





Test Report

FCC Part15 Subpart C & Industry Canada RSS-247 Issue 2

Product Name: ONCOACH 900 HR

Model No. : 8485274, 8485275, 8485829

FCC ID : 2AH2POC500HR18

Applicant : DECATHLON USA LLC

Address : 2415 Third Street, Ste 231, San

Francisco, 94107, USA

Date of Receipt: Jun. 05, 2018

Test Date : Jun. 07, 2018~ Aug. 07, 2018

Issued Date : Sep. 17, 2018

Report No. : 1862031R-RF-US-P06V01

Report Version: V1.1

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, A2LA or any agency of the government.

The test report shall not be reproduced without the written approval of DEKRA Testing & Certification (Suzhou) Co., Ltd.



Test Report Certification

Issued Date: Sep. 17, 2018

Report No. : 1862031R-RF-US-P06V01



Product Name : ONCOACH 900 HR

Applicant : DECATHLON USA LLC

Address : 2415 Third Street, Ste 231, San Francisco, 94107, USA

Manufacturer : DECATHLON SA

Address : 4 Boulevard de Mons , VILLENEUVE D'ASCQ , 59650 ,

FRANCE

Model No. : 8485274, 8485275, 8485829

FCC ID : 2AH2POC500HR18

EUT Voltage : DC 5V

Test Voltage : AC 120V/60Hz

Brand Name : Decathlon

Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2015

ANSI C63.10:2013;

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;

Documented By :

(Adm. Specialist: Kitty Li)

Reviewed By :

(Senior Project Manager: Frank He)

Approved By :

(Engineering Supervisor: Jack Zhang)



TABLE OF CONTENTS

Descri	otion	Page
1.	General Information	6
1.1.	EUT Description	6
1.2.	Working Frequency of Each Channel:	7
1.3.	Antenna information	7
1.4.	Mode of Operation	8
1.5.	Tested System Details	8
1.6.	Configuration of Tested System	9
1.7.	EUT Exercise Software	10
2.	Technical Test	11
2.1.	Summary of Test Result	11
2.2.	Test Frequency configuration:	12
2.3.	Test Environment	13
2.4.	Measurement Uncertainty	13
3.	AC Power Line Conducted Emission	14
3.1.	Test Equipment	14
3.2.	Test Setup	14
3.3.	Limit	15
3.4.	Test Procedure	15
3.5.	Test Result	16
4.	Emissions in restricted frequency bands	16
4.1.	Test Equipment	19
4.2.	Test Setup	20
4.3.	Limit	21
4.4.	Test Procedure	24
4.5.	EUT test Axis definition	25
4.6.	Test Result	26
5.	Emissions in non-restricted frequency bands	34
5.1.	Test Equipment	34
5.2.	Test Setup	34
5.3.	Limit	35
5.4.	Test Procedure	36
5.5.	EUT test Axis definition	37
5.6.	Test Result	38
6.	Radiated Emission Band Edge	39
6.1.	Test Equipment	39
6.2.	Test Setup	
6.3.	Limit	40



6.4.	Test Procedure	41
6.5.	EUT test definition	42
6.6.	Duty Cycle	43
6.7	Test Result	44
7.	Occupied Bandwidth	52
7.1.	Test Equipment	52
7.2.	Test Setup	52
7.3.	Limit	53
7.4.	Test Procedure	53
7.5.	EUT test definition	54
7.6.	Test Result	55
8.	Fundamental emission output power	56
8.1.	Test Equipment	56
8.2.	Test Setup	56
8.3.	Limit	57
8.4.	Test Procedure	58
8.5.	EUT test definition	59
8.6.	Test Result	60
9.	Power Spectral Density	61
9.1.	Test Equipment	61
9.2.	Test Setup	61
9.3.	Limit	61
9.4.	Test Procedure	62
9.5.	EUT test definition	63
9.6.	Test Result	64



History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1872100R-RF-US-P06V01	V1.0	Initial Issued Report	Aug. 23, 2018
1872100R-RF-US-P06V01	V1.1	Revised	Sep. 17, 2018



1. General Information

1.1. EUT Description

Product Name	ONCOACH 900 HR			
Model No.	8485274, 8485275, 8485829			
EUT Voltage	DC 5V			
Test Voltage	AC 120V/60Hz			
Bluetooth Specification	V4.0			
Frequency Range	2402- 2480 MHz			
Channel Number	V4.0: 40			
Channel Separation	V4.0: 2MHz			
Type of Modulation	V4.0: GFSK			
Data Rate	V4.0: 1Mbps(GFSK)			
Antenna Type	Reference to Antenna List			
Peak Antenna Gain	Reference to Antenna List			

Note:Different models are for different markets.



1.2. Working Frequency of Each Channel:

Bluetooth	Bluetooth Working Frequency of Each Channel: (For V4.0)						
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

1.3. Antenna information

Model No.	N/A							
Antenna manufacturer		N/A						
Antenna Delivery		1*TX+1*R	1*TX+1*RX				3*TX+3*RX	
Antenna technology		SISO						
				Basic				
		NAINAO		CDD				
	$ \Box $	MIMO		Sectorized				
				Beam	n-forming			
Antenna Type		Cytemes!		Dipole				
	╚	External		Secto	orized			
		⊠ Internal		PIFA				
			\boxtimes	PCB				
				Ceramic Chip Antenna				
				Dipol	e Antenna			
Antonno Tochnology	Ant Gain							
Antenna Technology	(dBi)							
⊠siso	1.2							

Page: 7 of 65



1.4. Mode of Operation

Test Mode

Mode 1: Transmit-1Mbps(GFSK_BLE)

1.5. Tested System Details

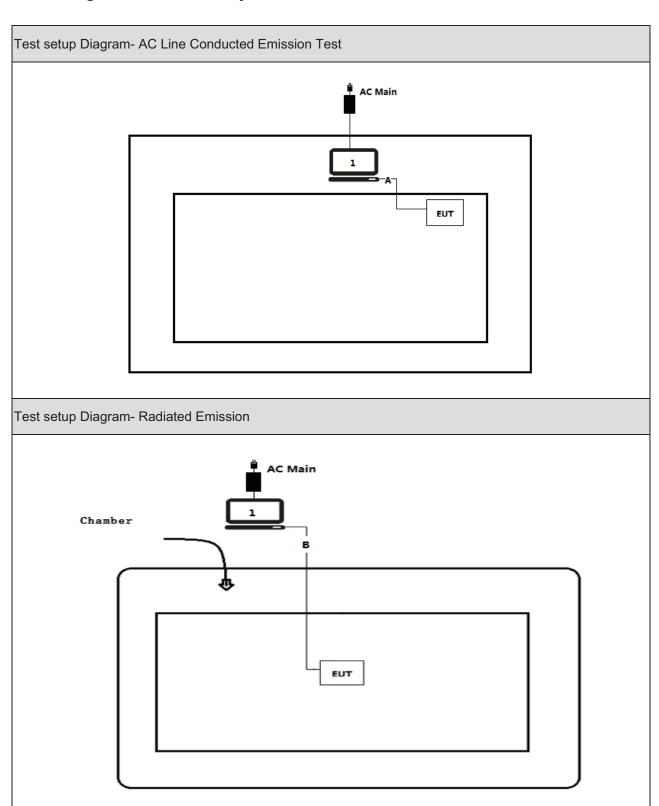
The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

No.	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Think Pad	2526	LV-A3285	Power by adapter
Α	USB cable	N/A	N/A	N/A	Shielded,0.5m
В	USB cable	N/A	N/A	N/A	Shielded,10m

Page: 8 of 65



1.6. Configuration of Tested System





1.7. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.	
2	Turn on the power of all equipment.	
3	Run the RF software, and set the test mode and channel, then press OK to start conti	nue receive.

Page: 10 of 65



2. Technical Test

2.1. Summary of Test Result

Performed Test Item	Normative References	Limit	Result
AC Power Line	FCC CFR Title 47 Part 15 Subpart C: 2015	FCC 15.207	PASS
Conducted Emission	Section 15.207		
Emissions in restricted	FCC CFR Title 47 Part 15 Subpart C: 2015	FCC 15.209	PASS
frequency bands	Section 15.209		
Emissions in	FCC CFR Title 47 Part 15 Subpart C: 2015	≥20dBc	PASS
non-restricted frequency	Section 15.247(d)		
bands			
Radiated Emission Band	adiated Emission Band FCC CFR Title 47 Part 15 Subpart C: 2015		PASS
Edge	15.247(d)		
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2015	≥500kHz	PASS
	Section 15.247(a)(2)		
Fundamental emission	FCC CFR Title 47 Part 15 Subpart C: 2015	≤30dBm	PASS
output power	Section 15.247(b)(3)		
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2015	≤8dBm/3kHz	PASS
	Section 15.247(e)		
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C: 2015	FCC 15.203	PASS
	Section 15.203		

Page: 11 of 65



2.2. Test Frequency configuration:

Modulation Mode	Channel	Frequency	Channel	Frequency	Channel	Frequency
BLE	00	2402 MHz	19	2440 MHz	39	2480MHz

Page: 12 of 65



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	±2.02dB
Radiated Emission	Below 1GHz ±3.8 dB
	Above 1GHz ±3.9 dB
RF Antenna Port Conducted Emission	±1.27dB
Radiated Emission Band Edge	±3.9dB
Occupied Bandwidth	±1kHz
Power Spectral Density	±1.27dB

Page: 13 of 65



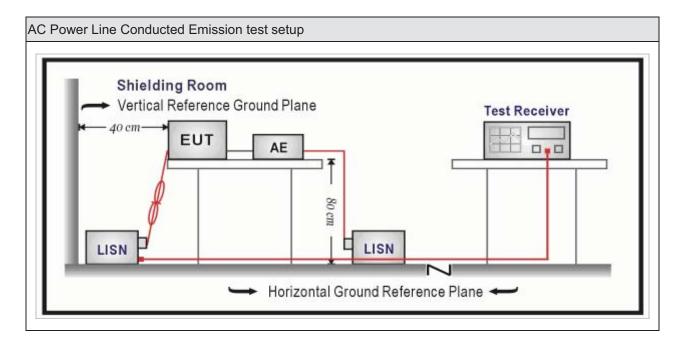
3. AC Power Line Conducted Emission

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	2018.03.05	2019.03.04	
Two-Line V-Network	R&S	ENV 216	101189	2018.07.16	2019.07.15	
Two-Line V-Network	R&S	ENV 216	101044	2017.09.16	2018.09.15	
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A	
50ohm Termination	SHX	TF2	07081402	2017.09.16	2018.09.15	
Temperature/Humidity	Zhichen	ZC1-2	TR1-TH	2018.01.04	2019.01.03	
Meter	ZHICHEN	ZU 1-Z	IIKI-IH	2010.01.04	2019.01.03	

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

3.2. Test Setup





3.3. **Limit**

Frequency of Emission	Conducted Limit		
(MHz)	Quasi-peak (dBμV)	Average(dBμV)	
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 $0.15\,\mathrm{MHz}$ to $0.5\,\mathrm{MHz}$.

3.4. Test Procedure

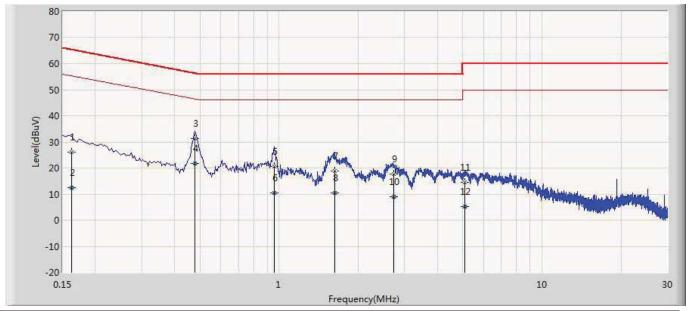
Test Method					
	References Rule	Chapter	Item		
\boxtimes	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted		
			emissions from unlicensed wireless devices		
	ANSI C63.4-2014	7	AC power-line conducted emission measurements		

Page: 15 of 65



3.5. Test Result

Engineer: Lucas				
Site: TR1	Time: 2018/07/19			
Limit: FCC_Part15.207_CE_AC Power	Margin: 0			
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line			
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz			
Note: Mode 1				



N	Mar	Frequency	Measure	Reading	Over	Limit	Probe	Cable	Amp	Туре
o	k	(MHz)	Level	Level	Limit	(dBuV)	(dB)	(dB)	(dB)	
			(dBuV)	(dBuV)	(dB)					
1		0.162	25.963	16.330	-39.398	65.361	9.607	0.026	0.000	QP
2		0.162	12.445	2.811	-42.916	55.361	9.607	0.026	0.000	AV
3		0.478	31.193	21.552	-25.181	56.374	9.600	0.041	0.000	QP
4	*	0.478	21.684	12.043	-24.690	46.374	9.600	0.041	0.000	AV
5		0.958	20.572	10.905	-35.428	56.000	9.609	0.059	0.000	QP
6		0.958	10.486	0.819	-35.514	46.000	9.609	0.059	0.000	AV
7		1.626	18.753	9.066	-37.247	56.000	9.610	0.077	0.000	QP
8		1.626	10.521	0.834	-35.479	46.000	9.610	0.077	0.000	AV
9		2.726	17.664	7.939	-38.336	56.000	9.622	0.103	0.000	QP
10		2.726	9.012	-0.713	-36.988	46.000	9.622	0.103	0.000	AV
11		5.098	14.377	4.571	-45.623	60.000	9.662	0.144	0.000	QP
12		5.098	5.104	-4.702	-44.896	50.000	9.662	0.144	0.000	AV

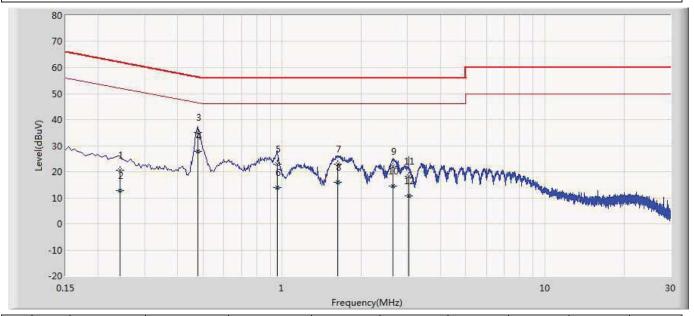
Note:

1. " * ", means this data is the worst emission level.



2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Lucas				
Site: TR1	Time: 2018/07/19			
Limit: FCC_Part15.207_CE_AC Power	Margin: 0			
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral ONCOACH 900 HR			
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz			
Note: Mode 1				



N	Mar	Frequency	Measure	Reading	Over	Limit	Probe	Cable	Amp	Туре
О	k	(MHz)	Level	Level	Limit	(dBuV)	(dB)	(dB)	(dB)	
			(dBuV)	(dBuV)	(dB)					
1		0.242	20.580	10.951	-41.448	62.027	9.598	0.030	0.000	QP
2		0.242	12.790	3.161	-39.237	52.027	9.598	0.030	0.000	AV
3		0.478	34.936	25.305	-21.437	56.374	9.590	0.041	0.000	QP
4	*	0.478	27.861	18.229	-18.513	46.374	9.590	0.041	0.000	AV
5		0.958	22.851	13.201	-33.149	56.000	9.590	0.059	0.000	QP
6		0.958	13.968	4.319	-32.032	46.000	9.590	0.059	0.000	AV
7		1.630	22.897	13.217	-33.103	56.000	9.603	0.077	0.000	QP
8		1.630	15.926	6.246	-30.074	46.000	9.603	0.077	0.000	AV
9		2.642	21.899	12.179	-34.101	56.000	9.619	0.101	0.000	QP
10		2.642	14.485	4.765	-31.515	46.000	9.619	0.101	0.000	AV
11		3.030	18.401	8.667	-37.599	56.000	9.624	0.109	0.000	QP
12		3.030	10.744	1.011	-35.256	46.000	9.624	0.109	0.000	AV



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

Page: 18 of 65



4. Emissions in restricted frequency bands

4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2							
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date		
EMI Test Receiver	R&S	ESCI	100573	2018.03.29	2019.03.28		
Loop Antenna	R&S	HFH2-Z2	833799/003	2017.11.16	2018.11.15		
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2017.10.16	2018.10.15		
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2018.03.02	2019.03.01		
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2018.01.03	2019.01.02		

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

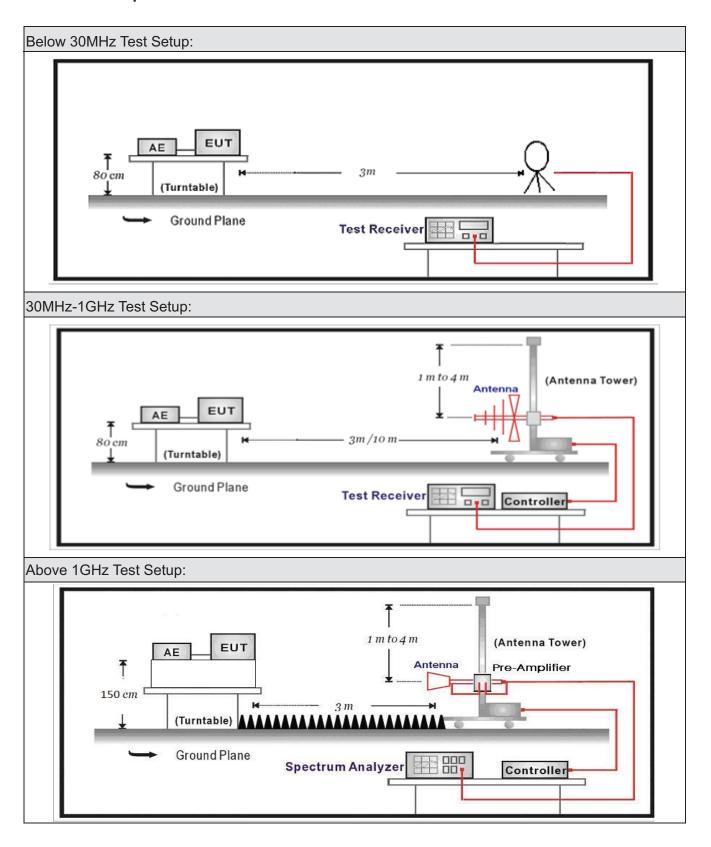
Radiated Emission(Above 1GHz) / AC-5						
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date	
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03	
Preamplifier	Miteq	NSP1800-25	1364185	2018.05.06	2019.05.05	
Preamplifier	QuieTek	AP-040G	CHM-0906001	2018.05.06	2019.05.05	
DRG Horn	ETS-Lindgren	3117	00123988	2018.01.22	2019.01.21	
Broad-Band Horn						
Antenna	Schwarzbeck	BBHA9170	294	2017.11.25	2018.11.24	
		SUCOFLEX				
Coaxial Cable	Huber+Suhner	106	AC5-C1	2018.03.02	2019.03.01	
		SUCOFLEX				
Coaxial Cable	Huber+Suhner	106	AC5-C2	2018.03.02	2019.03.01	
		SUCOFLEX				
Coaxial Cable	Huber+Suhner	102	AC5-C3	2018.03.02	2019.03.01	
EMI Receiver	Agilent	N9038A	MY51210196	2018.06.10	2019.06.09	
Temperature/Humidity						
Meter	Zhichen	ZC1-2	AC5-TH	2018.01.04	2019.01.03	
Note: All equipment are collected with transphile collections. Each collection is transphile to the						

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

Page: 19 of 65



4.2. 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:

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



Restricted Band Emissions Limit						
Frequency (MHz)	Field strength (μV/m)	Field strength (dBµV/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	Metho	od				
	References Rule Chapter D)	Chapter	Description
	ANSI	NSI 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
	\boxtimes	ANSI	C63	.10	11.12.1	Radiated emission measurements
	\boxtimes	ANSI	C63	.10	11.12.2.7	Radiated spurious emission test
			ANS	I C63.10		Radiated emissions from unlicensed wireless devices below 30 MHz
			I C63.10		Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz	
			ANS	I C63.10		Radiated emissions from unlicensed wireless devices above 1 GHz
			ANS	I C63.10	11.12.2.3	Quasi-peak measurement procedure
		\boxtimes	ANS	I C63.10	11.12.2.4	Peak power measurement procedure
		\boxtimes	ANS	I C63.10	11.12.2.5	Average power measurement procedures
				ANSI C63.10		Trace averaging with continuous EUT transmission at full power
			ANSI C63.10		Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction	
				Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold		

Page: 24 of 65



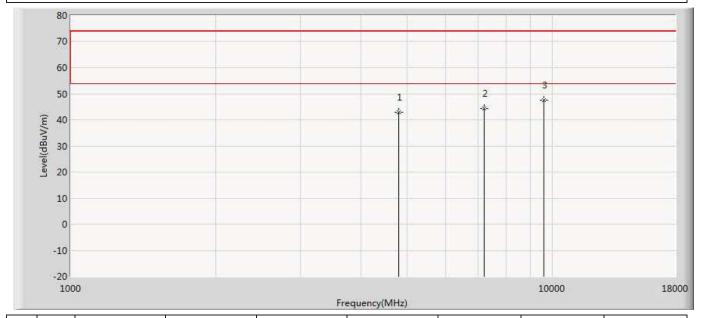
4.5. EUT test Axis definition

Item		Emissions in restricted frequency bands						
		Fixed point-to-point						
Device Category		Emit multiple directional beams, simultaneously or sequentially						
		Other cases						
Test mode	Mode	± 1						
		Radiated						
		X Axis	Y	Axis	Z Axis			
		Worst Axis 🖂	Worst A	Axis 🗌	Worst Axis			
		Conducted Chain 0						
Took weatherd								
Test method								
		Chain 0			Chain 1			
			•	•				
		Chain 0	Ch	nain 1	Chain 2			
			•	• •				



4.6. Test Result

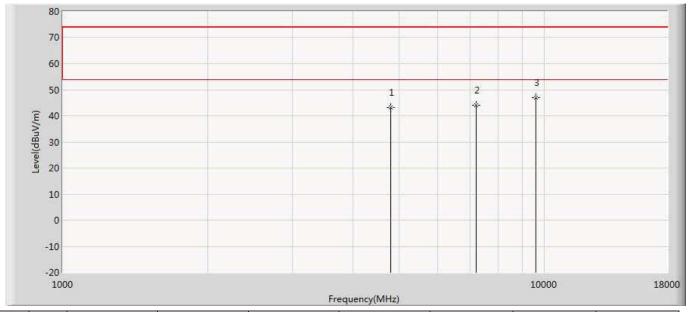
Engineer: Simon					
Site: AC5	Time: 2018/07/25 - 17:31				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal				
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz				
Note: Mode 1:Transmit at 2402MHz by BLE					



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1		4804.000	42.907	42.678	-31.093	74.000	0.229	PK
2		7206.000	44.467	41.041	-29.533	74.000	3.426	PK
3	*	9608.000	47.465	38.945	-26.535	74.000	8.519	PK



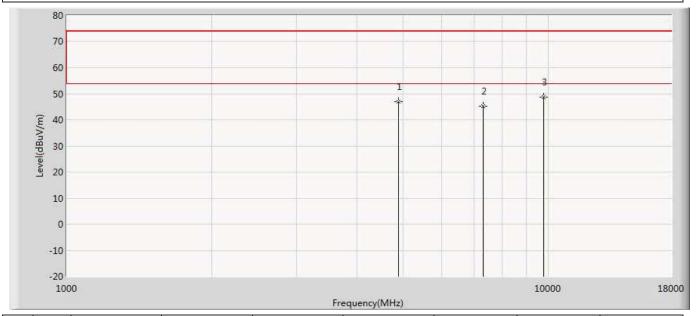
Engineer: Simon					
Site: AC5	Time: 2018/07/25 - 17:31				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical				
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz				
Note: Mode 1:Transmit at 2402MHz by BLE					



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1		4804.000	43.227	42.998	-30.773	74.000	0.229	PK
2		7206.000	44.168	40.742	-29.832	74.000	3.426	PK
3	*	9608.000	46.856	38.336	-27.144	74.000	8.519	PK



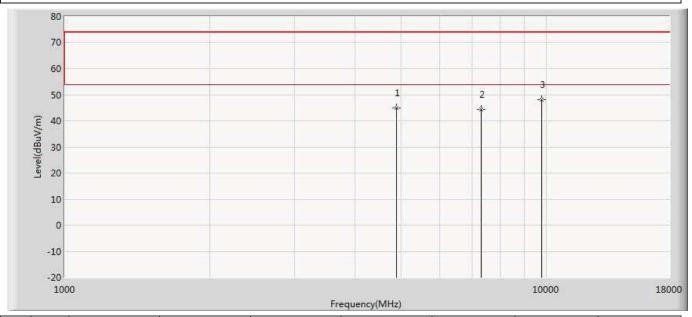
Engineer: Simon				
Site: AC5	Time: 2018/07/25 - 17:32			
Limit: FCC_Part15.209_RE(3m)	Margin: 0			
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal			
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz			
Note: Mode 1:Transmit at 2440MHz by BLE				



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1		4876.000	46.978	46.433	-27.022	74.000	0.545	PK
2		7320.000	45.263	41.713	-28.737	74.000	3.550	PK
3	*	9760.000	48.725	39.252	-25.275	74.000	9.473	PK



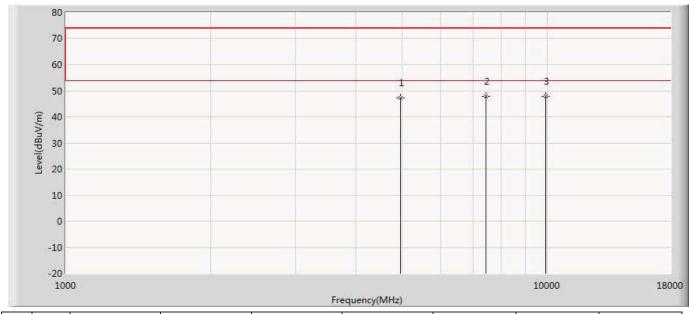
Engineer: Simon					
Site: AC5	Time: 2018/07/25 - 17:32				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical				
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz				
Note: Mode 1:Transmit at 2440MHz by BLE					



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1		4876.000	44.796	44.251	-29.204	74.000	0.545	PK
2		7320.000	44.221	40.671	-29.779	74.000	3.550	PK
3	*	9760.000	48.149	38.676	-25.851	74.000	9.473	PK



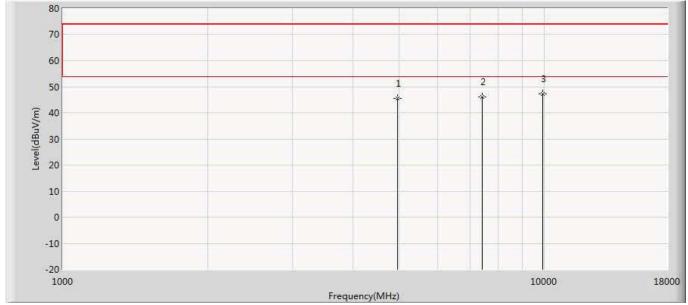
Engineer: Simon					
Site: AC5	Time: 2018/07/25 - 17:32				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal				
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz				
Note: Mode 1:Transmit at 2480MHz by BLE					



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1		4961.000	47.173	46.507	-26.827	74.000	0.666	PK
2	*	7443.000	47.838	43.009	-26.162	74.000	4.829	PK
3		9920.000	47.796	39.395	-26.204	74.000	8.401	PK



Engineer: Simon					
Site: AC5	Time: 2018/07/25 - 17:32				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical				
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz				
Note: Mode 1:Transmit at 2480MHz by BLE					



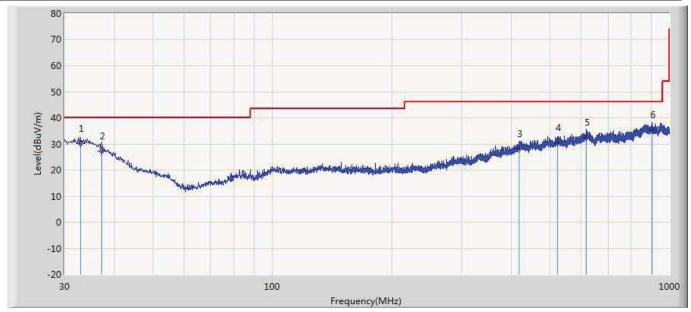
N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1		4960.000	45.388	44.717	-28.612	74.000	0.671	PK
2		7440.000	45.960	41.233	-28.040	74.000	4.727	PK
3	*	9920.000	47.271	38.870	-26.729	74.000	8.401	PK

- 1. Measured Level = Reading Level + Factor.
- 2. The test frequency range, 9kHz~30MHz, 18GHz~26GHz, both of the worst case are at least 20dB 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.
- 4. As the radiated emission was performed, so conducted emission was not tested.



The worst case of Radiated Emission below 1GHz:

Engineer: Samuel					
Site: AC2	Time: 2018/07/19				
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0				
Probe: AC2_3M(30-1000M)	Polarity: Horizontal				
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz				
Note: Mode 1					

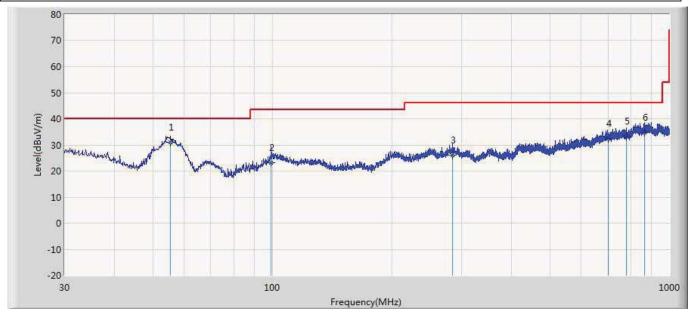


No	Mark	Frequency	Measure	Reading	Over	Limit	Probe	Cable	Amp	Ant	Table	Туре
		(MHz)	Level	Level	Limit	(dBuV/m)	(dB/m)	(dB)	(dB)	Pos	Pos	
			(dBuV/m)	(dBuV)	(dB)					(cm)	(deg)	
1	*	32.900	30.069	2.700	-9.931	40.000	20.719	6.650	0.000	100	30	QP
2		37.154	27.304	2.100	-12.696	40.000	18.582	6.622	0.000	100	73	QP
3		418.849	28.257	1.300	-17.743	46.000	18.990	7.967	0.000	100	110	QP
4		522.760	30.408	1.700	-15.592	46.000	20.563	8.145	0.000	100	50	QP
5		617.456	32.589	2.200	-13.411	46.000	21.837	8.551	0.000	100	146	QP
6		904.940	35.374	2.100	-10.626	46.000	24.014	9.260	0.000	100	251	QP

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



Engineer: Samuel				
Site: AC2	Time: 2018/07/19			
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0			
Probe: AC2_3M(30-1000M)	Polarity: Vertical			
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz			
Note: Mode 1				



No	Mark	Frequency	Measure	Reading	Over	Limit	Probe	Cable	Amp	Ant	Table	Туре
		(MHz)	Level	Level	Limit	(dBuV/m)	(dB/m)	(dB)	(dB)	Pos	Pos	
			(dBuV/m)	(dBuV)	(dB)					(cm)	(deg)	
1	*	55.340	30.878	13.400	-9.122	40.000	10.841	6.637	0.000	100	93	QP
2		99.476	23.193	1.400	-20.307	43.500	14.930	6.863	0.000	100	204	QP
3		284.625	26.041	0.800	-19.959	46.000	17.636	7.604	0.000	100	177	QP
4		699.625	32.585	1.700	-13.415	46.000	22.136	8.749	0.000	100	39	QP
5		777.870	33.319	2.300	-12.681	46.000	22.067	8.952	0.000	100	182	QP
6		863.470	34.708	1.800	-11.292	46.000	23.746	9.162	0.000	100	339	QP

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



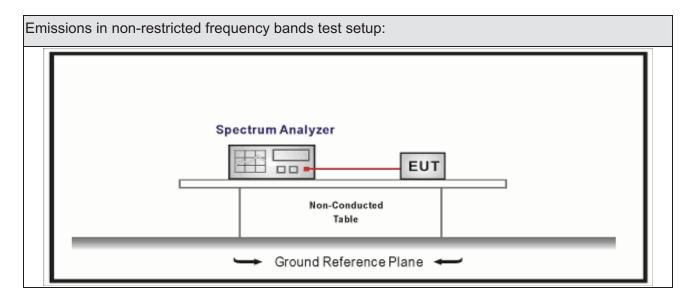
5. Emissions in non-restricted frequency bands

5.1. Test Equipment

Emissions in non-restricted frequency bands / TR-8								
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date			
Spectrum Analyzer	Agilent	N9010A	MY48030494	2018.02.04	2019.02.03			
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2018.04.09	2019.04.08			
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08			
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09			

Note: All equipment are 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).

Page: 35 of 65



5.4. Test Procedure

Re	efere	ences	Rule		Chapter	Description						
⊠ AI	NSI	I 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						
☐ AI	NSI	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						
☐ AI	NSI	C63.	10		6.4	Radiated emissions from unlicensed wireless						
						devices below 30 MHz						
☐ AI	NSI	ISI C63.10			C63.10			I C63.10			6.5	Radiated emissions from unlicensed wireless
						devices in the frequency range						
				of 30 MHz to 1000 MHz								
☐ AI	ANSI C63.10				6.6	Radiated emissions from unlicensed wireless						
						devices above 1 GHz						
		ANSI C63.10			11.12.2	Antenna-port conducted measurements						
			ANS	I C63.10	11.12.2.3	Quasi-peak measurement procedure						
			ANS	I C63.10	11.12.2.4	Peak power measurement procedure						
			ANS	I 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 band				ncy bands			
		Fixed point-to-poin	t					
Device Category		Emit multiple directional beams, simultaneously or sequentially						
		Other cases						
Test mode	Mode	: 1						
		Radiated						
		X Axis	Y	Axis	Z Axis			
		Worst Axis	Worst A	Axis 🗌	Worst Axis			
		Conducted						
T4411			Cł	nain 0				
Test method		•						
		Chain 0			Chain 1			
			•	•				
		Chain 0	Cł	nain 1	Chain 2			
			•	• •				



5.6. Test Result

Product Name	:	ONCOACH 900 HR	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2018.07.24			

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	-2.150	2400.00	-52.896	50.746	>20	Pass
1	39	2480	-2.238	2576.06	-67.747	65.509	>20	Pass

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

Mode 1 CH00 (2402MHz) Start Freq 2.350000000 GHz Avg Type: Log-Pwr Avg[Hold:>100/100 PNO: Fast Trig: Free Run Mkr2 2.400 000 GHz -52.896 dBm **Auto Tune** Ref Offset 1.5 dB Ref 10.00 dBm Center Freq 2.377500000 GHz Start Freq 2.350000000 GHz WWw.www.www.www. Stop Freq 2.405000000 GHz CF Step 5.500000 MHz Man Start 2.35000 GHz #Res BW 100 kHz Stop 2.40500 GHz Sweep 5.333 ms (8001 pts) #VBW 300 kHz Freq Offset

Page: 38 of 65



6. Radiated Emission Band Edge

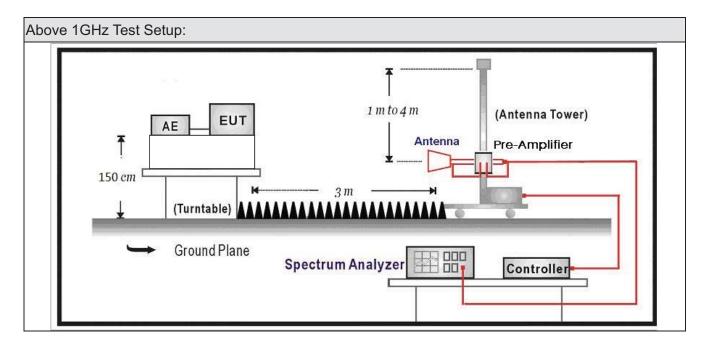
6.1. Test Equipment

Radiated Emission(Above 1GHz) / AC-5										
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date					
EMI Receiver	Agilent	N9038A	MY51210196	2018.07.16	2019.07.15					
Pre-Amplifier	Miteq	NSP1800-25	1364185	2018.05.03	2019.05.02					
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2018.07.12	2019.07.11					
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2017.09.18	2018.09.17					
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2018.02.28	2019.02.27					
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2018.02.28	2019.02.27					
Temperature/Humidity										
Meter	Zhichen	ZC1-2	AC5-TH	2018.01.05	2019.01.04					

Page: 39 of 65



6.2. Test Setup



6.3. Limit

Band edge Limit									
Frequency bands (MHz)	Detector	Limit (dBµV/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

IESL IV	1ethc	od																								
R	Refere	ences	Rule	•	Chapter	Description																				
A	ANSI	C63.	10		6.10	Band-edge testing																				
		ANSI	C63	.10	6.10.5	Restricted-band band-edge measurements																				
		ANSI C63.10		ANSI C63.10		ANSI C63.10		ANSI C63.10		ANSI C63.10		ANSI C63.10		ANSI C63.10		ANSI C63.10		ANSI C63.10		ANSI C63.10		ANSI C63.10		ANSI C63.10		Marker-delta method
⊠ A	NSI	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																				
	NSI	C63.	10		6.4	Radiated emissions from unlicensed wireless																				
						devices below 30 MHz																				
	NSI	C63.	10		6.5	Radiated emissions from unlicensed wireless																				
						devices in the frequency range																				
						of 30 MHz to 1000 MHz																				
⊠ A	NSI	C63.	10		6.6	Radiated emissions from unlicensed wireless																				
						devices above 1 GHz																				
			ANS	I C63.10	11.12.2.3	Quasi-peak measurement procedure																				
			ANS	I C63.10	11.12.2.4	Peak power measurement procedure																				
			ANS	I 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		ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the																				
				EUT transmissions followed by																						
				duty cycle correction																						
				11.12.2.5.3	Reduced VBW averaging across ON and OFF times																					
						of the EUT transmissions																				
						with max hold																				



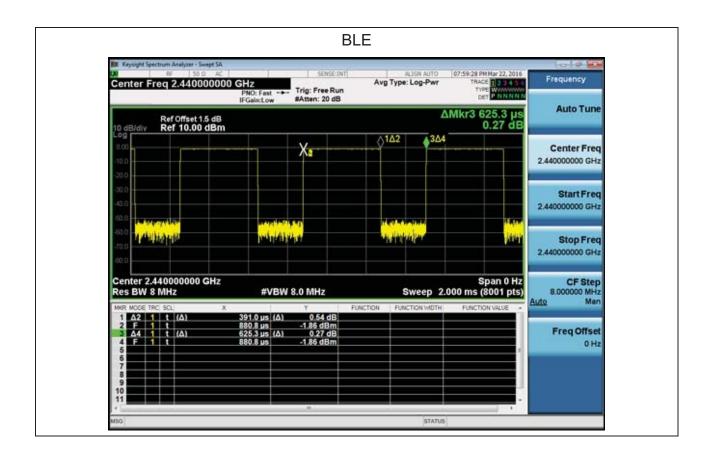
6.5. EUT test definition

Item		Radiated Emission Band Edge						
		Fixed point-to-poin	it					
Device Category		Emit multiple directional beams, simultaneously or sequentially						
		Other cases						
Test mode	Mode	: 1						
		Radiated						
		X Axis	Y	Axis	Z Axis			
		Worst Axis 🖂	Worst A	Axis 🗌	Worst Axis			
		Conducted						
Test method			Ch	nain 0				
rest method				•				
		Chain 0			Chain 1			
			•	•				
		Chain 0	Ch	nain 1	Chain 2			
			• •	• •				



6.6. Duty Cycle

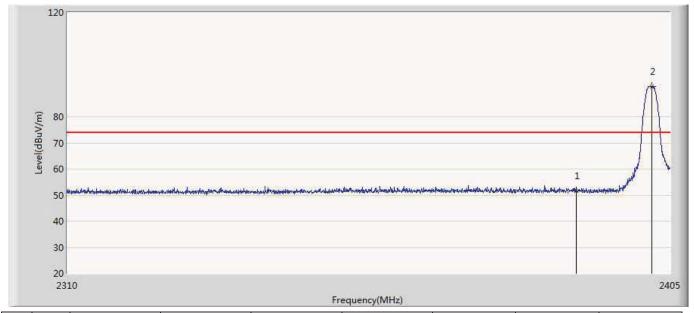
Test Mode	Tx On (ms)	Tx Off (ms)	Reduced VBW (kHz)	Tx On + Tx Off (ms)	Duty Cycle
BLE	0.391	0.234	2.7KHz	0.625	62.56%





6.7 Test Result

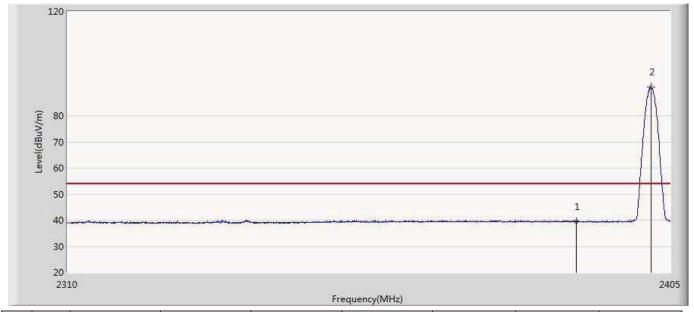
Engineer: Simon					
Site: AC5	Time: 2018/07/25 - 15:31				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal				
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz				
Note: Mode 1:Transmit at 2402MHz by BLE					



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1		2390.000	51.639	15.215	-22.361	74.000	36.424	PK
2	*	2402.055	91.663	55.269	N/A	N/A	36.394	PK



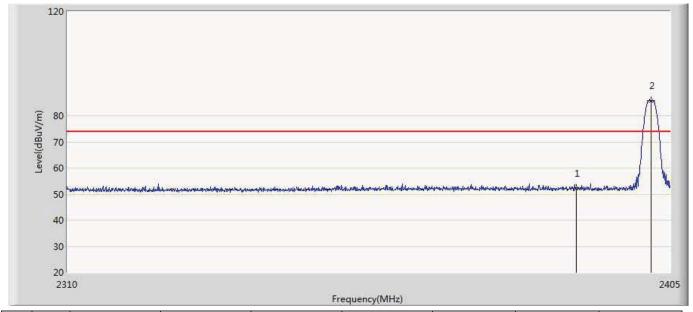
Engineer: Simon					
Site: AC5	Time: 2018/07/25 - 16:12				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal				
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz				
Note: Mode 1:Transmit at 2402MHz by BLE					



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1		2390.000	39.396	2.972	-14.604	54.000	36.424	AV
2	*	2401.960	91.049	54.655	N/A	N/A	36.394	AV



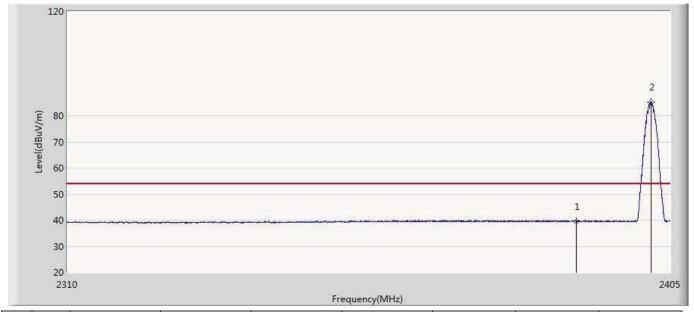
Engineer: Simon				
Site: AC5	Time: 2018/07/25 - 16:23			
Limit: FCC_Part15.209_RE(3m)	Margin: 0			
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical			
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz			
Note: Mode 1:Transmit at 2402MHz by BLE				



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1		2390.000	52.038	15.614	-21.962	74.000	36.424	PK
2	*	2401.913	85.831	49.437	N/A	N/A	36.394	PK



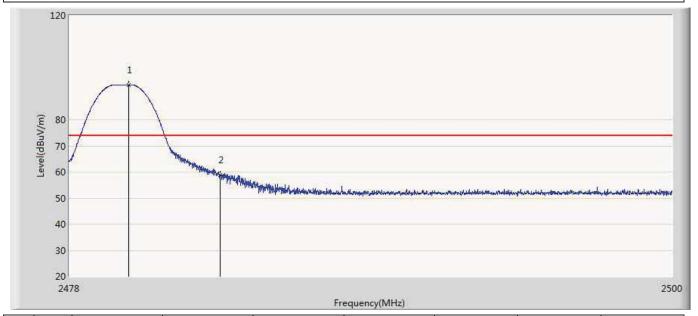
Engineer: Simon				
Site: AC5	Time: 2018/07/25 - 16:30			
Limit: FCC_Part15.209_RE(3m)	Margin: 0			
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical			
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz			
Note: Mode 1:Transmit at 2402MHz by BLE				



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1		2390.000	39.510	3.086	-14.490	54.000	36.424	AV
2	*	2401.960	85.228	48.834	N/A	N/A	36.394	AV



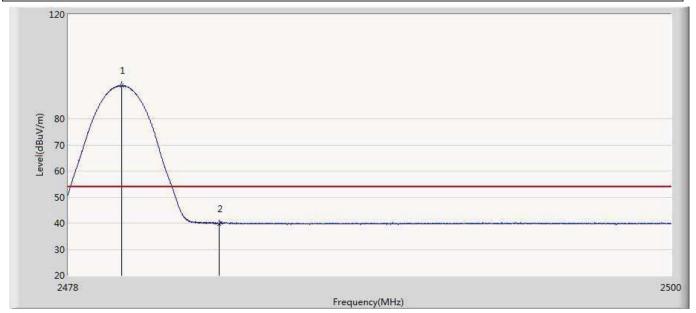
Engineer: Simon				
Site: AC5	Time: 2018/07/25 - 16:34			
Limit: FCC_Part15.209_RE(3m)	Margin: 0			
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal			
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz			
Note: Mode 1:Transmit at 2480MHz by BLE				



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1	*	2480.167	93.456	56.816	N/A	N/A	36.640	PK
2		2483.500	58.723	22.077	-15.277	74.000	36.646	PK



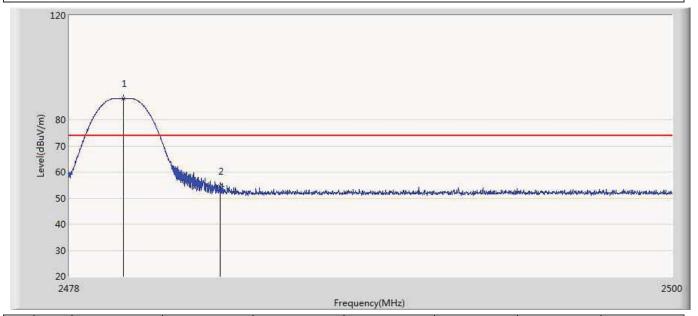
Engineer: Simon				
Site: AC5	Time: 2018/07/25 - 16:49			
Limit: FCC_Part15.209_RE(3m)	Margin: 0			
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal			
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz			
Note: Mode 1:Transmit at 2480MHz by BLE				



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
0	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1	*	2479.947	92.756	56.116	N/A	N/A	36.640	AV
2		2483.500	39.839	3.193	-14.161	54.000	36.646	AV



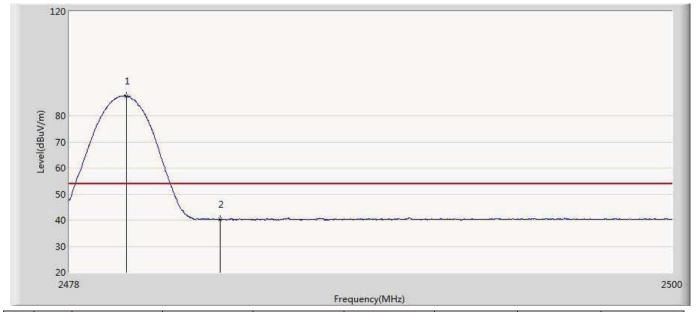
Engineer: Simon				
Site: AC5	Time: 2018/07/25 - 16:53			
Limit: FCC_Part15.209_RE(3m)	Margin: 0			
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical			
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz			
Note: Mode 1:Transmit at 2480MHz by BLE				



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1	*	2479.969	88.179	51.539	N/A	N/A	36.640	PK
2		2483.500	54.348	17.702	-19.652	74.000	36.646	PK



Engineer: Simon				
Site: AC5	Time: 2018/07/25 - 16:55			
Limit: FCC_Part15.209_RE(3m)	Margin: 0			
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical			
EUT: ONCOACH 900 HR	Power: AC 120V/60Hz			
Note: Mode 1:Transmit at 2480MHz by BLE				



N	Mar	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
o	k	(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
			(dBuV/m)	(dBuV)				
1	*	2480.079	87.559	50.919	N/A	N/A	36.640	AV
2		2483.500	40.297	3.651	-13.703	54.000	36.646	AV



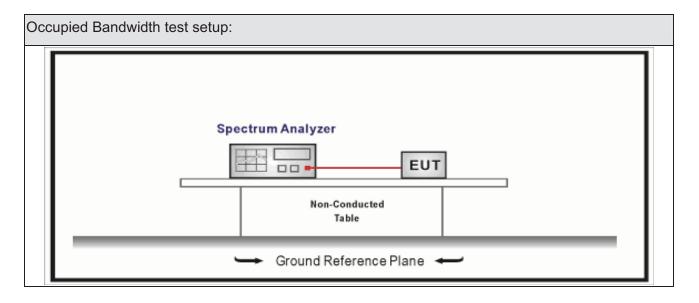
7. Occupied Bandwidth

7.1. Test Equipment

Occupied Bandwidth / TR-8								
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date			
Spectrum Analyzer	Agilent	N9010A	MY48030494	2018.02.04	2019.02.03			
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2018.04.09	2019.04.08			
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08			
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09			

Note: All equipment are 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 the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz

7.4. Test Procedure

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

Page: 53 of 65



7.5. EUT test definition

Item		Occupied Bandwidth						
		Fixed point-to-poin	t					
Device Category		Emit multiple directional beams, simultaneously or sequentially						
		Other cases						
Test mode	Mode	1						
		Radiated						
		X Axis	Y	Axis	Z Axis			
		Worst Axis	Worst A	Axis 🗌	Worst Axis			
		Conducted						
		☐ Chain 0						
Test method		•						
		Chain 0			Chain 1			
			•	•				
		Chain 0 Ch		Chain 1 Chain 2				
			•	• •				



7.6. Test Result

Product Name	:	ONCOACH 900 HR	Power	:	AC 120V/60Hz
Test Mode	•	Mode 1	Test Site	:	TR-8
Test Date	:	2018.07.24			

Mode	CH.	Test Freq. (MHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
1	00	2402	713.6	>500	Pass
1	19	2440	709.3	>500	Pass
1	39	2480	719.1	>500	Pass

Note: The worst case of Occupied Bandwidth as below:

Mode 1 CH19 (2440MHz)





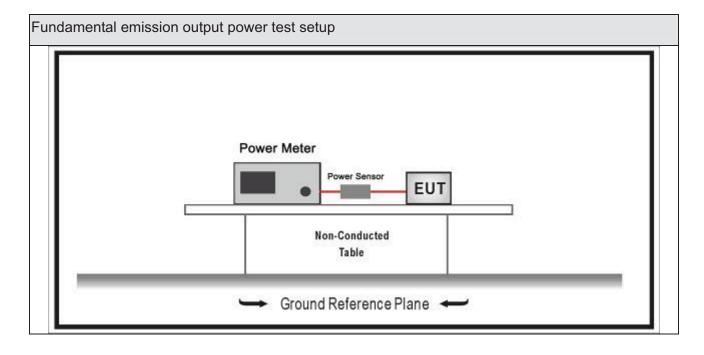
8. Fundamental emission output power

8.1. Test Equipment

Fundamental emission output power/ TR-8									
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date				
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03				
Spectrum Analyzer	Agilent	N9010A	MY48030494	2018.01.04	2019.01.03				
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2017.10.14	2018.10.13				
Power Sensor	Anritsu	MA2411B	0846014	2017.10.14	2018.10.13				
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2018.04.10	2019.04.09				

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**

Fund	undamental emission output power Limit							
	G тх •	6dBi	P _{out} ≤30dBm					
	G тх •	6dBi						
		Non-Fix point-point	P _{out} ≤30-(G⊤x -6)					
		Fix point-point	P _{out} ≤30-[(G⊤x-6)]/3					
		Point-to-multipoint	P _{out} ≤30-(G⊤x-6)					
		Overlap Beams	P _{out} ≤30-[(G⊤x-6)]/3					
		Aggregate power transmitted simultaneously on all beams	Pout≤30-[(G⊤x-6)]/3					
		single directional beam	P _{out} ≤30-[(G⊤x-6)]/3+8dB					
		Tx directional gain of training	-					
иоте	2 : P	out is maximum peak cor	nauctea output power .					

Page: 57 of 65



8.4. Test Procedure

Fund	ament	al emi	ission	output power	Test Method	
	References Rule Chapter					Description
\boxtimes	ANSI	C63.1	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

Page: 58 of 65



8.5. EUT test definition

Item	Fundamental emission output power							
		Fixed point-to-poin	t					
Device Category		Emit multiple directional beams, simultaneously or sequentially						
		Other cases						
Test mode	Mode	: 1						
		Radiated						
		X Axis	Y	Axis	Z Axis			
		Worst Axis	Worst A	axis 🗌	Worst Axis			
	\boxtimes	⊠ Conducted						
Test method			Ch	nain 0				
rest method		•						
		Chain 0			Chain 1			
			•	•				
		Chain 0 Chain 1 Chain 2						
			• •	•				



8.6. Test Result

Product Name		ONCOACH 900 HR	Power	• •	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date		2018.07.26			

Mode	Channel	Test Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
1	00	2402	-2.49	30	Pass
1	19	19 2440 -1.98		30	Pass
1	39	2480	-2.07	30	Pass



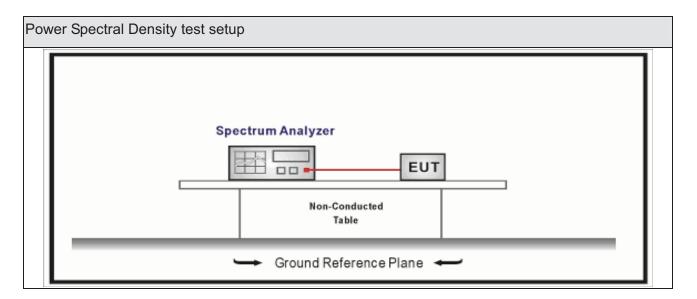
9. Power Spectral Density

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	2018.02.04	2019.02.03			
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2018.04.09	2019.04.08			
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08			
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09			

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≤8dBm/3kHz



9.4. Test Procedure

Power Spectral Density Test Method						
		References Rule	Chapter	Description		
\boxtimes	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≥98%)		
		ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle≥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 Test Method							
Device Category		Fixed point-to-point						
		Emit multiple directional beams, simultaneously or sequentially						
		Other cases						
Test mode	Mode 1							
		Radiated						
		X Axis	Y	Axis	Z Axis			
		Worst Axis	Worst A	Axis 🗌	Worst Axis			
		□ Conducted □						
	\boxtimes	Chain 0						
Test method		•						
		Chain 0		Chain 1				
		• •						
		Chain 0 Chain 1		nain 1	Chain 2			
			•	• •				



9.6. Test Result

Product Name		ONCOACH 900 HR	Power	• •	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	TR-8
Test Date	:	2018.07.24			

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	00	2402	-17.689	-17.689	8	Pass
1	19	2440	-16.765	-16.765	8	Pass
1	39	2480	-17.664	-17.664	8	Pass

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

Mode 1 CH19(2440MHz)



Report No: 1862031R-RF-US-P06V01



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

Ante	nna 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					
Plea	se refer to the attached document "Internal Photograph" to show the antenna connector.					
	The End					
	——————————————————————————————————————					

Page: 65 of 65