



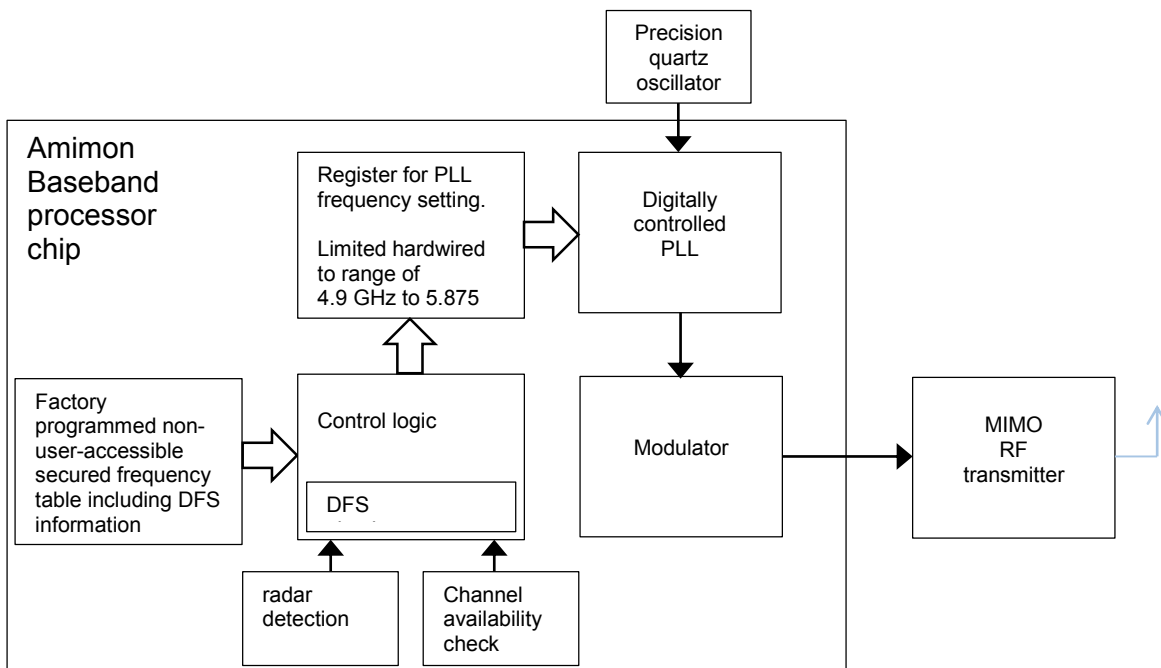
Statement on Frequency limitation provisions

Modul No.1 mini

07.06.2016

	Date:	Name:	Title:	Statement on Frequency limitation provisions	
Written:	07.06.2016	Christian Geißinger	Project:	Modul No.1 mini	
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FCC approval requires demonstration that the DUT (Device Under Test) is secured against transmission outside the supported bands. Next to the performed tests evidence can be given by a theoretical viewing to the device. The parts of the device that are involved to the output frequencies are shown below, whereas not all of the shown functional blocks have the potential for influencing the output frequency. In detail the modulator block and the RF transmitter are not able to shift the output frequency.



The “Modul No.1 mini” is based mainly on the highly integrated WHDI™ baseband chips from Amimon. The output frequency is determined by a precision quartz oscillator as well as by internal components of the Amimon chip. Provided that the quartz oscillator delivers the correct base frequency, which is ensured by functional testing of every shipped device, the Amimon chip ensures due to some fundamental design elements described below that only allowed frequencies are used. Due to fully digital design, there is no risk of detuning by component defects or aging.

- The digitally controlled PLL derives the output frequency directly from the precision quartz oscillator.
- The PLL output can be programmed to frequencies from 4,900 GHz to 5.875 GHz
Values outside of this range cannot be programmed (hard wired limitation)
- The above-named frequency range can be further restricted by a factory-programmed non-user-accessible secured frequency/channel configuration table. A control logic ensures that the PLL is configured only to frequencies contained in this table.
The content of this table is shown on the next page.
- Same control logic also ensures that DFS channels are only used if the DFS requirements for that selected channel are fulfilled (no radar detected for required time intervals).

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Band	Channel No.	Frequency	USA
U-NII-1	36	5,180 GHz	yes
	40	5,200 GHz	yes
	44	5,220 GHz	yes
	48	5,240 GHz	yes
U-NII-2A	52	5,260 GHz	DFS
	56	5,280 GHz	DFS
	60	5,300 GHz	DFS
	64	5,320 GHz	DFS
U-NII-2C	100	5,500 GHz	DFS
	104	5,520 GHz	DFS
	108	5,540 GHz	DFS
	112	5,560 GHz	DFS
	116	5,580 GHz	DFS
	120	5,600 GHz	no
	124	5,620 GHz	no
	128	5,640 GHz	no
	132	5,660 GHz	DFS
	136	5,680 GHz	DFS
	140	5,700 GHz	no
U-NII-3	149	5,745 GHz	yes
	153	5,765 GHz	yes
	157	5,785 GHz	yes
	161	5,805 GHz	yes
	165	5,825 GHz	yes

Changelog

Revision	Date	Changed by	Changes (enumeration)
0001	07.06.2016	C. Geissinger	– Creation