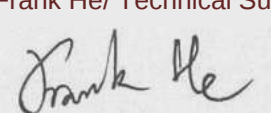
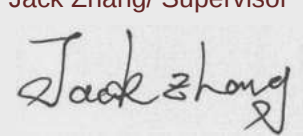




Test report No:
2061189R-RF-US-P06V01

FCC TEST REPORT & ISED TEST REPORT

Product Name	DriveWell Tag
Trademark	DriveWell
Model and /or type reference	DriveWell Tag v6.0
FCC ID	2AFGD000600
IC ID	22582-000600
Applicant's name / address	Cambridge Mobile Telematics. 101 Main Street, 14 th Floor, Cambridge, MA 02142, USA
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10: 2013 KD558074 D01 15.247 Meas Guidance v05r02 RSS-Gen Issue 5 / RSS-247 Issue 2
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	2020-10-15
Report template No	Template_FCC 15.247-RF-V1.0

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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)	Sept. 15, 2020
Date (start test)	Sept. 17, 2020
Date (finish test)	Sept. 29, 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
T_x	: Transmitter
R_x	: Receiver
N/A	: Not Applicable
N/M	: Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2061189R-RF-US-P06V01	V1.0	Initial issue of report.	2020-09-29
2061189R-RF-US-P06V01	V1.1	Chapter 2.1: Update operating mode(s) used for tests.	2020-10-15

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 15.247, RSS-Gen Issue 5, RSS-247 Issue 2.
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.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
 - Chapter 1.1 General Description of the Item(s);
 - Chapter 1.2 Antenna Informaion;
 - Chapter 1.3 Channel List.

USED EQUIPMENT

AC Power Line Conducted Emission / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100906	2020.04.20	2021.04.19
Two-Line V-Network	R&S	ENV216	101190	2019.12.28	2020.12.27
Two-Line V-Network	R&S	ENV216	101044	2019.12.28	2020.12.27
Current Probe	R&S	EZ-17	100678	2020.03.12	2021.04.11
50ohm Termination	SHX	TF2	07081402	2020.09.23	2021.09.22
50ohm Termination	SHX	TF2	07081403	2020.09.23	2021.09.22
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2020.08.13	2021.08.12
Coaxial Cable	Suhner	RG 223	TR1-C1	2020.08.13	2021.08.12
Coaxial Cable	Suhner	RG 223	TR1-C2	2020.08.13	2021.08.12
Dekra test software	Dekra	-	-	-	-

Emissions in non-restricted frequency bands/ Occupied Bandwidth/ Fundamental emission output power Power Spectral Density / TR8

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2020.08.15	2021.08.14
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2020.04.17	2021.04.16
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2020.08.15	2021.08.14
Temperature/Humidity Meter	RTS	RTS-8S	RF08	2020.08.13	2021.08.12
Dekra test software	Dekra	-	-	-	-

Radiated Emission(30MHz-1GHz) / AC3

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2020.03.03	2021.03.02
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2020.08.19	2021.08.18
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2020.08.13	2021.08.12
Coaxial Cable	Huber+Suhner	RG 214	AC2-C	2020.04.05	2021.04.04
Dekra test software	Dekra	-	-	-	-

Radiated Emission / AC5(1GHz-40GHz)(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2020.05.08	2021.05.07
Preamplifier	Miteq	NSP1800-25	1364185	2020.05.06	2021.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2020.05.06	2021.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2020.01.22	2021.01.21
Temperature/Humidity Meter	RTS	RTS-8S	AC5-TH	2020.08.13	2021.08.12
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2020.04.05	2021.04.04
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2020.04.05	2021.04.04
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2020.04.05	2021.04.04
Dekra test software	Dekra	-	-	-	-

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	9kHz~150kHz: 2.80dB 150kHz~30MHz: 2.40dB
Peak Power Output	± 1.27 dB
Radiated Emission(30MHz~1GHz)	Horizontal: 30MHz~200MHz: 3.50 dB 300MHz~1GHz: 3.60 dB Vertical: 30MHz~200MHz: 3.60 dB 300MHz~1GHz: 3.50 dB
Radiated Emission(1GHz~26.5GHz)	Horizontal: 1GHz~18GHz: 5.00 dB Vertical: 1GHz~18GHz: 4.80 dB
RF antenna conducted test	± 1.27 dB
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	± 150 Hz
Occupied Bandwidth	± 1 kHz
Power Density	± 1.27 dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name	DriveWell Tag
Model No.	DriveWell Tag v6.0
Trademark	DriveWell
FCC ID	2AFGD000600
IC	22582-000600
Manufactory	Cambridge Mobile Telematics
Manufactory Address	101 Main Street, 14 th Floor, Cambridge, MA 02142, USA

Note: The difference of four versions is whether there is a sounder or a microphone mounted on the PCB.

DriveWell Tag v6.0 Versions	Sounder	Mic
v6.0.1	No	No
v6.0.2	Yes	No
v6.0.3	No	Yes
v6.0.4	Yes	Yes

Wireless specification.....:	Bluetooth 5.0					
Operating frequency range(s)	2400 ~ 2483.5 MHz					
Type of Modulation.....:	GFSK					
PHYs	☒	LE 1M	☒	LE 2M	☐	LE Coded S=2/8
Data Rate	☒	1 Mbit/s	☒	2 Mbit/s	☐	500/125 Kbit/s
Number of channel.....:	40					

Rated power supply	Voltage and Frequency				
	☐	AC: 220 – 240 V, 50/60 Hz			
	☐	AC: 100 – 240 V, 50/60 Hz			
	☐	DC: 2.6~3.3 V			
	☒	Battery: 3 V			
Mounting position	☐	Table top equipment			
	☐	Wall/Ceiling mounted equipment			
	☐	Floor standing equipment			
	☐	Hand-held equipment			
	☒	Other: vehicle-mounted			

1.2 Antenna Information

Antenna model / type number	PCB antenna		
Antenna serial number	N/A		
Antenna Delivery	☒	1TX + 1RX	
	☐	2TX + 2RX	
Antenna technology	☒	SISO	
	☐	MIMO	☐ CDD
			☐ Beam-forming
Antenna Type	☐	External	☐ Dipole
			☐ Sectorized
	☒	Internal	☐ PIFA
			☒ PCB
			☐ Metal Monopole Antenna
			☐ Others.....
Antenna Gain	1.1 dBi		

1.3 Channel List

Bluetooth Working Frequency of Each Channel: (For v5.0)							
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

Note: The General Description of the Item , antenna information and Channel List for the EUT in clause 1 are provided and confirmed by the client.

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 For Bluetooth	Mode 1: Transmit by LE_1Mbps(GFSK_LE)
	Mode 2: Transmit by LE_2Mbps(GFSK_LE)

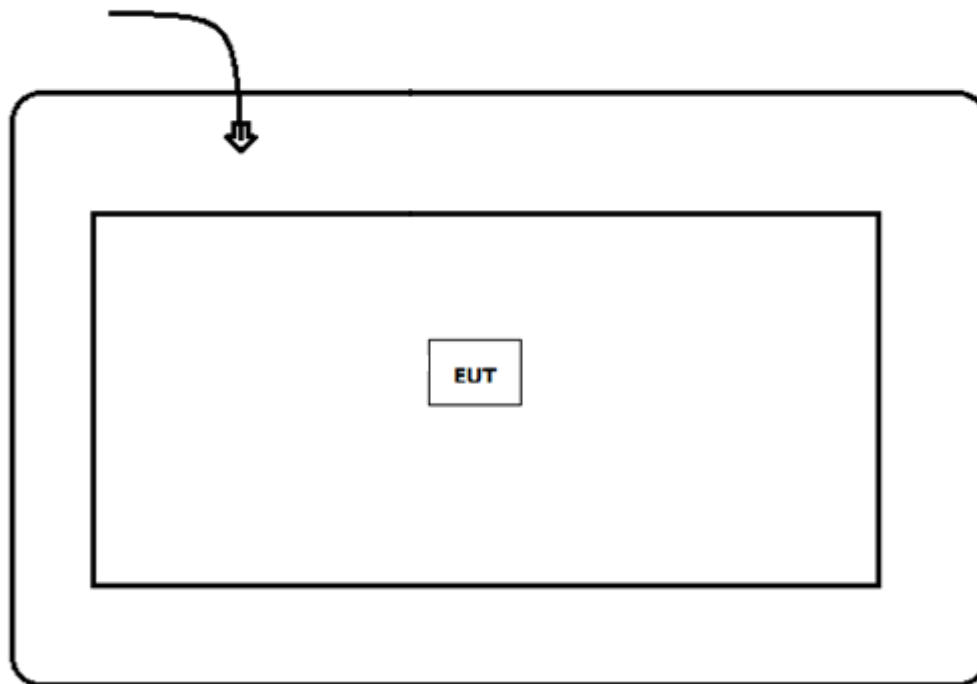
2.2 Auxiliary equipment / Test software for the EUT

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

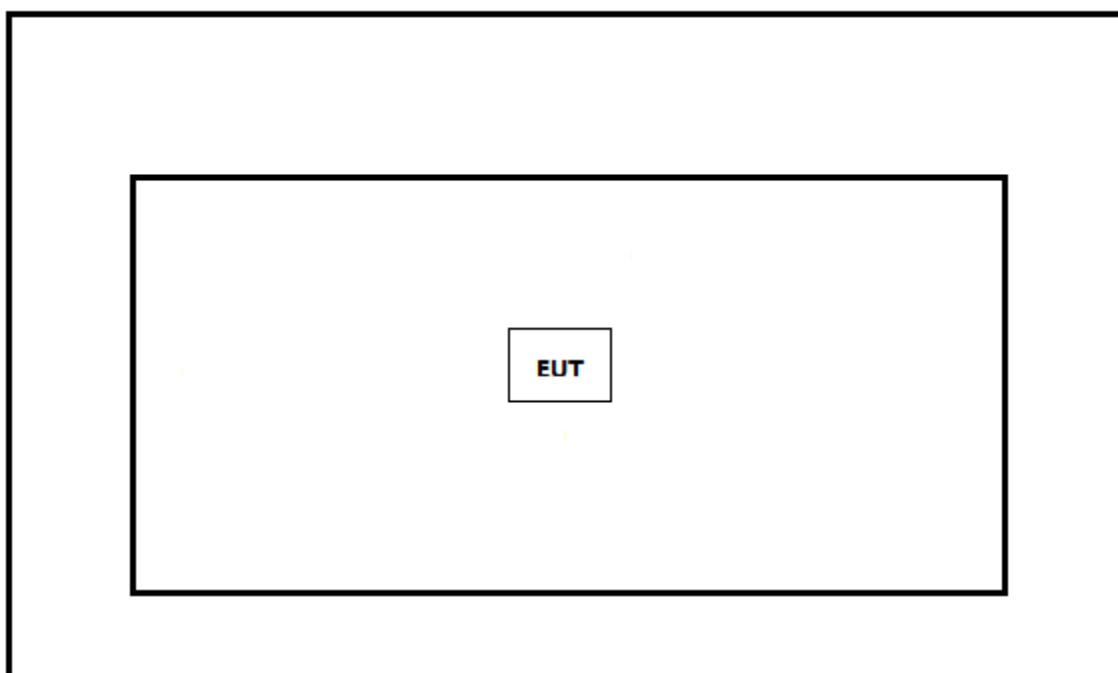
2.3 Test Configuration / Block diagram used for tests

Test setup Diagram- AC Line Conducted Emission Test

Chamber



Test setup Diagram- Conducted test



2.4 Testing process

1	Setup the EUT as shown in Section 2.3.
2	Press the button on the EUT.
3	Configure the test mode, and the test channel.
4	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 15.247	2019	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01 v05r02	2019	Guidance for performing compliance measurements on Digital Transmission System (DTS) operating under section 15.247
RSS-Gen Issue 5 Amendment 1	2019	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 2	2017	Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

(Please define the deviations from the standard(s) if applicable)

3.3 Overview of results

For FCC

Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	FCC 15.207	PASS	---
Emissions in restricted frequency bands	FCC 15.247(b)(3)	PASS	---
Duty cycle	ANSI C63.10:2013	PASS	---
Emissions in non-restricted frequency bands	FCC 15.247(d), FCC 15.209	PASS	---
Radiated Emission Band Edge	FCC 15.247(d)	PASS	---
Fundamental emission output power	FCC 15.247(d), FCC 15.209	PASS	---
DTS Bandwidth	FCC 15.247(a)(2)	PASS	---
Power Spectral Density	FCC 15.247(e)	PASS	---
Antenna Requirement	FCC 15.203	PASS	---

For ISED

Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	RSS-Gen Issue 5 Section 8.8	PASS	---
Emissions in restricted frequency bands	RSS-Gen Issue 5 Section 8.9	PASS	---
Duty cycle	ANSI C63.10:2013	PASS	---
Emissions in non-restricted frequency bands	RSS-247 Issue 2 Section 5.5	PASS	---
Radiated Emission Band Edge	RSS-Gen Issue 5 Section 8.10	PASS	---
Fundamental emission output power	RSS-247 Issue 2 Section 5.4(d)	PASS	---
DTS Bandwidth	RSS-Gen Issue 5 Section 6.7	PASS	---
Power Spectral Density	RSS-247 Issue 2 Section 5.2(b)	PASS	---
Antenna Requirement	RSS-Gen Issue 5 Section 6.8	PASS	---

3.4 Test Facility

USA	:	FCC Designation Number: CN1199
CA	:	ISED CAB identifier: CN0040

4 TEST RESULTS

4.1 AC Power Line Conducted Emission

VERDICT: N/A

4.1.1 Limit

Standard	FCC Part 15 Subpart C 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

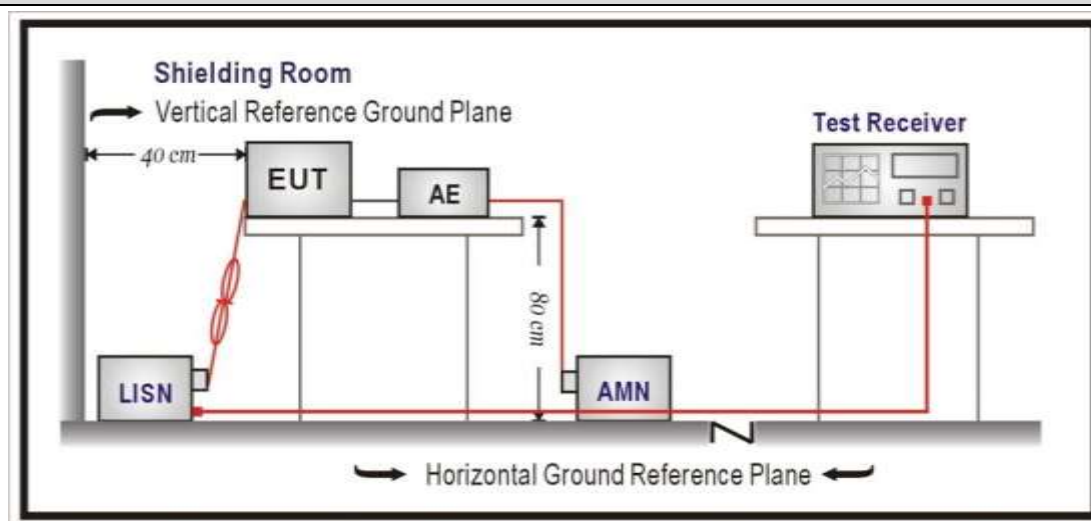
¹⁾ At the transition frequency, the lower limit applies.

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

N/A: EUT is powered by battery.

4.2 Emissions in restricted frequency bands**VERDICT: PASS****4.2.1 Limit**

Standard		FCC Part 15 Subpart C Paragraph 15.207	
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			
Restricted Bands of operation for IC			
0.090 - 0.110	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 - 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 - 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	
8.41425 - 8.41475	240 - 285	5350 - 5460	
12.29 - 12.293	322 - 335.4	7250 - 7750	
12.51975 - 12.52025	399.9 - 410	8025 - 8500	
12.57675 - 12.57725	608 - 614	--	

Restricted Band Emissions Limit

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Field strength ($\text{dB}\mu\text{V/m}$)	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)

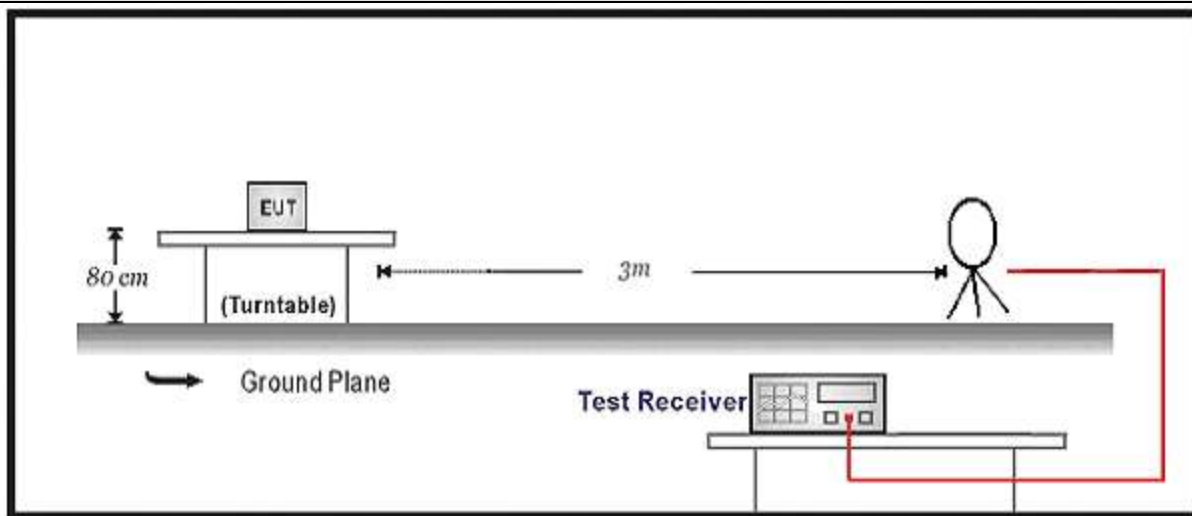
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed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

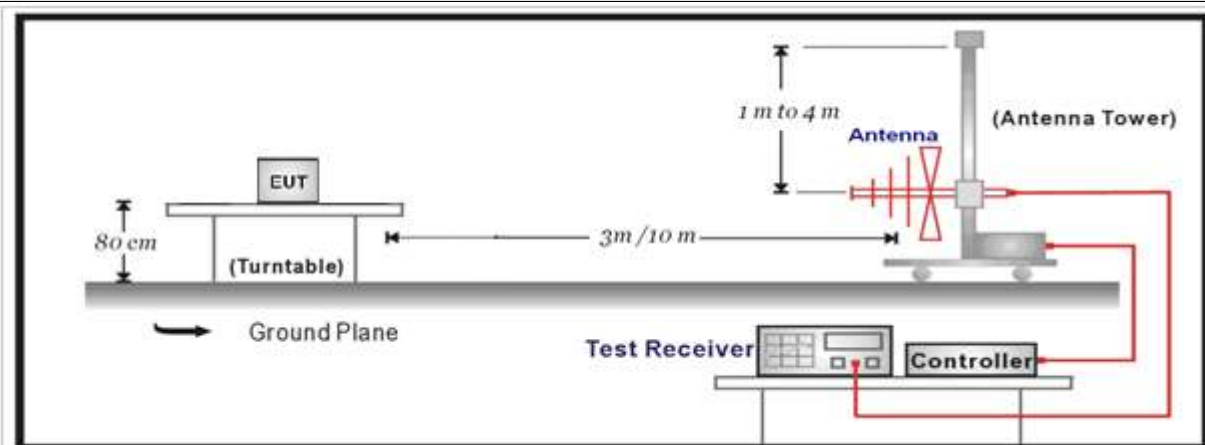
Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.2.2 Test Setup

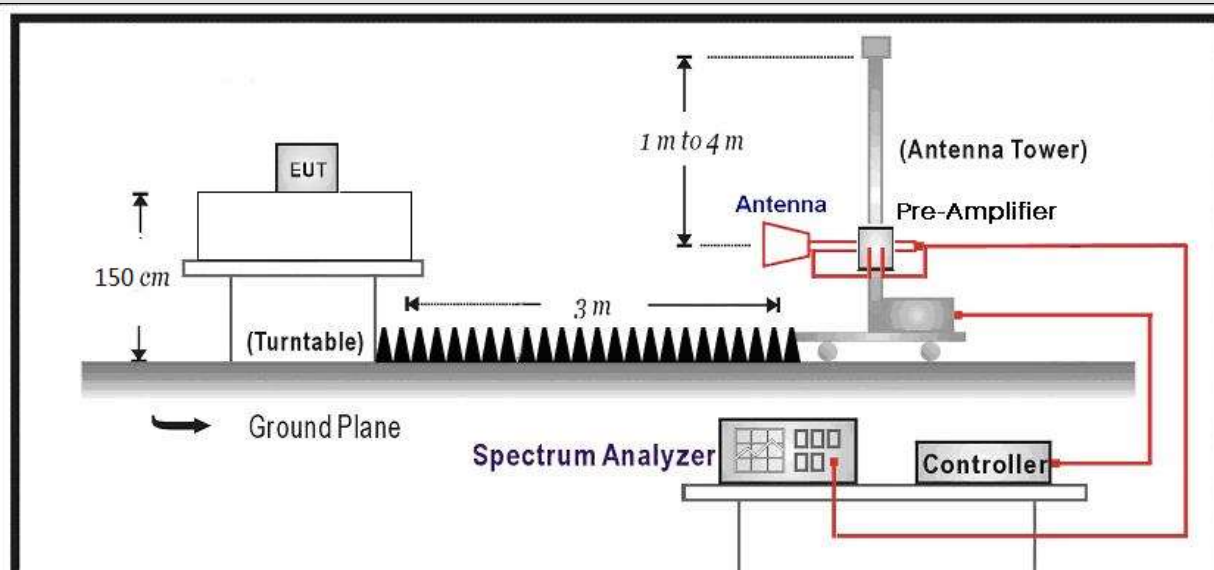
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:

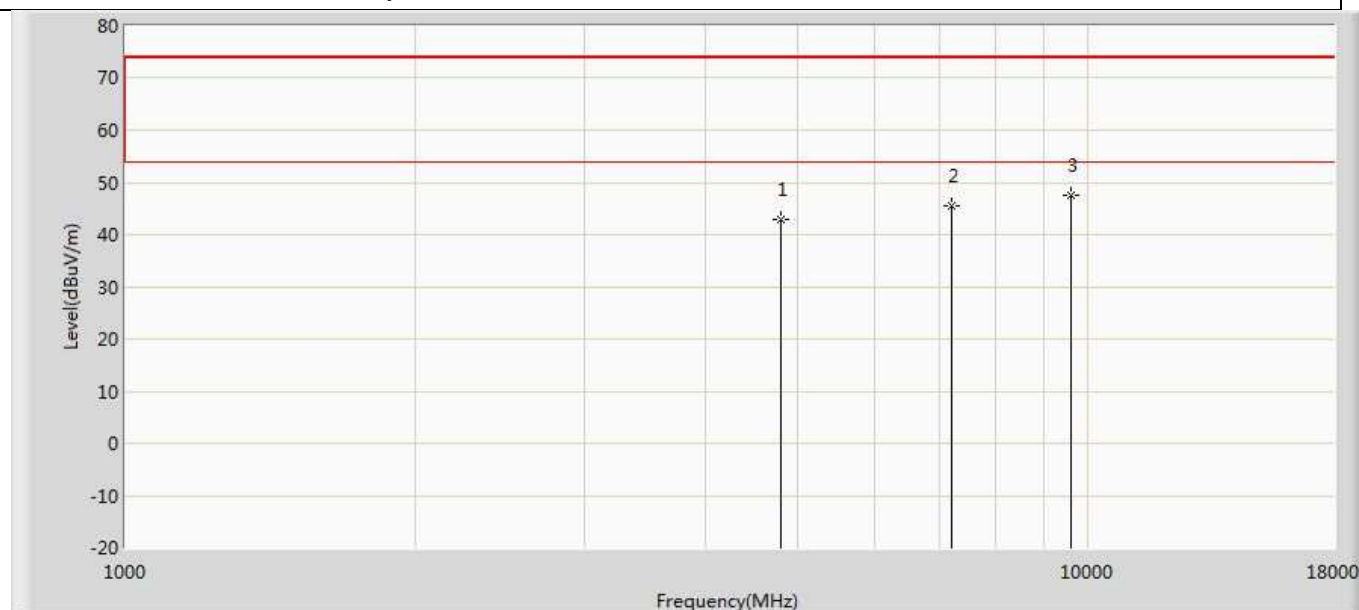


4.2.3 Test Procedure

	References Rule		Chapter	Description
☒	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

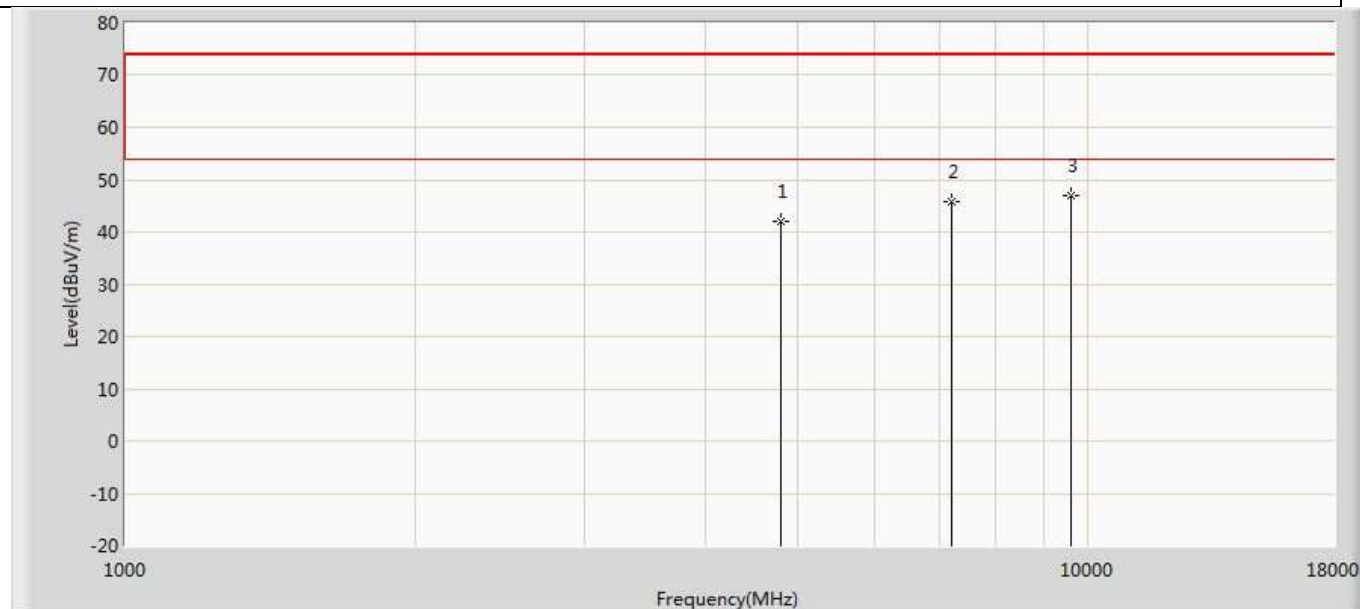
4.2.4 Test Data

Profile: 2061189R	Page No.: 29
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2402MHz by BLE	



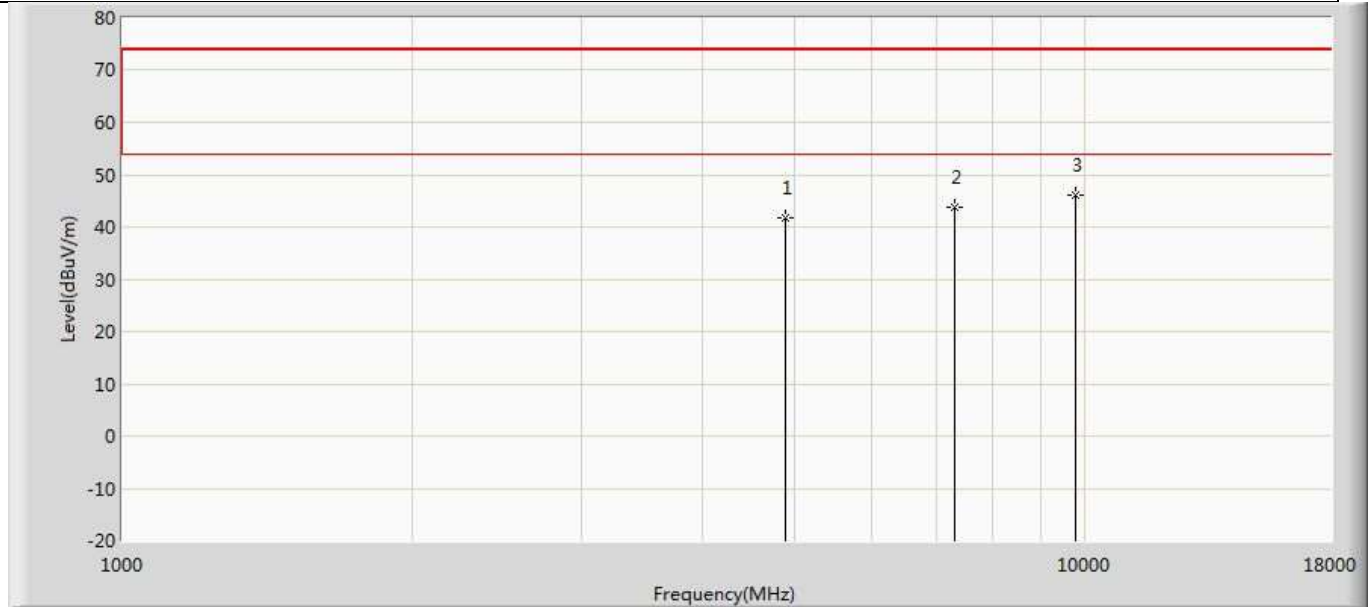
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	42.952	39.077	-31.048	74.000	3.876	PK
2		7206.000	45.555	38.107	-28.445	74.000	7.449	PK
3	*	9608.000	47.425	38.376	-26.575	74.000	9.049	PK

Profile: 2061189R	Page No.: 30
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2402MHz by BLE	



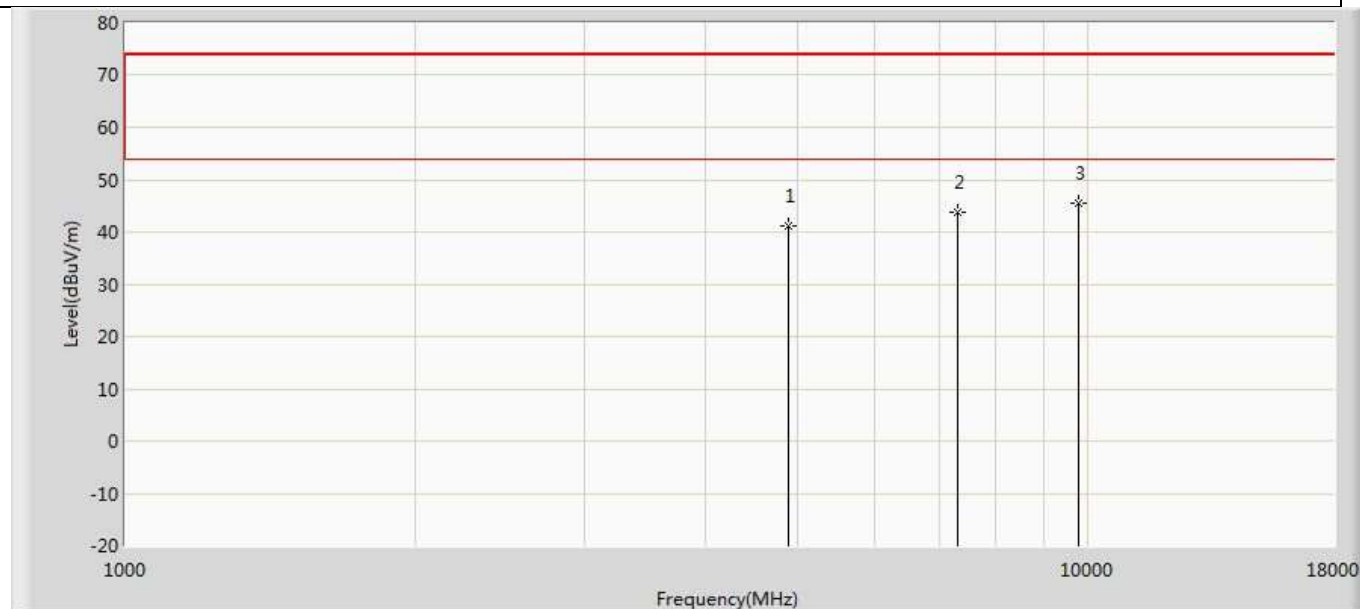
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	41.924	38.049	-32.076	74.000	3.876	PK
2		7206.000	45.688	38.240	-28.312	74.000	7.449	PK
3	*	9608.000	46.833	37.784	-27.167	74.000	9.049	PK

Profile: 2061189R	Page No.: 31
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2440MHz by BLE	



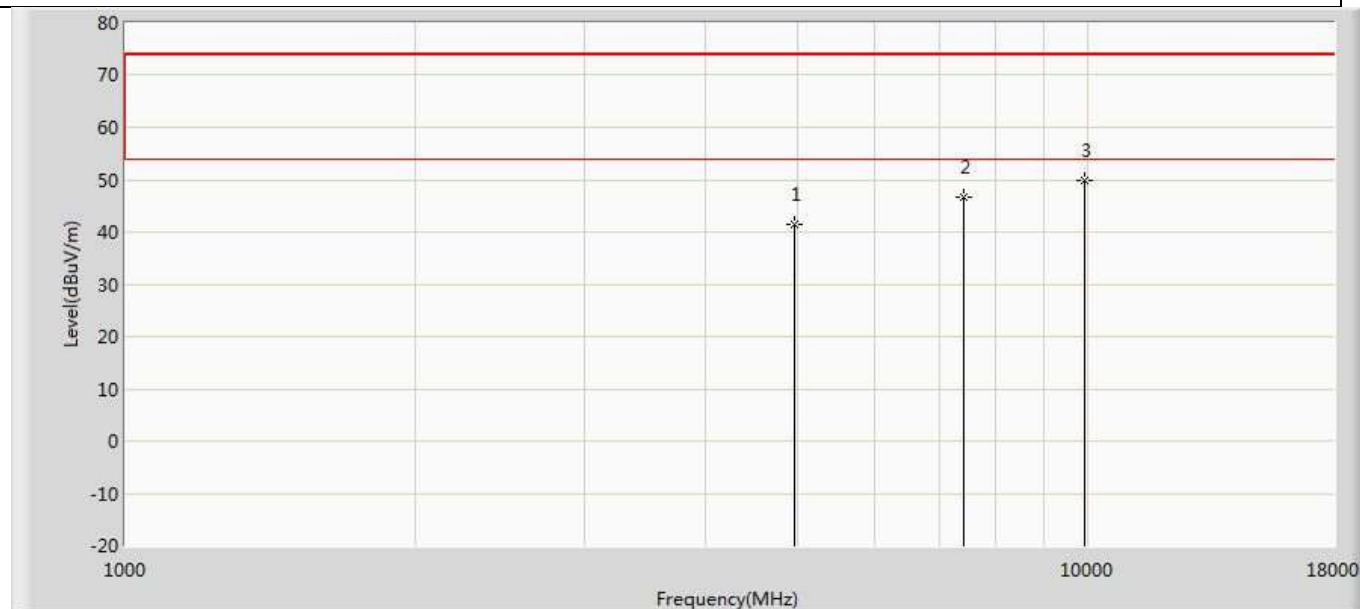
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	41.662	37.514	-32.338	74.000	4.147	PK
2		7320.000	43.673	36.419	-30.327	74.000	7.254	PK
3	*	9760.000	46.091	36.675	-27.909	74.000	9.416	PK

Profile: 2061189R	Page No.: 32
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2440MHz by BLE	



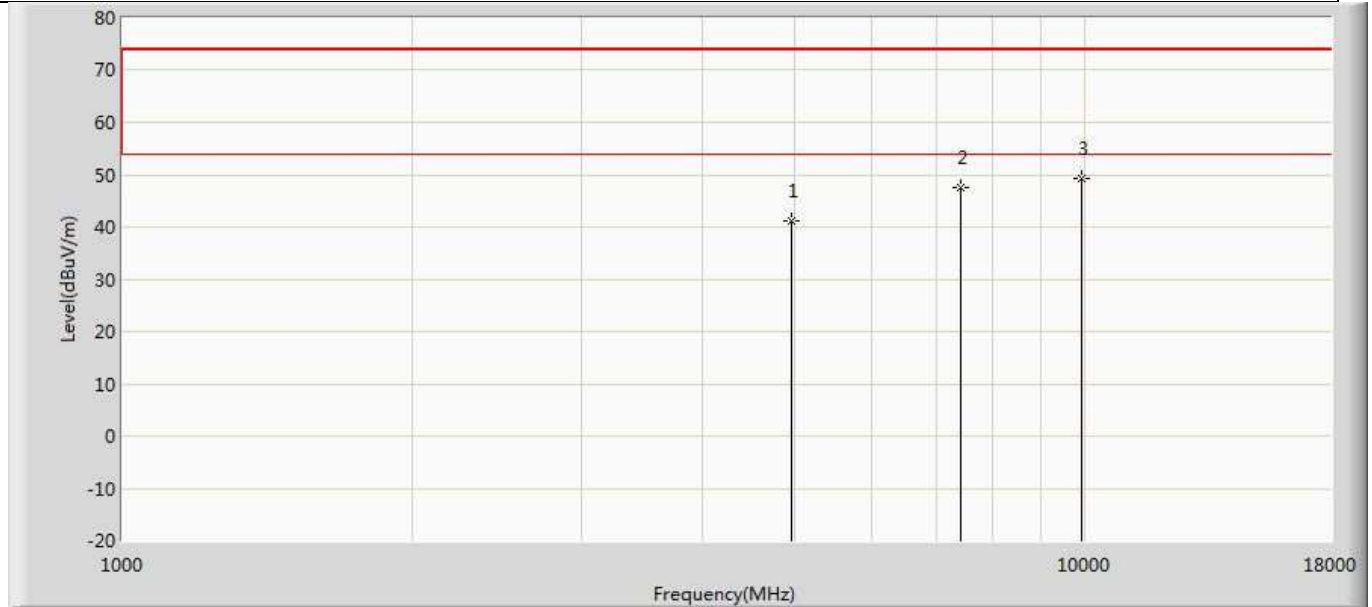
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	41.239	37.091	-32.761	74.000	4.147	PK
2		7320.000	43.839	36.585	-30.161	74.000	7.254	PK
3	*	9760.000	45.494	36.078	-28.506	74.000	9.416	PK

Profile: 2061189R	Page No.: 33
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2480MHz by BLE	



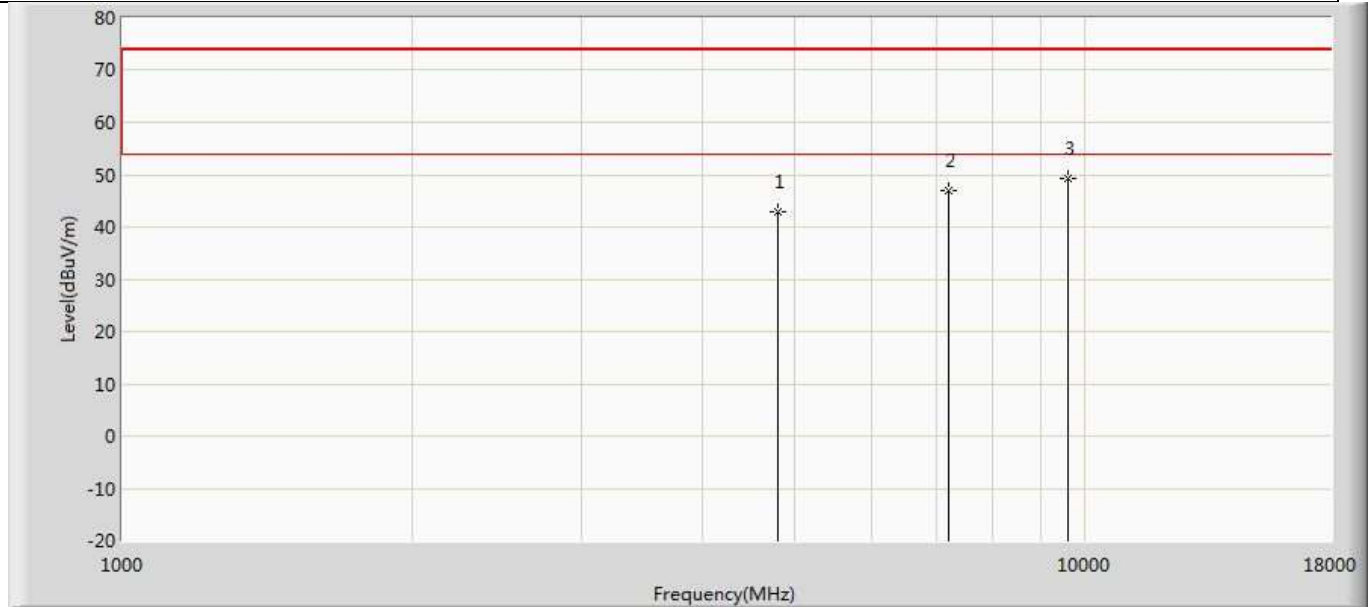
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	41.359	37.517	-32.641	74.000	3.841	PK
2		7440.000	46.681	39.766	-27.319	74.000	6.914	PK
3	*	9920.000	49.834	40.316	-24.166	74.000	9.518	PK

Profile: 2061189R	Page No.: 34
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2480MHz by BLE	



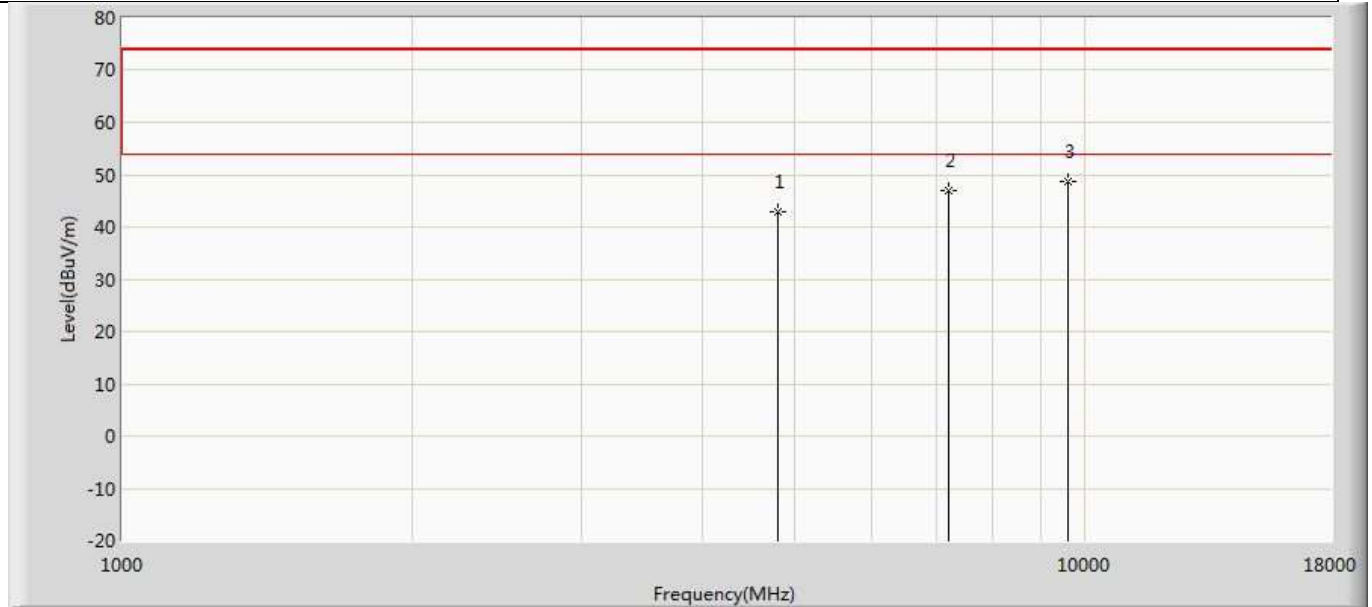
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	41.170	37.328	-32.830	74.000	3.841	PK
2		7440.000	47.672	40.757	-26.328	74.000	6.914	PK
3	*	9920.000	49.315	39.797	-24.685	74.000	9.518	PK

Profile: 2061189R	Page No.: 35
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2402MHz by 2LE	



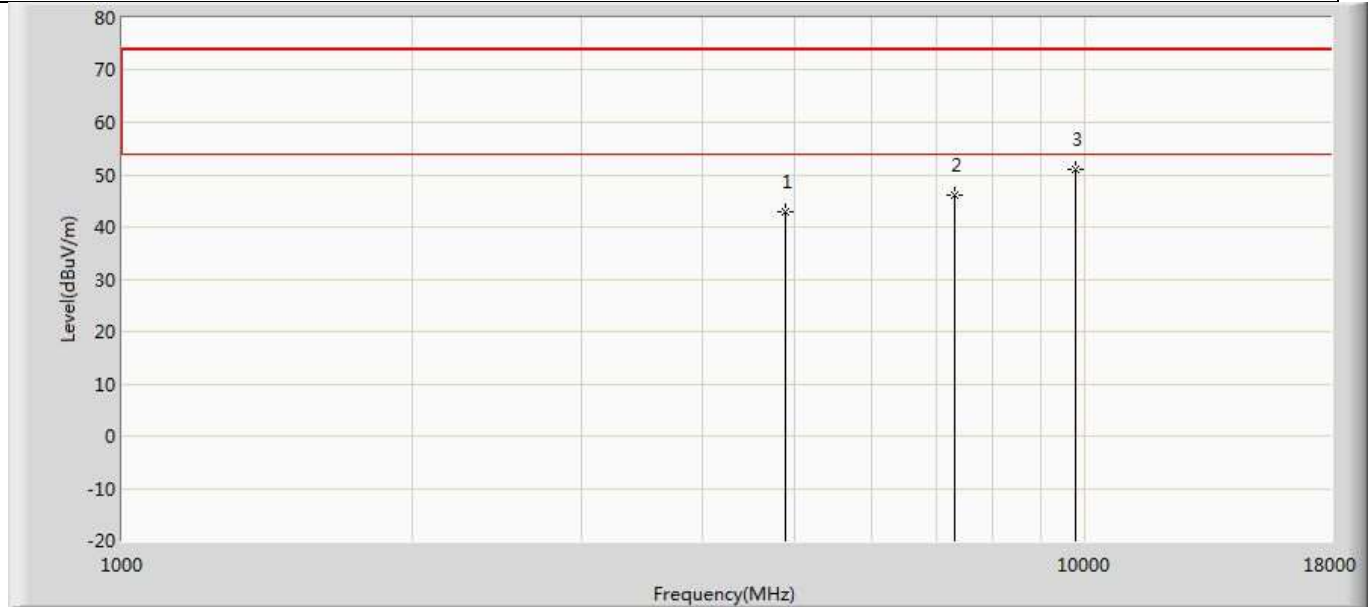
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	43.017	39.142	-30.983	74.000	3.876	PK
2		7206.000	46.955	39.507	-27.045	74.000	7.449	PK
3	*	9608.000	49.287	40.238	-24.713	74.000	9.049	PK

Profile: 2061189R	Page No.: 36
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2402MHz by 2LE	



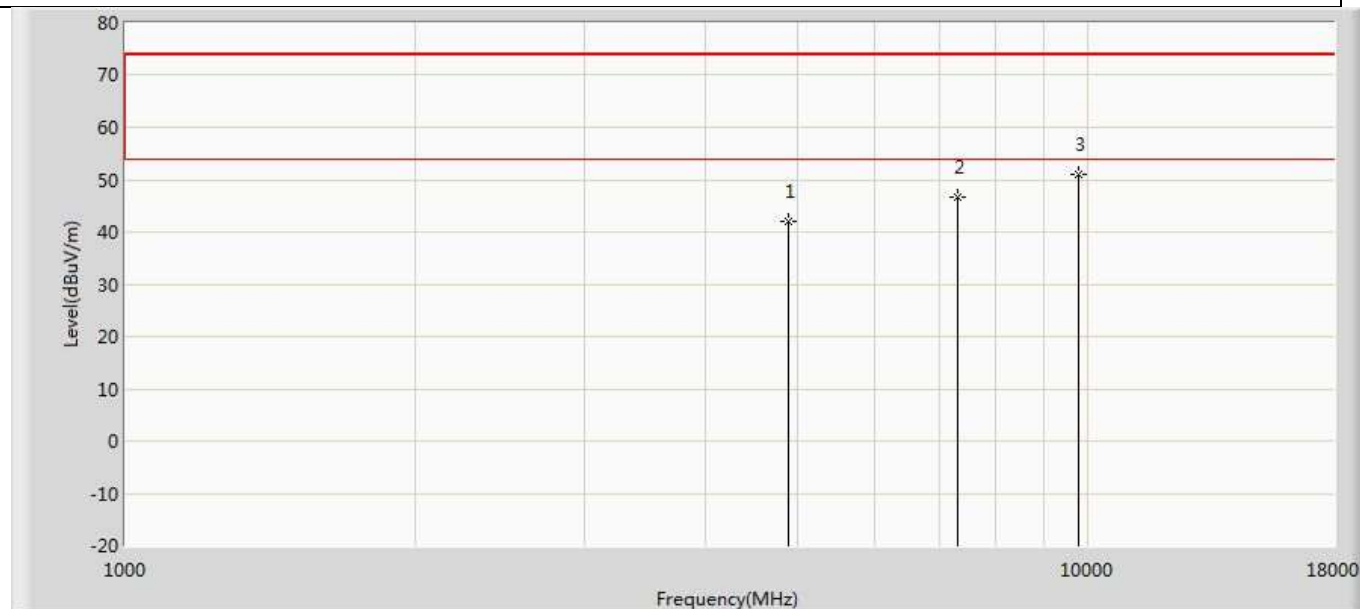
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	43.015	39.140	-30.985	74.000	3.876	PK
2		7206.000	46.932	39.484	-27.068	74.000	7.449	PK
3	*	9608.000	48.568	39.519	-25.432	74.000	9.049	PK

Profile: 2061189R	Page No.: 37
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2440MHz by 2LE	



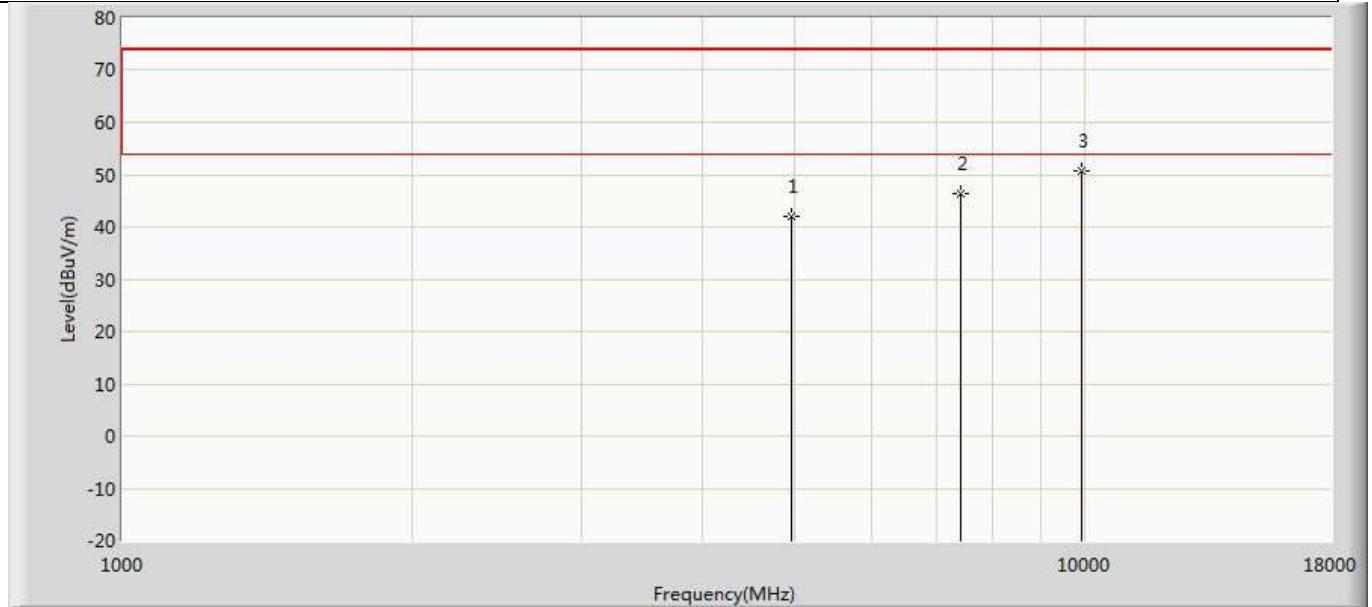
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	42.803	38.655	-31.197	74.000	4.147	PK
2		7320.000	46.106	38.852	-27.894	74.000	7.254	PK
3	*	9760.000	51.029	41.613	-22.971	74.000	9.416	PK

Profile: 2061189R	Page No.: 38
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2440MHz by 2LE	



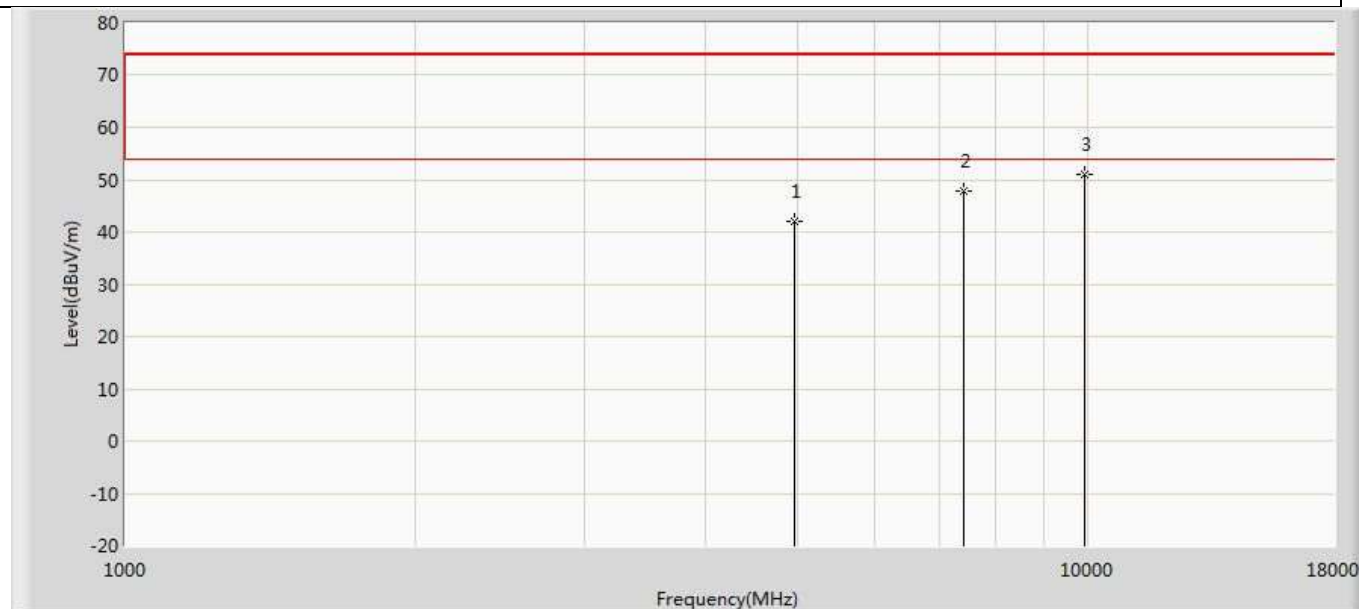
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	42.014	37.866	-31.986	74.000	4.147	PK
2		7320.000	46.743	39.489	-27.257	74.000	7.254	PK
3	*	9760.000	51.025	41.609	-22.975	74.000	9.416	PK

Profile: 2061189R	Page No.: 39
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2480MHz by 2LE	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	42.107	38.265	-31.893	74.000	3.841	PK
2		7440.000	46.457	39.542	-27.543	74.000	6.914	PK
3	*	9920.000	50.783	41.265	-23.217	74.000	9.518	PK

Profile: 2061189R	Page No.: 40
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 19:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2480MHz by 2LE	



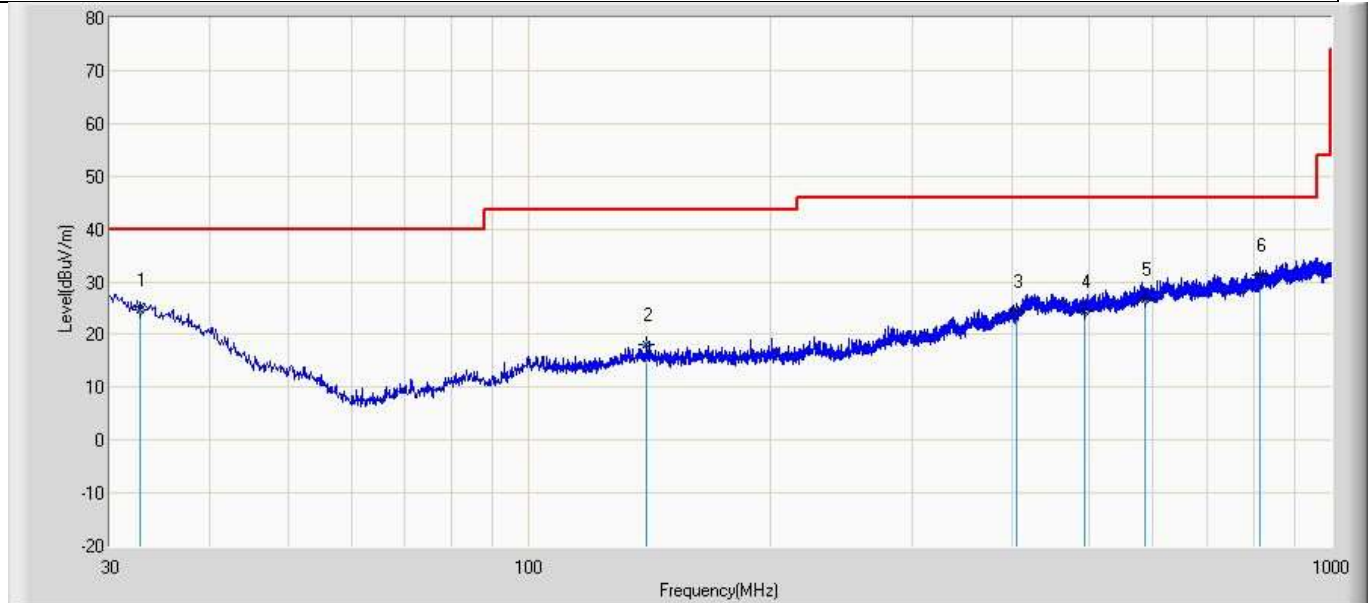
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	42.074	38.232	-31.926	74.000	3.841	PK
2		7440.000	47.907	40.992	-26.093	74.000	6.914	PK
3	*	9920.000	51.014	41.496	-22.986	74.000	9.518	PK

Note:

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

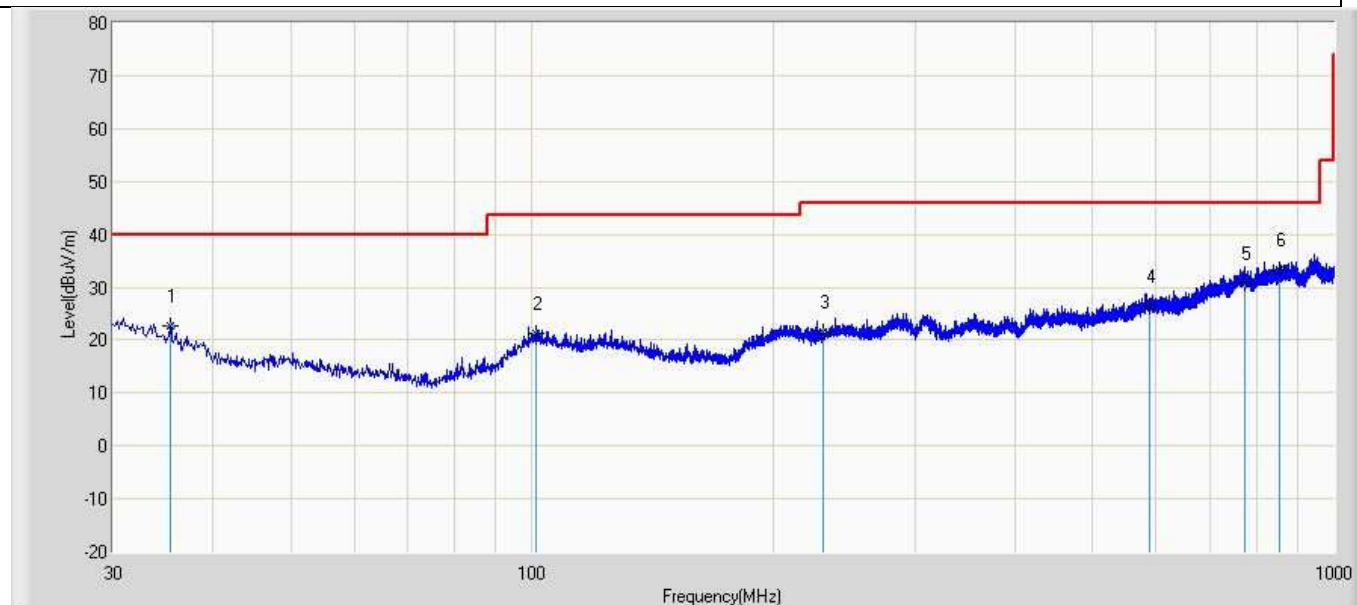
The worst case of Radiated Emission below 1GHz:

Profile: 2061189R	Page No.: 1
Engineer: Pawn	
Site: AC3	Time: 2020/09/22 - 19:36
Limit: FCC_Part15.109_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		32.667	24.750	-1.743	-15.250	40.000	26.493	QP
2		139.731	18.194	0.510	-25.306	43.500	17.684	QP
3		405.875	24.322	-1.019	-21.678	46.000	25.341	QP
4		491.962	24.395	-2.461	-21.605	46.000	26.857	QP
5		586.416	26.821	-1.546	-19.179	46.000	28.367	QP
6	*	816.306	31.313	0.961	-14.687	46.000	30.351	QP

Profile: 2061189R	Page No.: 2
Engineer: Pawn	
Site: AC3	Time: 2020/09/22 - 19:39
Limit: FCC_Part15.109_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		35.335	22.830	0.512	-17.170	40.000	22.318	QP
2		100.931	21.197	-0.920	-22.303	43.500	22.118	QP
3		230.426	21.488	-0.779	-24.512	46.000	22.267	QP
4		589.690	26.442	-0.913	-19.558	46.000	27.355	QP
5		774.960	30.728	-1.592	-15.272	46.000	32.320	QP
6	*	855.227	33.152	0.255	-12.848	46.000	32.897	QP

Note:

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

4.3 Emissions in non-restricted frequency band

VERDICT: PASS

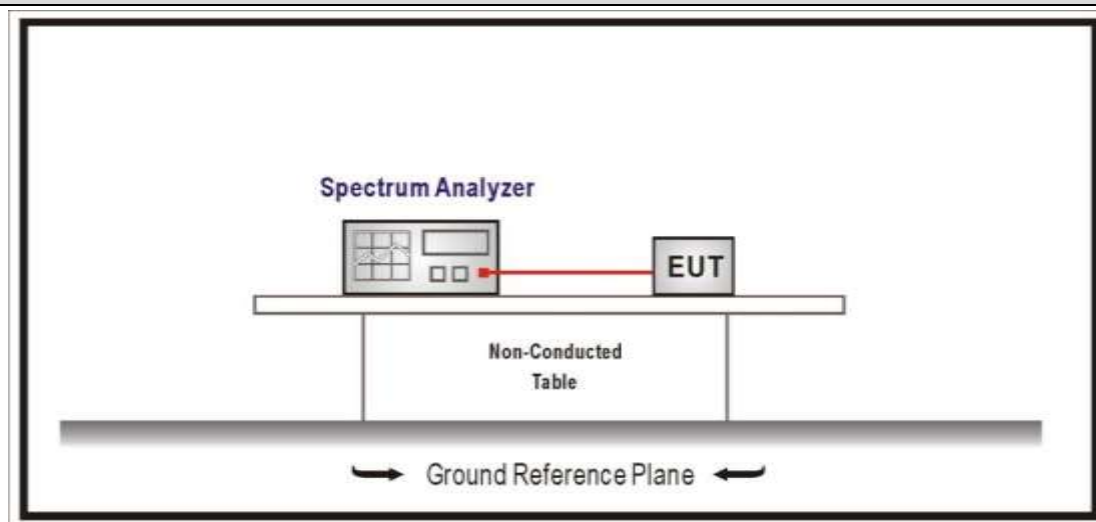
4.3.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d)
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30dBc(Note1)
RF Output power(PK detector)	20dBc(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).

4.3.2 Test Setup



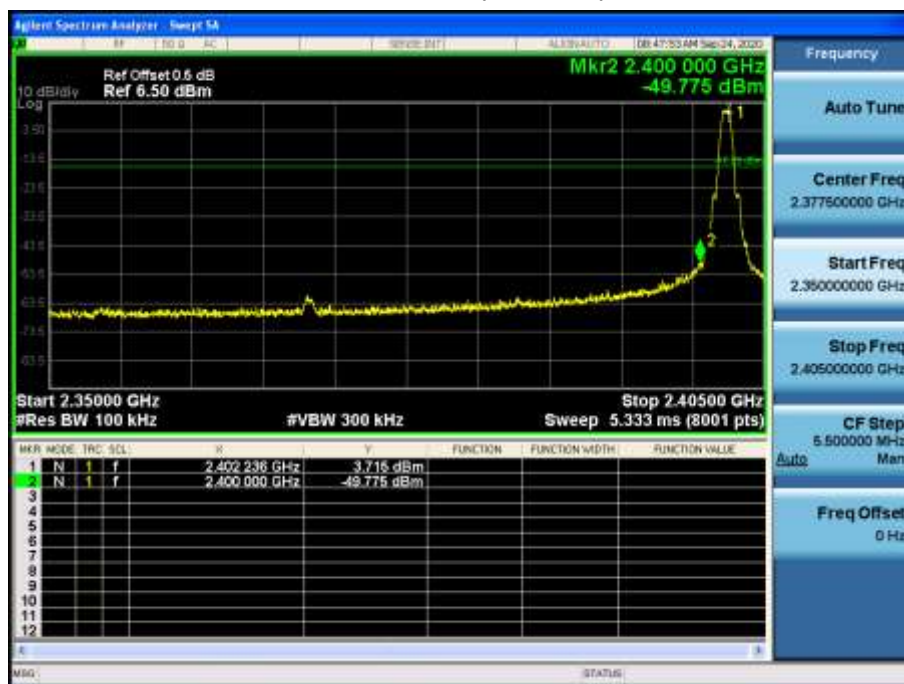
4.3.3 Test Procedure

References Rule	Chapter	Description
☒ ANSI C63.10	11.11	Emissions in non-restricted frequency bands
☒ ANSI C63.10	11.11.1	General
☒ ANSI C63.10	11.11.2	Reference level measurement
☒ ANSI C63.10	11.11.3	Emission level measurement

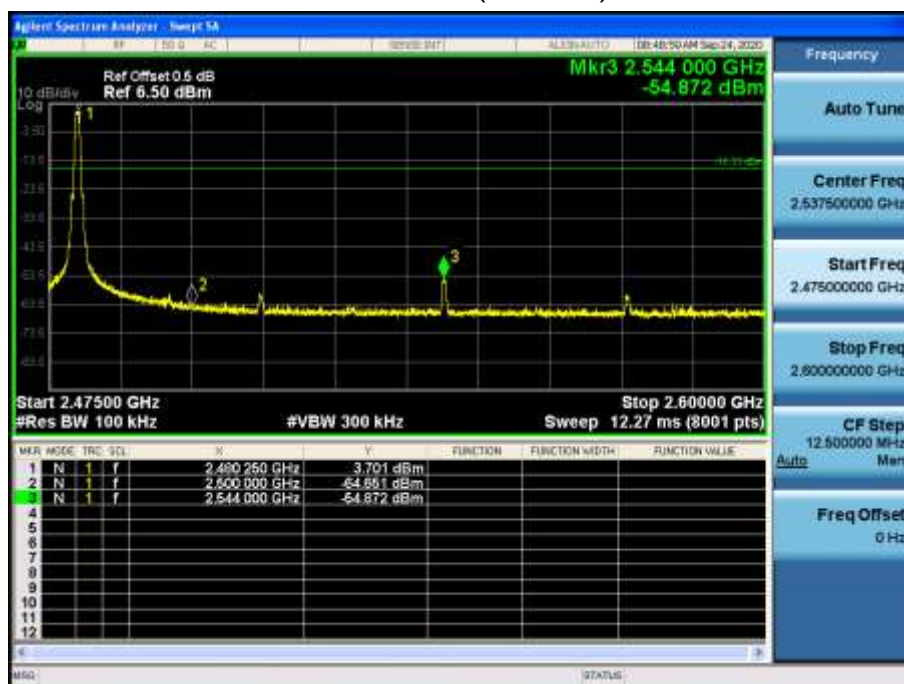
4.3.4 Test Data

Mode	Channel	Test Frequency (MHz)	Maximum In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	00	2402	3.715	2400.000	-49.775	53.490	>20	Pass
	39	2480	3.701	2544.000	-54.872	58.573	>20	Pass
2	00	2402	2.415	2400.000	-29.099	31.514	>20	Pass
	39	2480	2.099	2544.188	-56.880	58.979	>20	Pass

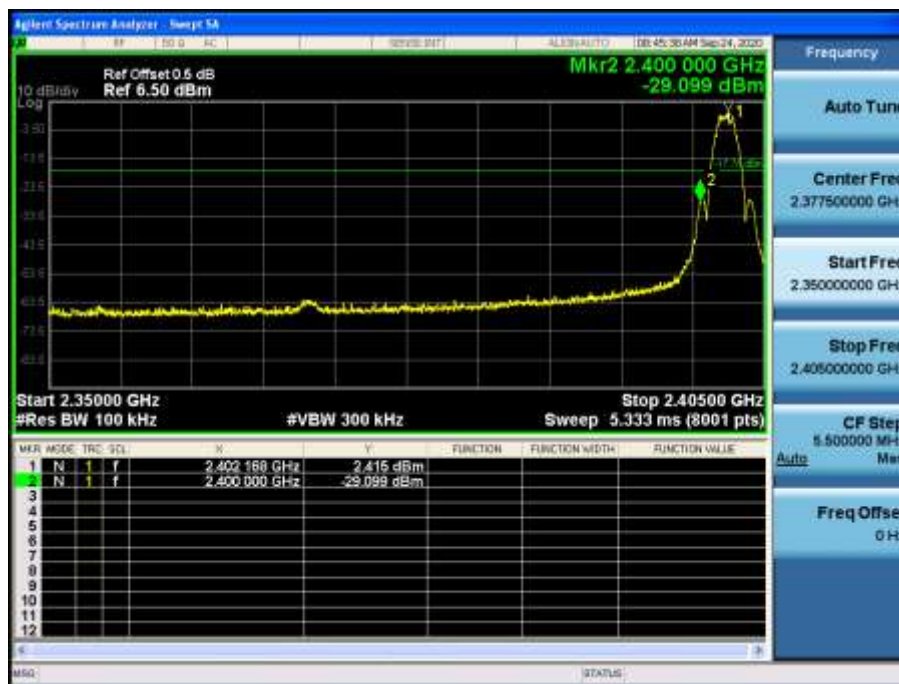
Mode 1 CH00(2402MHz)



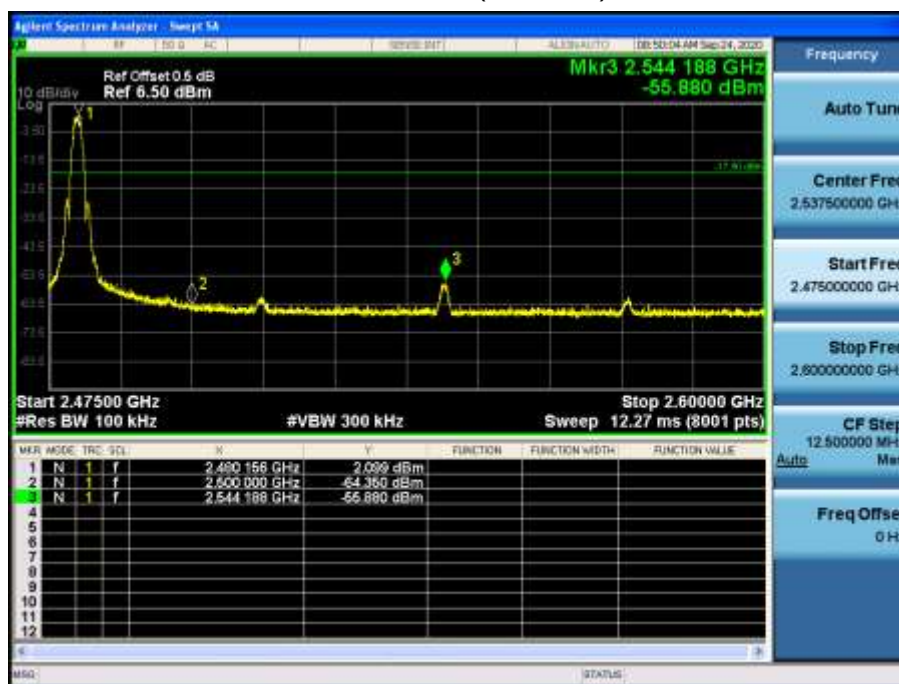
Mode 1 CH39(2480MHz)



Mode 2 CH00(2402MHz)

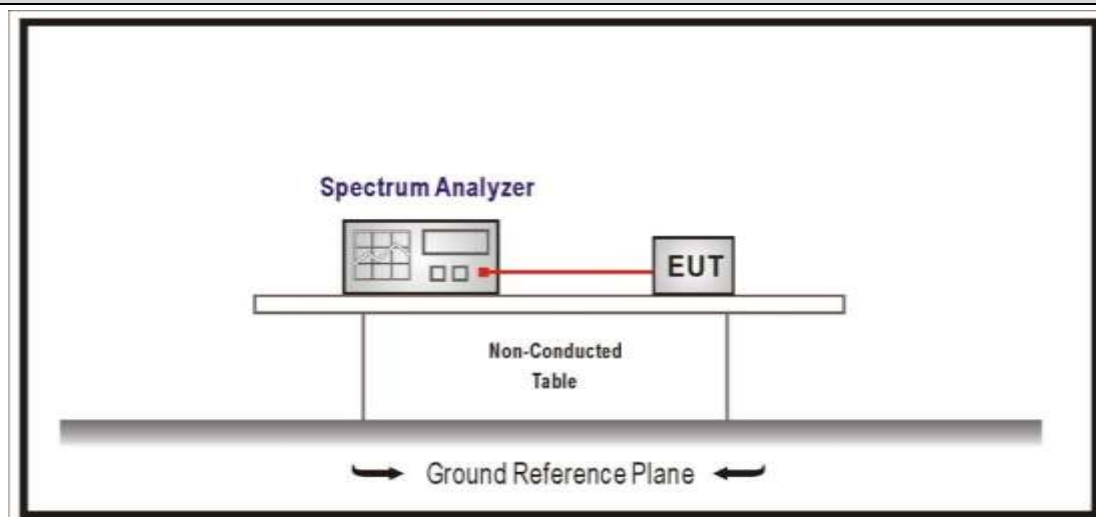


Mode 2 CH39(2480MHz)



4.4 Duty cycle**VERDICT: PASS****4.4.1 Limit**

N/A

4.4.2 Test Setup**4.4.3 Test Procedure**

References Rule		Chapter	Description
☒	ANSI C63.10	11.6	Duty cycle (D), transmission duration (T), and maximum power control level

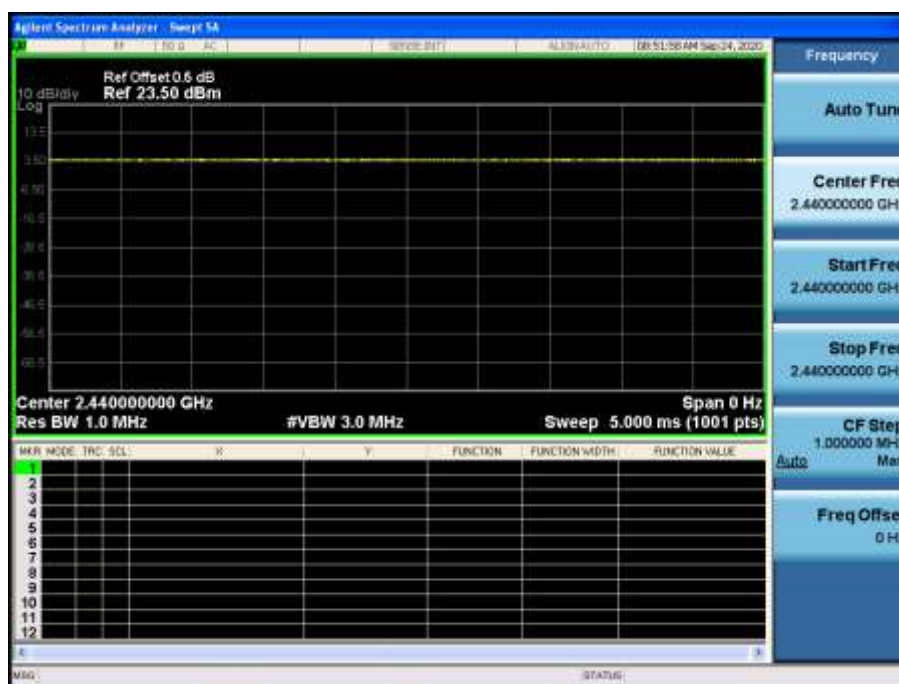
4.4.4 Test Data

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
Mode 1	N/A	N/A	0.01 kHz	N/A	100%
Mode 2	N/A	N/A	0.01 kHz	N/A	100%

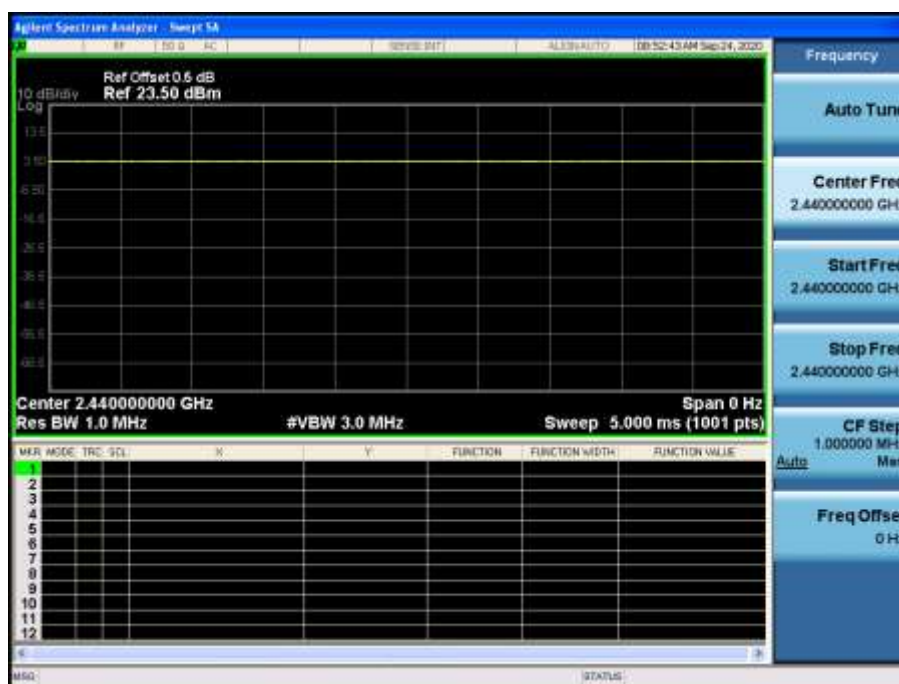
Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Note 2: According to KDB 558074, when test for Radiated Emission Band Edge and Radiated Emission, for average detector set: $VBW \geq 1/T$ will be used.

Mode 1 CH19 2440MHz



Mode 2 CH19 2440MHz



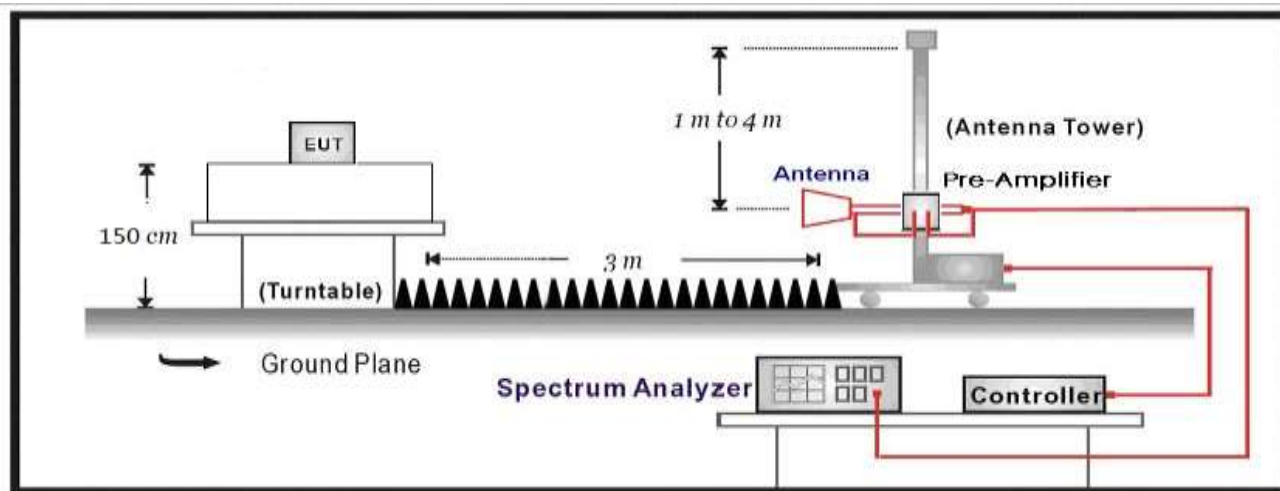
4.5 Radiated Emission Band Edge**VERDICT: PASS****4.5.1 Limit**

Standard		FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209		
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.

4.5.2 Test Setup

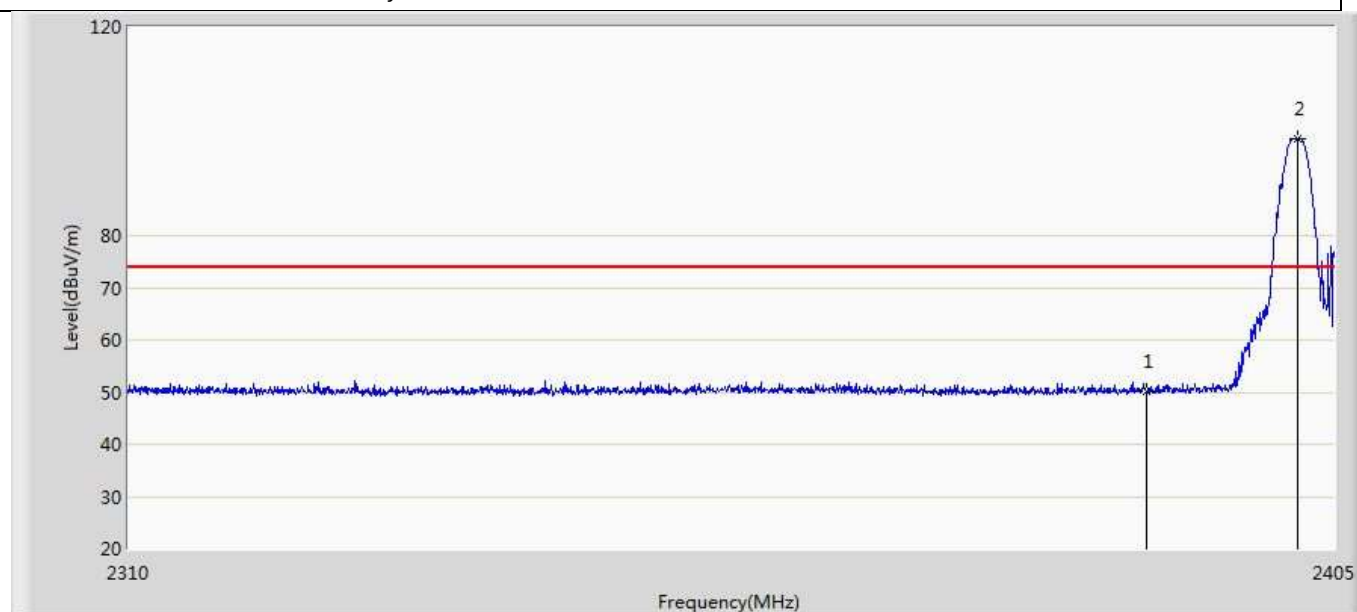
Above 1GHz Test Setup:

**4.5.3 Test Procedure**

	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	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

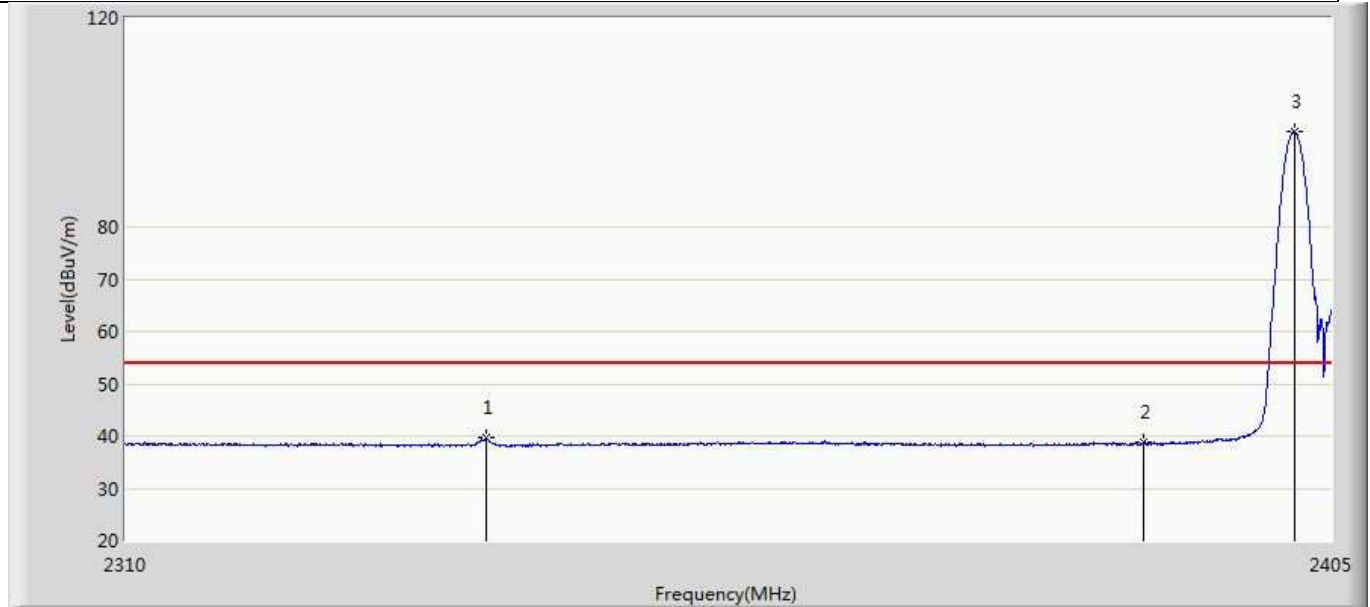
4.5.4 Test Data

Profile: 2061189R	Page No.: 1
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2402MHz by BLE	



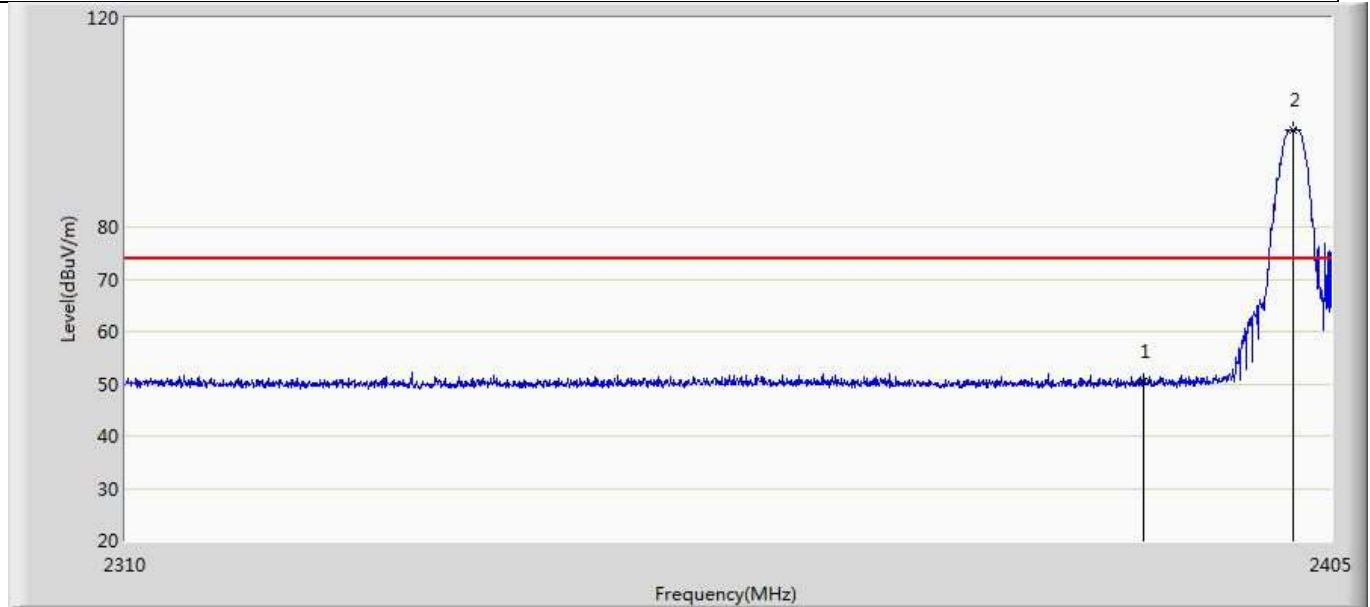
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.112	15.370	-23.888	74.000	34.743	PK
2	*	2402.055	98.450	63.748	24.450	74.000	34.702	PK

Profile: 2061189R	Page No.: 2
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2402MHz by BLE	



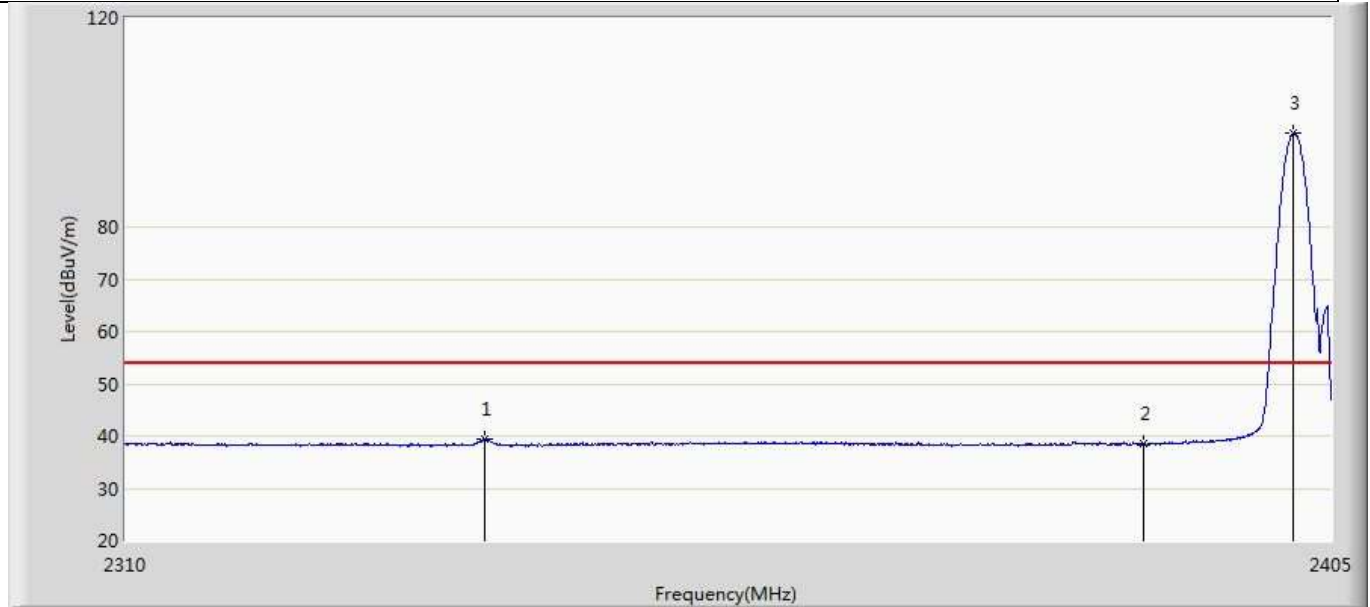
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2338.073	39.629	4.824	-14.371	54.000	34.805	AV
2		2390.000	38.810	4.068	-15.190	54.000	34.743	AV
3	*	2402.055	98.157	63.455	44.157	54.000	34.702	AV

Profile: 2061189R	Page No.: 3
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2402MHz by BLE	



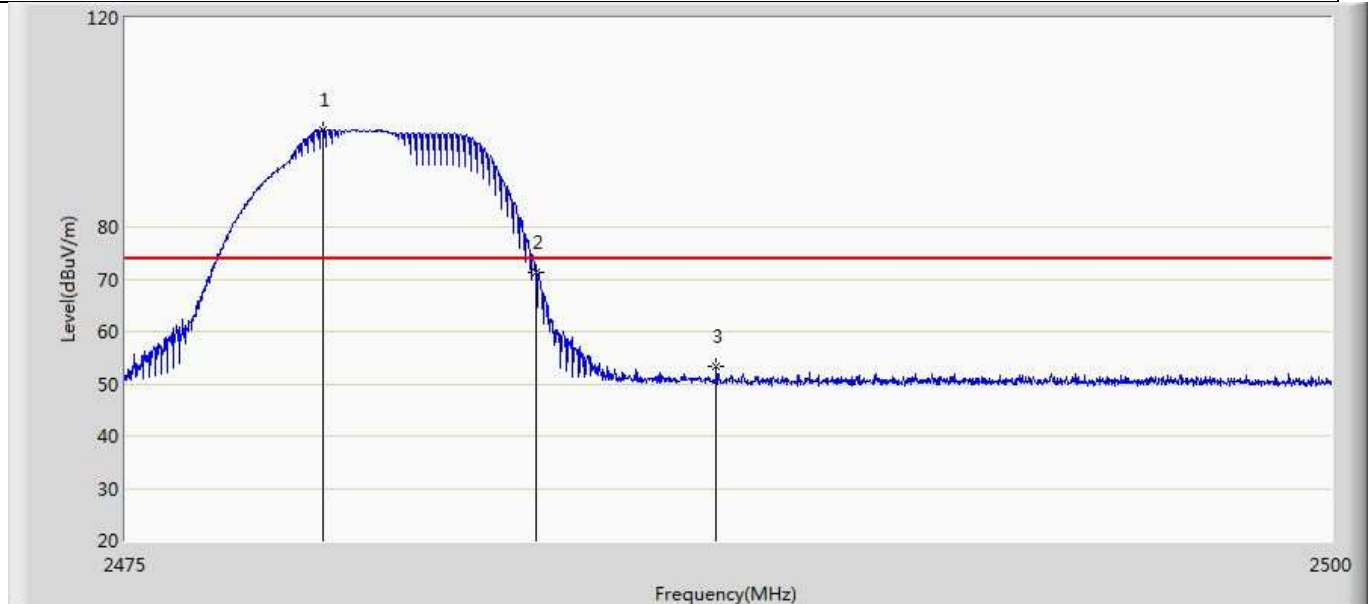
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.420	15.678	-23.580	74.000	34.743	PK
2	*	2401.913	98.600	63.897	24.600	74.000	34.703	PK

Profile: 2061189R	Page No.: 4
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2402MHz by BLE	



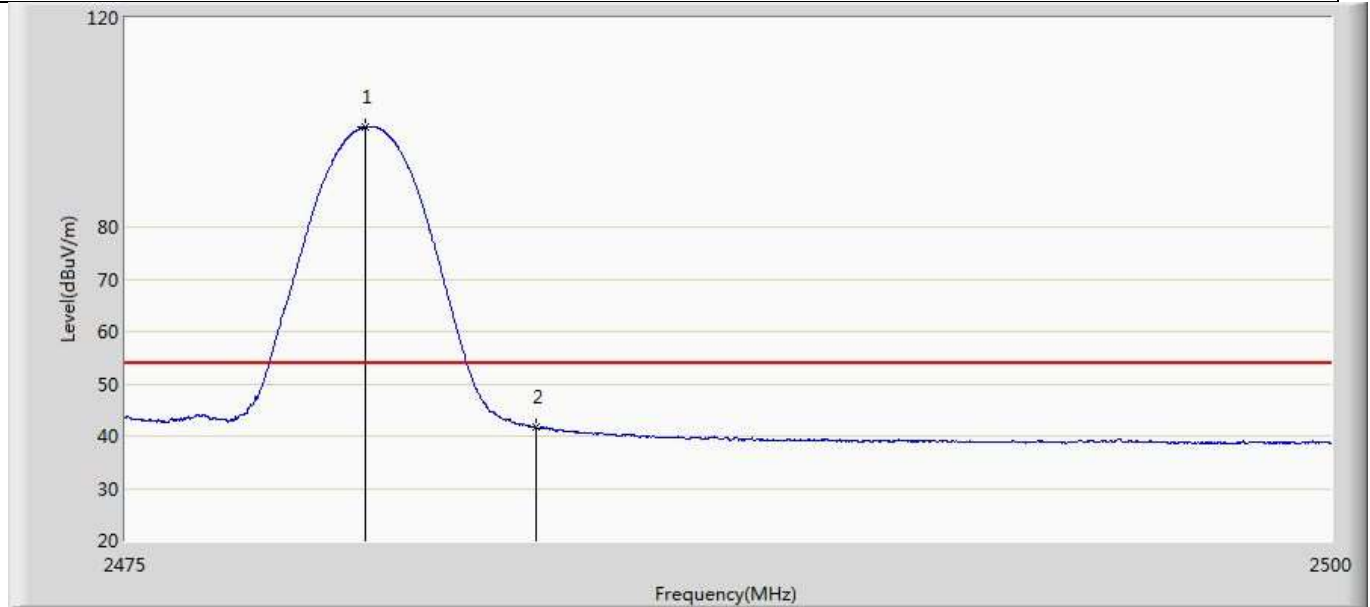
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2337.978	39.415	4.609	-14.585	54.000	34.806	AV
2		2390.000	38.424	3.682	-15.576	54.000	34.743	AV
3	*	2401.913	97.863	63.160	43.863	54.000	34.703	AV

Profile: 2061189R	Page No.: 5
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2480MHz by BLE	



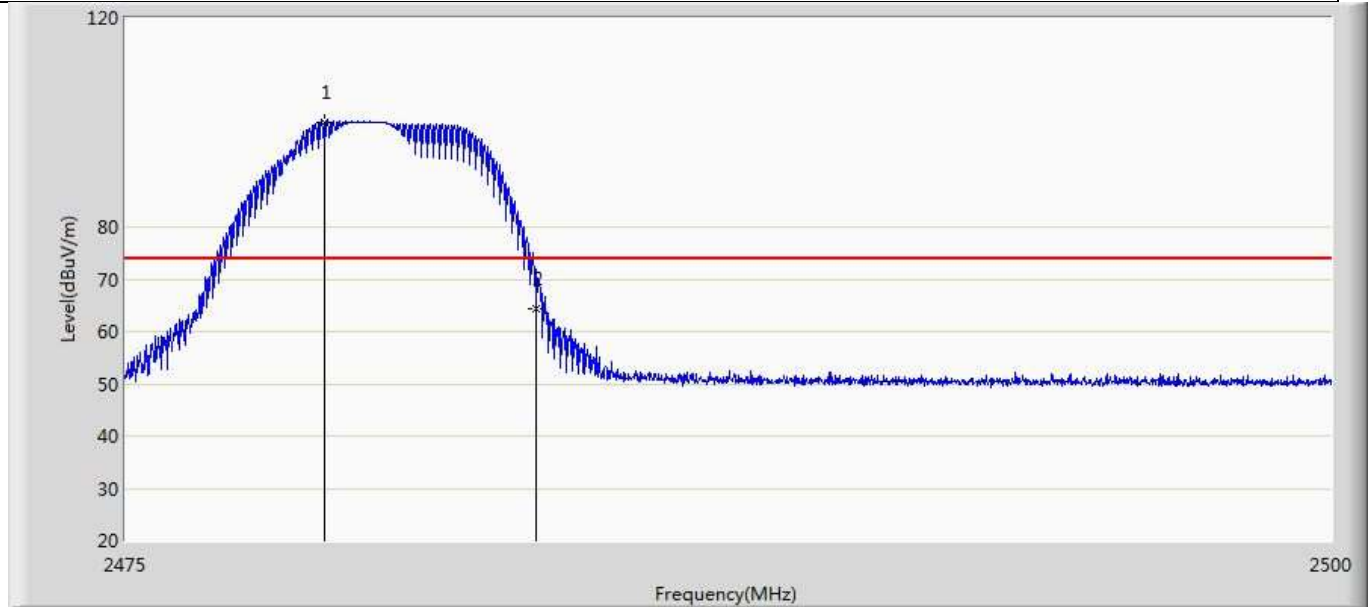
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.075	98.475	63.747	24.475	74.000	34.728	PK
2		2483.500	71.334	36.584	-2.666	74.000	34.750	PK
3		2487.225	53.276	18.507	-20.724	74.000	34.769	PK

Profile: 2061189R	Page No.: 6
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2480MHz by BLE	



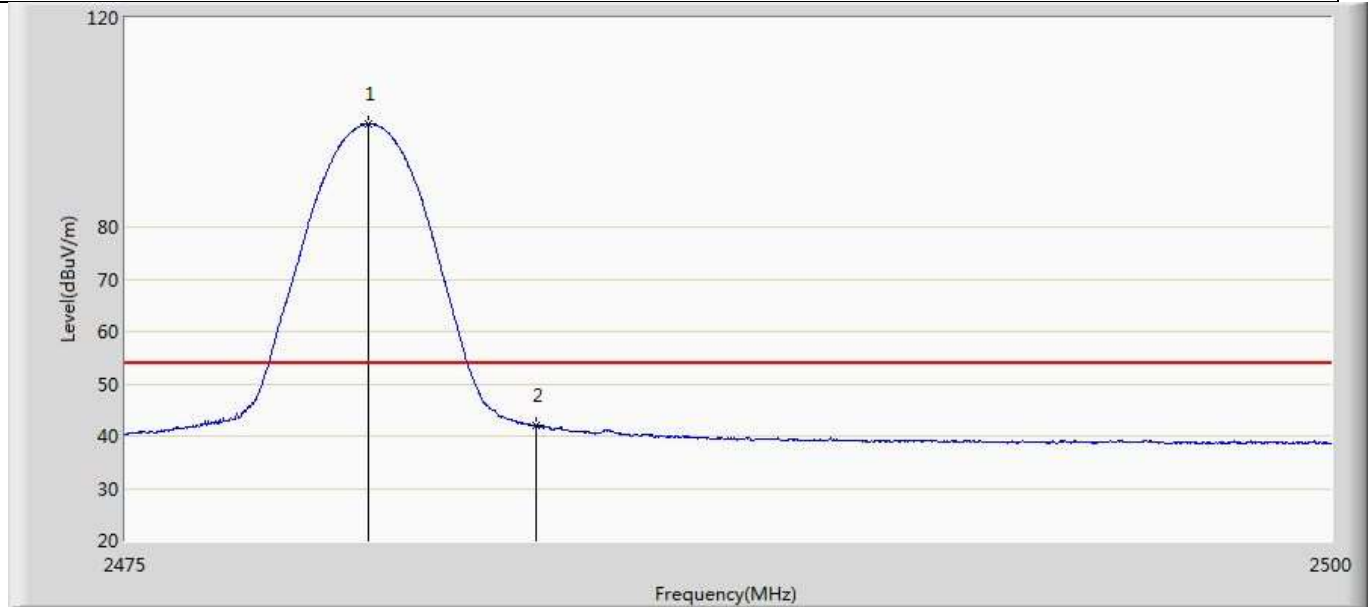
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.975	99.175	64.442	45.175	54.000	34.733	AV
2		2483.500	41.649	6.899	-12.351	54.000	34.750	AV

Profile: 2061189R	Page No.: 7
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2480MHz by BLE	



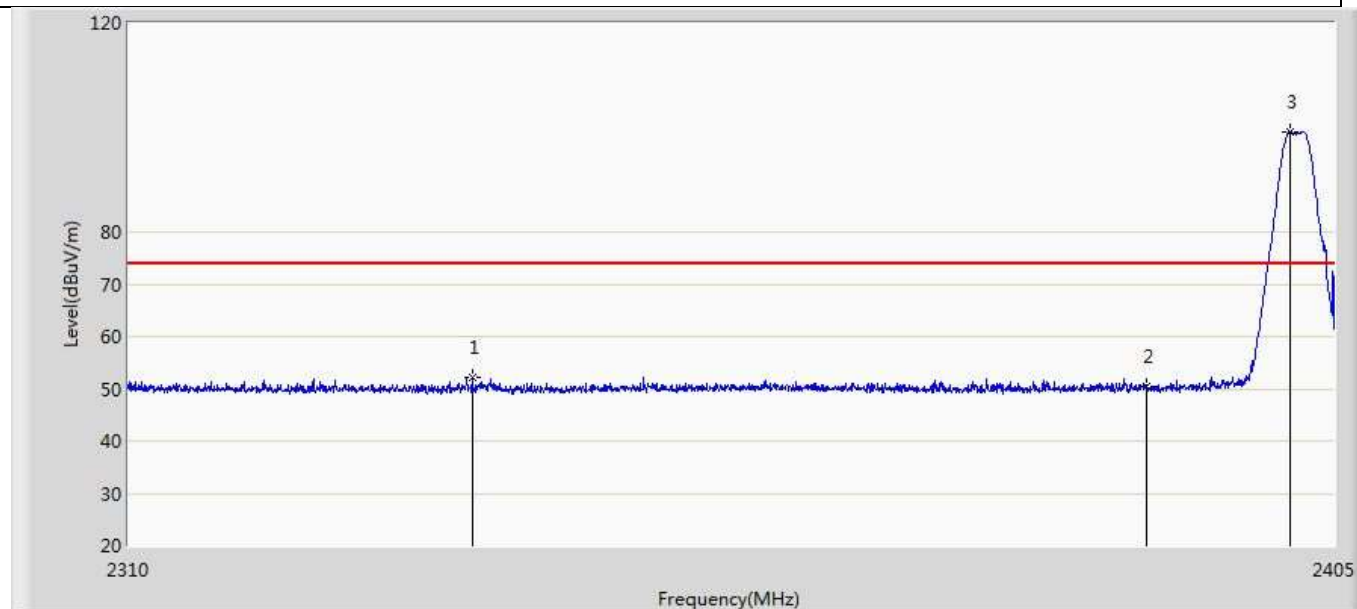
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.113	100.105	65.376	26.105	74.000	34.729	PK
2		2483.500	64.328	29.578	-9.672	74.000	34.750	PK

Profile: 2061189R	Page No.: 8
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode1:Transmit at 2480MHz by BLE	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.012	99.677	64.944	45.677	54.000	34.733	AV
2		2483.500	42.126	7.376	-11.874	54.000	34.750	AV

Profile: 2061189R	Page No.: 9
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2402MHz by 2LE	



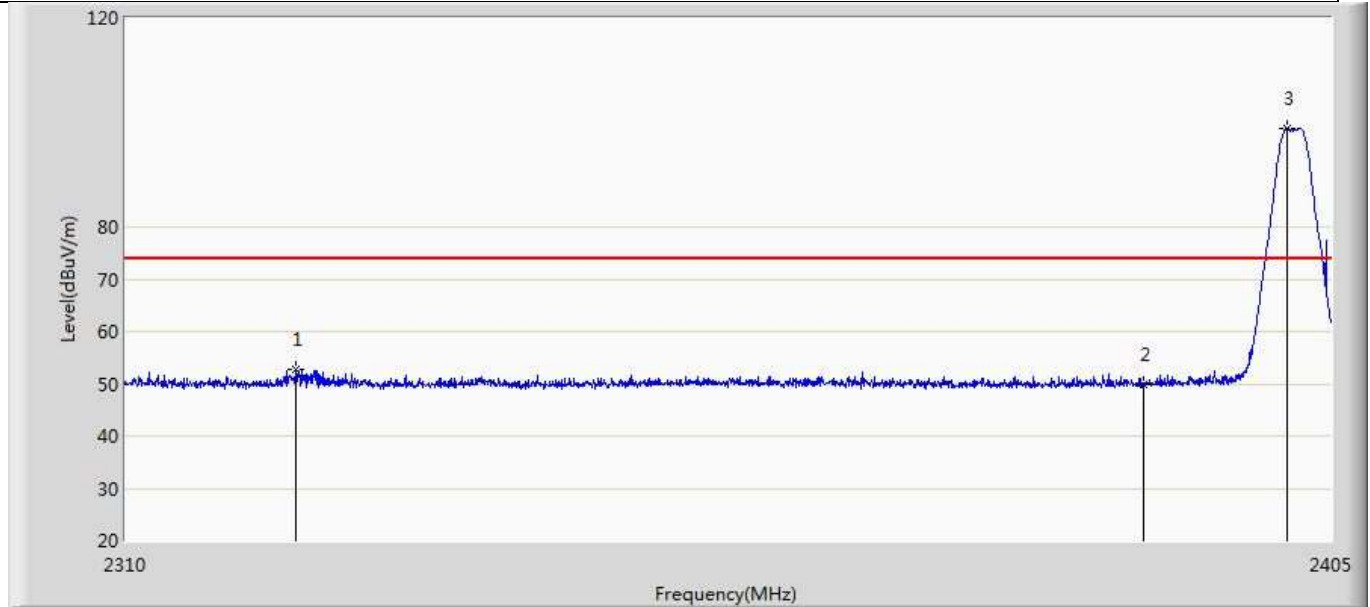
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2336.695	52.209	17.397	-21.791	74.000	34.812	PK
2		2390.000	50.313	15.571	-23.687	74.000	34.743	PK
3	*	2401.485	99.063	64.356	25.063	74.000	34.706	PK

Profile: 2061189R	Page No.: 10
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2402MHz by 2LE	



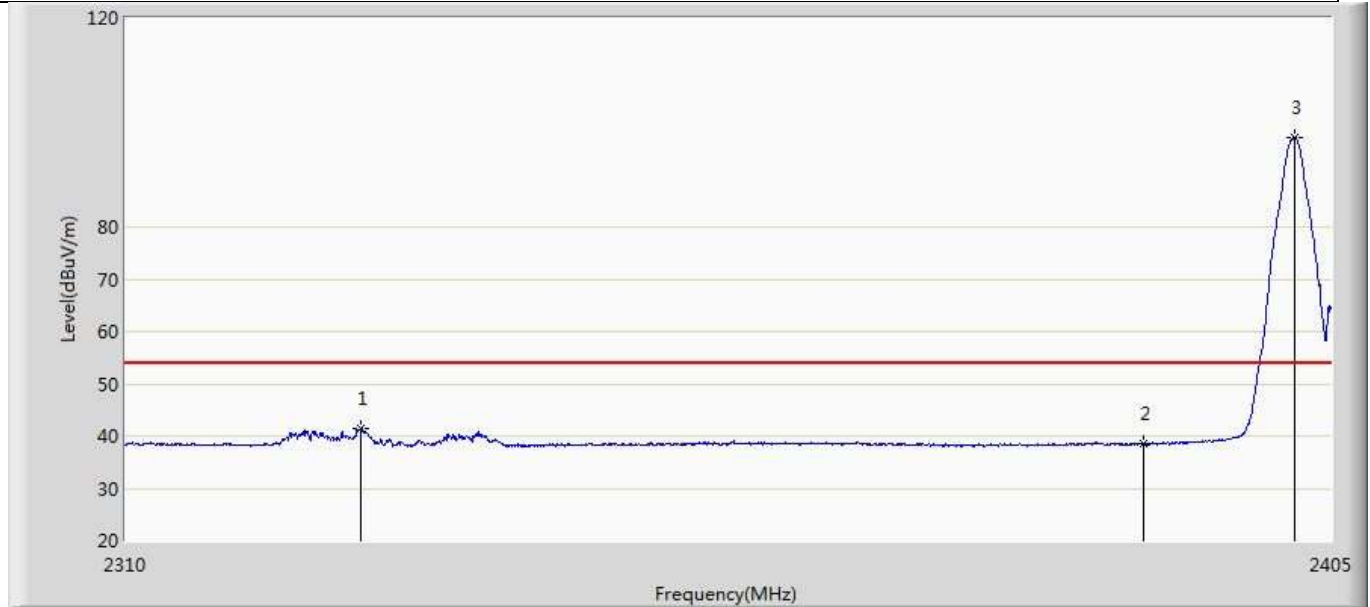
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2337.455	41.037	6.229	-12.963	54.000	34.808	AV
2		2390.000	38.677	3.935	-15.323	54.000	34.743	AV
3	*	2402.055	97.623	62.921	43.623	54.000	34.702	AV

Profile: 2061189R	Page No.: 11
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2402MHz by 2LE	



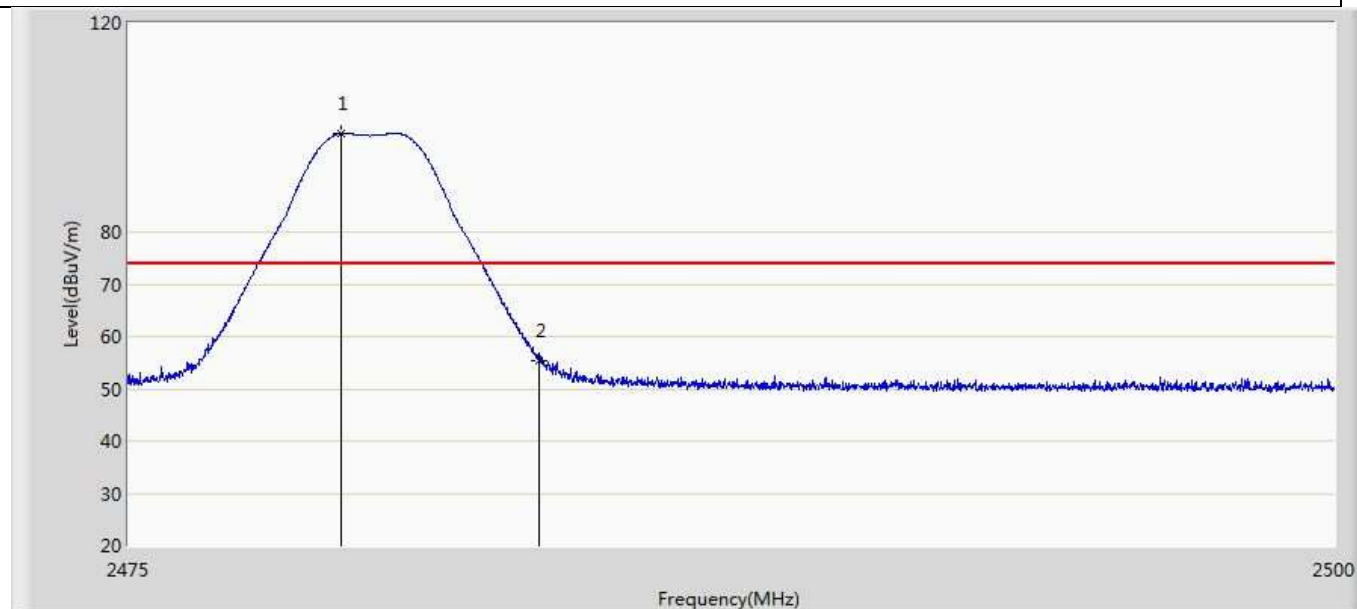
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2323.252	52.684	17.786	-21.316	74.000	34.898	PK
2		2390.000	49.900	15.158	-24.100	74.000	34.743	PK
3	*	2401.485	98.766	64.059	24.766	74.000	34.706	PK

Profile: 2061189R	Page No.: 12
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2402MHz by 2LE	



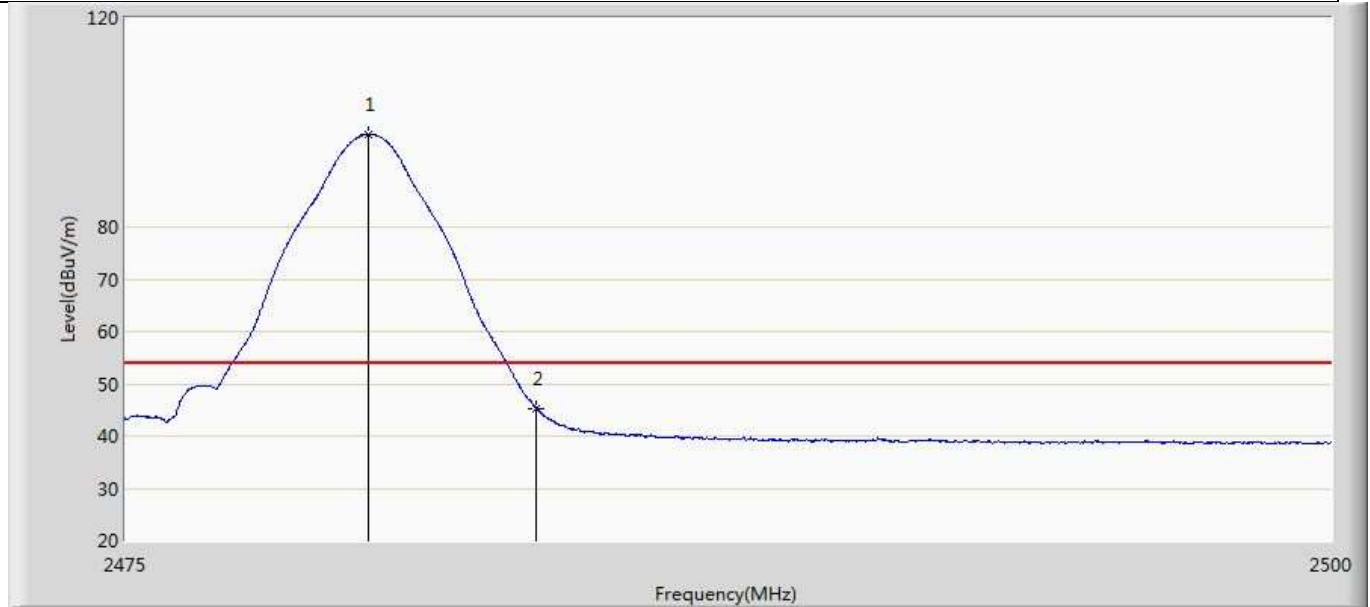
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2328.288	41.368	6.518	-12.632	54.000	34.850	AV
2		2390.000	38.678	3.936	-15.322	54.000	34.743	AV
3	*	2402.055	97.227	62.525	43.227	54.000	34.702	AV

Profile: 2061189R	Page No.: 13
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2480MHz by 2LE	



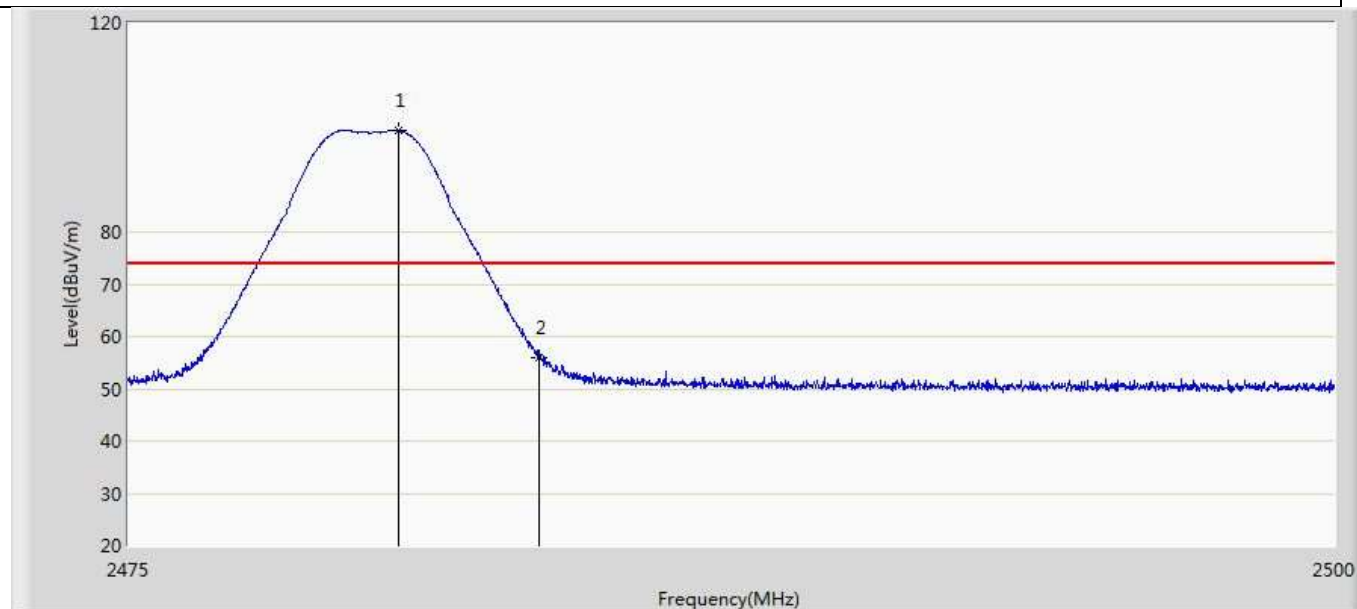
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.387	98.861	64.131	24.861	74.000	34.730	PK
2		2483.500	55.447	20.697	-18.553	74.000	34.750	PK

Profile: 2061189R	Page No.: 14
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2480MHz by 2LE	



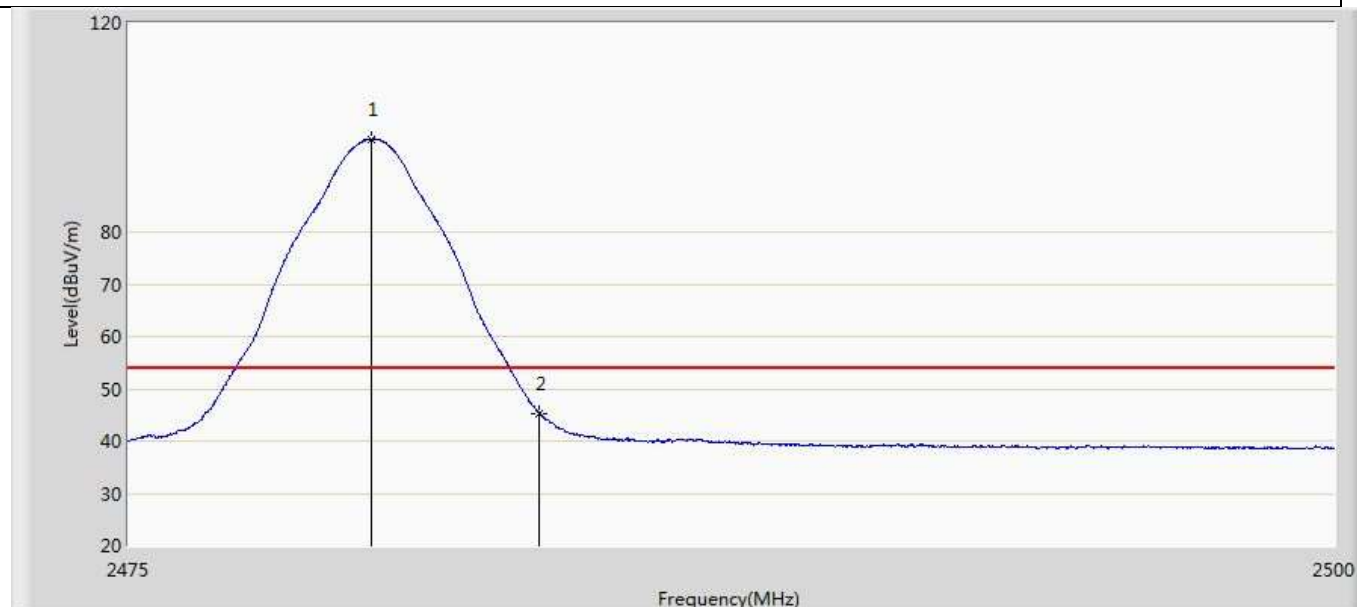
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.012	97.751	63.018	43.751	54.000	34.733	AV
2		2483.500	45.362	10.612	-8.638	54.000	34.750	AV

Profile: 2061189R	Page No.: 15
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2480MHz by 2LE	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.600	99.393	64.657	25.393	74.000	34.735	PK
2		2483.500	55.889	21.139	-18.111	74.000	34.750	PK

Profile: 2061189R	Page No.: 16
Engineer: Pawn	
Site: AC5	Time: 2020/09/22 - 18:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: DriveWell Tag	Power: DC 3V
Note: Mode2:Transmit at 2480MHz by 2LE	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.012	97.796	63.063	43.796	54.000	34.733	AV
2		2483.500	45.276	10.526	-8.724	54.000	34.750	AV

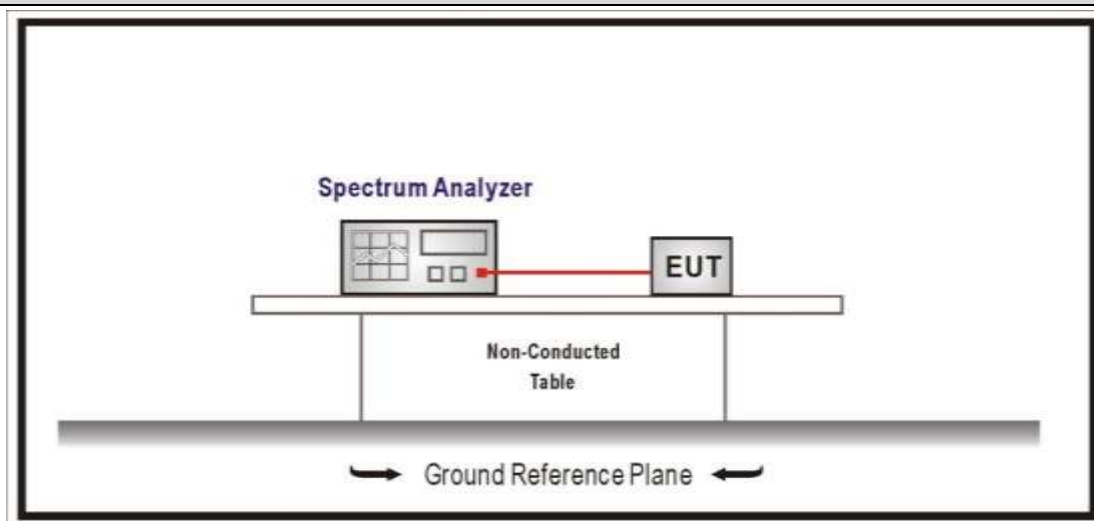
Note:

1. Measured Level = Reading Level + Factor.
2. 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.
3. As the radiated emission was performed, so conducted emission was not tested.

4.6 DTS Bandwidth**VERDICT: PASS****4.6.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(2)
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Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

4.6.2 Test Setup**4.6.3 Test Procedure**

	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

4.6.4 Test Data

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (kHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
1	00	2402	1053.9	733.5	>500	Pass
	19	2440	1060.4	755.2	>500	Pass
	39	2480	1065.4	746.6	>500	Pass
2	00	2402	2113.7	1405.0	>500	Pass
	19	2440	2114.9	1389.0	>500	Pass
	39	2480	2120.7	1383.0	>500	Pass

Note : The worst case of Occupied Bandwidth as below:

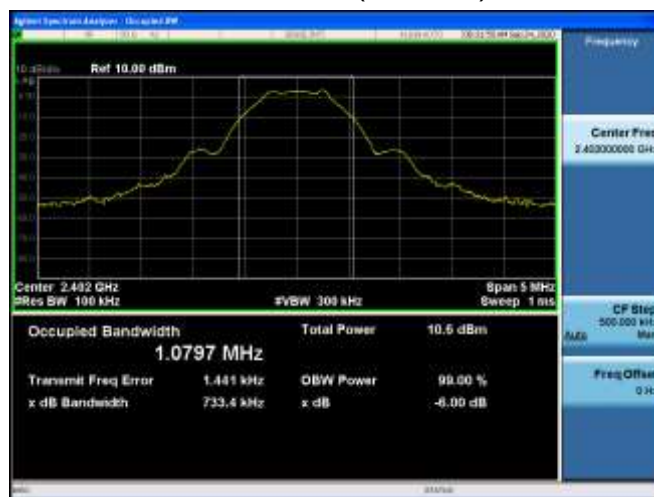
99% Occupied Bandwidth

Mode 2 CH39 (2480MHz)



6dB Occupied Bandwidth

Mode 1 CH00 (2402MHz)

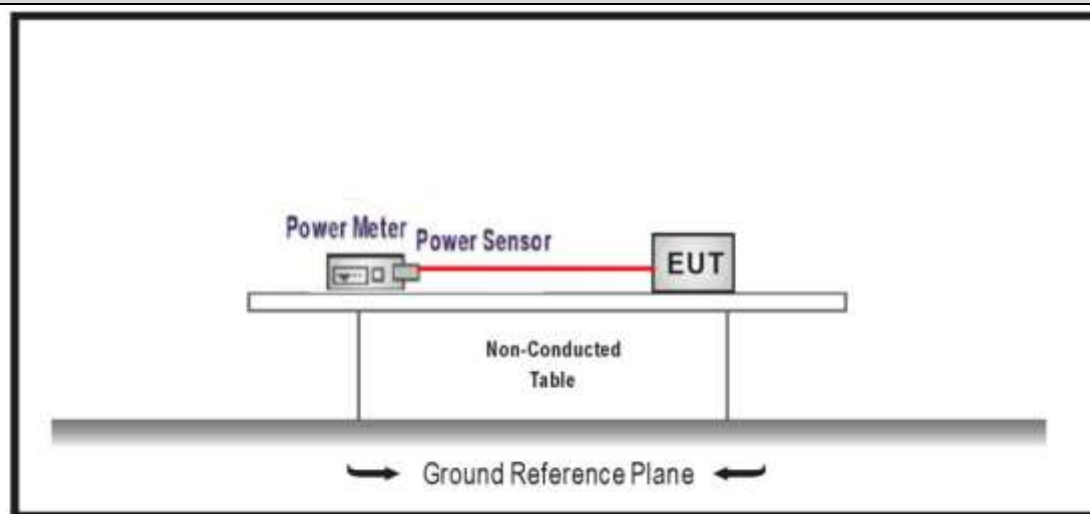


4.7 Fundamental emission output power**VERDICT: PASS****4.7.1 Limit**

Standard		FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
☒	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 .

4.7.2 Test Setup

4.7.3 Test Procedure

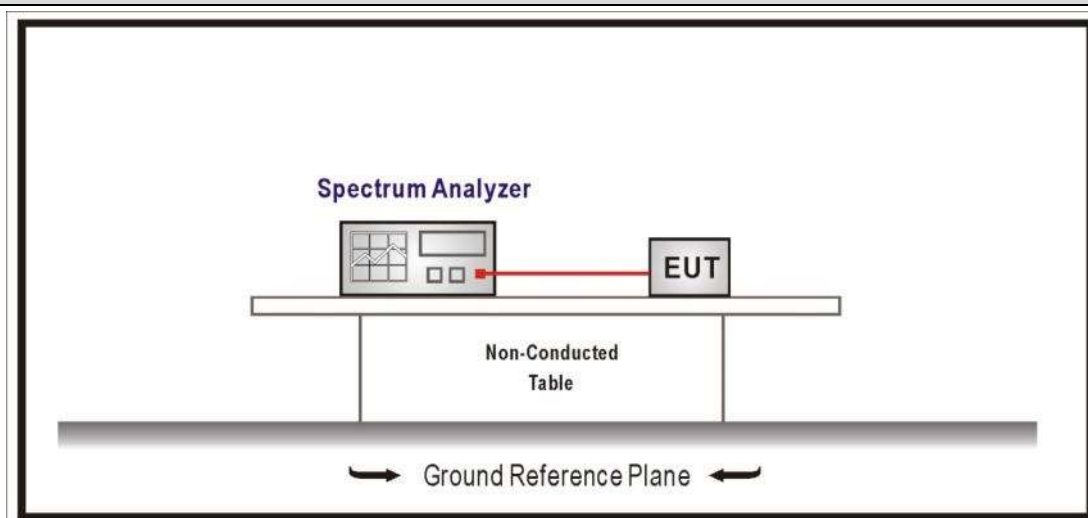
	References Rule			Chapter	Description		
☒	ANSI C63.10			11.9	Fundamental emission output power		
	☒	ANSI C63.10			11.9.1	Maximum peak conducted output power	
		☐	ANSI C63.10	11.9.1.1	RBW ≥ DTS bandwidth		
		☐	ANSI C63.10	11.9.1.2	Integrated band power method		
		☐	ANSI C63.10	11.9.1.3	PKPM1 Peak power 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	

4.7.4 Test Data

Mode	Channel	Test Frequency (MHz)	Power Output (dBm)	Limit (dBm)	Result
Mode 1	00	2402	4.77	≤ 30	Pass
	19	2440	4.66	≤ 30	Pass
	39	2480	4.48	≤ 30	Pass
Mode 2	00	2402	4.48	≤ 30	Pass
	19	2440	4.39	≤ 30	Pass
	39	2480	4.35	≤ 30	Pass

4.8 Power Density**VERDICT: PASS****4.8.1 Limit:**

Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
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Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$ **4.8.2 Test Setup****4.8.3 Test Procedure**

	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

4.8.4 Test Data

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Mode 1	00	2402	-11.346	≤8	Pass
	19	2440	-11.129	≤8	Pass
	39	2480	-11.535	≤8	Pass
Mode 2	00	2402	-16.234	≤8	Pass
	19	2440	-16.068	≤8	Pass
	39	2480	-16.543	≤8	Pass

Note : The worst case of PSD as below:

Mode 1 CH19(2440MHz)



4.9 Antenna Requirement**VERDICT: PASS****4.9.1 Limit:**

Standard	FCC Part 15 Subpart C 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.	

4.9.2 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.

5 TEST SETUP PHOTO AND EUT PHOTO

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

_____ The End _____