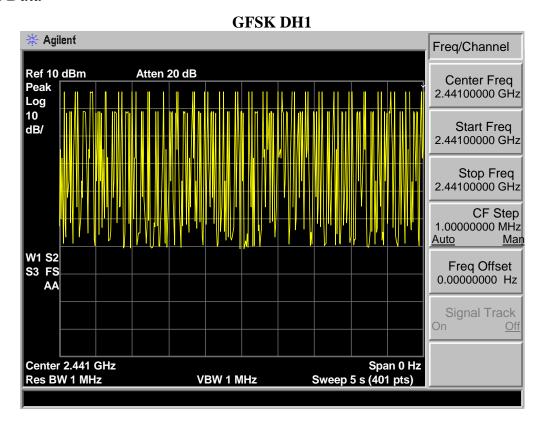
8.3. Test Result

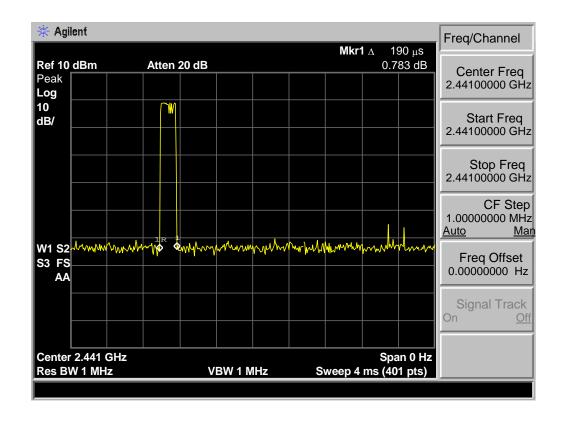
EUT: 8" Android Tablet						
M/N: ONA19TB(M/N: ONA19TB002					
Test date: 2018-12	Test date: 2018-12-27 Test site: RF site Tested by: Seven					
Mode	Hopping number	Measure time (s)	Burst on time (ms)	Dwell time (ms)	Limit	Conclusion
GFSK DH1	48	5	0.19	61.241	<400ms	PASS
GFSK DH3	20	5	0.20	25.280	<400ms	PASS
GFSK DH5	15	5	0.20	18.960	<400ms	PASS
8-DPSK 3DH1	45	5	0.21	59.724	<400ms	PASS
8-DPSK 3DH3	27	5	0.22	37.541	<400ms	PASS
8-DPSK 3DH5	17	5	0.19	20.414	<400ms	PASS
Dwell time = Hopping number/measure time *0.4*79*burst on time.						



EST Technology Co., Ltd Report No. ESTE-R1901013 Page 29 of 88

8.4. Test Data

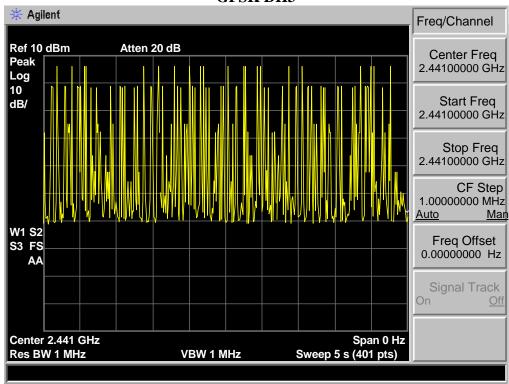


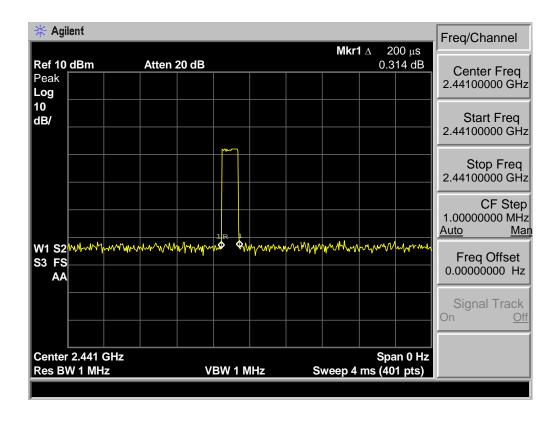




EST Technology Co., Ltd Report No. ESTE-R1901013 Page 30 of 88

GFSK DH3



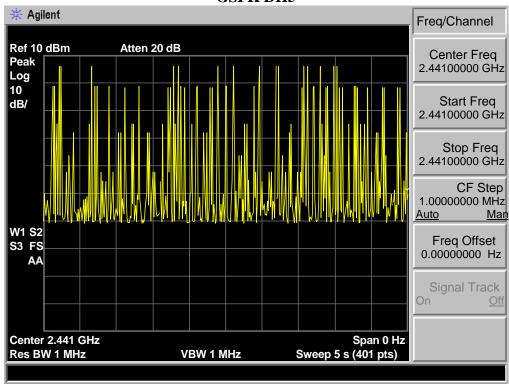


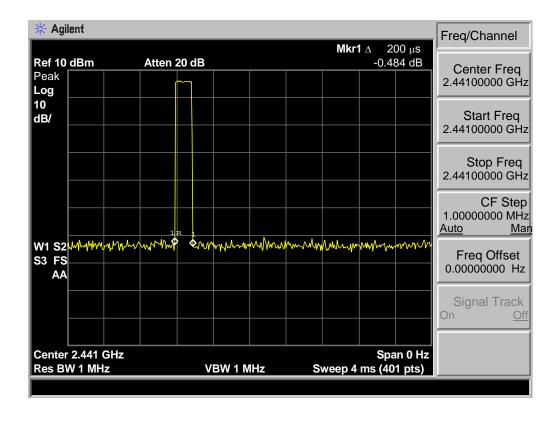


EST Technology Co., Ltd Report No. ESTE-R1901013

Page 31 of 88

GSFK DH5

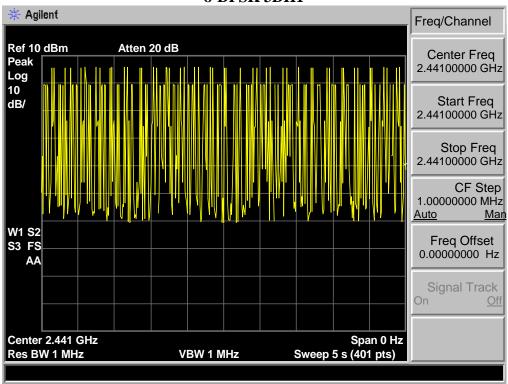


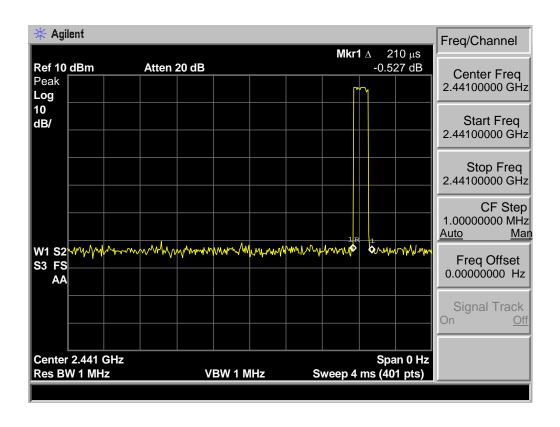




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8-DPSK 3DH1

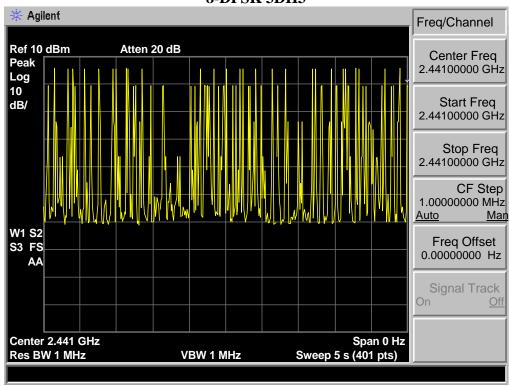


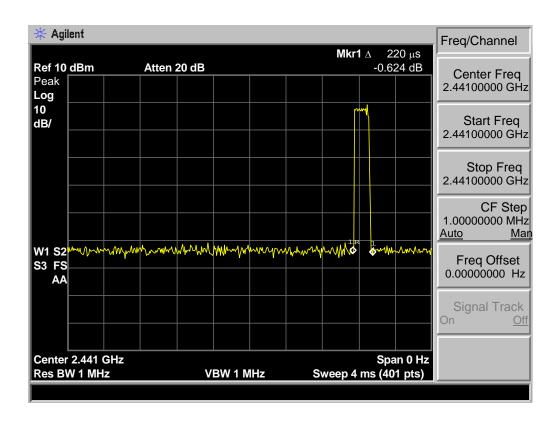




EST Technology Co., Ltd Report No. ESTE-R1901013 Page 33 of 88

8-DPSK 3DH3



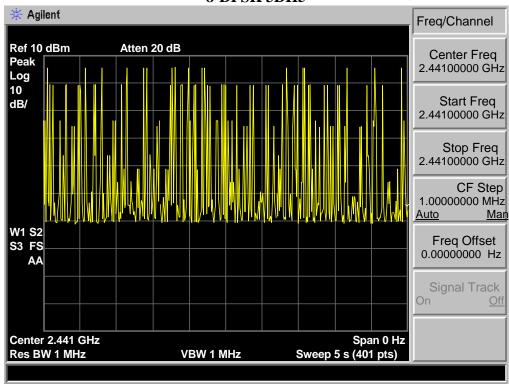


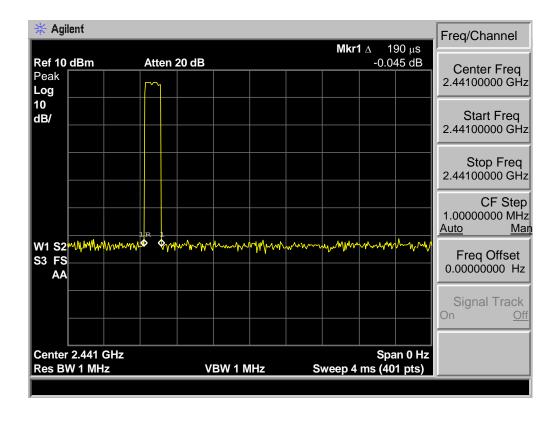


EST Technology Co., Ltd Report No. ESTE-R1901013

Page 34 of 88

8-DPSK 3DH5







EST Technology Co., Ltd Report No. ESTE-R1901013 Page 35 of 88

9. RADIATED EMISSIONS

9.1. Limit

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(2)

15.209 Limit

Frequency (MHz)	Field Strength(μV/m)	Distance(m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark : (1) Emission level $dB\mu V = 20 \log Emission level \mu V/m$

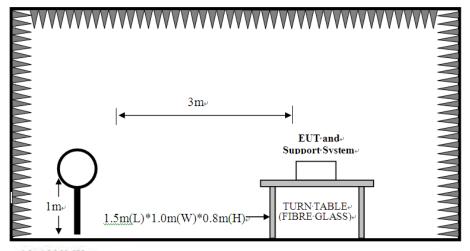
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.



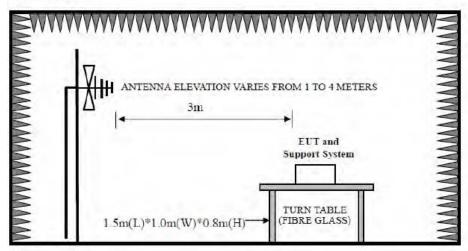
EST Technology Co., Ltd Report No. ESTE-R1901013 Page 36 of 88

9.2. Block Diagram of Test setup

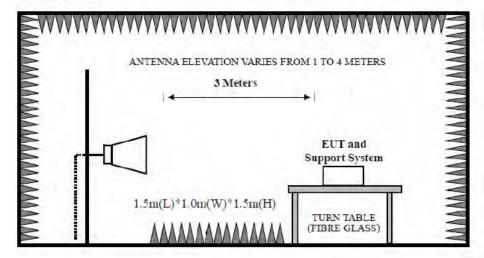
9kHz~30MHz



30~1000MHz



Above 1GHz



EST

EST Technology Co., Ltd Report No. ESTE-R1901013 Page 37 of 88

9.3. Test Procedure

EUT was placed on a turn table, which is 0.8 meter high above ground for 9kHz~1000MHz test, and which is 1.5 meter high above ground for above 1GHz test. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

The test frequency analyzer system was set to Peak Detect (300Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

PEAK detector, 1MHz/1MHz for PAEK measurement, PEAK detector, 1MHz/10Hz for Average measurement

The frequency range from 30MHz to 10th harmonic (25GHz) are checked.

9.4. Test Result

Pass

Note: 1. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

2. The frequency 2402MHz \ 2441MHz and 2480MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.



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9.5. Test Data

9 kHz – 30 MHz

Pass

Note: The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.



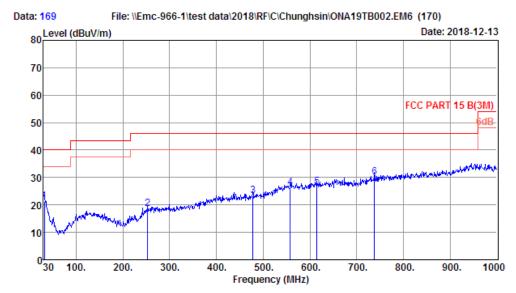
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30 MHz - 1000 MHz

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Site no. : 1# 966 Chamber Data no. : 169
Dis. / Ant. : 3m 27090 Ant. pol. : VERTICAL

Limit : FCC PART 15 B(3M)

Env. / Ins. : Temp:21.6'; Humi:50.3%; Press:101.52kPa

Engineer : Maybe

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002 Test Mode : TX Mode

	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	31.94	17.96	0.22	3.06	21.24	40.00	18.76	QP
2	253.10	12.79	1.43	4.40	18.62	46.00	27.38	QP
3	478.14	17.42	2.25	3.54	23.21	46.00	22.79	QP
4	557.68	20.81	2.44	3.06	26.31	46.00	19.69	QP
5	614.91	20.51	2.59	3.45	26.55	46.00	19.45	QP
6	738.10	22.35	3.14	4.50	29.99	46.00	16.01	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

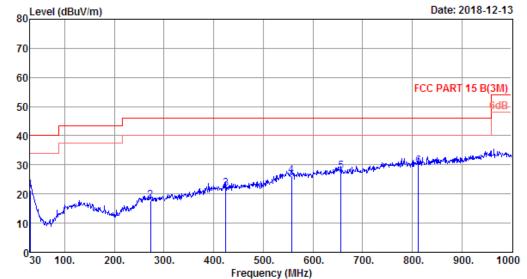
- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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File: \\Emc-966-1\test data\2018\RF\C\Chunghsin\ONA19TB002.EM6 (170)



: 1# 966 Chamber Site no. Data no. : 170 : 3m 27090 Dis. / Ant. Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : Temp:21.6';Humi:50.3%;Press:101.52kPa

Engineer : Maybe

EUT

: 8" Android Tablet : DC 5V From Adapter Input AC 120V/60Hz Power

: ONA19TB002 M/N Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.00	19.00	0.19	1.99	21.18	40.00	18.82	QP
2	272.50	12.87	1.51	3.24	17.62	46.00	28.38	QP
3	424.79	17.00	1.92	3.07	21.99	46.00	24.01	QP
4	556.71	20.82	2.44	2.98	26.24	46.00	19.76	QP
5	656.62	20.99	2.74	3.88	27.61	46.00	18.39	QP
6	812.79	23.20	3.14	3.24	29.58	46.00	16.42	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.

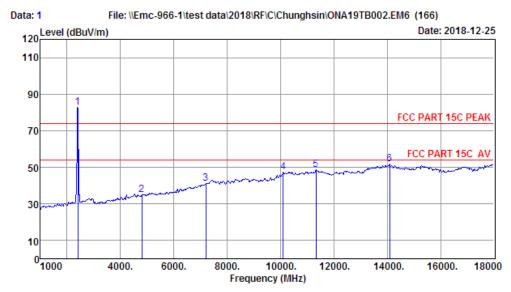


1000-18000MHz

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Site no. : 1# 966 Chamber Data no. : 1

: 3m ANT9120D 1-18G Dis. / Ant. Ant. pol. : HORIZONTAL

: FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

: 8" Android Tablet

: DC 5V From Adapter Input AC 120V/60Hz : ONA19TB002 Power

M/N Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.35	3.21	34.94	87.40	83.02	74.00	-9.02	Peak
2	4804.00	32.06	4.67	35.06	33.15	34.82	74.00	39.18	Peak
3	7206.00	36.56	5.99	33.45	32.04	41.14	74.00	32.86	Peak
4	10095.00	39.14	9.26	34.57	33.54	47.37	74.00	26.63	Peak
5	11336.00	40.03	8.32	32.84	33.03	48.54	74.00	25.46	Peak
6	14090.00	41.61	10.14	32.99	33.17	51.93	74.00	22.07	Peak

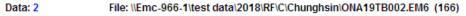
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

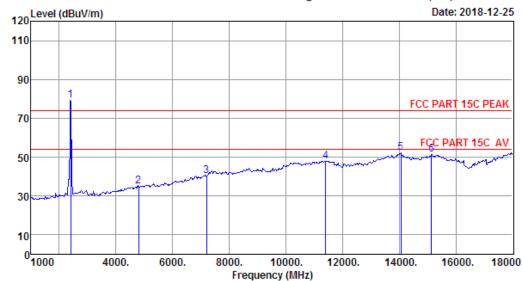
- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 2
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002 Test Mode : GFSK TX 2402MHz

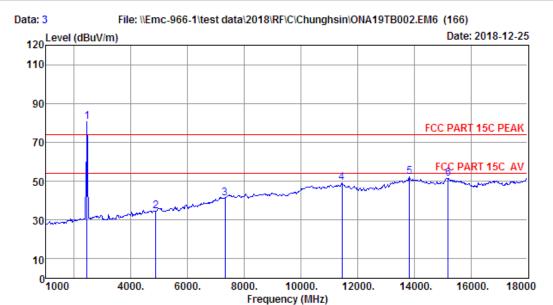
	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.35	3.21	34.94	83.84	79.46	74.00	-5.46	Peak
2	4804.00	32.06	4.67	35.06	33.16	34.83	74.00	39.17	Peak
3	7206.00	36.56	5.99	33.45	31.00	40.10	74.00	33.90	Peak
4	11404.00	40.06	8.29	32.71	32.37	48.01	74.00	25.99	Peak
5	14056.00	41.65	10.13	32.95	33.25	52.08	74.00	21.92	Peak
6	15144.00	40.08	10.90	33.11	33.72	51.59	74.00	22.41	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 3
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002 Test Mode : GFSK TX 2441MHz

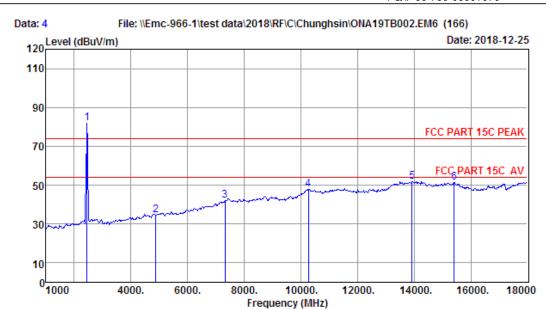
	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.48	3.26	35.07	84.71	80.38	74.00	-6.38	Peak
2	4882.00	32.18	4.73	35.14	32.83	34.60	74.00	39.40	Peak
3	7323.00	36.82	6.10	33.28	31.74	41.38	74.00	32.62	Peak
4	11455.00	40.08	8.28	32.62	33.49	49.23	74.00	24.77	Peak
5	13835.00	41.57	10.10	32.76	33.27	52.18	74.00	21.82	Peak
6	15195.00	40.00	10.96	33.03	33.63	51.56	74.00	22.44	Peak

Report No. ESTE-R1901013

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : site Data no. : 4

Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002 Test Mode : GFSK TX 2441MHz

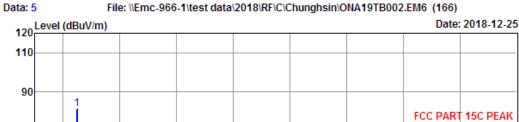
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.48	3.26	35.07	86.19	81.86	74.00	-7.86	Peak
2	4882.00	32.18	4.73	35.14	32.58	34.35	74.00	39.65	Peak
3	7323.00	36.82	6.10	33.28	32.59	42.23	74.00	31.77	Peak
4	10265.00	39.21	9.98	34.39	33.06	47.86	74.00	26.14	Peak
5	13920.00	41.63	10.11	32.83	32.93	51.84	74.00	22.16	Peak
6	15416.00	39.64	10.90	32.53	33.40	51.41	74.00	22.59	Peak

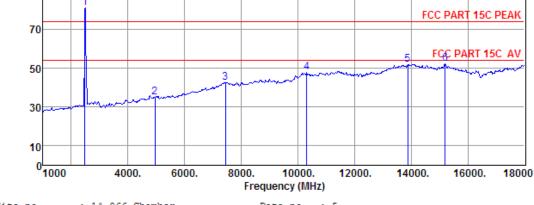
Report No. ESTE-R1901013

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 5

Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002 Test Mode : GFSK TX 2480MHz

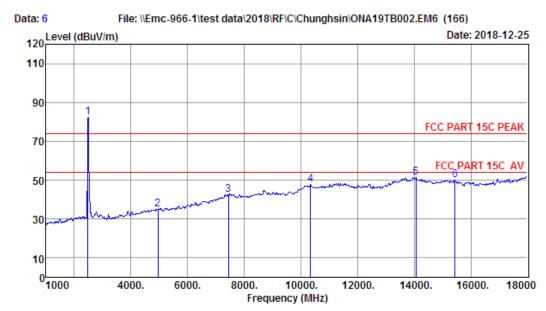
	Freq.	Ant. Factor (dB/m)	Loss	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.56	3.29	35.21	85.42	81.06	74.00	-7.06	Peak
2	4960.00	32.34	4.80	35.24	33.28	35.18	74.00	38.82	Peak
3	7440.00	37.09	6.13	33.08	32.53	42.67	74.00	31.33	Peak
4	10316.00	39.23	10.20	34.34	32.52	47.61	74.00	26.39	Peak
5	13886.00	41.61	10.11	32.80	32.91	51.83	74.00	22.17	Peak
6	15195.00	40.00	10.96	33.03	34.12	52.05	74.00	21.95	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.



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Site no. : 1# 966 Chamber Data no. : 6
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002 Test Mode : GFSK TX 2480MHz

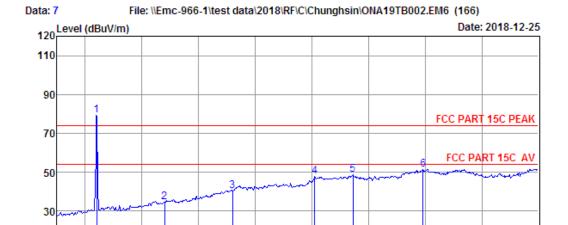
	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.56	3.29	35.21	86.59	82.23	74.00	-8.23	Peak
2	4960.00	32.34	4.80	35.24	33.07	34.97	74.00	39.03	Peak
3	7440.00	37.09	6.13	33.08	32.32	42.46	74.00	31.54	Peak
4	10350.00	39.24	10.10	34.30	32.67	47.71	74.00	26.29	Peak
5	14056.00	41.65	10.13	32.95	32.43	51.26	74.00	22.74	Peak
6	15450.00	39.58	10.88	32.45	31.97	49.98	74.00	24.02	Peak

Report No. ESTE-R1901013

- 2. Margin= Limit Emission Level.



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8000.

10000.

Frequency (MHz)

12000.

14000.

16000.

18000

Site no. : 1# 966 Chamber Data no. : 7
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

6000.

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

4000.

Engineer : Seven

10

0<mark>1000</mark>

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

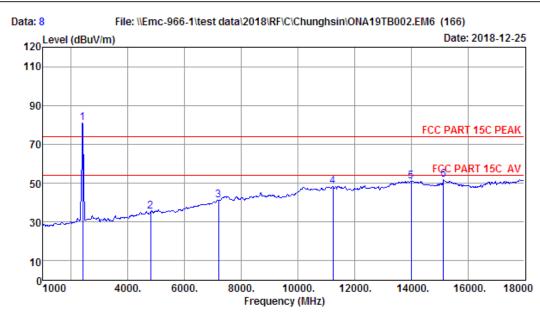
M/N : ONA19TB002 Test Mode : 8-DPSK TX 2402MHz

	Freq.	Ant. Factor (dB/m)		Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.35	3.21	34.94	83.81	79.43	74.00	-5.43	Peak
2	4804.00	32.06	4.67	35.06	32.96	34.63	74.00	39.37	Peak
3	7206.00	36.56	5.99	33.45	31.15	40.25	74.00	33.75	Peak
4	10095.00	39.14	9.26	34.57	34.02	47.85	74.00	26.15	Peak
5	11455.00	40.08	8.28	32.62	32.86	48.60	74.00	25.40	Peak
6	13920.00	41.63	10.11	32.83	32.52	51.43	74.00	22.57	Peak

- 2. Margin= Limit Emission Level.



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Site no. : 1# 966 Chamber Data no. : 8

Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002 Test Mode : 8-DPSK TX 2402MHz

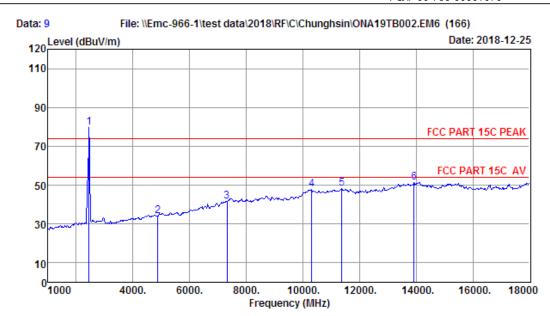
	Freq.	Ant. Factor (dB/m)	Loss	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.35	3.21	34.94	85.30	80.92	74.00	-6.92	Peak
2	4804.00	32.06	4.67	35.06	33.72	35.39	74.00	38.61	Peak
3	7206.00	36.56	5.99	33.45	31.99	41.09	74.00	32.91	Peak
4	11234.00	39.99	8.40	33.03	32.91	48.27	74.00	25.73	Peak
5	14005.00	41.70	10.13	32.88	32.11	51.06	74.00	22.94	Peak
6	15144.00	40.08	10.90	33.11	33.93	51.80	74.00	22.20	Peak

Report No. ESTE-R1901013

- 2. Margin= Limit Emission Level.



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Site no. : 1# 966 Chamber Data no. : 9

Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002 Test Mode : 8-DPSK TX 2441MHz

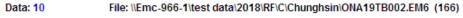
	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.48	3.26	35.07	84.14	79.81	74.00	-5.81	Peak
2	4882.00	32.18	4.73	35.14	32.32	34.09	74.00	39.91	Peak
3	7323.00	36.82	6.10	33.28	31.96	41.60	74.00	32.40	Peak
4	10316.00	39.23	10.20	34.34	32.55	47.64	74.00	26.36	Peak
5	11370.00	40.05	8.30	32.78	32.48	48.05	74.00	25.95	Peak
6	13920.00	41.63	10.11	32.83	32.47	51.38	74.00	22.62	Peak

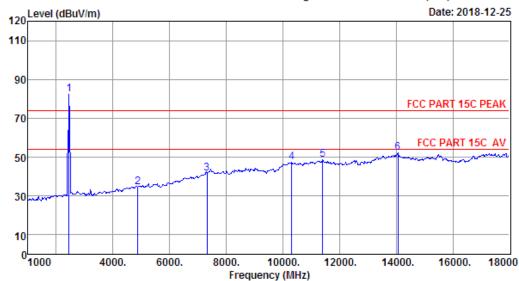
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.



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Site no. : 1# 966 Chamber Data no. : 10
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

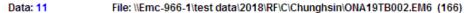
M/N : ONA19TB002 Test Mode : 8-DPSK TX 2441MHz

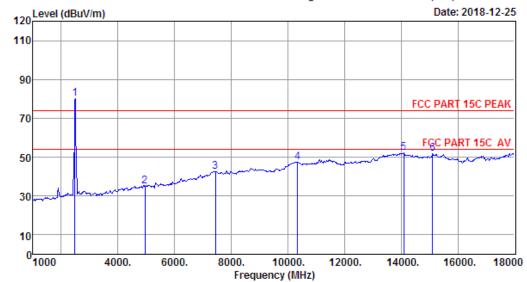
	Freq. (MHz)	Ant. Factor (dB/m)	Loss	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.48	3.26	35.07	86.49	82.16	74.00	-8.16	Peak
2	4882.00	32.18	4.73	35.14	32.69	34.46	74.00	39.54	Peak
3	7323.00	36.82	6.10	33.28	32.20	41.84	74.00	32.16	Peak
4	10316.00	39.23	10.20	34.34	32.30	47.39	74.00	26.61	Peak
5	11404.00	40.06	8.29	32.71	33.00	48.64	74.00	25.36	Peak
6	14056.00	41.65	10.13	32.95	33.30	52.13	74.00	21.87	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 11
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.56	3.29	35.21	84.56	80.20	74.00	-6.20	Peak
2	4960.00	32.34	4.80	35.24	33.17	35.07	74.00	38.93	Peak
3	7440.00	37.09	6.13	33.08	32.30	42.44	74.00	31.56	Peak
4	10350.00	39.24	10.10	34.30	32.51	47.55	74.00	26.45	Peak
5	14090.00	41.61	10.14	32.99	33.54	52.30	74.00	21.70	Peak
6	15110.00	40.13	10.87	33.19	33.99	51.80	74.00	22.20	Peak

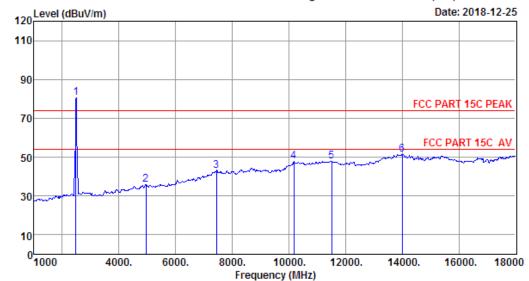
Report No. ESTE-R1901013

- 2. Margin= Limit Emission Level.



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Data: 12 File: \\Emc-966-1\test data\\2018\\RF\C\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 12
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002 Test Mode : 8-DPSK TX 2480MHz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.56	3.29	35.21	85.15	80.79	74.00	-6.79	Peak
2	4960.00	32.34	4.80	35.24	33.83	35.73	74.00	38.27	Peak
3	7440.00	37.09	6.13	33.08	32.86	43.00	74.00	31.00	Peak
4	10180.00	39.17	9.62	34.47	33.39	47.71	74.00	26.29	Peak
5	11506.00	40.10	8.28	32.55	31.95	47.78	74.00	26.22	Peak
6	14005.00	41.70	10.13	32.88	32.45	51.40	74.00	22.60	Peak

- 2. Margin= Limit Emission Level.



18000MHz - 25000MHz

Pass

Note: The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.



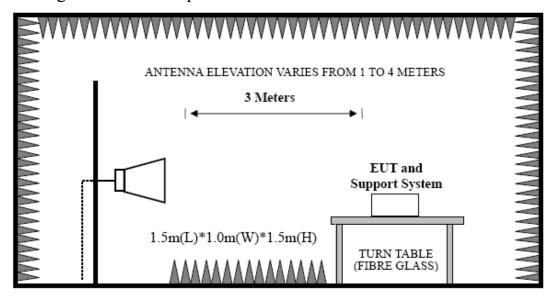
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10.BAND EDGE COMPLIANCE

10.1.Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

10.2.Block Diagram of Test setup



10.3.Test Procedure

EUT was placed on a turn table, which is 1.5 m high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of emissions

Peak: RBW = 1MHz, VBW = 1MHz, Detector=PEAK detector, Sweep time = auto.

AV: RBW = 1MHz, VBW = 10Hz, Detector=PEAK detector, Sweep time = auto.

10.4. Test Result

Pass (The testing data was attached in the next pages.)

Note: 1. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

2. The frequency 2402MHz and 2480MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

EST

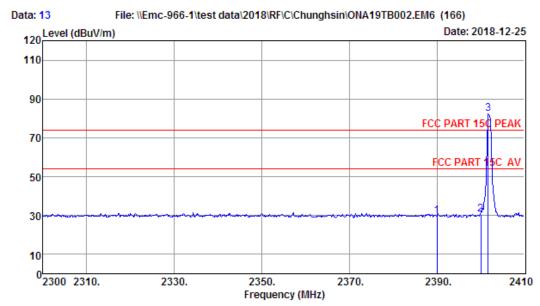
EST Technology Co., Ltd Report No. ESTE-R1901013 Page 55 of 88

10.5. Test Data

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: 1# 966 Chamber Data no. : 13 : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL Dis. / Ant.

: FCC PART 15C PEAK

Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa

: Seven

EUT

: 8" Android Tablet : DC 5V From Adapter Input AC 120V/60Hz Power

: ONA19TB002

: GFSK TX 2402MHz(No hopping) Test Mode

	Freq.			-	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	34.87	34.11	29.80	74.00	44.20	Peak
2	2400.00	27.35	3.21	34.94	34.95	30.57	74.00	43.43	Peak
3	2401.75	27.35	3.21	34.94	86.59	82.21	74.00	-8.21	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

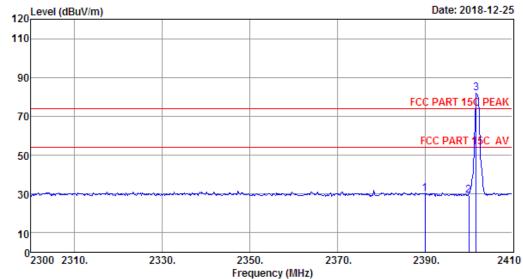
- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Data: 14 File: \\Emc-966-1\\test data\\2018\\RF\\C\\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 14
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : GFSK TX 2402MHz (No hopping)

		Freq.			-	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
	L	2390.00	27.35	3.21	34.87	34.55	30.24	74.00	43.76	Peak
- 2	2	2400.00	27.35	3.21	34.94	33.72	29.34	74.00	44.66	Peak
3	3	2401.75	27.35	3.21	34.94	86.21	81.83	74.00	-7.83	Peak

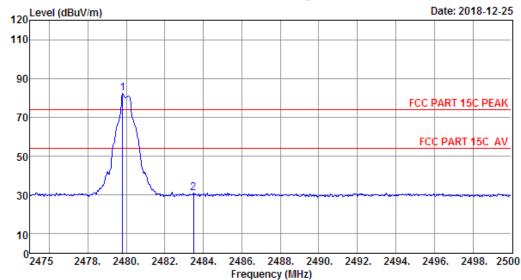
Report No. ESTE-R1901013

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 15 File: \\Emc-966-1\\test data\\2018\\RF\\C\\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 15
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

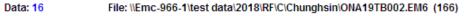
Test Mode : GFSK TX 2480MHz (No hopping)

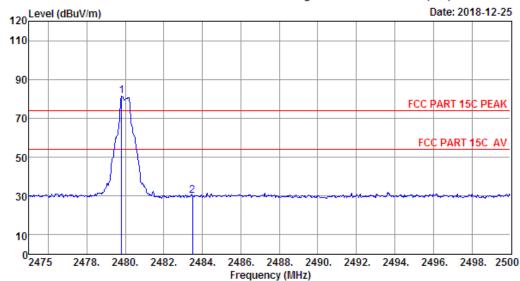
	Freq. (MHz)			Factor	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1	2479.80	27.56	3.29	35.21	86.53	82.17	74.00	-8.17	Peak
2	2483.50	27.56	3.29	35.21	35.55	31.19	74.00	42.81	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 16
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : GFSK TX 2480MHz (No hopping)

	-	Loss	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2479.80 2483.50	 	 	81.41 29.92	74.00 74.00	-7.41 44.08	Peak Peak

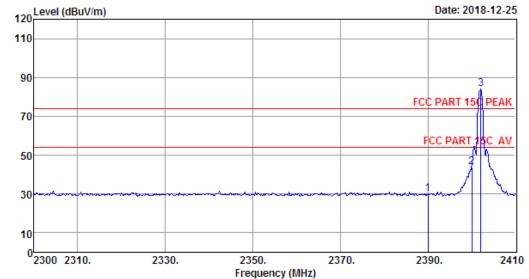
Report No. ESTE-R1901013

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 17 File: \\Emc-966-1\\test data\\2018\\RF\\C\\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 17
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : 8-DPSK TX 2402MHz (No hopping)

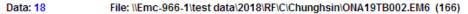
		Freq.		Loss	Amp Factor (dB)	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
-	1	2390.00	27.35	3.21	34.87	34.52	30.21	74.00	43.79	Peak
	2	2400.00	27.35	3.21	34.94	48.18	43.80	74.00	30.20	Peak
	3	2402.08	27.35	3.21	34.94	88.33	83.95	74.00	-9.95	Peak

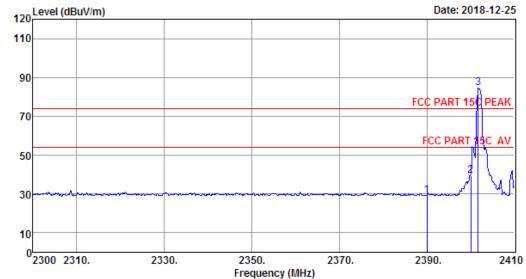
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 18
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : 8-DPSK TX 2402MHz (No hopping)

		Freq.		Loss	Amp Factor (dB)	Reading	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
_	1	2390.00	27.35	3.21	34.87	33.52	29.21	74.00	44.79	Peak
	2	2400.00	27.35	3.21	34.94	43.99	39.61	74.00	34.39	Peak
	3	2401.75	27.35	3.21	34.94	88.80	84.42	74.00	-10.42	Peak

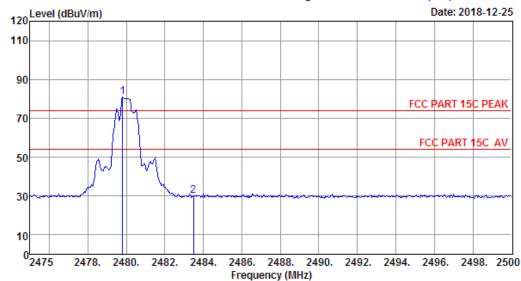
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 19 File: \\Emc-966-1\test data\\2018\\RF\C\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 19
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : 8-DPSK TX 2480MHz (No hopping)

	Freq.	Loss	Reading	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2479.80 2483.50		85.41 34.26	81.05 29.90	74.00 74.00	-7.05 44.10	Peak Peak

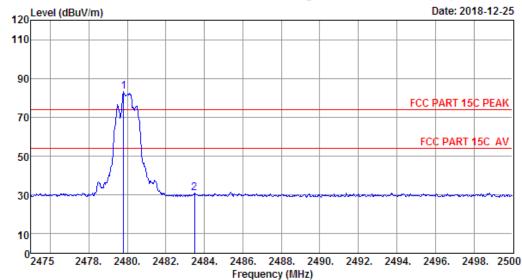
Report No. ESTE-R1901013

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 20 File: \\Emc-966-1\test data\\2018\\RF\C\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 20
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : 8-DPSK TX 2480MHz (No hopping)

	Freq.	Loss	Reading	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2479.80 2483.50			83.10 31.04	74.00 74.00	-9.10 42.96	Peak Peak

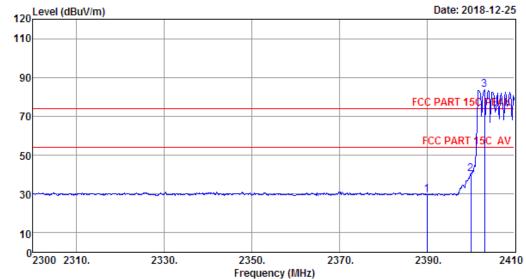
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 21 File: \\Emc-966-1\\test data\\2018\\RF\\C\\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 21

Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : GFSK TX 2402MHz (Hopping on)

		Freq.		Cable Loss (dB)	-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
	1	2390.00	27.35	3.21	34.87	33.82	29.51	74.00	44.49	Peak
- 2	2	2400.00	27.35	3.21	34.94	44.71	40.33	74.00	33.67	Peak
	3	2403.18	27.39	3.23	34.94	87.91	83.59	74.00	-9.59	Peak

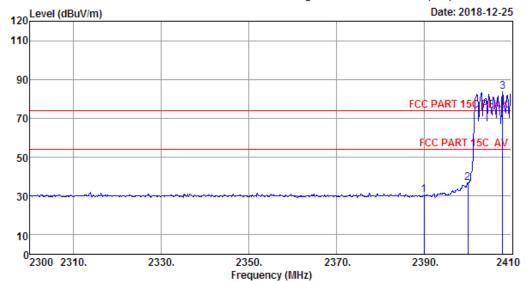
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 22 File: \\Emc-966-1\test data\\2018\\RF\C\Chunghsin\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 22
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : GFSK TX 2402MHz (Hopping on)

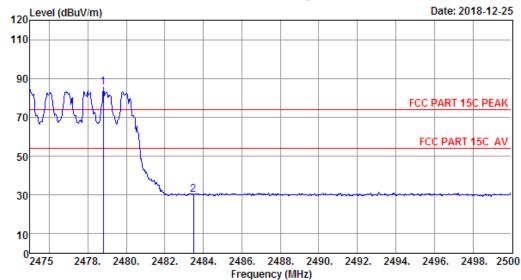
	Freq.			-	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
 1	2390.00	27.35	3.21	34.87	34.76	30.45	74.00	43.55	Peak
2	2400.00	27.35	3.21	34.94	41.02	36.64	74.00	37.36	Peak
3	2408.02	27.39	3.23	34.94	87.82	83.50	74.00	-9.50	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 23 File: \\Emc-966-1\test data\\2018\\RF\C\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 23
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : GFSK TX 2480MHz (Hopping on)

	Freq.	Loss	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2478.80 2483.50		89.69 34.25	85.33 29.89	74.00 74.00	-11.33 44.11	Peak Peak

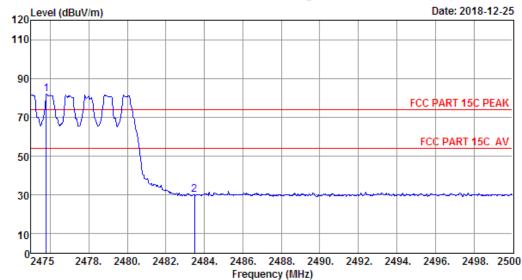
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 24 File: \\Emc-966-1\\test data\\2018\\RF\\C\\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : site Data no. : 24
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : GFSK TX 2480MHz (Hopping on)

	Freq.		Loss		Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2475.80	27.56	3.29	35.21	86.39	82.03	74.00	-8.03	Peak
2	2483.50	27.56	3.29	35.21	34.29	29.93	74.00	44.07	Peak

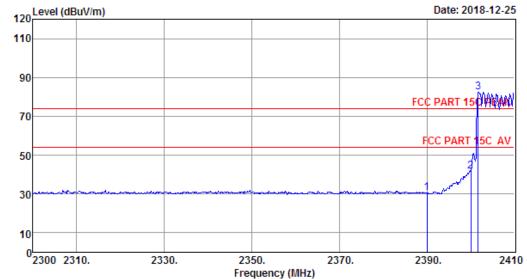
Report No. ESTE-R1901013

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 25 File: \\Emc-966-1\test data\\2018\\RF\C\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 25
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : 8-DPSK TX 2402MHz (Hopping on)

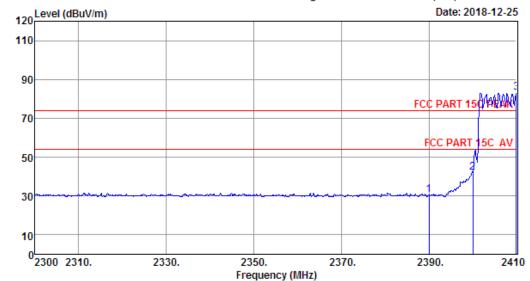
		Freq.			-	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	L	2390.00	27.35	3.21	34.87	34.82	30.51	74.00	43.49	Peak
2	2	2400.00	27.35	3.21	34.94	46.19	41.81	74.00	32.19	Peak
3	3	2401.75	27.35	3.21	34.94	86.87	82.49	74.00	-8.49	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 26 File: \\Emc-966-1\test data\\2018\\RF\C\Chunghsin\\ONA19TB002.EM6 (166)



Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : 8-DPSK TX 2402MHz (Hopping on)

		Freq. (MHz)		Loss	Amp Factor (dB)	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
-	1	2390.00	27.35	3.21	34.87	34.91	30.60	74.00	43.40	Peak
	2	2400.00	27.35	3.21	34.94	46.33	41.95	74.00	32.05	Peak
	3	2410.00	27.39	3.23	34.94	87.59	83.27	74.00	-9.27	Peak

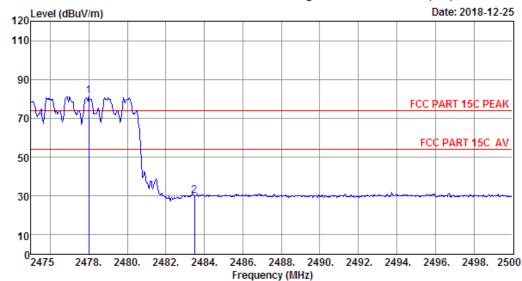
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 27 File: \\Emc-966-1\test data\\2018\\RF\C\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 27
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : 8-DPSK TX 2480MHz (Hopping on)

Freq.	Loss	Reading	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
2478.00 2483.50		85.64 34.53	81.28 30.17	74.00 74.00	-7.28 43.83	Peak Peak

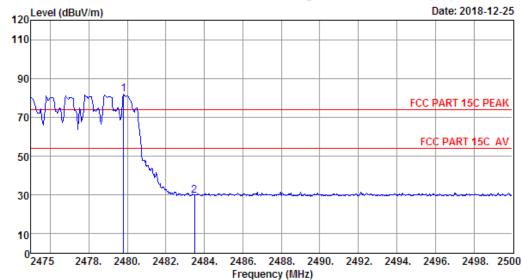
Report No. ESTE-R1901013

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 28 File: \\Emc-966-1\test data\\2018\\RF\C\Chunghsin\\ONA19TB002.EM6 (166)



Site no. : 1# 966 Chamber Data no. : 28
Dis. / Ant. : 3m ANT9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Seven

EUT : 8" Android Tablet

Power : DC 5V From Adapter Input AC 120V/60Hz

M/N : ONA19TB002

Test Mode : 8-DPSK TX 2480MHz (Hopping on)

	Freq.	Loss	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2479.80 2483.50		86.10 34.25	81.74 29.89	74.00 74.00	-7.74 44.11	Peak Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



11. POWER LINE CONDUCTED EMISSIONS

11.1.Limit

	Maximum RF Line Voltage					
Frequency	Quasi-Peak Level	Average Level				
	dB(µV)	dB(µV)				
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*				
500kHz ~ 5MHz	56	46				
5MHz ~ 30MHz	60	50				

Notes: 1. * Decreasing linearly with logarithm of frequency.

11.2.Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS30) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

11.3.Test Result

PASS. (All emissions not reported below are too low against the prescribed limits.)



EST Technology Co., Ltd Report No. ESTE-R1901013 Page 72 of 88

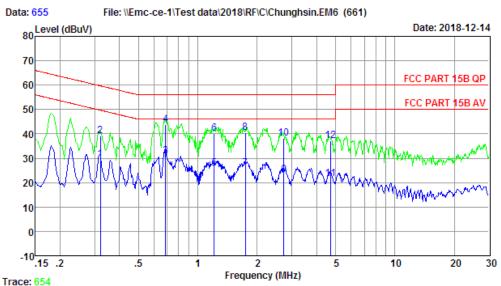
^{2.} The lower limit shall apply at the transition frequencies.

11.4. Test data

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Tel:+86-769-83081888 Fax:+86-769-83081878



: 844 Shield Room Site no

Data no. Env. / Ins. : Temp:24.8°C Humi:55% Press:101.50kPa LINE Phase : NEUTRAL

Limit : FCC PART 15B QP

Engineer : WS

EUT

: 8" Android Tablet : DC 5V From Adapter Input AC 240V/50Hz Power

M/N : ONA19TB002 Test Mode : TX Mode

	Freq.	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.32	9.55	0.05	19.88	29.48	49.71	20.23	Average
2	0.32	9.55	0.05	29.62	39.22	59.71	20.49	QP
3	0.69	9.58	0.05	21.34	30.97	46.00	15.03	Average
4	0.69	9.58	0.05	34.05	43.68	56.00	12.32	QP
5	1.21	9.58	0.06	16.29	25.93	46.00	20.07	Average
6	1.21	9.58	0.06	30.62	40.26	56.00	15.74	QP
7	1.74	9.59	0.06	16.10	25.75	46.00	20.25	Average
8	1.74	9.59	0.06	30.75	40.40	56.00	15.60	QP
9	2.74	9.62	0.07	13.59	23.28	46.00	22.72	Average
10	2.74	9.62	0.07	28.58	38.27	56.00	17.73	QP
11	4.72	9.65	0.07	11.84	21.56	46.00	24.44	Average
12	4.72	9.65	0.07	27.29	37.01	56.00	18.99	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.

- 2. Margin= Limit Emission Level.
- 3. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

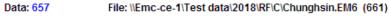


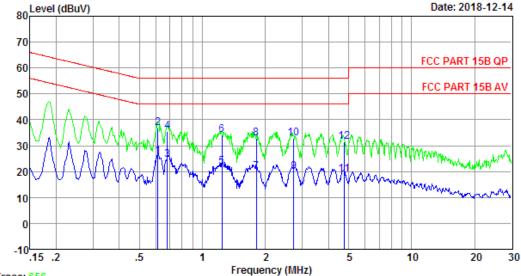
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Report No. ESTE-R1901013 Page 73 of 88

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Trace: 656

: 844 Shield Room Data no. : 657

Site no Env. / Ins. : Temp:24.8°C Humi:55% Press:101.50kPa LINE Phase : LINE

: FCC PART 15B QP : WS Limit

Engineer

: 8" Android Tablet

Power : DC 5V From Adapter Input AC 240V/50Hz

: ONA19TB002 M/N Test Mode : TX Mode

	Freq.	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.61	9.76	0.05	16.11	25.92	46.00	20.08	Average
2	0.61	9.76	0.05	27.04	36.85	56.00	19.15	QP
3	0.68	9.76	0.05	14.75	24.56	46.00	21.44	Average
4	0.68	9.76	0.05	25.75	35.56	56.00	20.44	QP
5	1.24	9.76	0.06	11.90	21.72	46.00	24.28	Average
6	1.24	9.76	0.06	24.47	34.29	56.00	21.71	QP
7	1.81	9.78	0.06	9.92	19.76	46.00	26.24	Average
8	1.81	9.78	0.06	22.90	32.74	56.00	23.26	QP
9	2.74	9.80	0.07	10.15	20.02	46.00	25.98	Average
10	2.74	9.80	0.07	23.07	32.94	56.00	23.06	QP
11	4.75	9.84	0.07	9.10	19.01	46.00	26.99	Average
12	4.75	9.84	0.07	21.75	31.66	56.00	24.34	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.

- 3. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

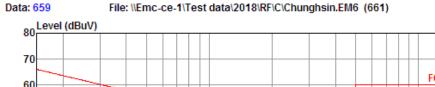
Report No. ESTE-R1901013

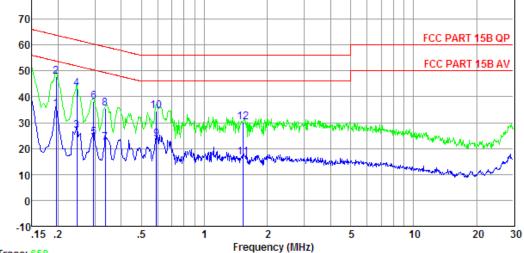


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Date: 2018-12-14





Trace: 658

Site no

: 844 Shield Room Data no. : 659 Env. / Ins. : Temp:24.8°C Humi:55% Press:101.50kPa LINE Phase : LINE

: FCC PART 15B QP : WS Limit

Engineer

: 8" Android Tablet

: DC 5V From Adapter Input AC 120V/60Hz Power

: ONA19TB002 M/N Test Mode : TX Mode

	Freq.	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.20	9.67	0.04	25.32	35.03	53.80	18.77	Average
2	0.20	9.67	0.04	38.01	47.72	63.80	16.08	QP
3	0.25	9.69	0.04	17.15	26.88	51.91	25.03	Average
4	0.25	9.69	0.04	33.42	43.15	61.91	18.76	QP
5	0.30	9.71	0.04	14.49	24.24	50.37	26.13	Average
6	0.30	9.71	0.04	28.45	38.20	60.37	22.17	QP
7	0.34	9.72	0.05	12.42	22.19	49.31	27.12	Average
8	0.34	9.72	0.05	25.82	35.59	59.31	23.72	QP
9	0.59	9.77	0.05	13.80	23.62	46.00	22.38	Average
10	0.59	9.77	0.05	24.72	34.54	56.00	21.46	QP
11	1.53	9.81	0.06	6.68	16.55	46.00	29.45	Average
12	1.53	9.81	0.06	20.24	30.11	56.00	25.89	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.

- 3. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

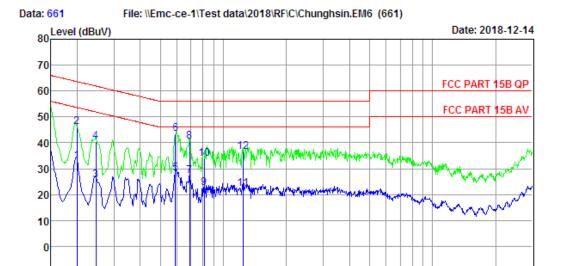
Report No. ESTE-R1901013



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10



2

Frequency (MHz)

Trace: 660

: 844 Shield Room Data no. : 661

Site no Env. / Ins. : Temp:24.8°C Humi:55% Press:101.50kPa LINE Phase : NEUTRAL

: FCC PART 15B QP : WS Limit

Engineer

: 8" Android Tablet

: DC 5V From Adapter Input AC 120V/60Hz Power

M/N : ONA19TB002 Test Mode : TX Mode

	Freq.	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.20	9.66	0.04	23.22	32.92	53.62	20.70	Average
2	0.20	9.66	0.04	36.36	46.06	63.62	17.56	QP
3	0.25	9.68	0.04	15.68	25.40	51.91	26.51	Average
4	0.25	9.68	0.04	30.63	40.35	61.91	21.56	QP
5	0.59	9.77	0.05	18.42	28.24	46.00	17.76	Average
6	0.59	9.77	0.05	33.75	43.57	56.00	12.43	QP
7	0.69	9.79	0.05	17.45	27.29	46.00	18.71	Average
8	0.69	9.79	0.05	30.63	40.47	56.00	15.53	QP
9	0.81	9.80	0.05	12.83	22.68	46.00	23.32	Average
10	0.81	9.80	0.05	24.07	33.92	56.00	22.08	QP
11	1.24	9.83	0.06	12.42	22.31	46.00	23.69	Average
12	1.24	9.83	0.06	26.45	36.34	56.00	19.66	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.

- 3. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



12. ANTENNA REQUIREMENTS

12.1.Limit

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

12.2.Result

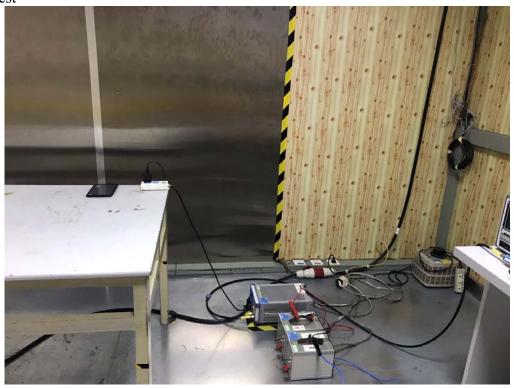
The antennas used for this product are Internal antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 1.27 dBi.

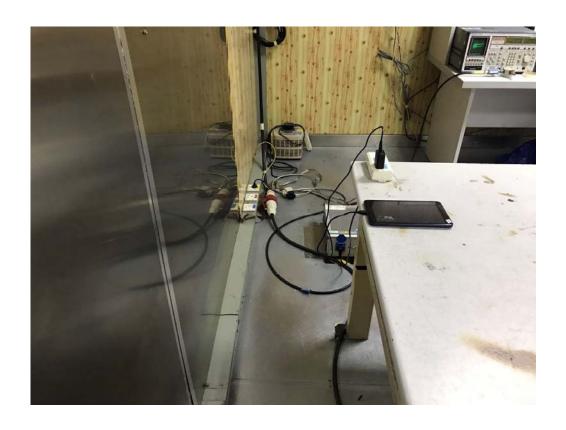


EST Technology Co., Ltd Report No. ESTE-R1901013 Page 77 of 88

13. TEST SETUP PHOTO

Conducted Test

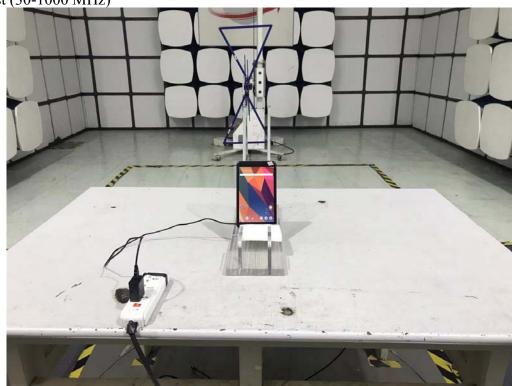


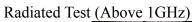


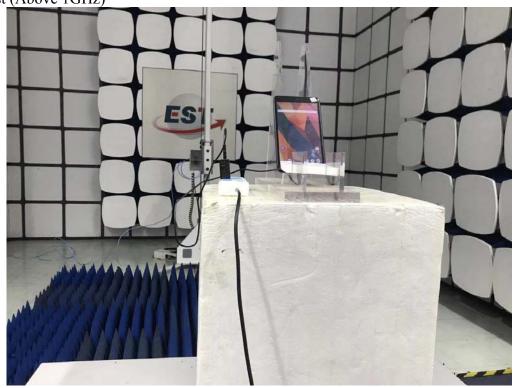


EST Technology Co., Ltd Report No. ESTE-R1901013 Page 78 of 88

Radiated Test (30-1000 MHz)









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14.PHOTO EUT

External Photos M/N: ONA19TB002







EST Technology Co., Ltd Report No. ESTE-R1901013 Page 80 of 88

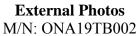
External Photos M/N: ONA19TB002







EST Technology Co., Ltd Report No. ESTE-R1901013 Page 81 of 88



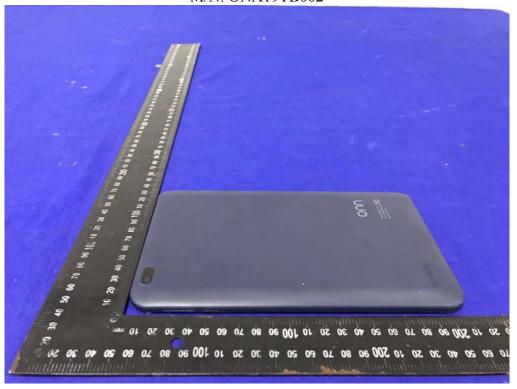


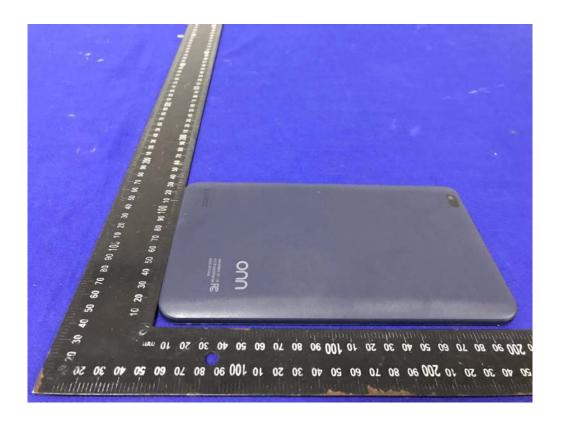




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External Photos M/N: ONA19TB002







EST Technology Co., Ltd Report No. ESTE-R1901013 Page 83 of 88

External Photos M/N: ONA19TB002

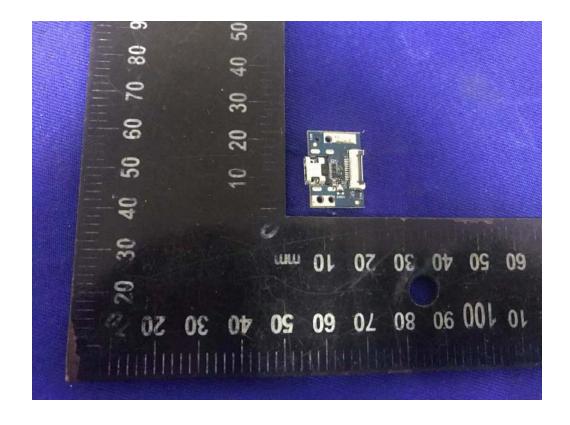




Internal Photos M/N: ONA19TB002

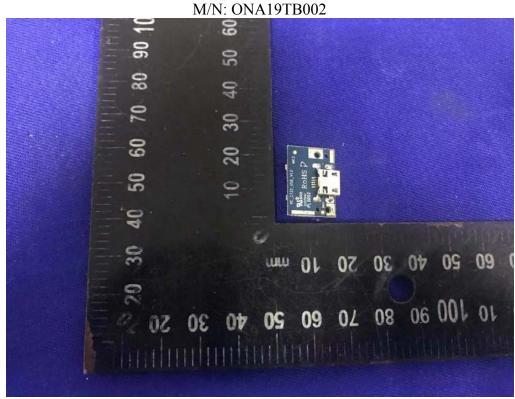


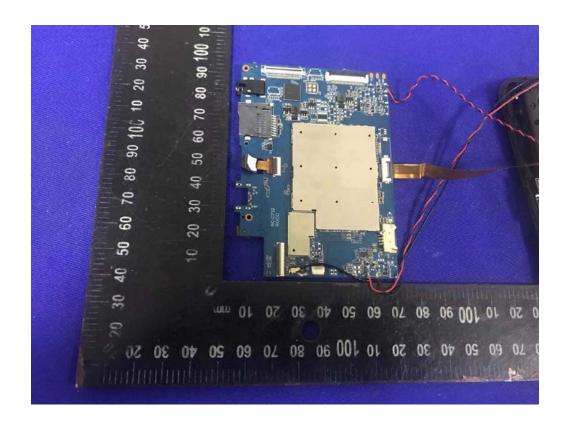
RF Antenna





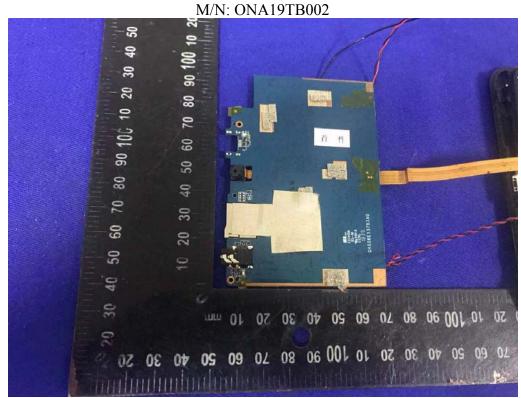
Internal Photos

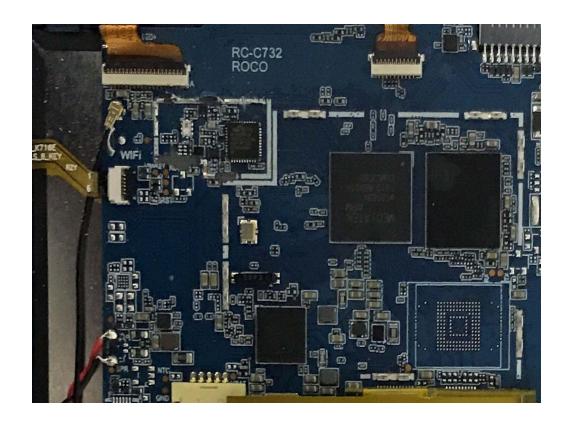






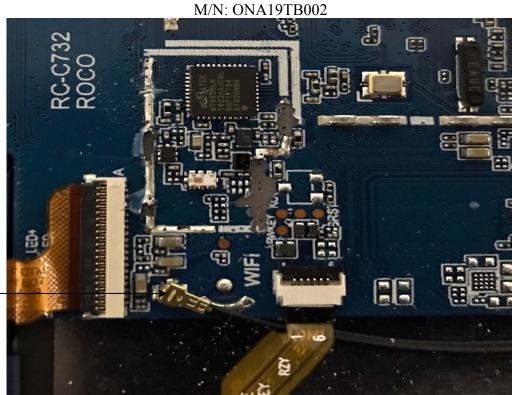
Internal Photos







Internal Photos



RF Antenna Port



