

Part 1. 5.3GHz, FCC related answers.

FCC 15.407 section

- 1) **** Enclosed the ATCB Form 731 corrected. ****
- 2) The operation description includes all our family products 5.xGHz and 2.xGHz.
The frequency output selection, setting by the product software and cannot be change out of the product compliance range.
The block diagram describes generally the entire generally family product.
The transmitter RF chain using RF separated BPF for each band (5.xGHz and 2.xGHz).
The product delivers only with frequency range according to the compliance by FCC/IC and the user can't change the band work.
This changing includes hardware changes and software too.
- 3) The product delivers only with the radio parameter that set during the compliance test and according to the final test report. The user cannot select 2.4GHz frequency band, this band blocked by the target software and it impossible for user to make any change.
Additionally, in order to change the frequency from 5.xGHz band to 2.4GHz band hardware changes must be done. (e.g changing Tx RF BPF, using another power amplifier).
This change is not optional for the user and blocked by Hardware and Software product.
- 4) Skill technician must do all the installation/repair/internal setting. (page 24 of User Manual)
The installation/maintains and operation training for all customers performed by Radwin technical support group only.
After the training each technician get official certificate from Radwin Tech-support division.
**** Enclosed the official certificate. ****
- 5) Enclosed user manual for the product, Pleas see page 8.
- 6) **** Enclosed the photograph of the antenna product. **.**
- 7) **** Enclosed the photograph of the internal circuits +MPCI card. **.**
- 8) **** Enclosed the separate RF exposure exhibit. **.**
- 9) Photo # 10 illustrated radiated emissions test according to § 15.109 and relates to unintentional radiator measurements only. In this case the antenna terminal really was terminated.
Spurious emissions and harmonic emissions tests (15.209) were performed with attached antennas.
- 10) Enclosed the user manual of all our family of “Winlink 1000” products, page 20 describe all the frequency bands.
- 11) The product delivers only with factory setup radio parameter that set during the compliance test and according to the final test report. The user cannot select frequencies out of the 5250-5335MHz; other frequencies blocked by the target software and by the NMS (Network management systems) and it impossible for user to make any change.

- 12) Radwin define 2 product type according to the compliance:
- Winlink1000/F53 EXT – for external antenna (28dBi).
 - Winlink1000/F53 HP – for integrated antenna (22dBi).
- Each product deliver with hardware and software factory setting and the end user blocked to make any change that cause to exceeding the compliance.
- 13) Calculations were made by using $P_{max} = 10\log [(U_{lin})^2/50]+30+10\log(26\text{dB BW/RBW})$ formula
 $P_{max} = 10\log[(0.1159)^2/50 \Omega]+30\text{dB}+10\log(20.33 \text{ MHz}/1 \text{ MHz}) = 7.37 \text{ dBm}$
 $U_{lin} - 115.9 \text{ mV}$ from Plot A8
 30dB – $10\log 1000$ - conversion factor to mW
 26dB BW - 20.33 MHz – from Plot A1
 Cable Loss and external attenuator – are inserted in Spectrum Analyzer settings.
- 14) Please see the clause 5.1.2 of updated Test Report
- 15) The 5335MHz frequency met our customer requirements.
- 16) Additional retesting was performed. Please see the clause 5.1.3 of updated Test Report.
- 17) In case of absence information, the device sends only control and signaling information and keeps this situation till the traffic is resumed.
 In case of operational failure the transmission of the device is promptly terminated and the device transfers to a 'Disconnection state'. In this state, the devices try to re-establish the link connection by sending only burst transmission of control frames.
- Frequency stability:
 The frequency stability of the product is +/-10ppm under all condition.
 (see User manual page 20).
- 18) According to FCC Public Notice DA 02-2138 test result is a difference between two traces. The first plot shows these two traces – trace A and trace B. The second plot is A-B mode and the delta marker show exactly tests result.
 The plots were corrected according to your requirements (see corrected plots A26-A31).
- 19) The test was updated (see plots A33, A38, A43 of Test Report).
- 20) You are right that measured results at 3m distance on the plots are close to limit at 18GHz. But investigations of spurious emissions were provided at close distance 1m and with short cable 1m length. This improves system sensitivity but insert problems with carrier and saturation mode of SA. Preliminary measurements from 1m distance were performed on OATS.
- 21) Measurements performed to 15.205/15.209 were made with peak detector RBW=1MHz VBW=3MHz and average detector RBW=1MHz VBW=300Hz > 30Hz recommended by FCC. Measurements performed to 15.407(b) were made with sample peak detector RBW=1MHz and calculated from $1/T = 1/0.476 \text{ msec} = 2.1 \text{ kHz}$. VBW = 3 kHz.

Part 2. IC related answers.

- 22) **** Enclosed the corrected IC Certification Number labeling.**
- 23) Please see user manual page 22.
- 24) Please see user manual page 22-23.
- 25) Please see user manual page 20.**
- 26) Please see user manual page 8, 22**