

4.6.3 Test Results

W52 and W53 bands: 802.11a

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Conducted RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
36	5180	3.811	3.674	3.991
48	5240	3.838	3.699	3.945
52	5260	3.973	3.811	3.9
64	5320	3.973	3.936	3.891
Max. Limit (mW/MHz)		10		
Rated Power		4		
Tolerance of Antenna Power		0.8 ~ 4.8		

PIFA antenna with antenna gain: 3.91 dBi

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Radiated RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
36	5180	9.376	9.039	9.819
48	5240	9.443	9.101	9.706
52	5260	9.775	9.376	9.595
64	5320	9.775	9.684	9.573
Max. EIRP Limit (mW/MHz)		10		

Note: 1. The radiated RF output power density is a “calculated” value derived from the conducted value.

2. Formula: Radiated RF output power density = Conducted RF output power density + Maximum Antenna Gain.



W56 band: 802.11a

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Conducted RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
100	5500	7.818	7.587	7.927
120	5600	7.64	7.587	7.8
140	5700	7.818	7.909	7.605
Max. Limit (mW/MHz)		10		
Rated Power		8		
Tolerance of Antenna Power		4 ~ 12		

PIFA antenna with antenna gain: 3.91 dBi

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Radiated RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
100	5500	19.235	18.667	19.503
120	5600	18.797	18.667	19.191
140	5700	19.235	19.459	18.711
Max. EIRP Limit (mW/MHz)		50		

Note: 1. The radiated RF output power density is a “calculated” value derived from the conducted value.

2. Formula: Radiated RF output power density = Conducted RF output power density + Maximum Antenna Gain.

W52 and W53 bands: 802.11ac (VHT20)

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Conducted RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
36	5180	3.927	3.955	3.777
48	5240	3.991	3.945	3.918
52	5260	3.945	3.991	3.991
64	5320	3.847	4	3.964
Max. Limit (mW/MHz)		10		
Rated Power		4		
Tolerance of Antenna Power		0.8 ~ 4.8		

PIFA antenna with antenna gain: 3.91 dBi

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Radiated RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
36	5180	9.662	9.731	9.293
48	5240	9.819	9.706	9.64
52	5260	9.706	9.819	9.819
64	5320	9.465	9.841	9.753
Max. EIRP Limit (mW/MHz)		10		

Note: 1. The radiated RF output power density is a "calculated" value derived from the conducted value.

2. Formula: Radiated RF output power density = Conducted RF output power density + Maximum Antenna Gain.



W56 band: 802.11ac (VHT20)

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Conducted RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
100	5500	7.196	7.229	7.483
120	5600	6.936	7.048	6.936
140	5700	7.449	7.432	7.347
Max. Limit (mW/MHz)		10		
Rated Power		8		
Tolerance of Antenna Power		4 ~ 12		

PIFA antenna with antenna gain: 3.91 dBi

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Radiated RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
100	5500	17.705	17.786	18.411
120	5600	17.065	17.341	17.065
140	5700	18.327	18.285	18.076
Max. EIRP Limit (mW/MHz)		50		

Note: 1. The radiated RF output power density is a “calculated” value derived from the conducted value.

2. Formula: Radiated RF output power density = Conducted RF output power density + Maximum Antenna Gain.

W52 and W53 bands: 802.11ac (VHT40)

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Conducted RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
38	5190	1.996	1.955	1.915
46	5230	1.996	1.973	1.996
54	5270	1.991	1.987	1.946
62	5310	1.968	1.996	1.968
Max. Limit (mW/MHz)		5		
Rated Power		2		
Tolerance of Antenna Power		0.4 ~ 2.4		

PIFA antenna with antenna gain: 3.91 dBi

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Radiated RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
36	5190	4.911	4.81	4.712
48	5230	4.911	4.854	4.911
52	5270	4.899	4.889	4.788
64	5310	4.842	4.911	4.842
Max. EIRP Limit (mW/MHz)		5		

Note: 1. The radiated RF output power density is a "calculated" value derived from the conducted value.

2. Formula: Radiated RF output power density = Conducted RF output power density + Maximum Antenna Gain.



W56 band: 802.11ac (VHT40)

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Conducted RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
102	5510	3.508	3.381	3.598
118	5590	3.777	3.865	3.811
134	5670	3.794	3.632	3.691
Max. Limit (mW/MHz)		5		
Rated Power		4		
Tolerance of Antenna Power		2 ~ 6		

PIFA antenna with antenna gain: 3.91 dBi

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Radiated RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
102	5510	8.631	8.319	8.852
118	5590	9.293	9.509	9.376
134	5670	9.335	8.936	9.081
Max. EIRP Limit (mW/MHz)		25		

Note: 1. The radiated RF output power density is a “calculated” value derived from the conducted value.

2. Formula: Radiated RF output power density = Conducted RF output power density + Maximum Antenna Gain.



W52 & W53 bands: 802.11ac (VHT80)

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Conducted RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
42	5210	0.998	0.962	0.982
58	5290	0.977	0.951	0.993
Max. Limit (mW/MHz)		2.5		
Rated Power		1		
Tolerance of Antenna Power		0.2 ~ 1.2		

PIFA antenna with antenna gain: 3.91 dBi

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Radiated RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
42	5210	2.455	2.367	2.416
58	5290	2.404	2.34	2.443
Max. EIRP Limit (mW/MHz)		2.5		

Note: 1. The radiated RF output power density is a "calculated" value derived from the conducted value.

2. Formula: Radiated RF output power density = Conducted RF output power density + Maximum Antenna Gain.



W56 bands: 802.11ac (VHT80)

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Conducted RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
106	5530	1.349	1.381	1.337
122	5610	1.762	1.762	1.714
Max. Limit (mW/MHz)		2.5		
Rated Power		2		
Tolerance of Antenna Power		1 ~ 3		

PIFA antenna with antenna gain: 3.91 dBi

Environmental Conditions	25 deg.C, 60% RH			
Channel Number	Frequency (MHz)	Radiated RF Output Power Density (mW/MHz)		
		V _{normal}	V _{max.}	V _{min.}
106	5530	3.319	3.398	3.29
122	5610	4.335	4.335	4.217
Max. EIRP Limit (mW/MHz)		12.5		

Note: 1. The radiated RF output power density is a “calculated” value derived from the conducted value.

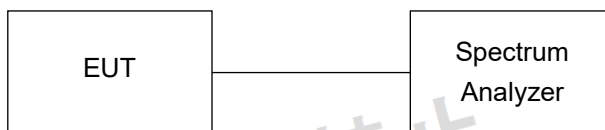
2. Formula: Radiated RF output power density = Conducted RF output power density + Maximum Antenna Gain.

4.7 Spurious Emission for Receiver

4.7.1 Limits of Spurious Emission for Receiver

Frequencies (MHz)	Limit
Below 1GHz	$\leq 4\text{nW}$ (-54dBm)
Above 1GHz	$\leq 20\text{nW}$ (-47dBm)

4.7.2 Test Setup



4.7.3 Test Result

W52 and W53 bands: 802.11a / 802.11ac (VHT20)

Environmental Conditions		25 deg.C, 60% RH					
Test Channel		CH36 (5180MHz)		CH48 (5240MHz)		Limit	Result
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (nW)	Frequency (MHz)	Measured Value (nW)		
V_{normal}	Below 1GHz	320.030	0.009462nW	320.030	0.012503nW	4nW/100kHz	Pass
	Above 1GHz	24906.250	1.34586nW	21681.250	1.21899nW	20nW/MHz	Pass
$V_{max.}$	Below 1GHz	320.030	0.01122nW	320.030	0.00743nW	4nW/100kHz	Pass
	Above 1GHz	21700.000	1.285287nW	21734.370	1.191242nW	20nW/MHz	Pass
$V_{min.}$	Below 1GHz	166.280	0.009772nW	320.030	0.008472nW	4nW/100kHz	Pass
	Above 1GHz	21684.370	1.1324nW	21550.000	1.472313nW	20nW/MHz	Pass
Test Channel		CH52 (5260MHz)		CH64 (5320MHz)		Limit	Result
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (nW)	Frequency (MHz)	Measured Value (nW)		
V_{normal}	Below 1GHz	155.000	0.008492nW	320.030	0.009016nW	4nW/100kHz	Pass
	Above 1GHz	21806.250	1.250259nW	21575.000	1.713957nW	20nW/MHz	Pass
$V_{max.}$	Below 1GHz	320.030	0.012134nW	320.030	0.009354nW	4nW/100kHz	Pass
	Above 1GHz	21590.620	1.428894nW	24643.750	1.244515nW	20nW/MHz	Pass
$V_{min.}$	Below 1GHz	850.740	0.007907nW	320.030	0.01nW	4nW/100kHz	Pass
	Above 1GHz	24615.620	1.183042nW	21631.250	1.402814nW	20nW/MHz	Pass

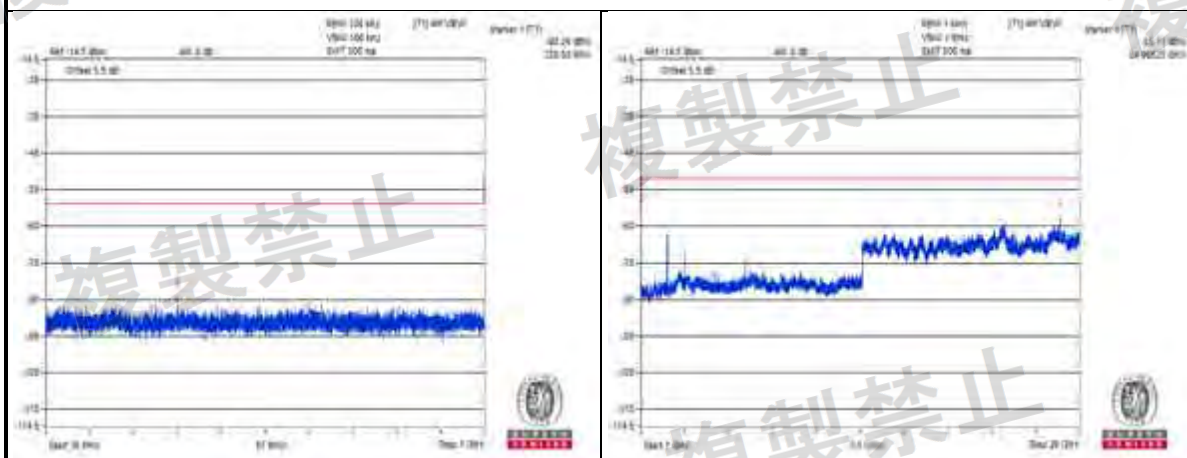
Note: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.

W56 band: 802.11a / 802.11ac (VHT20)

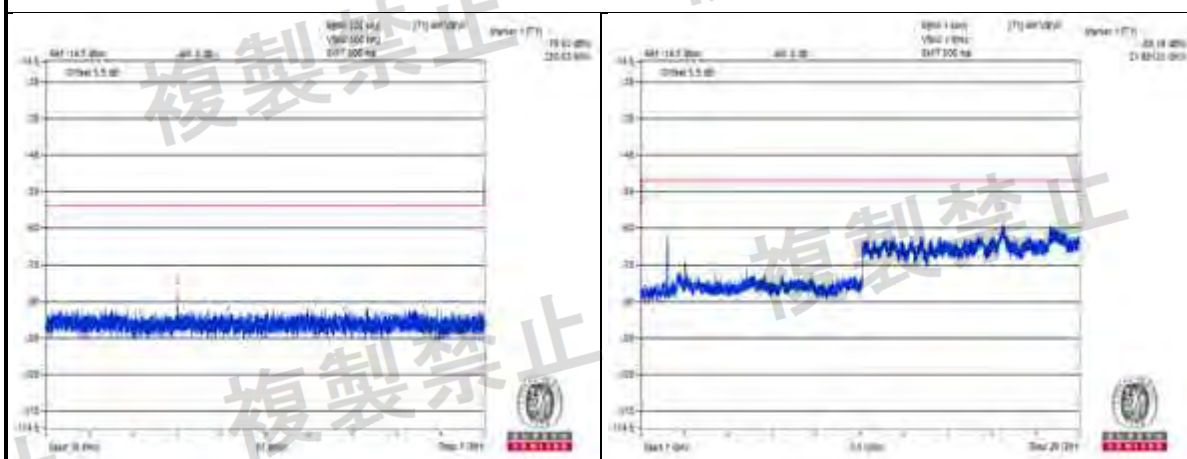
Environmental Conditions		25 deg.C, 60% RH					
Test Channel		CH100 (5500MHz)		CH120 (5600MHz)		Limit	Result
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (nW)	Frequency (MHz)	Measured Value (nW)		
V _{normal}	Below 1GHz	320.030	0.008831nW	320.030	0.009727nW	4nW/100kHz	Pass
	Above 1GHz	21618.750	1.086426nW	21750.000	1.054387nW	20nW/MHz	Pass
V _{max.}	Below 1GHz	320.030	0.007745nW	320.030	0.00912nW	4nW/100kHz	Pass
	Above 1GHz	21646.870	1.28825nW	21578.120	1.339677nW	20nW/MHz	Pass
V _{min.}	Below 1GHz	320.030	0.009795nW	852.920	0.008472nW	4nW/100kHz	Pass
	Above 1GHz	21653.120	1.14025nW	24546.870	1.513561nW	20nW/MHz	Pass
Test Channel		CH140 (5700MHz)				Limit	Result
Test Condition	Frequency Range	Frequency (MHz)		Measured Value (nW)			
V _{normal}	Below 1GHz	348.640		0.00857nW		4nW/100kHz	Pass
	Above 1GHz	21631.250		1.361445nW		20nW/MHz	Pass
V _{max.}	Below 1GHz	320.030		0.00877nW		4nW/100kHz	Pass
	Above 1GHz	24681.250		1.210598nW		20nW/MHz	Pass
V _{min.}	Below 1GHz	411.330		0.008892nW		4nW/100kHz	Pass
	Above 1GHz	21493.750		1.191242nW		20nW/MHz	Pass

Note: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.

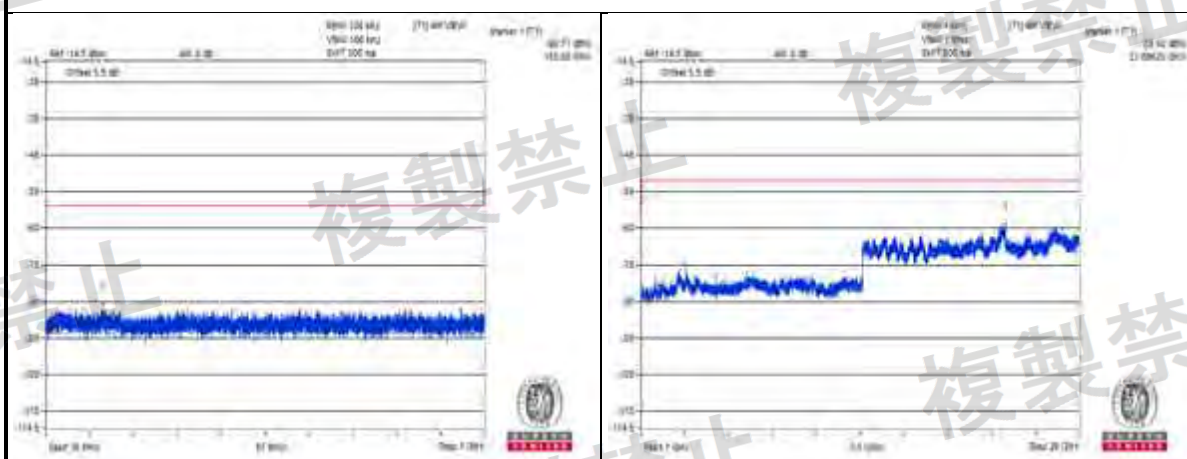
V_{normal}



Channel 36



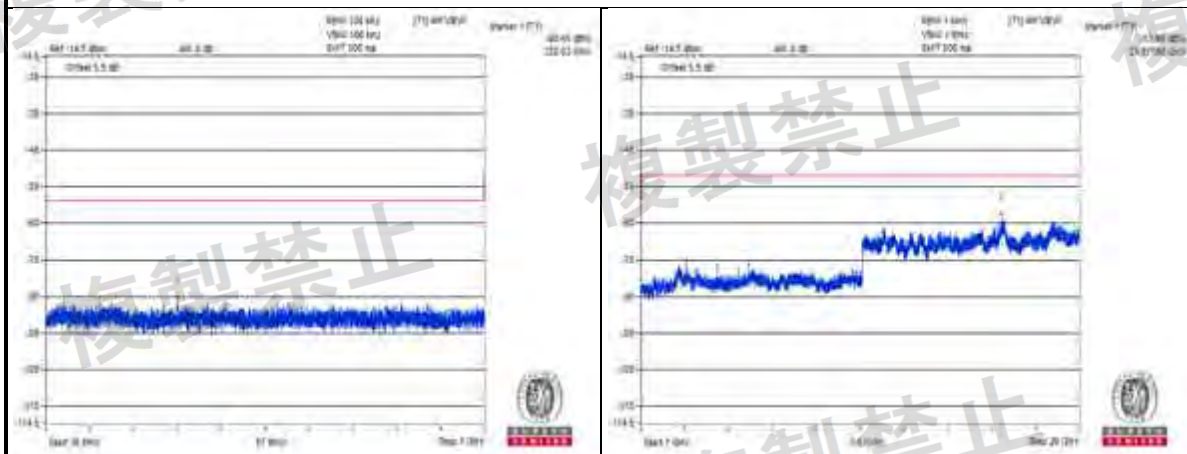
Channel 48



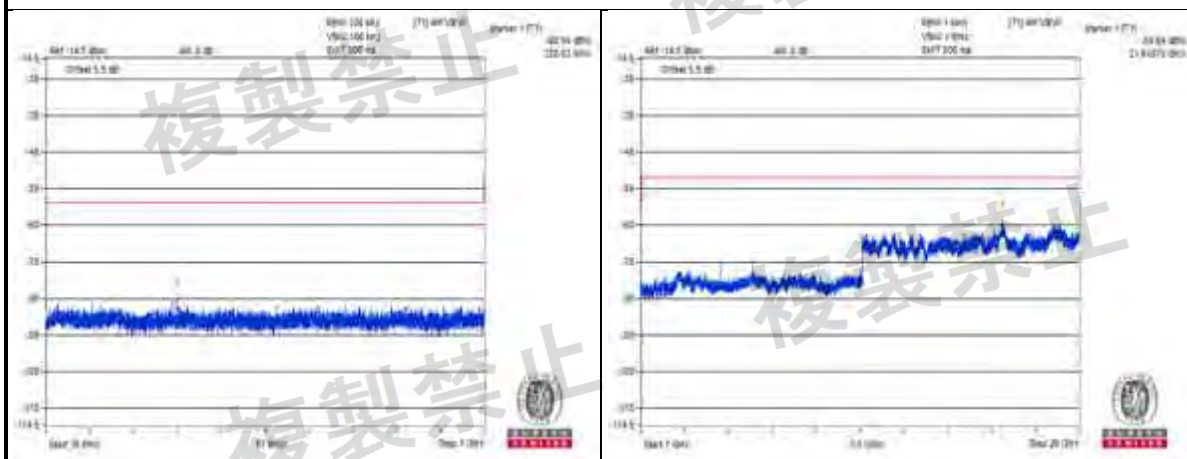
Channel 52



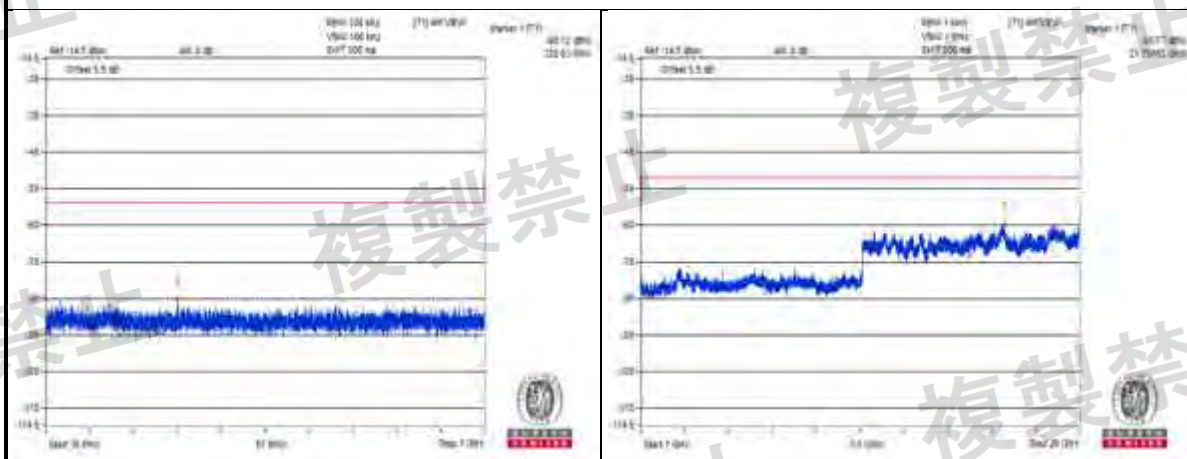
V_{normal}



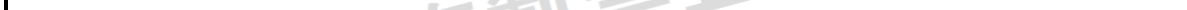
Channel 64

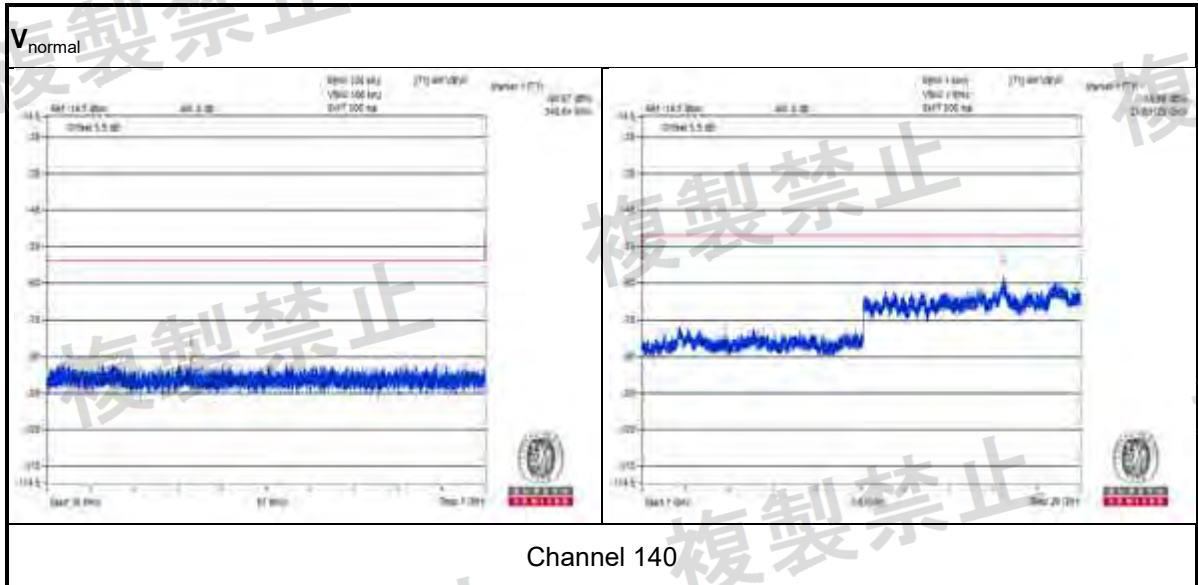


Channel 100



Channel 120

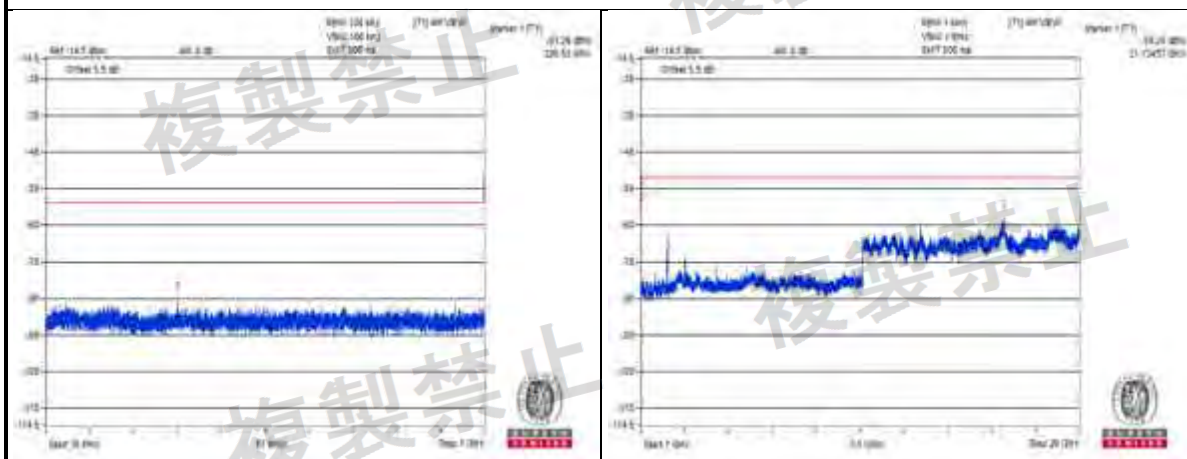




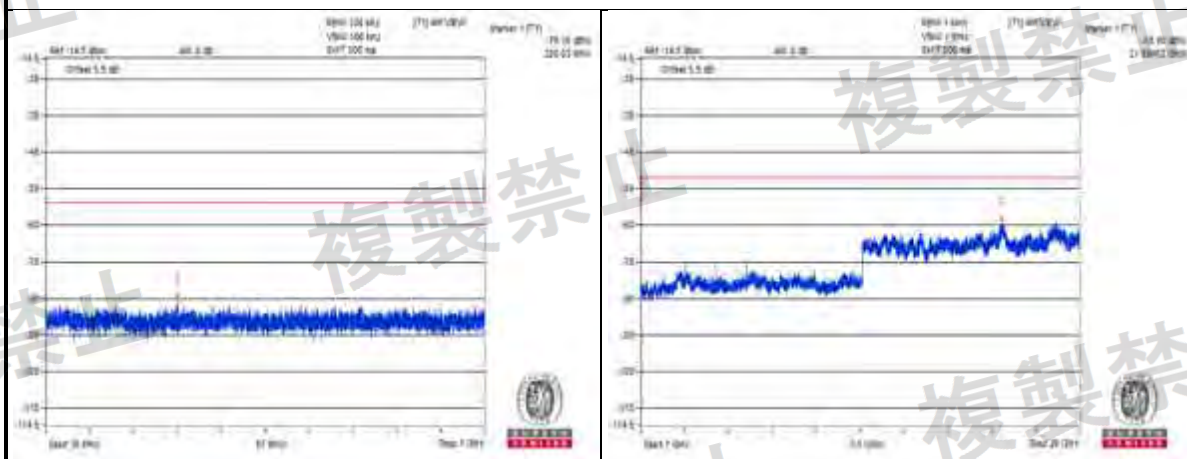
V_{max}.



Channel 36



Channel 48

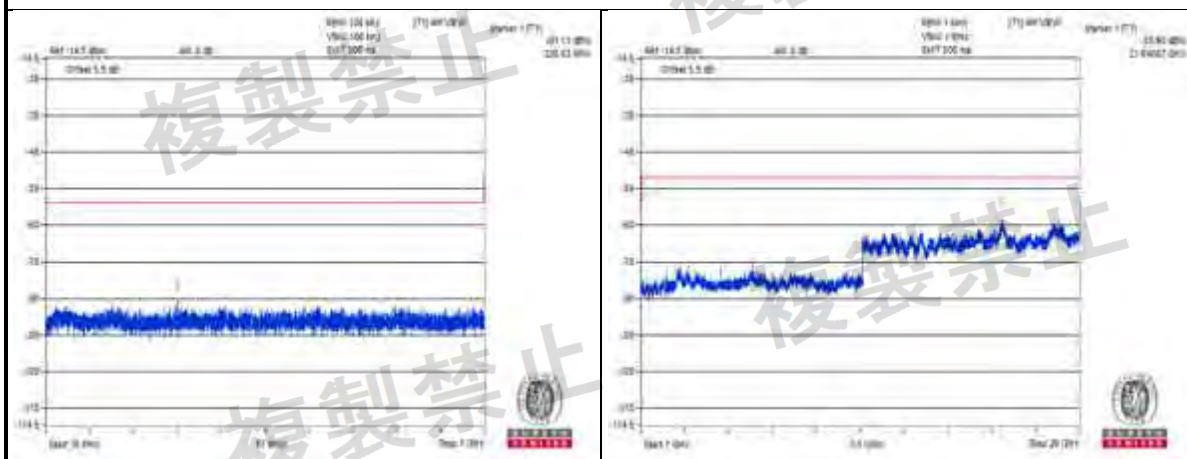


Channel 52

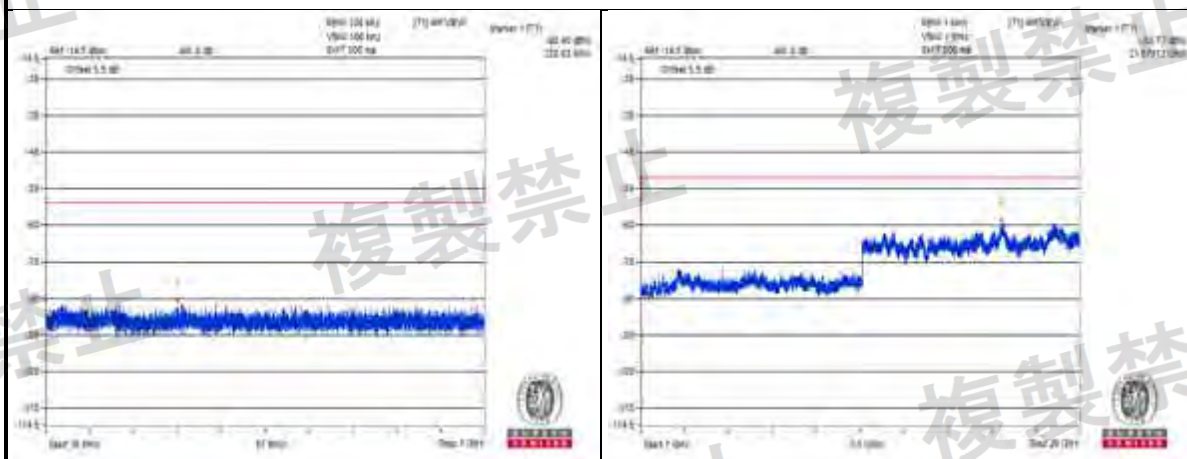
V_{max}.



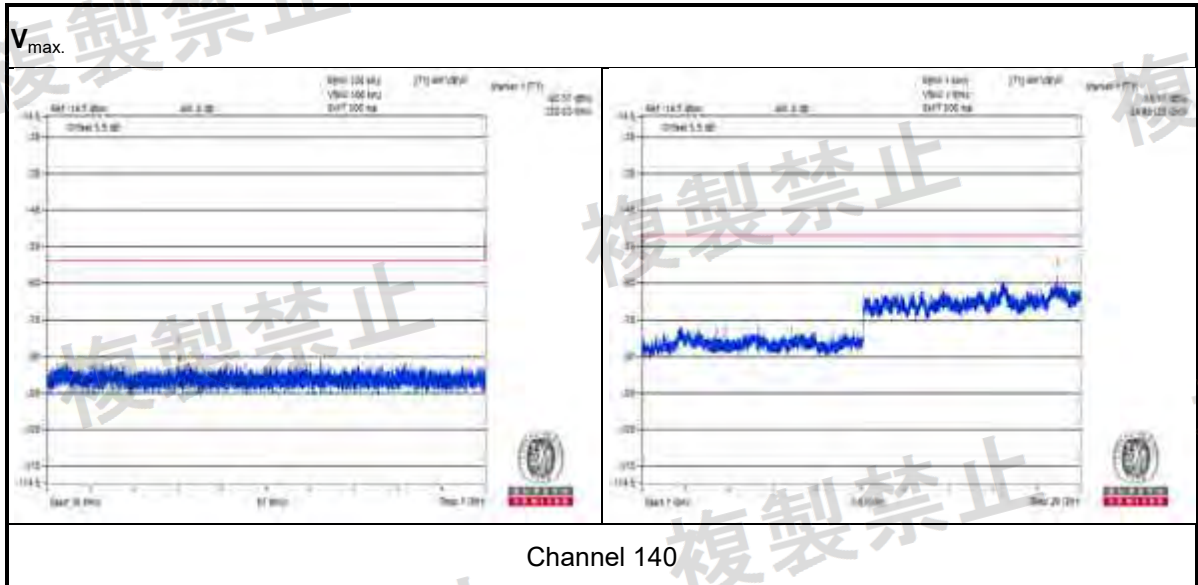
Channel 64



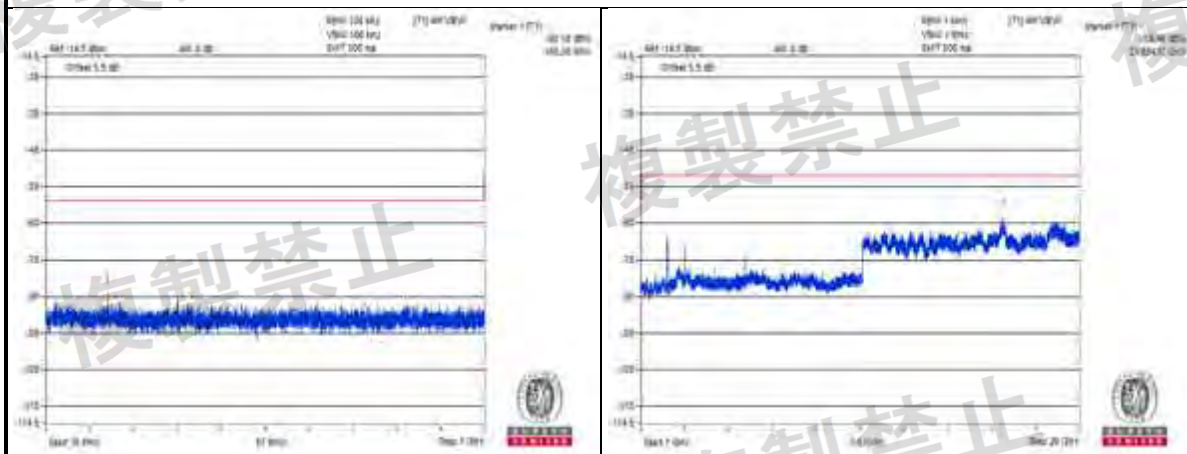
Channel 100



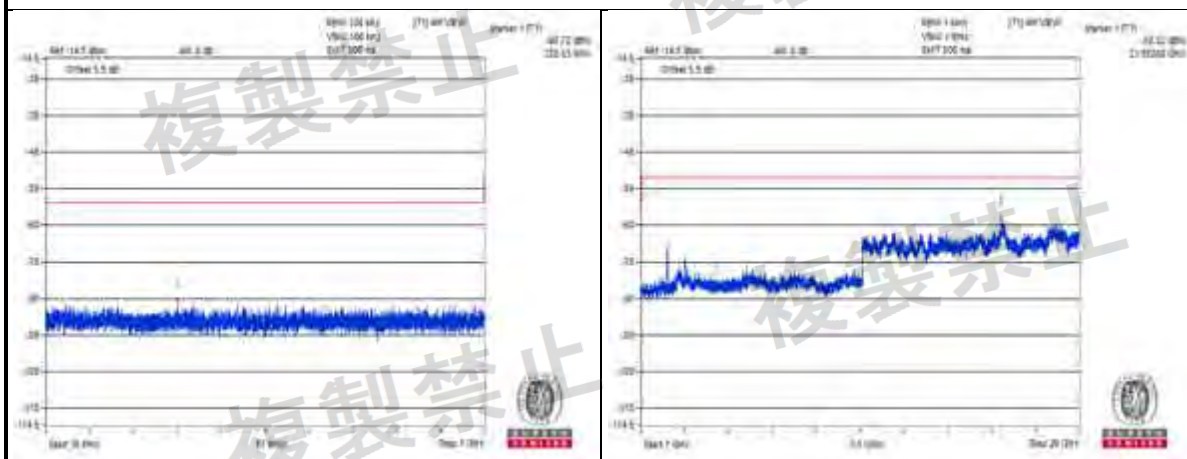
Channel 120



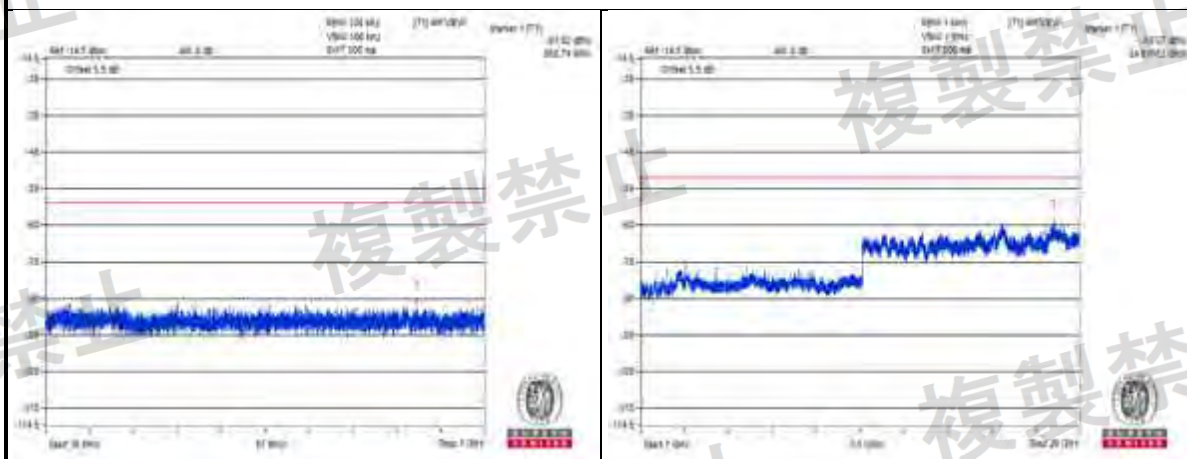
V_{min}.



Channel 36

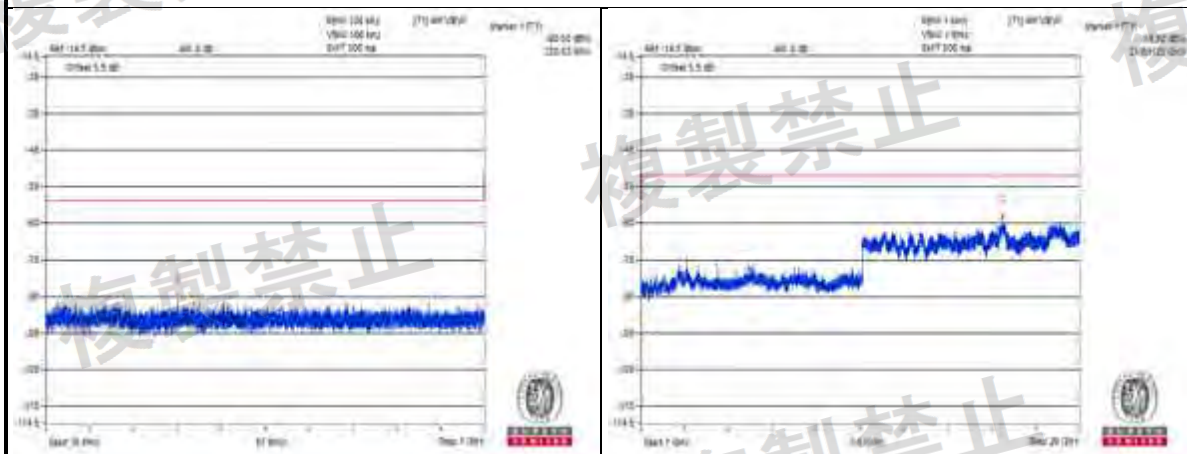


Channel 48

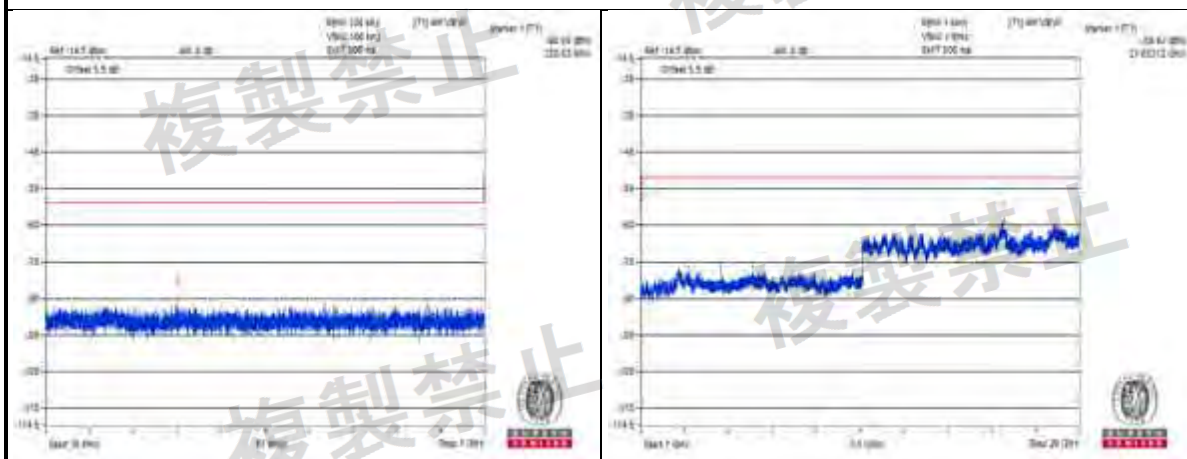


Channel 52

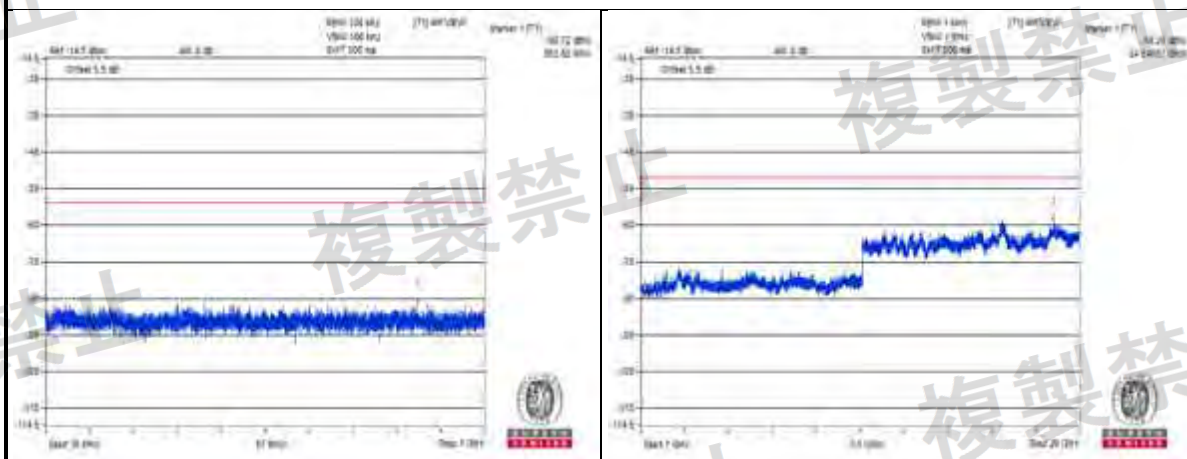
V_{min}.



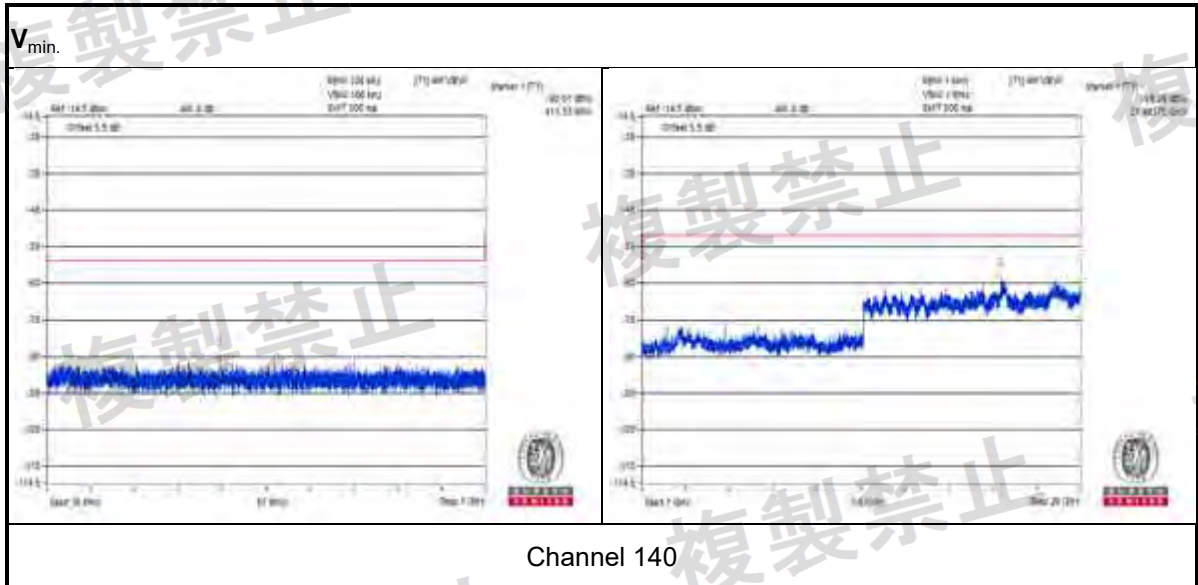
Channel 64



Channel 100



Channel 120





W52 and W53 bands: 802.11ac (VHT40)

Environmental Conditions		25 deg.C, 60% RH					
Test Channel		CH38 (5190MHz)		CH46 (5230MHz)		Limit	Result
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (nW)	Frequency (MHz)	Measured Value (nW)		
V _{normal}	Below 1GHz	49.400	0.009772nW	320.030	0.008395nW	4nW/100kHz	Pass
	Above 1GHz	21587.500	1.241652nW	21659.370	1.458814nW	20nW/MHz	Pass
V _{max.}	Below 1GHz	320.030	0.00859nW	320.030	0.010914nW	4nW/100kHz	Pass
	Above 1GHz	21665.620	1.419058nW	21640.620	1.273503nW	20nW/MHz	Pass
V _{min.}	Below 1GHz	180.830	0.009683nW	320.030	0.009016nW	4nW/100kHz	Pass
	Above 1GHz	21603.120	1.101539nW	24706.250	1.09144nW	20nW/MHz	Pass
Test Channel		CH54 (5270MHz)		CH 62 (5310MHz)		Limit	Result
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (nW)	Frequency (MHz)	Measured Value (nW)		
V _{normal}	Below 1GHz	320.030	0.008954nW	320.030	0.010116nW	4nW/100kHz	Pass
	Above 1GHz	21693.750	1.129796nW	21668.750	1.244515nW	20nW/MHz	Pass
V _{max.}	Below 1GHz	320.030	0.011803nW	168.460	0.010447nW	4nW/100kHz	Pass
	Above 1GHz	21618.750	1.506607nW	21581.250	1.538155nW	20nW/MHz	Pass
V _{min.}	Below 1GHz	974.900	0.009376nW	713.720	0.010495nW	4nW/100kHz	Pass
	Above 1GHz	24687.500	1.472313nW	21687.500	1.309182nW	20nW/MHz	Pass

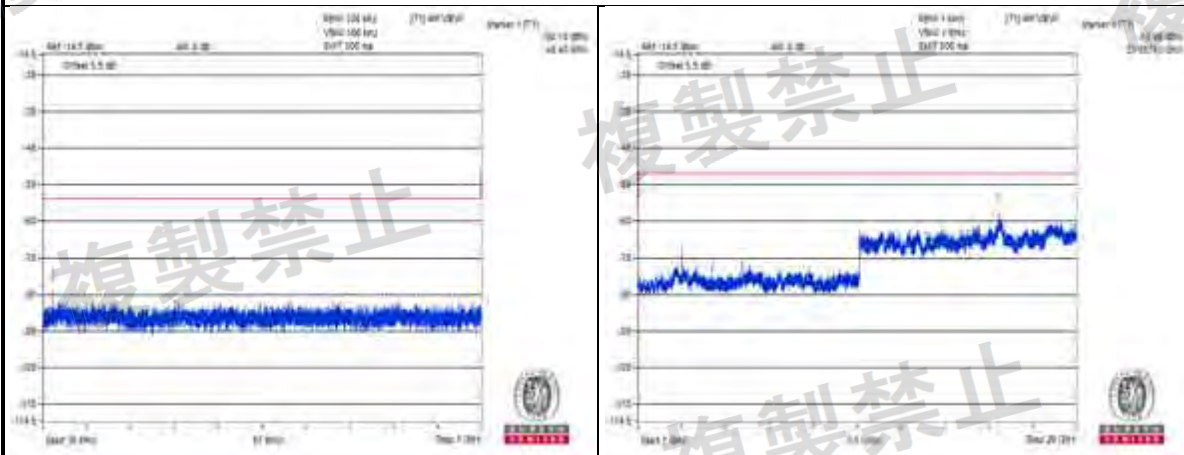
Note: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.

W56 band: 802.11ac (VHT40)

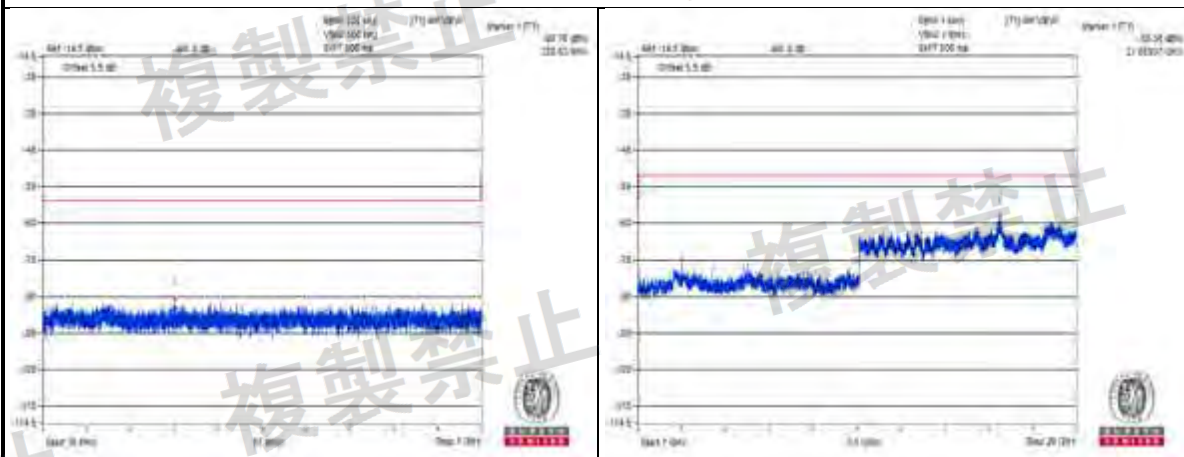
Environmental Conditions		25 deg.C, 60% RH					
Test Channel		CH102 (5510MHz)		CH118 (5590MHz)		Limit	Result
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (nW)	Frequency (MHz)	Measured Value (nW)		
V _{normal}	Below 1GHz	159.980	0.009057nW	320.030	0.010069nW	4nW/100kHz	Pass
	Above 1GHz	24609.370	1.051962nW	21609.370	1.193988nW	20nW/MHz	Pass
V _{max.}	Below 1GHz	57.520	0.008531nW	320.030	0.011967nW	4nW/100kHz	Pass
	Above 1GHz	21615.620	1.020939nW	21706.250	1.116863nW	20nW/MHz	Pass
V _{min.}	Below 1GHz	320.030	0.011749nW	719.420	0.011614nW	4nW/100kHz	Pass
	Above 1GHz	24612.500	1.158777nW	21165.620	1.093956nW	20nW/MHz	Pass
Test Channel		CH134 (5670MHz)				Limit	Result
Test Condition	Frequency Range	Frequency (MHz)		Measured Value (nW)			
V _{normal}	Below 1GHz	63.460		0.00929nW		4nW/100kHz	Pass
	Above 1GHz	21728.120		1.153453nW		20nW/MHz	Pass
V _{max.}	Below 1GHz	435.460		0.008166nW		4nW/100kHz	Pass
	Above 1GHz	21565.620		1.306171nW		20nW/MHz	Pass
V _{min.}	Below 1GHz	320.030		0.00867nW		4nW/100kHz	Pass
	Above 1GHz	24665.620		1.462177nW		20nW/MHz	Pass

Note: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.

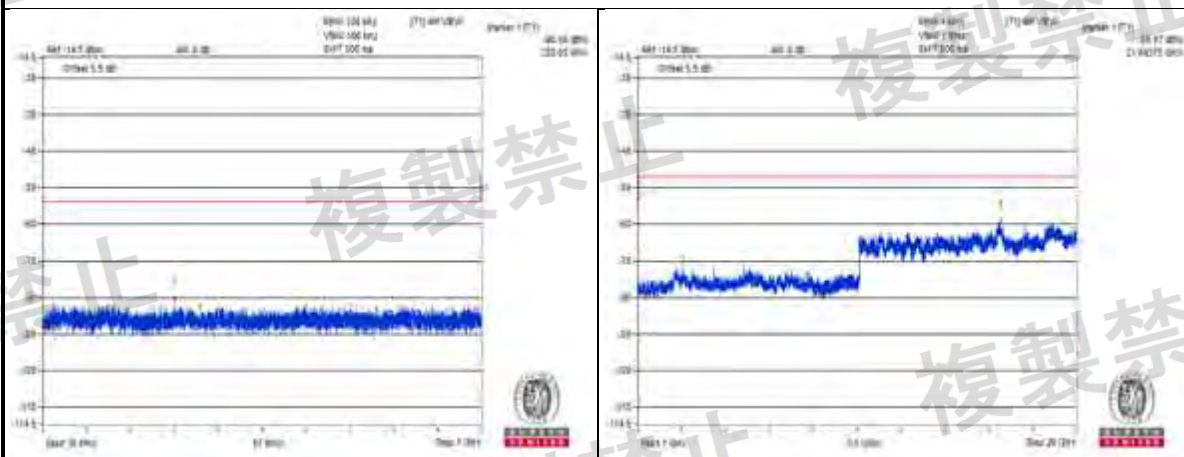
V_{normal}



Channel 38



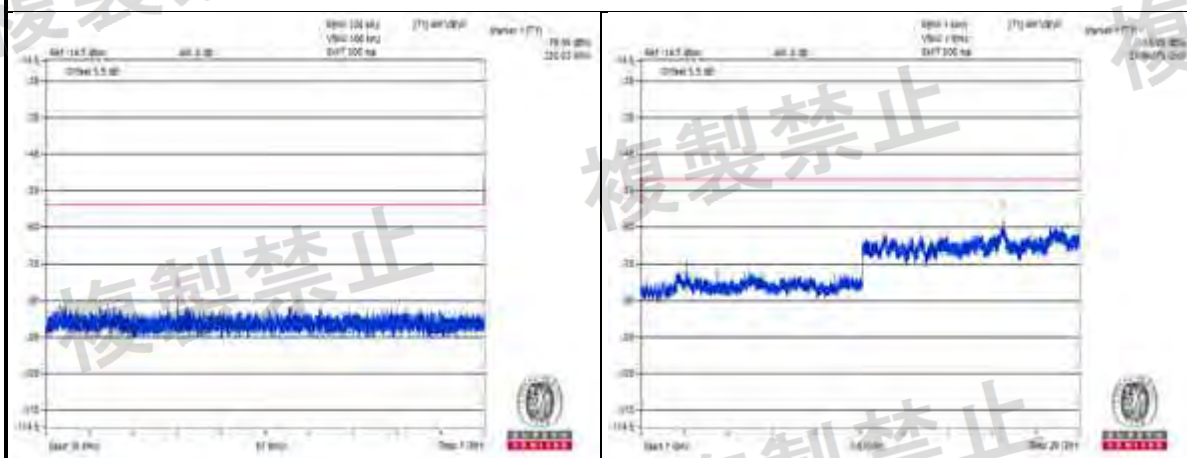
Channel 46



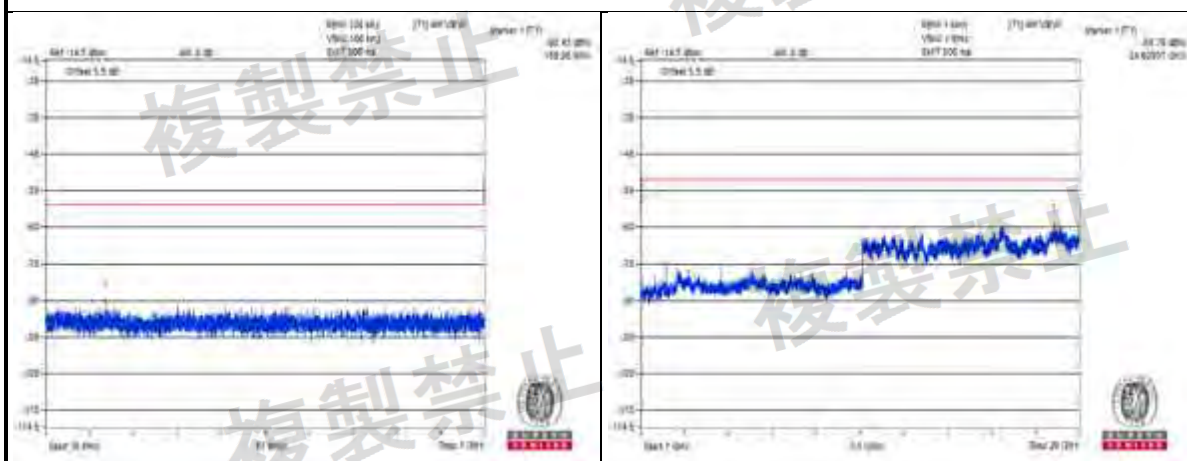
Channel 54



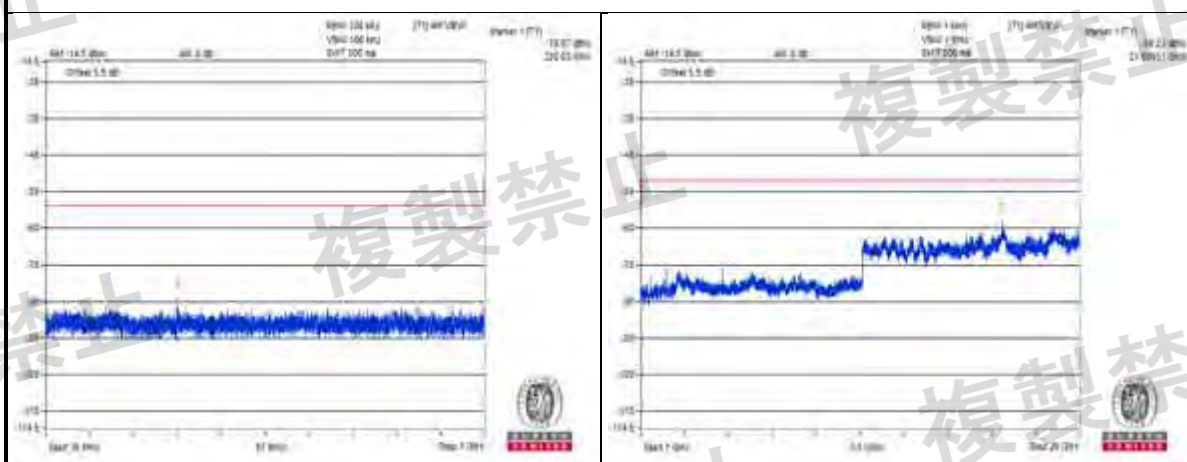
V_{normal}



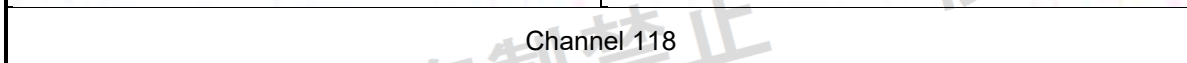
Channel 62

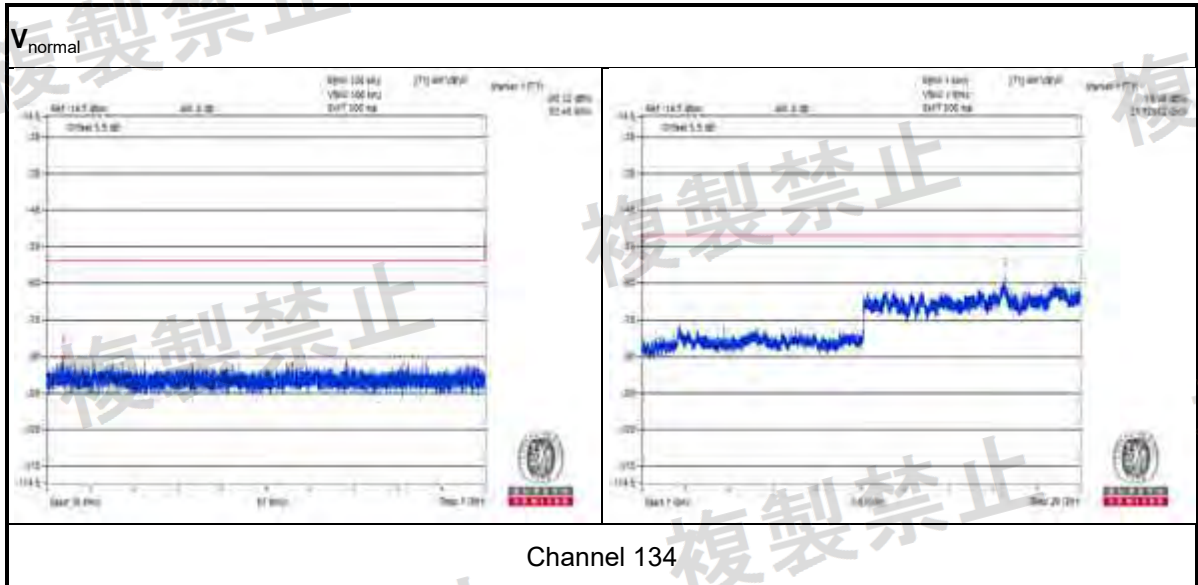


Channel 102

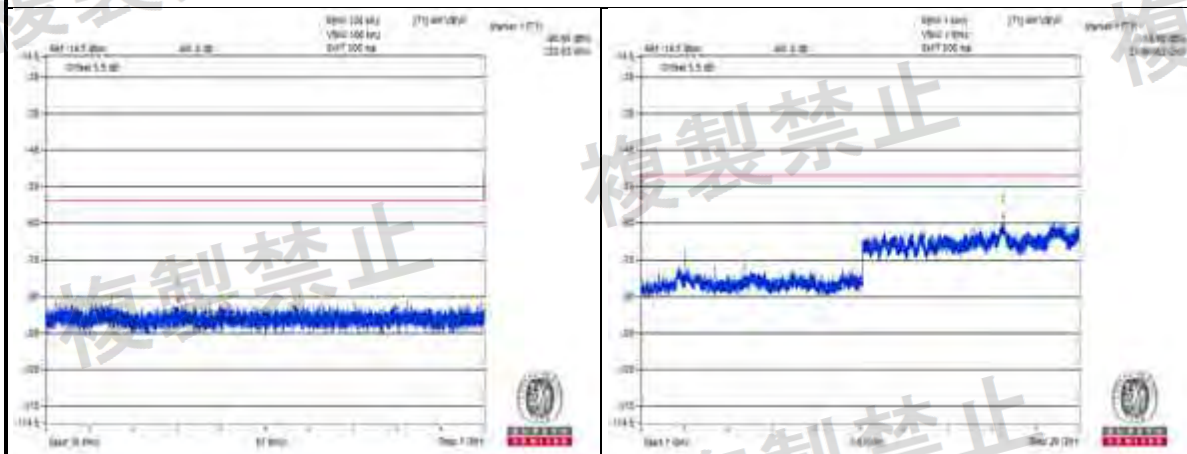


Channel 118

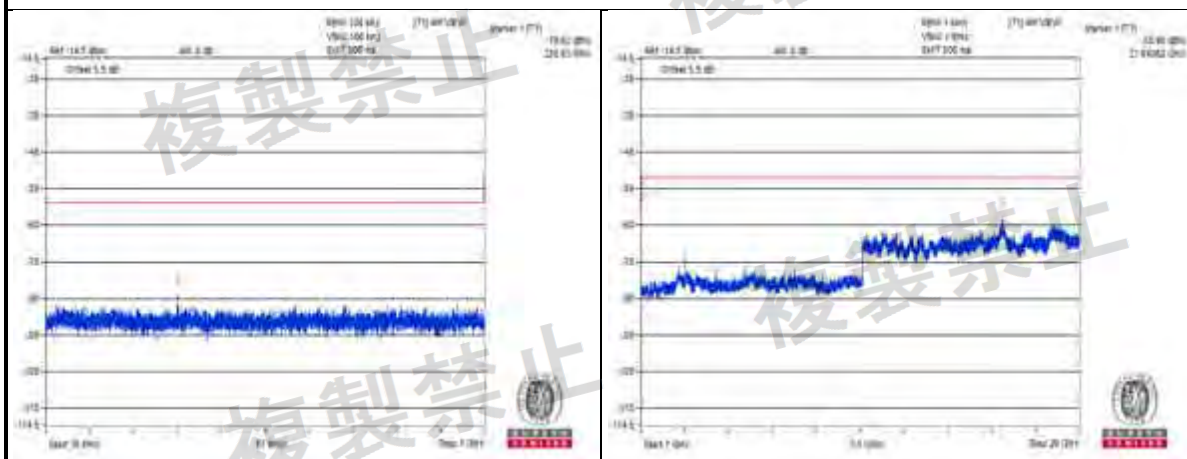




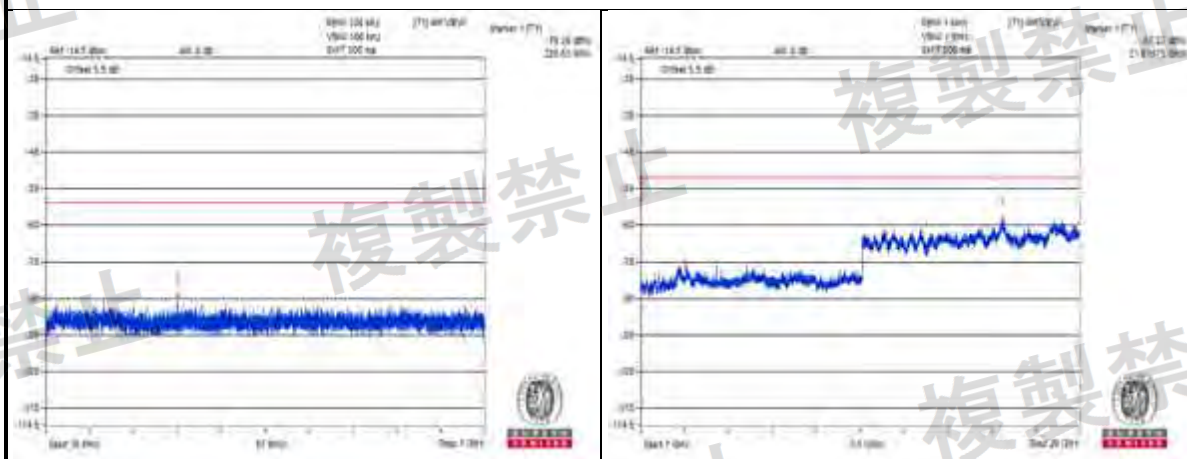
V_{max}.



Channel 38

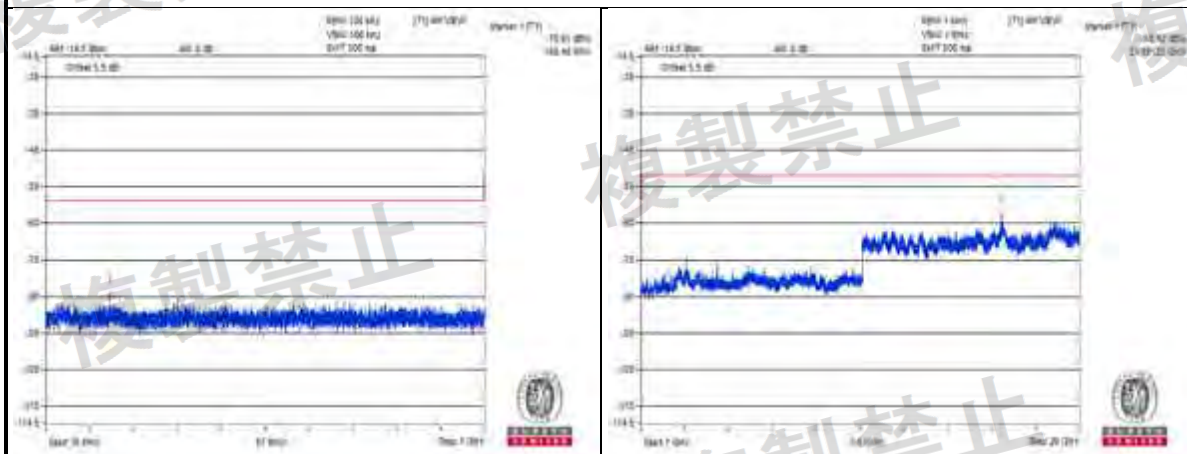


Channel 46

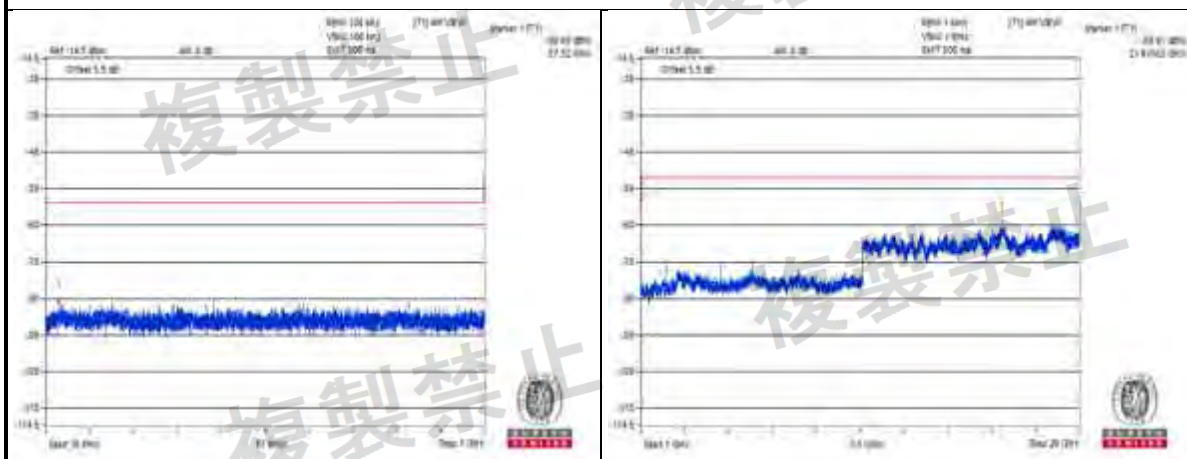


Channel 54

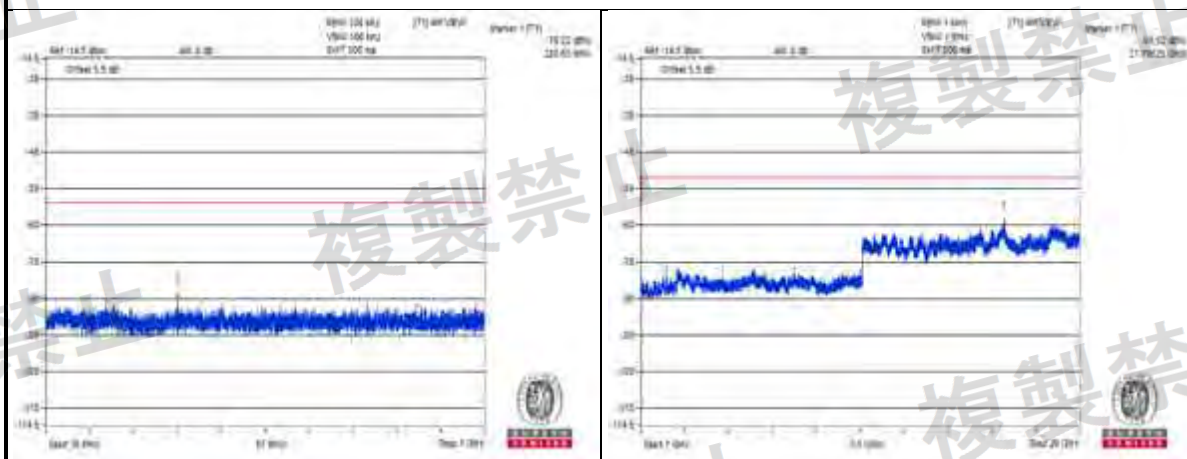
V_{max}.



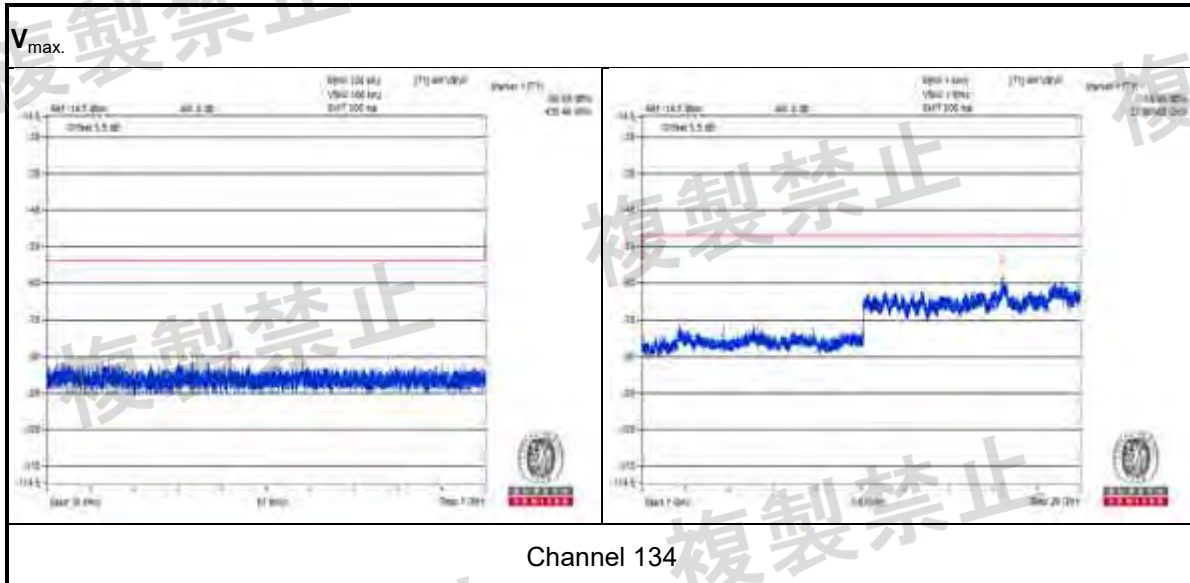
Channel 62



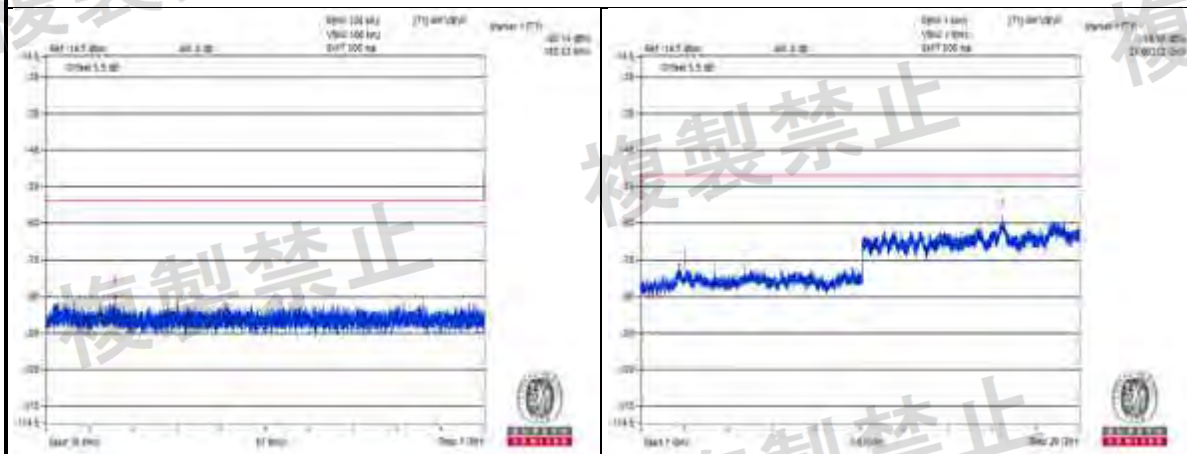
Channel 102



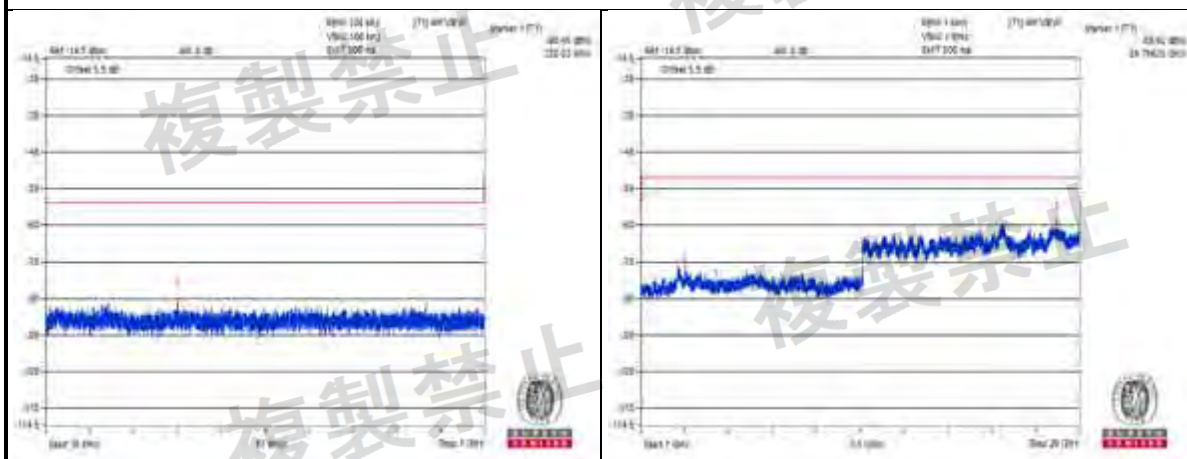
Channel 118



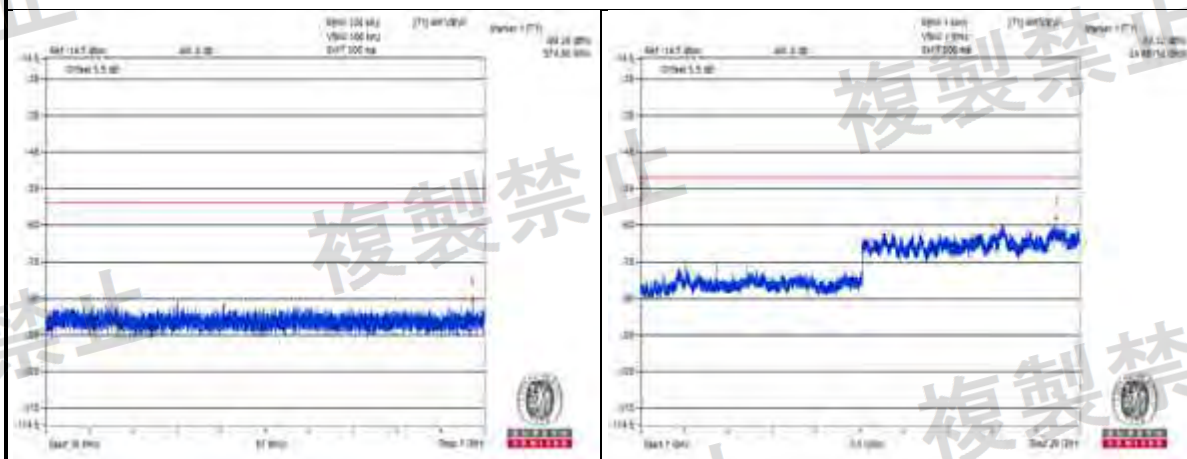
V_{min}.



Channel 38

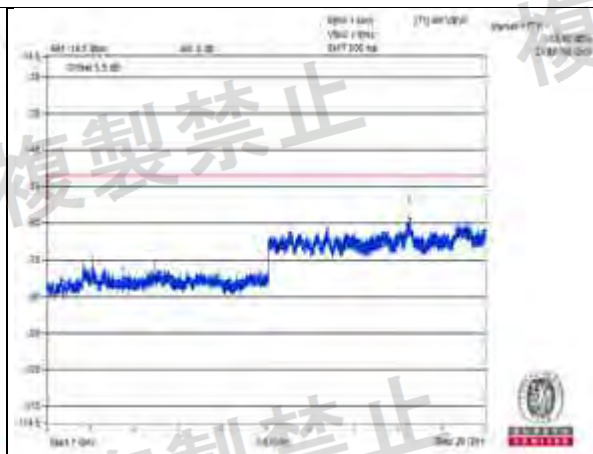
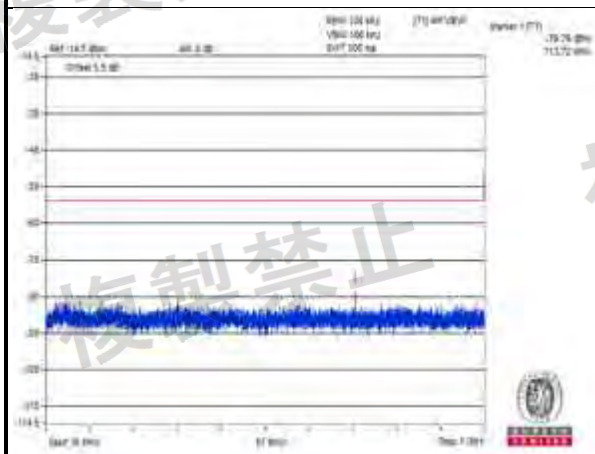


Channel 46

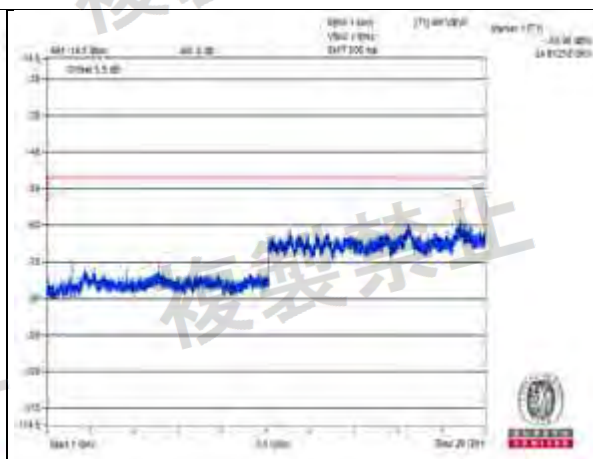
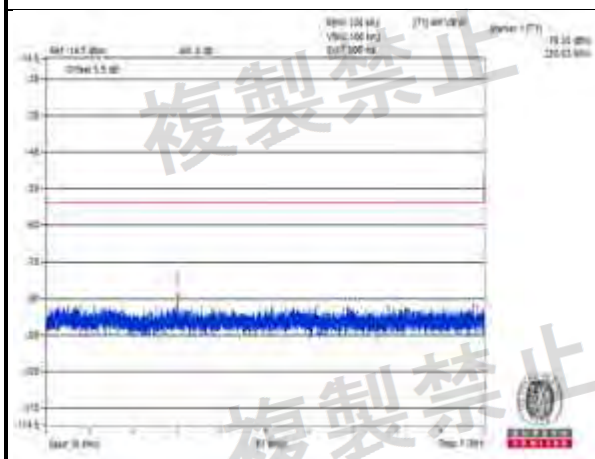


Channel 54

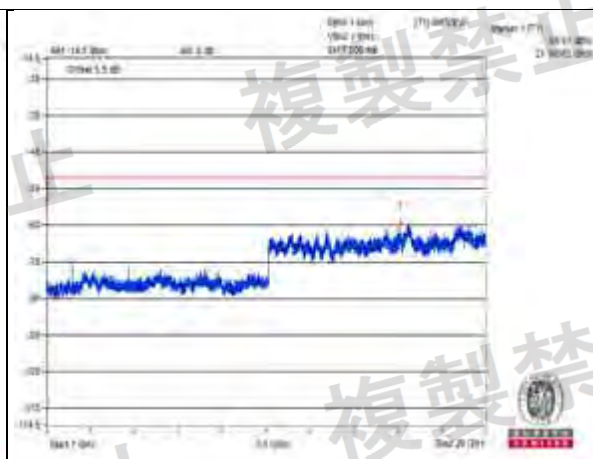
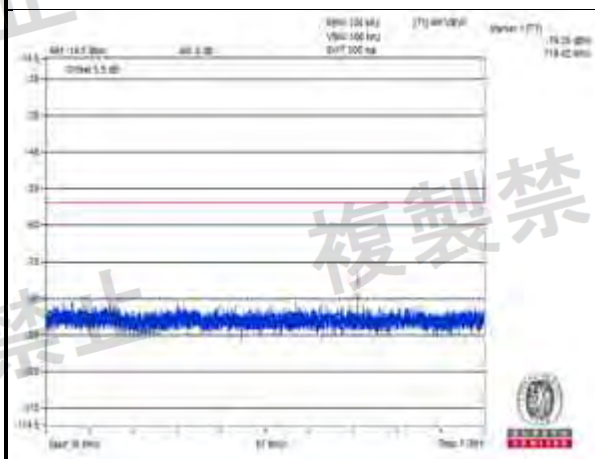
V_{min}.



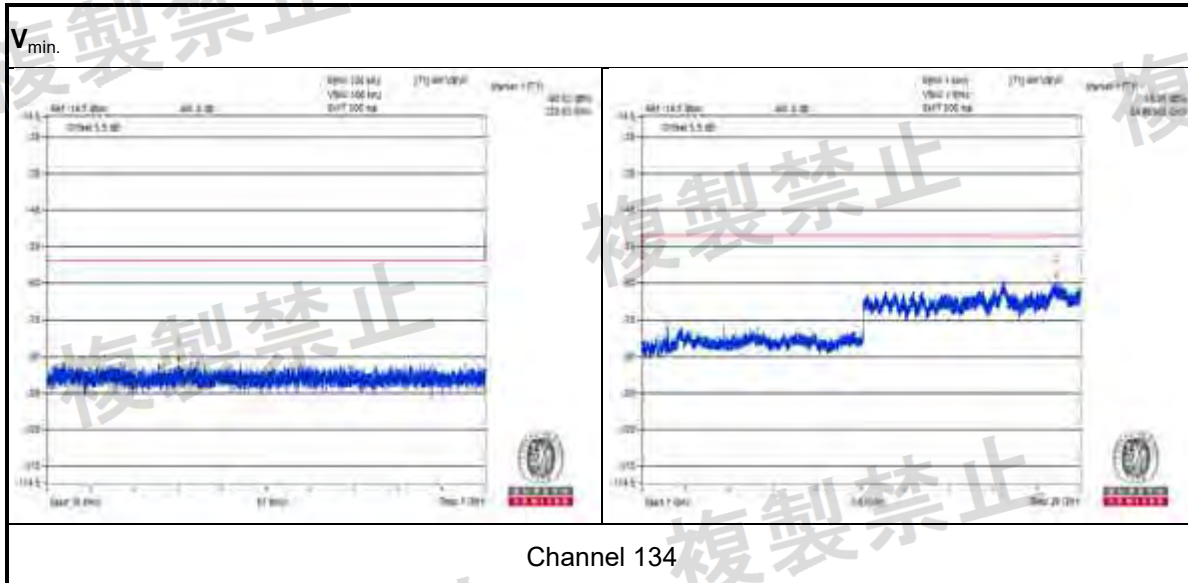
Channel 62



Channel 102



Channel 118



W52 and W53 bands: 802.11ac (VHT80)

Environmental Conditions		25 deg.C, 60% RH					
Test Channel		CH42 (5210MHz)		CH58 (5290MHz)		Limit	Result
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (nW)	Frequency (MHz)	Measured Value (nW)		
V_{normal}	Below 1GHz	578.890	0.010965nW	320.030	0.012972nW	4nW/100kHz	Pass
	Above 1GHz	21590.620	1.367729nW	24543.750	1.425608nW	20nW/MHz	Pass
$V_{max.}$	Below 1GHz	320.030	0.014093nW	320.030	0.012274nW	4nW/100kHz	Pass
	Above 1GHz	24671.870	1.230269nW	24925.000	1.083927nW	20nW/MHz	Pass
$V_{min.}$	Below 1GHz	320.030	0.011508nW	587.870	0.011912nW	4nW/100kHz	Pass
	Above 1GHz	24471.870	1.059254nW	21590.620	1.380384nW	20nW/MHz	Pass

Note: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.

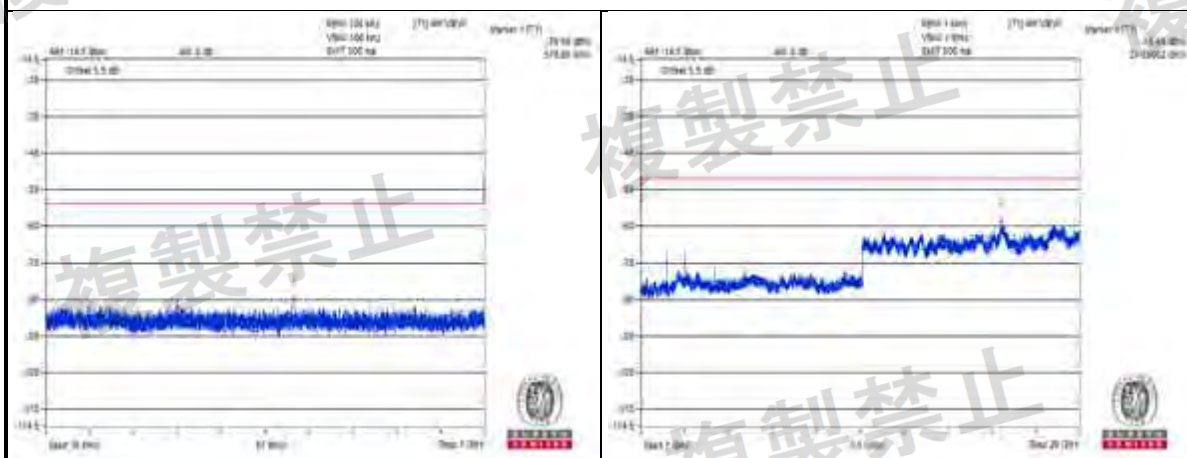
W56 band: 802.11ac (VHT80)

Environmental Conditions		25 deg.C, 60% RH					
Test Channel		CH106 (5530MHz)		CH122 (5610MHz)		Limit	Result
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (nW)	Frequency (MHz)	Measured Value (nW)		
V_{normal}	Below 1GHz	320.030	0.01074nW	320.030	0.011508nW	4nW/100kHz	Pass
	Above 1GHz	21668.750	1.032761nW	21662.500	1.207814nW	20nW/MHz	Pass
$V_{max.}$	Below 1GHz	320.030	0.009376nW	746.830	0.197697nW	4nW/100kHz	Pass
	Above 1GHz	25075.000	1.137627nW	21596.870	1.264736nW	20nW/MHz	Pass
$V_{min.}$	Below 1GHz	614.540	0.013677nW	320.030	0.01122nW	4nW/100kHz	Pass
	Above 1GHz	21606.250	1.399587nW	21628.120	1.496236nW	20nW/MHz	Pass

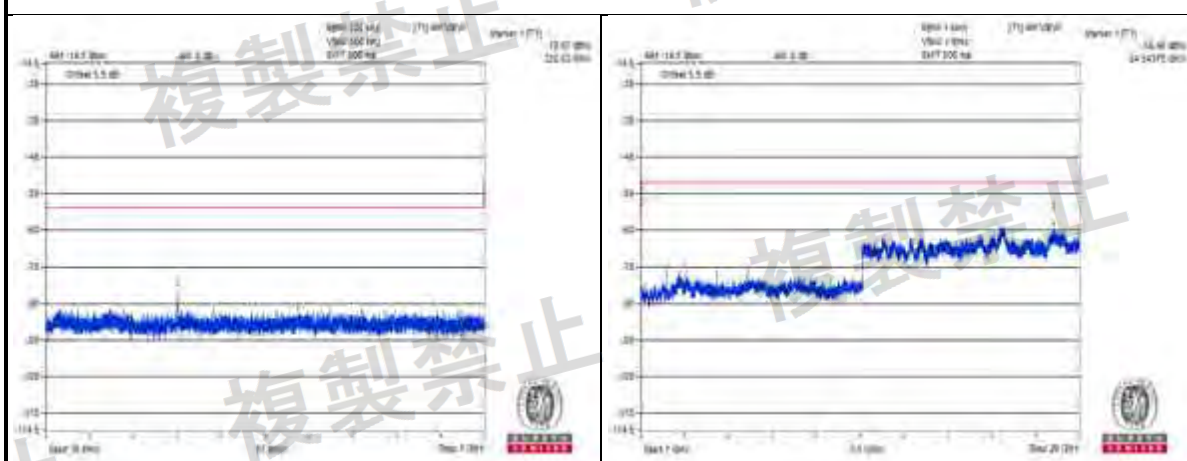
Note: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.

2. The spectrum plots are attached on the following pages.

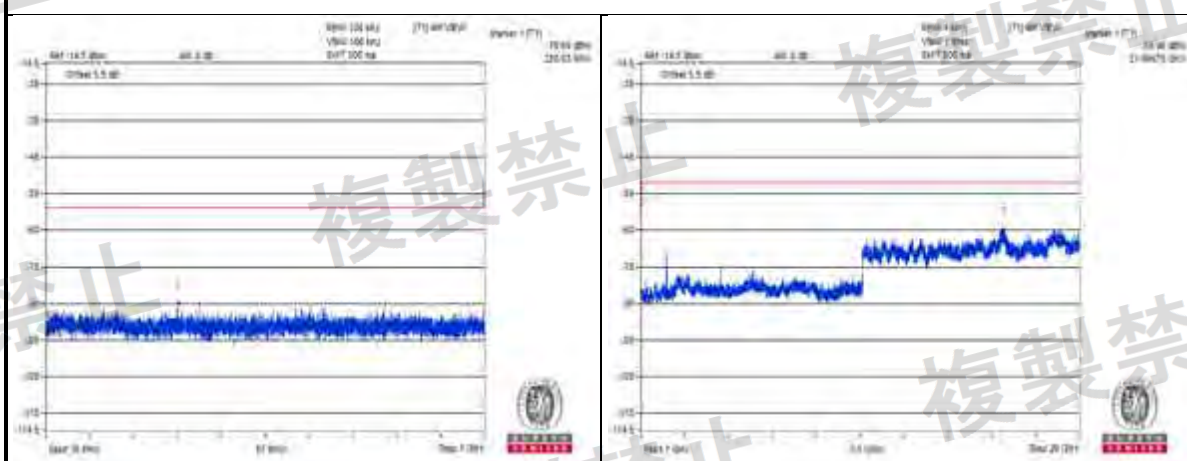
V_{normal}



Channel 42

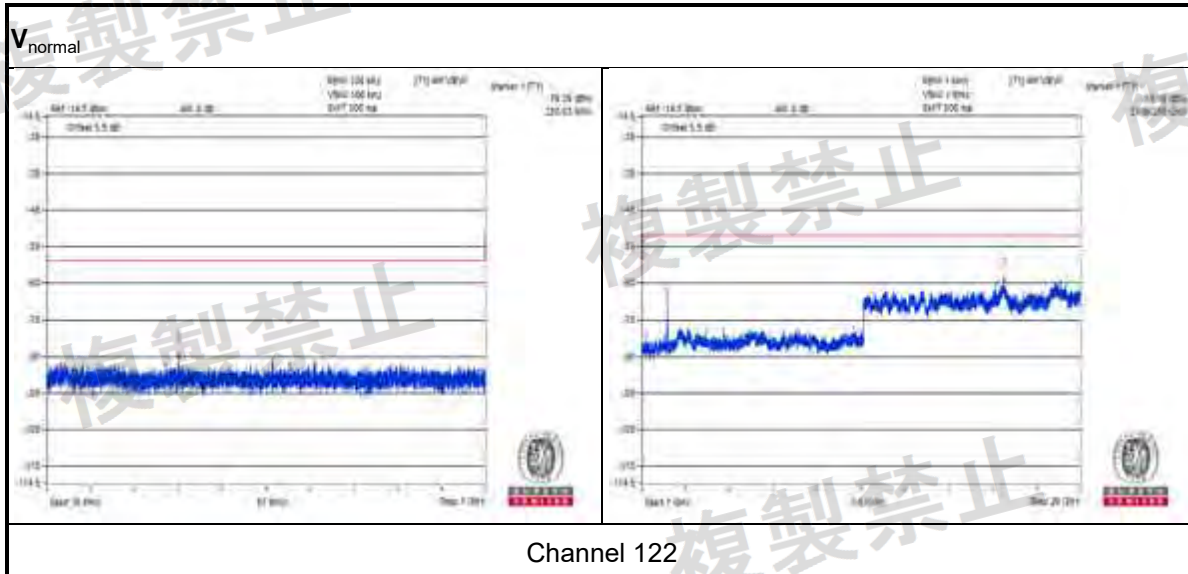


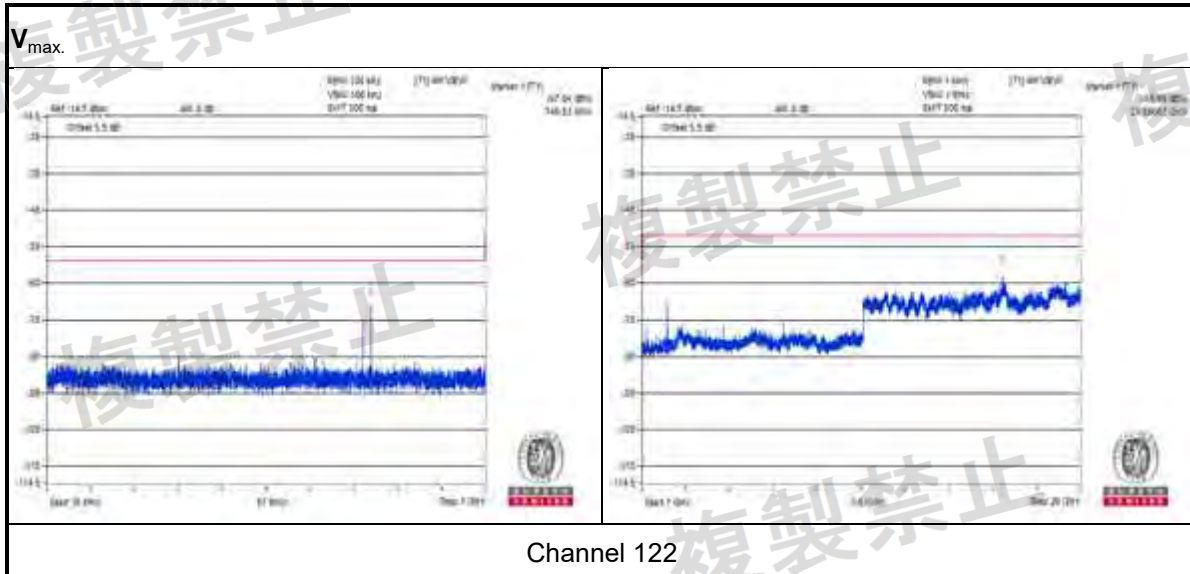
Channel 58



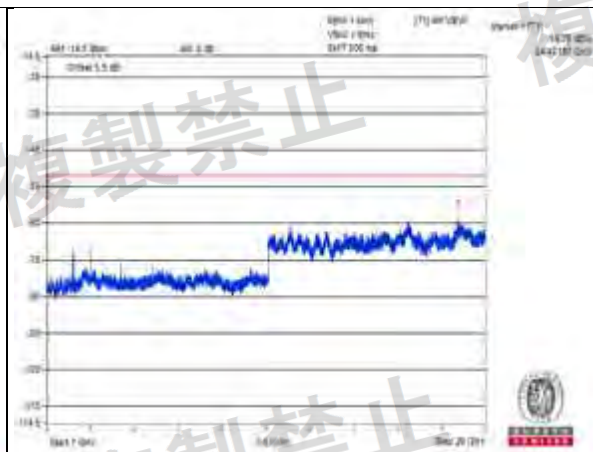
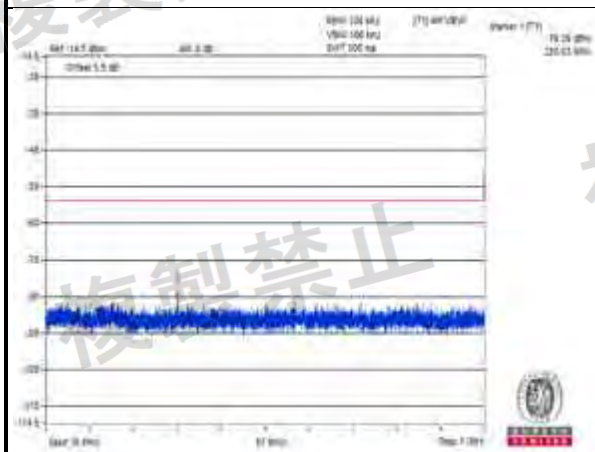
Channel 106



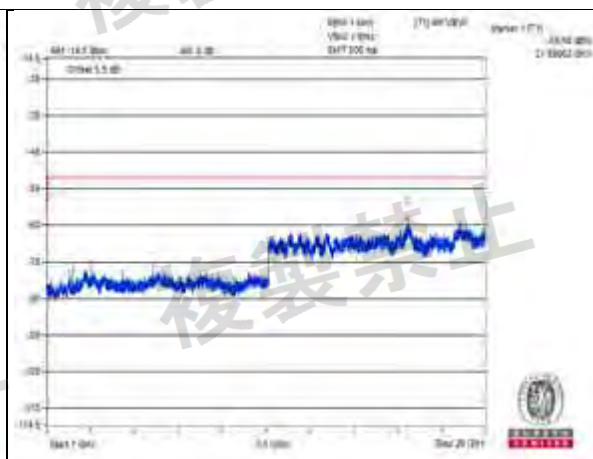
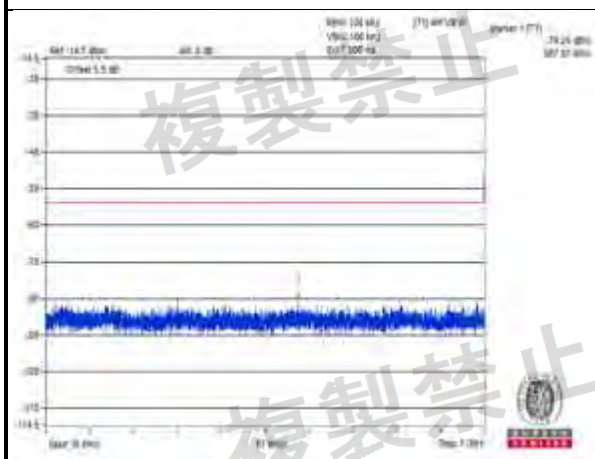




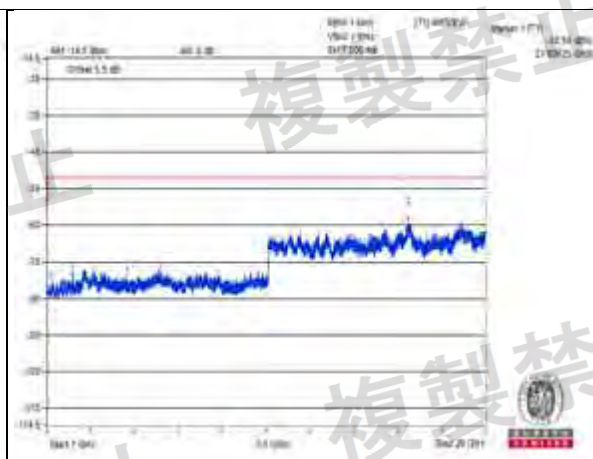
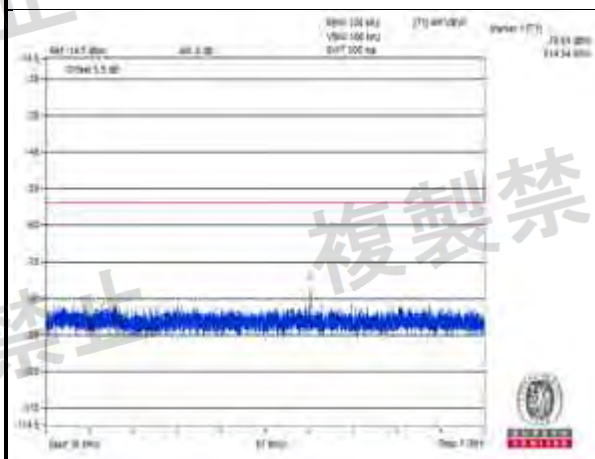
V_{min}.



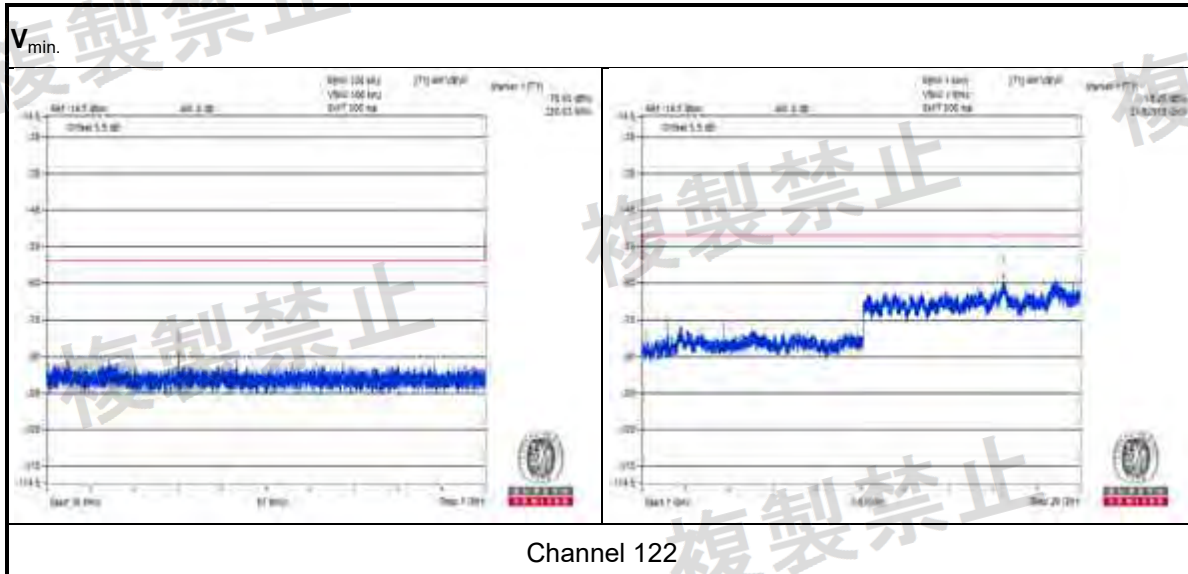
Channel 42



Channel 58



Channel 106





4.8 Burst Length

4.8.1 Limits of Burst Length

Frequencies (MHz)	Limit
Transmitter Operating	$\leq 4\text{ms}$

4.8.2 Test Setup



4.8.3 Test Result

W52 & W53 bands: 802.11a

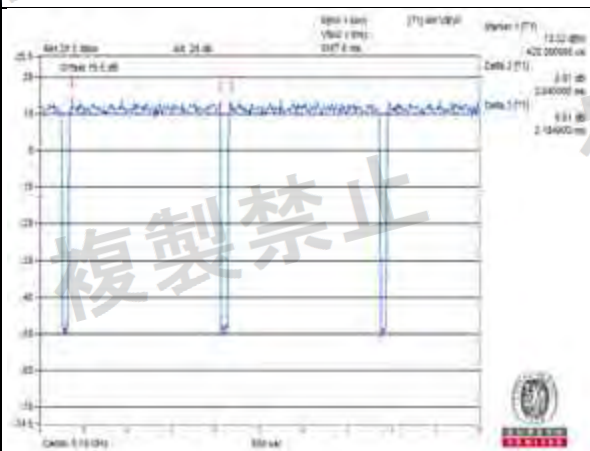
Environmental Conditions	25 deg.C, 60% RH			
Test Condition	Burst Length (ms)			
	CH 36 5180MHz	CH 48 5240MHz	CH 52 5260MHz	CH 64 5320MHz
V_{normal}	2.04	2.01	2.04	2.00
$V_{max.}$	2.04	2.04	2.02	2.04
$V_{min.}$	2.02	2.01	2.04	2.06

W56 band: 802.11a

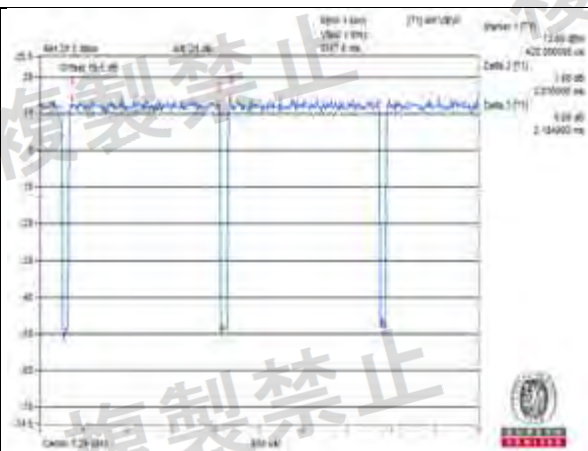
Environmental Conditions	25 deg.C, 60% RH		
Test Condition	Burst Length (ms)		
	CH 100 5500MHz	CH 120 5600MHz	CH140 5700MHz
V_{normal}	2.02	2.02	2.05
$V_{max.}$	2.02	2.00	2.01
$V_{min.}$	2.01	2.00	2.05

Note: The spectrum plots are attached on the following pages.

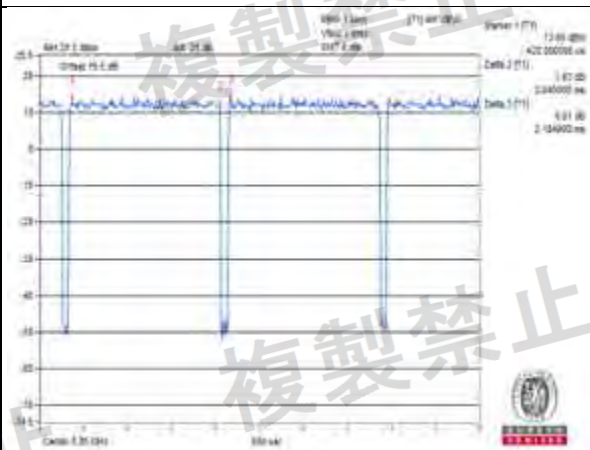
V normal



Channel 36



Channel 48

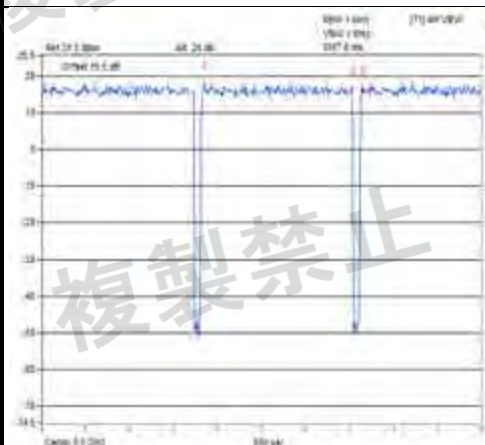


Channel 52



Channel 64

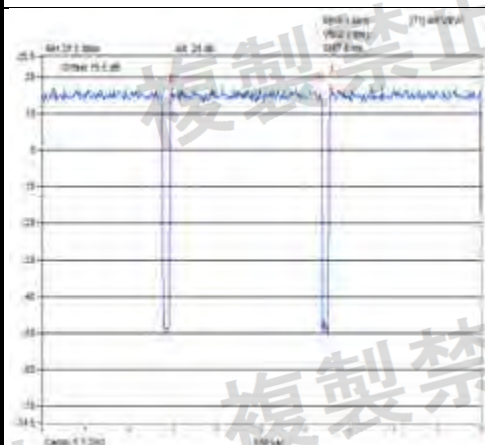
V normal



Channel 100

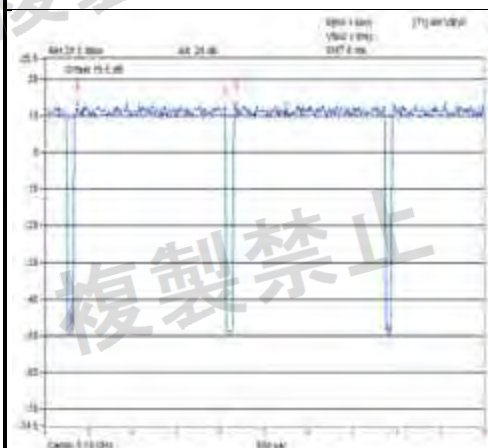


Channel 120

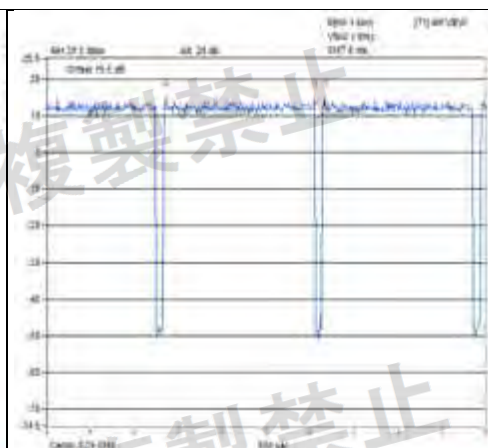


Channel 140

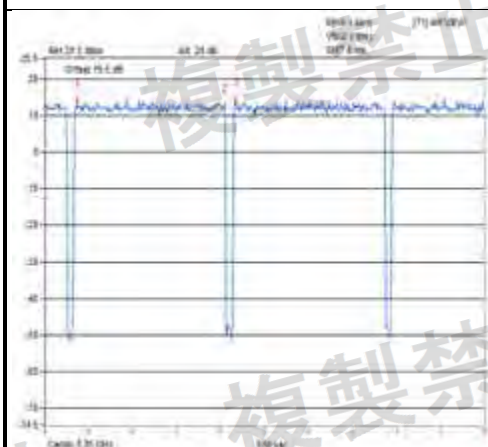
V_{max}.



Channel 36



Channel 48



Channel 52



Channel 64

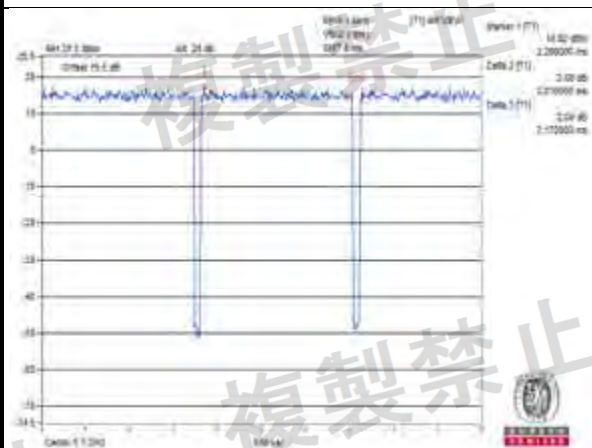
V_{max}



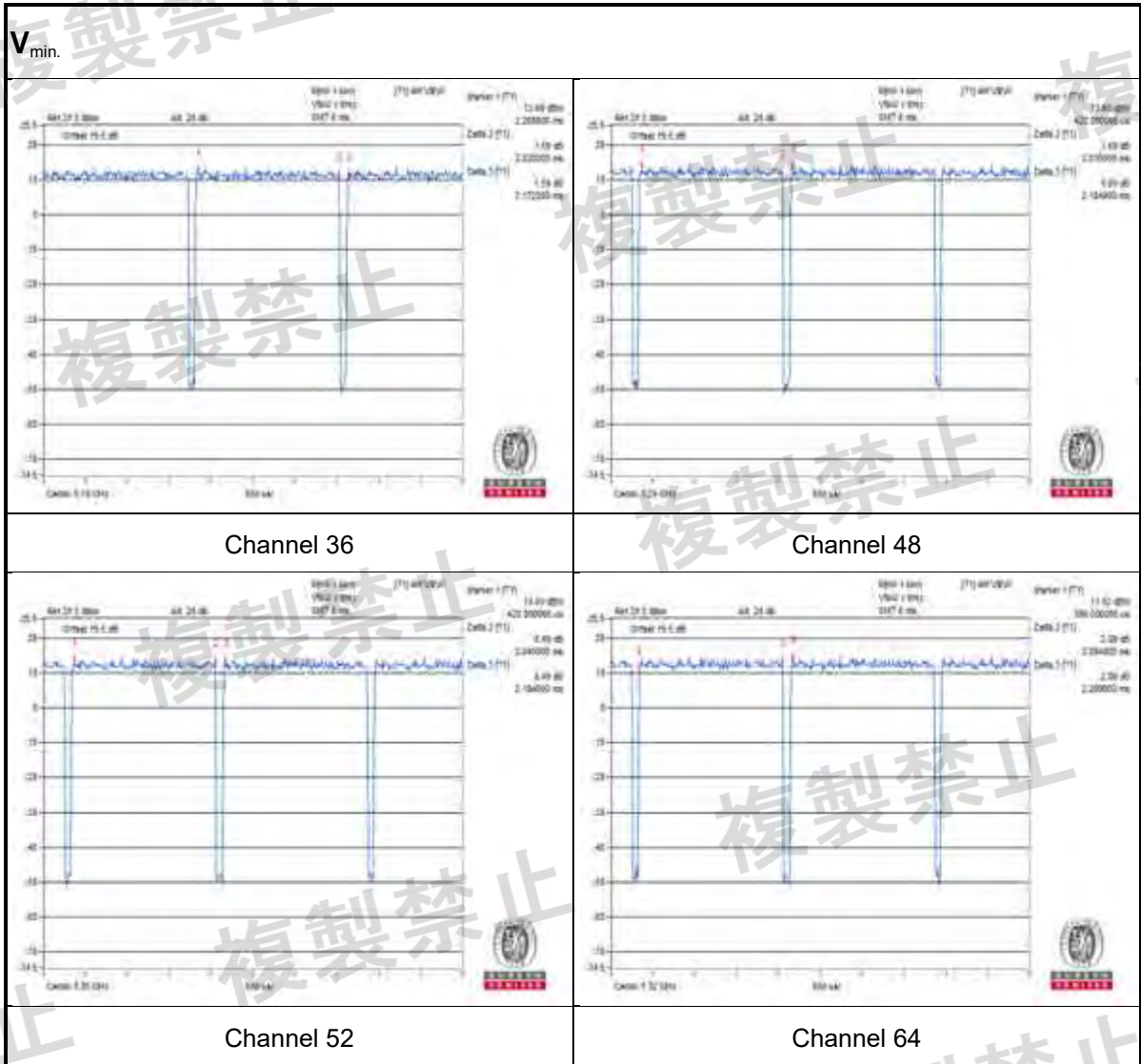
Channel 100



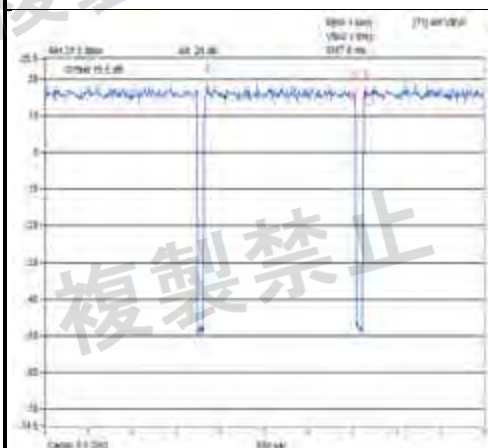
Channel 120



Channel 140



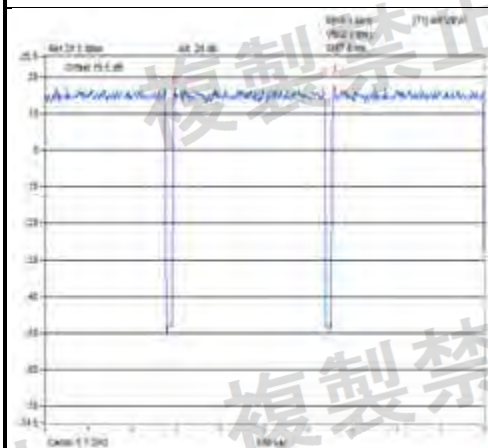
V_{min}.



Channel 100



Channel 120



Channel 140

W52 & W53 bands: 802.11ac (VHT20)

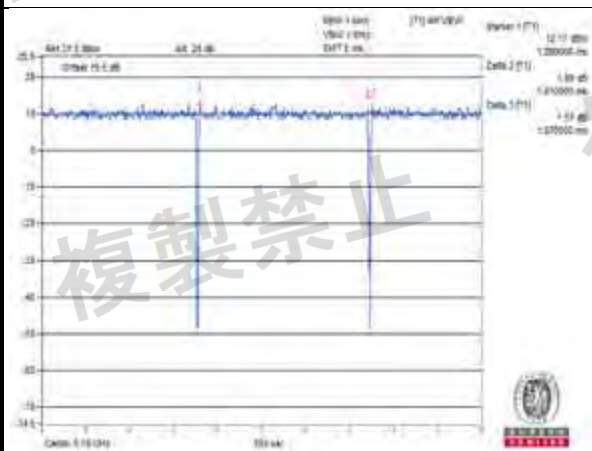
Environmental Conditions	25 deg.C, 60% RH			
Test Condition	Burst Length (ms)			
	CH 36 5180MHz	CH 48 5240MHz	CH 52 5260MHz	CH 64 5320MHz
V_{normal}	1.91	1.90	1.90	1.90
$V_{max.}$	1.91	1.89	1.90	1.91
$V_{min.}$	1.90	1.90	1.91	1.91

W56 band: 802.11ac (VHT20)

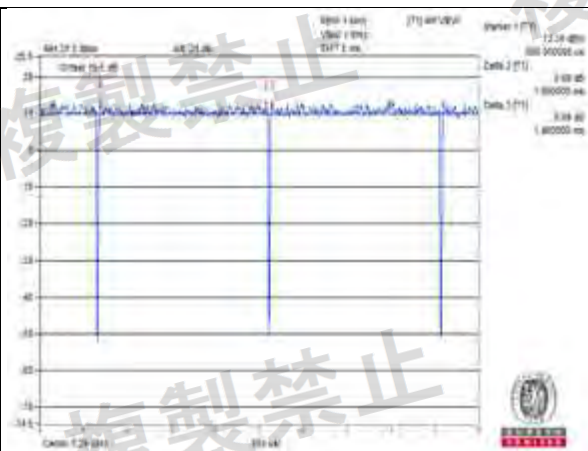
Environmental Conditions	25 deg.C, 60% RH		
Test Condition	Burst Length (ms)		
	CH 100 5500MHz	CH 120 5600MHz	CH140 5700MHz
V_{normal}	1.90	1.90	1.90
$V_{max.}$	1.90	1.90	1.91
$V_{min.}$	1.91	1.91	1.91

Note: The spectrum plots are attached on the following pages.

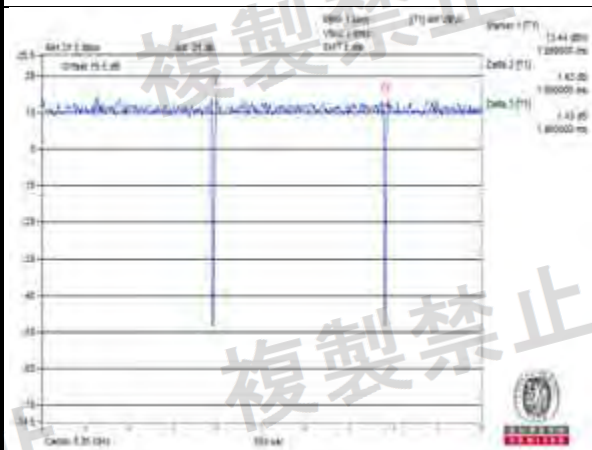
V normal



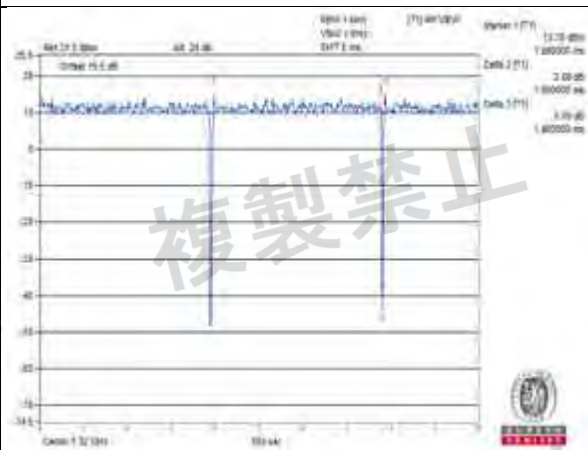
Channel 36



Channel 48

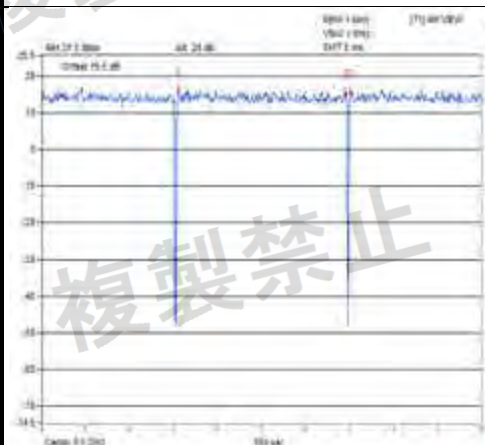


Channel 52

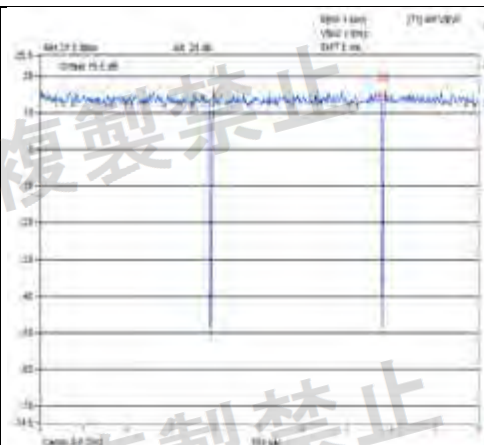


Channel 64

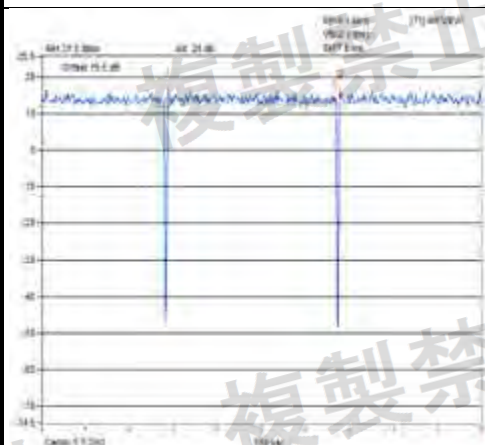
V normal



Channel 100

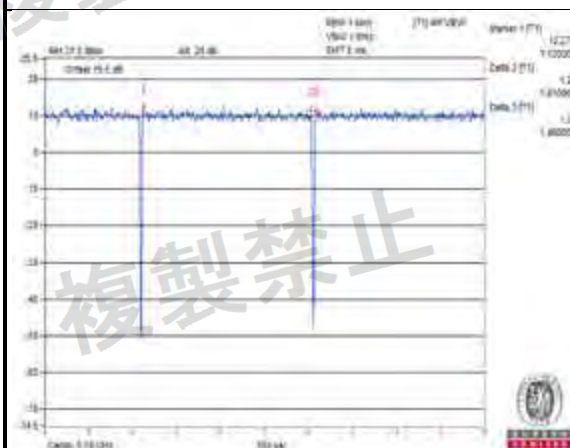


Channel 120

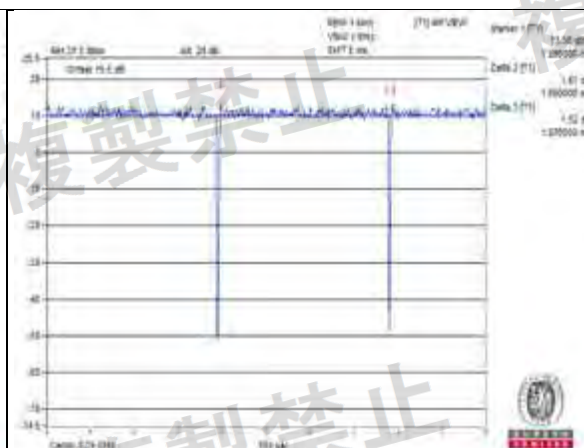


Channel 140

V_{max}.



Channel 36



Channel 48

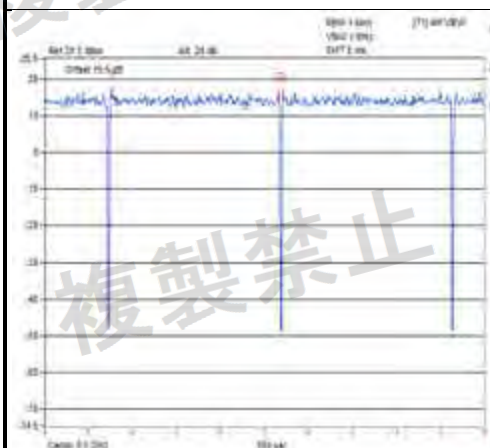


Channel 52

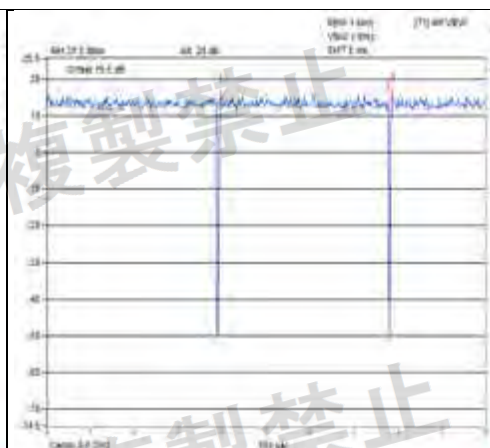


Channel 64

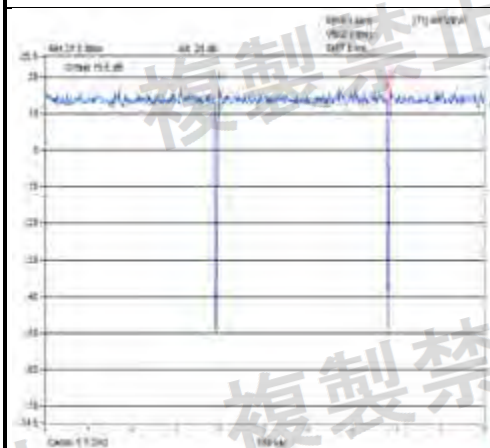
V_{max}



Channel 100

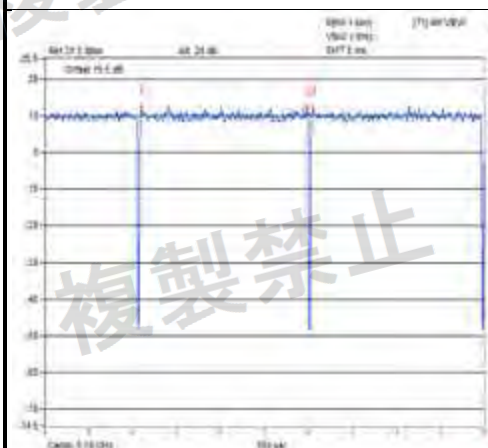


Channel 120

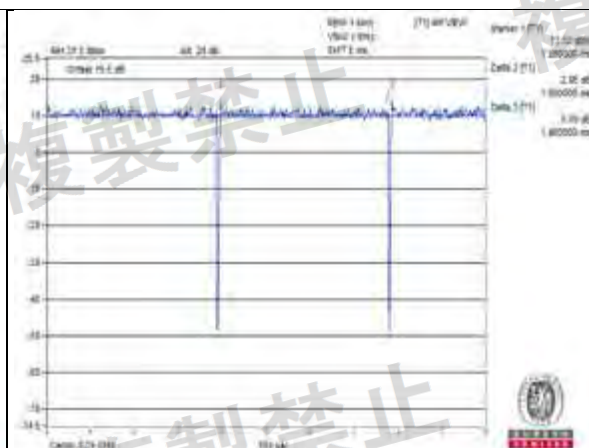


Channel 140

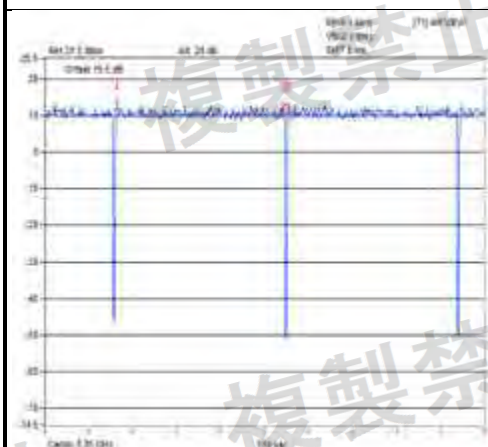
V_{min}.



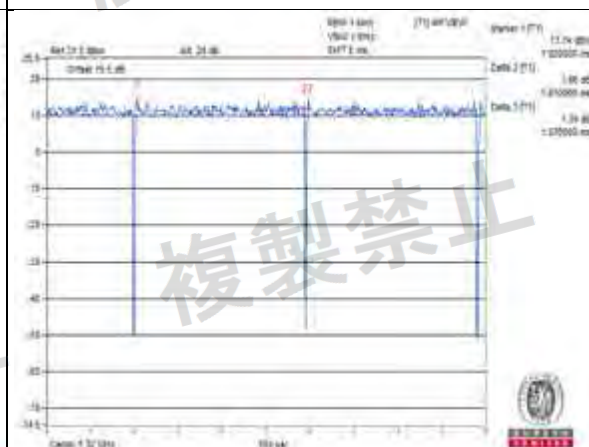
Channel 36



Channel 48



Channel 52



Channel 64



W52 & W53 bands: 802.11ac (VHT40)

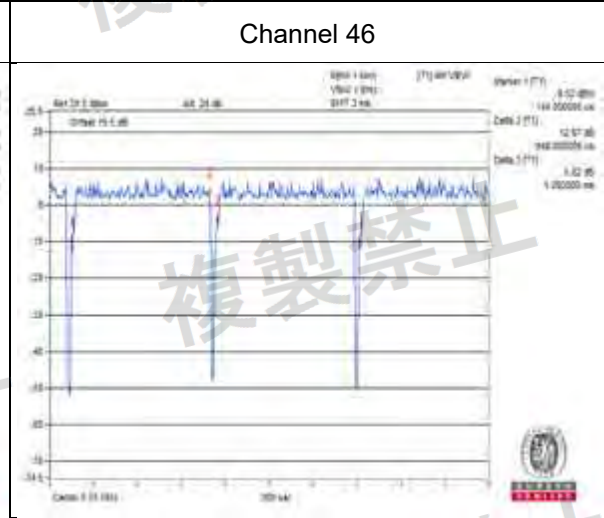
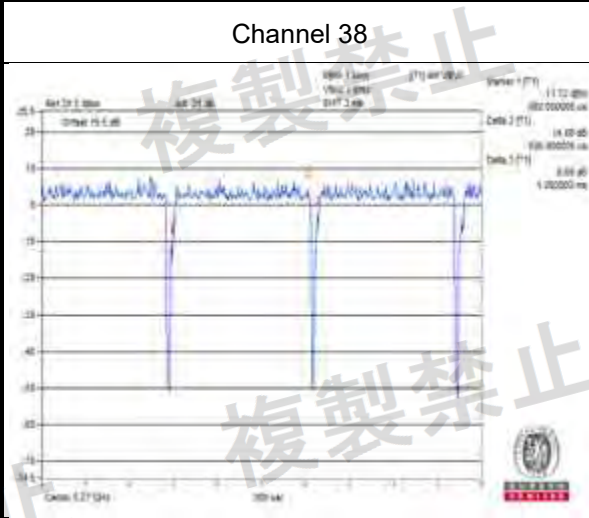
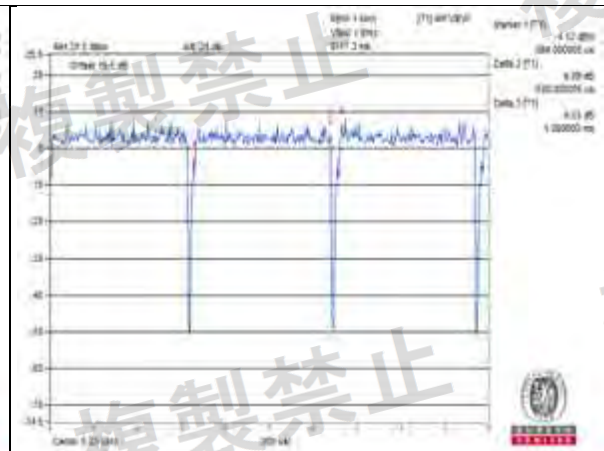
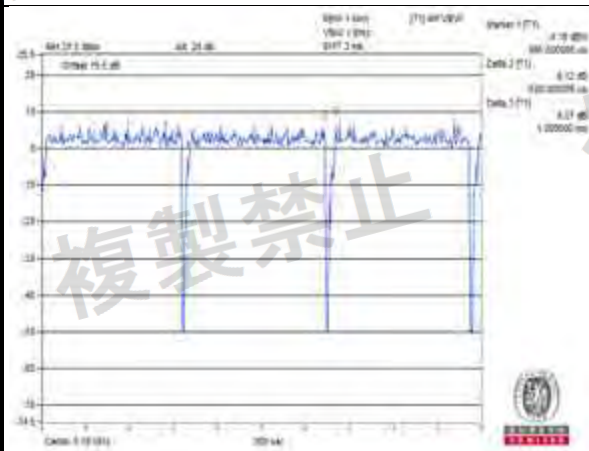
Environmental Conditions	25 deg.C, 60% RH			
Test Condition	Burst Length (ms)			
	CH 38 5190MHz	CH 46 5230MHz	CH 54 5270MHz	CH 62 5310MHz
V_{normal}	0.93	0.93	0.93	0.94
$V_{max.}$	0.93	0.94	0.94	0.93
$V_{min.}$	0.91	0.95	0.94	0.93

W56 band: 802.11ac (VHT40)

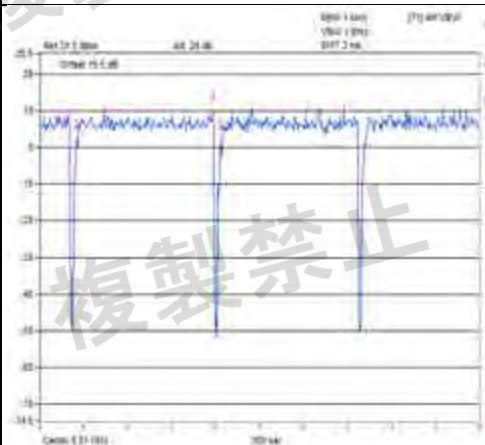
Environmental Conditions	25 deg.C, 60% RH		
Test Condition	Burst Length (ms)		
	CH 102 5510MHz	CH 118 5590MHz	CH 134 5670MHz
V_{normal}	0.93	0.95	0.94
$V_{max.}$	0.93	0.93	0.96
$V_{min.}$	0.93	0.92	0.94

Note: The spectrum plots are attached on the following pages.

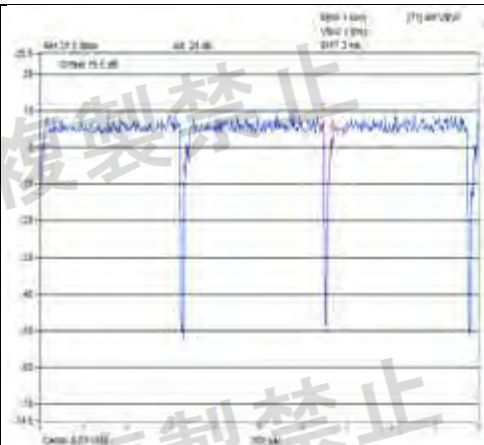
V normal



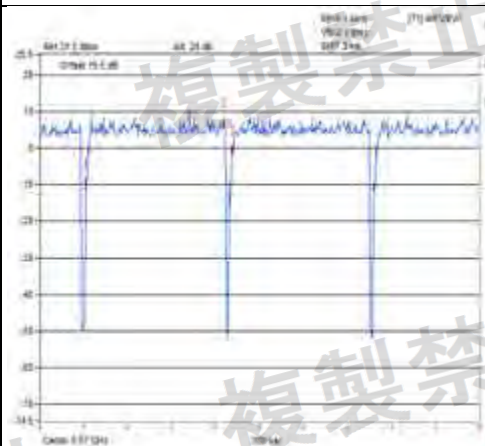
V normal



Channel 102

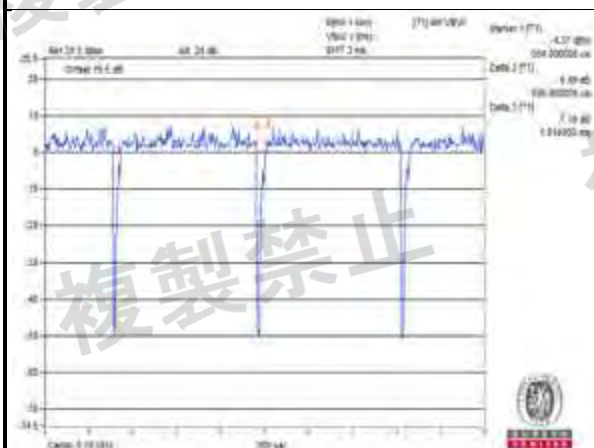


Channel 118



Channel 134

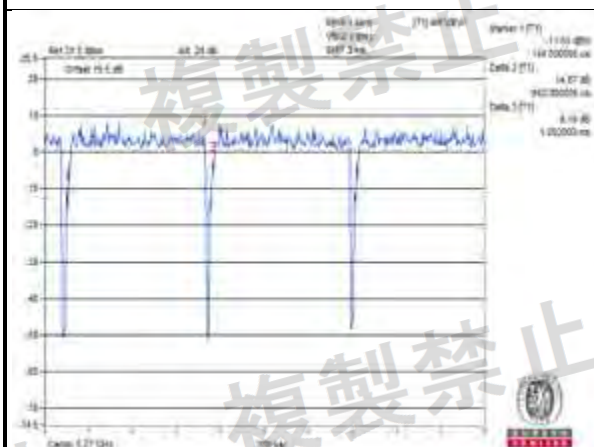
V_{max}



Channel 38



Channel 46

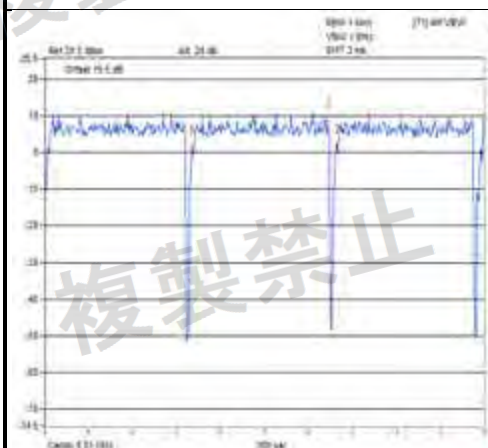


Channel 54



Channel 62

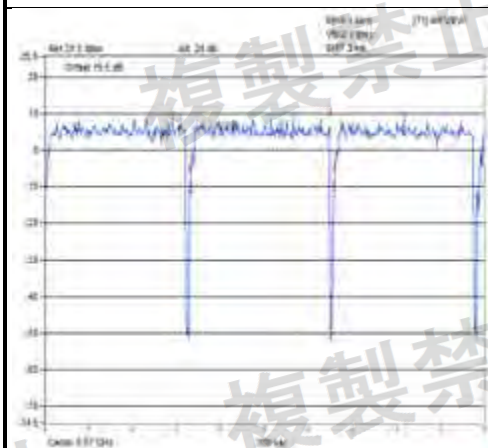
V_{max}.



Channel 102



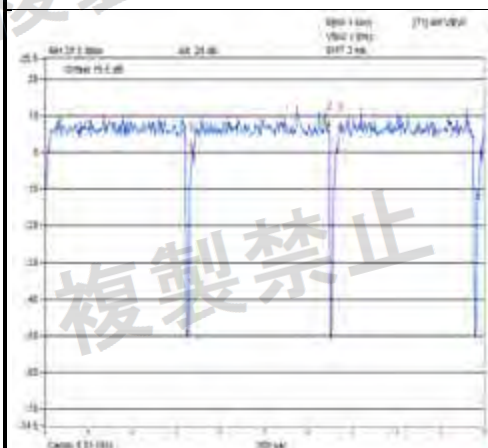
Channel 118



Channel 134



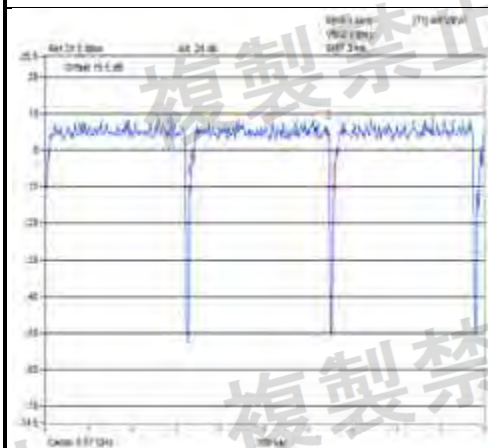
V_{min}.



Channel 102



Channel 118



Channel 134

W52 & W53 bands: 802.11ac (VHT80)

Environmental Conditions	25 deg.C, 60% RH	
Test Condition	Burst Length (ms)	
	CH 42 5210MHz	CH 58 5290MHz
V _{normal}	0.42	0.45
V _{max.}	0.45	0.43
V _{min.}	0.45	0.45

W56 band: 802.11ac (VHT80)

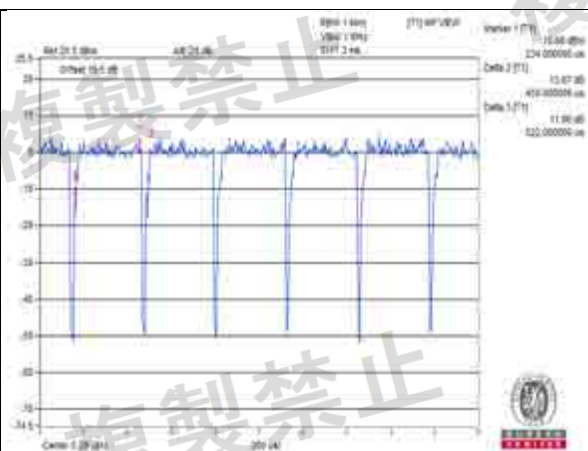
Environmental Conditions	25 deg.C, 60% RH	
Test Condition	Burst Length (ms)	
	CH 106 5530MHz	CH 122 5610MHz
V _{normal}	0.43	0.44
V _{max.}	0.43	0.44
V _{min.}	0.43	0.45

Note: The spectrum plots are attached on the following pages.

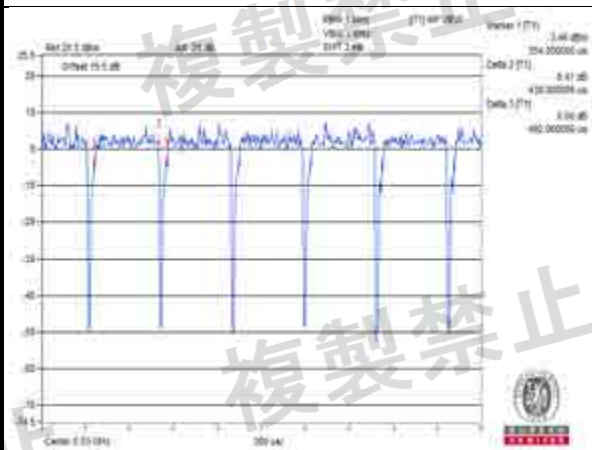
V normal



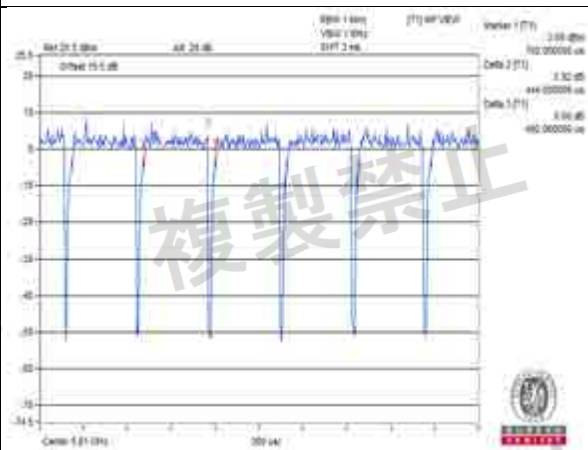
Channel 42



Channel 58

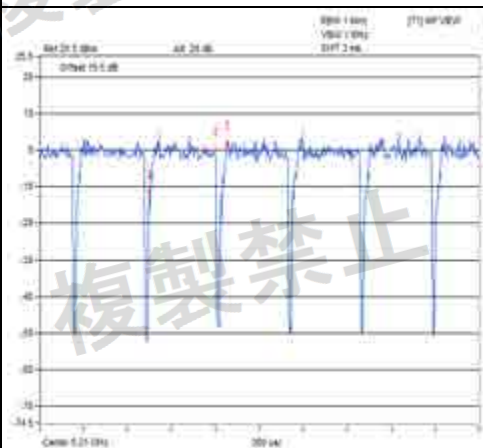


Channel 106

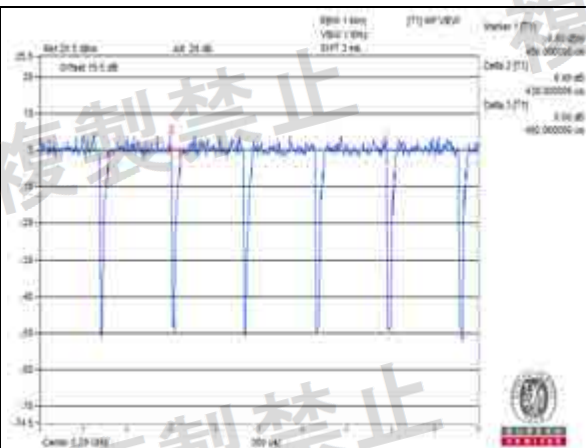


Channel 122

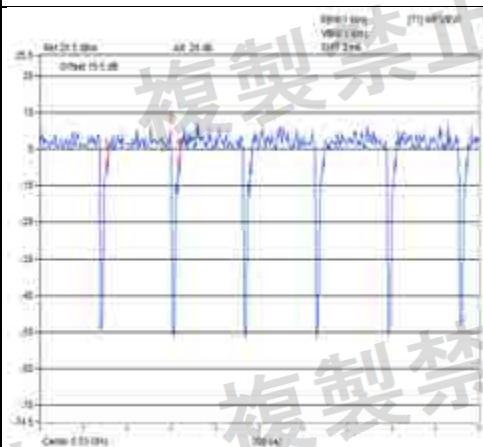
V_{max}.



Channel 42



Channel 58



Channel 106



Channel 122

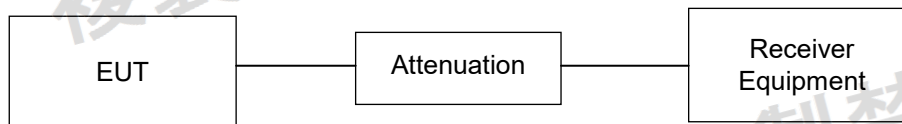


4.9 Interference Prevention Function

4.9.1 Limits of Interference Prevention Function

Radio equipment used mainly on the same premises and automatically transmits or receives identification code.

4.9.2 Test Setup

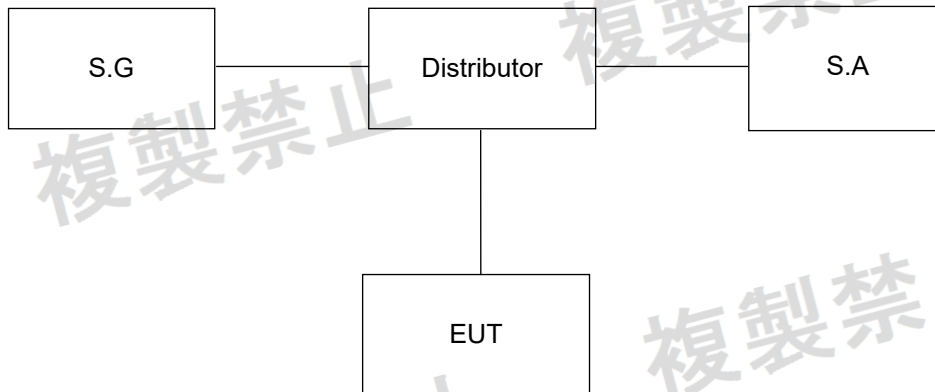


4.9.3 Test Results

Environmental Conditions	25 deg.C, 60% RH
Link Mode	Test Result
WiFi	Pass

4.10 Carrier Sense Capability

4.10.1 Measuring System Block Diagram



4.10.2 Measuring Operation Procedures

- Turn the standard signal generator output OFF. Leave the equipment under test to be ready for transmission and verify the transmission with the spectrum analyzer.
- Set the equipment under test to the receiving state.
- Turn the standard signal generator ON and leave the equipment under test to be ready for transmission and verify with the spectrum analyzer that no transmission is being made.

4.10.3 Level of the Ambient Carrier

802.11a / 802.11ac (VHT20)

Frequency (MHz)	Pcs (dBm)
5180	-47.86
5240	-47.96
5260	-47.99
5320	-48.09
5500	-48.38
5600	-48.54
5700	-48.69

Note:

Pcs (dBm) = 22.79 + Gr - 20log(F).

Gr: Antenna gain (5GHz 3.64dBi).

F: Transmission frequency (MHz).

802.11ac (VHT40)

Frequency (MHz)	Pcs (dBm)
5190	-47.88
5230	-47.94
5270	-48.01
5310	-48.07
5510	-48.40
5590	-48.52
5670	-48.64

Note:

Pcs (dBm) = 22.79 + Gr - 20log(F).

Gr: Antenna gain (5GHz 3.64dBi).

F: Transmission frequency (MHz).

802.11ac (VHT80)

Frequency (MHz)	Pcs (dBm)
5210	-47.91
5290	-48.04
5530	-48.43
5610	-48.55

Note:

Pcs (dBm) = 22.79 + Gr - 20log(F).

Gr: Antenna gain (5GHz 3.64dBi).

F: Transmission frequency (MHz).

4.10.4 Test Result

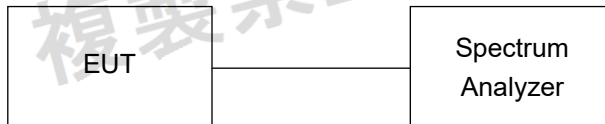
Pass

4.11. Number of Carriers within 1 MHz Bandwidth in OFDM

4.11.1 Limit of Number of Carriers

For each 1MHz bandwidth in OFDM, there should be at least 1 carrier.

4.11.2 Test Setup



4.11.3 Test Result

About OFDM Technical, one OFDM Channel will have 52 sub-carriers. At present, we observe this product via the spectrum, and we know that there are 3 carriers in 1 MHz bandwidth in OFDM.



5 Test Instruments

Description & Manufacturer	Model no.	Serial No.	Calibrated Date	Calibrated Until	Calibration Authority
Spectrum Analyzer R&S	FSV40	100964	July 01, 2017	June 30, 2018	ETC
ESG Vector signal generator Agilent	E4438C	MY47271330 506 602 UNJ	Oct. 11, 2017	Oct. 10, 2018	ETC
Detector Narda	4503A	0306	NA	NA	NA
Power Meter Anritsu	ML2495A	1014008	May 09, 2018	May 08, 2019	ETC
Power Sensor Anritsu	MA2411B	0917122	May 09, 2018	May 08, 2019	ETC
Digital Oscilloscope R&S	RTO1012	300053	June 28, 2017	June 27, 2018	ETC
DC Power Supply Topward	6603D	795558	NA	NA	NA
AC Power Source Extech Electronics	6205	1440452	NA	NA	NA
True RMS Clamp Meter FLUKE	325	31130711WS	May 22, 2018	May 21, 2019	ETC
Power Combiner Mini-circuits	ZFRSC-123-S+	F698501347_02	Dec. 27, 2017	Dec. 26, 2018	BV CPS E&E
Power Divide Warison	WDIV-4R4029	0001	Feb. 09, 2018	Feb. 08, 2019	BV CPS E&E

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested Date: June 05 to 13, 2018

6 Photographs of the Test Configuration





Appendix - Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Linkou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

--- END ---