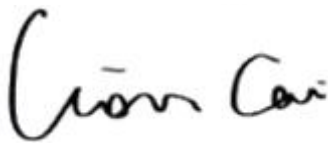


# TEST REPORT

**Application No.:** BTEK240819015AE  
**Applicant:** SHENZHEN ECARE ELECTRONICS CO.,LTD.  
**Address of Applicant:** B201/B401/B501/B601, Hua Li Industrial Building, 404 YuAn Road, Bao An, Shenzhen, Guang Dong, China  
**Manufacturer:** SHENZHEN ECARE ELECTRONICS CO.,LTD.  
**Address of Manufacturer:** B201/B401/B501/B601, Hua Li Industrial Building, 404 YuAn Road, Bao An, Shenzhen, Guang Dong, China  
**Equipment Under Test (EUT):**  
**EUT Name:** Wireless Meat Thermometer  
**Test Model.:** TB860B  
**Adding Model(s):** TP860BW, H60B, TP863B, TP863BW, H63B  
**Trade Mark:** /  
**FCC ID:** 2AATP-TP860B  
**Standard(s) :** 47 CFR Part 15, Subpart C 15.249  
**Date of Receipt:** 2024-08-20  
**Date of Test:** 2024-08-21 to 2024-09-13  
**Date of Issue:** 2024-09-14

<b>Test Result:</b>	<b>Pass*</b>
---------------------	--------------

\* In the configuration tested, the EUT complied with the standards specified above.



Lion Cai/ Approved & Authorized  
EMC Laboratory Manager



Revision Record				
Version	Chapter	Date	Modifier	Remark
V0		2024-09-14		Original

Authorized for issue by:			
		Zora . Huang	
		Zora Huang/ Project Engineer	
		June Li	
		June Li / Reviewer	



## 2 Test Summary

Radio Spectrum Technical Requirement				
Standard	Item	Method	Requirement	Result
47 CFR Part 15, Subpart C 15.249	Antenna Requirement	N/A	47 CFR Part 15, Subpart C 15.203	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
47 CFR Part 15, Subpart C 15.249	Conducted Emissions at AC Power Line (150kHz-30MHz)	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
	20dB Bandwidth	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.215	Pass
	Field strength of the Fundamental signal	ANSI C63.10 (2013) Section 6.5	47 CFR Part 15, Subpart C 15.249	Pass
	Radiation Spurious Emission	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209/15.249	Pass

**Note:**

N/A: Not applicable.

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

Model No.: TB860B,TP860BW,H60B,TP863B,TP863BW,H63B

Only the model TB860B was tested. According to the declaration from the applicant, the electrical circuit design, layout, components used, internal wiring and functions of other models are identical for the above models, with only difference on Model No.



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## 4 General Information

### 4.1 Details of E.U.T.

Power supply:	DC 5V Input Battery:model:14500 3.7V 500mAh 1.85Wh
Frequency Range:	915MHz
Modulation Type:	FSK
Number of Channels:	1
Antenna Type:	Spring antenna
Antenna Gain:	-8.55dBi
Remark: The information in this section is provided by the applicant or manufacturer, BANTEK is not liable to the accuracy, suitability, reliability or/and integrity of the information.	
Sample No.:	BTEK240819015AE-01

Model No.: TB860B,TP860BW,H60B,TP863B,TP863BW,H63B

Only the model TB860B was tested. According to the declaration from the applicant, the electrical circuit design, layout, components used, internal wiring and functions of other models are identical for the above models, with only difference on Model No

### 4.2 EUT Test Mode and Test Condition

Test Mode	Description	Remark
1	TX	Continue TX
Remark:1.only show the worst case in the test report.		

Test Conditions	
Temperature:	23.25 °C
Relative Humidity:	46.5 %
ATM Pressure:	1010 mbar

### 4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
/	/	/	/

### 4.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Peak Output Power	$\pm 0.76\text{dB}$
20dB Bandwidth	$\pm 3\%$
Conducted Spurious Emissions	$\pm 0.8\text{dB}$
Radiated Emissions which fall in the restricted bands	$\pm 5.1\text{dB}$ (1GHz-6GHz); $\pm 5.2\text{dB}$ (above 6GHz)
Radiated Spurious Emissions (Below 1GHz)	$\pm 5.1\text{dB}$
Radiated Spurious Emissions (Above 1GHz)	$\pm 5.1\text{dB}$ (1GHz-6GHz); $\pm 5.2\text{dB}$ (above 6GHz)



#### 4.5 Test Location

All tests were performed at:

Shenzhen BANTEK Testing Co., Ltd.,

A5&A6, Building B1&B2, No.45 Gangtuo Road, Bogang Community, Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Tel: 0755-2334 4200

Fax: 0755-2334 4200

FCC Registration Number: 264293

Designation Number: CN1356

No tests were sub-contracted.

#### 4.6 Deviation from Standards

None

#### 4.7 Abnormalities from Standard Conditions

None



## 5 Equipment List

Conducted Test					
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Shielding Room	YIHENG ENELECTRONIC	9*5*3.3	YH-BT-220304-04	2022-03-03	2025-03-02
EMI Test Receiver	Rohde&Schwarz	ESCI	101021	2024-06-11	2025-06-10
Measurement Software	Fara	EZ EMC Ver. FA-03A2	N/A	N/A	N/A
LISN	Rohde&Schwarz	ENV216	101472	2024-06-11	2025-06-10
LISN	Schwarzbeck	NSLK 8128	05127	2024-06-11	2025-06-10

RF Conducted					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
Shielding Room	YIHENG ENELECTRONIC	5.5*3.1*3	YH-BT-220304-03	2022-03-03	2025-03-02
EXA Signal Analyzer	KEYSIGHT	N9020A	MY54230486	2024-06-11	2025-06-10
DC Power Supply	E3632A	E3642A	KR75304416	2024-06-11	2025-06-10
Attenuator	RswTech	SMA-JK-6dB	N/A	2024-06-11	2025-06-10
Attenuator	RswTech	SMA-JK-3dB	N/A	2024-06-11	2025-06-10
RF Control Unit	Techy	TR1029-1	N/A	2024-06-11	2025-06-10
RF Sensor Unit	Techy	TR1029-2	N/A	2024-06-11	2025-06-10
WIDEBAND RADIO COMMUNICATION TESTER	R&S	CMW 500	141258	2024-06-11	2025-06-10
MXG Vector Signal Generator	Agilent	N5182A	US46240522	2024-06-11	2025-06-10
Programmable Temperature&Humidity Chamber	GRT	GR-HWX1000	GR22051001	2024-06-11	2025-06-10
Measurement Software	TACHOY	RF TestSoft	N/A	N/A	N/A

RSE					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	YIHENG ENELECTRONIC	966	YH-BT-220304-01	2022-05-06	2025-05-05
EMI Test Receiver	Rohde&Schwarz	ESCI	100694	2024-06-11	2025-06-10
TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	01324	2024-06-16	2025-06-15
Pre-Amplifier	Schwarzbeck	BBV 9745	#180	2024-06-11	2025-06-10
Measurement Software	Fara	EZ EMC Ver. FA-03A2	N/A	2024-06-11	2025-06-10
EXA Signal Analyzer	Keysight	N9020A	MY54440290	2024-06-11	2025-06-10
Horn Antenna	Schwarzbeck	BBHA 9120D	02695	2024-06-15	2025-06-14
Pre-Amplifier	Tonscend	TAP0118045	AP20K806109	2024-06-11	2025-06-10



Horn Antenna	SCHWARZBECK	BBHA9170	1157	2024-06-15	2025-06-14
Low Noise Pre-amplifier	SKET	LNPA-1840G-50	SK2022032902	2024-06-11	2025-06-10
Signal analyzer	ROHDE&SCHWARZ	FSQ40	100010	2024-06-11	2025-06-10
Loop Antenna	ETS	6502	00201177	2024-06-15	2025-06-14





## 6 Radio Spectrum Technical Requirement

### 6.1 Antenna Requirement

#### 6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

#### 6.1.2 Conclusion

This product has a Spring antenna, fulfill the requirement of this section.



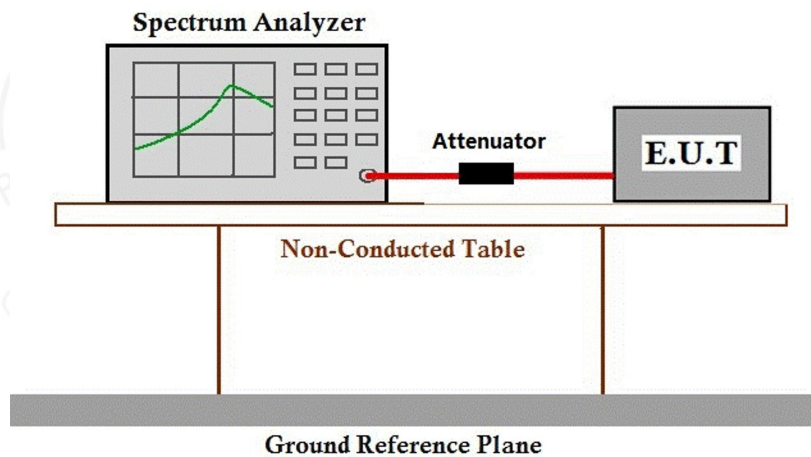
## 7 Radio Spectrum Matter Test Results

### 7.1 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215 c

Limit: N/A

#### 7.1.1 Test Setup Diagram



#### 7.1.2 Measurement Procedure and Data

Set span = 2~30BW, centered on a transmitting channel

RBW  $\geq$  1% 20dB Bandwidth, VBW  $\geq$  RBW

Sweep = auto

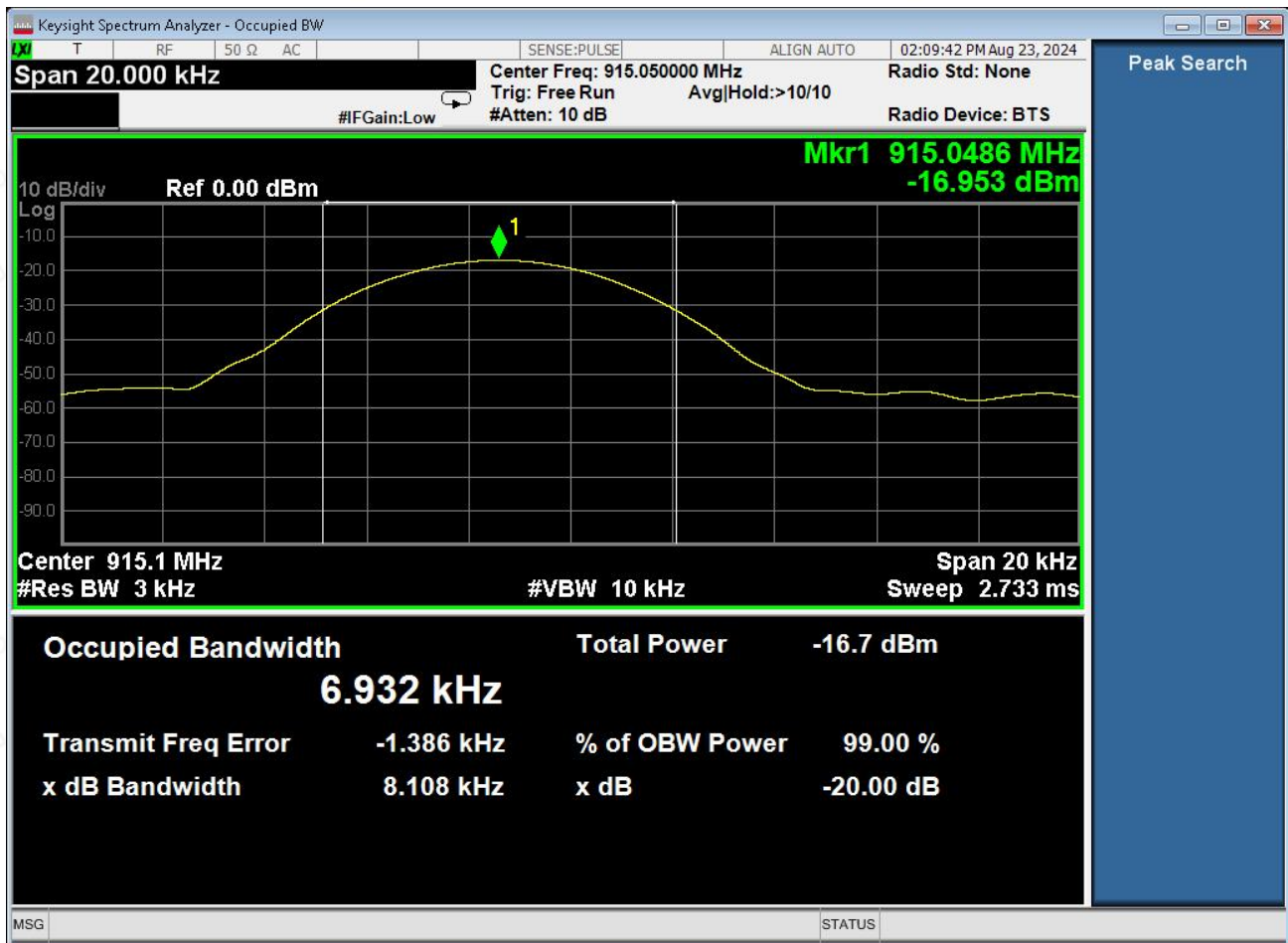
Detector function = peak

Trace = max hold

All the trace to stabilize, use the marker-to-peak function to set the marker to the peak of the emission, use the marker-delta function to measure and record the 20dB down



Test Frequency(MHz)	Bandwidth(kHz)
915	8.108



## 7.2 Radiated Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.209&15.249

Limit:

Field strength of the Fundamental signal

Fundamental Frequency (MHz)	Field strength of fundamental (milli-volts/meter)	Field strength of Harmonics (micro-volts/meter)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24.0-24.25	250	2500

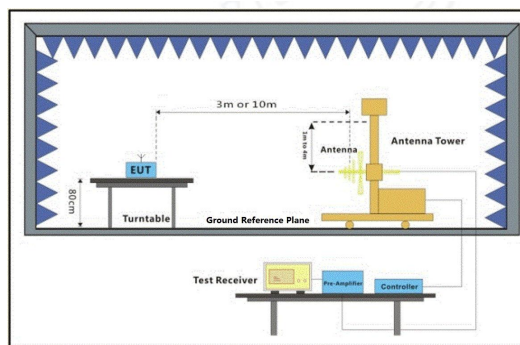
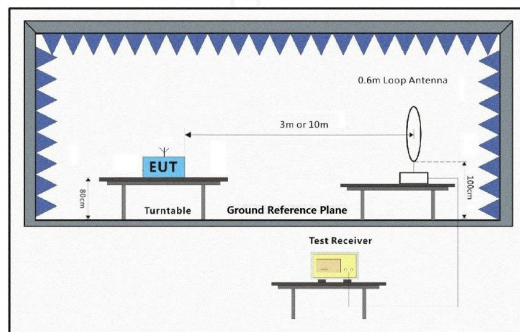
Radiation Spurious Emission

Frequency (MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

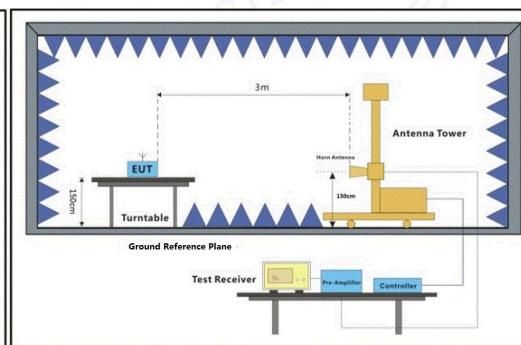
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

(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.

### 7.2.1 Test Setup Diagram



30MHz-1GHz



Above 1GHz





### 7.2.2 Test Setup Diagram

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

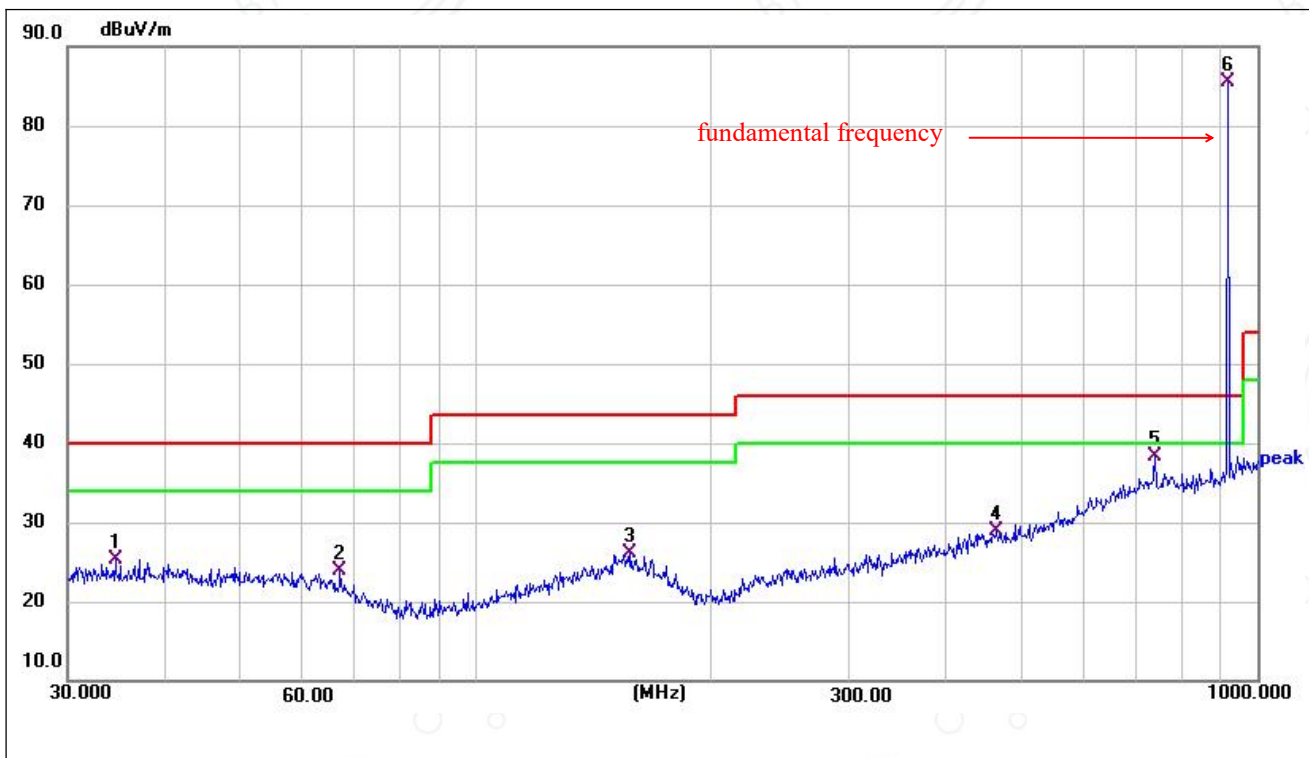
Remark 1: Level= Reading Level + Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



➤ Below 1GHz

Test Channel	Low	Polarity:	Horizontal
--------------	-----	-----------	------------

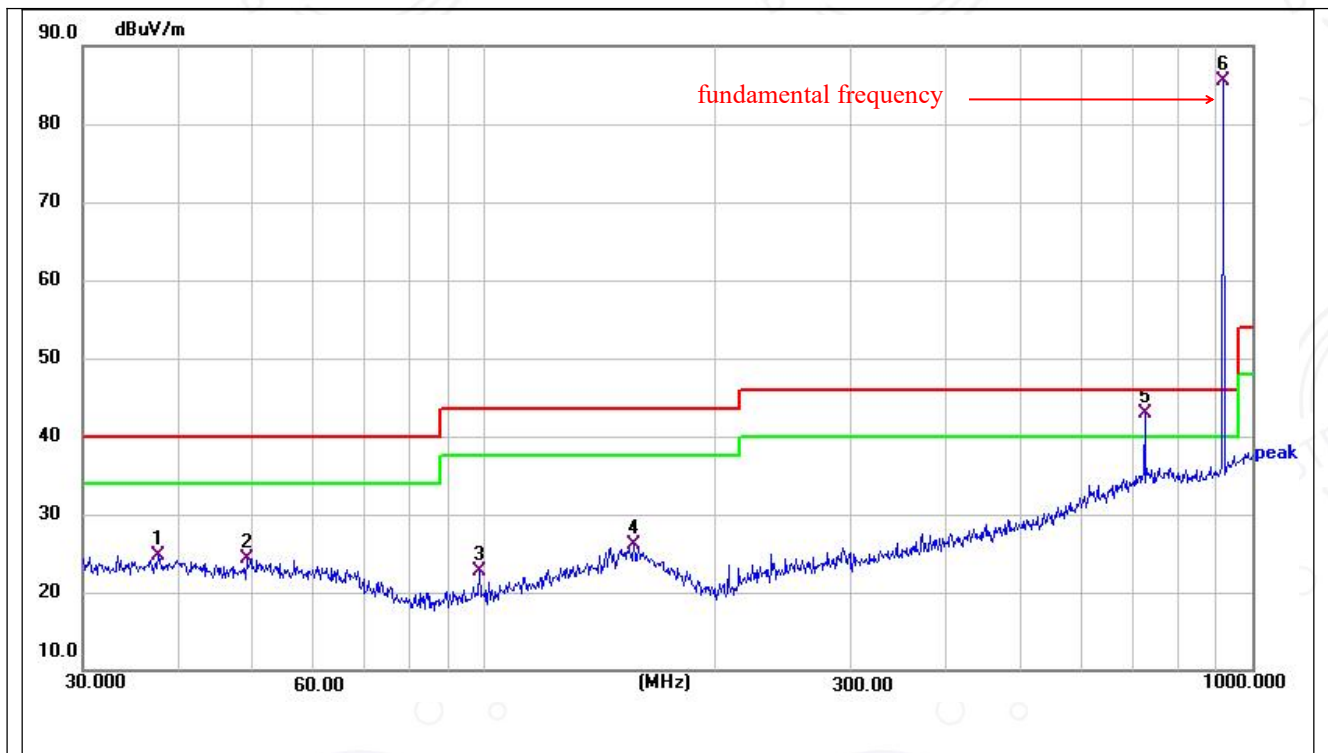


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	34.5173	42.92	-17.62	25.30	40.00	-14.70	QP	100	360	P	
2	66.9669	43.15	-19.27	23.88	40.00	-16.12	QP	100	360	P	
3	157.5588	43.36	-17.25	26.11	43.50	-17.39	QP	100	360	P	
4	463.9696	42.78	-13.84	28.94	46.00	-17.06	QP	100	360	P	
5	739.6604	47.38	-9.05	38.33	46.00	-7.67	QP	100	360	P	
6 *	915.0687	93.29	-7.70	85.59	114.00	-28.41	Peak	100	360	P	Fundamental

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin(dB)	Detector	P/F
1	915.0687	90.68	-7.70	82.98	94.00	-11.02	AV	P



Test Channel	Low	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	37.5479	41.89	-17.15	24.74	40.00	-15.26	QP	100	0	P	
2	49.0145	42.04	-17.64	24.40	40.00	-15.60	QP	100	0	P	
3	98.4866	43.77	-21.04	22.73	43.50	-20.77	QP	100	0	P	
4	156.4578	43.28	-17.20	26.08	43.50	-17.42	QP	100	0	P	
5 !	724.2611	51.96	-9.07	42.89	46.00	-3.11	QP	100	0	P	
6 *	915.0687	93.23	-7.70	85.53	114.00	-28.47	Peak	100	0	P	Fundamental

No.	Frequency (MHz)	Reading (dBuv)	Factor (dB/m)	Level (dBuv/m)	Limit (dBuv/m)	Margin(dB)	Detector	P/F
1	915.0687	90.49	-7.70	82.79	94.00	-11.21	AV	P





Above 1GHz

Polarity: Horizontal; Modulation:FSK;

No.	Frequency (MHz)	Reading (dBuv)	Factor (dB/m)	Level (dBuv/m)	Limit (dBuv/m)	Margin(dB)	Detector	P/F
1	1830.000	68.03	-24.14	43.89	74.00	-30.11	peak	P
2	2745.000	69.67	-23.92	45.75	74.00	-28.25	peak	P
3	3660.000	75.08	-23.92	51.16	74.00	-22.84	peak	P

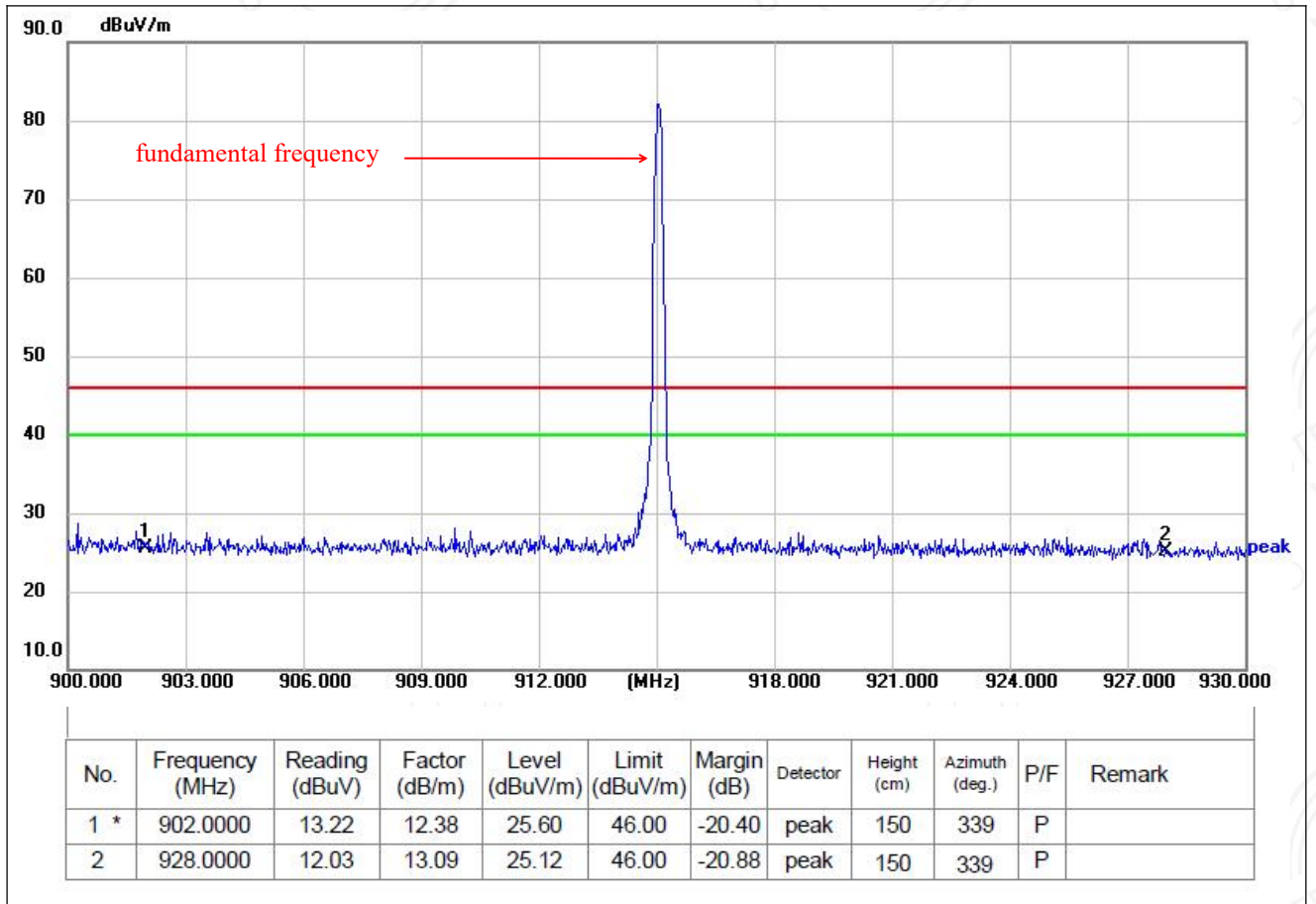
Polarity: Vertical; Modulation:FSK;

No.	Frequency (MHz)	Reading (dBuv)	Factor (dB/m)	Level (dBuv/m)	Limit (dBuv/m)	Margin(dB)	Detector	P/F
1	1830.000	68.04	-24.14	43.90	74.00	-30.10	peak	P
2	2745.000	69.00	-23.92	45.08	74.00	-28.92	peak	P
3	3660.000	74.53	-23.92	50.61	74.00	-23.39	peak	P

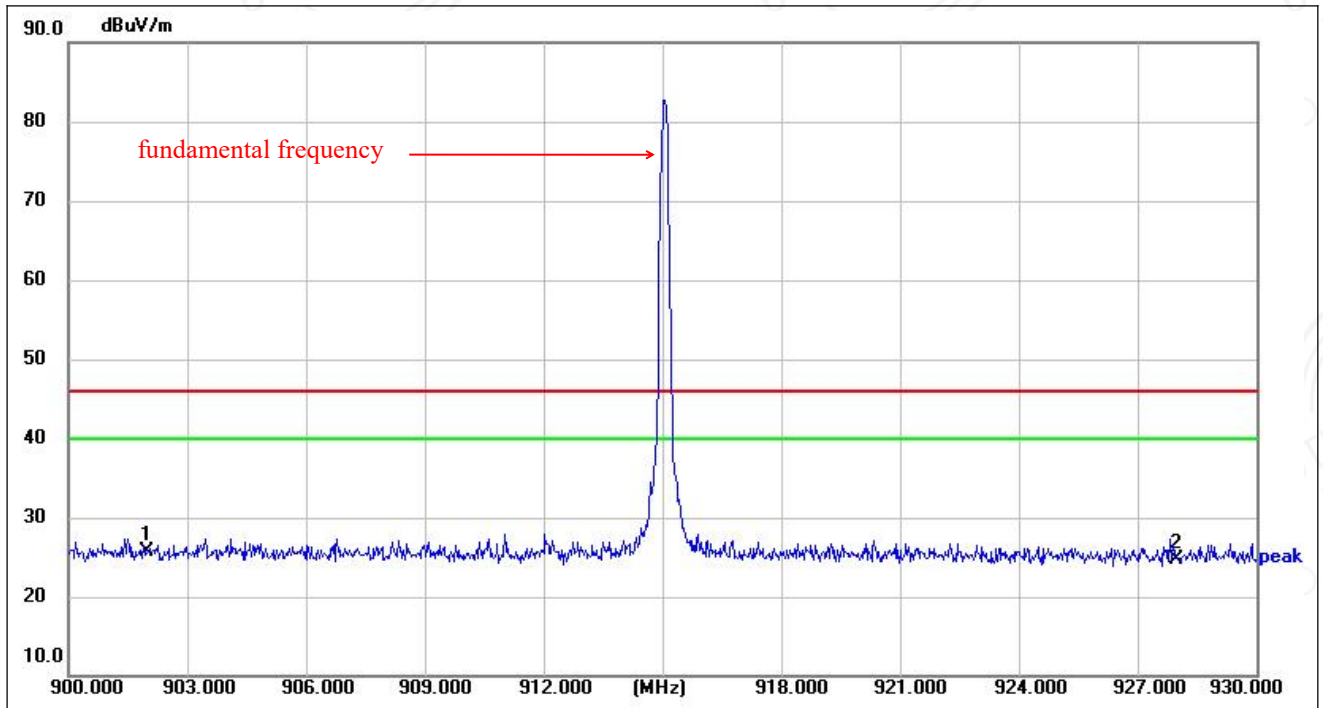




Test Bandedge	1	Polarity:	Horizontal
---------------	---	-----------	------------



Test Bandedge	1	Polarity:	Vertical
---------------	---	-----------	----------



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	902.0000	13.28	12.38	25.66	46.00	-20.34	peak	150	339	P	
2	928.0000	11.54	13.09	24.63	46.00	-21.37	peak	150	339	P	



### 7.3 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207

Test Method: ANSI C63.10 (2013) Section 6.2

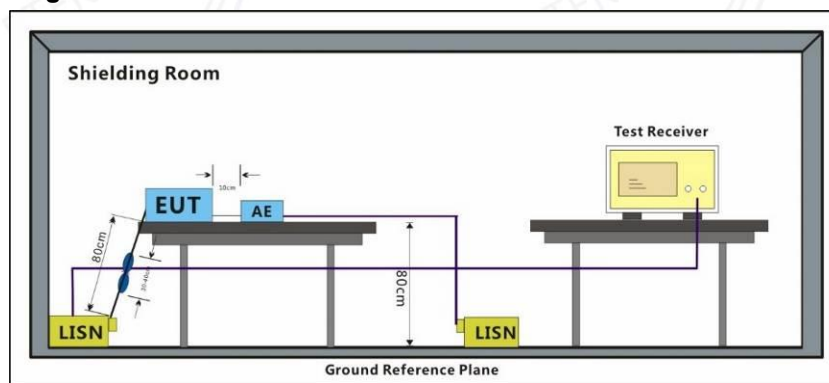
Limit:

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

#### 7.3.1 Test Setup Diagram



#### 7.3.2 Measurement Procedure and Data

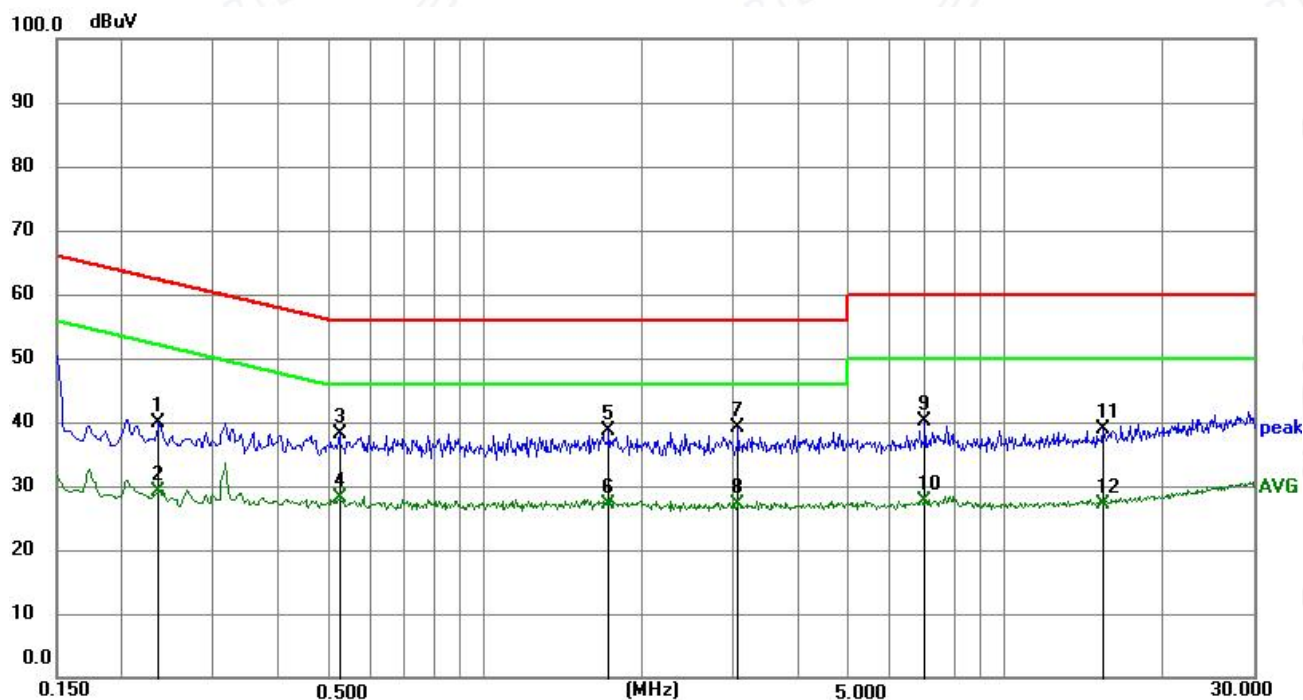
- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: LISN=Read Level+ Cable Loss+ LISN Factor





Test mode:	1	Polarity:	Neutral
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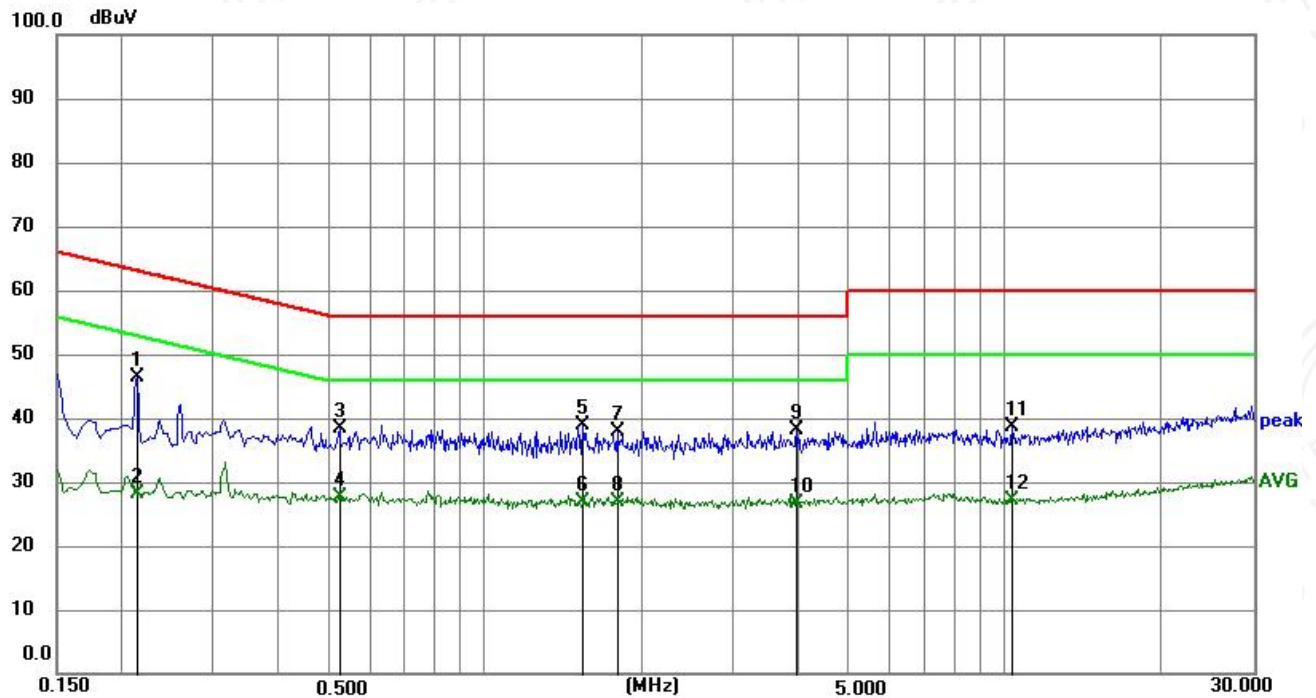


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2353	20.08	19.81	39.89	62.26	-22.37	QP	P	
2	0.2353	9.32	19.81	29.13	52.26	-23.13	AVG	P	
3	0.5231	18.35	19.85	38.20	56.00	-17.80	QP	P	
4	0.5231	8.39	19.85	28.24	46.00	-17.76	AVG	P	
5	1.7295	18.47	20.06	38.53	56.00	-17.47	QP	P	
6	1.7295	7.07	20.06	27.13	46.00	-18.87	AVG	P	
7 *	3.0615	19.05	20.19	39.24	56.00	-16.76	QP	P	
8	3.0615	6.97	20.19	27.16	46.00	-18.84	AVG	P	
9	6.9990	19.73	20.37	40.10	60.00	-19.90	QP	P	
10	6.9990	7.26	20.37	27.63	50.00	-22.37	AVG	P	
11	15.4500	17.46	21.31	38.77	60.00	-21.23	QP	P	
12	15.4500	5.82	21.31	27.13	50.00	-22.87	AVG	P	





Test mode:	1	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1 *	0.2130	26.46	19.81	46.27	63.09	-16.82	QP	P	
2	0.2130	8.40	19.81	28.21	53.09	-24.88	AVG	P	
3	0.5233	18.51	19.85	38.36	56.00	-17.64	QP	P	
4	0.5233	7.90	19.85	27.75	46.00	-18.25	AVG	P	
5	1.5403	18.94	20.04	38.98	56.00	-17.02	QP	P	
6	1.5403	6.80	20.04	26.84	46.00	-19.16	AVG	P	
7	1.7923	17.89	20.06	37.95	56.00	-18.05	QP	P	
8	1.7923	6.71	20.06	26.77	46.00	-19.23	AVG	P	
9	3.9660	17.85	20.21	38.06	56.00	-17.94	QP	P	
10	3.9660	6.34	20.21	26.55	46.00	-19.45	AVG	P	
11	10.2885	17.83	20.85	38.68	60.00	-21.32	QP	P	
12	10.2885	6.37	20.85	27.22	50.00	-22.78	AVG	P	



## 8 Test Setup Photo

Please Refer to Appendix – Test Setup Photos.

## 9 EUT Constructional Details (EUT Photos)

Please Refer to Appendix - External and Internal Appendix EUT Photos

- End of the Report -

