

Data Referencing Plan

- Test Reduction via KDB 484596 Referencing Test Data v04

1. Introduction: Description of Variant

Grantee/Applicant	Acconeer AB Västra Varvsgatan 19, 211 77 Malmö, Sweden	
	Reference Device	Model Variant
FCC ID: IC:	FCC ID: 2AQ6KA1201 IC: 24388-A121	FCC ID: 2AQ6KXM002 IC: 24388-XM002
Model Name	A121 Pulsed Coherent radar module – XS121 – LH113	XM126
Applicable Standards	<ul style="list-style-type: none"> - FCC part 15.255, part 15 Field Disturbance sensor, Pulsed coherent radar module - RSS – 210 Issue 11, Licence-Exempt Radio Apparatus: Category I Equipment 	<ul style="list-style-type: none"> - FCC part 15.255, part 15 Field Disturbance sensor, Pulsed coherent radar module - FCC Part 15.247 Bluetooth (LE 1Msps / 2Msps) - RSS – 210 Issue 11, Licence-Exempt Radio Apparatus: Category I Equipment - RSS – 247: Bluetooth (LE 1Msps / 2Msps)
Radios	<ul style="list-style-type: none"> - 60GHz transmitter with AiP 	<ul style="list-style-type: none"> - 60GHz transmitter with AiP - 2.4GHz transmitter with 2.4GHz integrated antenna on PCB
Chipset	<ul style="list-style-type: none"> - A121 57-64GHz Limited Single Modular 	<ul style="list-style-type: none"> - A121 57-64GHz Limited Single Modular - Nordic 2.4GHz Bluetooth nRF52840 SoC
Frequency band allocation, 60GHz	<ul style="list-style-type: none"> - Identical 	<ul style="list-style-type: none"> - Identical
RF Layout, 60GHz	<ul style="list-style-type: none"> - Identical 	<ul style="list-style-type: none"> - Identical
I/O Interface, 60GHz	<ul style="list-style-type: none"> - Identical 	<ul style="list-style-type: none"> - Identical
Shielding and Antenna Connectors, 60GHz	<ul style="list-style-type: none"> - Identical 	<ul style="list-style-type: none"> - Identical
BoM, 60GHz	<ul style="list-style-type: none"> - Identical 	<ul style="list-style-type: none"> - Identical
Declaration Statement	<ul style="list-style-type: none"> - Variant differences declared in this document are based on the disclosure from the applicant. 	

Acconeer AB takes full responsibility that the test data as referenced represents valid data for demonstrating compliance for the variant listed.

2. Justification

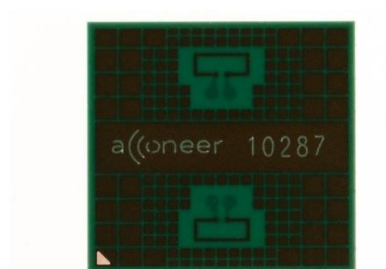
The A121 modular approval with FCC ID: 2AQ6KA1201, IC: 24388-121, applies for the XM126 variant which qualifies for Data Referencing of FCC 15.255 Part 15/RSS-210 Issue 11.

Function Block Diagram Comparison

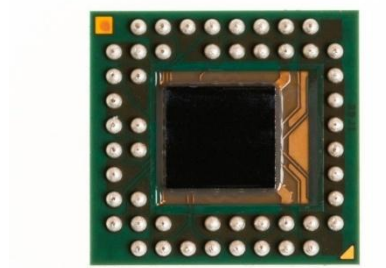
A121 (reference device)	XM126 (variant)	Differences
A121 60GHz transmitter. Do not support onboard Bluetooth.	Support onboard Bluetooth and A121 60GHz transmitter i.e. co-located transmitter (2.4GHz + 60 GHz), simultaneous transmission.	Bluetooth radio added

3. Illustration

A121 (reference device):



Frontside of the A121 sensor.



Backside of the A121 sensor.

XM126 (variant):



Frontside of the XM126 IoT module.



Backside of the XM126 IoT module.

4. Data Referencing and Spot-Check Plan

Test Item	FCC ID: 2AQ6KA1201 IC: 24388-A121 (Reference Device) Worst result	FCC ID: 2AQ6KXM002 IC:24388-XM002 (Variant) Worst Result	Difference (dB)
Average EIRP (dBm)	11.6 dBm Test report ref: 1-5794/23-01-03 Test report ref: 1-5794-23-02-03_TR1-R01	6.7 dBm Test report ref: 1-6927-23-04-03_TR1-R01	-4.9 dB
Peak EIRP (dBm)	25.5 dBm Test report ref: 1-5794/23-01-03 Test report ref: 1-5794-23-02-03_TR1-R01	22.6 dBm Test report ref: 1-6927-23-04-03_TR1-R01	-2.9 dB

5. FCC KDB reference, ECR (Equipment Certification Request) confirmation

Answer from FCC based on inquiry with Tracking Number 593463, confirms that an ECR is not required for test data re-use.

6. PAG

FCC				
		Reference Device (60 GHz Radar)	Result re-used for variant	Variant: 60 GHz Radar + BT transceiver
		FCC ID: 2AQ6KA1201		FCC ID: 2AQ6KXM002
47 CFR15.215(b) & (c), 47 CFR 15.255(f)	Occupied bandwidth & Frequency stability	Test report 1-5794/23-01-03, page 20, page 44.	yes	verification check performed in Test Report 1-6927-23-04-03_TR1-R01 page 18 Spot c
47 CFR15.255 ©	Radiated power (EIRP)	Test report 1-5794/23-01-03, page 25.	yes	verification check performed in Test Report 1-6927-23-04-03_TR1-R01 page 21.
47 CFR 15.255©	Time domain requirements	Test report 1-5794/23-01-03, page 20.	yes	verification check performed in Test Report 1-6927-23-04-03_TR1-R01 page 19.
47 CFR 15.255(d)	Spurious emissions radiated	Test report 1-5794/23-01-03, page 34.	yes	Verification check performed in Test report: 1-6927-23-01-03_TR1-R01, page 38.
47 CFR 15.207	Conducted emissions < 30 MHz (AC power line)	n/a	n/a	Note: The device only employs not chargeable battery power for operation.
47CFR15.247		n/a	n/a	fully performed in Test report 1-6927_23-01-05_TR1-R01
KDB 996369 Radar-BT simultaneous transmission check		n/a	n/a	RSE test with Radar+BT simultaneous transmission performed in Test report 1-6927-23-04-04_TR1-R01

ISED				
		Reference Device (60 GHz Radar)	Result re-used for variant	Variant: 60 GHz Radar + BT transceiver
		FCC ID: 2AQ6KA1201		FCC ID: 2AQ6KXM002
RSS-210 J3.2 (c)(iv)	Occupied bandwidth & Frequency stability	Test report 1-5794/23-02-03_TR1-R01, page 27.	yes	verification check performed in Test Report 1-6927-23-04-03_TR1-R01 page 18 Spot c
RSS-210 3.2 (c)(i) + (c)(ii)	Radiated power (EIRP)	Test report 1-5794/23-02-03_TR1-R01, page 36.	yes	verification check performed in Test Report 1-6927-23-04-03_TR1-R01 page 21.
RSS210 3.2 (c)(i)	Time domain requirements	Test report 1-5794/23-02-03_TR1-R01, page 47.	yes	verification check performed in Test Report 1-6927-23-04-03_TR1-R01 page 19.
RSS-210 J.4	Spurious emissions radiated	Test report 1-5794/23-02-03_TR1-R01, page 51.	yes	verification check performed in Test report: 1-6927-23-01-03_TR1-R01, page 38.
RSS-Gen 8.8	Conducted emissions < 30 MHz (AC power line)	n/a	n/a	Note: The device only employs not chargeable battery power for operation.
RSS-247		n/a	n/a	fully performed in Test report 6927-23-01-05_TR1-R01
Radar-BT simultaneous transmission check		n/a	n/a	RSE test with Radar+BT simultaneous transmission performed in Test report 1-6927-23-04-04_TR1-R01

7. Conclusion

Based on the output power (e.i.r.p) spot check test results, the test data from the reference device is still representative for the variant device and demonstrates compliance.

We confirm that the test data reuse policy of FCC KDB 484596 Referencing Test Data v03 has been followed, and the test data as referenced from the reports of the reference device (FCC ID: 2AQ6KA1201, IC: 24388-A121) represent compliance of variant device with FCC ID: 2AQ6KXM002, IC: 24388-XM002.