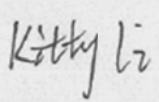
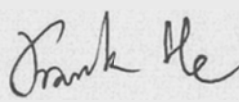
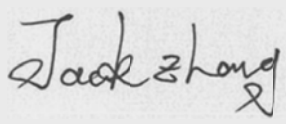




Test report No:
2040625R-RF-US-P06V05

TEST REPORT

FCC Rules&Regulations 47 CFR Chapter I - Part 15C & RSS-210 Issue 10

Product Name	Mobile Computer
Trademark	Datalogic
Model and /or type reference	MEMOR K
FCC ID	U4GMEMKUS
IC	3862E-MEMKUS
Applicant's name / address	Datalogic S.r.l. Via San Vitalino no.13,Calderara di Reno -40012(BO)-Italy
Manufacturer's name / address	Datalogic S.r.l. Via San Vitalino no.13,Calderara di Reno -40012(BO)-Italy
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C Section 15.225 RSS-210 Issue 10 RSS-Gen Issue 5
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Kitty Li/Project Assistant 
Reviewed by (name / position & signature)	Frank He/ Technical Supervisor 
Approved by (name / position & signature)	Jack Zhang/ Supervisor 
Date of issue	2020-06-05
Report template No	2040625R-RF-US-P06V05

INDEX

	page
Competences and Guarantees.....	4
General conditions.....	4
Environmental conditions	4
Possible test case verdicts	5
Abbreviations	5
Document History	6
Remarks and Comments	6
Used Equipment	7
Uncertainty.....	8
1 General Information.....	9
1.1 General Description of the Item(s)	9
1.2 Antenna Information	9
2 Description of Test Setup	10
2.1 Operating mode(s) used for tests	10
2.2 Support / Auxiliary equipment / unit / Test software for the EUT	10
2.3 Test Configuration / Block diagram used for tests	11
2.4 Testing process	12
3 Verdict summary section	13
3.1 Standards	13
3.2 Overview of results	13
3.3 Test Facility	14
4 Test Results.....	15
4.1 AC Power Line Conducted Emission	15
4.1.1 Limit.....	15
4.1.2 Test Setup.....	15
4.1.3 Test Procedure	15
4.1.4 Test Data	16
4.2 E-field Emission	18
4.2.1 Limit.....	18
4.2.2 Test Setup.....	18
4.2.3 Test Procedure	18
4.2.4 Test Data	19
4.3 Radiated Emissions	20
4.3.1 Limit.....	20

4.3.2	Test Setup.....	21
4.3.3	Test Procedure	22
4.3.4	Test Data	23
4.4	Emission bandwidth	29
4.4.1	Limit.....	29
4.4.2	Test Setup.....	29
4.4.3	Test Procedure	29
4.4.4	Test Data	30
4.5	Frequency Stability.....	31
4.5.1	Limit:.....	31
4.5.2	Test Setup.....	31
4.5.3	Test Procedure	31
4.5.4	Test Data	32
4.6	Antenna Requirement	34
4.6.1	Limit:.....	34
4.6.2	Antenna Connector Construction:.....	34
4.7	Test setup photo and EUT Photo.....	35

COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Apr. 15, 2020
Date (start test)	Apr. 16, 2020
Date (finish test)	May. 23, 2020

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
Tx	: Transmitter
Rx	: Receiver
N/A	: Not Applicable
N/M	: Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2040625R-RF-US-P06V05		Initial issue of report.	2020-06-05

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with Part 15 Subpart C Paragraph 15.225 and RSS-210 Issue 10, RSS-Gen Issue 5.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result, unless the specification, standard or customer have special requirements.
4. The test results presented in this report relate only to the object tested.
5. The test results relate only to the samples tested.
6. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
7. This report will not be used for social proof function in China market.

USED EQUIPMENT

AC Power Line Conducted Emission / TR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100906	2020.04.18	2021.04.17
Two-Line V-Network	R&S	ENV 216	101189	2019.10.16	2020.10.15
Two-Line V-Network	R&S	ENV 216	101044	2020.04.18	2021.04.17
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
50ohm Termination	SHX	TF2	7081402	2019.09.02	2020.09.01
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2019.08.21	2020.08.20
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A

Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Emission in non-restricted frequency bands / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.09.28	2020.09.27
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2020.04.17	2021.04.16
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.08.30	2020.08.29
Temperature/Humidity Meter	Zhichen	ZC1-2	TR8-TH	2019.09.02	2020.09.01

Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Radiated Emission(Below 1GHz) / AC-3

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100176	2019.08.30	2020.08.29
Loop Antenna	R&S	HFH2-Z2	833799/003	2020.02.17	2021.02.16
Bilog Antenna	Teseq GmbH	CBL6112D	27613	2019.05.25	2020.05.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC3-C	2020.04.13	2021.04.12
Temperature/Humidity Meter	RTS	RTS-8S	AC3-TH	2019.09.02	2020.09.01
Quietek EMI V3(test software)	Quietek	N/A	N/A	N/A	N/A

Note: All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%

Test item	Uncertainty
AC Power Line Conducted Emission	± 2.02 dB
Peak Power Output	± 1.27 dB
Radiated Emission(30MHz~1GHz)	± 3.80 dB
RF antenna conducted test	± 1.27 dB
DTS Bandwidth	± 1 kHz
Occupied Bandwidth	± 1 kHz
Power Density	± 1.27 dB
Frequency Stability	± 100 Hz

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Model / Type number.....:	Mobile Computer
Trademark	Datalogic
Manufacturer.....:	Datalogic S.r.l.
Manufacturer Address	Via San Vitalino no.13,Calderara di Reno -40012(BO)-Italy
Software version	0.01.02.20200513
Hardware version.....:	V00(US)

Wireless Specification.....:	NFC	
Operating frequency range(s).....:	13.56 MHz	
Type of modulation	ASK	
Number of channel	1	
Rated power supply	Voltage and Frequency	
	☐	AC: 220 – 240 V, 50/60 Hz
	☐	AC: 100 – 240 V, 50/60 Hz
	☐	DC: 12 V, 24 V, 12 / 24 V
	☒	Battery: 3.8Vdc
Mounting position.....:	☐	Table top equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☒	Hand-held equipment
	☐	Other:

1.2 Antenna Information

Antenna model / type number	N/A			
Antenna serial number.....:	N/A			
Antenna Delivery	☒	1TX + 1RX		
	☐	2TX + 2RX		
	☐	Others:.....		
Antenna technology	☒	SISO		
	☐	MIMO	☐	Basic
			☐	CDD
			☐	Sectorized
			☐	Beam-forming
Antenna Type	☐	External	☐	Dipole
			☐	Sectorized
	☒	Internal	☐	PIFA
			☐	PCB
			☒	Loop Antenna

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

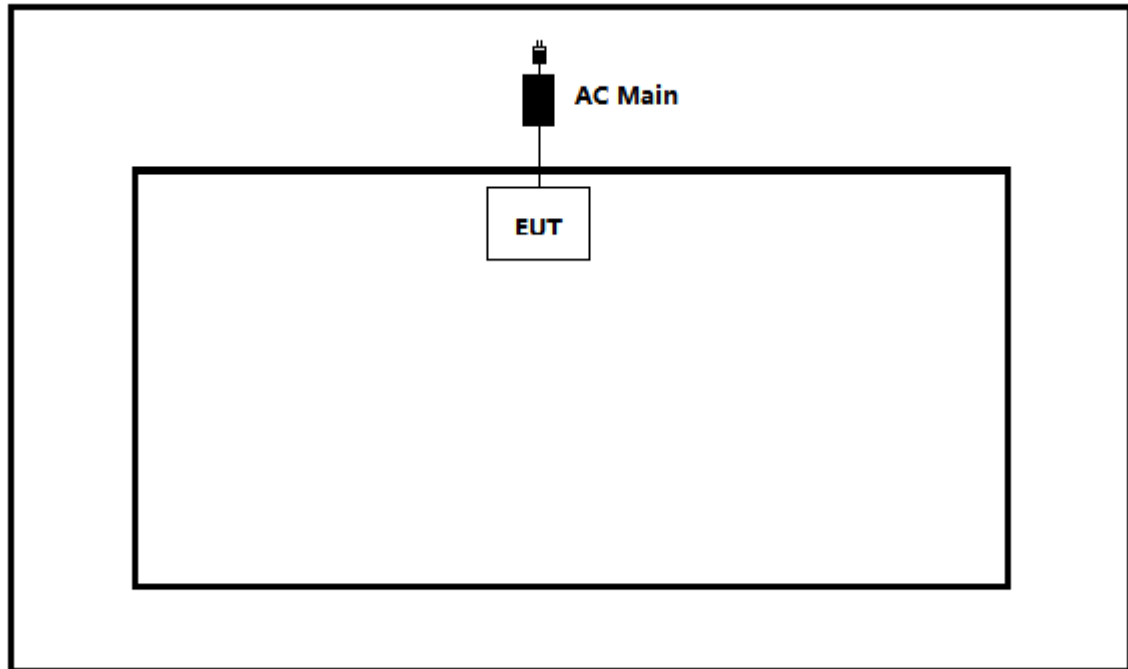
Test Mode	Mode 1: Transmit by NFC
-----------	-------------------------

2.2 Support / Auxiliary equipment / unit / Test software for the EUT

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
N/A	N/A	N/A	N/A
software	Type / Version	Manufacturer	Supplied by
N/A	N/A	N/A	N/A

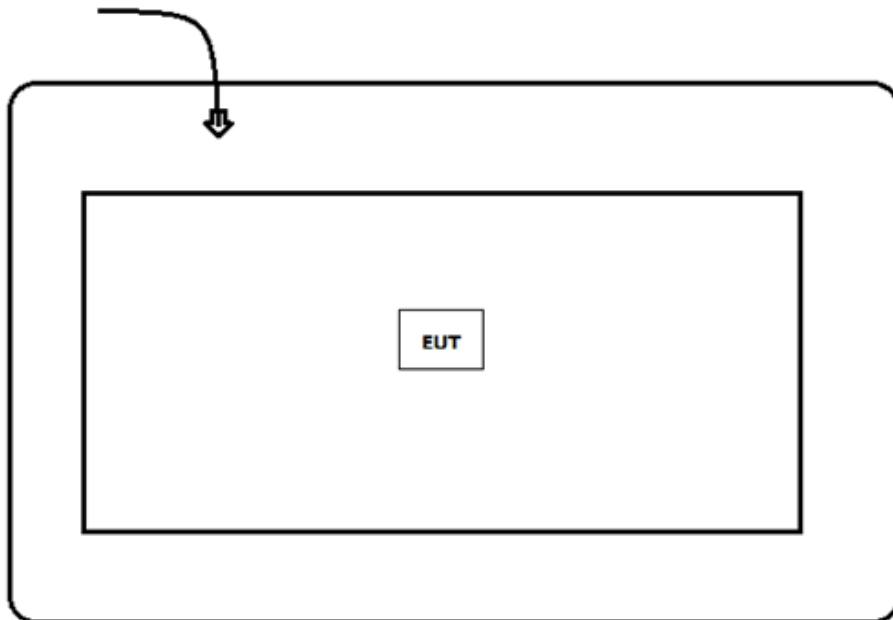
2.3 Test Configuration / Block diagram used for tests

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission

Chamber



2.4 Testing process

1	Setup the EUT as shown in Section 2.3.
2	Start the continuous Transmitter.
3	Verify that the EUT works properly.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.225	2020	Operation within the band 13.110-14.010 MHz
RSS-210 Issue 10	2019	Band 13.110-14.010 MHz

3.2 Overview of results

For FCC

Requirement – Test case	Basic standard(s)	Verdict	Remark
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C Section 15.207	PASS	---
Field Strength of Fundamental	FCC CFR Title 47 Part 15 Subpart C Section 15.225(a)(b)(c)	PASS	---
Field Strength of Spurious	FCC CFR Title 47 Part 15 Subpart C Section 15.209 & 15.225(d)	PASS	---
Frequency Tolerance	FCC CFR Title 47 Part 15 Subpart C Section 15.225(e)	PASS	---
Channel Bandwidth	FCC CFR Title 47 Part 15 Subpart C Section 15.215(c)	PASS	---
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C Section 15.203	PASS	---
<u>Supplementary information:</u>			

For ISCED

Requirement – Test case	Basic standard(s)	Verdict	Remark
Conducted Emission	RSS-Gen Issue 5 Section 8.8	PASS	---
Field Strength of Fundamental	RSS-210 Issue 10 Section B.6	PASS	---
Field Strength of Spurious	RSS-210 Issue 10, Section B.6 RSS-Gen Issue 5, Section 8.9	PASS	---
Frequency Tolerance	RSS-210 Issue 10 Section B.6	PASS	---
Channel Bandwidth	RSS-Gen Section 6.7	PASS	---
Antenna Requirement	RSS-Gen Section 8.3	PASS	---
<u>Supplementary information:</u>			

3.3 Test Facility

USA	:	FCC Designation Number: CN1199
Canada	:	CAB identifier Number: CN0040

4 TEST RESULTS

4.1 AC Power Line Conducted Emission

VERDICT: PASS

4.1.1 Limit

Standard	FCC Part 15 Subpart E Paragraph 15.207	
Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾	Limit: AV [dB(μV) ¹⁾
0,15 - 0,50	66 - 56 ²⁾	56 - 46 ²⁾
0,50 - 5,0	56	46
5,0 - 30	60	50

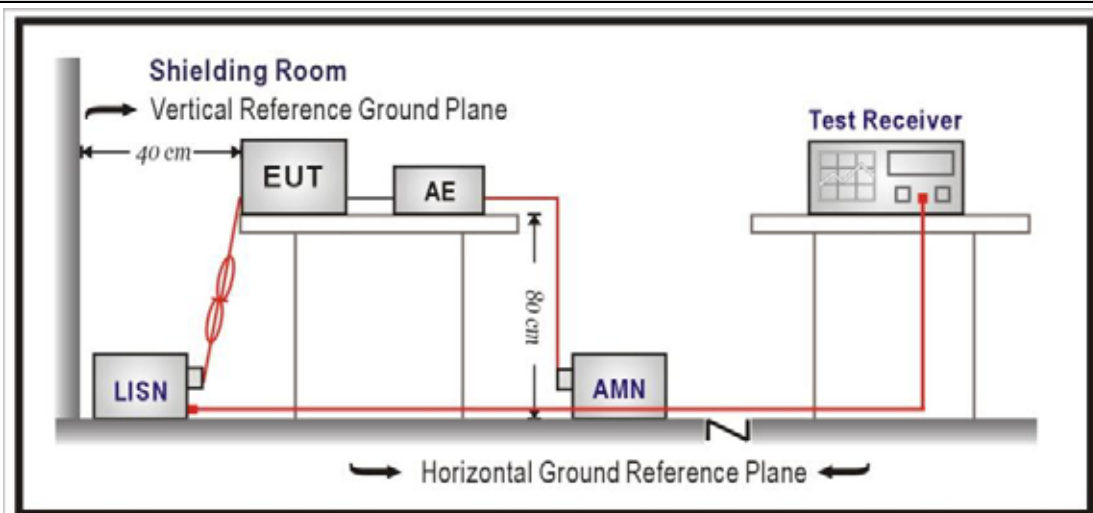
¹⁾ At the transition frequency, the lower limit applies.

²⁾ The limit decreases linearly with the logarithm of the frequency.

NOTE 1: The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz.

NOTE 2: Where the AC output port is directly connected (or via a circuit breaker) to the AC power input port of the EUT the AC power output port need not to be tested.

4.1.2 Test Setup

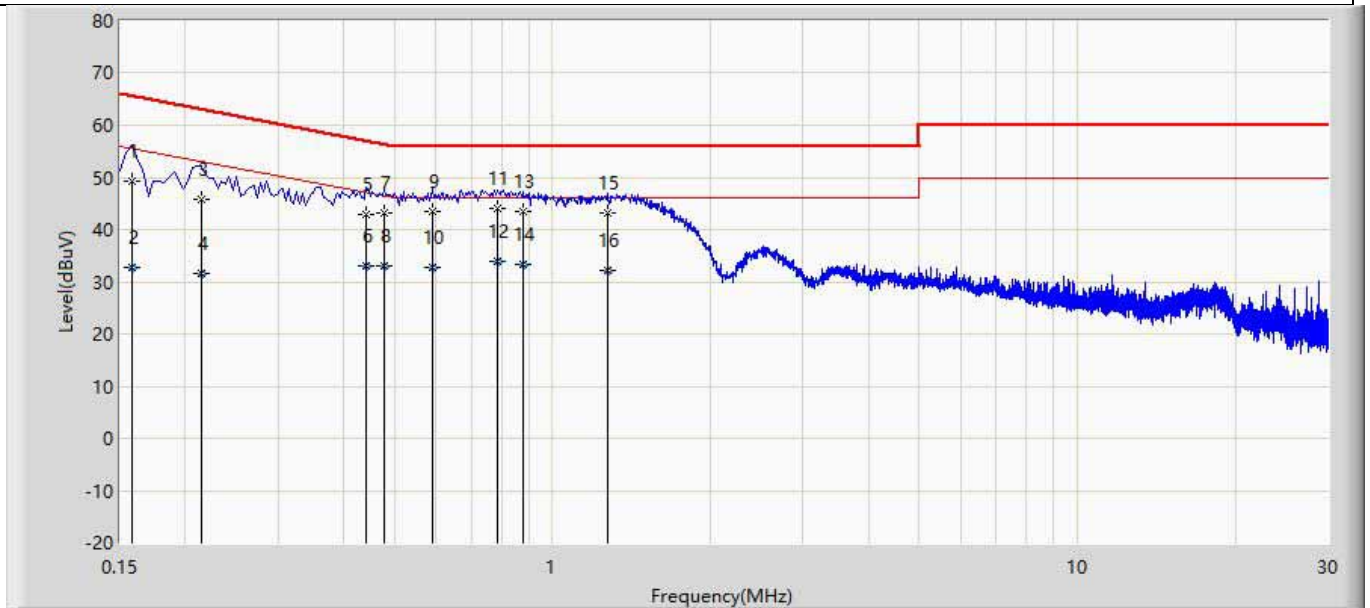


4.1.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

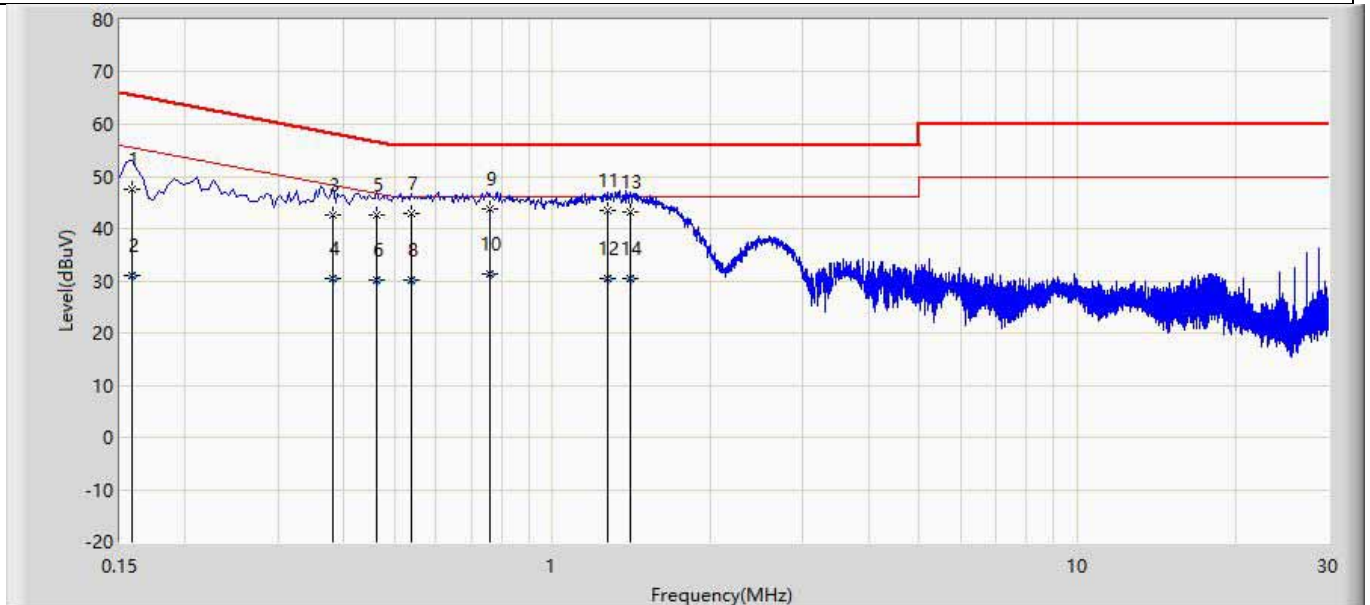
4.1.4 Test Data

Site: TR1	Time: 2020/04/16 - 09:25
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: Mobile Computer	Power: AC 120V/60Hz
Note: Mode 1	



N o	Mar k	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.158	49.198	39.561	-16.370	65.568	9.608	0.029	0.000	QP
2		0.158	32.894	23.257	-22.674	55.568	9.608	0.029	0.000	AV
3		0.214	45.657	36.027	-17.392	63.049	9.600	0.029	0.000	QP
4		0.214	31.589	21.960	-21.459	53.049	9.600	0.029	0.000	AV
5		0.442	42.806	33.166	-14.218	57.024	9.600	0.041	0.000	QP
6		0.442	32.932	23.291	-14.092	47.024	9.600	0.041	0.000	AV
7		0.478	43.324	33.683	-13.050	56.374	9.600	0.041	0.000	QP
8		0.478	33.040	23.399	-13.334	46.374	9.600	0.041	0.000	AV
9		0.590	43.431	33.785	-12.569	56.000	9.600	0.046	0.000	QP
10		0.590	32.789	23.143	-13.211	46.000	9.600	0.046	0.000	AV
11	*	0.786	44.077	34.422	-11.923	56.000	9.603	0.052	0.000	QP
12		0.786	33.834	24.178	-12.166	46.000	9.603	0.052	0.000	AV
13		0.882	43.486	33.825	-12.514	56.000	9.606	0.055	0.000	QP
14		0.882	33.210	23.549	-12.790	46.000	9.606	0.055	0.000	AV
15		1.274	43.177	33.500	-12.823	56.000	9.610	0.067	0.000	QP
16		1.274	32.148	22.470	-13.852	46.000	9.610	0.067	0.000	AV

Site: TR1	Time: 2020/04/16 - 09:30
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: Mobile Computer	Power: AC 120V/60Hz
Note: Mode 1	



N o	Mar k	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.158	47.484	37.863	-18.084	65.568	9.592	0.029	0.000	QP
2		0.158	30.961	21.340	-24.607	55.568	9.592	0.029	0.000	AV
3		0.382	42.611	32.980	-15.625	58.236	9.594	0.038	0.000	QP
4		0.382	30.504	20.873	-17.732	48.236	9.594	0.038	0.000	AV
5		0.462	42.663	33.031	-13.994	56.657	9.591	0.041	0.000	QP
6		0.462	30.266	20.634	-16.390	46.657	9.591	0.041	0.000	AV
7		0.538	42.787	33.153	-13.213	56.000	9.590	0.044	0.000	QP
8		0.538	30.215	20.581	-15.785	46.000	9.590	0.044	0.000	AV
9	*	0.762	43.830	34.188	-12.170	56.000	9.590	0.052	0.000	QP
10		0.762	31.404	21.763	-14.596	46.000	9.590	0.052	0.000	AV
11		1.270	43.406	33.744	-12.594	56.000	9.595	0.067	0.000	QP
12		1.270	30.313	20.651	-15.687	46.000	9.595	0.067	0.000	AV
13		1.406	43.329	33.660	-12.671	56.000	9.598	0.070	0.000	QP
14		1.406	30.416	20.747	-15.584	46.000	9.598	0.070	0.000	AV

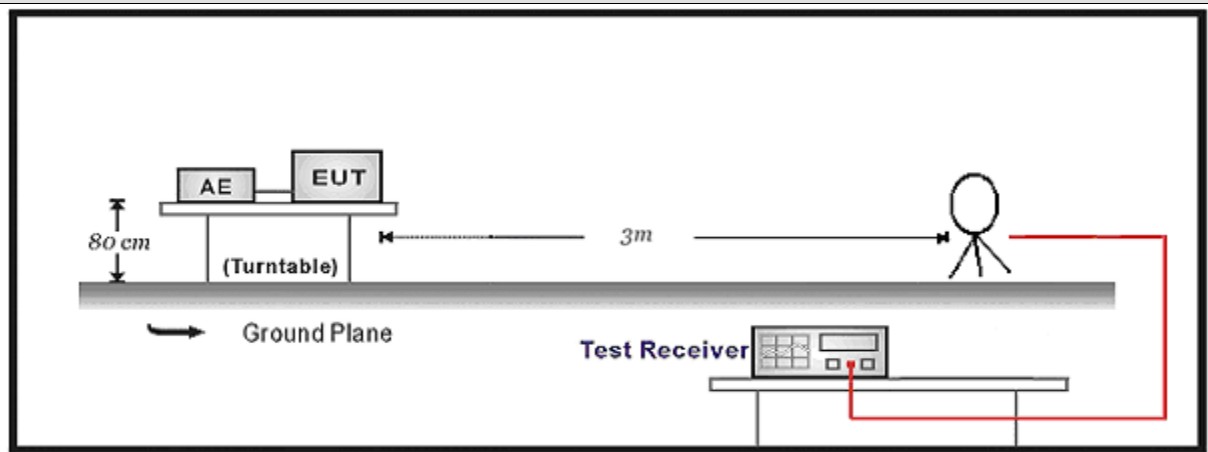
4.2 E-field Emission**VERDICT: PASS****4.2.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.225
-----------------	--

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

4.2.2 Test Setup

Below 30MHz Test Setup:

**4.2.3 Test Procedure**

	References Rule	Chapter	Description
☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☐	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.2.4 Test Data

Frequency (MHz)	Measure Level (dBμV/m) (3m)	Loop Ant. Pol. (H/V)	Correction factor (dB)	Reading Level (dBμV/m) (3m)	Distance factor (dB)	Limit (dBμV/m) (30m)	Limit (dBμV/m) (3m)	Over Limit (dB)
13.56	70.37	H	21.594	48.776	40	84	124	-53.630
13.56	61.039	V	20.094	40.945	40	84	124	-62.961
13.206	47.491	H	21.546	25.945	40	40.5	80.5	-33.009
13.442	47.973	H	21.582	26.391	40	50.5	90.5	-42.527
13.699	47.789	H	21.617	26.172	40	50.5	90.5	-42.711
13.85	48.131	H	21.642	26.489	40	40.5	80.5	-32.369

Note1: Antenna Test Distance at 3 meters.

Note2: Measure Level=Reading Level+Correction factor.

Note3: Measurements were performed at 3m and the data was extrapolated to the specified measurement distance of 30m using the square of an inverse linear distance extrapolation factor (40 dB/decade) as specified in §15.31(f)(2). Extrapolation Factor = $40 \log_{10}(30/3) = 40\text{dB}$.

4.3 Radiated Emissions**VERDICT: PASS****4.3.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15. 209
-----------------	---

Restricted Band Emissions Limit

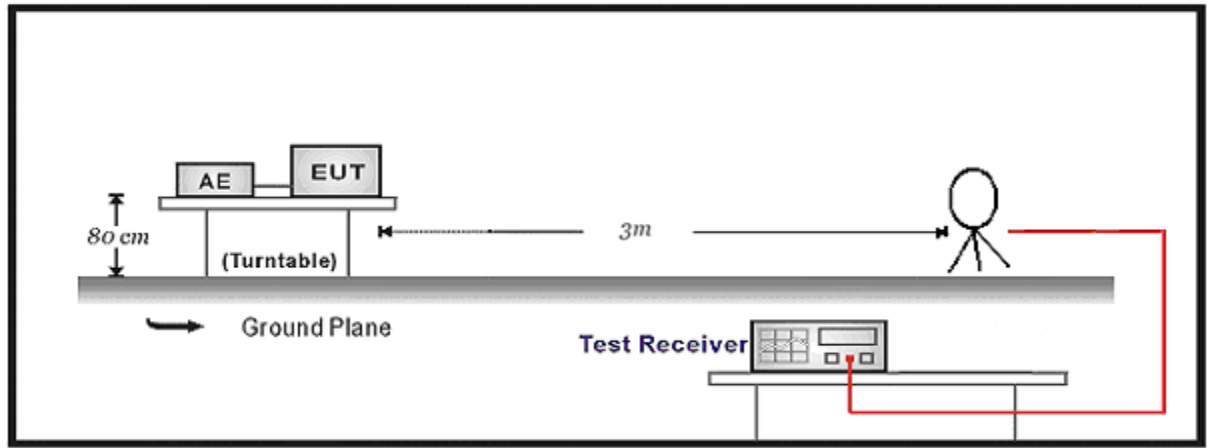
Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

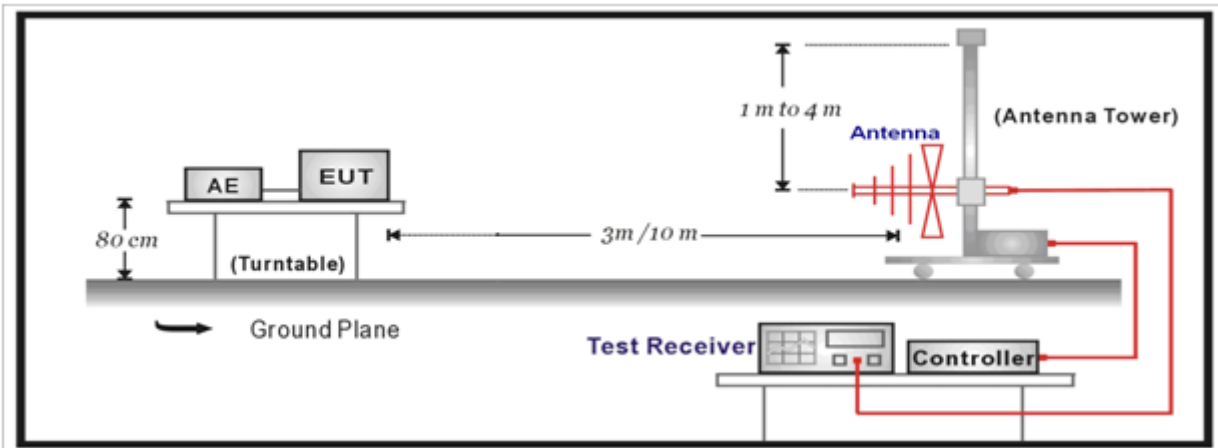
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.3.2 Test Setup

Below 30MHz Test Setup:



30MHz-1GHz Test Setup:

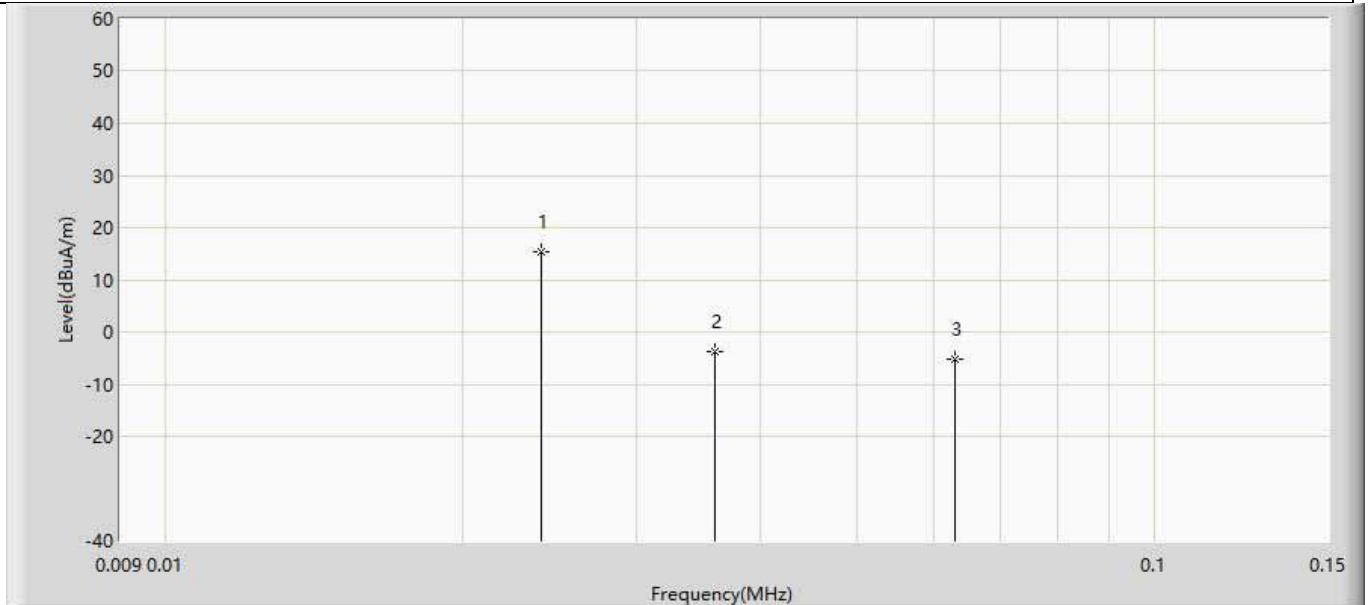


4.3.3 Test Procedure

	References Rule	Chapter	Description
	☒ ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒ ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☐ ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.3.4 Test Data

Engineer: Simon	
Site: AC3	Time: 2020/05/23 - 13:08
Limit: N/A	Margin: 0
Probe: RF-HFH2-Z2_833799(0.009-30MHz)	Polarity: Horizontal
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuA/m)	Reading Level (dBuA)	Over Limit (dB)	Limit (dBuA/m)	Factor (dB)	Type
1		0.024	15.242	-6.739	N/A	N/A	21.981	PK
2		0.036	-3.740	-26.097	N/A	N/A	22.357	PK
3		0.063	-5.261	-27.688	N/A	N/A	22.427	PK

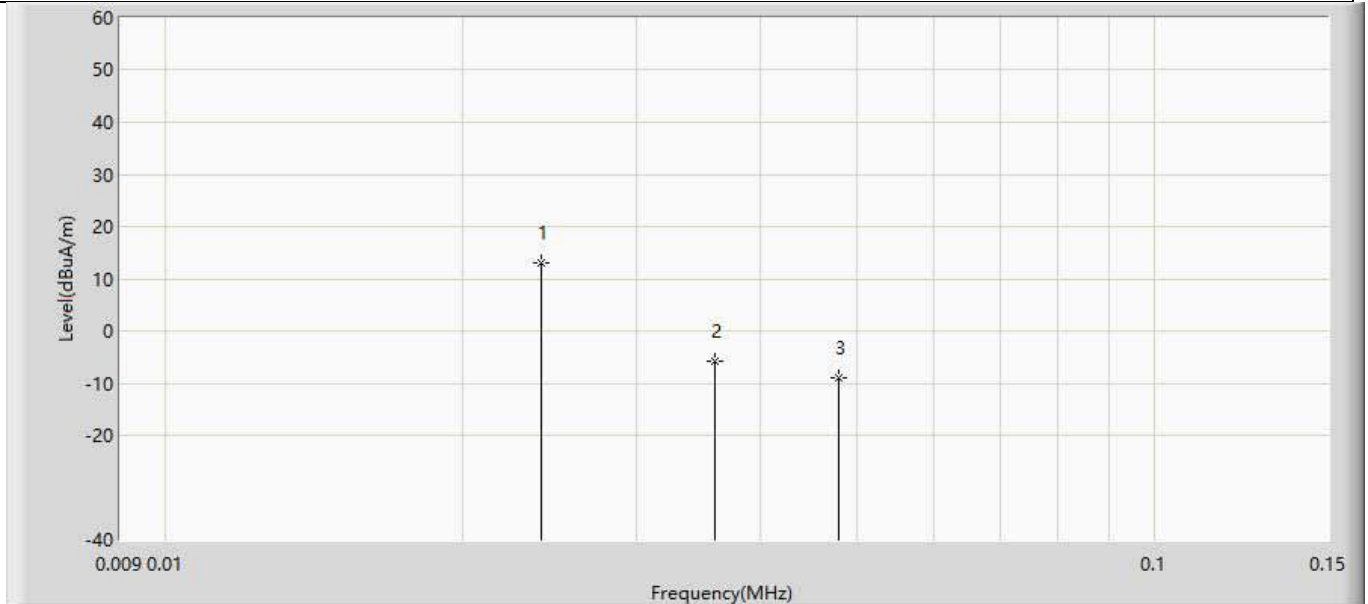
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.024	66.742	44.761	-53.258	120.0	21.981	PK
2		0.036	47.760	25.403	-68.740	116.5	22.357	PK
3		0.063	46.239	23.812	-65.361	111.6	22.427	PK

Note 1: Measure Level=Reading Level+Factor

Note 2: dBuV/m=dBuA/m+51.5

Note3: Distance extrapolation factor=40log(measurement distance/test distance)

Engineer: Simon	
Site: AC3	Time: 2020/05/23 - 13:08
Limit: N/A	Margin: 0
Probe: RF-HFH2-Z2_833799(0.009-30MHz)	Polarity: Vertical
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuA/m)	Reading Level (dBuA)	Over Limit (dB)	Limit (dBuA/m)	Factor (dB)	Type
1		0.024	13.109	-7.372	N/A	N/A	20.481	PK
2		0.036	-5.930	-26.787	N/A	N/A	20.857	PK
3		0.048	-9.124	-30.066	N/A	N/A	20.942	PK

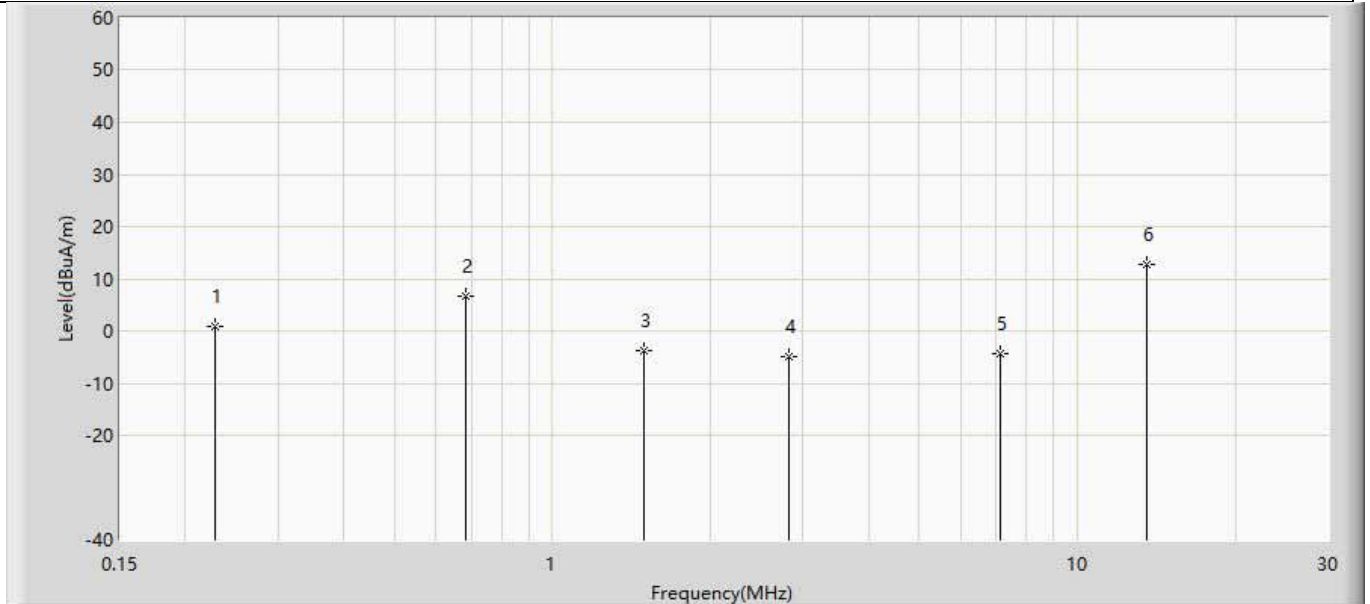
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.024	64.609	44.128	-55.391	120.0	20.481	PK
2		0.036	45.570	24.713	-70.930	116.5	20.857	PK
3		0.048	42.376	21.434	-71.624	114.0	20.942	PK

Note 1: Measure Level=Reading Level+Factor

Note 2: dBuV/m=dBuA/m+51.5

Note3: Distance extrapolation factor=40log(measurement distance/test distance)

Engineer: Simon	
Site: AC3	Time: 2020/05/23 - 13:08
Limit: N/A	Margin: 0
Probe: RF-HFH2-Z2_833799(0.009-30MHz)	Polarity: Vertical
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuA/m)	Reading Level (dBuA)	Over Limit (dB)	Limit (dBuA/m)	Factor (dB)	Type
1		0.228	0.744	-20.002	N/A	N/A	20.746	PK
2		0.684	6.638	-13.243	N/A	N/A	19.881	PK
3		1.493	-3.789	-23.180	N/A	N/A	19.390	PK
4		2.825	-5.053	-24.854	N/A	N/A	19.801	PK
5		7.113	-4.397	-23.952	N/A	N/A	19.555	PK
6		13.560	12.817	-7.277	N/A	N/A	20.094	PK

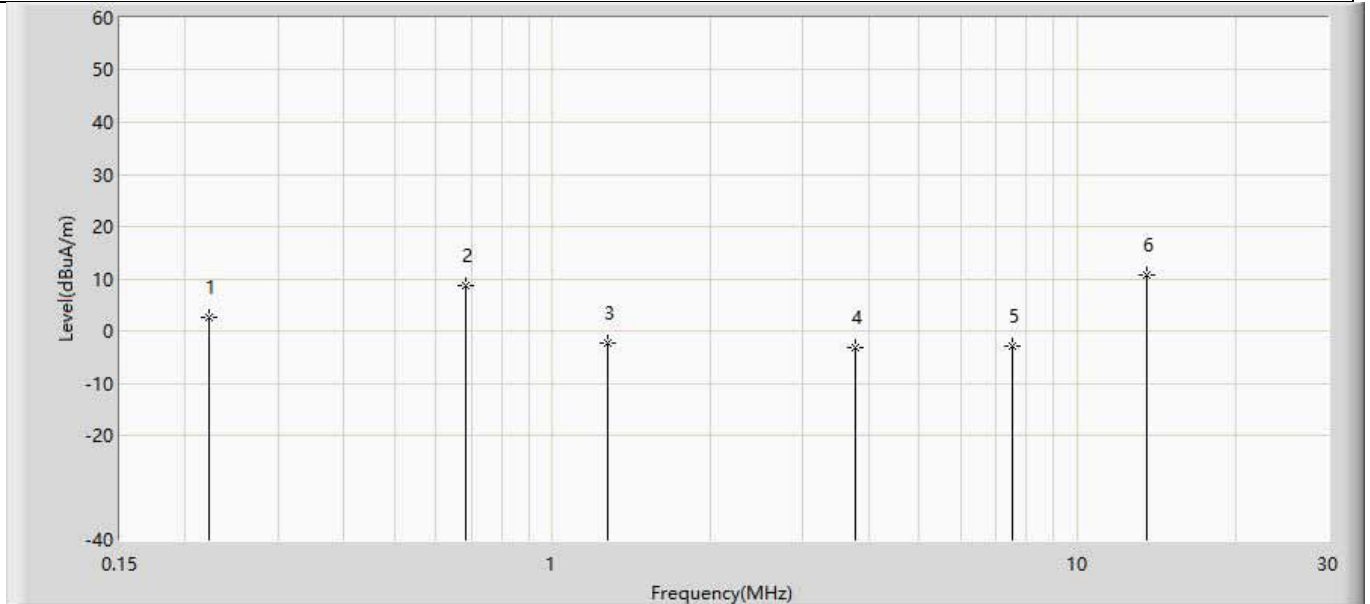
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.228	52.244	31.498	-48.156	100.4	20.746	PK
2		0.684	58.138	38.257	-12.762	70.9	19.881	PK
3		1.493	47.711	28.320	-16.389	64.1	19.390	PK
4		2.825	46.447	26.646	-23.053	69.5	19.801	PK
5		7.113	47.103	27.548	-22.397	69.5	19.555	PK
6		13.560	64.317	44.223	N/A	N/A	20.094	PK

Note 1: Measure Level=Reading Level+Factor

Note 2: dBuV/m=dBuA/m+51.5

Note3: Distance extrapolation factor=40log(measurement distance/test distance)

Engineer: Simon	
Site: AC3	Time: 2020/05/23 - 13:08
Limit: N/A	Margin: 0
Probe: RF-HFH2-Z2_833799(0.009-30MHz)	Polarity: Horizontal
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuA/m)	Reading Level (dBuA)	Over Limit (dB)	Limit (dBuA/m)	Factor (dB)	Type
1		0.221	2.587	-19.666	N/A	N/A	22.253	PK
2		0.684	8.630	-12.751	N/A	N/A	21.381	PK
3		1.273	-2.240	-22.916	N/A	N/A	20.675	PK
4		3.766	-3.319	-24.509	N/A	N/A	21.189	PK
5		7.523	-3.009	-24.065	N/A	N/A	21.056	PK
6		13.560	10.752	-10.842	N/A	N/A	21.594	PK

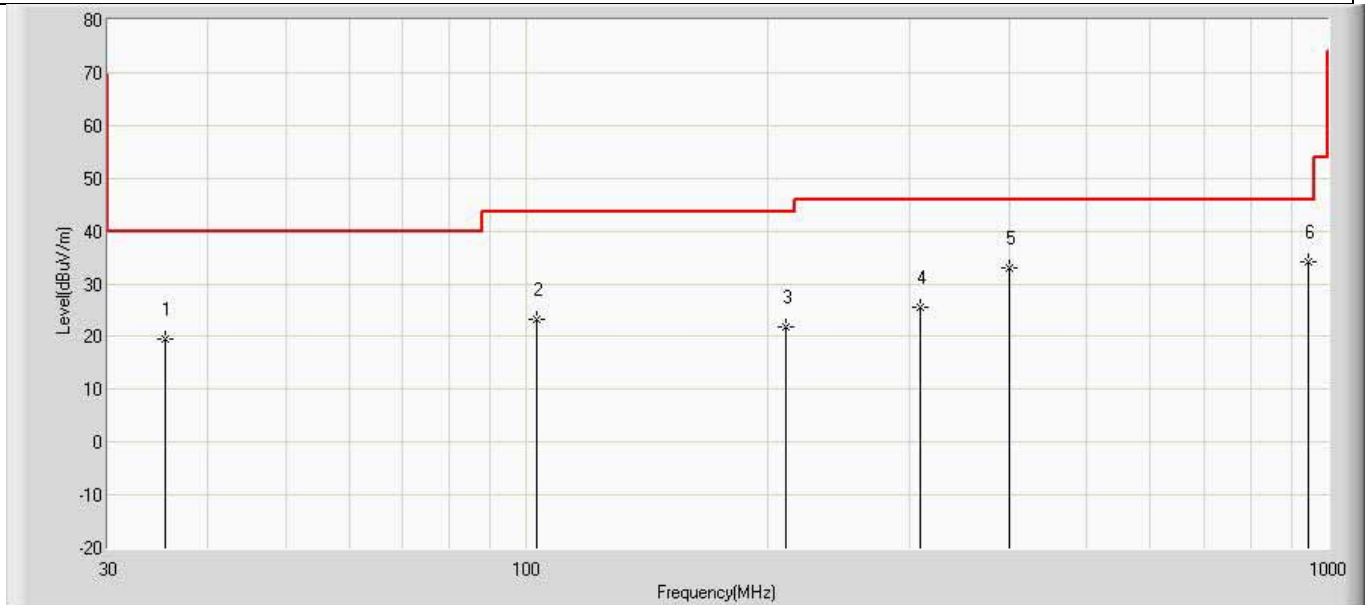
No	Mark	Frequency (MHz)	Measure Level (dBuA/m)	Reading Level (dBuA)	Over Limit (dB)	Limit (dBuA/m)	Factor (dB)	Type
1		0.221	54.087	31.834	-46.613	100.7	22.253	PK
2		0.684	60.130	38.749	-10.770	70.9	21.381	PK
3		1.273	49.260	28.584	-16.240	65.5	20.675	PK
4		3.766	48.181	26.991	-21.319	69.5	21.189	PK
5		7.523	48.491	27.435	-21.009	69.5	21.056	PK
6		13.560	62.252	40.658	N/A	N/A	21.594	PK

Note 1: Measure Level=Reading Level+Factor

Note 2: dBuV/m=dBuA/m+51.5

Note3: Distance extrapolation factor=40log(measurement distance/test distance)

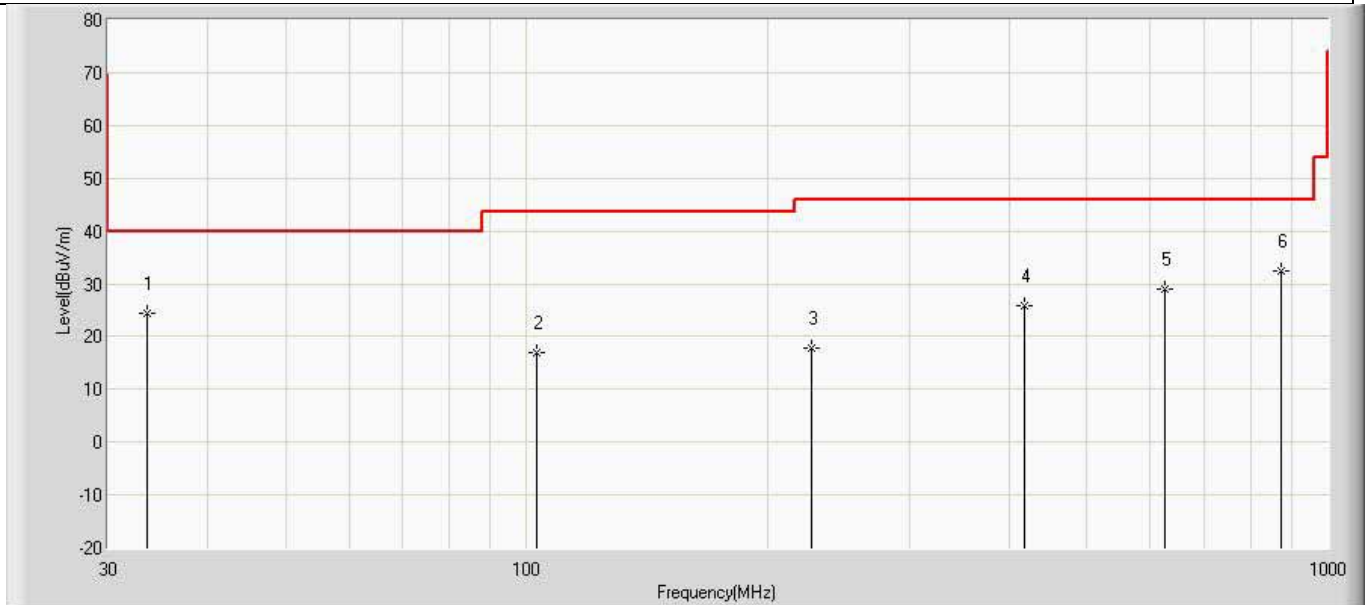
Site: AC3	Time: 2020/05/16 - 14:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Vertical
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		35.335	19.625	-2.693	-20.375	40.000	22.318	QP
2		102.750	23.350	1.274	-20.150	43.500	22.076	QP
3		210.541	21.774	-1.559	-21.726	43.500	23.333	QP
4		310.087	25.437	0.015	-20.563	46.000	25.422	QP
5		399.570	32.893	9.185	-13.107	46.000	23.708	QP
6	*	946.771	34.273	-0.452	-11.727	46.000	34.725	QP

Note 1: Measure Level=Reading Level+Factor

Site: AC3	Time: 2020/05/16 - 14:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Horizontal
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1	

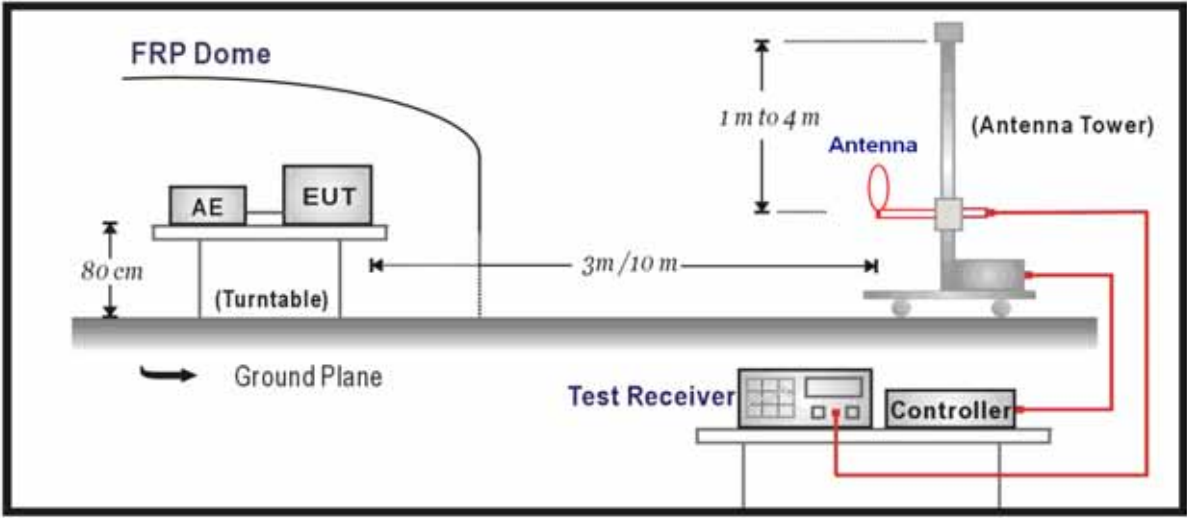


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		33.638	24.493	-1.574	-15.507	40.000	26.067	QP
2		102.750	16.880	0.343	-26.620	43.500	16.537	QP
3		226.910	17.755	-0.900	-28.245	46.000	18.655	QP
4		418.121	25.963	-0.938	-20.037	46.000	26.902	QP
5		625.095	29.055	-0.836	-16.945	46.000	29.891	QP
6	*	873.172	32.484	1.039	-13.516	46.000	31.444	QP

Note 1: Measure Level=Reading Level+Factor

4.4 Emission bandwidth	VERDICT: PASS
------------------------	---------------

4.4.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.215
Within the band.	

4.4.2 Test Setup	
	

4.4.3 Test Procedure			
	Reference Rule	Chapter	Description
☒	ANSI C63.10	6.9.2	Occupied bandwidth—relative measurement procedure

4.4.4 Test Data

Frequency (MHz)	Frequency Range Limit (MHz)	Result
13.56	13.553 ~ 13.567	Pass
		

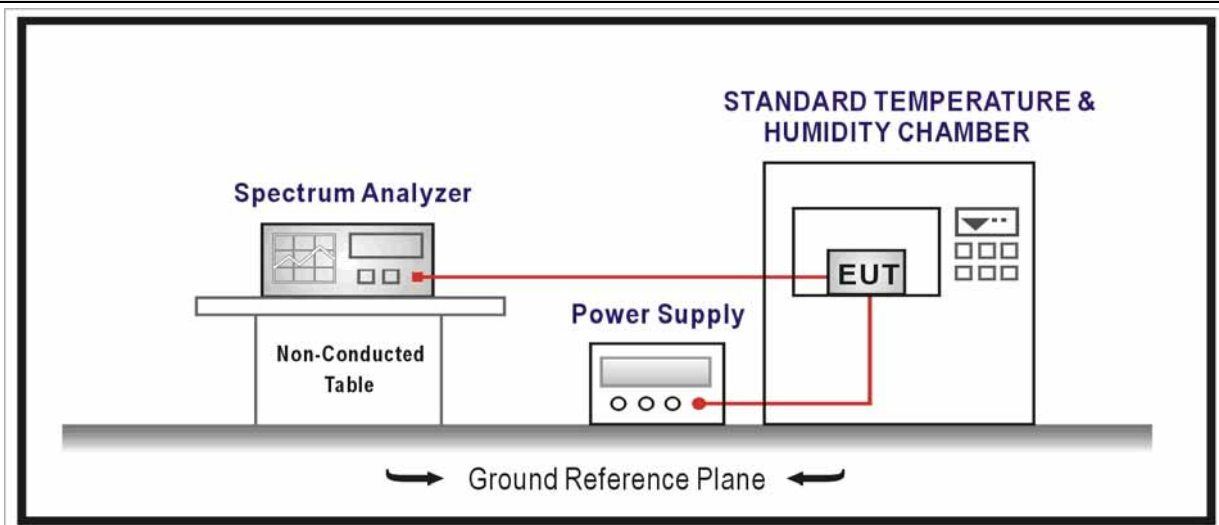
4.5 Frequency Stability

VERDICT: PASS

4.5.1 Limit:

Standard	FCC Part 15 Subpart C Paragraph 15.225(e)
☒	The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

4.5.2 Test Setup



4.5.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	6.8	Frequency stability tests
☒	ANSI C63.10	6.8.1	Frequency stability with respect to ambient temperature
☒	ANSI C63.10	6.8.2	Frequency stability when varying supply voltage

4.5.4 Test Data

Frequency Stability under Temperature at 0min

Temperature Interval ()	Test Frequency (MHz)	Deviation (Hz)	Limit (ppm)
-30	13.56	84	±100
-20	13.56	53	±100
-10	13.56	-28	±100
0	13.56	76	±100
10	13.56	64	±100
20	13.56	-85	±100
30	13.56	40	±100
40	13.56	37	±100
50	13.56	133	±100

Frequency Stability under Temperature at 2min

Temperature Interval ()	Test Frequency (MHz)	Deviation (Hz)	Limit (ppm)
-30	13.56	-75	±100
-20	13.56	26	±100
-10	13.56	89	±100
0	13.56	17	±100
10	13.56	68	±100
20	13.56	-53	±100
30	13.56	29	±100
40	13.56	-49	±100
50	13.56	30	±100

Frequency Stability under Temperature at 5min			
Temperature Interval ()	Test Frequency (MHz)	Deviation (Hz)	Limit (ppm)
-30	13.56	62	±100
-20	13.56	97	±100
-10	13.56	-43	±100
0	13.56	34	±100
10	13.56	66	±100
20	13.56	58	±100
30	13.56	49	±100
40	13.56	129	±100
50	13.56	-107	±100
Frequency Stability under Temperature at 10min			
Temperature Interval ()	Test Frequency (MHz)	Deviation (Hz)	Limit (ppm)
-30	13.56	76	±100
-20	13.56	-102	±100
-10	13.56	83	±100
0	13.56	57	±100
10	13.56	-81	±100
20	13.56	65	±100
30	13.56	60	±100
40	13.56	-93	±100
50	13.56	119	±100
Frequency Stability under Voltage			
AC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (ppm)
102	13.56	42	±100
120	13.56	-63	±100
138	13.56	79	±100

4.6 Antenna Requirement**VERDICT: PASS****4.6.1 Limit:**

Standard	FCC Part 15 Subpart E Paragraph 15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall 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 manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.	

4.6.2 Antenna Connector Construction:

- | | |
|-------------------------------------|--|
| ☒ | The use of a permanently attached antenna |
| ☐ | The antenna use of a unique coupling to the intentional radiator |
| ☐ | The use of a nonstandard antenna jack or electrical connector |

Please refer to the attached document "Internal Photograph" to show the antenna connector.



4.7 Test setup photo and EUT Photo	VERDICT: PASS
------------------------------------	---------------

Remark: The test setup photo and EUT Photo please see appendix.

_____ The End _____