MRT Technology (Suzhou) Co., Ltd
Phone: +86-512-66308358
Fax: +86-512-66308368
Web: www.mrt-cert.com

Report No.: 1611RSU01007
Report Version: V01
Issue Date: 03-26-2017

MEASUREMENT REPORT
FCC PART 15.249

FCC ID:	2AEY7-S8A002
APPLICANT:	Bak USB Technologies Corp.
Application Type:	Certification
Product:	MID
Model No.:	Seal 8 pro
Brand Name:	BAK
FCC Classification:	Low Power Communication Device Transmitter (DXX)
FCC Rule Part(s):	Part 15.249
Test Procedure(s):	ANSI C63.10 - 2013
Test Date:	November 01, 2016 ~ March 25, 2017

Reviewed By Manager : Robin Wu
(Robin Wu)

Approved By CEO : Marlin Chen
(Marlin Chen)

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

The test results relate only to the samples tested.
This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.
The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
1611RSU01007	Rev. 01	Initial report	03-26-2017	Valid

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Description Page

§2.1033 General Information

Applicant:	Bak USB Technologies Corp.
Applicant Address:	425 Michigan Avenue, Buffalo, NY 14203, USA
Manufacturer:	Shenzhen Wisky Technology Co., LTD.
Manufacturer Address:	5th Floor, W2-A Building, Hi-tech Park South 1st Road, Nanshan District, Shenzhen, China
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
FCC Registration No.:	809388
IC Registration No.:	11384A
FCC Rule Part(s):	Part 15.249
FCC ID:	2AEY7-S8A002
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification:	Low Power Communication Device Transmitter (DXX)

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- **MRT facility is a FCC registered (MRT Reg. No. 809388) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.**
- **MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.**
- **MRT facility is a VCCI registered (R-4179, G-814, C-4664, T-2206) test laboratory with the site description on file at VCCI Council.**
- **MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, EU and TELEC Rules.**

1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name	MID
FCC ID	2AEY7-S8A002
Model No.	Seal 8 pro
LTE Specification	LTE Band 2 / 4 / 5 / 13 / 17
Wi-Fi Specification	802.11a//b/g/n/ac
Bluetooth Version	v4.0 dual mode
NFC	13.56MHz
RF ID	920.25 ~ 924.75MHz
Components	
Adapter	M/N: BCT050500-C02U INPUT: 100-240V ~ 50/60Hz, 0.6A Max OUTPUT: 5Vdc, 5.0A

2.2. Product Specification Subjective to this Report

Frequency Range	920.25 ~ 924.75MHz
Type of Modulation	ASK
Channel Spacing	500kHz
Date Rate	250Kbps

Note: For other features of this EUT, test report will be issued separately.

2.3. Operation Frequency and Channel List

Channel	Frequency
LOW	920.25 MHz
…	…
MID	922.75 MHz
…	…
HIG	924.75 MHz

2.4. Test Configuration

The **MID FCC ID: 2AEY7-S8A002** was tested as described in this report is in compliance with the requirements limits of FCC Rules Part 15.207,15.209, 15.215 and 15.249. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

2.5. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.6. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

2.7. Test Software

The test utility software used during testing was “UHF RFID Reader”.

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and the requirements provided in FCC 15.207, 15.209, 15.215 and 15.249 were performed in the report of the **MID.**

Deviation from measurement procedure…….....None

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

Line conducted emissions test results are shown in Section 7.2.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-25GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

- The antenna of the **MID is permanently attached.**
- There are no provisions for connection to an external antenna.

Conclusion:

The **MID FCC ID: 2AEY7-S8A002** unit complies with the requirement of §15.203.

5. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions - SR2

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	102030	1 year	2017/05/08
Two-Line V-Network	R&S	ENV216	101683	1 year	2017/06/21
Two-Line V-Network	R&S	ENV216	101684	1 year	2017/06/21
Temperature/Humidity Meter	Yuhuaze	HTC-2	N/A	1 year	2017/12/22
Shielding Anechoic Chamber	MIX-BEP	Chamber-SR2	N/A	1 year	2017/05/10

Radiated Emission - AC1

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MY52090106	1 year	2017/05/07
Microwave System Amplifier	Agilent	83017A	MY53270040	1 year	2017/03/28
Preamplifier	Schwarzbeck	BBV 9721	9721-008	1 year	2017/04/16
Loop Antenna	Schwarzbeck	FMZB1519	100982	1 year	2017/12/21
Bilog Period Antenna	Schwarzbeck	VULB 9168	662	1 year	2017/11/19
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1167	1 year	2017/10/22
Broadband Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170549	1 year	2018/01/04
Temperature/Humidity Meter	Yuhuaze	HTC-2	N/A	1 year	2017/12/22
Anechoic Chamber	TDK	Chamber-AC1	N/A	1 year	2017/05/10

Conducted Test Equipment - TR3

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MY52090106	1 year	2017/05/08
Temperature/Humidity Meter	Yuhuaze	HTC-2	N/A	1 year	2017/12/22

Software	Version	Function
e3	V8.3.5	EMI Test Software

6. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

AC Conducted Emission Measurement - SR2
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 150kHz~30MHz: 3.46dB
Radiated Emission Measurement - AC1
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz ~ 1GHz: 4.18dB 1GHz ~ 25GHz: 4.76dB
20dB Spectrum Bandwidth - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.28%

7. TEST RESULT

7.1. Summary

Company Name: **Bak USB Technologies Corp.**
FCC ID: **2AEY7-S8A002**
FCC Classification: **Low Power Communication Device Transmitter (DXX)**
Data Rate(s) Tested: **250Kbps**

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	Pass	Section 7.2
15.209 15.249	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	Radiated	Pass	Section 7.3 & 7.4
15.215(c)	20dB Spectrum Bandwidth	20 dB bandwidth of the emission in the specific band	Conducted	Pass	Section 7.5

Notes:

1) All modes of operation and data rates were investigated. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst case emissions.

2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.

7.2. Conducted Emission

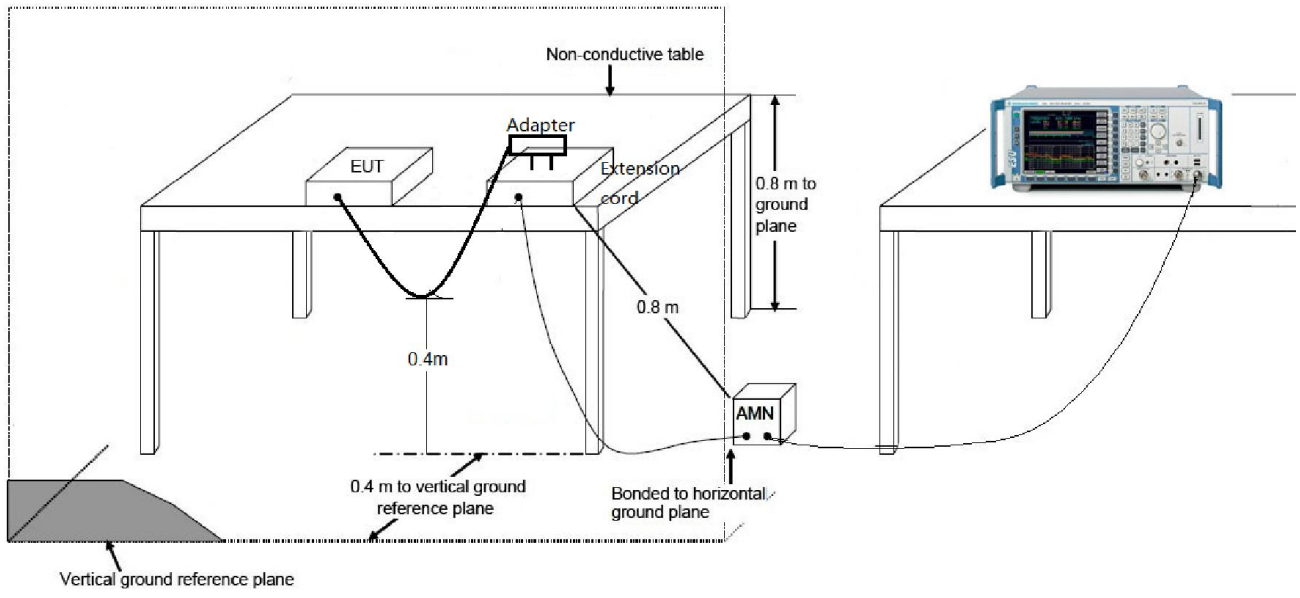
7.2.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

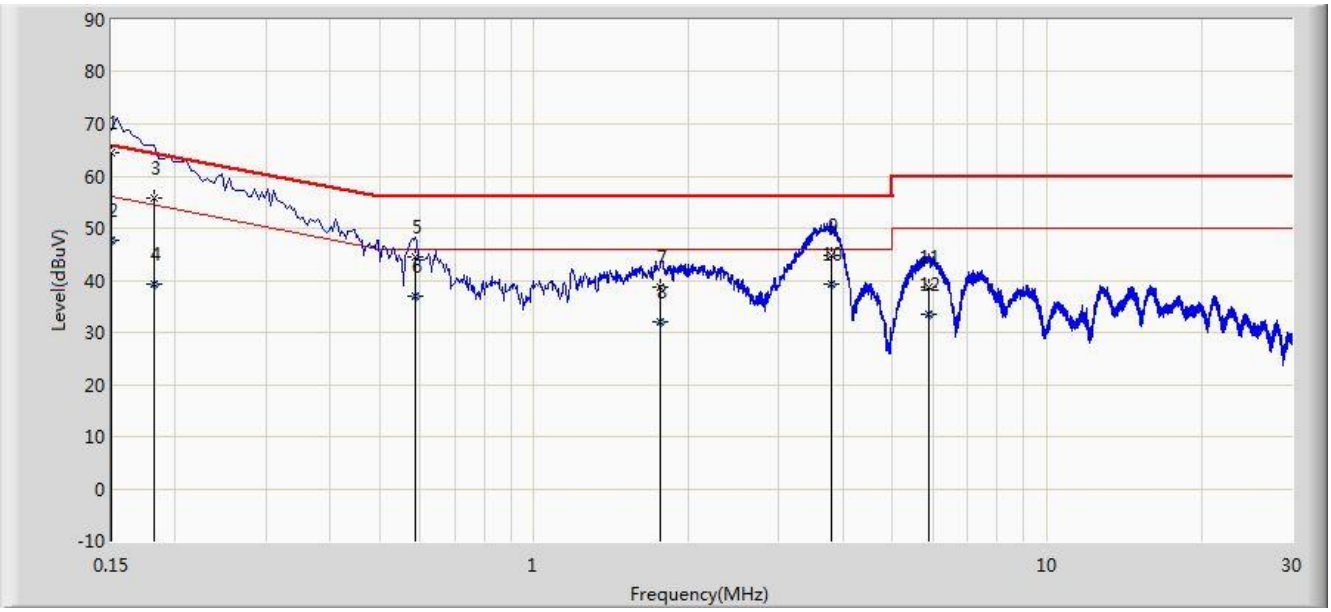
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

7.2.2. Test Setup



7.2.3. Test Result

8. Site: SR2	Time: 2017/03/23 - 14:20
Limit: FCC_Part15.207_CE_AC Power	Engineer: Bruce Wang
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: MID	Power: AC 120V/60Hz
Worst Case Mode: Transmit by RF ID at channel 920.25MHz	

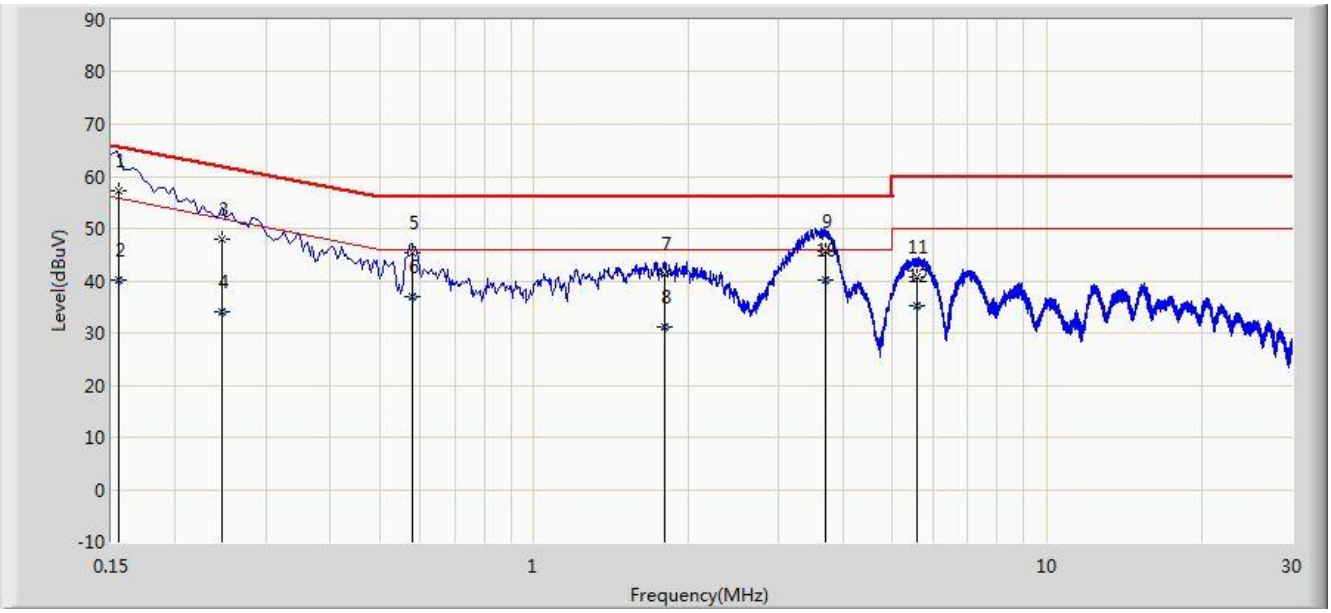


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.150	64.542	53.400	-1.458	66.000	11.142	QP
2			0.150	47.642	36.500	-8.358	56.000	11.142	AV
3			0.182	55.926	45.883	-8.468	64.394	10.042	QP
4			0.182	39.324	29.282	-15.070	54.394	10.042	AV
5			0.586	44.614	34.476	-11.386	56.000	10.139	QP
6			0.586	36.903	26.764	-9.097	46.000	10.139	AV
7			1.766	38.559	28.678	-17.441	56.000	9.881	QP
8			1.766	31.920	22.039	-14.080	46.000	9.881	AV
9			3.794	44.669	34.704	-11.331	56.000	9.965	QP
10			3.794	39.138	29.173	-6.862	46.000	9.965	AV
11			5.870	38.791	28.681	-21.209	60.000	10.110	QP
12			5.870	33.355	23.245	-16.645	50.000	10.110	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

Site: SR2	Time: 2017/03/23 - 16:01
Limit: FCC_Part15.207_CE_AC Power	Engineer: Bruce Wang
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: MID	Power: AC 120V/60Hz
Worst Case Mode: Transmit by RF ID at channel 920.25MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.155	57.292	46.684	-8.435	65.727	10.608	QP
2			0.155	40.041	29.433	-15.686	55.727	10.608	AV
3			0.246	48.065	38.067	-13.826	61.891	9.998	QP
4			0.246	33.926	23.928	-17.965	51.891	9.998	AV
5			0.578	45.436	35.293	-10.564	56.000	10.143	QP
6			0.578	36.852	26.709	-9.148	46.000	10.143	AV
7			1.794	41.188	31.307	-14.812	56.000	9.881	QP
8			1.794	31.149	21.268	-14.851	46.000	9.881	AV
9			3.710	45.754	35.802	-10.246	56.000	9.953	QP
10		*	3.710	40.045	30.092	-5.955	46.000	9.953	AV
11			5.578	40.678	30.590	-19.322	60.000	10.088	QP
12			5.578	35.251	25.163	-14.749	50.000	10.088	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

8.1. Radiated Emission

8.1.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (uV/m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-80	100**	3
80-216	150**	3
216-960	200**	3
Above 960	500	3

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m).

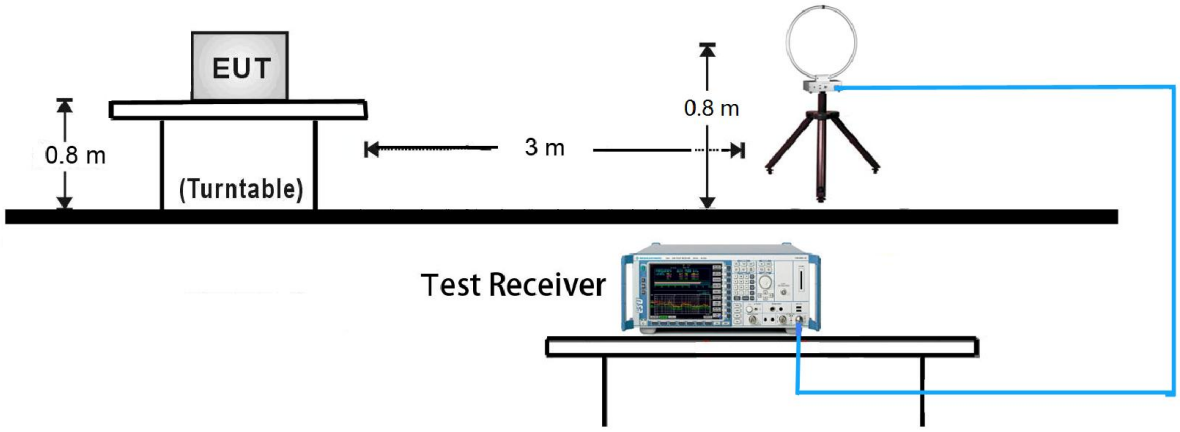
FCC Part 15 Subpart C Paragraph 15.249		
Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of Harmonics (microvolts/meter)
902-928(MHz)	50	500
2400-2483.5(MHz)	50	500
5725-5875(MHz)	50	500
24.0-24.25(GHz)	250	2500

FCC Part 15.249 (d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general

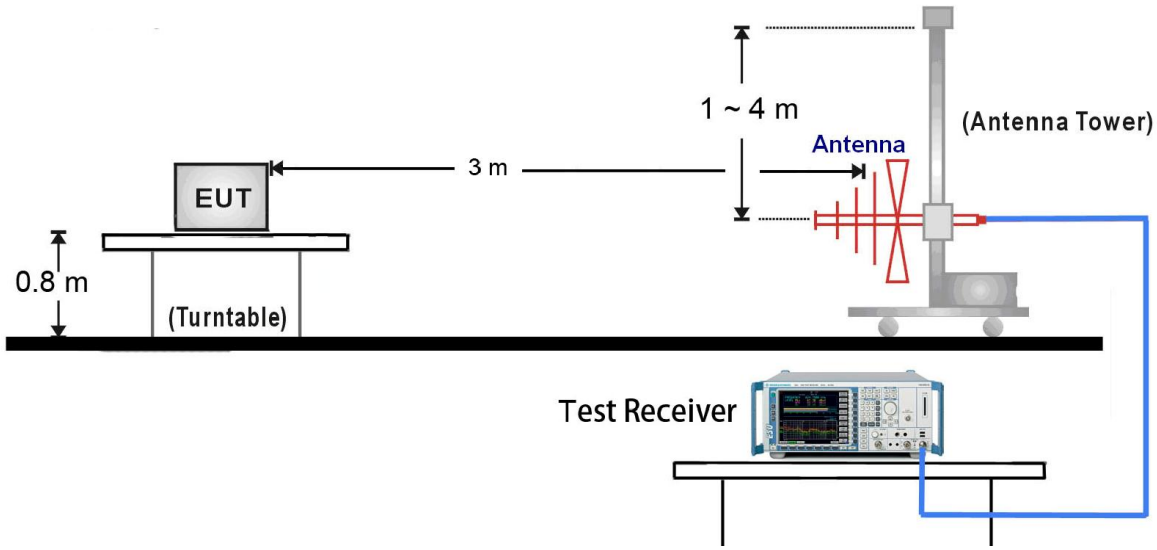
radiated emission limits in §15.209, whichever is the lesser attenuation.

8.1.2. Test Setup

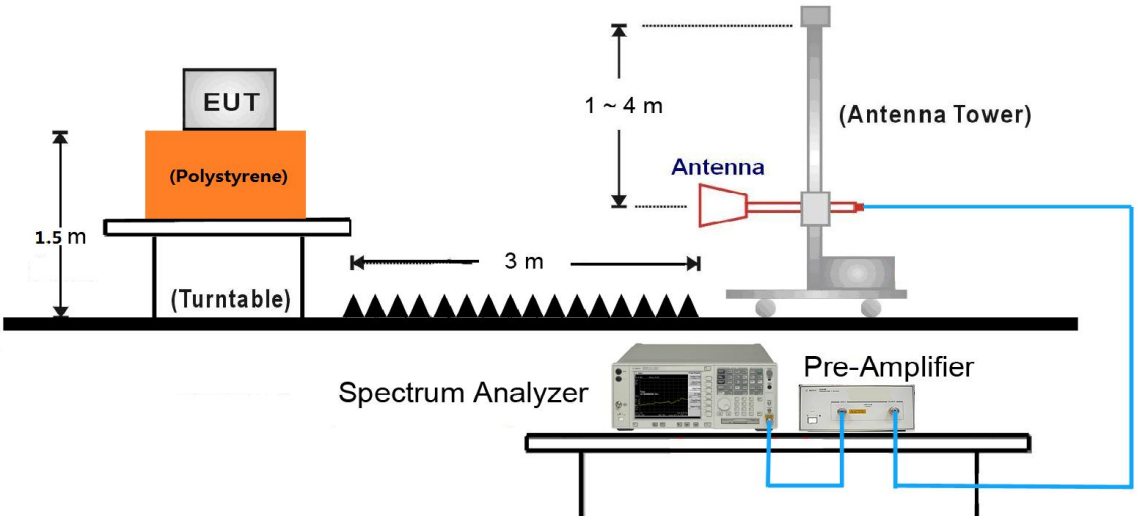
9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:



1GHz ~ 10GHz Test Setup:



8.1.3. Test Result

Remark: There are the ambient noise within frequency range 9 kHz ~ 30 MHz, the permissible value is not show in the report.

Test Mode:	Transmit	Test Site:	AC1
Remark:	**Fundamental** Radiated Emission	Test Engineer:	Will Yan

Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
920.25	50.40	24.63	75.03	114	-38.97	PK	Horizontal
	42.30	24.63	66.93	114	-47.07	PK	Vertical
922.75	50.31	24.68	74.99	114	-39.01	PK	Horizontal
	42.65	24.68	67.33	114	-46.67	PK	Vertical
924.75	50.59	24.71	75.30	114	-38.70	PK	Horizontal
	42.86	24.71	67.57	114	-46.43	PK	Vertical

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: All readings below 1GHz are peak, above 1GHz are performed with peak and/or average measurements as necessary.

Note 3: Average measurement was not performed when the peak level lower than average limit.

Test Mode:	Transmit	Test Site:	AC1
Frequency	920.25MHz	Test Engineer:	Will Yan
Remark:	**Harmonic** Radiated Emission		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1841.50	57.27	-6.68	50.59	74	-23.41	PK	Horizontal
2759.50	52.49	-2.48	50.01	74	-23.99	PK	Horizontal
3682.00	49.91	-0.59	49.32	74	-24.68	PK	Horizontal
6440.50	41.40	5.70	47.10	74	-26.90	PK	Horizontal
1841.50	54.60	-6.68	47.92	74	-26.08	PK	Vertical
2759.50	50.44	-2.48	47.96	74	-26.04	PK	Vertical
3682.00	49.76	-0.59	49.17	74	-24.83	PK	Vertical
6440.50	37.22	5.70	42.92	74	-31.08	PK	Vertical

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre Amplifier Gain (dB)

Note 2: Average measurement was not performed when the peak level lower than average limit.

Test Mode:	Transmit	Test Site:	AC1
Frequency	922.75MHz	Test Engineer:	Will Yan
Remark:	**Harmonic** Radiated Emission		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1846.00	57.00	-6.65	50.35	74	-23.65	PK	Horizontal
2768.50	53.61	-2.46	51.15	74	-22.85	PK	Horizontal
3691.00	49.81	-0.57	49.24	74	-24.76	PK	Horizontal
6458.50	40.94	5.77	46.71	74	-27.29	PK	Horizontal
1846.00	55.60	-6.65	48.95	74	-25.05	PK	Vertical
2768.50	49.31	-2.46	46.85	74	-27.15	PK	Vertical
3691.00	48.84	-0.57	48.27	74	-25.73	PK	Vertical
6458.50	37.05	5.77	42.82	74	-31.18	PK	Vertical

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre Amplifier Gain (dB)

Note 2: Average measurement was not performed when the peak level lower than average limit.

Test Mode:	Transmit	Test Site:	AC1
Frequency	924.75MHz	Test Engineer:	Will Yan
Remark:	**Harmonic** Radiated Emission		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1850.50	56.86	-6.62	50.24	74	-23.76	PK	Horizontal
2773.00	53.38	-2.45	50.93	74	-23.07	PK	Horizontal
3700.00	49.82	-0.56	49.26	74	-24.74	PK	Horizontal
6472.00	40.14	5.81	45.95	74	-28.05	PK	Horizontal
1850.50	55.67	-6.62	49.05	74	-24.95	PK	Vertical
2773.00	51.16	-2.45	48.71	74	-25.29	PK	Vertical
3700.00	46.13	-0.56	45.57	74	-28.43	PK	Vertical
6472.00	36.33	5.81	42.14	74	-31.86	PK	Vertical

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

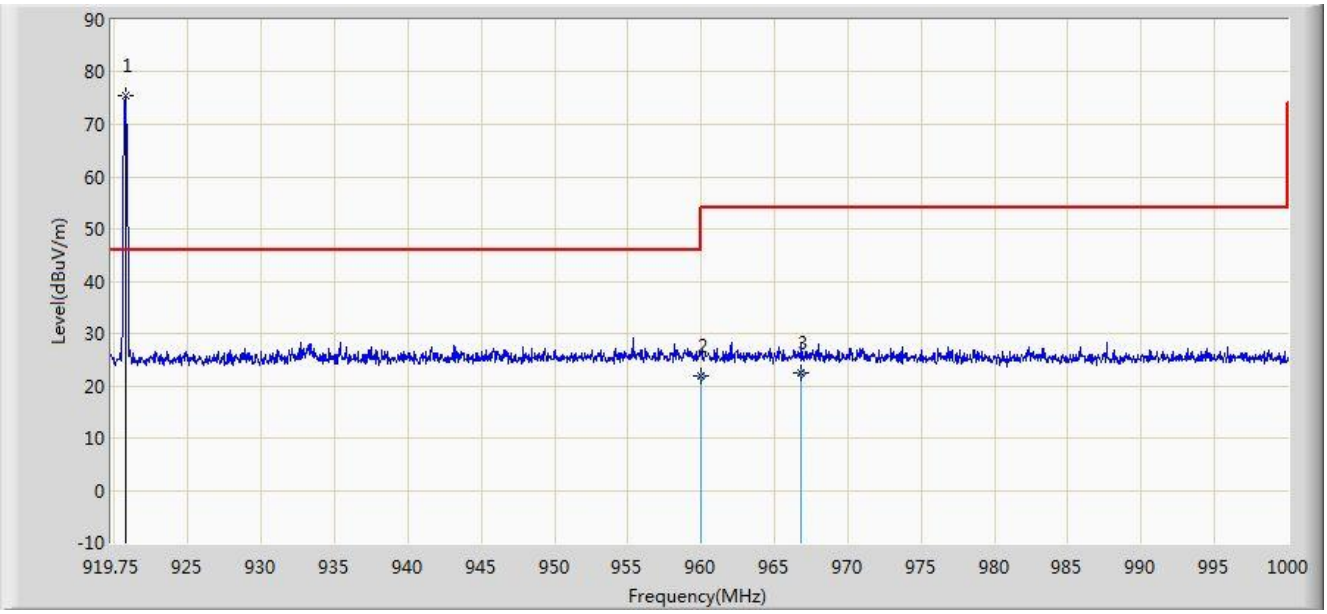
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre Amplifier Gain (dB)

Note 2: Average measurement was not performed when the peak level lower than average limit.

8.2. Radiated Restricted Band Edge Measurement

8.2.1. Test Result

Site: AC1	Time: 2016/12/13 - 23:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Note: Test Mode;Transmit at Channel 920.25MHz	

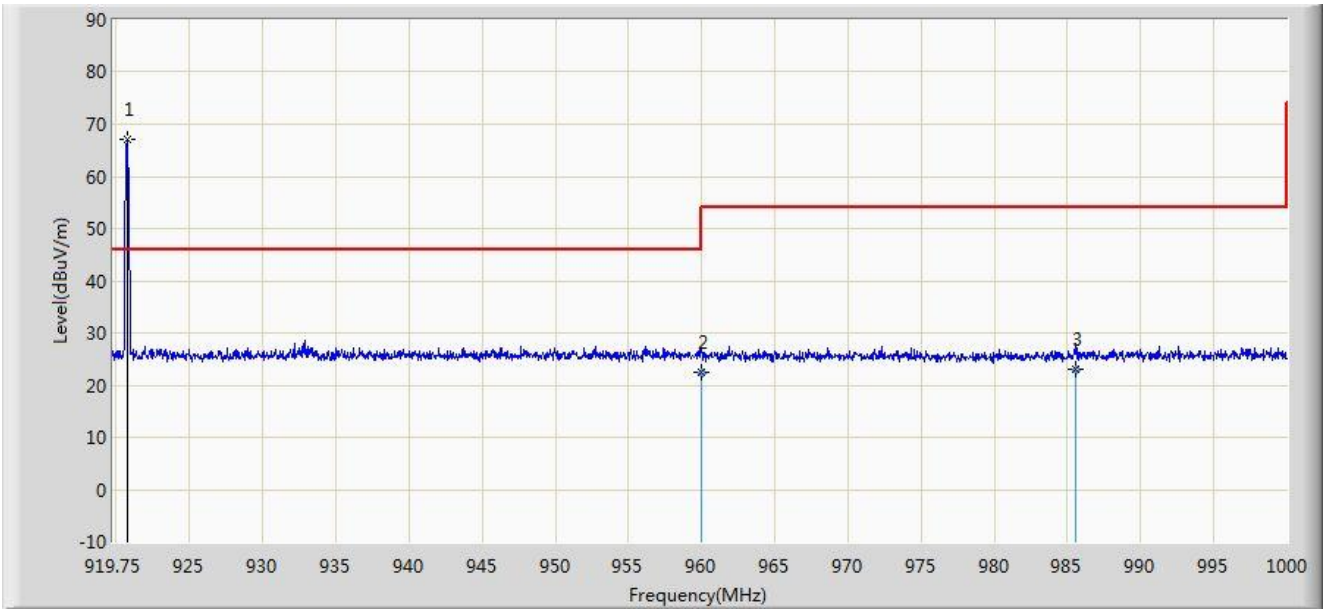


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	920.713	75.640	50.997	29.640	46.000	24.643	PK
2			960.000	21.886	-3.060	-24.114	46.000	24.946	QP
3			966.817	22.463	-2.530	-31.537	54.000	24.993	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/12/13 - 23:38
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Note: Test Mode;Transmit at Channel 920.25MHz	

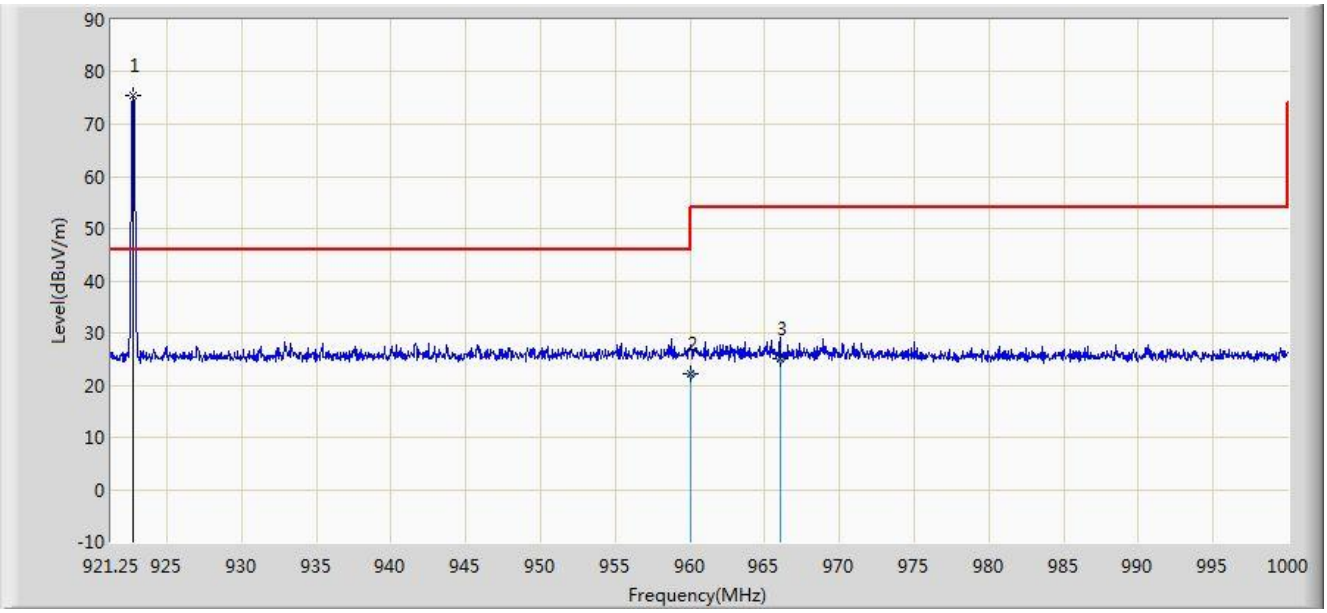


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	920.713	67.065	42.422	21.065	46.000	24.643	PK
2			960.000	22.461	-2.485	-23.539	46.000	24.946	QP
3			985.515	22.942	-2.120	-31.058	54.000	25.062	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/12/13 - 23:27
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Note: Test Mode;Transmit at Channel 922.75MHz	

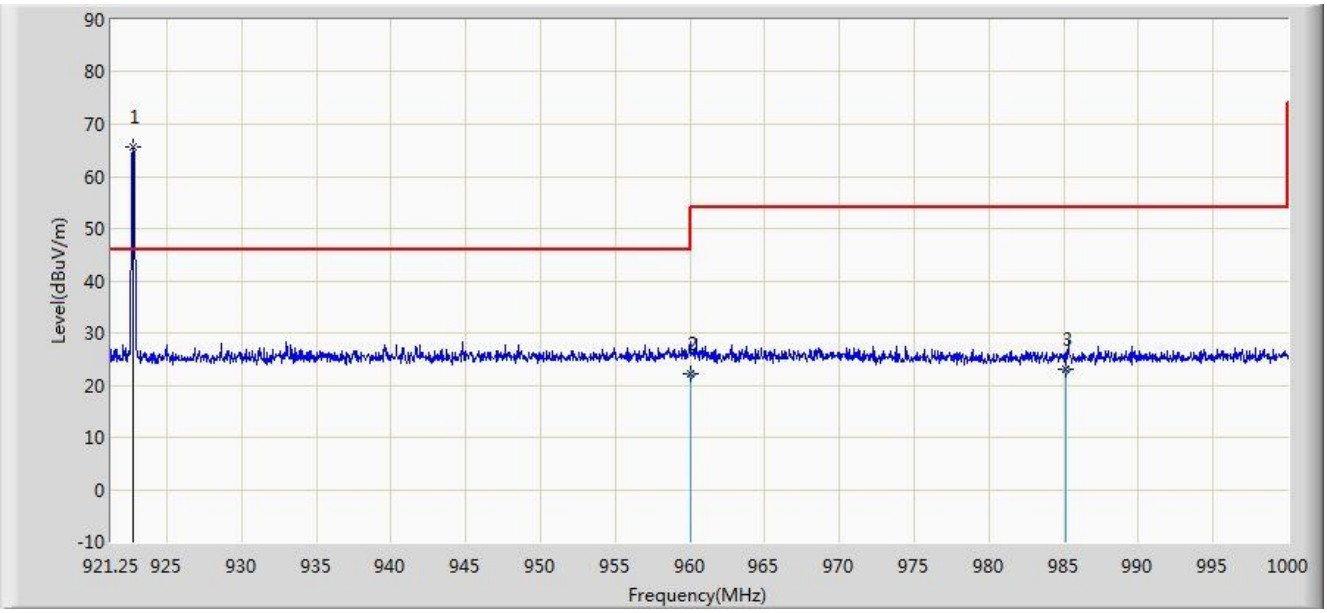


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	922.707	75.471	50.787	29.471	46.000	24.684	PK
2			960.000	22.146	-2.800	-23.854	46.000	24.946	QP
3			966.019	25.184	0.200	-28.816	54.000	24.985	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/12/13 - 23:31
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Note: Test Mode;Transmit at Channel 922.75MHz	

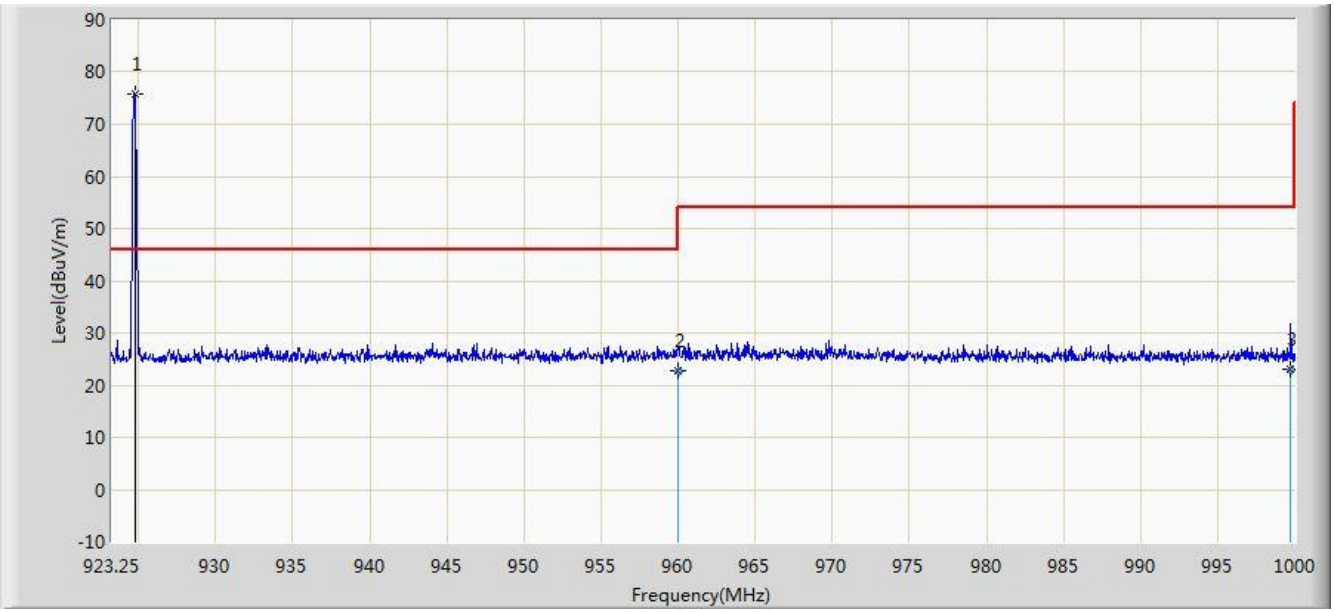


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	922.707	65.568	40.884	19.568	46.000	24.684	PK
2			960.000	22.146	-2.800	-23.854	46.000	24.946	QP
3			985.130	23.073	-1.990	-30.927	54.000	25.063	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/12/13 - 23:06
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Note: Test Mode;Transmit at Channel 924.75MHz	

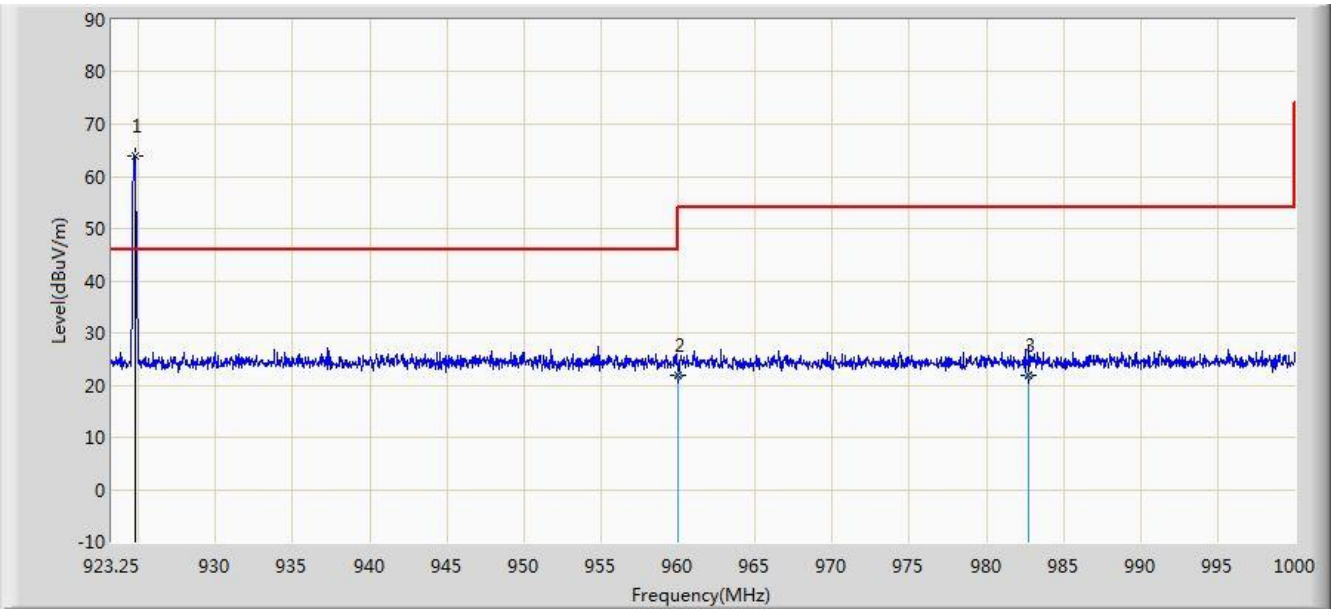


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	924.747	75.813	51.103	29.813	46.000	24.711	PK
2			960.000	22.846	-2.100	-23.154	46.000	24.946	QP
3			999.731	23.047	-2.030	-30.953	54.000	25.078	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/12/13 - 23:19
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Note: Test Mode;Transmit at Channel 924.75MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	924.747	63.999	39.289	17.999	46.000	24.711	PK
2			960.000	21.846	-3.100	-24.154	46.000	24.946	QP
3			982.770	22.026	-3.020	-31.974	54.000	25.046	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

8.3. 20dB Spectrum Bandwidth Measurement

8.3.1. Test Limit

Intentional radiators must be designed to ensure that the 20 dB bandwidth of the emission in the specific band (902 ~ 928 MHz).

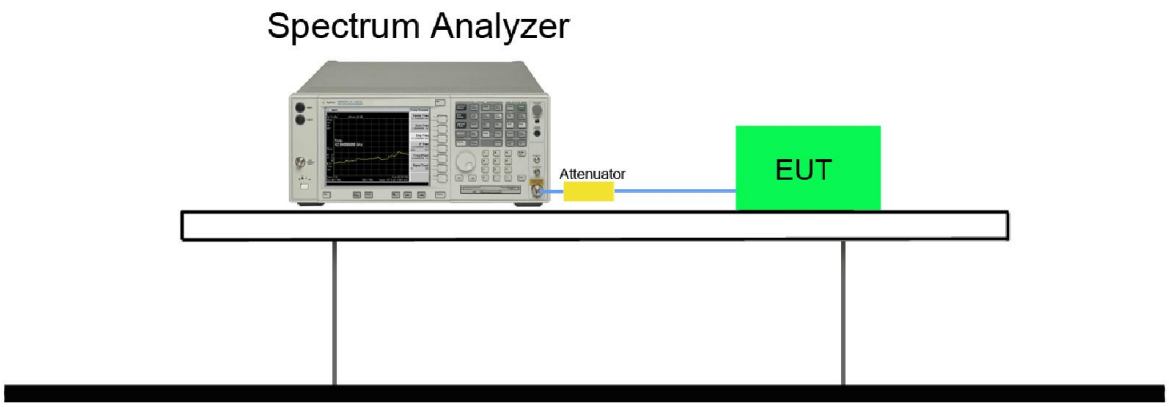
8.3.2. Test Procedure used

ANSI C63.10 Clause 6.9.2

8.3.3. Test Setting

1. Set the spectrum span range to overlap the nominal center frequency
2. Set RBW = 100 kHz
3. VBW ≥ 3 × RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace was allowed to stabilize and marker the highest level.
8. Determine the display level (the highest level - 20dB) and place two markers, one at the lowest frequency and the other at the highest frequency.

8.3.4. Test Setup

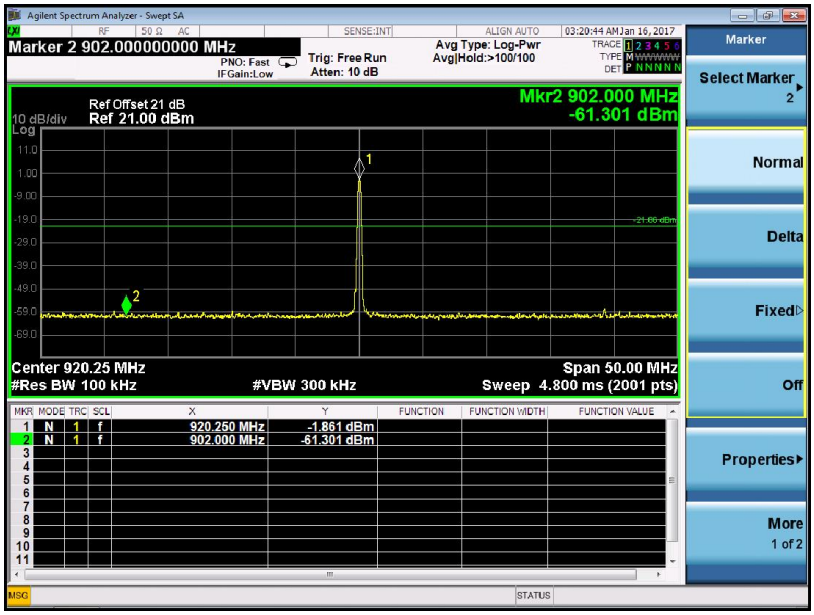


8.3.5. Test Result

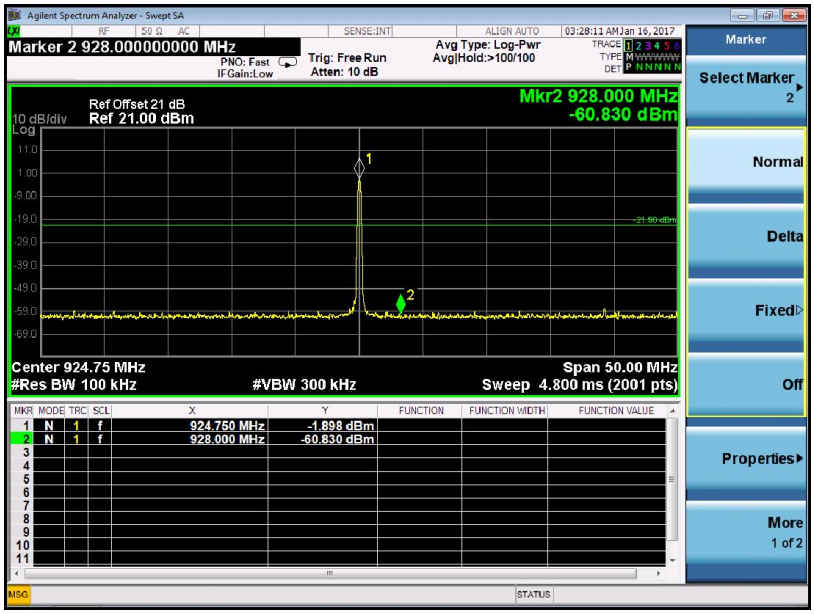
Frequency (MHz)	Frequency Range F_L > 902MHz	Frequency Range F_H < 928MHz	Result
920.25	920.25	---	Pass
924.75	---	924.75	Pass

20dB Spectrum Bandwidth

920.25 MHz



924.75 MHz



8.4. 99% Bandwidth Measurement

8.4.1. Test Limit

N/A

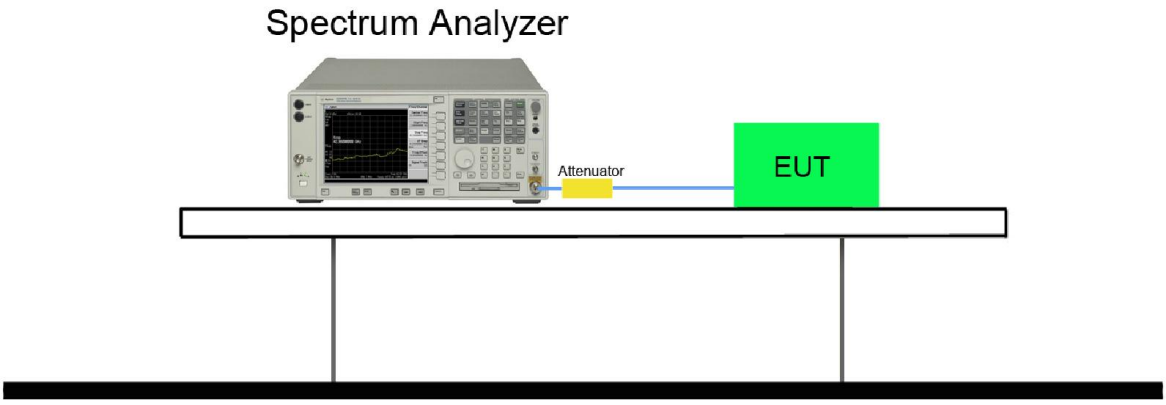
8.4.2. Test Procedure used

ANSI C63.10 Section 6.9

8.4.3. Test Setting

1. The analyzers' automatic bandwidth measurement capability was used to perform the 99% bandwidth measurement. The bandwidth measurement was not influenced by any intermediated power nulls in the fundamental emission.
2. RBW = approximately 1% to 5% of the OBW.
3. VBW ≥ 3 × RBW.
4. Detector = Peak.
5. Trace mode = max hold.

8.4.4. Test Setup

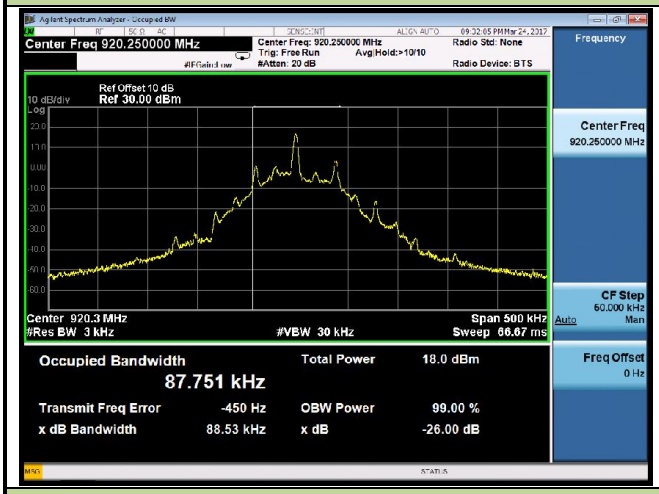


8.4.5. Test Result

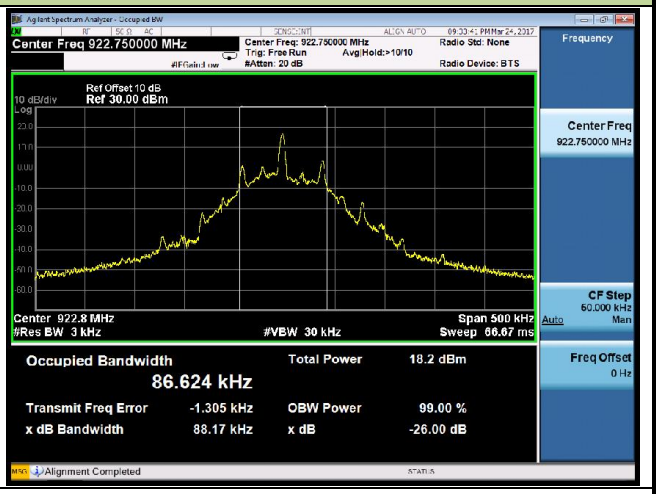
Frequency (MHz)	99% Bandwidth (kHz)
920.25	87.75
922.75	86.62
924.75	86.56

99% Occupied Bandwidth

920.25 MHz



922.75 MHz



924.75 MHz

9. CONCLUSION

The data collected relate only the item(s) tested and show that the **MID FCC ID: 2AEY7-S8A002** is in compliance with Part 15C of the FCC Rules.

The End