



# **TEST REPORT**

Applicant	Particle Industries, Inc
Address	126 Post St, 4th floor, San Francisco, CA 94108 USA

Manufacturer or Supplier	Particle Industries, Inc	
Address	26 Post St, 4th floor, San Francisco, CA 94108 USA	
Product	Tracker One LTE M1	
Brand Name	Particle	
Model	ONE402M	
Additional Models & Model Difference	ONE404M, ONE402M-NB, ONE404M-NB, see section 2.1 note	
Date of tests	Aug. 18, 2020 ~ Sep. 11, 2020, Oct. 16, 2020 ~ Oct. 28, 2020	

The submitted sample of the above equipment has been tested for according to the requirements of the following standards:

#### FCC Part 15, Subpart B, Class B (sDoC)

#### CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Breeze Jiang Senior Project Engineer / EMC Department	Approved by Madison Luo Assistant Manager / EMC Department
preel	Date: Dec. 21, 2020
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	n. The results set forth in this report are not indicative or representative of the any similar or identical product unless specifically and expressly noted. Our
report includes all of the tests requested by you and the results thereof bas	ed upon the information that you provided to us. Measurement uncertainty is

sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute you unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch No. 96, Guantai Road (Houjie Section), Houjie Town, Dongguan City, Guangdong Province. 523942. People's Republic of China.



# **Table of Contents**

RELE	ASE CONTROL RECORD	3
1 1.1	SUMMARY OF TEST RESULTS MEASUREMENT UNCERTAINTY	
2 2.1 2.2 2.3	GENERAL INFORMATION GENERAL DESCRIPTION OF EUT DESCRIPTION OF TEST MODES DESCRIPTION OF SUPPORT UNITS	5 6
3 3.1 3.1.1 3.1.2 3.1.3 3.1.4 3.1.5 3.1.6 3.1.7 3.2 3.2.1	EMISSION TEST CONDUCTED EMISSION MEASUREMENT LIMITS OF CONDUCTED EMISSION MEASUREMENT TEST INSTRUMENTS TEST PROCEDURE DEVIATION FROM TEST STANDARD TEST SETUP EUT OPERATING CONDITIONS TEST RESULTS RADIATED EMISSION MEASUREMENT LIMITS OF RADIATED EMISSION MEASUREMENT	7 7 8 8 9 9 10 12 12
3.2.2 3.2.3 3.2.4 3.2.5 3.2.6 3.2.7	TEST INSTRUMENTS TEST PROCEDURE DEVIATION FROM TEST STANDARD TEST SETUP EUT OPERATING CONDITIONS TEST RESULTS	15 15 16 16
4	PHOTOGRAPHS OF THE TEST CONFIGURATION	23
5	APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	26



# **RELEASE CONTROL RECORD**

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FS2008WDG0081	Original release	Sep. 22, 2020
FS2009WDG0427	Based on the original report FS2008WDG0081 added GPIO isolation and LDO and model number, need retest radiated (below 1GHz) emission after engineer evaluated.	Dec. 21, 2020



# 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD					
Standard Section	Test Item	Result	Remark		
	Conducted test	PASS	Meets Class B Limit Minimum Passing Margin Is -14.66dB at 3.00027MHz		
FCC Part 15, Subpart B, Class B (sDoC)	Radiated EmissionTest (9kHz ~ 30MHz)		Meets Class B Limit Minimum Passing Margin Is -51.90dB at 17.12800MHz		
	Radiated EmissionTest (30MHz ~ 1GHz)		Meets Class B Limit Minimum Passing Margin Is -11.50dB at 31.60MHz		

Remark: Please refer to FCC part 2 2.1077 for sDoC compliance information requirement

### **1.1 MEASUREMENT UNCERTAINTY**

Where relevant, the following measurement 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.

MEASUREMENT	FREQUENCY	UNCERTAINTY	
Conducted emission test	0.15MHz ~ 30MHz	+/- 2.70 dB	
Dedicted emissions	9kHz-30MHz	+/- 2.16 dB	
Radiated emissions	30MHz ~ 1GHz	+/- 3.99 dB	



#### 2 GENERAL INFORMATION

#### 2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Tracker One LTE M1	
MODEL NO.	ONE402M	
ADDITIONAL MODELS	ONE404M, ONE402M-NB, ONE404M-NB	
	LI+ pin: DC+3.6v4.2V	
POWER SUPPLY	or Vusb PIN: DC+4.5V5.5V	
	or Vin PIN: DC 6V30V	
CABLE SUPPLIED	N/A	
THE HIGHEST OPERATING		
FREQUENCY	Below 108MHz (except wireless)	

#### NOTES:

- 1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- 2. For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.
- 3. Please refer to the EUT photo document (Reference No.: 2009WDG0427) for detailed product photo.
- 4. Additional models ONE404M, ONE402M-NB, ONE404M-NB are identical with the test model ONE402M except the model number for marketing purpose.



## 2.2 DESCRIPTION OF TEST MODES

The EUT were tested under the following modes, the final worst mode was marked in boldface and recorded in this report.

#### **Conducted Emission Test:**

Description of Test Mode	Test Voltage	
Charging	DC 5V from Adaoter input AC 120V 60Hz,	
Charging	DC 12V from Adaoter input AC 120V 60Hz	

#### Radiated Emission Test (Below 30MHz):

Description of Test Mode	Test Voltage	
Normal Working	DC 5V from Adaoter input AC 120V 60Hz, DC 12V from Adaoter input AC 120V 60Hz	
	DC 3.7V from Battery	

#### Radiated Emission Test (30MHz ~ 1GHz):

Description of Test Mode	Test Voltage
Charging	DC 5V from Adaoter input AC 120V 60Hz,
Normal Working	DC 12V from Adaoter input AC 120V 60Hz
Normal Working	DC 3.7V from Battery

### 2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Adapter	N/A	DC 5V 2A	N/A	N/A
2	Adapter	PHICOMM	YH-AD-120A200-CH	N/A	N/A

NO.	DESCRIPTION OF THE ABOVE SUPPORT UNITS			
1	USB-C Line: Unshielded detachable 2.0m.			
2	DC Line: Unshielded detachable 2.0m.			



#### **3 EMISSION TEST**

### 3.1 CONDUCTED EMISSION MEASUREMENT

### 3.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

#### TEST STANDARD: FCC Part 15, Subpart B (Section: 15.107)

FREQUENCY (MHz)	Class A	(dBuV)	Class B (dBuV)		
	Quasi-peak	Average	Quasi-peak	Average	
0.15 - 0.5	79	66	66 - 56	56 - 46	
0.50 - 5.0	73	60	56	46	
5.0 - 30.0	73	60	60	50	

#### TEST STANDARD: FCC Part 15 (Section: 15.207)

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

**NOTES**: (1). The lower limit shall apply at the transition frequencies.

(2). The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

(3). All emanations from a class A/B digital device or system, including any network of

conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

# **3.1.2 TEST INSTRUMENTS**

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101494	Mar. 17,21
Artificial Mains Network	Rohde&Schwarz	ENV216	101173	Mar. 17,21
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	Mar. 17,21
Voltage probe	SCHWARZBECK	TK 9421	TK 9421-176	Sep. 23,21
Test software	ADT	ADT_Cond_V7.3.7	N/A	N/A

**NOTES:** 1. The test was performed at Shielded Room 553.

2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.



# **3.1.3 TEST PROCEDURE**

The basic test procedure was in accordance with ANSI C63.4:2014 (section 7).

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit 20dB) were not recorded.

#### NOTES:

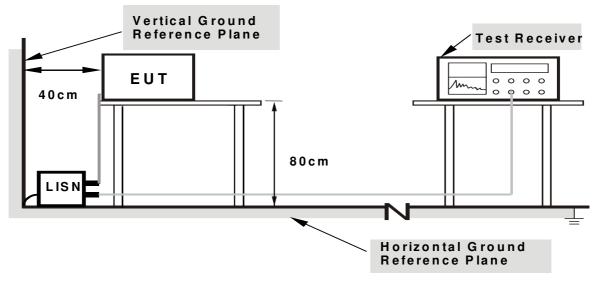
- 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
- 3. Margin value = Emission level Limit value
- 4. Correction factor = Insertion loss + Cable loss
- 5. Emission Level = Correction Factor + Reading Value

### **3.1.4 DEVIATION FROM TEST STANDARD**

No deviation.



# 3.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN. 2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.

### **3.1.6 EUT OPERATING CONDITIONS**

- a. Turned on the power of all equipment.
- b. EUT was operated according to the type description in manufacturer's specifications or the User's Manual.

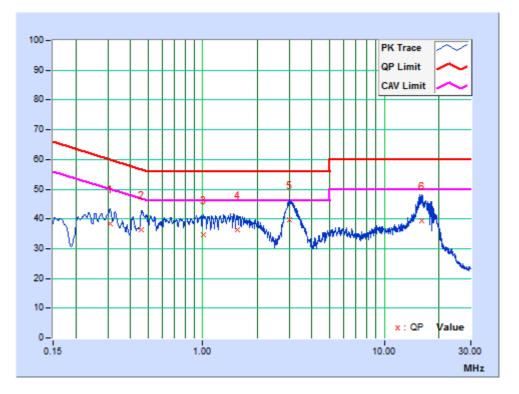


## 3.1.7 TEST RESULTS

TEST MODE	See section 2.2	6DB BANDWIDTH	9 kHz
TEST VOLTAGE	See section 2.2	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg.C, 55% RH	TESTED BY	Ming Bai

	Freq.	Corr.	Reading	g Value		sion vel	Lir	nit	Mar	gin
No.		Factor	[dB (	(uV)]	[dB	(uV)]	[dB (	(uV)]	(dl	B)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.30975	9.82	28.65	15.89	38.47	25.71	59.98	49.98	-21.50	-24.26
2	0.45906	9.86	26.58	11.85	36.44	21.71	56.71	46.71	-20.27	-25.00
3	1.00725	9.82	24.86	9.96	34.68	19.78	56.00	46.00	-21.32	-26.22
4	1.54648	9.84	26.42	16.46	36.26	26.30	56.00	46.00	-19.74	-19.70
5	3.02100	9.86	29.92	17.65	39.78	27.51	56.00	46.00	-16.22	-18.49
6	15.99675	10.15	29.33	17.35	39.48	27.50	60.00	50.00	-20.52	-22.50

**REMARKS:** The emission levels of other frequencies were very low against the limit.

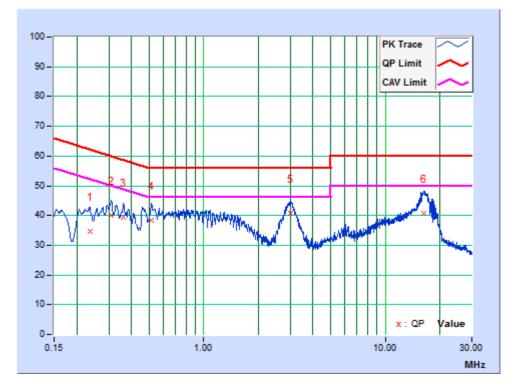




TEST MODE	See section 2.2	6DB BANDWIDTH	9 kHz
TEST VOLTAGE	See section 2.2	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg.C, 55% RH	TESTED BY	Ming Bai

	Freq.	Corr.	Reading	g Value		sion vel	Lir	nit	Mai	gin
No.		Factor	[dB (	(uV)]	[dB	(uV)]	[dB	(uV)]	(d	B)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23550	9.73	25.02	8.27	34.75	18.00	62.25	52.25	-27.51	-34.26
2	0.30975	9.76	30.19	16.21	39.95	25.97	59.98	49.98	-20.02	-24.00
3	0.36101	9.78	29.76	18.62	39.54	28.40	58.71	48.71	-19.16	-20.30
4	0.51698	9.81	28.74	16.00	38.55	25.81	56.00	46.00	-17.45	-20.19
5	3.00027	9.80	30.95	21.54	40.75	31.34	56.00	46.00	-15.25	-14.66
6	16.29600	10.15	30.72	17.34	40.87	27.49	60.00	50.00	-19.13	-22.51

**REMARKS:** The emission levels of other frequencies were very low against the limit.





### 3.2 RADIATED EMISSION MEASUREMENT

#### **3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT**

#### TEST STANDARD: FCC Part 15 (Section: 15.209)

Radiated	Radiated Emissions Limits at 3 meters (dBµV/m)			
Frequencies (MHz) FCC 15				
0.009-0.490	128.5-93.8			
0.490-1.705	73.8-62.97			
1.705-30.0	69.50			

#### TEST STANDARD: FCC Part 15, Subpart B (Section: 15.109)

Emissions radiated outside of the specified bands, shall be according to the general radiated limits as following:

Radiated Emissions Limits at 10 meters (dBµV/m)						
Frequencies	FCC 15B, Class A	· · ·		CISPR 22, Class B		
(MHz)	Class A	Class B	Class A	Class D		
30-88	39	29.5				
88-216	43.5	33.1	40	30		
216-230						
230-960	46.4	35.6	47	37		
960-1000	49.5	43.5	47	37		

	Radiated Emissions Limits at 3 meters (dBµV/m)					
Frequencies	FCC 15B,	FCC 15B,				
(MHz)	Class A	Class B				
30-88	49.5	40				
88-216	54 43.5					
216-230	56.9	46				
230-960	50.9	40				
960-1000	60	54				
1000-3000	Avg: 60	Avg: 54				
Above 3000	Peak: 80	Peak: 74				



### FREQUENCY RANGE OF RADIATED MEASUREMENT

## (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

Notes: (1) The lower limit shall apply at the transition frequencies.

- (2) Emission level  $(dBuV/m) = 20 \log Emission level (uV/m)$ .
- (3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.



## **3.2.2 TEST INSTRUMENTS**

#### FOR FREQUENCY 9kHz-30MHz

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101564	Mar. 17,21
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	1519B-045	May 29,21
Amplifier	Burgeon	BPA-530	100210	Mar. 14,21
Test Software	ADT	ADT_Radiated_V8.7.07	N/A	N/A

NOTES: 1. The test was performed in 10m Chamber.

2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

3. The FCC Site Registration No. is 749762.

#### FREQUENCY RANGE BELOW 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESU26	100005	May 19, 21
EMI Test Receiver	Rohde&Schwarz	ESR7	101564	Mar. 17,21
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-555	Nov. 23, 20
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-554	Nov. 30, 20
Preamplifier	EMCI	EMC1135	980378	Mar. 14,21
Preamplifier	EMCI	EMC1135	980423	Mar. 14,21
10m Semi-anechoic Chamber	CHANGLING	21.4m*12.1m*8.8m	NSEMC006	May 23,21
Test Software	ADT	ADT_Radiated_V8.7.07	N/A	N/A

NOTES: 1. The test was performed in 10m Chamber.

2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

3. The FCC Site Registration No. is 749762.



# **3.2.3 TEST PROCEDURE**

The basic test procedure was in accordance with ANSI C63.4:2014 (section 12).

#### <Frequency Range 9kHZ-30MHz>

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meters Semi-anechoic chamber room. 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 fixed of loop antenna
- c. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 30MHz

#### <Frequency Range below 1GHz>

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from 1 meter to 4 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1GHz.

#### NOTES:

- 1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 3. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) (if the raw value not contains the amplifier)
- 4. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) Amplifier Gain(dB) (if the raw value contains the amplifier)
- 5. Margin value = Emission level Limit value

# 3.2.4 DEVIATION FROM TEST STANDARD

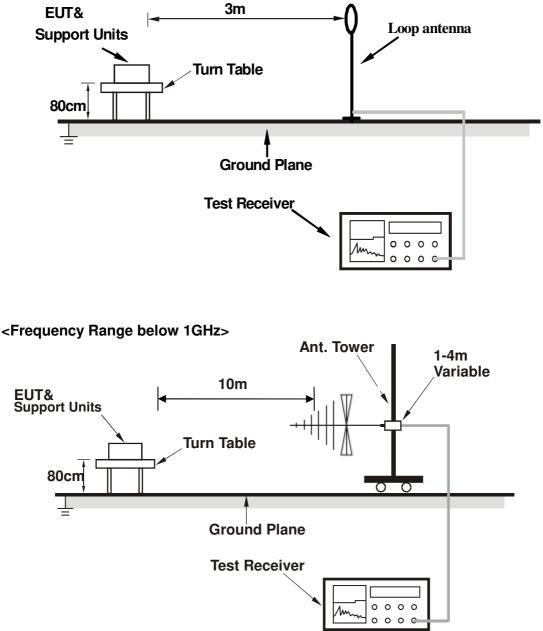
No deviation.

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## 3.2.5 TEST SETUP

<Frequency Range 9KHz-30MHz>



\* : depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

# 3.2.6 EUT OPERATING CONDITIONS

See items 3.1.6

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### 3.2.7 TEST RESULTS

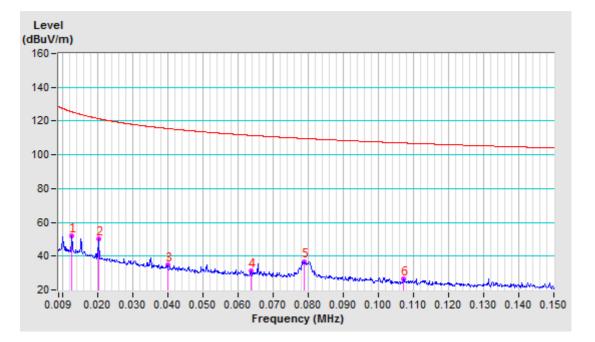
TEST MODE	See section 2.2	FREQUENCY RANGE	9 -150kHz
TEST VOLTAGE	See section 2.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	26deg. C, 60% RH	TESTED BY: Jelly	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M												
No	Freq.	Correction	Raw	Emission	Limit	Margin	Antenna	Table					
110	(MHz)	Factor	Value	Level	(dBuV/m)		Height	Angle					
•		(dB/m) (	(dBuV)	(dBuV/m)	(ubuv/iii)	(dB)	(cm)	(Degree)					
1	0.01280	-10.21	61.96	51.75	125.46	-73.71	100	137					
2	0.02050	-10.67	60.80	50.13	121.38	-71.25	100	6					
3	0.04000	-11.41	46.00	34.59	115.56	-80.97	100	135					
4	0.06370	-11.60	42.80	31.20	111.52	-80.32	100	128					
5	0.07900	-11.67	48.43	36.76	109.65	-72.89	100	117					
6	0.10720	-11.79	38.29	26.50	107.00	-80.50	100	76					

**REMARKS:** 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.

2. Negative sign (-) in the margin column signify levels below the limit.

- 3. Frequency range scanned: 0.009-0.15MHz.
- 4. Only emissions significantly above equipment noise floor are reported.



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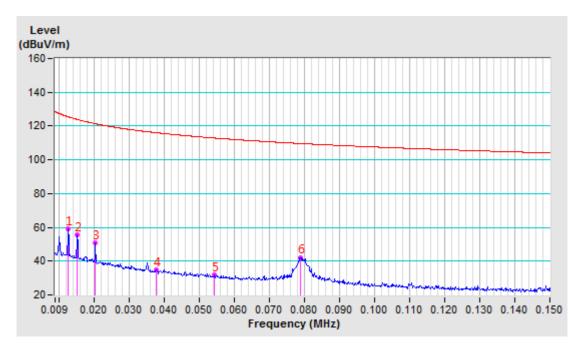


TEST MODE	See section 2.2	FREQUENCY RANGE	9 -150kHz
TEST VOLTAGE	See section 2.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	26deg. C, 60% RH	TESTED BY: Jelly	

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M												
No	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)			Antenna Height (cm)	Table Angle (Degree)					
1	0.01280	-10.21	69.35	59.14	125.46	-66.32	100	360					
2	0.01530	-10.36	65.71	55.35	123.88	-68.53	100	0					
3	0.02050	-10.67	61.41	50.74	121.38	-70.64	100	73					
4	0.03790	-11.38	46.20	34.82	116.02	-81.20	100	122					
5	0.05430	-11.57	43.29	31.72	112.90	-81.18	100	156					
6	0.07890	-11.67	53.87	42.20	109.67	-67.47	100	190					

**REMARKS:** 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.

- 2. Negative sign (-) in the margin column signify levels below the limit.
- 3. Frequency range scanned: 0.009-0.15MHz.
- 4. Only emissions significantly above equipment noise floor are reported.



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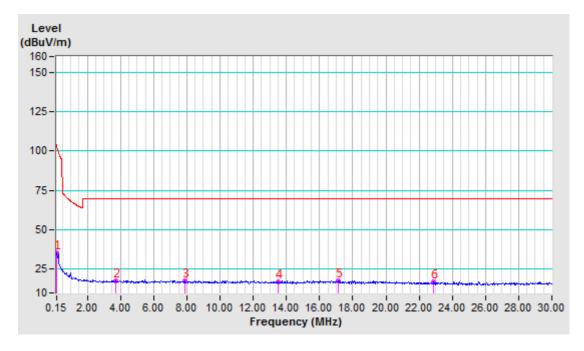


TEST MODE	See section 2.2	FREQUENCY RANGE	150kHz-30MHz
TEST VOLTAGE	See section 2.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	26deg. C, 60% RH	TESTED BY: Jelly	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M												
No	Freq.	Correction	Raw	Emission	Limit	Margin	Antenna	Table					
INO	(MHz)	Factor	Value	Level	(dBuV/m)	5	Height	Angle					
•		<sup>lZ)</sup> (dB/m) (d	(dBuV)	(dBuV/m)	(ubuv/iii)	(dB)	(cm)	(Degree)					
1	0.15150	-11.88	47.17	35.29	103.99	-68.70	100	284					
2	3.74410	-11.96	29.50	17.54	69.54	-52.00	100	360					
3	7.89200	-11.88	29.28	17.40	69.54	-52.14	100	360					
4	13.51600	-11.59	28.77	17.18	69.54	-52.36	100	264					
5	17.12800	-11.55	29.19	17.64	69.54	-51.90	100	174					
6	22.86850	-11.58	28.49	16.91	69.54	-52.63	100	80					

**REMARKS:** 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.

- 2. Negative sign (-) in the margin column signify levels below the limit.
- 3. Frequency range scanned: 0.15-30.0MHz.
- 4. Only emissions significantly above equipment noise floor are reported.



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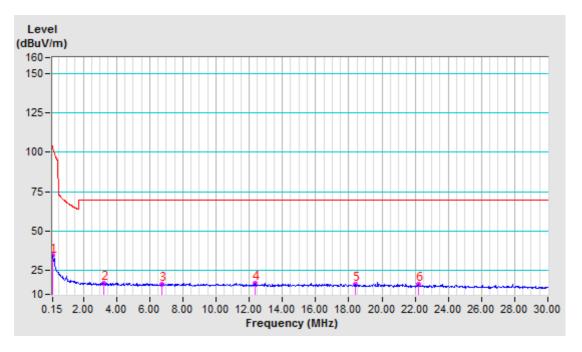


TEST MODE	See section 2.2	FREQUENCY RANGE	150kHz-30MHz
TEST VOLTAGE	See section 2.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	26deg. C, 60% RH	TESTED BY: Jelly	

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M												
No	Freq.	Correction	Raw	Emission	Limit	Margin	Antenna	Table					
110	(MHz)	Factor	Value	Level		(dB)	Height	Angle					
•		(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m) (d		(cm)	(Degree)					
1	0.15300	-11.88	46.36	34.48	103.91	-69.43	100	360					
2	3.25460	-11.98	29.10	17.12	69.54	-52.42	100	348					
3	6.72630	-11.94	28.61	16.67	69.54	-52.87	100	360					
4	12.33240	-11.71	28.91	17.20	69.54	-52.34	100	355					
5	18.36840	-11.51	27.97	16.46	69.54	-53.08	100	356					
6	22.17890	-11.60	27.86	16.26	69.54	-53.28	100	344					

**REMARKS:** 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.

- 2. Negative sign (-) in the margin column signify levels below the limit.
- 3. Frequency range scanned: 0.15-30.0MHz.
- 4. Only emissions significantly above equipment noise floor are reported.



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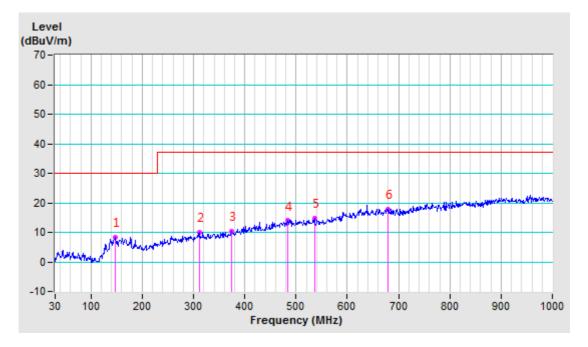


TEST MODE	See section 2.2	FREQUENCY RANGE	30-1000MHz	
TEST VOLTAGE	See section 2.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz	
ENVIRONMENTAL CONDITIONS	29deg. C, 58% RH	TESTED BY: Jelly		

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M													
	Freq.	Correction	Raw	Emission	Limit	Margin	Antenna	Table						
No.	(MHz)	Factor	Value	Level	(dBuV/m)		Height	Angle						
		(dB/m)	(dBuV)	(dBuV/m)	(ubuv/iii)	(UD)	(cm)	(Degree)						
1	147.86	-21.27	29.67	8.40	30.00	-21.60	400	257						
2	312.39	-19.39	29.49	10.10	37.00	-26.90	400	347						
3	374.11	-18.15	28.53	10.38	37.00	-26.62	400	29						
4	483.96	-14.94	28.90	13.96	37.00	-23.04	400	110						
5	535.73	-14.23	29.01	14.78	37.00	-22.22	400	137						
6	679.66	-10.66	28.62	17.96	37.00	-19.04	400	15						

**REMARKS:** 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.

- 2. Negative sign (-) in the margin column signify levels below the limit.
- 3. Frequency range scanned: 30MHz to 1000MHz.
- 4. Only emissions significantly above equipment noise floor are reported.



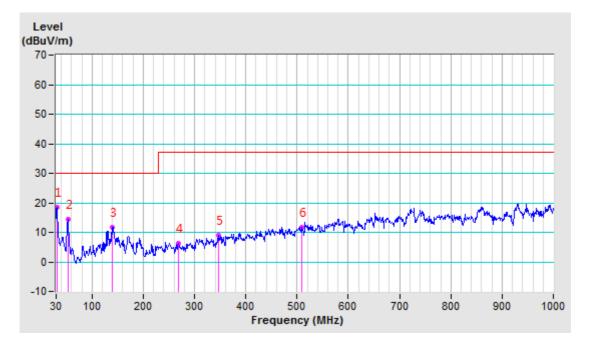


TEST MODE	See section 2.2	FREQUENCY RANGE	30-1000MHz	
TEST VOLTAGE	See section 2.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz	
ENVIRONMENTAL CONDITIONS	29deg. C, 58% RH	TESTED BY: Jelly		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M											
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)			
1	31.60	-23.80	42.30	18.50	30.00	-11.50	100	358			
2	52.99	-23.37	37.78	14.41	30.00	-15.59	100	138			
3	139.81	-21.95	33.61	11.66	30.00	-18.34	100	10			
4	268.63	-21.55	27.76	6.21	37.00	-30.79	100	327			
5	347.35	-18.64	27.61	8.97	37.00	-28.03	100	251			
6	509.50	-14.65	26.40	11.75	37.00	-25.25	100	341			

**REMARKS:** 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.

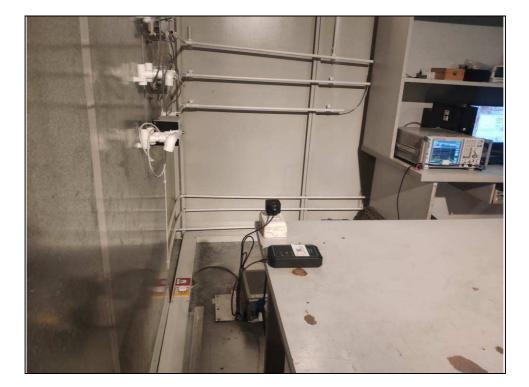
- 2. Negative sign (-) in the margin column signify levels below the limit.
- 3. Frequency range scanned: 30MHz to 1000MHz.
- 4. Only emissions significantly above equipment noise floor are reported.





## 4 PHOTOGRAPHS OF THE TEST CONFIGURATION

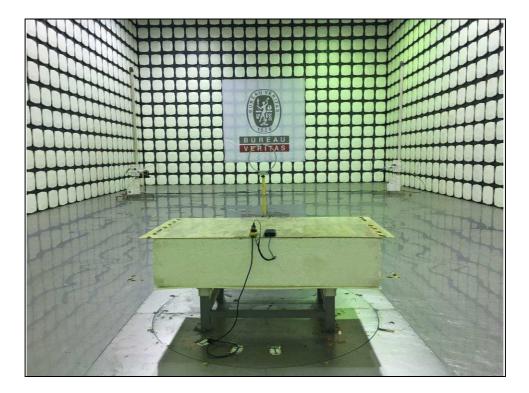




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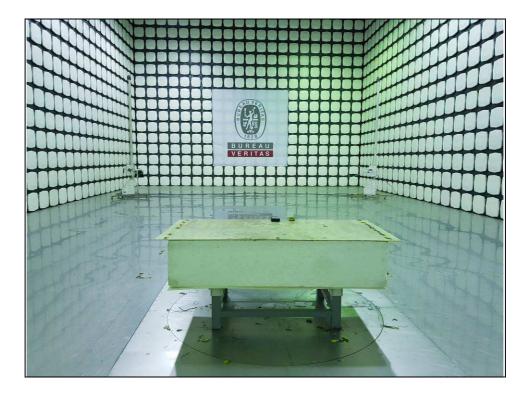




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RADIATED EMISSION TEST (30MHz-1GHz)



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### 5 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications were made to the EUT by the lab during the test.

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