



Report No.: FR720943-03AC



FCC Test Report

FCC ID : ZQANC211

Equipment : Nest Cam Outdoor

Brand Name : Nest Labs

Model Name : A0033

Applicant : Nest Labs Inc.

3400 Hillview Ave, Palo Alto, CA 94304 USA

Manufacturer : Nest Labs Inc.

3400 Hillview Ave, Palo Alto, CA 94304 USA

Standard : 47 CFR FCC Part 15.247

The product was received on Sep. 21, 2018, and testing was started from Jan. 22, 2019 and completed on Mar. 04, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Allen Lin

FCC ID: ZQANC211

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

TEL: 886-3-3273456 Page Number : 1 of 22

FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3 Report Version : 02



FCC Test Report

Table of Contents

HIST	ORY OF THIS TEST REPORT	3
SUM	MARY OF TEST RESULT	4
1	GENERAL DESCRIPTION	5
1.1	Information	5
1.2	Testing Applied Standards	7
1.3	Testing Location Information	7
1.4	Measurement Uncertainty	7
2	TEST CONFIGURATION OF EUT	8
2.1	Test Condition	8
2.2	Test Channel Mode	
2.3	The Worst Case Measurement Configuration	
2.4	Accessories and Support Equipment	
2.5	Test Setup Diagram	11
3	TRANSMITTER TEST RESULT	13
3.1	AC Power-line Conducted Emissions	
3.2	DTS Bandwidth	
3.3	Maximum Conducted Output Power	
3.4	Power Spectral Density	
3.5	Emissions in Non-restricted Frequency Bands	
3.6	Emissions in Restricted Frequency Bands	19
4	TEST EQUIPMENT AND CALIBRATION DATA	22
APPI	ENDIX A. TEST RESULTS OF AC POWER-LINE CONDUCTED EMISSIONS	
APPI	ENDIX B. TEST RESULTS OF DTS BANDWIDTH	
APPI	ENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER	
APPI	ENDIX D. TEST RESULTS OF POWER SPECTRAL DENSITY	
APPI	ENDIX E. TEST RESULTS OF EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS	
APPI	ENDIX F. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS	
APPI	ENDIX G. TEST PHOTOS	
PHO	TOGRAPHS OF EUT V01	

TEL: 886-3-3273456 FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

Page Number : 2 of 22
Issued Date : Mar. 13, 2019

Report No.: FR720943-03AC

Report Version : 02

History of this test report

Report No.	Version	Description	Issued Date
FR720943-03AC	01	Initial issue of report	Feb. 21, 2019
FR720943-03AC	02	Revise typo	Mar. 05, 2019
FR720943-03AC	02	Modified Radiated Emissions below 30MHz	Mar. 13, 2019

TEL: 886-3-3273456 Page Number : 3 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

Issued Date : Mar Report Version : 02

Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	FCC 15.203
3.1	15.207	AC Power-line Conducted Emissions	PASS	FCC 15.207
3.2	15.247(a)	DTS Bandwidth	PASS	≥500kHz
3.3	15.247(b)	Maximum Conducted Output Power	PASS	Power [dBm]: 30
3.4	15.247(e)	Power Spectral Density	PASS	PSD [dBm/3kHz]: 8
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	Non-Restricted Bands: > 20 dBc
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	Restricted Bands: FCC 15.209

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and explanations:

None

Reviewed by: Jackson Tsai

Report Producer: Ann Hou

TEL: 886-3-3273456 : 4 of 22 Page Number FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

: Mar. 13, 2019 Issued Date

Report Version : 02

FCC Test Report Report No.: FR720943-03AC

General Description

Information 1.1

1.1.1 **RF General Information**

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2400-2483.5	b, g, n (HT20)	2412-2462	1-11 [11]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	1TX
2.4-2.4835GHz	802.11g	20	1TX
2.4-2.4835GHz	802.11n HT20	20	1TX

Note:

- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g and HT20 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector
1	1	-	-	PIFA	I-PEX

Ant.		Gain (dBi)	
AIII.	2.4G	5G	ВТ
1	0.84	2.45	0.84

Note 1: The EUT has one antenna.

For 2.4GHz function:

For IEEE 802.11 b/g/n mode (1TX/1RX)

Ant. 1 (port 1) could transmit/receive simultaneously.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 1 (port 1) could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11 a mode (1TX/1RX)

Ant. 1 (port 1) could transmit/receive simultaneously.

TEL: 886-3-3273456 : 5 of 22 Page Number FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

: Mar. 13, 2019 Issued Date Report Version

: 02



FCC Test Report

1.1.3 EUT Information

	Operational Condition						
EU	Γ Power Ty	/pe	Fro	m AC Adapter / F	lost Sy	sten	า
EU	Γ Function		\boxtimes	Point-to-multipo	int		Point-to-point
Bea	mforming	Function		With beamformi	ing	\boxtimes	Without beamforming
					Type o	f EU	т
\boxtimes	Stand-alor	ne					
	Combined	(EUT where	e the	radio part is fully	y integr	ated	within another device)
	Combined	Equipment	- Bra	and Name / Mode	el No.:		
	Plug-in radio (EUT intended for a variety of host systems)						
	Host System - Brand Name / Model No.:						
	Other:						

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	1	0	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11g	1	0	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11n HT20	1	0	n/a (DC>=0.98)	n/a (DC>=0.98)

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

TEL: 886-3-3273456 Page Number : 6 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

Issued Date : Mar Report Version : 02

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- KDB 558074 D01 v05r01

1.3 Testing Location Information

	Testing Location					
\boxtimes	HWA YA	ADD	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)			
		TEL	:	886-3-327-3456	FAX : 886-3-327-0973	
				Test site Designation	on No. TW1190 with FCC.	
	JHUBEI	ADD	:	No.8, Ln. 724, Bo'ai St.	, Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
	TEL: 886-3-656-9065 FAX: 886-3-656-9085					
				Test site Designation	on No. TW0006 with FCC.	

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Lego	21~22.5°C / 62~65%	23/Jan/2019
RF Conducted	TH06-HY	Streak	23~23.3°C / 63~65%	29/Jan/2019~ 31/Jan/2019
Radiated	03CH02-HY	Patrick	22.5~24.5°C / 53.7~56.5%	22/Jan/2019~ 02/Feb/2019
Radiated (9kHz~30MHz)	03CH02-HY	Patrick	23.2~25.1°C / 55.6~57.2%	04/Mar/2019

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.54 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	1.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%

TEL: 886-3-3273456 Page Number : 7 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

Report Version : 02



2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	5V

2.2 Test Channel Mode

Test Software	CMD
---------------	-----

Mode	Power Setting
802.11b_Nss1,(1Mbps)_1TX	-
2412MHz	20
2437MHz	20
2462MHz	20
802.11g_Nss1,(6Mbps)_1TX	-
2412MHz	15
2417MHz	20
2437MHz	20
2462MHz	20
802.11n HT20_Nss1,(MCS0)_1TX	-
2412MHz	14
2417MHz	20
2437MHz	20
2462MHz	20

TEL: 886-3-3273456 Page Number : 8 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

Issued Date : Ma Report Version : 02

2.3 The Worst Case Measurement Configuration

Th	The Worst Case Mode for Following Conformance Tests		
Tests Item AC power-line conducted emissions			
Condition	AC power-line conducted measurement for line and neutral		
Operating Mode	стх		
1	Adapter mode		
2	USB mode		

Th	The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands	
Test Condition	Conducted measurement at transmit chains	

The Worst Case Mode for Following Conformance Tests				
Tests Item	Emissions in Restricted Frequency Bands			
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.			
Operating Mode < 1GHz	СТХ			
1	Adapter mode			
2	USB mode			
Operating Mode > 1GHz	СТХ			
	X Plane	Y Plane	Z Plane	
Orthogonal Planes of EUT				
Worst Planes of EUT			V	

TEL: 886-3-3273456 Page Number : 9 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

Issued Date : Mar. 1 Report Version : 02



FCC Test Report

2.4 Accessories and Support Equipment

Accessories				
	Brand Name	I.T.E	Model Name	A0038
AC Adapter	Power Rating	I/P: 100- 240 Vac, 0.35 A, O/P: 5 Vdc, 1.4 A		
·	Power Cord	4.4 meter, non-shield	ed cable, w/o ferri	te core

Reminder: Regarding to more detail and other information, please refer to user manual.

Support Equipment - RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	DoC
2	Adapter for Notebook	DELL	HA65NM130	DoC

	Support Equipment – Radiated Emission			
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	PP13S	DoC
2	Adapter for Notebook	DELL	LA90PM111	DoC

TEL: 886-3-3273456 Page Number : 10 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13,

Report Template No.: HE1-C8 Ver3.3

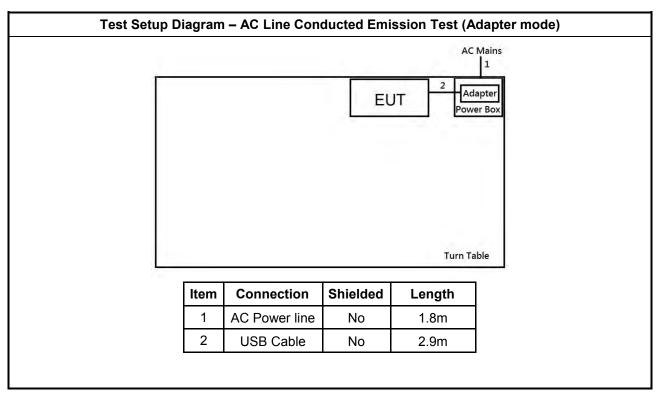
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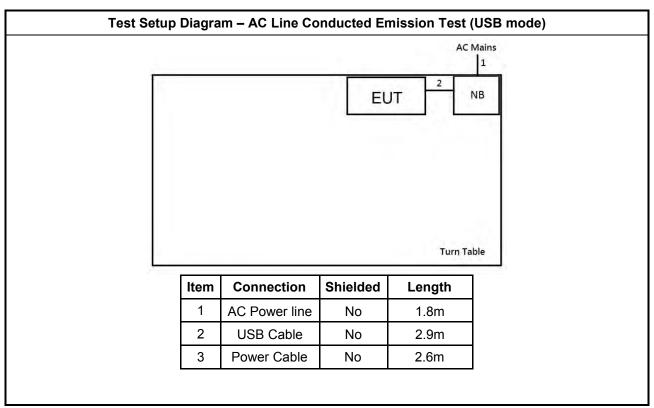
Issued Date : Mar. 13, 2019 Report Version : 02



Report No.: FR720943-03AC

Test Setup Diagram 2.5



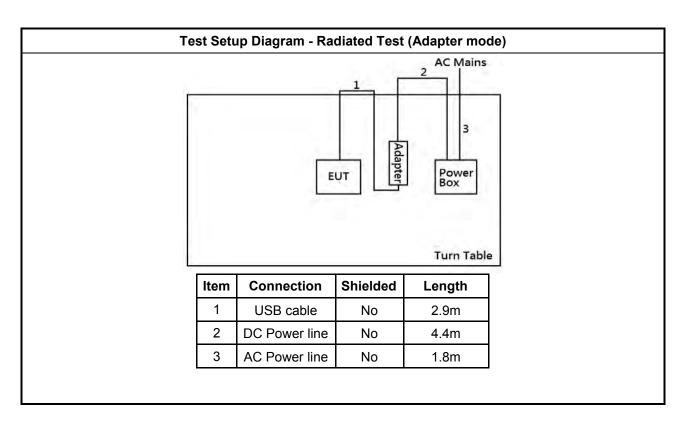


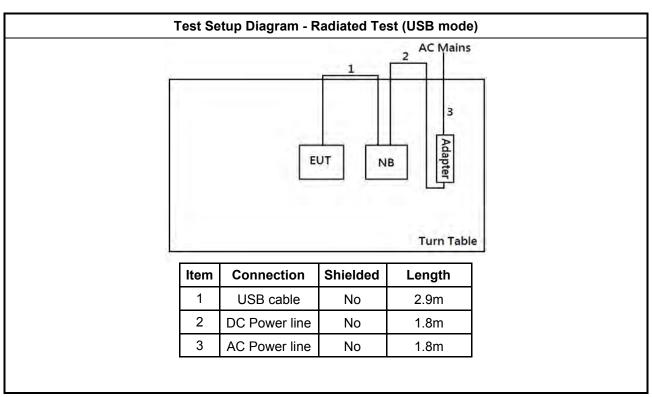
TEL: 886-3-3273456 : 11 of 22 Page Number : Mar. 13, 2019 FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

Issued Date Report Version : 02 FCC Test Report No.: FR720943-03AC





TEL: 886-3-3273456 FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

Page Number : 12 of 22

Issued Date : Mar. 13, 2019

Report Version : 02



Report No.: FR720943-03AC

Transmitter Test Result 3

3.1 **AC Power-line Conducted Emissions**

3.1.1 **AC Power-line Conducted Emissions Limit**

F (2011-)	Overal Barata	A
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

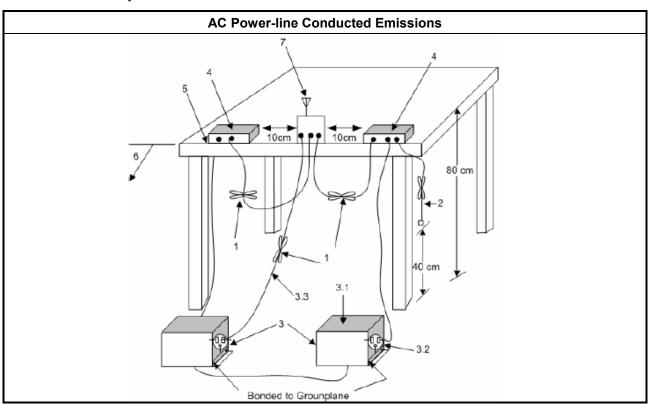
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 **Test Procedures**

Test Method	
Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emission	ons.

3.1.4 Test Setup



3.1.5 **Test Result of AC Power-line Conducted Emissions**

Refer as Appendix A

TEL: 886-3-3273456 : 13 of 22 Page Number FAX: 886-3-3270973 : Mar. 13, 2019 Issued Date

: 02

Report Template No.: HE1-C8 Ver3.3 Report Version

FCC Test Report

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
■ 6 dB bandwidth ≥ 500 kHz.

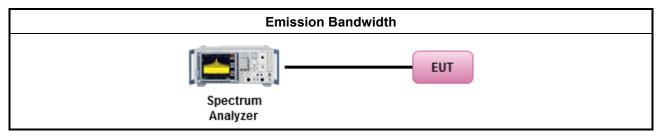
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

	Test Method					
•	For the emission bandwidth shall be measured using one of the options below:					
	Refer as KDB 558074. clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.					
	Refer as RSS-Gen, clause 6.7 for for occupied bandwidth testing.					
	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.					

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

TEL: 886-3-3273456 Page Number : 14 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

Report Version : 02

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

	If $G_{TX} \le 6$ dBi, then $P_{Out} \le 30$ dBm (1 W)						
-							
-	Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm						
•	■ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm						
•	Smart antenna system (SAS):						
	- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm						
	- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm						
	- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm						
r.p.	Power Limit:						
24	00-2483.5 MHz Band						
•	Point-to-multipoint systems (P2M): P _{eirp} ≤ 36 dBm (4 W)						
•	Point-to-point systems (P2P): $P_{eirp} \le MAX(36, [P_{Out} + G_{TX}]) dBm$						
•	Smart antenna system (SAS)						
	- Single beam: P _{eirp} ≤ MAX(36, P _{Out} + G _{TX}) dBm						
	- Overlap beam: P _{eirp} ≤ MAX(36, P _{Out} + G _{TX}) dBm						
	- Aggregate power on all beams: Peiro ≤ MAX(36, [P _{Out} + G _{TX} + 8]) dBm						

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

TEL: 886-3-3273456 Page Number : 15 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3

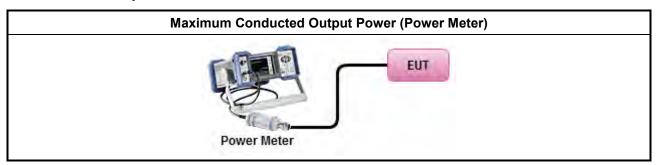
FCC ID: ZQANC211

Report Version : 02

3.3.3 Test Procedures

	Test Method
•	Maximum Peak Conducted Output Power
	☐ Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
•	Maximum Average Conducted Output Power
	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3.1 of ANSI C63.10) using a power meter.
•	For conducted measurement.
	■ If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	If multiple transmit chains, EIRP calculation could be following as methods: P _{total} = P ₁ + P ₂ + + P _n (calculated in linear unit [mW] and transfer to log unit [dBm]) EIRP _{total} = P _{total} + DG

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

TEL: 886-3-3273456 Page Number : 16 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

Report Version : 02

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit

Report No.: FR720943-03AC

: 02

Power Spectral Density (PSD) ≤ 8 dBm/3kHz

3.4.2 Measuring Instruments

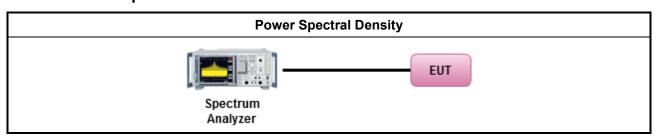
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method

- Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
 - Refer as KDB 558074, clause 8.4 (11.10.2 of ANSI C63.10) Method PKPSD.
- For conducted measurement.
 - If The EUT supports multiple transmit chains using options given below:
 - Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

TEL: 886-3-3273456 Page Number : 17 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3 Report Version

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit				
RF output power procedure	Limit (dB)			
Peak output power procedure	20			
Average output power procedure	30			

Report No.: FR720943-03AC

- Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.
- Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

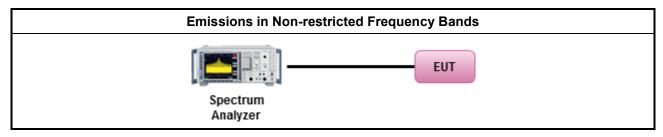
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

	Test Method
-	Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency bands.

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

TEL: 886-3-3273456 Page Number : 18 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

Report Template No.: HE1-C8 Ver3.3 Report Version : 02

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit							
Frequency Range (MHz)	Measure Distance (m)						
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300				
0.490~1.705	24000/F(kHz)	33.8 - 23	30				
1.705~30.0	30	29	30				
30~88	100	40	3				
88~216	150	43.5	3				
216~960	200	46	3				
Above 960	500	54	3				

Report No.: FR720943-03AC

- Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. 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 of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).
- Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more 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). The test report shall specify the extrapolation method used to determine compliance of the EUT.
- Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

TEL: 886-3-3273456 Page Number : 19 of 22 FAX: 886-3-3270973 Issued Date : Mar. 13, 2019

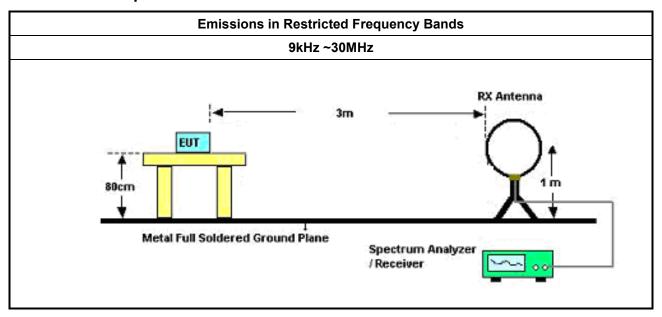
Report Template No.: HE1-C8 Ver3.3 Report Version : 02

Test Procedures 3.6.3

Test Method

- The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
- Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
- For the transmitter unwanted emissions shall be measured using following options below:
 - Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
- For the transmitter band-edge emissions shall be measured using following options below:
 - Refer as KDB 558074 clause 8.7.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
 - Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
 - Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
- Use the following spectrum analyzer settings:
 - Set RBW=100 kHz for f < 1 GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
 - Set RBW = 1 MHz, VBW= 3MHz for $f \ge 1$ GHz for peak measurement. For average measurement, refer as 1.1.4.

3.6.4 **Test Setup**



TEL: 886-3-3273456 : 20 of 22 Page Number : Mar. 13, 2019 FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.3

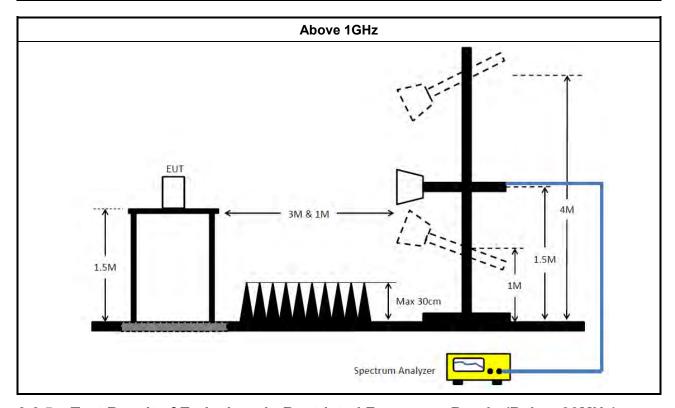
FCC ID: ZQANC211

Issued Date

Report No.: FR720943-03AC

Report Version : 02

30MHz~1GHz **RX Antenna** Ant. feed EUT point 80cm Metal Full Soldered Ground Plane Spectrum Analyzer / Receiver



Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

TEL: 886-3-3273456 : 21 of 22 Page Number FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

: Mar. 13, 2019 Issued Date

Report Version : 02



Test Equipment and Calibration Data 4

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMC Receiver	R&S	ESR	102051	9KHz ~ 3.6GHz	03/May/2018	02/May/2019
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	08/Nov/2018	07/Nov/2019
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	17/Sep/2018	16/Sep/2019
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	12/Oct/2018	11/Oct/2019

NCR : Non-Calibration Require

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz ~ 1GHz 3m	25/Oct/2018	24/Oct/2019
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz ~ 18GHz 3m	25/Oct/2018	24/Oct/2019
Amplifier	Agilent	8447D	2944A11149	100kHz ~ 1.3GHz	27Jul/2018	02/Jul/2019
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz ~ 26.5GHz	23/Oct/2018	22/Oct/2019
Signal Analyzer	R&S	FSV40	101500	10Hz ~ 40GHz	18/Jul/2018	17/Jul/2019
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	10/Apr/2018	09/Apr/2019
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz ~ 1GHz	18/Jan/2019	17/Jan/2020
RF Cable-high	SUHNER	SUCOFLEX104	MY34918/4	1GHz ~ 40GHz	18/Jan/2019	17/Jan/2020
Bilog Antenna	SCHAFFNER	CBL 6112B	2723	30MHz ~ 1GHz	13/Oct/2018	12/Oct/2019
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	29/Mar/2018	28/Mar/2019
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz ~ 40GHz	12/Mar/2018	11/Mar/2019
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 01543	1GHz ~ 18GHz	11/May/2018	10/May/2019

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Smaa	Calibration	Calibration
mstrument	Manuacturei	Woder No.	Serial No.	Spec.	Date	Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	05/Feb/2018	04/Feb/2019
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	05/Feb/2018	04/Feb/2019
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	05/Feb/2018	04/Feb/2019
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.5m	HUBER	MY39470/4	RF Cable - 29	30MHz ~18G	10/Jan/2019	09/Jan/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020

: 22 of 22 TEL: 886-3-3273456 Page Number FAX: 886-3-3270973

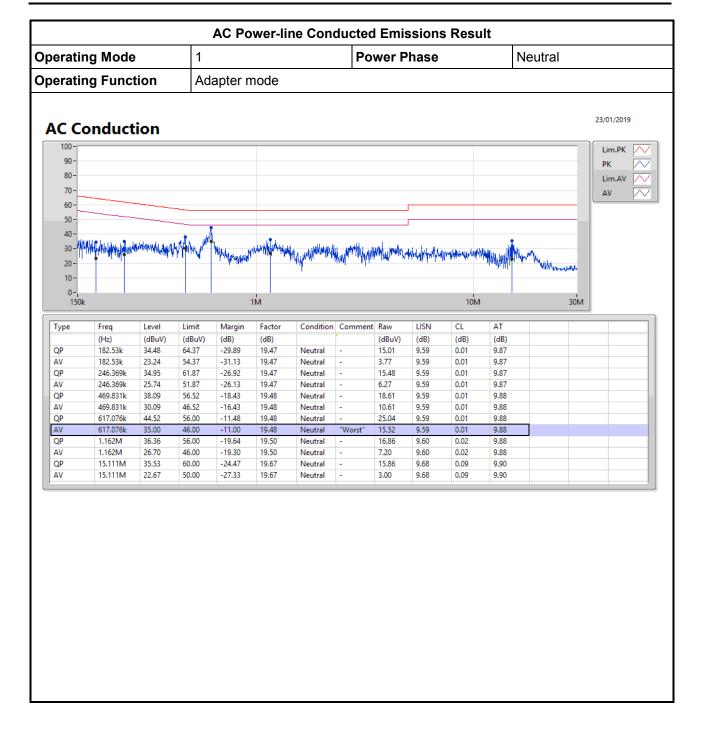
: Mar. 13, 2019 Issued Date Report Template No.: HE1-C8 Ver3.3

FCC ID: ZQANC211

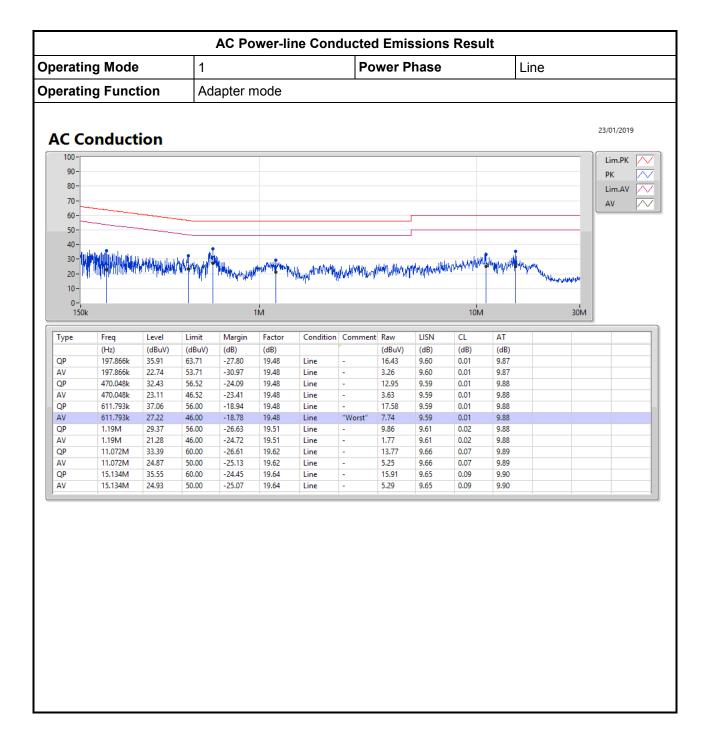
Report Version : 02



AC Power-line Conducted Emissions

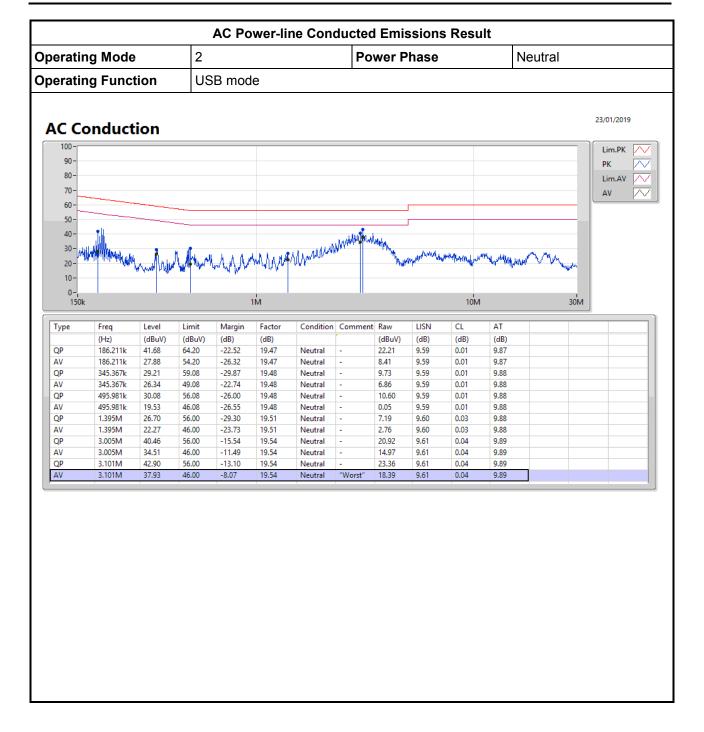




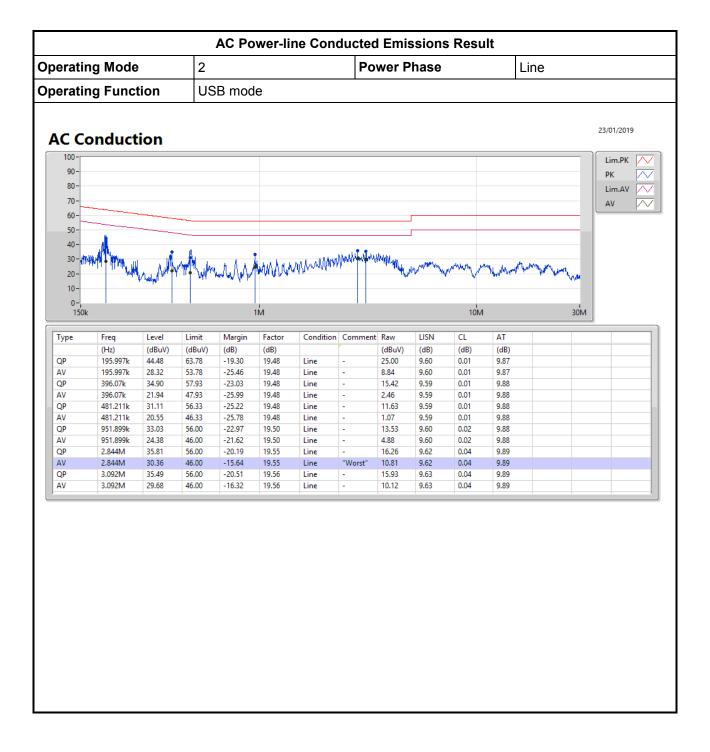


AC Power-line Conducted Emissions

AC Power-line Conducted Emissions









EBW Result Appendix B

Summary

Mode	Max-N dB	Max-OBW	ITU-Code	Min-N dB	Min-OBW
	(Hz)	(Hz)		(Hz)	(Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	10.05M	14.068M	14M1G1D	9.1M	14.018M
802.11g_Nss1,(6Mbps)_1TX	16.5M	16.542M	16M5D1D	16.45M	16.517M
802.11n HT20_Nss1,(MCS0)_1TX	17.75M	17.766M	17M8D1D	17.625M	17.716M

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth; Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth;

Result

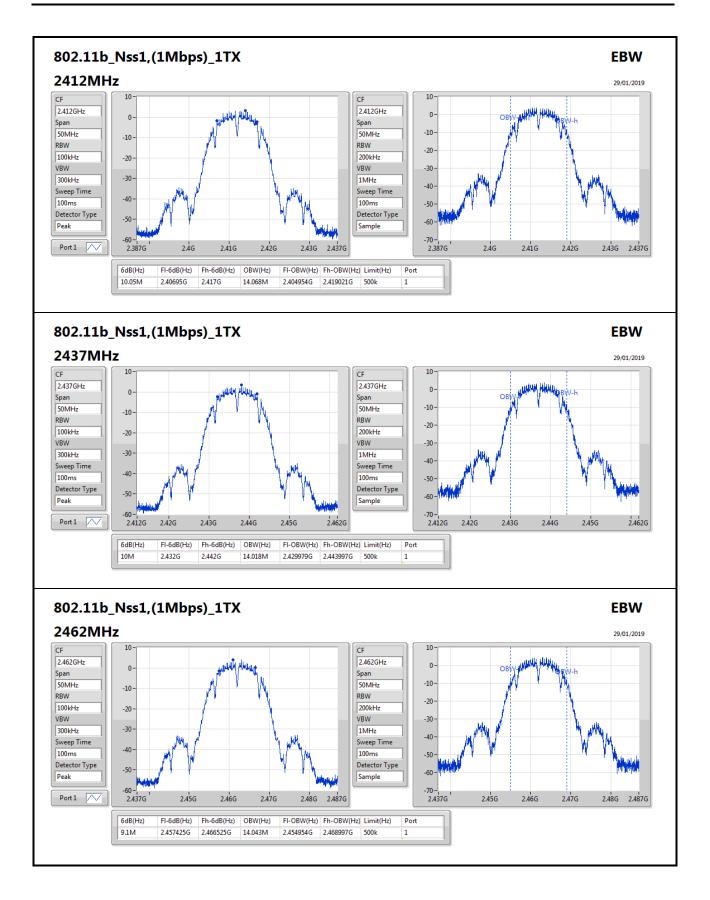
Mode	Result	Limit	Port 1-N dB	Port 1-OBW
		(Hz)	(Hz)	(Hz)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	10.05M	14.068M
2437MHz	Pass	500k	10M	14.018M
2462MHz	Pass	500k	9.1M	14.043M
802.11g_Nss1,(6Mbps)_1TX	-	=	-	-
2412MHz	Pass	500k	16.45M	16.517M
2437MHz	Pass	500k	16.5M	16.517M
2462MHz	Pass	500k	16.475M	16.542M
802.11n HT20_Nss1,(MCS0)_1TX	-	=	-	-
2412MHz	Pass	500k	17.75M	17.716M
2437MHz	Pass	500k	17.625M	17.716M
2462MHz	Pass	500k	17.725M	17.766M

Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

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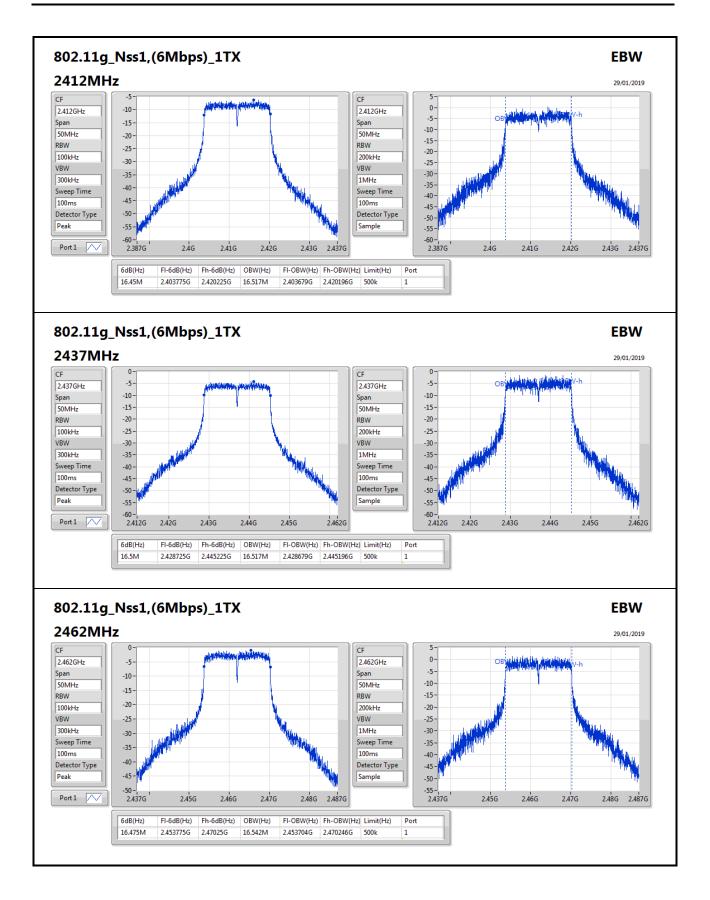
Appendix B



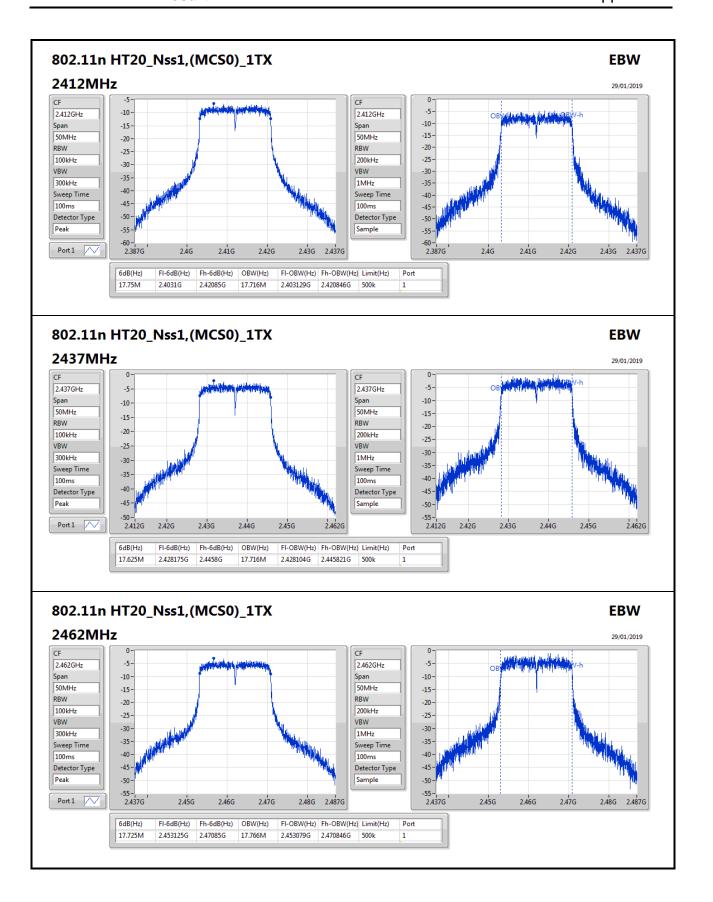


Appendix B





Appendix B





PK Power Result Appendix C.1

Summary

Mode	Total Power	Total Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	16.90	0.04898
802.11g_Nss1,(6Mbps)_1TX	22.92	0.19588
802.11n HT20_Nss1,(MCS0)_1TX	20.57	0.11402

Result

Mode	Result	DG	Port 1	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz_TnomVnom	Pass	0.84	16.36	16.36	30.00
2437MHz_TnomVnom	Pass	0.84	16.24	16.24	30.00
2462MHz_TnomVnom	Pass	0.84	16.90	16.90	30.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz_TnomVnom	Pass	0.84	21.75	21.75	30.00
2417MHz_TnomVnom	Pass	0.84	22.92	22.92	30.00
2437MHz_TnomVnom	Pass	0.84	22.91	22.91	30.00
2462MHz_TnomVnom	Pass	0.84	22.80	22.80	30.00
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz_TnomVnom	Pass	0.84	20.41	20.41	30.00
2417MHz_TnomVnom	Pass	0.84	20.35	20.35	30.00
2437MHz_TnomVnom	Pass	0.84	20.57	20.57	30.00
2462MHz_TnomVnom	Pass	0.84	20.35	20.35	30.00

DG = Directional Gain; **Port X** = Port X output power



Appendix C.2 **AV Power Result**

Summary

Mode	Total Power	Total Power	
	(dBm)	(W)	
2.4-2.4835GHz	-	-	
802.11b_Nss1,(1Mbps)_1TX	14.77	0.02999	
802.11g_Nss1,(6Mbps)_1TX	14.63	0.02904	
802.11n HT20_Nss1,(MCS0)_1TX	12.06	0.01607	

Result

Mode	Result	DG	Port 1	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz_TnomVnom	Pass	0.84	14.20	14.20	30.00
2437MHz_TnomVnom	Pass	0.84	14.08	14.08	30.00
2462MHz_TnomVnom	Pass	0.84	14.77	14.77	30.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz_TnomVnom	Pass	0.84	12.56	12.56	30.00
2417MHz_TnomVnom	Pass	0.84	14.41	14.41	30.00
2437MHz_TnomVnom	Pass	0.84	14.63	14.63	30.00
2462MHz_TnomVnom	Pass	0.84	14.43	14.43	30.00
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz_TnomVnom	Pass	0.84	11.00	11.00	30.00
2417MHz_TnomVnom	Pass	0.84	11.61	11.61	30.00
2437MHz_TnomVnom	Pass	0.84	11.83	11.83	30.00
2462MHz_TnomVnom	Pass	0.84	12.06	12.06	30.00

DG = Directional Gain; Port X = Port X output power Note : Conducted average output power is for reference only



Appendix D **PSD Result**

Summary

Mode	PD		
	(dBm/RBW)		
2.4-2.4835GHz	-		
802.11b_Nss1,(1Mbps)_1TX	-10.05		
802.11g_Nss1,(6Mbps)_1TX	-12.36		
802.11n HT20_Nss1,(MCS0)_1TX	-15.42		

RBW=3kHz.

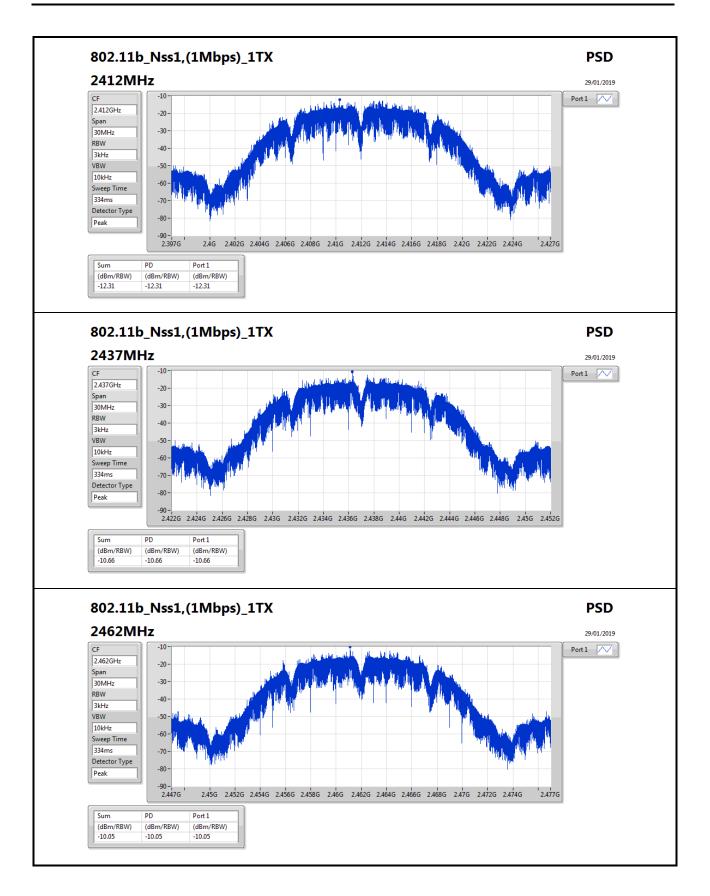
Result

Mode	Result	DG	Port 1	PD	PD Limit
		(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz_TnomVnom	Pass	0.84	-12.31	-12.31	8.00
2437MHz_TnomVnom	Pass	0.84	-10.66	-10.66	8.00
2462MHz_TnomVnom	Pass	0.84	-10.05	-10.05	8.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz_TnomVnom	Pass	0.84	-13.82	-13.82	8.00
2437MHz_TnomVnom	Pass	0.84	-12.36	-12.36	8.00
2462MHz_TnomVnom	Pass	0.84	-12.55	-12.55	8.00
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz_TnomVnom	Pass	0.84	-16.52	-16.52	8.00
2437MHz_TnomVnom	Pass	0.84	-15.42	-15.42	8.00
2462MHz_TnomVnom	Pass	0.84	-16.31	-16.31	8.00

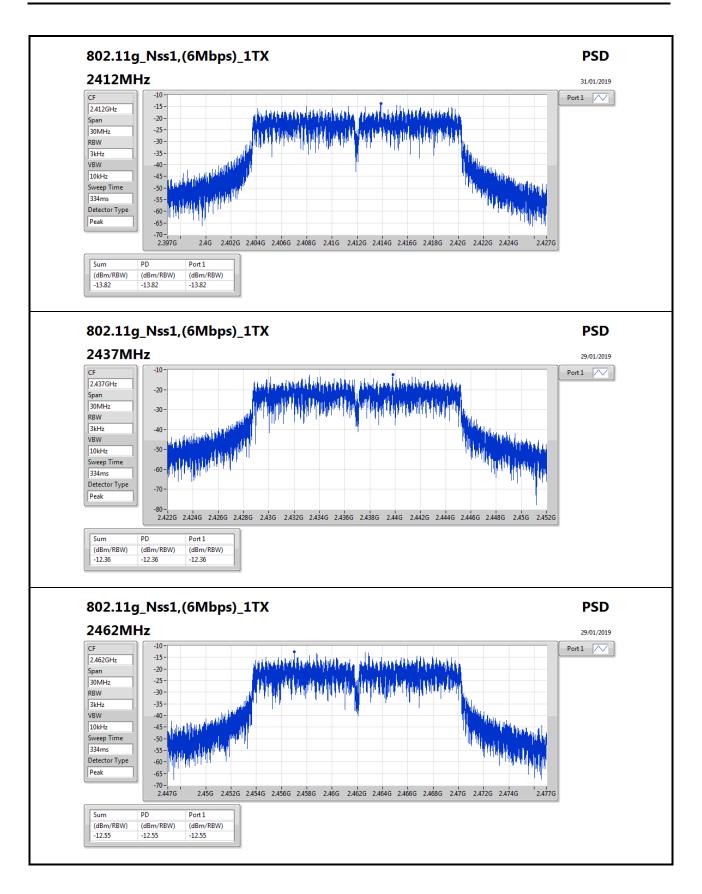
DG = Directional Gain; RBW=3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port Xpower density;

Appendix D



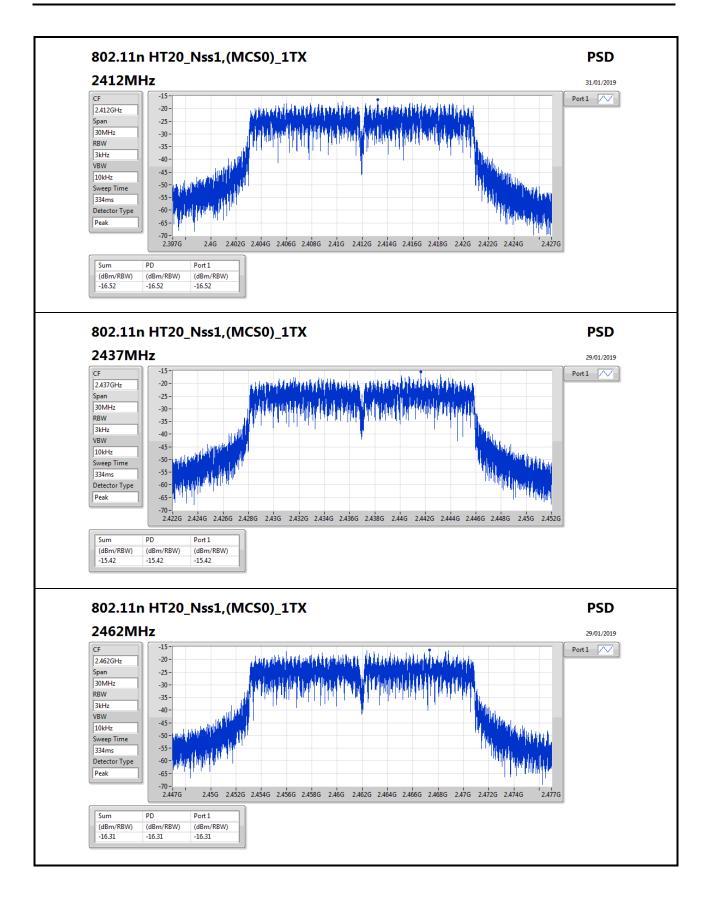






Appendix D







CSE Non-restricted Band Result

Appendix E

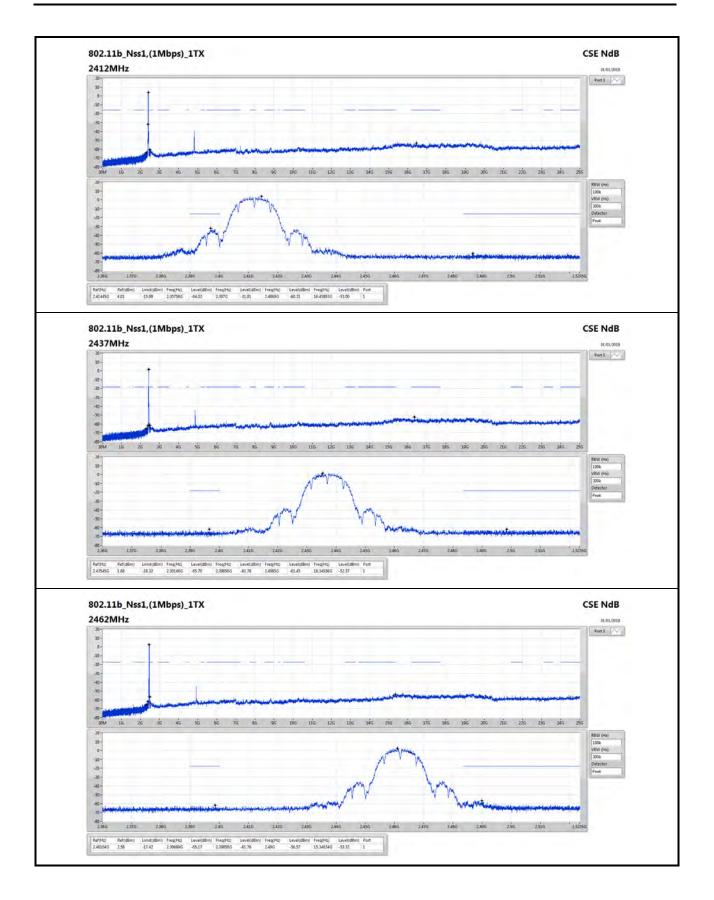
Summary

Mode	Result	Ref	Ref	Limit	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Port
		(Hz)	(dBm)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	
2.4-2.4835GHz	-		-	-	-	-		-		-			-
802.11b_Nss1,(1Mbps)_1TX	Pass	2.41445G	4.01	-15.99	2.30758G	-64.02	2.397G	-31.91	2.4869G	-60.31	16.45893G	-53.00	1
802.11g_Nss1,(6Mbps)_1TX	Pass	2.41349G	-2.51	-22.51	2.14535G	-65.64	2.3998G	-30.22	2.49594G	-61.56	16.4196G	-52.79	1
802.11n HT20_Nss1,(MCS0)_1TX	Pass	2.4157G	-3.23	-23.23	1.97992G	-65.21	2.39944G	-27.68	2.49552G	-61.16	16.43645G	-52.69	1

Result

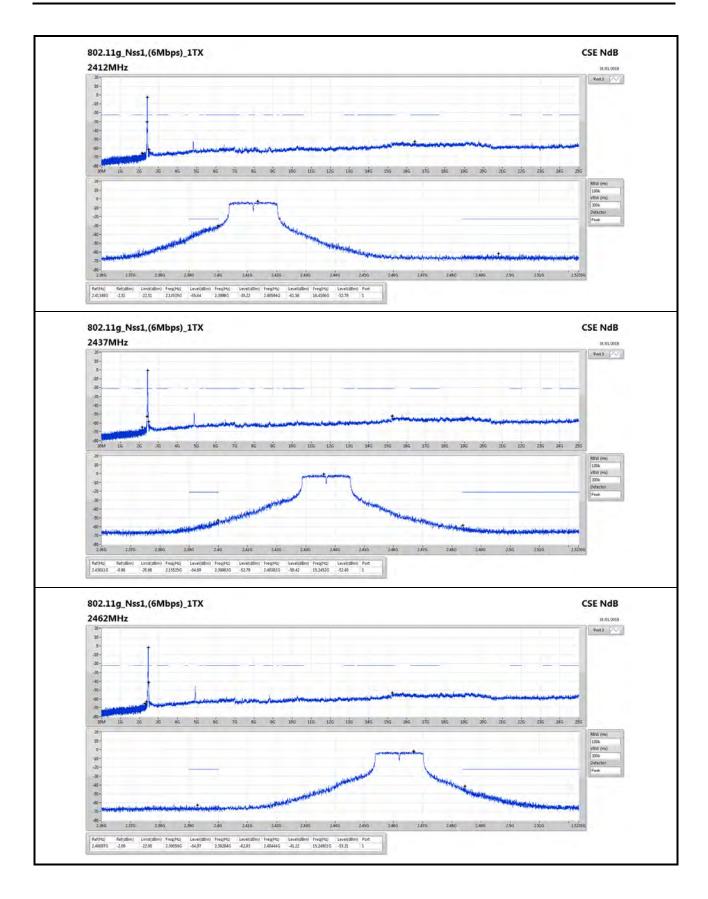
Mode	Result	Ref	Ref	Limit	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Port
		(Hz)	(dBm)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.41445G	4.01	-15.99	2.30758G	-64.02	2.397G	-31.91	2.4869G	-60.31	16.45893G	-53.00	1
2437MHz_TnomVnom	Pass	2.43545G	1.68	-18.32	2.30146G	-65.70	2.39656G	-61.76	2.4985G	-61.45	16.34936G	-52.37	1
2462MHz_TnomVnom	Pass	2.46104G	2.58	-17.42	2.30699G	-65.17	2.39858G	-61.76	2.49G	-56.57	15.34634G	-53.32	1
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.41349G	-2.51	-22.51	2.14535G	-65.64	2.3998G	-30.22	2.49594G	-61.56	16.4196G	-52.79	1
2437MHz_TnomVnom	Pass	2.43611G	-0.86	-20.86	2.15525G	-64.69	2.39982G	-52.79	2.48382G	-58.42	15.2452G	-52.40	1
2462MHz_TnomVnom	Pass	2.46697G	-2.00	-22.00	2.30059G	-64.97	2.39284G	-62.93	2.48444G	-41.22	15.24801G	-53.21	1
802.11n HT20_Nss1,(MCS0)_1TX		-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.4157G	-3.23	-23.23	1.97992G	-65.21	2.39944G	-27.68	2.49552G	-61.16	16.43645G	-52.69	1
2437MHz_TnomVnom	Pass	2.43411G	-6.10	-26.10	2.30233G	-65.43	2.39424G	-61.81	2.5093G	-61.28	17.2737G	-52.79	1
2462MHz_TnomVnom	Pass	2.46258G	-3.20	-23.20	2.13137G	-65.85	2.39888G	-63.79	2.4842G	-41.09	17.23718G	-53.52	1



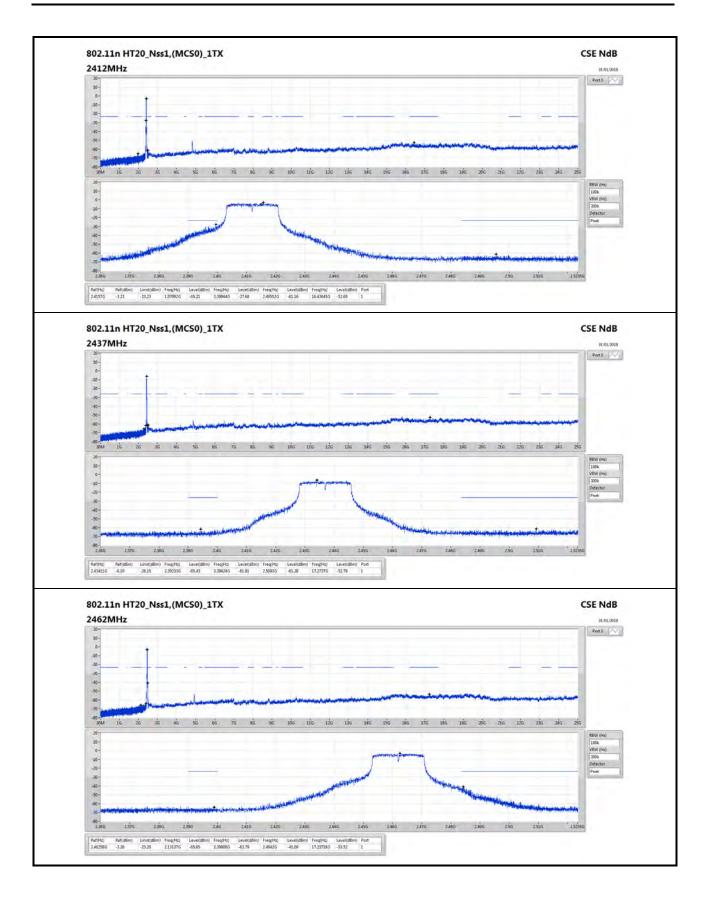


Page No. : E2 of E4











RSE TX below 1GHz Result

Appendix F.1

Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11n HT20_Nss1,(MCS0)_1TX	Pass	PK	41.64M	36.92	40.00	-3.08	-10.45	3	Vertical	0	1.00	-

SPORTON INTERNATIONAL INC. Page No. : F1 of F10

720943-03

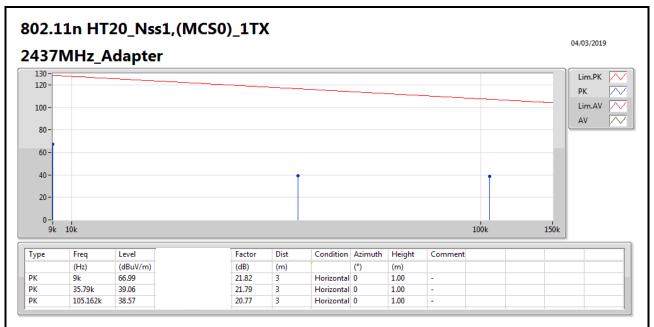


Appendix F.1



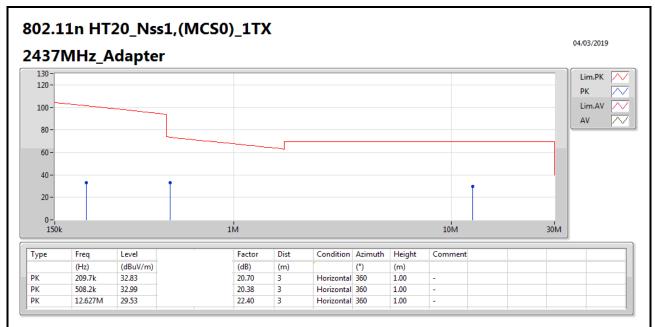
Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-	-	-
2437MHz	Pass	PK	9k	-13.01	48.52	-61.53	21.82	300	Horizontal	0	1.00	-
2437MHz	Pass	PK	35.79k	-40.94	36.53	-77.47	21.79	300	Horizontal	0	1.00	-
2437MHz	Pass	PK	105.162k	-41.43	27.17	-68.6	20.77	300	Horizontal	0	1.00	-
2437MHz	Pass	PK	209.7k	-47.17	21.17	-68.34	20.70	300	Horizontal	360	1.00	-
2437MHz	Pass	PK	508.2k	-7.01	33.48	-40.49	20.38	30	Horizontal	360	1.00	-
2437MHz	Pass	PK	12.627M	-10.46	29.54	-40	22.40	30	Horizontal	360	1.00	-
2437MHz	Pass	PK	35.82M	30.56	40.00	-9.44	-7.68	3	Vertical	0	1.00	-
2437MHz	Pass	PK	115.36M	27.54	43.50	-15.96	-9.01	3	Vertical	0	1.00	-
2437MHz	Pass	PK	262.8M	22.57	46.00	-23.43	-5.85	3	Vertical	0	1.00	-
2437MHz	Pass	PK	672.14M	39.35	46.00	-6.65	-0.28	3	Vertical	0	1.00	-
2437MHz	Pass	PK	792.42M	35.83	46.00	-10.17	1.20	3	Vertical	0	1.00	-
2437MHz	Pass	PK	840.92M	35.81	46.00	-10.19	1.73	3	Vertical	0	1.00	-
2437MHz	Pass	PK	33.88M	27.80	40.00	-12.20	-6.69	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	171.62M	28.31	43.50	-15.19	-10.80	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	262.8M	29.65	46.00	-16.35	-5.85	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	672.14M	39.36	46.00	-6.64	-0.28	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	757.5M	36.17	46.00	-9.83	1.00	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	840.92M	40.12	46.00	-5.88	1.73	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	9k	-13.90	48.52	-62.42	21.82	300	Horizontal	360	-	-
2437MHz	Pass	PK	39.174k	-41.26	35.74	-77.00	21.65	300	Horizontal	360	-	-
2437MHz	Pass	PK	111.93k	-44.30	26.63	-70.93	20.77	300	Horizontal	360	-	-
2437MHz	Pass	PK	388.8k	-38.43	15.81	-54.24	20.52	300	Horizontal	0	-	-
2437MHz	Pass	PK	1.165M	-7.87	26.28	-34.15	21.02	30	Horizontal	0	-	-
2437MHz	Pass	PK	2.299M	-2.30	29.54	-31.84	20.88	30	Horizontal	0	-	-
2437MHz	Pass	PK	41.64M	36.92	40.00	-3.08	-10.45	3	Vertical	0	1.00	-
2437MHz	Pass	PK	101.78M	28.92	43.50	-14.58	-10.04	3	Vertical	0	1.00	-
2437MHz	Pass	PK	239.52M	40.53	46.00	-5.47	-8.23	3	Vertical	0	1.00	-
2437MHz	Pass	PK	530.52M	29.95	46.00	-16.05	-1.83	3	Vertical	0	1.00	-
2437MHz	Pass	PK	672.14M	38.54	46.00	-7.46	-0.28	3	Vertical	0	1.00	-
2437MHz	Pass	PK	755.56M	38.25	46.00	-7.75	0.98	3	Vertical	0	1.00	-
2437MHz	Pass	PK	41.64M	36.43	40.00	-3.57	-10.45	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	101.78M	38.30	43.50	-5.20	-10.04	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	371.44M	34.89	46.00	-11.11	-4.50	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	672.14M	39.69	46.00	-6.31	-0.28	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	840.92M	41.78	46.00	-4.22	1.73	3	Horizontal	360	1.00	-
2437MHz	Pass	QP	239.52M	36.32	46.00	-9.68	-8.23	3	Horizontal	238	1.41	-





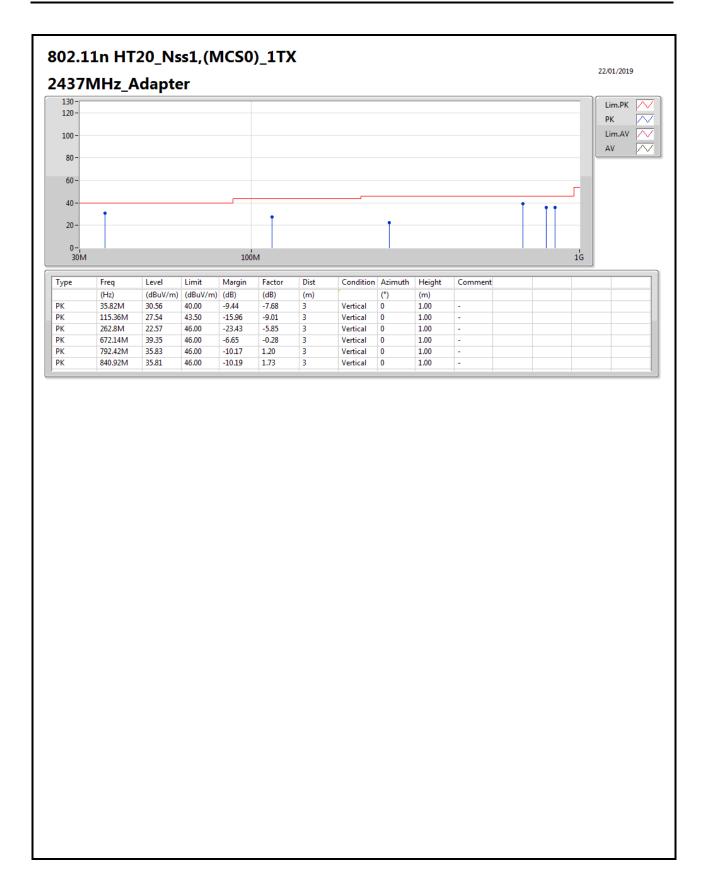
Frequency (kHz)	Level (dBuV/m)	Level (dBuV/m)	limit (dBuV/m)	Margin
9	66.99 @ 3 m	-13.01 @ 300m	48.52	-61.53
35.79	39.06 @ 3 m	-40.94 @ 300m	36.53	-77.47
105.162	38.57 @ 3 m	-41.43 @ 300m	27.17	-68.6





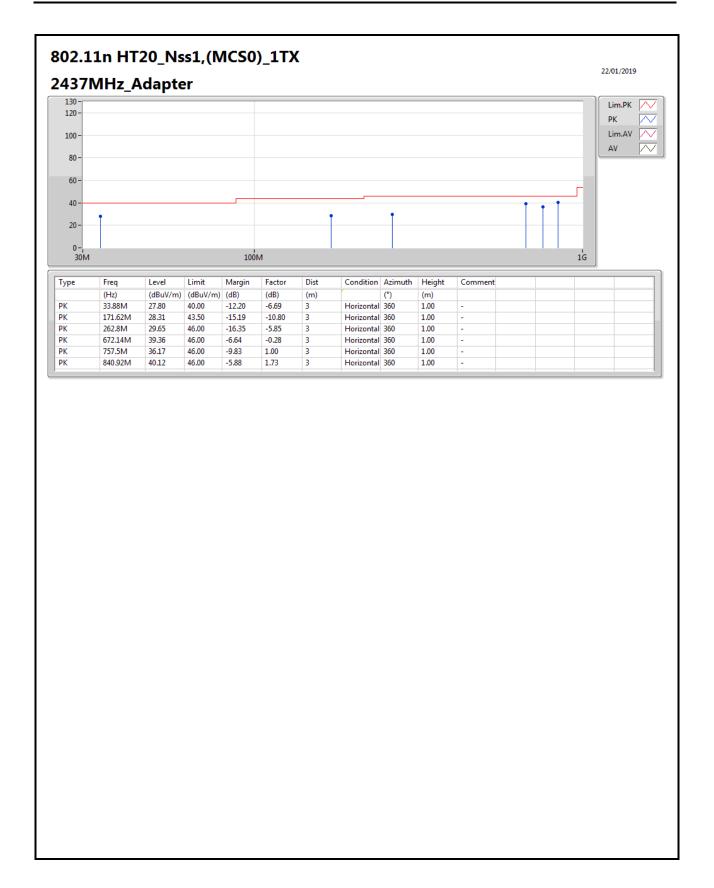
Frequency (kHz)	Level (dBuV/m)	Level (dBuV/m)	limit (dBuV/m)	Margin
209.7	32.83 @ 3 m	-47.17 @ 300m	21.17	-68.34
508.2	32.99 @ 3 m	-7.01 @ 30m	33.48	-40.49
12627	29.54 @ 3 m	-10.46 @ 30m	29.54	-40



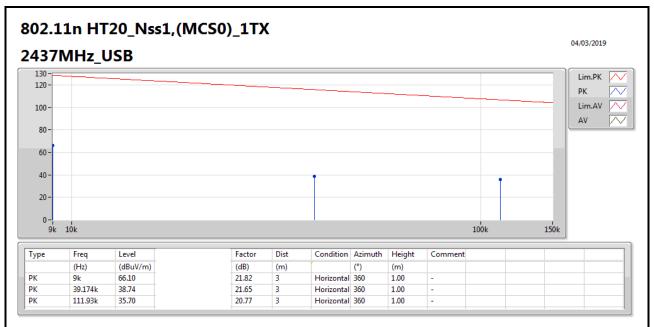


Page No. : F5 of F10



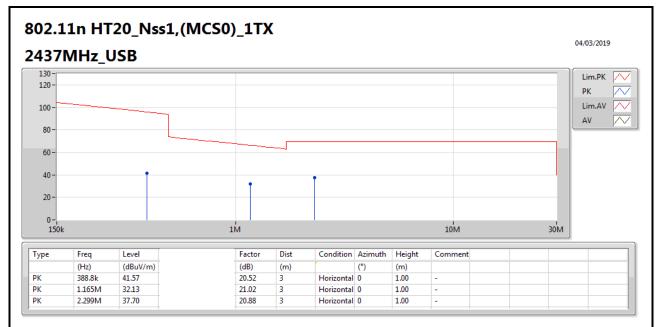






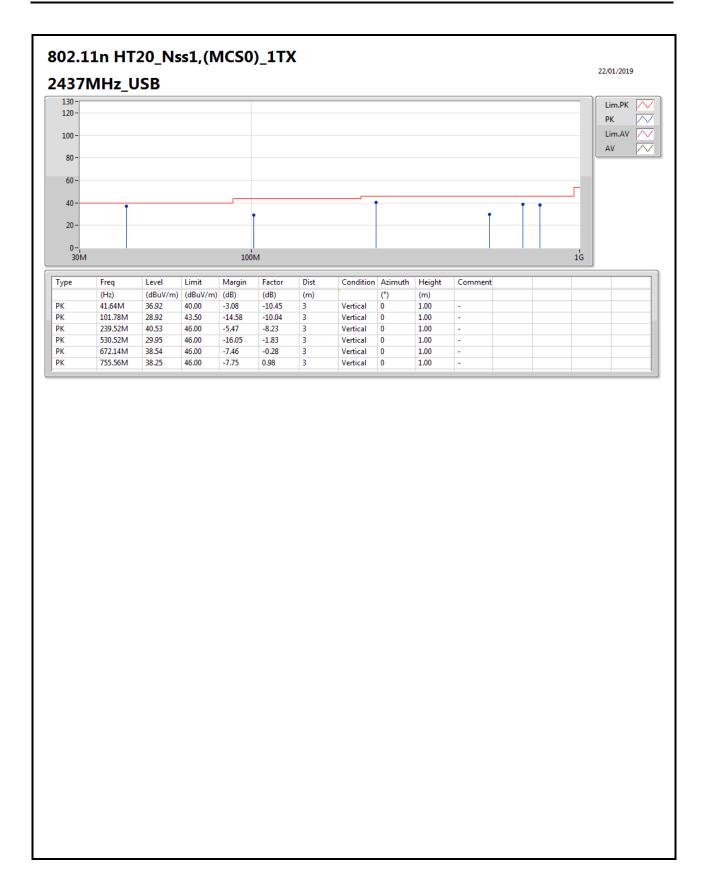
Frequency	Level	Level	limit	Margin
(kHz)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
9	66.10 @ 3 m	-13.90 @ 300m	48.52	-62.42
39.174	38.74 @ 3 m	-41.26 @ 300m	35.74	-77.00
111.93	35.70 @ 3 m	-44.30 @ 300m	26.63	-70.93



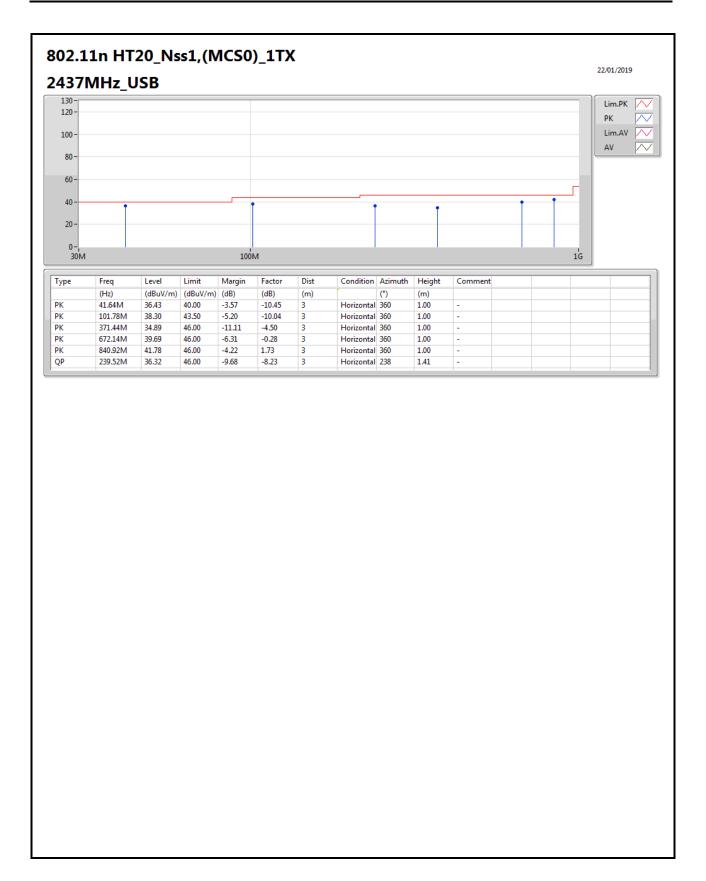


Frequency (kHz)	Level (dBuV/m)	Level (dBuV/m)	limit (dBuV/m)	Margin
388.8	41.57 @ 3 m	-38.43 @ 300m	15.81	-54.24
1165	32.13 @ 3 m	-7.87 @ 30m	26.28	-34.15
2299	37.70 @ 3 m	-2.30 @ 30m	29.54	-31.84











Appendix F.2

Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	Pass	AV	4.82395G	49.65	54.00	-4.35	3.49	3	Vertical	283	1.01	-
802.11g_Nss1,(6Mbps)_1TX	Pass	AV	2.39G	52.25	54.00	-1.75	32.01	3	Horizontal	341	1.16	-
802.11n HT20_Nss1,(MCS0)_1TX	Pass	AV	2.39G	52.39	54.00	-1.61	32.01	3	Horizontal	341	1.01	-

SPORTON INTERNATIONAL INC. Page No. : F1 of F44

720943-03



Appendix F.2

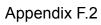
Result

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comme
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	2.389G	44.45	54.00	-9.55	32.00	3	Vertical	191	1.22	-
2412MHz	Pass	AV	2.4138G	91.73	Inf	-Inf	32.08	3	Vertical	191	1.22	-
2412MHz	Pass	PK	2.3898G	57.37	74.00	-16.63	32.01	3	Vertical	191	1.22	-
2412MHz	Pass	PK	2.413G	95.45	Inf	-Inf	32.08	3	Vertical	191	1.22	-
2412MHz	Pass	AV	2.387G	45.49	54.00	-8.51	32.00	3	Horizontal	343	1.18	-
2412MHz	Pass	AV	2.4128G	97.79	Inf	-Inf	32.08	3	Horizontal	343	1.18	-
2412MHz	Pass	PK	2.389G	56.89	74.00	-17.11	32.00	3	Horizontal	343	1.18	-
2412MHz	Pass	PK	2.413G	101.24	Inf	-Inf	32.08	3	Horizontal	343	1.18	-
2412MHz	Pass	AV	4.82395G	49.65	54.00	-4.35	3.49	3	Vertical	283	1.01	-
2412MHz	Pass	PK	4.82396G	53.55	74.00	-20.45	3.49	3	Vertical	283	1.01	-
2412MHz	Pass	AV	4.82393G	47.53	54.00	-6.47	3.49	3	Horizontal	29	1.01	-
2412MHz	Pass	PK	4.82399G	51.77	74.00	-22.23	3.49	3	Horizontal	29	1.01	-
2437MHz	Pass	AV	2.339G	44.33	54.00	-9.67	31.83	3	Vertical	227	2.84	-
2437MHz	Pass	AV	2.4386G	92.91	Inf	-Inf	32.15	3	Vertical	227	2.84	-
2437MHz	Pass	AV	2.4974G	44.45	54.00	-9.55	32.33	3	Vertical	227	2.84	-
2437MHz	Pass	PK	2.3426G	56.81	74.00	-17.19	31.84	3	Vertical	227	2.84	-
2437MHz	Pass	PK	2.4378G	96.68	Inf	-Inf	32.15	3	Vertical	227	2.84	-
2437MHz	Pass	PK	2.4894G	56.27	74.00	-17.73	32.30	3	Vertical	227	2.84	-
2437MHz	Pass	AV	2.3526G	44.41	54.00	-9.59	31.88	3	Horizontal	351	1.01	-
2437MHz	Pass	AV	2.4386G	98.02	Inf	-Inf	32.15	3	Horizontal	351	1.01	-
2437MHz	Pass	AV	2.4954G	44.55	54.00	-9.45	32.33	3	Horizontal	351	1.01	-
2437MHz	Pass	PK	2.3658G	56.58	74.00	-17.42	31.93	3	Horizontal	351	1.01	-
2437MHz	Pass	PK	2.4378G	101.90	Inf	-Inf	32.15	3	Horizontal	351	1.01	-
2437MHz	Pass	PK	2.4858G	56.61	74.00	-17.39	32.30	3	Horizontal	351	1.01	-
2437MHz	Pass	AV	4.87392G	47.74	54.00	-6.26	3.61	3	Vertical	283	1.01	-
2437MHz	Pass	PK	4.874G	52.03	74.00	-21.97	3.61	3	Vertical	283	1.01	-
2437MHz	Pass	AV	4.87394G	47.77	54.00	-6.23	3.61	3	Horizontal	47	2.99	-
2437MHz	Pass	PK	4.87388G	52.13	74.00	-21.87	3.61	3	Horizontal	47	2.99	-
2462MHz	Pass	AV	2.4638G	92.17	Inf	-Inf	32.23	3	Vertical	237	1.38	-
2462MHz	Pass	AV	2.4874G	44.65	54.00	-9.35	32.30	3	Vertical	237	1.38	-
2462MHz	Pass	PK	2.463G	95.84	Inf	-Inf	32.23	3	Vertical	237	1.38	-
2462MHz	Pass	PK	2.4914G	56.28	74.00	-17.72	32.31	3	Vertical	237	1.38	-
2462MHz	Pass	AV	2.4602G	97.60	Inf	-Inf	32.22	3	Horizontal	360	2.98	-
2462MHz	Pass	AV	2.4835G	45.55	54.00	-8.45	32.29	3	Horizontal	360	2.98	-
2462MHz	Pass	PK	2.461G	101.52	Inf	-Inf	32.23	3	Horizontal	360	2.98	-
2462MHz	Pass	PK	2.4836G	56.47	74.00	-17.53	32.29	3	Horizontal	360	2.98	-
2462MHz	Pass	AV	4.92394G	47.80	54.00	-6.20	3.74	3	Vertical	276	1.00	-
2462MHz	Pass	PK	4.92381G	52.21	74.00	-21.79	3.74	3	Vertical	276	1.00	-
2462MHz	Pass	AV	4.92393G	45.50	54.00	-8.50	3.74	3	Horizontal	30	1.01	-
2462MHz	Pass	PK	4.92401G	51.32	74.00	-22.68	3.74	3	Horizontal	30	1.01	-
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	1	-		-	-	-	-
2412MHz	Pass	AV	2.39G	49.15	54.00	-4.85	32.01	3	Vertical	237	2.89	-
2412MHz	Pass	AV	2.4152G	88.35	Inf	-Inf	32.09	3	Vertical	237	2.89	-
2412MHz	Pass	PK	2.3888G	63.48	74.00	-10.52	32.00	3	Vertical	237	2.89	-
2412MHz	Pass	PK	2.4154G	99.23	Inf	-Inf	32.09	3	Vertical	237	2.89	-
2412MHz	Pass	AV	2.39G	52.25	54.00	-1.75	32.01	3	Horizontal	341	1.16	-
2412MHz	Pass	AV	2.417G	92.41	Inf	-Inf	32.09	3	Horizontal	341	1.16	-



Appendix F.2

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	- 100uii	.,,,,	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2412MHz	Pass	PK	2.3898G	61.30	74.00	-12.70	32.01	3	Horizontal	341	1.16	_
2412MHz	Pass	PK	2.419G	98.79	Inf	-Inf	32.10	3	Horizontal	341	1.16	_
2412MHz	Pass	AV	4.82161G	36.14	54.00	-17.86	3.49	3	Vertical	183	1.05	_
2412MHz	Pass	PK	4.82639G	48.96	74.00	-25.04	3.50	3	Vertical	183	1.05	_
2412MHz	Pass	AV	4.82259G	35.13	54.00	-18.87	3.49	3	Horizontal	233	2.37	_
2412MHz	Pass	PK	4.82254G	47.27	74.00	-26.73	3.49	3	Horizontal	233	2.37	_
2417MHz	Pass	AV	2.39G	47.94	54.00	-6.06	32.01	3	Vertical	238	2.89	_
2417MHz	Pass	AV	2.415G	89.83	Inf	-Inf	32.09	3	Vertical	238	2.89	
2417MHz		PK	2.413G 2.389G			-10.04		3	Vertical		2.89	-
	Pass			63.96	74.00		32.00	3		238		-
2417MHz	Pass	PK	2.4136G	100.31	Inf	-Inf	32.08		Vertical	238	2.89	-
2417MHz	Pass	AV	2.39G	50.78	54.00	-3.22	32.01	3	Horizontal	342	1.01	-
2417MHz	Pass	AV	2.421G	93.50	Inf	-Inf	32.10	3	Horizontal	342	1.01	-
2417MHz	Pass	PK	2.39G	67.91	74.00	-6.09	32.01	3	Horizontal	342	1.01	-
2417MHz	Pass	PK	2.4198G	104.00	Inf	-Inf	32.10	3	Horizontal	342	1.01	-
2437MHz	Pass	AV	2.3526G	44.29	54.00	-9.71	31.88	3	Vertical	226	2.84	-
2437MHz	Pass	AV	2.4398G	89.35	Inf	-Inf	32.16	3	Vertical	226	2.84	-
2437MHz	Pass	AV	2.4882G	44.49	54.00	-9.51	32.30	3	Vertical	226	2.84	-
2437MHz	Pass	PK	2.3526G	56.45	74.00	-17.55	31.88	3	Vertical	226	2.84	-
2437MHz	Pass	PK	2.4402G	99.91	Inf	-Inf	32.16	3	Vertical	226	2.84	-
2437MHz	Pass	PK	2.4874G	56.01	74.00	-17.99	32.30	3	Vertical	226	2.84	-
2437MHz	Pass	AV	2.389G	44.49	54.00	-9.51	32.00	3	Horizontal	344	1.08	-
2437MHz	Pass	AV	2.4354G	94.15	Inf	-Inf	32.14	3	Horizontal	344	1.08	-
2437MHz	Pass	AV	2.485G	44.54	54.00	-9.46	32.29	3	Horizontal	344	1.08	-
2437MHz	Pass	PK	2.3518G	56.71	74.00	-17.29	31.87	3	Horizontal	344	1.08	-
2437MHz	Pass	PK	2.4346G	104.87	Inf	-Inf	32.14	3	Horizontal	344	1.08	-
2437MHz	Pass	PK	2.4866G	56.57	74.00	-17.43	32.30	3	Horizontal	344	1.08	-
2437MHz	Pass	AV	4.8741G	40.57	54.00	-13.43	3.61	3	Vertical	278	1.00	-
2437MHz	Pass	PK	4.8756G	53.29	74.00	-20.71	3.62	3	Vertical	278	1.00	-
2437MHz	Pass	AV	4.874G	39.41	54.00	-14.59	3.61	3	Horizontal	30	1.01	-
2437MHz	Pass	PK	4.8724G	52.39	74.00	-21.61	3.61	3	Horizontal	30	1.01	-
2462MHz	Pass	AV	2.468G	89.17	Inf	-Inf	32.24	3	Vertical	246	2.75	-
2462MHz	Pass	AV	2.4835G	48.30	54.00	-5.70	32.29	3	Vertical	246	2.75	-
2462MHz	Pass	PK	2.4672G	98.87	Inf	-Inf	32.24	3	Vertical	246	2.75	-
2462MHz	Pass	PK	2.4836G	62.58	74.00	-11.42	32.29	3	Vertical	246	2.75	-
2462MHz	Pass	AV	2.4676G	93.15	Inf	-Inf	32.24	3	Horizontal	350	1.02	-
2462MHz	Pass	AV	2.4835G	51.38	54.00	-2.62	32.29	3	Horizontal	350	1.02	-
2462MHz	Pass	PK	2.4598G	103.62	Inf	-Inf	32.22	3	Horizontal	350	1.02	-
2462MHz	Pass	PK	2.4836G	67.68	74.00	-6.32	32.29	3	Horizontal	350	1.02	-
2462MHz	Pass	AV	4.92562G	35.75	54.00	-18.25	3.75	3	Vertical	290	2.17	-
2462MHz	Pass	PK	4.92562G	48.75	74.00	-25.25	3.75	3	Vertical	290	2.17	-
2462MHz	Pass	AV	4.92562G	36.34	54.00	-17.66	3.75	3	Horizontal	185	1.54	-
2462MHz	Pass	PK	4.92562G	49.21	74.00	-24.79	3.75	3	Horizontal	185	1.54	-
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	2.39G	50.35	54.00	-3.65	32.01	3	Vertical	236	2.89	-
2412MHz	Pass	AV	2.4176G	87.79	Inf	-Inf	32.09	3	Vertical	236	2.89	_
2412MHz	Pass	PK	2.3896G	66.43	74.00	-7.57	32.03	3	Vertical	236	2.89	-
2412MHz	Pass	PK	2.418G	99.01	Inf	-7.57 -Inf	32.09	3	Vertical	236	2.89	_
2412MHz	Pass	AV	2.416G 2.39G	52.39	54.00	-1.61	32.09	3	Horizontal	341	1.01	-
												-
2412MHz	Pass	AV	2.4172G	90.12	Inf	-Inf	32.09	3	Horizontal	341	1.01	_





Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2412MHz	Pass	PK	2.3898G	70.18	74.00	-3.82	32.01	3	Horizontal	341	1.01	-
2412MHz	Pass	PK	2.4174G	100.30	Inf	-Inf	32.09	3	Horizontal	341	1.01	-
2412MHz	Pass	AV	4.82326G	34.98	54.00	-19.02	3.49	3	Vertical	261	2.06	-
2412MHz	Pass	PK	4.82432G	47.98	74.00	-26.02	3.49	3	Vertical	261	2.06	-
2412MHz	Pass	AV	4.82326G	35.21	54.00	-18.79	3.49	3	Horizontal	292	1.92	-
2412MHz	Pass	PK	4.82432G	48.28	74.00	-25.72	3.49	3	Horizontal	292	1.92	-
2417MHz	Pass	AV	2.3898G	45.90	54.00	-8.10	32.01	3	Vertical	237	2.87	-
2417MHz	Pass	AV	2.4118G	87.52	Inf	-Inf	32.08	3	Vertical	237	2.87	-
2417MHz	Pass	PK	2.3892G	59.76	74.00	-14.24	32.00	3	Vertical	237	2.87	-
2417MHz	Pass	PK	2.414G	98.06	Inf	-Inf	32.08	3	Vertical	237	2.87	-
2417MHz	Pass	AV	2.39G	47.72	54.00	-6.28	32.01	3	Horizontal	341	1.00	-
2417MHz	Pass	AV	2.42G	91.01	Inf	-Inf	32.10	3	Horizontal	341	1.00	-
2417MHz	Pass	PK	2.39G	63.89	74.00	-10.11	32.01	3	Horizontal	341	1.00	-
2417MHz	Pass	PK	2.4132G	102.09	Inf	-Inf	32.08	3	Horizontal	341	1.00	-
2437MHz	Pass	AV	2.3442G	44.28	54.00	-9.72	31.85	3	Vertical	189	1.50	-
2437MHz	Pass	AV	2.4318G	84.63	Inf	-Inf	32.14	3	Vertical	189	1.50	-
2437MHz	Pass	AV	2.487G	44.44	54.00	-9.56	32.30	3	Vertical	189	1.50	-
2437MHz	Pass	PK	2.3398G	56.47	74.00	-17.53	31.84	3	Vertical	189	1.50	-
2437MHz	Pass	PK	2.437G	95.02	Inf	-Inf	32.15	3	Vertical	189	1.50	-
2437MHz	Pass	PK	2.4842G	56.21	74.00	-17.79	32.29	3	Vertical	189	1.50	-
2437MHz	Pass	AV	2.337G	44.30	54.00	-9.70	31.83	3	Horizontal	342	1.01	-
2437MHz	Pass	AV	2.4314G	90.51	Inf	-Inf	32.14	3	Horizontal	342	1.01	-
2437MHz	Pass	AV	2.495G	44.44	54.00	-9.56	32.33	3	Horizontal	342	1.01	-
2437MHz	Pass	PK	2.3418G	56.90	74.00	-17.10	31.84	3	Horizontal	342	1.01	-
2437MHz	Pass	PK	2.4422G	100.93	Inf	-Inf	32.17	3	Horizontal	342	1.01	-
2437MHz	Pass	PK	2.487G	56.28	74.00	-17.72	32.30	3	Horizontal	342	1.01	-
2437MHz	Pass	AV	4.8756G	34.62	54.00	-19.38	3.62	3	Vertical	349	2.15	-
2437MHz	Pass	PK	4.8623G	49.62	74.00	-24.38	3.58	3	Vertical	349	2.15	-
2437MHz	Pass	AV	4.87321G	35.21	54.00	-18.79	3.61	3	Horizontal	134	2.24	-
2437MHz	Pass	PK	4.87292G	48.28	74.00	-25.72	3.61	3	Horizontal	134	2.24	-
2462MHz	Pass	AV	2.4672G	87.21	Inf	-Inf	32.24	3	Vertical	239	1.35	-
2462MHz	Pass	AV	2.4835G	47.53	54.00	-6.47	32.29	3	Vertical	239	1.35	-
2462MHz	Pass	PK	2.4658G	97.20	Inf	-Inf	32.24	3	Vertical	239	1.35	-
2462MHz	Pass	PK	2.4835G	61.49	74.00	-12.51	32.29	3	Vertical	239	1.35	-
2462MHz	Pass	AV	2.4674G	92.56	Inf	-Inf	32.24	3	Horizontal	3	2.99	-
2462MHz	Pass	AV	2.4835G	51.58	54.00	-2.42	32.29	3	Horizontal	3	2.99	-
2462MHz	Pass	PK	2.465G	103.26	Inf	-Inf	32.24	3	Horizontal	3	2.99	-
2462MHz	Pass	PK	2.4835G	66.98	74.00	-7.02	32.29	3	Horizontal	3	2.99	-
2462MHz	Pass	AV	4.92492G	36.32	54.00	-17.68	3.74	3	Vertical	180	1.23	-
2462MHz	Pass	PK	4.92312G	50.25	74.00	-23.75	3.74	3	Vertical	180	1.23	-
2462MHz	Pass	AV	4.92492G	35.32	54.00	-18.68	3.74	3	Horizontal	358	2.17	-



