

Table 4 – Summary of Application Requirements for VLP Exhibits

FCC ID:2AAC2-A2E

6VL			
Labelling and Manual		Exhibit	Document Description
Manual: Control of or communications with unmanned aircraft systems is prohibited, including drones.	Complied	Users Manual	Page 44 of “User Manual”
Manual: Operation prohibited on oil platforms and aircraft, except that operation of this device in 5.925-6.425 GHz is permitted in large aircraft while flying above 10,000 feet	Complied	Users Manual	Page 44 of “User Manual”
Manual: Installation on outdoor fixed infrastructures prohibited.	Complied	Users Manual	Page 44 of “User Manual”
Restrictions, Operation & Attestation			
Attestation: Very Low Power 6VL (Appendix B)	Complied	Attestation Statements	File “U-NII 6GHz Attestation”
UNII Security	Complied	SDR Software/Security Info.	File “Software Security Description”
Demonstrate in Test report. See D02			
Contention-Based Protocol.	Complied	Test Report	Page 120 of “Test Report 1” Page 379 to 385 of “Test Report 8” Page 386 to 391, and page 395 to 403 of “Test Report 9”
Transmit Power Control	Complied	1. Test Report 2. Operational Description	Page 121 of “Test Report 1”, Page 171 of “Test Report 2” Page 172 to 174 of “Test Report 3” Page 301 to 304 of “Test Report 6” File “Operational Description”

			<p>For the mechanism,</p> <p>This is the TPC mechanism is triggered in our device:</p> <p>environmental factors</p> <ul style="list-style-type: none"> - interference detect: Out RF detect CCA(clear Channel assessment) AND Noise level, when interfere threshold exceed reference settings, the TPC will be triggered to reduce TX-power. - Muti device is used, our firmware scheduling algorithm dynamically adjusts power to avoid conflicts. <p>performance</p> <ul style="list-style-type: none"> - BER(bit error rate): When BER exceed reference settings, the TPC will be triggered to reduce TX-power to improve link stability. - Regarding to QoS, Higher priority throughput case will trigger TPC to increase TX-power. (But not exceeding the PSD limit) <p>air interface:</p> <ul style="list-style-type: none"> - Large bandwidth: During large bandwidth(160MHz, 320MHz), the TPC will be triggered to adjust the TX-power dynamically. - Modulation: Better modulation (such as 1024-QAM) requires a higher signal-to-noise ratio. In this case(AMC), the TPC will be triggered to adjust the TX-power. <p>Others:</p> <ul style="list-style-type: none"> - Temperature: temperature sensor detects overheating, it triggers the TPC to protection mechanism. - etc. <p>This is our device TPC mechanism work flow:(It follow WFA related protocol)</p> <ul style="list-style-type: none"> - AP (our device) send the Country information and Power Constraint to limit transmission the during the connection with STA. STA will adjust its own transmission power to establish a connection based on AP(our
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			<p>device).</p> <ul style="list-style-type: none"> - during idle phase, AP(our device) generate TPC Report element in beacon carries or probe response, TPC Report element contains its own transmission power, and STA can obtain this information in time. - STA can obtain TPC Report in real time. When STA would like to adjust the transmission power or is not sure what transmission power to use, it will send a TPC Request to request the transmission power and link margin of AP (our device). AP (our device) will send its own transmission power and the link margin which is calculated based on the transmission power of the STA.(Send by unicast TPC Report or TPC response). STA calculates and sets its own transmission power based on AP(our device) transmission power and link margin.
Channel Prioritization above 6.105 GHz	Complied	Operational Description	<p>Page 4 of "Operational Description"</p> <ol style="list-style-type: none"> 1. Our device is usually used as an AP. In this scenario, we will force the setting of channels above 6105 GHz for the 6GHz band. 2. The filter we use is RF360, which is a high-frequency SAW/BAW filter, and has an optimized filter passband range for the FCC's "use of channels above 6105" 3. We will also add a VLP priority element to the beacon in the ESS, declaring that only high-frequency channels are supported, and guiding STA to prioritize the frequency band above 6.105 GHz. 4. In the wifi protocol stack, by hard-coding the high-frequency channel list, the device is forced to scan and connect only to these channels. And an interface is provided, which can be used through the opclass of hostapd. 5. The RF front end of our device physically blocks channels below 6.105 GHz during initialization through hardware register configuration and high-frequency band filters. During initialization, the RF front end is

			<p>only allowed to scan channels between 6.105-7.125 GHz (UNII-5 to UNII-8) to ensure that the device cannot actively access the low frequency band</p> <p>6. In addition, our algorithm has made special treatments for channels above 6105 GHz in terms of channel occupancy rate (CCA), interference index and historical load rate, which will make the results above 6105 GHz better.</p> <p>- When the weight of channels above 6.105 GHz is ≥ 0.8 (settable), the frequency band is bound first.</p>
Fundamental Maximum EIRP (dBm)	14 (Complied)	Test Report	<p>Page 22 of "Test Report 1"</p> <p>Page 163 to 166 of "Test Report 2"</p> <p>Page 293 to 296 of "Test Report 6"</p>
Fundamental power spectral density in any 1-megahertz band. (dBm/MHz EIRP)	-5 (Complied)	Test Report	<p>Page 24 of "Test Report 1"</p> <p>Page 167 to 170 of "Test Report 2"</p> <p>Page 297 to 300 of "Test Report 6"</p>
Fundamental bandwidth	≤ 320 MHz (Complied)	Test Report	<p>Page 20, 137, 138 of "Test Report 1"</p> <p>Page 139 to 162 of "Test Report 2"</p> <p>Page 269 to 278 of "Test Report 5"</p> <p>Page 279 to 292 of "Test Report 6"</p>
Emissions outside the 6 GHz Band within any one-megahertz band (EIRP).	-27 dBm (Complied)	Test Report	<p>Page 100 to 116 of "Test Report 1"</p>
Channel Mask	Compliance with DO2 Channel Mask (Complied)	Test Report	<p>Page 118 of "Test Report 1"</p> <p>Page 218 to 234 of "Test Report 4"</p> <p>Page 235 to 256 of "Test Report 5"</p> <p>Page 343 to 378 of "Test Report 8"</p>