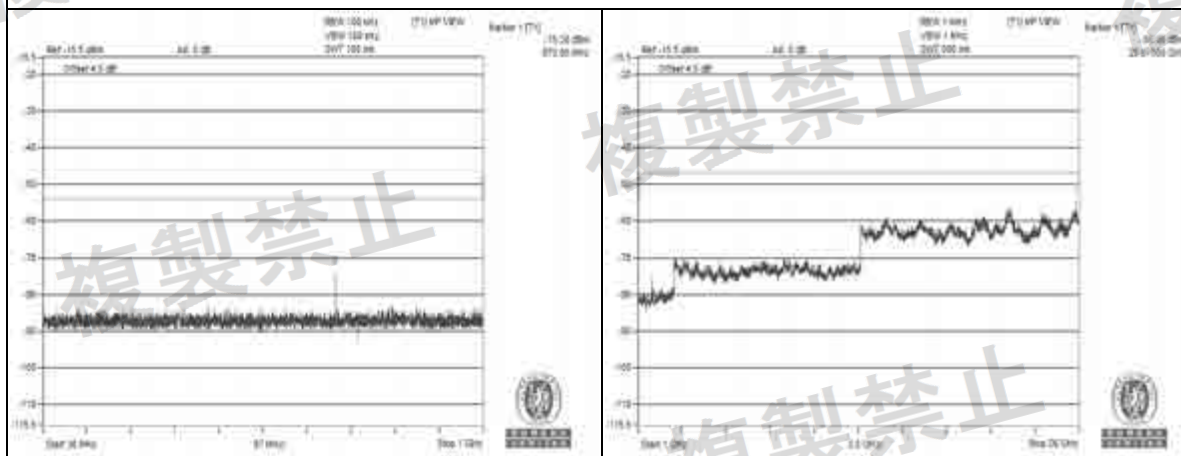
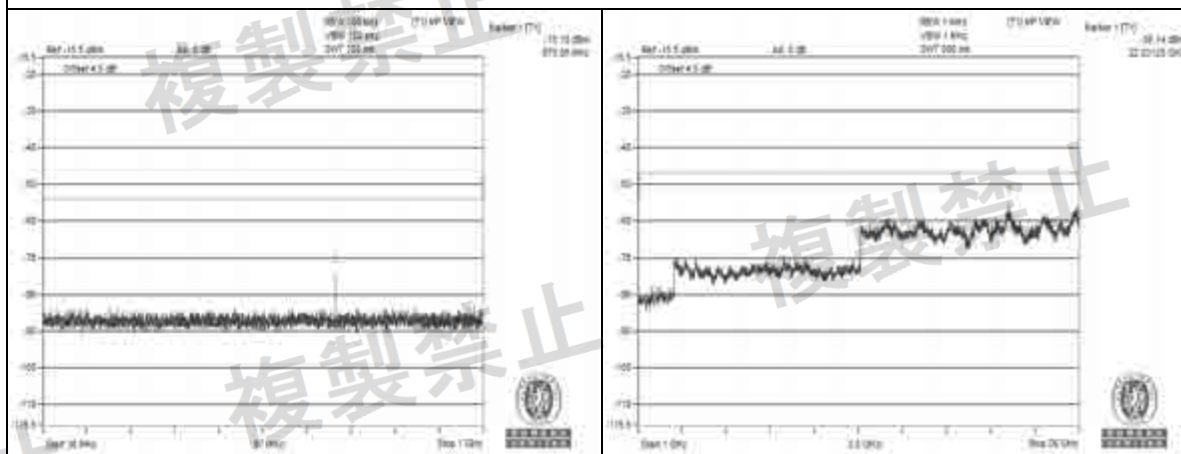




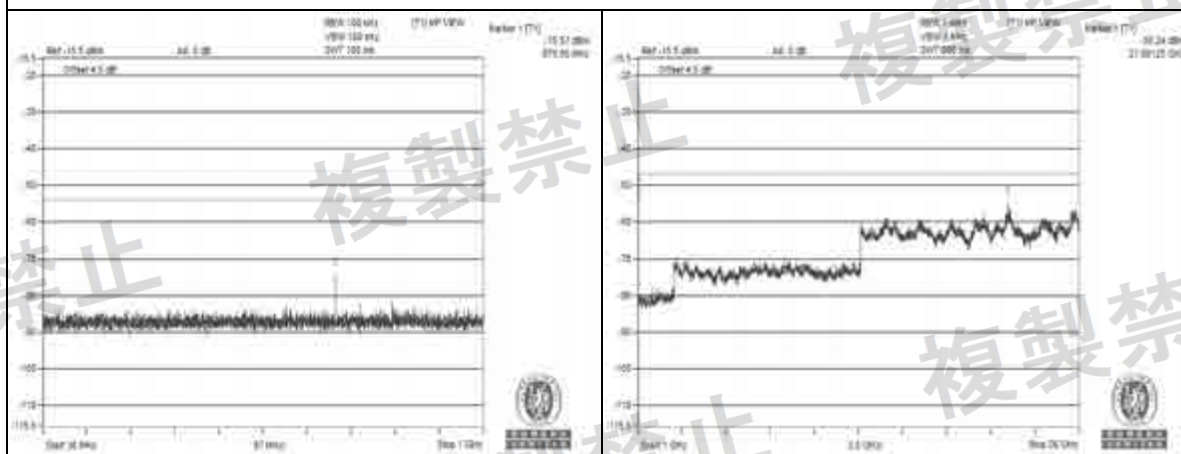
V<sub>normal</sub>



V<sub>max</sub>

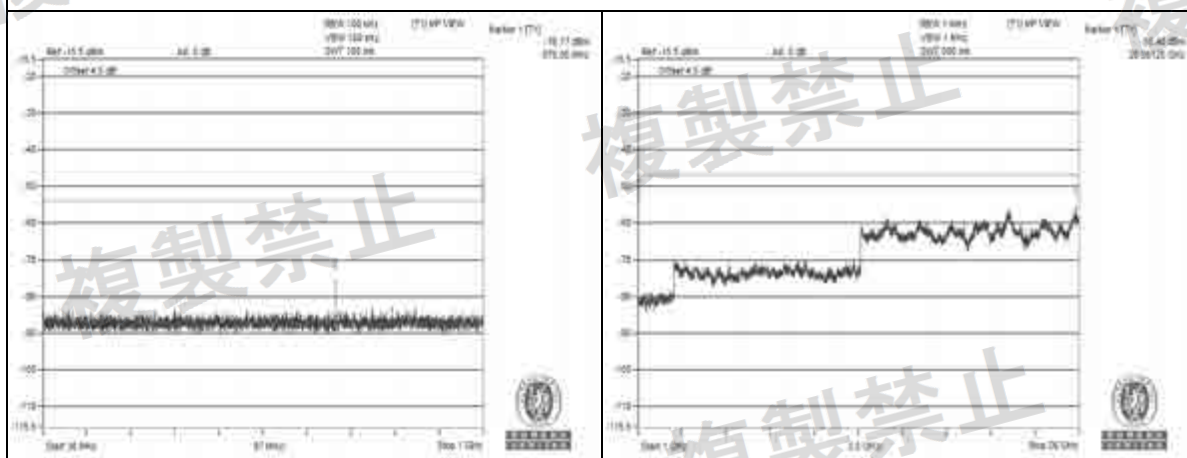


V<sub>min</sub>

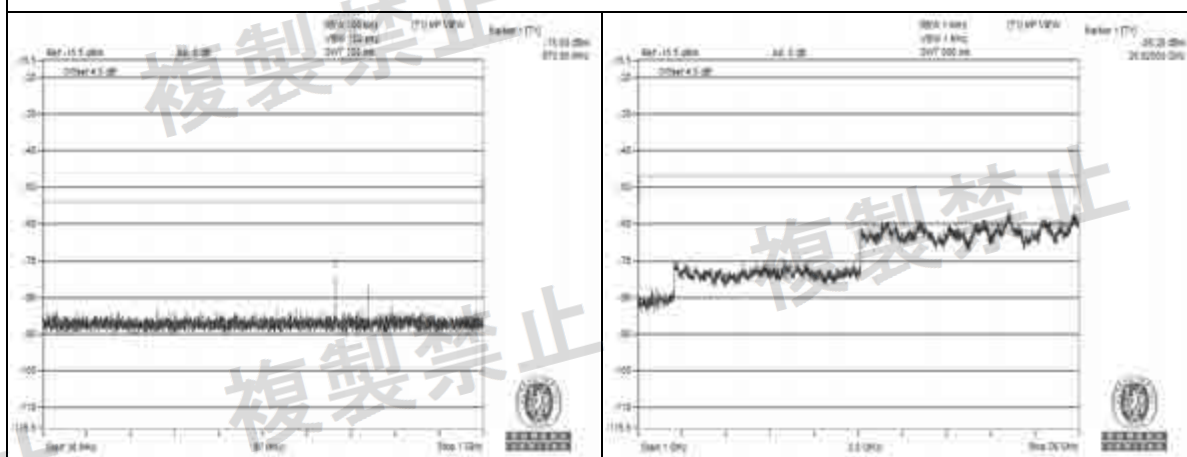


CH 102 (5510MHz)

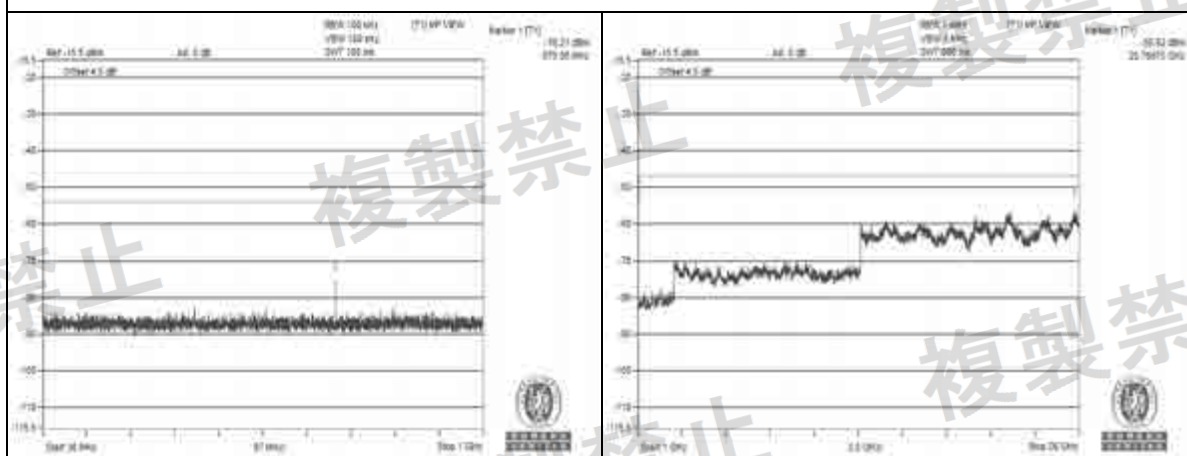
V<sub>normal</sub>



V<sub>max</sub>

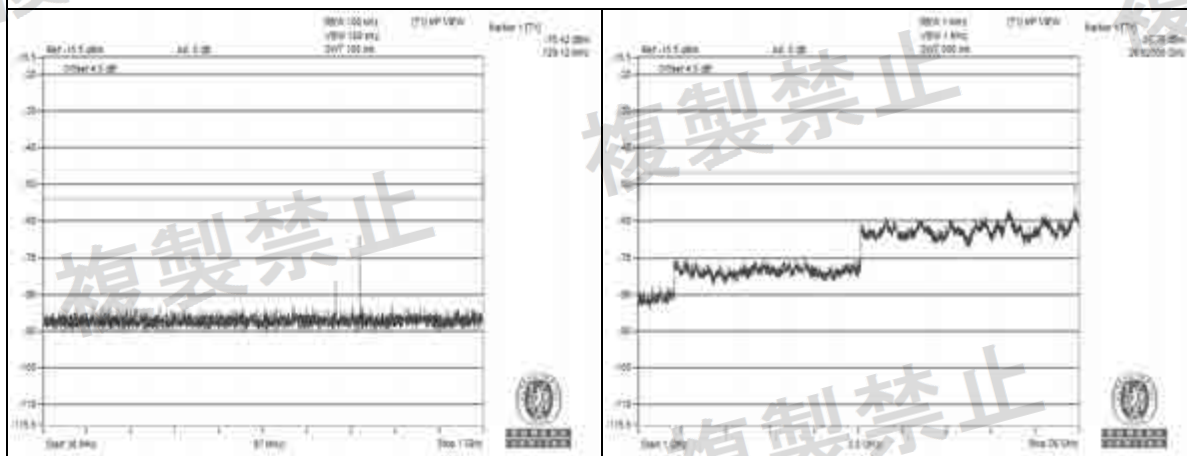


V<sub>min</sub>

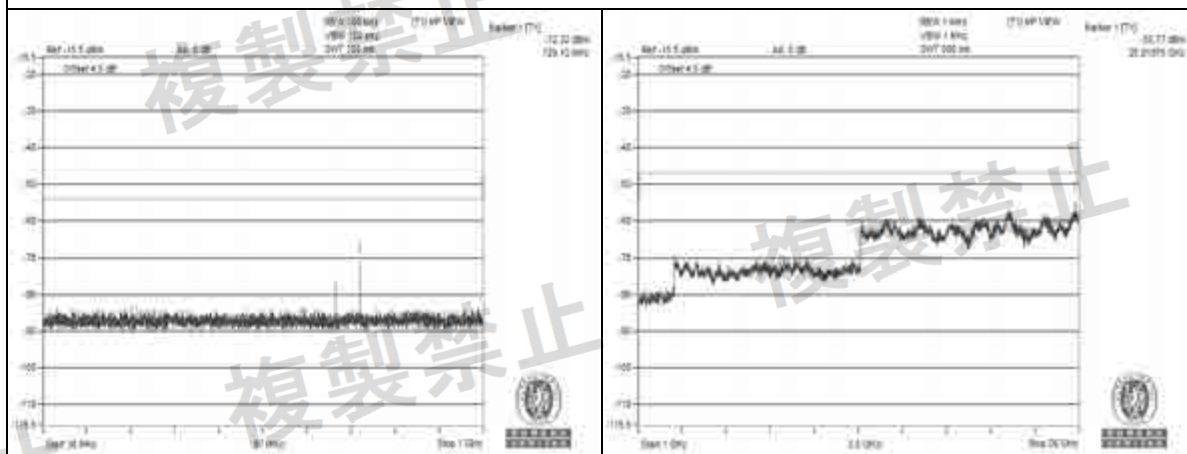


CH 118 (5590MHz)

V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 134 (5670MHz)



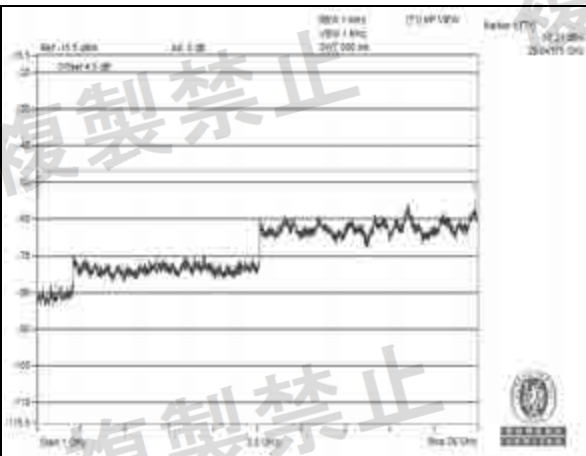
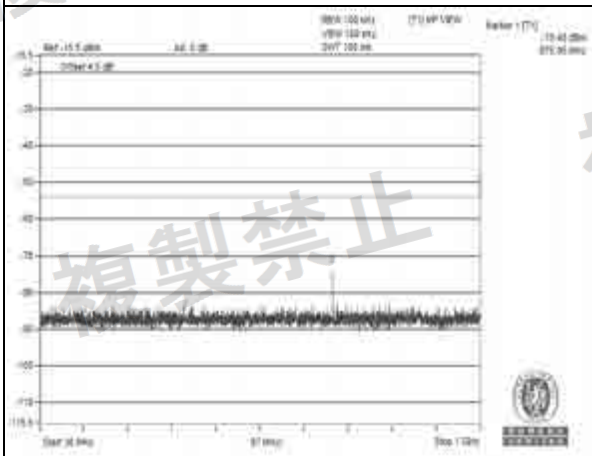
W52, W53 and W56 bands:  
802.11ac (VHT80)

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)		
Vnormal	Below 1GHz	675.050	<b>0.028314</b>	675.050	<b>0.023714</b>	4nW/100kHz	Pass
	Above 1GHz	25843.750	<b>2.393316</b>	25818.750	<b>2.630268</b>	20nW/MHz	Pass
Vmax.	Below 1GHz	675.050	0.024491	675.050	0.022961	4nW/100kHz	Pass
	Above 1GHz	25800.000	2.249055	25843.750	2.415461	20nW/MHz	Pass
Vmin.	Below 1GHz	675.050	0.024774	675.050	0.023659	4nW/100kHz	Pass
	Above 1GHz	23987.500	2.218196	21912.500	2.540973	20nW/MHz	Pass
Test Channel		CH106 (5530MHz)		CH122 (5610MHz)		Limit	Result
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (nW)	Frequency (MHz)	Measured Value (nW)		
Vnormal	Below 1GHz	675.050	0.025645	675.050	<b>0.024717</b>	4nW/100kHz	Pass
	Above 1GHz	22056.250	<b>2.376840</b>	22056.250	2.376840	20nW/MHz	Pass
Vmax.	Below 1GHz	675.050	0.022233	675.050	0.021777	4nW/100kHz	Pass
	Above 1GHz	25956.250	2.275097	22050.000	2.697739	20nW/MHz	Pass
Vmin.	Below 1GHz	675.050	<b>0.033113</b>	675.050	0.021281	4nW/100kHz	Pass
	Above 1GHz	25818.750	2.098940	22087.500	<b>2.722701</b>	20nW/MHz	Pass

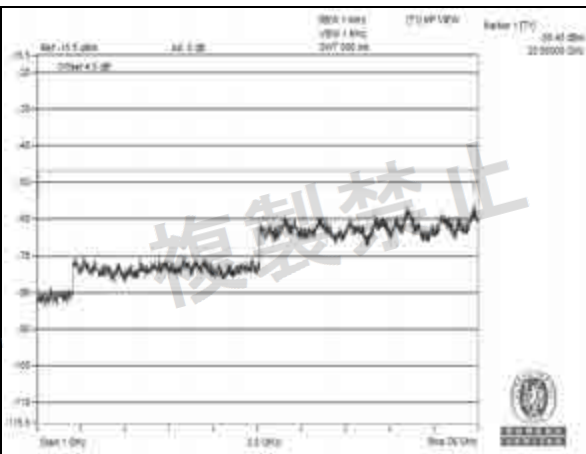
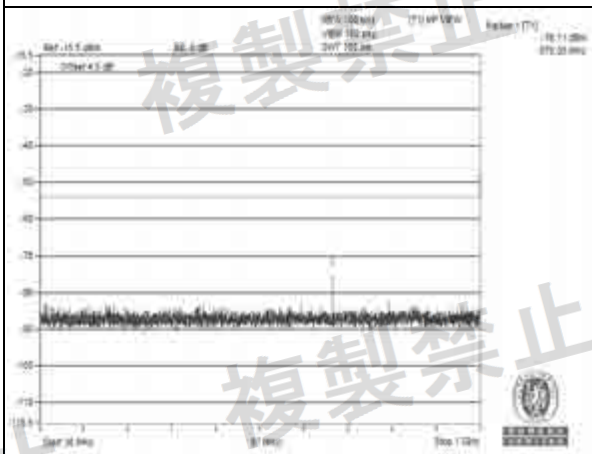
- Note:
1. The worst value in each frequency range v.s. each channel has been marked by boldface.
  2. The spectrum plots are attached on the following pages.



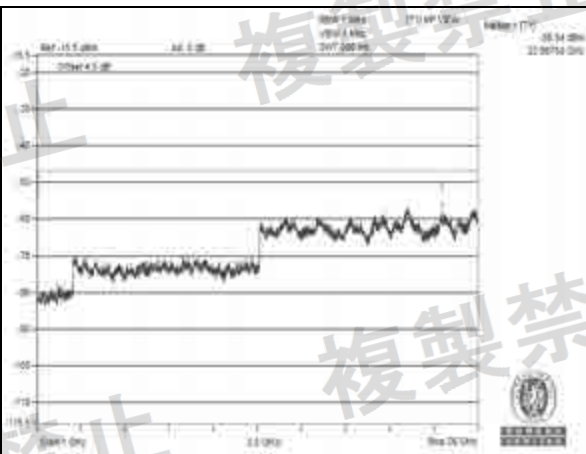
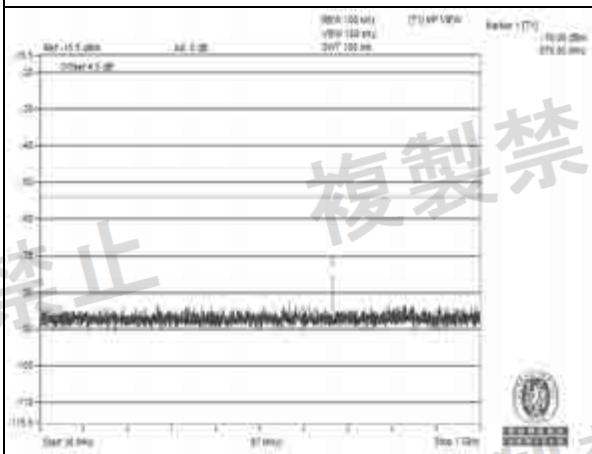
V<sub>normal</sub>



V<sub>max</sub>

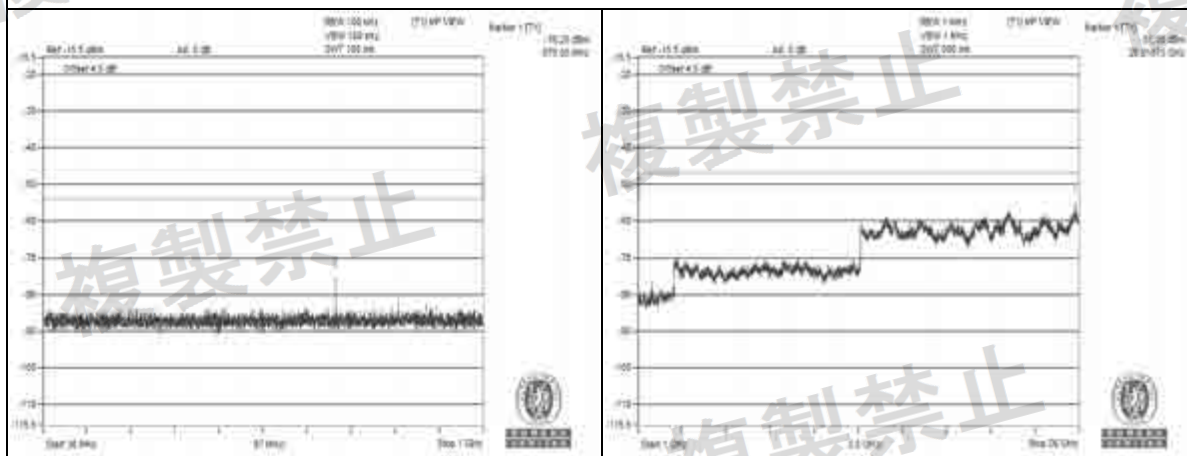


V<sub>min</sub>

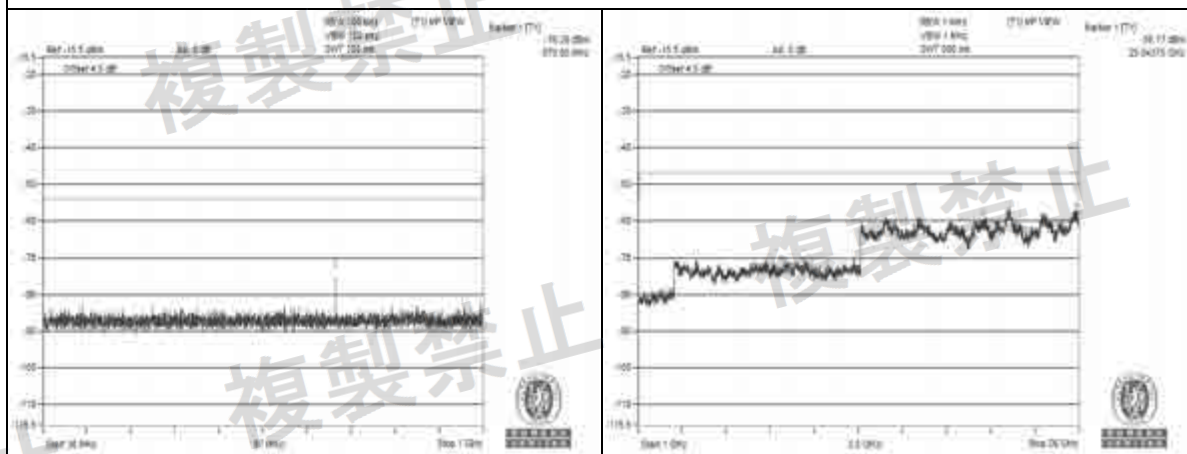


CH 42 (5210MHz)

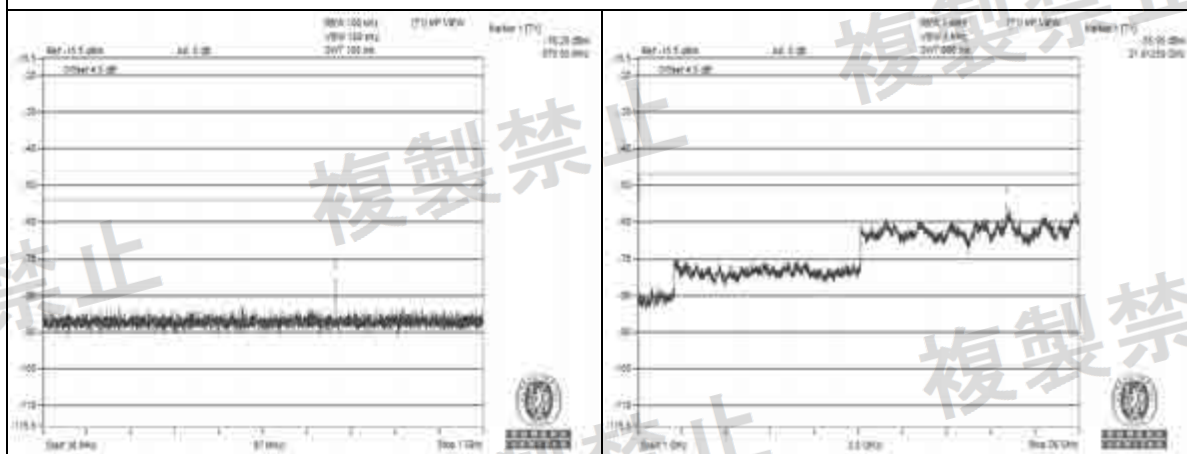
V<sub>normal</sub>



V<sub>max</sub>

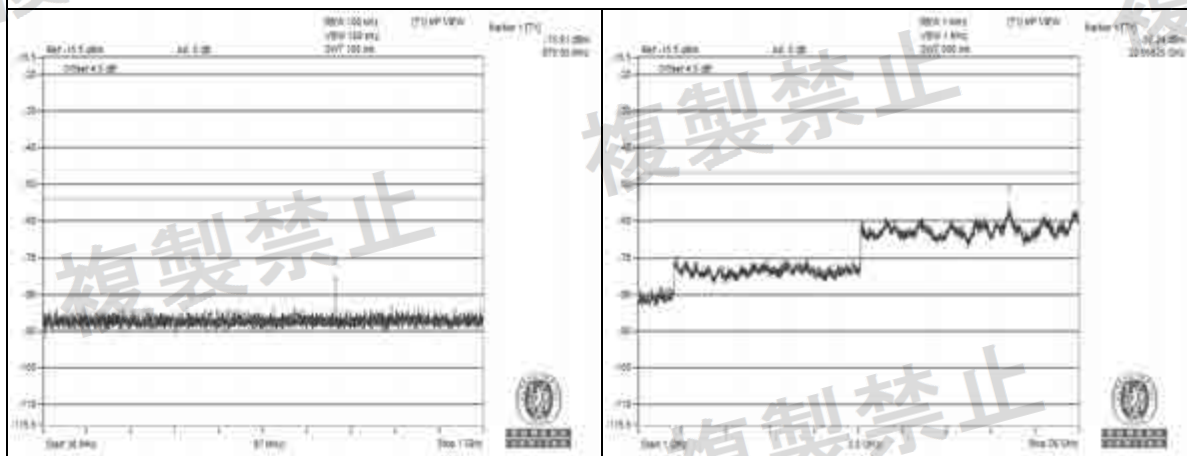


V<sub>min</sub>

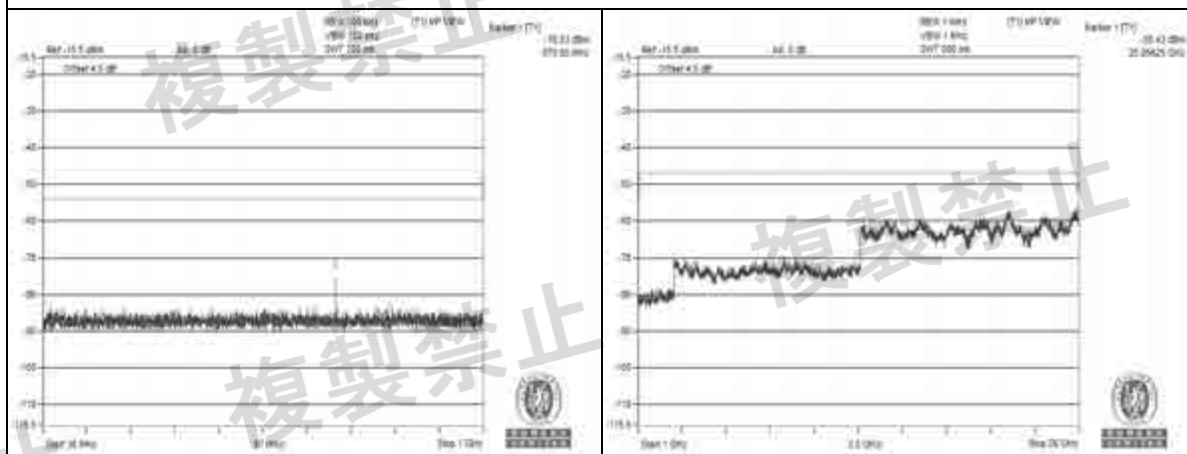


CH 58 (5290MHz)

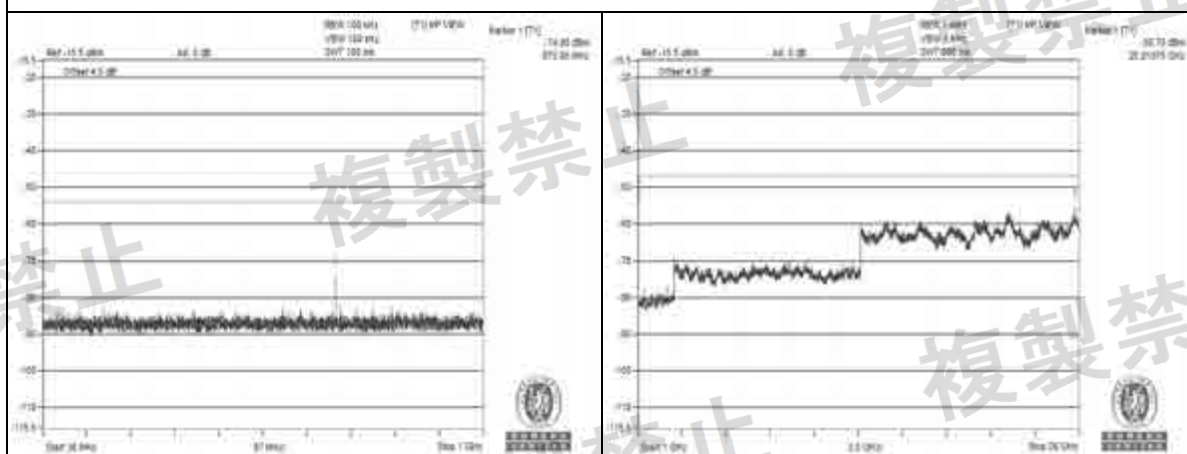
V<sub>normal</sub>



V<sub>max</sub>.

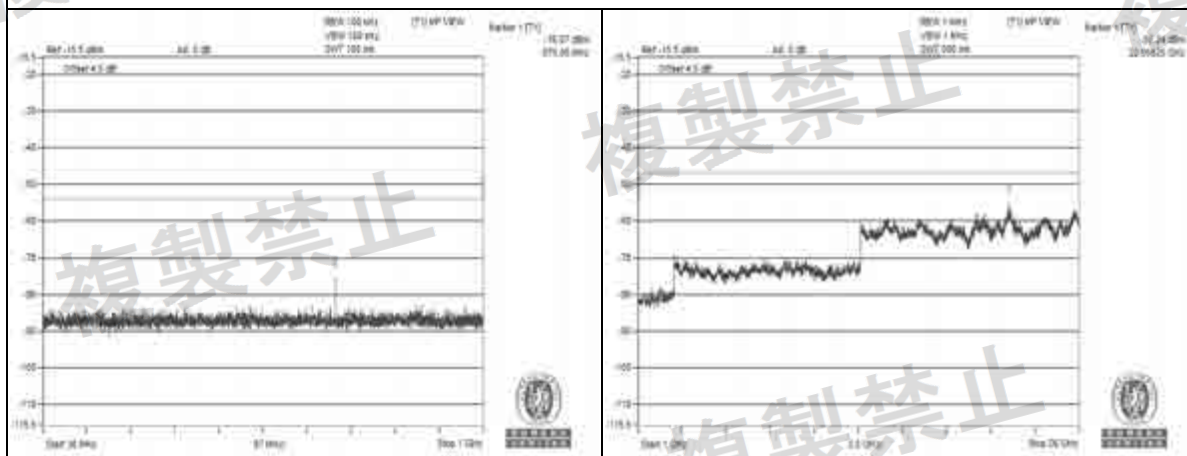


V<sub>min</sub>.

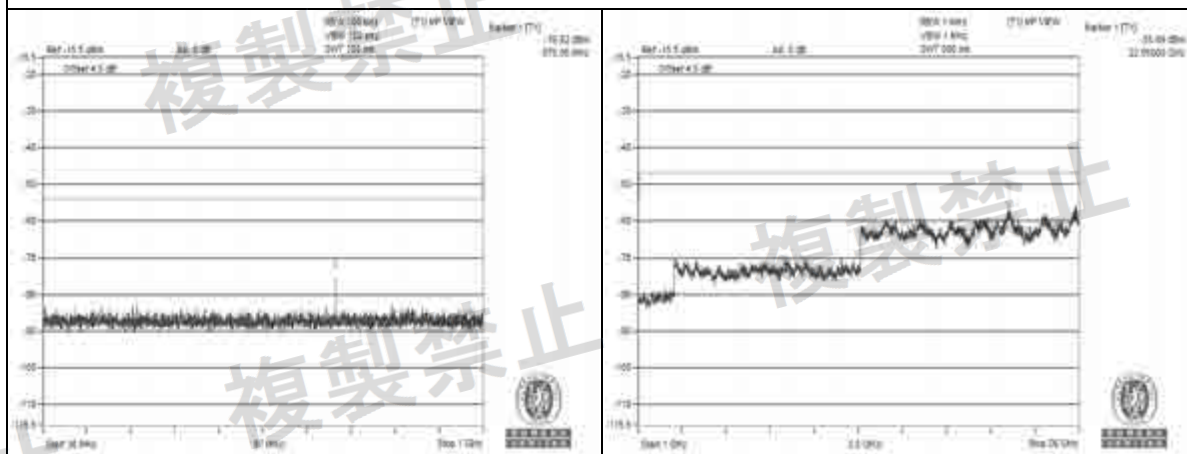


CH 106 (5530MHz)

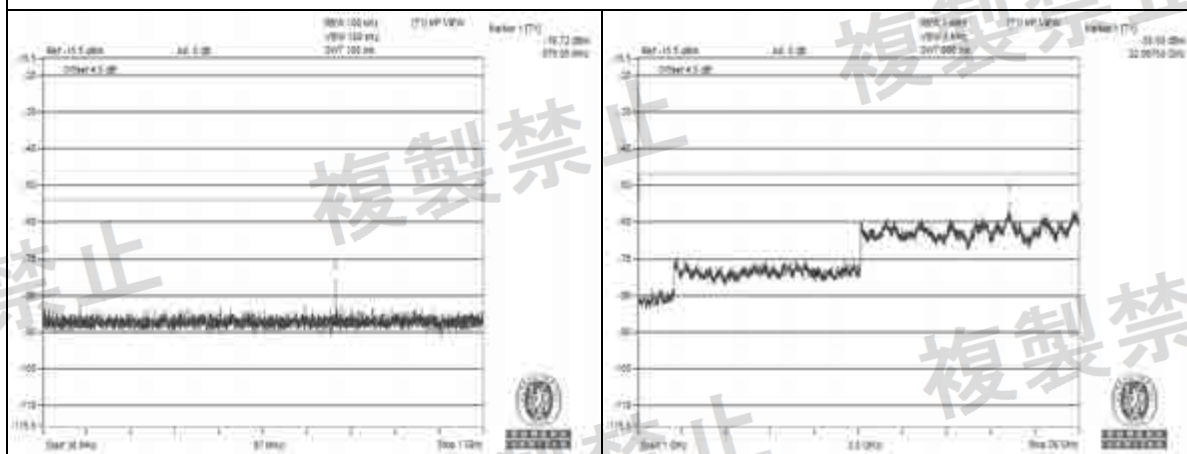
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 122 (5610MHz)



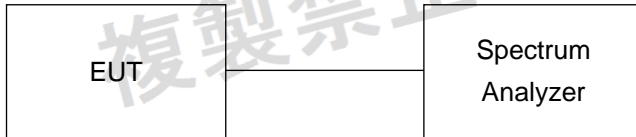


#### 4.8 Burst Length

##### 4.8.1 Limits of Burst Length

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

##### 4.8.2 Test Setup



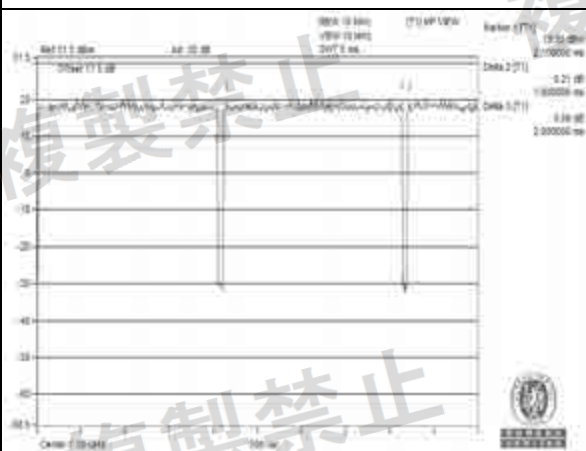
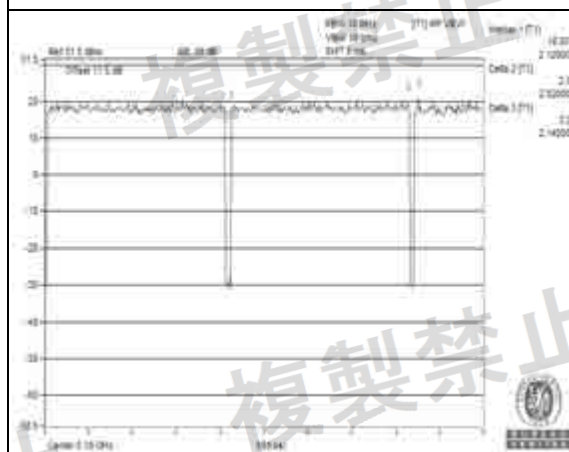


#### 4.8.3 Test Result

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
Vnormal	2.00	2.03	2.01	1.99
Vmax.	1.99	2.00	2.02	2.01
Vmin.	2.02	2.01	2.01	2.01

$V_{\text{normal}}$  $V_{\max.}$  $V_{\min.}$ 

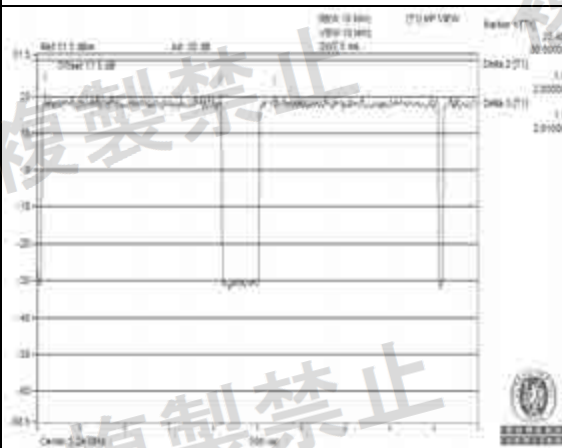
CH 36 (5180MHz)



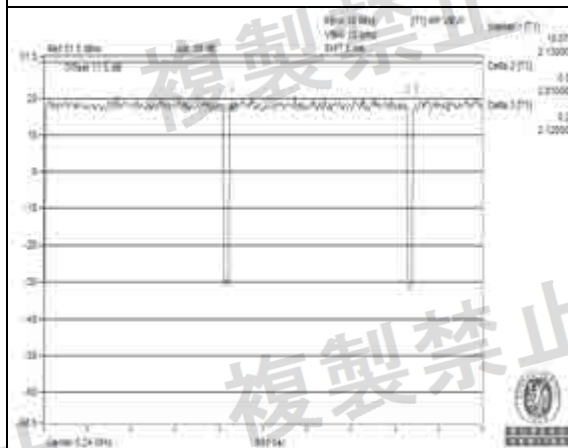
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>

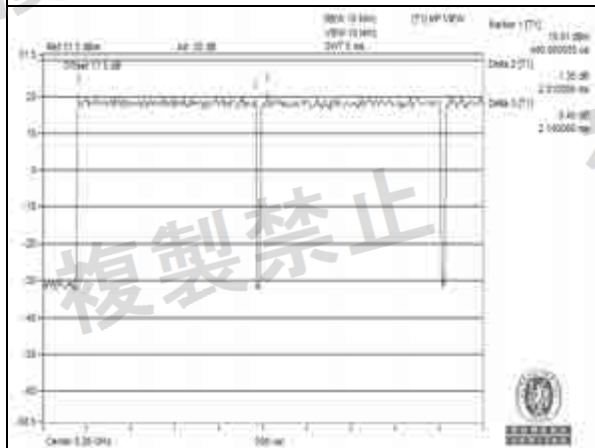


CH 48 (5240MHz)

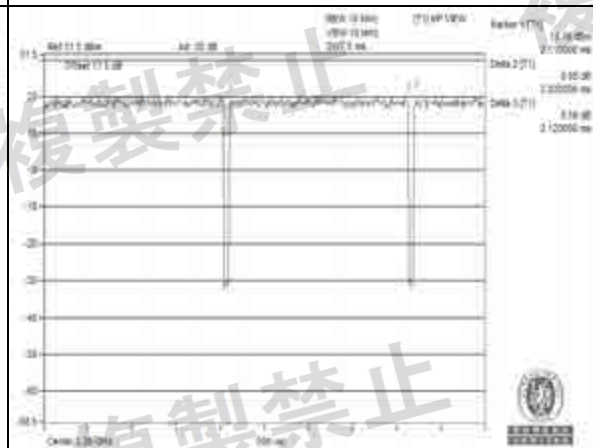




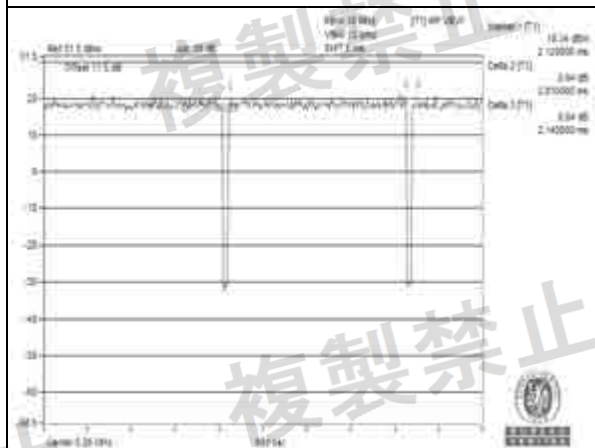
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



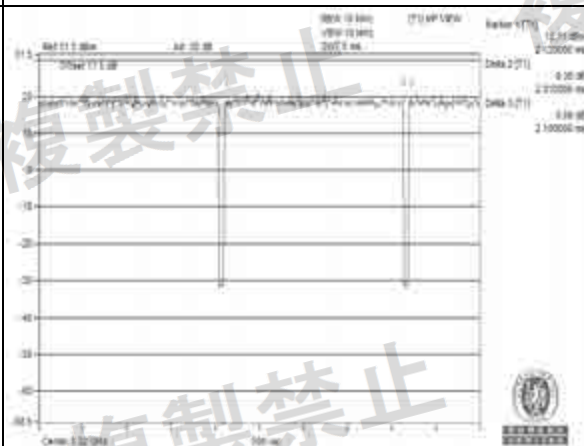
CH 52 (5260MHz)



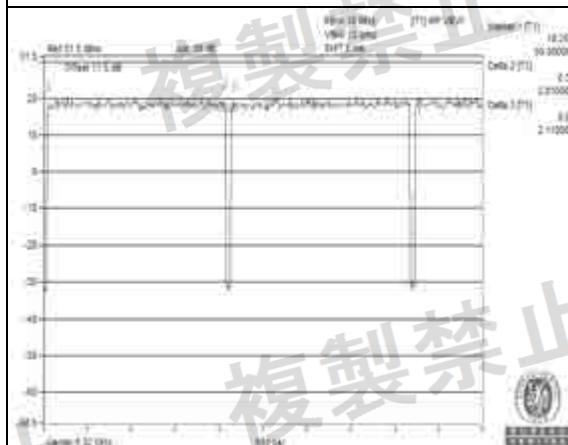
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 64 (5320MHz)



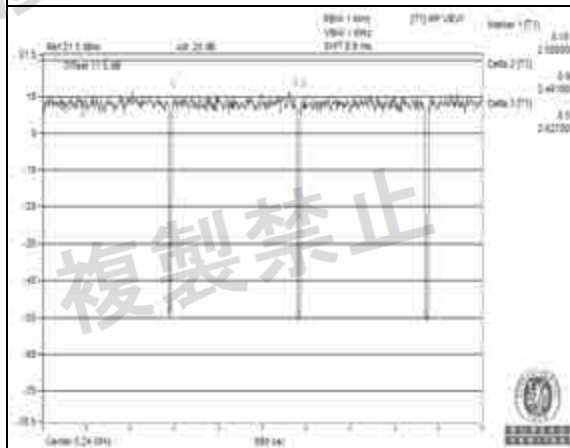
W52 & W53 bands:  
802.11n (HT20)

Environmental Conditions	25 deg.C, 60% RH			
Test Condition	Burst Length (ms)			
	CH 36 5180MHz	CH 48 5240MHz	CH 52 5260MHz	CH 64 5320MHz
Vnormal	2.48	2.46	2.46	2.46
Vmax.	2.48	2.47	2.46	2.46
Vmin.	2.46	2.46	2.47	2.46





V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 48 (5240MHz)





V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 52 (5260MHz)



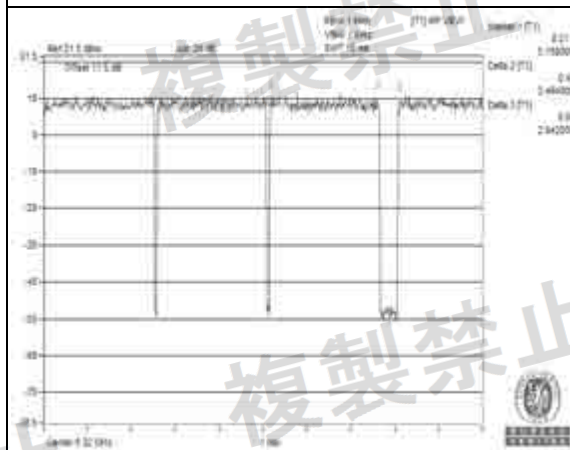
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 64 (5320MHz)



W52 & W53 bands:  
802.11n (HT40)

Environmental Conditions	25 deg.C, 60% RH			
Test Condition	Burst Length (ms)			
	CH 38 5190MHz	CH 46 5230MHz	CH 54 5270MHz	CH 62 5310MHz
Vnormal	2.42	2.37	2.42	2.35
Vmax.	2.42	2.37	2.41	2.39
Vmin.	2.41	2.34	2.42	2.41

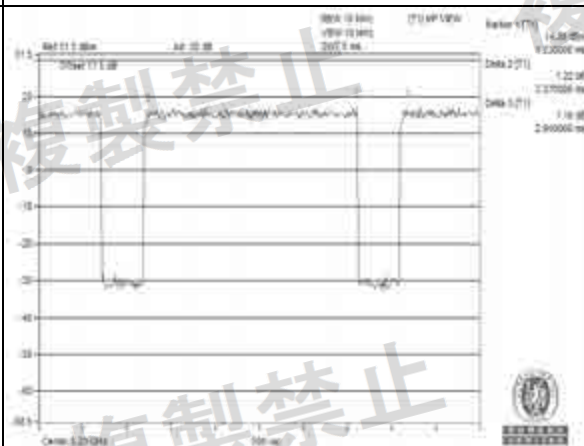




V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 46 (5230MHz)





V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 54 (5270MHz)



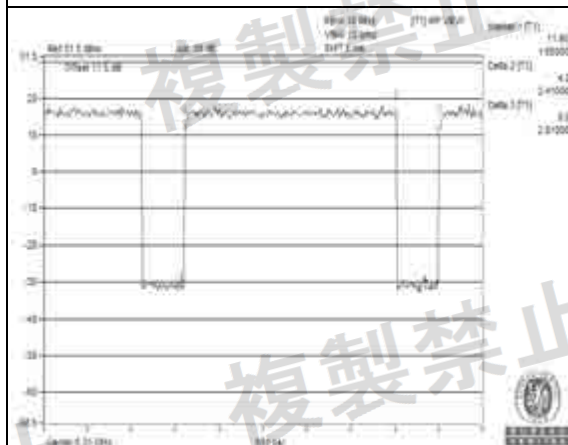
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 62 (5310MHz)



W52 & W53 bands:  
802.11ac (VHT80)

Environmental Conditions	25 deg.C, 60% RH	
Test Condition	Burst Length (ms)	
	CH 42 5210MHz	CH 58 5290MHz
Vnormal	3.24	3.29
Vmax.	3.24	3.24
Vmin.	3.26	3.23

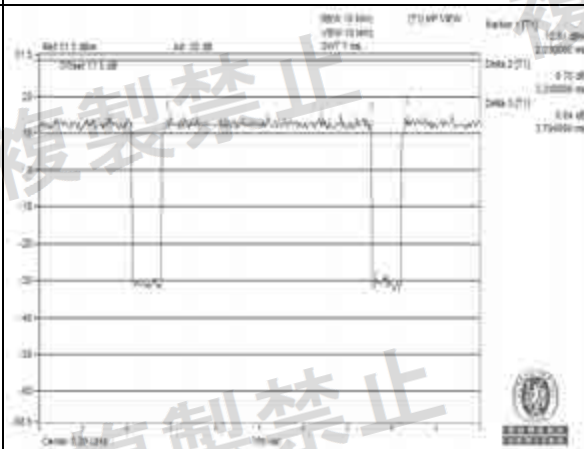




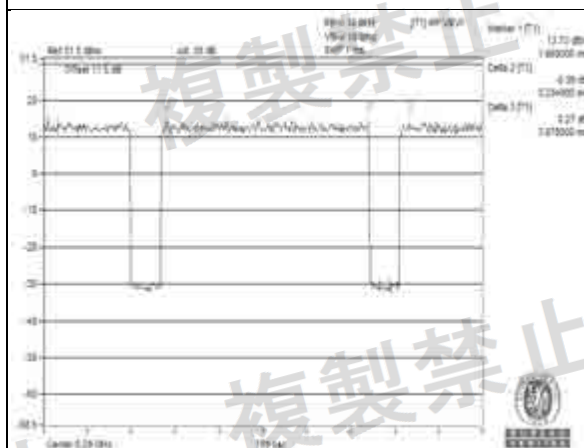
V<sub>normal</sub>



V<sub>max</sub>.



V<sub>min</sub>.



CH 58 (5290MHz)





W56 band:  
802.11a

Environmental Conditions	25 deg.C, 60% RH		
Test Condition	Burst Length (ms)		
	CH 100 5500MHz	CH 120 5600MHz	CH140 5700MHz
Vnormal	1.97	1.98	2.01
Vmax.	2.03	2.01	2.02
Vmin.	2.00	2.00	2.00





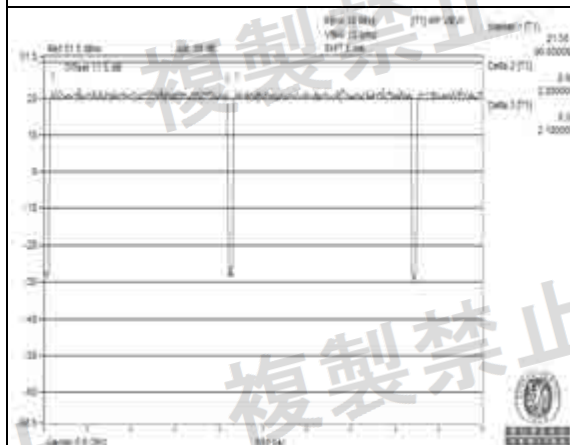
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 120 (5600MHz)



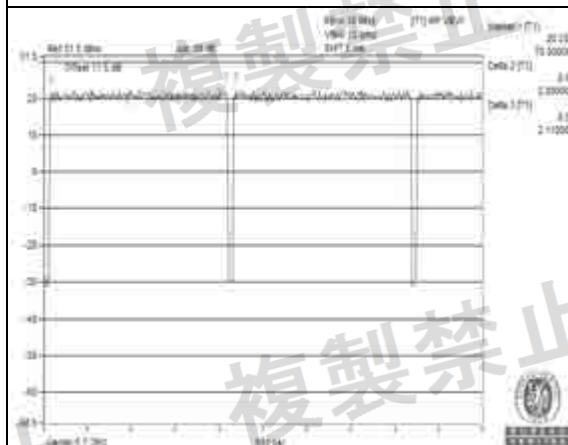
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



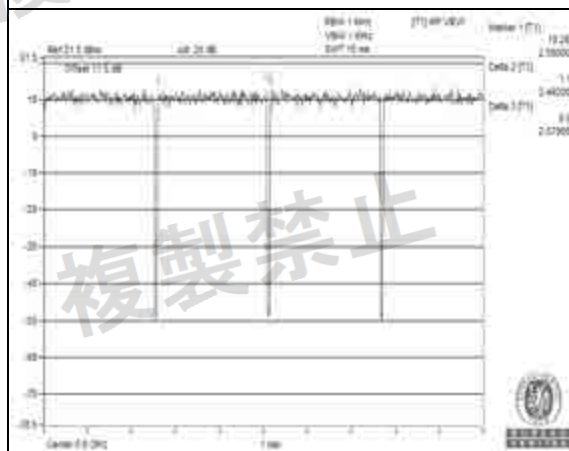
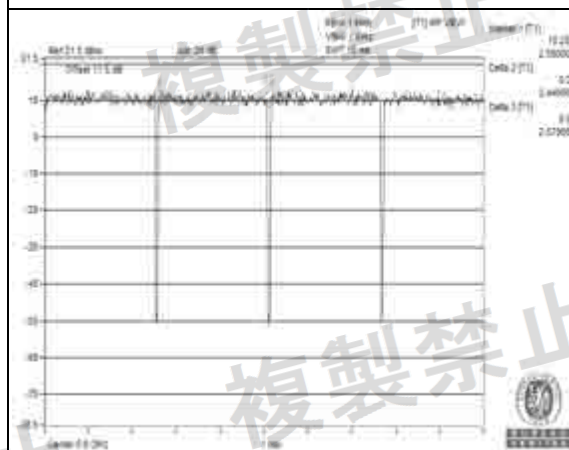
CH 140 (5700MHz)



W56 band:  
802.11n (HT20)

Environmental Conditions	25 deg.C, 60% RH		
Test Condition	Burst Length (ms)		
	CH 100 5500MHz	CH 120 5600MHz	CH140 5700MHz
Vnormal	2.46	2.49	2.46
Vmax.	2.49	2.46	2.47
Vmin.	2.44	2.44	2.47



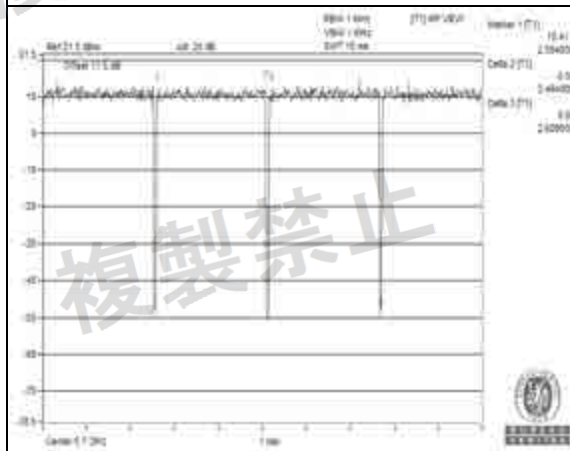
$V_{\text{normal}}$  $V_{\max.}$  $V_{\min.}$ 

CH 120 (5600MHz)

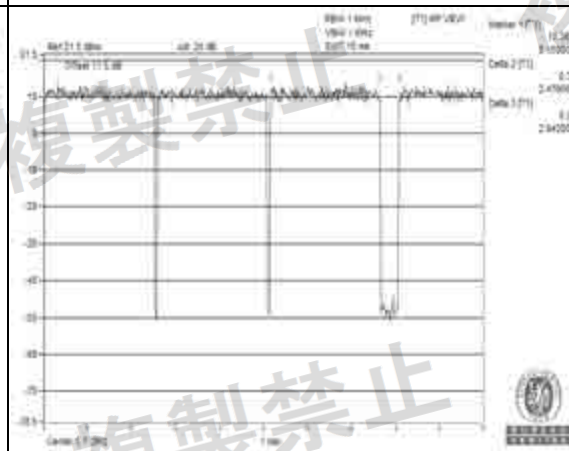




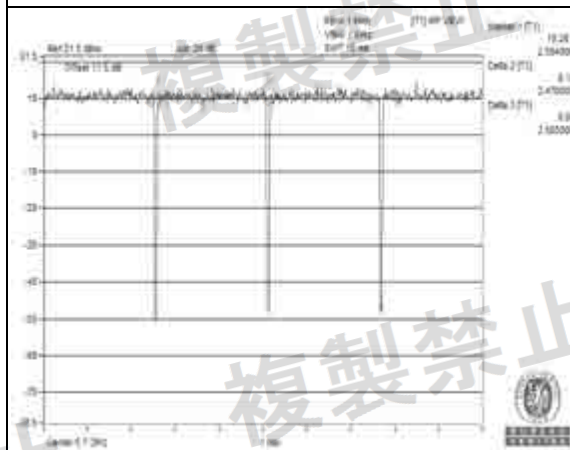
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 140 (5700MHz)



W56 band:  
802.11n (HT40)

Environmental Conditions	25 deg.C, 60% RH		
Test Condition	Burst Length (ms)		
	CH 102 5510MHz	CH 118 5590MHz	CH 134 5670MHz
Vnormal	2.39	2.41	2.39
Vmax.	2.41	2.36	2.36
Vmin.	2.37	2.35	2.38

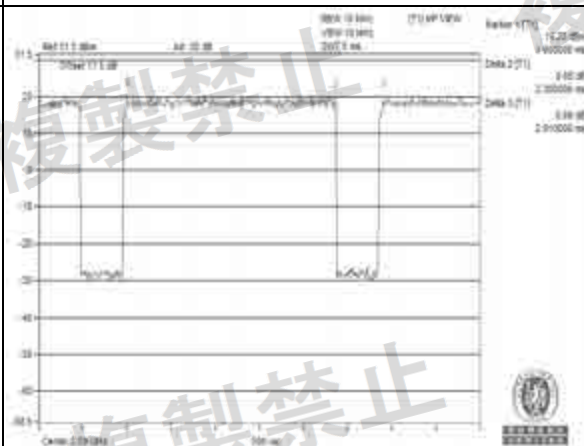




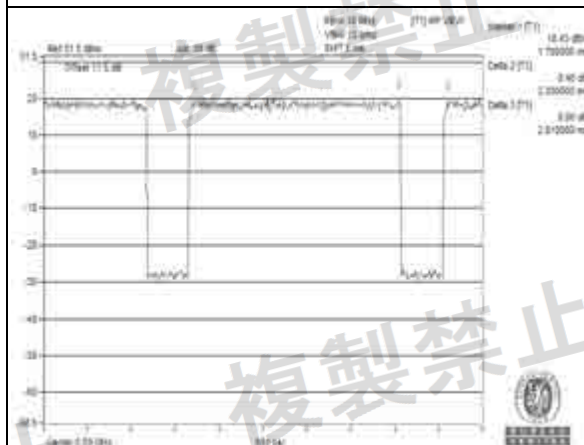
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



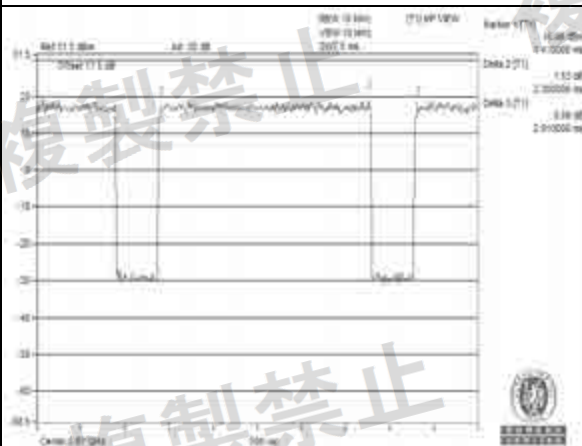
CH 118 (5590MHz)



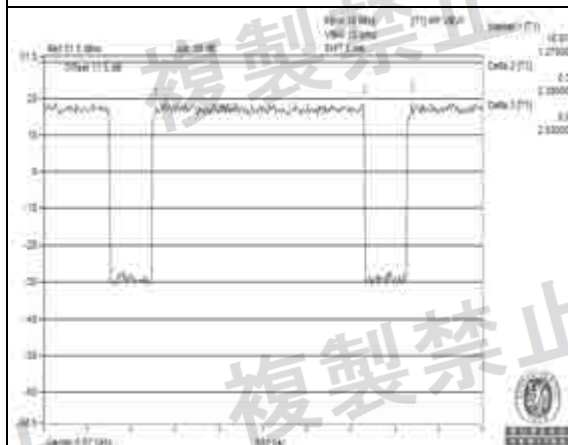
V<sub>normal</sub>



V<sub>max</sub>



V<sub>min</sub>



CH 134 (5670MHz)



W56 band:  
802.11ac (VHT80)

Environmental Conditions	25 deg.C, 60% RH	
Test Condition	Burst Length (ms)	
	CH 106 5530MHz	CH 122 5610MHz
Vnormal	3.26	3.30
Vmax.	3.26	3.29
Vmin.	3.26	3.29



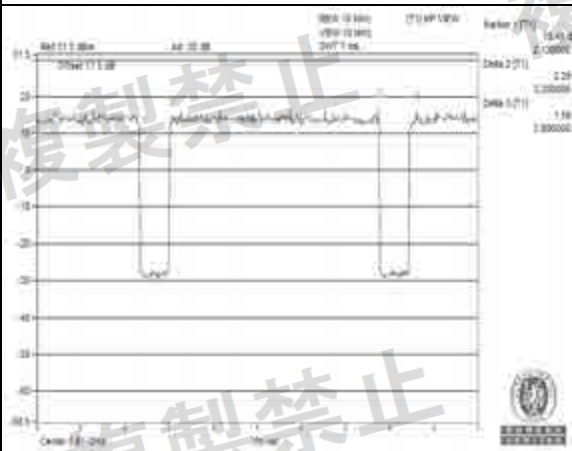




V<sub>normal</sub>



V<sub>max.</sub>



V<sub>min.</sub>



CH 122 (5610MHz)

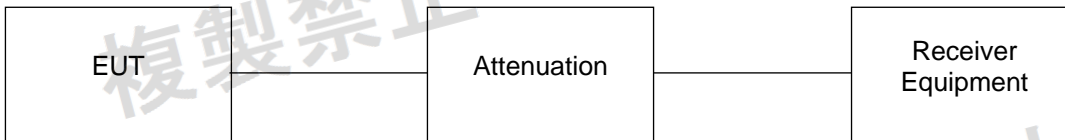


#### 4.9 Interference Prevention Function

##### 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



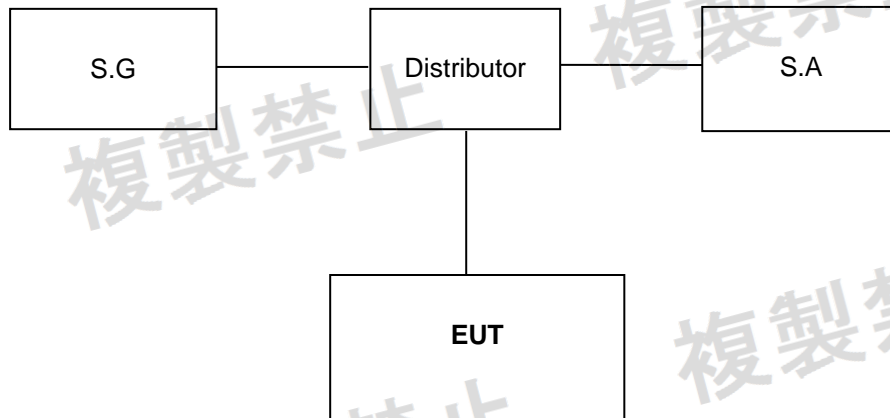
##### 4.9.3 Test Results

Environmental Conditions	25 deg.C, 60% RH
Link Mode	Test Result
Normal	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:

Frequency (MHz)	Pcs (dBm)	C.F (dB)	S.G Level
5180	-49.50	11.13	-38.3665952
5240	-49.60	11.15	-38.4466257
5260	-49.63	11.21	-38.4197149
5320	-49.73	11.31	-38.4182326
5500	-50.02	11.49	-38.5272538
5600	-50.17	11.56	-38.6137605
5700	-50.33	11.61	-38.7174971

Note:

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

Gr: Antenna gain (2dBi).

F: Transmission frequency (MHz).

C.F = Distributor loss + cable loss.

802.11n (HT20):

Frequency (MHz)	Pcs (dBm)	C.F (dB)	S.G Level
5180	-49.50	11.15	-38.3465952
5240	-49.60	11.16	-38.4366257
5260	-49.63	11.23	-38.3997149
5320	-49.73	11.32	-38.4082326
5500	-50.02	11.50	-38.5172538
5600	-50.17	11.57	-38.6037605
5700	-50.33	11.62	-38.7074971

Note:

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

Gr: Antenna gain (2dBi).

F: Transmission frequency (MHz).

C.F = Distributor loss + cable loss.



#### 802.11n (HT40):

Frequency (MHz)	Pcs (dBm)	C.F (dB)	S.G Level
5190	-49.51	11.15	-38.3633472
5230	-49.58	11.16	-38.4200338
5270	-49.65	11.24	-38.4062123
5310	-49.71	11.31	-38.4018904
5510	-50.03	11.49	-38.5430320
5590	-50.16	11.56	-38.5982362
5670	-50.28	11.59	-38.6916612

Note:

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

Gr: Antenna gain (2dBi).

F: Transmission frequency (MHz).

C.F = Distributor loss + cable loss.

#### 802.11ac (VHT80):

Frequency (MHz)	Pcs (dBm)	C.F (dB)	S.G Level
5210	-49.55	11.16	-38.3867545
5290	-49.68	11.25	-38.4291134
5530	-50.06	11.53	-38.5345026
5610	-50.19	11.57	-38.6192572

Note:

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

Gr: Antenna gain (2dBi).

F: Transmission frequency (MHz).

C.F = Distributor loss + cable loss.

#### 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 Photographs of the Test Configuration





## Appendix - Information of 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 FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

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

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