

APPENDIX REPORT

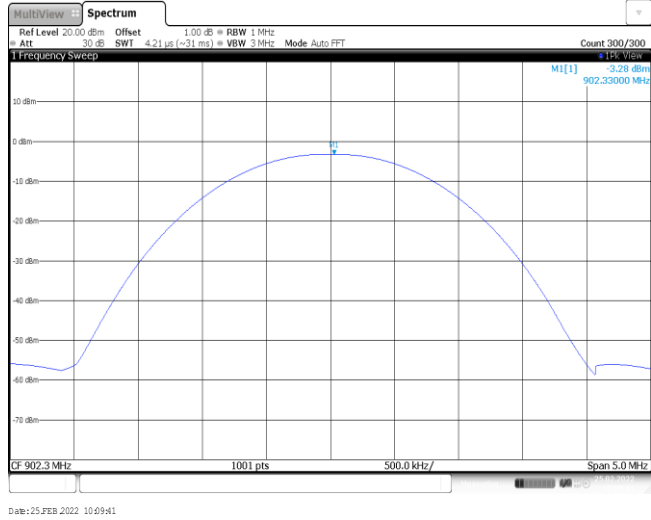
Project No.	SHT2202012302EW		
Test sample No.	YPHT21100680014	Model No.	E22-900T22S 1B
Start test date	2022-02-25	Finish date	2022-02-28
Temperature	25.4℃	Humidity	51%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zhuo

Appendix clause	Test item	Result
A	Peak Output Power	PASS
B	20 dB Bandwidth	PASS
C	99% Occupied Bandwidth	PASS
D	Carrier Frequencies Separation	PASS
E	Hopping Channel Number	PASS
F	Dwell Time	PASS
G	Duty Cycle Correction Factor (DCCF)	PASS
H	Band edge and Spurious Emissions(ducted)	PASS

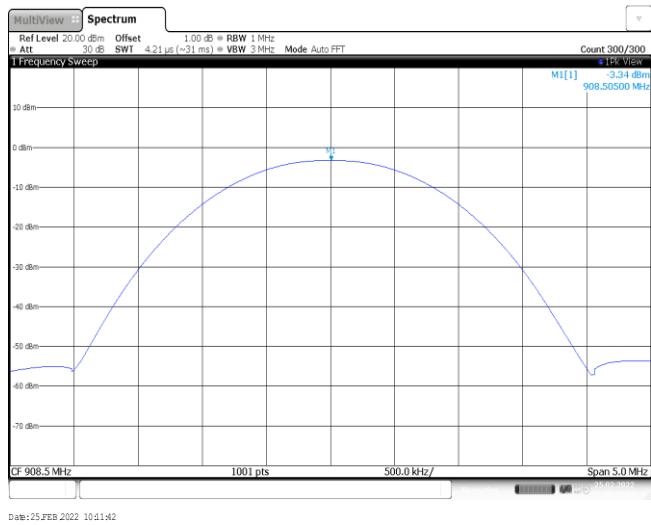
Appendix A: Peak Output Power

Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Antenna Gain (dBi)	Maximum e.r.i.p. (dBm)	EIRP Limit (dBm)	Result
CH-L	-3.28	-3.31	≤ 30.00	2.40	-0.88	≤ 36.00	Pass
CH-M	-3.34	-3.39		2.40	-0.94		
CH-H	-3.72	-3.80		2.40	-1.32		

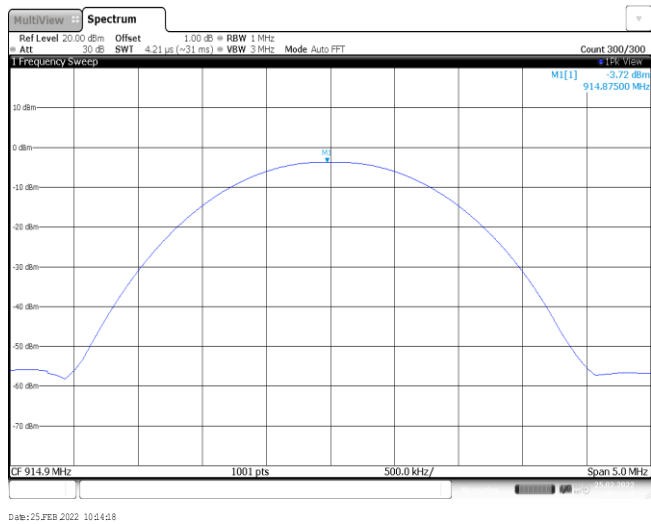
CH-L



CH-M



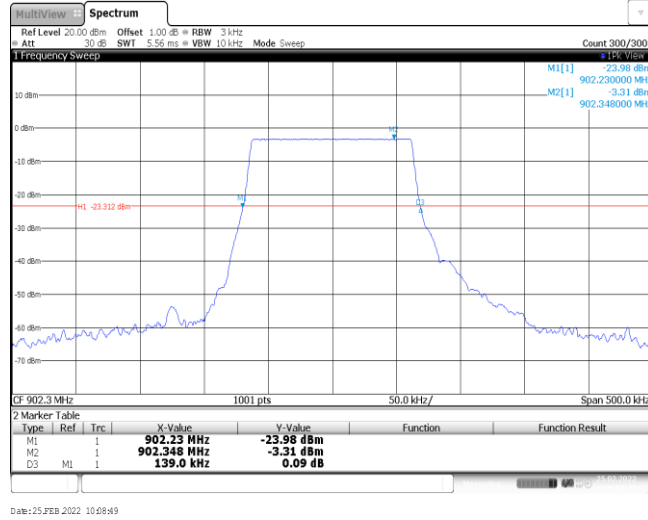
CH-H



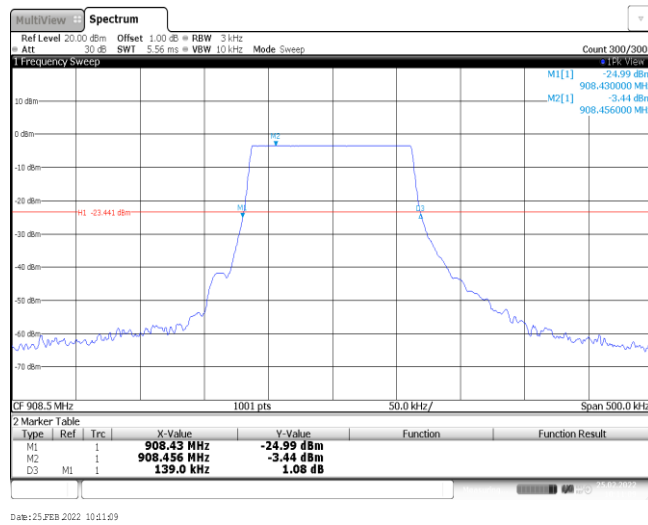
Appendix B : 20 dB Bandwidth

Channel	20 dB Bandwidth (kHz)	Limit (kHz)	Result
CH-L	139.00	≤500	Pass
CH-M	139.00		
CH-H	138.50		

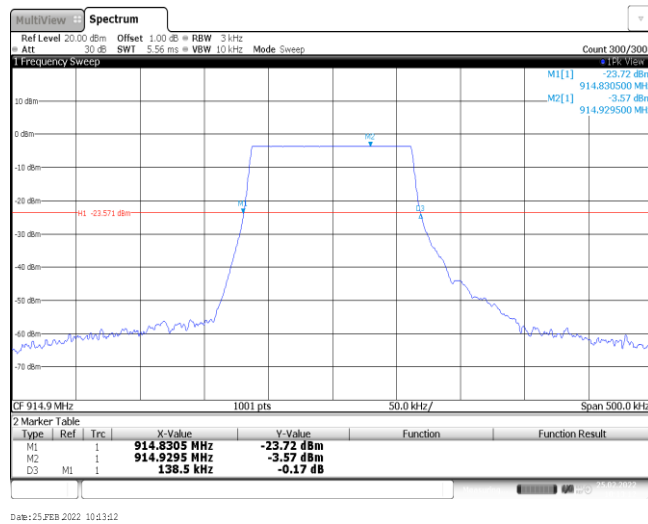
CH-L



CH-M



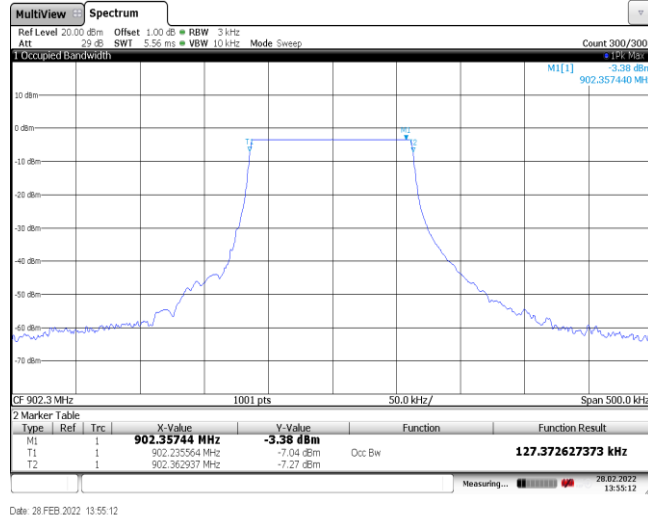
CH-H



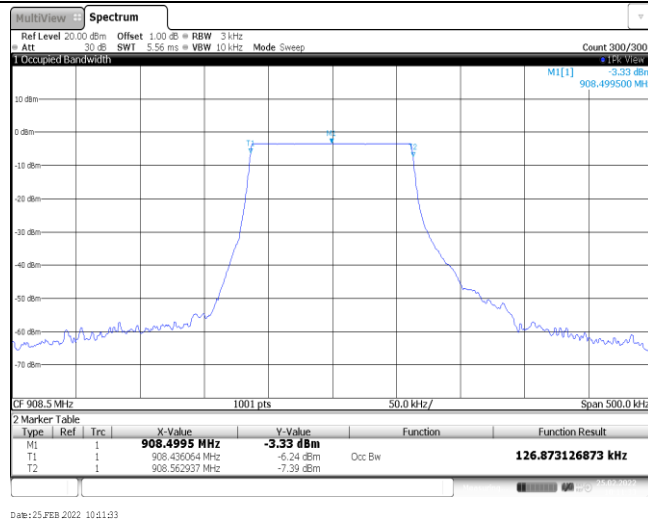
Appendix C: 99% Occupied Bandwidth

Channel	99% Occupied Bandwidth (MHz)	Limit (MHz)	Result
CH-L	0.13	-	Pass
CH-M	0.13		
CH-H	0.13		

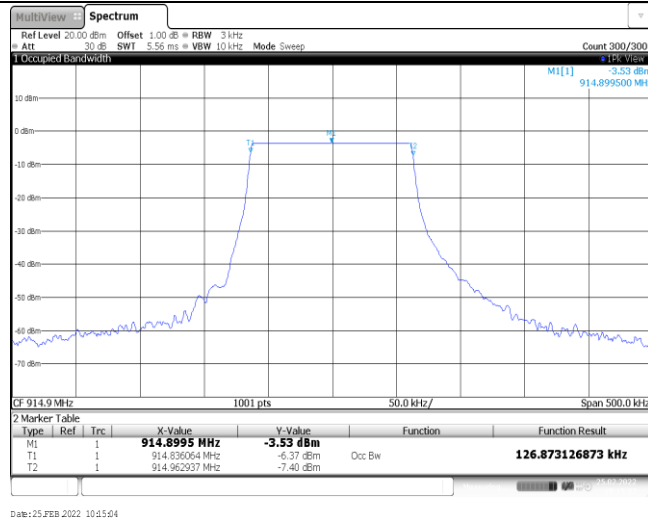
CH-L



CH-M



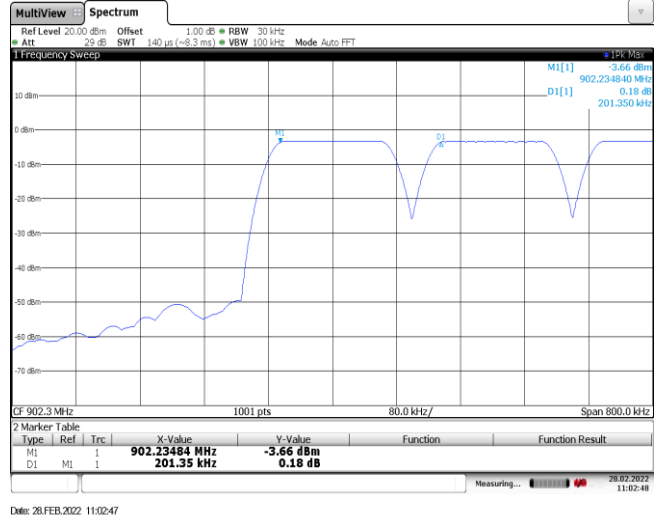
CH-H



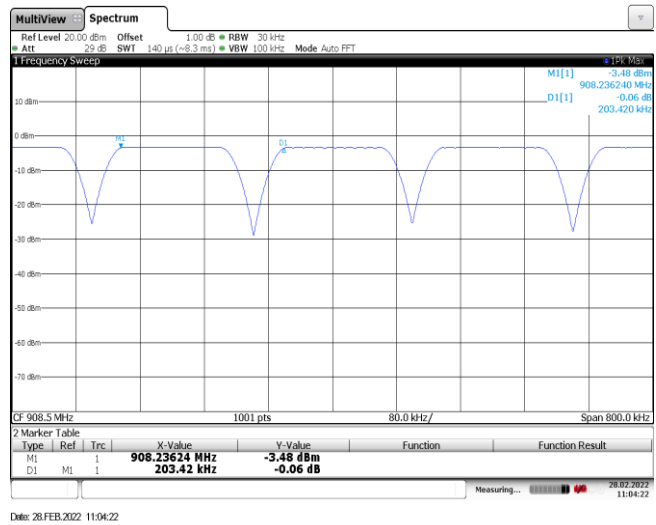
Appendix D: Carrier Frequencies Separation

Channel	Carrier Frequencies Separation (kHz)	Limit (kHz) *	Result
CH-L	201.35	≥ 139.00	Pass
CH-M	203.42	≥ 139.00	Pass
CH-H	200.05	≥ 138.50	Pass

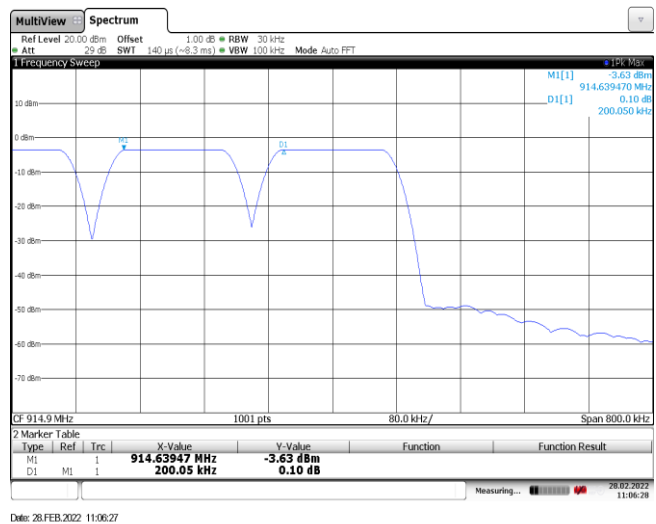
CH-L



CH-M

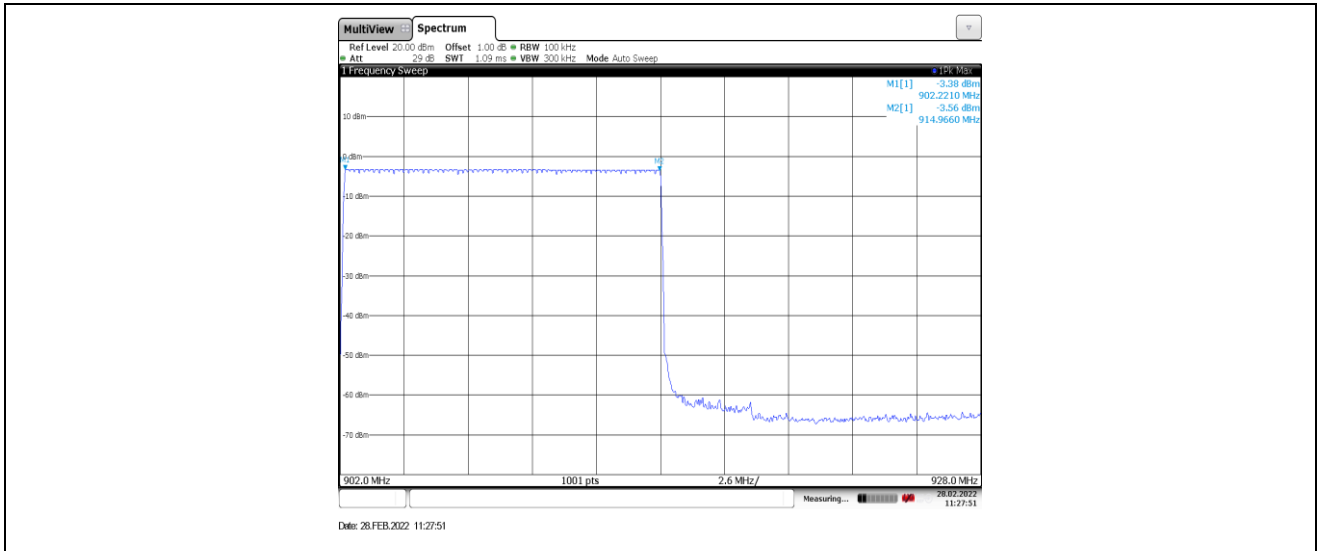


CH-H



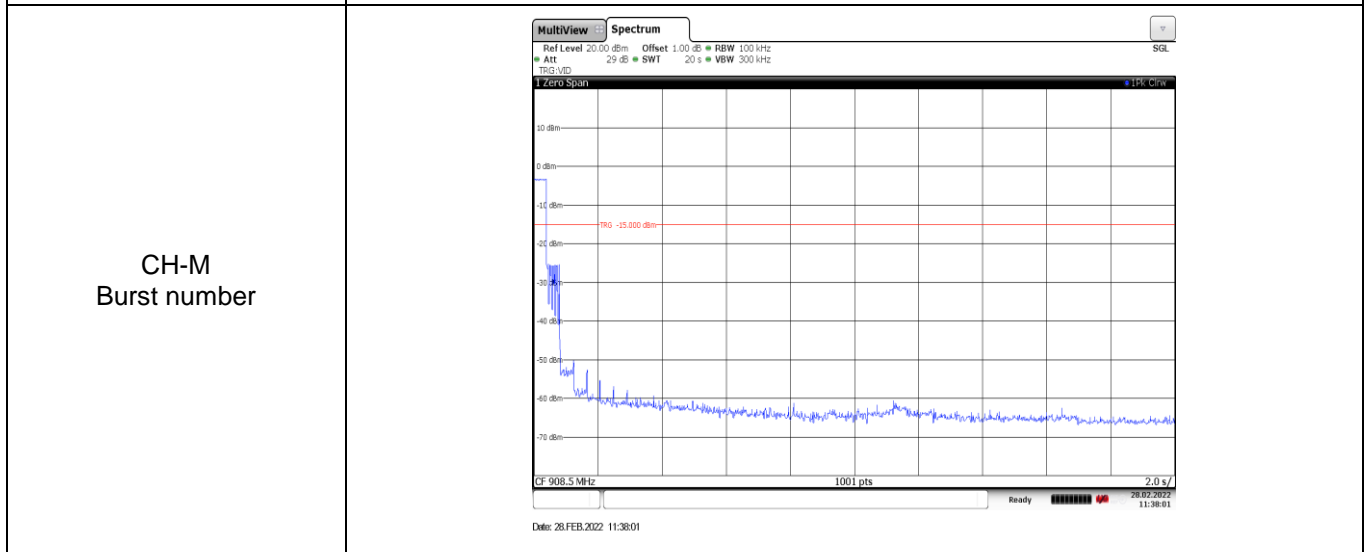
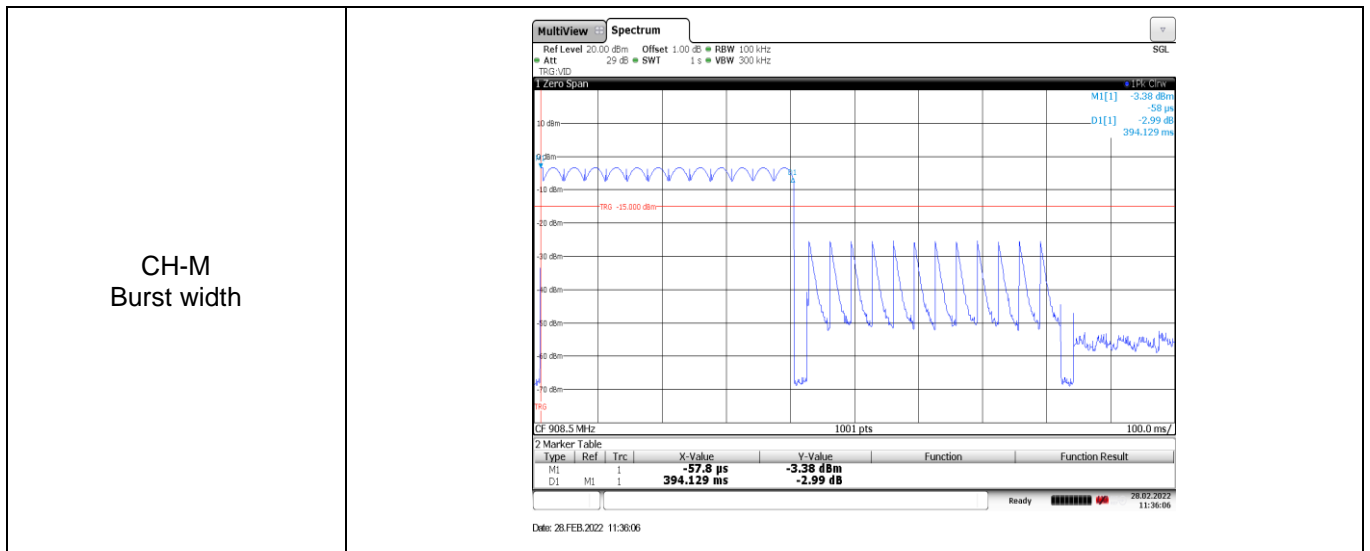
Appendix E: Hopping Channel Number

Channel number	Limit	Result
64	≥50	Pass



Appendix F: Dwell Time

Packet	Burst Width [ms]	Total Hops[hop*ch]	Dwell time (Second)	Limit (Second)	Result
CH-M	394.129	1	0.39	≤ 0.40	Pass

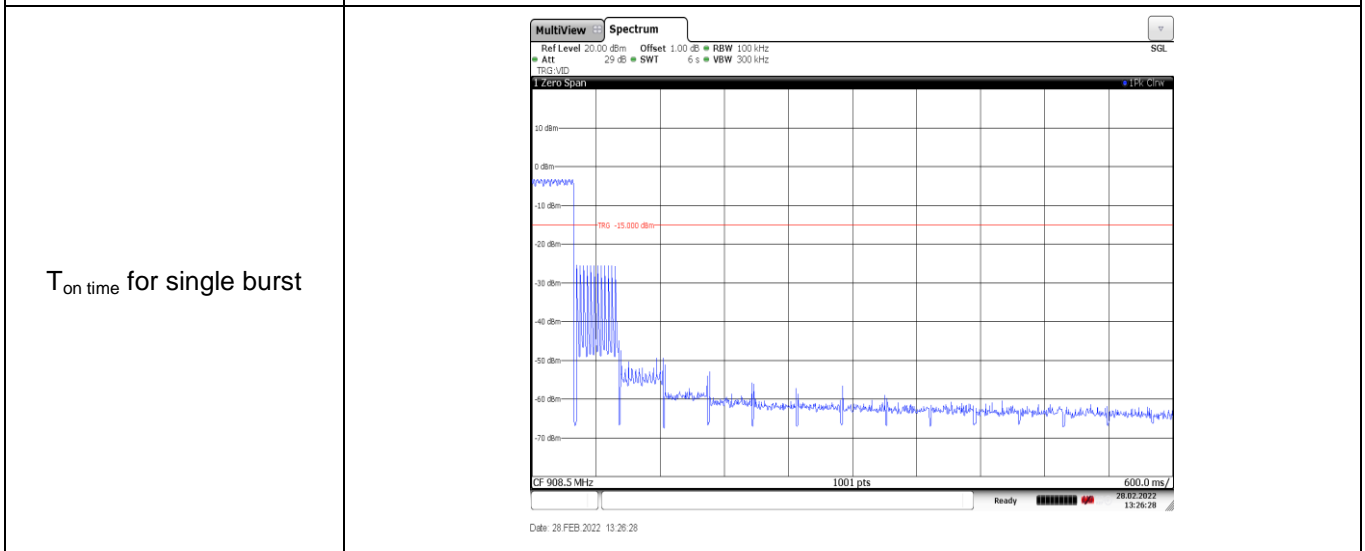
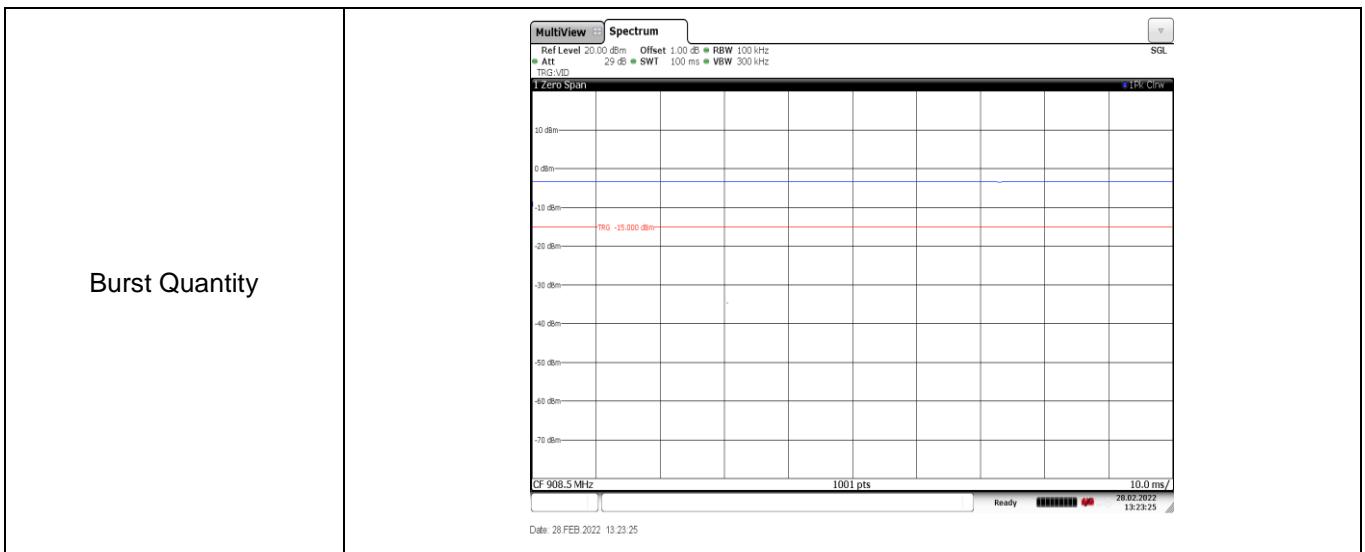


Appendix G: Duty Cycle Correction Factor (DCCF)

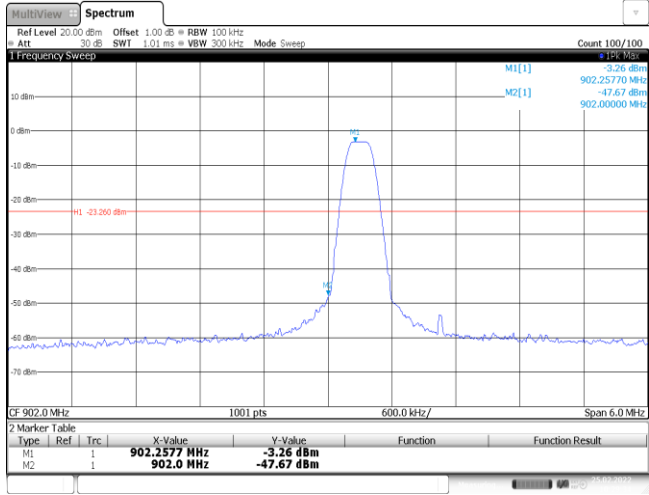
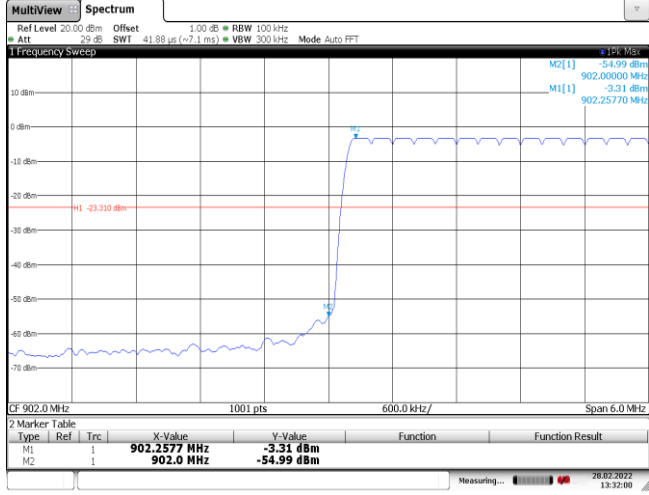
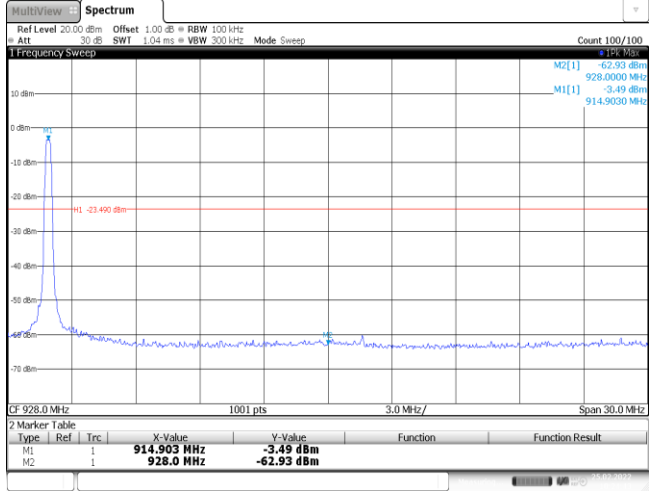
DCCF Calculate Formula

$$DCCF = 20 * \text{Log}(\text{duty cycle}) = 20 * \text{Log}(T_{\text{on time}} / T_{\text{period}})$$

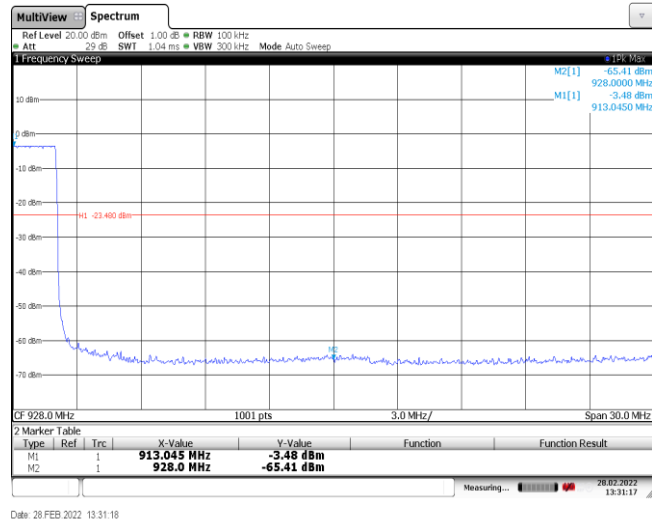
Test Frequency (MHz)	T _{on time} for single burst [ms]	T _{period} [ms]	Burst Quantity	DCCF [dB]
908.5	1.00	100	2	-33.98

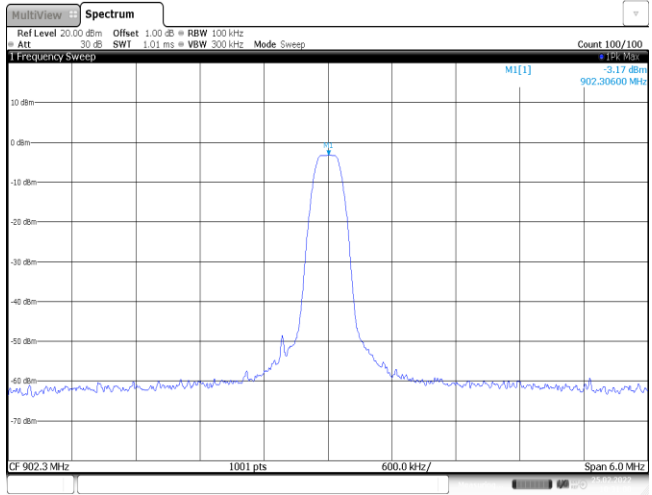
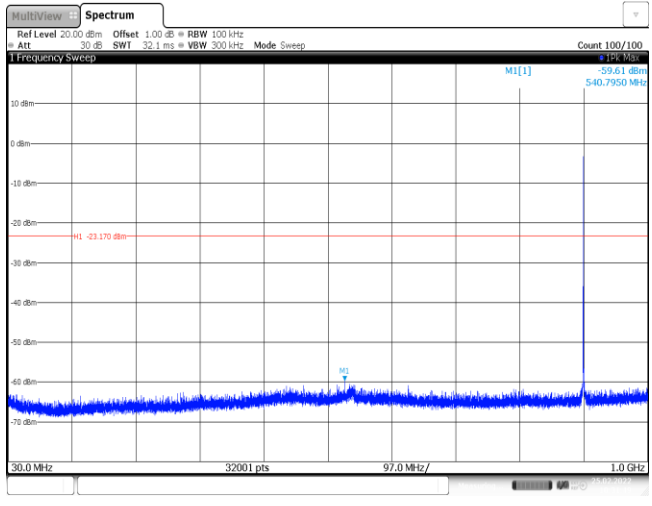
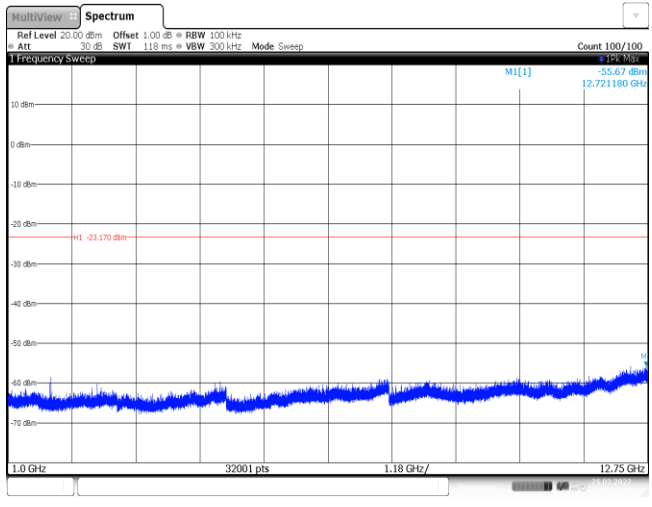


Appendix H: Band edge and Spurious Emissions (conducted)

Test Item:	Band edge
<p style="text-align: center;">CH-L No hopping mode</p>	 <p style="text-align: center;">Date: 25.FEB.2022 10:29:25</p>
<p style="text-align: center;">CH-L Hopping mode</p>	 <p style="text-align: center;">Date: 28.FEB.2022 13:32:00</p>
<p style="text-align: center;">CH-H No hopping mode</p>	 <p style="text-align: center;">Date: 25.FEB.2022 10:24:44</p>

CH-H
Hopping mode



Test Item:	Spurious Emission
<p>CH-L Reference level</p>	 <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.01 ms VBW 300 kHz Mode Sweep Count 100/100 1 Frequency Sweep MI[1] -3.17 dBm 902.30600 MHz CF 902.3 MHz 1001 pts 600.0 kHz/ Span 6.0 MHz Date: 25.FEB.2022 10:31:01</p>
<p>CH-L 30MHz~1000MHz</p>	 <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 32.1 ms VBW 300 kHz Mode Sweep Count 100/100 1 Frequency Sweep MI[1] -59.61 dBm 540.7950 MHz MI -33.170 dBm 30.0 MHz 32001 pts 97.0 MHz/ 1.0 GHz Date: 25.FEB.2022 10:31:49</p>
<p>CH-L 1GHz~26GHz</p>	 <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 118 ms VBW 300 kHz Mode Sweep Count 100/100 1 Frequency Sweep MI[1] -55.67 dBm 12.721180 GHz MI -33.170 dBm 1.0 GHz 32001 pts 1.18 GHz/ 12.75 GHz Date: 25.FEB.2022 10:32:46</p>

<p>CH-M Reference level</p>	<p>Date: 25.FEB.2022 10:34:23</p>
<p>CH-M 30MHz~1000MHz</p>	<p>Date: 25.FEB.2022 10:25:22</p>
<p>CH-M 1GHz~26GHz</p>	<p>Date: 25.FEB.2022 10:40:53</p>

<p>CH-H Reference level</p>	<p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.01 ms VBW 300 kHz Mode Sweep Count 100/100 1 Frequency Sweep M1[1] -3.48 dBm 914.90310 MHz CF 914.9 MHz 1001 pts 600.0 kHz/ Span 6.0 MHz Date: 25.FEB.2022 10:25:57</p>
<p>CH-H 30MHz~1000MHz</p>	<p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 32.1 ms VBW 300 kHz Mode Sweep Count 100/100 1 Frequency Sweep M1[1] -59.78 dBm 553.6780 MHz M2 -23.480 dBm 30.0 MHz 32001 pts 97.0 MHz/ 1.0 GHz Date: 25.FEB.2022 10:26:47</p>
<p>CH-H 1GHz~26GHz</p>	<p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 118 ms VBW 300 kHz Mode Sweep Count 100/100 1 Frequency Sweep M1[1] -34.60 dBm 1.924370 GHz M2 -23.480 dBm 1.0 GHz 32001 pts 1.18 GHz/ 12.75 GHz Date: 25.FEB.2022 10:27:35</p>

-----End of Report-----