Report No. : FR531828-13AB

FCC RADIO TEST REPORT

FCC ID	:	MSQ-RTGW00
Equipment	:	Wireless-AC3100 Dual Band Gigabit Router
Brand Name	:	ASUS
Model Name	:	RT-AC3100,RT-AC88R,RT-AC88U
Applicant	:	ASUSTeK COMPUTER INC.
		4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan
Manufacturer (1)	:	ASKEY TECHNOLOGY (JIANG SU) LTD
		NO1388, Jiao Tong Road, Wujiang Economic Technological Development Area Jiangsu Province 215200 China
Manufacturer (2)	:	Compal Networking (KunShan) Co., LTD.
		No. 520, Nabbang Rd., Economic & Technical Development Zone Kunshan, Jiangsu Province China
Standard	:	47 CFR FCC Part 15.407

The product was received on Apr. 10, 2015, and testing was started from Jun. 23, 2018 and completed on Oct. 01, 2018. 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.
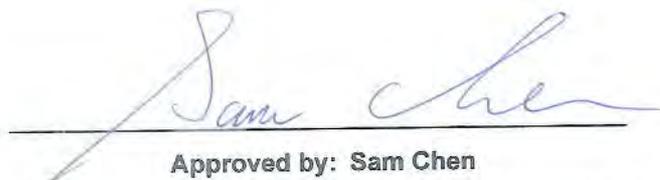
Approved by: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

TEL : 886-3-656-9065
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History of this test report

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FR531828-13AB	01	Initial issue of report	Jan. 02, 2019

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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(a)	Emission Bandwidth	PASS	-
3.2	15.407(a)	Maximum Conducted Output Power	PASS	-
3.3	15.407(a)	Peak Power Spectral Density	PASS	-
3.4	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: Sam Chen

Report Producer: Sandy Chuang

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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), ac (VHT20)	5180-5240	36-48 [4]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40)	5190-5230	38-46 [2]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80)	5210	42 [1]
5725-5850		5775	155 [1]

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<For 3TX>

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	3TX
5.15-5.25GHz	802.11n HT20	20	3TX
5.15-5.25GHz	802.11n HT20-BF	20	3TX
5.15-5.25GHz	802.11ac VHT20	20	3TX
5.15-5.25GHz	802.11ac VHT20-BF	20	3TX
5.15-5.25GHz	802.11n HT40	40	3TX
5.15-5.25GHz	802.11n HT40-BF	40	3TX
5.15-5.25GHz	802.11ac VHT40	40	3TX
5.15-5.25GHz	802.11ac VHT40-BF	40	3TX
5.15-5.25GHz	802.11ac VHT80	80	3TX
5.15-5.25GHz	802.11ac VHT80-BF	80	3TX
5.725-5.85GHz	802.11a	20	3TX
5.725-5.85GHz	802.11n HT20	20	3TX
5.725-5.85GHz	802.11n HT20-BF	20	3TX
5.725-5.85GHz	802.11ac VHT20	20	3TX
5.725-5.85GHz	802.11ac VHT20-BF	20	3TX
5.725-5.85GHz	802.11n HT40	40	3TX
5.725-5.85GHz	802.11n HT40-BF	40	3TX
5.725-5.85GHz	802.11ac VHT40	40	3TX
5.725-5.85GHz	802.11ac VHT40-BF	40	3TX
5.725-5.85GHz	802.11ac VHT80	80	3TX
5.725-5.85GHz	802.11ac VHT80-BF	80	3TX

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<For 4TX>

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	4TX
5.15-5.25GHz	802.11n HT20	20	4TX
5.15-5.25GHz	802.11n HT20-BF	20	4TX
5.15-5.25GHz	802.11ac VHT20	20	4TX
5.15-5.25GHz	802.11ac VHT20-BF	20	4TX
5.15-5.25GHz	802.11n HT40	40	4TX
5.15-5.25GHz	802.11n HT40-BF	40	4TX
5.15-5.25GHz	802.11ac VHT40	40	4TX
5.15-5.25GHz	802.11ac VHT40-BF	40	4TX
5.15-5.25GHz	802.11ac VHT80	80	4TX
5.15-5.25GHz	802.11ac VHT80-BF	80	4TX
5.725-5.85GHz	802.11a	20	4TX
5.725-5.85GHz	802.11n HT20	20	4TX
5.725-5.85GHz	802.11n HT20-BF	20	4TX
5.725-5.85GHz	802.11ac VHT20	20	4TX
5.725-5.85GHz	802.11ac VHT20-BF	20	4TX
5.725-5.85GHz	802.11n HT40	40	4TX
5.725-5.85GHz	802.11n HT40-BF	40	4TX
5.725-5.85GHz	802.11ac VHT40	40	4TX
5.725-5.85GHz	802.11ac VHT40-BF	40	4TX
5.725-5.85GHz	802.11ac VHT80	80	4TX
5.725-5.85GHz	802.11ac VHT80-BF	80	4TX

Note:
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40, VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 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

Set	Brand	P/N	Antenna Type	Connector	Gain (dBi) 2.4GHz	Gain (dBi) 5GHz	Color Ring
1	PSA	RFDPA171300SBLB809	Dipole Antenna	Reversed-SMA	2.25	3.37	Red
2	PSA	RFDPA171300SBLB810	Dipole Antenna	Reversed-SMA	2.25	3.37	Black
3	PSA	RFDPA171300SBLB811	Dipole Antenna	Reversed-SMA	2.20	3.36	Black
4	PSA	RFDPA171300SBLB812	Dipole Antenna	Reversed-SMA	2.18	3.19	Black
5	PSA	RFDPA171300SBLB813	Dipole Antenna	Reversed-SMA	2.20	3.36	Red
6	PSA	RFDPA171300SBLB814	Dipole Antenna	Reversed-SMA	2.18	3.19	Red
7	WHA YU	C660-510345-A(SRF2015719)	Dipole Antenna	Reversed-SMA	2.25	3.20	Red
8	WHA YU	C660-510346-A(SRF2015720)	Dipole Antenna	Reversed-SMA	2.25	3.20	Black
9	WHA YU	C660-510364-A(SRF20151386)	Dipole Antenna	Reversed-SMA	1.9	3.3	Black
10	WHA YU	C660-510365-A(SRF20151717)	Dipole Antenna	Reversed-SMA	1.9	3.3	Red

Note1: 1. The EUT has ten sets of antenna and there are four antennas for each set.

2. Both antennas above are the same type. Besides, only set 1 antenna was selected to perform the test and written in this report due to the highest gain.

For IEEE 802.11a/b/g/n/ac mode:

For 2.4GHz and 5GHz (3TX/3RX) function:

Port 1, Port 2 and Port 3 can be used as transmitting/receiving antenna.

Port 1, Port 2 and Port 3 could transmit/receive simultaneously.

For 2.4GHz and 5GHz (4TX/4RX) function:

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

Note2: The above information was declared by manufacturer.

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1.1.3   EUT Operational Condition

EUT Power Type	From Power Adapter		
Beamforming Function	⊠ With beamforming	☐	Without beamforming
	Note: The product has beamforming function for 802.11n/ac in 2.4GHz/5GHz		
Function	☐ Outdoor P2M	⊠	Indoor P2M
	☐ Fixed P2P	☐	Client

Note: The above information was declared by manufacturer.

1.1.4   Table for Multiple Listing

The EUT has three model numbers which are identical to each other in all aspects except for the following table:

Model No.	LAN Port	Heat sink color
RT-AC88U	8 LAN ports	Silver, Red
RT-AC3100	4 LAN ports	Silver, Black
RT-AC88R	8 LAN ports	Silver, Red

From the above models, model: RT-AC88U was selected as representative model for the test and its data was recorded in this report.

1.1.5   Table for Adapter detail

(1) The difference between adapter 1 and adapter 4 as below:

Adapter1 (model: ADP-45BW B)			
Design No	MFG TITLE	MFG PART	DESCRIPTION
Q1	AUK	SMK0760F	FET 600V 7A 1.2ohm TO-220F-3P
Q1	ST	STP6NK60ZFP	FET 600V 6A 1.2ohm TO-220FP-3P
Q1	TOSHIBA	TK10A60DR(STA4,X)	FET 600V 10A 750mohm TO-220SIS-3P
D101	ST	STPS20S100CT	DIO SBD 20A 100V TO-220AB-3P C.C.
D101	ST	STPS20SM100ST	DIO SBD 20A 100V TO-220AB-3P
D101	ST	STPS30SM100ST	DIO SBD 30A 100V TO-220AB-3P
IC31	ON	DAP022ASN65T1G	IC ASIC PWM CURRENT MODE TSOP-6P SMD
IC131	TI	TL432BIDBZR	IC VOL REF ADJ 2.495V 100mA 0.5%
IC131	NXP	TL431BMFDT	IC VOL REF ADJ 2.495V 100mA 0.5%
IC131	DIODES	AS431ANTR-G1	IC VOL REF ADJ 2.5V 100mA 0.5% SOT-23-3P
IC32	EVERLIGHT	EL816M(Y)(D)-VG	PHOTO TR 50mA 80V DIP-4P 150%-300%
IC32	SHARP	PC123Y92FZ0F	PHOTO TR 50mA 70V DIP-4P 160%-300%
IC32	Renesas	PS2561DL1-1Y-V-A(G)	EOL PHOTO TR 40mA 80V DIP-4P 150%-300%
CX1	EUROPTRONIC	MPX2224K30B15LXD20	CAP X2 MP PC 305VAC 0.22uF K S15
CX1	OKAYA	LE224-MX-30-C3.2	CAP X2 MP PC 300VAC 0.22uF K S15
CX1	HUA	MKP-224K0275AB115S-G	CAP X2 MP PC 275VAC 0.22uF K S15

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FL1	DELTA	HFV-MP13202	LINE FILTER T14 14mH MIN
FL101	DELTA	LFV-MP13303	LINE FILTER T10 17uH MIN
T1	DELTA	MV-MP13167	TRANSFORMER MAIN RM10 1mH +/-5%
C1	NICHICON	UPT2G680MHD3	CAP AL 400V 68uF M 16*25 P7.5
C1	NCC	EKMG401ELL680ML25S	CAP AL 400V 68uF M 16*25 P7.5
C1	L-Tec	TYJ2GM680K25O	CAP AL 400V 68uF M 16*25 P7.5
CY1	MURATA	DE1B3KX221KNHAN99F	CAP Y1/X1 CD 250VAC 220pF K B TP VI10
CY1	TDK	CD70-B2GA221KYVK	CAP Y1/X1 CD 250VAC 220pF K B TP VI10
CY1	WALSIN	YP0AH221K061DASDAB	CAP Y1/X1 CD 250VAC 220pF K B TP VI10
Adapter4 (model: ADP-45BW B)			
Design No	**MFG TITLE**	**MFG PART**	**DESCRIPTION**
Q1	TOSHIBA	TK10A60DR(STA4,X)	FET 600V 10A 750mohm TO-220SIS-3P
Q1	FUJI	FMV11N60ES	FET 600V 11A 750mohm TO-220F-3P
D101	ST	STPS20S100CT	DIO SBD 20A 100V TO-220AB-3P C.C.
D101	ST	STPS20H100CT	DIO SBD 20A 100V TO-220AB-3P C.C.
D101	ST	STPS30H100CT	DIO SBD 30A 100V TO-220AB-3P C.C.
IC31	NeoEnergy	DAP022AT	IC ASIC PWM CURRENT MODE SOT-26-6P SMD
IC131	LITE-ON	LA431OCRPA	IC REGU ADJ 2.495V 100mA 0.4% SOT-23R-3P
IC131	TI	TL432BIDBZR	IC VOL REF ADJ 2.495V 100mA 0.5%
IC131	NXP	TL431BMFDT	IC VOL REF ADJ 2.495V 100mA 0.5%
IC32	EVERLIGHT	EL816M(Y)(D)-VG	PHOTO TR 50mA 80V DIP-4P 150%-300%
IC32	SHARP	PC123Y92FZ0F	PHOTO TR 50mA 70V DIP-4P 160%-300%
IC32	TOSHIBA	TLP785F(D4-GRH,F	PHOTO TR 60mA 80V DIP-4P 150%-300%
CX1	HUA	MKP-334K0275AB115S-G	CAP X2 MP PC 275VAC 0.33uF K S15
CX1	HUA	MKP-334K0275AB115S-P	CAP X2 MP PC 275VAC 0.33uF K S15
CX1	EUROPTRONIC	MPX2334K30B15LXD31	CAP X2 MP PC 305VAC 0.33uF K S15
FL1	DELTA	HFV-MP15027	LINE FILTER T16 12.7mH MIN
FL101	DELTA	LFV-MP13171	LINE FILTER T6 1.55uH MIN
T1	DELTA	MV-MP15037	TRANSFORMER MAIN RM10 1000uH +/-5%
C1	NCC	EKMG401ELL680ML25S	CAP AL 400V 68uF M 16*25 P7.5
CY1	MURATA	DE1B3KX221KNHAN99F	CAP Y1/X1 CD 250VAC 220pF K B TP VI10
CY1	WALSIN	YP0AH221K061DASDAB	CAP Y1/X1 CD 250VAC 220pF K B TP VI10

(2) The difference between adapter 2 and adapter 5 as below:

Adapter 2 (model: AD883J20)	Adapter 5 (model: AD883J20)
Type: 010KLF BAH	Type: 010K-3LF

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(3) The difference between adapter 3 and adapter 6 as below:

Design No	MFG TITLE	MFG PART	DESCRIPTION
Adapter 3 (model: ADP-65DW B)			
Q1	AUK	SMK0760F	FET 600V 7A 1.2ohm TO-220F-3P
Q1	ST	STP6NK60ZFP	FET 600V 6A 1.2ohm TO-220FP-3P
Q1	TOSHIBA	TK10A60DR(STA4,X)	FET 600V 10A 750mohm TO-220SIS-3P
D101	ST	STPS20S100CT	DIO SBD 20A 100V TO-220AB-3P C.C.
D101	ST	STPS20SM100ST	DIO SBD 20A 100V TO-220AB-3P
D101	ST	STPS30SM100ST	DIO SBD 30A 100V TO-220AB-3P
IC31	ON	DAP022ASN65T1G	IC ASIC PWM CURRENT MODE TSOP-6P SMD
IC131	TI	TL432BIDBZR	IC VOL REF ADJ 2.495V 100mA 0.5%
IC131	NXP	TL431BMFDT	IC VOL REF ADJ 2.495V 100mA 0.5%
IC131	DIODES	AS431ANTR-G1	IC VOL REF ADJ 2.5V 100mA 0.5% SOT-23-3P
IC32	EVERLIGHT	EL816M(Y)(D)-VG	PHOTO TR 50mA 80V DIP-4P 150%-300%
IC32	SHARP	PC123Y92FZ0F	PHOTO TR 50mA 70V DIP-4P 160%-300%
IC32	Renesas	PS2561DL1-1Y-V-A(G)	EOL PHOTO TR 40mA 80V DIP-4P 150%-300%
CX1	EUROPTRONIC	MPX2224K30B15LXD20	CAP X2 MP PC 305VAC 0.22uF K S15
CX1	OKAYA	LE224-MX-30-C3.2	CAP X2 MP PC 300VAC 0.22uF K S15
CX1	HUA	MKP-224K0275AB115S-G	CAP X2 MP PC 275VAC 0.22uF K S15
FL1	DELTA	HFV-MP13202	LINE FILTER T14 14mH MIN
FL101	DELTA	LFV-MP13303	LINE FILTER T10 17uH MIN
T1	DELTA	MV-MP13167	TRANSFORMER MAIN RM10 1mH +/-5%
C1	NICHICON	UPT2G680MHD3	CAP AL 400V 68uF M 16*25 P7.5
C1	NCC	EKMG401ELL680ML25S	CAP AL 400V 68uF M 16*25 P7.5
C1	L-Tec	TYJ2GM680K25O	CAP AL 400V 68uF M 16*25 P7.5
CY1	MURATA	DE1B3KX221KNHAN99F	CAP Y1/X1 CD 250VAC 220pF K B TP VI10
CY1	TDK	CD70-B2GA221KYVK	CAP Y1/X1 CD 250VAC 220pF K B TP VI10
CY1	WALSIN	YP0AH221K061DASDAB	CAP Y1/X1 CD 250VAC 220pF K B TP VI10
Adapter 6 (model: ADP-65DW B)			
Design No	MFG TITLE	MFG PART	DESCRIPTION
Q1	TOSHIBA	TK10A60DR(STA4,X)	FET 600V 10A 750mohm TO-220SIS-3P
Q1	FUJI	FMV11N60ES	FET 600V 11A 750mohm TO-220F-3P
D101	ST	STPS20S100CT	DIO SBD 20A 100V TO-220AB-3P C.C.
D101	ST	STPS20H100CT	DIO SBD 20A 100V TO-220AB-3P C.C.
D101	ST	STPS30H100CT	DIO SBD 30A 100V TO-220AB-3P C.C.
IC31	NeoEnergy	DAP022AT	IC ASIC PWM CURRENT MODE SOT-26-6P SMD
IC131	LITE-ON	LA431OCRPA	IC REGU ADJ 2.495V 100mA 0.4% SOT-23R-3P
IC131	TI	TL432BIDBZR	IC VOL REF ADJ 2.495V 100mA 0.5%
IC131	NXP	TL431BMFDT	IC VOL REF ADJ 2.495V 100mA 0.5%
IC32	EVERLIGHT	EL816M(Y)(D)-VG	PHOTO TR 50mA 80V DIP-4P 150%-300%

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IC32	SHARP	PC123Y92FZ0F	PHOTO TR 50mA 70V DIP-4P 160%-300%
IC32	TOSHIBA	TLP785F(D4-GRH,F	PHOTO TR 60mA 80V DIP-4P 150%-300%
CX1	HUA	MKP-334K0275AB115S-G	CAP X2 MP PC 275VAC 0.33uF K S15
CX1	HUA	MKP-334K0275AB115S-P	CAP X2 MP PC 275VAC 0.33uF K S15
CX1	EUROPTRONIC	MPX2334K30B15LXD31	CAP X2 MP PC 305VAC 0.33uF K S15
FL1	DELTA	HFV-MP15027	LINE FILTER T16 12.7mH MIN
FL101	DELTA	LFV-MP13171	LINE FILTER T6 1.55uH MIN
T1	DELTA	MV-MP15037	TRANSFORMER MAIN RM10 1000uH +/-5%
C1	NCC	EKMG401ELL680ML25S	CAP AL 400V 68uF M 16*25 P7.5
CY1	MURATA	DE1B3KX221KNHAN99F	CAP Y1/X1 CD 250VAC 220pF K B TP VI10
CY1	WALSIN	YP0AH221K061DASDAB	CAP Y1/X1 CD 250VAC 220pF K B TP VI10

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1.1.6   Table for Class II Change

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

FR531828AA, FR531828-04, FR531828-08.

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

Modifications	Performance Checking
1. Adding second source 2.4G PA and 5G PA for Rev 5.20 (SKU B) EUT only.	1. Emission Bandwidth、Peak Power Spectral Density After evaluating, the tests below were verified: 802.11ac VHT80_Nss1: 5775MHz 2. Maximum Conducted Output Power After evaluating, the tests below were verified: 802.11ac VHT40_Nss4: 5190MHz 802.11ac VHT80_Nss4: 5210MHz 802.11ac VHT80_Nss1: 5775MHz 802.11ac VHT80-BF_Nss2: 5775MHz 3. Unwanted Emissions After evaluating, the tests below were verified: (1) Radiated emission (Below 1GHz) (2) Radiated emission (Above 1GHz) 802.11a/802.11ac VHT20_Nss1: 5180MHz/5200MHz/5240MHz/5745MHz/5785MHz/5825MHz 802.11ac VHT40_Nss1: 5190MHz/5230MHz/5755MHz/5795MHz 802.11ac VHT80_Nss1: 5210MHz/5775MHz 802.11ac VHT40_Nss4: 5190MHz 802.11ac VHT80_Nss4: 5210MHz 802.11ac VHT20-BF_Nss1: 5180MHz/5200MHz/5240MHz/5745MHz/5785MHz/5825MHz 802.11ac VHT40-BF_Nss1: 5190MHz/5230MHz/5755MHz/5795MHz 802.11ac VHT80-BF_Nss1: 5210MHz/5775MHz 802.11ac VHT20-BF_Nss2: 5745MHz/5785MHz/5825MHz 802.11ac VHT40-BF_Nss2: 5755MHz/5795MHz 802.11ac VHT80-BF_Nss2: 5775MHz

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2. Updating the test rule of 5GHz Band 4 to "15.407 (b)(4)(i)" from "15.407 (b)(4)(ii)".	Unwanted Emissions After evaluating, the tests below were verified: Radiated emission (Above 1GHz) 802.11a/802.11ac VHT20_Nss1: 5180MHz/5200MHz/5240MHz/5745MHz/5785MHz/5825MHz 802.11ac VHT40_Nss1: 5190MHz/5230MHz/5755MHz/5795MHz 802.11ac VHT80_Nss1: 5210MHz/5775MHz 802.11ac VHT40_Nss4: 5190MHz 802.11ac VHT80_Nss4: 5210MHz 802.11ac VHT20-BF_Nss1: 5180MHz/5200MHz/5240MHz/5745MHz/5785MHz/5825MHz 802.11ac VHT40-BF_Nss1: 5190MHz/5230MHz/5755MHz/5795MHz 802.11ac VHT80-BF_Nss1: 5210MHz/5775MHz 802.11ac VHT20-BF_Nss2: 5745MHz/5785MHz/5825MHz 802.11ac VHT40-BF_Nss2: 5755MHz/5795MHz 802.11ac VHT80-BF_Nss2: 5775MHz

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 662911 D01 v02r01
* FCC KDB 412172 D01 v01r01

1.3　　Testing Location Information

Testing Location				
☐	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
☒	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
RF Conducted	TH01-CB	Owen Hsu	23°C / 53%	Jun. 23, 2018~ Sep. 21, 2018
Radiated	03CH01-CB	Cola Fan	22°C / 54%	Jun. 23, 2018~ Oct. 01, 2018

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%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Power Density Measurement	1.27 dB	Confidence levels of 95%
Bandwidth Measurement	9.74×10^{-8}	Confidence levels of 95%

2   Test Configuration of EUT

2.1   The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Conducted Output Power Peak Power Spectral Density
Test Condition	Conducted measurement at transmit chains
Test Mode	1 4TX

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	
Test Mode	There are six adapters, after evaluating, Adapter 1 has been evaluated to be the worst case among Adapter 1~6, thus measurement will follow this same test configuration.	
	1	WLAN 5GHz + EUT With Adapter 1
	2	WLAN 2.4GHz + EUT With Adapter 1
	Mode 1 generated the worst test result, so it was recorded in this report.	
Operating Mode > 1GHz	CTX	
Test Mode	1	3TX
	2	4TX

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Sporton Test Report No.: FA531828-13 for Co-location RF Exposure Evaluation.	

Note1: The EUT can only be used in Z-axis position.
 Note2: VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.
Note3: There are two modes of EUT, one is beamforming mode, and the other is non-beamforming mode for 802.11ac. All test results were recorded in the report.

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2.2   EUT Operation during Test

For CTX Mode:

non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

During the test, the following programs under WIN XP were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.

2. Executed command fixed test channel under DOS.

3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by RX Device and
   transmit duty cycle no less than 98%.

2.3   Accessories

Power	Brand	Model	Rating
Adapter 1	ASUS	ADP-45BW B	Input: 100-240V ~ 50-60Hz, 1.2A Output: 19V, 2.37A
Adapter 2	ASUS	AD883J20	Input: 100-240V ~ 50-60Hz, 1.0A Output: 19V, 2.37A
Adapter 3	ASUS	ADP-65DW B	Input: 100-240V ~ 50-60Hz, 1.5A Output: 19V, 3.42A
Adapter 4	ASUS	ADP-45BW B	Input: 100-240V ~ 50-60Hz, 1.2A Output: 19V, 2.37A
Adapter 5	ASUS	AD883J20	Input: 100-240V ~ 50-60Hz, 1.0A Output: 19V, 2.37A
Adapter 6	ASUS	ADP-65DW B	Input: 100-240V ~ 50-60Hz, 1.5A Output: 19V, 3.42A
Other			
RJ-45 Cable*1: Non-Shielded, 1.5m			

Note: The power adapter does not affect the test result of RF tests, so only adapter 1 was tested and recorded in
      this report.

2.4 Support Equipment

For Test Site No: TH01-CB

Support Equipment			
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E4300	N/A

For Test Site No: 03CH01-CB (Below 1GHz)

Support Equipment			
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E4300	N/A

For Test Site No: 03CH01-CB (Above 1GHz)
<Non-beamforming mode>

Support Equipment			
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E4300	N/A

<beamforming mode>

Support Equipment			
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E4300	N/A
2	Notebook	DELL	E4300	N/A
3	WLAN Card	ASUS	PCE-AC88	MSQ-PCIE0U00
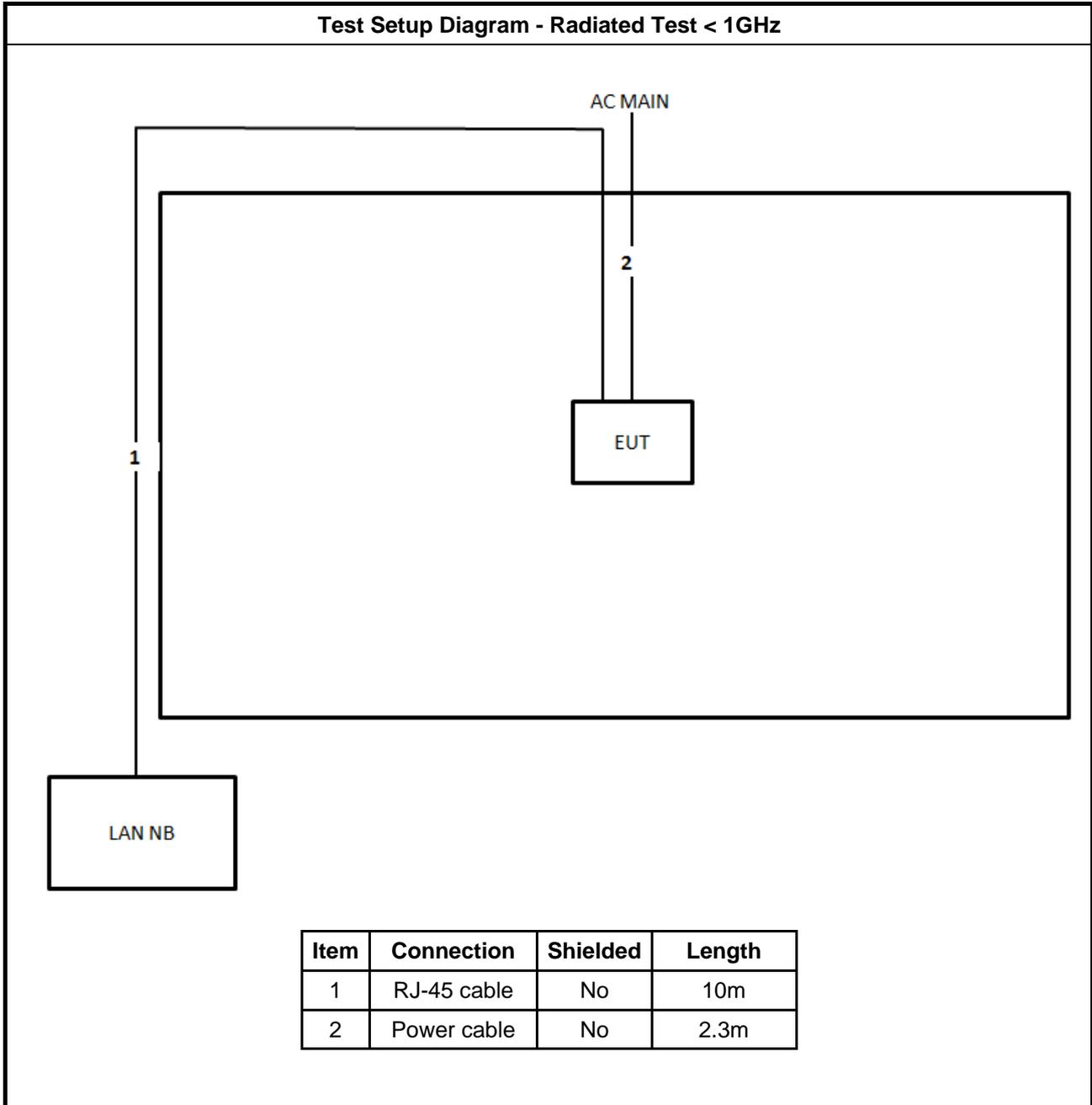
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2.5   Test Setup Diagram

Test Setup Diagram - Radiated Test < 1GHz
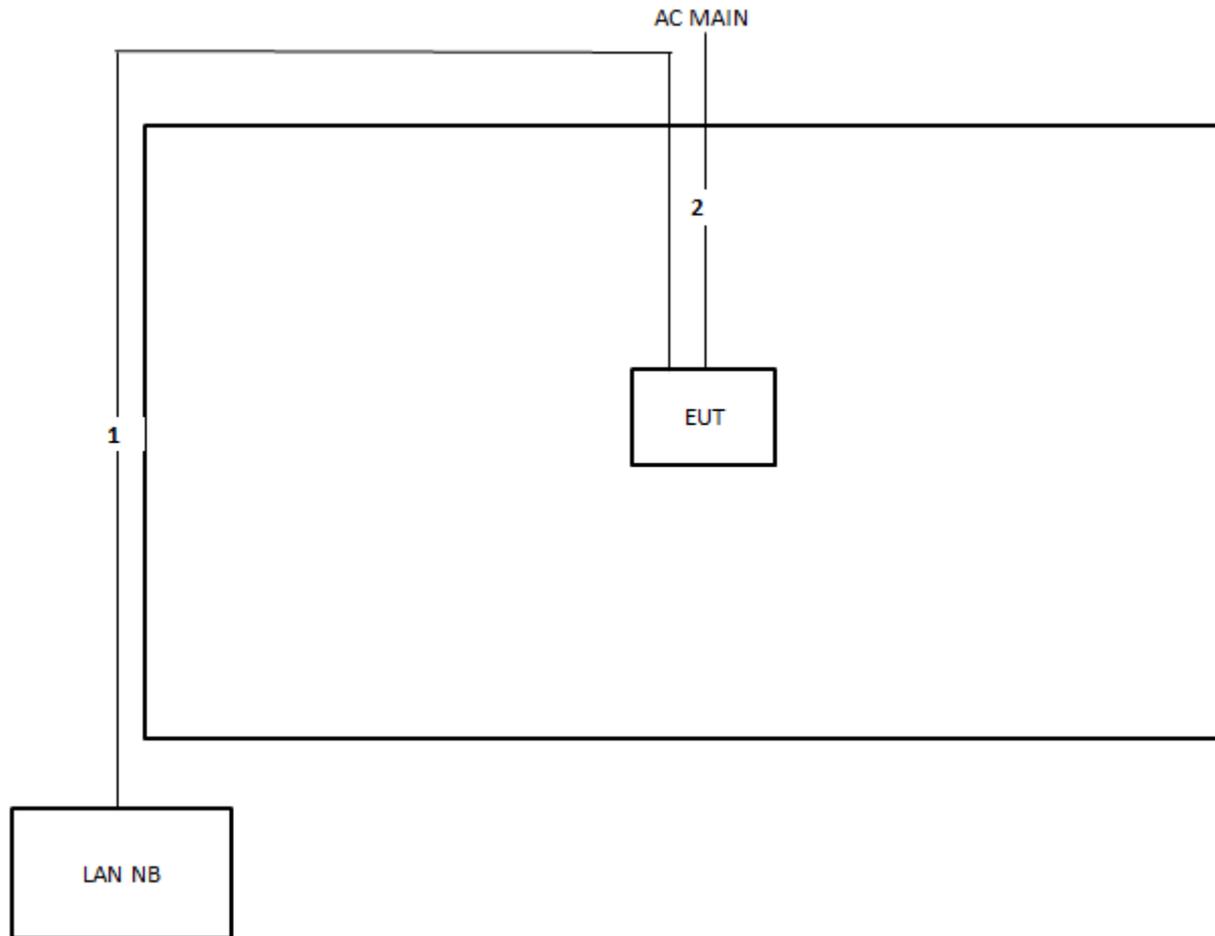
Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	2.3m

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Test Setup Diagram - Radiated Test > 1GHz

<Non-beamforming mode>

Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	2.3m

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		Test Setup Diagram - Radiated Test > 1GHz	

<beamforming mode>

Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	RJ-45 cable	No	1.5m
3	Power cable	No	2.3m

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3   Transmitter Test Result

3.1   Emission Bandwidth

3.1.1   Emission Bandwidth Limit

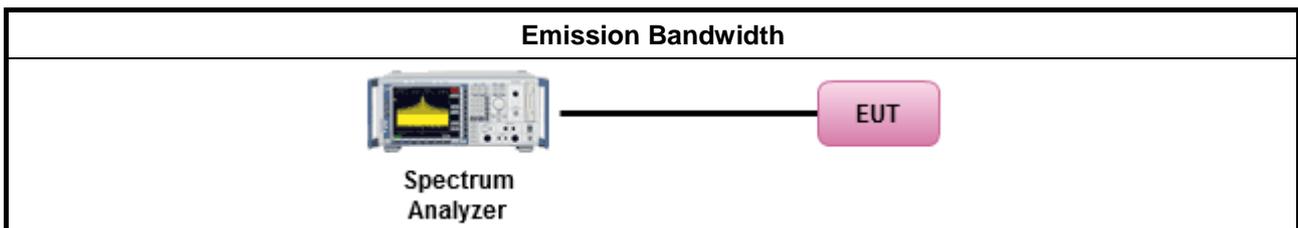| Emission Bandwidth Limit |
| --- |
| **UNII Devices** |
| ☐   For the 5.15-5.25 GHz band, N/A |
| ☐   For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. |
| ☐   For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. |
| ☒   For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz. |
| **LE-LAN Devices** |
| ☐   For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. |
| ☐   For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz |
| ☐   For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz |
| ☐   For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz. |

3.1.2   Measuring Instruments

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

3.1.3   Test Procedures

Test Method
▪   For the emission bandwidth shall be measured using one of the options below:
☒   Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
☐   Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
☒   Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

3.1.4   Test Setup

Emission Bandwidth

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3.1.5   Test Result of Emission Bandwidth

Refer as Appendix A

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3.2   Maximum Conducted Output Power

3.2.1   Maximum Conducted Output Power Limit

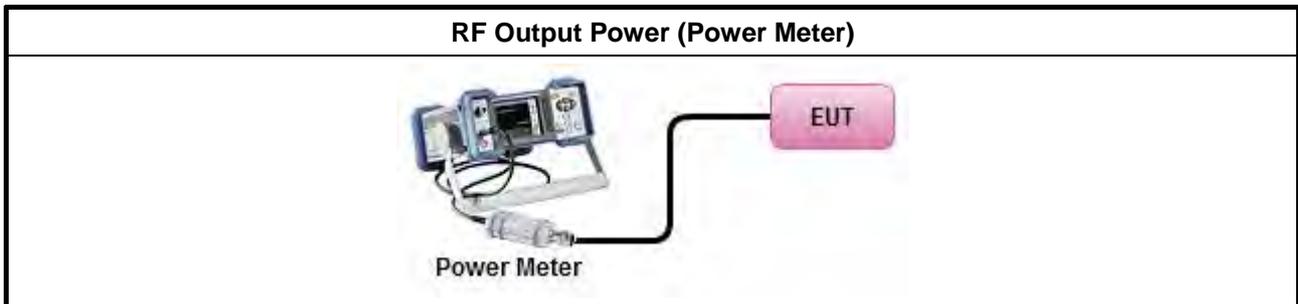| Maximum Conducted Output Power Limit |
|---|
| **UNII Devices** |
| ☒ For the 5.15-5.25 GHz band: |
| ▪ Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then $P_{Out} = 30 − (G_{TX} − 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm] |
| ▪ Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then $P_{Out} = 30 − (G_{TX} − 6)$ |
| ▪ Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W If G_{TX} > 23 dBi, then $P_{Out} = 30 − (G_{TX} − 23)$. |
| ▪ Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If G_{TX} > 6 dBi, then $P_{Out} = 24 − (G_{TX} − 6)$. |
| ☐ For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If G_{TX} > 6 dBi, then $P_{Out} = 24 − (G_{TX} − 6)$. |
| ☐ For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If G_{TX} > 6 dBi, then $P_{Out} = 24 − (G_{TX} − 6)$. |
| ☒ For the 5.725-5.85 GHz band: |
| ▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then $P_{Out} = 30 − (G_{TX} − 6)$. |
| ▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. |
| **LE-LAN Devices** |
| ☐ For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. |
| ☐ For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz |
| ☐ For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz |
| ☐ For the 5.725-5.85 GHz band: |
| ▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then $P_{Out} = 30 − (G_{TX} − 6)$. |
| ▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. |
| P_{Out} = maximum conducted output power in dBm,
G_{TX} = the maximum transmitting antenna directional gain in dBi. |

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
▪ Maximum Conducted Output Power
Average over on/off periods with duty factor
☐ Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐ Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
Wideband RF power meter and average over on/off periods with duty factor
☒ Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
▪ For conducted measurement.
▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC 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]) $EIRP_{total} = P_{total} + DG$

3.2.4 Test Setup

RF Output Power (Power Meter)

3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B

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3.3　Peak Power Spectral Density

3.3.1　Peak Power Spectral Density Limit

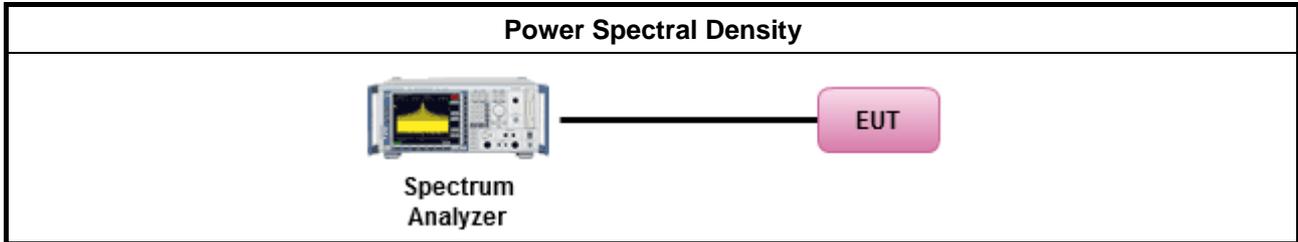| Peak Power Spectral Density Limit |
|---|
| **UNII Devices** |
| ☐　For the 5.15-5.25 GHz band: |
| ▪　Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 6 dBi, then P_{Out} = 17 − (G_{TX} − 6). |
| ▪　Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 6 dBi, then P_{Out} = 17 − (G_{TX} − 6). |
| ▪　Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 23 dBi, then P_{Out} = 17 − (G_{TX} − 23). |
| ▪　Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 − (G_{TX} − 6).. |
| ☐　For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 − (G_{TX} − 6). |
| ☐　For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 − (G_{TX} − 6). |
| ☒　For the 5.725-5.85 GHz band: |
| ▪　Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If G_{TX} > 6 dBi, then PPSD= 30 − (G_{TX} − 6). |
| ▪　Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. |
| **LE-LAN Devices** |
| ☐　For the 5.15-5.25 GHz band, the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz. |
| ☐　For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. |
| ▪　e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below:
-13 dBW/MHz for 0° ≤ θ < 8° ; -13 − 0.716 (θ-8) dBW/MHz for 8° ≤ θ < 40°
-35.9 − 1.22 (θ-40) dBW/MHz for 40° ≤ θ ≤ 45° ; -42 dBW/MHz for θ > 45° |
| ☐　For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. |
| ☐　For the 5.725-5.85 GHz band: |
| ▪　Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If G_{TX} > 6 dBi, then PPSD= 30 − (G_{TX} − 6). |
| ▪　Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. |
| **PPSD** = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz
G_{TX} = the maximum transmitting antenna directional gain in dBi. |

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:
☐   Refer as FCC KDB 789033, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
[duty cycle ≥ 98% or external video / power trigger]
☒   Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).
☐   Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
duty cycle < 98% and average over on/off periods with duty factor
☒   Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐   Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
▪ For conducted measurement.
▪ If the EUT supports multiple transmit chains using options given below:
☒   Option 1: Measure and sum the spectra across the outputs. Refer as FCC 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.
☐   Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
☐   Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.
▪ If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$

3.3.4   Test Setup

Power Spectral Density

3.3.5   Test Result of Peak Power Spectral Density

Refer as Appendix C

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3.4   Unwanted Emissions

3.4.1   Transmitter Radiated 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.

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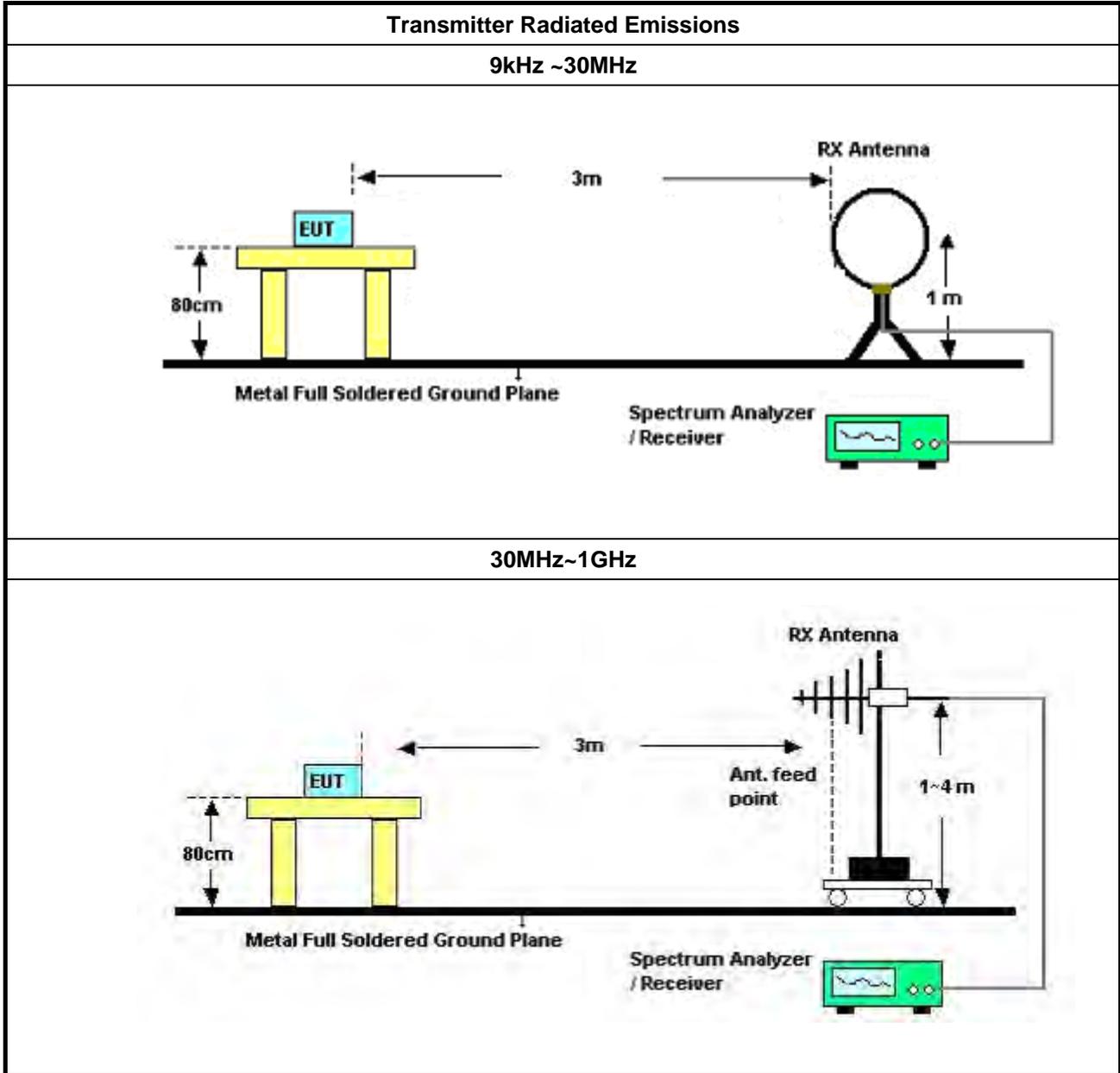| Un-restricted band emissions above 1GHz Limit	
Operating Band	**Limit**
☒ 5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☐ 5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☐ 5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☒ 5.725 - 5.85 GHz	all emissions shall be limited to a level of -27 dBm/MHz 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).	

3.4.2 Measuring Instruments

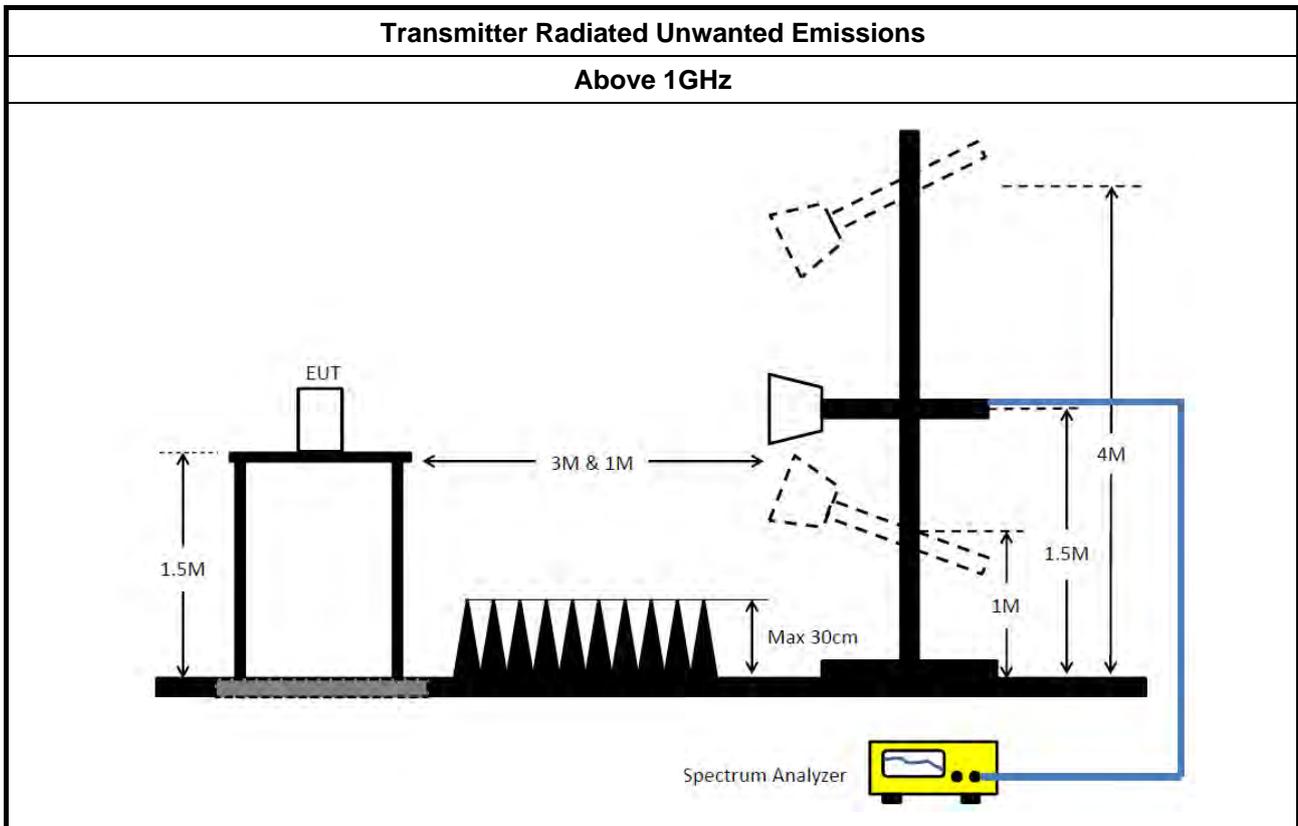Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method
▪ 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).
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
▪ For the transmitter unwanted emissions shall be measured using following options below:
▪ Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.
▪ Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.
☐ Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).
☒ Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).
☐ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
☐ Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
☒ Refer as FCC KDB 789033, clause H)5) measurement procedure peak limit.
☐ Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
▪ For radiated measurement.
▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
▪ The any unwanted emissions level shall not exceed the fundamental emission level.
▪ All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

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FAX : 886-3-656-9085

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3.4.4   Test Setup

Transmitter Radiated Emissions
9kHz ~30MHz

30MHz~1GHz

Transmitter Radiated Unwanted Emissions
Above 1GHz

3.4.5 Transmitter Unwanted Emissions (Below 30MHz)

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

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 harmonic or 40 GHz, whichever is appropriate.

3.4.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D

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4   Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2017	Aug. 29, 2018	Radiation (03CH01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 27, 2018	Aug. 26, 2019	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2018	May 01, 2019	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2018	Mar. 15, 2019	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 20, 2017	Nov. 19, 2018	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 05, 2017	Jul. 04, 2018	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	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 10, 2017	Jul. 09, 2018	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 23, 2017	Nov. 22, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 21, 2017	Dec. 20, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)

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Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Cable	Marvelous Microwave	n/a	Cable-REF-1	9k-1GHz	Oct. 25, 2017	Oct. 24, 2018	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 20, 2017	Nov. 19, 2018	Conducted (TH01-CB)

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

NCR means Non-Calibration required.

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Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT80_Nss1,(MCS0)_4TX	76.3M	76.062M	76M1D1D	76.2M	75.962M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Min-OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	500k	76.3M	75.962M	76.3M	76.062M	76.3M	75.962M	76.2M	75.962M

Port X-N dB = Port **X** 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port **X** 99% occupied bandwidth;

802.11ac VHT80_Nss1,(MCS0)_4TX EBW

5775MHz

27/09/2018

Ch Freq
5.775GHz
Span
200MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Ch Freq
5.775GHz
Span
200MHz
RBW
1MHz
VBW
3MHz
Sweep Time
100ms
Detector Type
Sample

Port 1	/\
Port 2	/\
Port 3	/\
Port 4	/\

6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
76.3M	5.7368G	5.8131G	75.962M	5.736919G	5.812881G	500k	1
76.3M	5.7368G	5.8131G	76.062M	5.736919G	5.812981G	500k	2
76.3M	5.7368G	5.8131G	75.962M	5.736919G	5.812881G	500k	3
76.2M	5.7369G	5.8131G	75.962M	5.737019G	5.812981G	500k	4

Summary

Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11ac VHT40_Nss4,(MCS0)_4TX	23.69	0.23388
802.11ac VHT80_Nss4,(MCS0)_4TX	23.98	0.25003
5.725-5.85GHz	-	-
802.11ac VHT80_Nss1,(MCS0)_4TX	28.17	0.65615
802.11ac VHT80-BF_Nss2,(MCS0)_4TX	27.32	0.53951

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	3.37	22.18	21.95	22.29	22.17	28.17	30.00
802.11ac VHT40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-
5190MHz	Pass	3.37	18.07	17.46	17.58	17.56	23.69	30.00
802.11ac VHT80_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-
5210MHz	Pass	3.37	18.21	17.83	17.95	17.84	23.98	30.00
802.11ac VHT80-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	6.38	21.48	21.17	21.23	21.32	27.32	29.62

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

Summary

Mode	PD (dBm/RBW)
5.725-5.85GHz	-
802.11ac VHT80_Nss1,(MCS0)_4TX	8.05

RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

Result

Mode	Result	DG	Port 1	Port 2	Port 3	Port 4	PD	PD Limit
		(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	9.39	2.00	2.07	2.19	2.14	8.05	26.61

DG = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11ac VHT80_Nss1,(MCS0)_4TX   **PSD**

5775MHz

27/09/2018

Ch Freq
5.775GHz
Span
120MHz
RBW
500kHz
VBW
3MHz
Sweep Time
4.9s
Detector Type
RMS

Legend: Sum, Port 1, Port 2, Port 3, Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.05	8.05	2.00	2.07	2.19	2.14

RSE below 1GHz Result			
Operating Mode	1	**Polarization**	Horizontal
Operating Function	CTX		

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	36.79	26.66	40.00	-13.34	35.82	0.75	21.69	31.60	125	190	Peak	HORIZONTAL
2	224.97	28.62	46.00	-17.38	41.95	1.82	16.78	31.93	150	205	Peak	HORIZONTAL
3	250.19	32.49	46.00	-13.51	43.66	1.91	18.90	31.98	125	0	Peak	HORIZONTAL
4	375.32	41.97	46.00	-4.03	49.87	2.33	21.88	32.11	100	192	QP	HORIZONTAL
5	500.45	33.08	46.00	-12.92	38.80	2.71	23.83	32.26	100	127	Peak	HORIZONTAL
6	625.58	35.42	46.00	-10.58	39.64	3.01	25.21	32.44	200	356	Peak	HORIZONTAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

RSE below 1GHz Result			
Operating Mode	1	Polarization	Vertical
Operating Function	CTX		

Level (dBuV/m)   Date: 2018-10-01 Time: 14:31:15

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	36.79	34.84	40.00	-5.16	44.00	0.75	21.69	31.60	100	121	Peak	VERTICAL
2	44.55	32.66	40.00	-7.34	46.30	0.81	17.25	31.70	100	357	Peak	VERTICAL
3	81.41	30.83	40.00	-9.17	48.00	1.10	13.59	31.86	150	258	Peak	VERTICAL
4	185.20	29.14	43.50	-14.36	43.91	1.65	15.50	31.92	150	121	Peak	VERTICAL
5	375.32	35.06	46.00	-10.94	42.96	2.33	21.88	32.11	150	333	Peak	VERTICAL
6	625.58	34.67	46.00	-11.33	38.89	3.01	25.21	32.44	125	310	Peak	VERTICAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)
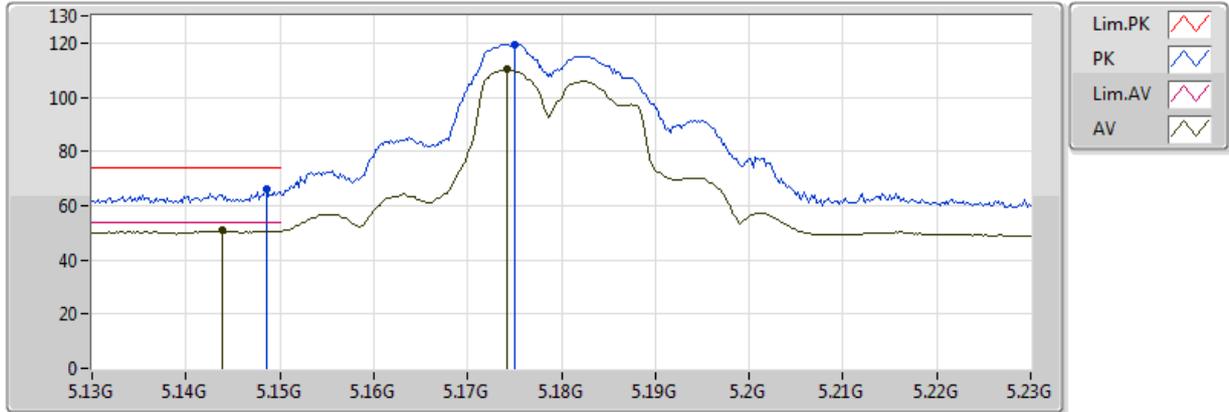
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.15-5.25GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11ac VHT40_Nss1,(MCS0)_4TX	Pass	AV	5.149995G	53.98	54.00	-0.02	9.90	3	Vertical	86	2.99	-

802.11a_Nss1,(6Mbps)_4TX

5180MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 76
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.1486G	66.40	74.00	-7.60	8.54	3	Vertical	144	2.21	
AV	5.1438G	50.75	54.00	-3.25	8.54	3	Vertical	144	2.21	
PK	5.175G	119.43	Inf	-Inf	8.60	3	Vertical	144	2.21	
AV	5.1742G	110.11	Inf	-Inf	8.60	3	Vertical	144	2.21	

802.11a_Nss1,(6Mbps)_4TX

5180MHz_TX

25/06/2018

	Lim.PK	
PK	
Lim.AV	
AV	

EUT Z_4TX Dipole
Setting 76
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.5283G	55.66	74.00	-18.34	15.98	3	Vertical	67	1.50	
AV	15.54012G	42.11	54.00	-11.89	15.95	3	Vertical	67	1.50	

802.11a_Nss1,(6Mbps)_4TX

5180MHz_TX

25/06/2018

	Lim.PK	∿
	PK	∿
	Lim.AV	∿
	AV	∿

EUT Z_4TX Dipole
Setting 76
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.55182G	55.36	74.00	-18.64	15.92	3	Horizontal	12	1.50	
AV	15.52794G	41.97	54.00	-12.03	15.98	3	Horizontal	12	1.50	

802.11a_Nss1,(6Mbps)_4TX

5200MHz_TX

23/06/2018

EUT Z_4TX Dipole
Setting 78
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.1256G	63.00	74.00	-11.00	8.51	3	Vertical	187	2.28	
AV	5.1176G	50.95	54.00	-3.05	8.50	3	Vertical	187	2.28	
PK	5.1984G	119.10	Inf	-Inf	8.64	3	Vertical	187	2.28	
AV	5.1992G	109.16	Inf	-Inf	8.64	3	Vertical	187	2.28	
PK	5.3592G	61.35	74.00	-12.65	8.85	3	Vertical	187	2.28	
AV	5.3592G	48.72	54.00	-5.28	8.85	3	Vertical	187	2.28	

802.11a_Nss1,(6Mbps)_4TX

5200MHz_TX

23/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 78
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.59886G	55.48	74.00	-18.52	15.80	3	Vertical	359	1.37	
AV	15.60018G	41.63	54.00	-12.37	15.80	3	Vertical	359	1.37	

802.11a_Nss1,(6Mbps)_4TX
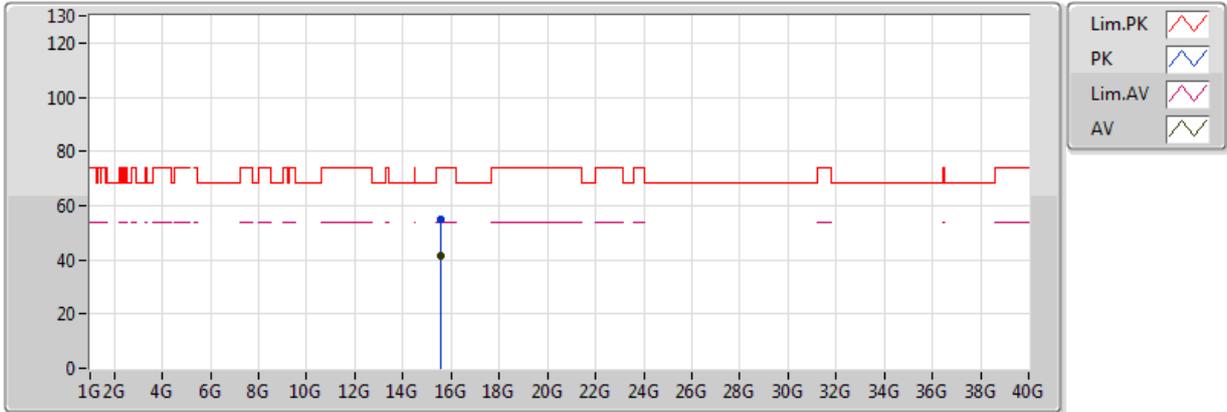
5200MHz_TX

23/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 78
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.58848G	54.95	74.00	-19.05	15.83	3	Horizontal	113	1.50	
AV	15.58794G	41.63	54.00	-12.37	15.83	3	Horizontal	113	1.50	

802.11a_Nss1,(6Mbps)_4TX
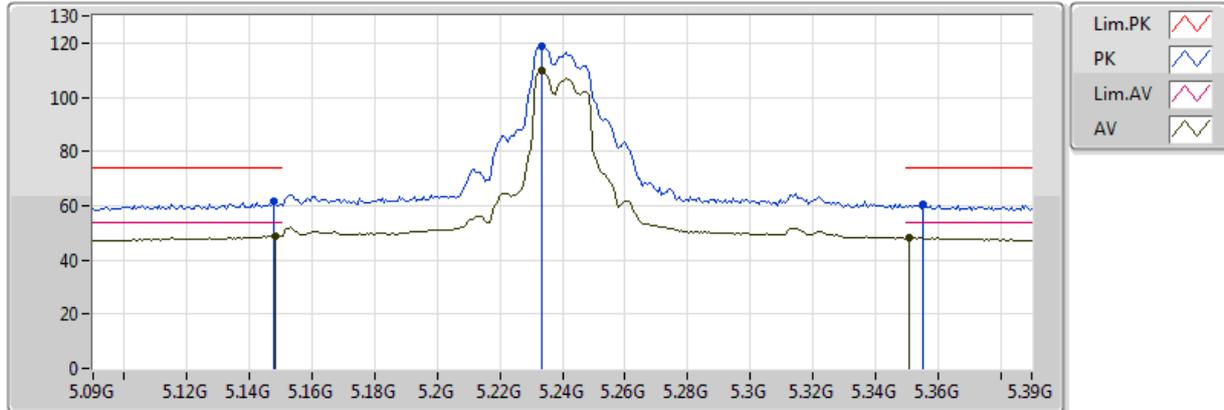
5240MHz_TX

23/06/2018

Lim.PK	〰
PK	〰
Lim.AV	〰
AV	〰

EUT Z_4TX Dipole
Setting 79
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.1476G	61.74	74.00	-12.26	8.54	3	Vertical	199	2.14	
AV	5.1482G	48.74	54.00	-5.26	8.54	3	Vertical	199	2.14	
PK	5.2334G	119.06	Inf	-Inf	8.68	3	Vertical	199	2.14	
AV	5.2334G	109.88	Inf	-Inf	8.68	3	Vertical	199	2.14	
PK	5.3552G	60.25	74.00	-13.75	8.84	3	Vertical	199	2.14	
AV	5.351G	48.31	54.00	-5.69	8.84	3	Vertical	199	2.14	

802.11a_Nss1,(6Mbps)_4TX
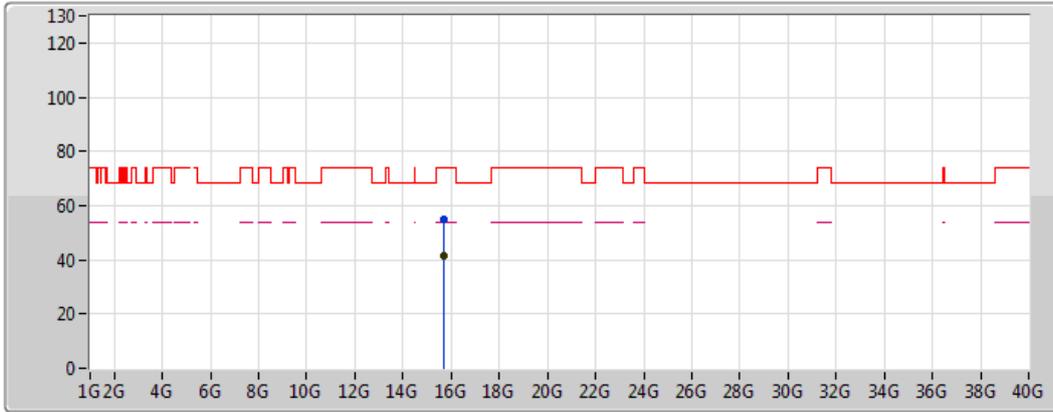
5240MHz_TX

23/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 79
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.71256G	54.88	74.00	-19.12	15.52	3	Vertical	265	2.02	
AV	15.70506G	41.43	54.00	-12.57	15.54	3	Vertical	265	2.02	

802.11a_Nss1,(6Mbps)_4TX
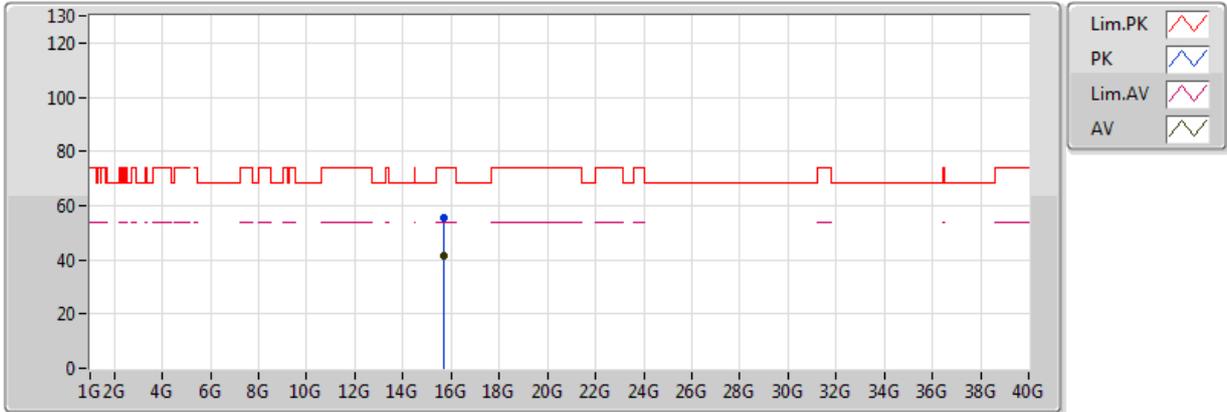
5240MHz_TX

23/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 79
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.70578G	55.20	74.00	-18.80	15.54	3	Horizontal	165	1.74	
AV	15.7071G	41.44	54.00	-12.56	15.53	3	Horizontal	165	1.74	

802.11a_Nss1,(6Mbps)_4TX
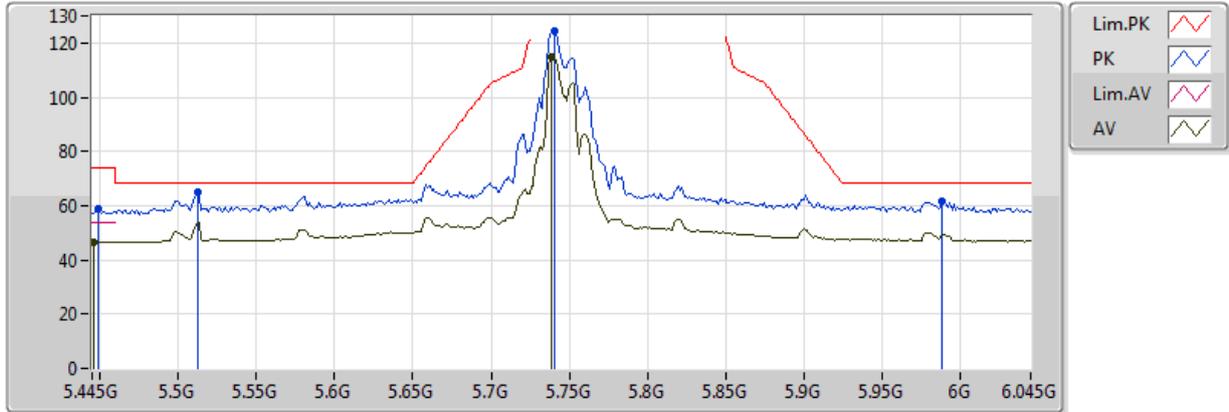
5745MHz_TX

25/06/2018

	Legend
Lim.PK	
PK	
Lim.AV	
AV	

EUT Z_4TX Dipole
Setting 93
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.4486G	58.77	74.00	-15.23	9.00	3	Vertical	178	2.22	
AV	5.4462G	46.65	54.00	-7.35	9.00	3	Vertical	178	2.22	
PK	5.5122G	64.87	68.20	-3.33	9.13	3	Vertical	178	2.22	
PK	5.7402G	124.53	Inf	-Inf	9.22	3	Vertical	178	2.22	
AV	5.739G	114.78	Inf	-Inf	9.22	3	Vertical	178	2.22	
PK	5.9886G	61.74	68.20	-6.46	9.39	3	Vertical	178	2.22	

802.11a_Nss1,(6Mbps)_4TX
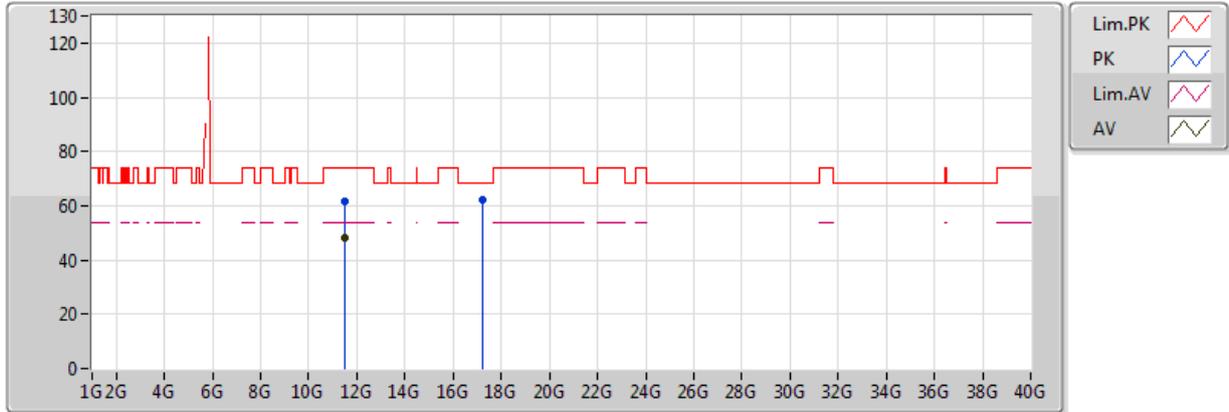
5745MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 93
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.49048G	61.55	74.00	-12.45	14.60	3	Vertical	12	2.29	
AV	11.48976G	48.02	54.00	-5.98	14.60	3	Vertical	12	2.29	
PK	17.22948G	62.33	68.20	-5.87	20.37	3	Vertical	43	1.90	

802.11a_Nss1,(6Mbps)_4TX
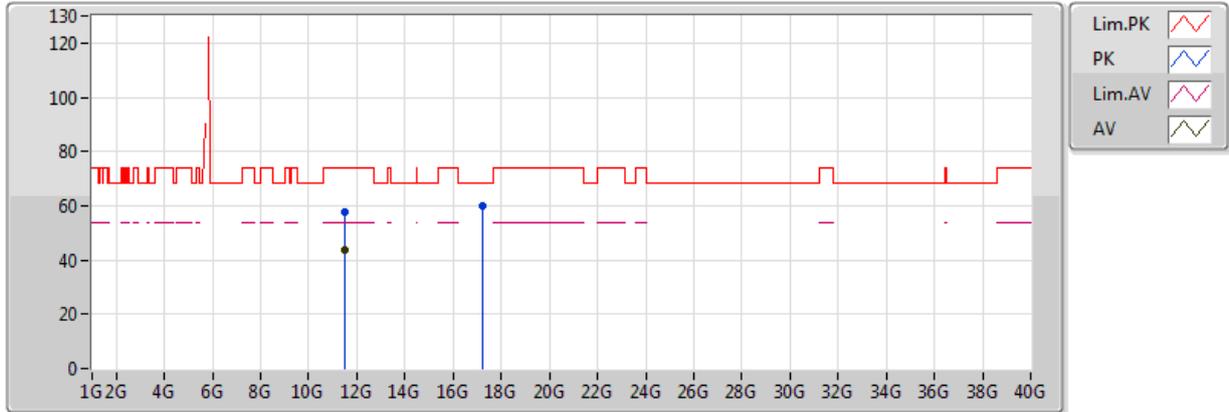
5745MHz_TX

25/06/2018

EUT Z_4TX Dipole
Setting 93
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
PK	11.4904G	57.68	74.00	-16.32	14.60	3	Horizontal	284	2.14
AV	11.48912G	43.49	54.00	-10.51	14.60	3	Horizontal	284	2.14
PK	17.23292G	59.88	68.20	-8.32	20.39	3	Horizontal	263	1.50

802.11a_Nss1,(6Mbps)_4TX
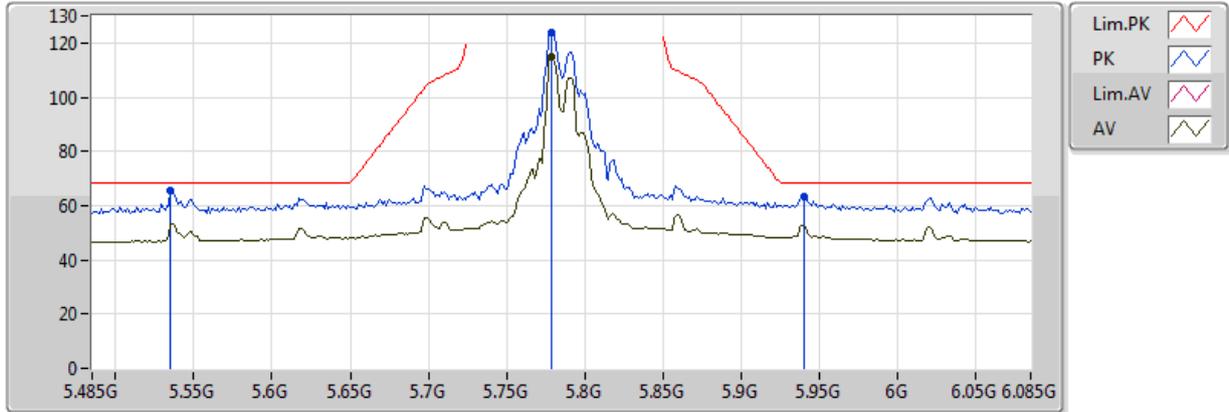
5785MHz_TX

25/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 93
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.5354G	65.43	68.20	-2.77	9.15	3	Vertical	178	2.19	
PK	5.779G	123.63	Inf	-Inf	9.23	3	Vertical	178	2.19	
AV	5.779G	114.64	Inf	-Inf	9.23	3	Vertical	178	2.19	
PK	5.9398G	63.18	68.20	-5.02	9.35	3	Vertical	178	2.19	

802.11a_Nss1,(6Mbps)_4TX
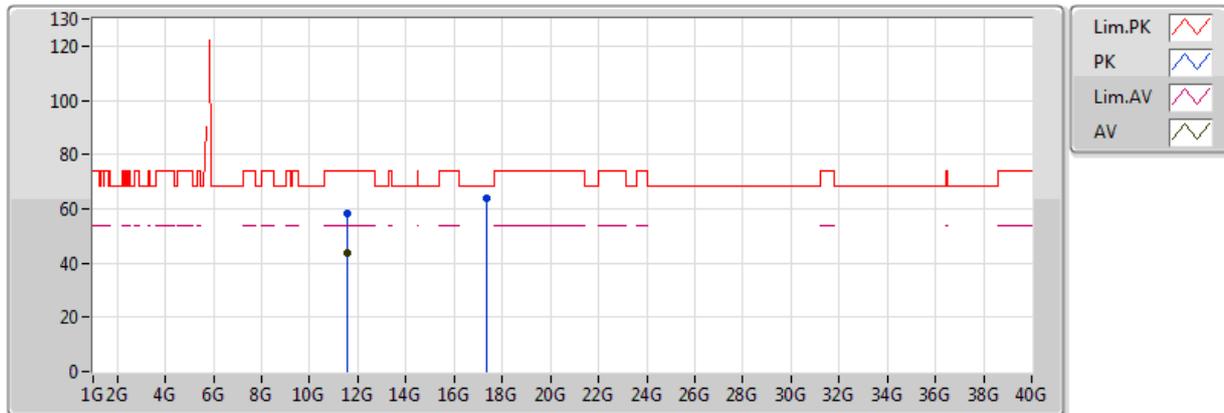
5785MHz_TX

25/06/2018

Lim.PK	〰
PK	〰
Lim.AV	〰
AV	〰

EUT Z_4TX Dipole
Setting 93
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.57048G	58.54	74.00	-15.46	14.69	3	Vertical	328	1.50	
AV	11.57024G	43.73	54.00	-10.27	14.69	3	Vertical	328	1.50	
PK	17.35228G	63.64	68.20	-4.56	21.09	3	Vertical	14	2.80	

802.11a_Nss1,(6Mbps)_4TX
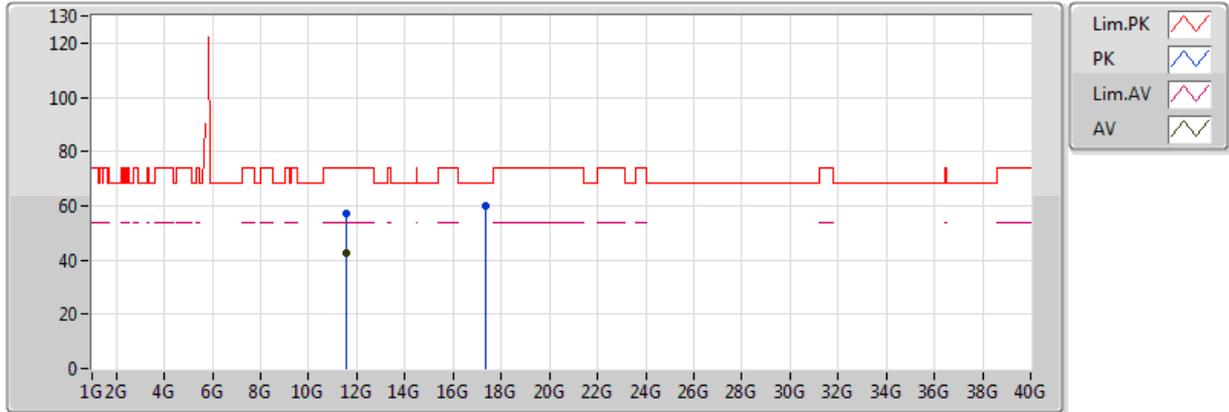
5785MHz_TX

25/06/2018

EUT Z_4TX Dipole
Setting 93
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.5692G	57.13	74.00	-16.87	14.69	3	Horizontal	248	2.04	
AV	11.56976G	42.78	54.00	-11.22	14.69	3	Horizontal	248	2.04	
PK	17.3666G	59.76	68.20	-8.44	21.18	3	Horizontal	124	1.81	

802.11a_Nss1,(6Mbps)_4TX
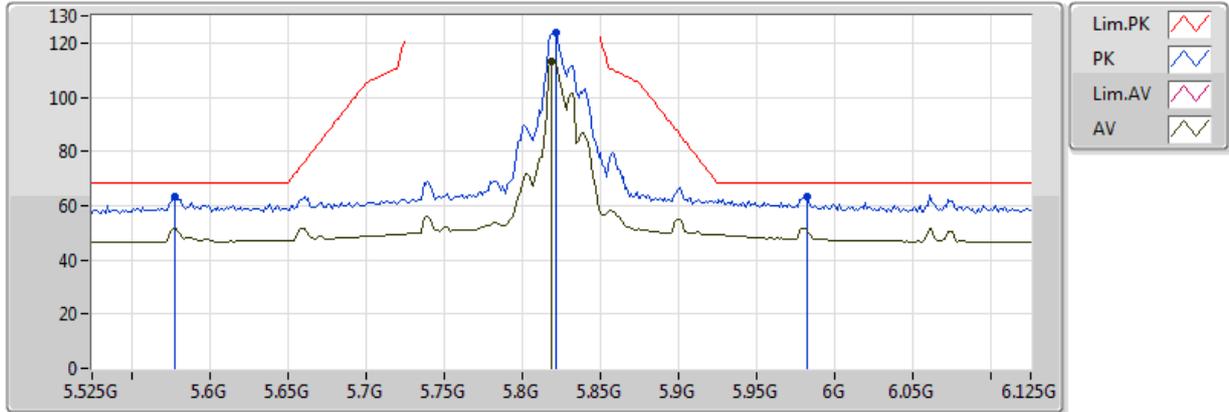
5825MHz_TX

25/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 95
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.5778G	63.40	68.20	-4.80	9.18	3	Vertical	178	2.30	
PK	5.8214G	123.86	Inf	-Inf	9.26	3	Vertical	178	2.30	
AV	5.819G	113.32	Inf	-Inf	9.26	3	Vertical	178	2.30	
PK	5.9822G	63.21	68.20	-4.99	9.39	3	Vertical	178	2.30	

802.11a_Nss1,(6Mbps)_4TX
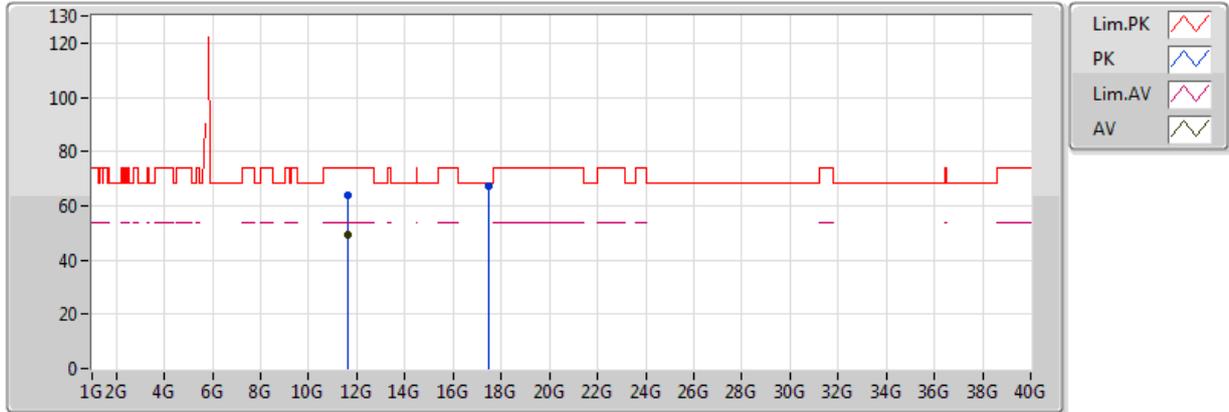
5825MHz_TX

25/06/2018

Lim.PK	〰
PK	〰
Lim.AV	〰
AV	〰

EUT Z_4TX Dipole
Setting 95
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.65032G	63.73	74.00	-10.27	14.79	3	Vertical	23	2.22	
AV	11.64976G	49.53	54.00	-4.47	14.79	3	Vertical	23	2.22	
PK	17.47824G	67.50	68.20	-0.70	21.83	3	Vertical	56	2.95	

802.11a_Nss1,(6Mbps)_4TX
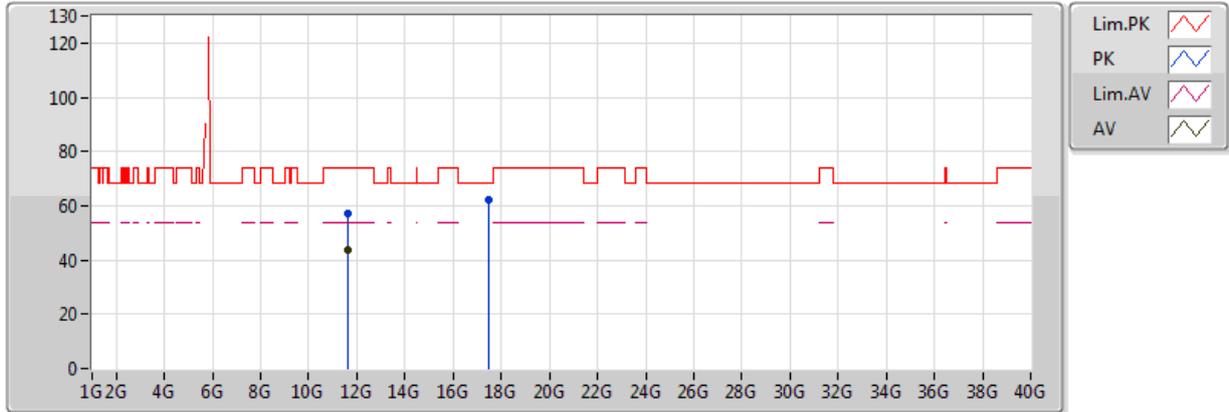
5825MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 95
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.64984G	57.19	74.00	-16.81	14.79	3	Horizontal	247	2.03	
AV	11.64976G	43.60	54.00	-10.40	14.79	3	Horizontal	247	2.03	
PK	17.48268G	62.07	68.20	-6.13	21.86	3	Horizontal	125	1.83	

802.11ac VHT20_Nss1,(MCS0)_4TX

5180MHz_TX

25/06/2018

		Lim.PK
		PK
		Lim.AV
		AV
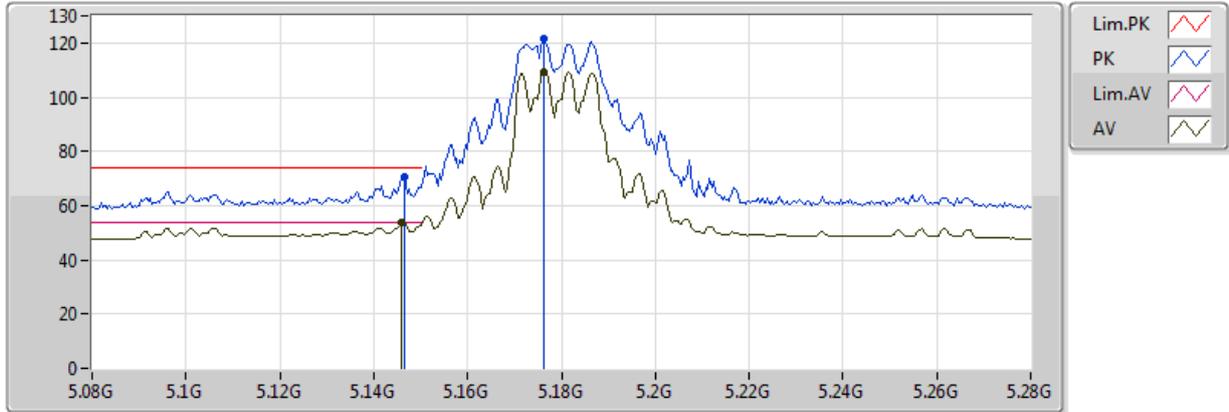
EUT Z_4TX Dipole
Setting 78
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.1464G	70.59	74.00	-3.41	8.54	3	Vertical	291	2.36	
AV	5.146G	53.64	54.00	-0.36	8.54	3	Vertical	291	2.36	
PK	5.1764G	121.36	Inf	-Inf	8.60	3	Vertical	291	2.36	
AV	5.1764G	109.53	Inf	-Inf	8.60	3	Vertical	291	2.36	

802.11ac VHT20_Nss1,(MCS0)_4TX
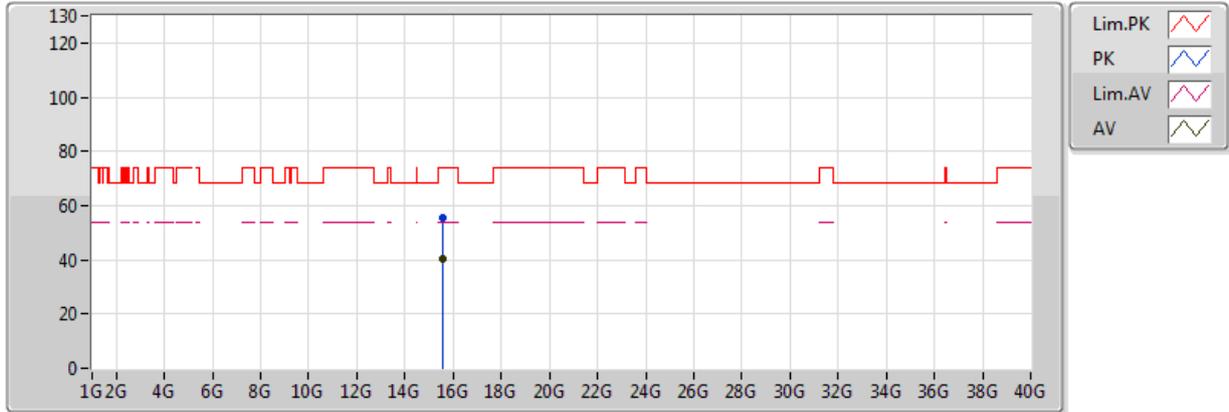
5180MHz_TX

25/06/2018

| | Lim.PK | | PK | | Lim.AV | | AV | |

EUT Z_4TX Dipole
Setting 78
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.54304G	55.47	74.00	-18.53	15.94	3	Vertical	180	1.67	
AV	15.53948G	40.48	54.00	-13.52	15.95	3	Vertical	180	1.67	

802.11ac VHT20_Nss1,(MCS0)_4TX
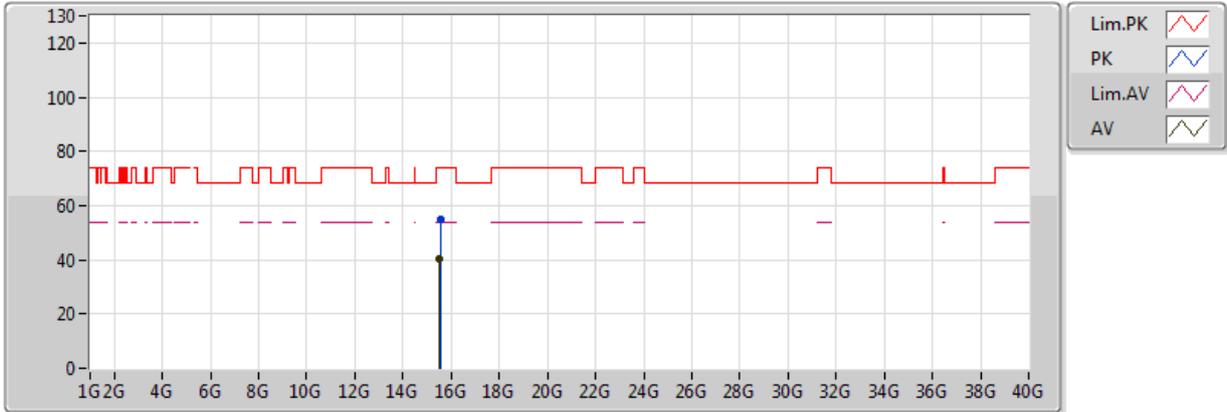
5180MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 78
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.54888G	54.96	74.00	-19.04	15.93	3	Horizontal	295	2.08	
AV	15.5332G	40.59	54.00	-13.41	15.97	3	Horizontal	295	2.08	

802.11ac VHT20_Nss1,(MCS0)_4TX

5200MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	
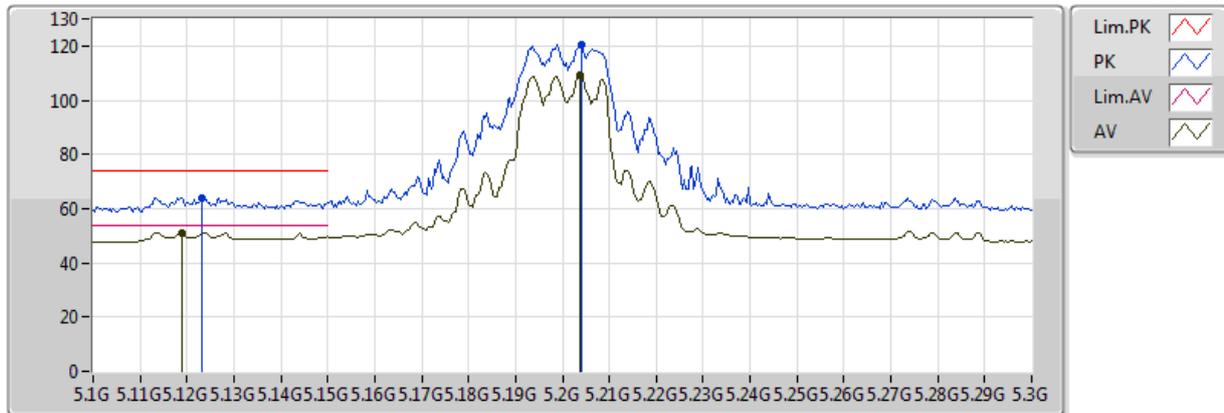
EUT Z_4TX Dipole
Setting 79
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.1232G	63.97	74.00	-10.03	8.51	3	Vertical	128	2.21	
AV	5.1188G	51.22	54.00	-2.78	8.50	3	Vertical	128	2.21	
PK	5.204G	120.48	Inf	-Inf	8.65	3	Vertical	128	2.21	
AV	5.2036G	109.03	Inf	-Inf	8.64	3	Vertical	128	2.21	

802.11ac VHT20_Nss1,(MCS0)_4TX
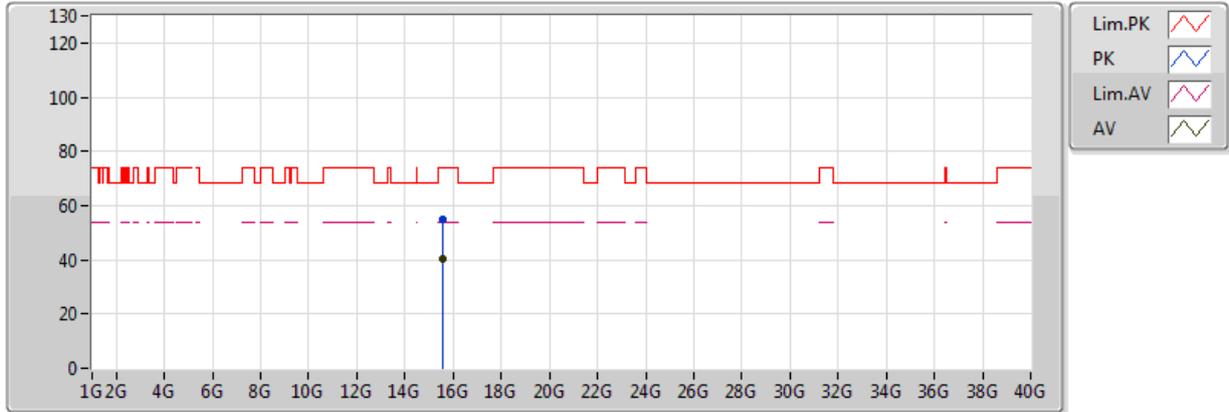
5200MHz_TX

25/06/2018

Lim.PK			
PK			
Lim.AV			
AV			

EUT Z_4TX Dipole
Setting 79
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.59144G	54.84	74.00	-19.16	15.82	3	Vertical	262	2.33	
AV	15.59452G	40.23	54.00	-13.77	15.81	3	Vertical	262	2.33	

802.11ac VHT20_Nss1,(MCS0)_4TX
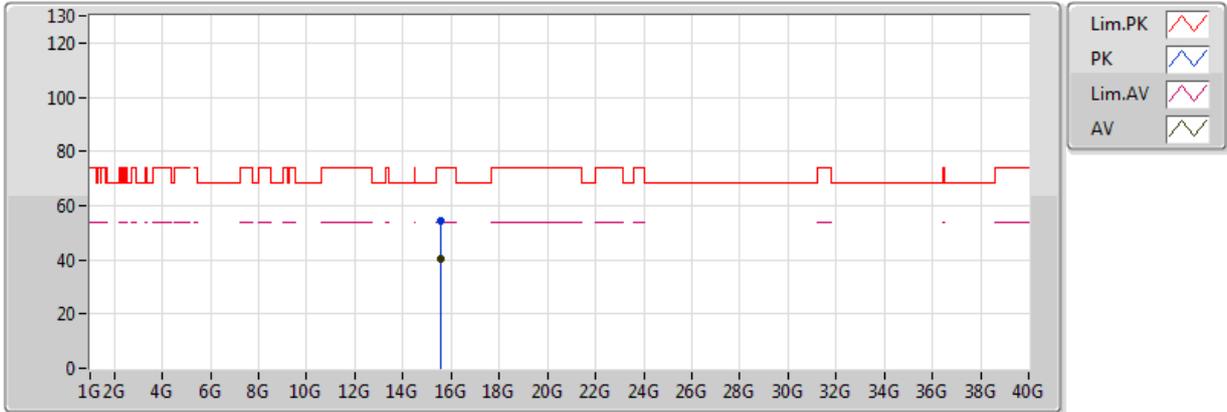
5200MHz_TX

25/06/2018

	Lim.PK	∿
PK	∿
Lim.AV	∿
AV	∿

EUT Z_4TX Dipole
Setting 79
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.59288G	54.56	74.00	-19.44	15.82	3	Horizontal	293	2.08	
AV	15.59056G	40.35	54.00	-13.65	15.82	3	Horizontal	293	2.08	

802.11ac VHT20_Nss1,(MCS0)_4TX

5240MHz_TX

25/06/2018

	Lim.PK	∿
	PK	∿
	Lim.AV	∿
	AV	∿
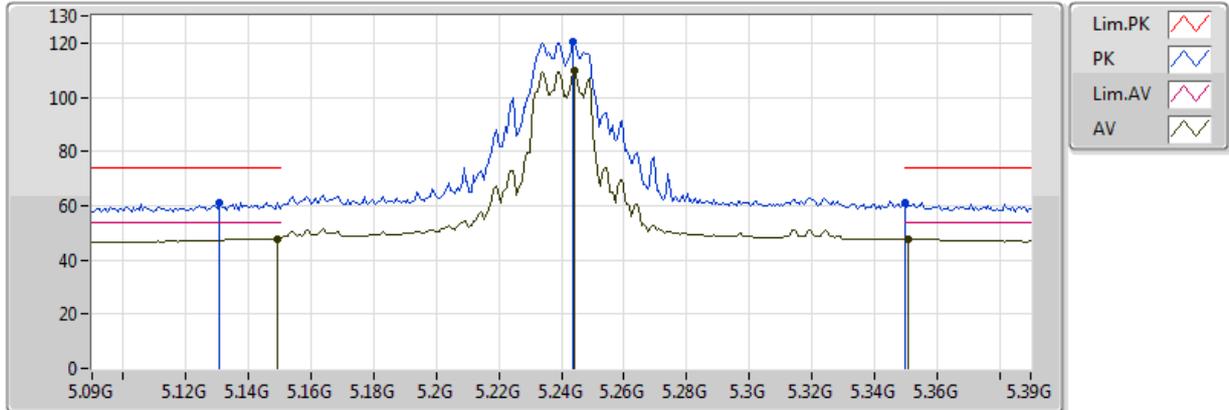
EUT Z_4TX Dipole
Setting 80
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.1308G	61.30	74.00	-12.70	8.52	3	Vertical	136	2.62	
AV	5.1494G	47.76	54.00	-6.24	8.54	3	Vertical	136	2.62	
PK	5.2436G	120.24	Inf	-Inf	8.70	3	Vertical	136	2.62	
AV	5.2442G	109.58	Inf	-Inf	8.70	3	Vertical	136	2.62	
PK	5.350005G	60.94	74.00	-13.06	8.84	3	Vertical	136	2.62	
AV	5.351G	47.90	54.00	-6.10	8.84	3	Vertical	136	2.62	

802.11ac VHT20_Nss1,(MCS0)_4TX
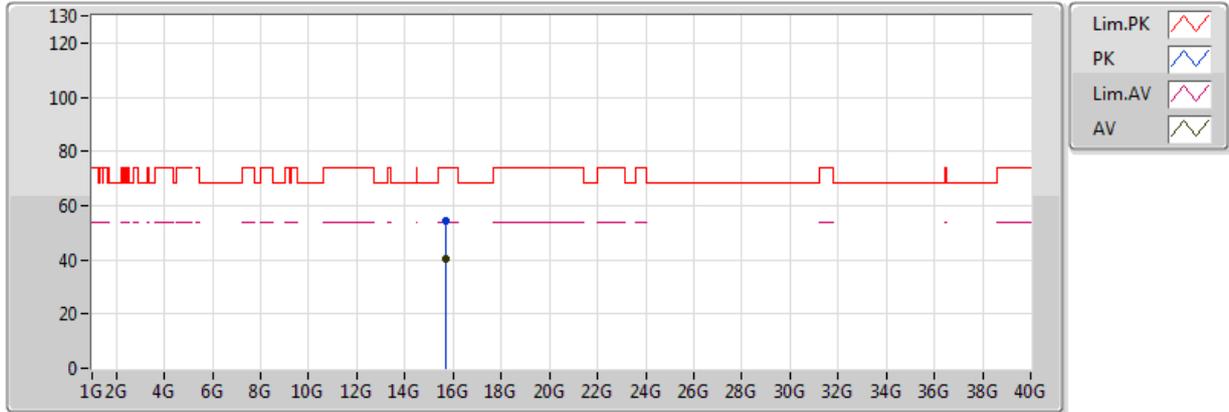
5240MHz_TX

25/06/2018

| | Lim.PK | PK | Lim.AV | AV |

EUT Z_4TX Dipole
Setting 80
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.7198G	54.37	74.00	-19.63	15.50	3	Vertical	34	1.97	
AV	15.71776G	40.33	54.00	-13.67	15.51	3	Vertical	34	1.97	

802.11ac VHT20_Nss1,(MCS0)_4TX
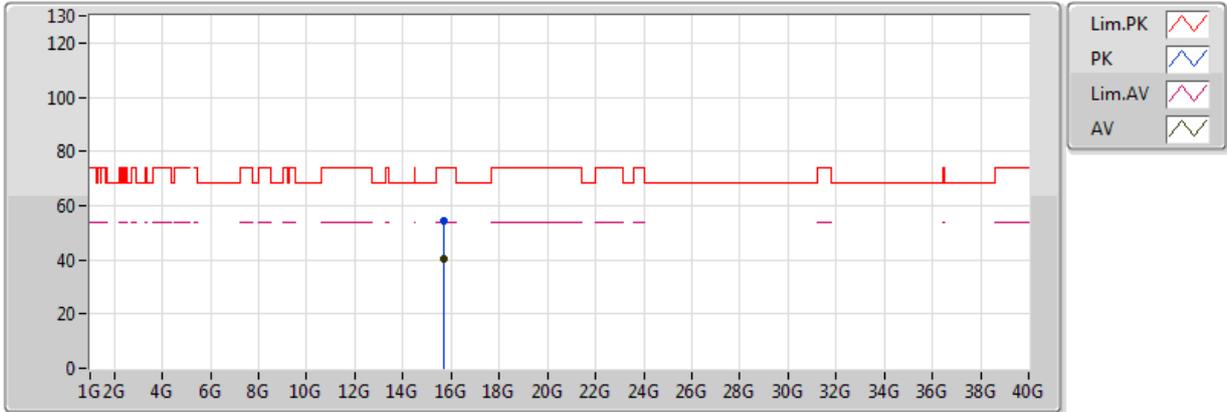
5240MHz_TX

25/06/2018

Lim.PK	∿
PK	∿
Lim.AV	∿
AV	∿

EUT Z_4TX Dipole
Setting 80
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.72324G	54.33	74.00	-19.67	15.49	3	Horizontal	123	2.18	
AV	15.71G	40.21	54.00	-13.79	15.53	3	Horizontal	123	2.18	

802.11ac VHT20_Nss1,(MCS0)_4TX

5745MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	
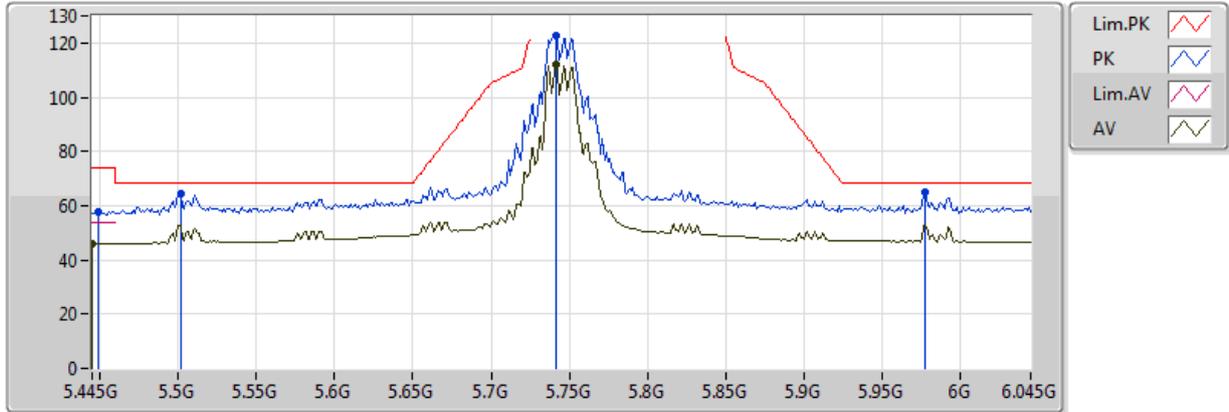
EUT Z_4TX Dipole
Setting 92
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.4486G	57.84	74.00	-16.16	9.00	3	Vertical	177	2.21	
AV	5.445G	45.93	54.00	-8.07	9.00	3	Vertical	177	2.21	
PK	5.5014G	64.65	68.20	-3.55	9.12	3	Vertical	177	2.21	
PK	5.7414G	122.93	Inf	-Inf	9.22	3	Vertical	177	2.21	
AV	5.7414G	112.26	Inf	-Inf	9.22	3	Vertical	177	2.21	
PK	5.9778G	64.75	68.20	-3.45	9.39	3	Vertical	177	2.21	

802.11ac VHT20_Nss1,(MCS0)_4TX
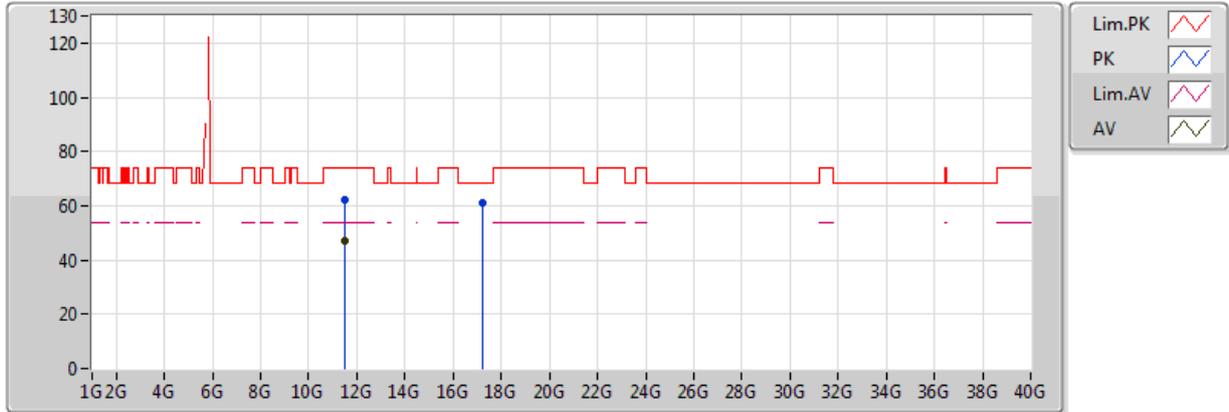
5745MHz_TX

25/06/2018

Lim.PK	
PK	
Lim.AV	
AV	

EUT Z_4TX Dipole
Setting 92
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.4898G	61.97	74.00	-12.03	14.60	3	Vertical	10	2.26	
AV	11.48972G	47.33	54.00	-6.67	14.60	3	Vertical	10	2.26	
PK	17.2268G	60.95	68.20	-7.25	20.35	3	Vertical	109	2.97	

802.11ac VHT20_Nss1,(MCS0)_4TX
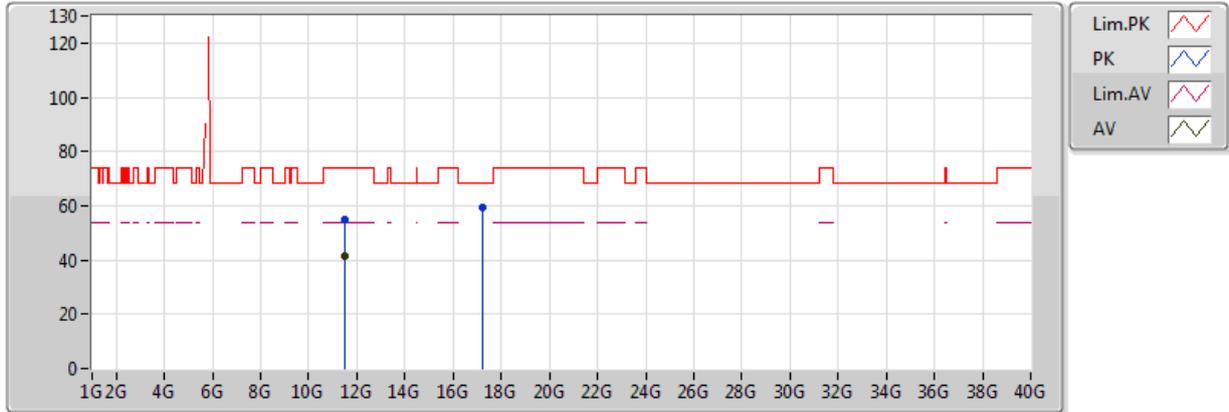
5745MHz_TX

25/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 92
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.48988G	55.15	74.00	-18.85	14.60	3	Horizontal	94	2.28	
AV	11.48964G	41.52	54.00	-12.48	14.60	3	Horizontal	94	2.28	
PK	17.24188G	59.12	68.20	-9.08	20.44	3	Horizontal	291	2.61	

802.11ac VHT20_Nss1,(MCS0)_4TX
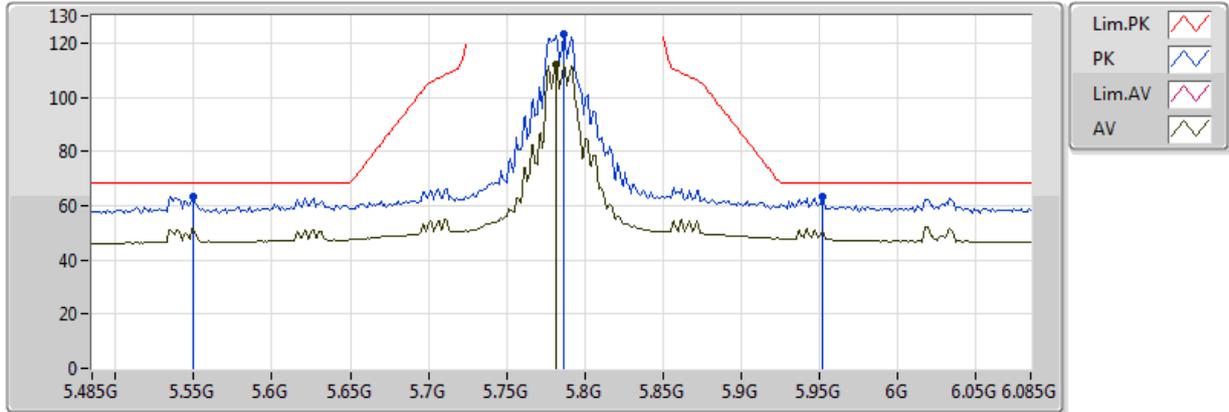
5785MHz_TX

25/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 94
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.5498G	63.53	68.20	-4.67	9.15	3	Vertical	175	2.16	
PK	5.7862G	123.10	Inf	-Inf	9.24	3	Vertical	175	2.16	
AV	5.7814G	112.21	Inf	-Inf	9.23	3	Vertical	175	2.16	
PK	5.9518G	63.12	68.20	-5.08	9.36	3	Vertical	175	2.16	

802.11ac VHT20_Nss1,(MCS0)_4TX
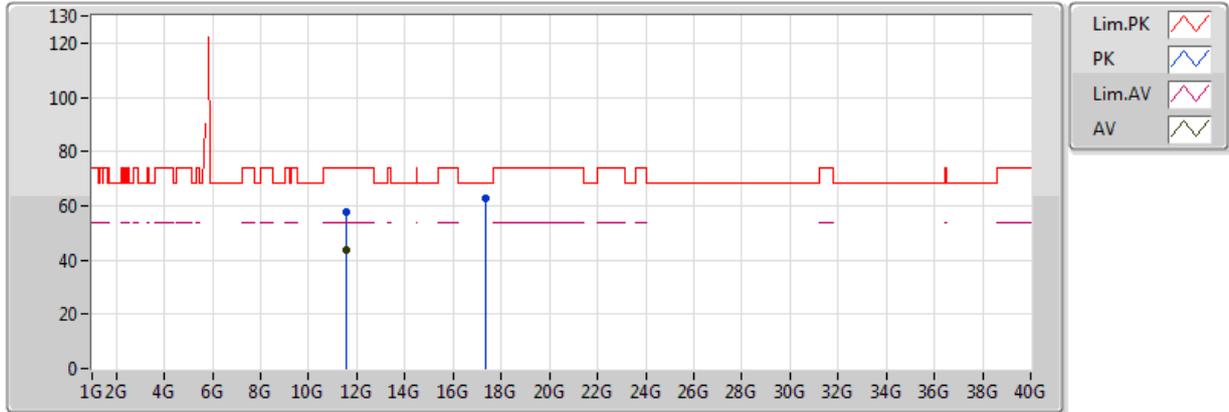
5785MHz_TX

25/06/2018

	Lim.PK	〜
	PK	〜
	Lim.AV	〜
	AV	〜

EUT Z_4TX Dipole
Setting 94
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.56944G	57.78	74.00	-16.22	14.69	3	Vertical	118	1.50	
AV	11.56976G	43.66	54.00	-10.34	14.69	3	Vertical	118	1.50	
PK	17.359G	62.52	68.20	-5.68	21.13	3	Vertical	42	1.91	

802.11ac VHT20_Nss1,(MCS0)_4TX
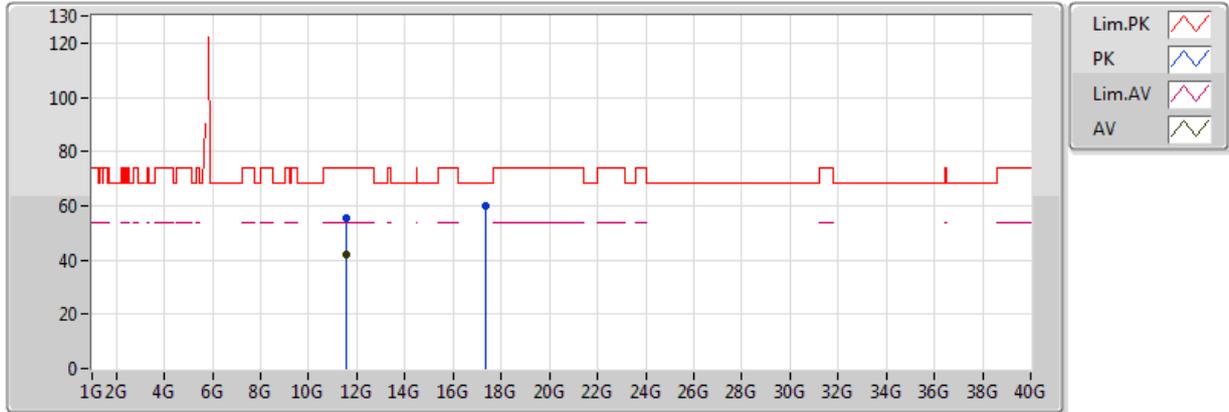
5785MHz_TX

25/06/2018

EUT Z_4TX Dipole
Setting 94
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.56984G	55.48	74.00	-18.52	14.69	3	Horizontal	285	2.07	
AV	11.56992G	42.06	54.00	-11.94	14.69	3	Horizontal	285	2.07	
PK	17.35908G	59.98	68.20	-8.22	21.13	3	Horizontal	128	1.97	

802.11ac VHT20_Nss1,(MCS0)_4TX
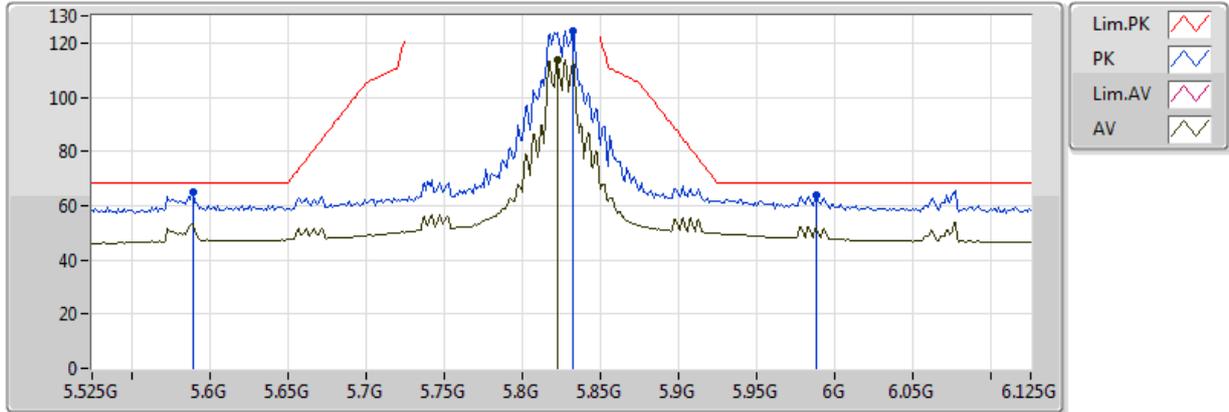
5825MHz_TX

25/06/2018

Lim.PK	/\/
PK	/\/
Lim.AV	/\/
AV	/\/

EUT Z_4TX Dipole
Setting 95
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.5898G	64.99	68.20	-3.21	9.18	3	Vertical	228	2.15	
PK	5.8322G	124.45	Inf	-Inf	9.27	3	Vertical	228	2.15	
AV	5.8226G	113.66	Inf	-Inf	9.26	3	Vertical	228	2.15	
PK	5.9882G	63.94	68.20	-4.26	9.39	3	Vertical	228	2.15	

802.11ac VHT20_Nss1,(MCS0)_4TX
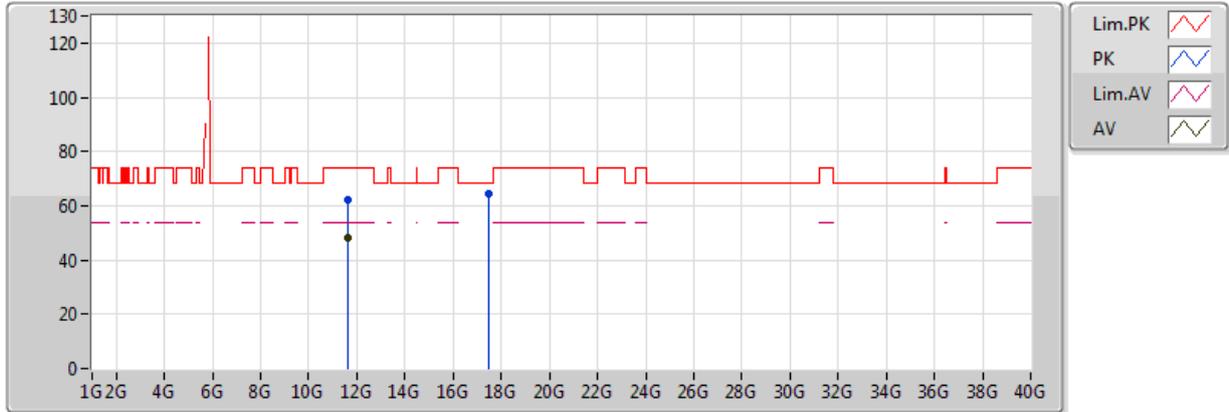
5825MHz_TX

25/06/2018

Lim.PK	⟋⟍
PK	⟋⟍
Lim.AV	⟋⟍
AV	⟋⟍

EUT Z_4TX Dipole
Setting 95
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.64872G	62.09	74.00	-11.91	14.79	3	Vertical	8	2.84	
AV	11.64904G	48.04	54.00	-5.96	14.79	3	Vertical	8	2.84	
PK	17.4802G	64.58	68.20	-3.62	21.84	3	Vertical	333	1.96	

802.11ac VHT20_Nss1,(MCS0)_4TX
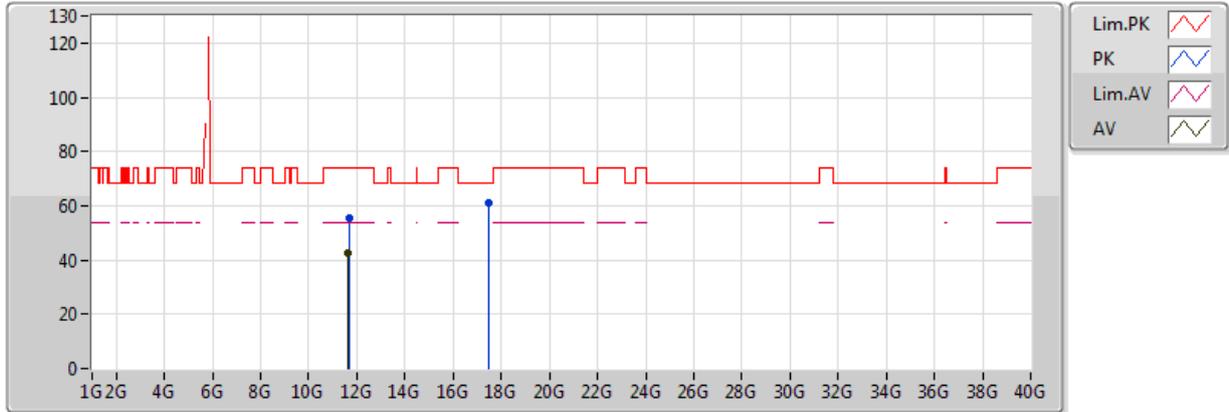
5825MHz_TX

25/06/2018

Lim.PK		〰
PK		〰
Lim.AV		〰
AV		〰

EUT Z_4TX Dipole
Setting 95
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.65664G	55.71	74.00	-18.29	14.79	3	Horizontal	289	2.84	
AV	11.65152G	42.44	54.00	-11.56	14.79	3	Horizontal	289	2.84	
PK	17.47836G	60.95	68.20	-7.25	21.83	3	Horizontal	138	1.86	

802.11ac VHT40_Nss1,(MCS0)_4TX

5190MHz_TX

03/07/2018

Lim.PK	
PK	
Lim.AV	
AV	
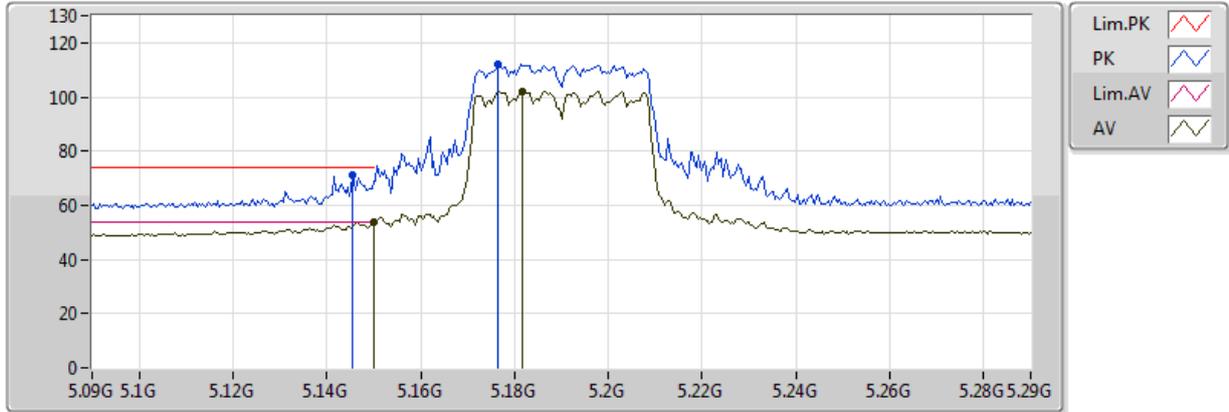
EUT Z_4TX_Dipole
Setting 64
02-C-5-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Pol.	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)	(H/V)	(°)	(m)	
AV	5.149995G	53.98	54.00	-0.02	9.90	3	Vertical	86	2.99	
AV	5.1816G	102.19	Inf	-Inf	9.98	3	Vertical	86	2.99	
PK	5.1456G	71.01	74.00	-2.99	9.89	3	Vertical	86	2.99	
PK	5.1764G	111.82	Inf	-Inf	9.96	3	Vertical	86	2.99	

802.11ac VHT40_Nss1,(MCS0)_4TX
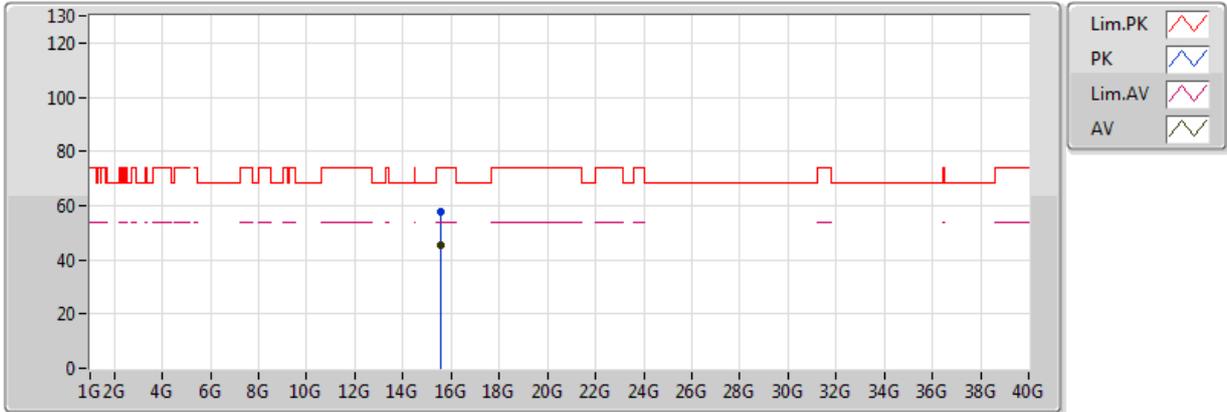
5190MHz_TX

03/07/2018

| | Lim.PK | PK | Lim.AV | AV |

EUT Z_4TX_Dipole
Setting 64
02-C-5
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Pol.	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)	(H/V)	(°)	(m)	
AV	15.5856G	45.20	54.00	-8.80	18.60	3	Vertical	218	1.30	
PK	15.5569G	57.50	74.00	-16.50	18.65	3	Vertical	218	1.30	

802.11ac VHT40_Nss1,(MCS0)_4TX
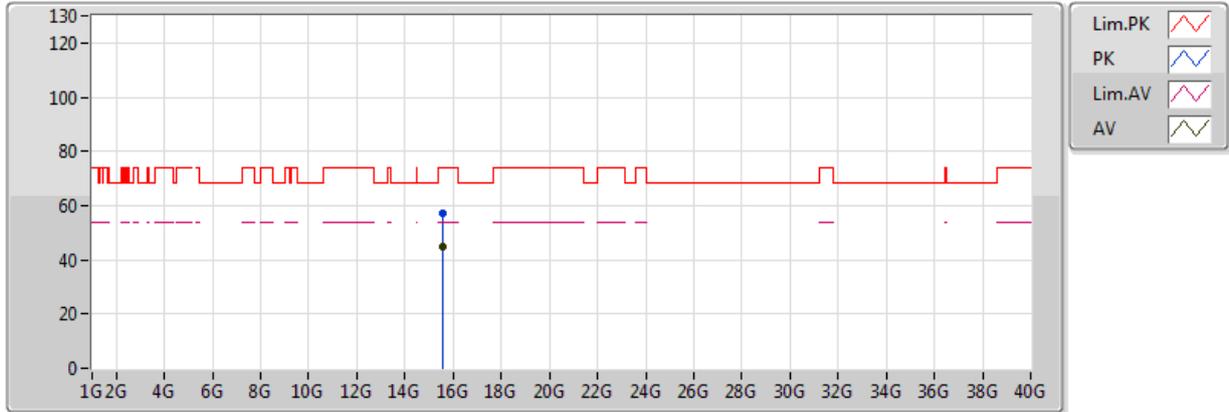
5190MHz_TX

03/07/2018

			Lim.PK	⟋⟍
			PK	⟋⟍
			Lim.AV	⟋⟍
			AV	⟋⟍

EUT Z_4TX_Dipole
Setting 64
02-C-5
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Pol.	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)	(H/V)	(°)	(m)	
AV	15.5485G	44.99	54.00	-9.01	18.66	3	Horizontal	239	1.36	
PK	15.5606G	57.32	74.00	-16.68	18.64	3	Horizontal	239	1.36	

802.11ac VHT40_Nss1,(MCS0)_4TX

5230MHz_TX

03/07/2018

	Lim.PK
	PK
	Lim.AV
	AV
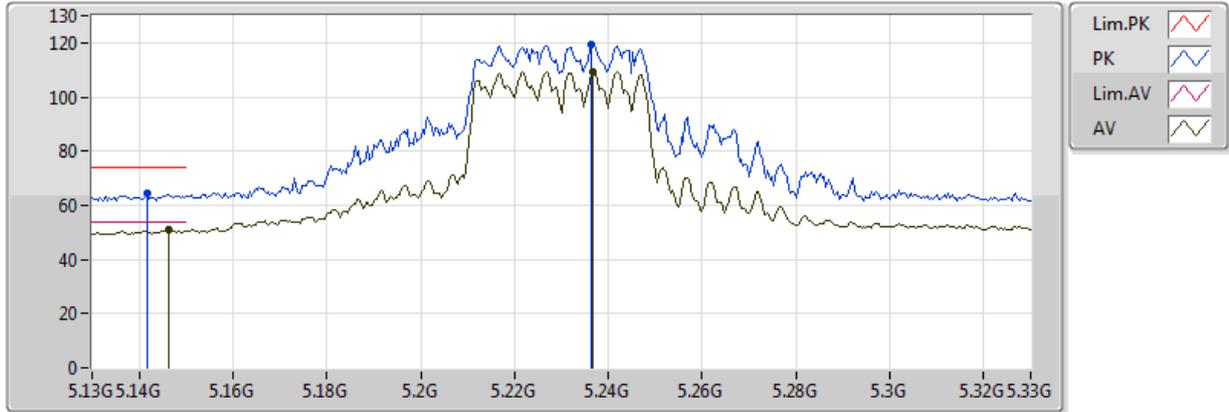
EUT Z_4TX_Dipole
Setting 77
03-C-5-10
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Pol.	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)	(H/V)	(°)	(m)	
AV	5.1464G	51.01	54.00	-2.99	9.05	3	Vertical	112	2.93	
AV	5.2368G	109.37	Inf	-Inf	9.36	3	Vertical	112	2.93	
PK	5.1416G	64.30	74.00	-9.70	9.03	3	Vertical	112	2.93	
PK	5.2364G	119.16	Inf	-Inf	9.36	3	Vertical	112	2.93	

802.11ac VHT40_Nss1,(MCS0)_4TX
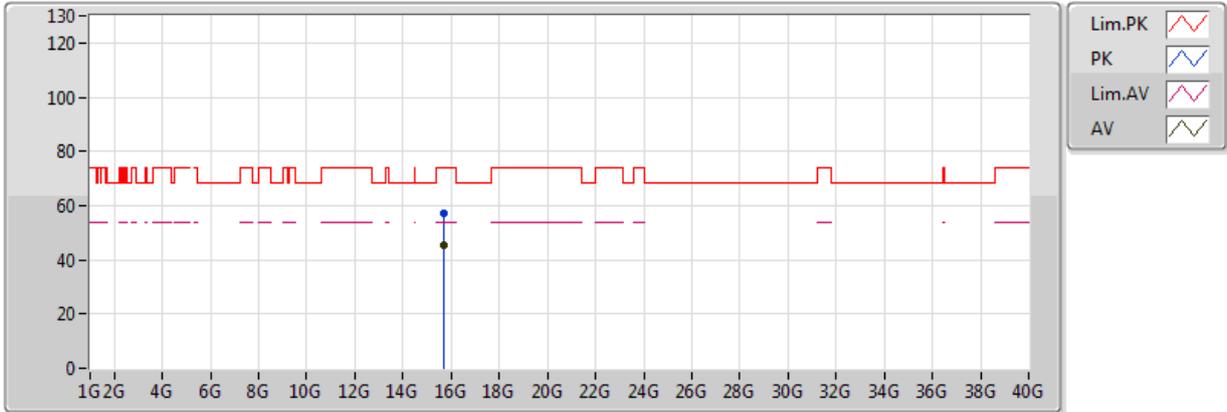
5230MHz_TX

03/07/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX_Dipole
Setting 77
02-C-5
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Pol.	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)	(H/V)	(°)	(m)	
AV	15.6815G	45.19	54.00	-8.81	18.44	3	Vertical	87	2.06	
PK	15.6814G	57.43	74.00	-16.57	18.44	3	Vertical	87	2.06	

802.11ac VHT40_Nss1,(MCS0)_4TX
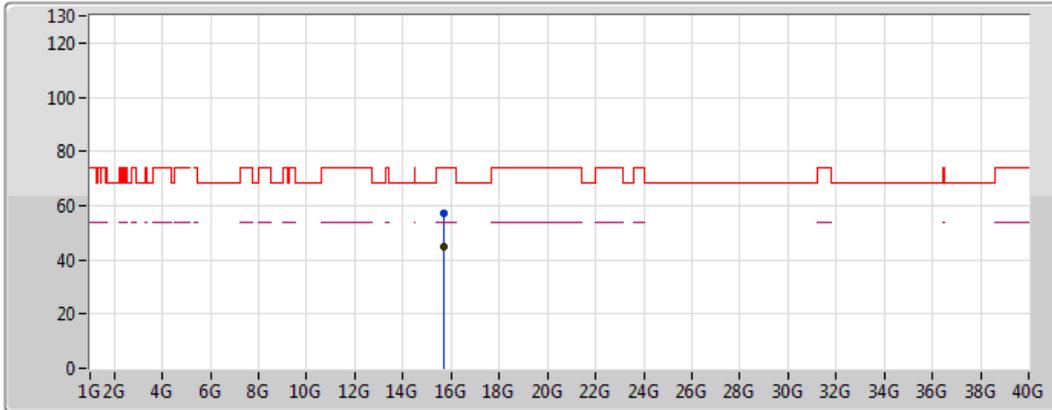
5230MHz_TX

03/07/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX_Dipole
Setting 77
02-C-5
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Pol.	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)	(H/V)	(°)	(m)	
AV	15.676G	44.75	54.00	-9.25	18.45	3	Horizontal	236	1.85	
PK	15.6661G	56.94	74.00	-17.06	18.47	3	Horizontal	236	1.85	

802.11ac VHT40_Nss1,(MCS0)_4TX

5755MHz_TX

25/06/2018

Lim.PK	
PK	
Lim.AV	
AV	
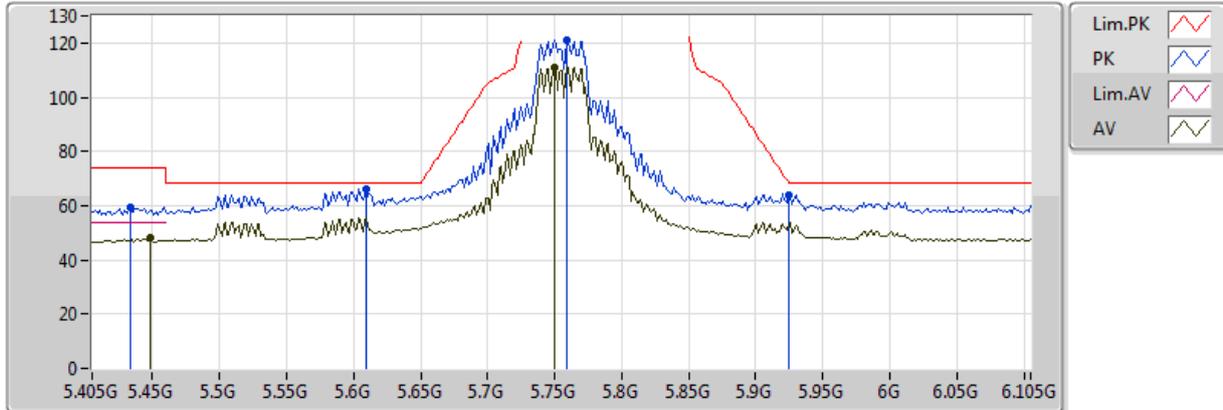
EUT Z_4TX Dipole
Setting 90
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.433G	59.52	74.00	-14.48	8.97	3	Vertical	340	2.61	
AV	5.4484G	47.92	54.00	-6.08	9.00	3	Vertical	340	2.61	
PK	5.6094G	66.34	68.20	-1.86	9.19	3	Vertical	340	2.61	
PK	5.7592G	121.18	Inf	-Inf	9.23	3	Vertical	340	2.61	
AV	5.7494G	111.19	Inf	-Inf	9.22	3	Vertical	340	2.61	
PK	5.925006G	63.85	68.20	-4.35	9.35	3	Vertical	340	2.61	

802.11ac VHT40_Nss1,(MCS0)_4TX
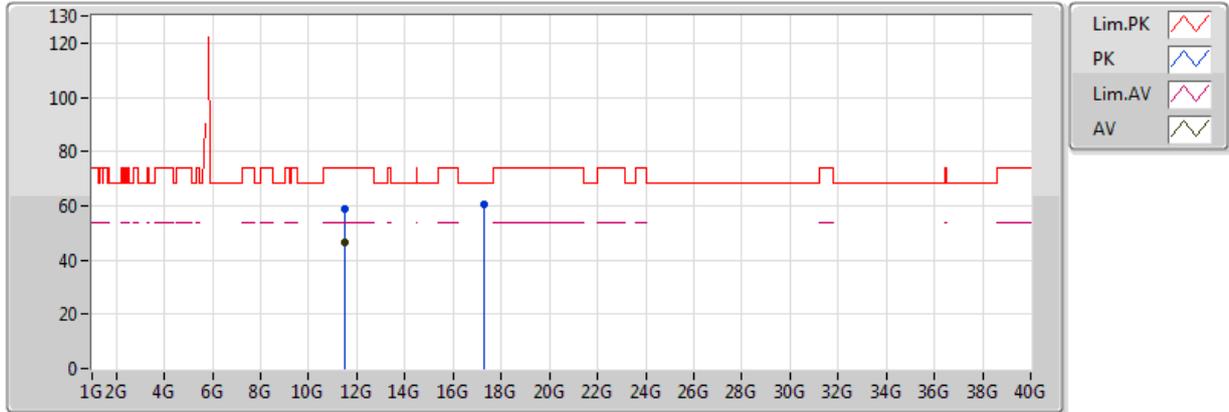
5755MHz_TX

25/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 90
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.51448G	58.79	74.00	-15.21	14.63	3	Vertical	13	2.29	
AV	11.50424G	46.23	54.00	-7.77	14.62	3	Vertical	13	2.29	
PK	17.28404G	60.32	68.20	-7.88	20.69	3	Vertical	40	1.95	

802.11ac VHT40_Nss1,(MCS0)_4TX
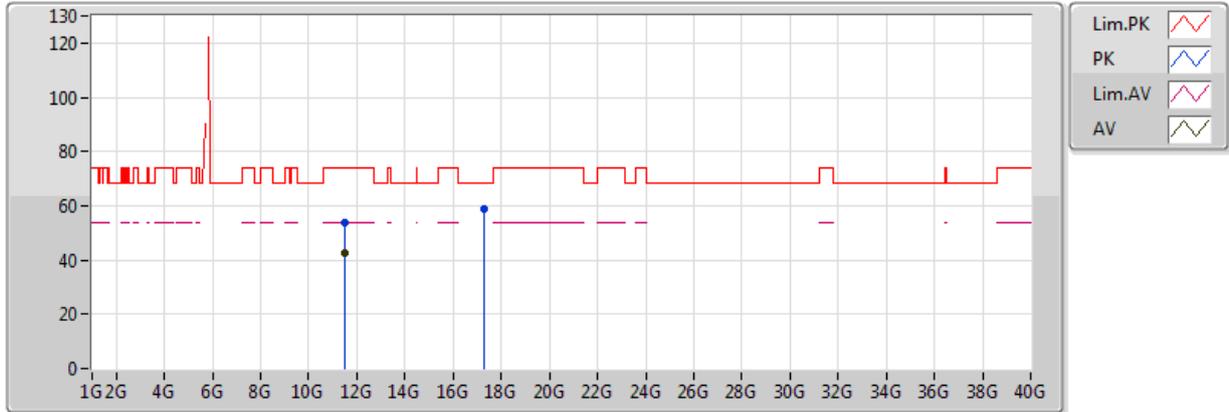
5755MHz_TX

25/06/2018

EUT Z_4TX Dipole
Setting 90
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.52592G	53.59	74.00	-20.41	14.64	3	Horizontal	85	2.27	
AV	11.51432G	42.33	54.00	-11.67	14.63	3	Horizontal	85	2.27	
PK	17.2714G	59.00	68.20	-9.20	20.62	3	Horizontal	104	2.33	

802.11ac VHT40_Nss1,(MCS0)_4TX
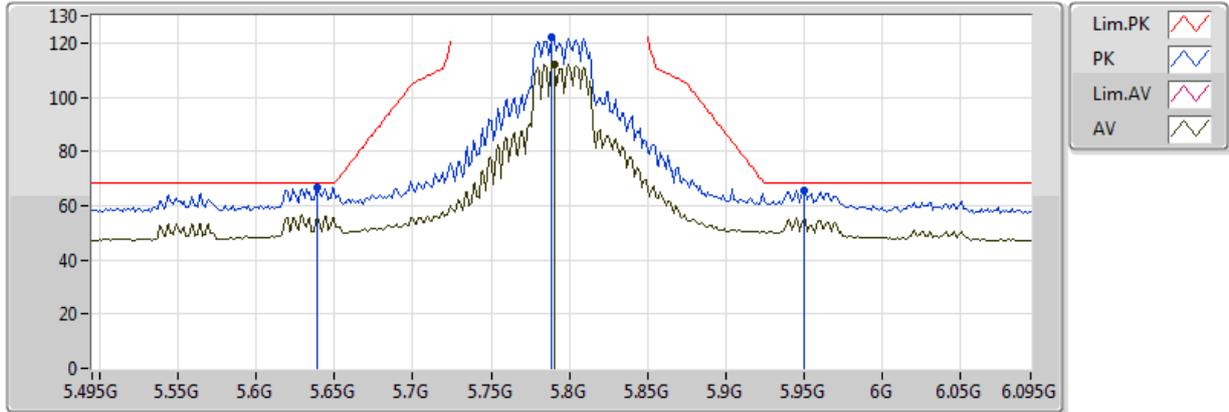
5795MHz_TX

25/06/2018

EUT Z_4TX Dipole
Setting 94
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
PK	5.639G	66.83	68.20	-1.37	9.20	3	Vertical	337	2.60
PK	5.789G	122.14	Inf	-Inf	9.24	3	Vertical	337	2.60
AV	5.7902G	112.11	Inf	-Inf	9.24	3	Vertical	337	2.60
PK	5.9498G	65.76	68.20	-2.44	9.36	3	Vertical	337	2.60

802.11ac VHT40_Nss1,(MCS0)_4TX
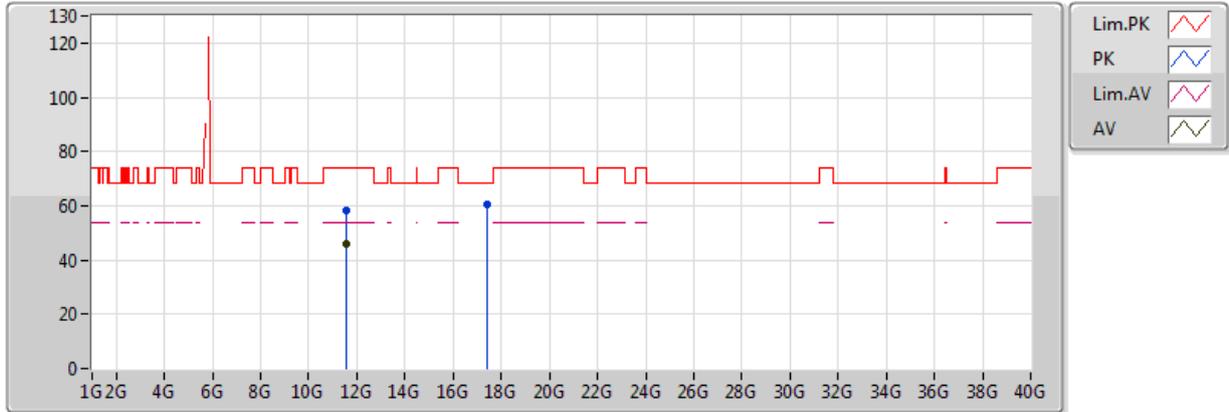
5795MHz_TX

25/06/2018

Lim.PK	/\/
PK	/\/
Lim.AV	/\/
AV	/\/

EUT Z_4TX Dipole
Setting 94
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.58888G	58.38	74.00	-15.62	14.71	3	Vertical	113	2.29	
AV	11.58936G	45.77	54.00	-8.23	14.72	3	Vertical	113	2.29	
PK	17.3874G	60.77	68.20	-7.43	21.30	3	Vertical	18	2.08	

802.11ac VHT40_Nss1,(MCS0)_4TX
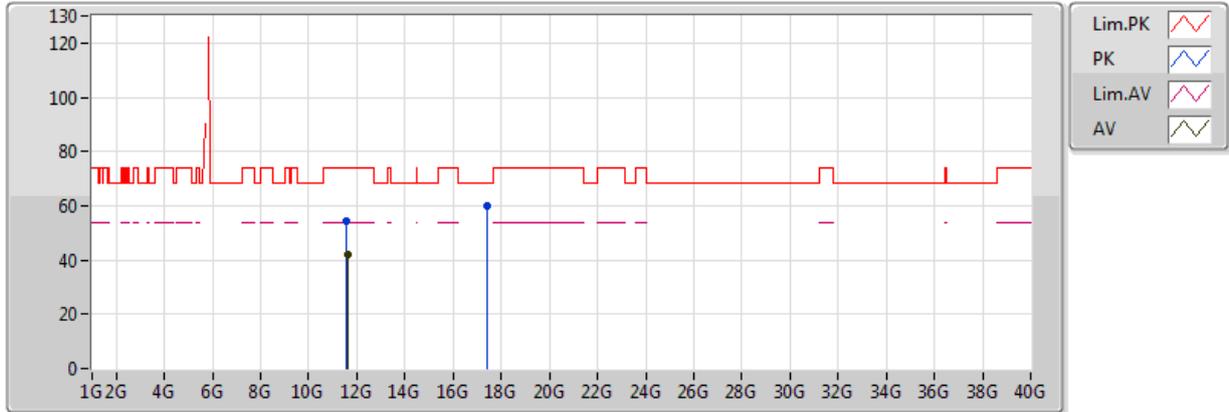
5795MHz_TX

25/06/2018

Lim.PK	∿
PK	∿
Lim.AV	∿
AV	∿

EUT Z_4TX Dipole
Setting 94
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.582G	54.42	74.00	-19.58	14.71	3	Horizontal	222	1.13	
AV	11.59528G	41.94	54.00	-12.06	14.72	3	Horizontal	222	1.13	
PK	17.38508G	59.79	68.20	-8.41	21.28	3	Horizontal	113	1.50	

802.11ac VHT80_Nss1,(MCS0)_4TX

5210MHz_TX

25/06/2018

Lim.PK		◇◇
PK		◇◇
Lim.AV		◇◇
AV		◇◇
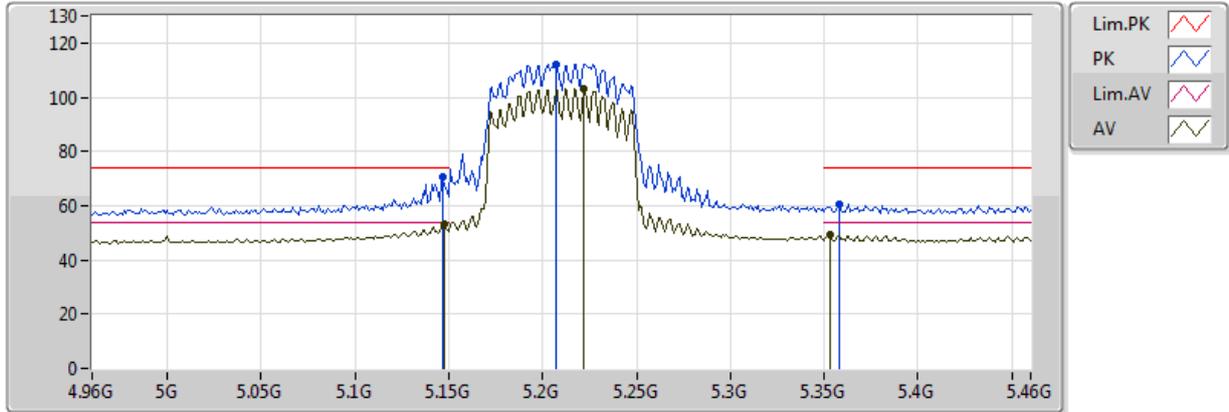
EUT Z_4TX Dipole
Setting 64
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.147G	70.37	74.00	-3.63	8.54	3	Vertical	145	2.88	
AV	5.148G	53.43	54.00	-0.57	8.54	3	Vertical	145	2.88	
PK	5.207G	112.09	Inf	-Inf	8.65	3	Vertical	145	2.88	
AV	5.222G	103.15	Inf	-Inf	8.67	3	Vertical	145	2.88	
PK	5.358G	60.38	74.00	-13.62	8.84	3	Vertical	145	2.88	
AV	5.353G	49.50	54.00	-4.50	8.84	3	Vertical	145	2.88	

802.11ac VHT80_Nss1,(MCS0)_4TX
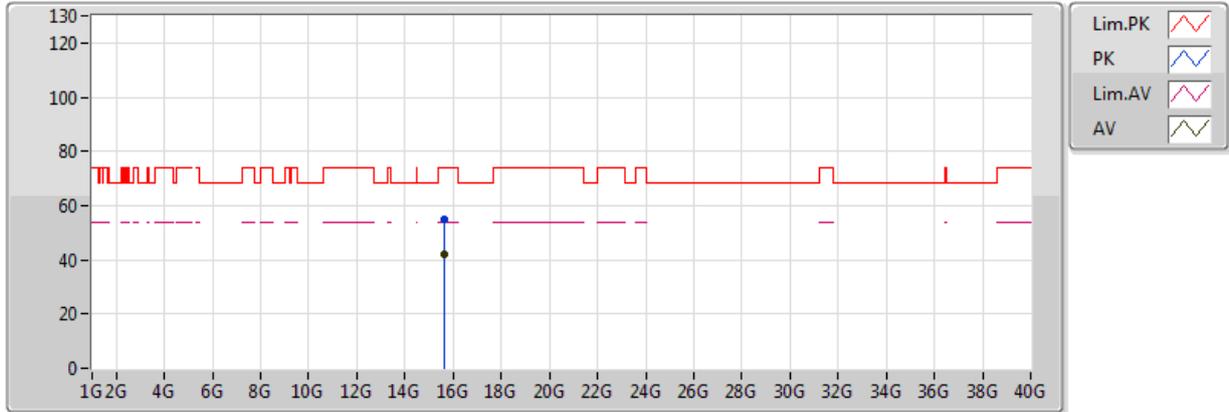
5210MHz_TX

25/06/2018

Lim.PK	∿
PK	∿
Lim.AV	∿
AV	∿

EUT Z_4TX Dipole
Setting 64
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.6382G	54.87	74.00	-19.13	15.70	3	Vertical	1	1.69	
AV	15.6137G	41.94	54.00	-12.06	15.77	3	Vertical	1	1.69	

802.11ac VHT80_Nss1,(MCS0)_4TX
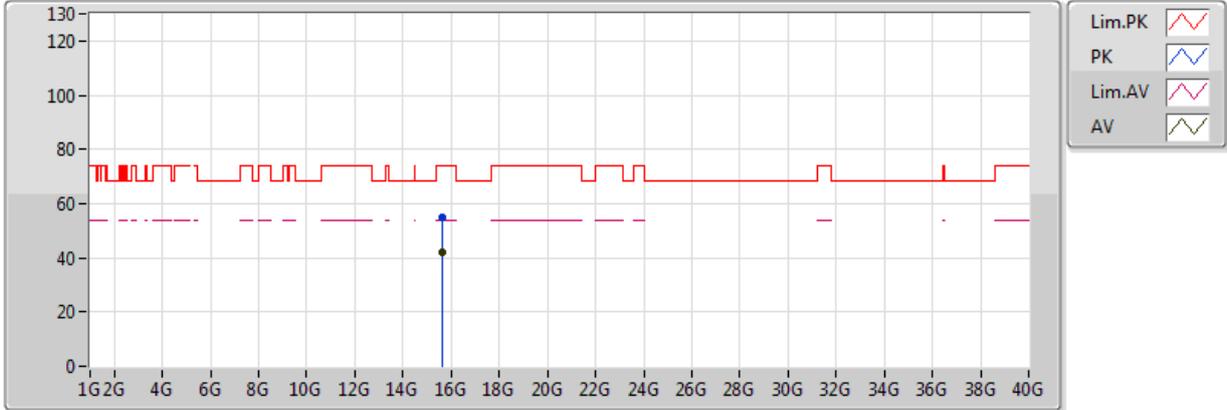
5210MHz_TX

25/06/2018

	Lim.PK	/\/
	PK	/\/
	Lim.AV	/\/
	AV	/\/

EUT Z_4TX Dipole
Setting 64
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.6525G	54.64	74.00	-19.36	15.67	3	Horizontal	102	2.59	
AV	15.6443G	41.89	54.00	-12.11	15.69	3	Horizontal	102	2.59	

802.11ac VHT80_Nss1,(MCS0)_4TX

5775MHz_TX

27/09/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	
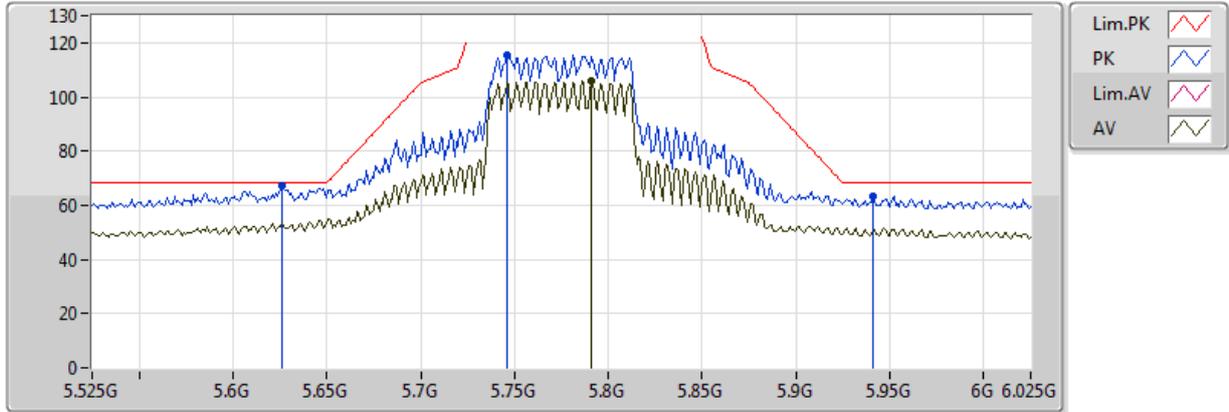
EUT Z_4TX Dipole
Setting 87
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.626G	67.06	68.20	-1.14	9.29	3	Vertical	175	2.31	
PK	5.746G	115.58	Inf	-Inf	9.32	3	Vertical	175	2.31	
AV	5.791G	105.92	Inf	-Inf	9.33	3	Vertical	175	2.31	
PK	5.941G	63.24	68.20	-4.96	9.46	3	Vertical	175	2.31	

802.11ac VHT80_Nss1,(MCS0)_4TX
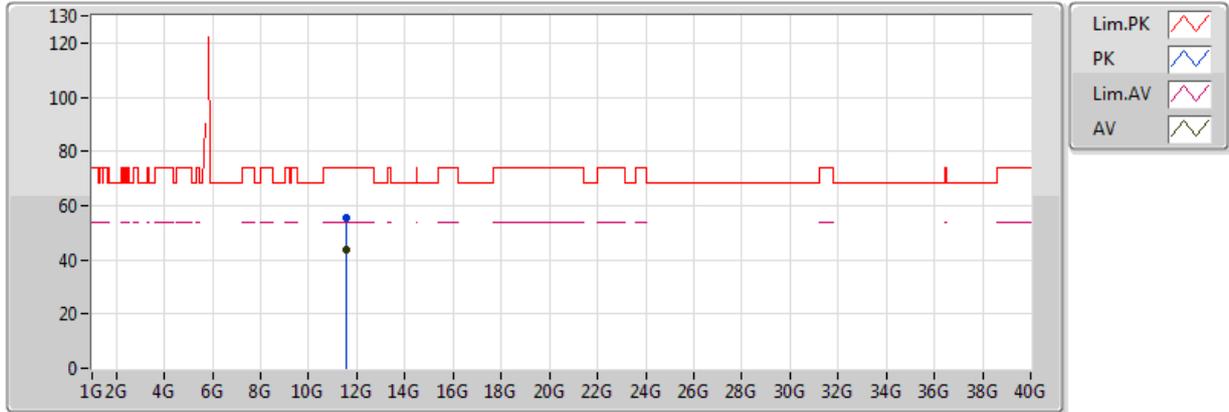
5775MHz_TX

27/09/2018

	Lim.PK	PK	Lim.AV	AV

EUT Z_4TX Dipole
Setting 87
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.5589G	55.61	74.00	-18.39	14.74	3	Vertical	60	1.67	
AV	11.5641G	43.56	54.00	-10.44	14.75	3	Vertical	60	1.67	

802.11ac VHT80_Nss1,(MCS0)_4TX
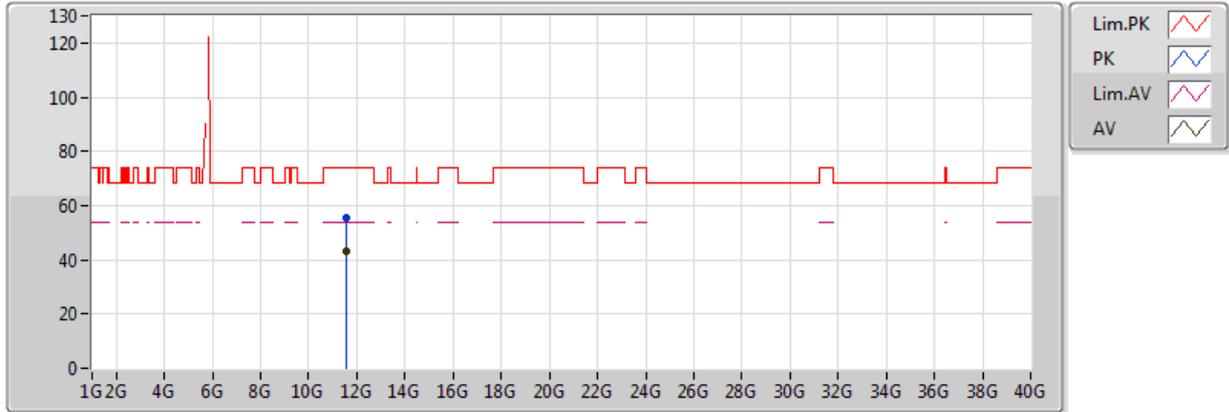
5775MHz_TX

27/09/2018

	Lim.PK	~
	PK	~
	Lim.AV	~
	AV	~

EUT Z_4TX Dipole
Setting 87
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.5703G	55.66	74.00	-18.34	14.76	3	Horizontal	30	2.00	
AV	11.5669G	43.09	54.00	-10.91	14.75	3	Horizontal	30	2.00	

802.11ac VHT40_Nss4,(MCS0)_4TX

5190MHz_TX

11/08/2018

	Lim.PK
	PK
	Lim.AV
	AV
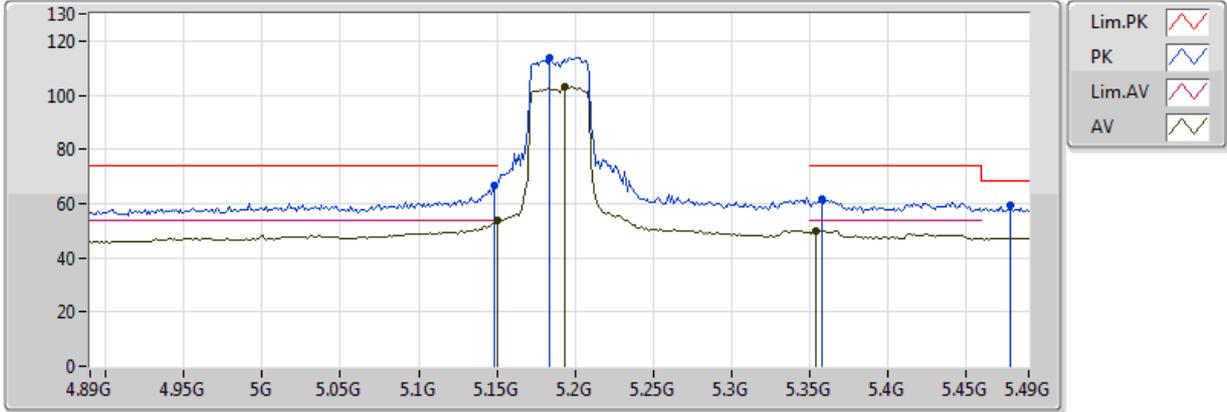
EUT Z_4TX Dipole
Setting 68
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.148G	66.87	74.00	-7.13	8.54	3	Vertical	197	2.37	
AV	5.149995G	53.61	54.00	-0.39	8.54	3	Vertical	197	2.37	
PK	5.184G	113.78	Inf	-Inf	8.61	3	Vertical	197	2.37	
AV	5.1936G	103.27	Inf	-Inf	8.63	3	Vertical	197	2.37	
PK	5.358G	61.36	74.00	-12.64	8.84	3	Vertical	197	2.37	
AV	5.3544G	49.85	54.00	-4.15	8.84	3	Vertical	197	2.37	
PK	5.478G	59.42	68.20	-8.78	9.07	3	Vertical	197	2.37	

802.11ac VHT40_Nss4,(MCS0)_4TX
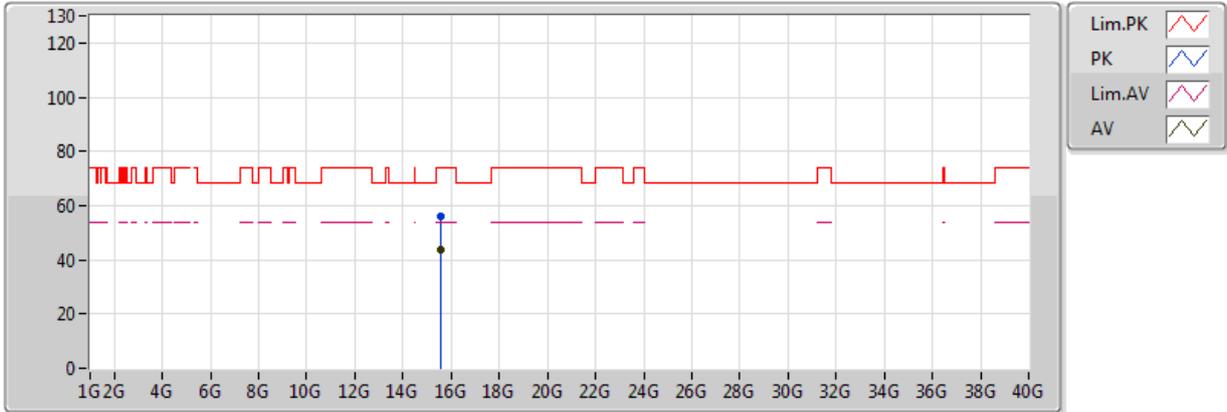
5190MHz_TX

11/08/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 68
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.561G	55.90	74.00	-18.10	15.90	3	Vertical	351	1.56	
AV	15.549G	43.52	54.00	-10.48	15.93	3	Vertical	351	1.56	

802.11ac VHT40_Nss4,(MCS0)_4TX
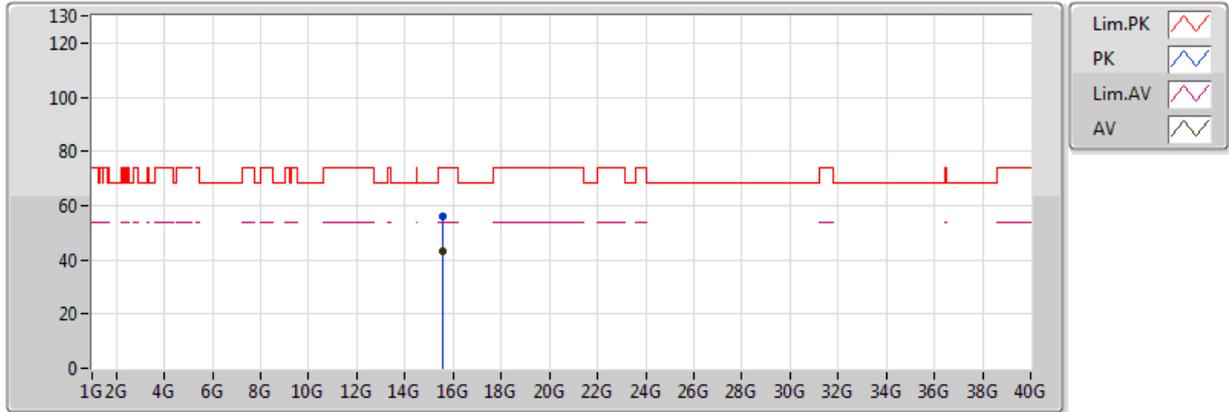
5190MHz_TX

11/08/2018

EUT Z_4TX Dipole
Setting 68
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.5687G	55.87	74.00	-18.13	15.88	3	Horizontal	329	1.36	
AV	15.5694G	43.37	54.00	-10.63	15.88	3	Horizontal	329	1.36	

802.11ac VHT80_Nss4,(MCS0)_4TX

5210MHz_TX

11/08/2018

				Lim.PK
				PK
				Lim.AV
				AV
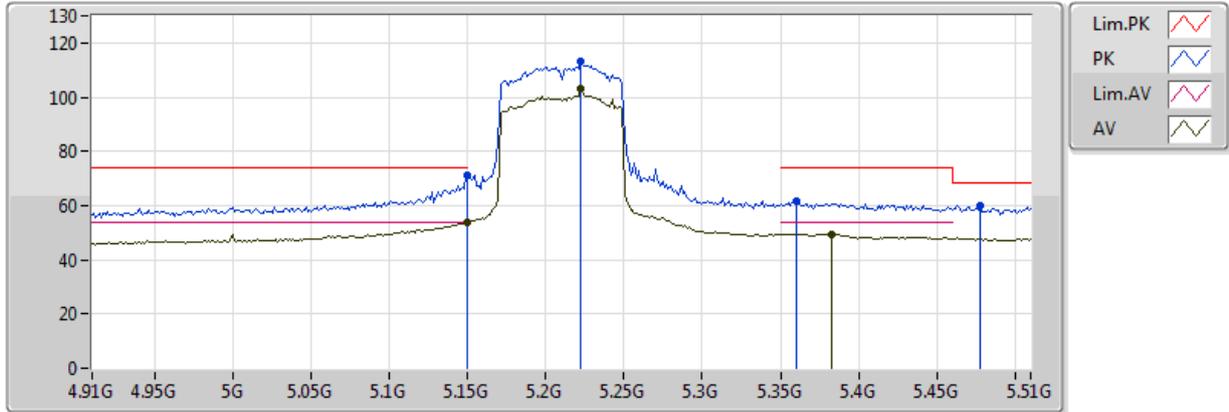
EUT Z_4TX Dipole
Setting 67
02-J-1-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.149995G	71.29	74.00	-2.71	8.54	3	Vertical	92	2.25	
AV	5.149995G	53.95	54.00	-0.05	8.54	3	Vertical	92	2.25	
PK	5.222G	112.91	Inf	-Inf	8.67	3	Vertical	92	2.25	
AV	5.222G	103.17	Inf	-Inf	8.67	3	Vertical	92	2.25	
PK	5.4776G	60.02	68.20	-8.18	9.07	3	Vertical	92	2.25	
AV	5.3828G	49.51	54.00	-4.49	8.87	3	Vertical	92	2.25	
PK	5.36G	61.80	74.00	-12.20	8.84	3	Vertical	92	2.25	

802.11ac VHT80_Nss4,(MCS0)_4TX
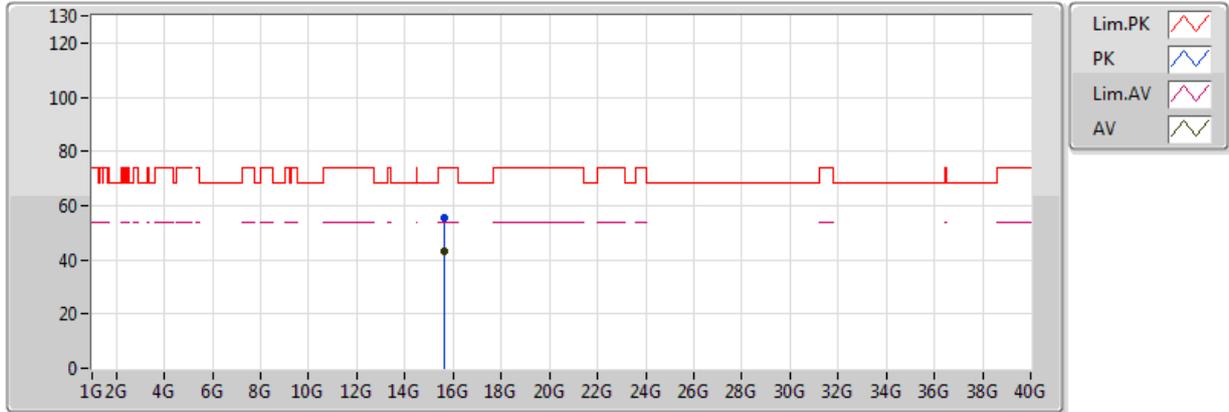
5210MHz_TX

11/08/2018

	Lim.PK	
Lim.PK	
PK	
Lim.AV	
AV	

EUT Z_4TX Dipole
Setting 67
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.614G	55.32	74.00	-18.68	15.76	3	Vertical	359	2.03	
AV	15.6549G	43.11	54.00	-10.89	15.66	3	Vertical	359	2.03	

802.11ac VHT80_Nss4,(MCS0)_4TX
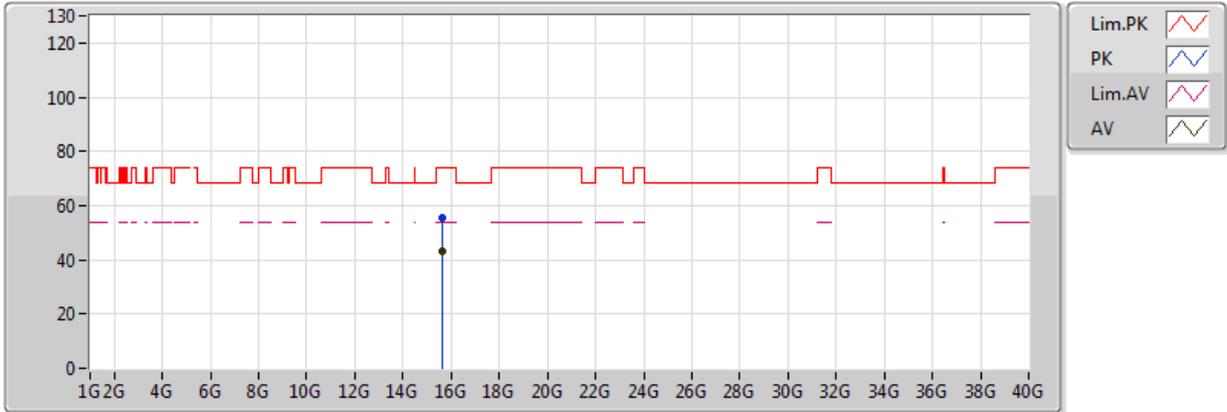
5210MHz_TX

11/08/2018

EUT Z_4TX Dipole
Setting 67
02-J-1
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.6304G	55.56	74.00	-18.44	15.72	3	Horizontal	146	2.35	
AV	15.6199G	43.07	54.00	-10.93	15.75	3	Horizontal	146	2.35	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
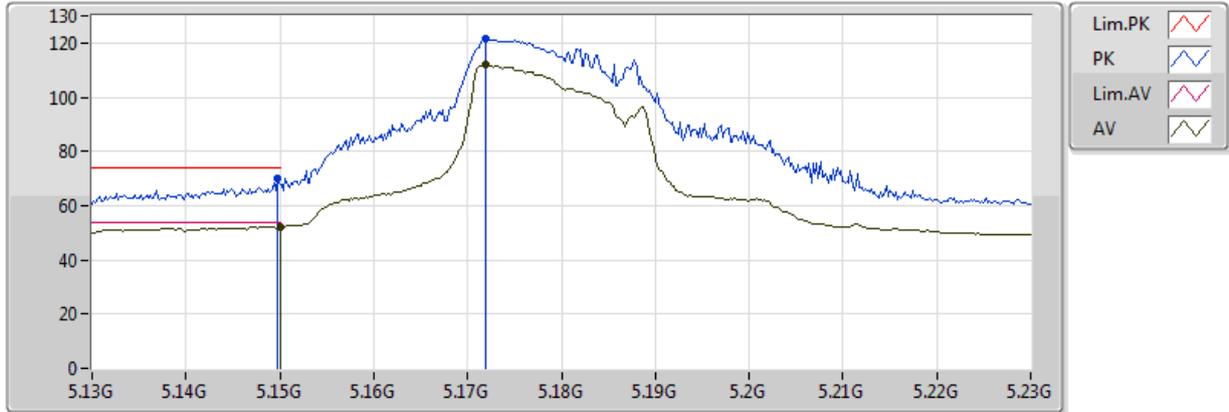
5180MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 78
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.1498G	69.77	74.00	-4.23	8.54	3	Vertical	265	2.40	
AV	5.149995G	52.18	54.00	-1.82	8.54	3	Vertical	265	2.40	
PK	5.172G	121.75	Inf	-Inf	8.59	3	Vertical	265	2.40	
AV	5.172G	112.01	Inf	-Inf	8.59	3	Vertical	265	2.40	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
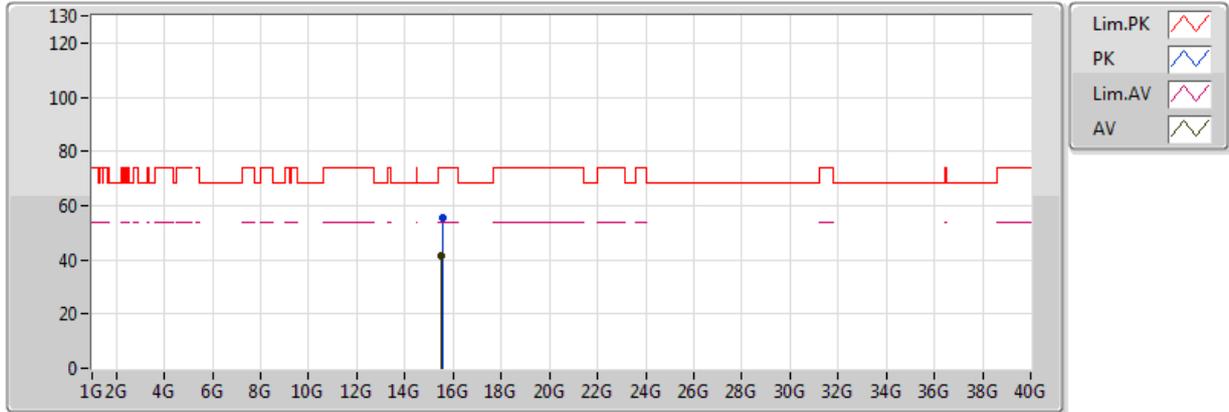
5180MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 78
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.54738G	55.52	74.00	-18.48	15.93	3	Vertical	334	1.69	
AV	15.53484G	41.63	54.00	-12.37	15.96	3	Vertical	334	1.69	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
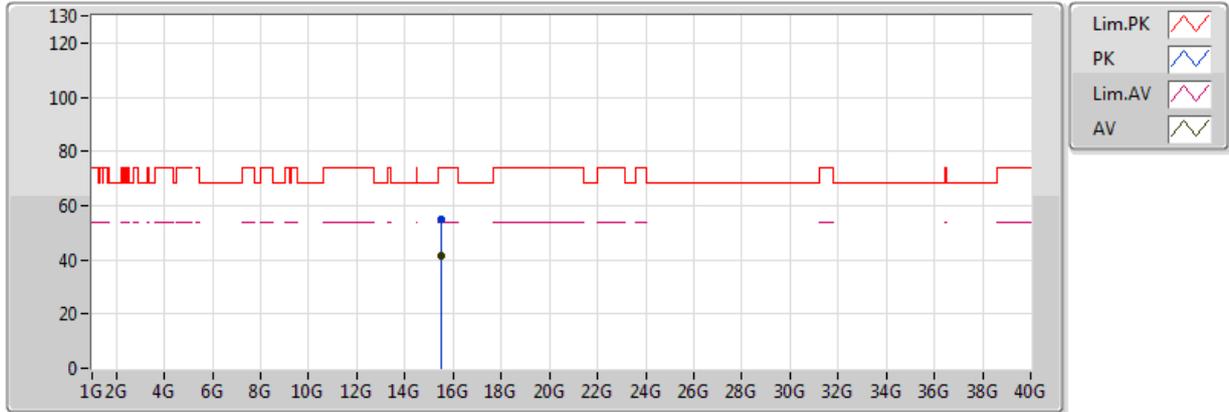
5180MHz_TX

25/06/2018

	Lim.PK	⟋⟍
	PK	⟋⟍
	Lim.AV	⟋⟍
	AV	⟋⟍

EUT Z_4TX Dipole
Setting 78
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.52566G	55.18	74.00	-18.82	15.99	3	Horizontal	191	1.50	
AV	15.5313G	41.55	54.00	-12.45	15.97	3	Horizontal	191	1.50	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
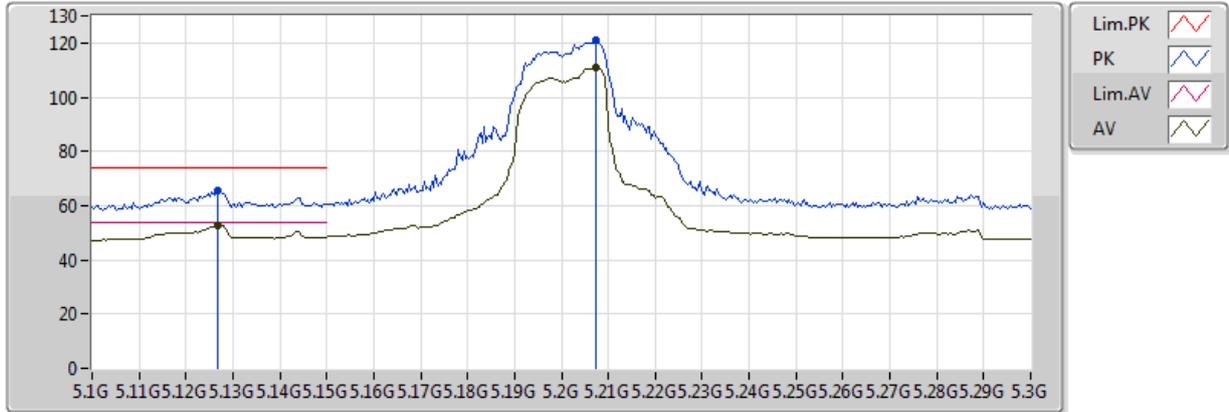
5200MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 77
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.1268G	65.31	74.00	-8.69	8.51	3	Vertical	268	1.94	
AV	5.1268G	52.88	54.00	-1.12	8.51	3	Vertical	268	1.94	
PK	5.2072G	120.97	Inf	-Inf	8.65	3	Vertical	268	1.94	
AV	5.2072G	110.69	Inf	-Inf	8.65	3	Vertical	268	1.94	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
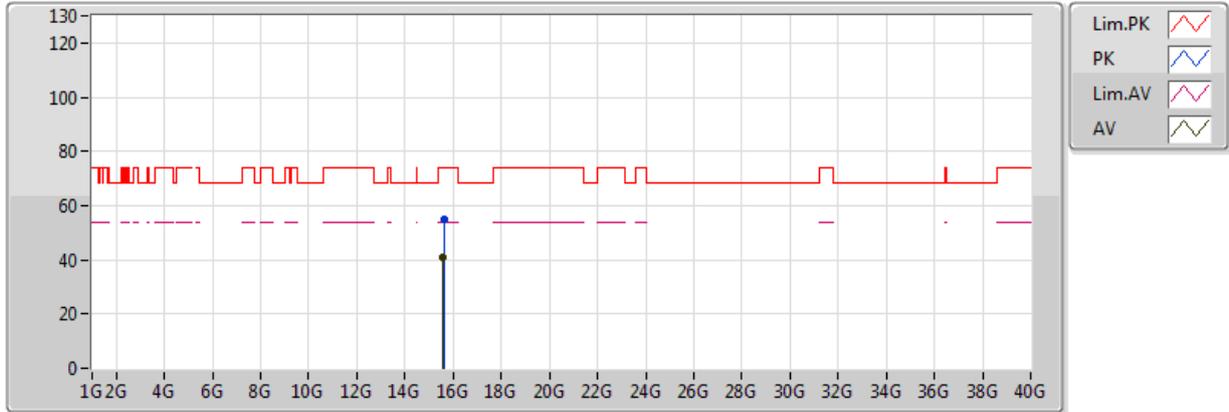
5200MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 77
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.60174G	54.98	74.00	-19.02	15.80	3	Vertical	94	1.50	
AV	15.58842G	40.97	54.00	-13.03	15.83	3	Vertical	94	1.50	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
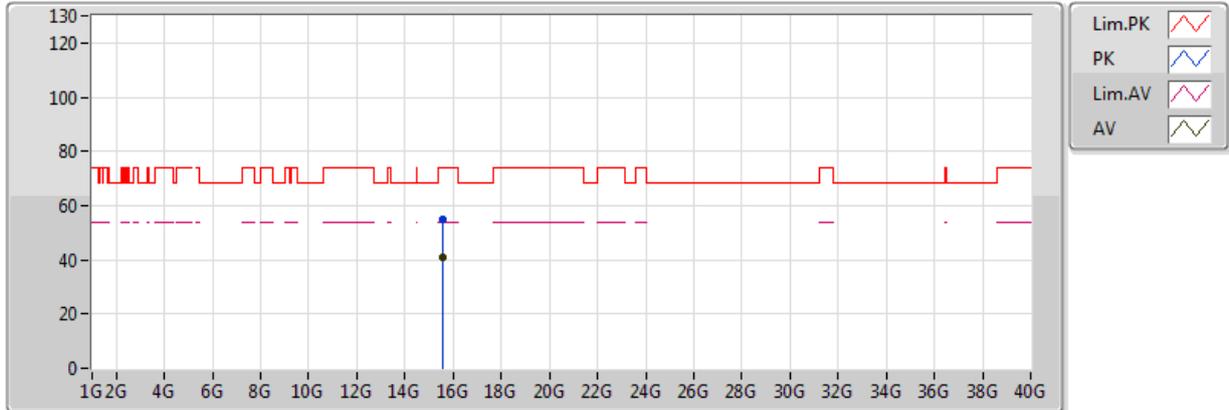
5200MHz_TX

25/06/2018

| | Lim.PK | PK | Lim.AV | AV |

EUT Z_4TX Dipole
Setting 77
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height		
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		
PK	15.58794G	54.98	74.00	-19.02	15.83	3	Horizontal	123	1.50		
AV	15.58896G	40.98	54.00	-13.02	15.83	3	Horizontal	123	1.50		

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
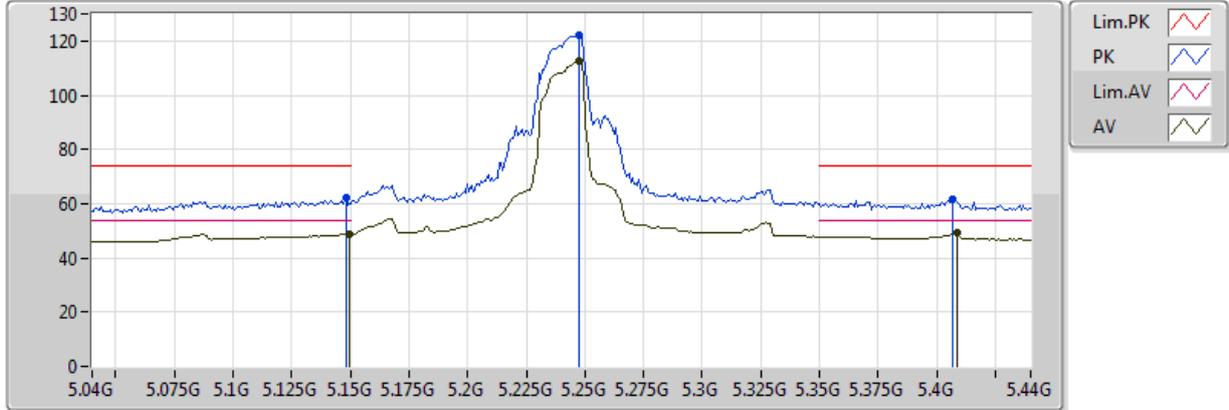
5240MHz_TX

25/06/2018

Lim.PK	/\/
PK	/\/
Lim.AV	/\/
AV	/\/

EUT Z_4TX Dipole
Setting 78
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.148G	62.30	74.00	-11.70	8.54	3	Vertical	212	2.35	
AV	5.1496G	48.68	54.00	-5.32	8.54	3	Vertical	212	2.35	
PK	5.2472G	122.00	Inf	-Inf	8.70	3	Vertical	212	2.35	
AV	5.2472G	112.59	Inf	-Inf	8.70	3	Vertical	212	2.35	
PK	5.4064G	61.38	74.00	-12.62	8.91	3	Vertical	212	2.35	
AV	5.4088G	49.18	54.00	-4.82	8.91	3	Vertical	212	2.35	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
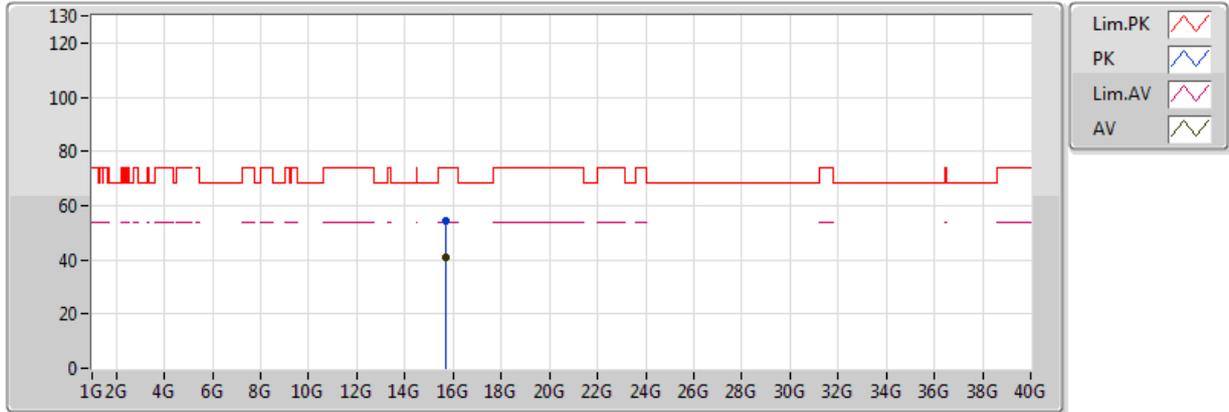
5240MHz_TX

25/06/2018

				Lim.PK	⌇
				PK	⌇
				Lim.AV	⌇
				AV	⌇

EUT Z_4TX Dipole
Setting 78
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.71638G	54.61	74.00	-19.39	15.51	3	Vertical	323	2.88	
AV	15.71604G	40.79	54.00	-13.21	15.51	3	Vertical	323	2.88	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
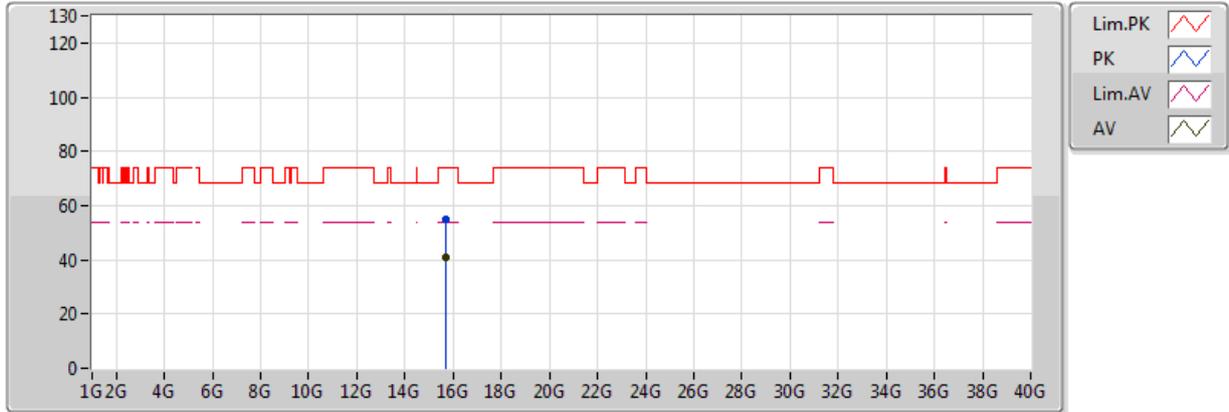
5240MHz_TX

25/06/2018

EUT Z_4TX Dipole
Setting 78
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.71862G	54.80	74.00	-19.20	15.50	3	Horizontal	245	1.50	
AV	15.71612G	40.64	54.00	-13.36	15.51	3	Horizontal	245	1.50	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
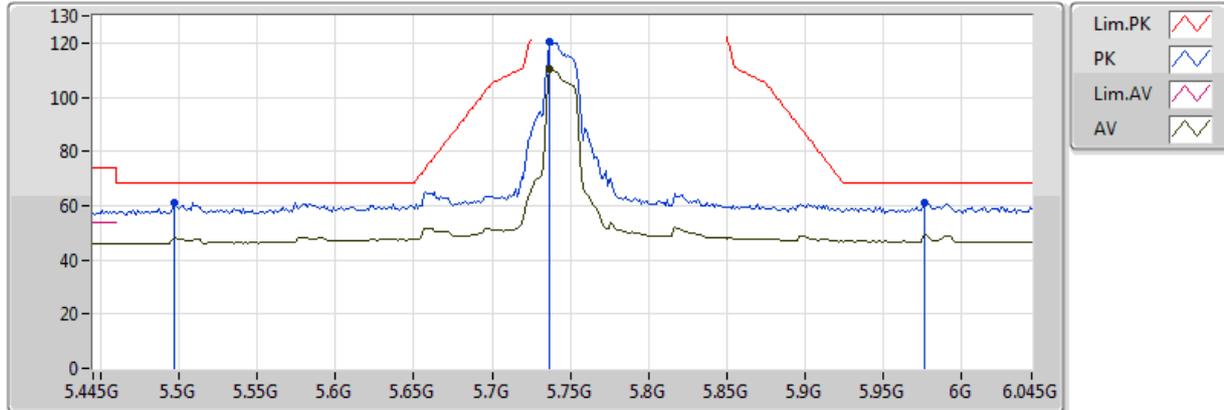
5745MHz_TX

25/06/2018

Lim.PK	
PK	
Lim.AV	
AV	

EUT Z_4TX Dipole
Setting 77
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.4966G	61.12	68.20	-7.08	9.12	3	Vertical	171	1.57	
PK	5.7366G	120.29	Inf	-Inf	9.22	3	Vertical	171	1.57	
AV	5.7366G	110.31	Inf	-Inf	9.22	3	Vertical	171	1.57	
PK	5.9766G	61.06	68.20	-7.14	9.39	3	Vertical	171	1.57	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

5745MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 77
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.49124G	58.32	74.00	-15.68	14.60	3	Vertical	8	2.29	
AV	11.4896G	43.72	54.00	-10.28	14.60	3	Vertical	8	2.29	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
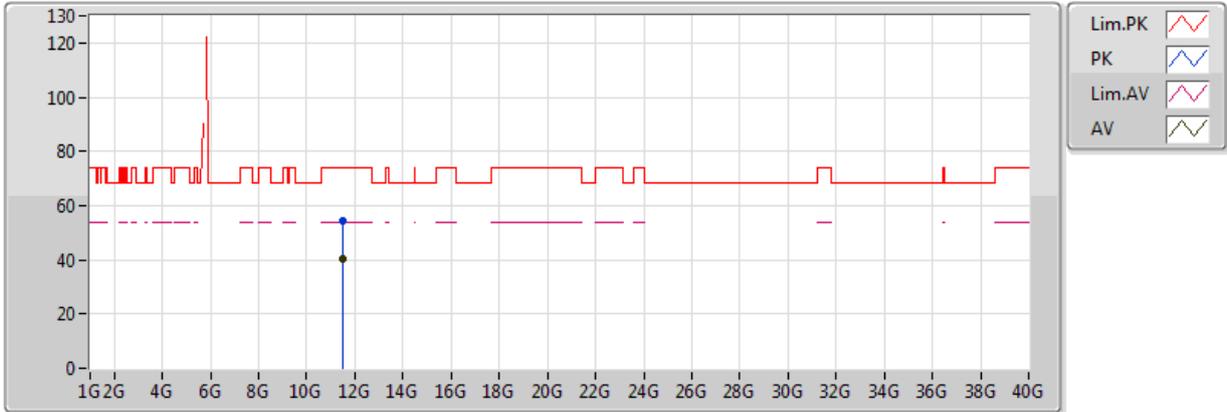
5745MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 77
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.4929G	54.31	74.00	-19.69	14.60	3	Horizontal	25	2.55	
AV	11.49378G	40.08	54.00	-13.92	14.60	3	Horizontal	25	2.55	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
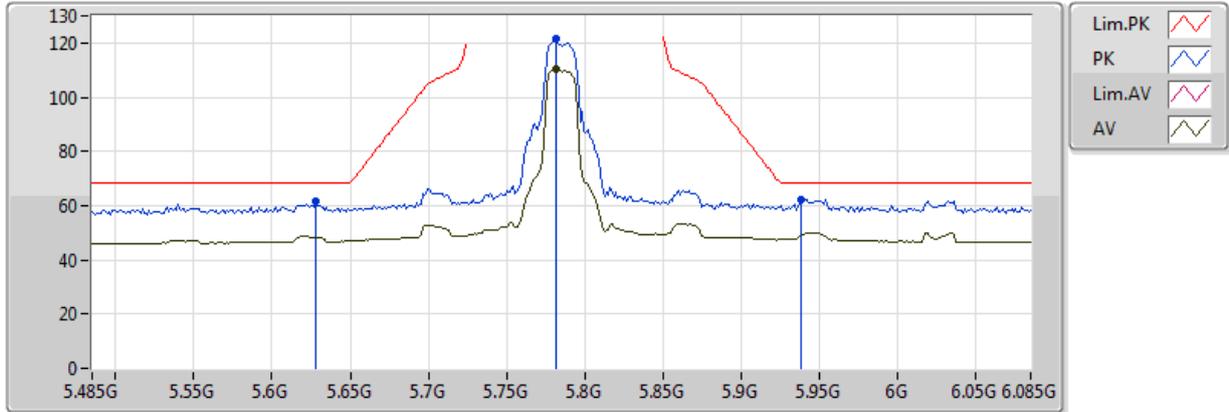
5785MHz_TX

25/06/2018

		Lim.PK
		PK
		Lim.AV
		AV

EUT Z_4TX Dipole
Setting 78
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.6278G	61.53	68.20	-6.67	9.20	3	Vertical	175	1.50	
PK	5.7814G	121.85	Inf	-Inf	9.23	3	Vertical	175	1.50	
AV	5.7814G	110.37	Inf	-Inf	9.23	3	Vertical	175	1.50	
PK	5.9386G	62.13	68.20	-6.07	9.35	3	Vertical	175	1.50	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
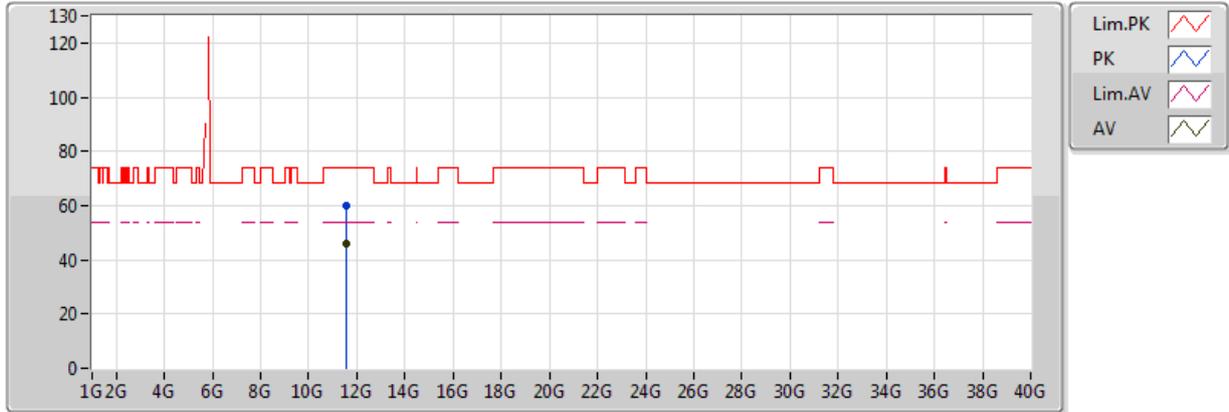
5785MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 78
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.56892G	60.13	74.00	-13.87	14.69	3	Vertical	10	2.18	
AV	11.569G	45.71	54.00	-8.29	14.69	3	Vertical	10	2.18	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

5785MHz_TX

25/06/2018

	Legend
Lim.PK	
PK	
Lim.AV	
AV	

EUT Z_4TX Dipole
Setting 78
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.57564G	54.93	74.00	-19.07	14.70	3	Horizontal	60	2.08	
AV	11.57268G	40.76	54.00	-13.24	14.70	3	Horizontal	60	2.08	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

5825MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV
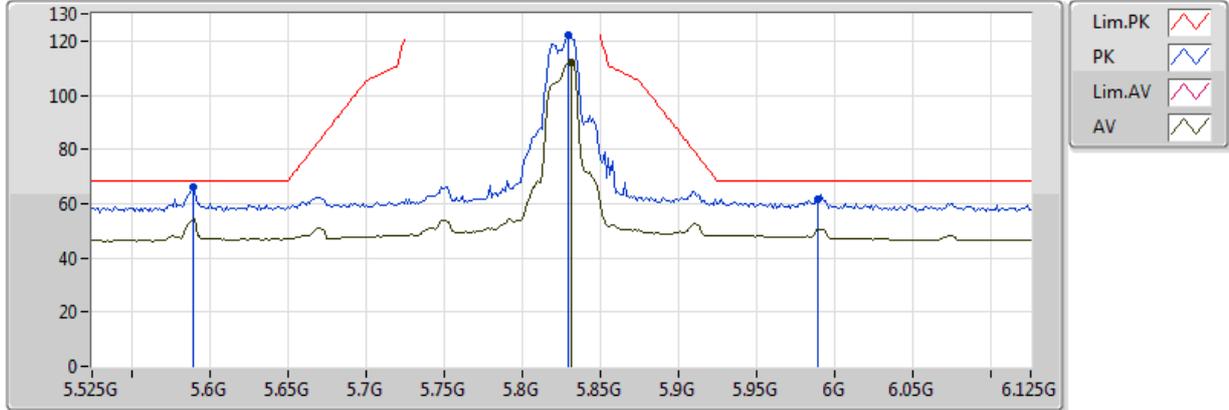
EUT Z_4TX Dipole
Setting 80
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.5898G	66.36	68.20	-1.84	9.18	3	Vertical	150	2.39	
PK	5.8298G	121.89	Inf	-Inf	9.26	3	Vertical	150	2.39	
AV	5.831G	111.90	Inf	-Inf	9.26	3	Vertical	150	2.39	
PK	5.9894G	61.91	68.20	-6.29	9.39	3	Vertical	150	2.39	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
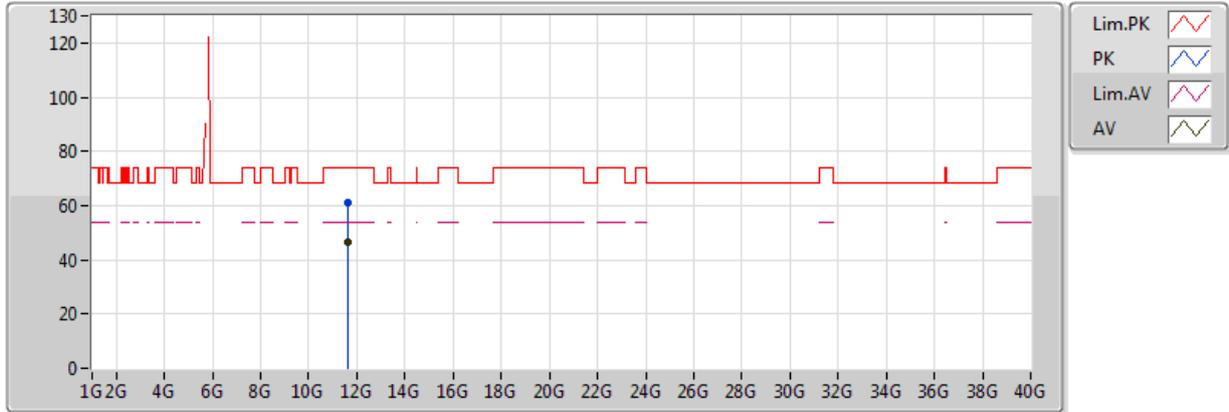
5825MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 80
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.64934G	61.35	74.00	-12.65	14.79	3	Vertical	1	2.25	
AV	11.65162G	46.45	54.00	-7.55	14.79	3	Vertical	1	2.25	

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
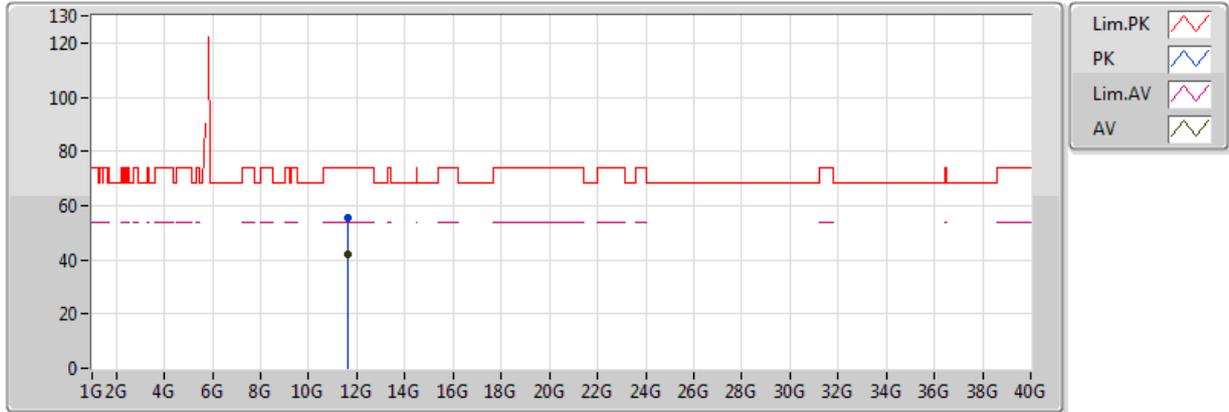
5825MHz_TX

25/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 80
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.64942G	55.67	74.00	-18.33	14.79	3	Horizontal	283	2.79	
AV	11.64974G	41.81	54.00	-12.19	14.79	3	Horizontal	283	2.79	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
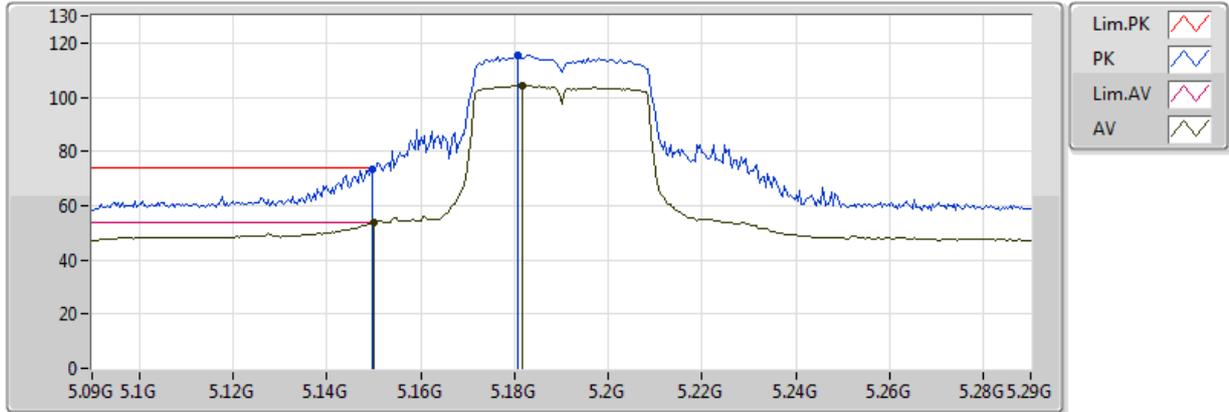
5190MHz_TX

11/08/2018

Lim.PK	〜
PK	〜
Lim.AV	〜
AV	〜

EUT Z_4TX
Setting 65
02-M-01
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.1496G	73.36	74.00	-0.64	8.54	3	Vertical	255	1.02	
AV	5.149995G	53.71	54.00	-0.29	8.54	3	Vertical	255	1.02	
PK	5.1808G	115.58	Inf	-Inf	8.61	3	Vertical	255	1.02	
AV	5.1816G	104.38	Inf	-Inf	8.61	3	Vertical	255	1.02	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
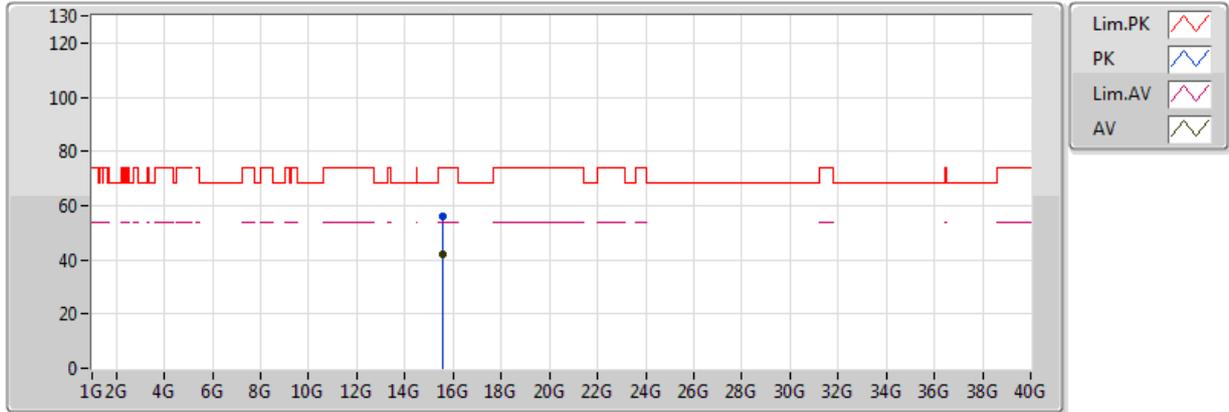
5190MHz_TX

11/08/2018

Lim.PK				
PK				
Lim.AV				
AV				

EUT Z_4TX
Setting 65
02-M-01
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.5654G	56.27	74.00	-17.73	15.89	3	Vertical	309	2.79	
AV	15.57064G	42.16	54.00	-11.84	15.87	3	Vertical	309	2.79	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
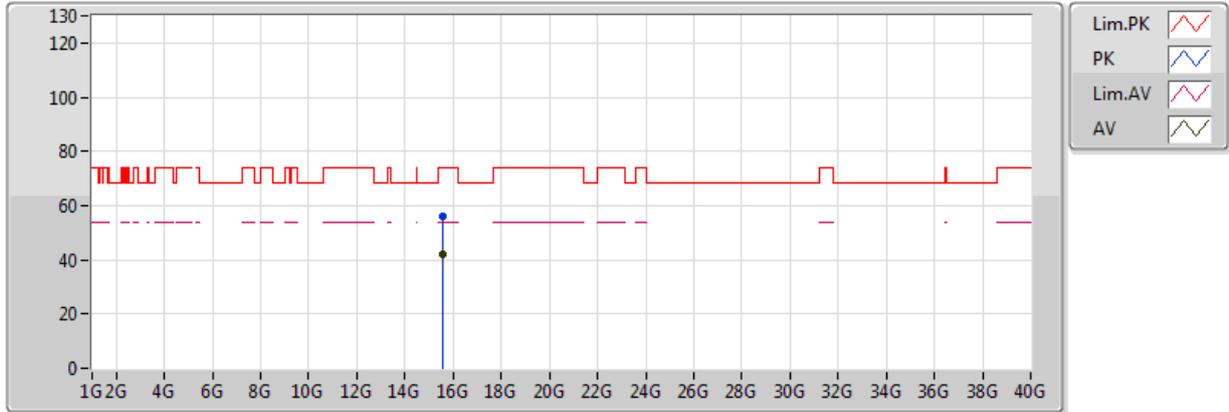
5190MHz_TX

11/08/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX
Setting 65
02-M-01
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.56526G	56.07	74.00	-17.93	15.89	3	Horizontal	10	2.17	
AV	15.56832G	41.99	54.00	-12.01	15.88	3	Horizontal	10	2.17	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
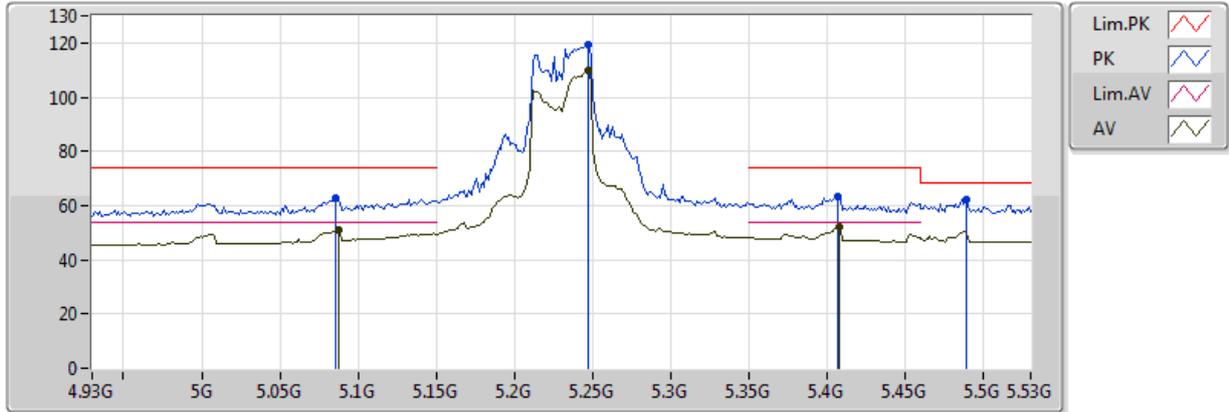
5230MHz_TX

26/06/2018

| | Lim.PK |
| PK |
| Lim.AV |
| AV |

EUT Z_4TX Dipole
Setting 77
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.086G	62.63	74.00	-11.37	8.44	3	Vertical	211	2.58	
AV	5.0872G	50.99	54.00	-3.01	8.44	3	Vertical	211	2.58	
PK	5.2468G	119.08	Inf	-Inf	8.70	3	Vertical	211	2.58	
AV	5.2468G	109.78	Inf	-Inf	8.70	3	Vertical	211	2.58	
PK	5.4064G	63.11	74.00	-10.89	8.90	3	Vertical	211	2.58	
AV	5.4076G	51.88	54.00	-2.12	8.91	3	Vertical	211	2.58	
PK	5.4892G	62.06	68.20	-6.14	9.10	3	Vertical	211	2.58	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
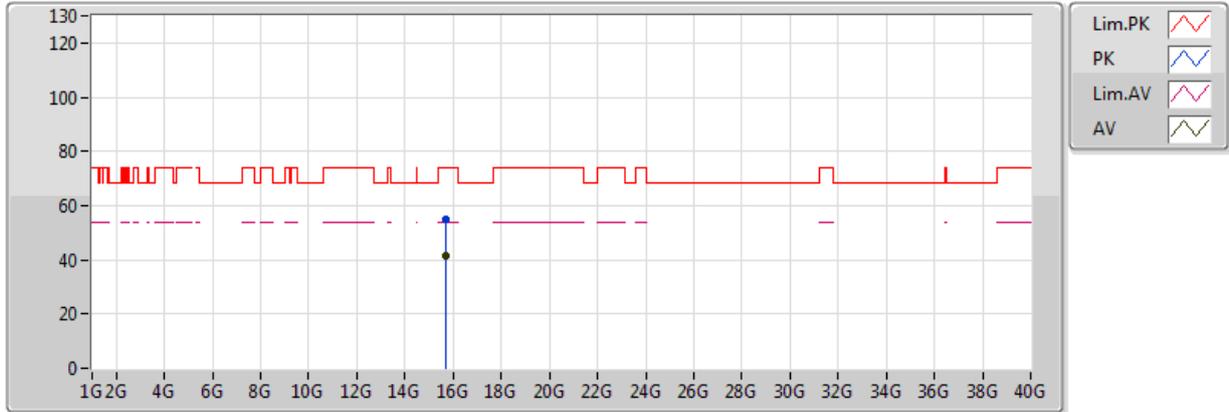
5230MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 77
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.68516G	55.00	74.00	-19.00	15.59	3	Vertical	1	1.59	
AV	15.6936G	41.27	54.00	-12.73	15.57	3	Vertical	1	1.59	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
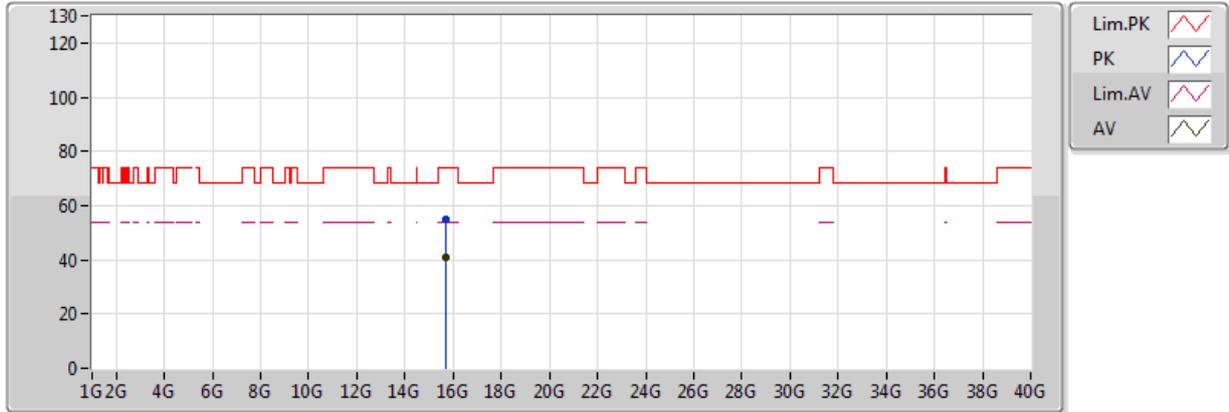
5230MHz_TX

26/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 77
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.68746G	55.00	74.00	-19.00	15.58	3	Horizontal	133	1.50	
AV	15.68738G	41.18	54.00	-12.82	15.58	3	Horizontal	133	1.50	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
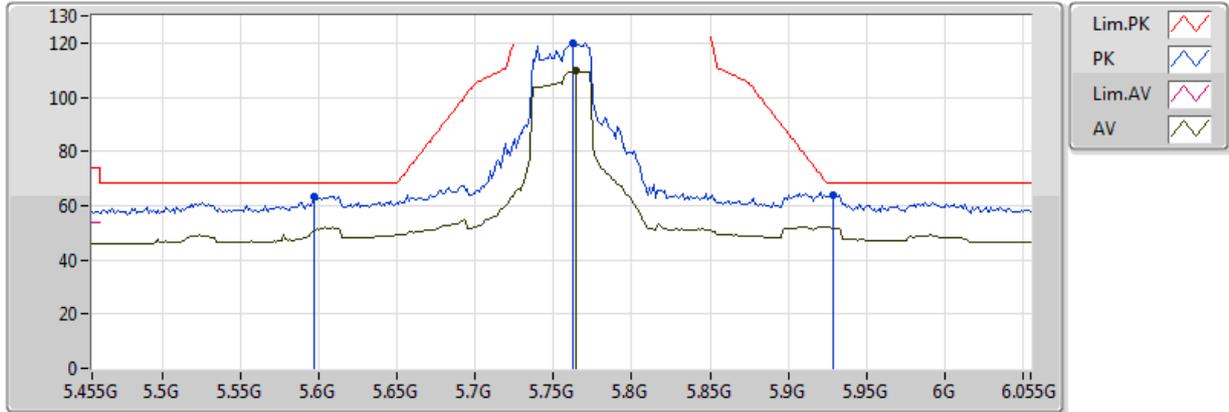
5755MHz_TX

26/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 79
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.5966G	63.42	68.20	-4.78	9.19	3	Vertical	288	1.99	
PK	5.7622G	119.84	Inf	-Inf	9.23	3	Vertical	288	1.99	
AV	5.7646G	109.68	Inf	-Inf	9.23	3	Vertical	288	1.99	
PK	5.929G	63.94	68.20	-4.26	9.35	3	Vertical	288	1.99	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

5755MHz_TX

26/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 79
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.50988G	60.11	74.00	-13.89	14.62	3	Vertical	11	2.21	
AV	11.51486G	43.71	54.00	-10.29	14.63	3	Vertical	11	2.21	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
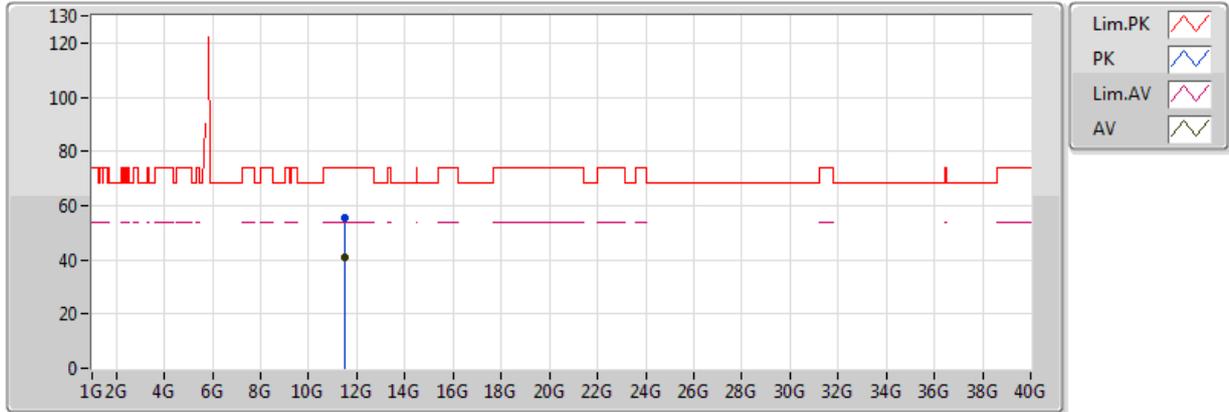
5755MHz_TX

26/06/2018

	Lim.PK	∿
	PK	∿
	Lim.AV	∿
	AV	∿

EUT Z_4TX Dipole
Setting 79
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.51002G	55.64	74.00	-18.36	14.62	3	Horizontal	293	2.16	
AV	11.50994G	40.82	54.00	-13.18	14.62	3	Horizontal	293	2.16	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
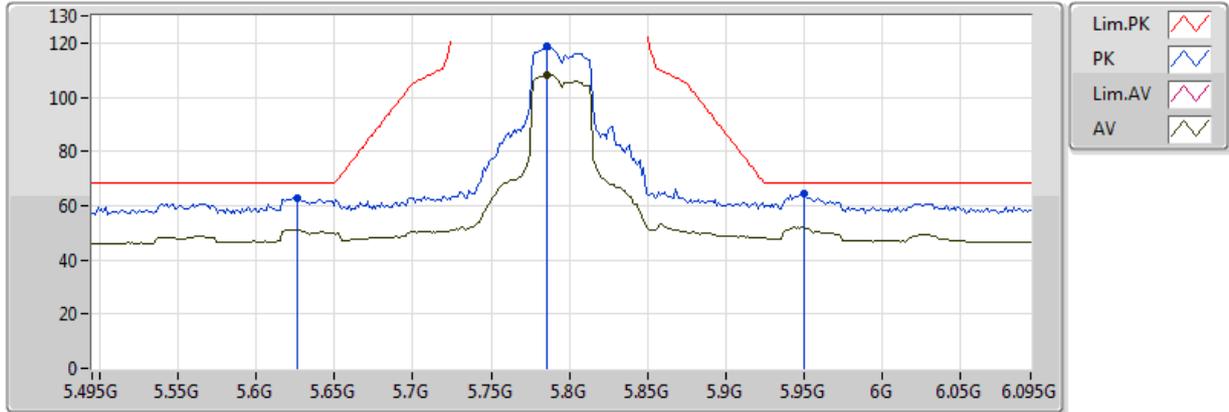
5795MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 79
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
PK	5.6258G	62.92	68.20	-5.28	9.20	3	Vertical	171	1.47
PK	5.7854G	118.65	Inf	-Inf	9.24	3	Vertical	171	1.47
AV	5.7854G	108.22	Inf	-Inf	9.24	3	Vertical	171	1.47
PK	5.9498G	64.21	68.20	-3.99	9.36	3	Vertical	171	1.47

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
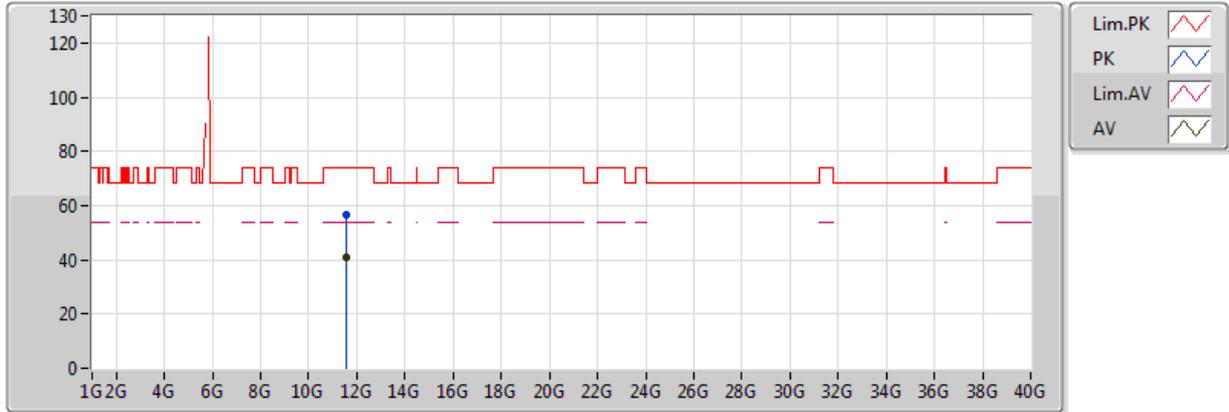
5795MHz_TX

26/06/2018

Lim.PK
PK
Lim.AV
AV

EUT Z_4TX Dipole
Setting 79
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.58972G	56.36	74.00	-17.64	14.72	3	Vertical	320	1.50	
AV	11.59074G	40.95	54.00	-13.05	14.72	3	Vertical	320	1.50	

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
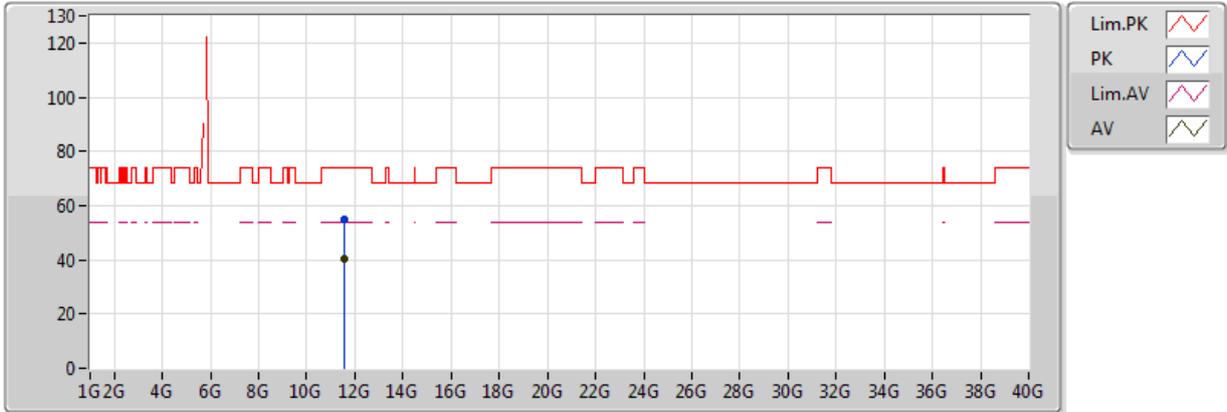
5795MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 79
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
PK	11.59262G	55.14	74.00	-18.86	14.72	3	Horizontal	250	2.29
AV	11.5909G	40.28	54.00	-13.72	14.72	3	Horizontal	250	2.29

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
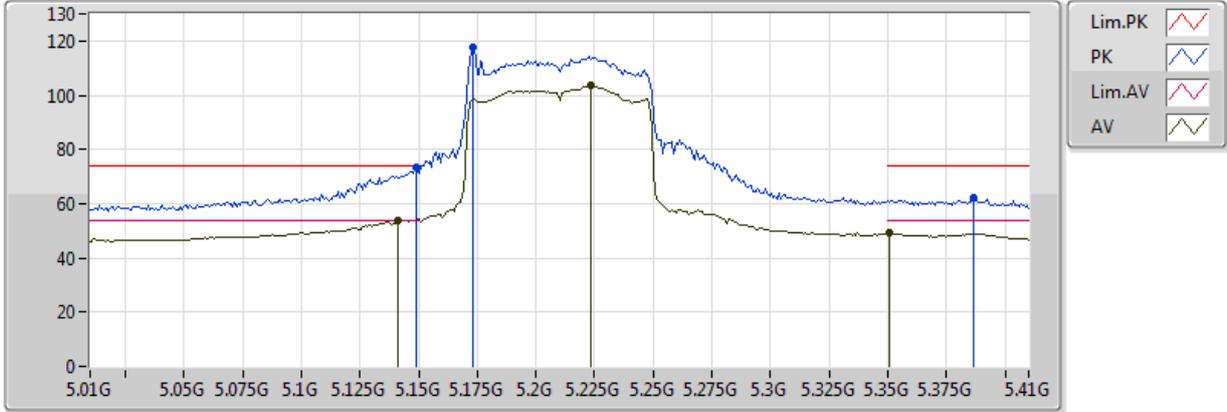
5210MHz_TX

11/08/2018

Lim.PK	⟋⟍
PK	⟋⟍
Lim.AV	⟋⟍
AV	⟋⟍

EUT Z_4TX
Setting 64
02-M-01
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.1492G	73.61	74.00	-0.39	8.55	3	Vertical	287	2.38	
PK	5.1732G	117.93	Inf	-Inf	8.59	3	Vertical	287	2.38	
AV	5.2236G	103.63	Inf	-Inf	8.67	3	Vertical	287	2.38	
PK	5.3868G	62.00	74.00	-12.00	8.87	3	Vertical	287	2.38	
AV	5.3508G	49.06	54.00	-4.94	8.83	3	Vertical	287	2.38	
AV	5.1412G	53.97	54.00	-0.03	8.54	3	Vertical	287	2.38	

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
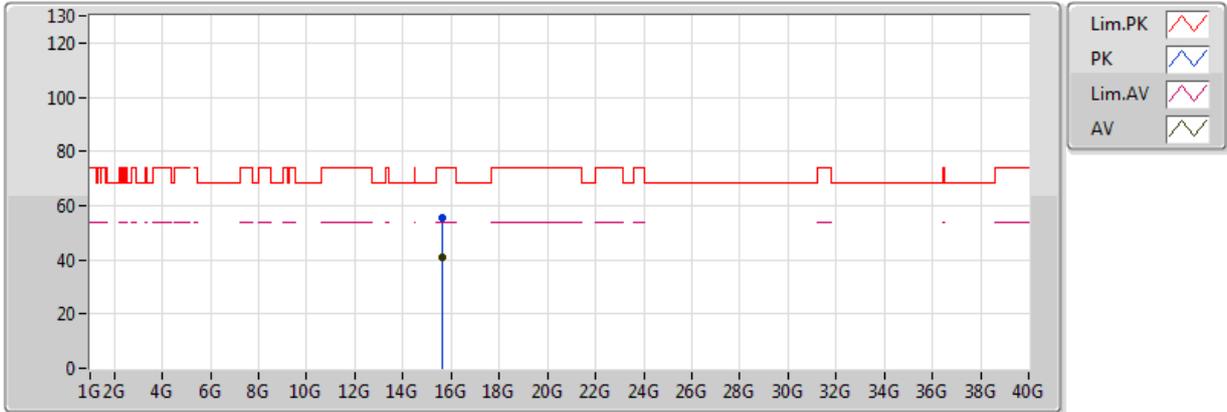
5210MHz_TX

11/08/2018

	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
Type	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
PK	15.62864G	55.41	74.00	-18.59	15.73	3	Vertical	145	1.73
AV	15.63312G	41.01	54.00	-12.99	15.72	3	Vertical	145	1.73
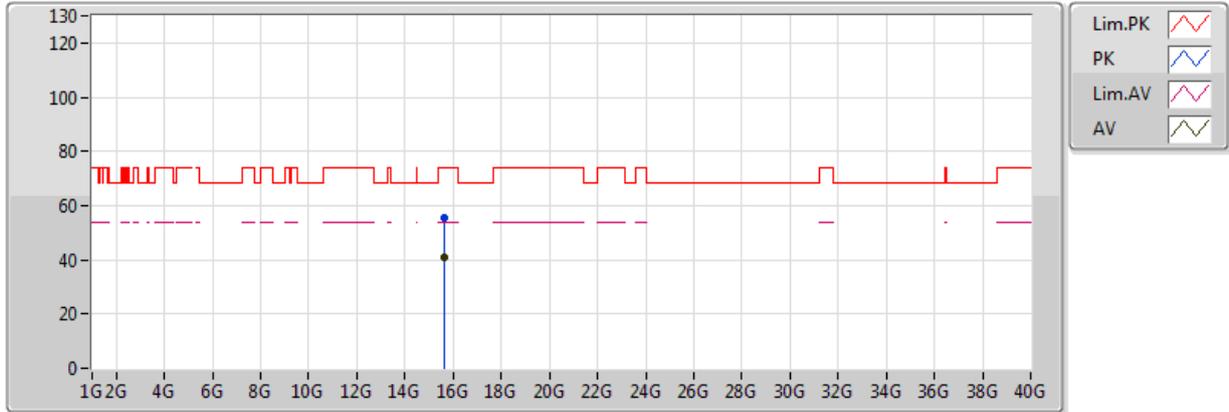
EUT Z_4TX
Setting 64
02-M-01
FSU(100015)

802.11ac VHT80-BF_Nss1,(MCS0)_4TX

5210MHz_TX

11/08/2018

Lim.PK				
PK				
Lim.AV				
AV				

EUT Z_4TX
Setting 64
02-M-01
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	15.62734G	55.63	74.00	-18.37	15.73	3	Horizontal	15	1.84	
AV	15.63178G	40.95	54.00	-13.05	15.72	3	Horizontal	15	1.84	

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
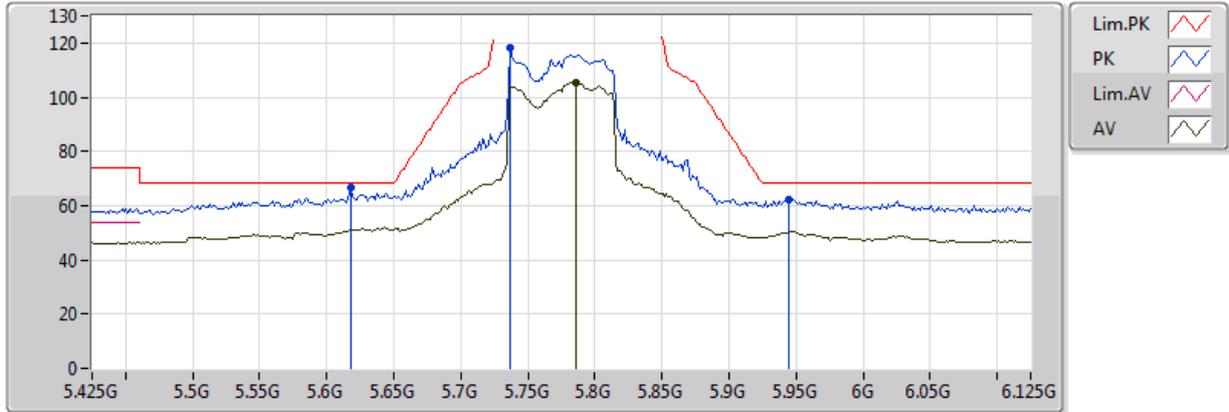
5775MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 79
02-L-3-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.6182G	66.53	68.20	-1.67	9.19	3	Vertical	158	2.15	
PK	5.7372G	118.42	Inf	-Inf	9.22	3	Vertical	158	2.15	
AV	5.7862G	105.42	Inf	-Inf	9.24	3	Vertical	158	2.15	
PK	5.9444G	62.10	68.20	-6.10	9.35	3	Vertical	158	2.15	

802.11ac VHT80-BF_Nss1,(MCS0)_4TX

5775MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 79
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.54754G	54.67	74.00	-19.33	14.67	3	Vertical	360	2.36	
AV	11.55G	40.87	54.00	-13.13	14.67	3	Vertical	360	2.36	

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
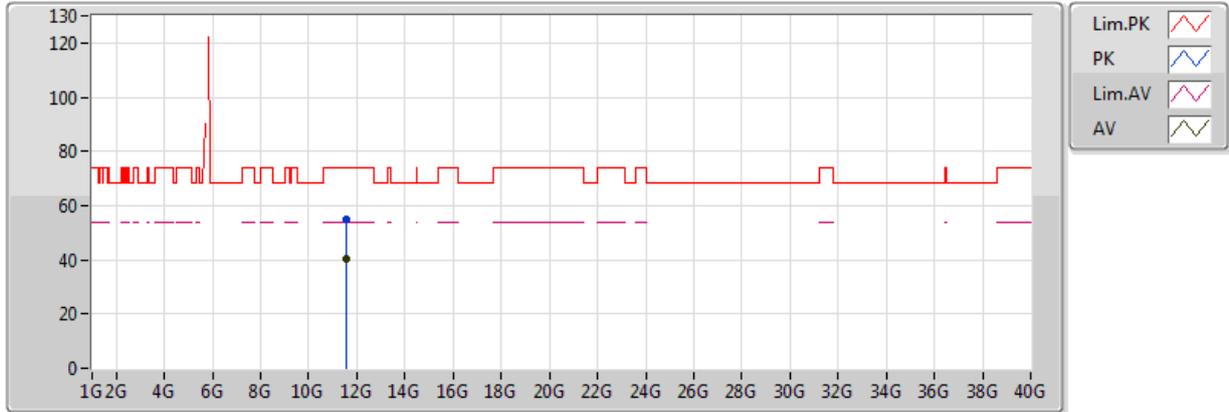
5775MHz_TX

26/06/2018

	Lim.PK	⌇
	PK	⌇
	Lim.AV	⌇
	AV	⌇

EUT Z_4TX Dipole
Setting 79
02-L-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.54704G	54.67	74.00	-19.33	14.67	3	Horizontal	199	1.45	
AV	11.54764G	40.09	54.00	-13.91	14.67	3	Horizontal	199	1.45	

802.11ac VHT20-BF_Nss2,(MCS0)_4TX
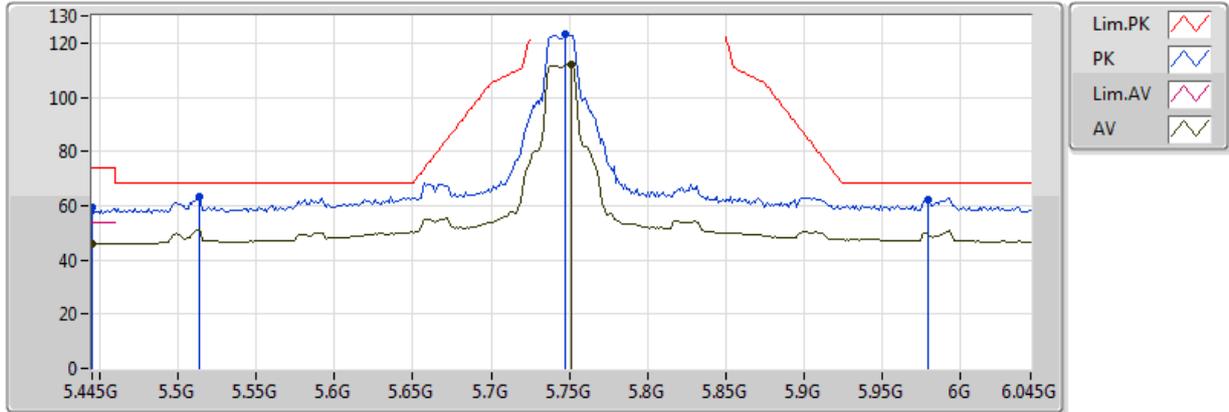
5745MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 91
02-R-4-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.445G	59.27	74.00	-14.73	8.99	3	Vertical	293	1.86	
AV	5.445G	46.20	54.00	-7.80	9.00	3	Vertical	293	1.86	
PK	5.5134G	63.16	68.20	-5.04	9.12	3	Vertical	293	1.86	
PK	5.7474G	123.52	Inf	-Inf	9.22	3	Vertical	293	1.86	
AV	5.751G	112.27	Inf	-Inf	9.23	3	Vertical	293	1.86	
PK	5.979G	61.93	68.20	-6.27	9.39	3	Vertical	293	1.86	

802.11ac VHT20-BF_Nss2,(MCS0)_4TX
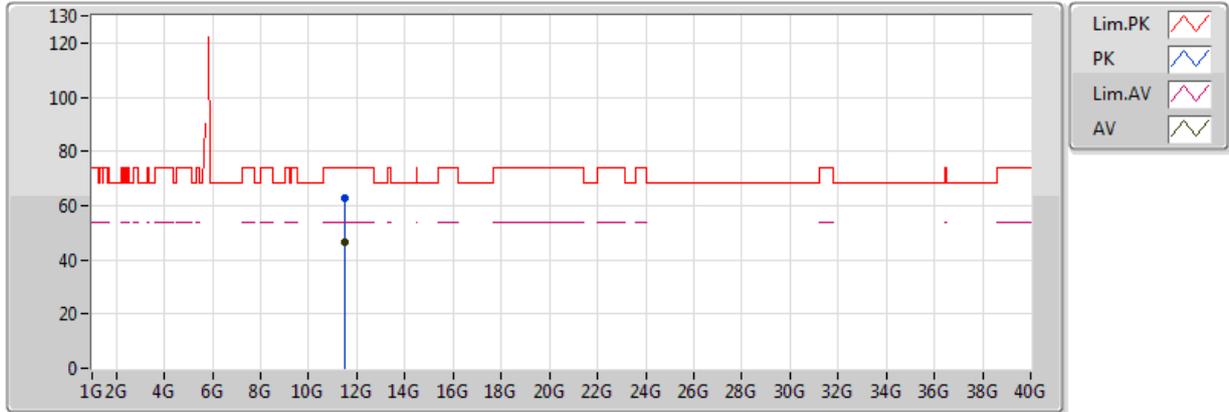
5745MHz_TX

26/06/2018

	Lim.PK	〰
	PK	〰
	Lim.AV	〰
	AV	〰

EUT Z_4TX Dipole
Setting 91
02-R-4
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.49116G	62.97	74.00	-11.03	14.60	3	Vertical	12	2.34	
AV	11.4896G	46.55	54.00	-7.45	14.60	3	Vertical	12	2.34	

802.11ac VHT20-BF_Nss2,(MCS0)_4TX
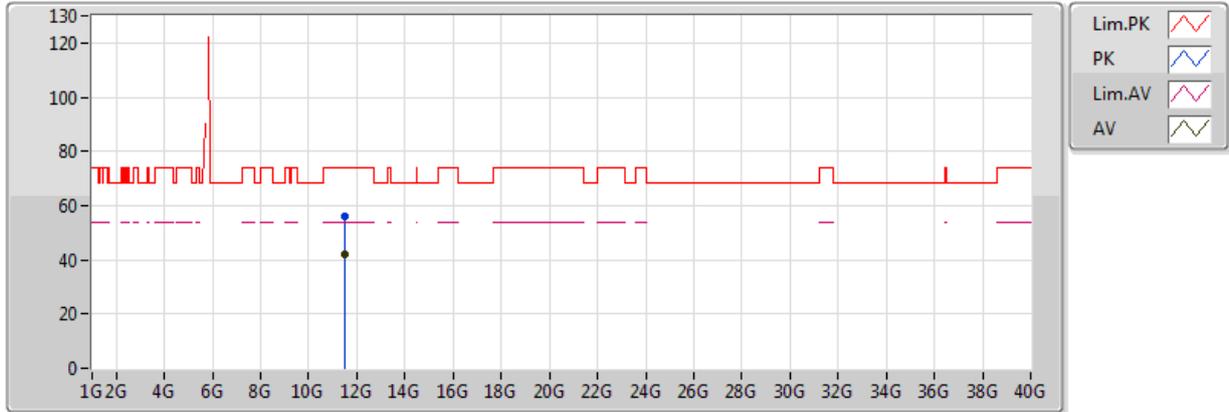
5745MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 91
02-R-4
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.49232G	56.12	74.00	-17.88	14.60	3	Horizontal	262	2.57	
AV	11.49032G	41.92	54.00	-12.08	14.60	3	Horizontal	262	2.57	

802.11ac VHT20-BF_Nss2,(MCS0)_4TX
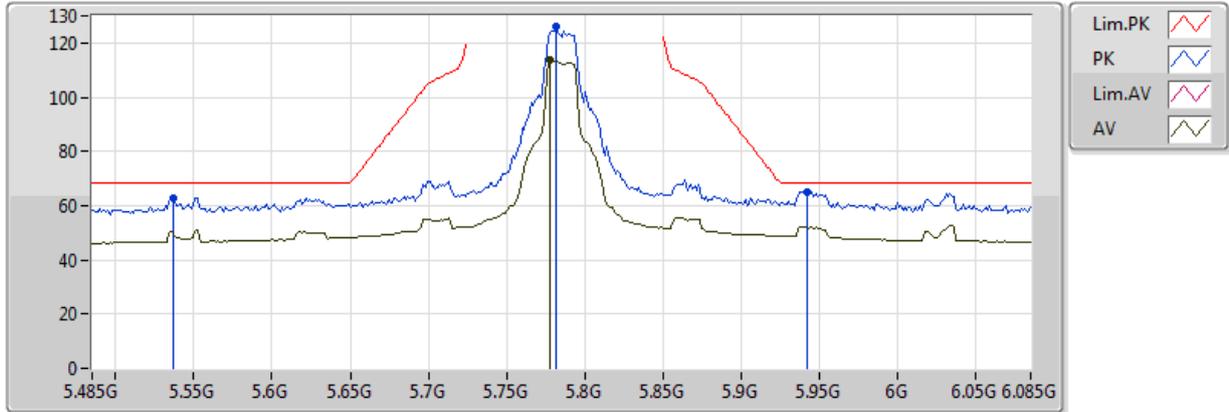
5785MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 91
02-R-4-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.5366G	62.81	68.20	-5.39	9.15	3	Vertical	300	2.16	
PK	5.7814G	125.87	Inf	-Inf	9.23	3	Vertical	300	2.16	
AV	5.7778G	113.84	Inf	-Inf	9.23	3	Vertical	300	2.16	
PK	5.9422G	65.18	68.20	-3.02	9.35	3	Vertical	300	2.16	

802.11ac VHT20-BF_Nss2,(MCS0)_4TX
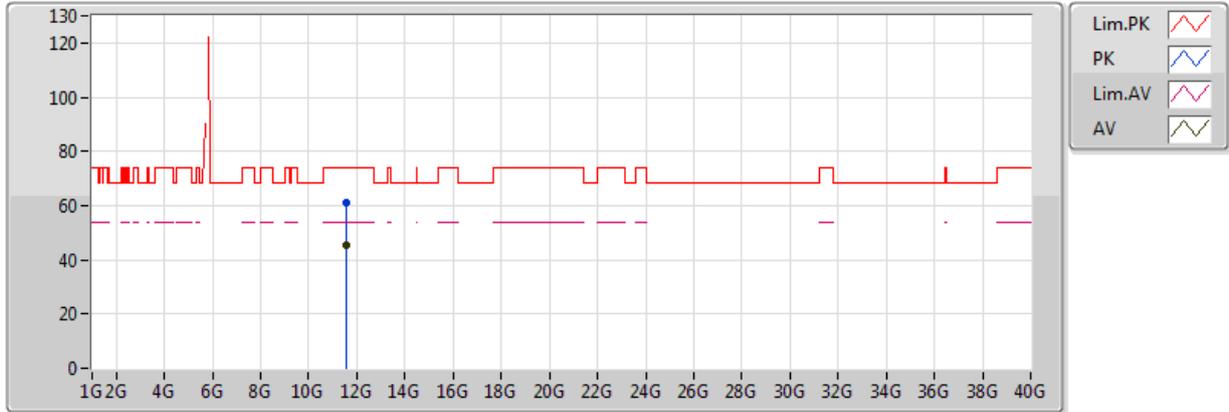
5785MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 91
02-R-4
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.56944G	61.13	74.00	-12.87	14.69	3	Vertical	2	2.04	
AV	11.56996G	45.16	54.00	-8.84	14.69	3	Vertical	2	2.04	

802.11ac VHT20-BF_Nss2,(MCS0)_4TX

5785MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 91
02-R-4
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.56624G	55.91	74.00	-18.09	14.69	3	Horizontal	243	2.11	
AV	11.56936G	41.47	54.00	-12.53	14.69	3	Horizontal	243	2.11	

802.11ac VHT20-BF_Nss2,(MCS0)_4TX

5825MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV
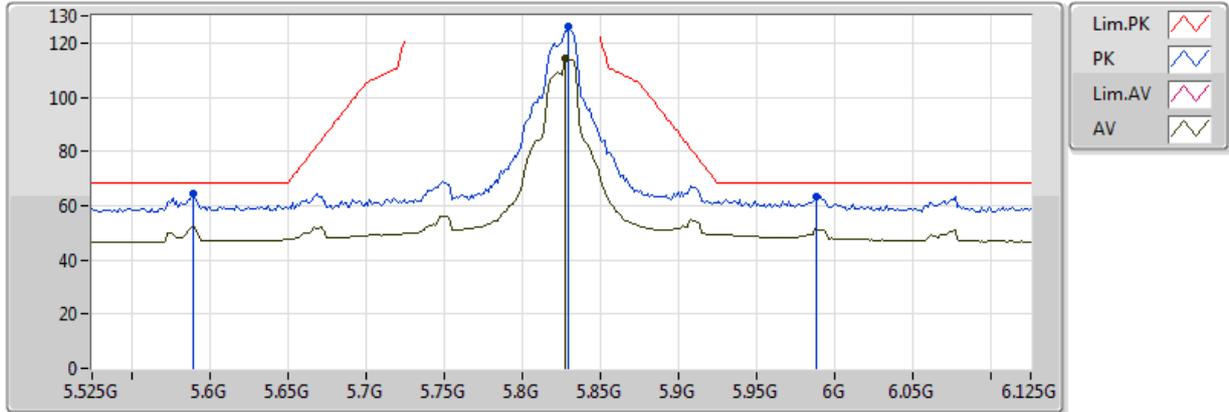
EUT Z_4TX Dipole
Setting 93
02-R-4-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.5898G	64.49	68.20	-3.71	9.18	3	Vertical	13	2.09	
PK	5.8298G	126.05	Inf	-Inf	9.26	3	Vertical	13	2.09	
AV	5.8274G	114.37	Inf	-Inf	9.26	3	Vertical	13	2.09	
PK	5.9882G	63.14	68.20	-5.06	9.39	3	Vertical	13	2.09	

802.11ac VHT20-BF_Nss2,(MCS0)_4TX
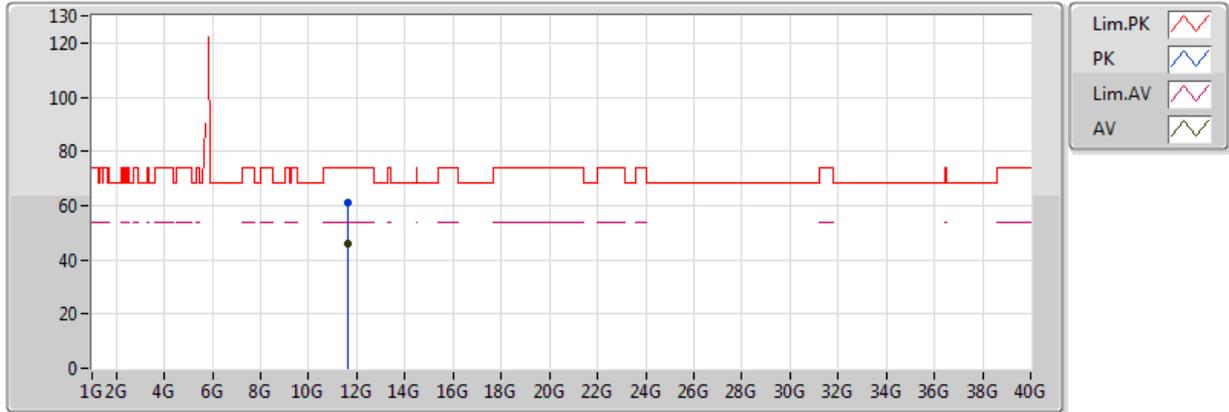
5825MHz_TX

26/06/2018

EUT Z_4TX Dipole
Setting 93
02-R-4
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
PK	11.64996G	61.22	74.00	-12.78	14.79	3	Vertical	292	2.26
AV	11.65008G	46.03	54.00	-7.97	14.79	3	Vertical	292	2.26

802.11ac VHT20-BF_Nss2,(MCS0)_4TX
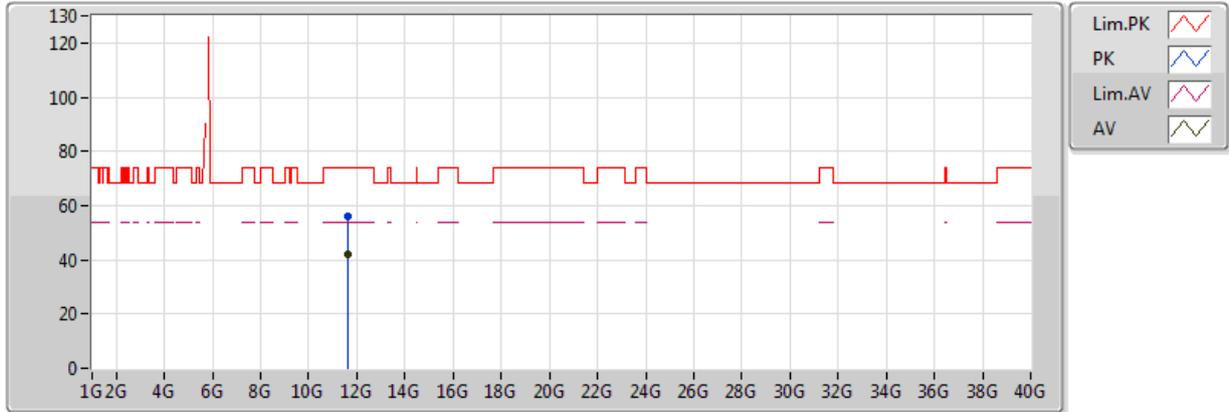
5825MHz_TX

26/06/2018

	Lim.PK	⋏
	PK	⋏
	Lim.AV	⋏
	AV	⋏

EUT Z_4TX Dipole
Setting 93
02-R-4
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.65132G	56.31	74.00	-17.69	14.79	3	Horizontal	234	2.08	
AV	11.6498G	41.90	54.00	-12.10	14.79	3	Horizontal	234	2.08	

802.11ac VHT40-BF_Nss2,(MCS0)_4TX
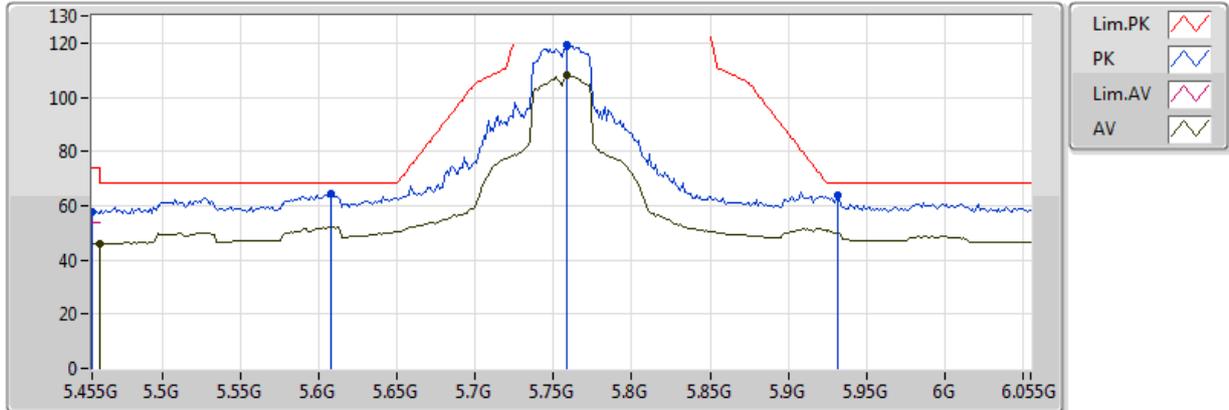
5755MHz_TX

26/06/2018

Lim.PK	
PK	
Lim.AV	
AV	

EUT Z_4TX Dipole
Setting 91
02-R-4-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.455G	57.92	74.00	-16.08	9.02	3	Vertical	72	2.05	
AV	5.4598G	46.17	54.00	-7.83	9.03	3	Vertical	72	2.05	
PK	5.6074G	64.21	68.20	-3.99	9.19	3	Vertical	72	2.05	
PK	5.7586G	119.37	Inf	-Inf	9.23	3	Vertical	72	2.05	
AV	5.7586G	108.10	Inf	-Inf	9.23	3	Vertical	72	2.05	
PK	5.9314G	63.83	68.20	-4.37	9.35	3	Vertical	72	2.05	

802.11ac VHT40-BF_Nss2,(MCS0)_4TX
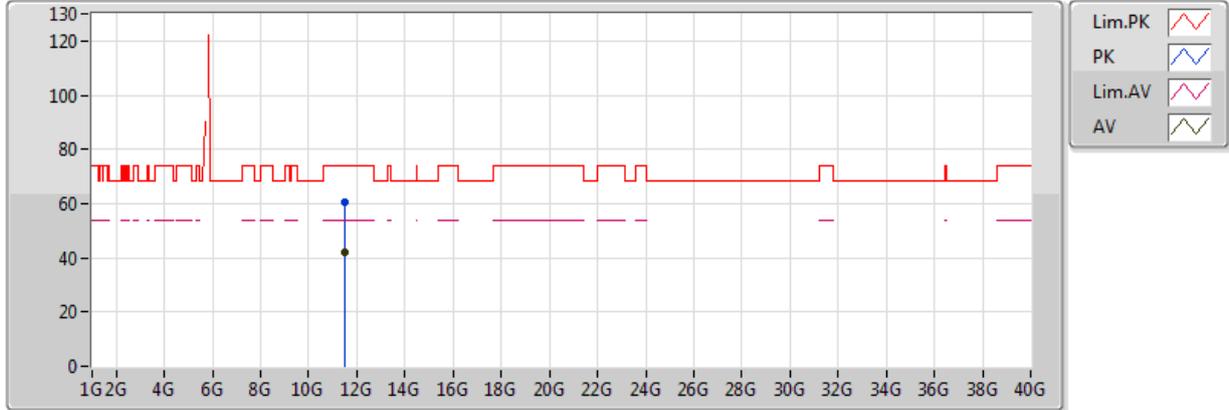
5755MHz_TX

26/06/2018

	Lim.PK	〜
	PK	〜
	Lim.AV	〜
	AV	〜

EUT Z_4TX Dipole
Setting 91
02-R-4
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.50988G	60.35	74.00	-13.65	14.62	3	Vertical	8	2.81	
AV	11.5112G	42.30	54.00	-11.70	14.62	3	Vertical	8	2.81	

802.11ac VHT40-BF_Nss2,(MCS0)_4TX
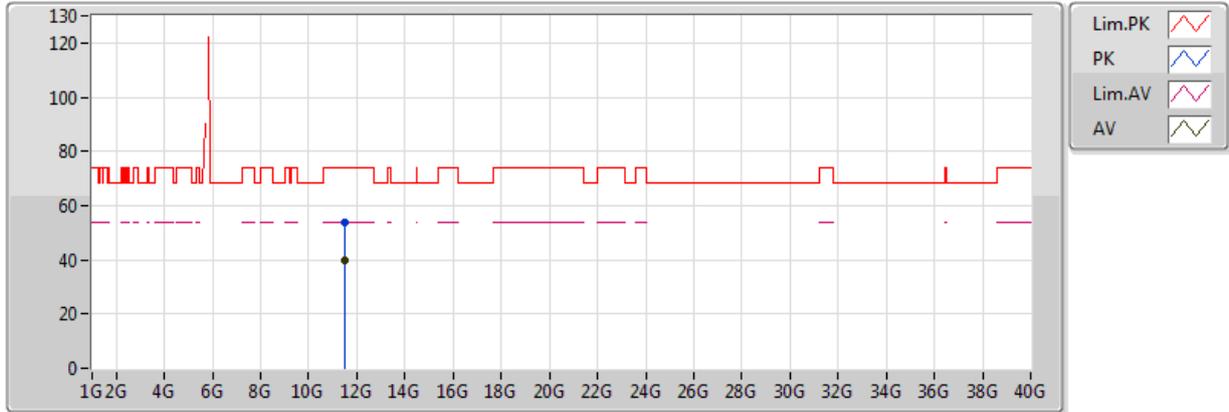
5755MHz_TX

26/06/2018

Lim.PK	
PK	
Lim.AV	
AV	

EUT Z_4TX Dipole
Setting 91
02-R-4
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.51744G	53.78	74.00	-20.22	14.63	3	Horizontal	6	1.37	
AV	11.52368G	39.82	54.00	-14.18	14.64	3	Horizontal	6	1.37	

802.11ac VHT40-BF_Nss2,(MCS0)_4TX

5795MHz_TX

26/06/2018

	Lim.PK
	PK
	Lim.AV
	AV
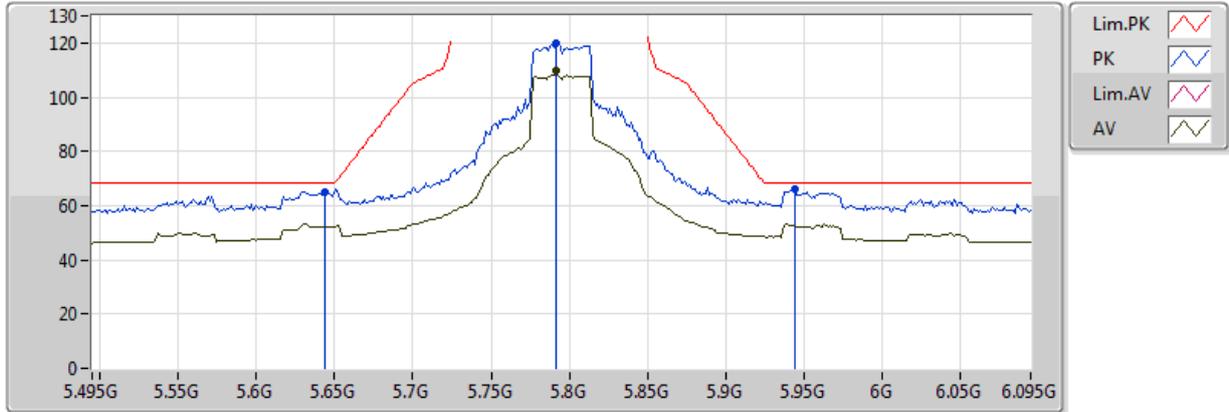
EUT Z_4TX Dipole
Setting 92
02-R-4-10
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.6438G	65.19	68.20	-3.01	9.20	3	Vertical	292	2.21	
PK	5.7914G	119.79	Inf	-Inf	9.24	3	Vertical	292	2.21	
AV	5.7914G	109.65	Inf	-Inf	9.24	3	Vertical	292	2.21	
PK	5.9438G	66.21	68.20	-1.99	9.35	3	Vertical	292	2.21	

802.11ac VHT40-BF_Nss2,(MCS0)_4TX
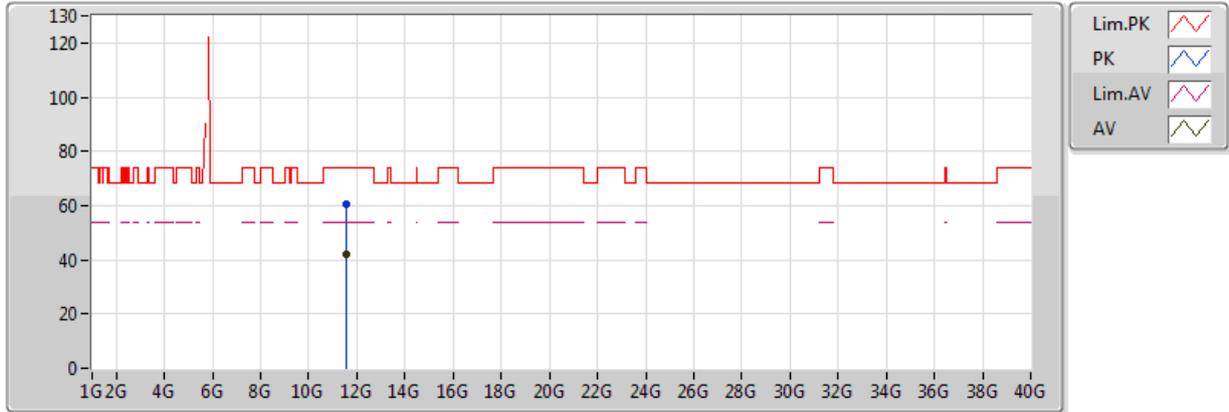
5795MHz_TX

26/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 92
02-R-4
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.59008G	60.44	74.00	-13.56	14.72	3	Vertical	310	2.43	
AV	11.59072G	42.08	54.00	-11.92	14.72	3	Vertical	310	2.43	

802.11ac VHT40-BF_Nss2,(MCS0)_4TX
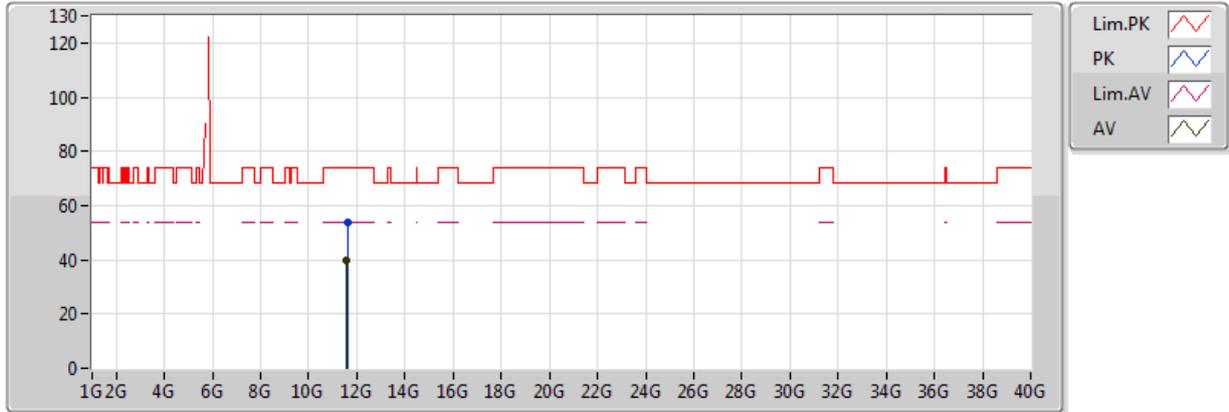
5795MHz_TX

26/06/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 92
02-R-4
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.59704G	54.05	74.00	-19.95	14.72	3	Horizontal	37	2.39	
AV	11.57072G	39.87	54.00	-14.13	14.69	3	Horizontal	37	2.39	

802.11ac VHT80-BF_Nss2,(MCS0)_4TX
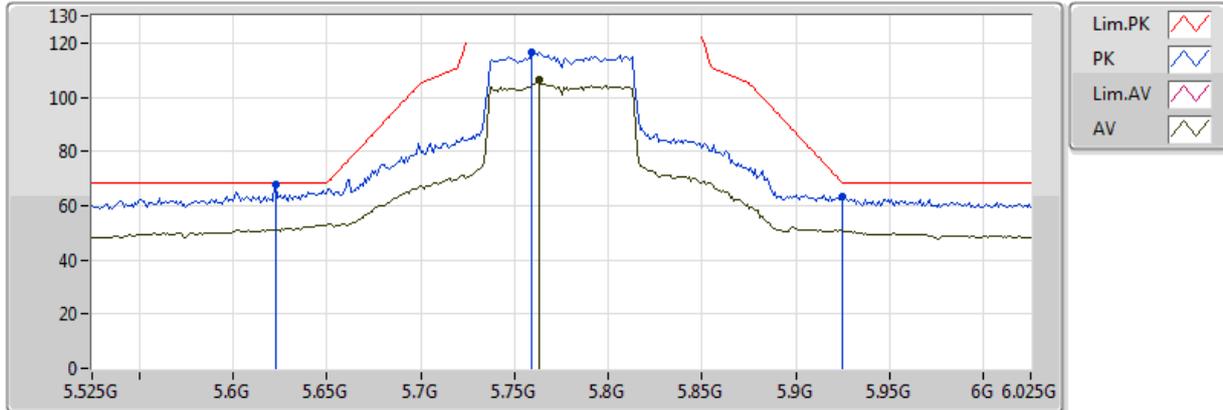
5775MHz_TX

11/08/2018

	Lim.PK
	PK
	Lim.AV
	AV

EUT Z_4TX Dipole
Setting 81
01-L-3-10
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	5.623G	68.08	68.20	-0.12	6.36	3	Vertical	80	1.99	
PK	5.759G	116.79	Inf	-Inf	6.93	3	Vertical	80	1.99	
AV	5.763G	106.39	Inf	-Inf	6.94	3	Vertical	80	1.99	
PK	5.924994G	63.30	68.20	-4.90	7.34	3	Vertical	80	1.99	

802.11ac VHT80-BF_Nss2,(MCS0)_4TX
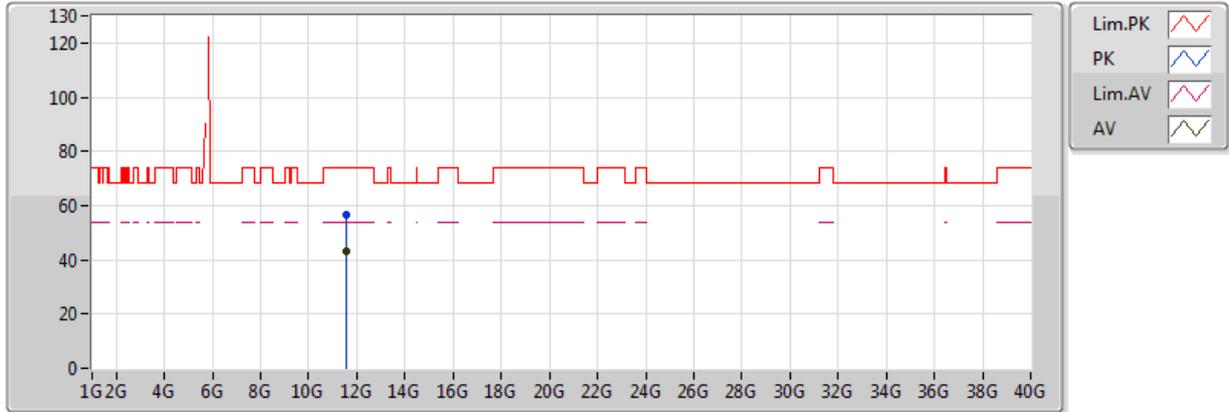
5775MHz_TX

11/08/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 81
01-L-3-10
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.55474G	56.67	74.00	-17.33	13.33	3	Vertical	12	2.39	
AV	11.5554G	43.16	54.00	-10.84	13.33	3	Vertical	12	2.39	

802.11ac VHT80-BF_Nss2,(MCS0)_4TX
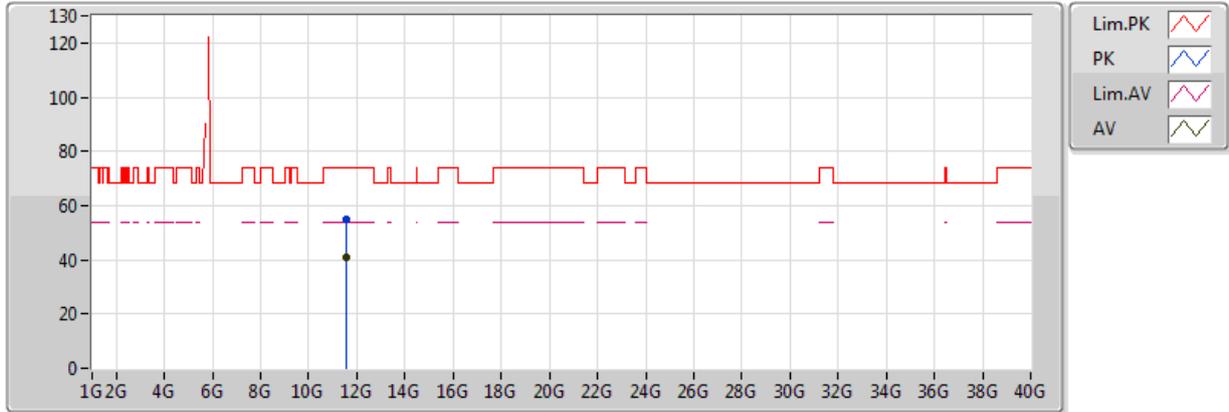
5775MHz_TX

11/08/2018

	Lim.PK	
	PK	
	Lim.AV	
	AV	

EUT Z_4TX Dipole
Setting 81
01-L-3-10
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	11.54766G	54.71	74.00	-19.29	13.33	3	Horizontal	202	1.97	
AV	11.5449G	40.91	54.00	-13.09	13.33	3	Horizontal	202	1.97	