



FCC RADIO TEST REPORT

FCC ID : PPQ-WN3501M
Equipment : 802.11n Dual Band Wireless Lan Module
Brand Name : LITE-ON
Model Name : WN3501M
Applicant : LITE-ON Technology Corp.
Bldg. C, 90, Chien 1 Road, Chung Ho, New Taipei
City 23585, Taiwan, R.O.C
Manufacturer : LITE-ON TECHNOLOGY (Changzhou) CO., LTD
A9 Building, No.88 Yanghu Road, Wujin Hi-Tech
Industrial Development Zone, Changzhou City,
Jiangsu Province 213100 China
Standard : 47 CFR FCC Part 15.407

The product was received on Dec. 21, 2018, and testing was started from Dec. 27, 2018 and completed on Jan. 09, 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 variant 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: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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History of this test report

TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB Ver1.0

Page Number : 3 of 15
Issued Date : Feb. 01, 2019
Report Version : 01



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.407(b)	Unwanted Emissions	PASS	-

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:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Cliff Chang

Report Producer: Wendy Pan



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a, n (HT20)	5180-5240	36-48 [4]
5250-5350		5260-5320	52-64 [4]
5470-5725		5500-5700	100-140 [11]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40)	5190-5230	38-46 [2]
5250-5350		5270-5310	54-62 [2]
5470-5725		5510-5670	102-134 [5]
5725-5850		5755-5795	151-159 [2]

Band	Mode	BWch (MHz)	Nant
5150-5250MHz	11a	20	1
5150-5250MHz	HT20	20	1
5150-5250MHz	HT40	40	1
5250-5350MHz	11a	20	1
5250-5350MHz	HT20	20	1
5250-5350MHz	HT40	40	1
5470-5725MHz	11a	20	1
5470-5725MHz	HT20	20	1
5470-5725MHz	HT40	40	1
5725-5850MHz	11a	20	1
5725-5850MHz	HT20	20	1
5725-5850MHz	HT40	40	1

Note:

- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ BWch is the nominal channel bandwidth.
- ♦ Nss-Min is the minimum number of spatial streams.
- ♦ Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

**1.1.2 Antenna Information**

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	LITE-ON	WN3501M	Printed Antenna	N/A	0.95	3.22
2	LITE-ON	WN3501M	Printed Antenna	N/A	0.60	3.10

Note1: The EUT has two antennas. (1TX/1RX)

The EUT supports the antenna with TX and RX diversity functions.

Both Ant. 1 and Ant. 2 support transmit and receive functions, but only one of them will be used at one time.

The Ant. 1 generated the worst case, so it was selected to test and record in the report.

Note2: The above information was declared by manufacturer.

1.1.3 Mode Test Duty Cycle

Mode	DC	T(s)	VBW(Hz) $\geq 1/T$
HT20	1	n/a (DC \geq 0.98)	n/a (DC \geq 0.98)

1.1.4 EUT Operational Condition

EUT Power Type	From host system			
Beamforming Function	<input type="checkbox"/>	With beamforming	<input checked="" type="checkbox"/>	Without beamforming
Weather Band	<input checked="" type="checkbox"/>	With 5600~5650MHz	<input type="checkbox"/>	Without 5600~5650MHz
Function	<input type="checkbox"/>	Outdoor P2M	<input checked="" type="checkbox"/>	Indoor P2M
	<input type="checkbox"/>	Fixed P2P	<input type="checkbox"/>	Client
TPC Function	<input checked="" type="checkbox"/>	With TPC	<input type="checkbox"/>	Without TPC
Test Software Version	DutApiBRIDGEETH8782.exe			

Note: The above information was declared by manufacturer.



1.1.5 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR6N0506AB

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Changing the power source to "1.8V" from "3.3V". 2. Changing the FFC connector.	After evaluating, the worst case is found at 802.11n HT20 CH1(5180MHz), CH64(5320)MHz, CH116(5580MHz) and CH149(5745MHz) and retest these channels only. The test items as below will be based on original output power to retest : Unwanted Emissions Above 1GHz.



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
- ♦ FCC KDB 789033 D02 v02r01
- ♦ FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

Testing Location				
<input type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	TEL : 886-3-327-3456	FAX : 886-3-327-0973
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.	TEL : 886-3-656-9065	FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH01-CB	KJ Chang	26°C / 53%	Dec. 27, 2018 ~ Jan. 09, 2019

Test site Designation No. TW0006 with FCC

Test site registered number IC 4086D with Industry Canada.

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
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
5.2G	HT20	20	1,(M0)	1	5180	L	20
5.3G	HT20	20	1,(M0)	1	5320	H	20
5.6G	HT20	20	1,(M0)	1	5580	M	20
5.8G	HT20	20	1,(M0)	1	5745	L	20

Note:

- ♦ Test range channel consist of L (Low Ch.), M (Middle Ch.), H (High Ch.), S (Single Ch.) and C (Straddle Band Ch.).



2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
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	CTX
The EUT was performed at X axis, Y axis and Z axis and the worst case was found at Y axis. So the measurement will follow this same test configuration.	

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

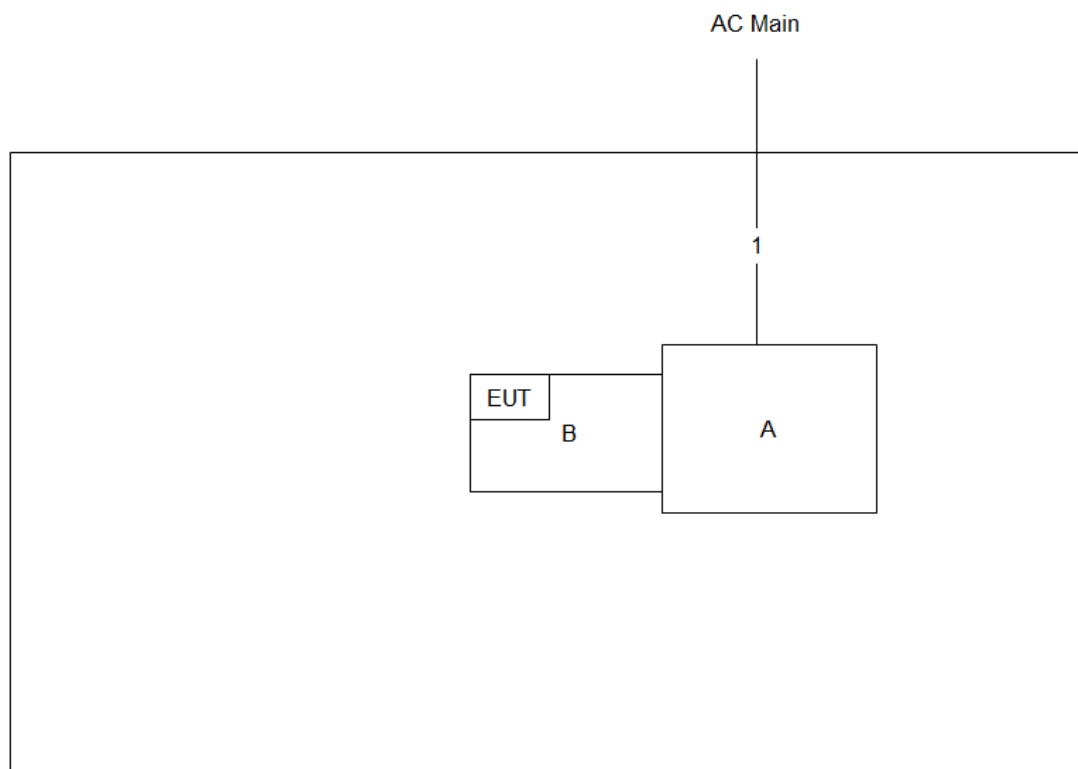
N/A

2.5 Support Equipment

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	Lenovo	TP00001A	N/A
B	Test Fixture	Liteo	WN3501M_EVB	N/A

2.6 Test Setup Diagram

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	2.6m



3 Transmitter Test Result

3.1 Unwanted Emissions

3.1.1 Transmitter Unwanted Emissions Limit

Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	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

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.



Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
<input checked="" type="checkbox"/> 5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input checked="" type="checkbox"/> 5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input checked="" type="checkbox"/> 5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input checked="" type="checkbox"/> 5.725 - 5.85 GHz	all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
Note 1: 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).	

3.1.2 Measuring Instruments

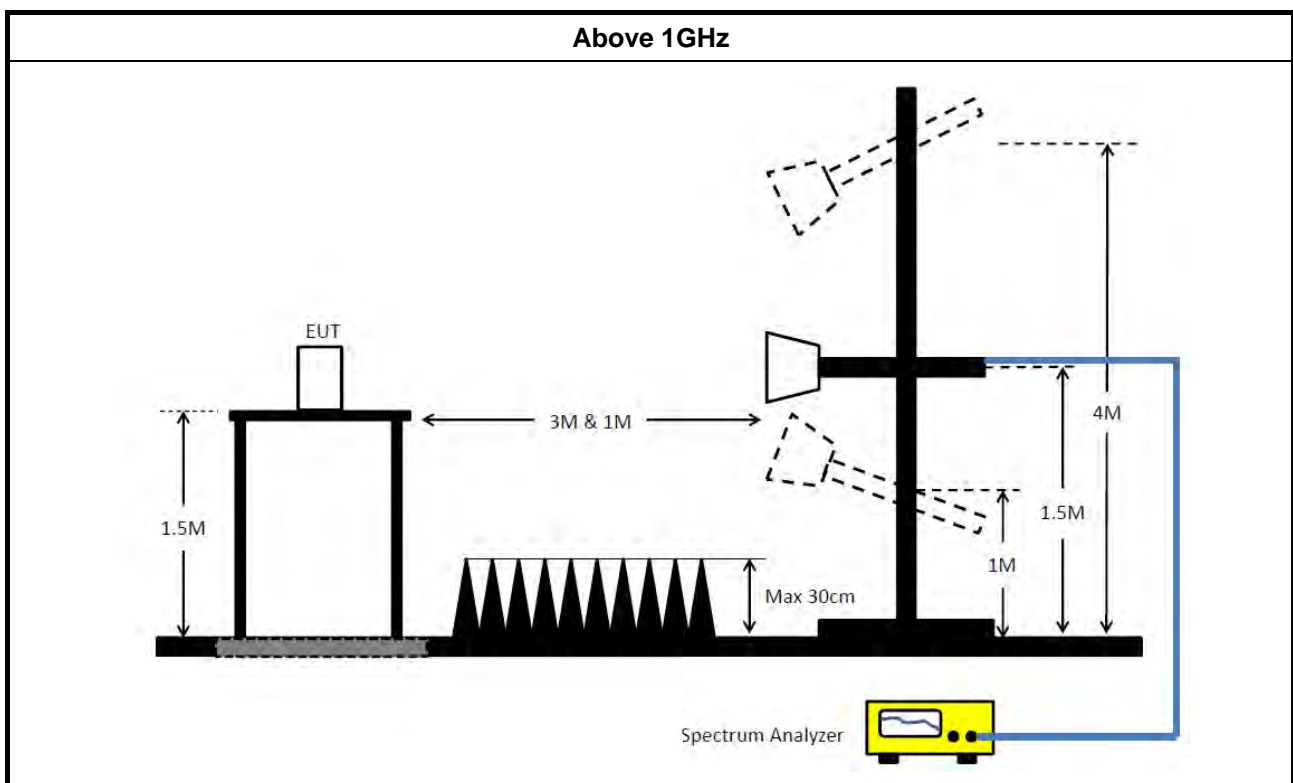
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> 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. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m 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 of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements). 	
<ul style="list-style-type: none"> The average emission levels shall be measured in [duty cycle \geq 98 or duty factor]. 	
<ul style="list-style-type: none"> For the transmitter unwanted emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> Refer as FCC KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.
	<ul style="list-style-type: none"> Refer as FCC KDB 789033, clause G)1) for unwanted emissions into restricted bands.
	<input type="checkbox"/> Refer as FCC KDB 789033, G)6) Method AD (Trace Averaging).
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, G)6) Method VB (Reduced VBW).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause G)5) measurement procedure peak limit.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.

Test Method	
<ul style="list-style-type: none"> For radiated measurement. 	
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
<ul style="list-style-type: none"> The any unwanted emissions level shall not exceed the fundamental emission level. 	
<ul style="list-style-type: none"> All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported. 	

3.1.4 Test Setup



3.1.5 Test Result of Transmitter Unwanted Emissions

Refer as Appendix A



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 13, 2018	Nov. 12, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 28, 2018	Jun. 27, 2019	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 09, 2018	Jan. 08, 2019	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 08, 2019	Jan. 07, 2020	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)

Note: Calibration Interval of instruments listed above is one year.

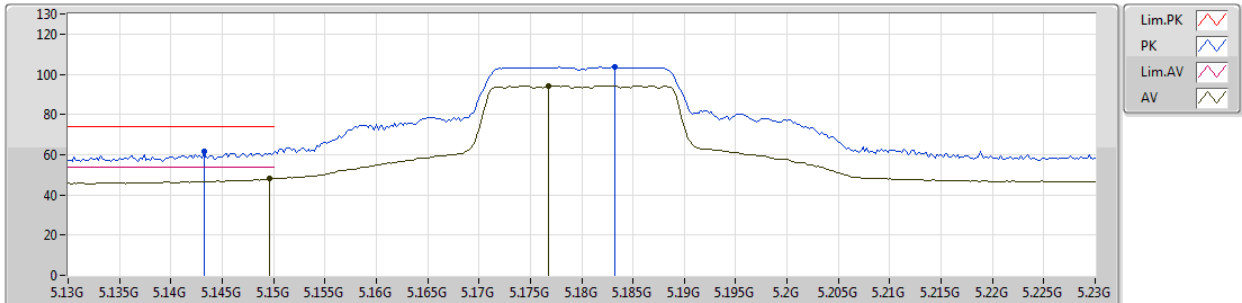
**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.25-5.35GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11n HT20_1TX	Pass	AV	5.35G	49.32	54.00	-4.68	8.38	3	Vertical	51	2.21	-

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5180MHz_TX



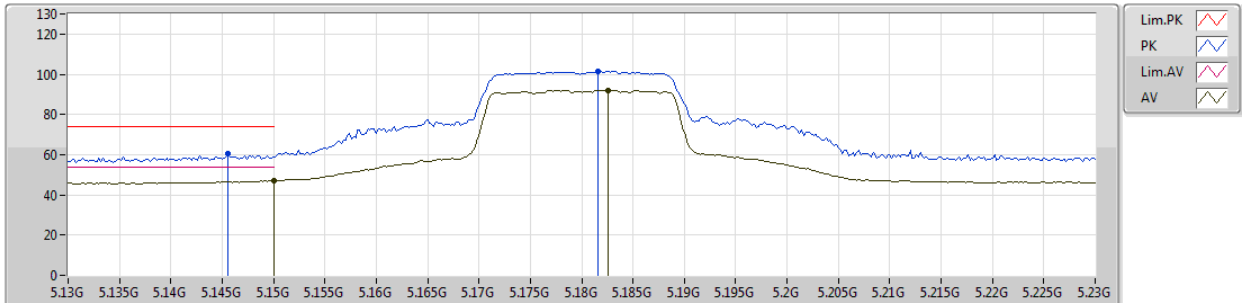
EUT Y_2TX
Setting 20
02-L-3-10
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments						
PK	5.1432G	61.50	74.00	-12.50	8.04	3	Vertical	182	2.24	-						
AV	5.1496G	47.94	54.00	-6.06	8.04	3	Vertical	182	2.24	-						
PK	5.1832G	103.61	Inf	-Inf	8.12	3	Vertical	182	2.24	-						
AV	5.1768G	94.28	Inf	-Inf	8.11	3	Vertical	182	2.24	-						

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5180MHz_TX



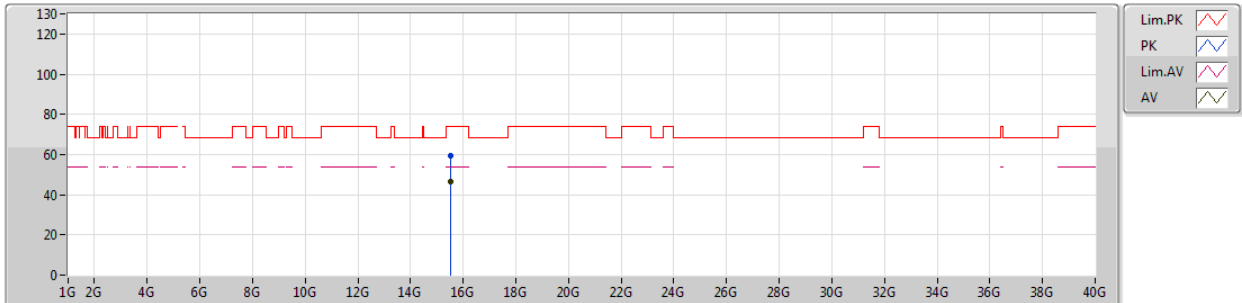
EUT Y_2TX
Setting 20
02-L-3-10
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments						
PK	5.1456G	60.41	74.00	-13.59	8.04	3	Horizontal	146	2.17	-						
AV	5.15G	47.04	54.00	-6.96	8.04	3	Horizontal	146	2.17	-						
PK	5.1816G	101.36	Inf	-Inf	8.12	3	Horizontal	146	2.17	-						
AV	5.1826G	92.11	Inf	-Inf	8.12	3	Horizontal	146	2.17	-						

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5180MHz_TX



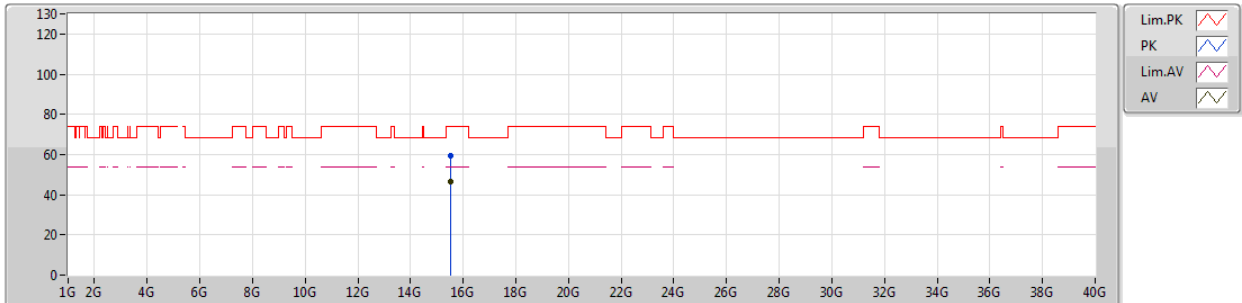
EUT Y_2TX
Setting 20
02-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments						
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)							
PK	15.53976G	59.43	74.00	-14.57	16.13	3	Vertical	296	1.09	-						
AV	15.53244G	46.31	54.00	-7.69	16.15	3	Vertical	296	1.09	-						

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5180MHz_TX



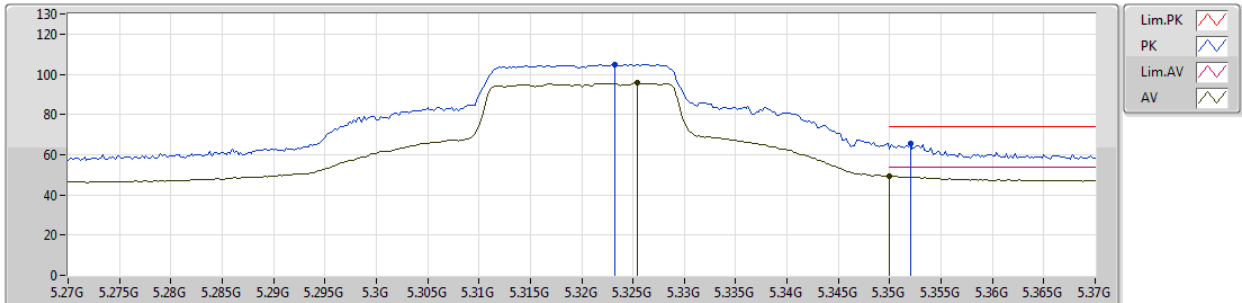
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Setting 20
02-L-3
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments						
PK	15.54168G	59.52	74.00	-14.48	16.12	3	Horizontal	320	1.44	-						
AV	15.52584G	46.42	54.00	-7.58	16.16	3	Horizontal	320	1.44	-						

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5320MHz_TX



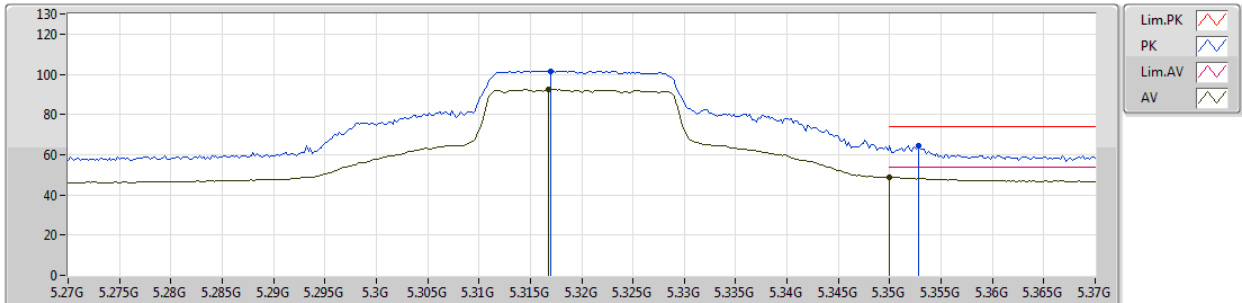
EUT Y_2TX
Setting 20
02-L-3-10
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.3232G	104.84	Inf	-Inf	8.34	3	Vertical	51	2.21	-
AV	5.3254G	95.64	Inf	-Inf	8.35	3	Vertical	51	2.21	-
PK	5.352G	65.78	74.00	-8.22	8.38	3	Vertical	51	2.21	-
AV	5.35G	49.32	54.00	-4.68	8.38	3	Vertical	51	2.21	-

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5320MHz_TX



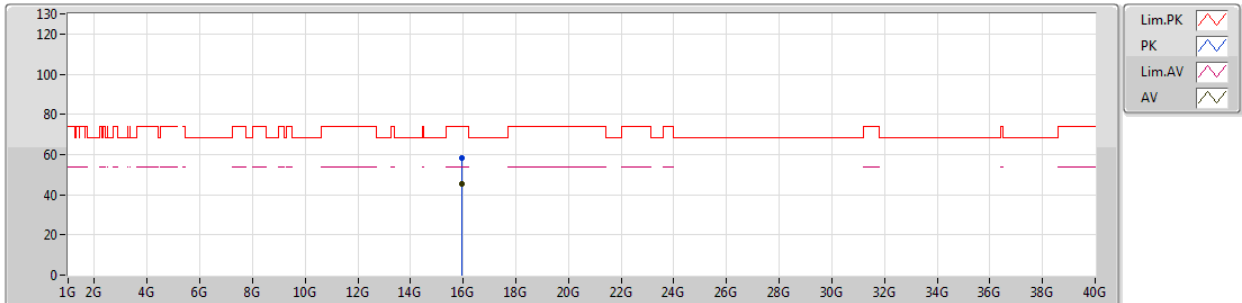
EUT Y_2TX
Setting 20
02-L-3-10
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.317G	101.49	Inf	-Inf	8.33	3	Horizontal	156	2.52	-
AV	5.3168G	92.47	Inf	-Inf	8.33	3	Horizontal	156	2.52	-
PK	5.3528G	64.57	74.00	-9.43	8.38	3	Horizontal	156	2.52	-
AV	5.35G	48.95	54.00	-5.05	8.38	3	Horizontal	156	2.52	-

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5320MHz_TX



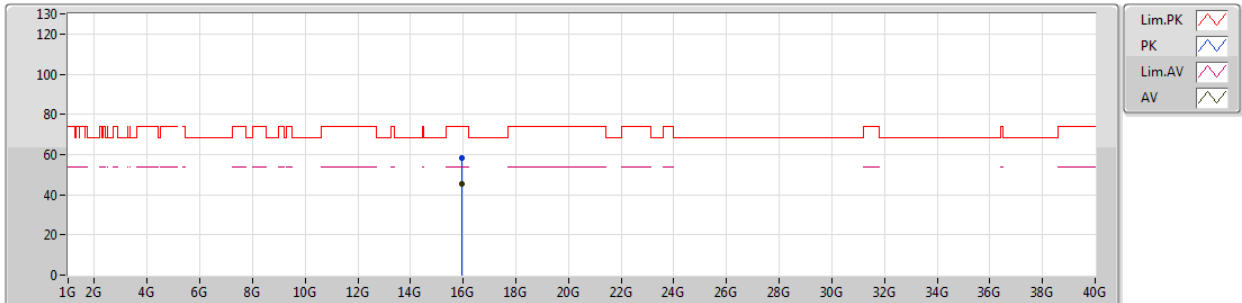
EUT Y_2TX
Setting 20
02-L-3
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments						
PK	15.95136G	58.14	74.00	-15.86	15.08	3	Vertical	273	1.83	-						
AV	15.95436G	45.20	54.00	-8.80	15.07	3	Vertical	273	1.83	-						

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5320MHz_TX



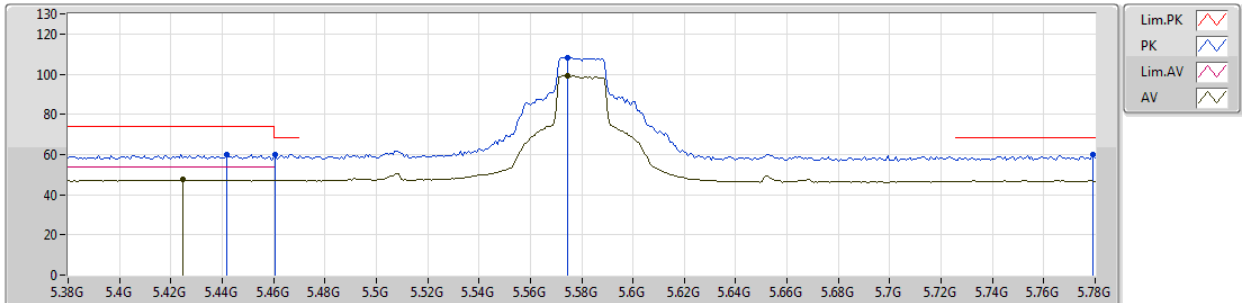
EUT Y_2TX
Setting 20
02-L-3
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments						
PK	15.95382G	58.08	74.00	-15.92	15.07	3	Horizontal	172	1.27	-						
AV	15.96228G	45.30	54.00	-8.70	15.06	3	Horizontal	172	1.27	-						

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5580MHz_TX



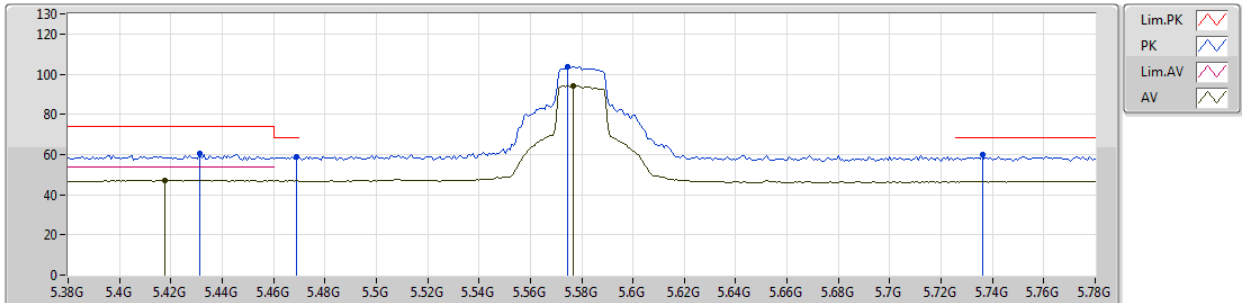
EUT Y_2TX
Setting 20
02-L-3-10
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.4416G	59.72	74.00	-14.28	8.51	3	Vertical	167	1.95	-
AV	5.4248G	47.38	54.00	-6.62	8.48	3	Vertical	167	1.95	-
PK	5.4608G	60.16	68.20	-8.04	8.55	3	Vertical	167	1.95	-
PK	5.5744G	108.34	Inf	-Inf	8.63	3	Vertical	167	1.95	-
AV	5.5744G	99.05	Inf	-Inf	8.63	3	Vertical	167	1.95	-
PK	5.7792G	59.78	68.20	-8.42	8.86	3	Vertical	167	1.95	-

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5580MHz_TX



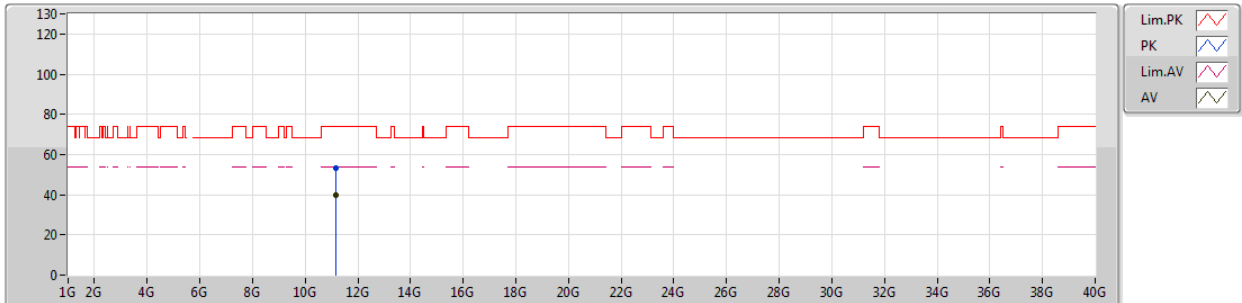
EUT Y_2TX
Setting 20
02-L-3-10
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.4312G	60.79	74.00	-13.21	8.50	3	Horizontal	156	2.67	-
AV	5.4176G	47.27	54.00	-6.73	8.47	3	Horizontal	156	2.67	-
PK	5.4688G	58.86	68.20	-9.34	8.56	3	Horizontal	156	2.67	-
PK	5.5744G	103.52	Inf	-Inf	8.63	3	Horizontal	156	2.67	-
AV	5.5768G	94.32	Inf	-Inf	8.64	3	Horizontal	156	2.67	-
PK	5.736G	59.70	68.20	-8.50	8.82	3	Horizontal	156	2.67	-

802.11n HT20_Nss1,(MCS0)_1TX

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5580MHz_TX



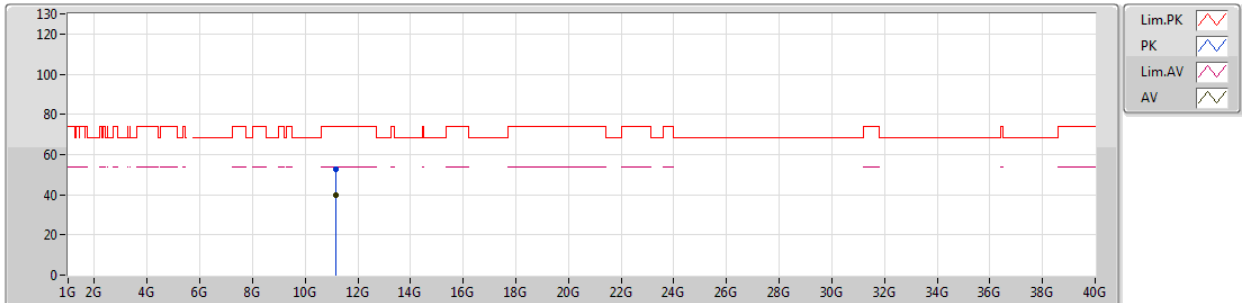
EUT Y_2TX
Setting 20
02-L-3
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments						
PK	11.1588G	53.48	74.00	-20.52	14.47	3	Vertical	223	1.07	-						
AV	11.16354G	39.51	54.00	-14.49	14.49	3	Vertical	223	1.07	-						

802.11n HT20_Nss1,(MCS0)_1TX

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5580MHz_TX



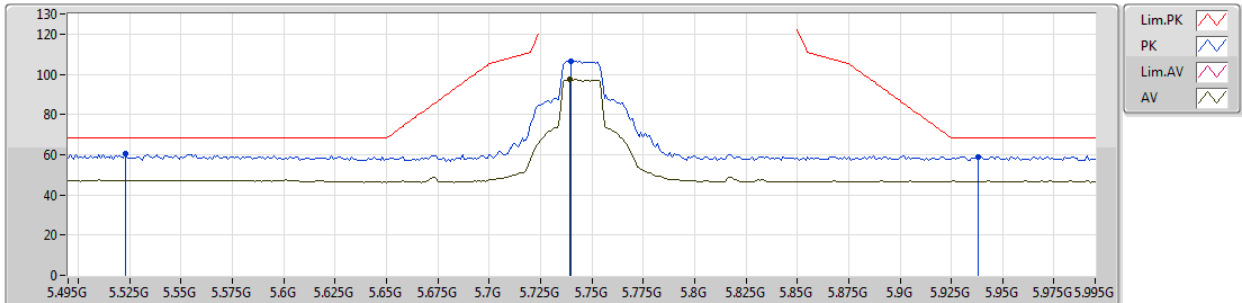
EUT Y_2TX
Setting 20
02-L-3
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments						
PK	11.17098G	52.40	74.00	-21.60	14.49	3	Horizontal	244	1.75	-						
AV	11.16744G	39.54	54.00	-14.46	14.49	3	Horizontal	244	1.75	-						

802.11n HT20_Nss1,(MCS0)_1TX

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5745MHz_TX



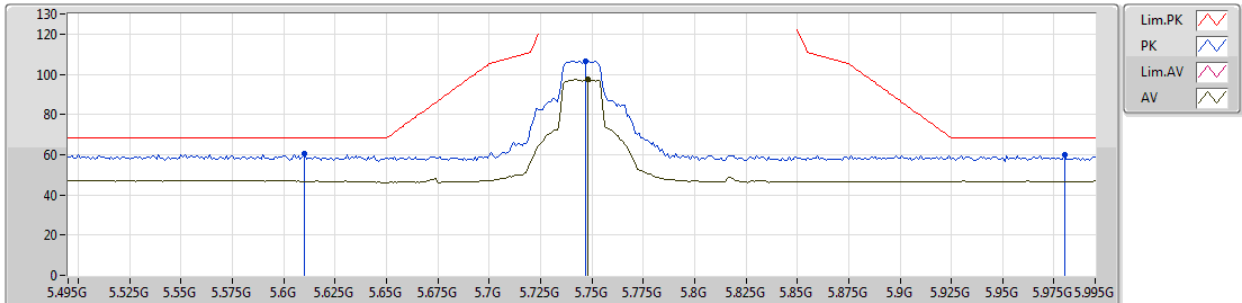
EUT Y_2TX
Setting 20
02-L-3-10
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.523G	60.70	68.20	-7.50	8.62	3	Vertical	120	2.19	-
PK	5.74G	106.62	Inf	-Inf	8.81	3	Vertical	120	2.19	-
AV	5.739G	97.42	Inf	-Inf	8.81	3	Vertical	120	2.19	-
PK	5.938G	59.11	68.20	-9.09	8.86	3	Vertical	120	2.19	-

802.11n HT20_Nss1,(MCS0)_1TX

27/12/2018

5745MHz_TX



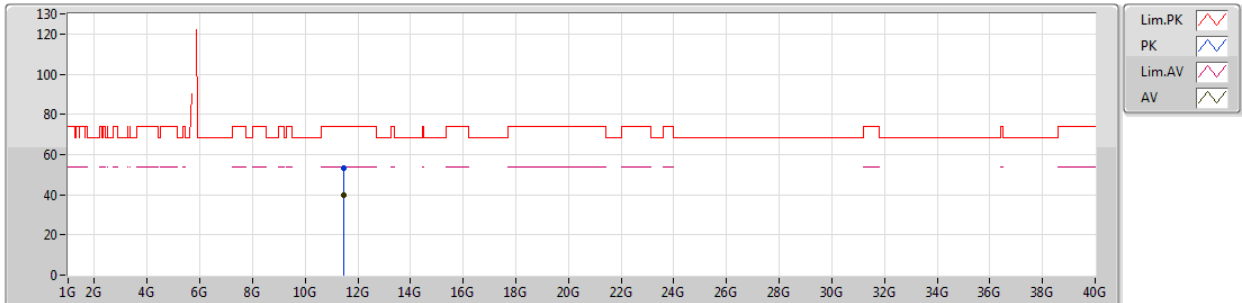
EUT Y_2TX
Setting 20
02-L-3-10
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.61G	60.51	68.20	-7.69	8.65	3	Horizontal	122	2.49	-
PK	5.747G	106.58	Inf	-Inf	8.82	3	Horizontal	122	2.49	-
AV	5.748G	97.33	Inf	-Inf	8.82	3	Horizontal	122	2.49	-
PK	5.98G	59.94	68.20	-8.26	8.85	3	Horizontal	122	2.49	-

802.11n HT20_Nss1,(MCS0)_1TX

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5745MHz_TX



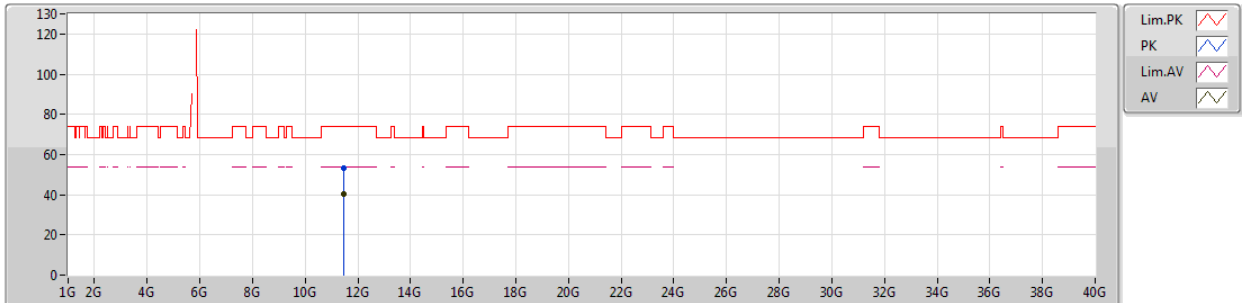
EUT Y_2TX
Setting 20
02-L-3
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.48544G	53.48	74.00	-20.52	14.94	3	Vertical	62	1.10	-
AV	11.4852G	40.02	54.00	-13.98	14.94	3	Vertical	62	1.10	-

802.11n HT20_Nss1,(MCS0)_1TX

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EUT Y_2TX
Setting 20
02-L-3
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.48262G	53.40	74.00	-20.60	14.93	3	Horizontal	69	2.38	-
AV	11.48202G	40.12	54.00	-13.88	14.93	3	Horizontal	69	2.38	-