

FCC Test Report

FCC ID : UIDSBG10

Equipment : SBG10

Model No. : SBG10

Brand Name : ARRIS

Applicant : ARRIS

Address : 3871 Lakefield Drive Suite 300, SUWANEE,

Georgia, 30024

Standard : 47 CFR FCC Part 15.407

Received Date : Mar. 22, 2018

Tested Date : Mar. 22 ~ Mar. 30, 2018

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by: Approved by:

Along Chen / Assistant Manager Gary Chang / Manager

Testing Laboratory 2732

Report No.: FR832202AN Page: 1 of 130



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information	5
1.2	Local Support Equipment List	
1.3	Test Setup Chart	
1.4	The Equipment List	11
1.5	Testing Applied Standards	12
1.6	Measurement Uncertainty	12
2	TEST CONFIGURATION	13
2.1	Testing Condition	13
2.2	The Worst Test Modes and Channel Details	14
3	TRANSMITTER TEST RESULTS	16
3.1	Conducted Emissions	16
3.2	Emission Bandwidth	25
3.3	RF Output Power	38
3.4	Peak Power Spectral Density	42
3.5	Transmitter Radiated and Band Edge Emissions	57
3.6	Frequency Stability	128
4	TEST LABORATORY INFORMATION	130



Release Record

Report No.	Version	Description	Issued Date
FR832202AN	Rev. 01	Initial issue	Apr. 20, 2018

Report No.: FR832202AN Page: 3 of 130



Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.383MHz 38.95 (Margin -9.26dB) - AV	Pass
15.407(b)	Radiated Emissions	[dBuV/m at 3m]: 5150.00MHz	Pass
15.209	Tradiated Emissions	53.85 (Margin -0.15dB) - AV	1 433
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: Non-beamforming mode 5150-5250MHz: 21.26 5725-5850MHz: 20.78 Beamforming mode 5150-5250MHz: 18.81 5725-5850MHz: 18.63	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

Report No.: FR832202AN Page: 4 of 130



1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information						
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS	
5150-5250	а	5180-5240	36-48 [4]	3	6-54 Mbps	
5150-5250	n (HT20)	5180-5240	36-48 [4]	1	MCS 0-7	
5150-5250	n (HT20)	5180-5240	36-48 [4]	2	MCS 8-15	
5150-5250	n (HT20)	5180-5240	36-48 [4]	3	MCS 16-23	
5150-5250	n (HT40)	5190-5230	38-46 [2]	1	MCS 0-7	
5150-5250	n (HT40)	5190-5230	38-46 [2]	2	MCS 8-15	
5150-5250	n (HT40)	5190-5230	38-46 [2]	3	MCS 16-23	
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	1/2/3	MCS 0-9	
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	1/2/3	MCS 0-9	
5150-5250	ac (VHT80)	5210	42 [1]	1/2/3	MCS 0-9	

Note 1: RF output power specifies that Maximum Conducted Output Power.

Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.

Note 3: 802.11ac supports beamforming function.

RF General Information						
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS	
5725-5850	а	5745-5825	149-165 [5]	3	6-54 Mbps	
5725-5850	n (HT20)	5745-5825	149-165 [5]	1	MCS 0-7	
5725-5850	n (HT20)	5745-5825	149-165 [5]	2	MCS 8-15	
5725-5850	n (HT20)	5745-5825	149-165 [5]	3	MCS 16-23	
5725-5850	n (HT40)	5755-5795	151-159 [2]	1	MCS 0-7	
5725-5850	n (HT40)	5755-5795	151-159 [2]	2	MCS 8-15	
5725-5850	n (HT40)	5755-5795	151-159 [2]	3	MCS 16-23	
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	1/2/3	MCS 0-9	
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	1/2/3	MCS 0-9	
5725-5850	ac (VHT80)	5775	155 [1]	1/2/3	MCS 0-9	

Note 1: RF output power specifies that Maximum Conducted Output Power.

Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.

Note 3: 802.11ac supports beamforming function.

Report No.: FR832202AN Page: 5 of 130



1.1.2 Antenna Details

Model	Tuno	Connector	Operating Freq	uencies (MHz) / Ant	enna Gain (dBi)
Model	Туре	Connector	2400~2483.5	5150~5250	5725~5850
Metal	PIFA	NA	3.6	4.75	4.75
Metal	PIFA	NA	3.6	4.75	4.75

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter
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1.1.4 Accessories

	Accessories				
No.	Equipment	Description			
1	AC adapter	Brand: APD Model: WB-24K12FU Power Rating: I/P: 100-120Vac, 60Hz, 0.7A Max O/P: 12Vdc, 2A Power Line: 1.77m non-shielded without core			
2	AC adapter	Brand: Netbit Model: NBS18D120200VU Power Rating: I/P: 100-120Vac, 50/60Hz, 0.6A O/P: 12Vdc, 2A Power Line: 1.8m non-shielded without core			
3	AC adapter	Brand: APD Model: WB-18R12FU Power Rating: I/P: 100-120Vac, 60Hz, 0.6A Max O/P: 12Vdc, 1.5A Power Line: 1.77m non-shielded without core			

Report No.: FR832202AN Page: 6 of 130



1.1.5 Channel List

For Frequency band 5150-5250 MHz					
802.11 a / HT20 / VHT20 HT40 / VHT40					
Channel	Frequency(MHz)	Channel	Frequency(MHz)		
36	5180	38	5190		
40	5200	46	5230		
44	5220	VH	Т80		
48	5240	42	5210		

For Frequency band 5725~5850 MHz					
802.11 a / H	T20 / VHT20	HT40 /	VHT40		
Channel	Channel Frequency(MHz)		Frequency(MHz)		
149	5745	151	5755		
153	5765	159	5795		
157	157 5785		T80		
161	5805	155	5775		
165	5825				

1.1.6 Test Tool and Duty Cycle

Test Tool	Putty, v0.60.0.0				
	Mode	Non-beamforming Bear		Beamf	orming
	Wiode	Duty cycle (%)	Duty factor (dB)	Duty cycle (%)	Duty factor (dB)
Duty Cycle and Duty Footor	11a	95.06%	0.22		
Duty Cycle and Duty Factor	VHT20	93.78%	0.28	100.00%	0.00
	VHT40	87.01%	0.60	100.00%	0.00
	VHT80	91.75%	0.37	100.00%	0.00

Report No.: FR832202AN Page: 7 of 130



1.1.7 Power Setting

	For Frequency band 5150-5250 MHz					
Modulation Mode	Tost Fraguency (MUz)	Powe	r Set			
Modulation Mode	Test Frequency (MHz)	Non-Beamforming	Beamforming			
11a	5180	28				
11a	5200	28				
11a	5240	28				
HT20	5180	24				
HT20	5200	25				
HT20	5240	25				
HT40	5190	22				
HT40	5230	23				
VHT20	5180	24	25			
VHT20	5200	25	26			
VHT20	5240	25	26			
VHT40	5190	22	22			
VHT40	5230	23	23			
VHT80	5210	22	19			

For Frequency band 5725~5850 MHz						
Modulation Mode	Test Frequency (MHz)	Powe	r Set			
Woddiation Wode	rest Frequency (MHZ)	Non-Beamforming	Beamforming			
11a	5745	27				
11a	5785	27				
11a	5825	27				
HT20	5745	24				
HT20	5785	24				
HT20	5825	23				
HT40	5755	22				
HT40	5795	22				
VHT20	5745	24	25			
VHT20	5785	24	24			
VHT20	5825	23	24			
VHT40	5755	22	22			
VHT40	5795	22	22			
VHT80	5775	26	26			

Report No.: FR832202AN Page: 8 of 130



1.2 Local Support Equipment List

Non-beamforming mode

Support Equipment List						
No.	Equipment	Brand	Model	S/N	Signal cable / Length (m)	
1	Notebook	DELL	Latitude E6430	C0GB4X1	RJ45, 10m non-shielded.	

Beamforming mode

	Support Equipment List								
No. Equipment Brand Model S/N Signal cable / Length (r									
1	Notebook	DELL	Latitude E6430	C0GB4X1	RJ45, 10m non-shielded.				
2	Notebook	DELL	Latitude E6430	G3GB4X1	RJ45, 1m non-shielded.				
3	BF Client	ARRIS	SBG10						

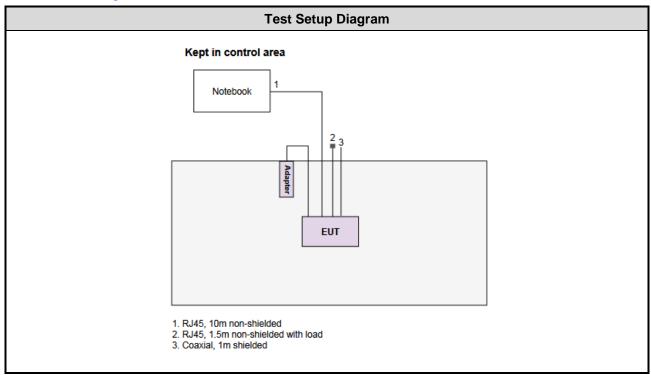
Note: No.3 is provided by applicant.

Report No.: FR832202AN Page: 9 of 130

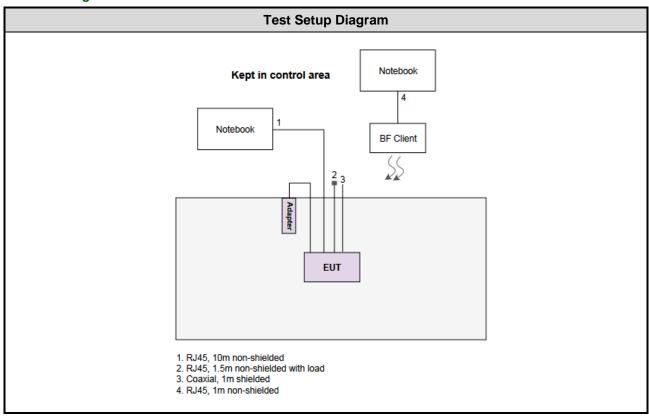


1.3 Test Setup Chart

Non-beamforming mode



Beamforming mode



Report No.: FR832202AN Page: 10 of 130



1.4 The Equipment List

Test Item	Conducted Emission								
Test Site	Conduction room 1 /	Conduction room 1 / (CO01-WS)							
Instrument	Manufacturer	Manufacturer Model No. Serial No. Calibration Date Calibration Until							
Receiver	R&S ESR3 101657 Jan. 05, 2018 Jan. 04,								
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 13, 2017	Nov. 12, 2018				
RF Cable-CON	EMC	EMCCFD300-BM-BM-6000	50821	Dec. 18, 2017	Dec. 17, 2018				
Measurement Software AUDIX e3 6.120210k NA NA NA									
Note: Calibration Int	erval of instruments lis	ted above is one year.		•					

Test Item	Radiated Emission						
Test Site	966 chamber 3 / (03C	H03-WS)					
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until		
Spectrum Analyzer	R&S	FSV40	101499	Jan. 03, 2018	Jan. 02, 2019		
Receiver	R&S	ESR3	101658	Nov. 20, 2017	Nov. 19, 2018		
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 28, 2017	Apr. 27, 2018		
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Jan. 18, 2018	Jan. 17, 2019		
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 23, 2017	Nov. 22, 2018		
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 13, 2017	Nov. 12, 2018		
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 07, 2017	Dec. 06, 2018		
Preamplifier	EMC	EMC02325	980187	Sep. 04, 2017	Sep. 03, 2018		
Preamplifier	Agilent	83017A	MY53270014	Aug. 21, 2017	Aug. 20, 2018		
Preamplifier	EMC	EMC184045B	980192	Aug. 22, 2017	Aug. 21, 2018		
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Nov. 27, 2017	Nov. 26, 2018		
RF cable-8M	HUBER+SUHNER	SUCOFLEX104	MY32487/4	Nov. 27, 2017	Nov. 26, 2018		
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Nov. 27, 2017	Nov. 26, 2018		
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800 -001	Nov. 27, 2017	Nov. 26, 2018		
LF cable-3M	EMC	EMC8D-NM-NM-300 0	131103	Nov. 27, 2017	Nov. 26, 2018		
LF cable-13M	EMC	EMC8D-NM-NM-130 00	131104	Nov. 27, 2017	Nov. 26, 2018		
Measurement Software	AUDIX	e3	6.120210g	NA	NA		
Note: Calibration Inter	val of instruments liste	d above is one year.					

Report No.: FR832202AN Page: 11 of 130



Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101486	Nov. 21, 2017	Nov. 20, 2018
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 27, 2017	Nov. 26, 2018
Power Meter	Anritsu	ML2495A	1241002	Oct. 16, 2017	Oct. 15, 2018
Power Sensor	Anritsu	MA2411B	1207366	Oct. 16, 2017	Oct. 15, 2018
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 01, 2017	Nov. 30, 2018
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA

1.5 Testing Applied Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.407

ANSI C63.10-2013

FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 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)

Measurement Uncertainty					
Parameters	Uncertainty				
Bandwidth	±34.134 Hz				
Conducted power	±0.808 dB				
Frequency error	±34.134 Hz				
Power density	±0.463 dB				
Conducted emission	±2.670 dB				
AC conducted emission	±2.90 dB				
Radiated emission ≤ 1GHz	±3.66 dB				
Radiated emission > 1GHz	±5.37 dB				
Time	±0.1%				
Temperature	±0.6 °C				

Report No.: FR832202AN Page: 12 of 130



2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	21°C / 58%	Alex Tsai
Radiated Emissions	03CH03-WS	20-23°C / 63-68%	Vincent Yeh Akun Chung
RF Conducted	TH01-WS	21°C / 63%	Brad Wu

FCC Designation No.: TW0009
 FCC site registration No.: 207696
 IC site registration No.: 10807C-1

Report No.: FR832202AN Page: 13 of 130



2.2 The Worst Test Modes and Channel Details

Non-beamforming mode

For Frequency band 5150-5250 MHz						
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration		
Conducted Emissions	11a	5180	6 Mbps			
Radiated Emissions ≤1GHz	11a	5180	6 Mbps			
RF Output Power	11a HT20 HT40 VHT20 VHT40 VHT80	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0 MCS 0 MCS 0 MCS 0			
Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	11a VHT20 VHT40 VHT80	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0			
Frequency Stability	Un-modulation	5200				

Note:

Three adapters had been covered during the pretest and found that Adapter: NBS18D120200VU was the worst case for Conducted Emission Test and Adapter: WB-24K12FU was the worst case for Radiated Emission Test.

For Frequency band 5725-5850 MHz						
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration		
Conducted Emissions	11a	5825	6 Mbps			
Radiated Emissions ≤1GHz	11a	5825	6 Mbps			
RF Output Power	11a HT20 HT40 VHT20 VHT40 VHT80	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0 MCS 0 MCS 0			
Radiated Emissions >1GHz Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	11a VHT20 VHT40 VHT80	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0			
Frequency Stability	Un-modulation	5785				

Note:

Report No.: FR832202AN Page: 14 of 130

Three adapters had been covered during the pretest and found that **Adapter: NBS18D120200VU** was the worst case for Conducted Emission Test and **Adapter: WB-24K12FU** was the worst case for Radiated Emission Test.



Beamforming mode

For Frequency band 5150-5250 MHz							
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration			
Conducted Emissions	VHT20	5200	MCS 0				
Radiated Emissions ≤1GHz	VHT20	5200	MCS 0				
RF Output Power	VHT20 VHT40 VHT80	5180 / 5200 / 5240 5190 / 5230 5210	MCS 0 MCS 0 MCS 0				
Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	VHT20 VHT40 VHT80	5180 / 5200 / 5240 5190 / 5230 5210	MCS 0 MCS 0 MCS 0				

Note:

Two adapters (NetBit & APD) had been covered during the pretest and found that NetBit adapter was the worst case for Conducted Emission Test and APD adapter was the worst case for Radiated Emission Test.

For Frequency band 5725-5850 MHz						
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration		
Conducted Emissions	VHT20	5825	MCS 0			
Radiated Emissions ≤1GHz	VHT20	5825	MCS 0			
RF Output Power	VHT20 VHT40 VHT80	5745 / 5785 / 5825 5755 / 5795 5775	MCS 0 MCS 0 MCS 0			
Radiated Emissions >1GHz Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	VHT20 VHT40 VHT80	5745 / 5785 / 5825 5755 / 5795 5775	MCS 0 MCS 0 MCS 0			

Note:

Report No.: FR832202AN Page: 15 of 130

Two adapters (NetBit & APD) had been covered during the pretest and found that NetBit adapter was the worst case for Conducted Emission Test and APD adapter was the worst case for Radiated Emission Test.



3 Transmitter Test Results

3.1 Conducted Emissions

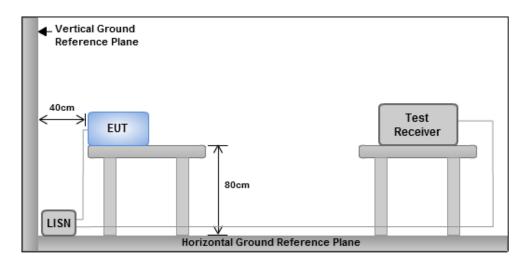
3.1.1 Limit of Conducted Emissions

Conducted Emissions Limit							
Frequency Emission (MHz) Quasi-Peak Average							
0.15-0.5	66 - 56 *	56 - 46 *					
0.5-5	56	46					
5-30	60	50					
Note 1: * Decreases with the logarith	m of the frequency.	-					

3.1.2 Test Procedures

- 1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
- 2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
- 3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
- 4. This measurement was performed with AC 120V / 60Hz.

3.1.3 Test Setup



Note: 1. Support units were connected to second LISN.

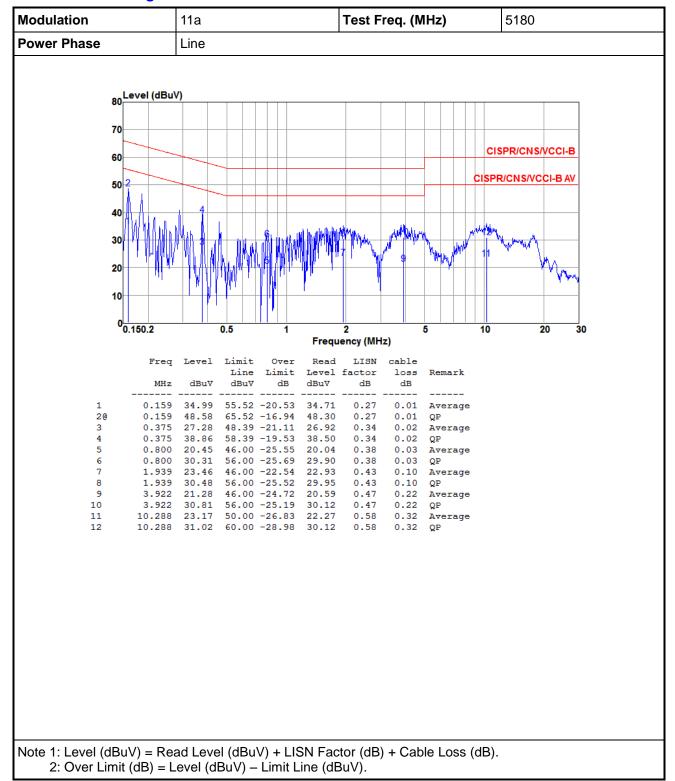
Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

Report No.: FR832202AN Page: 16 of 130



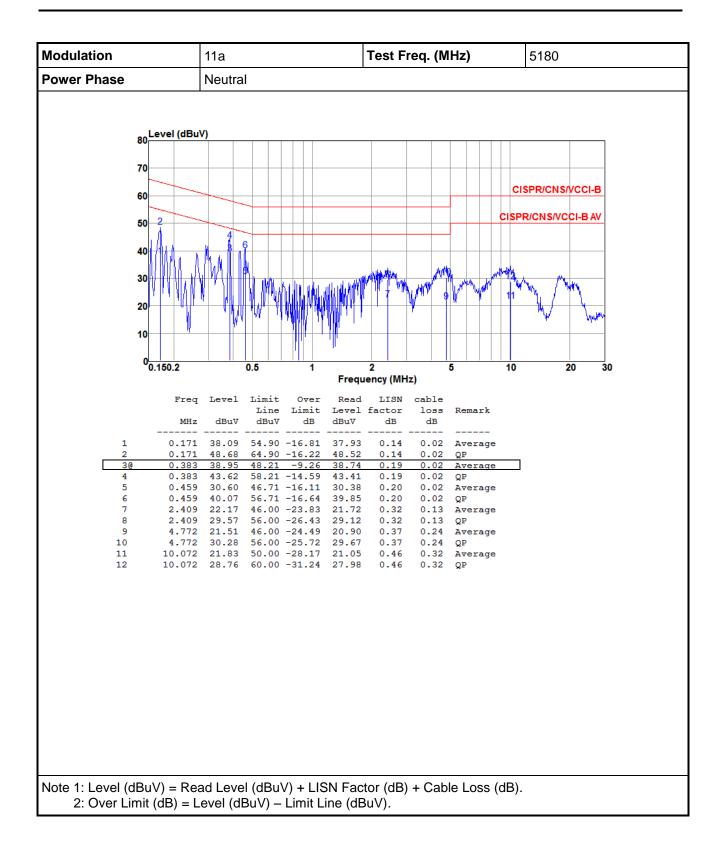
3.1.4 Test Result of Conducted Emissions

Non-beamforming mode



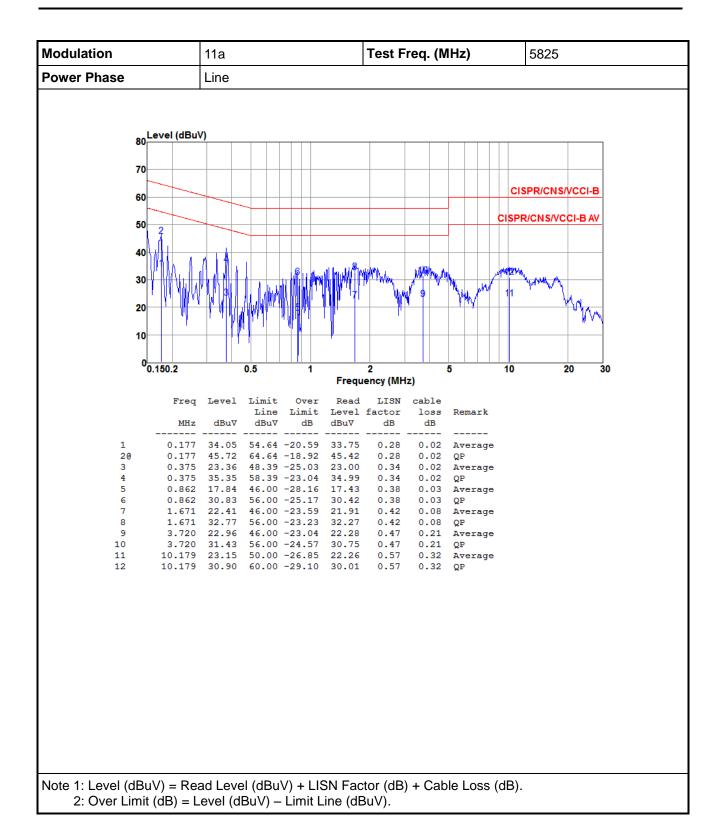
Report No.: FR832202AN Page: 17 of 130





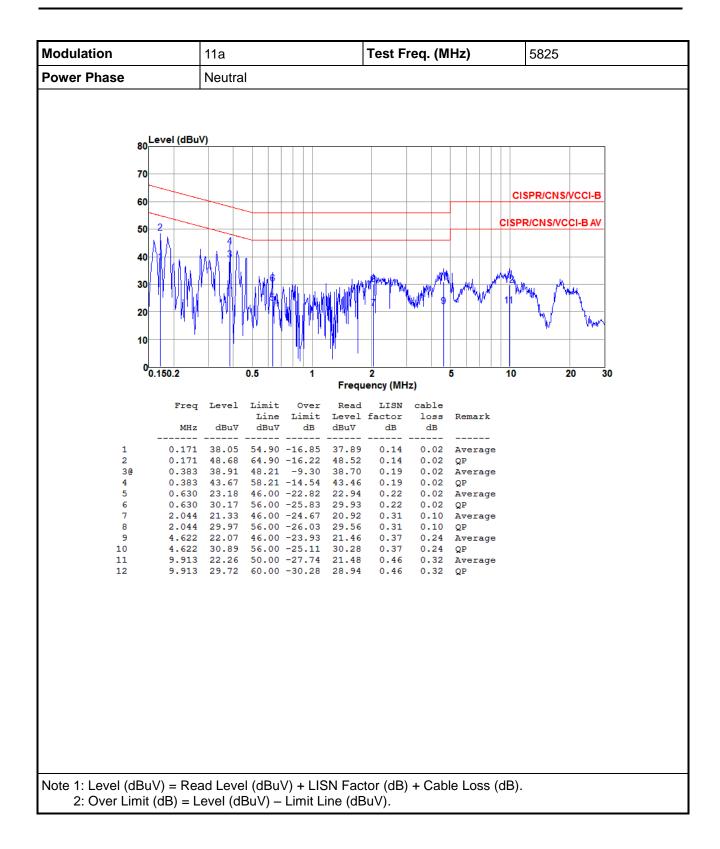
Report No.: FR832202AN Page: 18 of 130





Report No.: FR832202AN Page: 19 of 130

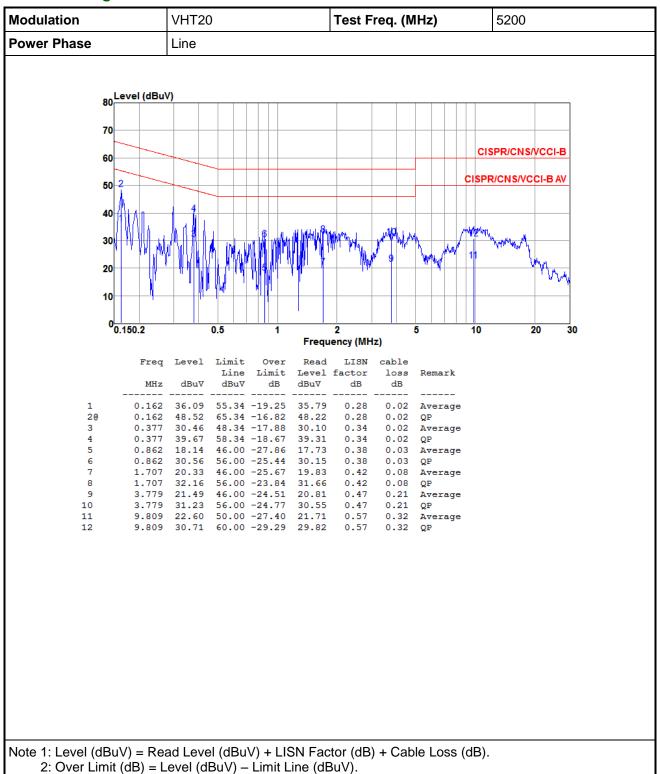




Report No.: FR832202AN Page: 20 of 130

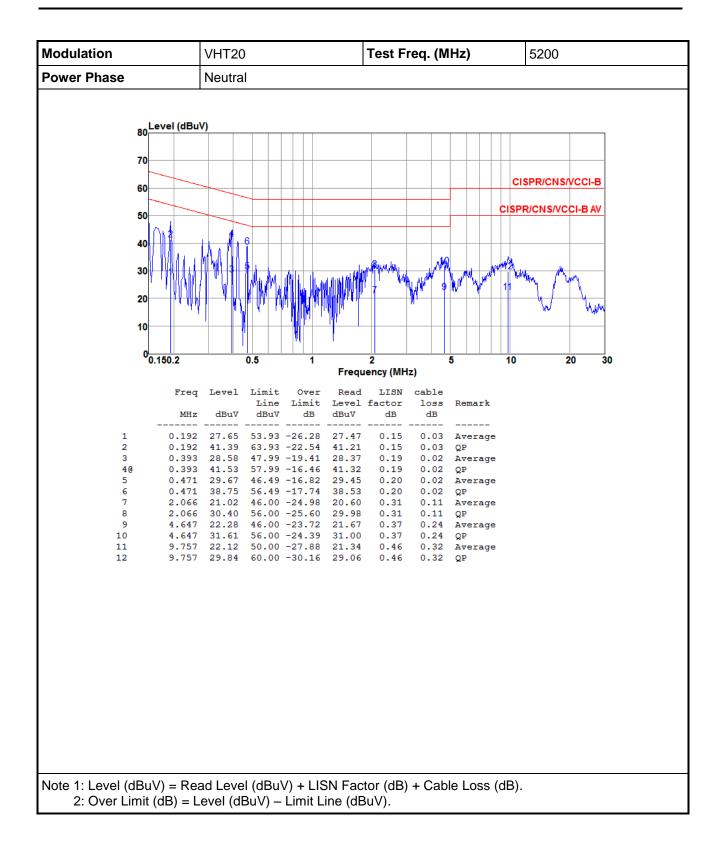


Beamforming mode



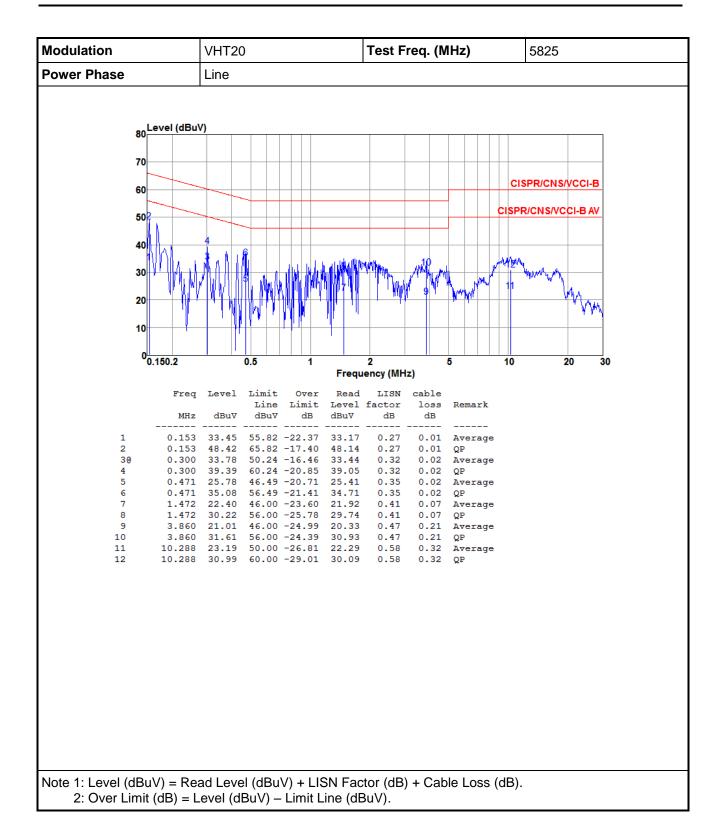
Report No.: FR832202AN Page: 21 of 130





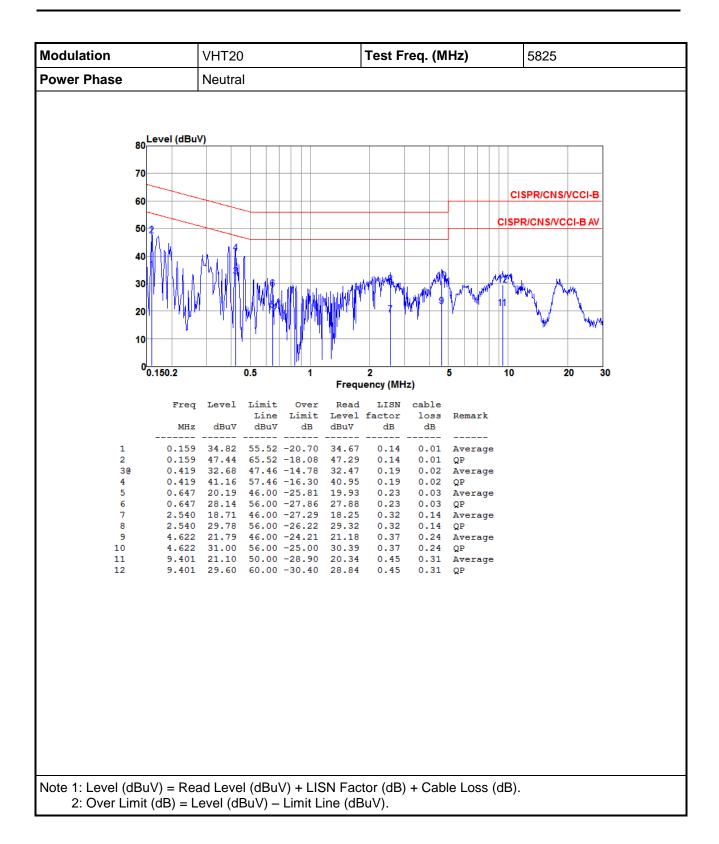
Report No.: FR832202AN Page: 22 of 130





Report No.: FR832202AN Page: 23 of 130





Report No.: FR832202AN Page: 24 of 130



3.2 Emission Bandwidth

3.2.1 Limit of Emission bandwidth

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

3.2.2 Test Procedures

26dB Bandwidth

- 1. Set RBW = approximately 1% of the emission bandwidth.
- 2. Set the VBW > RBW, Detector = Peak.
- Trace mode = max hold.
- 4. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

Occupied Bandwidth

- 1. Set RBW = 1 % to 5 % of the OBW
- 2. Set VBW ≥ 3 RBW
- 3. Sample detection and single sweep mode shall be used
- 4. Use the 99 % power bandwidth function of the instrument

6dB Bandwidth

- 1. Set RBW = 100kHz, VBW = 300kHz
- 2. Detector = Peak, Trace mode = max hold.
- 3. Allow the trace to stabilize.
- 4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

3.2.3 Test Setup



Report No.: FR832202AN Page: 25 of 130



3.2.4 Test Result of Emission Bandwidth

Non-beamforming mode

Summary

Mode	Max-N dB	Max-OBW	ITU-Code Min-N dB		Min-OBW	
	(Hz)	(Hz)		(Hz)	(Hz)	
5.15-5.25GHz	-	-	-	-	-	
802.11a_Nss1,(6Mbps)_3TX	29.348M	16.932M	16M9D1D	23.841M	16.57M	
802.11ac VHT20_Nss3,(MCS0)_3TX	21.522M	17.583M	17M6D1D	19.855M	17.583M	
802.11ac VHT40_Nss3,(MCS0)_3TX	40.725M	36.035M	36M0D1D	39.71M		
802.11ac VHT80_Nss3,(MCS0)_3TX	80.29M	75.253M	75M3D1D	80.29M	74.964M	
5.725-5.85GHz	-	-	-	-	-	
802.11a_Nss1,(6Mbps)_3TX	16.377M	16.86M	16M9D1D	12.246M	16.498M	
802.11ac VHT20_Nss3,(MCS0)_3TX	17.536M	17.583M	17M6D1D	14.42M	17.511M	
802.11ac VHT40_Nss3,(MCS0)_3TX	35.217M	36.035M	36M0D1D	30.29M	36.035M	
802.11ac VHT80_Nss3,(MCS0)_3TX	72.754M	75.253M	75M3D1D	66.377M	75.253M	

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;

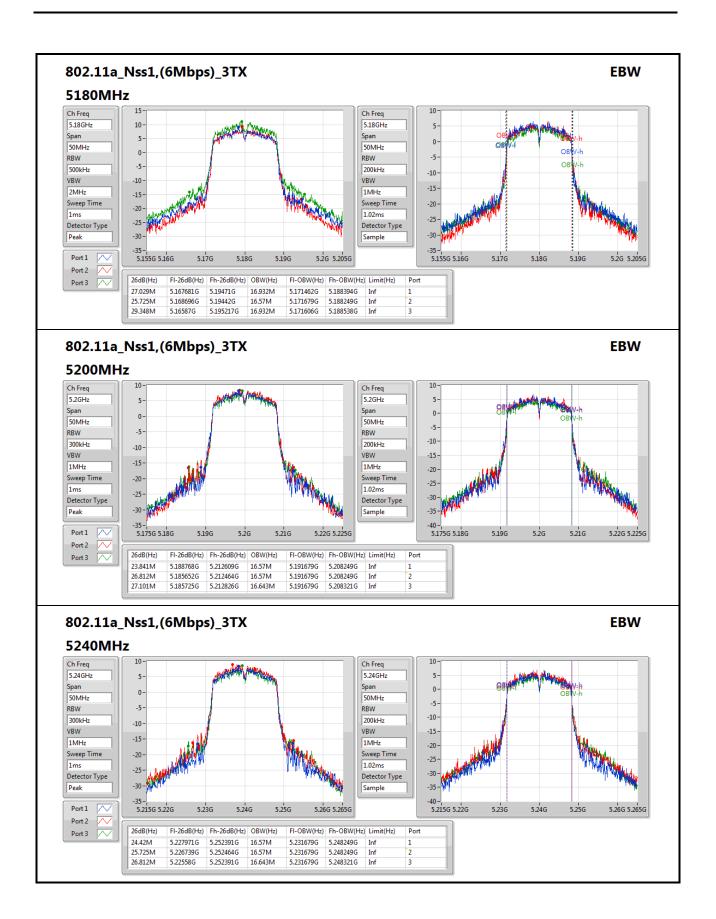
Result

Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW	Port 3-N dB	Port 3-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11a_Nss1,(6Mbps)_3TX	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	27.029M	16.932M	25.725M	16.57M	29.348M	16.932M
5200MHz	Pass	Inf	23.841M	16.57M	26.812M	16.57M	27.101M	16.643M
5240MHz	Pass	Inf	24.42M	16.57M	25.725M	16.57M	26.812M	16.643M
5745MHz	Pass	500k	15.652M	16.715M	14.638M	16.643M	15.072M	16.498M
5785MHz	Pass	500k	15.435M	16.86M	16.377M	16.643M	16.377M	16.498M
5825MHz	Pass	500k	12.246M	16.787M	13.188M	16.715M	16.087M	16.643M
802.11ac VHT20_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	19.855M	17.583M	20.29M	17.583M	21.522M	17.583M
5200MHz	Pass	Inf	20.507M	17.583M	20.145M	17.583M	19.928M	17.583M
5240MHz	Pass	Inf	20.217M	17.583M	20.29M	17.583M	20M	17.583M
5745MHz	Pass	500k	15.942M	17.511M	17.536M	17.583M	15.072M	17.583M
5785MHz	Pass	500k	14.42M	17.583M	15.072M	17.583M	15.072M	17.583M
5825MHz	Pass	500k	14.42M	17.583M	17.536M	17.583M	15M	17.583M
802.11ac VHT40_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	39.71M	35.89M	39.71M	35.89M	39.71M	35.89M
5230MHz	Pass	Inf	40.725M	36.035M	40M	36.035M	40.58M	36.035M
5755MHz	Pass	500k	35.217M	36.035M	35.072M	36.035M	33.913M	36.035M
5795MHz	Pass	500k	30.29M	36.035M	32.754M	36.035M	34.348M	36.035M
802.11ac VHT80_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	80.29M	74.964M	80.29M	75.253M	80.29M	74.964M
5775MHz	Pass	500k	68.696M	75.253M	66.377M	75.253M	72.754M	75.253M

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;

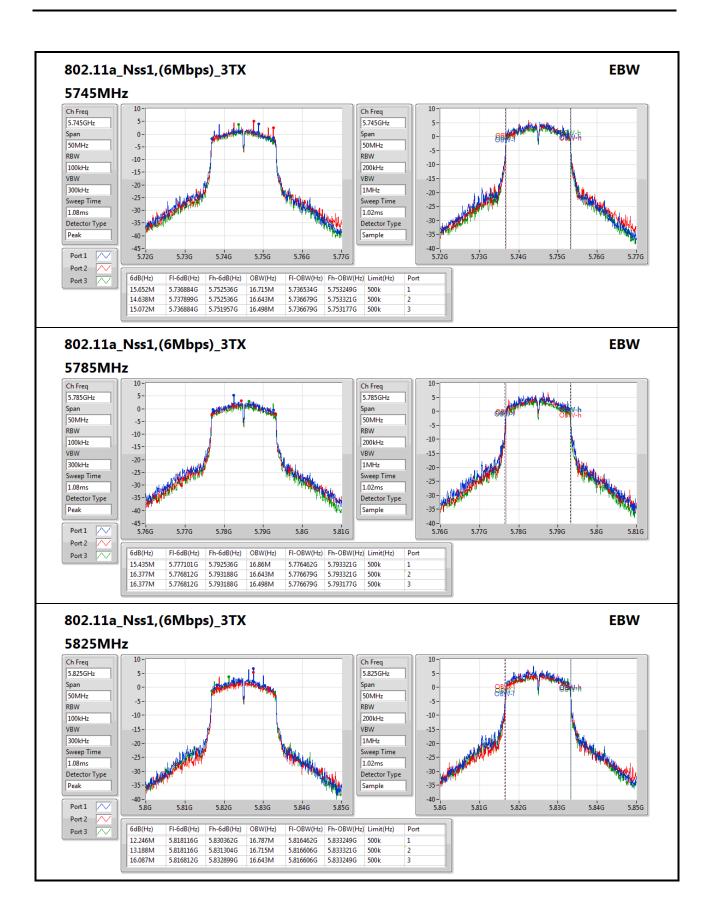
Report No.: FR832202AN Page: 26 of 130





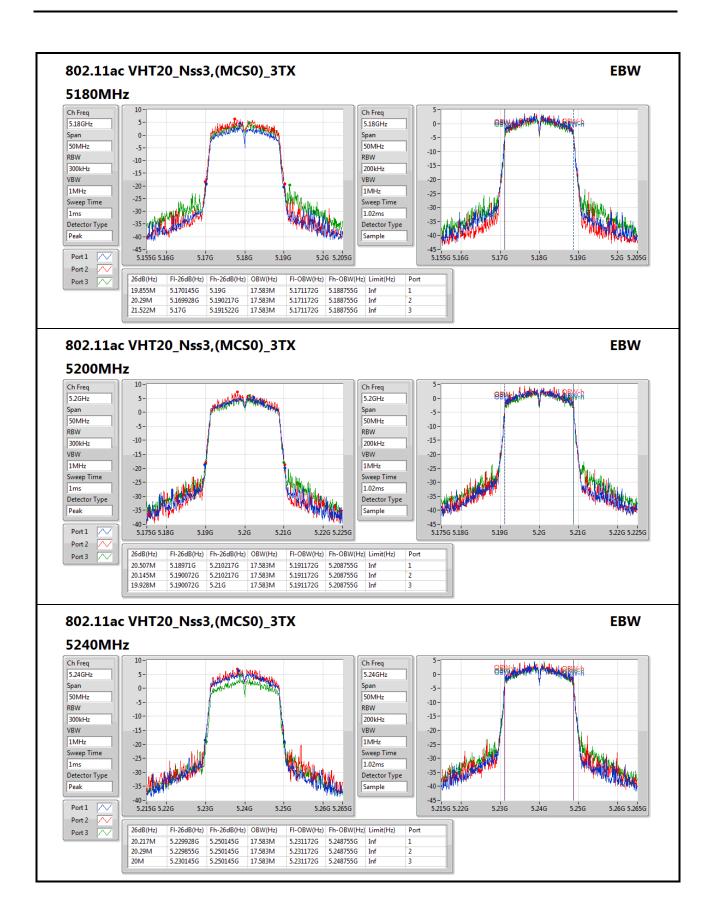
Report No.: FR832202AN Page: 27 of 130





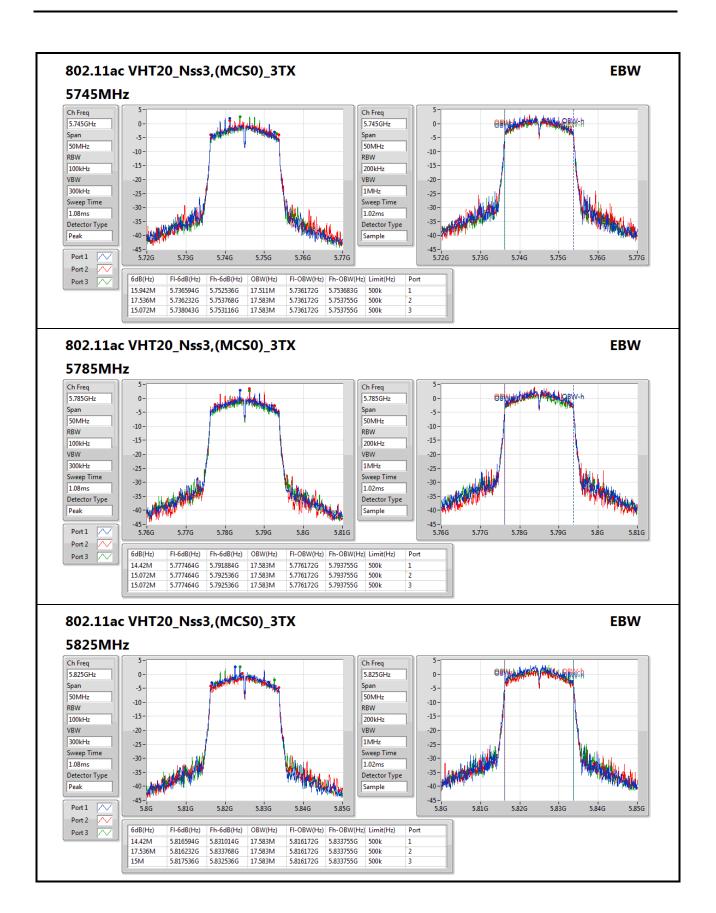
Report No.: FR832202AN Page: 28 of 130





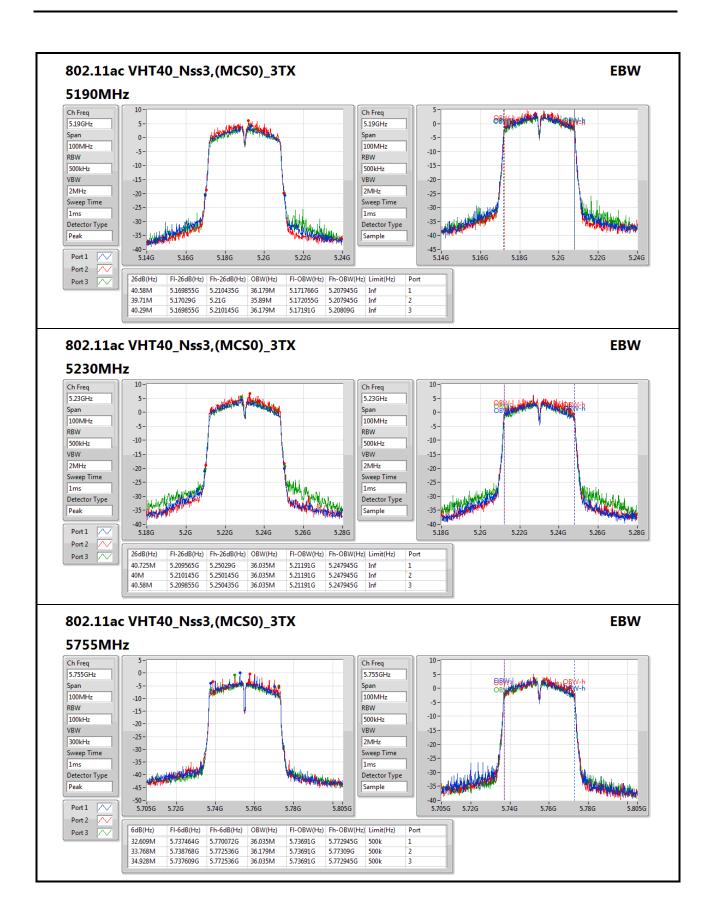
Report No.: FR832202AN Page: 29 of 130





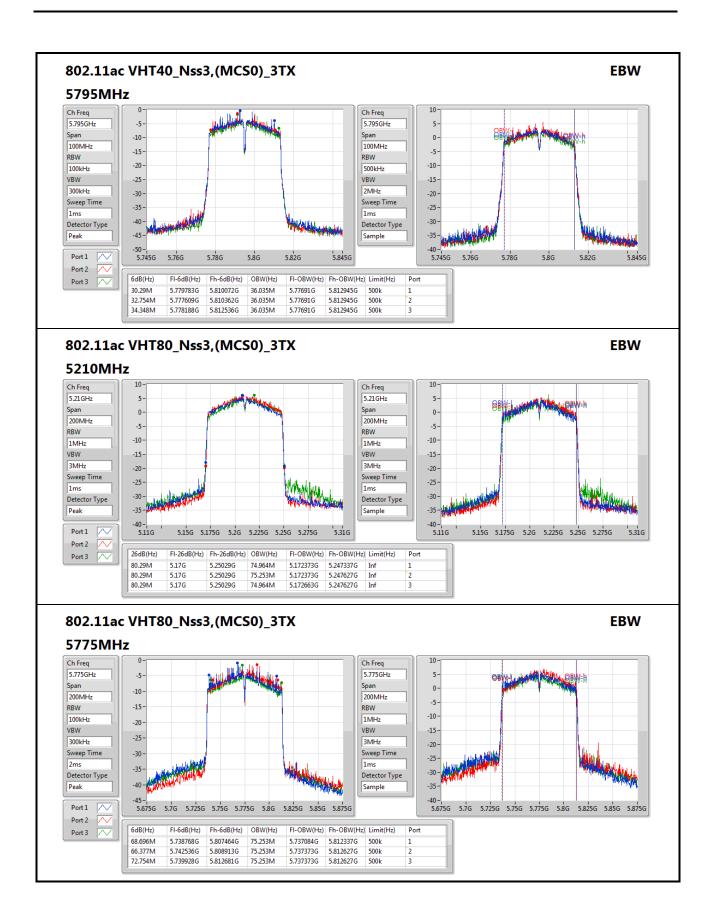
Report No.: FR832202AN Page: 30 of 130





Report No.: FR832202AN Page: 31 of 130





Report No.: FR832202AN Page: 32 of 130



Beamforming mode

Summary

Mode	Max-N dB	Max-OBW	ITU-Code	Min-N dB	Min-OBW	
	(Hz)	(Hz)		(Hz)	(Hz)	
5.15-5.25GHz	-	-	-	-	-	
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	26.884M	17.873M	17M9D1D	19.928M	17.656M	
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	41.884M	36.469M	36M5D1D	40.435M	36.179M	
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	81.739M	76.122M	76M1D1D	81.449M	75.832M	
5.725-5.85GHz	-	-	-	-	-	
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	17.609M	17.873M	17M9D1D	14.203M	17.728M	
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	35.507M	36.469M	36M5D1D	31.304M	36.179M	
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	73.913M	76.122M	76M1D1D	66.667M	75.832M	

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;

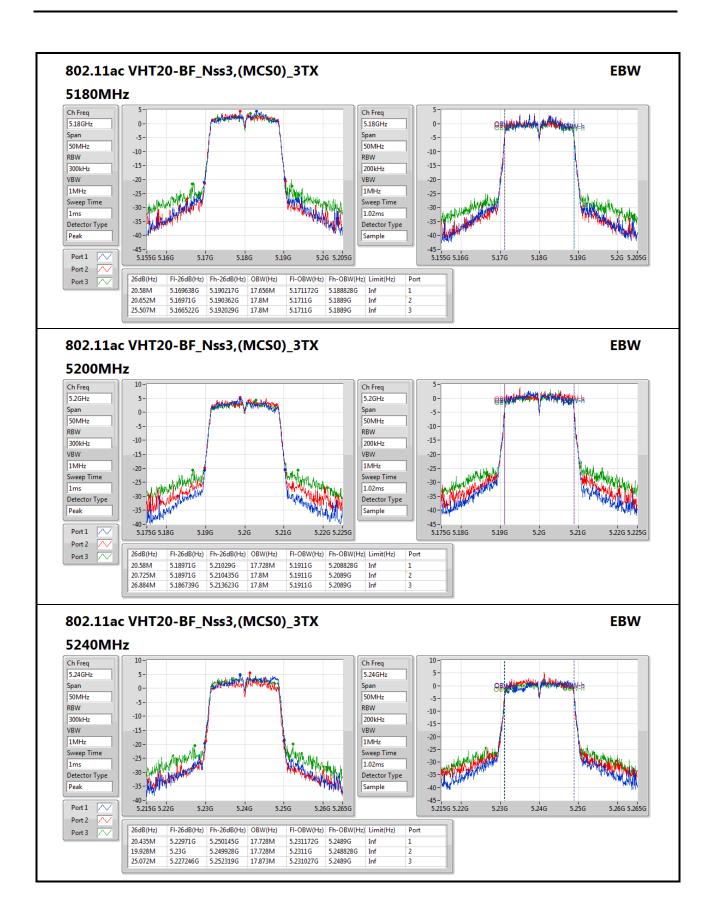
Result

Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW	Port 3-N dB	Port 3-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	20.58M	17.656M	20.652M	17.8M	25.507M	17.8M
5200MHz	Pass	Inf	20.58M	17.728M	20.725M	17.8M	26.884M	17.8M
5240MHz	Pass	Inf	20.435M	17.728M	19.928M	17.728M	25.072M	17.873M
5745MHz	Pass	500k	14.203M	17.728M	15.58M	17.728M	15.435M	17.873M
5785MHz	Pass	500k	16.087M	17.728M	17.536M	17.728M	17.391M	17.8M
5825MHz	Pass	500k	17.319M	17.728M	15M	17.728M	17.609M	17.8M
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.435M	36.179M	40.87M	36.469M	41.884M	36.469M
5230MHz	Pass	Inf	41.304M	36.469M	40.58M	36.324M	41.304M	36.469M
5755MHz	Pass	500k	34.928M	36.469M	33.768M	36.324M	35.072M	36.469M
5795MHz	Pass	500k	35.507M	36.324M	32.174M	36.469M	31.304M	36.179M
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.739M	75.832M	81.449M	75.832M	81.449M	76.122M
5775MHz	Pass	500k	70.145M	76.122M	66.667M	76.122M	73.913M	75.832M

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;

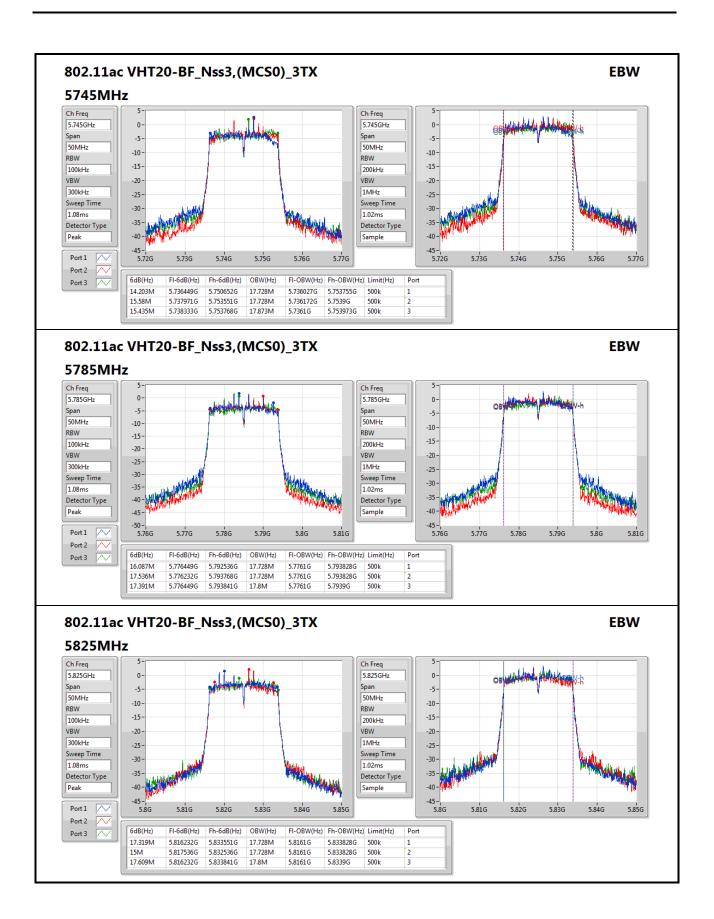
Report No.: FR832202AN Page: 33 of 130





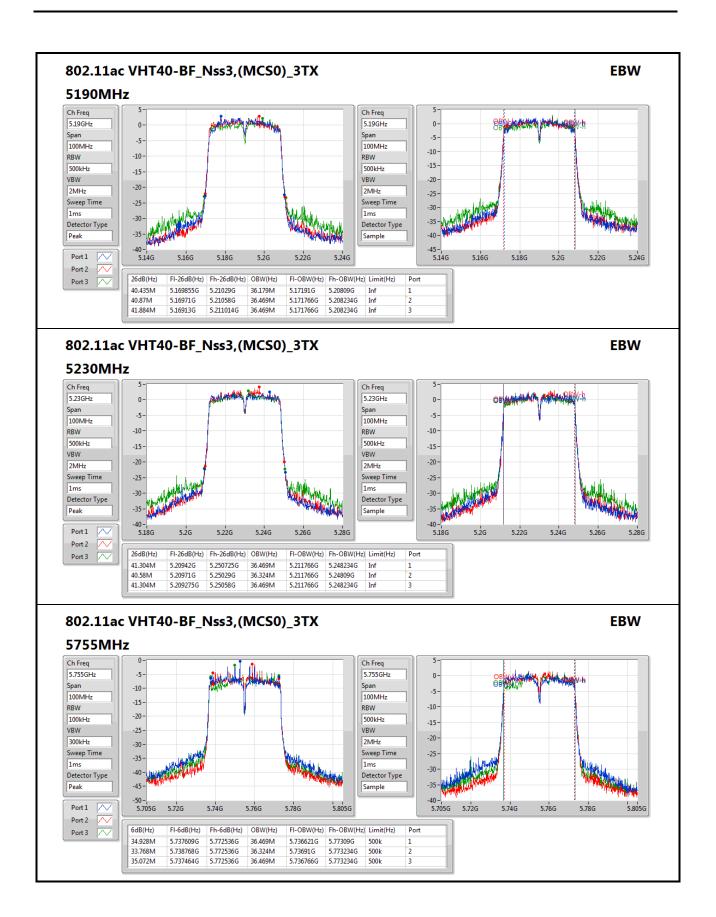
Report No.: FR832202AN Page: 34 of 130





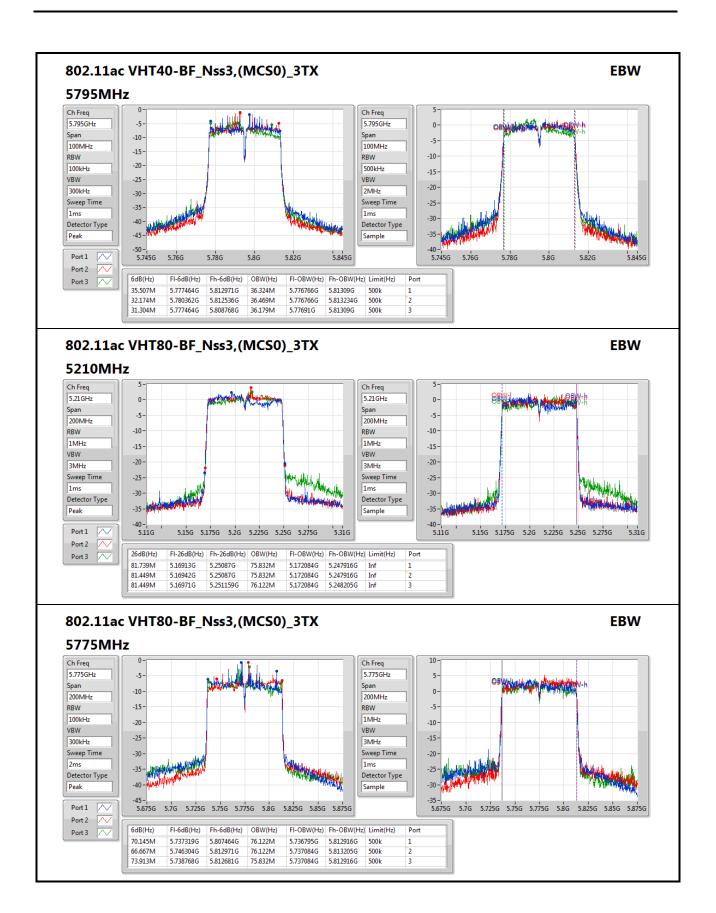
Report No.: FR832202AN Page: 35 of 130





Report No.: FR832202AN Page: 36 of 130





Report No.: FR832202AN Page: 37 of 130



3.3 RF Output Power

3.3.1 Limit of RF Output Power

	Frequency band 5150-5250 MHz								
Оре	erating Mode	Limit							
	Outdoor access point	Conducted Power: 1 W The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm)							
	Indoor access point	Conducted Power: 1 W							
	Fixed point-to-point access points	Conducted Power: 1 W							
	Client devices	Conducted Power: 250 mW							

Fred	quency Band (MHz)	Limit					
	5250 ~ 5350	250mW or 11dBm+10 log B					
	5470 ~ 5725	250mW or 11dBm+10 log B					
	5725 ~ 5850	1 W					
Note	Note: "B" is the 26dB emission bandwidth in MHz.						

3.3.2 Test Procedures

Method PM-G (Measurement using a gated RF average power meter)

Measurements is performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.3.3 Test Setup



Report No.: FR832202AN Page: 38 of 130



3.3.4 Test Result of Maximum Conducted Output Power

Non-beamforming mode

Summary

Mode	Total Power	Total Power	EIRP	EIRP
	(dBm)	(W)	(dBm)	(W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_3TX	21.26	0.13366	26.01	0.39902
802.11n HT20_Nss3,(MCS16)_3TX	18.71	0.07430	23.46	0.22182
802.11n HT40_Nss3,(MCS16)_3TX	17.88	0.06138	22.63	0.18323
802.11ac VHT20_Nss3,(MCS0)_3TX	18.82	0.07621	23.57	0.22751
802.11ac VHT40_Nss3,(MCS0)_3TX	18.00	0.06310	22.75	0.18836
802.11ac VHT80_Nss3,(MCS0)_3TX	17.72	0.05916	22.47	0.17660
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_3TX	20.78	0.11967	25.53	0.35727
802.11n HT20_Nss3,(MCS16)_3TX	17.64	0.05808	22.39	0.17338
802.11n HT40_Nss3,(MCS16)_3TX	16.77	0.04753	21.52	0.14191
802.11ac VHT20_Nss3,(MCS0)_3TX	17.76	0.05970	22.51	0.17824
802.11ac VHT40_Nss3,(MCS0)_3TX	16.91	0.04909	21.66	0.14655
802.11ac VHT80_Nss3,(MCS0)_3TX	19.97	0.09931	24.72	0.29648

Report No.: FR832202AN Page: 39 of 130



Result

Mode	Result	DG	Port 1	Port 2	Port 3	Total Power	Power Limit	EIRP	EIRP Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
802.11a_Nss1,(6Mbps)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	4.75	16.88	16.74	15.75	21.26	30.00	26.01	36.00
5200MHz	Pass	4.75	16.62	16.65	15.83	21.15	30.00	25.90	36.00
5240MHz	Pass	4.75	16.38	16.77	15.8	21.11	30.00	25.86	36.00
5745MHz	Pass	4.75	15.59	15.62	14.93	20.16	30.00	24.91	36.00
5785MHz	Pass	4.75	16.01	15.91	15.01	20.44	30.00	25.19	36.00
5825MHz	Pass	4.75	16.64	15.79	15.51	20.78	30.00	25.53	36.00
802.11n HT20_Nss3,(MCS16)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	4.75	13.65	13.52	13.31	18.27	30.00	23.02	36.00
5200MHz	Pass	4.75	14.03	14.22	13.54	18.71	30.00	23.46	36.00
5240MHz	Pass	4.75	13.71	14.03	13.69	18.58	30.00	23.33	36.00
5745MHz	Pass	4.75	12.92	12.94	12.25	17.49	30.00	22.24	36.00
5785MHz	Pass	4.75	13.06	13.14	12.35	17.64	30.00	22.39	36.00
5825MHz	Pass	4.75	13.34	12.68	12.41	17.60	30.00	22.35	36.00
802.11n HT40_Nss3,(MCS16)_3TX	-	-	-	-	-	-	-	-	-
5190MHz	Pass	4.75	12.75	12.72	12.35	17.38	30.00	22.13	36.00
5230MHz	Pass	4.75	13.06	13.42	12.81	17.88	30.00	22.63	36.00
5755MHz	Pass	4.75	12.14	12.11	11.63	16.74	30.00	21.49	36.00
5795MHz	Pass	4.75	12.35	12.08	11.54	16.77	30.00	21.52	36.00
802.11ac VHT20_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	4.75	13.79	13.66	13.45	18.41	30.00	23.16	36.00
5200MHz	Pass	4.75	14.16	14.31	13.66	18.82	30.00	23.57	36.00
5240MHz	Pass	4.75	13.83	14.19	13.82	18.72	30.00	23.47	36.00
5745MHz	Pass	4.75	13.01	13.06	12.42	17.61	30.00	22.36	36.00
5785MHz	Pass	4.75	13.18	13.26	12.49	17.76	30.00	22.51	36.00
5825MHz	Pass	4.75	13.49	12.81	12.55	17.74	30.00	22.49	36.00
802.11ac VHT40_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5190MHz	Pass	4.75	12.91	12.88	12.5	17.54	30.00	22.29	36.00
5230MHz	Pass	4.75	13.14	13.59	12.94	18.00	30.00	22.75	36.00
5755MHz	Pass	4.75	12.28	12.25	11.75	16.87	30.00	21.62	36.00
5795MHz	Pass	4.75	12.48	12.26	11.63	16.91	30.00	21.66	36.00
802.11ac VHT80_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5210MHz	Pass	4.75	12.88	13.02	12.96	17.72	30.00	22.47	36.00
5775MHz	Pass	4.75	15.55	15.36	14.65	19.97	30.00	24.72	36.00

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

Report No.: FR832202AN Page: 40 of 130



Beamforming mode

Summary

Mode	Total Power	Total Power	EIRP	EIRP
	(dBm)	(W)	(dBm)	(W)
5.15-5.25GHz	-	-	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	18.81	0.07603	28.33	0.68077
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	17.80	0.06026	27.32	0.53951
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	15.72	0.03733	25.24	0.33420
5.725-5.85GHz	-	-	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	17.72	0.05916	27.24	0.52966
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	16.86	0.04853	26.38	0.43451
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	18.63	0.07295	28.15	0.65313

Result

Mode	Result	DG	Port 1	Port 2	Port 3	Total Power	Power Limit	EIRP	EIRP Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	9.52	13.77	13.52	13.41	18.34	26.48	27.86	36.00
5200MHz	Pass	9.52	14.16	14.09	13.87	18.81	26.48	28.33	36.00
5240MHz	Pass	9.52	13.55	14.15	14.01	18.68	26.48	28.20	36.00
5745MHz	Pass	9.52	12.66	12.91	12.83	17.57	26.48	27.09	36.00
5785MHz	Pass	9.52	13.17	12.65	12.65	17.60	26.48	27.12	36.00
5825MHz	Pass	9.52	13.51	12.49	12.77	17.72	26.48	27.24	36.00
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5190MHz	Pass	9.52	12.71	12.65	12.25	17.31	26.48	26.83	36.00
5230MHz	Pass	9.52	12.93	13.27	12.87	17.80	26.48	27.32	36.00
5755MHz	Pass	9.52	12.21	12.06	11.55	16.72	26.48	26.24	36.00
5795MHz	Pass	9.52	12.41	12.17	11.66	16.86	26.48	26.38	36.00
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5210MHz	Pass	9.52	10.95	11.05	10.85	15.72	26.48	25.24	36.00
5775MHz	Pass	9.52	14.12	13.92	13.51	18.63	26.48	28.15	36.00

DG = Directional Gain;Port X = Port X output power
Directional gain = 4.75+10* log(3/1) =9.52 dBi > 6 dBi, Power Limit shall be reduced to 30 dBm - (9.52 dBi - 6 dBi) = 26.48 dBm

Report No.: FR832202AN Page: 41 of 130



3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

	Frequency band 5150-5250 MHz							
Ope	erating Mode	Limit						
	Outdoor access point	17 dBm / MHz						
\boxtimes	Indoor access point	17 dBm / MHz						
	Fixed point-to-point access points	17 dBm / MHz						
	Client devices	11 dBm / MHz						

Free	quency Band (MHz)	Limit
	5250 ~ 5350	11 dBm / MHz
	5470 ~ 5725	11 dBm / MHz
	5725 ~ 5850	30 dBm /500 kHz

Report No.: FR832202AN Page: 42 of 130



3.4.2 Test Procedures

For 5150 ~ 5250 MHz

- Method SA-1 (For Beamforming mode)
 - 1. Set RBW = 1 MHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
 - 2. Trace average 100 traces.
 - 3. Use the peak marker function to determine the maximum amplitude level.
- Method SA-2 Alternative (For Non- Beamforming mode)
 - Set RBW = 1 MHz, VBW = 3 MHz, Detector = RMS.
 - 2. Set sweep time ≥ 10 * (number of points in sweep) * (total on/off period of the transmitted signal).
 - 3. Perform a single sweep.
 - 4. Use the peak marker function to determine the maximum amplitude level.
 - 5. Add 10 log(1/x), where x is the duty cycle.

For 5725 ~ 5850 MHz

- Method SA-1 (For Beamforming mode)
 - 1. Set RBW = 500 kHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
 - 2. Trace average 100 traces.
 - 3. Use the peak marker function to determine the maximum amplitude level.
- Method SA-2 Alternative (For Non- Beamforming mode)
 - 1. Set RBW = 500 kHz, VBW = 3 MHz, Detector = RMS.
 - 2. Set sweep time ≥ 10 * (number of points in sweep) * (total on/off period of the transmitted signal).
 - 3. Perform a single sweep.
 - 4. Use the peak marker function to determine the maximum amplitude level.
 - 5. Add $10 \log(1/x)$, where x is the duty cycle.

3.4.3 Test Setup



Report No.: FR832202AN Page: 43 of 130



3.4.4 Test Result of Peak Power Spectral Density

Non-beamforming mode

Summary

Mode	PD	EIRP PD
	(dBm/RBW)	(dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_3TX	9.61	19.13
802.11ac VHT20_Nss3,(MCS0)_3TX	7.00	11.75
802.11ac VHT40_Nss3,(MCS0)_3TX	3.28	8.03
802.11ac VHT80_Nss3,(MCS0)_3TX	-0.17	4.58
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_3TX	7.64	17.16
802.11ac VHT20_Nss3,(MCS0)_3TX	4.72	9.47
802.11ac VHT40_Nss3,(MCS0)_3TX	0.56	5.31
802.11ac VHT80_Nss3,(MCS0)_3TX	-0.59	4.16

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

Report No.: FR832202AN Page: 44 of 130



Result

Mode	Result	DG	Port 1	Port 2	Port 3	PD	PD Limit	EIRP PD	EIRP PD Limit
		(dBi)	(dBm/RBW)						
802.11a_Nss1,(6Mbps)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	9.52	5.23	5.04	4.23	9.57	13.48	19.09	23.00
5200MHz	Pass	9.52	5.18	5.10	4.37	9.61	13.48	19.13	23.00
5240MHz	Pass	9.52	4.86	5.28	4.35	9.56	13.48	19.08	23.00
5745MHz	Pass	9.52	2.39	2.40	1.78	6.97	26.48	16.49	36.00
5785MHz	Pass	9.52	3.01	2.89	1.93	7.40	26.48	16.92	36.00
5825MHz	Pass	9.52	3.48	2.64	2.52	7.64	26.48	17.16	36.00
802.11ac VHT20_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	4.75	1.70	1.76	1.05	6.27	17.00	11.02	23.00
5200MHz	Pass	4.75	2.19	2.52	1.74	6.90	17.00	11.65	23.00
5240MHz	Pass	4.75	2.09	2.74	1.81	7.00	17.00	11.75	23.00
5745MHz	Pass	4.75	-0.24	-0.26	-0.73	4.32	30.00	9.07	36.00
5785MHz	Pass	4.75	0.28	0.11	-0.47	4.72	30.00	9.47	36.00
5825MHz	Pass	4.75	0.40	-0.73	-0.46	4.51	30.00	9.26	36.00
802.11ac VHT40_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5190MHz	Pass	4.75	-4.80	-4.80	-4.80	-0.04	17.00	4.71	23.00
5230MHz	Pass	4.75	-1.47	-1.09	-1.87	3.28	17.00	8.03	23.00
5755MHz	Pass	4.75	-5.56	-5.56	-5.58	-0.87	30.00	3.88	36.00
5795MHz	Pass	4.75	-3.74	-4.07	-4.76	0.56	30.00	5.31	36.00
802.11ac VHT80_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5210MHz	Pass	4.75	-4.84	-4.61	-5.34	-0.17	17.00	4.58	23.00
5775MHz	Pass	4.75	-5.15	-4.93	-5.93	-0.59	30.00	4.16	36.00

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;

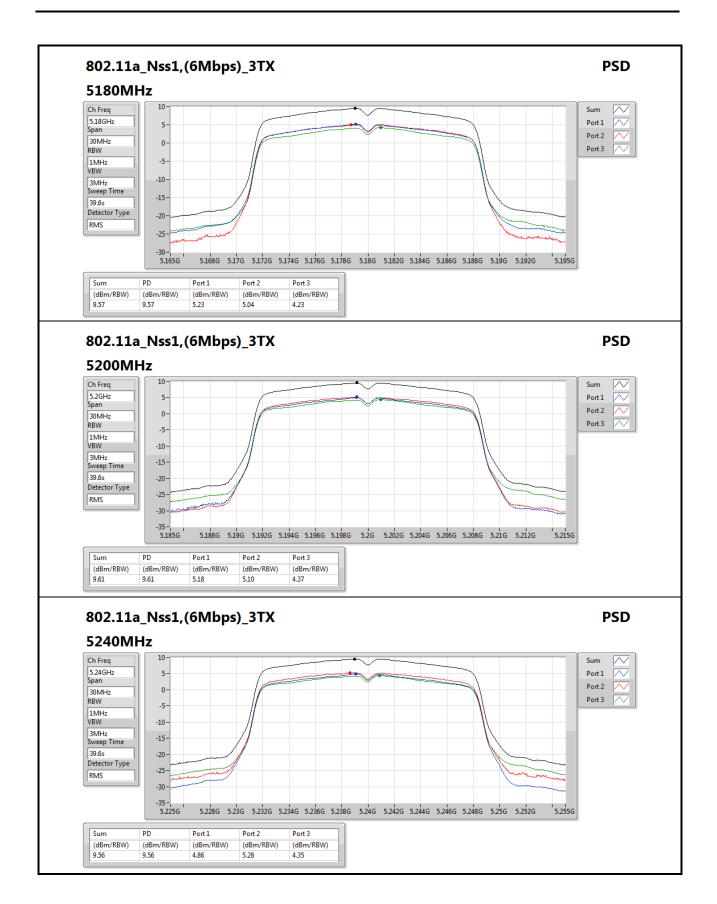
For 11a, 5150 ~ 5250 MHz band

Directional gain = $4.75+10*\log(3/1) = 9.52$ dBi > 6 dBi, PD Limit shall be reduced to 17 dBm - (9.52 dBi - 6 dBi) = 13.48 dBm. For 11a, $5725 \sim 5850$ MHz band

Directional gain = $4.75+10* \log(3/1) = 9.52 \text{ dBi} > 6 \text{ dBi}$, PD Limit shall be reduced to 30 dBm - (9.52 dBi - 6 dBi) = 26.48 dBm

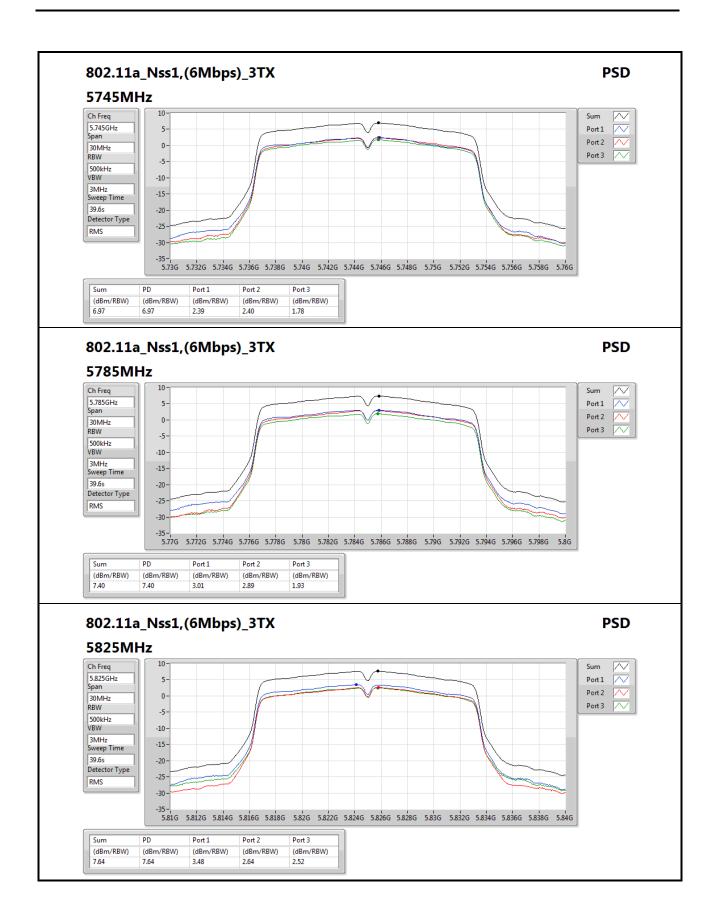
Report No.: FR832202AN Page: 45 of 130





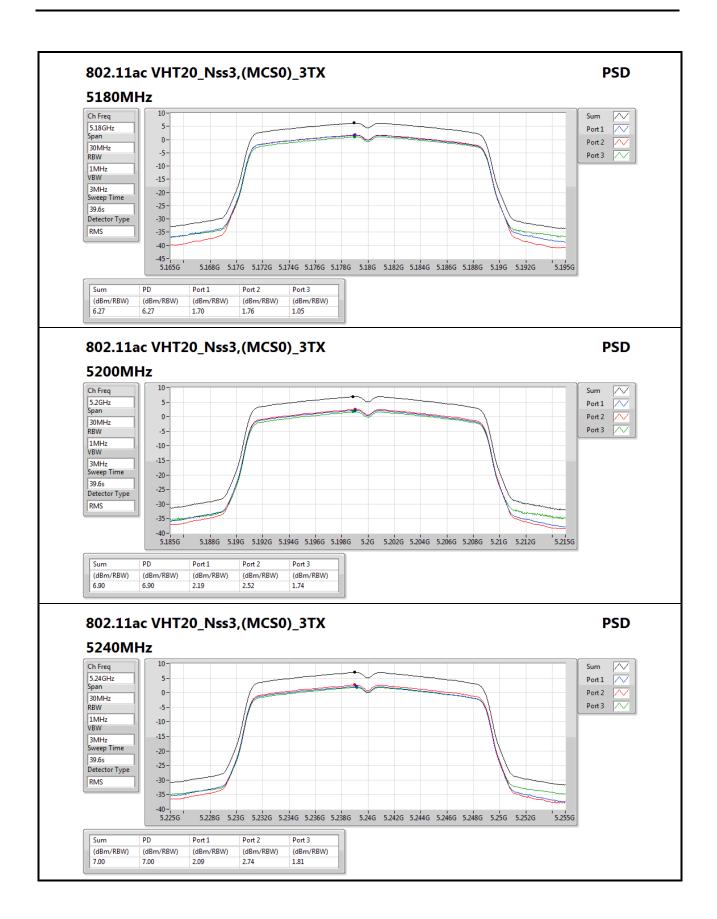
Report No.: FR832202AN Page: 46 of 130





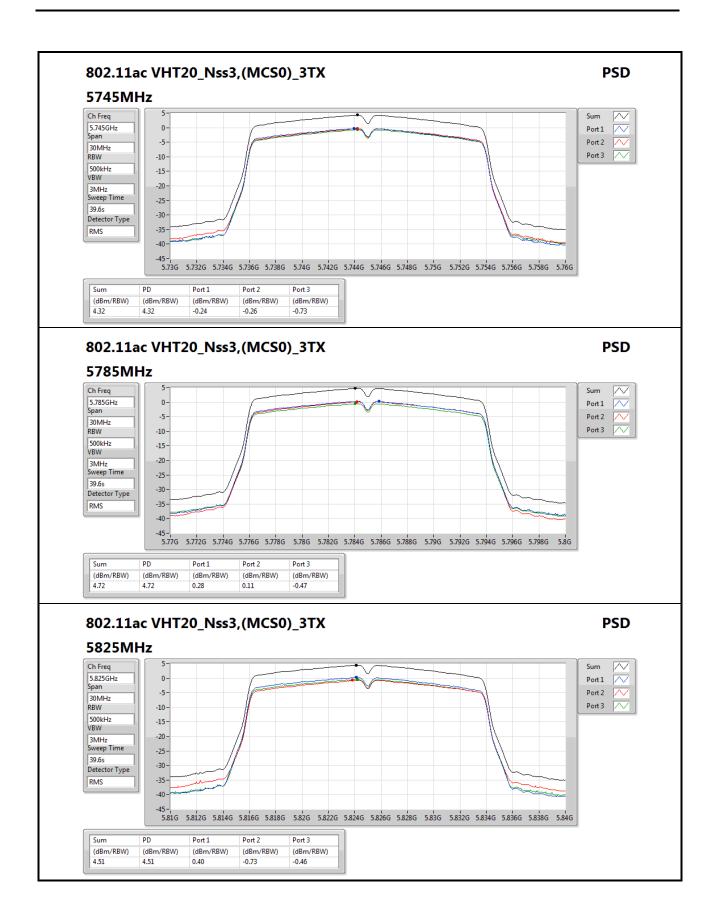
Report No.: FR832202AN Page: 47 of 130





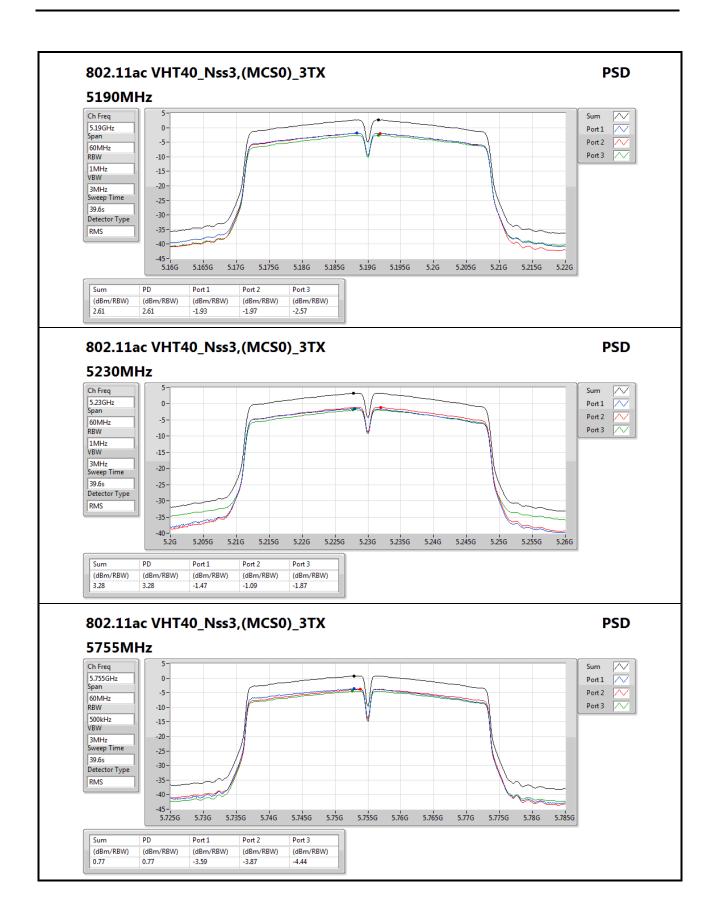
Report No.: FR832202AN Page: 48 of 130





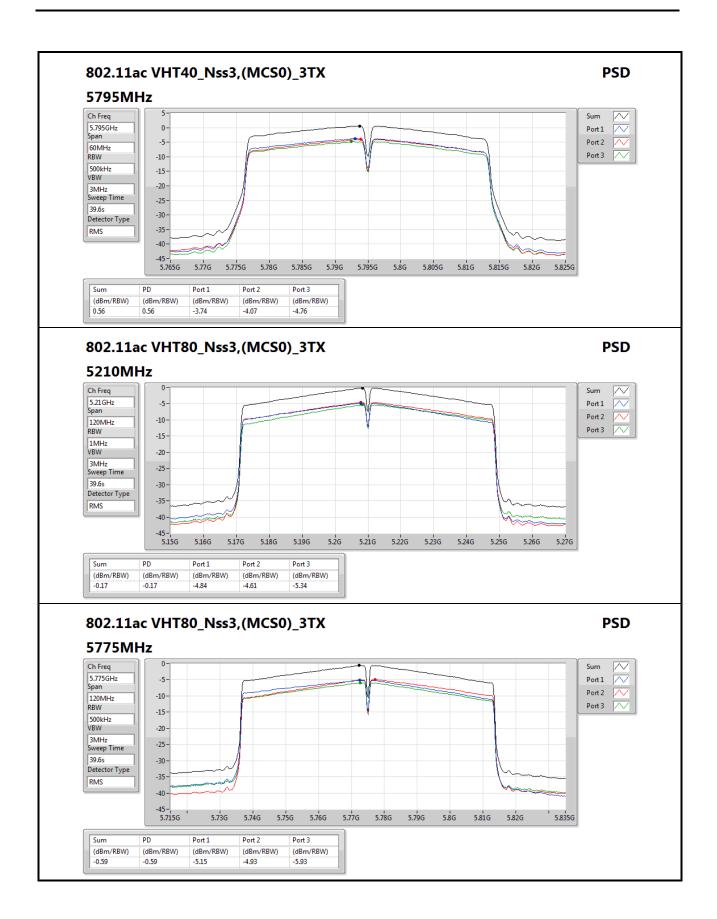
Report No.: FR832202AN Page: 49 of 130





Report No.: FR832202AN Page: 50 of 130





Report No.: FR832202AN Page: 51 of 130



Beamforming mode

Summary

Mode	PD	EIRP PD
	(dBm/RBW)	(dBm/RBW)
5.15-5.25GHz	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	5.85	15.37
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	1.55	11.07
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-3.83	5.69
5.725-5.85GHz	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	3.00	12.52
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-0.57	8.95
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-2.39	7.13

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

Result

Mode	Result	DG	Port 1	Port 2	Port 3	PD	PD Limit	EIRP PD	EIRP PD Limit
		(dBi)	(dBm/RBW)						
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	9.52	0.77	0.47	-0.08	4.99	13.48	14.51	23.00
5200MHz	Pass	9.52	2.08	1.38	1.07	5.85	13.48	15.37	23.00
5240MHz	Pass	9.52	1.27	1.85	0.98	5.82	13.48	15.34	23.00
5745MHz	Pass	9.52	-1.28	-1.53	-1.13	3.00	26.48	12.52	36.00
5785MHz	Pass	9.52	-1.39	-1.62	-1.62	2.72	26.48	12.24	36.00
5825MHz	Pass	9.52	-1.28	-1.57	-1.26	2.90	26.48	12.42	36.00
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5190MHz	Pass	9.52	-2.60	-3.59	-3.87	0.89	13.48	10.41	23.00
5230MHz	Pass	9.52	-3.14	-2.24	-2.72	1.55	13.48	11.07	23.00
5755MHz	Pass	9.52	-6.08	-5.06	-5.70	-1.57	26.48	7.95	36.00
5795MHz	Pass	9.52	-5.03	-5.52	-3.74	-0.57	26.48	8.95	36.00
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5210MHz	Pass	9.52	-7.70	-8.04	-8.02	-3.83	13.48	5.69	23.00
5775MHz	Pass	9.52	-6.23	-6.17	-6.42	-2.39	26.48	7.13	36.00

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;

For 5150 ~ 5250 MHZ band

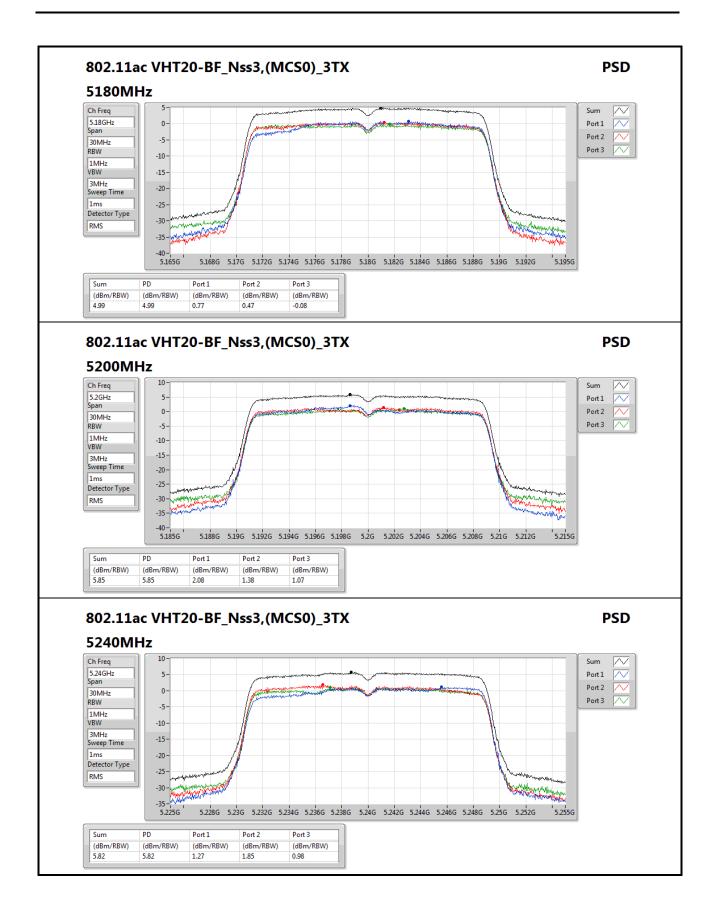
Directional gain = $4.75 + 10^{\circ} \log(3/1) = 9.52 \text{ dBi} > 6 \text{ dBi}$, Limit shall be reduced to 17 dBm - (9.52 dBi - 6 dBi) = 13.48 dBm.

For 5725 ~ 5850 MHZ band

Directional gain = $4.75+10*\log(3/1) = 9.52$ dBi > 6 dBi, Limit shall be reduced to 30 dBm - (9.52 dBi - 6 dBi) = 26.48 dBm

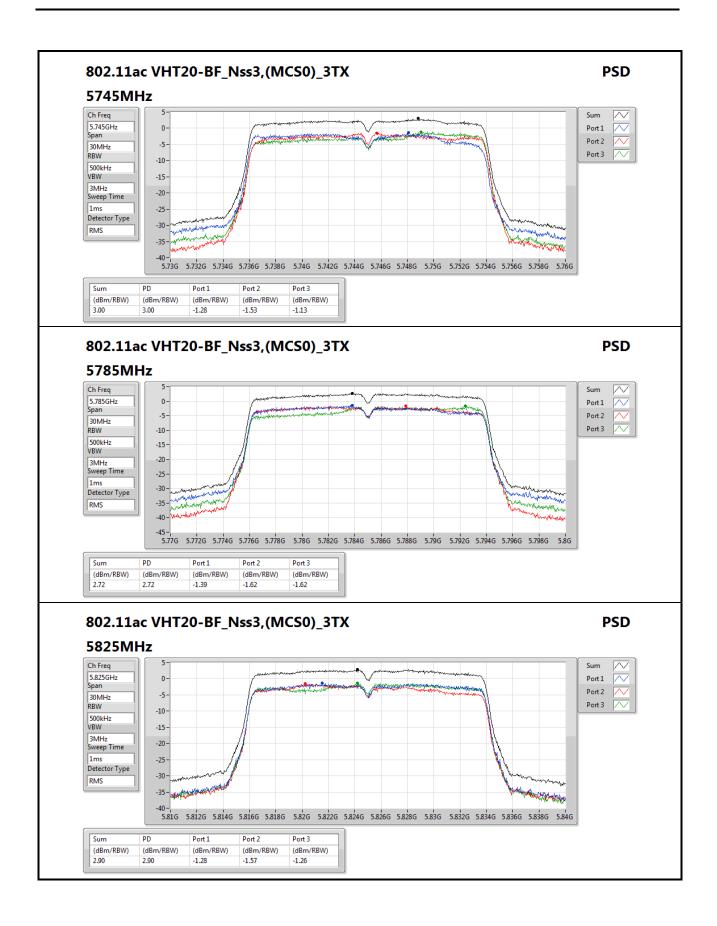
Report No.: FR832202AN Page: 52 of 130





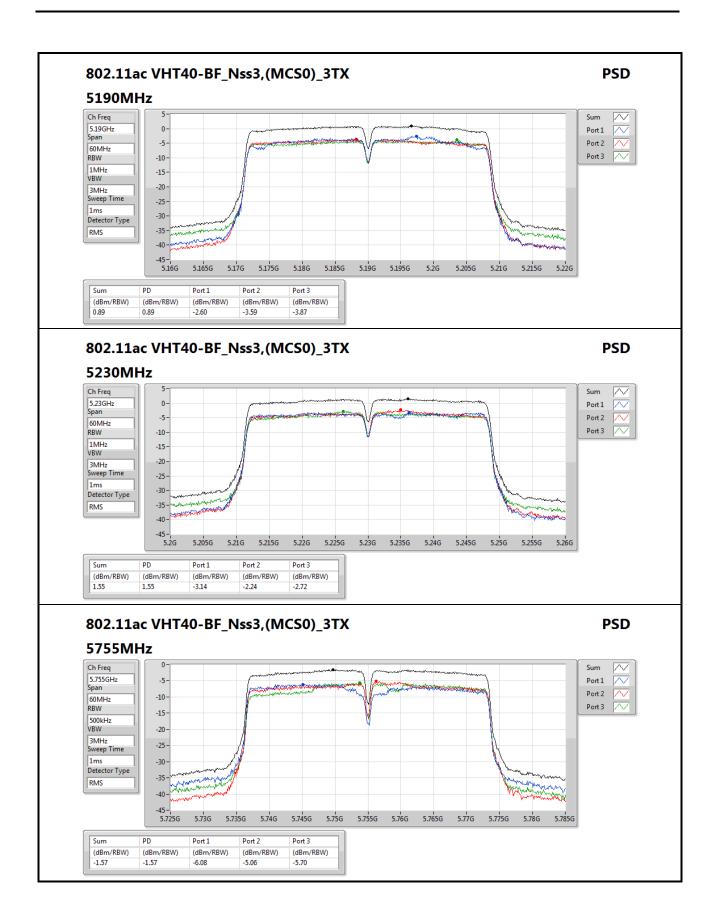
Report No.: FR832202AN Page: 53 of 130





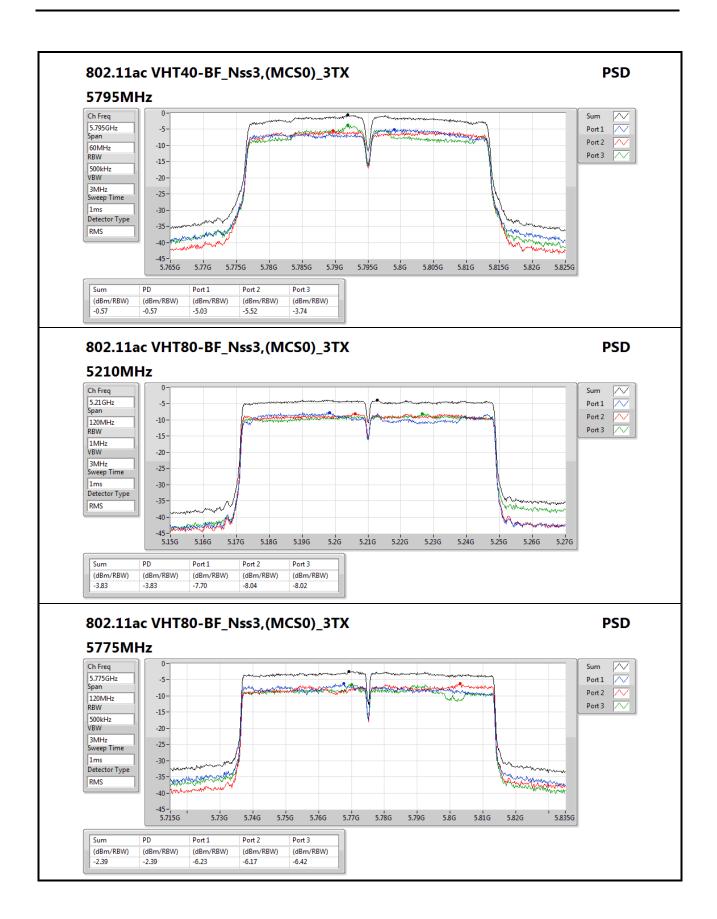
Report No.: FR832202AN Page: 54 of 130





Report No.: FR832202AN Page: 55 of 130





Report No.: FR832202AN Page: 56 of 130



3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

Restricted Band Emissions 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

Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit **Note 2**:

Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Un-restricted band emissions above 1GHz Limit						
Operating Band	Limit					
5.15 - 5.25 GHz	e.i.r.p27 dBm [68.2 dBuV/m@3m]					
5.725 - 5.850 GHz	15.407(b)(4)(i) 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.					
	15.407(b)(4)(ii) ,compliance with the emission limits in § 15.247(d) Shall be at least 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power,. Attenuation below the general limits specified in §15.209(a) is not required. In addition,radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see § 15.205(c))					

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).

Report No.: FR832202AN Page: 57 of 130



3.5.2 Test Procedures

- 1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
- 2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
- 3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

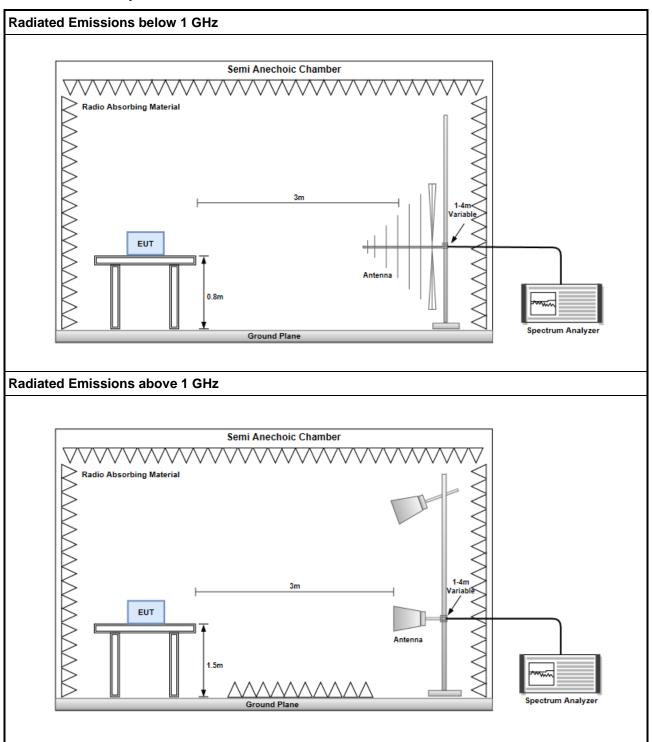
Note:

- 1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
- 2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
- RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

Report No.: FR832202AN Page: 58 of 130



3.5.3 Test Setup

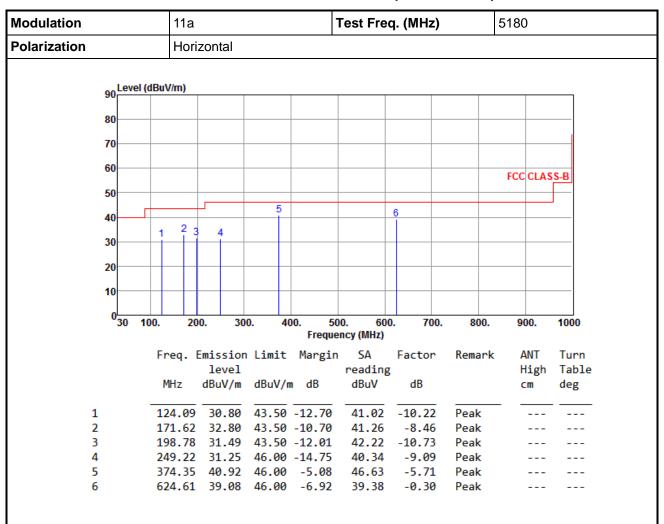


Report No.: FR832202AN Page: 59 of 130



Non- beamforming mode

3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Report No.: FR832202AN Page: 60 of 130



Modulation	11a		Test Freq. (MHz)			5180	
Polarization	Vertical	1					
	•						
90 Level (d	BuV/m)						
80							
70							
60							
						FCC CLAS	S-B
50							
40 1		5	- 6	5			
30	3 4						
30							
20							
10							
030 10	0. 200. 30	00. 400. 50 Freque	0. 600. ncy (MHz)	700.	800.	900.	1000
	Freq. Emissio	n Limit Margin	SA	Factor	Remark	ANT	Turn
	level		reading			High	Table
	MHz dBuV/m	dBuV/m dB	dBuV	dB		cm	deg
1	46.51 36.54	40.00 -3.46	44.58	-8.04	QP	100	115
2	98.87 33.42			-13.28	Peak		
3	170.65 28.11		36.44	-8.33	Peak		
4		43.50 -14.80 46.00 -8.91	39.41 42.80	-10.71 -5.71	Peak		
5 6		46.00 -8.91	42.80 36.01	-5.71 -0.30	Peak Peak		

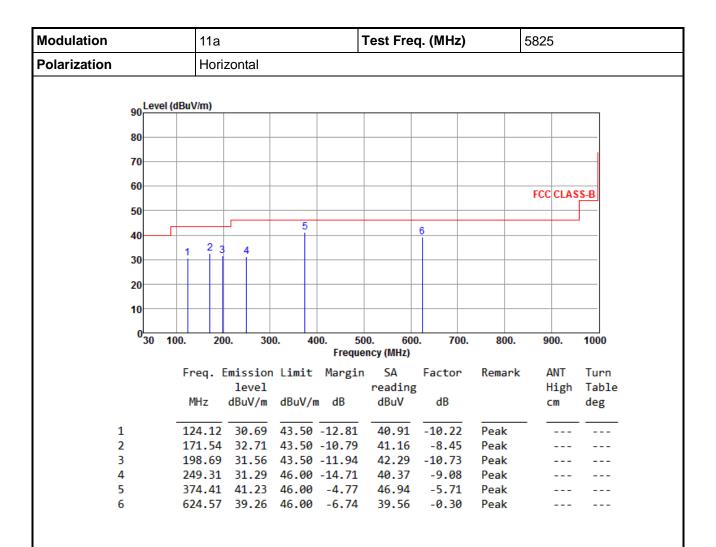
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Report No.: FR832202AN Page: 61 of 130





*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Report No.: FR832202AN Page: 62 of 130



Modulation	11a	-	Test Freq. (MHz)			5825	
Polarization	Vertical	1			•		
90 Level (d	BuV/m)						
80							
70							
60							
						FCC CLAS	S-B
50							
40 1		5		6			
30	3 4						
30							
20							
10							
030 10	0. 200. 3	00. 400. 50 Freque	0. 600. ncy (MHz)	. 700.	800.	900.	1000
	Frea. Emissio	n Limit Margin	SA	Factor	Remark	ANT	Turn
	level		reading			High	Table
	MHz dBuV/m	dBuV/m dB	dBuV	dB		cm	deg
1	46.45 36.50	40.00 -3.50	44.54	-8.04	QP	100	118
2	98.79 33.39		46.68	-13.29	Peak		
3	170.57 28.26		36.58	-8.32	Peak		
4		43.50 -14.85	39.37	-10.72	Peak		
5 6		46.00 -8.84 46.00 -10.32	42.86 35.98	-5.70 -0.30	Peak Peak		

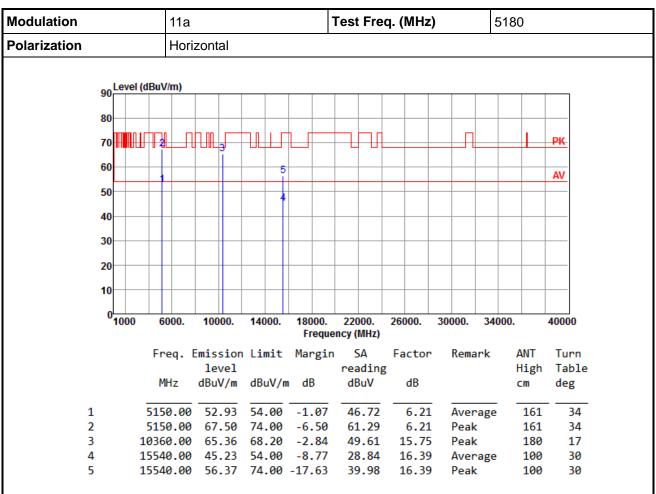
*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Report No.: FR832202AN Page: 63 of 130



3.5.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11a



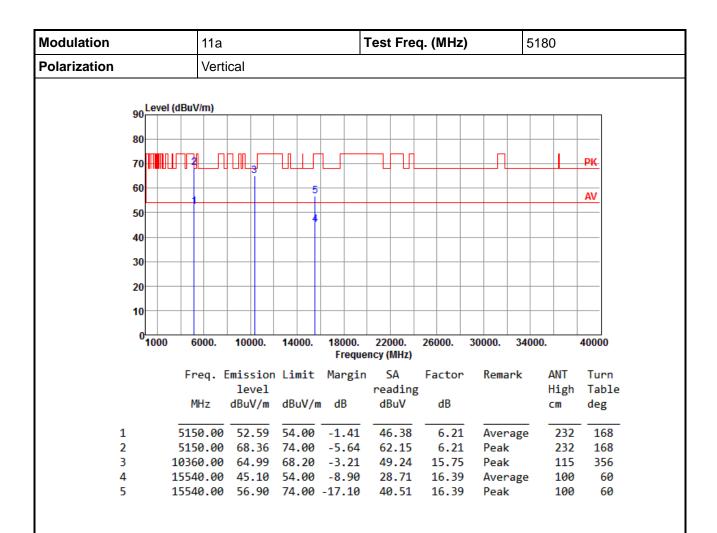
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 64 of 130



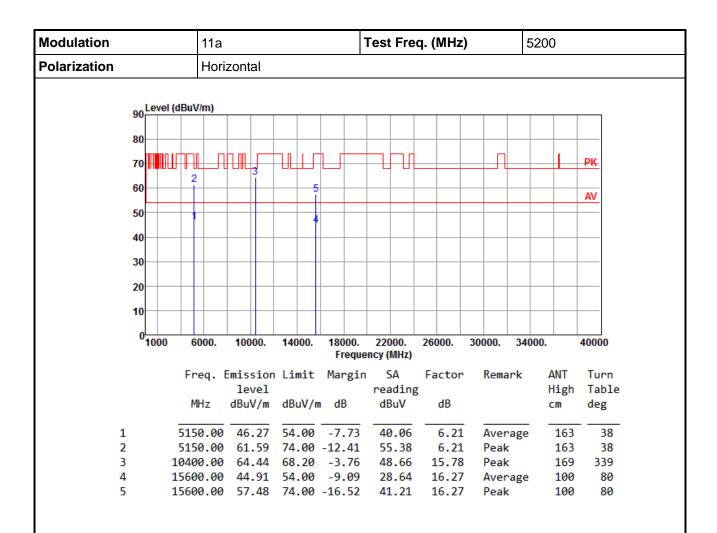


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 65 of 130



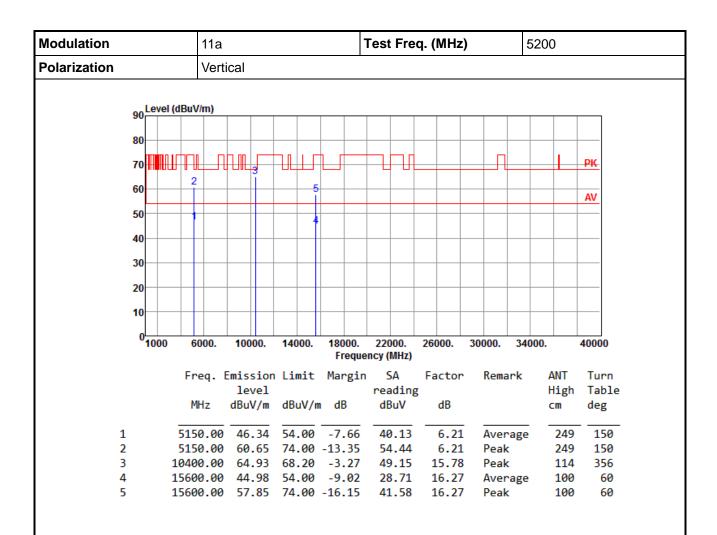


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 66 of 130



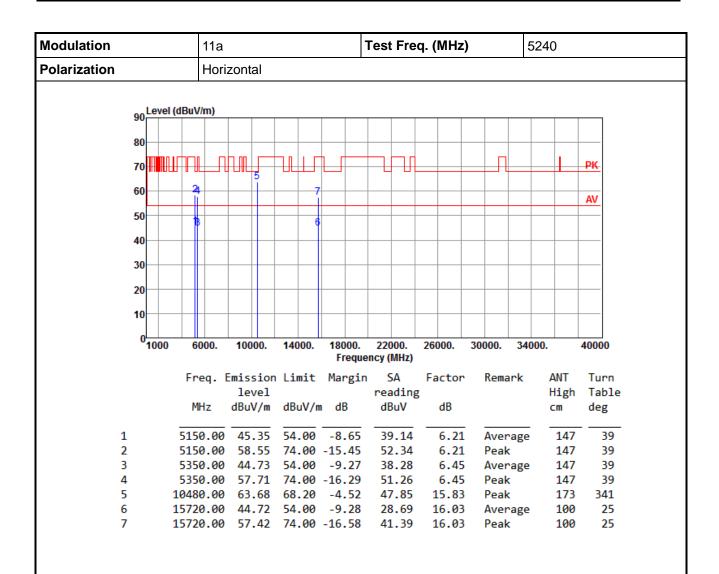


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 67 of 130



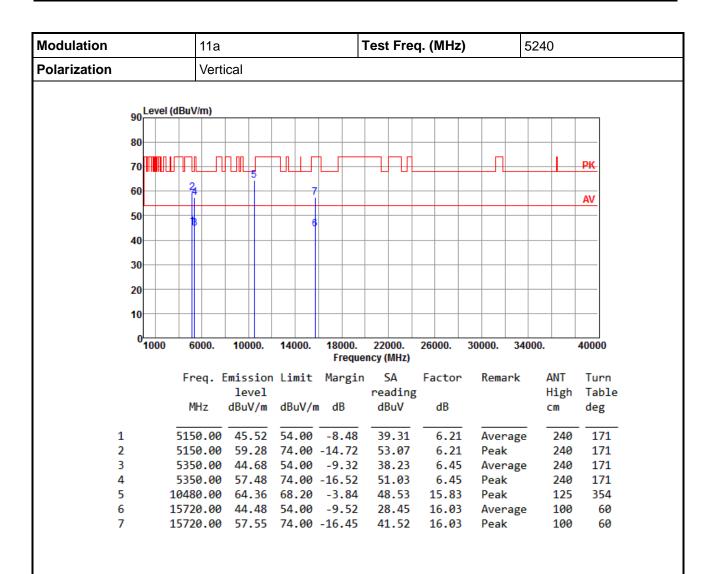


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 68 of 130



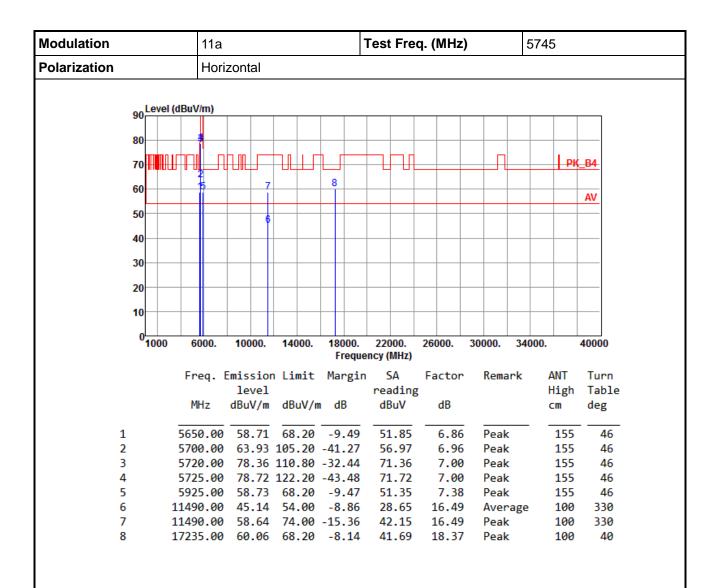


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 69 of 130



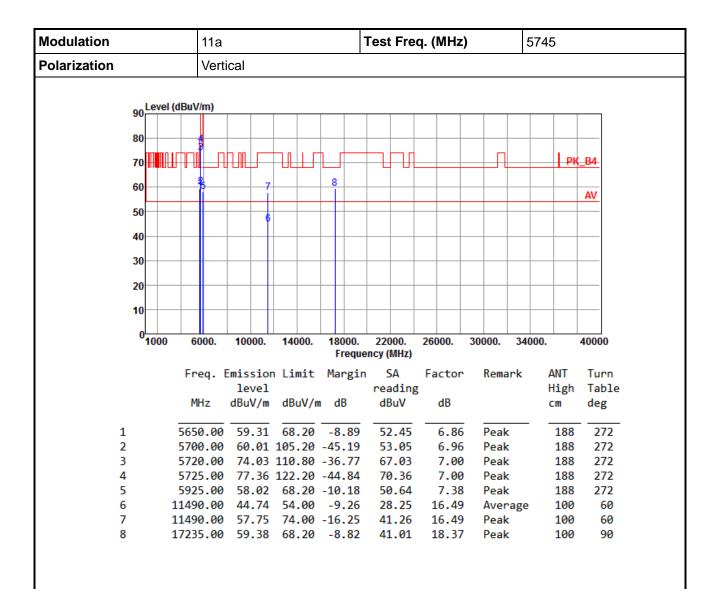


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 70 of 130



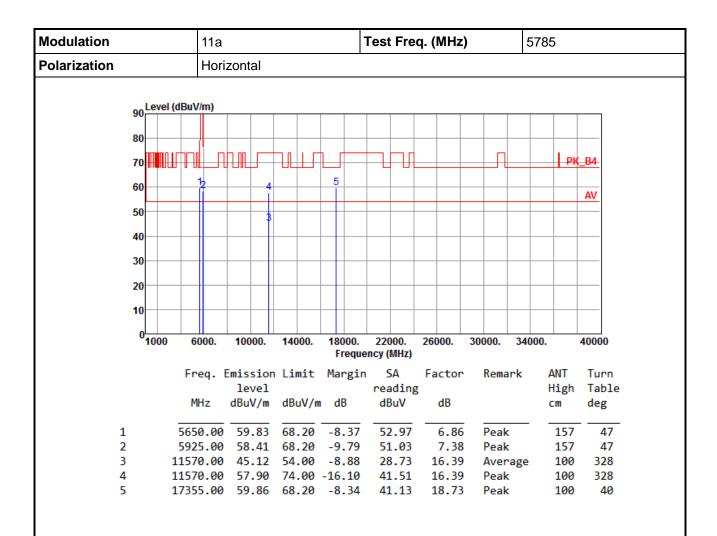


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 71 of 130





*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 72 of 130



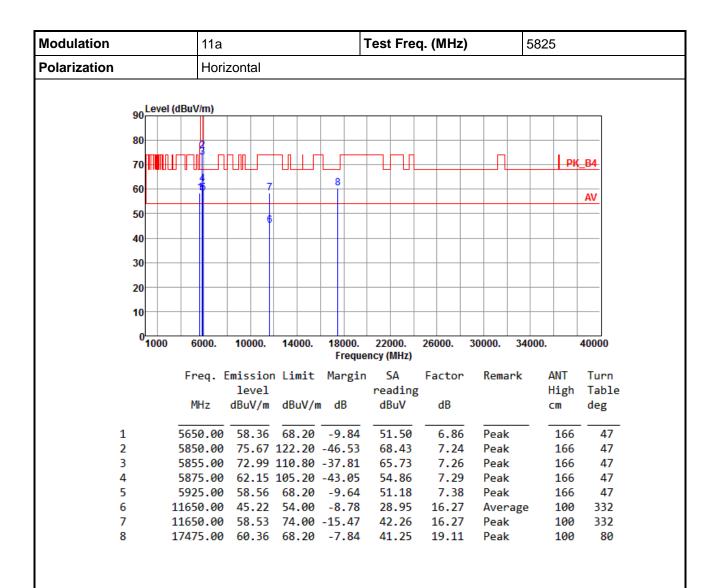


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 73 of 130



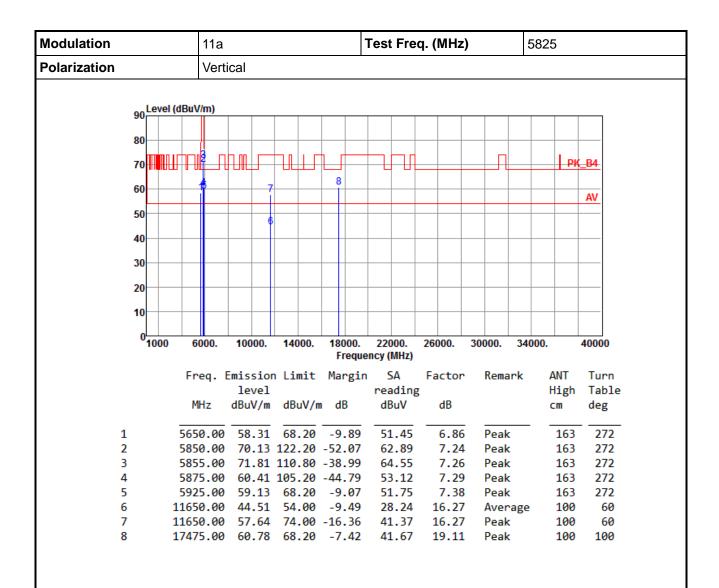


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 74 of 130





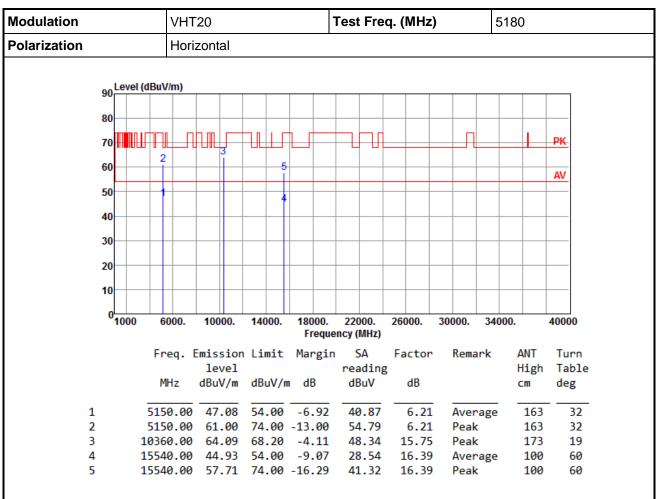
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 75 of 130



3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT20



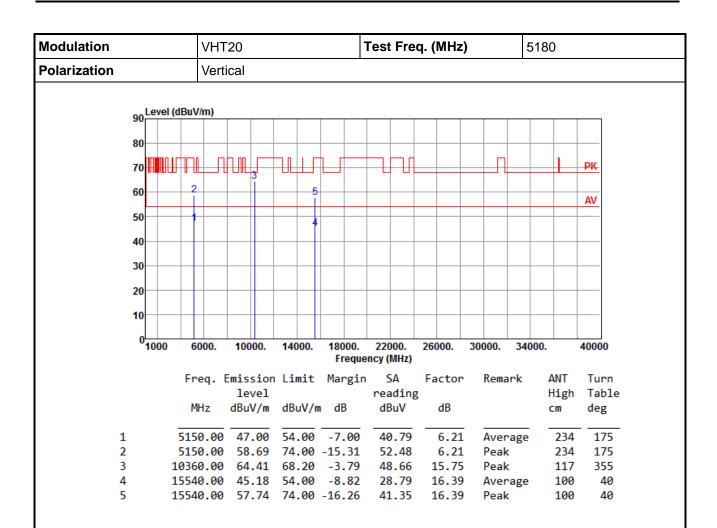
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 76 of 130



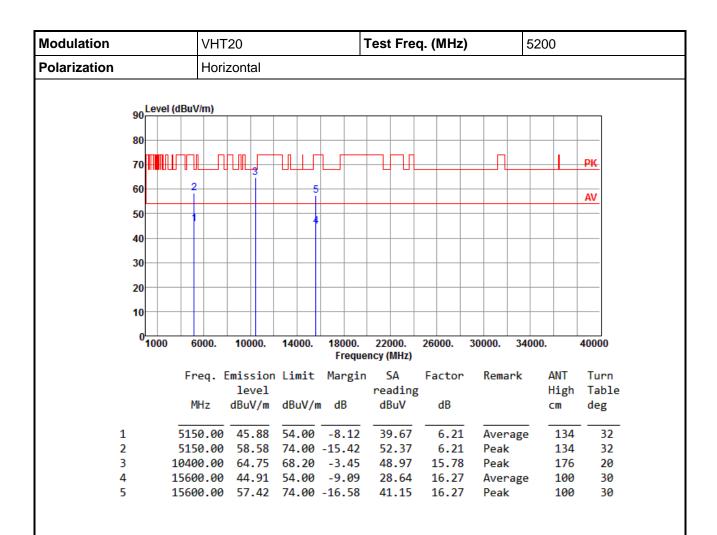


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 77 of 130



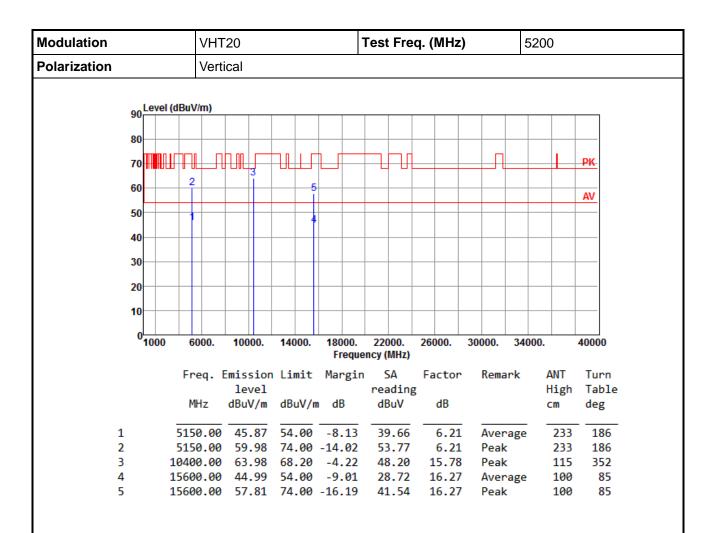


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 78 of 130



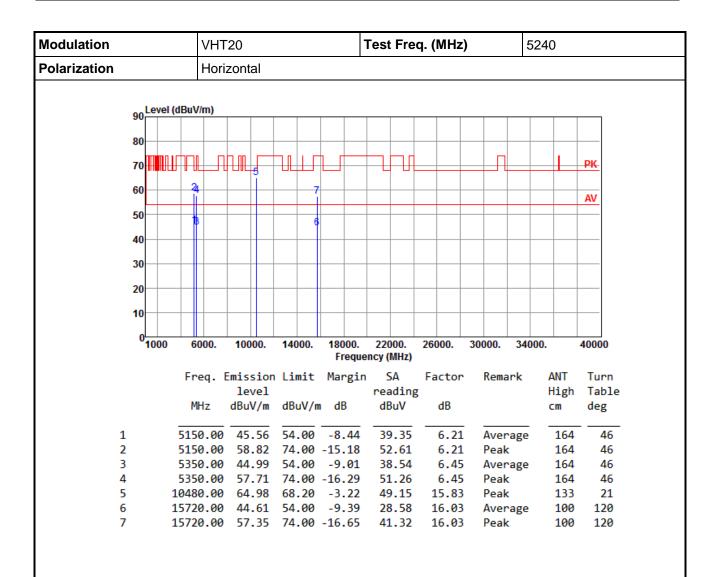


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 79 of 130



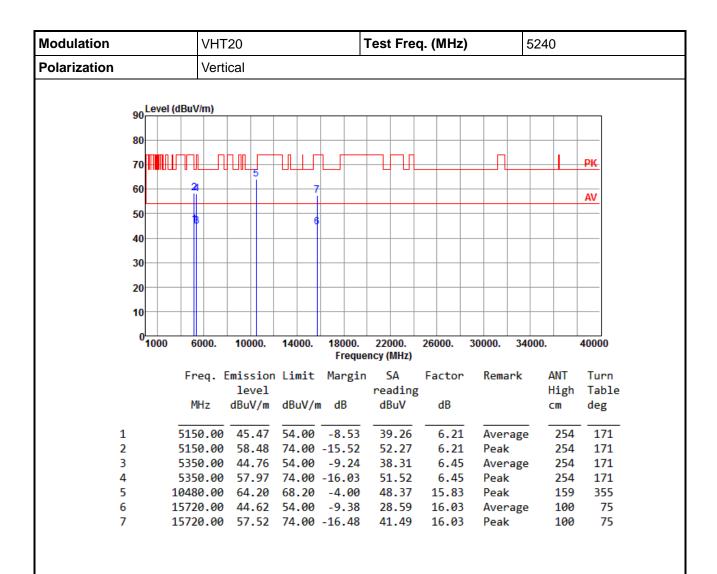


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 80 of 130



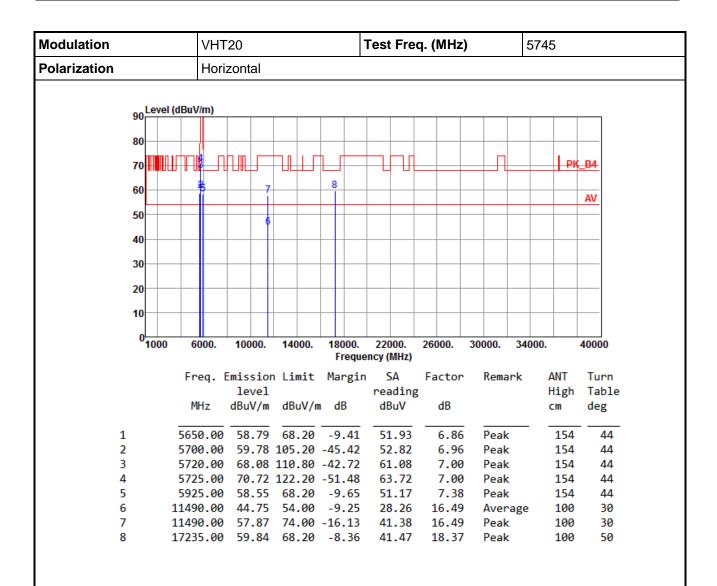


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 81 of 130



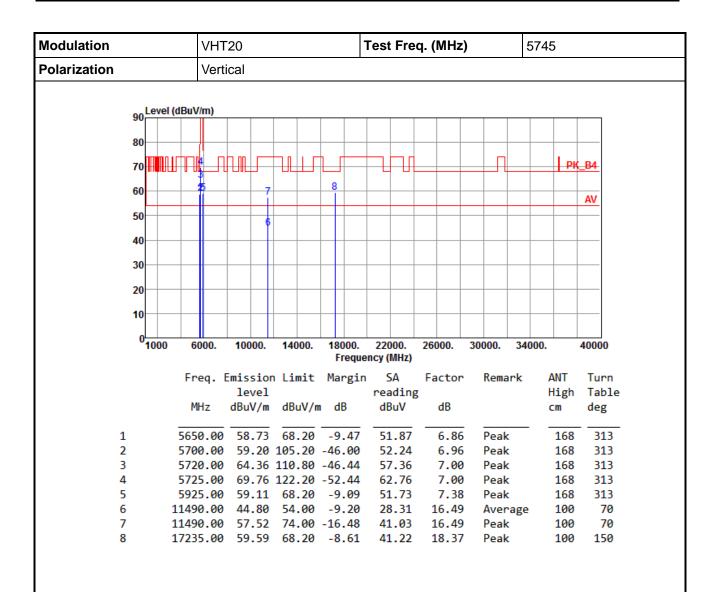


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 82 of 130



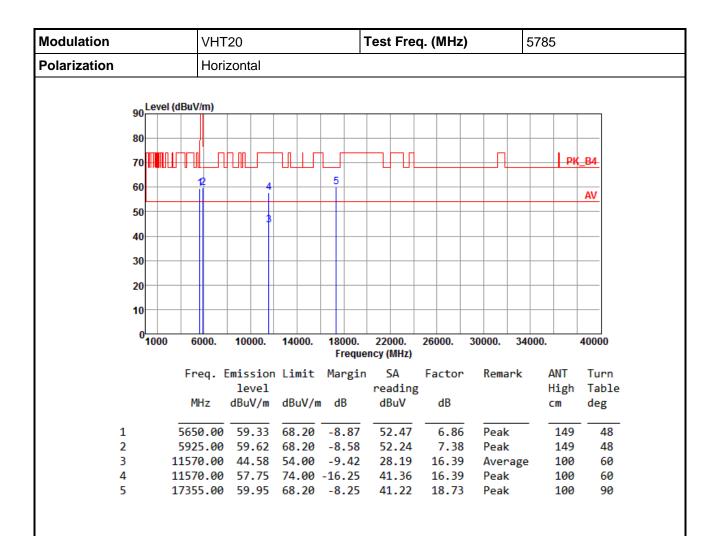


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 83 of 130



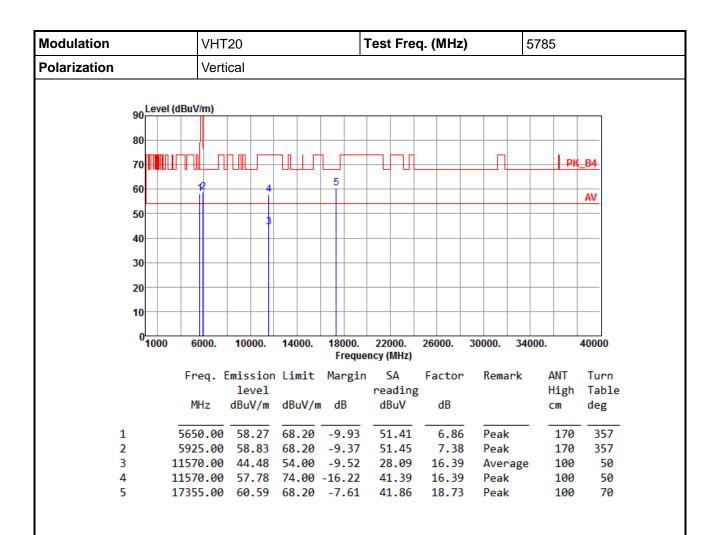


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 84 of 130



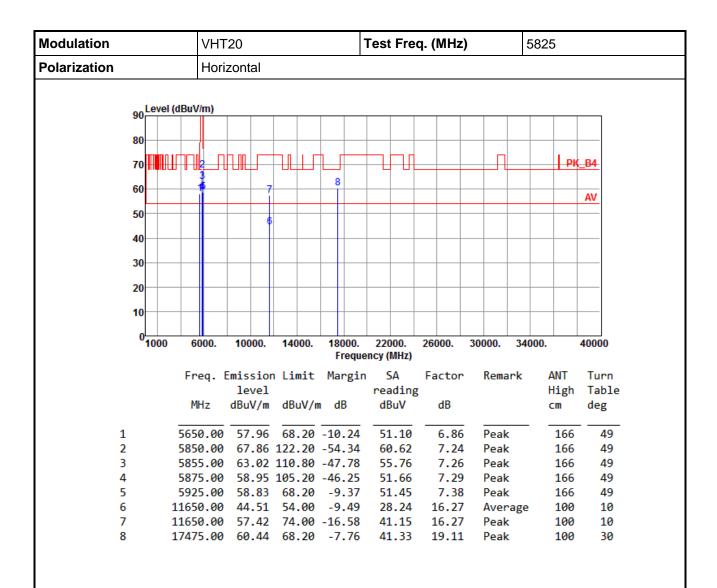


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 85 of 130



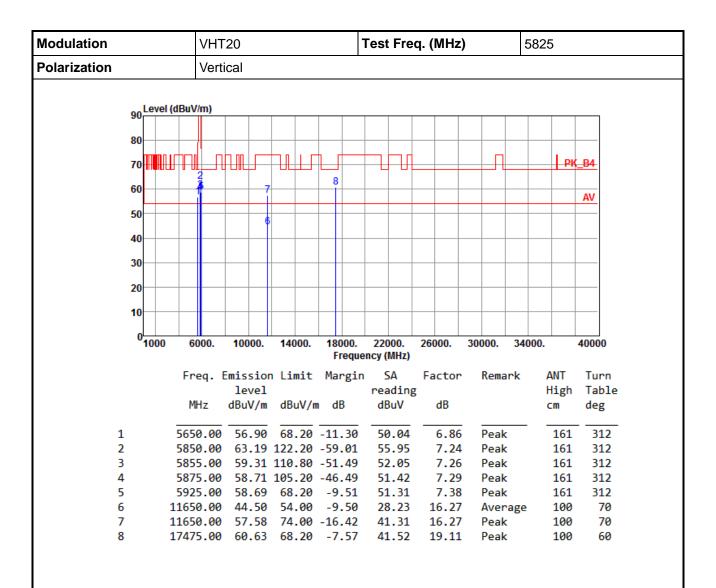


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 86 of 130





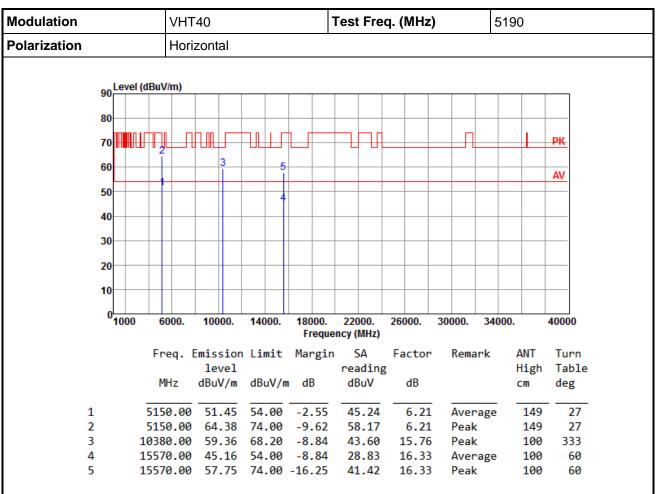
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 87 of 130



3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT40



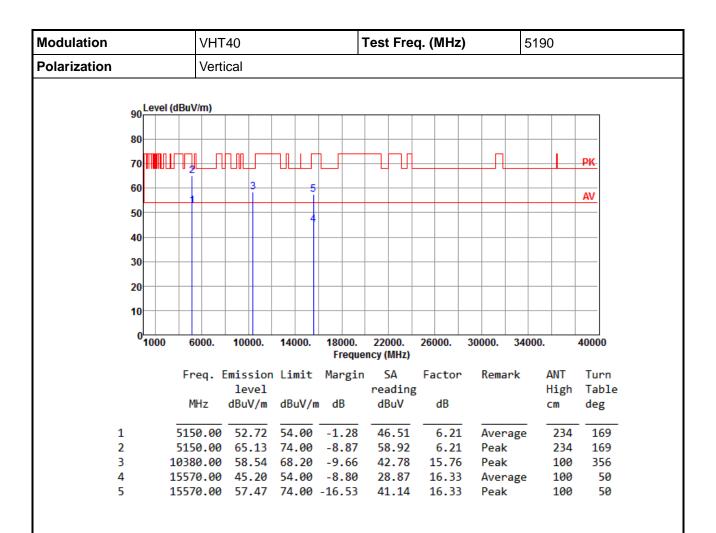
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

Report No.: FR832202AN Page: 88 of 130



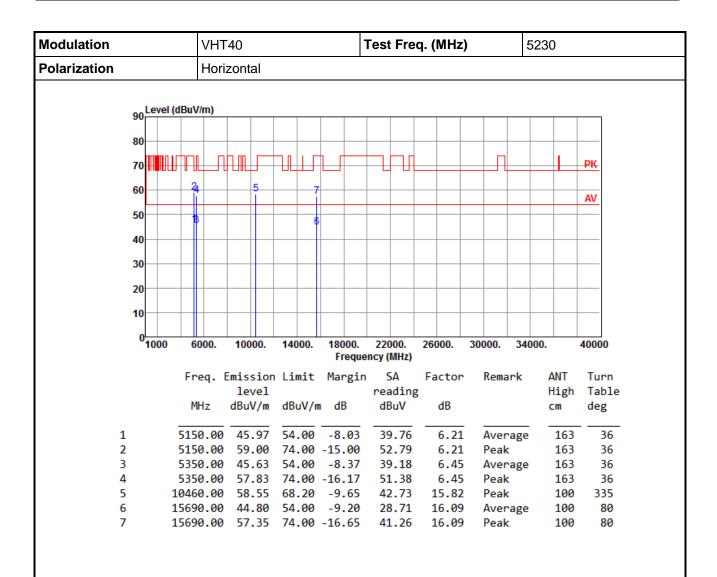


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 89 of 130



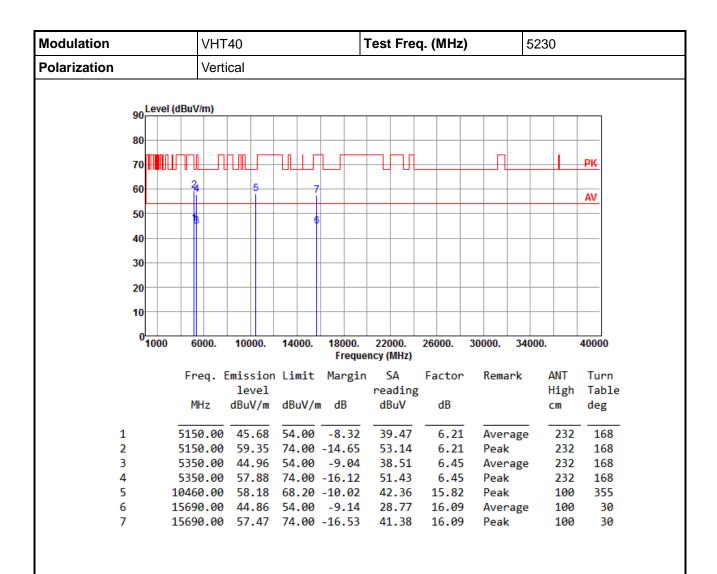


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 90 of 130



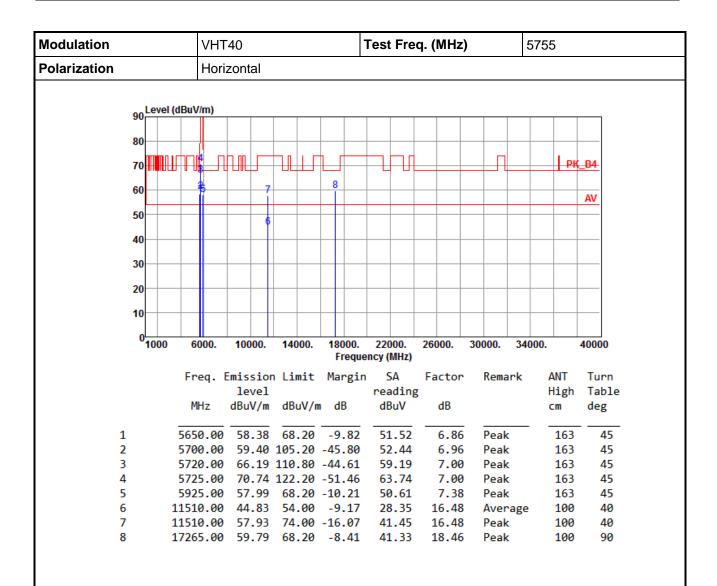


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 91 of 130



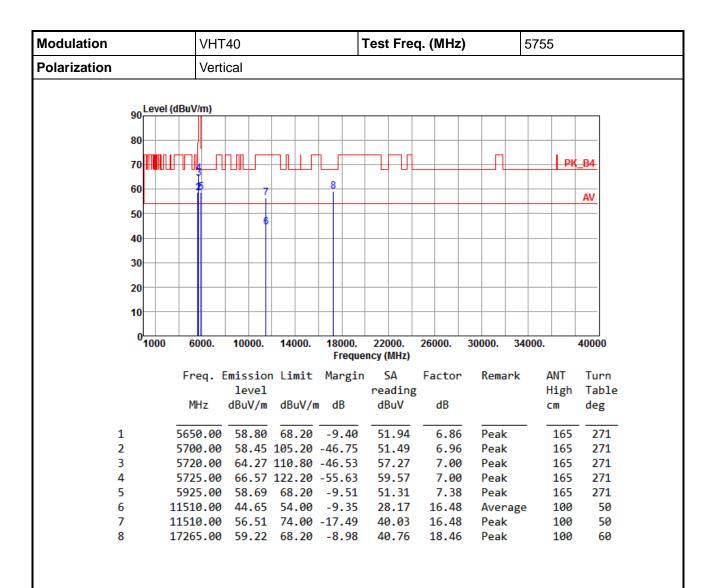


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 92 of 130



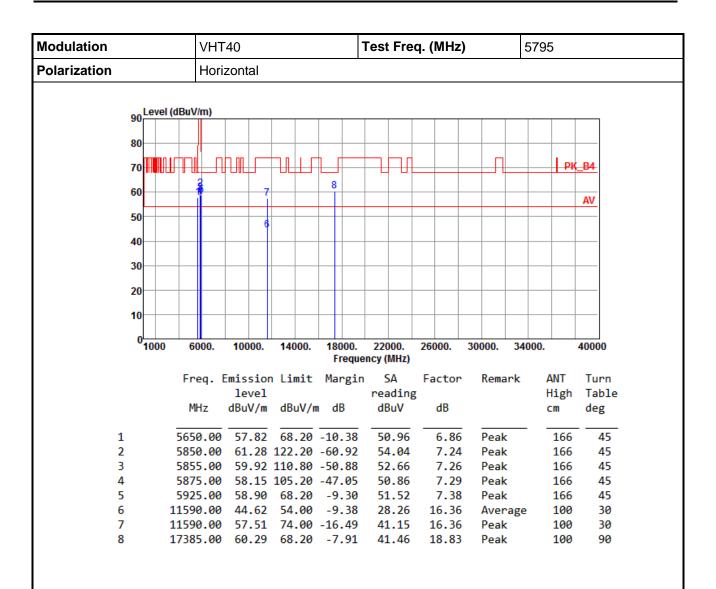


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 93 of 130



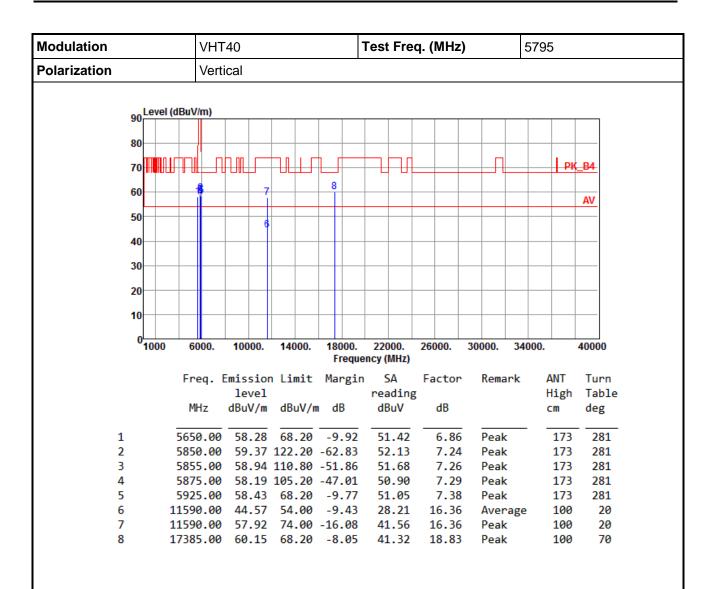


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 94 of 130





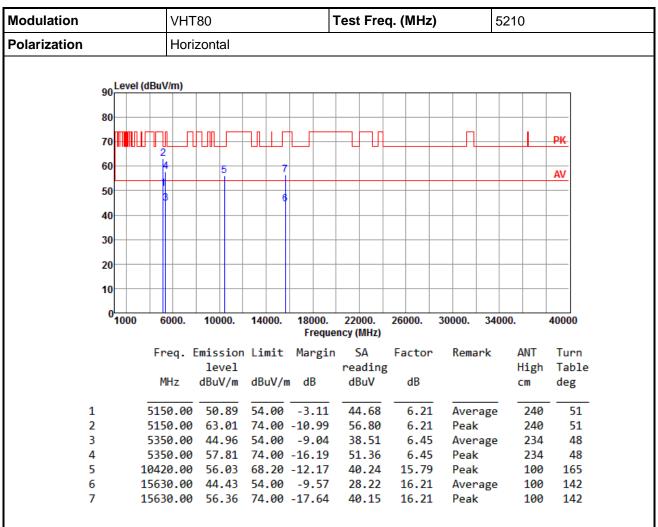
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 95 of 130



3.5.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT80



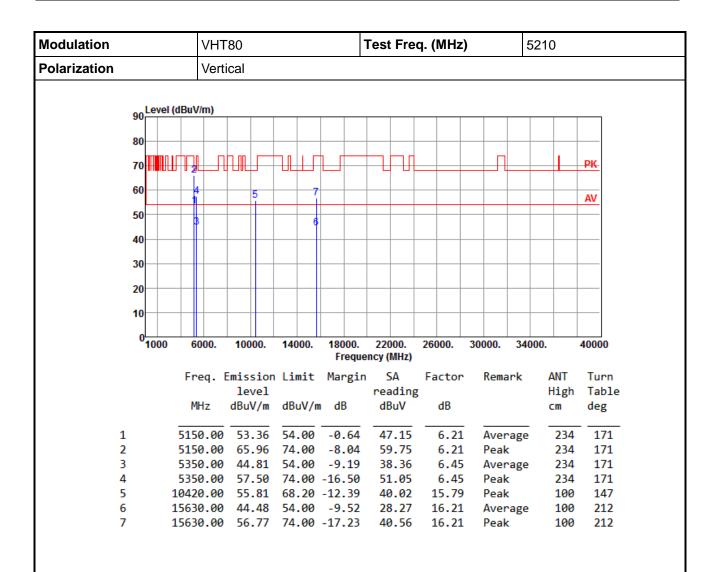
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

Report No.: FR832202AN Page: 96 of 130

^{*}Factor includes antenna factor, cable loss and amplifier gain



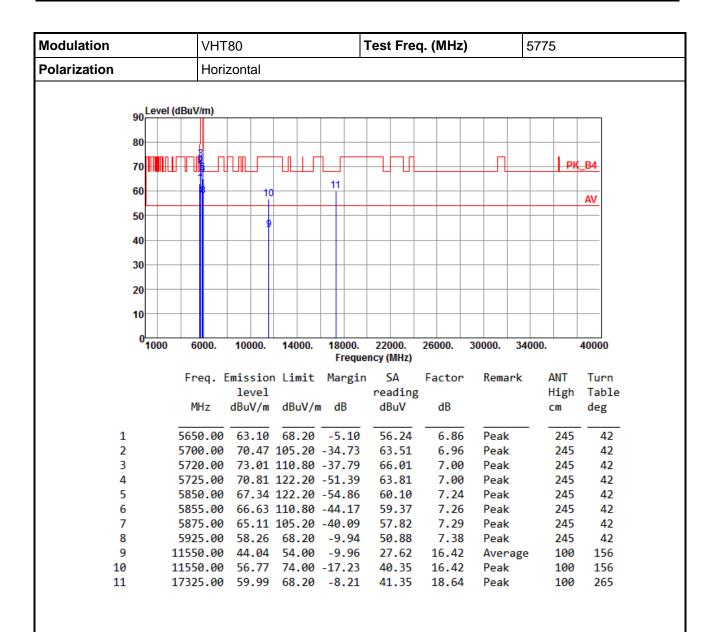


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 97 of 130



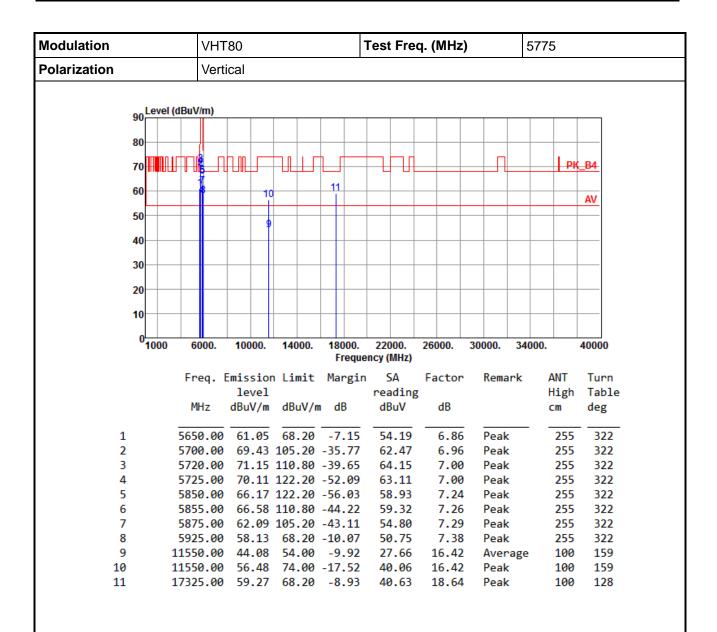


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 98 of 130





*Factor includes antenna factor, cable loss and amplifier gain

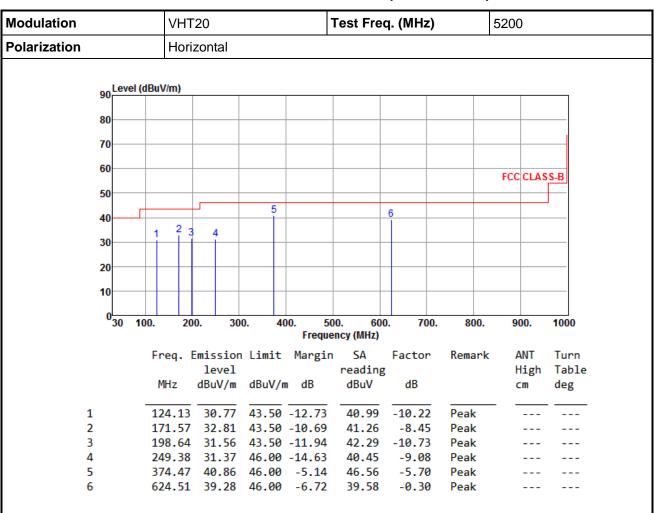
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 99 of 130



Beamforming mode

3.5.9 Transmitter Radiated Unwanted Emissions (Below 1GHz)



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Report No.: FR832202AN Page: 100 of 130



Modulation	VHT20		Test Freq	5200						
Polarization	Vertical									
90 Level (dBuV/m)									
80										
70										
60						FCC CLAS	S B			
50						TOCOLAS	3-6			
		_					١			
40 1	2	5		6						
30	3 4									
20										
10										
030 1	00. 200.		00. 600. ency (MHz)	. 700.	800.	900.	1000			
	Enoa Emico	ion Limit Margi		Factor	Remark	ANT	Turn			
	lev		reading		Kelliai K	High	Table			
	MHz dBuV	/m dBuV/m dB	dBuV	dB		cm	deg			
1	46.49 36.	65 40.00 -3.35	44.69	-8.04	QP .	100	112			
2	98.78 33.	55 43.50 -9.95	46.84	-13.29	Peak					
3		27 43.50 -15.23		-8.32	Peak					
4 5		61 43.50 -14.89 16 46.00 -8.84	39.33 42.86	-10.72 -5.70	Peak Peak					
6		62 46.00 -8.84	35.92	-0.30	Peak Peak					

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Report No.: FR832202AN Page: 101 of 130



Modulation Polarization		VHT20				Test Free	q. (MHz)	5825			
		Horizontal									
	90 Lev	/el (dBu\	V/m)								
	80										
	80										
	70										
	60									F00 01 A	
	50									FCC CLA	22-B
	50				5			_			_
	40		2 3		Ť			6 			
	30	1	- 1	4							
	20										
	20										
	10		\dashv								
	030	100.	200	0. 30	0 4	00. 50	00. 600). 700 .	800.	900.	1000
	30	100.	200	U. 3U	0. 4		ency (MHz)	J. 700.	800.	900.	1000
		Fr	eq. E	mission	Limit	Margin	SA	Factor	Remark	ANT	Turn
				level			reading			High	Table
		M	ИHz	dBuV/m	dBuV/	m dB	dBuV	dB		cm	deg
	1	12	24.11	30.85	43.50	-12.65	41.07	-10.22	Peak		
	2		71.57			-10.71	41.24	-8.45	Peak		
	3		8.87			-11.93	42.30		Peak		
	4		19.31			-14.64	40.44	-9.08	Peak		
	5		74.47	40.86		-5.14	46.56	-5.70	Peak		
(5	62	24.59	39.21	46.00	-6.79	39.51	-0.30	Peak		

*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Report No.: FR832202AN Page: 102 of 130



Modulation	VHT20	7	Test Freq	5825						
Polarization	Vertical									
90 Level (dB	uV/m)									
80										
70										
60						FCC CLAS	SS-B			
50										
40 .		_					_			
40 1 2		Ĭ		6						
30	3 4									
20										
10										
10										
30 100	. 200. 300		0. 600. ncy (MHz)	. 700.	800.	900.	1000			
	Freq. Emission	-		Factor	Remark	ANT	Turn			
	level	CIMIC Margin	reading		Kelliark	High	Table			
	MHz dBuV/m	dBuV/m dB	dBuV	dB		cm	deg			
1	46.51 36.61	40.00 -3.39	44.65	-8.04	QP	100	117			
2		43.50 -9.93	46.88	-13.31	Peak					
		43.50 -15.24	36.59	-8.33	Peak					
		43.50 -14.69 46.00 -8.74	39.52 42.96	-10.71 -5.70	Peak Peak					
	624.55 35.84		36.14	-5.70 -0.30	Peak Peak					

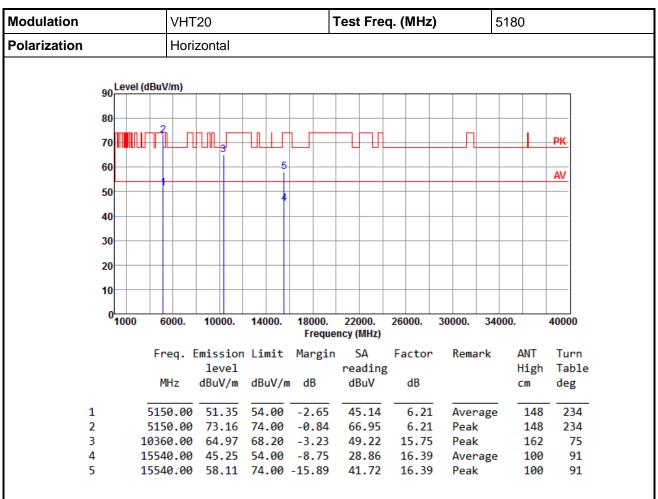
*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Report No.: FR832202AN Page: 103 of 130



3.5.10 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT20



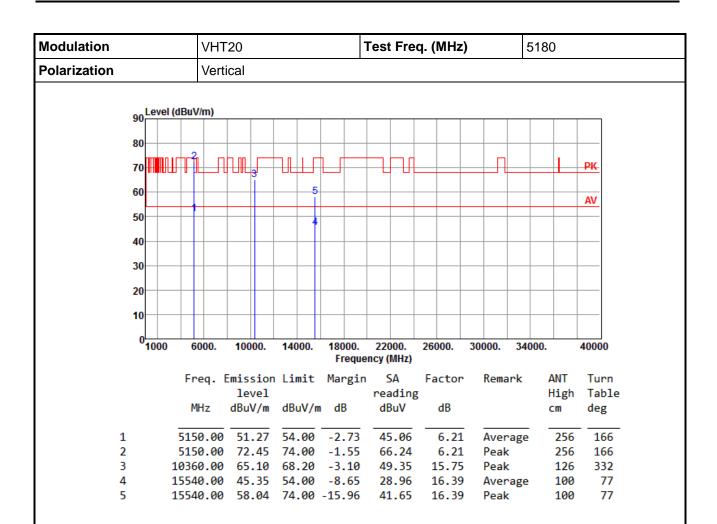
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

Report No.: FR832202AN Page: 104 of 130



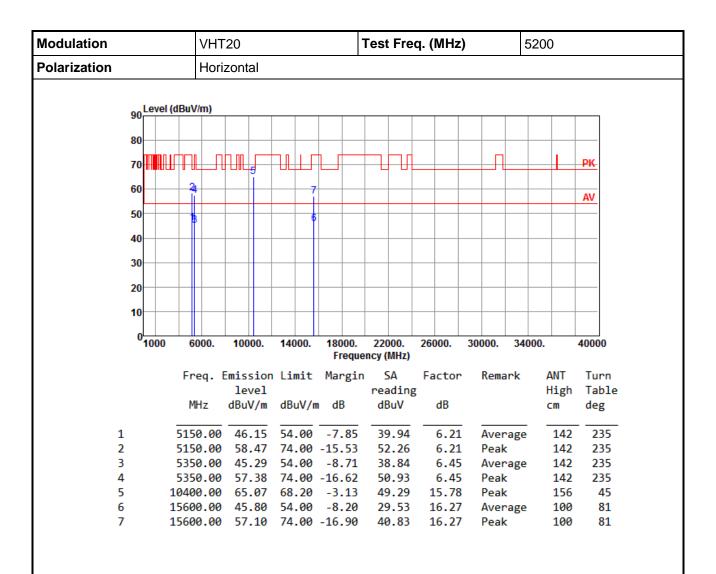


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 105 of 130



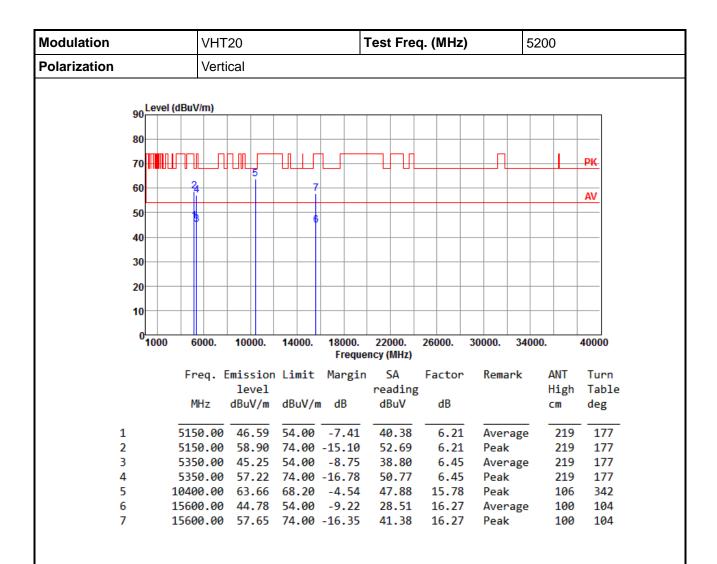


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 106 of 130



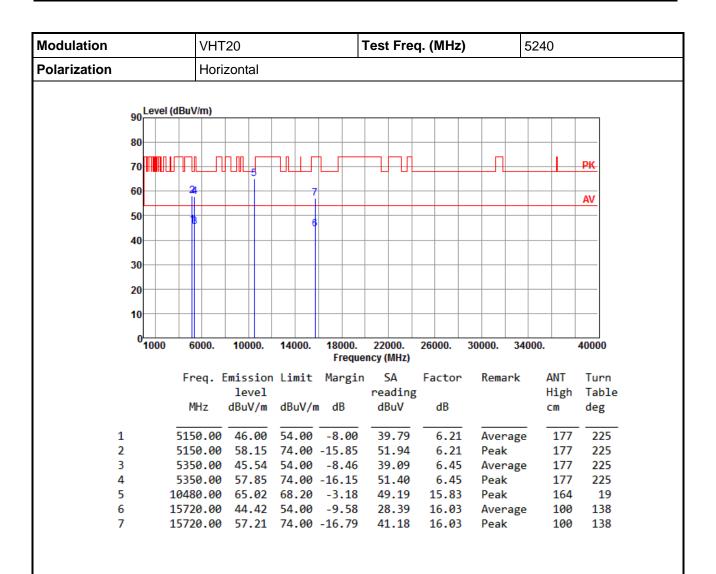


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 107 of 130



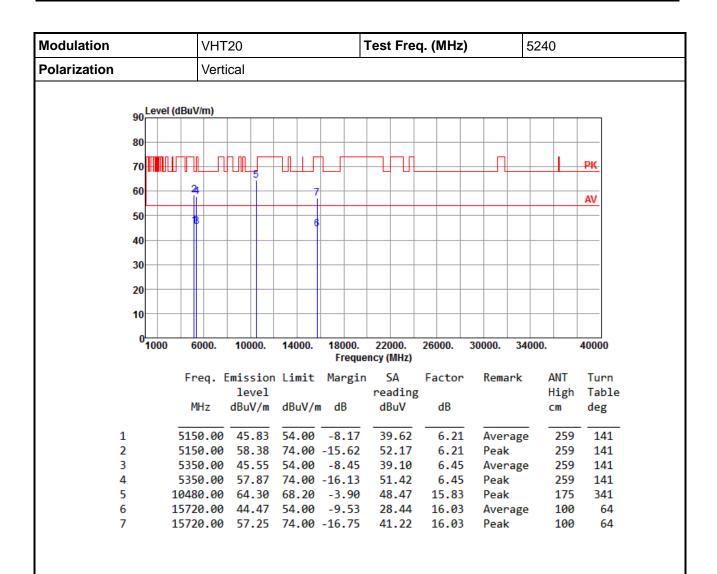


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 108 of 130



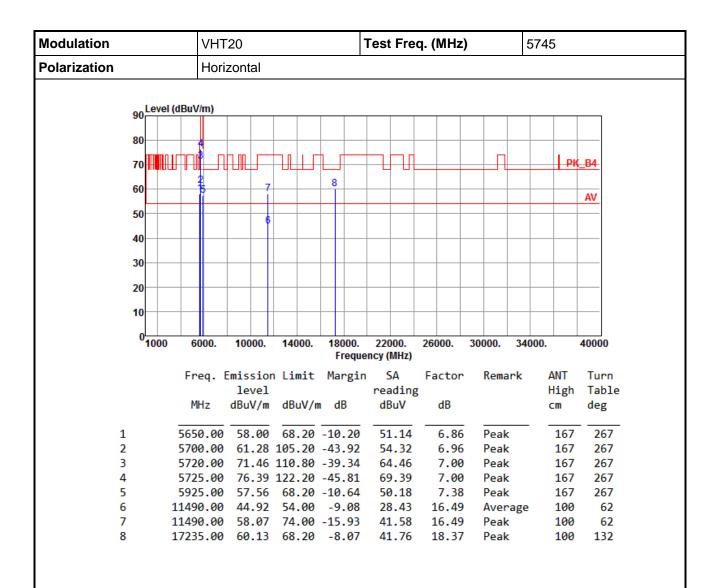


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 109 of 130



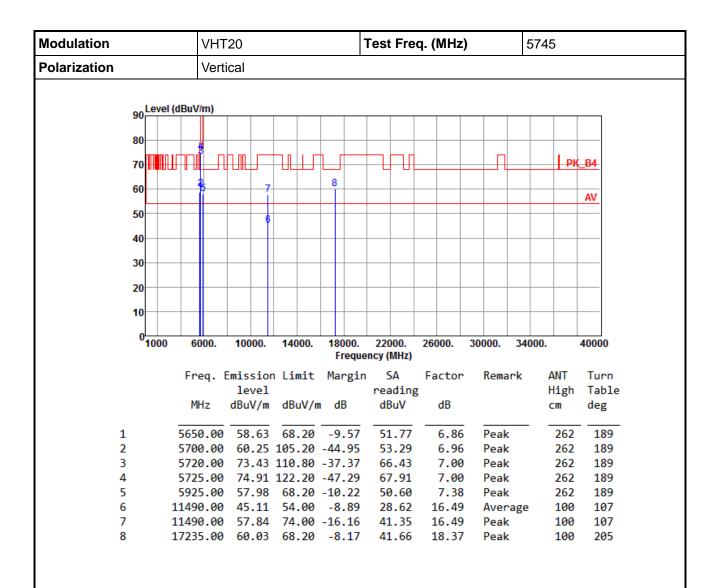


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 110 of 130



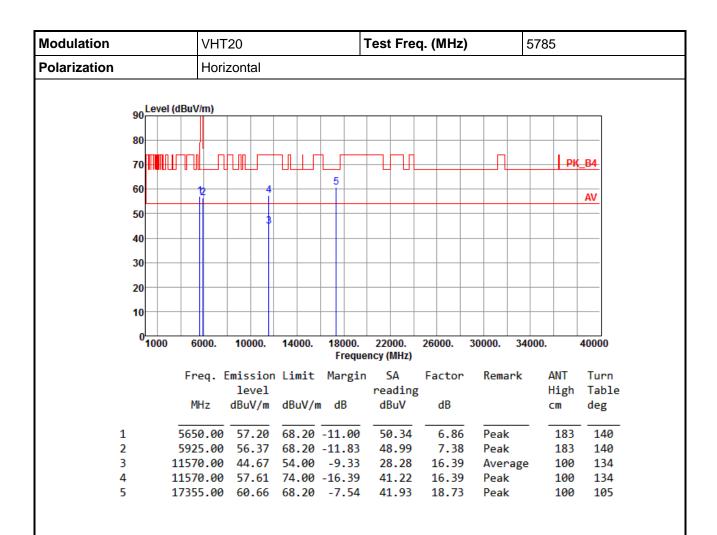


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 111 of 130



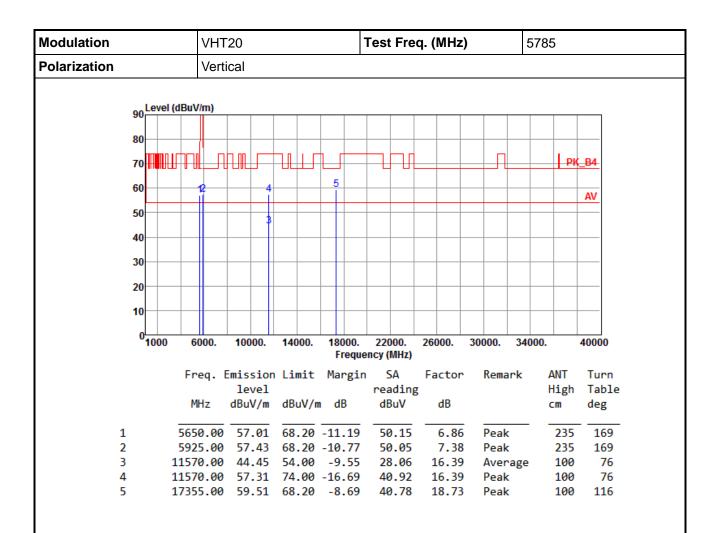


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 112 of 130



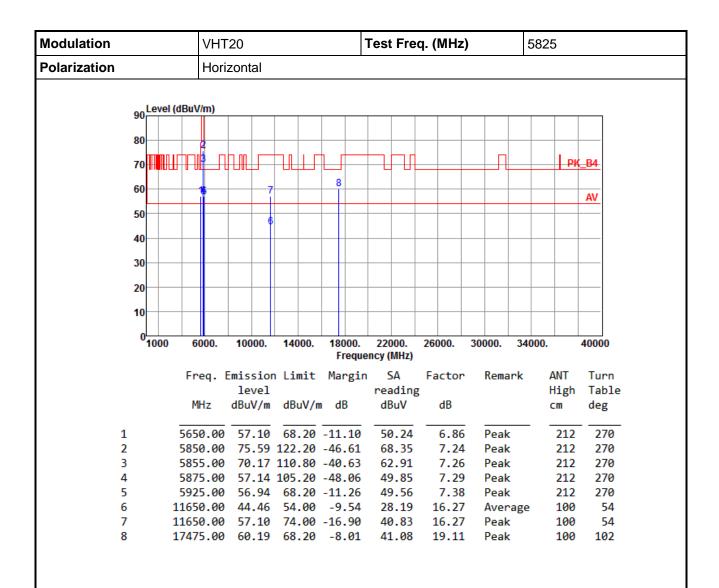


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 113 of 130



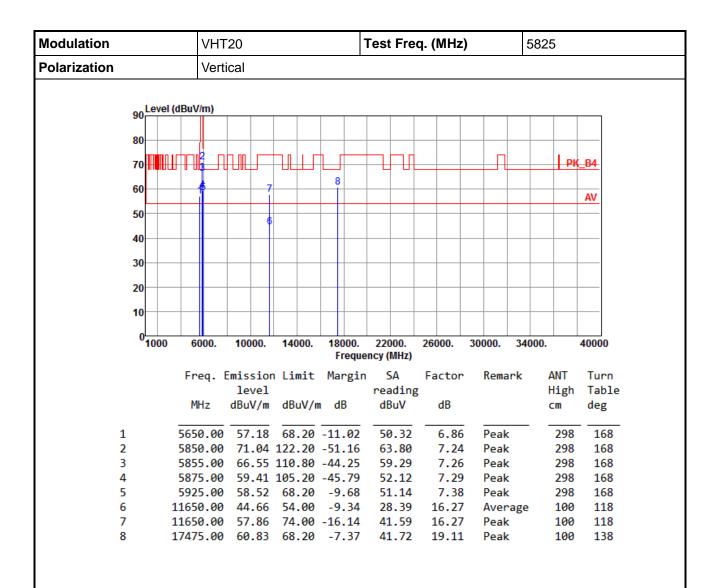


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 114 of 130





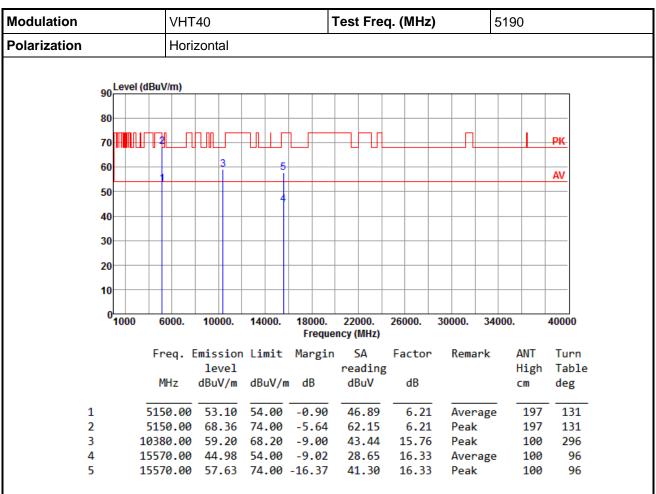
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 115 of 130



3.5.11 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT40



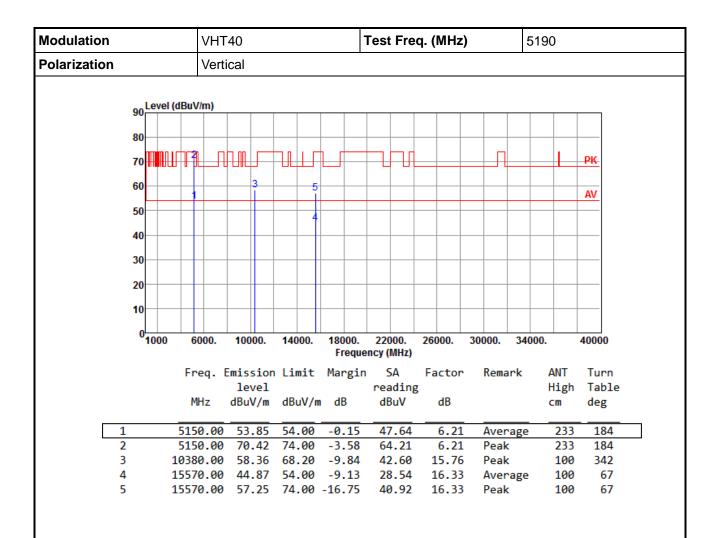
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 116 of 130



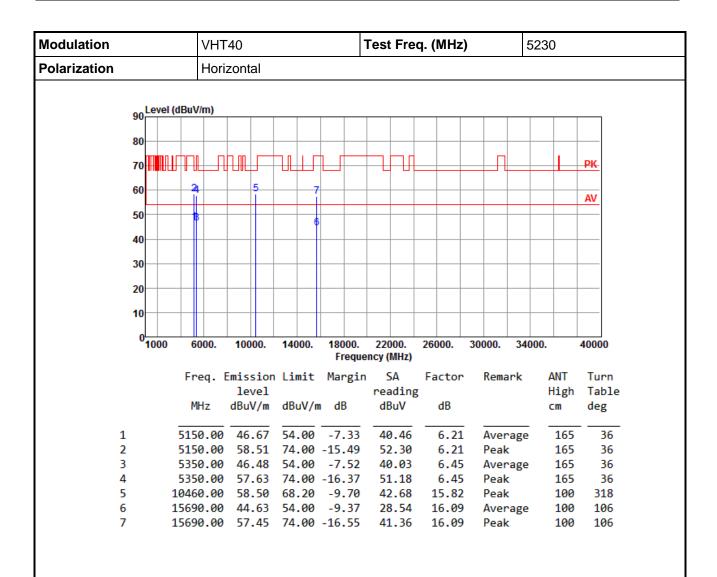


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 117 of 130



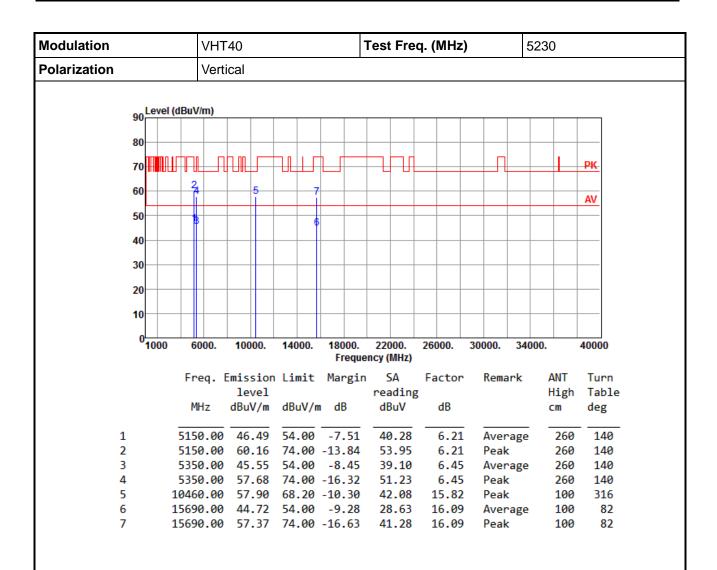


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 118 of 130



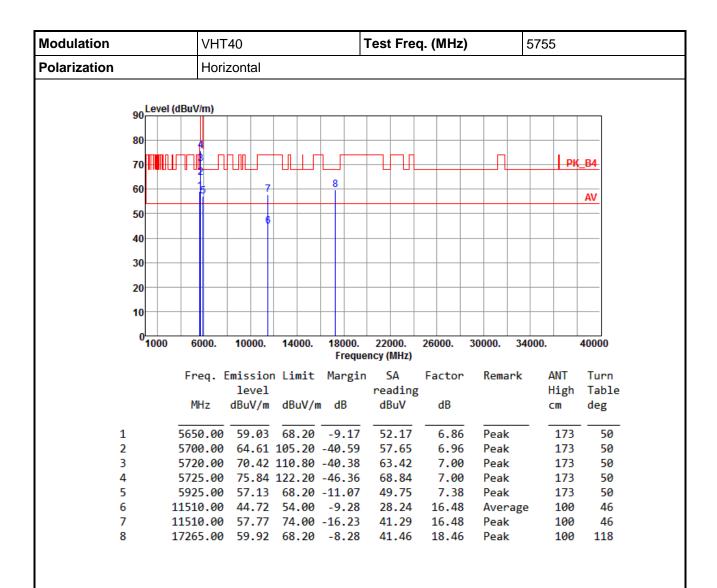


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 119 of 130



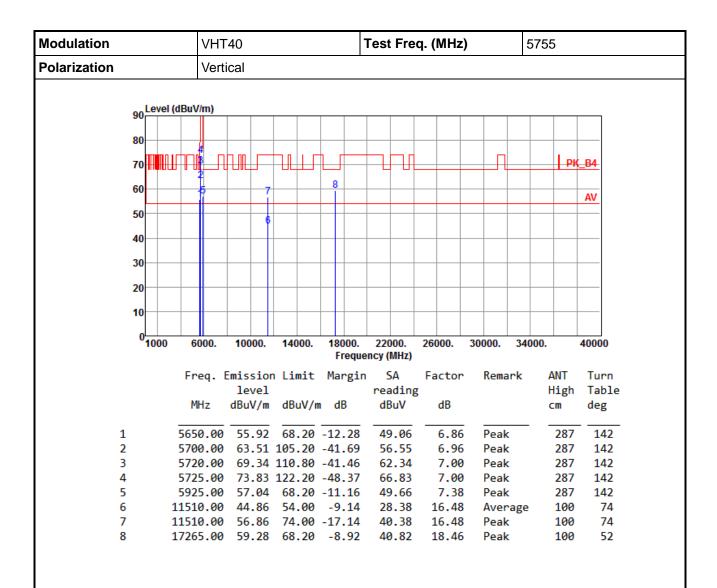


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 120 of 130



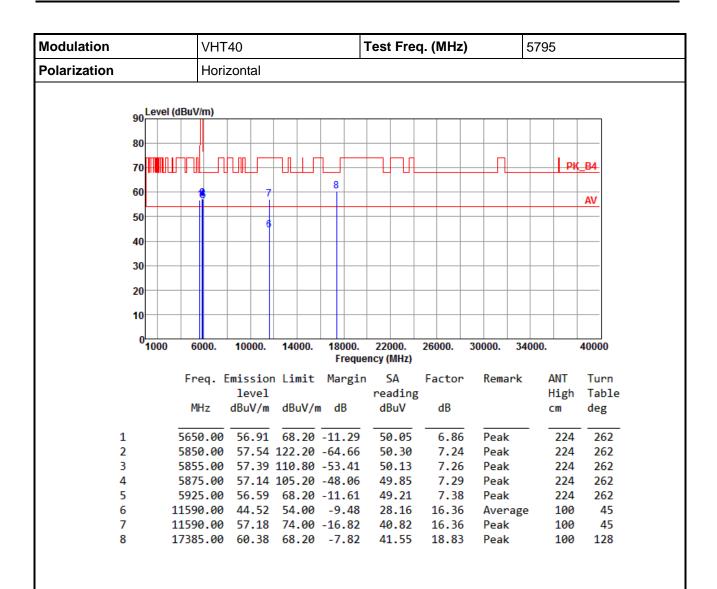


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 121 of 130



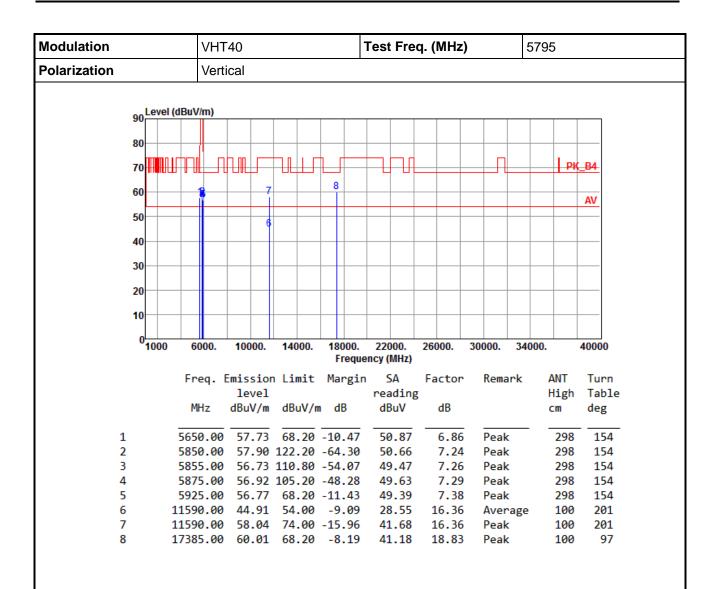


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 122 of 130





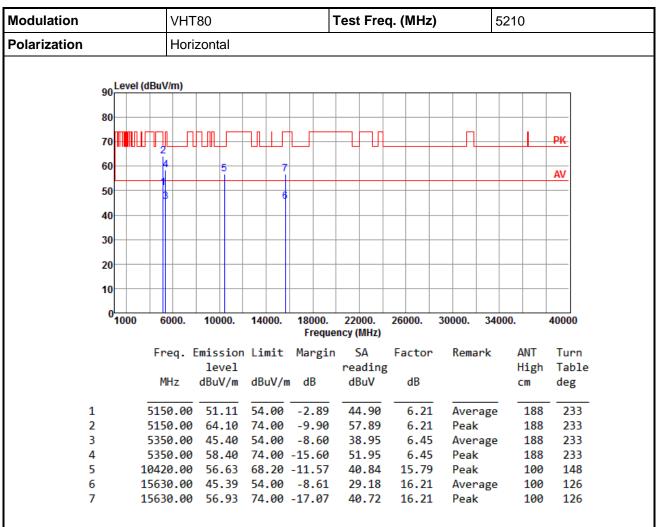
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 123 of 130



3.5.12 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT80



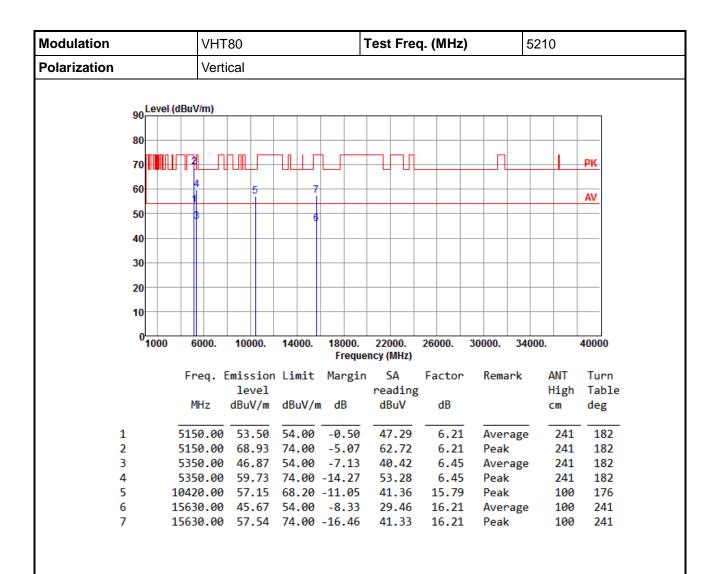
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 124 of 130

^{*}Factor includes antenna factor, cable loss and amplifier gain



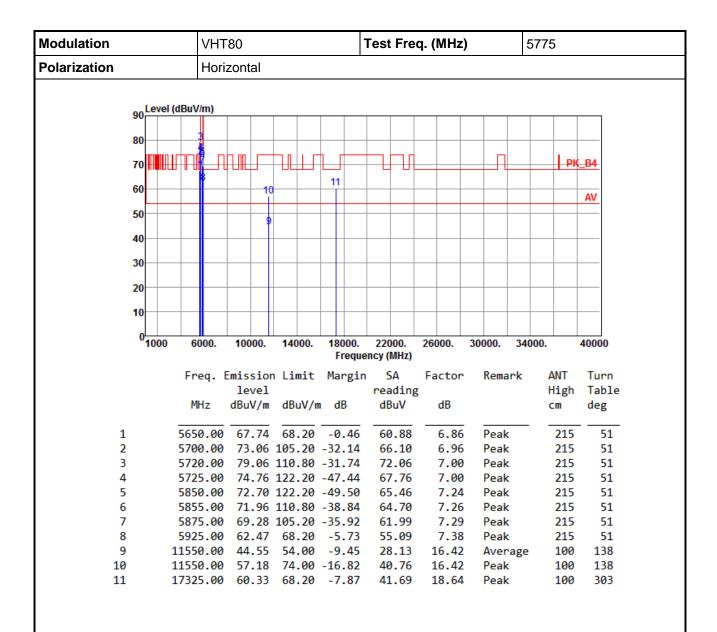


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 125 of 130



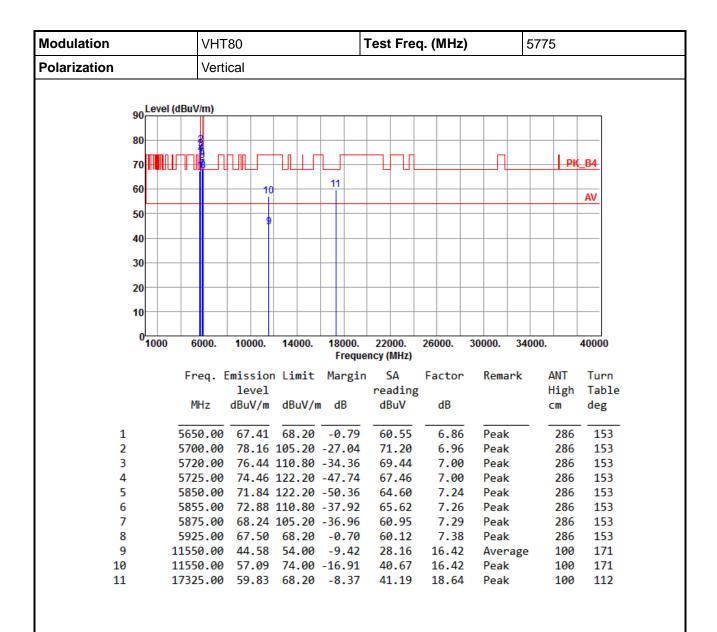


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 126 of 130





*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR832202AN Page: 127 of 130



3.6 Frequency Stability

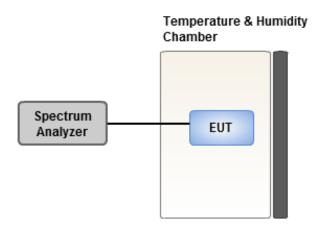
3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

3.6.2 Test Procedures

- 1. The EUT is installed in an environment test chamber with external power source.
- Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT.
- 3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
- 4. When temperature is stabled, measure the frequency stability.
- 5. The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.

3.6.3 Test Setup



Report No.: FR832202AN Page: 128 of 130



3.6.4 Test Result of Frequency Stability

Frequency: 5200 MHz	Frequency Drift (ppm)				
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes	
T20°CVmax	5.95	5.84	6.24	6.56	
T20°CVmin	4.89	5.33	4.97	4.93	
T50°CVnom	3.72	3.49	3.82	4.21	
T40°CVnom	3.70	3.40	4.41	3.64	
T30°CVnom	3.06	2.92	3.17	2.99	
T20°CVnom	3.64	3.33	3.88	3.49	
T10°CVnom	3.49	3.90	3.66	3.93	
T0°CVnom	3.14	4.00	2.87	2.91	
T-10°CVnom	3.35	3.45	3.80	3.18	
T-20°CVnom	1.02	1.40	1.44	0.81	
T-30°CVnom	0.58	0.64	0.95	0.41	
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102	
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30	

Frequency: 5785 MHz	Frequency Drift (ppm)				
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes	
T20°CVmax	5.39	5.24	5.86	5.10	
T20°CVmin	3.78	3.87	4.10	3.89	
T50°CVnom	3.88	3.62	4.08	3.83	
T40°CVnom	3.30	3.84	3.38	3.38	
T30°CVnom	2.22	2.73	2.57	1.98	
T20°CVnom	2.92	3.04	2.90	3.13	
T10°CVnom	3.22	3.29	3.69	2.87	
T0°CVnom	3.02	2.56	2.97	2.65	
T-10°CVnom	2.98	3.59	3.33	3.33	
T-20°CVnom	0.98	1.35	0.72	1.00	
T-30°CVnom	0.61	1.07	1.17	1.13	
Vnom [Vac]: 120		max [Vac]: 138	Vmin [Vac]:	Vmin [Vac]: 102	
Tnom [°C]: 20 Tm		max [°C]: 50	Tmin [°C]: -3	Tmin [°C]: -30	

Report No.: FR832202AN Page: 129 of 130



4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

Linkou

Tel: 886-2-2601-1640 No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City,

Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666 No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666 Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

==END==

Report No.: FR832202AN Page: 130 of 130