



Test Report

FCC Part15 Subpart C & RSS-247 Issue 2

Product Name : Mobile Computer
Model No. : MEMOR K
FCC ID : U4GMEMKUS
IC : 3862E-MEMKUS

Applicant : Datalogic S.r.l.
Address : Via San Vitalino no.13,Calderara di
Reno -40012(BO)-Italy

Date of Receipt : Apr. 15, 2020
Test Date : Apr. 16, 2020 ~ Jul. 14, 2020
Issued Date : Jul. 14, 2020
Report No. : 2040625R-RF-US-P06V02
Report Version : V 1.0

The test results presented in this report relate only to the object tested.

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

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Test Report Certification

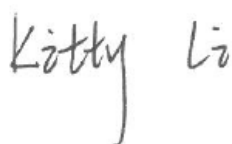
Issued Date : Jul. 14, 2020

Report No. : 2040625R-RF-US-P06V02



Product Name : Mobile Computer
Applicant : Datalogic S.r.l.
Address : Via San Vitalino no.13,Calderara di Reno -40012(BO)-Italy
Manufacturer : Datalogic S.r.l.
Address : Via San Vitalino no.13,Calderara di Reno -40012(BO)-Italy
Model No. : MEMOR K
Trademark : Datalogic
FCC ID : U4GMEMKUS
IC : 3862E-MEMKUS
EUT Voltage : 3.8 Vdc
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C
ANSI C63.10:2013;
KDB 558074 D01v05r02
RSS-Gen Issue 5 / RSS-247 Issue 2
Test Result : Complied
Performed Location : DEKRA Testing & Certification (Suzhou) Co., Ltd.
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006,
Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Designation Number: CN1199;
ISED CAB identifier: CN0040

Documented By :



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(Supervisor: Jack Zhang)

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
2040625R-RF-US-P06V02	V1.0	Initial Issued Report	Jul. 14, 2020

1. General Information

1.1. EUT Description

Product Name	Mobile Computer	
Model No.	MEMOR K	
Software version	0.01.02.20200513	
Hardware version	V00(US)	
EUT Voltage	3.8 Vdc	
Test Voltage	3.8 Vdc	
Bluetooth Specification	V5.0	
Frequency Range	2402- 2480 MHz	
Channel Number	40	
Channel Separation	2MHz	
Type of Modulation	GFSK	
PHYs	☒	LE 1M
Data Rate	☒	1 Mbps
Antenna Type	Reference to Antenna List	
Peak Antenna Gain	Reference to Antenna List	

1.2. Working Frequency of Each Channel:

Bluetooth Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz	03	2408 MHz
04	2410 MHz	05	2412 MHz	06	2414 MHz	07	2416 MHz
08	2418 MHz	09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz	15	2432 MHz
16	2434 MHz	17	2436 MHz	18	2438 MHz	19	2440 MHz
20	2442 MHz	21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz	27	2456 MHz
28	2458 MHz	29	2460 MHz	30	2462 MHz	31	2464 MHz
32	2466 MHz	33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz	39	2480 MHz

1.3. Antenna information

Antenna model	N/A					
Antenna Delivery	☒	1*TX+1*RX	☐	2*TX+2*RX	☐	3*TX+3*RX
Antenna technology	☒	SISO				
	☐	MIMO	☐	Basic		
			☐	CDD		
			☐	Beam-forming		
Antenna Type	☐	External	☐	Dipole		
	☒	Internal	☒	PIFA		
			☐	PCB		
			☐	Ceramic Chip Antenna		
			☐	Stamping Antenna		
			☐	Metal antenna		
			☐	Monopole antenna		
Antenna Gain	0.84 dBi					

1.4. Mode of Operation

Test Mode
Mode1: Transmit by LE_1Mbps

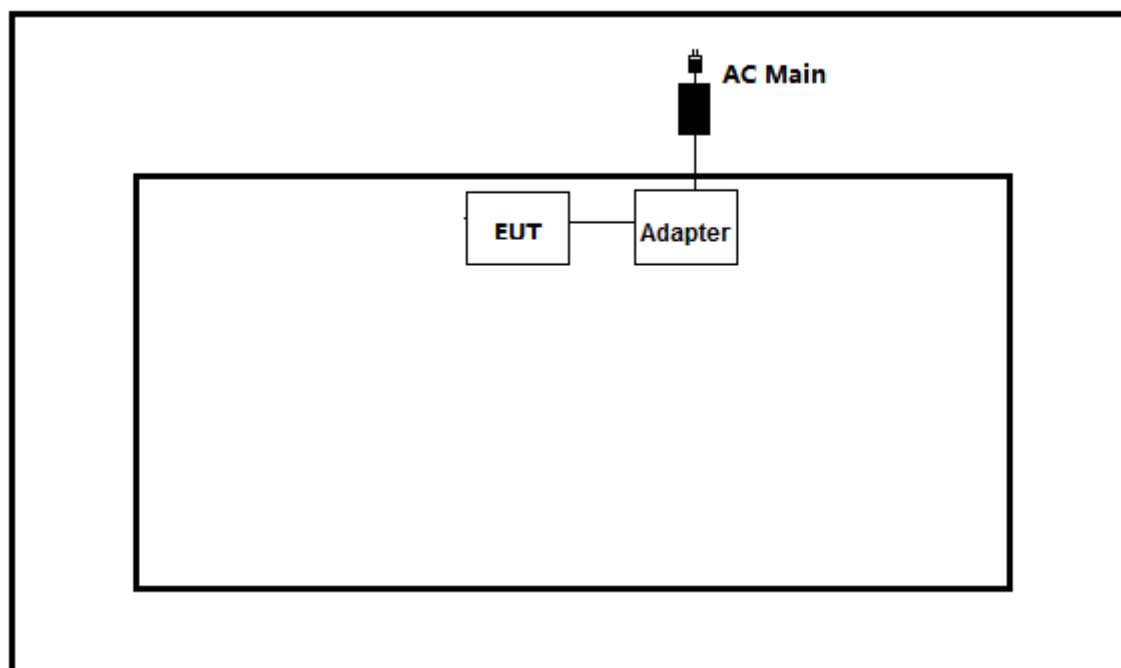
1.5. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

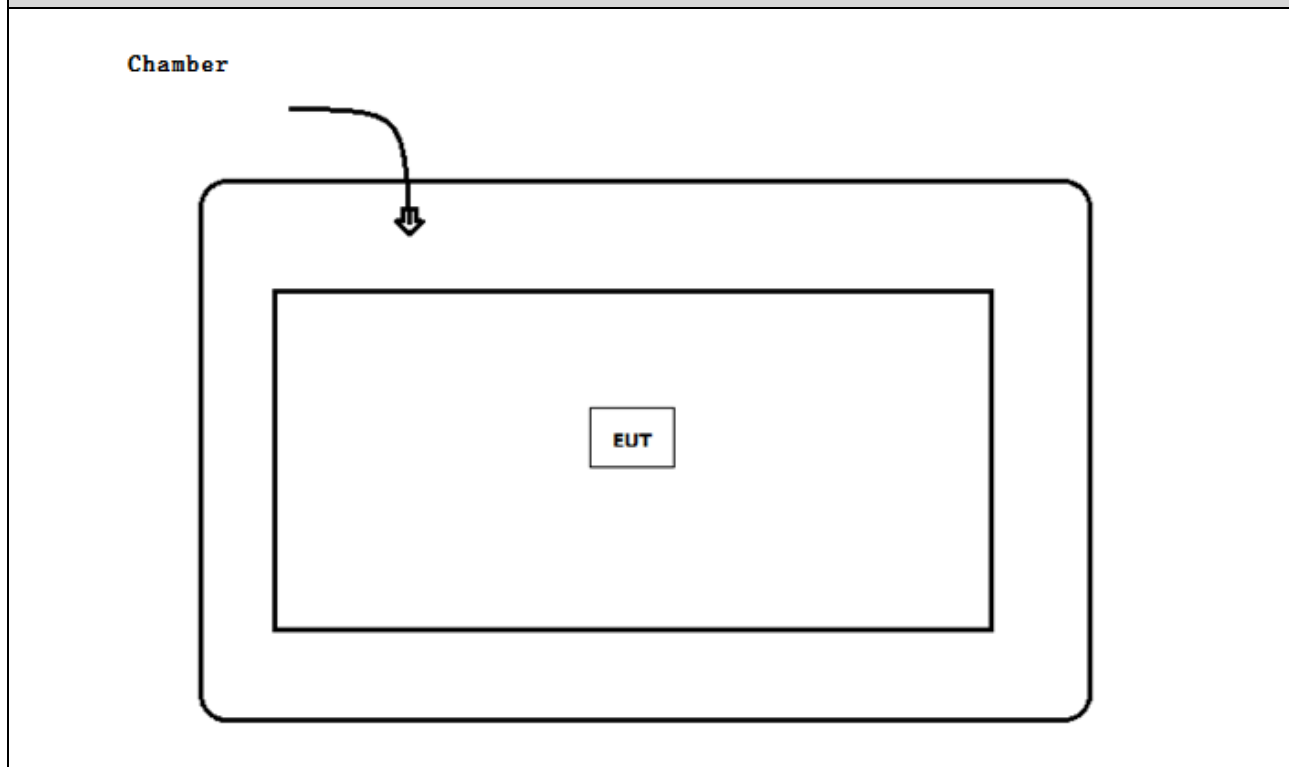
No.	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	N/A	N/A	N/A	N/A	N/A

1.6. Configuration of Tested System

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission



1.7. EUT Exercise Software

1	Setup the EUT as shown in Section 1.6.
2	Execute the test program.
3	Configure the test mode, the test channel, and the data rate.
4	Verify that the EUT works properly.

2. Technical Test

2.1. Summary of Test Result

For FCC

Performed Test Item	Normative References	Limit	Result
AC Power Line Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: Section 15.207	FCC 15.207	PASS
Emissions in restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: Section 15.209	FCC 15.209	PASS
Emissions in non-restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: Section 15.247(d)	$\geq 20\text{dBc}$	PASS
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: Section 15.205	FCC 15.209	PASS
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: Section 15.247(a)(2)	$\geq 500\text{kHz}$	PASS
Fundamental emission output power	FCC CFR Title 47 Part 15 Subpart C: Section 15.247(b)(3)	$\leq 30\text{dBm}$	PASS
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: Section 15.247(e)	$\leq 8\text{dBm}/3\text{kHz}$	PASS
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C: Section 15.203	FCC 15.203	PASS

For ISED

Performed Test Item	Normative References	Limit	Result
AC Power Line Conducted Emission	RSS-Gen Issue 5 Section 8.8	RSS-Gen	PASS
Emissions in restricted frequency bands	RSS-Gen Issue 5 Section 8.9	RSS-Gen	PASS
Emissions in non-restricted frequency bands	RSS-247 Issue 2 Section 5.5	$\geq 20\text{dBc}$	PASS
Radiated Emission Band Edge	RSS-Gen Issue 5 Section 8.10	RSS-247	PASS
Occupied Bandwidth	RSS-Gen Issue 5 Section 6.7 RSS-247 Issue 2 Section 5.2(a)	$\geq 500\text{kHz}$	PASS
Fundamental emission output power	RSS-247 Issue 2 Section 5.4(d)	$\leq 30\text{dBm}$	PASS
Power Spectral Density	RSS-247 Issue 2 Section 5.2(b)	$\leq 8\text{dBm}/3\text{kHz}$	PASS
Antenna Requirement	RSS-Gen Issue 5 Section 6.8	RSS-Gen Issue 5	PASS

2.2. Test Frequency configuration:

Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	19	2440 MHz	39	2480MHz

2.3. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

2.4. Measurement Uncertainty

Test Items	Uncertainty
AC Power Line Conducted Emission	$\pm 2.02\text{dB}$
Radiated Emission	Below 1GHz $\pm 3.8\text{ dB}$
	Above 1GHz $\pm 3.9\text{ dB}$
RF Antenna Port Conducted Emission	$\pm 1.27\text{ dB}$
Radiated Emission Band Edge	$\pm 3.9\text{ dB}$
Occupied Bandwidth	$\pm 1\text{ kHz}$
Power Spectral Density	$\pm 1.27\text{ dB}$

3. AC Power Line Conducted Emission

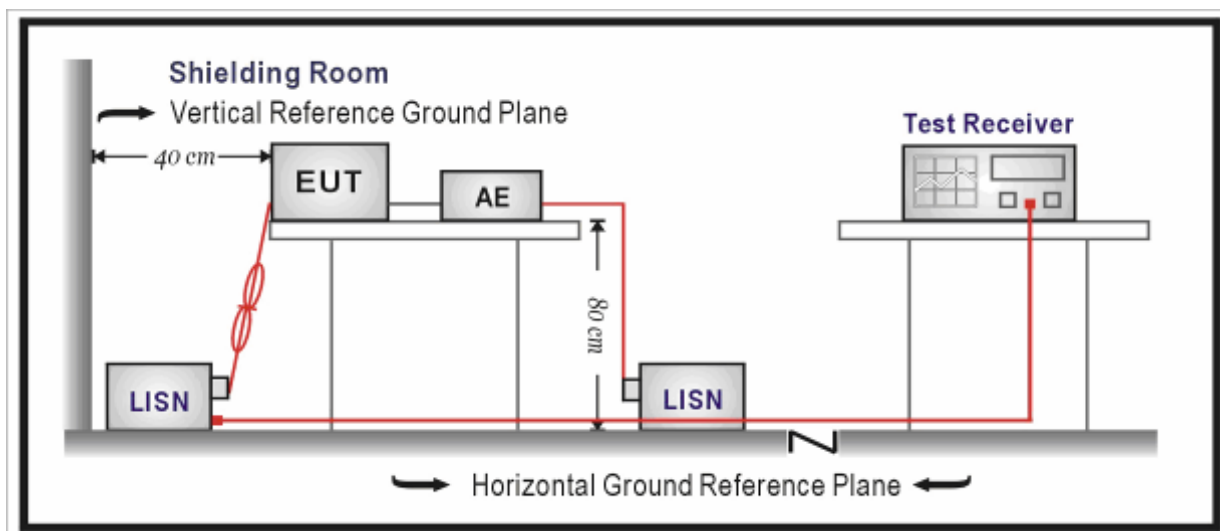
3.1. Test Equipment

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.

3.2. Test Setup

AC Power Line Conducted Emission test setup



3.3. Limit

Frequency of Emission (MHz)	Conducted Limit	
	Quasi-peak (dB μ V)	Average (dB μ V)
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

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

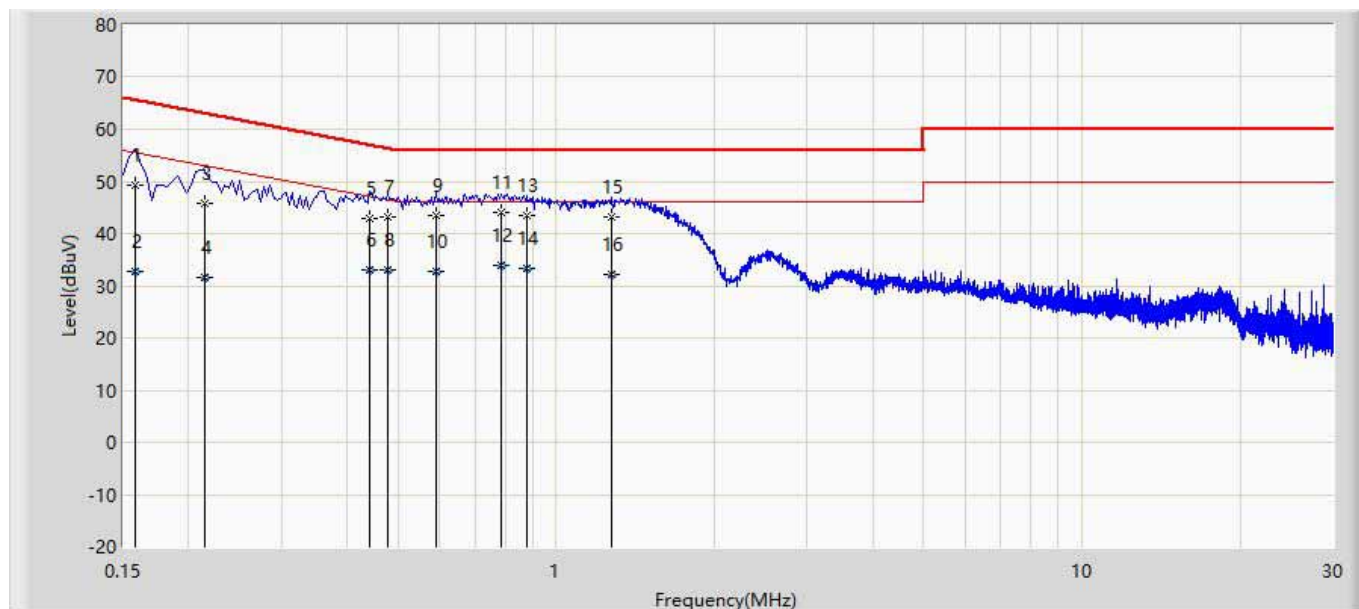
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

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

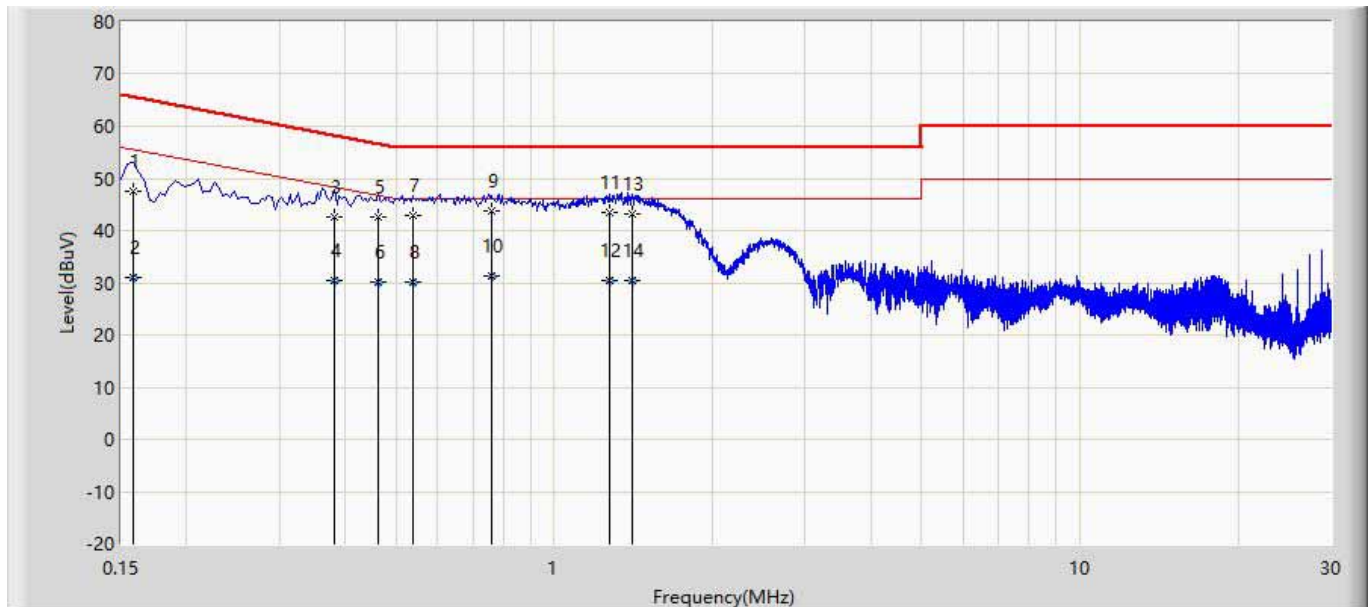
3.5. Test Result

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. Emissions in restricted frequency bands

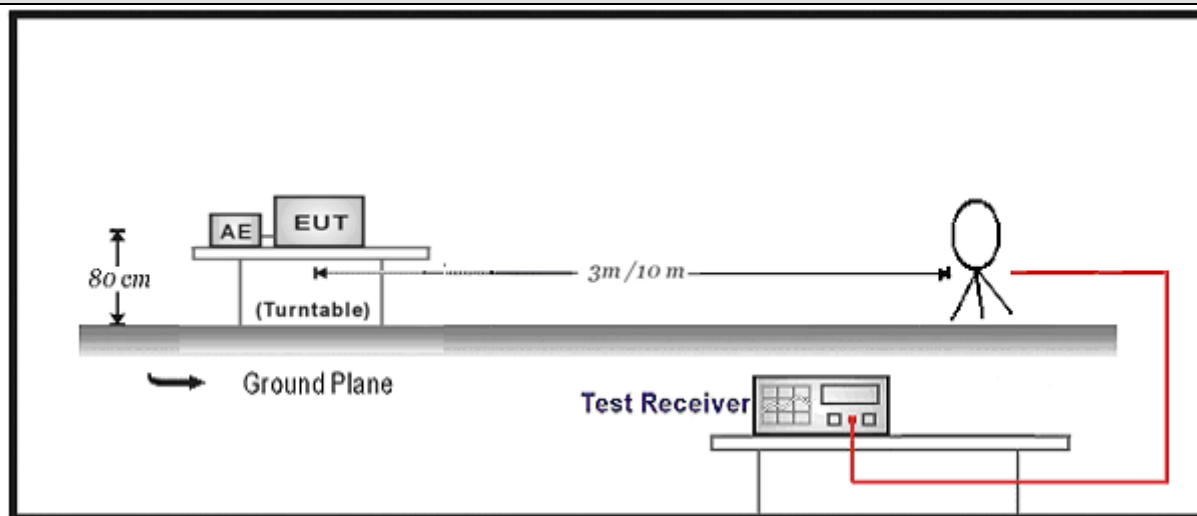
4.1. Test Equipment

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	2020.05.25	2021.05.24
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.					

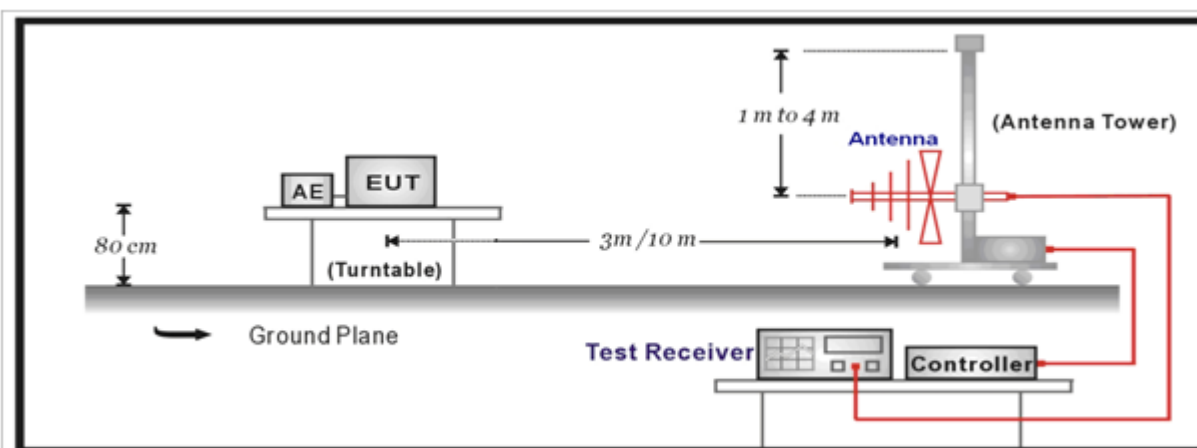
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	R&S	FSV	104212	2019.12.28	2020.12.27
Signal analyzer	Agilent	E4446A	MY45300103	2020.05.08	2021.05.07
low Noise Amplifier	BXT	NA2651D	LNA17040209	2020.04.13	2021.04.12
Pre-Amplifier	EMCI	EMC184045SE	980263	2020.05.24	2021.05.23
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2020.05.25	2021.05.24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2019.03.23	2021.03.22
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2020.04.13	2021.04.12
Coaxial Cable	ROSENBERGER	LA1-C011-2000/3000	AC5-40G	2020.04.18	2021.04.17
Temperature/Humidity Meter	RTS	RTS-8S	AC5-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.					

4.2. Test Setup

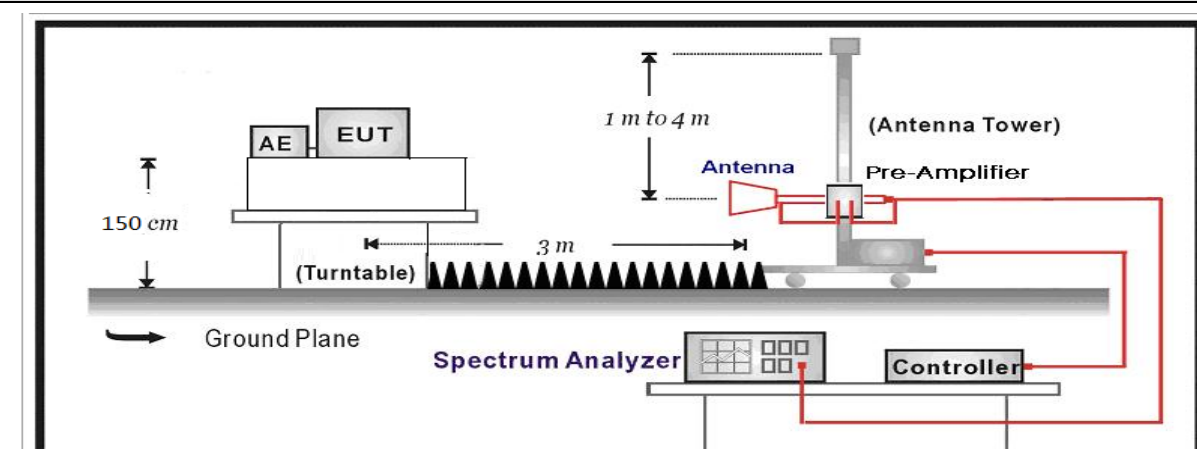
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

For FCC

Restricted Bands of operation			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

For IC:

MHz	MHz	GHz
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 - 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 - 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 - 8500	
108 - 138	--	

* Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

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)

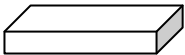
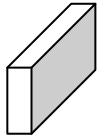
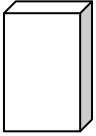
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed 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).

4.4. Test Procedure

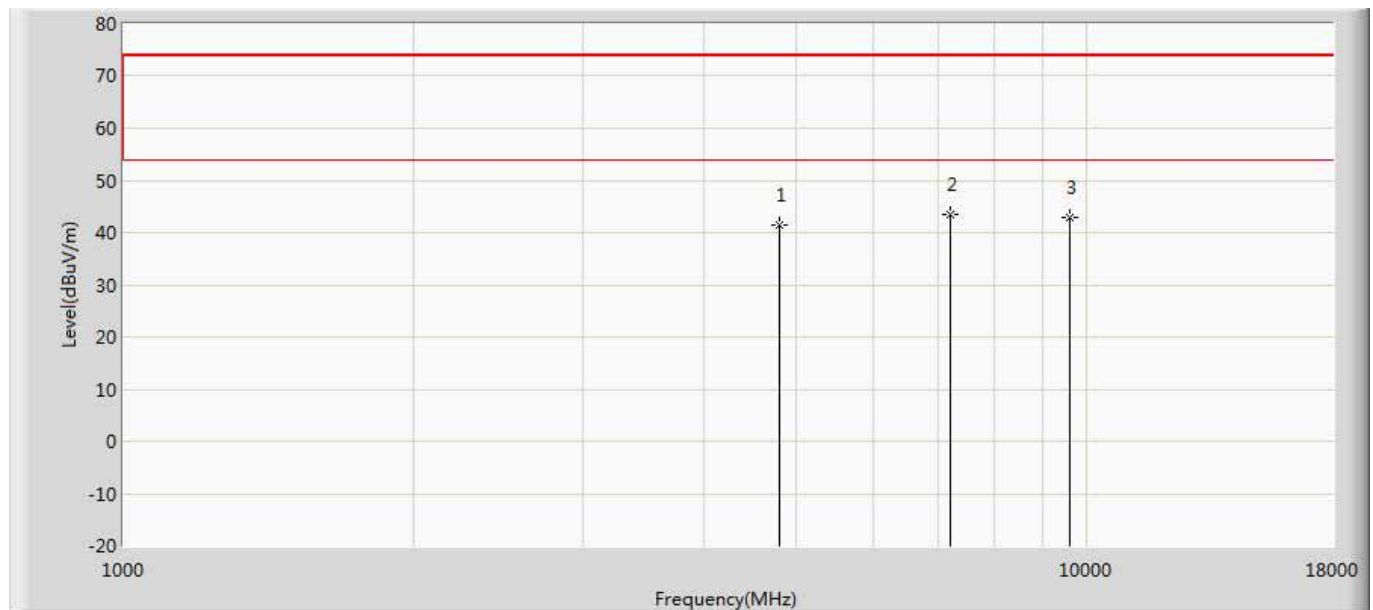
Test Method				
	References Rule		Chapter	Description
☐	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	☐	ANSI C63.10	11.11.2	Reference level measurement
	☐	ANSI C63.10	11.11.3	Emission level measurement
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10	11.12.1	Radiated emission measurements
	☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test
	☒	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
	☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		ANSI C63.10	11.12.2.4	Peak power measurement procedure
		ANSI C63.10	11.12.2.5	Average power measurement procedures
	☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
		ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		☒ ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

4.5. EUT test Axis definition

Item	Emissions in restricted frequency bands			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☒	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☒	Worst Axis ☐	Worst Axis ☐
	☐	Conducted		
	☐	Chain 1		
				
	☐	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

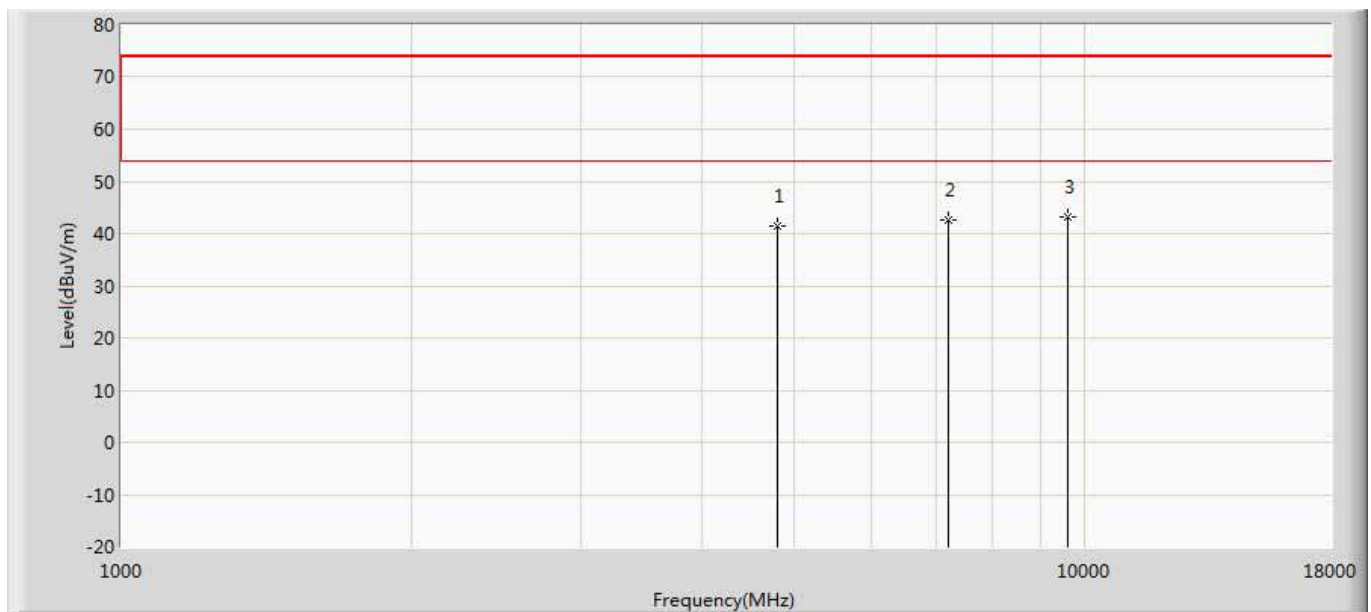
4.6. Test Result

Profile: 2040625R	Page No.: 61
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 20:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1:Transmit at 2402MHz	



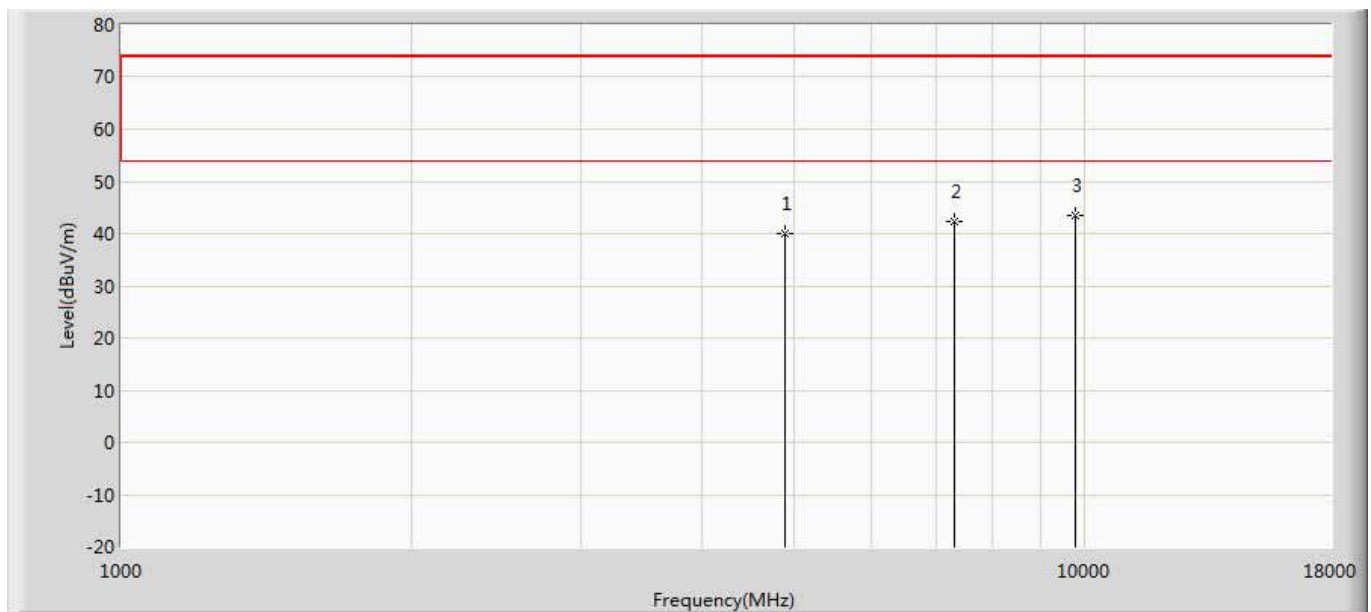
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	41.521	36.890	-32.479	74.000	4.631	PK
2	*	7206.000	43.431	35.407	-30.569	74.000	8.024	PK
3		9608.000	42.915	33.598	-31.085	74.000	9.318	PK

Profile: 2040625R	Page No.: 62
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 20:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1: Transmit at 2402MHz	



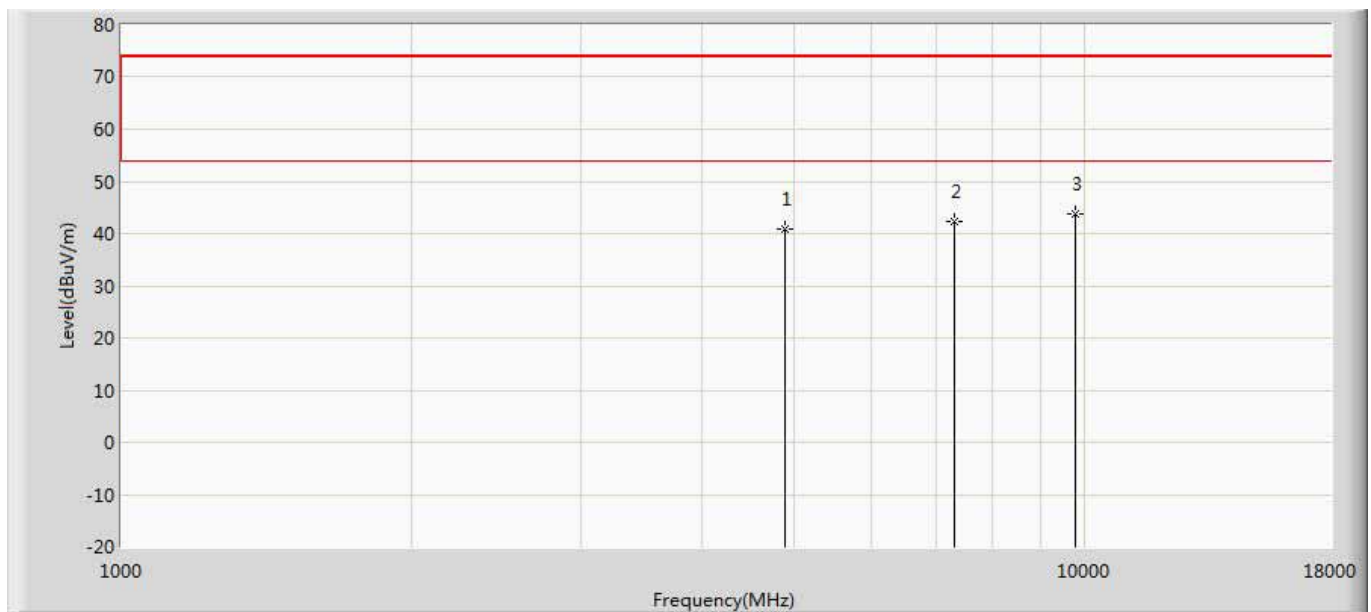
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	41.446	36.815	-32.554	74.000	4.631	PK
2		7206.000	42.731	34.707	-31.269	74.000	8.024	PK
3	*	9608.000	43.222	33.905	-30.778	74.000	9.318	PK

Profile: 2040625R	Page No.: 63
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 20:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1:Transmit at 2440MHz	



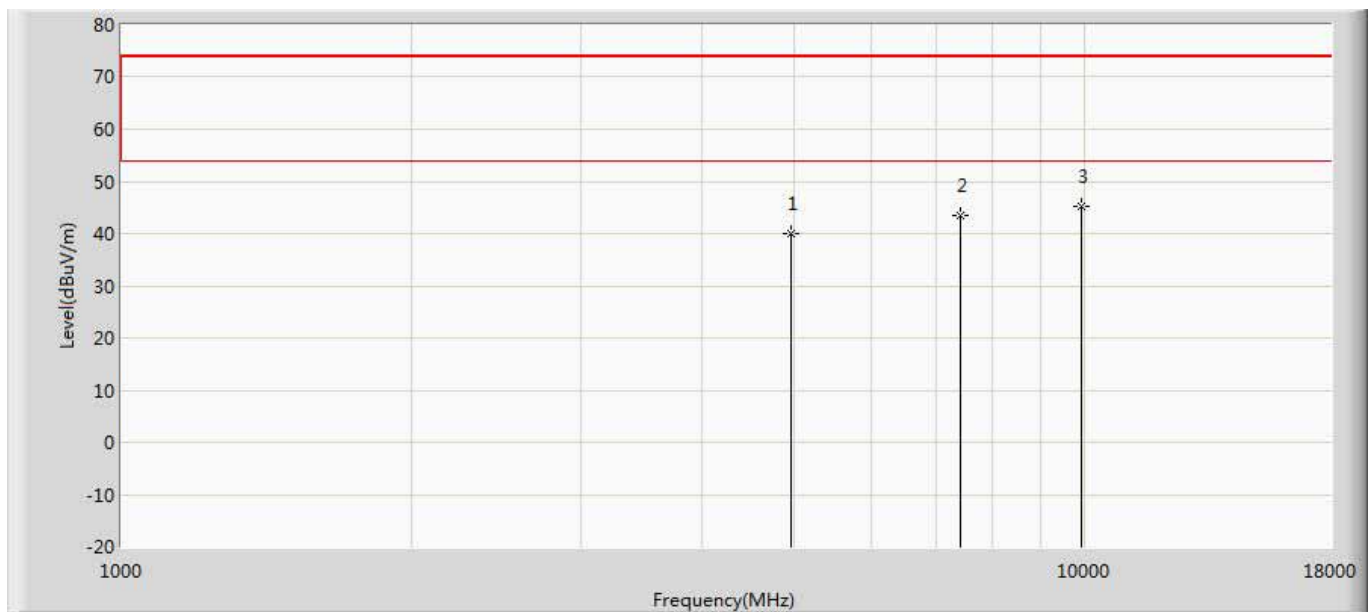
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.038	35.259	-33.962	74.000	4.778	PK
2		7320.000	42.258	34.188	-31.742	74.000	8.071	PK
3	*	9760.000	43.507	33.603	-30.493	74.000	9.904	PK

Profile: 2040625R	Page No.: 64
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 20:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1:Transmit at 2440MHz	



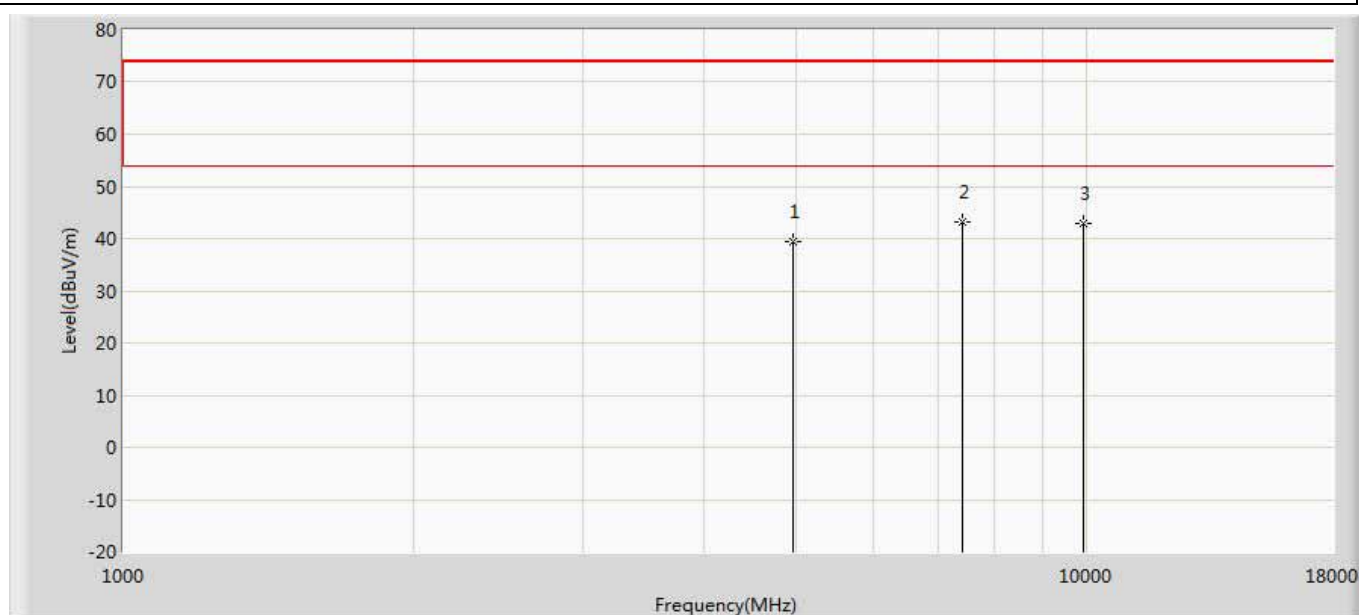
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.971	36.192	-33.029	74.000	4.778	PK
2		7320.000	42.188	34.118	-31.812	74.000	8.071	PK
3	*	9760.000	43.684	33.780	-30.316	74.000	9.904	PK

Profile: 2040625R	Page No.: 65
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 20:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1:Transmit at 2480MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.013	35.228	-33.987	74.000	4.784	PK
2		7440.000	43.577	35.526	-30.423	74.000	8.051	PK
3	*	9920.000	45.313	35.418	-28.687	74.000	9.894	PK

Profile: 2040625R	Page No.: 66
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 20:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1: Transmit at 2480MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	39.555	34.770	-34.445	74.000	4.784	PK
2	*	7440.000	43.247	35.196	-30.753	74.000	8.051	PK
3		9920.000	43.018	33.123	-30.982	74.000	9.894	PK

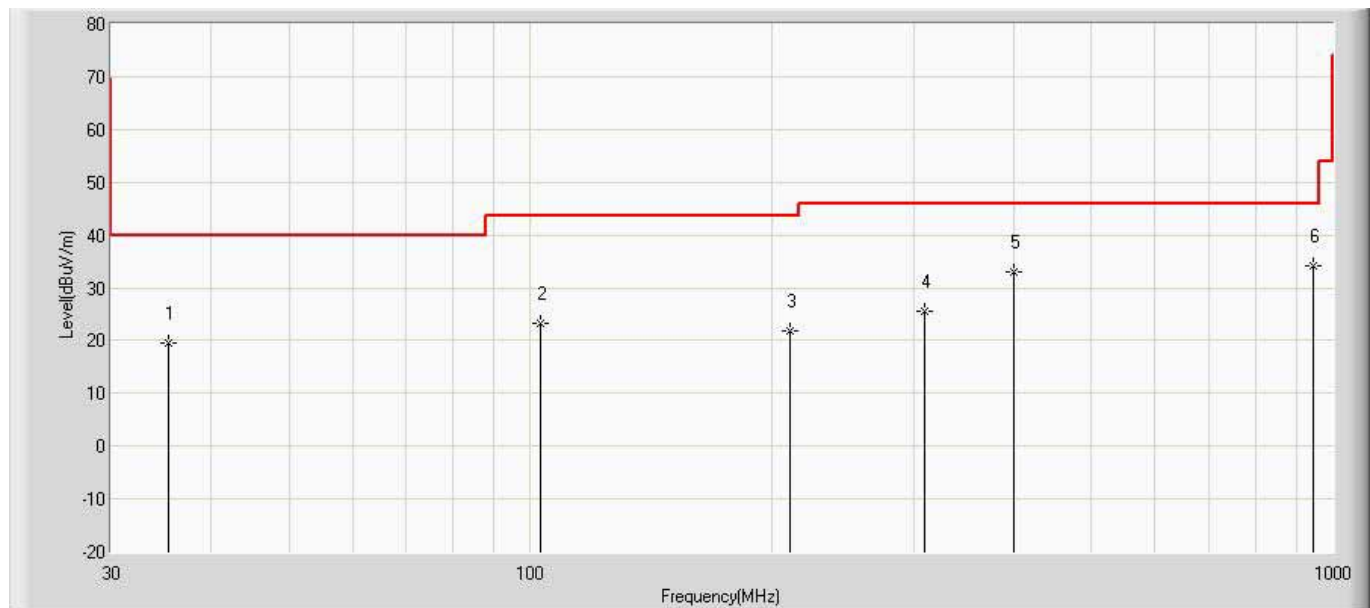
Note 1: Measure Level = Reading Level + Factor.

2: The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

3: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

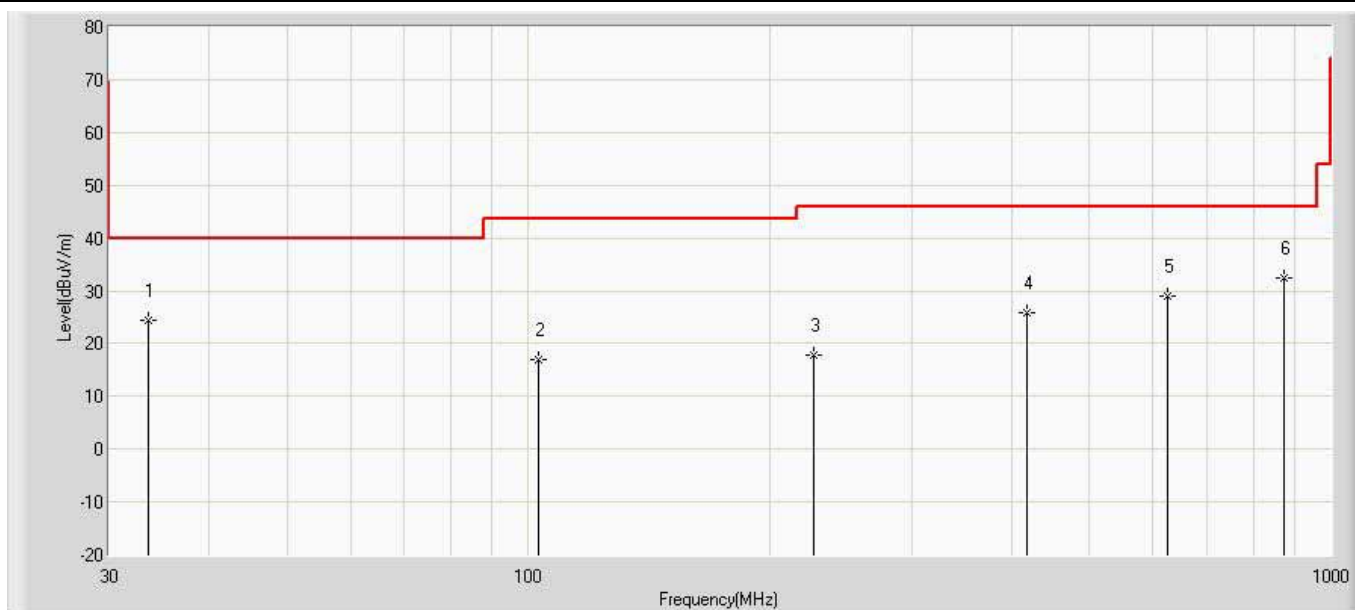
The worst case of Radiated Emission below 1GHz:

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

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:

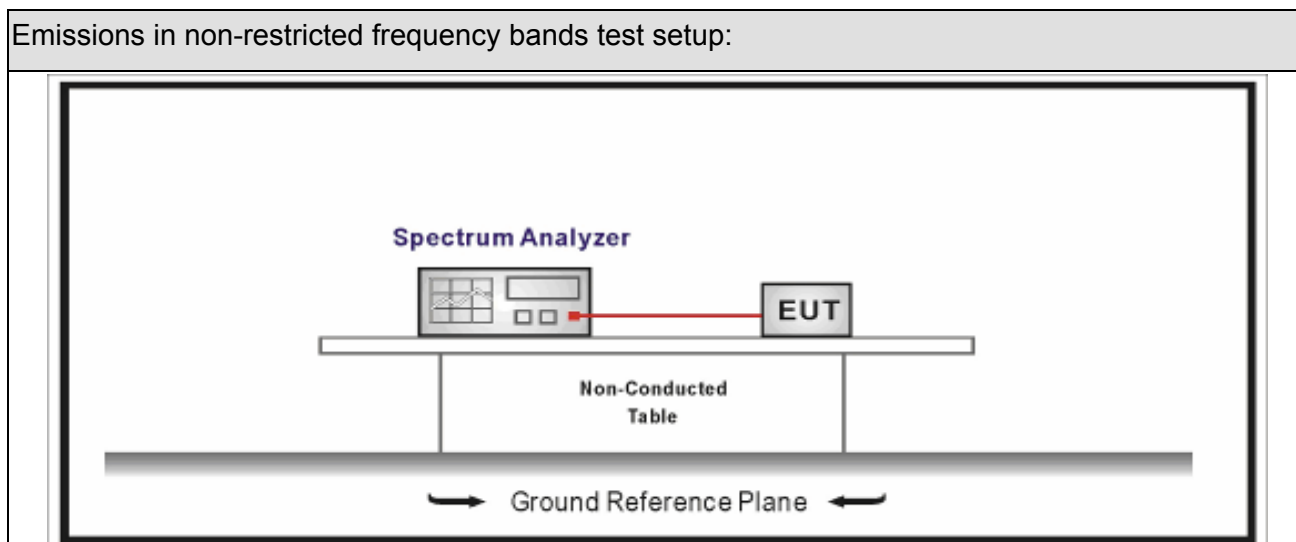
1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

5. Emissions in non-restricted frequency bands

5.1. Test Equipment

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.					

5.2. Test Setup



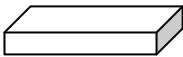
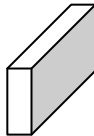
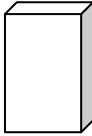
5.3. Limit

Un-Restricted Band Emissions Limit	
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30c(Note1)
RF Output power(PK detector)	20c(Note2)
Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc). Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).	

5.4. Test Procedure

Test Method					
	References Rule		Chapter	Description	
☒	ANSI C63.10		11.11	Emissions in non-restricted frequency bands	
	☒	ANSI C63.10	11.11.2	Reference level measurement	
	☒	ANSI C63.10	11.11.3	Emission level measurement	
☐	ANSI C63.10		11.12	Emissions in restricted frequency bands	
	☐	ANSI C63.10	11.12.1	Radiated emission measurements	
	☐	ANSI C63.10	11.12.2.7	Radiated spurious emission test	
☐	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	
	☒	ANSI C63.10		11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		☒	ANSI C63.10	11.12.2.4	Peak power measurement procedure
		☐	ANSI C63.10	11.12.2.5	Average power measurement procedures
		☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
		☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		☐	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

5.5. EUT test Axis definition

Item	Emissions in non-restricted frequency bands			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 1		
				
	☐	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

5.6. Test Result

Product Name	:	Mobile Computer		
Test Mode	:	Mode 1	Test Site	: TR-8
Test Date	:	2020.04.21	Test Engineer	: Eric

Mode	Channel	Test Frequency (MHz)	In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	00	2402	-6.349	2400	-69.59	63.241	>20	Pass
1	39	2480	-4.302	2500	-78.42	74.118	>20	Pass

Note: The worst case of Emissions in non-restricted frequency bands as below:

Mode 1 CH00 (2402MHz)

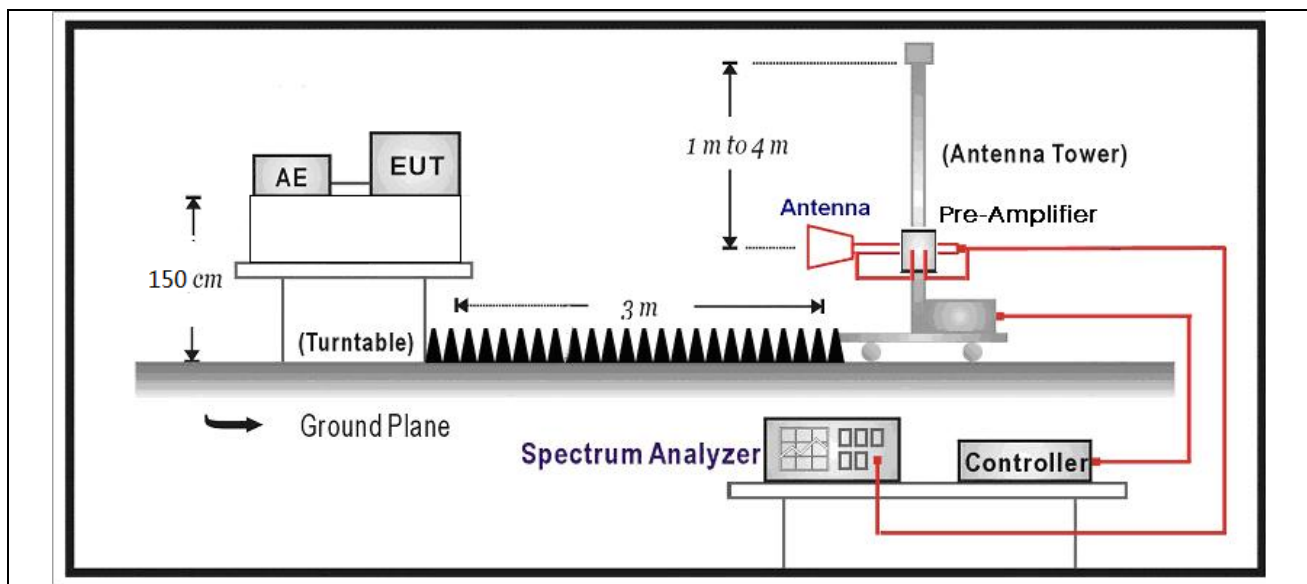


6. Radiated Emission Band Edge

6.1. Test Equipment

Radiated Emission Band Edge / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	R&S	FSV	104212	2019.12.28	2020.12.27
Signal analyzer	Agilent	E4446A	MY45300103	2020.05.08	2021.05.07
low Noise Amplifier	BXT	NA2651D	LNA17040209	2020.04.13	2021.04.12
Pre-Amplifier	EMCI	EMC184045SE	980263	2020.05.24	2021.05.23
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2020.05.25	2021.05.24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2019.03.23	2021.03.22
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2020.04.13	2021.04.12
Coaxial Cable	ROSENBERGER	LA1-C011-2000/3000	AC5-40G	2020.04.18	2021.04.17
Temperature/Humidity Meter	RTS	RTS-8S	AC5-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.					

6.2. Test Setup



6.3. Limit

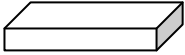
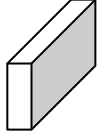
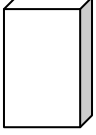
Band edge Limit				
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

6.4. Test Procedure

Test Method					
	References Rule			Chapter	Description
☒	ANSI C63.10			6.10	Band-edge testing
	☒	ANSI C63.10		6.10.5	Restricted-band band-edge measurements
	☐	ANSI C63.10		6.10.6	Marker-delta method
☒	ANSI C63.10			11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10		11.12.1	Radiated emission measurements
	☐	ANSI C63.10		11.12.2.7	Radiated spurious emission test
	☐	ANSI C63.10		11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		☒	ANSI C63.10	11.12.2.4	Peak power measurement procedure
		☒	ANSI C63.10	11.12.2.5	Average power measurement procedures
		☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
		☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		☒	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold
☐	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

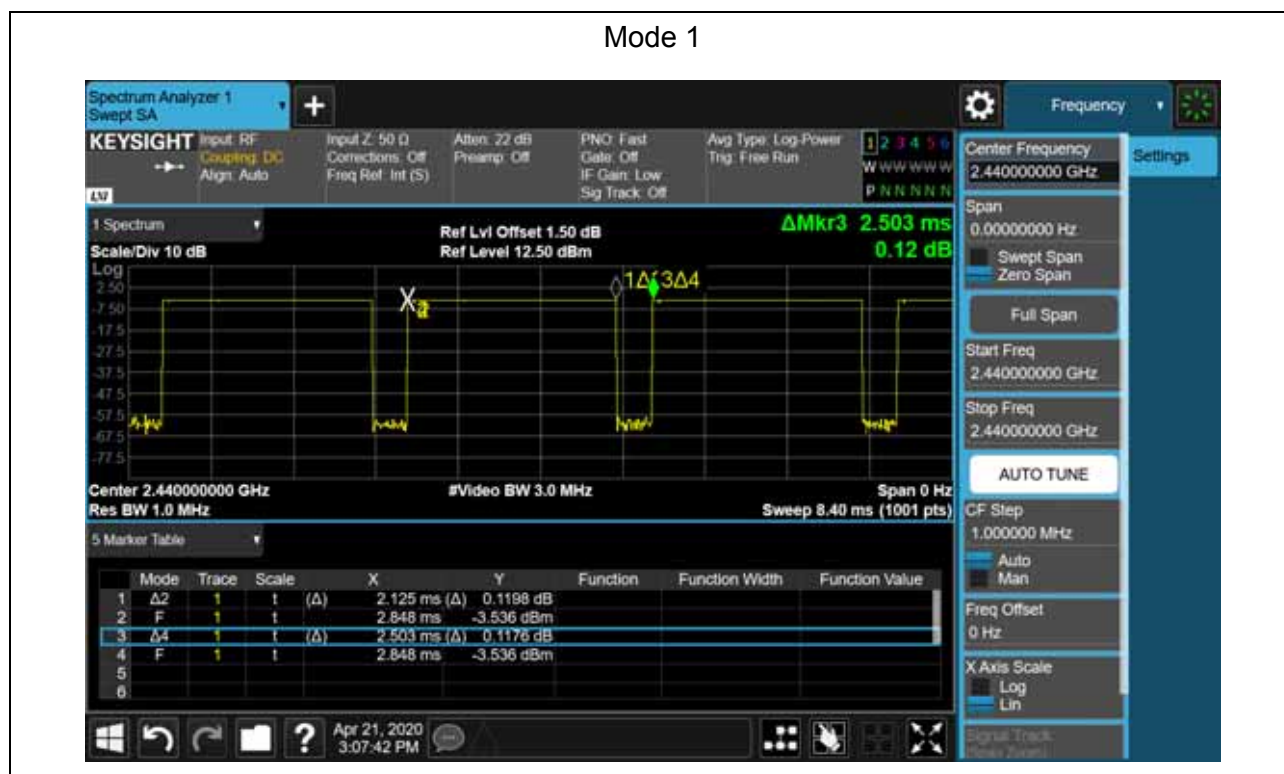
6.5. EUT test definition

Item	Radiated Emission Band Edge			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☒	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☒	Worst Axis ☐	Worst Axis ☐
	☐	Conducted		
	☐	Chain 1		
				
	☐	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

6.6. Duty Cycle

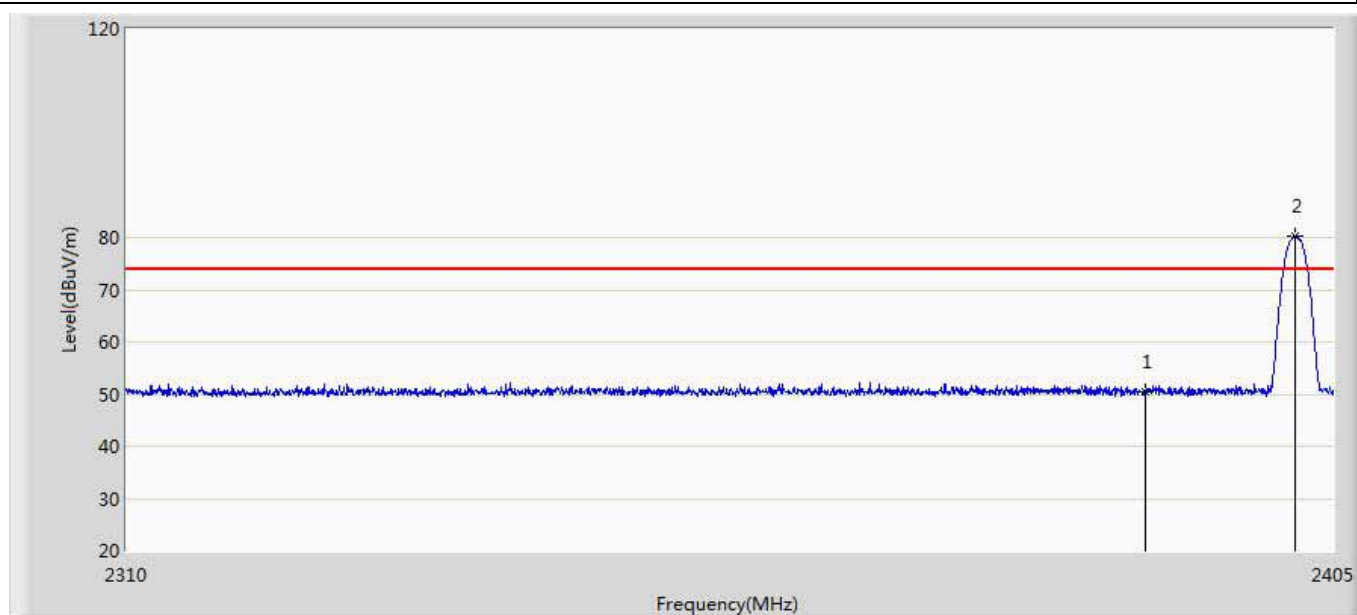
Test Mode	Tx On (ms)	Tx Off (ms)	Reduced VBW	Tx On + Tx Off (ms)	Duty Cycle (%)
1	2.125	0.378	510Hz	2.503	84.9

Mode 1



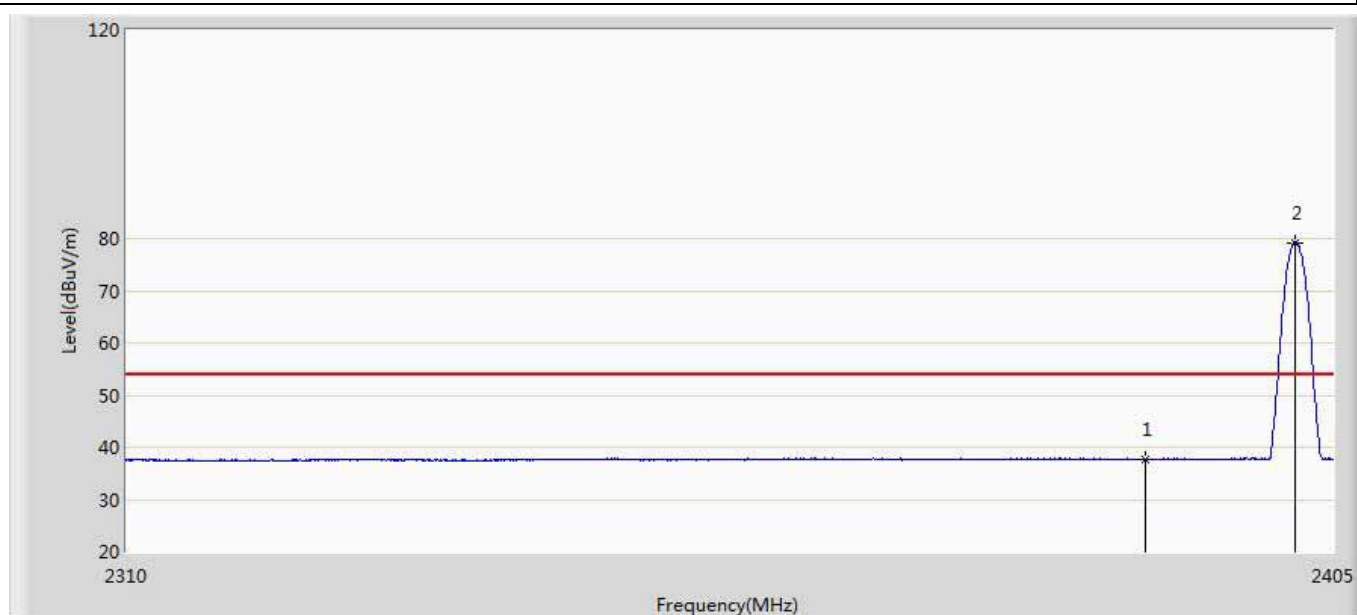
6.7 Test Result

Profile: 2040625R	Page No.: 25
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 18:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1: Transmit at 2402MHz	



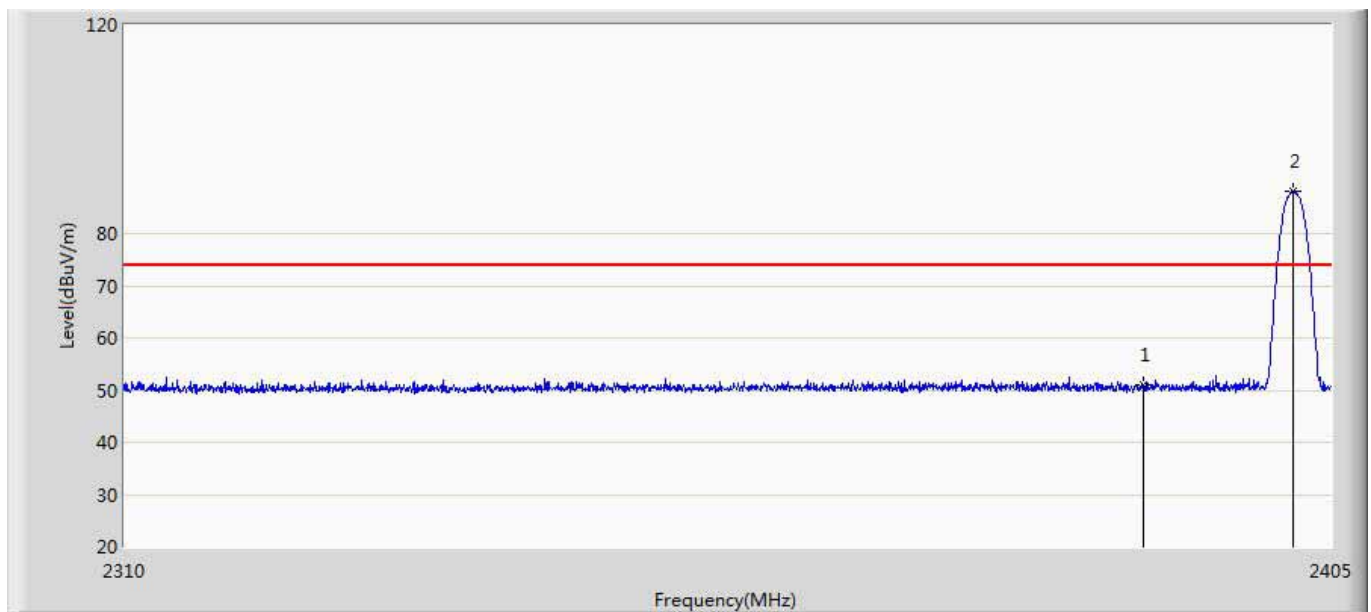
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.492	15.035	-23.508	74.000	35.458	PK
2	*	2401.913	80.249	44.780	6.249	74.000	35.469	PK

Profile: 2040625R	Page No.: 26
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 18:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1: Transmit at 2402MHz	



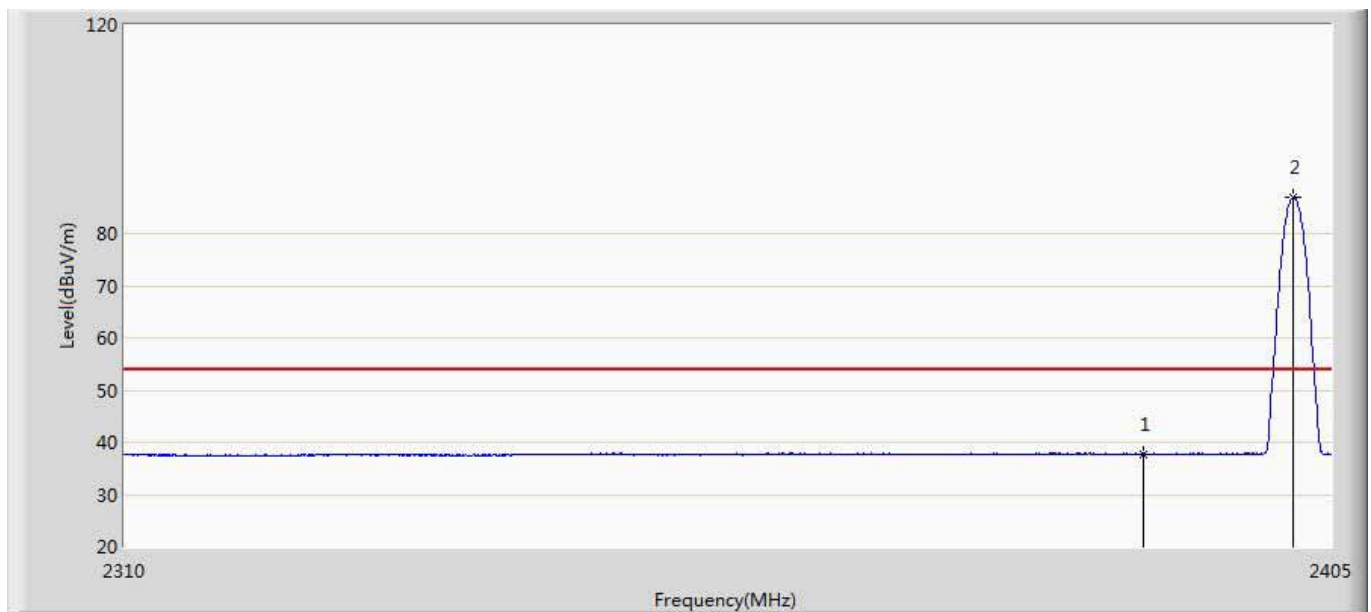
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	37.735	2.278	-16.265	54.000	35.458	AV
2	*	2401.913	79.271	43.802	25.271	54.000	35.469	AV

Profile: 2040625R	Page No.: 27
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 18:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1: Transmit at 2402MHz	



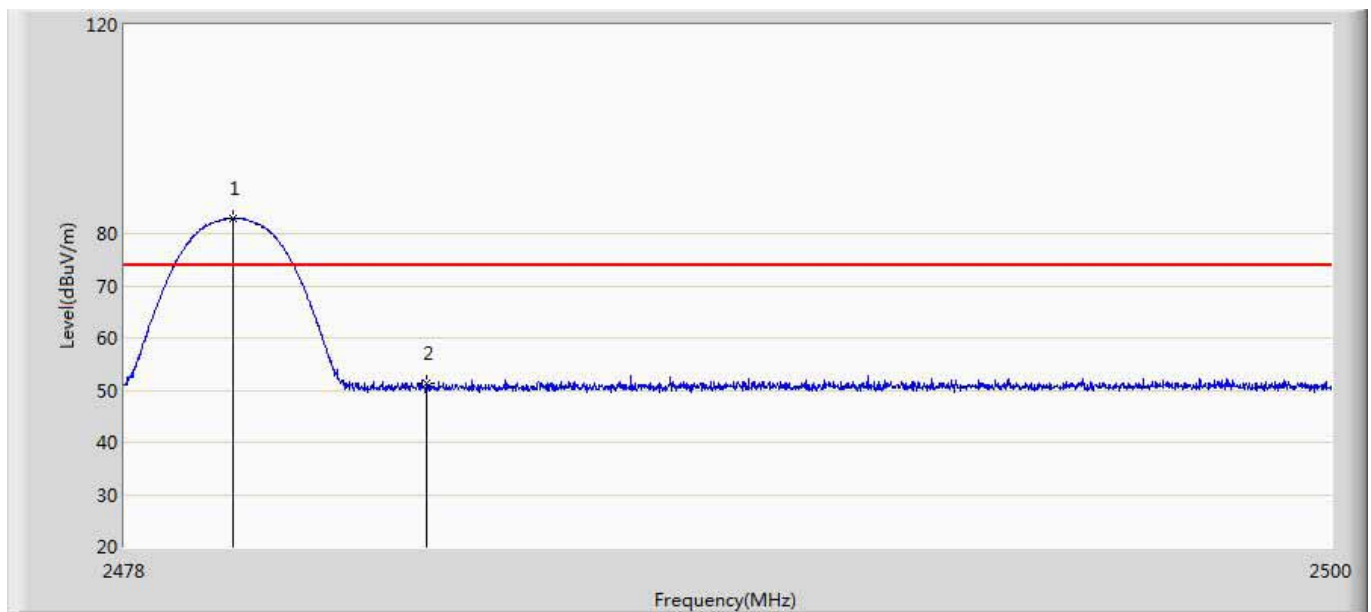
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.892	15.435	-23.108	74.000	35.458	PK
2	*	2401.913	88.104	52.635	14.104	74.000	35.469	PK

Profile: 2040625R	Page No.: 28
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 18:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1: Transmit at 2402MHz	



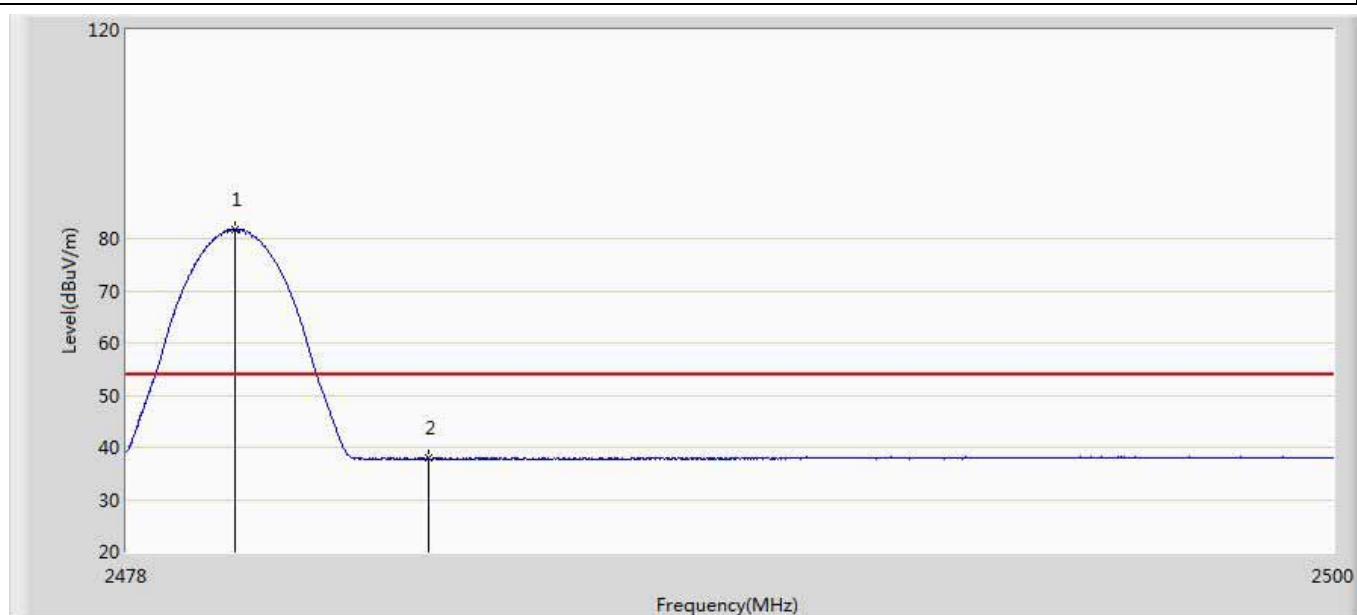
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	37.735	2.278	-16.265	54.000	35.458	AV
2	*	2401.960	86.957	51.488	32.957	54.000	35.469	AV

Profile: 2040625R	Page No.: 29
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 18:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1: Transmit at 2480MHz	



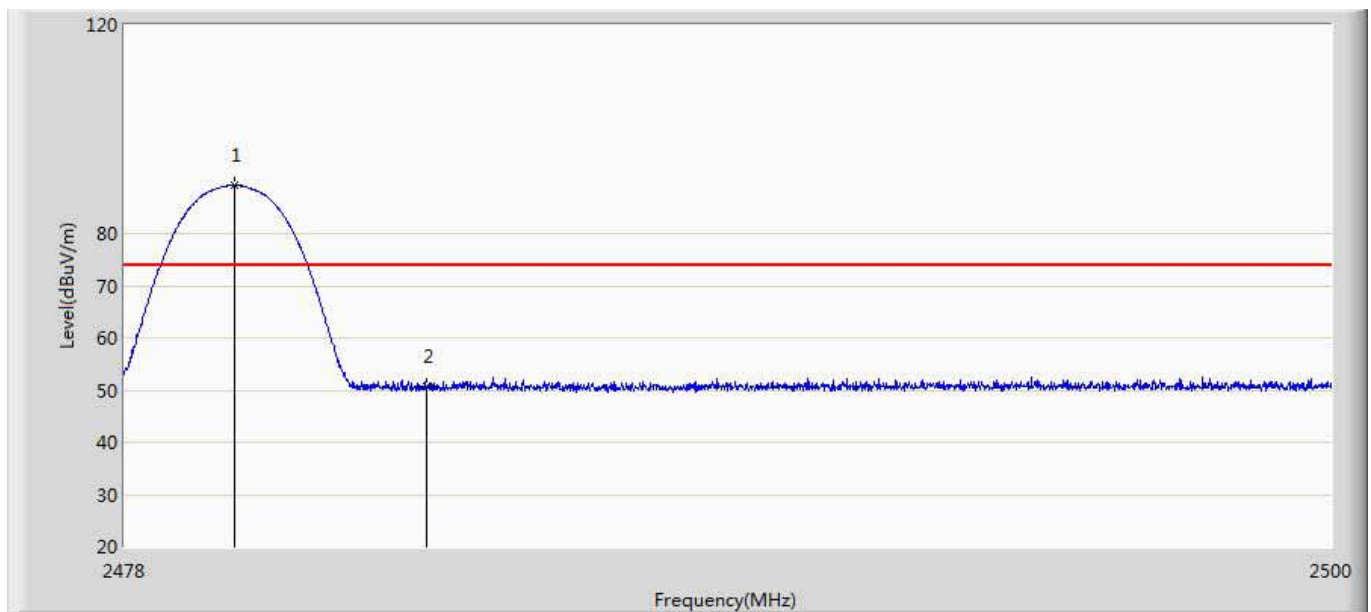
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	82.929	47.431	8.929	74.000	35.498	PK
2		2483.500	51.294	15.776	-22.706	74.000	35.517	PK

Profile: 2040625R	Page No.: 30
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 18:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1: Transmit at 2480MHz	



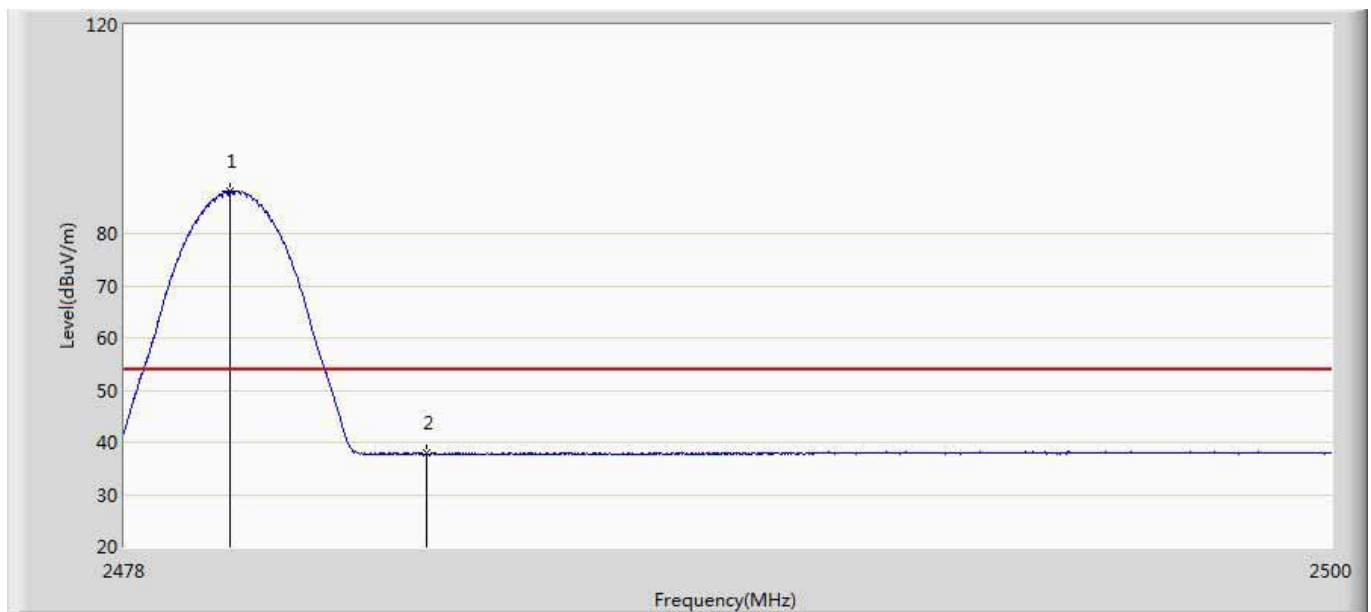
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	81.753	46.255	27.753	54.000	35.498	AV
2		2483.500	37.836	2.318	-16.164	54.000	35.517	AV

Profile: 2040625R	Page No.: 31
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 18:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1: Transmit at 2480MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	89.220	53.722	15.220	74.000	35.498	PK
2		2483.500	50.628	15.110	-23.372	74.000	35.517	PK

Profile: 2040625R	Page No.: 32
Engineer: YULIU	
Site: AC5	Time: 2020/04/23 - 18:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Mobile Computer	Power: 3.8 Vdc
Note: Mode 1: Transmit at 2480MHz	



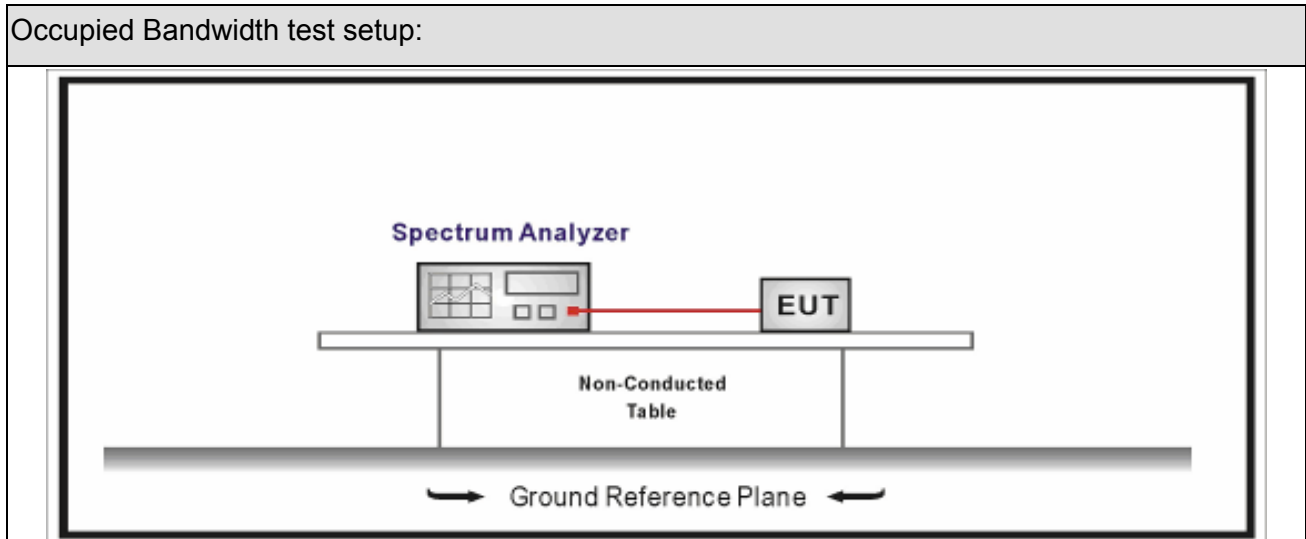
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.925	88.206	52.709	34.206	54.000	35.498	AV
2		2483.500	37.851	2.333	-16.149	54.000	35.517	AV

7. Occupied Bandwidth

7.1. Test Equipment

Occupied Bandwidth / 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.					

7.2. Test Setup



7.3. Limit

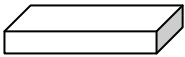
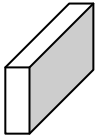
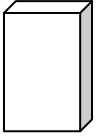
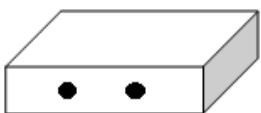
Occupied Bandwidth

Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

7.4. Test Procedure

Test Method				
	Reference Rule		Chapter	Description
☒	ANSI C63.10		11.8	DTS bandwidth
	☐	ANSI C63.10	11.8.1	Option 1
	☒	ANSI C63.10	11.8.2	Option 2

7.5. EUT test definition

Item	Occupied Bandwidth			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 1		
				
	☐	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

7.6. Test Result

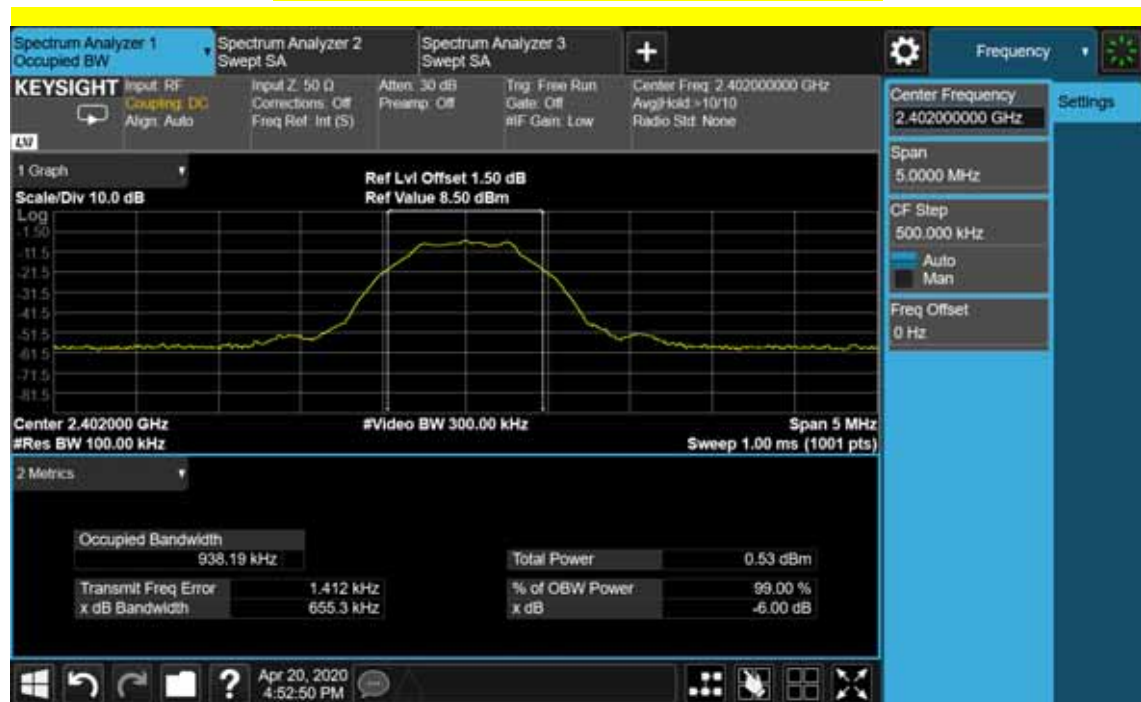
Product Name	: Mobile Computer		
Test Mode	: Mode 1	Test Site	: TR-8
Test Date	: 2020.05.22	Test Engineer	: Eric

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (kHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
1	00	2402		655.3	>500	Pass
1	19	2440		654.5	>500	Pass
1	39	2480		654.2	>500	Pass

Note : The worst case of Occupied Bandwidth as below:

Mode 1 CH39 (2480MHz) for 6dB Bandwidth



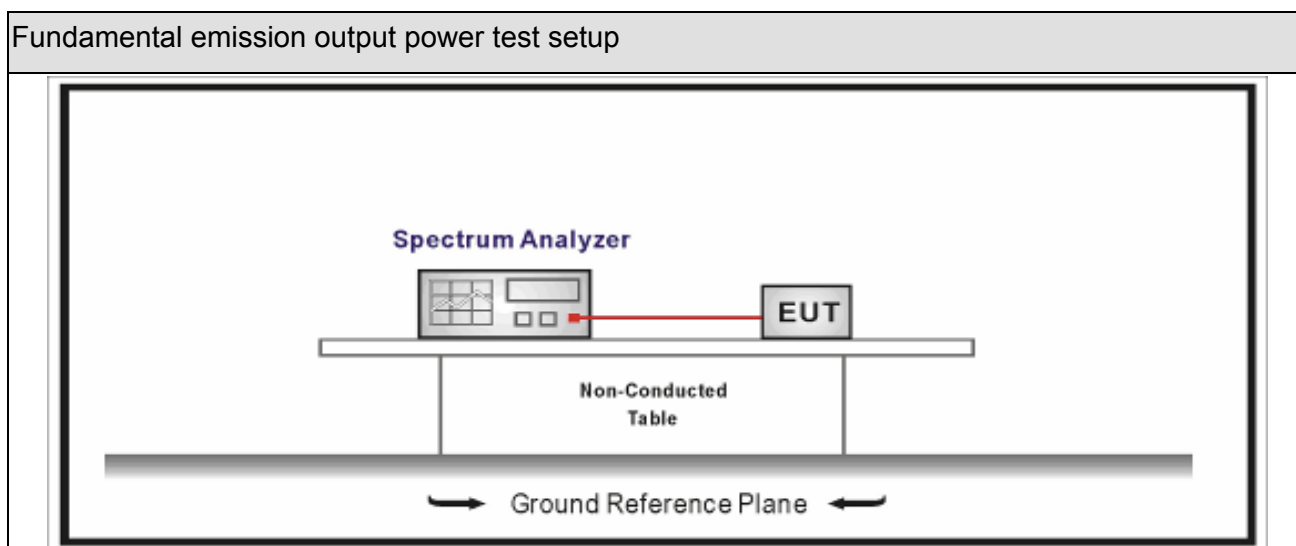
Mode 1 CH00 (2402MHz) for 99% Bandwidth

8. Fundamental emission output power

8.1. Test Equipment

Fundamental emission output power / 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 are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup



8.3. Limit

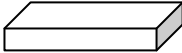
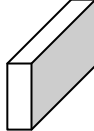
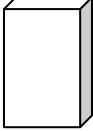
Fundamental emission output power Limit for FCC			
☒	GTX < 6dBi		$P_{out} \leq 30\text{dBm}$
☐	GTX > 6dBi		
	☐	Non-Fix point-point	$P_{out} \leq 30 - (GTX - 6)$
	☐	Fix point-point	$P_{out} \leq 30 - [(GTX - 6)]/3$
	☐	Point-to-multipoint	$P_{out} \leq 30 - (GTX - 6)$
	☐	Overlap Beams	$P_{out} \leq 30 - [(GTX - 6)]/3$
	☐	Aggregate power transmitted simultaneously on all beams	$P_{out} \leq 30 - [(GTX - 6)]/3$
	☐	single directional beam	$P_{out} \leq 30 - [(GTX - 6)]/3 + 8\text{dB}$
Note 1 : GTX directional gain of transmitting antennas.			
Note 2 : Pout is maximum peak conducted output power .			

Fundamental emission output power Limit for FCC	
For DTSs employing digital modulation techniques operating in the bands 902-928 MHz and 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1 W. The e.i.r.p. shall not exceed 4 W, except as provided in section 5.4(e).	

8.4. Test Procedure

Fundamental emission output power Test Method						
	References Rule			Chapter	Description	
☒	ANSI C63.10			11.9	Fundamental emission output power	
	☒	ANSI C63.10		11.9.1	Maximum peak conducted output power	
		☒	ANSI C63.10	11.9.1.1	RBW ≥ DTS bandwidth	
		☐	ANSI C63.10	11.9.1.2	Integrated band power method	
		☐	ANSI C63.10	11.9.1.3	PKPM1 Peak power meter method	
	☐	ANSI C63.10		11.9.2	Maximum conducted (average) output power	
		☐	ANSI C63.10		11.9.2.2	Measurement using a spectrum analyzer (SA)
			☐	ANSI C63.10	11.9.2.2.2	Method AVGSA-1(Duty cycle ≥ 98%)
			☐	ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle ≥ 98%)
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle ≤ 98%)
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle ≤ 98%)
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-3
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-3A
		☐	ANSI C63.10		11.9.2.3	Measurement using a power meter (PM)
			☐	ANSI C63.10	11.9.2.3.1	Method AVGPM
			☐	ANSI C63.10	11.9.2.3.2	Method AVGPM-G

8.5. EUT test definition

Item	Fundamental emission output power			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 1		
				
	☐	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

8.6. Test Result

Product Name	:	Mobile Computer					
Test Mode	:	Mode 1	Test Site	:	TR-8		
Test Date	:	2020.04.20	Test Engineer	:	Eric		

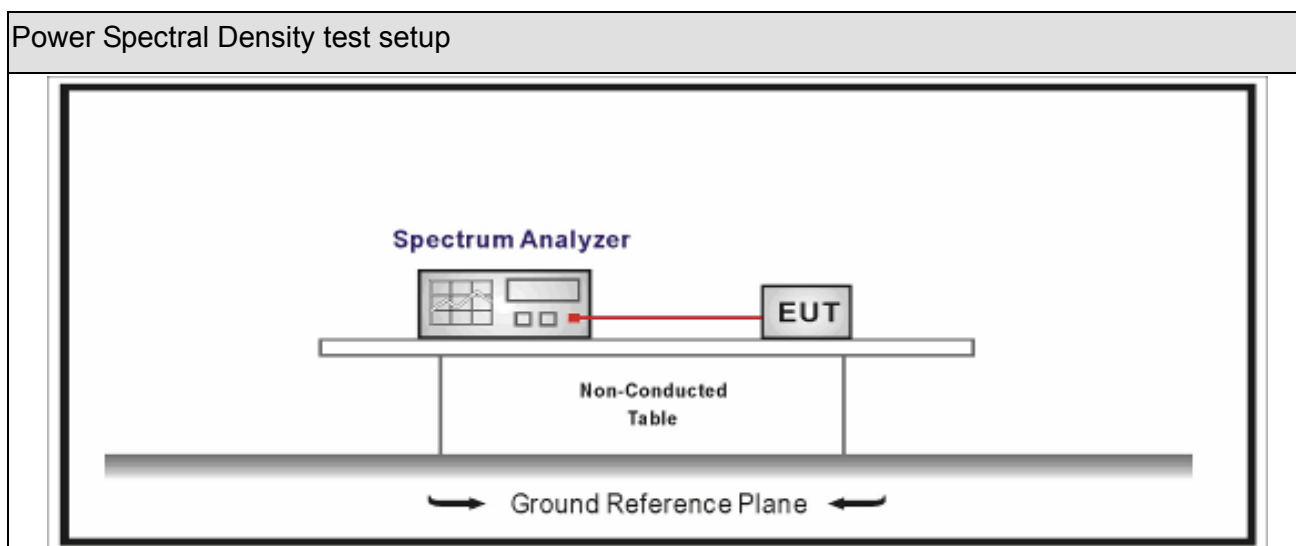
Mode	Channel	Test Frequency (MHz)	Measurement Power Output (dBm)	Conducted Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Result
1	00	2402	-5.68	30	-4.84	36	Pass
1	19	2440	-3.02	30	-2.18	36	Pass
1	39	2480	-3.70	30	-2.86	36	Pass

9. Power Spectral Density

9.1. Test Equipment

Power Spectral Density / 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 are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup



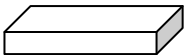
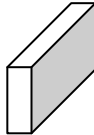
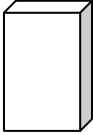
9.3. Limit

Power Spectral Density Limit
Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$

9.4. Test Procedure

Power Spectral Density Test Method				
	References Rule		Chapter	Description
☒	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	☒	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	☐	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle $\geq 98\%$)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle $\geq 98\%$)
	☐	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle $< 98\%$)
	☐	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle $< 98\%$)
	☐	ANSI C63.10	11.10.7	Method AVGPSD-3
	☐	ANSI C63.10	11.10.8	Method AVGPSD-3A

9.5. EUT test definition

Item	Power Spectral Density			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 1		
				
	☐	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

9.6. Test Result

Product Name	:	Mobile Computer			
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2020.04.21	Test Engineer	:	Eric

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	00	2402	-21.91	8	Pass
1	19	2440	-19.13	8	Pass
1	39	2480	-19.88	8	Pass

Note : The worst case of Power Spectral Density as below:

Mode 1 CH19(2440MHz)



10. Antenna Requirement

10.1. Limit

Antenna Requirement Limit	
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.	

10.2. Antenna Connector Construction

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.	

_____ The End _____