

**FCC 15.209 & RSS-216  
(Permissive Change)  
Wireless Power Transfer Report**

**for**

**Acer Incorporated**

**8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi,  
New Taipei City 22181, Taiwan (R.O.C)**

**Product Name : CWT Module-WTM1A15  
Model Name : WTM1A15  
Brand : acer  
FCC ID : HLZWPC4  
IC : 1754F-WPC4**

**Prepared by: : AUDIX Technology Corporation,  
EMC Department**



The test report is based on a single evaluation of one sample of the above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab logo.

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## TABLE OF CONTENTS

Description	Page
TEST REPORT CERTIFICATION.....	4
<b>1. REVISION RECORD OF TEST REPORT.....</b>	<b>4</b>
<b>2. SUMMARY OF TEST RESULTS.....</b>	<b>5</b>
<b>3. GENERAL INFORMATION.....</b>	<b>6</b>
3.1. Description of Application.....	6
3.2. Description of EUT.....	6
3.4. Information for Change Permissive.....	7
3.5. EUT Specifications Assessed in Current Report.....	7
3.6. Antenna Information.....	7
3.7. Description of Key Components.....	7
3.8. Test Configuration.....	7
3.9. Tested Supporting System List.....	8
3.10. Setup Configuration.....	8
3.11. Operating Condition of EUT.....	9
3.12. Description of Test Facility.....	9
3.13. Measurement Uncertainty.....	10
<b>4. MEASUREMENT EQUIPMENTLIST.....</b>	<b>11</b>
4.1. Conducted Emission Measurement.....	11
4.2. Radiated Emission Measurement.....	11
4.3. Conducted Measurement.....	11
<b>5. CONDUCTED EMISSION.....</b>	<b>12</b>
5.1. Block Diagram of Test Setup.....	12
5.2. Conducted Emission Limit.....	12
5.3. Test Procedure.....	12
5.4. Test Results.....	13
<b>6. RADIATED SPURIOUS EMISSION.....</b>	<b>14</b>
6.1. Block Diagram of Test Setup.....	14
6.2. Radiated Emission Limits.....	15
6.3. Test Procedure.....	15
6.4. Measurement Limit Formula.....	16
6.5. Test Results.....	16
<b>7. 20dB/99% BANDWIDTH.....</b>	<b>17</b>
7.1. Block Diagram of Test Setup.....	17
7.2. Specification Limits.....	17
7.3. Test Procedure.....	17
7.4. Test Results.....	17
<b>8. DEVIATION TO TEST SPECIFICATIONS.....</b>	<b>18</b>

APPENDIX A TEST DATA AND PLOTS  
APPENDIX B TESTPHOTOGRAPHS

## TEST REPORT (Permissive Change)

Applicant : Acer Incorporated  
Manufacture : Acer Incorporated  
EUT Description  
(1) Product : CWT Module-WTM1A15  
(2) Model : WTM1A15  
(3) Brand : acer  
(4) Power Supply: DC 12V

### Applicable Standards:

47CFRFCC Part 15 Subpart C  
RSS-Gen (Issue 5), March 2019  
RSS-216 (Issue 2), January 2016  
ANSI C63.10:2013

**Audix Technology Corp.** tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

**Audix Technology Corp.** does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens and samples.

Date of Report: 2020. 08. 20

Reviewed by:

Annie Yu

(Annie Yu/Administrator)

Approved by:

Johnny Hsueh

(Johnny Hsueh/Section Manager)

## 1. REVISION RECORD OF TEST REPORT

Edition No	Issued Data	Revision Summary	Report Number
0	2020. 08. 20	Original Report	EM-F200291

## 2. SUMMARY OF TEST RESULTS

Rule		Description	Results
FCC	IC		
15.207	RSS-Gen §8.8	Conducted Emission	<b>PASS</b>
15.209	RSS-Gen §8.9	Radio Spurious Emission	<b>PASS</b>
15.215 (c)	---	20dB Bandwidth	<b>PASS</b>
---	RSS-Gen §6.6	99%dB Bandwidth	<b>PASS</b>
15.203	RSS-Gen §8.3	Antenna Requirement	<b>Compliance</b>

Note: The uncertainties value is not used in determining the result.

### 3. GENERAL INFORMATION

#### 3.1. Description of Application

Applicant	Acer Incorporated 8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi, New Taipei City 22181, Taiwan (R.O.C)
Manufacture	Acer Incorporated 8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi, New Taipei City 22181, Taiwan (R.O.C)
Product	CWT Module-WTM1A15
Model	WTM1A15
Brand	acer

#### 3.2. Description of EUT

Test Model	WTM1A15		
Test Sample	Sample No.	Test Item	Firmware
	#1	AC Conduction	N/A
	#1	RSE	N/A
	#1	Conducted	N/A
Serial Number	N/A		
Power Rating	DC 12V		
RF Features	Wireless Power Transfer		
WPC device or system that includes	Component: Wireless module ; Type: Category I		
Host	Host Name: Personal Computer, Host Brand: acer Host Model: D19W6		
Accessories	N/A		
Date of Receipt	2020. 06. 22		
Date of Test	2020. 06. 29 ~ 08. 20		

### 3.4. Information for Change Permissive

Item	Original	Change Permissive
Host	Host Name: Personal Computer Host Brand: acer Host Model: D19E4	Host Name: Personal Computer Host Brand: acer Host Model: D19W6
The EUT is an addition version with original FCC ID: HLZWPC4 and IC: 1754F-WPC4.		

### 3.5. EUT Specifications Assessed in Current Report

Mode	Fundamental Range (MHz)	Modulation
WPC	110-148 kHz	FSK

### 3.6. Antenna Information

No.	Antenna Part Number	Manufacture	Antenna Type	Frequency (MHz)	Max Gain(dBi)
1	---	---	Loop	---	---

### 3.7. Description of Key Components

None

### 3.8. Test Configuration

AC Conduction	
Test Case	Normal operation

Item	Mode	Test Frequency
Radiated Test Case Radiated Spurious Emission	WPC	123.6kHz
Conducted Test Case 20dB Bandwidth	WPC	123.6kHz

Note 1:

- Mobile Device:  
 Portable Device, and 3 axis were assessed.
- Lie
  - Side
  - Stand

### 3.9. Tested Supporting System List

#### 3.9.1. Support Peripheral Unit

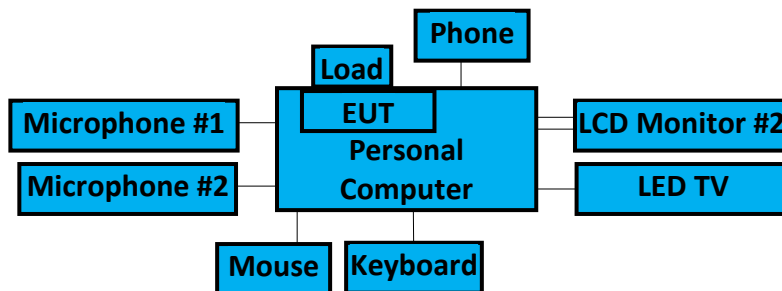
No.	Product	Brand	Model No.	Serial No.	Approval
1.	Personal Computer	acer	D19W4	D8E1ZEE00201 101A3C3000	FCC by DoC
2.	LED TV	LG	22LK330-DB	N/A	FCC by DoC
3.	LCD Monitor	lenovo	LT2452P	VNA7Y94	FCC by DoC
4.	Keyboard	acer	KBCR21	N/A	FCC by DoC
5.	Mouse	acer	MOLDUO	N/A	FCC by DoC
6.	Microphone #1	UIO	HS10101	N/A	N/A
7.	Microphone #2	TWO.M	EP22	N/A	N/A
8.	Load (15W)	N/A	N/A	N/A	N/A

#### 3.9.2. Cable Lists

No.	Cable Description Of The Above Support Units
1.	AC Power Cord: Unshielded, Detachable, 1.8m
2.	HDMI Cable: Shielded, Detachable, 1.8m AC Power Cord: Unshielded, Detachable, 1.8m
3.	DVI Cable: Shielded, Detachable, 1.8m, with two ferrite Cores DP Cable: Shielded, Detachable, 1.8m AC Power Cord: Unshielded, Detachable, 1.8m
4.	USB Cable: Unshielded, Undetachable, 1.8m
5.	USB Cable: Unshielded, Undetachable, 1.8m
6.	Audio Cable: Unshielded, Undetachable, 1.5m
7.	Audio Cable (Y Type): Unshielded, Undetachable, 2.0m
8.	N/A

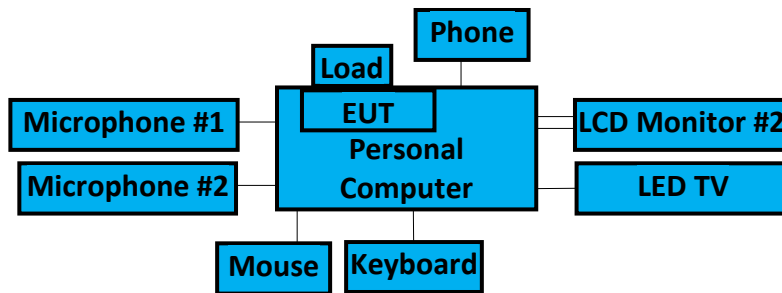
### 3.10. Setup Configuration

#### 3.10.1. For AC Conduction Test

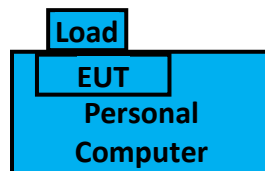




3.10.2. For Radiated Spurious Emission Test



3.10.3. For Conducted Test



**3.11. Operating Condition of EUT**

To Set EUT RF function on continues transmitting.

**3.12. Description of Test Facility**

Name of Test Firm	Audix Technology Corporation / EMC Department No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan Tel: +886-2-26092133 Fax: +886-2-26099303 Website : www.audixtech.com Contact e-mail: attemc_report@audixtech.com
Accreditations	The laboratory is accredited by following organizations under ISO/IEC 17025:2017 (1) NVLAP(USA) NVLAP Lab Code 200077-0 (2) TAF(Taiwan) No. 1724
Test Facilities	FCC OET Designation Number under APEC MRA by NCC is : TW1724 ISED CAB Identifier Number under APEC TEL MRA by NCC is TW1724 (1) No. 8 Shielding Room (2) No.1 3m Semi Anechoic Chamber

### 3.13. Measurement Uncertainty

Test Items/Facilities			Frequency Range	Uncertainty	
Conduction Test			9kHz-150kHz	±3.7dB	
			150kHz-30MHz	±3.5dB	
Radiation Test	■	No.1 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±4.1dB	
			200MHz-1000MHz, 3m, Horizontal	±3.9dB	
			30MHz-200MHz, 3m, Vertical	±4.2dB	
			200MHz-1000MHz, 3m, Vertical	±4.1dB	
			1GHz-6GHz, 3m	±4.2dB	
			6GHz-18GHz, 3m	±4.6dB	
	□	No.3 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±3.9dB	
			200MHz-1000MHz, 3m, Horizontal	±3.9dB	
			30MHz-200MHz, 3m, Vertical	±4.4dB	
			200MHz-1000MHz, 3m, Vertical	±4.1dB	
		No.4 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±4.3dB	
			200MHz-1000MHz, 3m, Horizontal	±4.0dB	
			30MHz-200MHz, 3m, Vertical	±4.3dB	
			200MHz-1000MHz, 3m, Vertical	±4.4dB	
	□	No.5 3m Semi Anechoic Chamber	1GHz-6GHz, 3m	±4.5dB	
			6GHz-18GHz, 3m	±4.6dB	
			30MHz-200MHz, 3m, Horizontal	±4.0dB	
			200MHz-1000MHz, 3m, Horizontal	±3.9dB	
			30MHz-200MHz, 3m, Vertical	±4.2dB	
			200MHz-1000MHz, 3m, Vertical	±4.3dB	
	□	Fully Anechoic Chamber	1GHz-6GHz, 3m	±4.3dB	
			6GHz-18GHz, 3m	±4.7dB	
				30MHz~1000MHz	±4.7dB
				1GHz~18GHz	±5.3dB

Remark : Uncertainty =  $ku_c(y)$

Test Item	Uncertainty
20dB Bandwidth	± 0.2kHz
99% Bandwidth	± 0.38%

## 4. MEASUREMENT EQUIPMENTLIST

### 4.1. Conducted Emission Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
1.	Test Receiver	R&S	ESR3	101774	2020.02.04	1 Year
2.	A.M.N.	R&S	ENV432	101567	2020.04.20	1 Year
3.	L.I.S.N.	Kyoritsu	KNW-407	8-855-9	2019.12.10	1 Year
4.	Pulse Limiter	R&S	ESH3-Z2	100354	2020.01.05	1 Year
5.	Cable	Yeida	RG/58AU	CE-08	2019.09.20	1 Year
6.	Digital Thermo-Hygro Meter	iMax	HTC-1	No.8 S/R	2019.09.20	N.C.R.
7	Test Software	Audix	e3	V6.120619c	N.C.R.	N.C.R.

### 4.2. Radiated Emission Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
1.	Spectrum Analyzer	Agilent	N9010A-526	MY52220368	2019.11.26	1 Year
2.	Test Receiver	R&S	ESCS30	100338	2020.06.10	1 Year
3.	Amplifier	HP	8447D	2944A06305	2020.01.15	1 Year
4.	Bilog Antenna	CHASE	CBL6112D	33821	2020.01.17	1 Year
5.	Loop Antenna	R&S	HFH2-Z2	891847/27	2019.12.26	2 Year
6.	Cable	MIYAZAKI	5D2W	CLAMP-01	2019.09.20	1 Year
7.	Cable	MIYAZAKI	5D2W	RE-11	2020.01.31	1 Year
8.	Digital Thermo-Hygro Meter	iMax	HTC-1	No.1 3m A/C	2020.04.17	1 Year
9.	Test Software	Audix	e3	V6.120619c	N.C.R.	N.C.R.

### 4.3. Conducted Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
1.	Spectrum Analyzer	Keysight	N9020B-544	MY57120357	2020.01.10	1 Year
2.	Probe Antenna	EMCO	7405	9011-1836	N.C.R.	N.C.R.
3.	Digital Thermo-Hygro Meter	Shenzhen Datronn Electronics	KT-905	RF	2020.04.17	1 Year

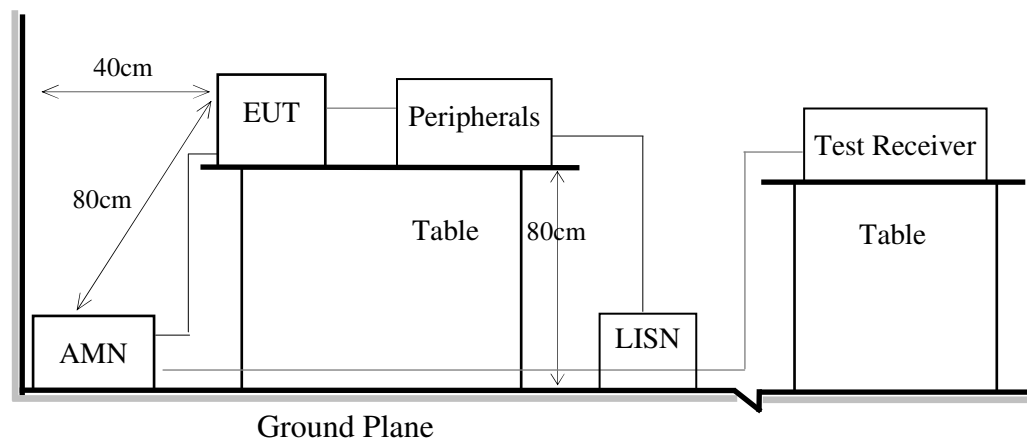
## 5. CONDUCTED EMISSION

### 5.1. Block Diagram of Test Setup

#### 5.1.1. Block Diagram of EUT

Indicated as section 3.10.1

#### 5.1.2. Shielded Room Setup Diagram



### 5.2. Conducted Emission Limit

Frequency	Conducted Limit	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dB $\mu$ V	56 ~ 46 dB $\mu$ V
500kHz ~ 5MHz	56 dB $\mu$ V	46 dB $\mu$ V
5MHz ~ 30MHz	60 dB $\mu$ V	50 dB $\mu$ V

Remark1.: If the average limit is met when using a Quasi-Peak detector, the measurement using the average detector is not required.

2.: The lower limit applies to the band edges.

### 5.3. Test Procedure

- 5.3.1. To set up the EUT as indicated in ANSI C 63.10. The EUT was placed on the table which has 80 cm height to the ground and 40 cm distance to the conducting wall.
- 5.3.2. Power supplier of the EUT was connected to the AC mains through an Artificial Mains Network (A.M.N.).
- 5.3.3. The AC power supplies to all peripheral devices must be provided through line impedance stabilization network (L.I.S.N.)
- 5.3.4. Checking frequency range from 150kHz to 30 MHz and record the emission which does not have 20 dB below limit.

## **5.4. Test Results**

Please refer to Appendix A.

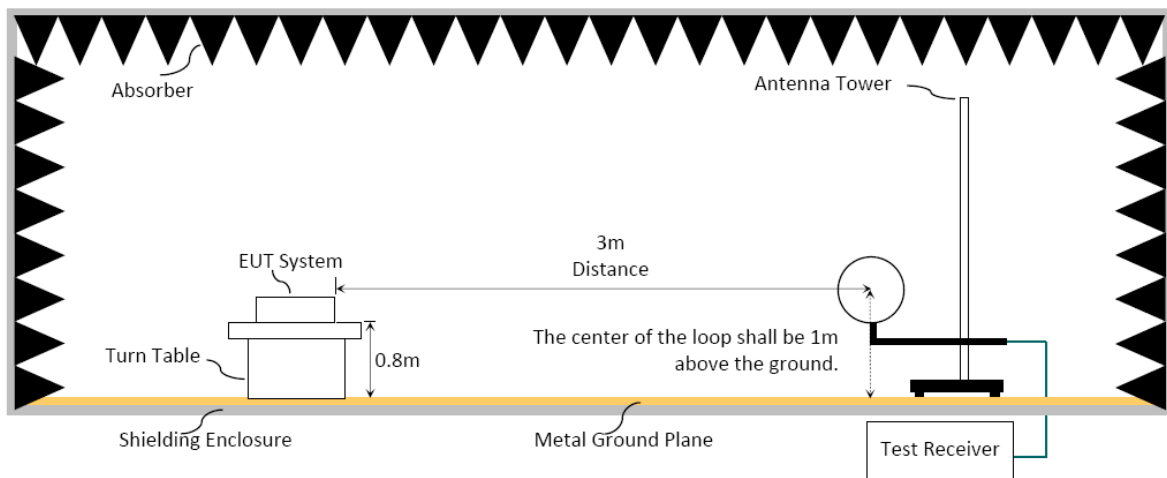
## 6. RADIATED SPURIOUS EMISSION

### 6.1. Block Diagram of Test Setup

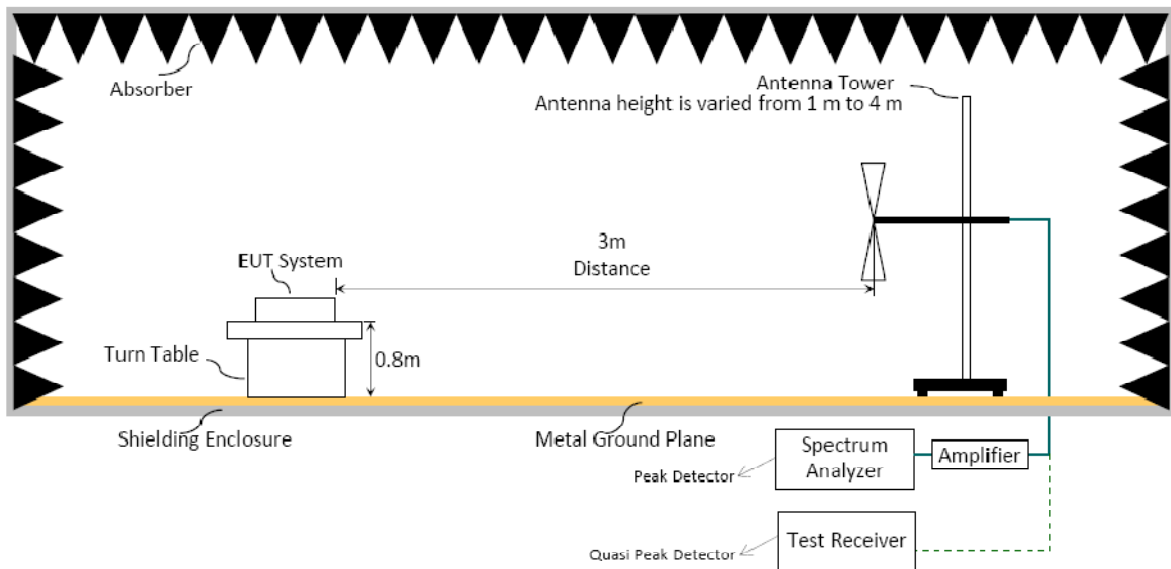
#### 6.1.1. Block Diagram of EUT

Indicated as section 3.8

#### 6.1.2. Setup Diagram for 9kHz-30MHz



#### 6.1.3. Setup Diagram for 30MHz-1000MHz



## 6.2. Radiated Emission Limits

In any 100kHz bandwidth outside the frequency band, the radio frequency power produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205/RSS-Gen Section 8.10 table 6 must also comply with the radiated emission limits specified as below.

Frequency (MHz)	Distance(m)	Limits	
		dB $\mu$ V/m	$\mu$ V/m
0.009 - 0.490	300	67.6	2400/kHz
0.490 - 1.705	30	87.6	24000/kHz
1.705 - 30	30	29.5	30
30 - 88	3	40.0	100
88- 216	3	43.5	150
216- 960	3	46.0	200
Above 960	3	54.0	500
Above 1000	3	74.0 dB $\mu$ V/m (Peak) 54.0 dB $\mu$ V/m (Average)	

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

(2) The tighter limit applies to the edge between two frequency bands.

(3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

(4) Fundamental and emission fall within operation band are exempted from this section.

(5) Pursuant to ANSI C63.10: 6.6.4.3, if the maximized peak measured value complies with the average limit, then it is unnecessary to perform an average measurement.

## 6.3. Test Procedure

### Frequency Range 9kHz~30MHz:

The EUT setup on the turntable which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna fixed to 1 m to find the maximum emission level.

In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2013 regulation.

(1) RBW = 9kHz with peak and average detector.

(2) Detector: average and peak (10kHz-490kHz)

Q.P. (490kHz-30MHz)

### Frequency Range 30MHz ~ 1000MHz:

The EUT setup on the turntable which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna varied from 1 m to 4 m to find the maximum emission level. Both horizontal and vertical polarization are required. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 regulation.

Spectrum Analyzer is used for pre-testing with following setting:

- (1) RBW = 120KHz
- (2) VBW  $\geq 3 \times$  RBW.
- (3) Detector = Peak.
- (4) Sweep time = auto.
- (5) Trace mode = max hold.
- (6) Allow sweeps to continue until the trace stabilizes.
- (7) When peak-detected value is lower than limit that the measurement using the Q.P. detector is not required. Otherwise using Q.P. for finally measurement.

## 6.4. Measurement Limit Formula

Frequency (MHz)	Formula
0.009 - 0.490MHz	3m Limit (dB $\mu$ V/m) = $20\log(2400/F^{\text{Note}})+40\log(300\text{m}/3\text{m})$
0.490-1.705MHz	3m Limit (dB $\mu$ V/m) = $20\log(24000/F^{\text{Note}})+40\log(300\text{m}/3\text{m})$
1.750-30MHz	3m Limit (dB $\mu$ V/m) = $20\log(30)+40\log(300\text{m}/3\text{m})$
Note: F is test frequency	

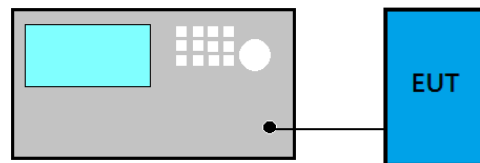
## 6.5. Test Results

Please refer to Appendix A.



## 7. 20dB/99% BANDWIDTH

### 7.1. Block Diagram of Test Setup



### 7.2. Specification Limits

The bandwidth shall be specified in operating frequency band.

### 7.3. Test Procedure

#### 20dB

Following measurement procedure is reference to ANSI C63.10:2013:

- (1) Set Span range 2~5 times the OBW
- (2) Set VBW  $\geq 3 \times$  RBW.
- (3) Detector = Peak.
- (4) Trace mode = Max hold.
- (5) Sweep = Auto couple.
- (6) Allow the trace to stabilize.
- (7) Setting channel bandwidth function x dB to -20 dB to record the final bandwidth.

#### 99%

Following measurement procedure is reference to ANSI C63.10:2013:

- (1) Set Span range 1.5~5 times the OBW
- (2) Set RBW close to 1% to 5% of OBW.
- (3) Set VBW  $\geq 3 \times$  RBW.
- (4) Detector = Peak.
- (5) Trace mode = Max hold.
- (6) Sweep = Auto couple.
- (7) Allow the trace to stabilize.

### 7.4. Test Results

Please refer to Appendix A

## **8. DEVIATION TO TEST SPECIFICATIONS**

**【NONE】**



**Audix Technology Corp.**  
No. 53-11, Dingfu, Linkou, Dist.,  
New Taipei City 244, Taiwan

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**APPENDIX A**

**Tel: +886 2 26099301**  
**Fax: +886 2 26099303**

# APPDNDIX A

## TEST DATA AND PLOTS

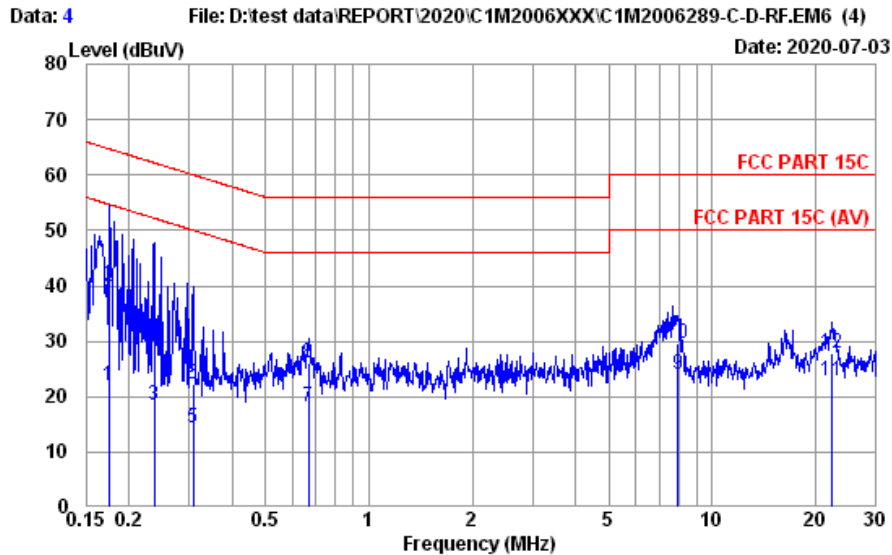
(Model: WTM1A15)

## TABLE OF CONTENTS

<b>A.1 CONDUCTED EMISSION.....</b>	<b>2</b>
<b>A.2 RADIATED SPURIOUS EMISSION.....</b>	<b>4</b>
<b>A.3 20dB/99% BANDWIDTH.....</b>	<b>7</b>

## A.1 CONDUCTED EMISSION

Test Date	2020/07/03	Temp./Hum.	26°C/52%
Test Voltage	AC 120V/60Hz (Via Personal Computer)		

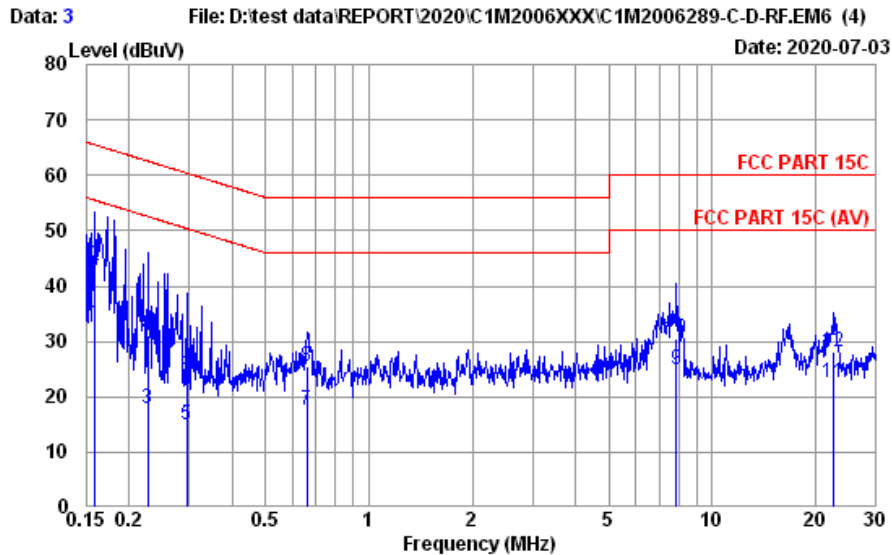


Site No.	: No.8 Shielded Room	Data No.	: 4
Instrument 1	: Receiver ESR(774)		
Instrument 2	: ENH432 (567)(A) CE-08 ESH3-Z2 (354)		
Limit	: FCC PART 15C	Phase	: NEUTRAL
Environment	: 26°C / 52%	Engineer	: Chucky Chiu
EUT Model	: WTM1A15	Test Rating	: 120Vac/60Hz
Test Mode	: Normal		

	Freq. (MHz)	AMI Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.175	10.20	0.04	9.85	1.88	21.97	54.72	32.75	Average
2	0.175	10.20	0.04	9.85	19.90	39.99	64.72	24.73	QP
3	0.237	10.20	0.04	9.85	-1.57	18.52	52.22	33.70	Average
4	0.237	10.20	0.04	9.85	11.85	31.94	62.22	30.28	QP
5	0.308	10.20	0.04	9.85	-5.79	14.30	50.02	35.72	Average
6	0.308	10.20	0.04	9.85	2.16	22.25	60.02	37.77	QP
7	0.668	10.20	0.05	9.85	-1.85	18.25	46.00	27.75	Average
8	0.668	10.20	0.05	9.85	5.94	26.04	56.00	29.96	QP
9	7.935	10.43	0.13	9.90	3.58	24.04	50.00	25.96	Average
10	7.935	10.43	0.13	9.90	9.25	29.71	60.00	30.29	QP
11	22.298	10.95	0.20	9.97	1.62	22.74	50.00	27.26	Average
12	22.298	10.95	0.20	9.97	6.69	27.81	60.00	32.19	QP

Remarks: 1. Emission Level= AMI Factor + Cable Loss + Pulse Att. + Reading.  
 2. If the average limit is met when using a quasi-peak detector,  
 the EUT shall be deemed to meet both limits and measurement  
 with average detector is unnecessary.

Test Date	2020/07/03	Temp./Hum.	26°C/52%
Test Voltage	AC 120V/60Hz (Via Personal Computer)		



Site No. : No.8 Shielded Room Data No. : 3  
 Instrument 1 : Receiver ESR(774)  
 Instrument 2 : EMI432 (567)(A)|CE-08|ESH3-Z2 (354)  
 Limit : FCC PART 15C Phase : LINE  
 Environment : 26°C / 52% Engineer : Chucky Chiu  
 EUT Model : WTMIA15 Test Rating : 120Vac/60Hz  
 Test Mode : Normal

	Freq. (MHz)	AMFI Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.159	10.20	0.04	9.85	13.16	33.25	55.52	22.27	Average
2	0.159	10.20	0.04	9.85	23.53	43.62	65.52	21.90	QP
3	0.227	10.20	0.04	9.85	-2.08	18.01	52.57	34.56	Average
4	0.227	10.20	0.04	9.85	10.87	30.96	62.57	31.61	QP
5	0.294	10.20	0.04	9.85	-5.07	15.02	50.41	35.39	Average
6	0.294	10.20	0.04	9.85	3.63	23.72	60.41	36.69	QP
7	0.661	10.20	0.05	9.85	-2.51	17.59	46.00	28.41	Average
8	0.661	10.20	0.05	9.85	5.36	25.46	56.00	30.54	QP
9	7.852	10.33	0.13	9.90	4.44	24.80	50.00	25.20	Average
10	7.852	10.33	0.13	9.90	10.21	30.57	60.00	29.43	QP
11	22.655	10.60	0.21	9.97	1.72	22.50	50.00	27.50	Average
12	22.655	10.60	0.21	9.97	7.42	28.20	60.00	31.80	QP

Remarks: 1. Emission Level= AMFI Factor + Cable Loss + Pulse Att. + Reading.  
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

## A.2 RADIATED SPURIOUS EMISSION

Test Date	2020/06/29 ~ 07/02	Temp./Hum.	22°C/50 ~ 51%
Test Voltage	DC 12V (Via Personal Computer)	Test By	Brian Hsieh
Test Frequency	TX 123.6kHz		

### A.2.1. Frequency 9kHz~30MHz

#### Antenna at 0 Degree

Test Frequency (kHz)	Test Result (dB $\mu$ V/m at 3m)	Limits (dB $\mu$ V/m at 3m)	Margin (dB)	Detector
123.600	82.80	105.76	22.96	Peak <sup>Note 2</sup>
370.800	58.50	96.22	37.72	Peak <sup>Note 2</sup>

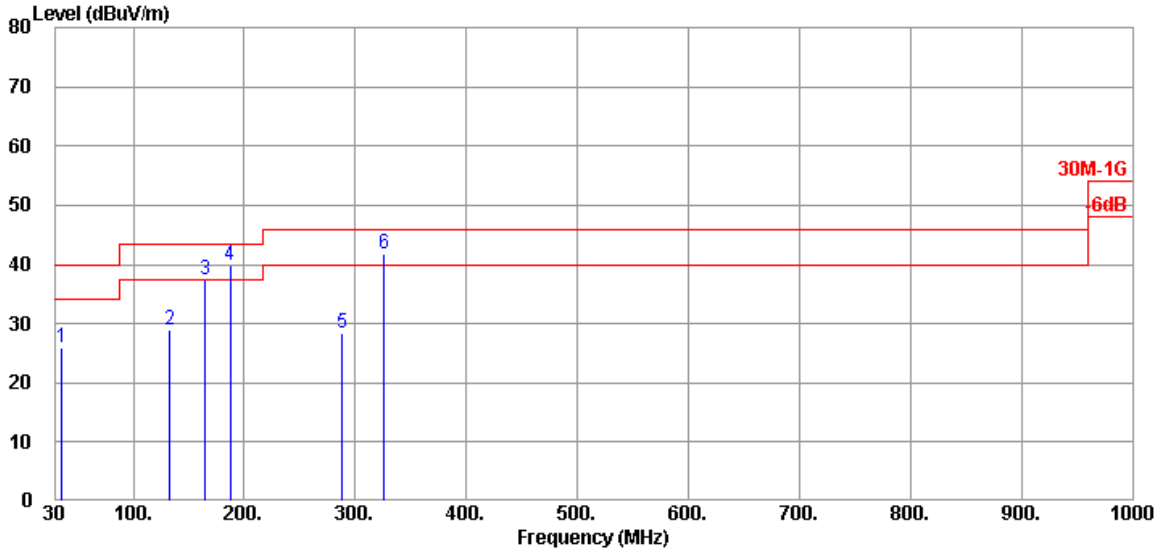
#### Antenna at 90 Degree

Test Frequency (kHz)	Test Result (dB $\mu$ V/m at 3m)	Limits (dB $\mu$ V/m at 3m)	Margin (dB)	Detector
123.600	76.60	105.76	29.16	Peak <sup>Note 2</sup>
370.800	56.90	96.22	39.32	Peak <sup>Note 2</sup>

Note: 1. All emissions are lower than the ambient level cannot be measured.

2. The Peak value has been compliance with Average limit, thus measurement with Average is not needed.

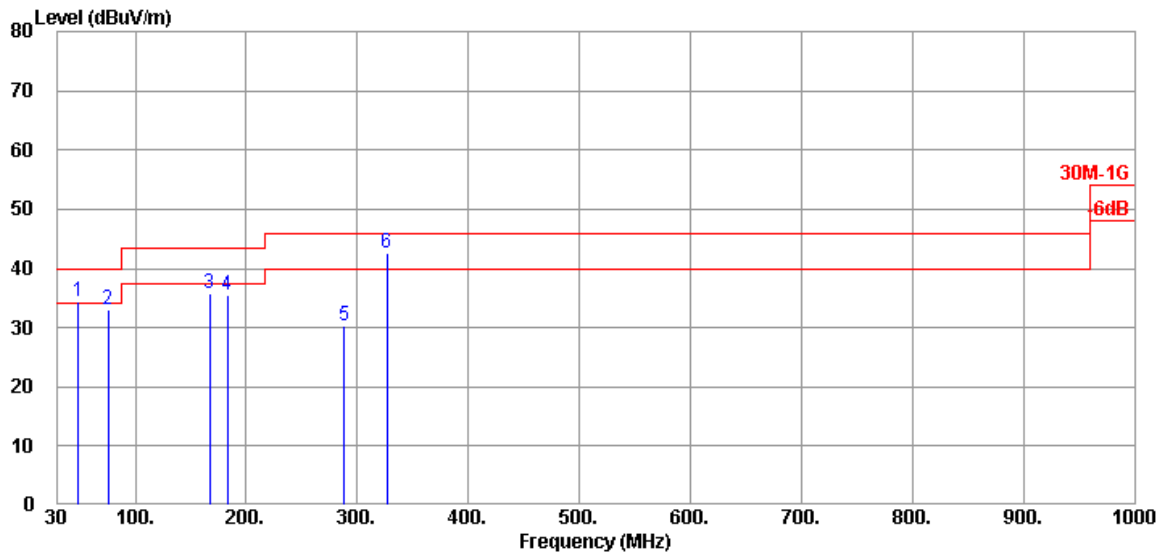
A.2.2. Frequency 30MHz ~ 1000MHz



Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
35.820	21.56	1.38	26.52	29.52	25.94	40.00	14.06	Peak
132.820	18.30	2.85	26.14	34.03	29.04	43.50	14.46	Peak
164.830	16.10	3.21	25.99	44.19	37.51	43.50	5.99	Peak
187.140	15.06	3.41	25.91	47.36	39.92	43.50	3.58	Peak
288.020	19.14	4.43	25.72	30.55	28.40	46.00	17.60	Peak
325.850	19.99	4.94	25.95	42.74	41.72	46.00	4.28	Peak





Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
48.430	15.09	1.63	26.50	44.31	34.53	40.00	5.47	Peak
75.590	12.87	2.11	26.39	44.53	33.12	40.00	6.88	Peak
166.770	15.95	3.23	25.99	42.59	35.78	43.50	7.72	Peak
183.260	14.97	3.37	25.93	42.96	35.37	43.50	8.13	Peak
288.020	19.14	4.43	25.72	32.51	30.36	46.00	15.64	Peak
326.820	20.03	4.95	25.95	43.60	42.63	46.00	3.37	Peak

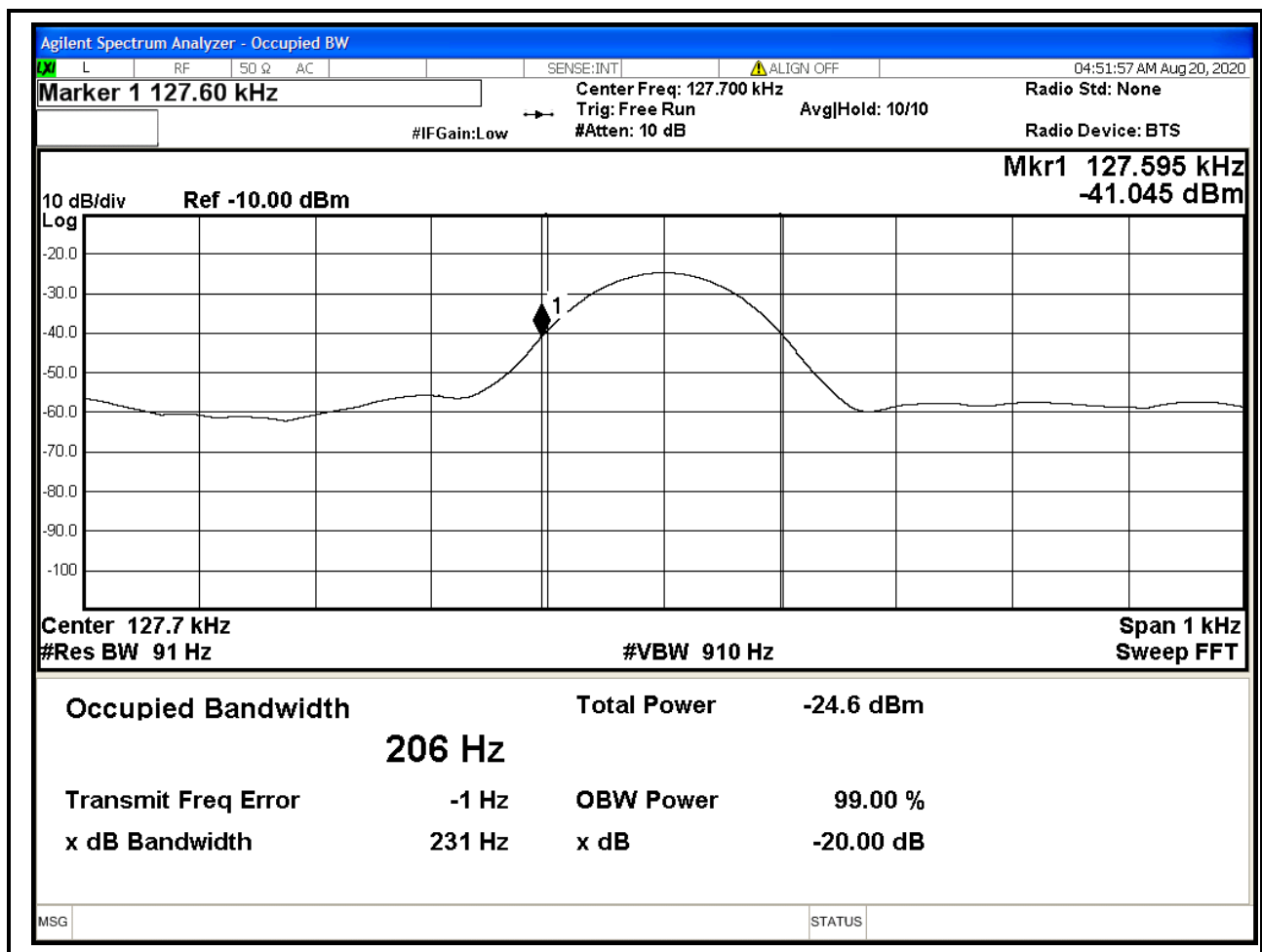
### A.3 20dB/99% BANDWIDTH

Test Date	2020/08/20	Temp./Hum.	25°C/49%
Cable Loss	N/A	Test By	Brian Hsieh
Test Voltage	DC 12V (Via Personal Computer)		

#### A.4.1.1 20dB/99% Bandwidth Result

Centre Frequency (kHz)	20 dB Bandwidth (Hz)	99% Bandwidth (Hz)
127.7	231	206

#### A.4.1.2 Measurement Plots





**Audix Technology Corp.**  
No. 53-11, Dingfu, Linkou, Dist.,  
New Taipei City 244, Taiwan

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**APPENDIX B**

**Tel: +886 2 26099301**  
**Fax: +886 2 26099303**

# APPDNDIX B

## TEST PHOTOGRAPHS

(Model: WTM1A15)