TECHNICAL REPORT

Report No.:	FCC 2004363
File Reference No.:	2020-05-21
Applicant:	Technovare Systems Inc.
Product:	Embedded Computer
Brand Name:	Technovare TNET-PC
Model No.:	OPS-TI3W, OPS-TI3W-PS, OPS-Ti3W, OPS-Ti3W-PS
Test Standards:	FCC Part 15 Subpart B
Test Result:	It is herewith confirmed and found to comply with the requirements set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of electromagnetic compatibility

Approved By

Terry Tong

Terry Tong

Manager

Dated: May 21, 2020

Results appearing herein relate only to the sample tested
The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TESTING LABORATORIES.

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Tel (755) 83448688 Fax (755) 83442996 Email: info@timeway-lab.com

Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

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

CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

Industry Canada (IC) —Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

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1.0 General Details

1.1 Test Lab Details

Name : SHENZHEN TIMEWAY TESTING LABORATORIES.
Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China
Telephone: (755) 83448688
Fax: (755) 83442996

1.2 Applicant Details

Applicant: Technovare Systems Inc.
Address: 3000 W. Macarthur Blvd. , Suite#330, Santa Ana, CA 92704, USA.
Telephone: +1-714-966-9099
Fax: +1-714-966-9199

1.3 Description of EUT

Product: Embedded Computer
Manufacturer: Shenzhen JEC Technology Co., Ltd.
Address: Room 1002, Beike Innovation Building, 27 Nanhai Blvd, Nanshan District, Shenzhen, Guangdong Province. China, Post Code:518067
Brand Name: Technovare TNET-PC
Model Number: OPS-TI3W
Adding Brand Name: N/A
Adding Model Number: OPS-TI3W-PS, OPS-Ti3W, OPS-Ti3W-PS
Rating : Input: 16V, 3A, 38W

1.4 Submitted Sample

1 Sample

1.5 Test Duration

Date of Receipt of Application: April 28, 2020
Date of Receipt of Test Item: April 28, 2020
Date of Test: April 28, 2020 ~ May 21, 2020

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB
Radiated Emissions below 1GHz Uncertainty =4.7dB
Radiated Emissions above 1GHz Uncertainty =6.0dB

1.7 Test Engineer

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The sample tested by Leo Lau

Print Name: Leo Lau

2.0 List of Measurement Equipment

2.1 Conducted Emission Test

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
EMI Test Receiver	ESH3	860905/006	RS	2019.06.21	1Year
Spectrum Analyzer	ESA-L1500A	US37451154	HP	2019.06.21	1Year
PULSE LIMITER	ESH3-Z2	100281	RS	2019.06.21	1Year
LISN	ESH3-Z5	100294	RS	2019.06.21	1Year
LISN	ESH3-Z5	100253	RS	2019.06.21	1Year
LISN	NNB42	00012	SCHAFFNER	2020.01.07	1Year

2.2 Radiated electromagnetic disturbance test

Name	Model No	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
EMI Test Receiver	ESPI 3	100379	RS	2019.06.21	1Year
Spectrum Analyzer	E4407B	MY50441392	HP/Agilent	2019.06.21	1Year
Amplifier	BBV9743	#218	HP/Agilent	2019.06.21	1Year
Bilog Antenna	VULB9163	9163/340	Schwarebeck	2018.07.04	3Year
Horn Antenna	BBHA 9120D	9120D-631	RS	2018.07.09	3Year
Amplifier	8449B	3008A00160	HP/Agilent	2019.06.21	1Year

2.3 Auxiliary Equipment

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
LCD Monitor	V463©	--	NEC	--	--
LED Monitor	S2340Lc	--	DELL	--	--

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3.0 Technical Details

3.1 Investigations Requested

Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

3.2 Test Standards

FCC Part 15 Subpart B

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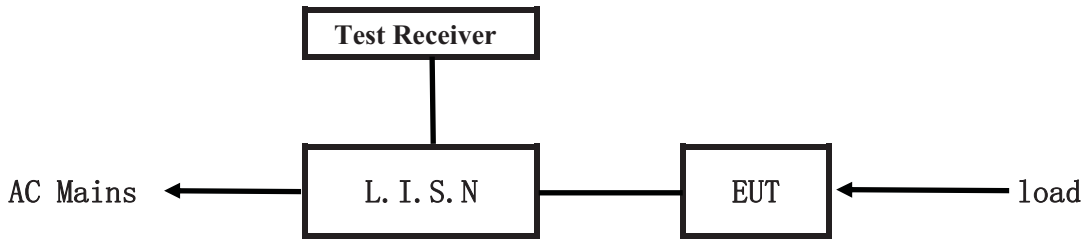
4.0 Conducted Power line Test

4.1 Schematics of the test



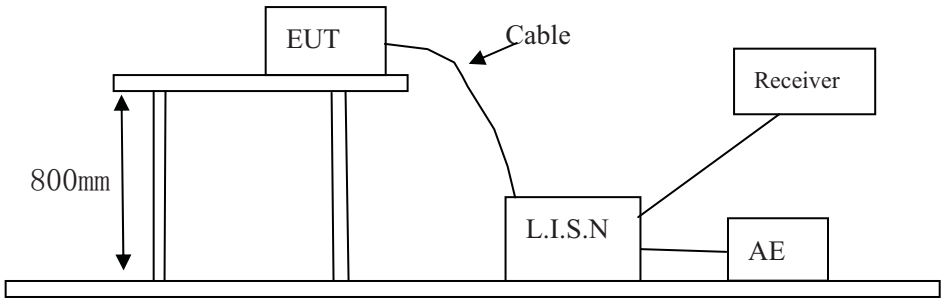
EUT: Equipment Under Test

4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2014.The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2014.Cables and peripherals were moved to find the maximum emission levels for each frequency.

Test Voltage: 120V~, 60Hz

Block diagram of Test setup



4.3 Power line conducted Emission Limit

Frequency(MHz)	Class A Limits dB(μV)		Class B Limits dB(μV)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Avera e Level
0.15 ～ 0.50	79 00	66.00	66.00～56.00*	56.00～46.00*
0.50 ～ 5.00	73.00	60.00	56.00	46.00
5.00 ～ 30.00	73.00	60.00	60.00	50.00

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

2. The tighter limit shall apply at the transition frequencies

4.4 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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A: Conducted Emission on Live Terminal (150kHz to 30MHz)

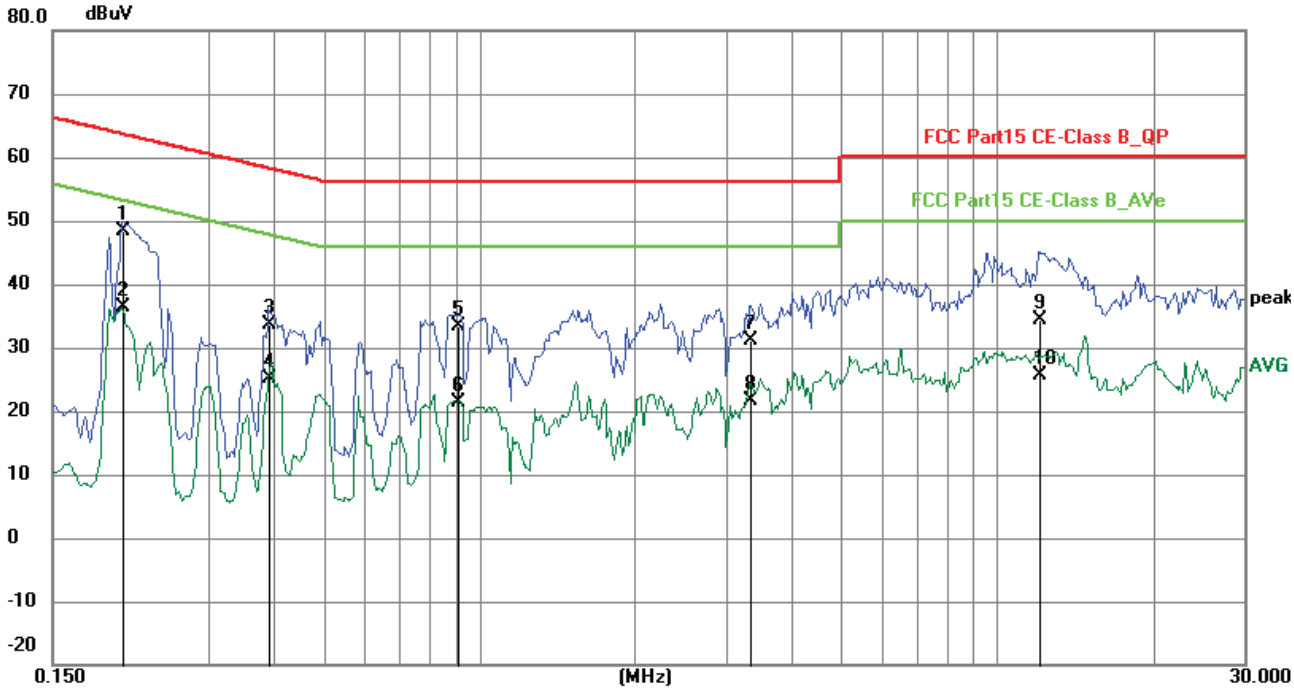
EUT Operating Environment

Temperature: 25℃ Humidity:75%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Run EMC Test Program

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2046	38.73	9.75	48.48	63.42	-14.94	QP	P
2	0.2046	26.71	9.75	36.46	53.42	-16.96	AVG	P
3	0.3918	23.89	9.76	33.65	58.03	-24.38	QP	P
4	0.3918	15.33	9.76	25.09	48.03	-22.94	AVG	P
5	0.9105	23.61	9.79	33.40	56.00	-22.60	QP	P
6	0.9105	11.70	9.79	21.49	46.00	-24.51	AVG	P
7	3.3393	21.15	9.86	31.01	56.00	-24.99	QP	P
8	3.3393	11.76	9.86	21.62	46.00	-24.38	AVG	P
9	12.0519	24.22	10.25	34.47	60.00	-25.53	QP	P
10	12.0519	15.48	10.25	25.73	50.00	-24.27	AVG	P

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B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

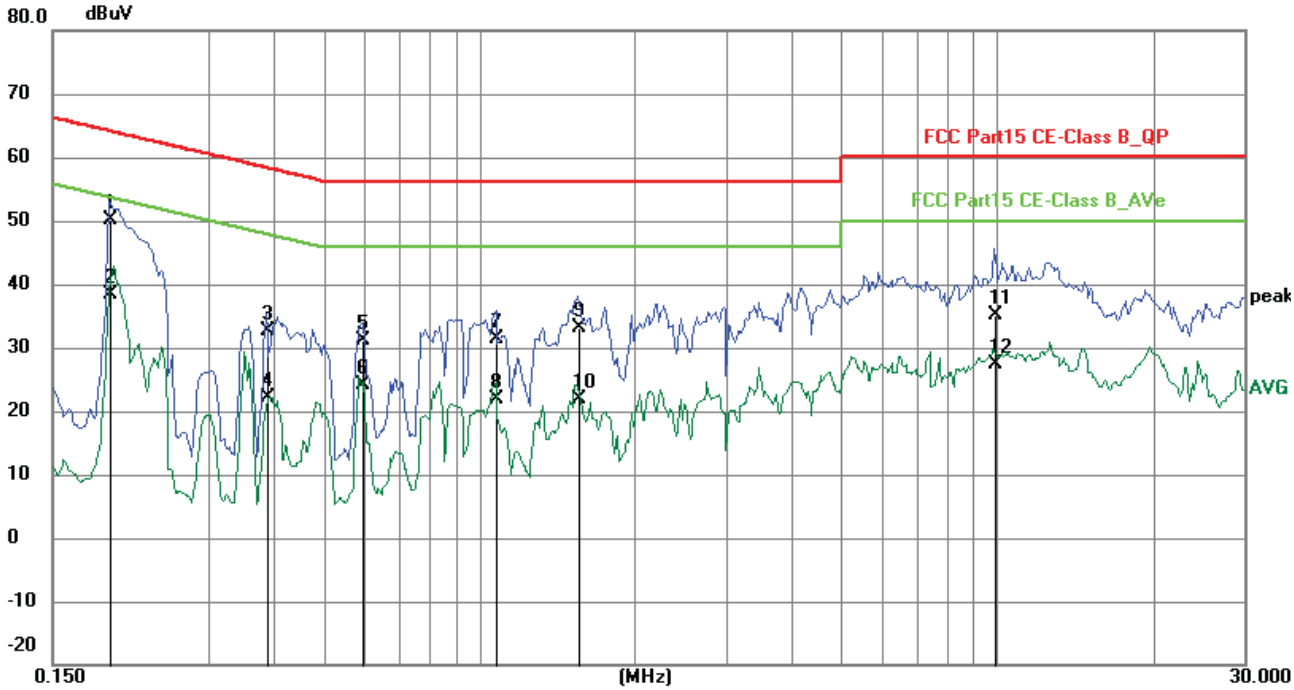
EUT Operating Environment

Temperature: 25℃ Humidity:75%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Run EMC Test Program

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1929	40.35	9.75	50.10	63.91	-13.81	QP	P
2	0.1929	28.56	9.75	38.31	53.91	-15.60	AVG	P
3	0.3879	22.79	9.76	32.55	58.11	-25.56	QP	P
4	0.3879	12.36	9.76	22.12	48.11	-25.99	AVG	P
5	0.5946	21.46	9.77	31.23	56.00	-24.77	QP	P
6	0.5946	14.29	9.77	24.06	46.00	-21.94	AVG	P
7	1.0782	21.70	9.79	31.49	56.00	-24.51	QP	P
8	1.0782	12.19	9.79	21.98	46.00	-24.02	AVG	P
9	1.5540	23.27	9.80	33.07	56.00	-22.93	QP	P
10	1.5540	12.08	9.80	21.88	46.00	-24.12	AVG	P
11	9.8640	25.05	10.15	35.20	60.00	-24.80	QP	P
12	9.8640	17.22	10.15	27.37	50.00	-22.63	AVG	P

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C: Conducted Emission on Live Terminal (150kHz to 30MHz)

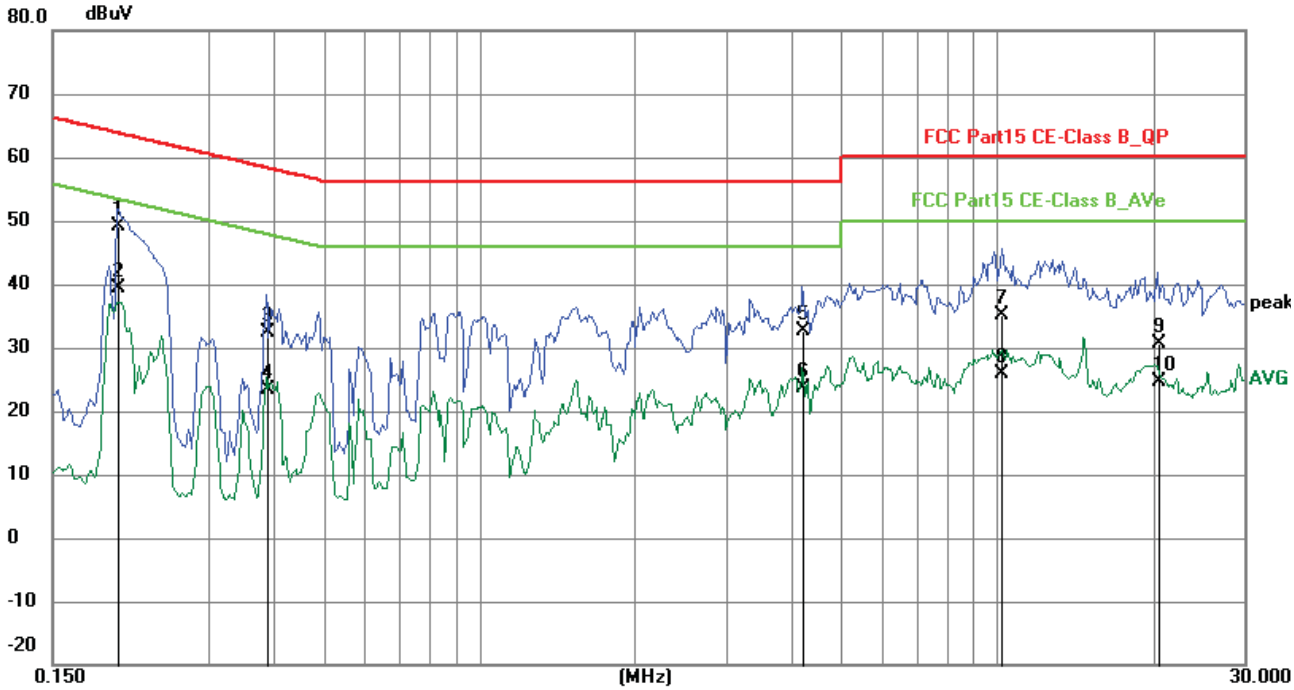
EUT Operating Environment

Temperature: 25℃ Humidity:75%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Play USB

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2007	39.46	9.75	49.21	63.58	-14.37	QP	P
2	0.2007	29.51	9.75	39.26	53.58	-14.32	AVG	P
3	0.3879	22.58	9.76	32.34	58.11	-25.77	QP	P
4	0.3879	13.74	9.76	23.50	48.11	-24.61	AVG	P
5	4.2129	22.82	9.90	32.72	56.00	-23.28	QP	P
6	4.2129	13.81	9.90	23.71	46.00	-22.29	AVG	P
7	10.2266	24.88	10.17	35.05	60.00	-24.95	QP	P
8	10.2266	15.79	10.17	25.96	50.00	-24.04	AVG	P
9	20.3784	19.85	10.70	30.55	60.00	-29.45	QP	P
10	20.3784	13.82	10.70	24.52	50.00	-25.48	AVG	P

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D: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

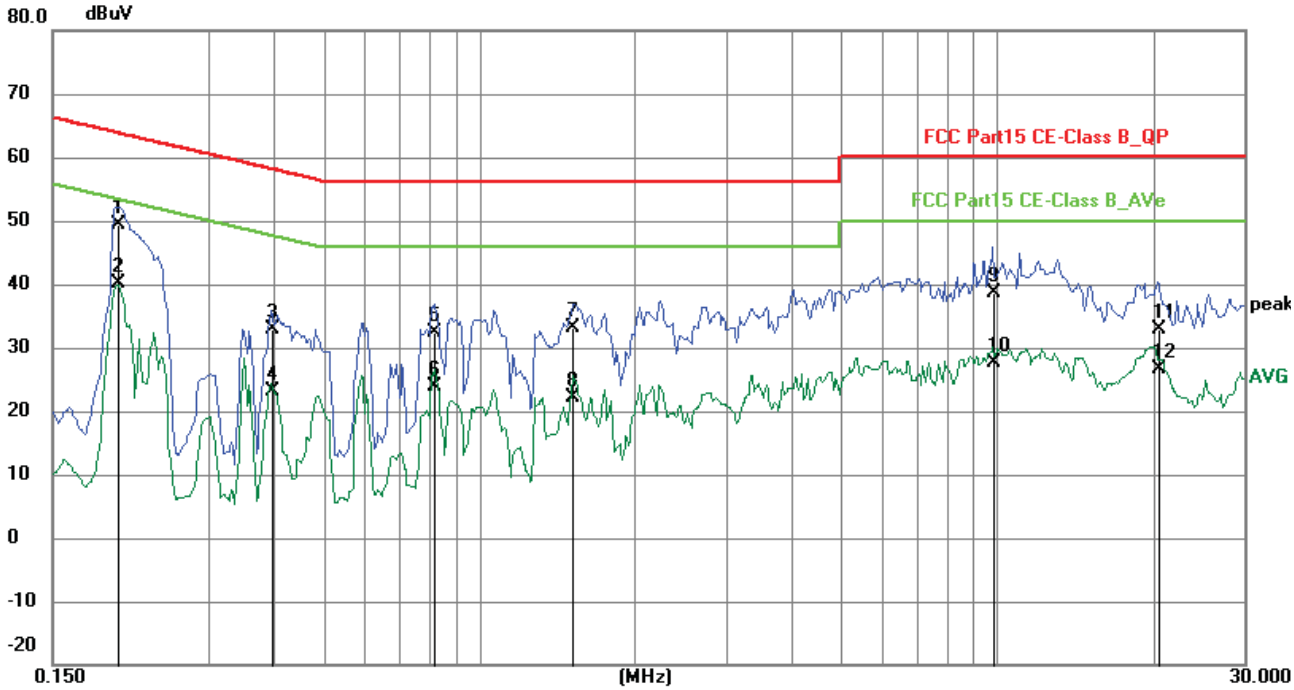
EUT Operating Environment

Temperature: 25℃ Humidity:75%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Play USB

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2007	39.68	9.75	49.43	63.58	-14.15	QP	P
2	0.2007	30.42	9.75	40.17	53.58	-13.41	AVG	P
3	0.3957	23.20	9.76	32.96	57.94	-24.98	QP	P
4	0.3957	13.36	9.76	23.12	47.94	-24.82	AVG	P
5	0.8208	22.57	9.78	32.35	56.00	-23.65	QP	P
6	0.8208	14.07	9.78	23.85	46.00	-22.15	AVG	P
7	1.5150	23.29	9.79	33.08	56.00	-22.92	QP	P
8	1.5150	12.27	9.79	22.06	46.00	-23.94	AVG	P
9	9.8445	28.40	10.15	38.55	60.00	-21.45	QP	P
10	9.8445	17.59	10.15	27.74	50.00	-22.26	AVG	P
11	20.4681	22.25	10.71	32.96	60.00	-27.04	QP	P
12	20.4681	15.90	10.71	26.61	50.00	-23.39	AVG	P

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E: Conducted Emission on Live Terminal (150kHz to 30MHz)

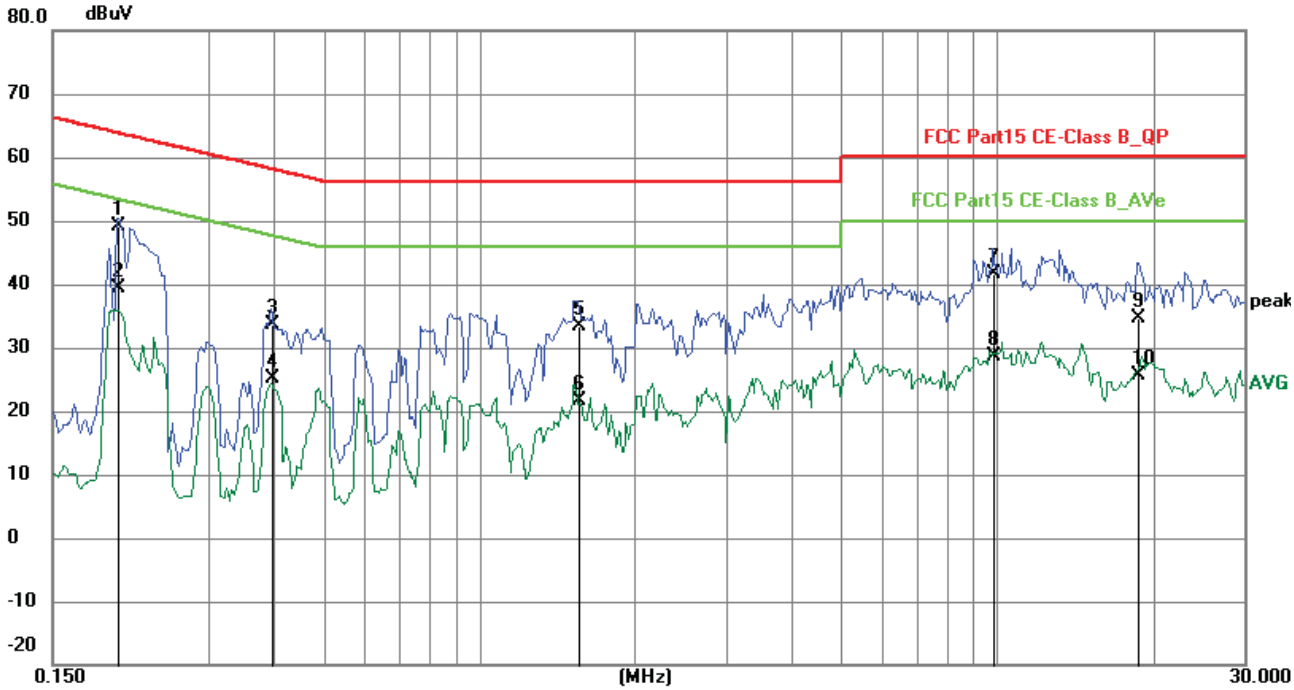
EUT Operating Environment

Temperature: 25℃ Humidity:75%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Ping Network

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2007	39.48	9.75	49.23	63.58	-14.35	QP	P
2	0.2007	29.66	9.75	39.41	53.58	-14.17	AVG	P
3	0.3957	23.90	9.76	33.66	57.94	-24.28	QP	P
4	0.3957	15.26	9.76	25.02	47.94	-22.92	AVG	P
5	1.5540	23.47	9.80	33.27	56.00	-22.73	QP	P
6	1.5540	11.83	9.80	21.63	46.00	-24.37	AVG	P
7	9.8367	31.49	10.15	41.64	60.00	-18.36	QP	P
8	9.8367	18.56	10.15	28.71	50.00	-21.29	AVG	P
9	18.6936	24.10	10.60	34.70	60.00	-25.30	QP	P
10	18.6936	14.95	10.60	25.55	50.00	-24.45	AVG	P

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F: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

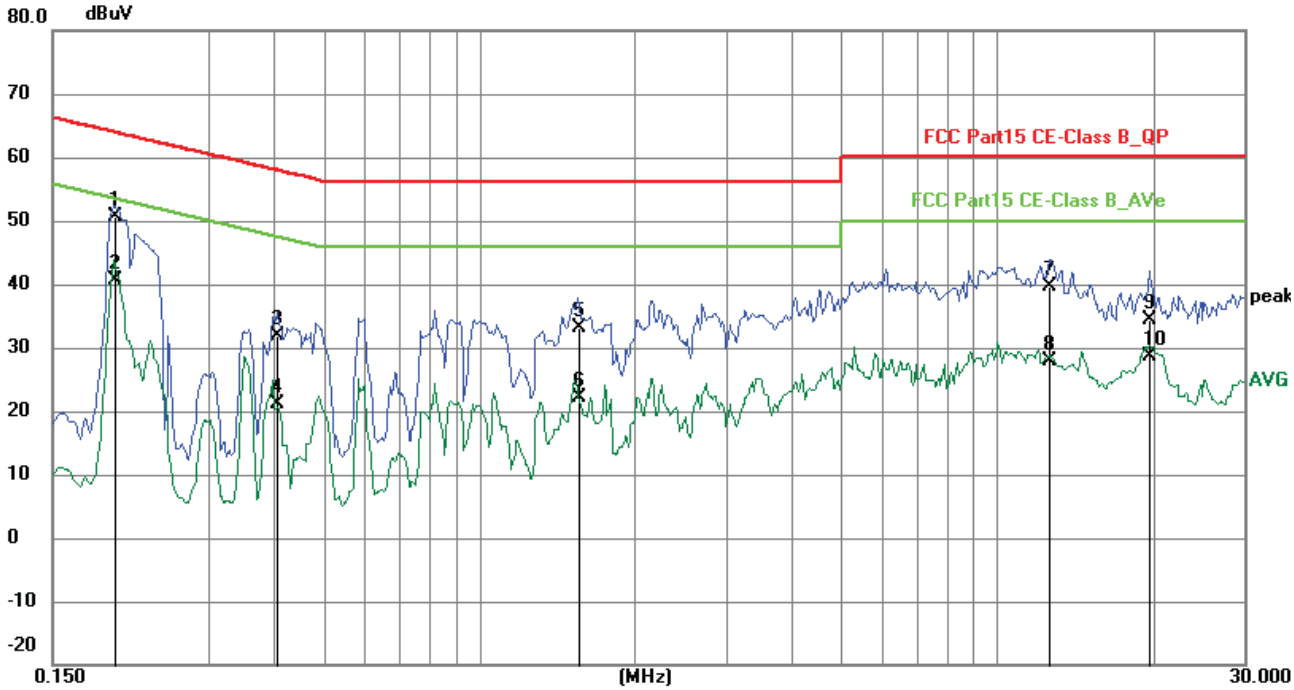
EUT Operating Environment

Temperature: 25℃ Humidity:75%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Ping Network

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1968	40.89	9.75	50.64	63.74	-13.10	QP	P
2	0.1968	30.99	9.75	40.74	53.74	-13.00	AVG	P
3	0.4074	22.11	9.76	31.87	57.70	-25.83	QP	P
4	0.4074	11.43	9.76	21.19	47.70	-26.51	AVG	P
5	1.5540	23.39	9.80	33.19	56.00	-22.81	QP	P
6	1.5540	12.42	9.80	22.22	46.00	-23.78	AVG	P
7	12.5862	29.38	10.27	39.65	60.00	-20.35	QP	P
8	12.5862	17.51	10.27	27.78	50.00	-22.22	AVG	P
9	19.6725	23.72	10.66	34.38	60.00	-25.62	QP	P
10	19.6725	17.86	10.66	28.52	50.00	-21.48	AVG	P

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G: Conducted Emission on Live Terminal (150kHz to 30MHz)

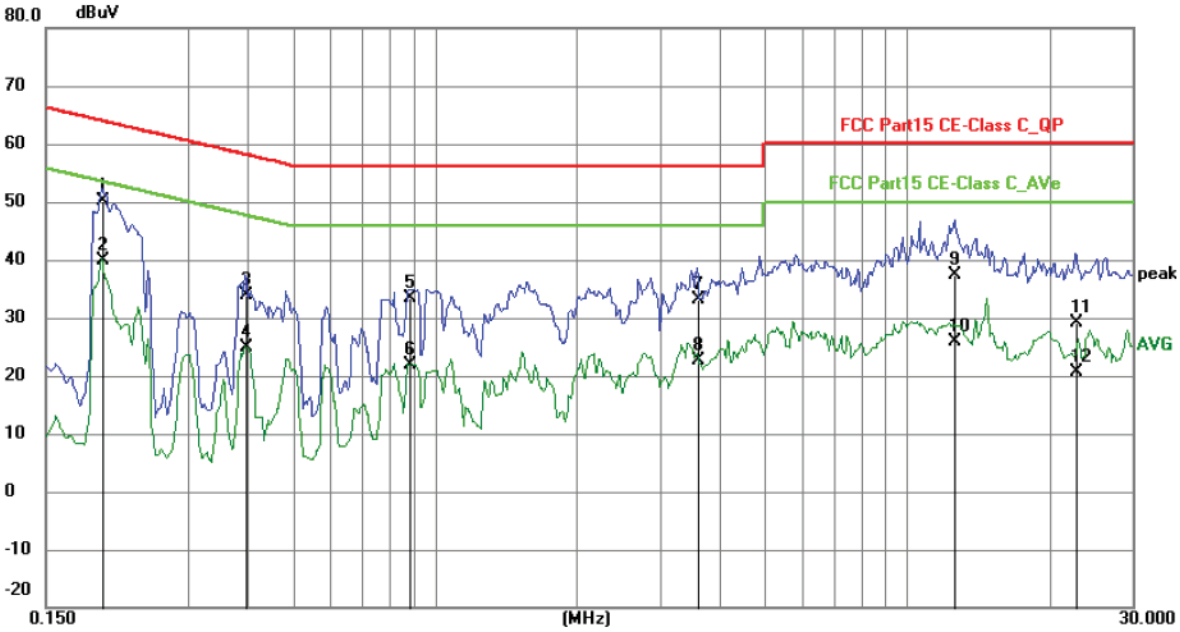
EUT Operating Environment

Temperature: 25℃ Humidity:75%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Communication by WIFI

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1968	40.45	9.75	50.20	63.74	-13.54	QP	P
2	0.1968	30.14	9.75	39.89	53.74	-13.85	AVG	P
3	0.3957	24.05	9.76	33.81	57.94	-24.13	QP	P
4	0.3957	15.07	9.76	24.83	47.94	-23.11	AVG	P
5	0.8832	23.71	9.79	33.50	56.00	-22.50	QP	P
6	0.8832	12.12	9.79	21.91	46.00	-24.09	AVG	P
7	3.5889	23.21	9.87	33.08	56.00	-22.92	QP	P
8	3.5889	12.74	9.87	22.61	46.00	-23.39	AVG	P
9	12.6018	27.11	10.27	37.38	60.00	-22.62	QP	P
10	12.6018	15.73	10.27	26.00	50.00	-24.00	AVG	P
11	22.7535	18.28	10.85	29.13	60.00	-30.87	QP	P
12	22.7535	9.74	10.85	20.59	50.00	-29.41	AVG	P

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H: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

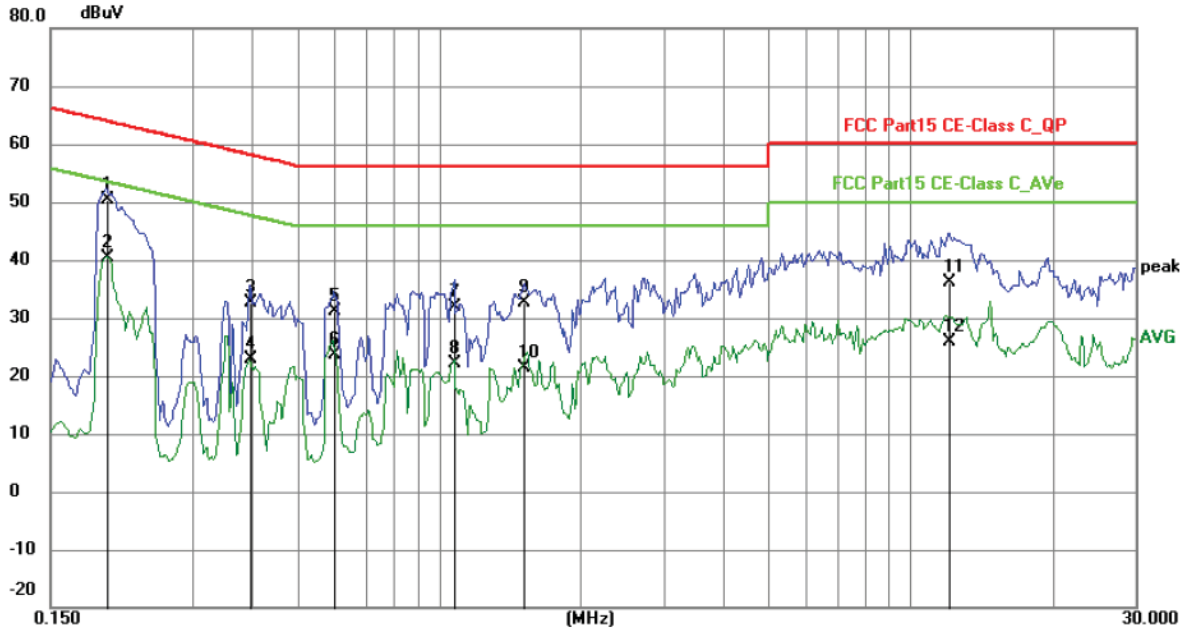
EUT Operating Environment

Temperature: 25℃ Humidity:75%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Communication by WIFI

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1968	40.67	9.75	50.42	63.74	-13.32	QP	P
2	0.1968	30.56	9.75	40.31	53.74	-13.43	AVG	P
3	0.3957	22.76	9.76	32.52	57.94	-25.42	QP	P
4	0.3957	13.10	9.76	22.86	47.94	-25.08	AVG	P
5	0.5985	21.44	9.77	31.21	56.00	-24.79	QP	P
6	0.5985	13.76	9.77	23.53	46.00	-22.47	AVG	P
7	1.0782	22.04	9.79	31.83	56.00	-24.17	QP	P
8	1.0782	12.27	9.79	22.06	46.00	-23.94	AVG	P
9	1.5150	22.74	9.80	32.54	56.00	-23.46	QP	P
10	1.5150	11.57	9.80	21.37	46.00	-24.63	AVG	P
11	12.0519	25.96	10.25	36.21	60.00	-23.79	QP	P
12	12.0519	15.71	10.25	25.96	50.00	-24.04	AVG	P

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5.0 Radiated Disturbance Test

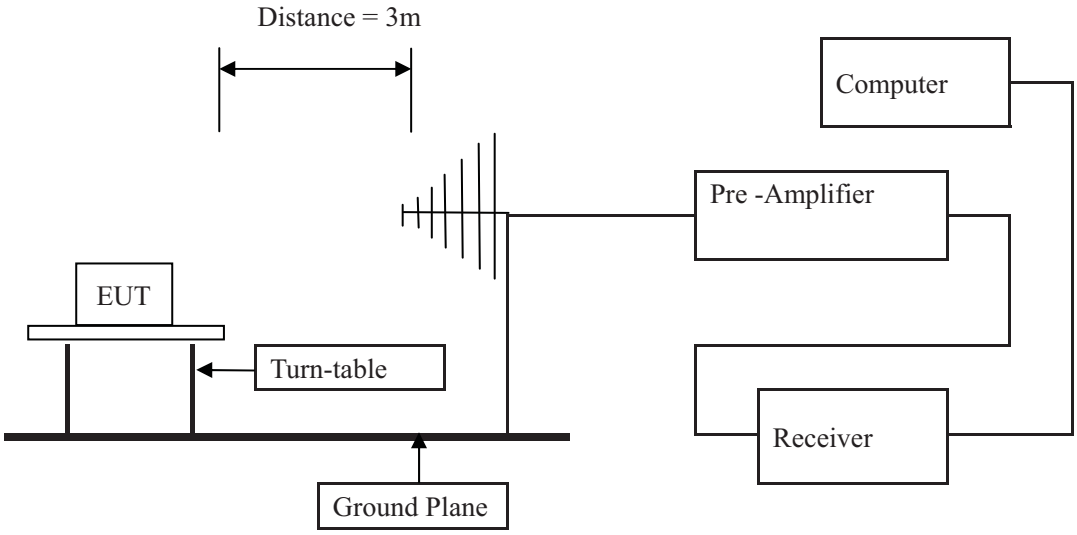
5.1 Schematics of the test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4 –2014, The frequency spectrum from 30MHz to 30GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. All readings are above 1GHz, peak values with a resolution bandwidth of 1MHz. Measurements were made at 3 meters.

Test Voltage: 120V~, 60Hz

Block diagram of Test setup



5.3 Radiated Emission Limit

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
30-88	3	40.00
88-216	3	43.50
216-960	3	46.00
Above 960	3	54.00

Note: The lower limit shall apply at the transition frequencies

5.4 Test result

The frequency spectrum from 30MHz to 1GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. All readings are above 1GHz, peak values with a resolution bandwidth of 1MHz. Measurements were made at 3 meters.There is no emission found above 18GHz,so only report worse case from 30MHz-18GHz.

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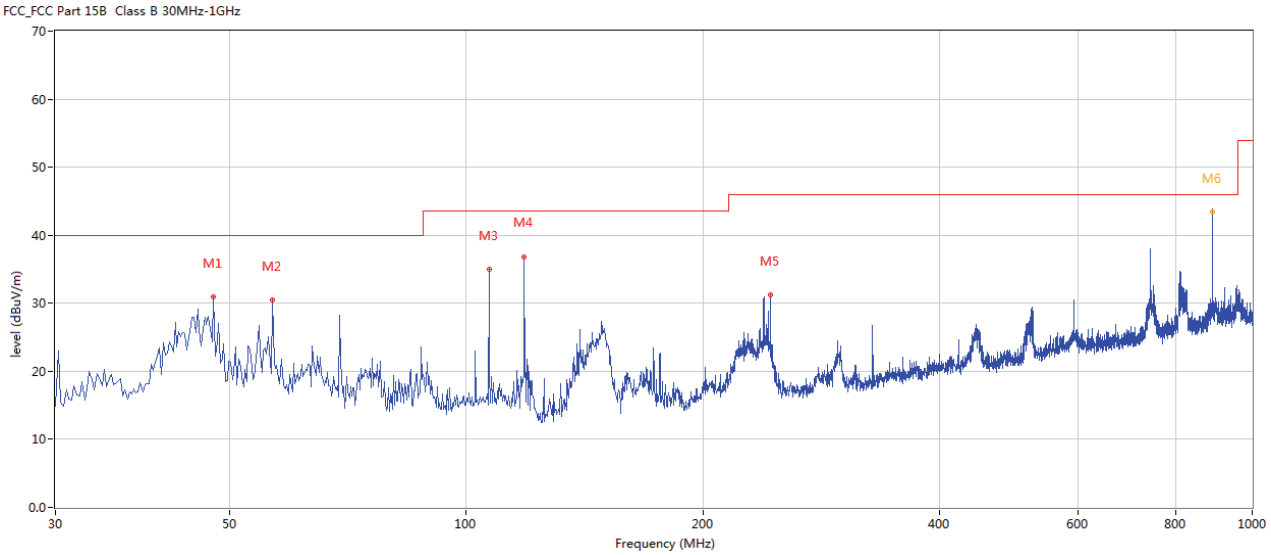
A: Radiated Disturbance (30MHz----1000MHz)

Project Number:	CASE4	Test Time:	2020-05-15_18.33.26
EUT Name:	Embedded Computer	Test Engineer:	Artorias
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC Part15B
Model:	OPS-TI3W	Work Addition:	Play USB
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	47.698	30.94	-11.34	40.0	-9.06	Peak	132.00	200	H	Pass
2	56.668	30.42	-12.22	40.0	-9.58	Peak	83.00	200	H	Pass
3	106.853	34.94	-13.38	43.5	-8.56	Peak	127.00	200	H	Pass
4	118.490	36.84	-14.97	43.5	-6.66	Peak	66.00	200	H	Pass
5	243.832	31.23	-12.23	46.0	-14.77	Peak	305.00	100	H	Pass
6	890.109	44.70	-1.89	46.0	-1.30	Peak	238.00	102	H	Pass
6*	890.109	43.43	-1.89	46.0	-2.57	QP	238.00	102	H	Pass

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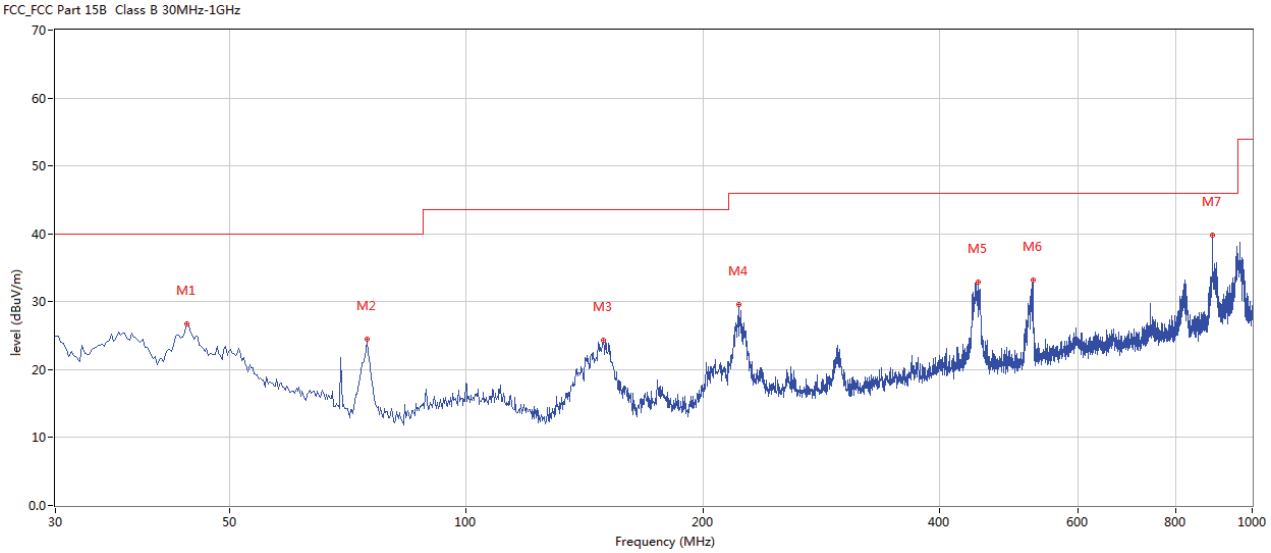
B: Radiated Disturbance (30MHz----1000MHz)

Project Number:	CASE4	Test Time:	2020-05-15_18.41.05
EUT Name:	Embedded Computer	Test Engineer:	Artorias
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC Part15B
Model:	OPS-TI3W	Work Addition:	Play USB
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	44.061	26.73	-11.47	40.0	-13.27	Peak	326.00	100	V	Pass
2	74.851	24.48	-17.28	40.0	-15.52	Peak	347.00	100	V	Pass
3	149.280	24.26	-17.09	43.5	-19.24	Peak	357.00	100	V	Pass
4	222.254	29.57	-13.21	46.0	-16.43	Peak	311.00	100	V	Pass
5	447.481	32.88	-8.07	46.0	-13.12	Peak	12.00	100	V	Pass
6	525.789	33.20	-6.54	46.0	-12.80	Peak	26.00	100	V	Pass
7	890.175	39.78	-1.89	46.0	-6.22	Peak	143.00	100	V	Pass

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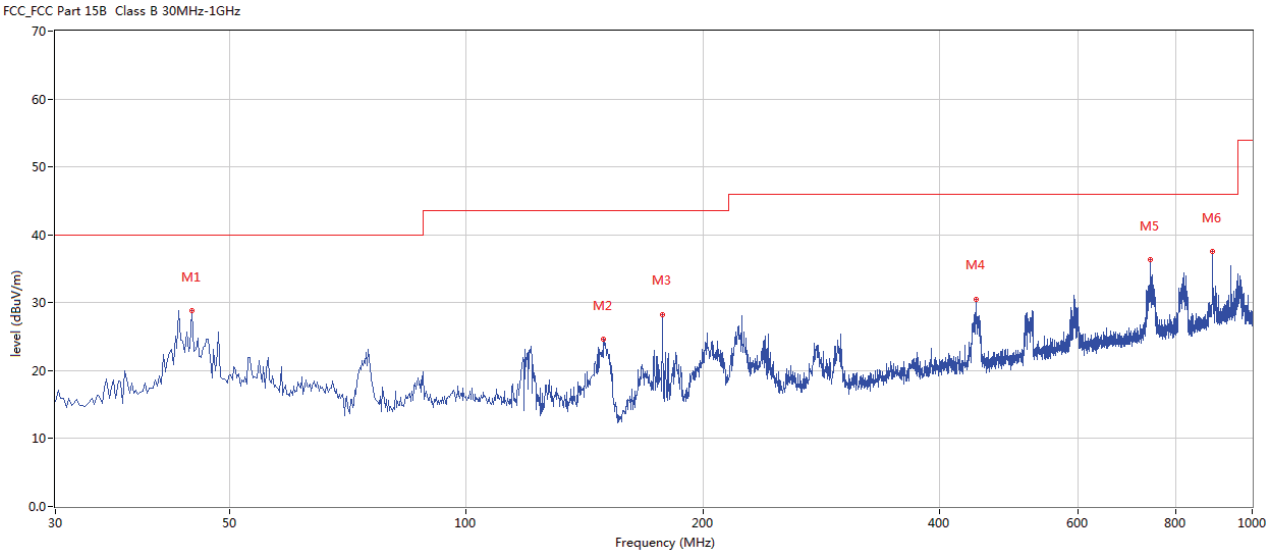
C: Radiated Disturbance (30MHz----1000MHz)

Project Number:	CASE4	Test Time:	2020-05-15_19.20.02
EUT Name:	Embedded Computer	Test Engineer:	Artorias
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC Part15B
Model:	OPS-TI3W	Work Addition:	Run EMC Test Program
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	44.789	28.86	-11.42	40.0	-11.14	Peak	40.00	200	H	Pass
2	149.523	24.61	-17.07	43.5	-18.89	Peak	91.00	200	H	Pass
3	177.646	28.28	-15.61	43.5	-15.22	Peak	285.00	100	H	Pass
4	445.056	30.53	-7.99	46.0	-15.47	Peak	297.00	100	H	Pass
5	741.802	36.31	-3.43	46.0	-9.69	Peak	236.00	200	H	Pass
6	889.933	37.53	-1.90	46.0	-8.47	Peak	243.00	100	H	Pass

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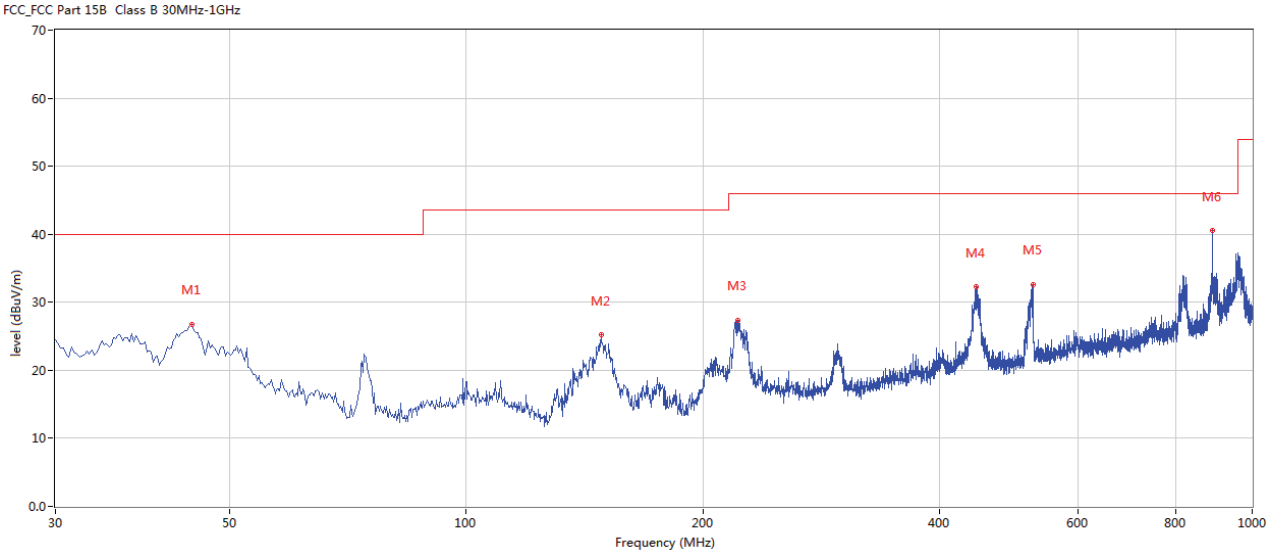
D: Radiated Disturbance (30MHz----1000MHz)

Project Number:	CASE4	Test Time:	2020-05-15_19.29.04
EUT Name:	Embedded Computer	Test Engineer:	Artorias
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC Part15B
Model:	OPS-TI3W	Work Addition:	Run EMC Test Program
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	44.789	26.78	-11.42	40.0	-13.22	Peak	79.00	100	V	Pass
2	148.310	25.22	-17.16	43.5	-18.28	Peak	345.00	100	V	Pass
3	221.527	27.39	-13.25	46.0	-18.61	Peak	323.00	100	V	Pass
4	445.056	32.28	-7.99	46.0	-13.72	Peak	8.00	100	V	Pass
5	525.789	32.66	-6.54	46.0	-13.34	Peak	26.00	100	V	Pass
6	890.175	40.56	-1.89	46.0	-5.44	Peak	190.00	100	V	Pass

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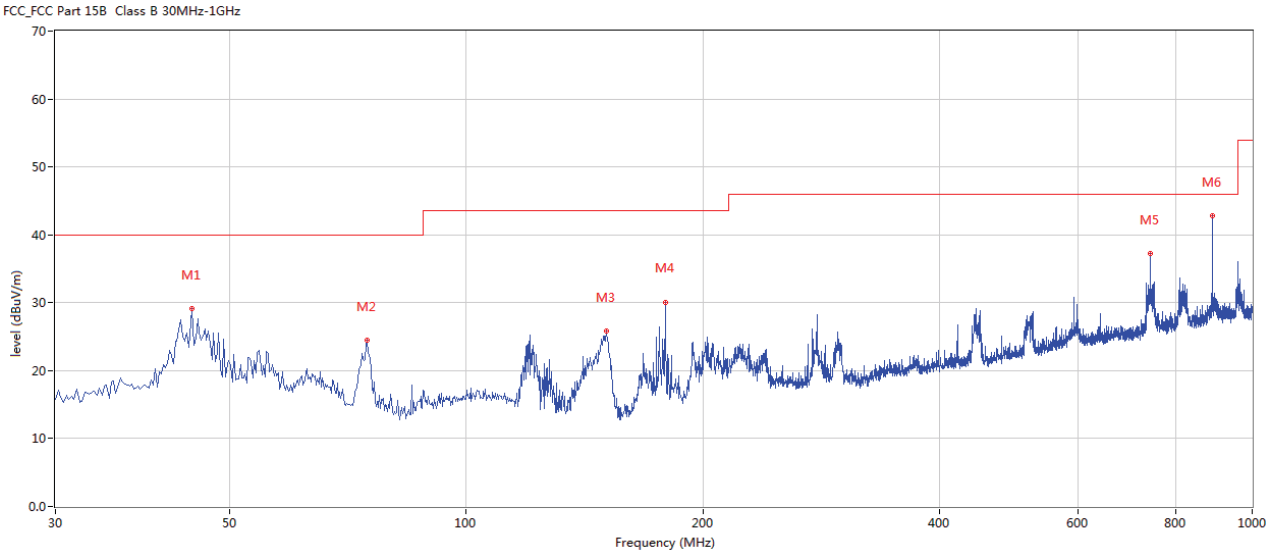
E: Radiated Disturbance (30MHz----1000MHz)

Project Number:	CASE4	Test Time:	2020-05-15_20.22.44
EUT Name:	Embedded Computer	Test Engineer:	Artorias
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC Part15B
Model:	OPS-TI3W	Work Addition:	Ping Network
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	44.789	29.08	-11.42	40.0	-10.92	Peak	360.00	200	H	Pass
2	74.851	24.50	-17.28	40.0	-15.50	Peak	360.00	200	H	Pass
3	150.735	25.78	-16.99	43.5	-17.72	Peak	114.00	100	H	Pass
4	179.100	30.09	-15.39	43.5	-13.41	Peak	299.00	100	H	Pass
5	741.802	37.20	-3.43	46.0	-8.80	Peak	263.00	100	H	Pass
6	890.175	42.82	-1.89	46.0	-3.18	Peak	217.00	100	H	Pass

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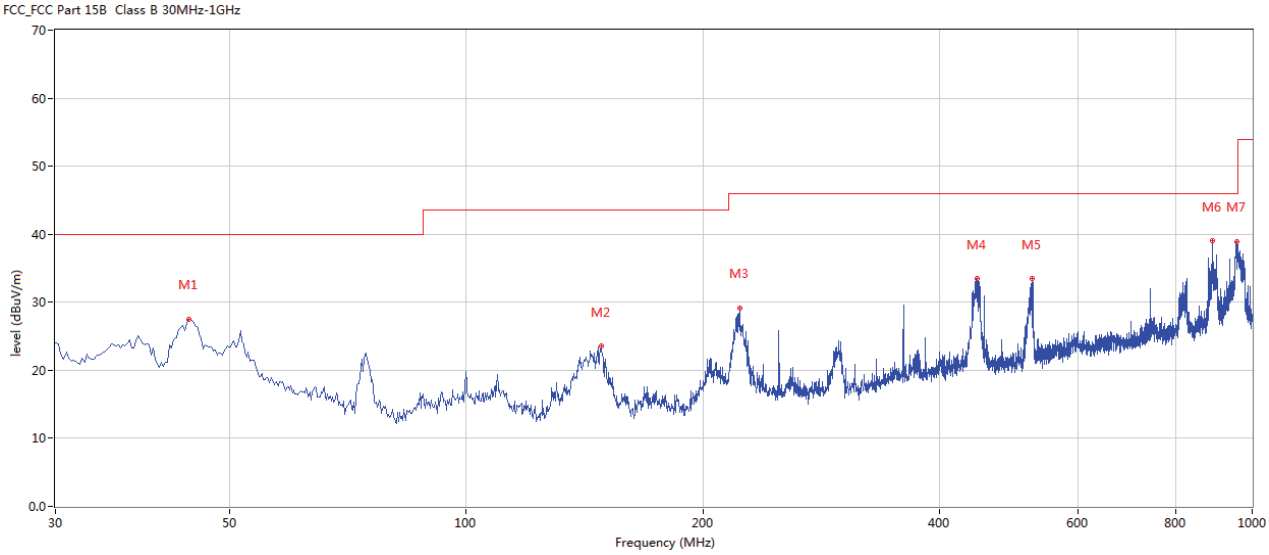
F: Radiated Disturbance (30MHz----1000MHz)

Project Number:	CASE4	Test Time:	2020-05-15_20.38.59
EUT Name:	Embedded Computer	Test Engineer:	Artorias
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC Part15B
Model:	OPS-TI3W	Work Addition:	Ping Network
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	44.304	27.54	-11.46	40.0	-12.46	Peak	351.00	100	V	Pass
2	148.310	23.53	-17.16	43.5	-19.97	Peak	360.00	100	V	Pass
3	222.739	29.18	-13.19	46.0	-16.82	Peak	275.00	100	V	Pass
4	446.268	33.53	-8.05	46.0	-12.47	Peak	2.00	100	V	Pass
5	525.546	33.43	-6.54	46.0	-12.57	Peak	25.00	100	V	Pass
6	890.175	39.05	-1.89	46.0	-6.95	Peak	158.00	100	V	Pass
7	956.361	38.98	-1.72	46.0	-7.02	Peak	172.00	100	V	Pass

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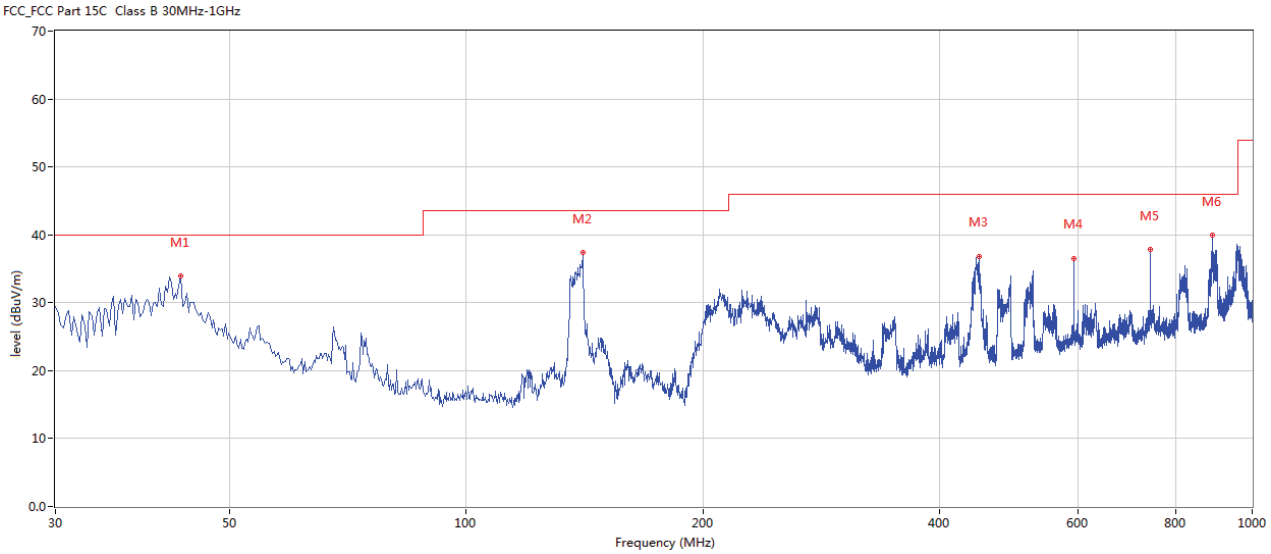
G: Radiated Disturbance (30MHz----1000MHz)

Project Number: CASE2

Test Time: 2020-05-16_10.17.06

EUT Name:	Embedded Computer	Test Engineer:	Artorias
Manufacturer:	Technovare Systems Inc.	Test Standard:	FCC Part15C
Model:	OPS-TI3W	Work Addition:	Communication by WIFI
Temp.(oC):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	43.334	33.92	-11.49	40.0	-6.08	Peak	297.00	200	V	Pass
2	140.552	37.40	-17.24	43.5	-6.10	Peak	56.00	200	V	Pass
3	449.420	36.87	-8.01	46.0	-9.13	Peak	0.00	200	V	Pass
4	593.187	36.55	-5.20	46.0	-9.45	Peak	303.00	100	V	Pass
5	741.802	37.83	-3.43	46.0	-8.17	Peak	0.00	200	V	Pass
6	890.175	39.99	-1.89	46.0	-6.01	Peak	189.00	100	V	Pass

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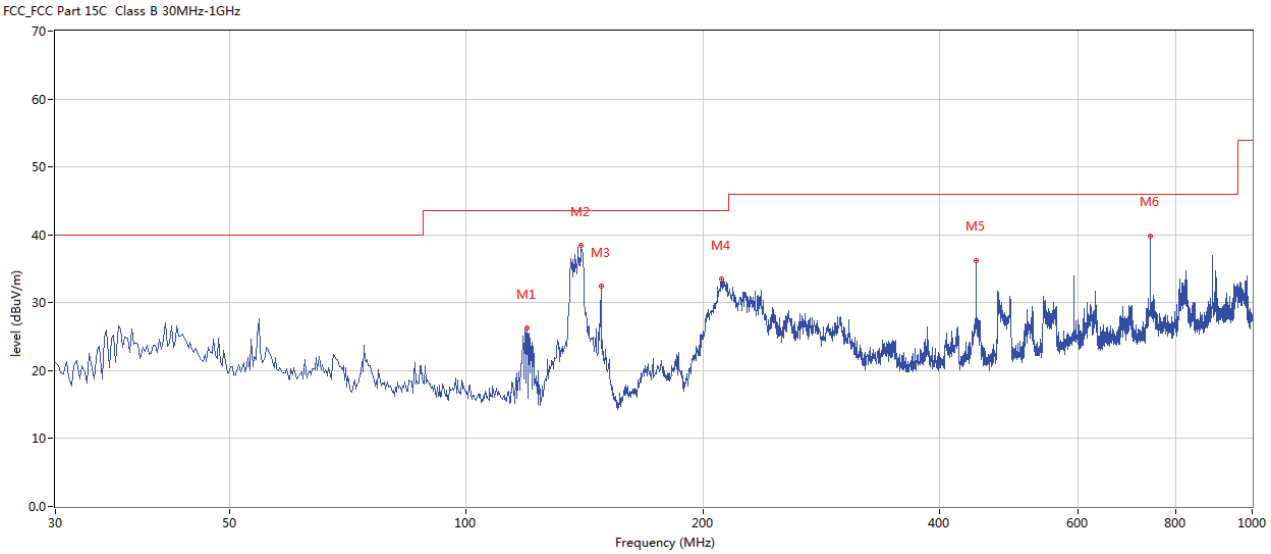
H: Radiated Disturbance (30MHz----1000MHz)

Project Number: CASE2

Test Time: 2020-05-16_10.14.34

EUT Name:	Embedded Computer	Test Engineer:	Artorias
Manufacturer:	Technovare Systems Inc.	Test Standard:	FCC Part15C
Model:	OPS-TI3W	Work Addition:	Communication by WIFI
Temp.(oC):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	119.460	26.28	-15.19	43.5	-17.22	Peak	291.00	200	H	Pass
2	140.067	38.45	-17.21	43.5	-5.05	Peak	306.00	200	H	Pass
3	148.310	32.40	-17.16	43.5	-11.10	Peak	297.00	100	H	Pass
4	211.102	33.43	-13.66	43.5	-10.07	Peak	41.00	100	H	Pass
5	445.056	36.26	-7.99	46.0	-9.74	Peak	0.00	200	H	Pass
6	741.802	39.85	-3.43	46.0	-6.15	Peak	178.00	200	H	Pass

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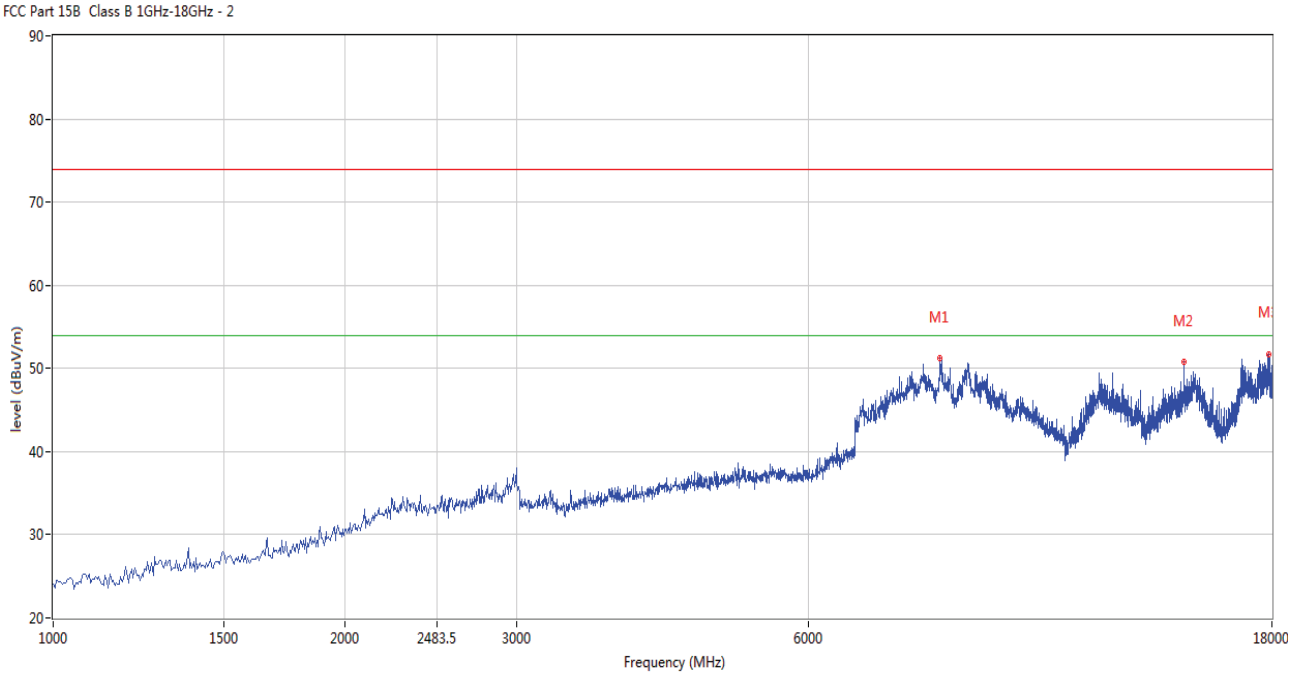
I: Radiated Disturbance (1000MHz----18000MHz)

Project Number:	DEMO	Test Time:	2020-05-16_11.05.56
EUT Name:	Embedded Computer	Test Engineer:	ANDY
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC
Model:	OPS-TI3W	Work Addition:	Run EMC Test Program
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	8189.203	51.24	8.34	74.0	-22.76	Peak	147.00	100	H	Pass
2	14609.348	50.74	11.71	74.0	-23.26	Peak	360.00	100	H	Pass
3	17855.536	51.75	12.71	74.0	-22.25	Peak	360.00	100	H	Pass

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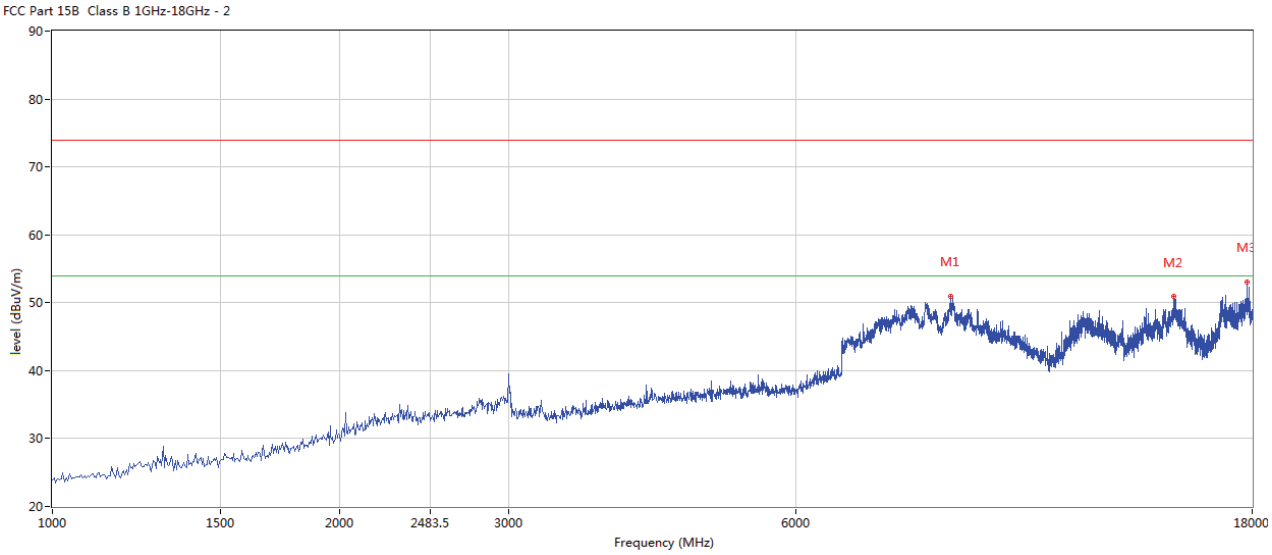
J: Radiated Disturbance (1000MHz----18000MHz)

Project Number:	DEMO	Test Time:	2020-05-16_11.07.35
EUT Name:	Embedded Computer	Test Engineer:	ANDY
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC
Model:	OPS-TI3W	Work Addition:	Run EMC Test Program
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	8699.075	50.99	7.99	74.0	-23.01	Peak	163.00	100	V	Pass
2	14906.773	50.90	12.52	74.0	-23.10	Peak	0.00	100	V	Pass
3	17783.304	53.09	12.73	74.0	-20.91	Peak	0.00	100	V	Pass

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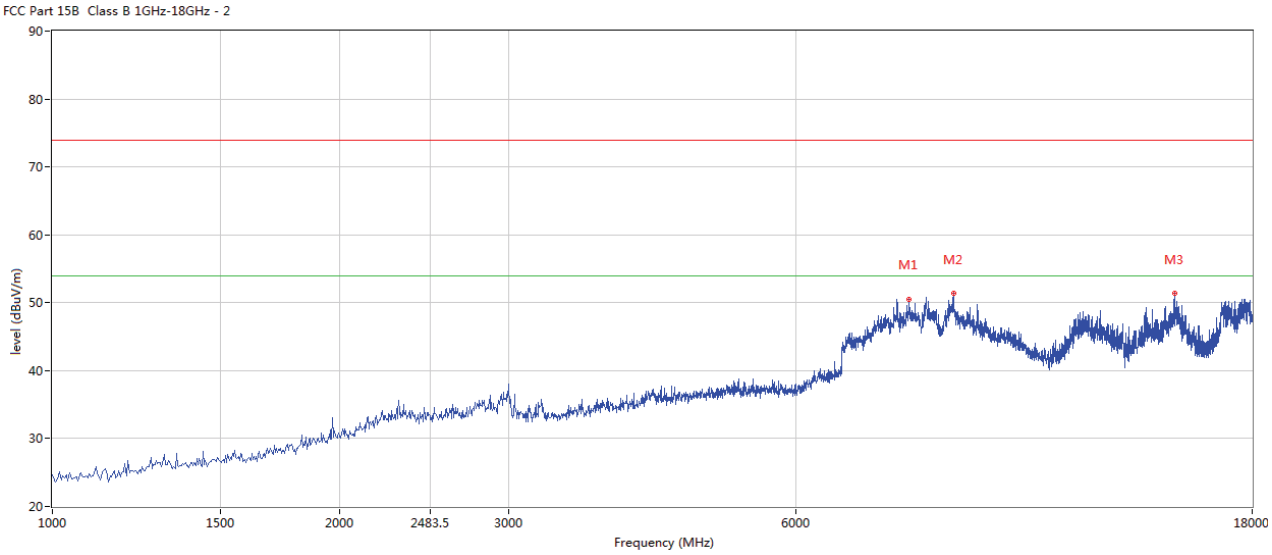
K: Radiated Disturbance (1000MHz----18000MHz)

Project Number:	DEMO	Test Time:	2020-05-16_11.13.41
EUT Name:	Embedded Computer	Test Engineer:	ANDY
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC
Model:	OPS-TI3W	Work Addition:	Play USB
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	7879.030	50.56	8.42	74.0	-23.44	Peak	254.00	100	H	Pass
2	8771.307	51.39	7.96	74.0	-22.61	Peak	359.00	100	H	Pass
3	14936.516	51.42	12.60	74.0	-22.58	Peak	0.00	100	H	Pass

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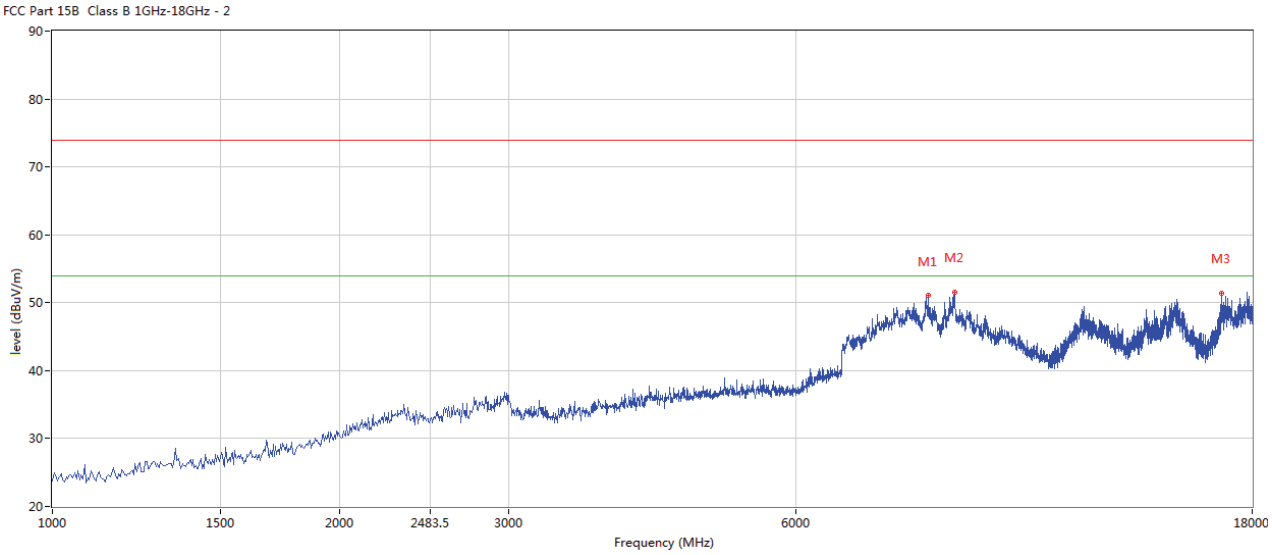
L: Radiated Disturbance (1000MHz----18000MHz)

Project Number:	DEMO	Test Time:	2020-05-16_11.14.28
EUT Name:	Embedded Computer	Test Engineer:	ANDY
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC
Model:	OPS-TI3W	Work Addition:	Play USB
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	8240.190	51.07	8.30	74.0	-22.93	Peak	144.00	100	V	Pass
2	8788.303	51.61	7.95	74.0	-22.39	Peak	180.00	100	V	Pass
3	16729.568	51.46	11.49	74.0	-22.54	Peak	360.00	100	V	Pass

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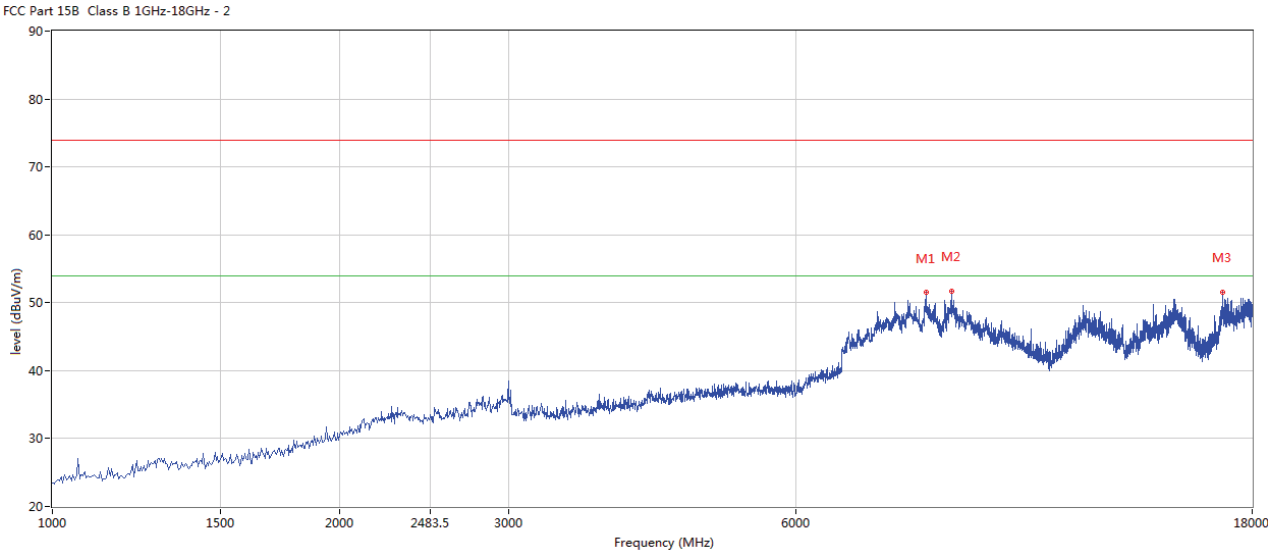
M: Radiated Disturbance (1000MHz----18000MHz)

Project Number:	DEMO	Test Time:	2020-05-16_11.16.14
EUT Name:	Embedded Computer	Test Engineer:	ANDY
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC
Model:	OPS-TI3W	Work Addition:	Ping Network
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	8210.447	51.51	8.32	74.0	-22.49	Peak	70.00	100	H	Pass
2	8720.320	51.75	7.98	74.0	-22.25	Peak	145.00	100	H	Pass
3	16750.812	51.59	11.60	74.0	-22.41	Peak	360.00	100	H	Pass

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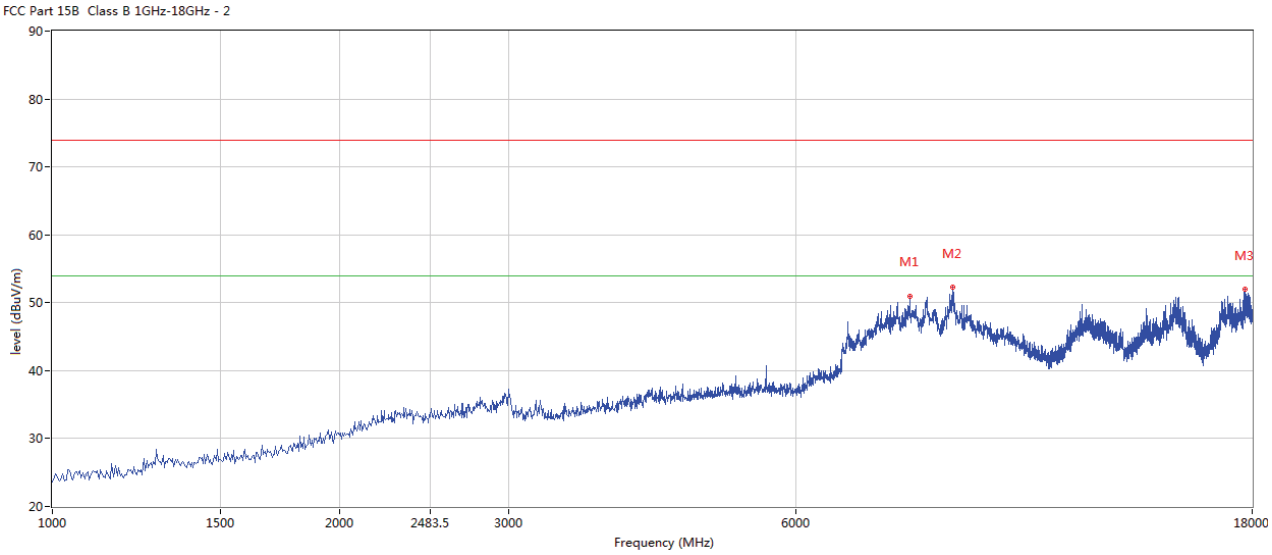
N: Radiated Disturbance (1000MHz----18000MHz)

Project Number:	DEMO	Test Time:	2020-05-16_11.17.32
EUT Name:	Embedded Computer	Test Engineer:	ANDY
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC
Model:	OPS-TI3W	Work Addition:	Ping Network
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	7896.026	51.00	8.43	74.0	-23.00	Peak	90.00	100	V	Pass
2	8754.311	52.23	7.96	74.0	-21.77	Peak	331.00	100	V	Pass
3	17702.574	52.02	12.76	74.0	-21.98	Peak	0.00	100	V	Pass

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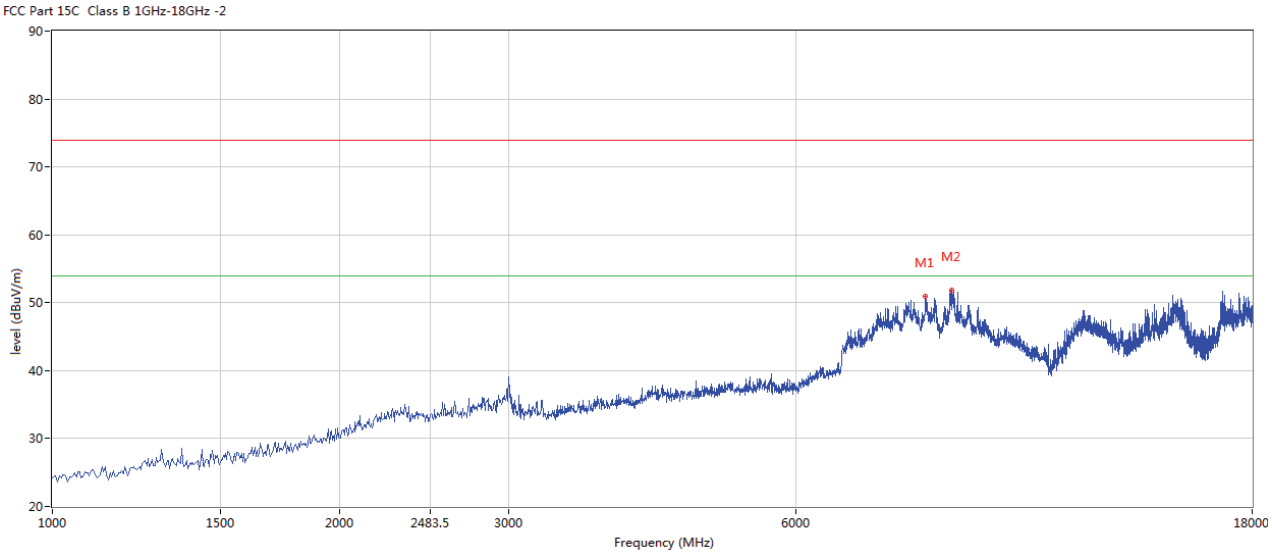
O: Radiated Disturbance (1000MHz----18000MHz)

Project Number:	DEMO	Test Time:	2020-05-16_11.29.12
EUT Name:	Embedded Computer	Test Engineer:	ANDY
Manufacturer:	Shenzhen JEC Technology Co.,Ltd.	Test Standard:	FCC
	OPS-TI3W		
Model:	25	Work Addition:	Communication by WIFI
Temp.(℃) :	65%	Load:	
Hum.:		Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	8193.452	50.89	8.34	74.0	-23.11	Peak	304.00	100	H	Pass
2	8733.067	51.86	7.98	74.0	-22.14	Peak	320.00	100	H	Pass

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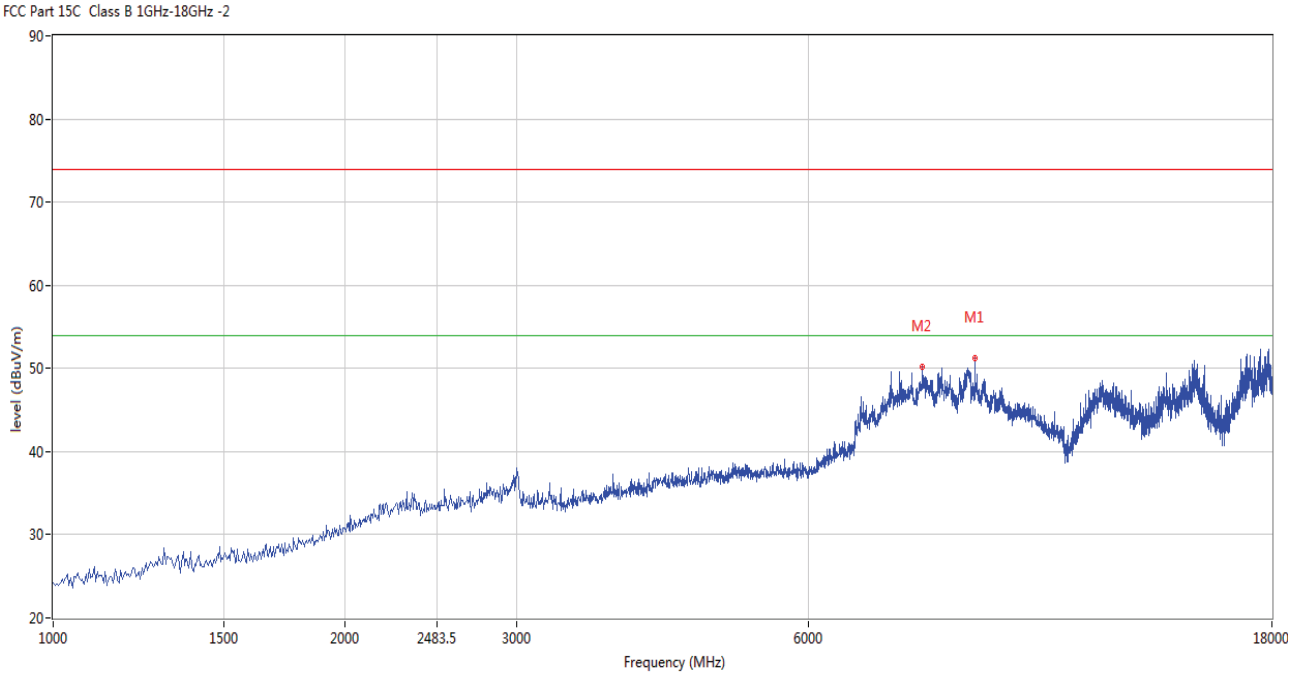
P: Radiated Disturbance (1000MHz----18000MHz)

Project Number:	DEMO	Test Time:	2020-05-16_11.23.06
EUT Name:	Embedded Computer	Test Engineer:	ANDY
Manufacturer:	Shenzhen JEC Technology Co., Ltd.	Test Standard:	FCC
Model:	OPS-TI3W	Work Addition:	Communication by WIFI
Temp.(℃):	25	Load:	
Hum.:	65%	Remark:	



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	8903.024	51.17	7.89	74.0	-22.83	Peak	68.00	100	V	Pass
2	7853.537	50.20	8.40	74.0	-23.80	Peak	13.00	100	V	Pass

Note: For radiated emissions above 18GHz, It is only floor noise.

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6.0 FCC Label

FCC ID: YS2OPSTI3W-TI3WPS

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location: On the product body

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7.0 Photo of testing

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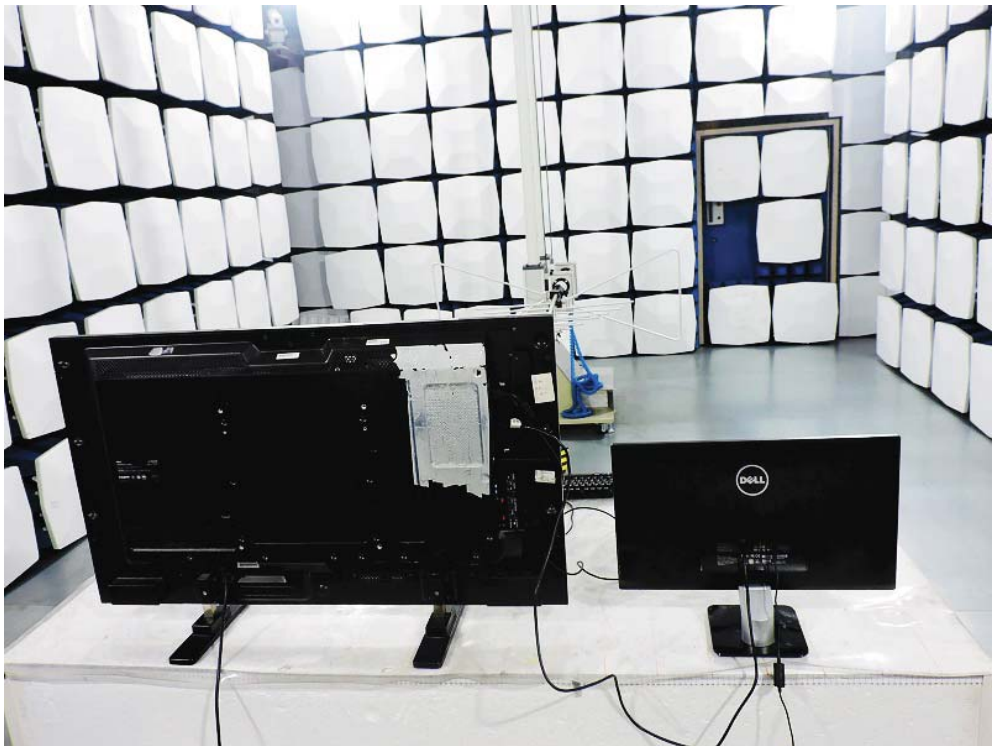
Photo of testing



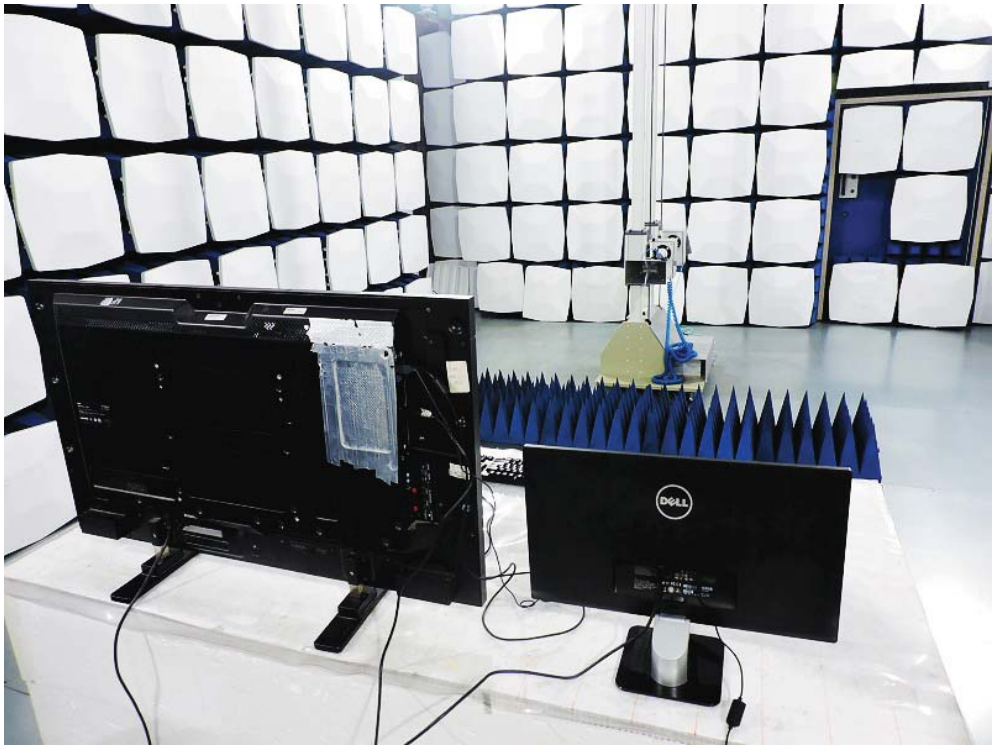


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Photo for the EUT

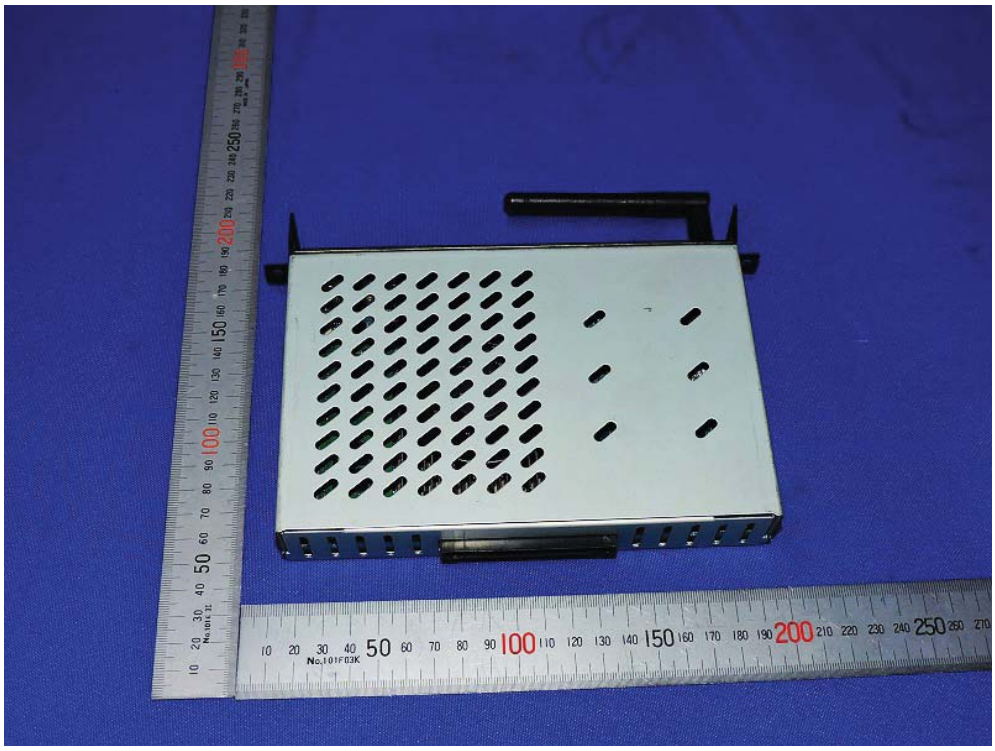

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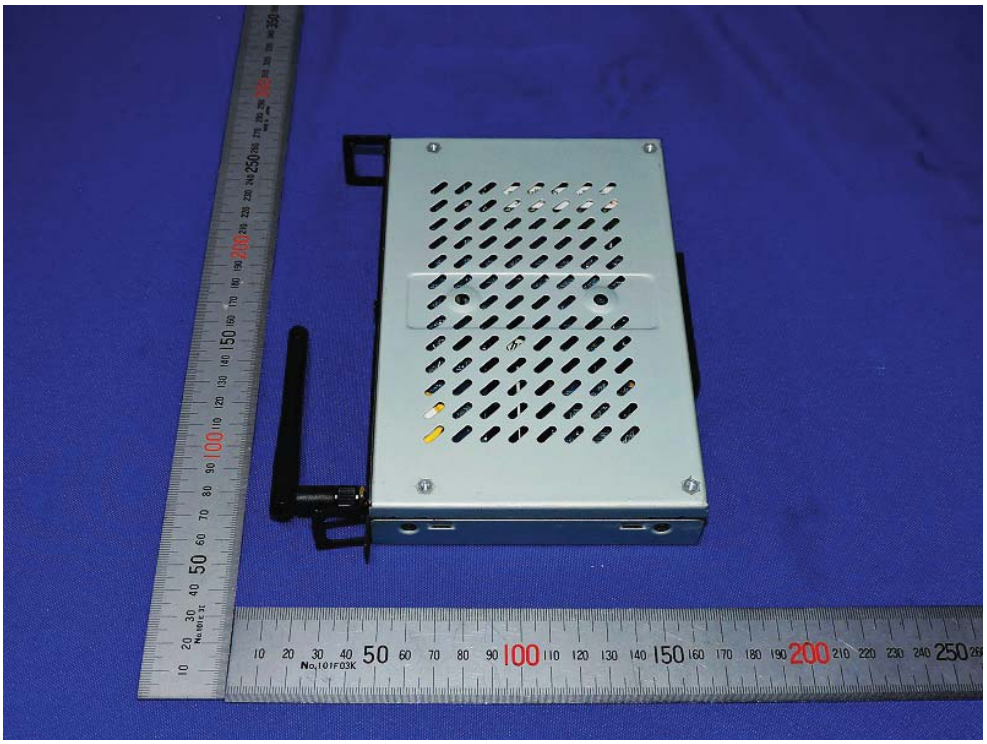
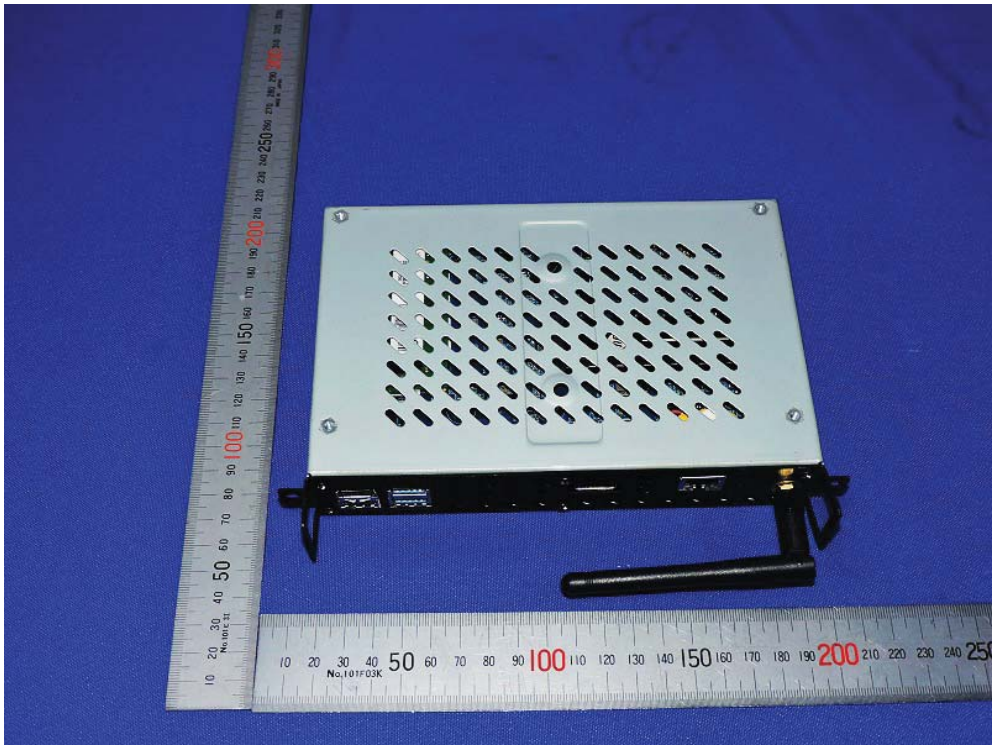
Photo for the EUT





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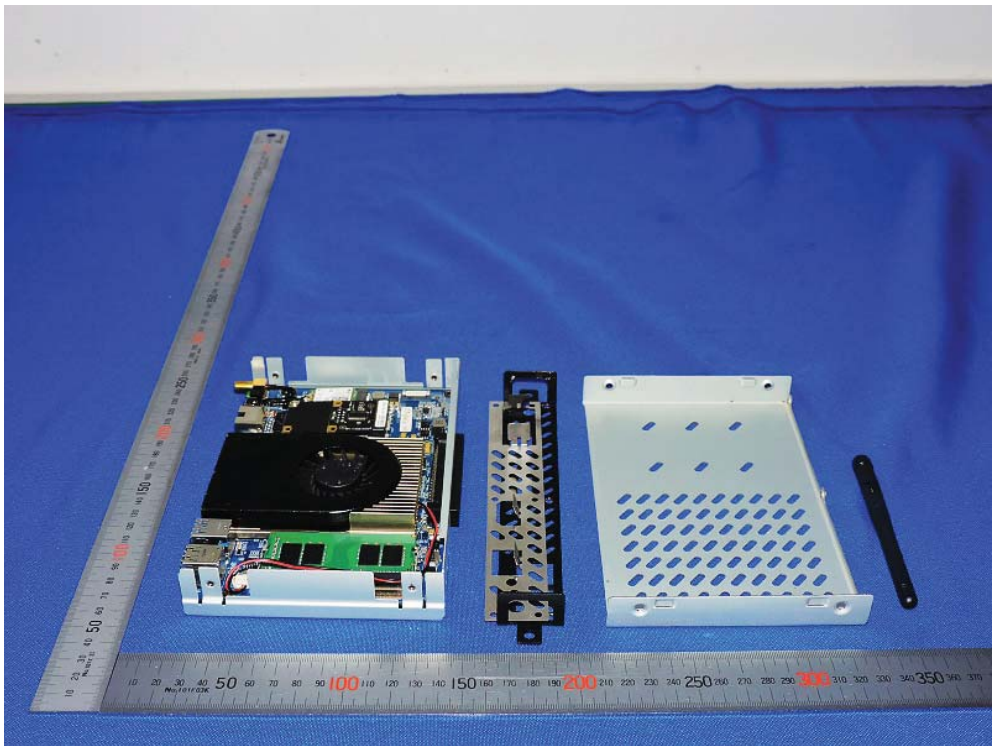

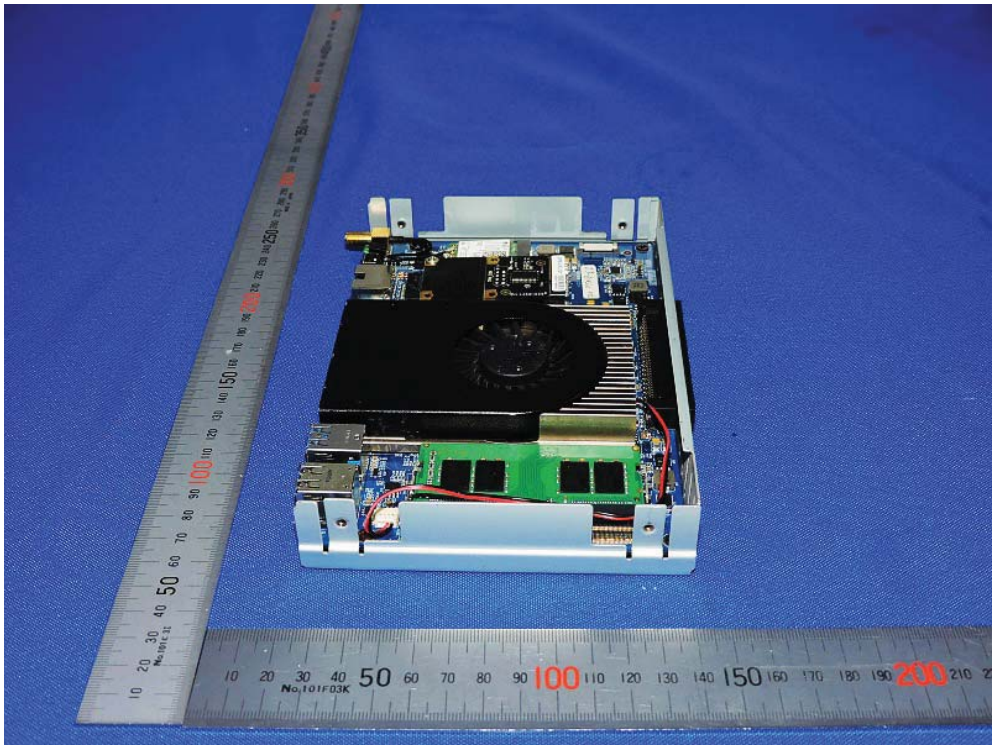

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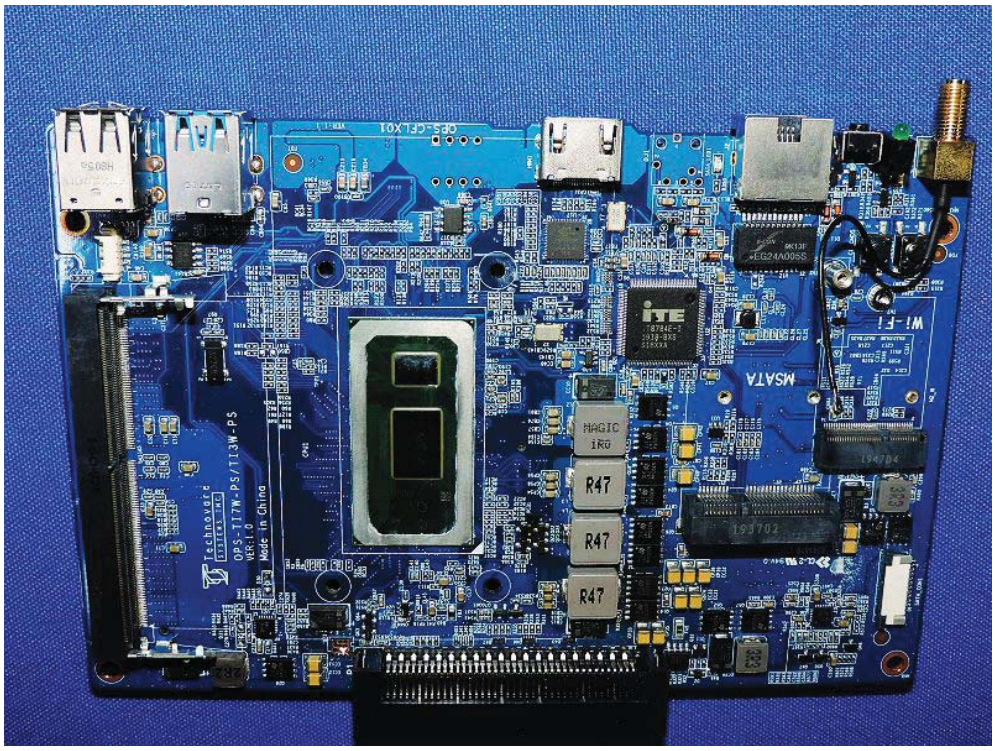

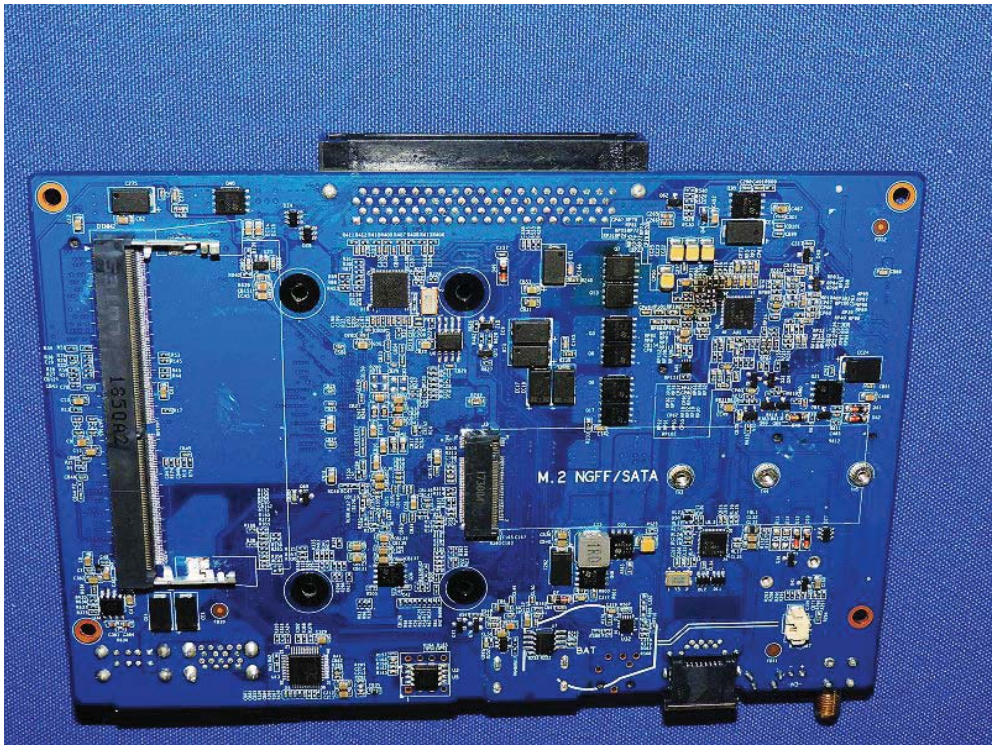

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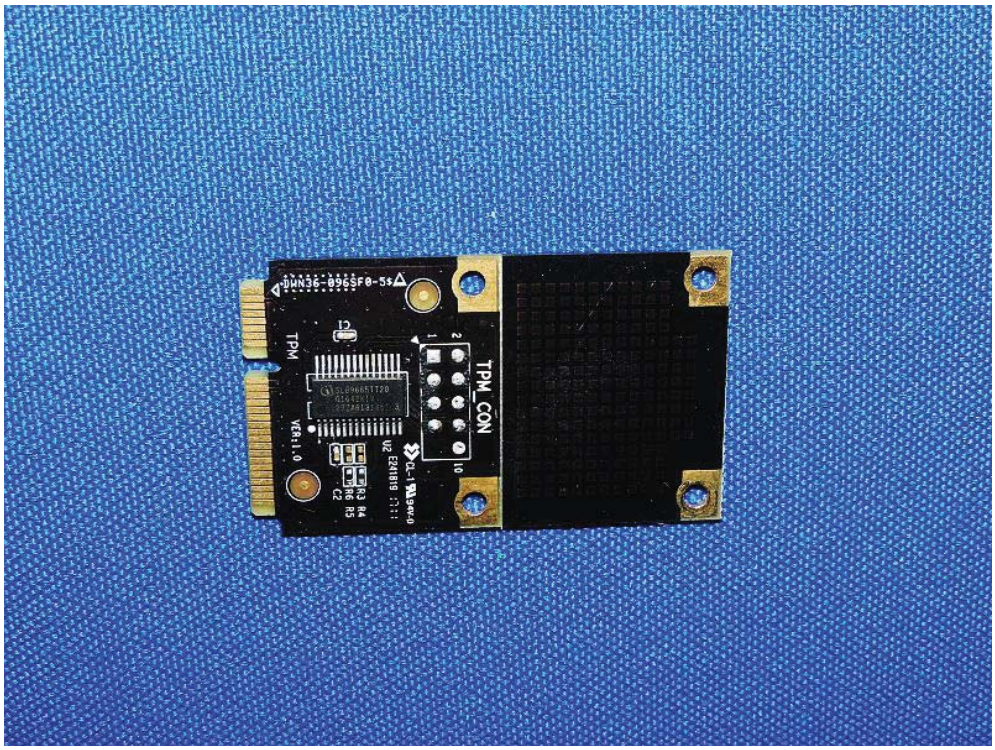

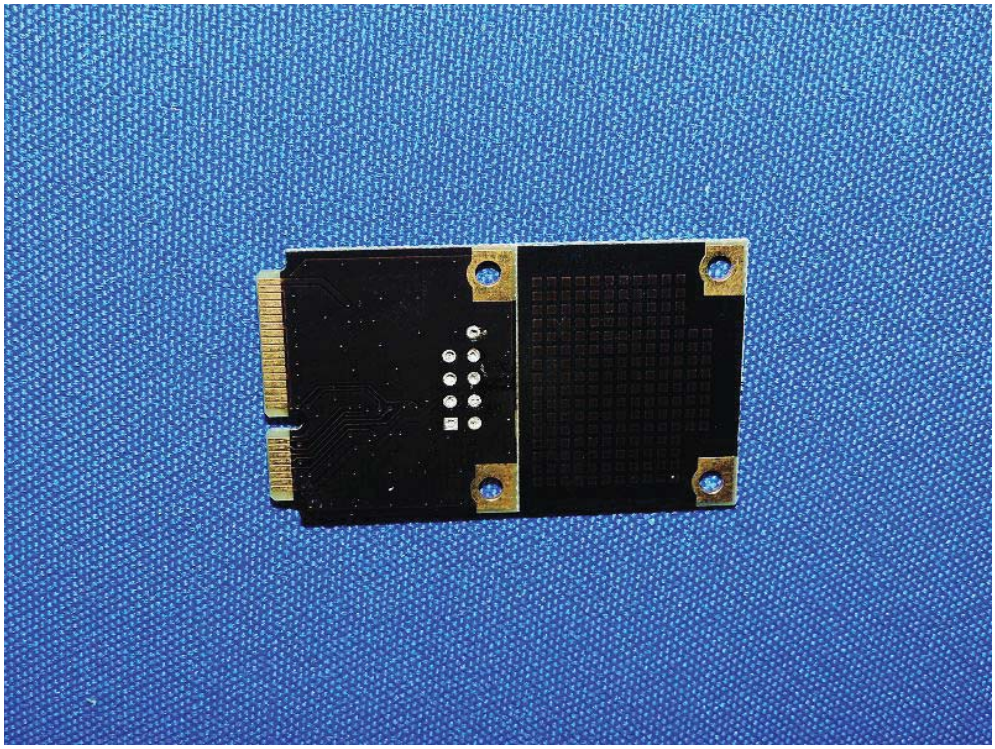

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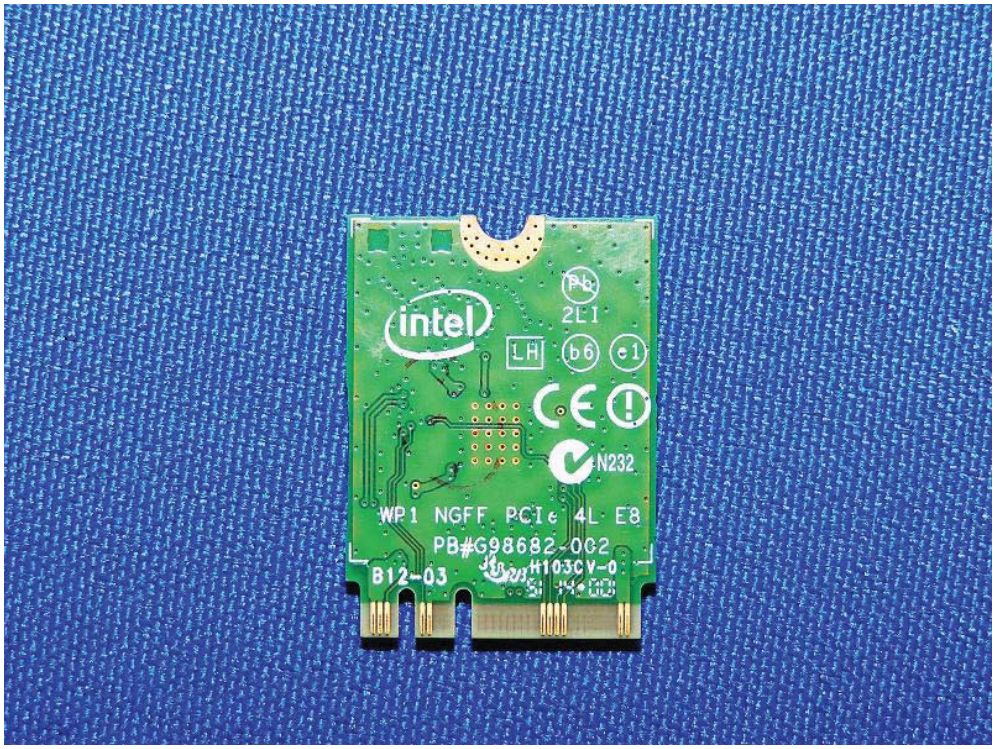

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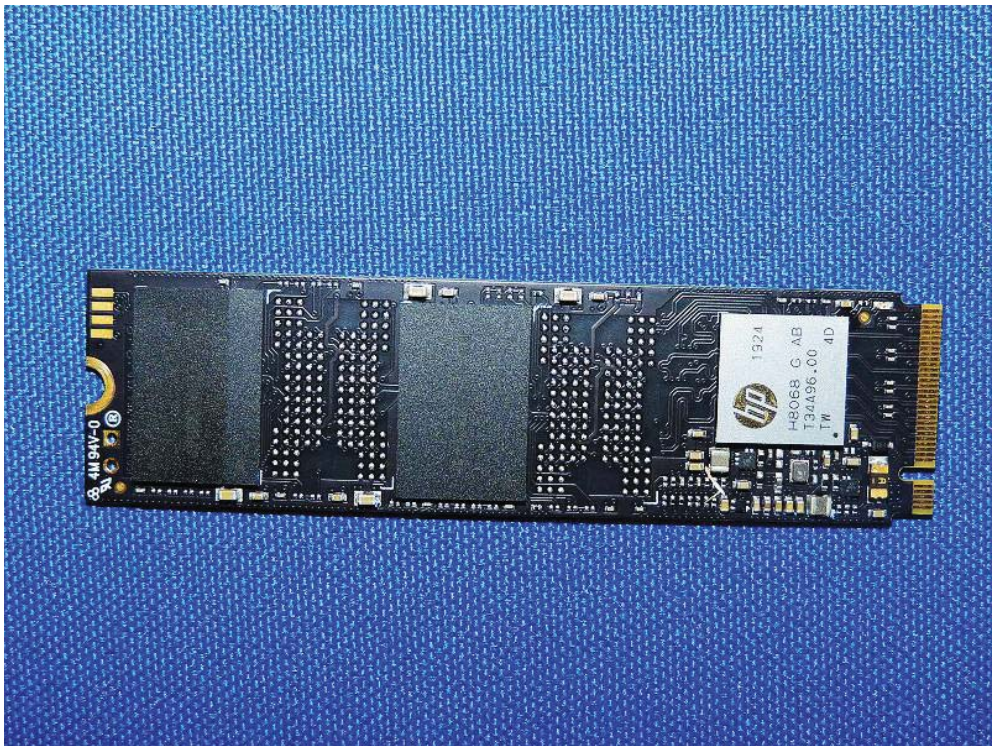

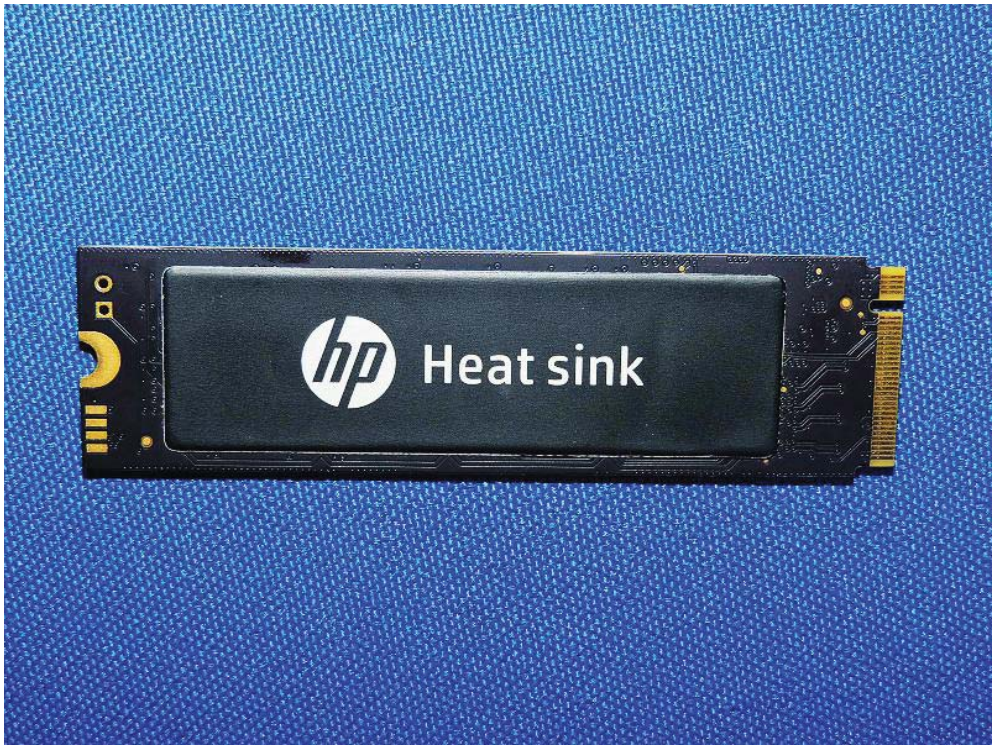

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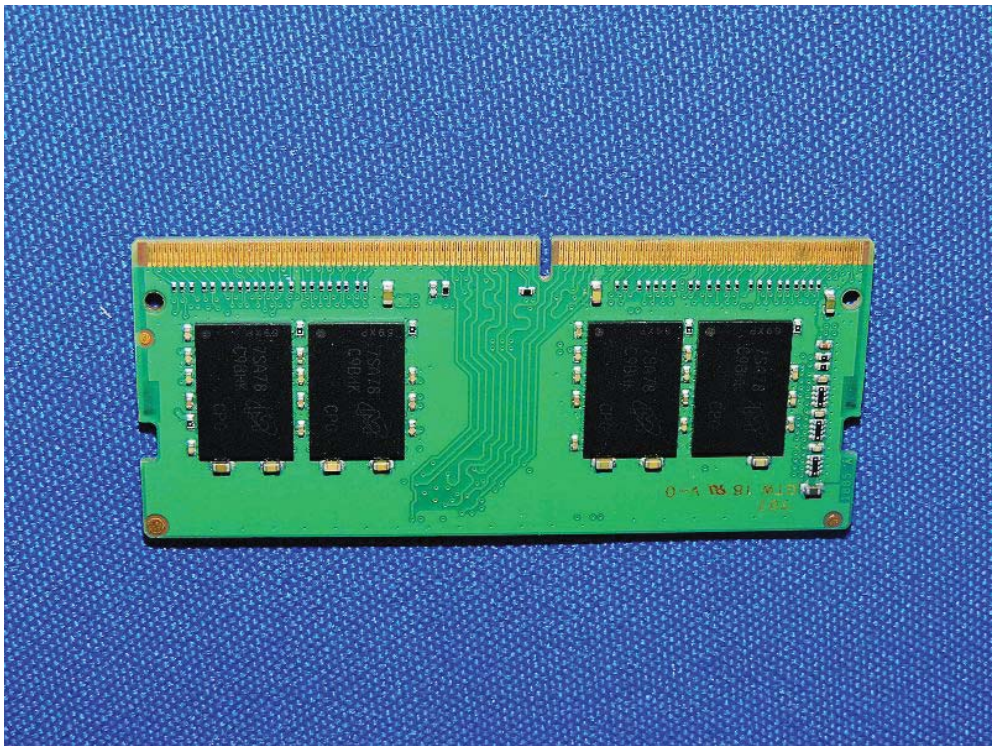

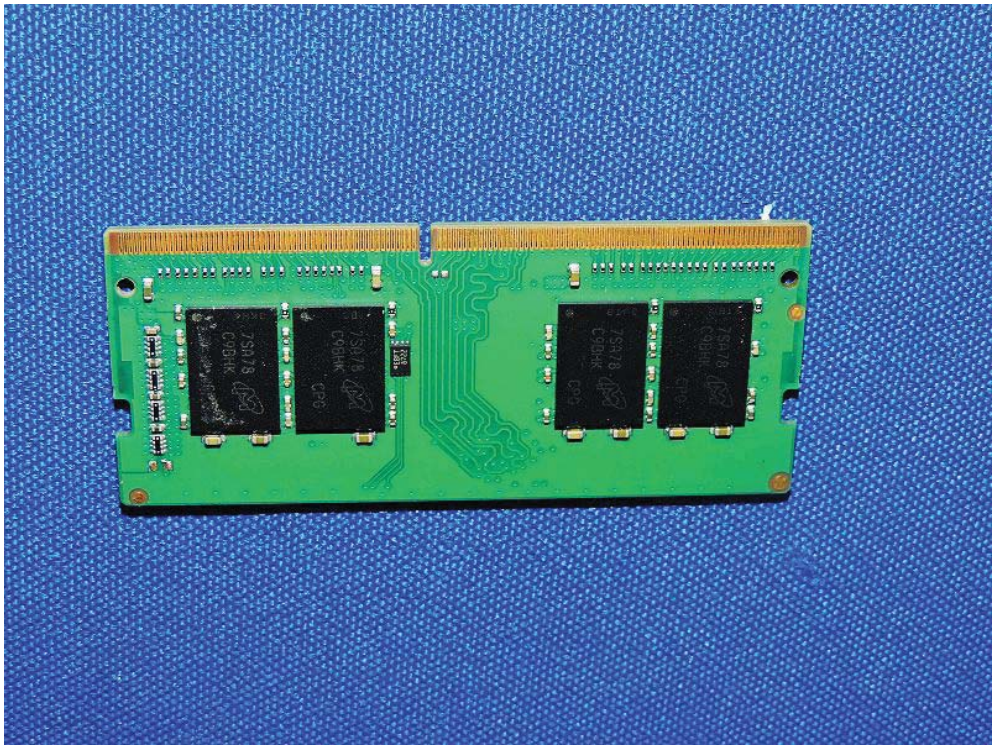

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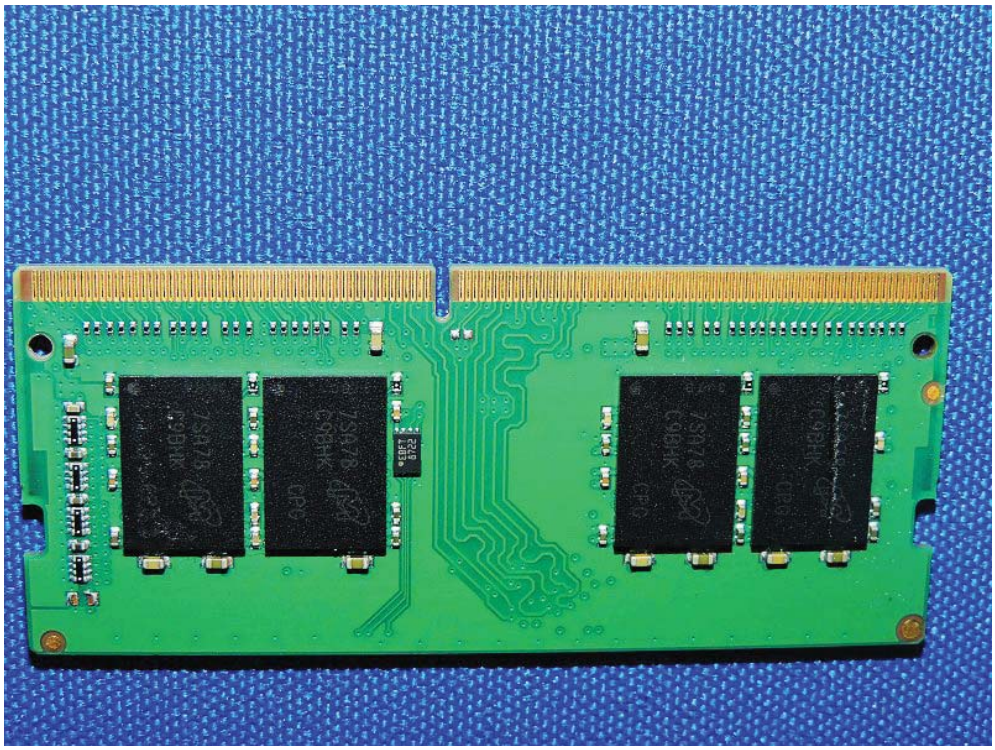

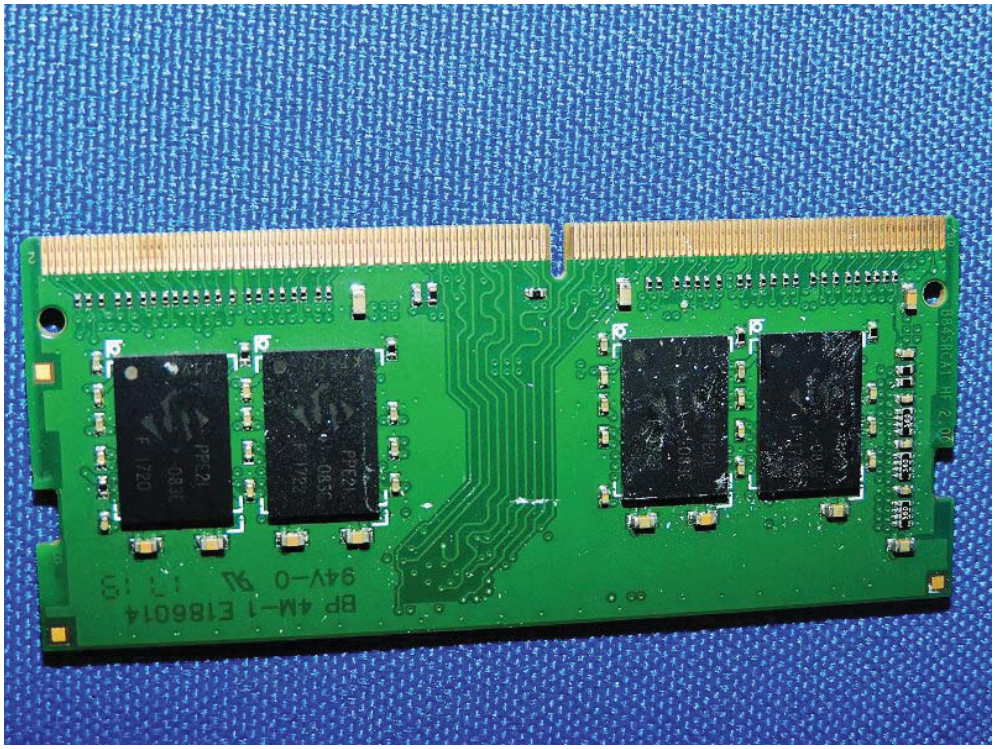

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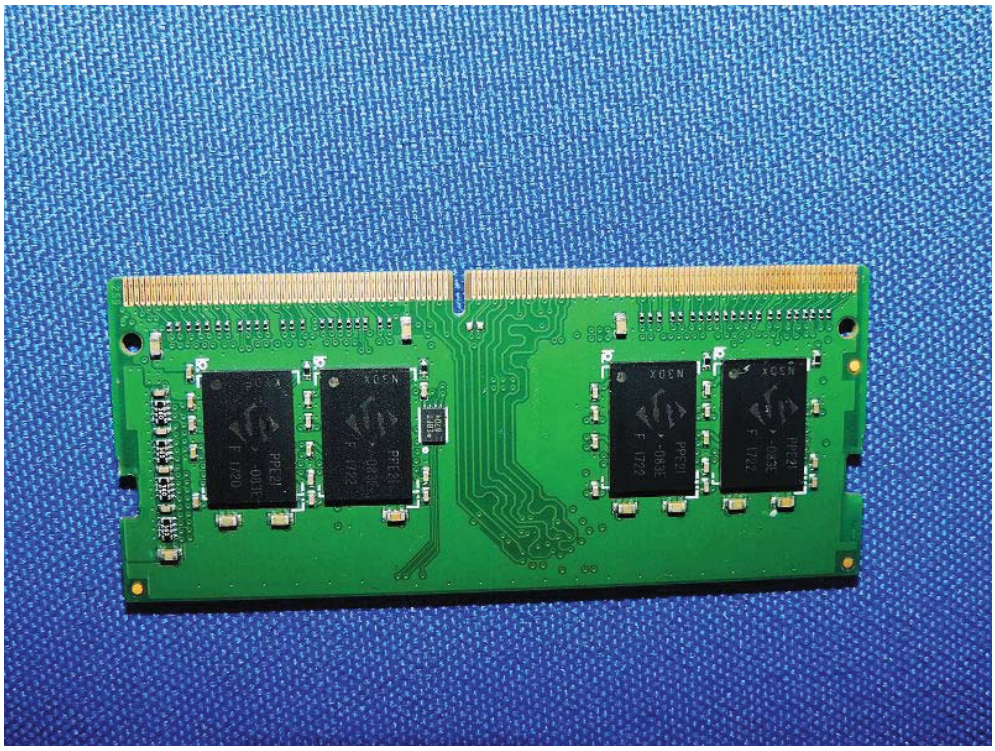

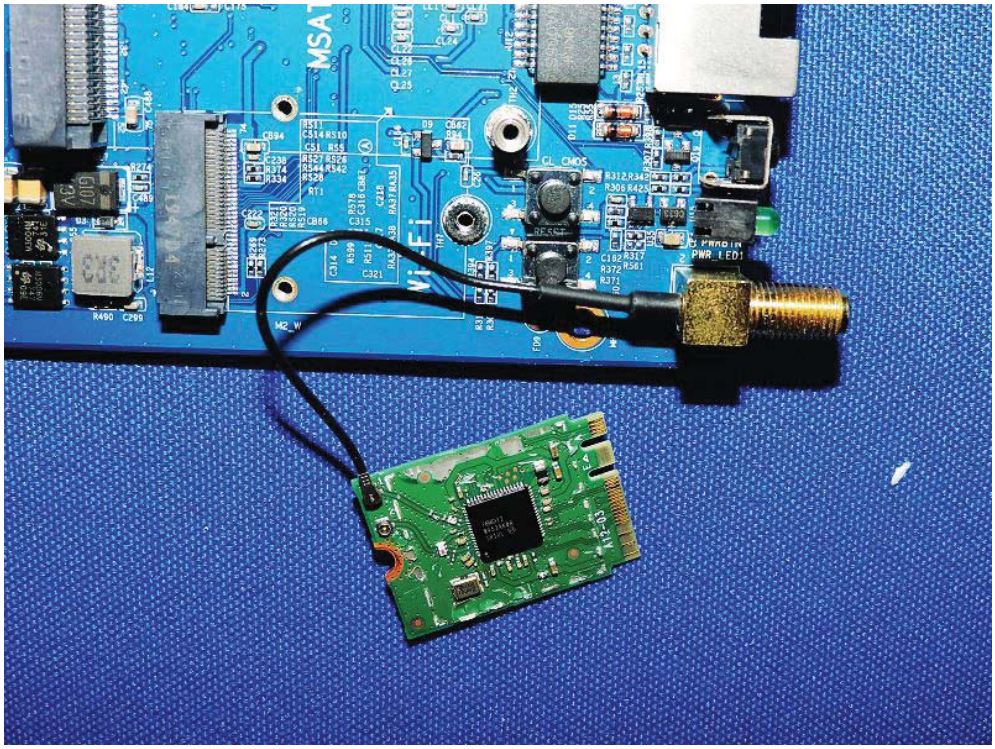

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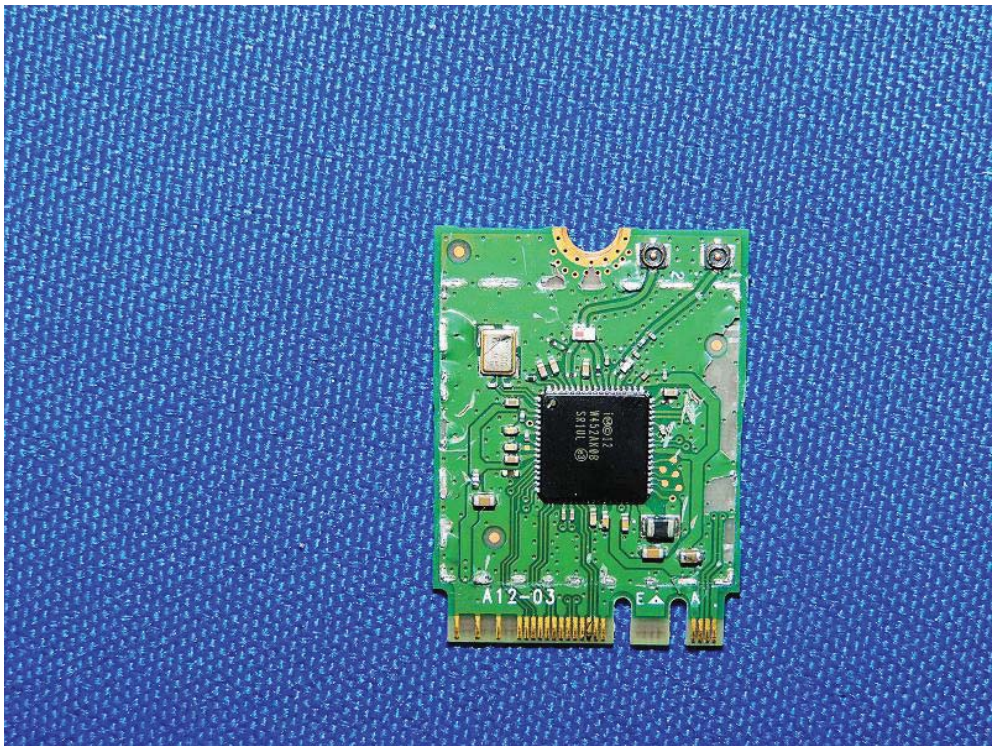

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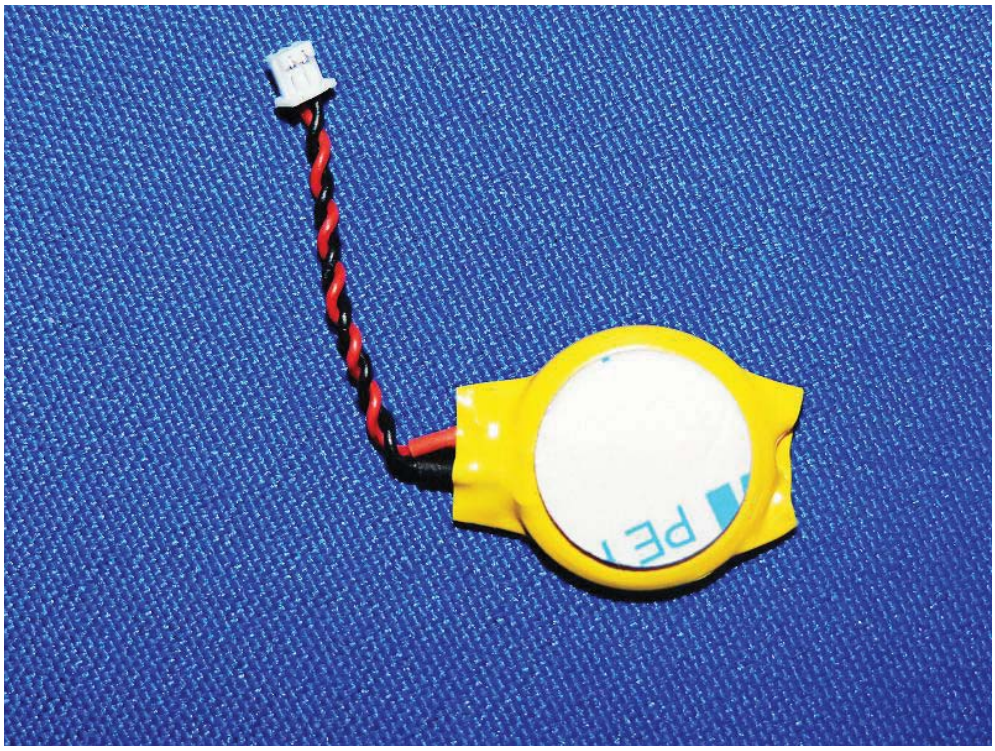

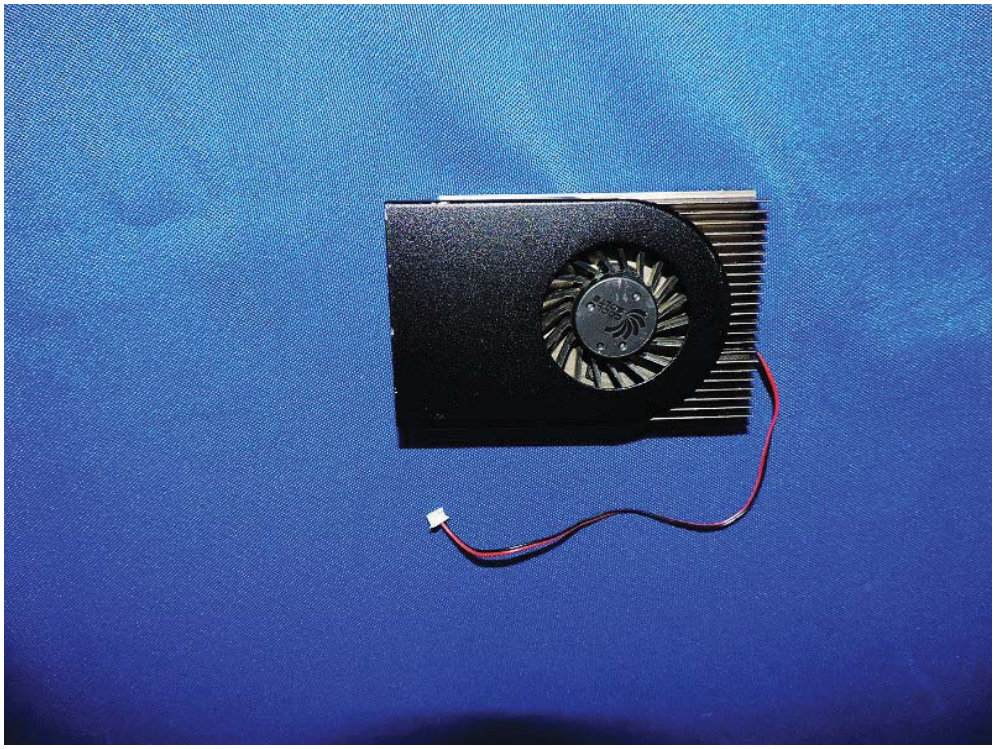

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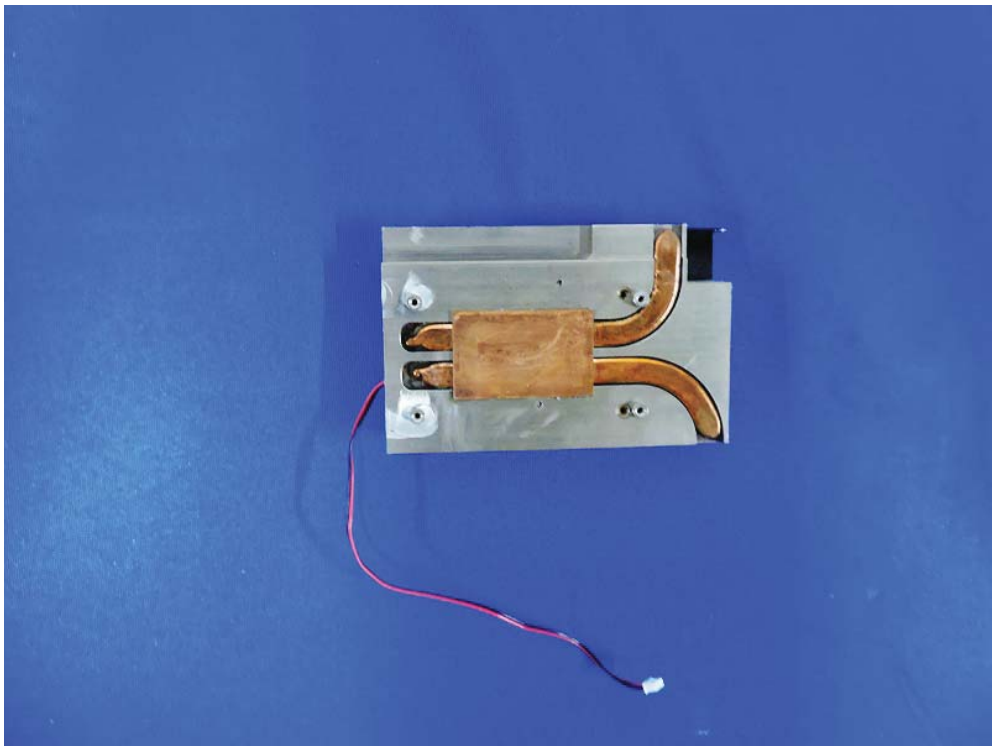

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