1. Objective

This document described about detection of unknown RF at 2.4 GHz and relation between RF with Health, Human Brain Frequency modulation. This unknown RF covered by Wi-Fi Signal which has unique Radio Sound.

2. Devices and Software

Following devices and software used for detections of RF at 2.4 GHz:

❖ **RF Meter device**
- Cornet ED85EXS with sound signature

❖ **Spectrum Analyzer device**
- HackRF (Radio Spectrum Analyzer)

❖ **Electromagnetic device**
- TM-191 (Measure electromagnetic 30-300 Hz)

❖ **Wi-Fi Scanner for 2.4 GHz software**
- Acrylic Wi-Fi Scanner
- Air Magnet XT (2.4 GHz Spectrum Analyzer)

❖ **Spectrum Density and FFT analyzer software**
- GNU Radio - Spectrum Density software
- GNU Radio - FFT spectrum analyzer

❖ **Sound Analyzer software**
- Sonogram (to view sound waves)
- Spectrum Lab (to view sound waterfall)
- Stereo Tool (to view real time waves form)

3. Device Technical Information

❖ **RF Meter device**

  ED85EXS from www.cornetmicro.com (Power and Electricity field)

Electrosmog meter

CORNET

FEATURES:

Operation mode:	RF power meter with SMA connector
Frequency range:	1MHz to 8GHz(SMA direct input)up to 10GHz
High sensitivity:	-65 dBm to +5 dBm
Peak Power density:	0.0018mw/m-sq to 0.58 w/m-sq
	(up to 0.18uw/m-sq to 1.8 w/m-sq)
	(up to mv/m to 26.2v/m)
Dynamic range:	65 dB
Signal :	Analog RF(AM/FM) and high speed
	Digital burst RF (GSM, TDMA, CDMA, PCS,Wi-Fi, 3G, 4G, AC smart meter)
Display:	Graphics LCD multi-digit power level display, moving Histogram, level bar display, color LED segment.
Function:	RF power level, hold, Max,LCD back light,Sound signature (ED85EXS only)
Power supply:	9V DC battery

❖ **Electromagnetic device**
  TM-191

  -This meter is applied to measuring electromagnetic fields of **extremely low frequency (ELF) of 30 to 300Hz.**

  - It is capable of measuring the electromagnetic field radiation intensity that is produced from electric transmission equipment, power line, air conditioner, refrigerator, computer monitor video/audio device and so forth.
  web site : http://www.tenmars.com/webls-en-us/TM-191.html

❖ **Spectrum Analyzer device**
  HackRF spectrum analyzer device

  - It is capable of measuring Radio Frequency from 10 MHz-6 GHz

❖ **Wi-Fi scanner 2.4 GHz**
   <u>**Acrylic and AirMagnet XT**</u>

   - The software capable to detect Wi-Fi signal with signal strength graph and Wi-Fi
     networks details

❖ **Spectrum Density and FFT analyzer software**

   - Spectrum Density and FFT analyzer enable to see Radio Waves

4. General Information

This section will cover general information :

- ITU Frequency Band   (Section 4.1)
- Brain Specific Frequency   (Section 4.2)
- Brain EEG   (Section 4.3)
- Electromagnetic Waves   (Section 4.4)
- WHO Reference   (Section 4.5)
- 2.4 GHz Channel Frequency   (Section 4.6)
- 2.4 GHz Channel Distribution   (Section 4.7)

4.1 ITU Frequency Band

ITU Frequency Band Nomenclature			
ITU Band	**Designation**	**Frequency**	**Wavelength**
1	ELF	3 - 30 Hz	100,000 km - 10,000 km
2	**SLF**	**30 - 300 Hz**	**10,000 km - 1000 km**
3	ULF	300 - 3000 Hz	1000 km - 100 km
4	VLF	3 - 30 kHz	100 km - 10 km
5	LF	30 - 300 kHz	10 km - 1 km
6	MF	300 - 3000 kHz	1 km - 100 m
7	HF	3 - 30 MHz	100 m - 10 m
8	VHF	30 - 300 MHz	10 m - 1 m
9	UHF	300 - 3000 MHz	1 m - 10 cm
10	SHF	3 - 30 GHz	10 cm - 1 cm
11	EHF	30 - 300 GHz	1 cm - 1 mm

4.2 Brain Specific Frequency

| Brain Area	Bioelectric Resonance Frequency	Information Induced Through Modulation
Motor Control Cortex	10 Hz	Motor impulse coordination
Auditory Cortex	15 Hz	Sound which bypasses the ears
Visual Cortex	25 Hz	Images in the brain bypassing the eyes
Somatosensory Cortex	9 Hz	Phantom touch sense
Thought Center	20 Hz	Imposed Subconscious Thoughts

4.3 Brain EEG

TABLE 26.1 Frequency bands of the EEG	
Band	**Frequencies (Hz)**
Delta	0–4
Theta	4–8
Alpha	8–12
Beta	12–25
Gamma	25–100

Source : A Practical Approach to Neuroanesthesia by Paul Mongon - Page 330 (http://www.lww.co.uk/a-practical-approach-to-neuroanesthesia)

Note :
1. During EEG tests some of Brain specific frequency may or may not recorded.

   e.g. : 1. Background was a well organized, symmetrical responsive posterior dominant **alpha rhythm 10 Hz** with no abnormal waveforms noted despite activation.
   2. Background with **alpha rhythm 9 - 10 Hz**, moderate Amplitude.
   3. Low voltage with frequency from **10-13 Hz.**

2. If such brain frequency recorded, that means there is modulation thru radio (may or may not). A neurologist will not have solid answer on why such frequency is recorded (depends on the situations).

   See Appendix G for details (Page 52)

4.4 Electromagnetic Waves
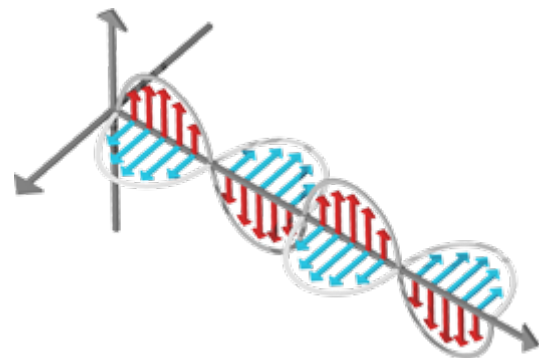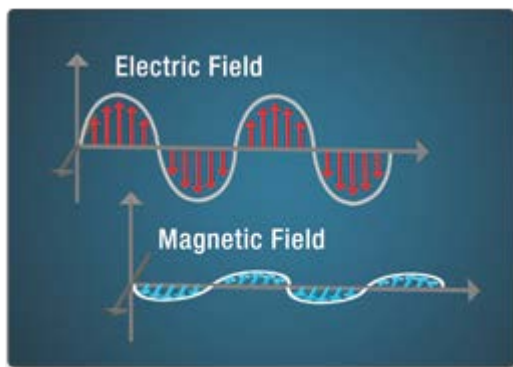
Electromagnetic wave consists of Electric Field (Y) and Magnetic Field (Z) and Direction (X).When we purchase a device to measure Electromagnetic Waves, there are 3 axis device and 1 axis device. 3 Axis devices will measure (X, Y, Z) and 1 axis device will measure either Y or Z.

4.5 WHO Reference

Internet web site : http://www.who.int/peh-emf/about/WhatisEMF/en/index3.html

Typical magnetic field strength of household appliances at various distances

Electric appliance	3 cm distance (µT)	30 cm distance (µT)	1 m distance (µT)
Hair dryer	**6 – 2000**	0.01 – 7	0.01 – 0.03
Electric shaver	**15 – 1500**	0.08 – 9	0.01 – 0.03

4.6   2.4 GHz Channel Frequency

This unknown RF works at 2.4 GHz which using by Wi-Fi at home and offices. It is better to have understanding on how 2.4 GHz channel frequency allocation. Below is the table of 2.4 GHz Channel Frequency :

CHANNEL NUMBER	LOWER FREQUENCY MHZ	CENTER FREQUENCY MHZ	UPPER FREQUENCY MHZ
1	2401	2412	2423
2	2404	2417	2428
3	2411	2422	2433
4	2416	2427	2438
5	2421	2432	2443
6	2426	2437	2448
7	2431	2442	2453
8	2436	2447	2458
9	2441	2452	2463
10	2451	2457	2468
11	2451	2462	2473
12	2456	2467	2478
13	2461	2472	2483
14	2473	2484	2495

4.7   2.4 GHz Channel Distribution
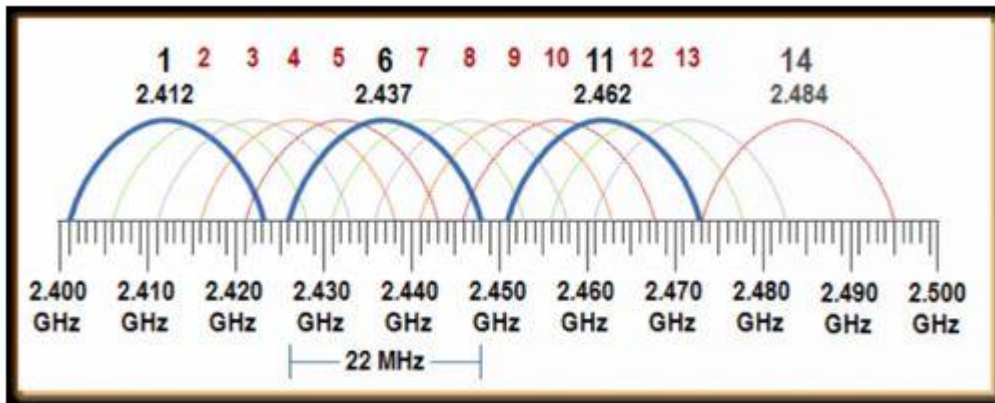
We can see there are 3 channels not overlapping (1, 6 ,11)

5. Appendix

- **WaterFall Image**
  Please see Appendix A

- **Spectrum Density**
  Please see Appendix B

- **FFT**
  Please see Appendix C

- **Image**
  Please see Appendix D

- **Radio Sound Analysis and Sound WaterFall**
  Please see Appendix E

- **Wi-Fi Networks Graphs Comparisons**
  Please see Appendix F

- **EEG - with Brain Mapping**
  Please see Appendix G

- **Wi-Fi Router analysis**
  Please see Appendix H

- **EEG signal with Neurosky**
  Please see Appendix I

- **Video**
  Please see Appendix J

- **Testing of the Signal on the Flight**
  Please see Appendix K

- **Testing of unknown signal at 2.4 GHz near to plantations**
  Please see Appendix L

- **Wi-Fi Packets Analysis**
  Please see Appendix M

6. Device Measurement Detail and Calculations

6.1 Measurement details from Cornet

- Cornet always showing - 20 to -40 dBm (some time fluctuate to -10 dBm to -20 dBm)
- Cornet gives measurement in mW/m2
- Cornet produced sound signature
- The cornet measurement always the same in Singapore and out of Singapore KL, JB, Medan, so the Radio Source comes from Satellite.
- Cornet can measure from 1 MHz - 8 GHz which falls **under L,S and L Band under Satellite band**
- Cornet always gives values V/m (Volt / meter) which always fluctuate from 0.5 to 1.2 (sometimes 1.9 V/m). This indicates there is electricity around body.
- The measurement value -20 to -40 dBm comes under < 1 watt which not detected
- The measurement table **(1.1)** below shows the power in dBm and watt

Values in dBm	Value in Watt	Values in dBm	Values in Watt
- 20	0.00001	**- 10**	**0.0001**
- 21	0.0000079432823472	- 11	0.000079432823472
- 22	0.0000063095734448	- 12	0.000063095734448
- 23	0.0000050118723363	- 13	0.000050118723363
- 24	0.0000039810717055	- 14	0.000039810717055
- 25	0.0000031622776602	- 15	0.000031622776602
- 26	0.0000025118864315	- 16	0.000025118864315
- 27	0.000001995262315	- 17	0.00001995262315
- 28	0.0000015848931925	- 18	0.000015848931925
- 29	0.0000012589254118	- 19	0.000012589254118
- 30	0.000001		
- 31	7.9432823472e-7		
- 32	6.3095734448e-7		
- 33	5.0118723363e-7		
- 34	3.9810717055e-7		
- 35	3.1622776602e-7		
- 36	2.5118864315e-7		
- 37	1.995262315e-7		
- 38	1.5848931925e-7		
- 39	1.2589254118e-7		
- 40	1e-7		

6.2. Human Head electricity

- The power (electricity) on our scalp is **100 µV (100 µV = 0.0001 V)**
- Please refer following table **(1.2)** for volts, watt and Ampere
 (Formula : Volt = Watt / Ampere)

Volt	Watt	Ampere
2	10	5
2	4	2
1	1	1
0.1	0.1	1
0.0001 (100 µV)	**0.0001**	**1**

   so, based on above table **, we get same value for Volt and Watt**

6.3. Arcylic software to detect Wi-Fi signals

- The Acrylic software with my Laptop shows Wi-Fi Network fluctuate at 2.4 GHz
- Wi-FI Channels **always fluctuate are 1,5,6,8,9,10,11,13** and **Channel 12** slightly
  fluctuate but not in large degree. **(Most affected channels are 6,8,11)**
- Wi-Fi Channels at **5 GHz not affected at all**
- The fluctuation reach to -10 dBm and at the same time SNR value reach to 100. SNR (
  Signal to Noise Ratio) value indicates lot of noise and the value back around 4-20.
  Good Wi-Fi signal SNR will not have large degree deviation of SNR value. The SNR
  should have steady value with little bit deviation.
  e.g. 1. SNR 100 then SNR 95 (Good SNR)
        2. SNR 100 then SNR 15
        (This is bad value and indicates interference or something else)
 - If the SNR is 100 that means the source of Radio Waves is near to you.
- If we near to the source than only we can see the signal strength graph increase to the
   top and will fall down at steady rate if move far away from the source.
  See Appendix D (Image 1) - Page 39 :
  SSID : Lakes-5GHz
 I moved my Laptop near Dlink (besides Dlink router) dual band router then the
 graph reach to -10 dBm and then I moved Laptop nearly 3 m from router and then
 reach near to -40 dBm.
 Please make a note SNR as well. If the SNR value is 100, means the source of Wi-Fi
 is near to you. So ,based on graph **(Image 1)** , sudden fluctuation to -10 dBm and then
 drop suddenly is really external interference caused such fluctuation.
 (Please see more explanation at **Image 1**)
 Note : The logic is ♦ If we near to the RF source, we will receive high power
                   ♦ If we move away from the RF source, we will receive less
                    power
                     (Based on above points, the signal strength graph will be
                     generated)

6.4. TM-191

The TM-191 detected EM waves and the value from 0.05 to 0.18 **µT** (measured at 10 cm distance from Head and the values are fluctuate) and at 1 m distance **there were no electrical equipment or microwave oven or other source that operates within 30-300 Hz. This indicates there are EM waves around you. As comparison, Hair Dryer at 1 m distance will have 0.01 - 0.03 µT but if there is nothing at 1 m distance and TM - 191 detected 0.05 to 0.18 µT that means there are EM waves around you.**
Please see appendix D (Image 5 - Hairdryer Magnetic Field Picture -Page 42)

6.5. WaterFall Image (Appendix A - Page 14) and Sound Signature from Cornet

- WaterFall Image generates Red and Yellow line combination. Sometime single line and sometime solid lines for few seconds **(WaterFall Image 6)**

- **WaterFall Image 1 to 11** are the Image created during strong Interference at 2.4 GHz networks

- Sound signature produced by cornet at time there is solid line like WaterFall Image 6 slightly suppressed and then back to normal sequence sound

- During generation of red line and yellow line on WaterFall Image , Cornet device measure high fluctuation values for units in **dbm and V/m**

- **WaterFall image 12** is for 5 GHz Wi-Fi WaterFall Image (Reference)

- **WaterFall image 13** is for FM Radio WaterFall Image (Reference)

- **WaterFall image 14** and Acrylic Picture shows fluctuation at channel 6 in which it produced red and yellow line (Interference)

- **WaterFall image 15** shows the waterfall image when there is Bluetooth activity (Device Connected and File Transmission)

- **WaterFall image 17** shows the waterfall image of Wi-Fi channel in activity transmitting data, Browsing internets. (This is good reference of Wi-Fi WaterFall Image)

- **WaterFall image 18** shows waterfall image of microwave (Reference)

- **Spectrum Density Image 16 (Appendix A - Page 30),** there are 3 SSID Channels 1,6,12. **Channel 1 with -84 dBm with SNR 16** is really far away from me but we can see strong interference at channel 3 which leave noise floor at peak in red color. By right, channel 3 should not have strong activity at all. The same applies at Channel 10. (other channels have same situation which I omitted in this document)

7. Analysis Details

7.1. Information derived
- There is a satellite beam (Microwave modulated low frequency)
- There is a device connected to satellite source and the device can deliver the frequency
  that works at human brain frequency . the device must be located with premises having
  satellite link
 - The device is operated from remote location by accessing the device thru internet
 - The Sound signature is classified as "Hunting Signal" and looks like receiving broadband
   energy.It's possibly from a variety of RF/EMI sources
 - As the Radio Frequency works at Brain Frequency, this will result over activity at brain.
   As I mentioned above, our Brain produce electricity around 100 µV and
   there is voltage around my body > 100 µV which is really big value as there
   is no nearby Radio Transmission.
   (Please see video from MIT about RF electricity :
   http://video.mit.edu/watch/mit-physics-demo- dipole-antenna-3116/)

7.2. Health Analysis

❖ There is a **medical term "Melatonin".** Melatonin is naturally occurring hormone secreted by the body's pineal gland. Production of melatonin occur at night time when pineal gland senses no light. (This the time when the brain oversees general cellular repair and replacement).
Brain interprets man-mad radio waves as light waves. If TM-191 device sense electromagnetic waves (microwave, radio , etc where at 1 m distance there is no electrical equipment or any microwave transmission such microwave oven) the entire body   mechanism will be disturbed and entire health system will be affected**. Low production of Melatonin will result in heart complications, and other related disturbance of the immune systems.**

❖ **Heating effect in humans**, when injury from exposure to microwave occurs, **it usually results from heating in the body**. Exposure to high levels of microwave radiation can produce cataracts by this mechanism, because the microwave heating denatures proteins in the crystalline lens of the eye faster than the lens can be cooled by surrounding structures. The lens and cornea of the eye are especially vulnerable because they contain no blood vessels that can carry away heat.

Exposure to heavy doses of microwave radiation can produce heat damage in other tissues as well, up to and including serious burns which may not be immediately evident because of the tendency for microwaves to heat deeper tissues with higher moisture content.

(source : http://www.cyberphysics.co.uk/topics/waves/microwaves/mircowaves.htm)

❖ Because of this RF, it creates Non-Ionizing Radiation. Health effects because of non-ionizing radiations are plenty which **depends on µW/cm2 or µW/m2 and also SAR values**.

WHO also have EMF project which contains information about EMF and Health effects. Reference web site :

- Bioinitiative group : http://www.bioinitiative.org/
- WHO : http://www.who.int/peh-about/WhatisEMF/en/index3.html
- ICNIRP : http://www.icnirp.org/

- Using Cornet ED85EXS, detected following values (Random numbers) :

Values in mW / m^2	Values in µW / m^2	Values in µW / cm^2
3.483	3483	0.3483
3.033	3033	0.3033
2.897	2897	0.2897
2.248	2248	0.2248
0.2766	276.6	0.02766
0.1958	195.8	0.01958
0.2581	258.1	0.02581
0.5394	539.4	0.05394
0.2082	208.2	0.02082
Average	**1459.9**	**0.14599**

- Based on Building Biology Institute, Germany :

Values in µW / m^2	Description
< 0.1 µW / m^2	No concerns
0.1 - 10 µW / m^2	Slight concern
10 - 1000 µW / m^2	Severe concern
> 1000 µW / m^2	Extreme concern

source : http://www.baubiologie.de/downloads/building-biology-guidelines-english.pdf

- Based on BioInitiative Report 2007 :

Values in µW / m^2	Description
1000 µW / m^2	For outdoor, cumulative RF exposure
100 µW / m^2	For indoor, cumulative RF exposure

source : http://www.bioinitiative.org/

So, at average 1459.9 µW / m^2 , is

- At the level of Extreme concerns and
- It is not normal value for indoor/outdoor cumulative RF exposure

Other random values (Please see Appendix D , Image 2,3, and 4)
The measurement taken using whip antenna 2.4 GHz, which given following value :

1. **0.4187 mW / m2**   (**418.7**   **μW / m^2**)
2. **0.5520 mW / m2**   (**552.0**   **μW / m^2**)
3. **15.92   mW / m2**   (**15920**   **μW / m^2**)

- Reported Biological Effects from Radiofrequency Radiations at Low-Intensity Exposure
(BioInitiativeReport RF Color Charts)

0.38 uW/cm2	RFR affected calcium metabolism in heart cells	Schwartz, 1990
0.8 - 10 uW/cm2	RFR caused emotional behavior changes, free-radical damage by super-weak MWs	Akoev, 2002
0.13 uW/cm2	RFR from 3G cell towers decreased cognition, well-being	Zwamborn, 2003
0.16 uW/cm2	Motor function, memory and attention of school children affected (Latvia)	Kolodynski, 1996

So, at average 0.14599 **μW / cm^2** is

- decreased cognition well being
- Motor function, memory

Note :
Prolonged exposure to ELF could alter **Ca^{2+}** levels in neurons and thus induce **oxidative stress**. This is one of factor that will trigger **Neurodegenerative Disease.**
(**WHO Reference**)

7.3 Device Analysis Result as Summary

➢ **Analysis of Radio Waves**
- Cornet produced -20 to -40 dBm (some time fluctuate to -10 dBm) with different power density values with whip antenna 2.4. GHz
- Cornet produced sound signature which is classified as **"Hunting Signal"**
  (see appendix E)
- Cornet produced same value in Singapore (at Home, Bishan Park), Johor Bahru, Kuala Lumpur (KL town, Batang Kali),Medan
- The Acrylic signal strength always fluctuate to -10 dBm at 2.4 GHz in which there are no Dect Phone, Microwave, Bluetooth and neighbourhood Wi-Fi strength < -60 dBm
- Fluctuation till -10 dBm (with Acrylic) detected at Singapore (at Home, Bishan Park, Changi Airport), Medan (few places)
- TM-191 detected EM waves with **0.05 - 0.18 µT** (10 cm from Head)
- Spectrum Analyzer produced waterfall image **(Appendix A ,WaterFall Image 1-11)** that does not match with 2.4 GHz available waterfall image

➢ **Analysis of EEG and Electric Field**
- Our Head EEG is measured with 100 µV   -- **(1)**
- Electricity around body is > 0.5 V/m and < 1.2 V/m (RF Electric Field strength) -- **(2)**
- Point **(2) > (1),** our body will have heat from external to internal in which doctor will not able to detect or diagnose the root cause of the body heat. This heating comes from microwave heating.
  This type of heating is classified as "Inside to outside heating" (Internal Heating and Heat Trapped). This results in boils, drying up of the fluids around eyes, brain , joints, heart, abdomen, etc.

7.4 Conclusion

1.There is microwave modulated low frequency which interferes at Human Brain Frequency. (This Technology known as Remote Brain Mapping). **The carrier frequency is 2.4 GHz.**

2.RF type : Microwave modulated at low frequency where this type RF can travel from one country to country in which not detected by any country so far
(Singapore, KL, JB, Medan).

3.Microwave modulated at low frequency is harmful and any negative impact on any individual is not explainable why people fall sick and other effects.

4. **As Radio waves not visible to Human Eyes,** the device and values , deliver and described about Radio Waves. Radio sound is one of key to identify what type of Radio Signal. Radio Sound ("Hunting Signal") same everywhere and inside the flight

5. The RF source creates non-ionizing radiation (1459.9 μW / m^2) which is really health hazards at very critical level

6. The RF source (microwave modulated low frequency) works on the flight as well (Batam to Medan, Medan to Singapore). **See Appendix K**

7. Waterfall Images (Appendix A , Waterfall image 1 to 11) are new type and not match with available waterfall images for 2.4 GHz network

8. Please see Appendix I (**Page 57)**, changes in Human Brainwaves with single Channel

9. This unknown RF at 2.4 GHz covered by Wi-Fi Signal and make it difficult to identify

10. **See Appendix L,** detection of signal using Spectrum Density in which we can see some noise floor activity at 2.4 GHz. Cornet also fluctuate from -13 dBm to -60 dBm with same sound ("Hunting sound"). Such huge fluctuation of receive power not possible to occur in the area where don't have 2.4 GHz transmission.
Please make a note that one of density value is **0.5034 μW / m^2 with power -60.6 dBm. Really this is a strange radio signal with different power level and density value is measured in μW / m^2 (very small value).**
The detection location near to plantations and there is no transmission at 2.4 GHz but we can noise floor activity , different received power level and same sound signature.

11. **See Appendix M,** we can see that clearly that **SSID = AndoidAP** as access point visible in three countries (Indonesia,Malaysia and Singapore), so under probability rule highly impossible to have same SSID all the places and the same time the transmission of the signal from Satellite. Satellite delivers Broadband access. Wi-Fi Signal and packets to make people believe it is Wi-Fi packets and this becomes hole in detection process.

Source of Signal :

1. Satellite SES-7 which covers Indonesia ,Malaysia and Singapore using S-Band located at 108 °E.

    The same satellite also have Ku-Band which covers India, Srilanka, Indonesia, Malaysia, Singapore, Philippines, Taiwan

    Notes :
    - Satellite NSS-11 which covers China, NEAsia, South Asia region using Ku-Band located at 108°E (co-located)

Note : The source may vary from time to time

General Note :

1. The conclusion is derived based on **Information Analysis details** with result of Sound Signature, WaterFall Image, Acrylic Software, Power reading from Cornet, EM reading from TM-191

2. Radio waves (man mad waves) should not be modulated at low frequency because all other Natural waves Frequency will get disturb including Human Brains Frequency, Schuman Resonance (7.8 Hz) and others.

Appendix A

WaterFall Image 1 :
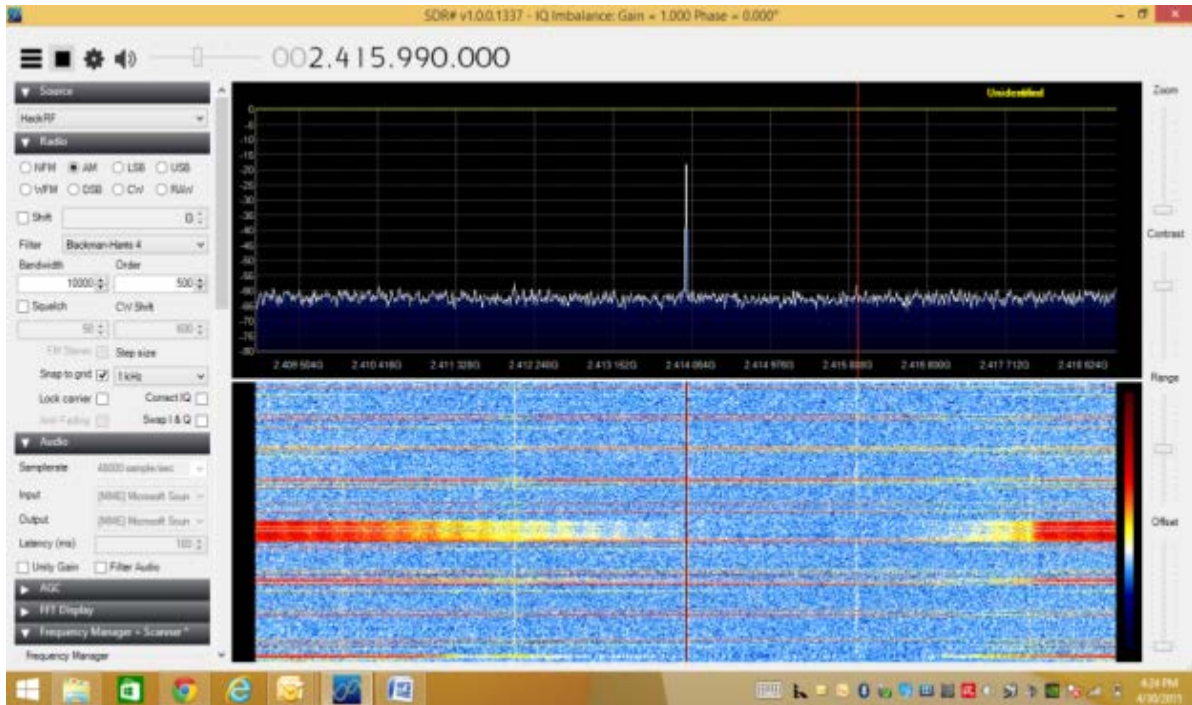
WaterFall Image 2 :
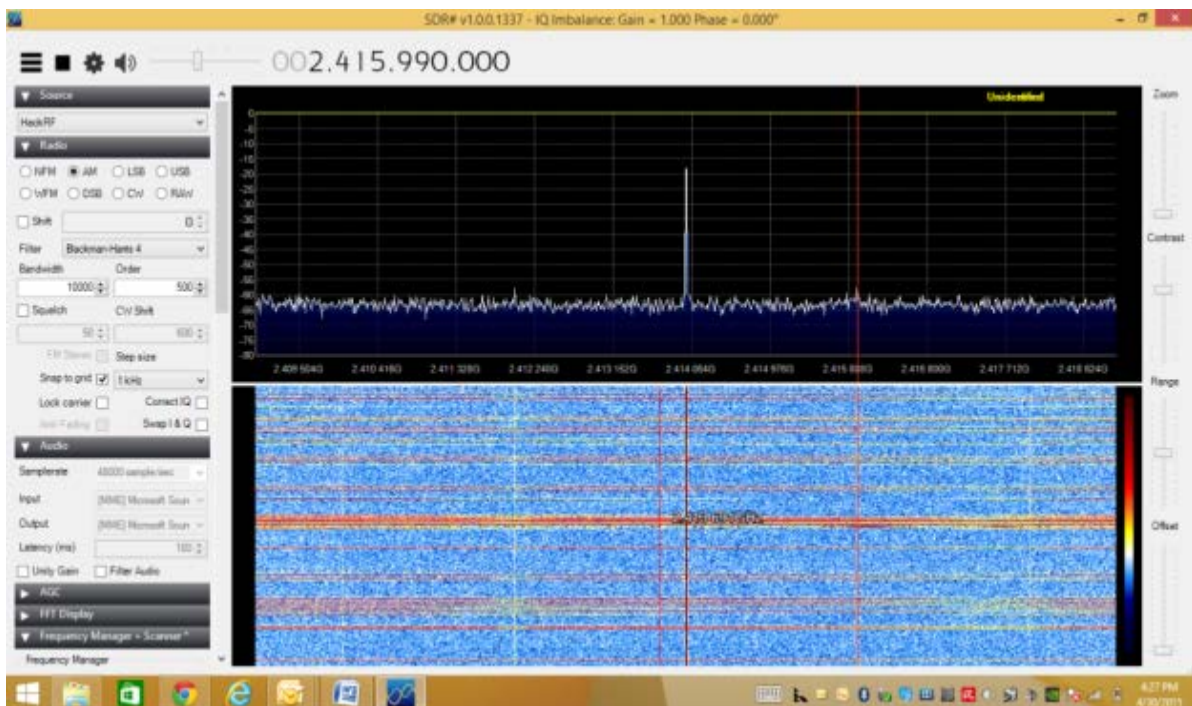
WaterFall Image 3 :
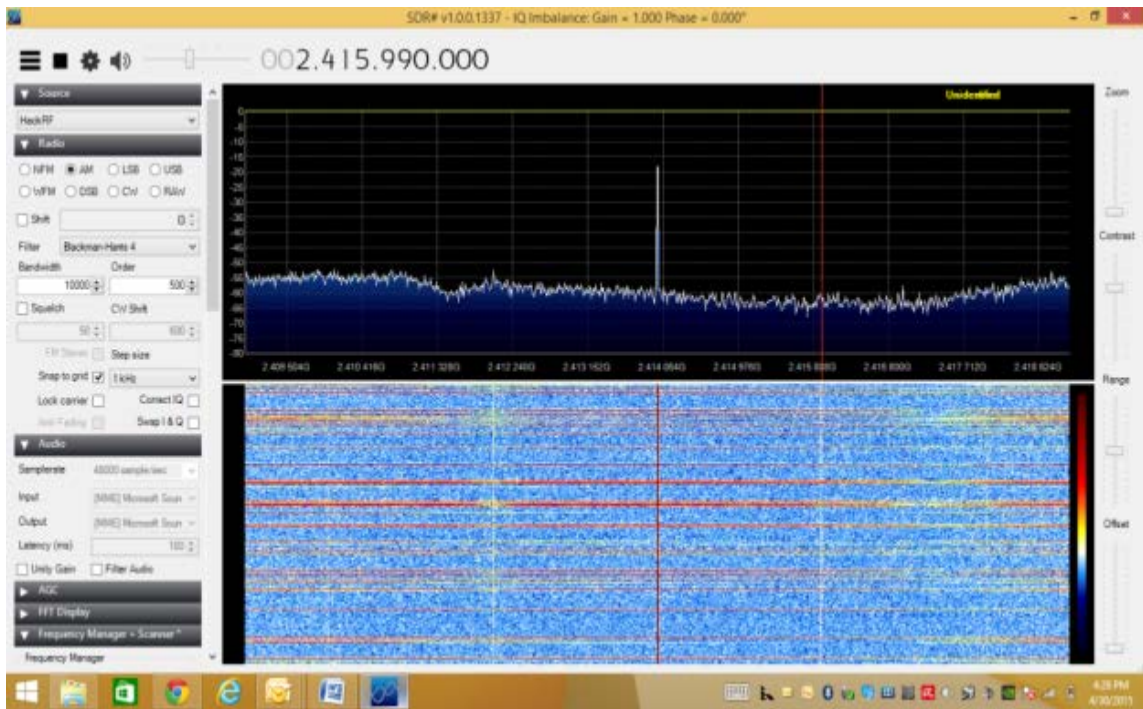
WaterFall Image 4 :
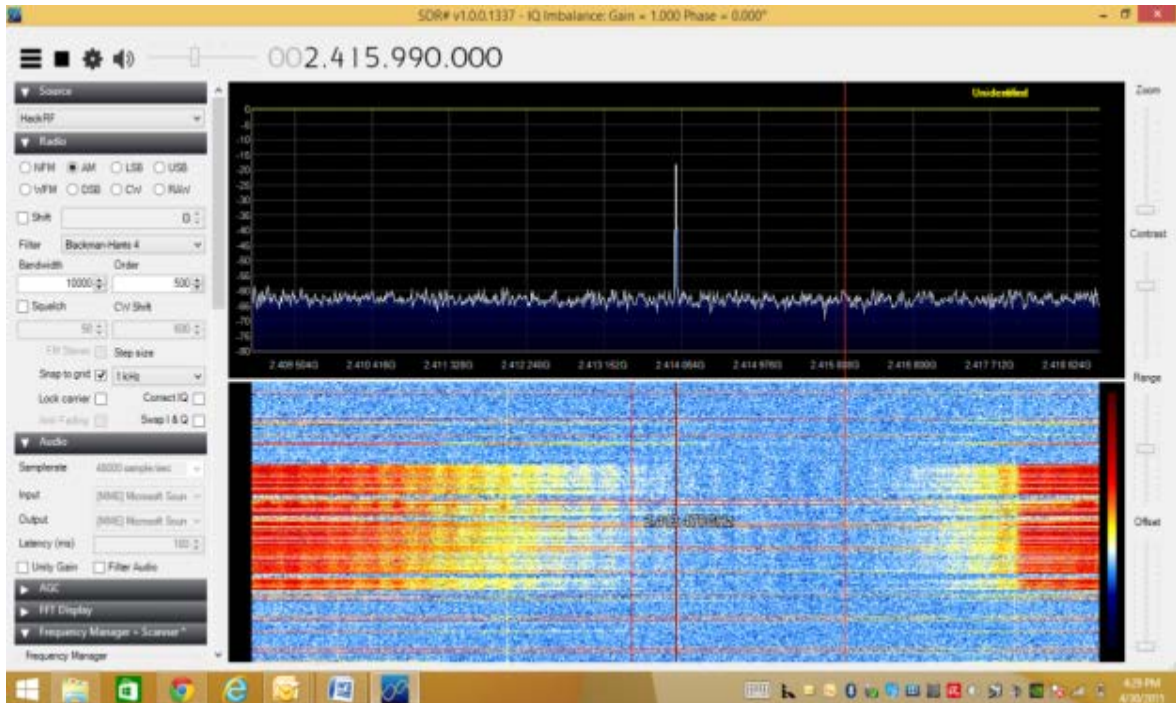
WaterFall Image 5 :
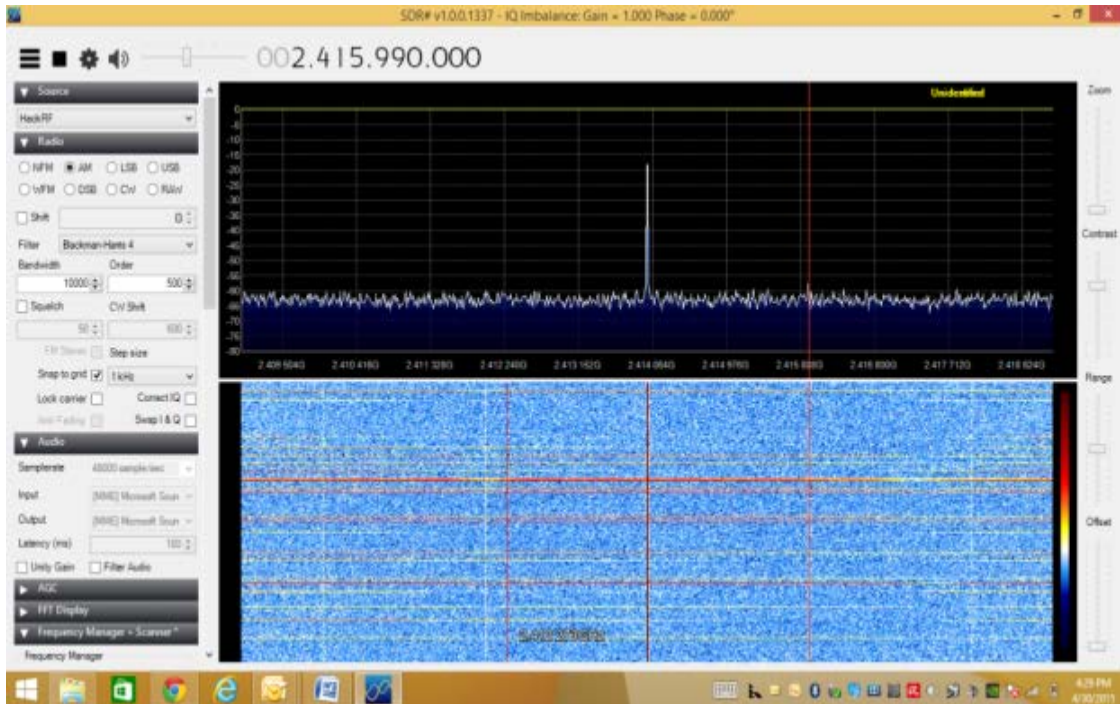
WaterFall Image 6:
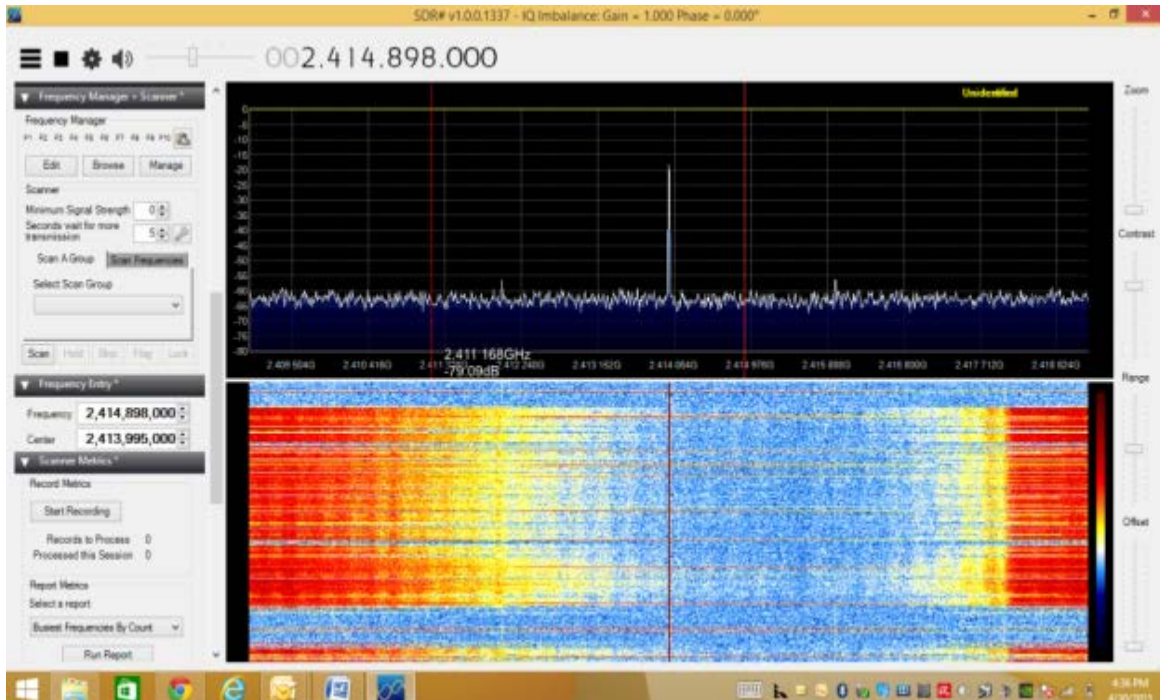
WaterFall Image 7 :
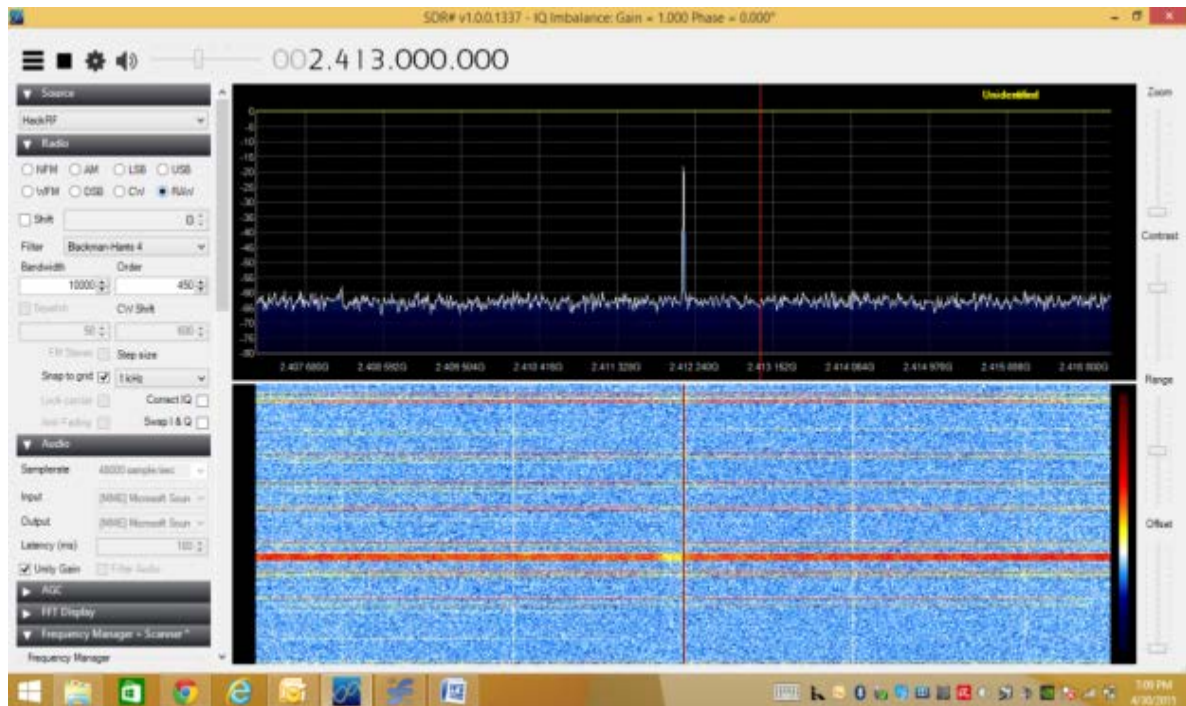
WaterFall Image 8 :
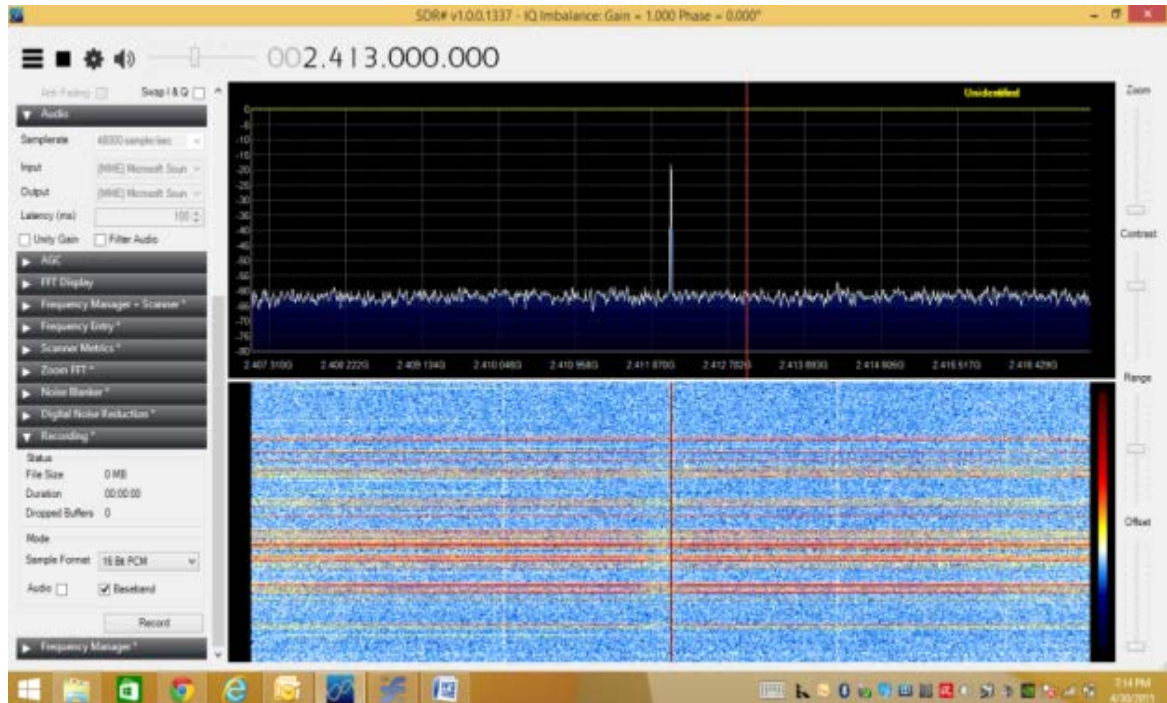
WaterFall Image 9:
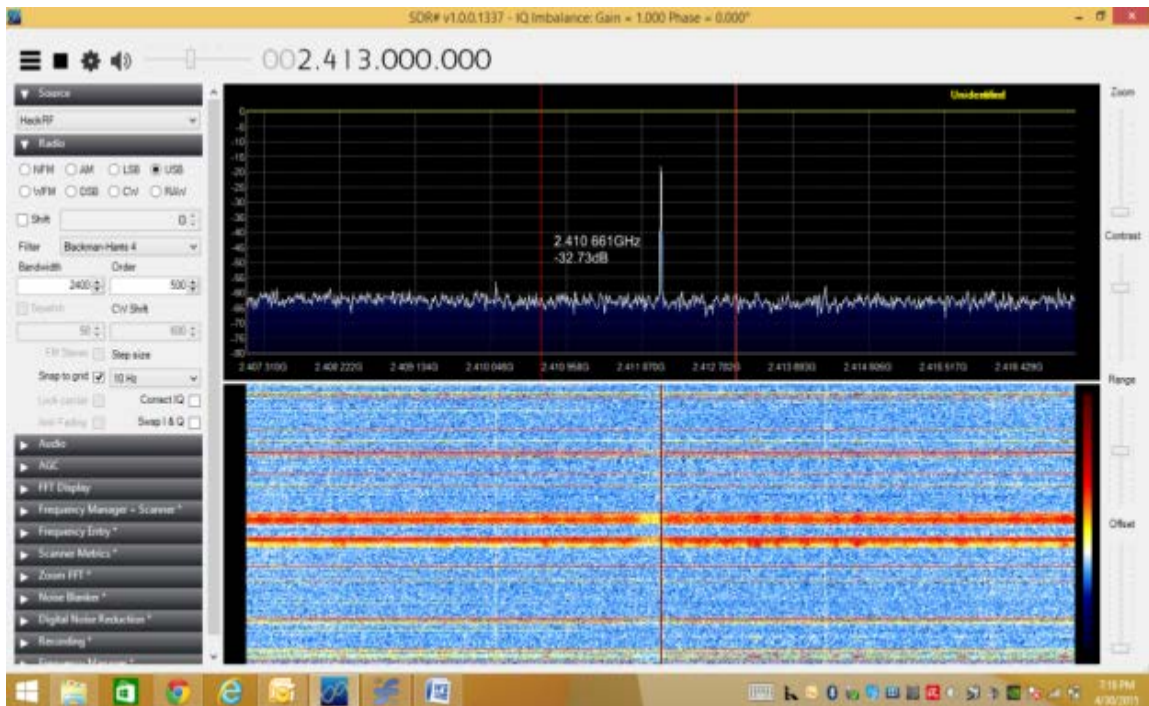
WaterFall Image 10:
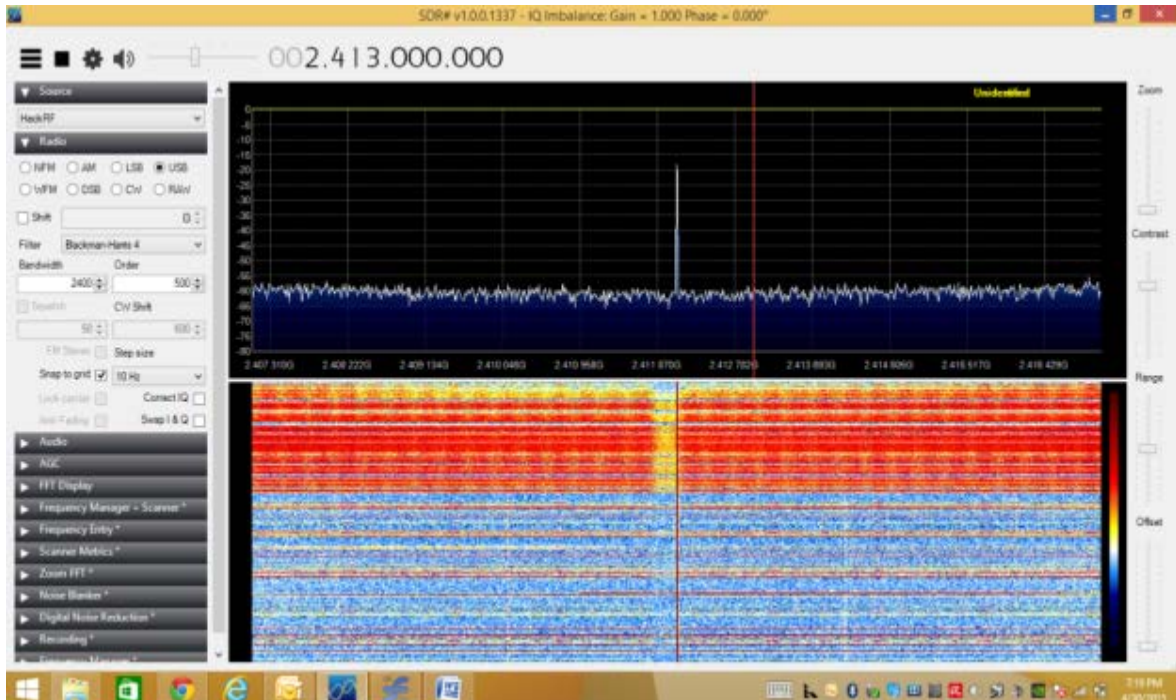
WaterFall Image 11 :
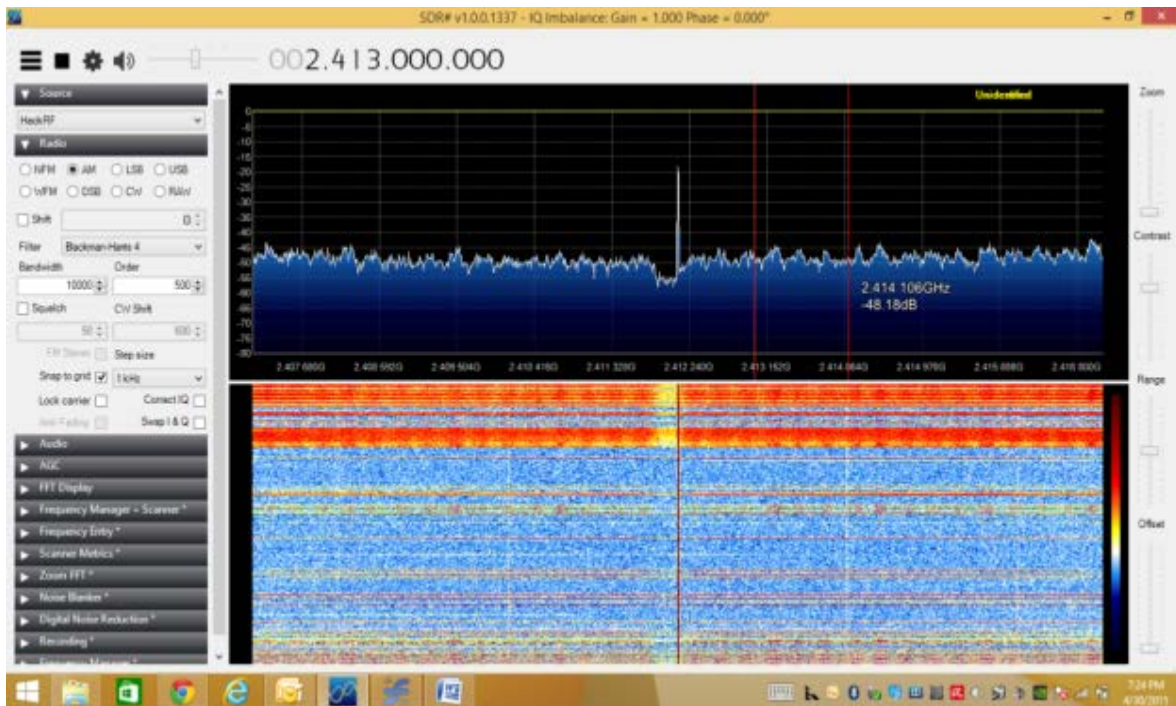
WaterFall Image 12:
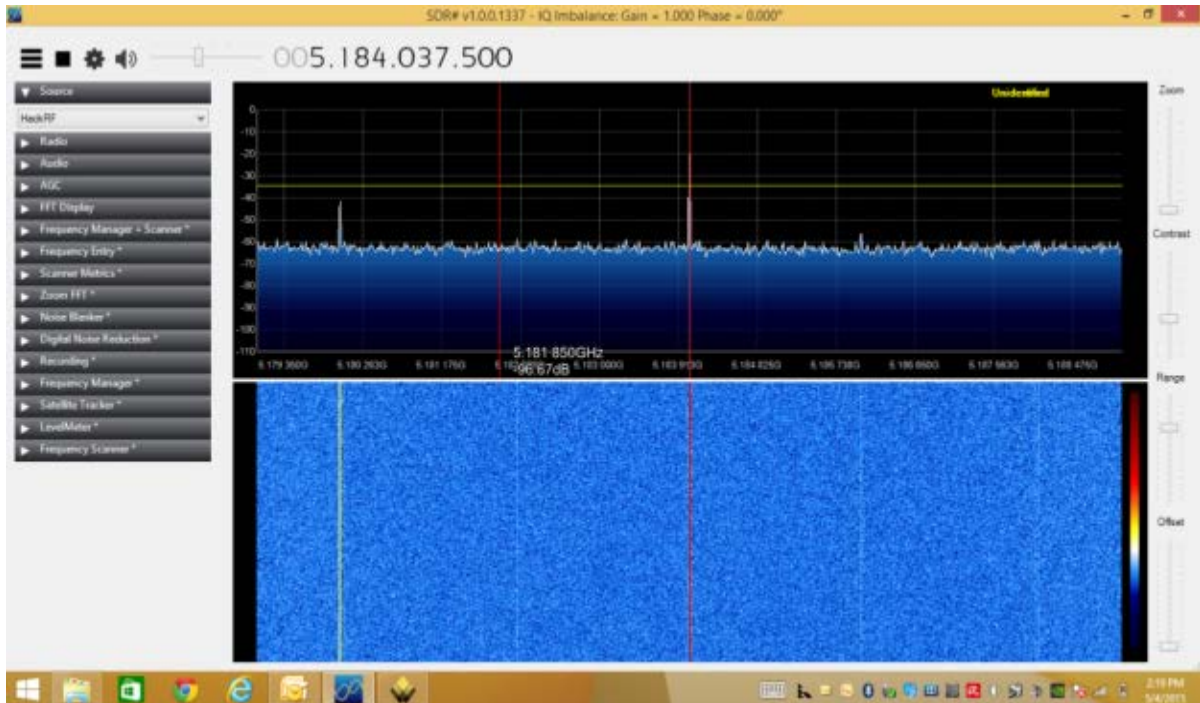
Wi-Fi waterfall Image for 5 GHz network

WaterFall Image 13:
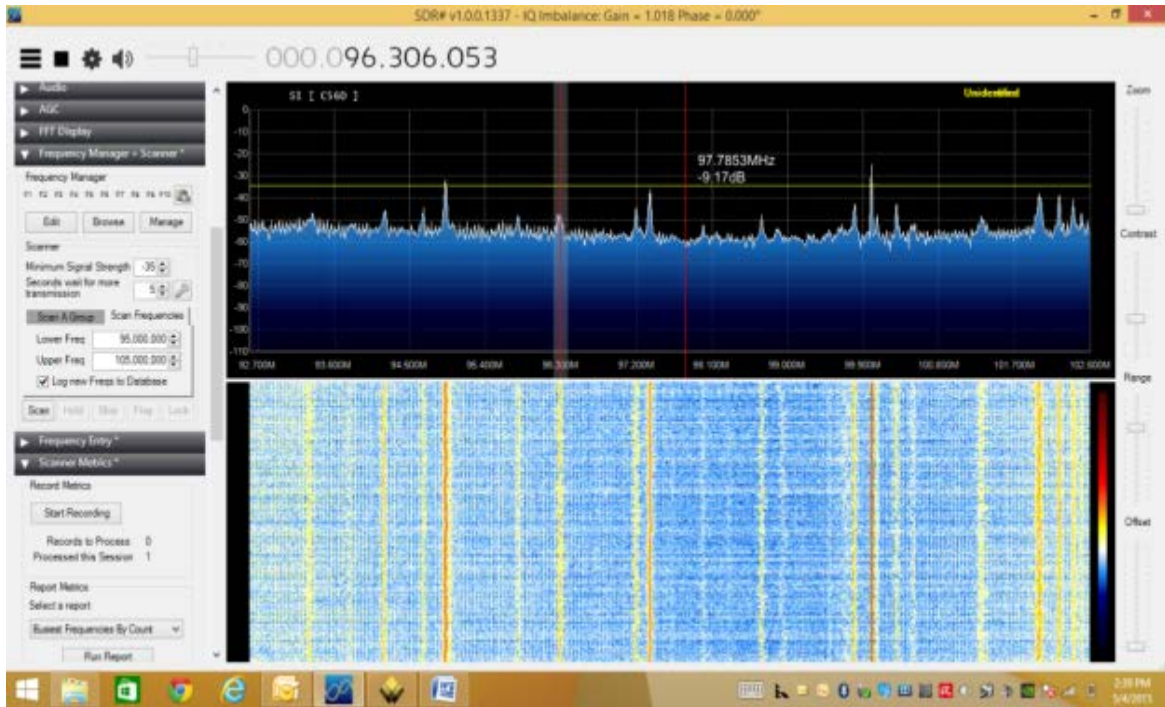
WaterFall Image for FM radio

WaterFall Image 14 and Acrylic for Channel 6 (2427 - 2436 GHz) :
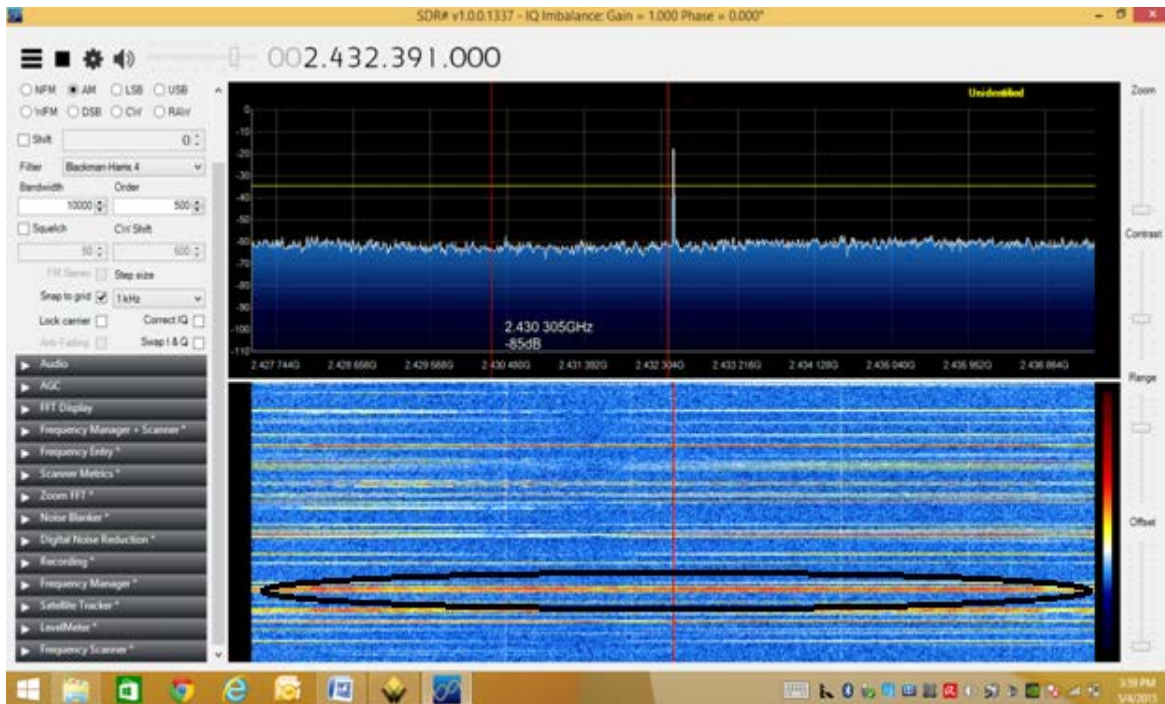
WaterFall Image for activity at channel 6. The line in black circle is external interference that caused channel 6 to fluctuate. (See Image below for Wi-Fi signal strength graph in yellow line)
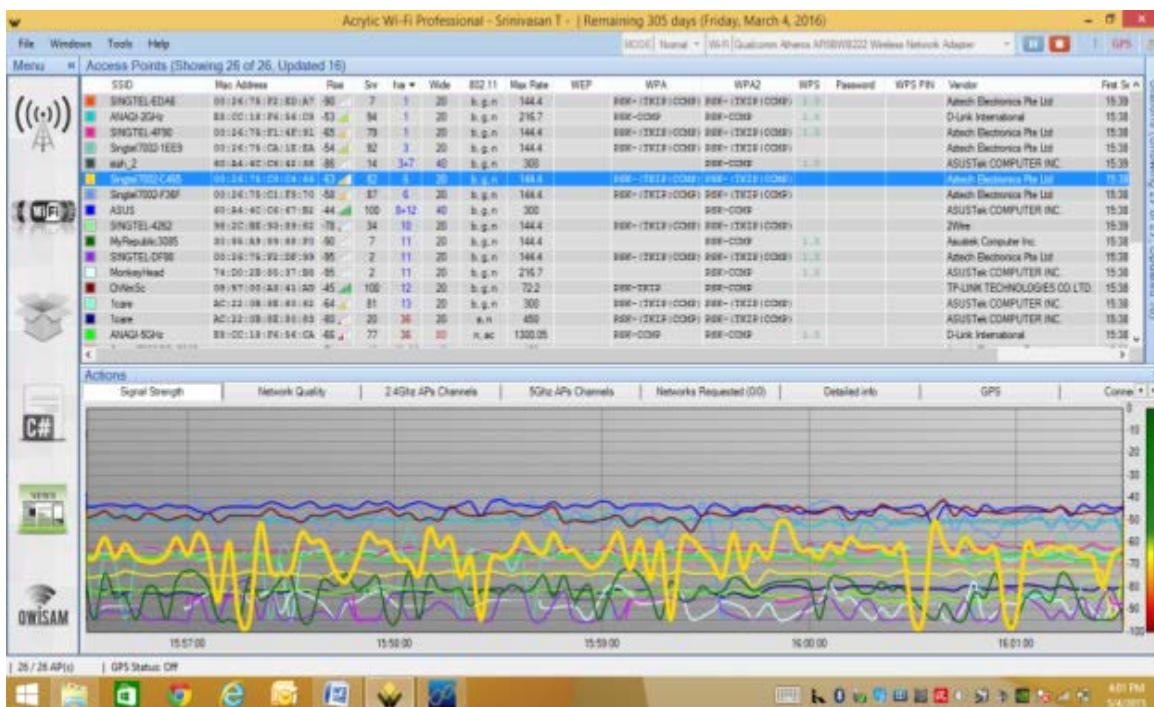
Acrylic Signal Strength for Channel 6. We can see yellow line which fluctuate ups and down

WaterFall Image 15:
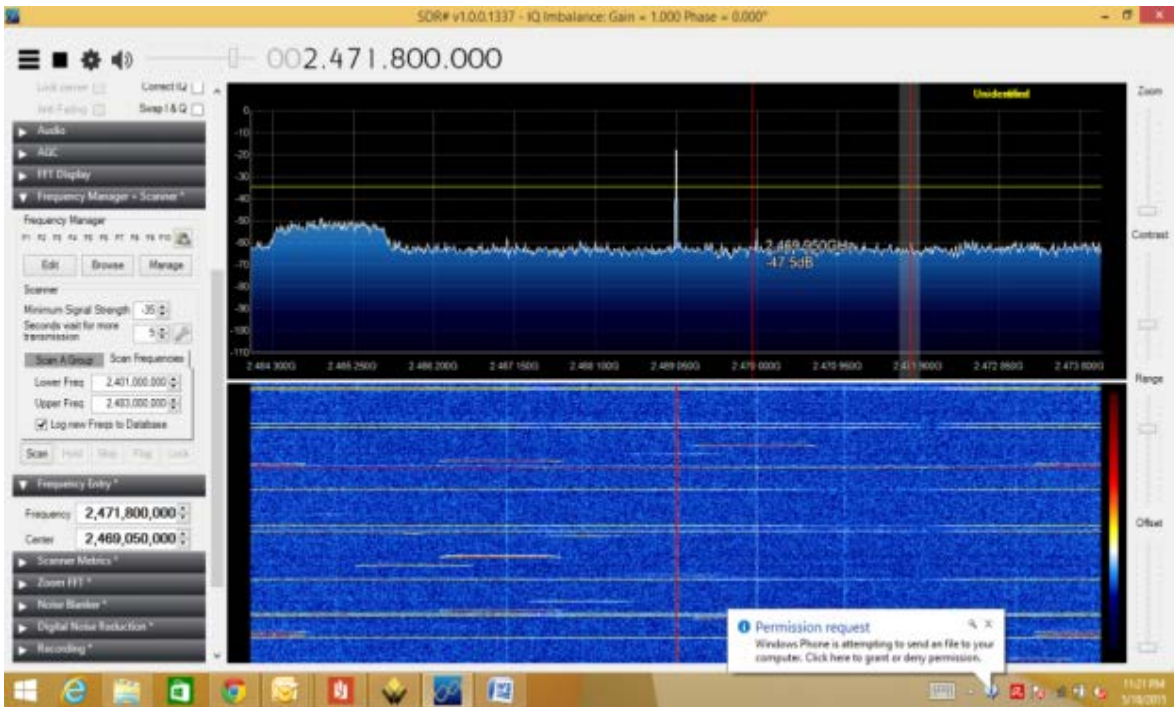
WaterFall Image when Bluetooth connection established
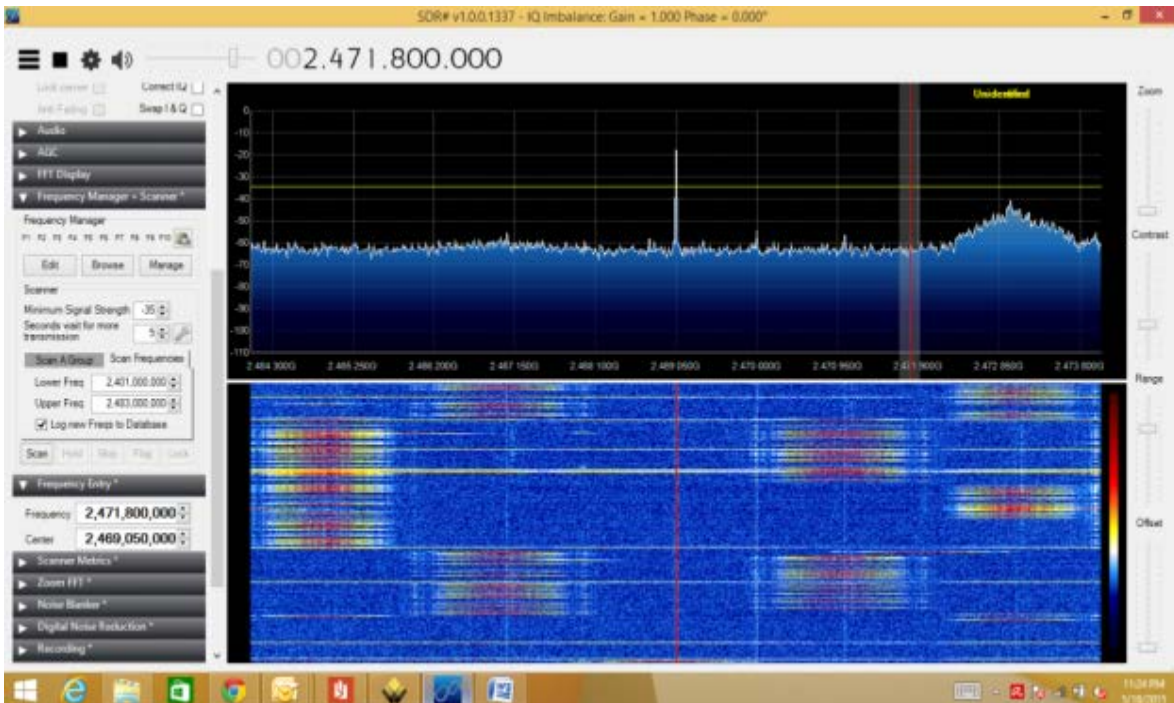
WaterFall image when there is file transfer between Bluetooth device (mobile phone) and Computer

Spectrum Density Image 16 with Acrylic (in Medan):
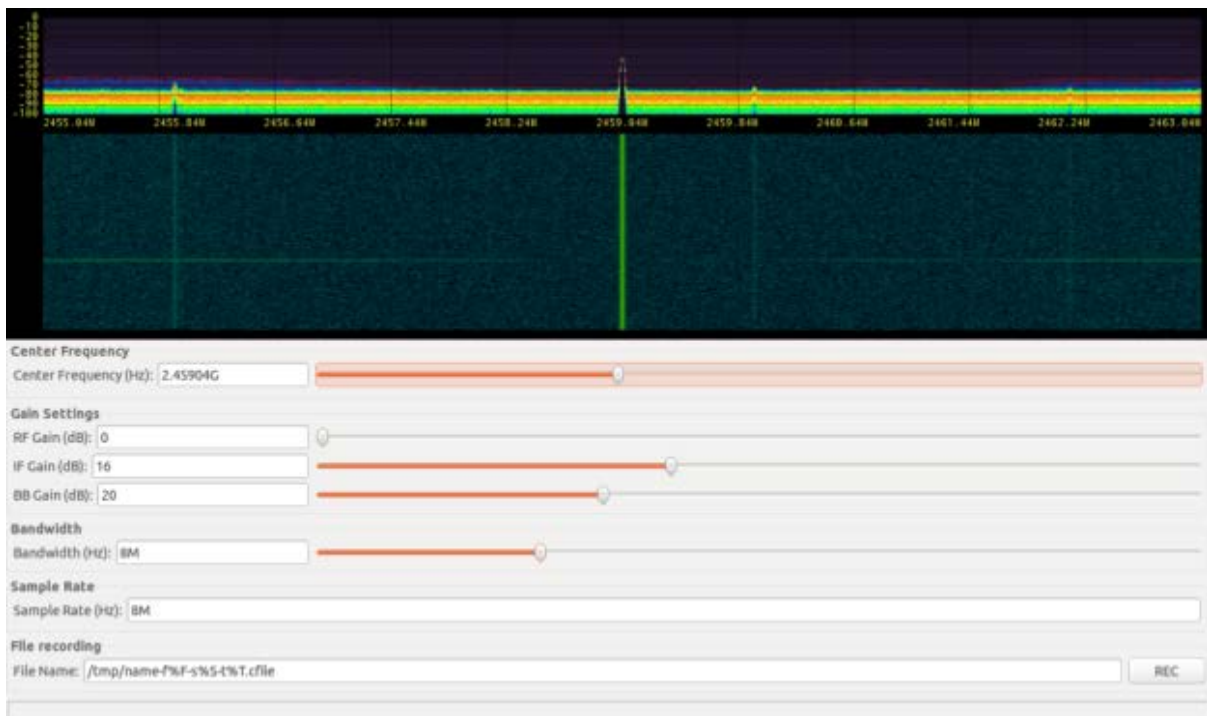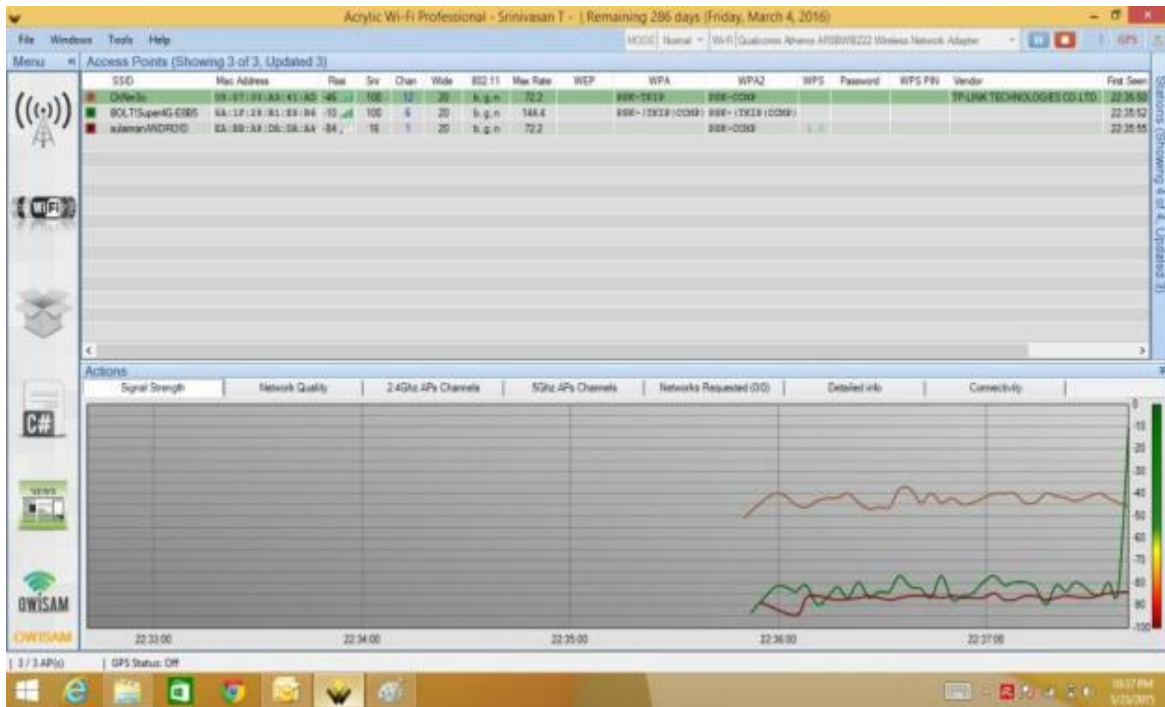
Acrylic detected 3 Wi-Fi (channels 1,6,12) and we can see the **SSID : BOLT.......** has **SNR 100** which not near me. (The picture taken at Medan). Spectrum Density below show there is strong interference at channel 10. **SSID : ChNmSc** is portable Wi-Fi near to me.
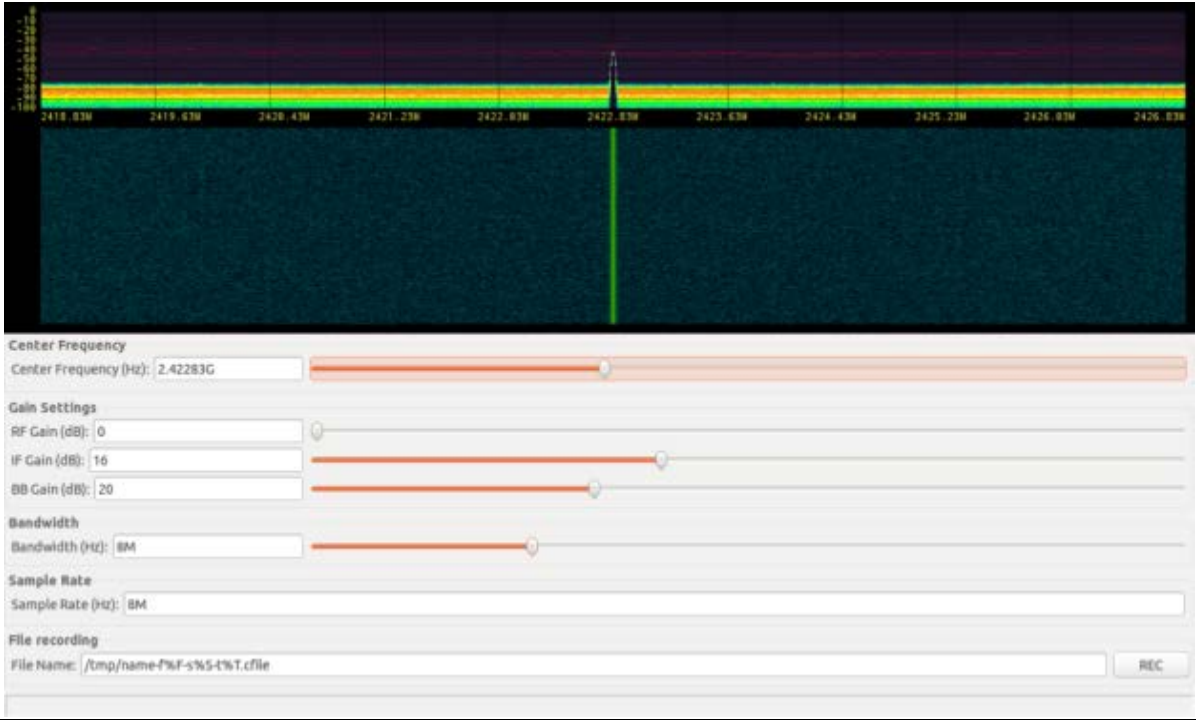
Please take a look at channel 3 (2411 - 2433). Based on Acrylic scanning, I have 3 SSID (1,6,12) but please take a look red line the fluactuate at channel 3 that indicated strong activity (interefence - noise floor in blue color leave the red at line at peak). In real practical such activity should not occur because Channel 1 has -84 dBm with SNR 16. Channel 1 is really far away from me with weak signal.

WaterFall Image 17 :
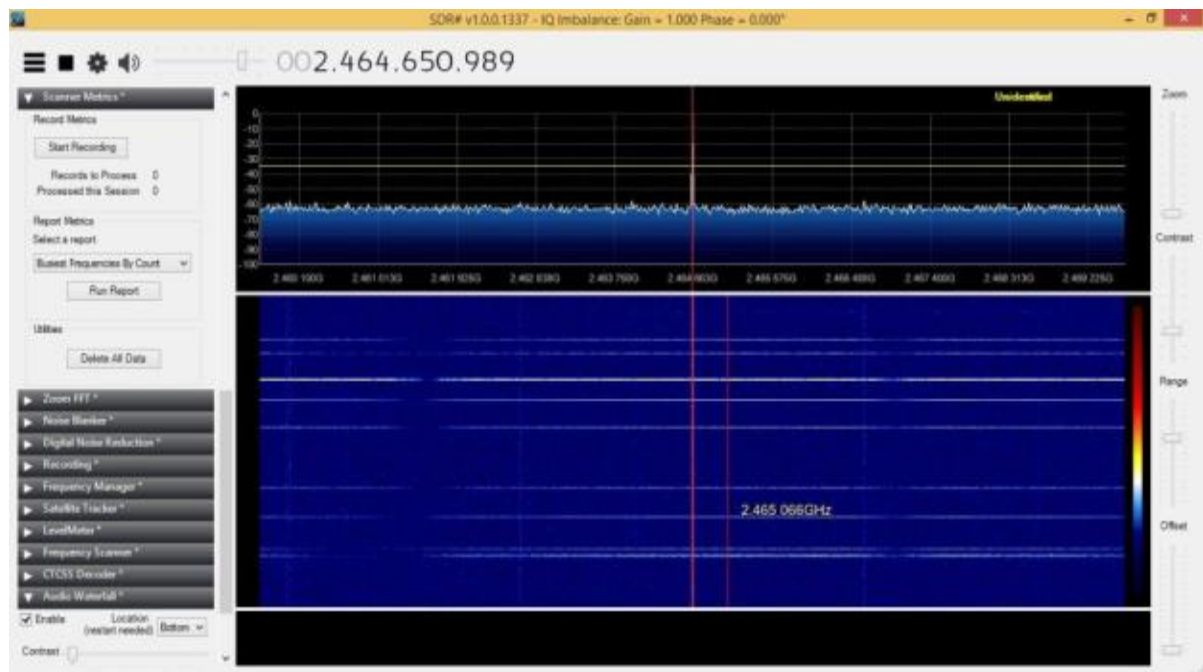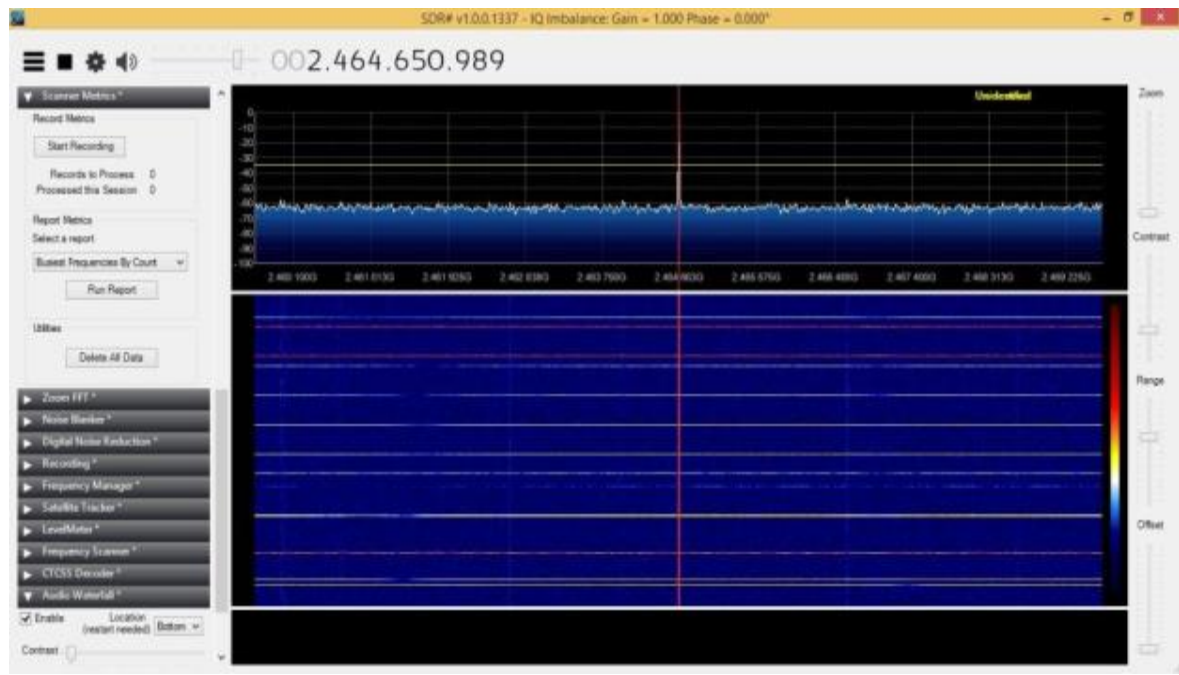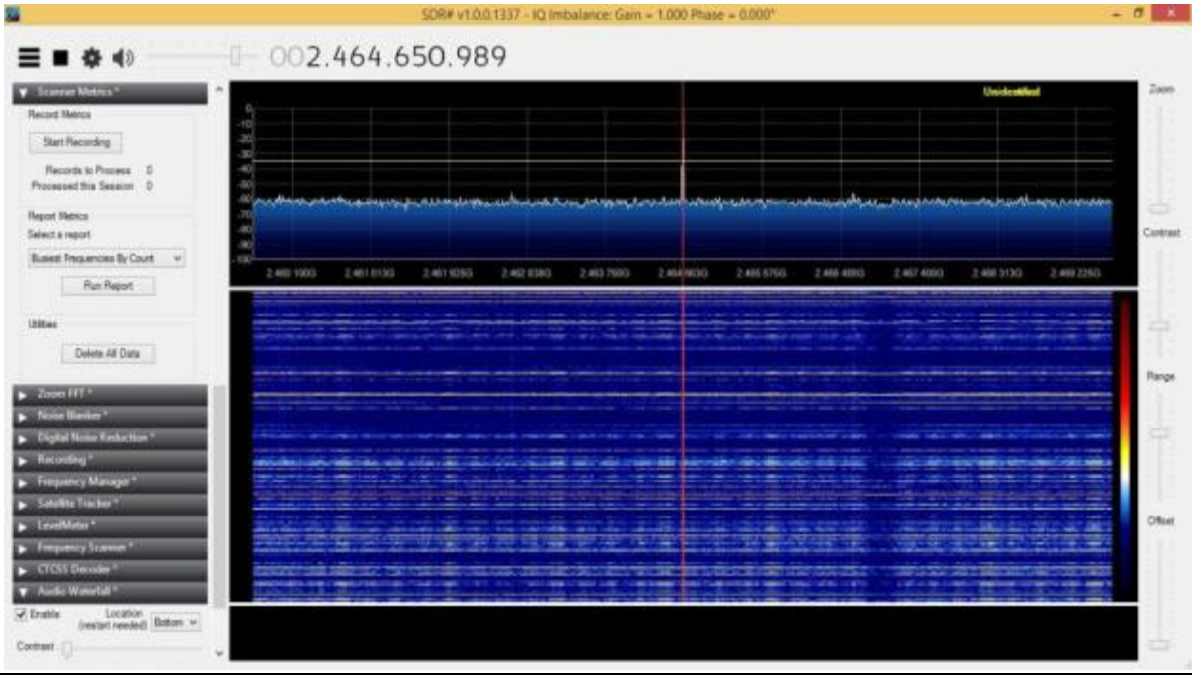
WaterFall images when there is activity at channel for data transfer, file upload , etc.

WaterFall Image 18 :
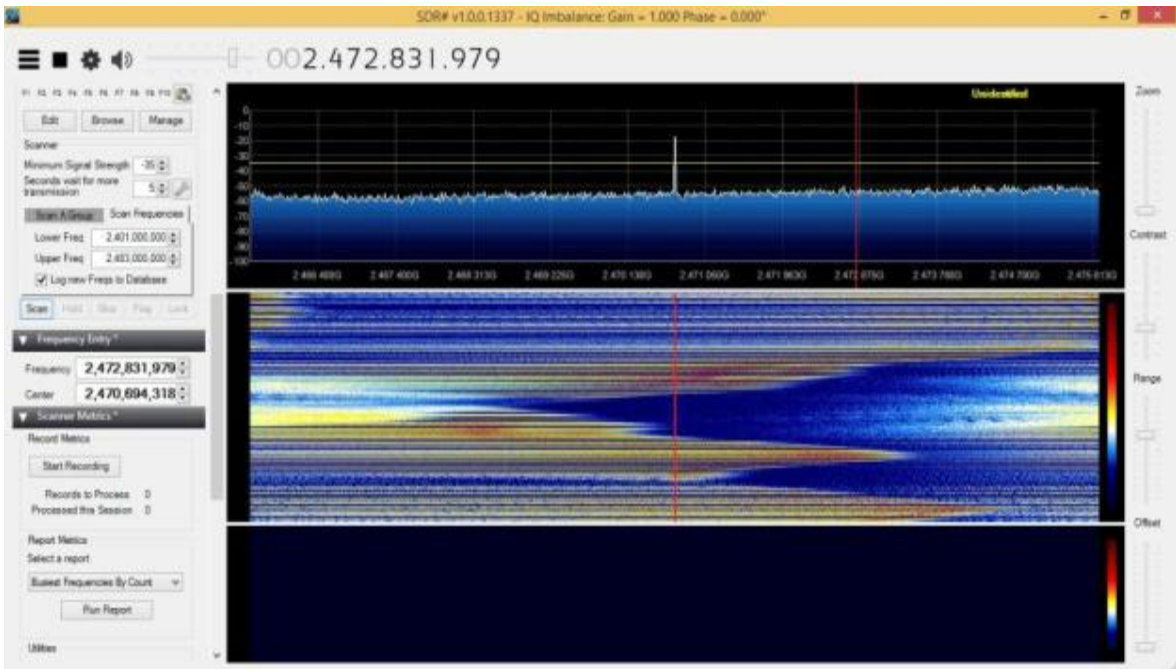
WaterFall Image when there is microwave oven nearby that works at 2.4 GHz

❖ **Appendix B**

Spectrum Image 1:
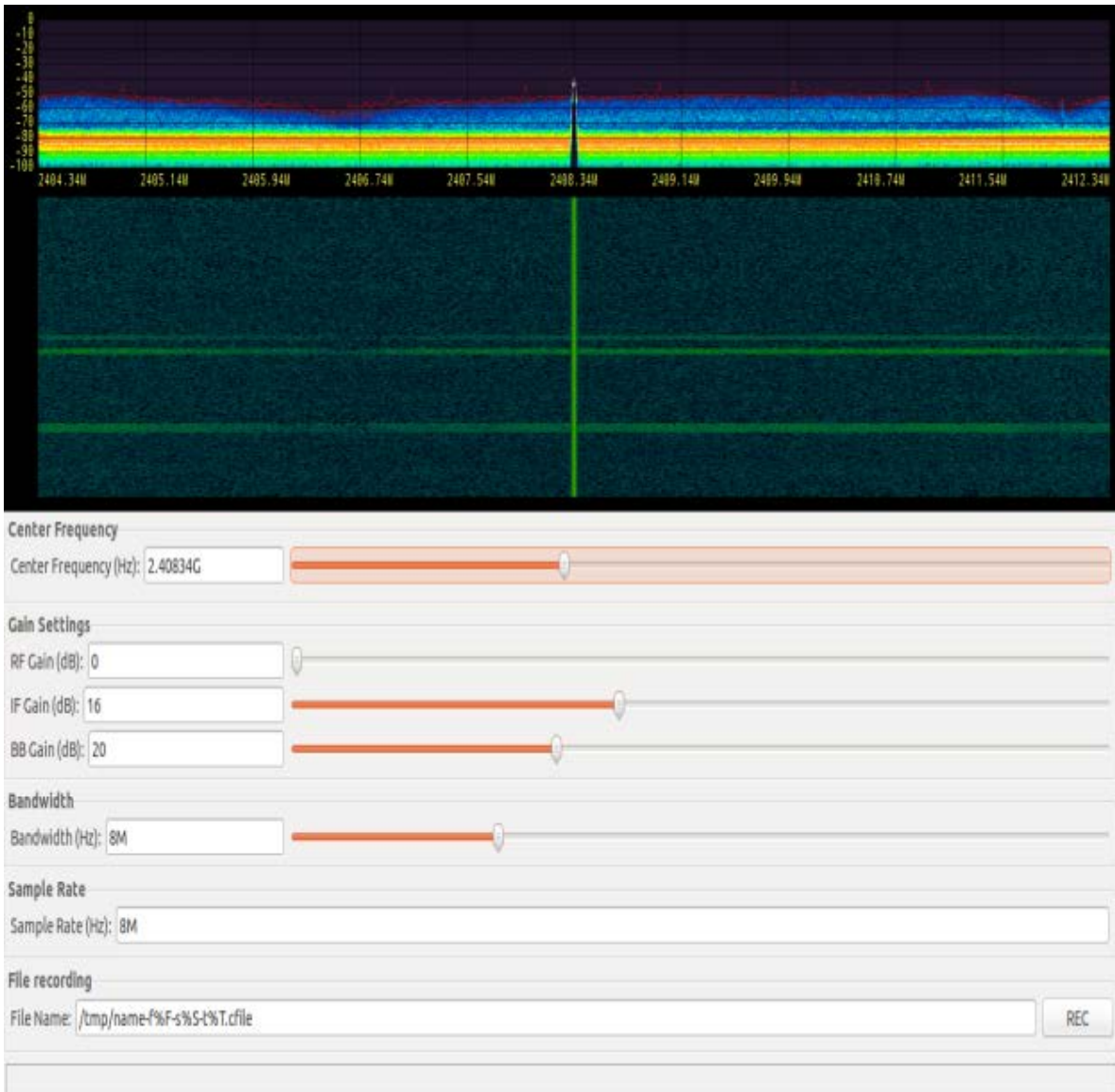
Spectrum Image 2:

Spectrum Image 3:

Center Frequency

Center Frequency (Hz): 2.44455G

Gain Settings

RF Gain (dB): 0

IF Gain (dB): 16

BB Gain (dB): 20

Bandwidth

Bandwidth (Hz): 8M

Sample Rate

Sample Rate (Hz): 8M

File recording

File Name: /tmp/name-f%F-s%S-t%T.cfile   REC
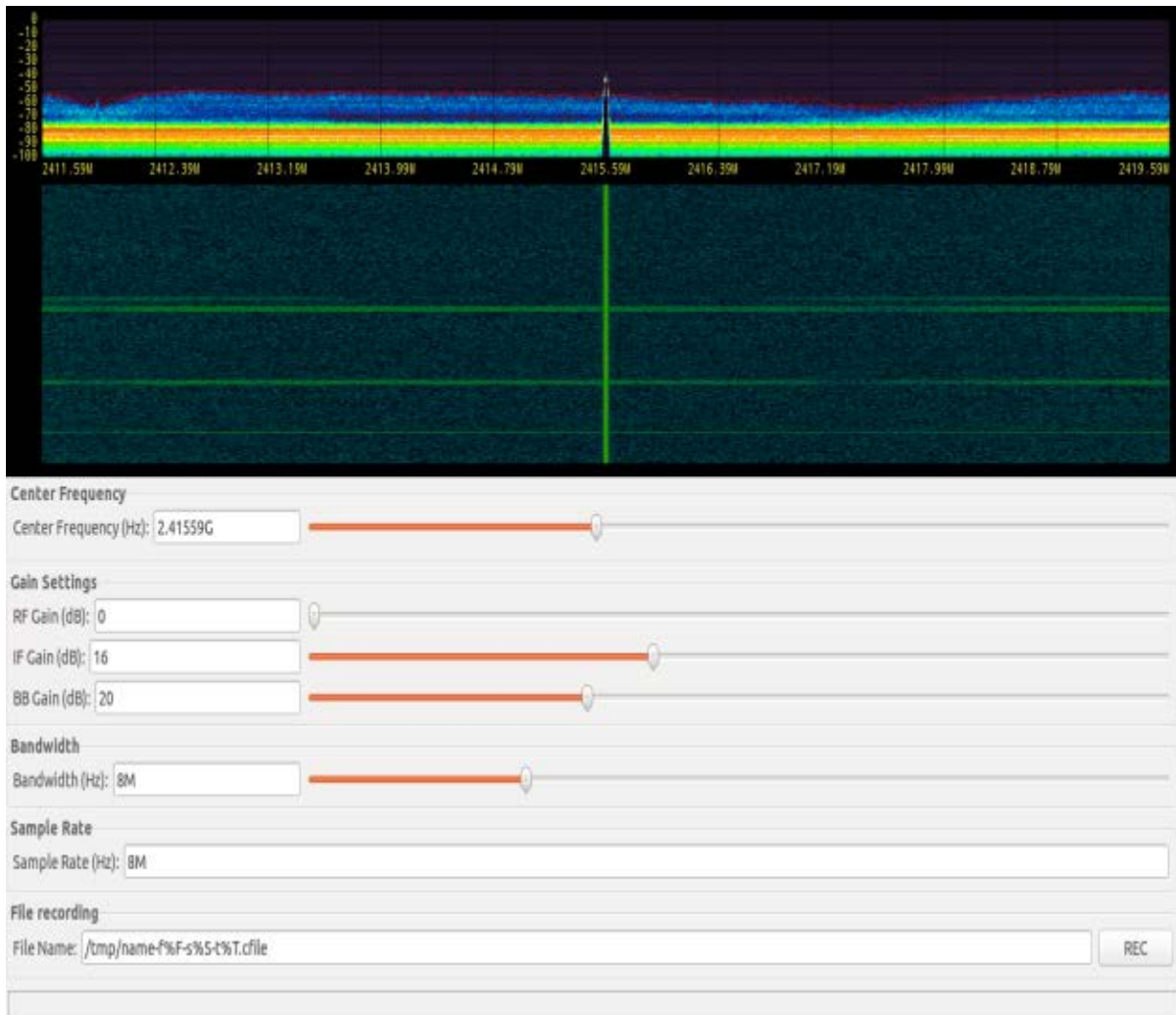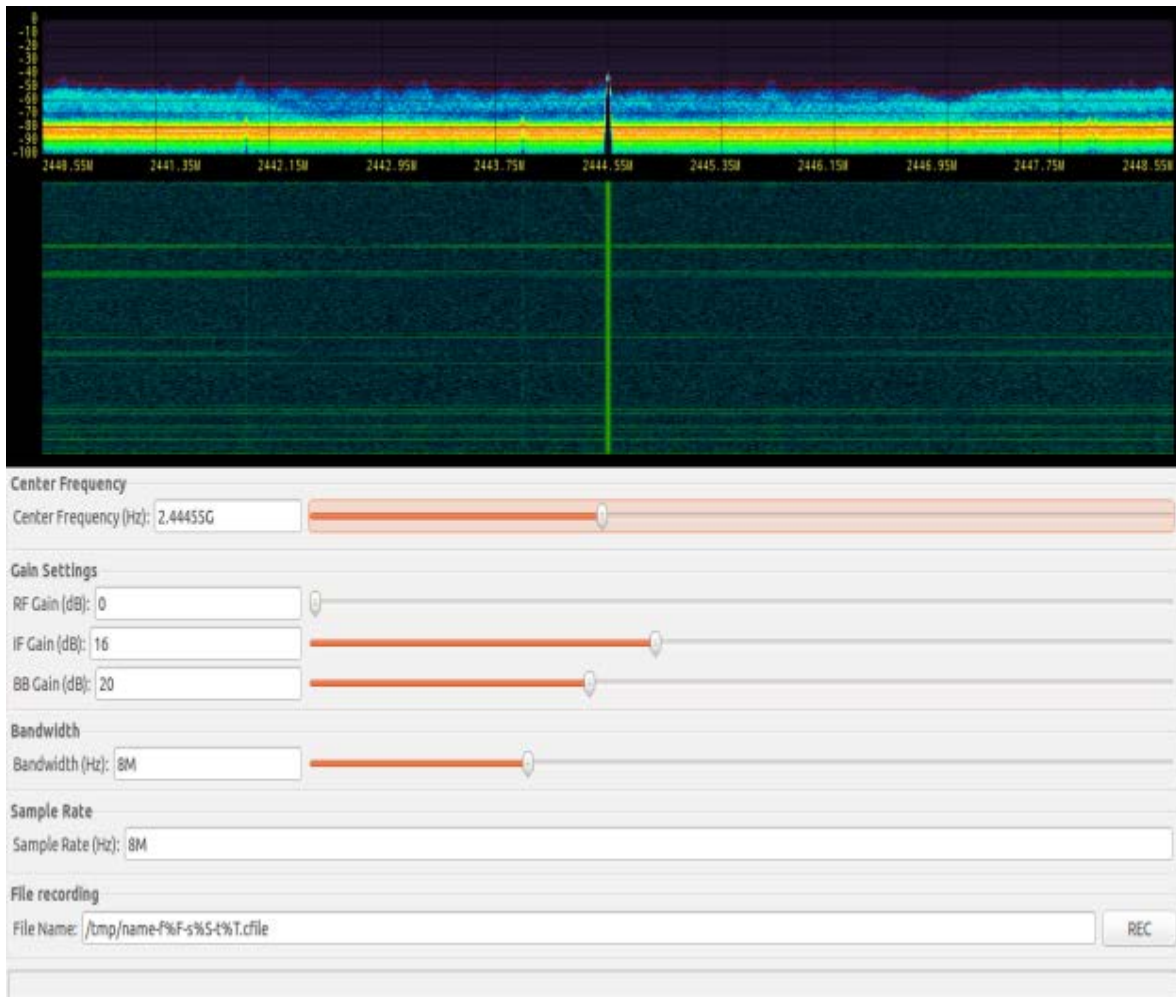
❖ **Appendix C**

FFT Image 1:

FFT Image 2:

FFT Image 3:

❖ **Appendix D**

Image 1 :
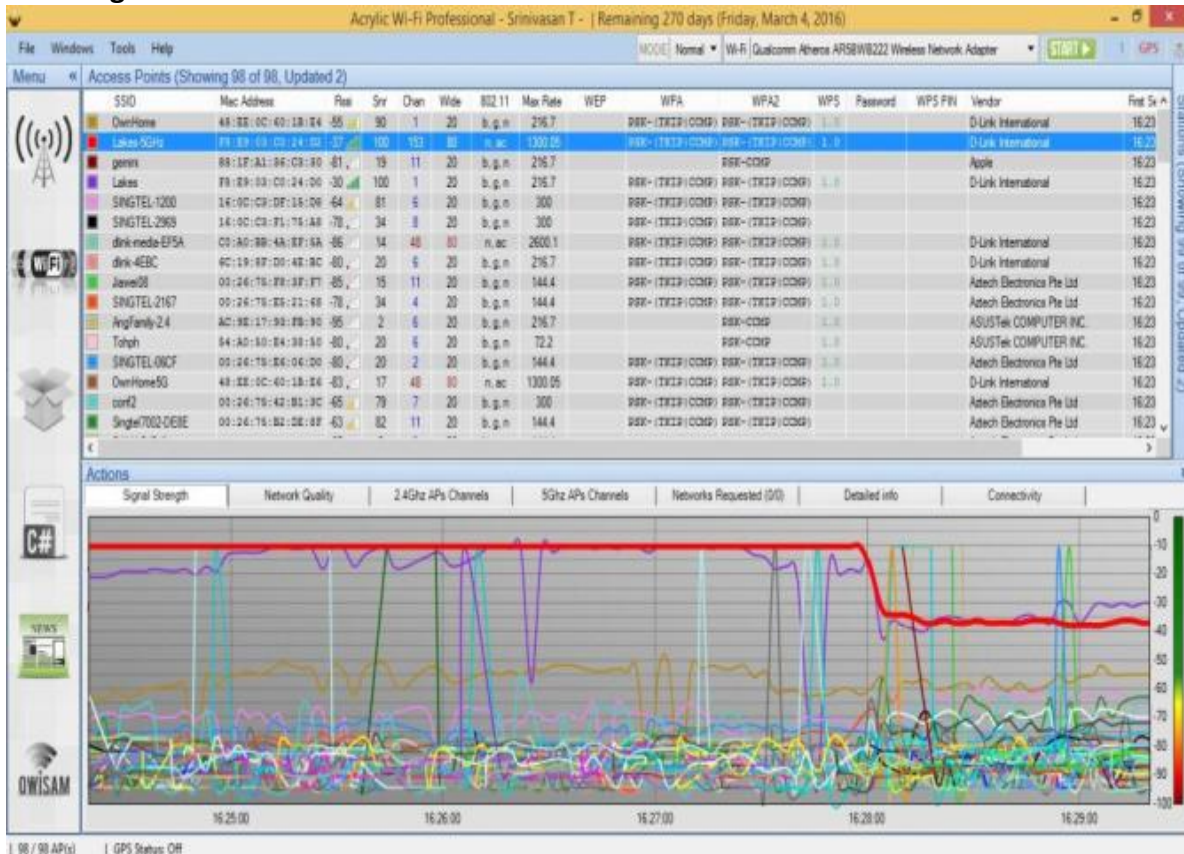
Note : The logic is ♦ If we near to the RF source, we will receive high power
♦ If we move away from the RF source , we will receive less power
(Based on above points, the signal strength graph will be generated)

Wi-Fi (2.4 GHz) network always fluctuate to **-10 dBm** and drop suddenly.
So, here is the detailed explanations :

1. Router Transmit Wi-Fi signal   at   **Frequency = a MHz**   with **Rp** = **- 60 dBm**
2. External Signal transmit a signal at   **Frequency = a MHz**   with **Rp** = **+ 50 dBm**
=================
Total of Receive power (Rp)   = **-10   dBm**

So, the signal graph with **Frequency = a MHz** fluctuate to **-10 dBm** because of external radio
signal with **Frequency = a MHz** with **Rp** = **+50 dBm**. **(50 dBm = 100 watt).**

Image 2 :
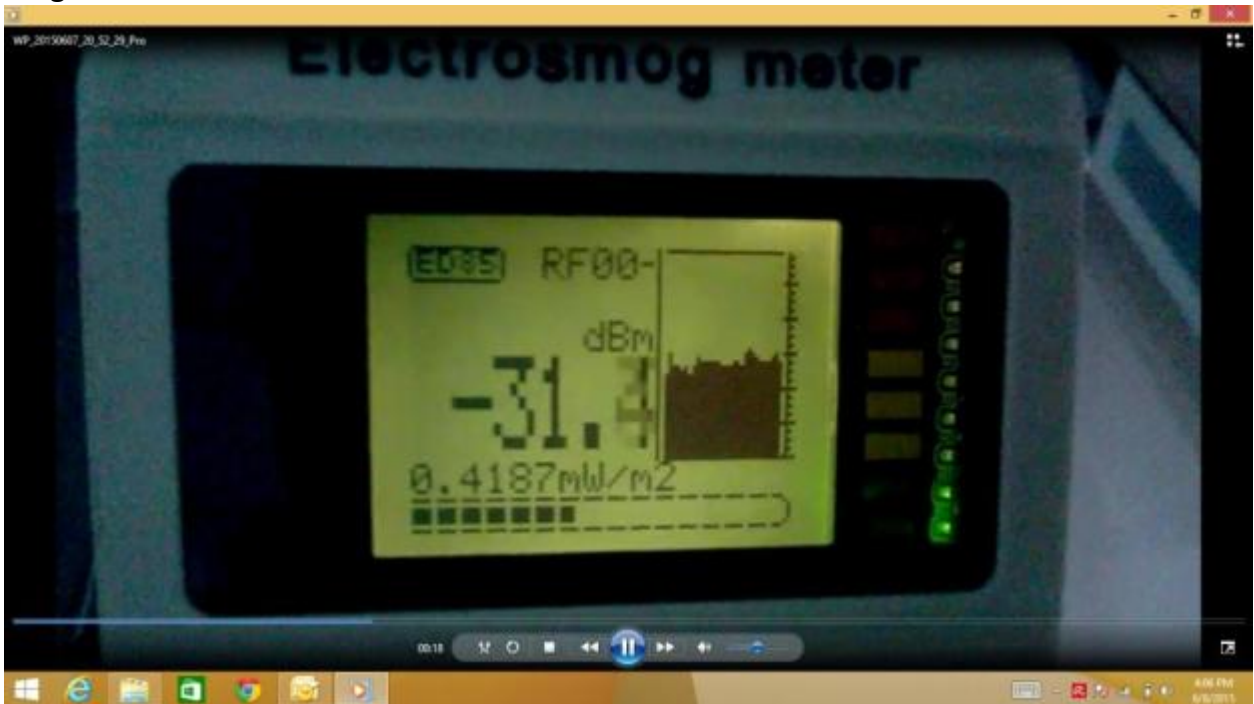
0.4187 mW / m2 = 418.7 µW / m2

Image 3 :

0.5520 mW / m2 = 552.0 µW / m2
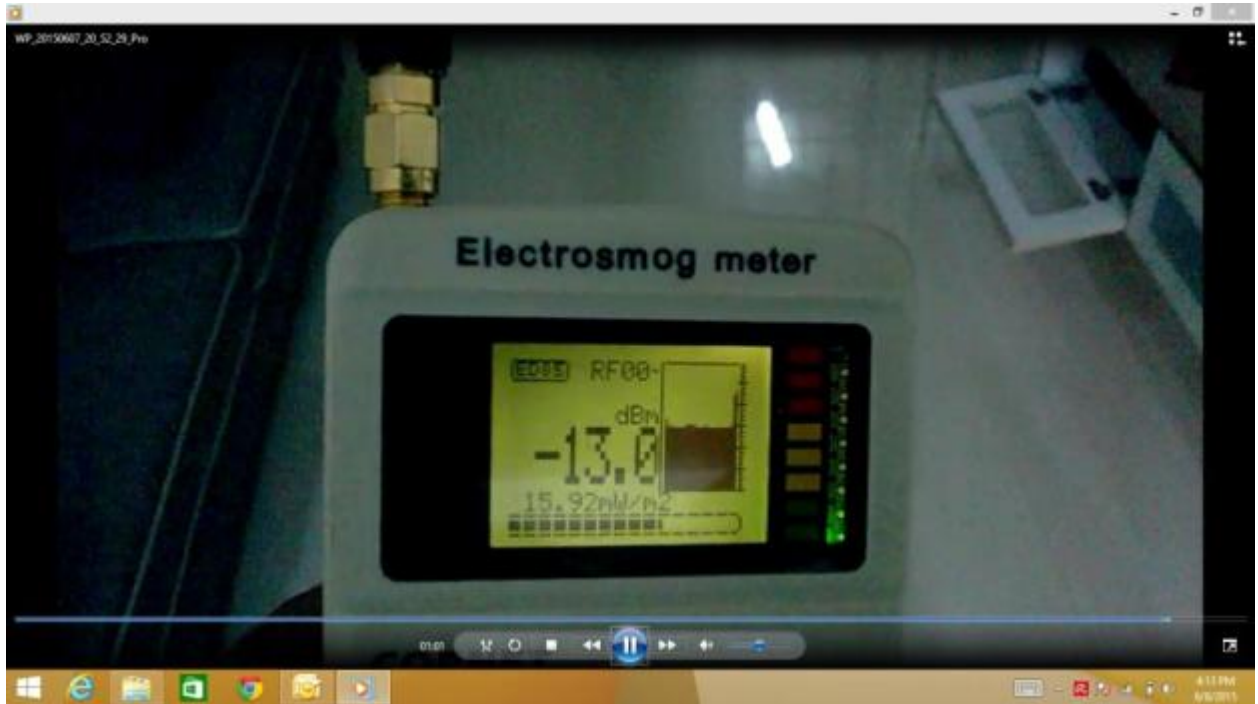
Image 4 :

15.92 mW / m2 = 15920 μW / m2

Image 5 :
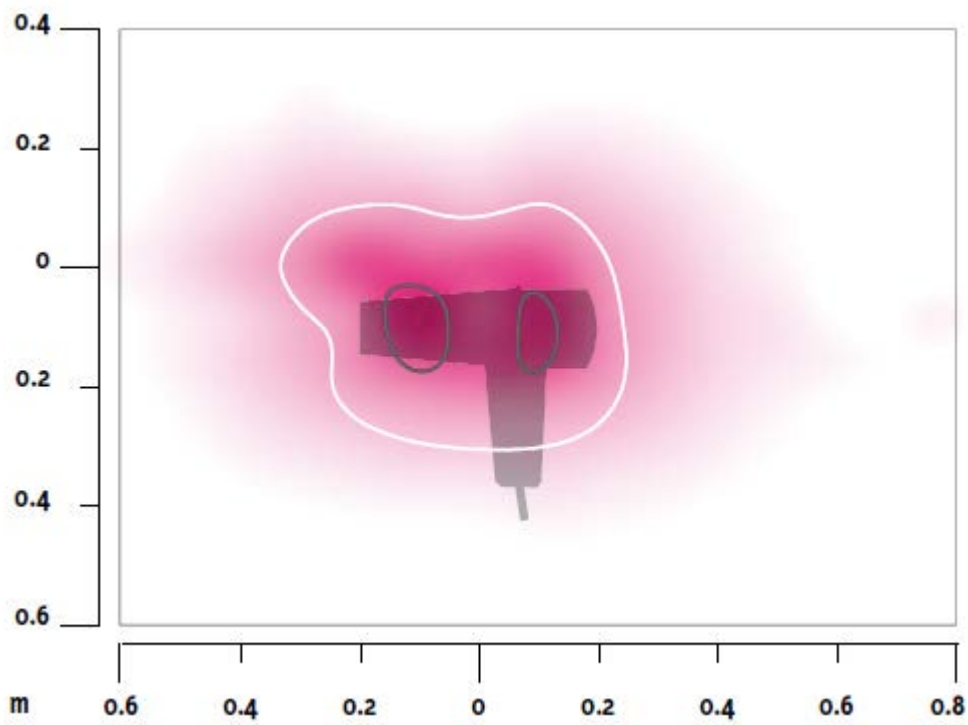
Magnetic field of a hairdryer. Please refer picture below for significance of color with magnetic flux density in microTesla(μT)
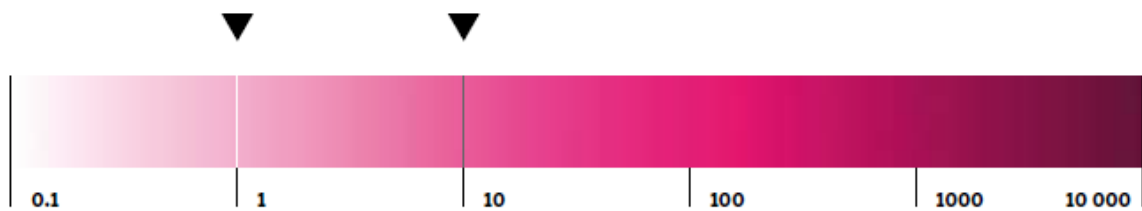
Scale of magnetic flux density in microtesla (μT).

❖ Appendix E

1. Cornet ED85EXS produced sound for the waves that I detected at 2.4 Hz.

Sound Track Picture
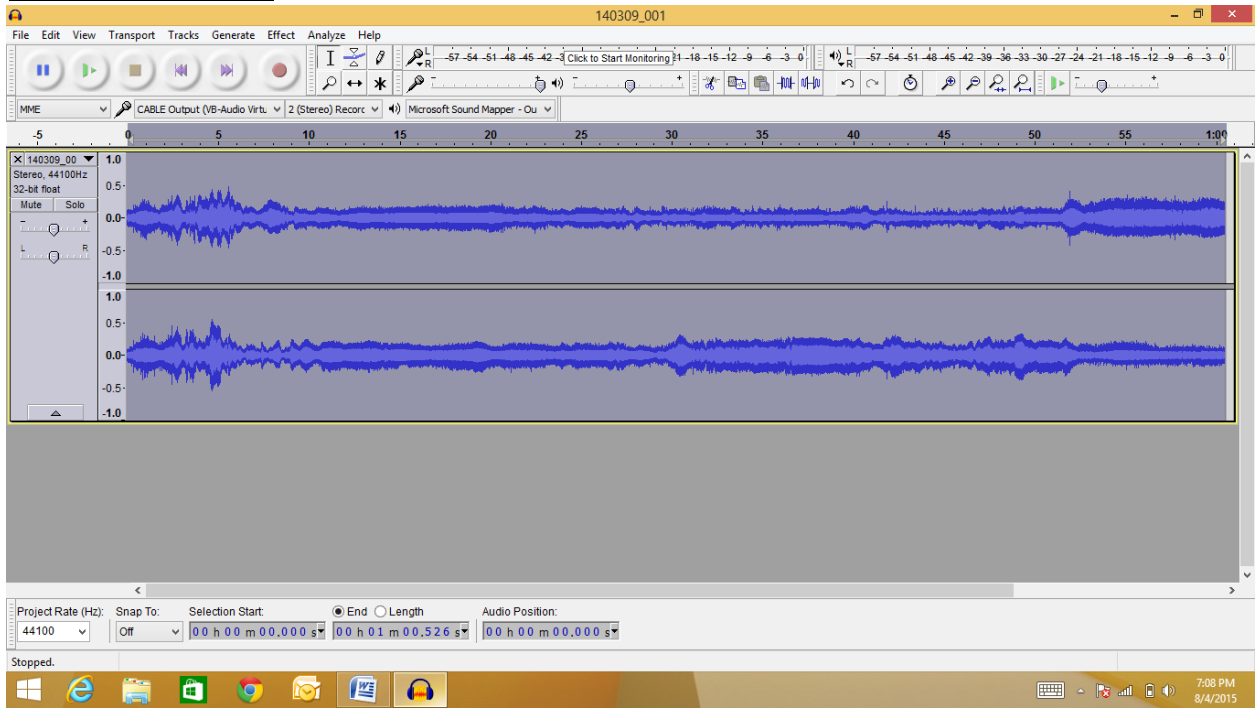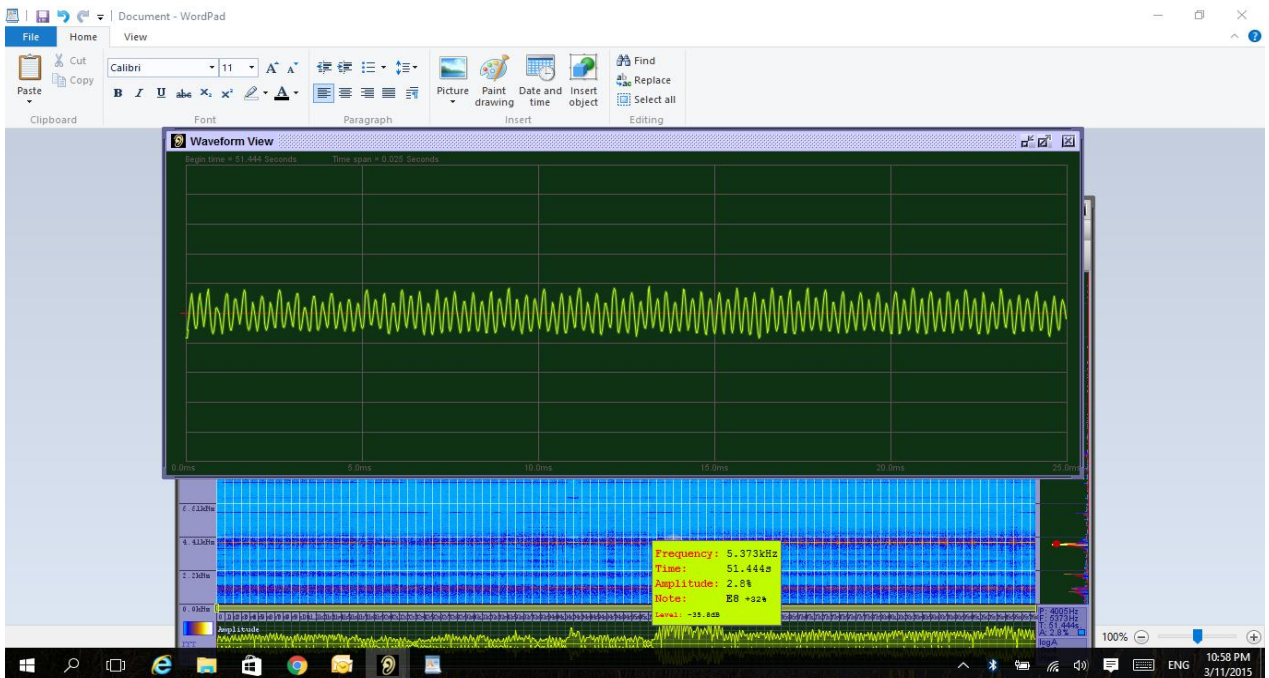
Sound Wave Picture:

Impression :

The impressions from above data, there is external Radio Interference that works 2.4 GHz in which Wi-Fi sound cannot be heard clearly.

2. Wi-Fi Sound
Sound Track Picture
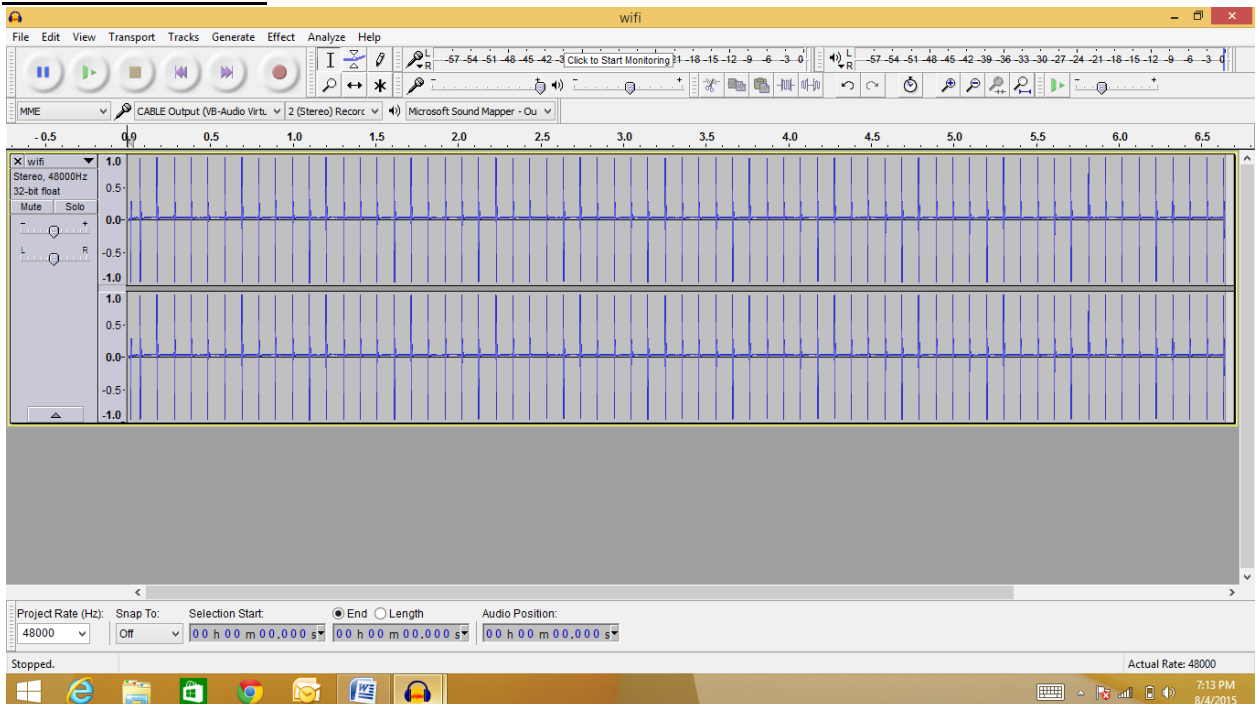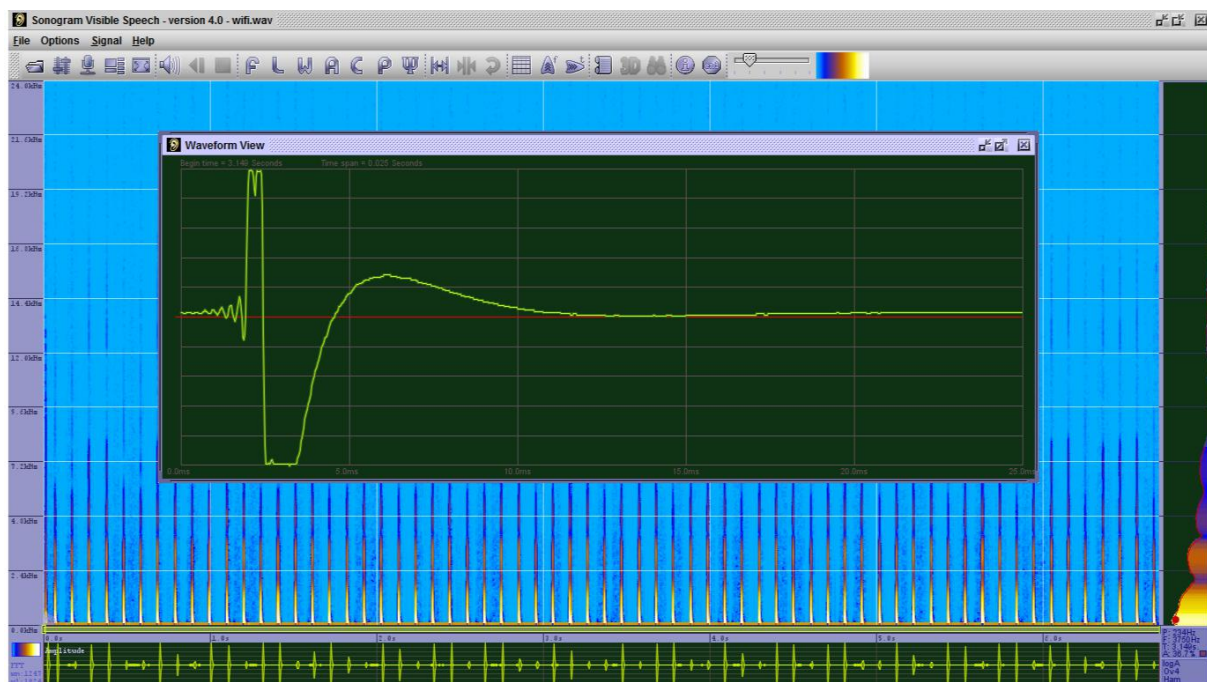
Sound Wave Picture:

Impression :
The impressions from above data, good Wi-Fi sound
Conclusion :
There is good Wi-Fi sound

Realtime Sound Waves Picture :
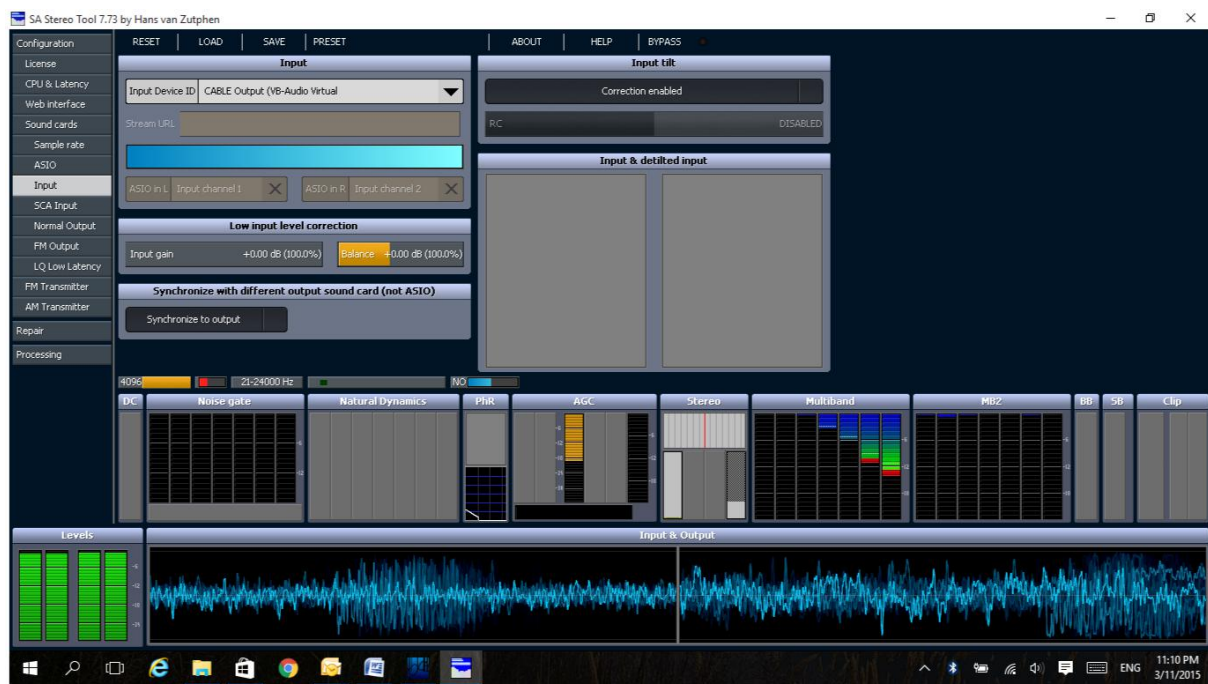
We can see that there are 2 waves (Wi-Fi and Unknown RF at 2.4 GHz) producing different sound waves. This unknown RF covered by Wi-Fi signal.

3. Wi-Fi Sound WaterFall
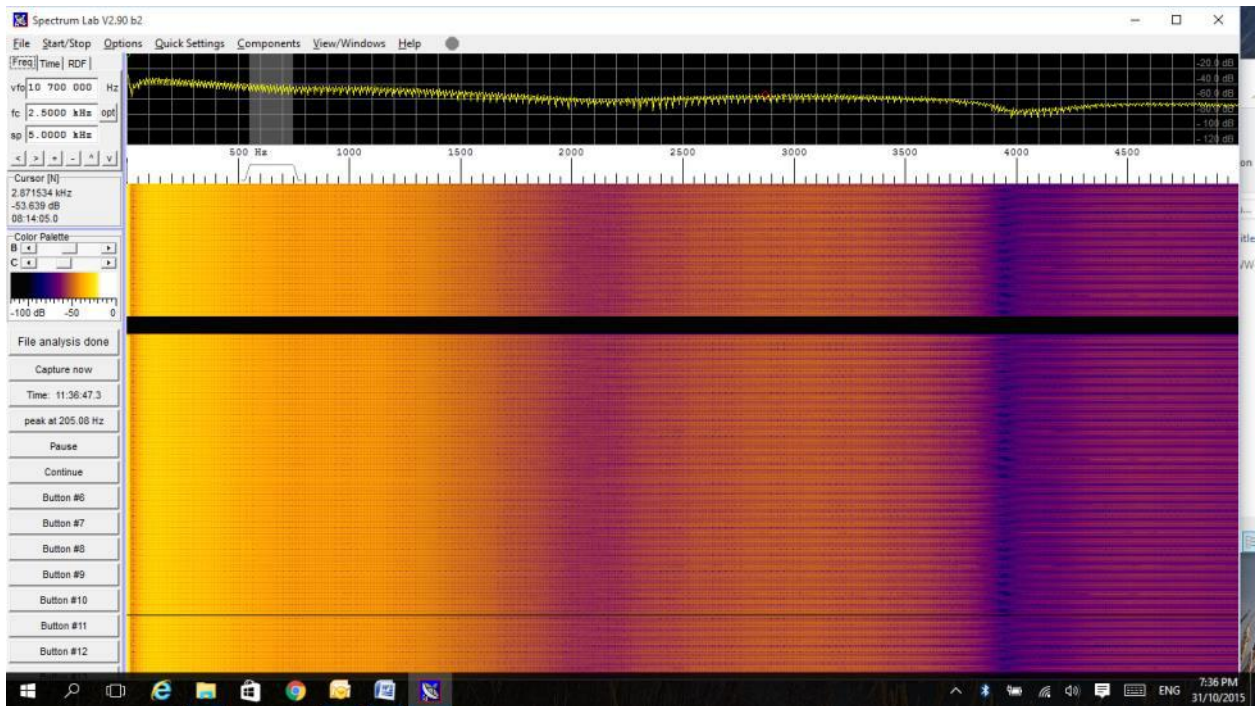
4. Unknown RF at 2.4 GHz Sound WaterFall
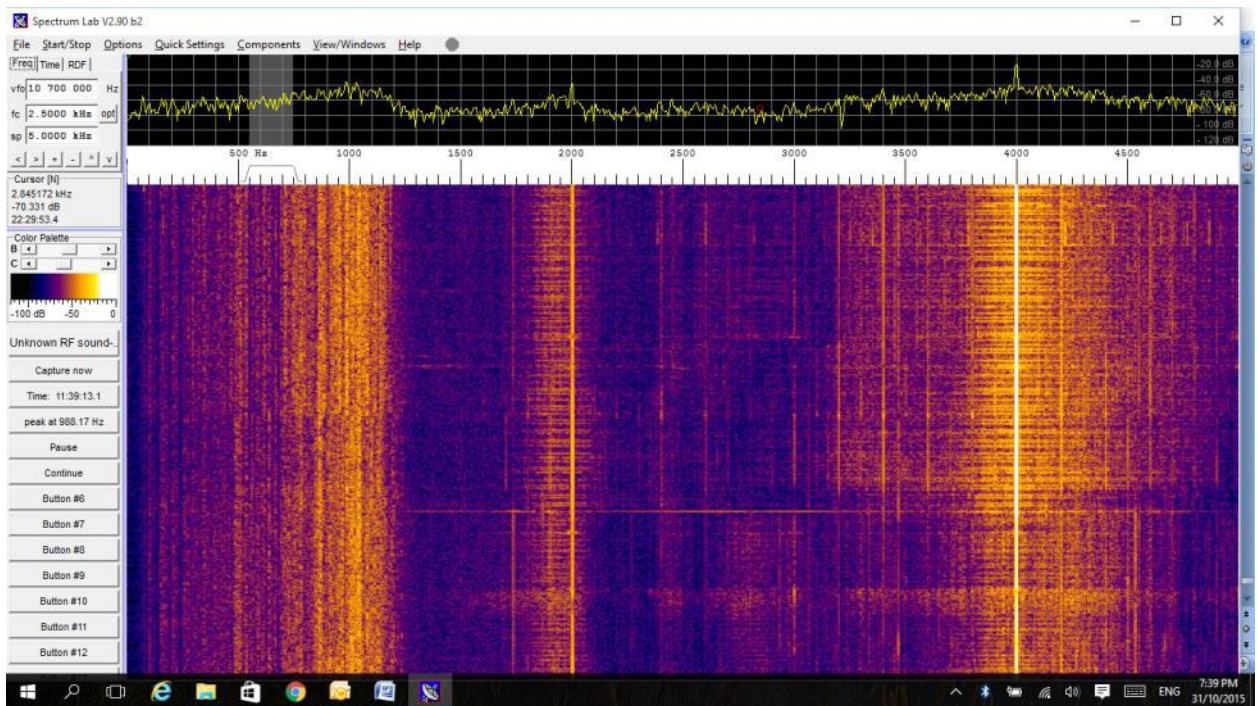
This sound waterfall indicates combinations of Wi-Fi sound and external RF at 2.4 GHz. Because of external RF , Wi-Fi waterfall image not visible clearly. This waterfall image also indicates how exactly external RF. Two solid lines indicates really strong transmission of external RF.

❖ **Appendix F**

1. Good Wi-Fi Signal using Acrylic (Data from Different Country)
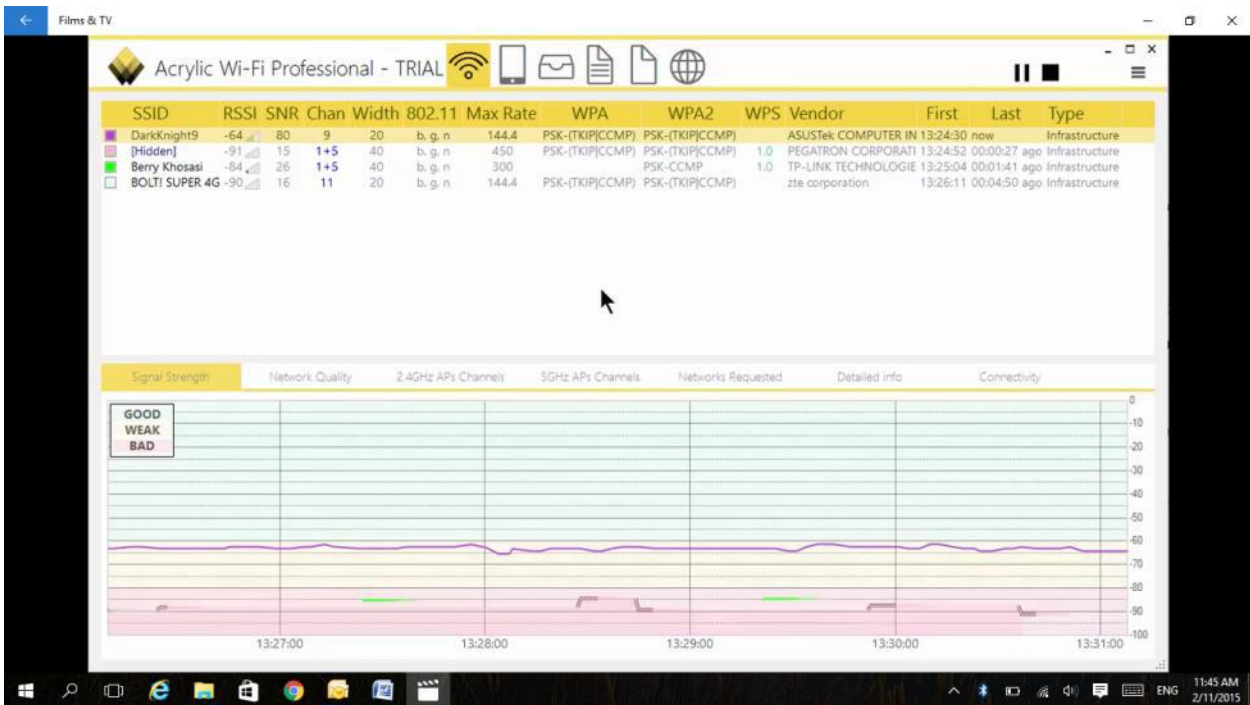
2. Good Wi-Fi Signal using MetaGeek (Data from US)

3. Bad Wi-Fi Signal using Acrylic (external interference)
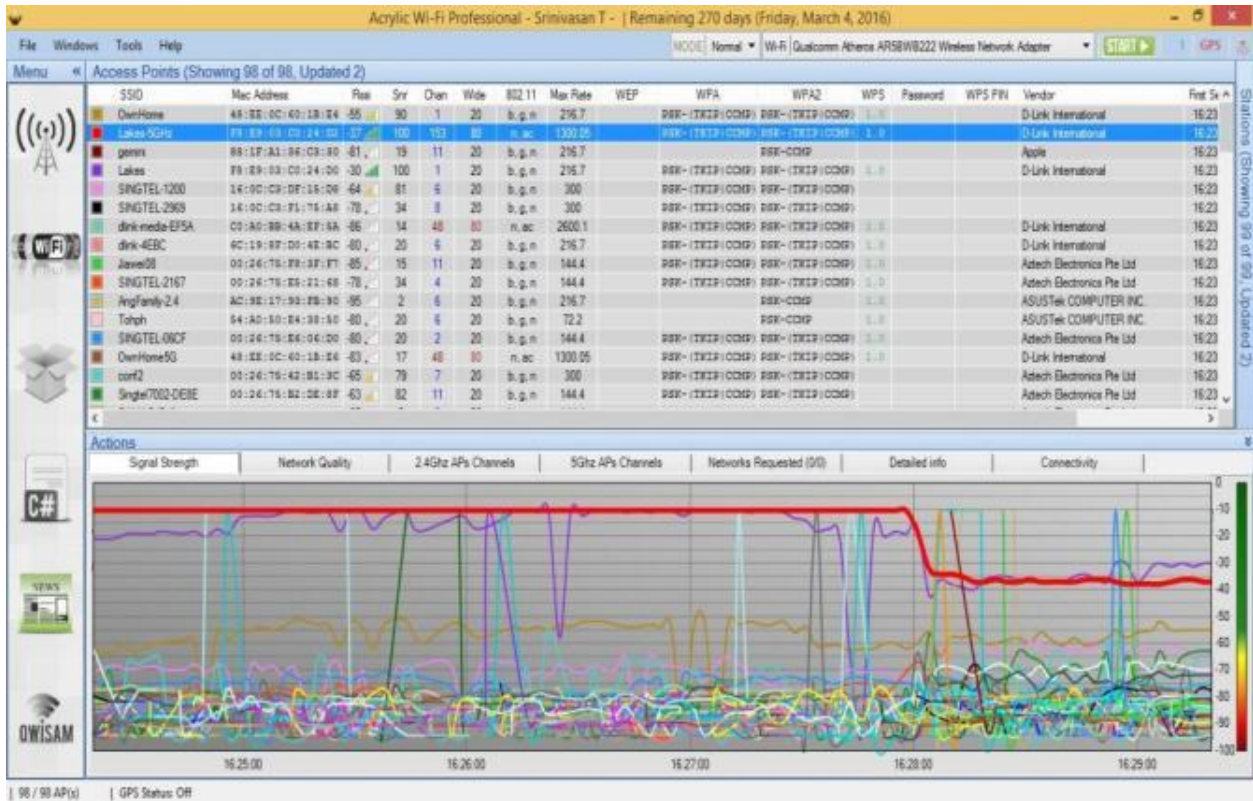
4. Bad Wi-Fi Signal using MetaGeek (external interference)

5. Changes in the Power (dBm) and SNR using acrylic

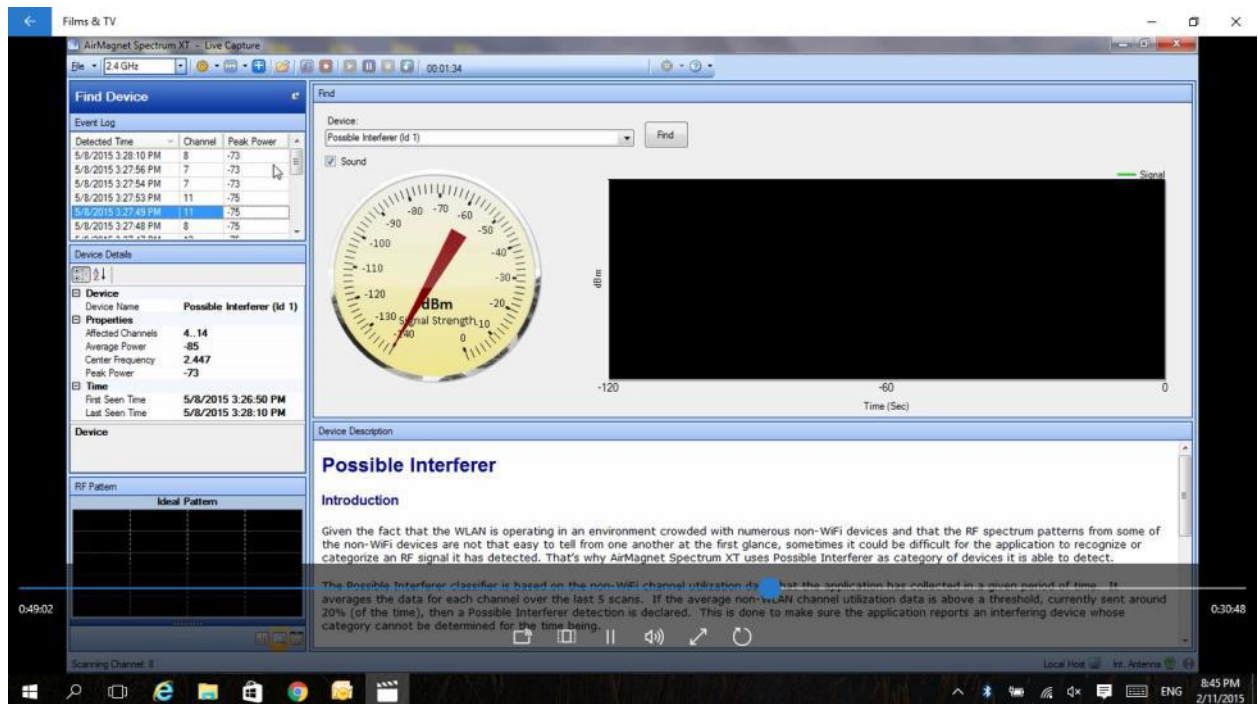### - Picture of Wi-Fi before changes of power and snr
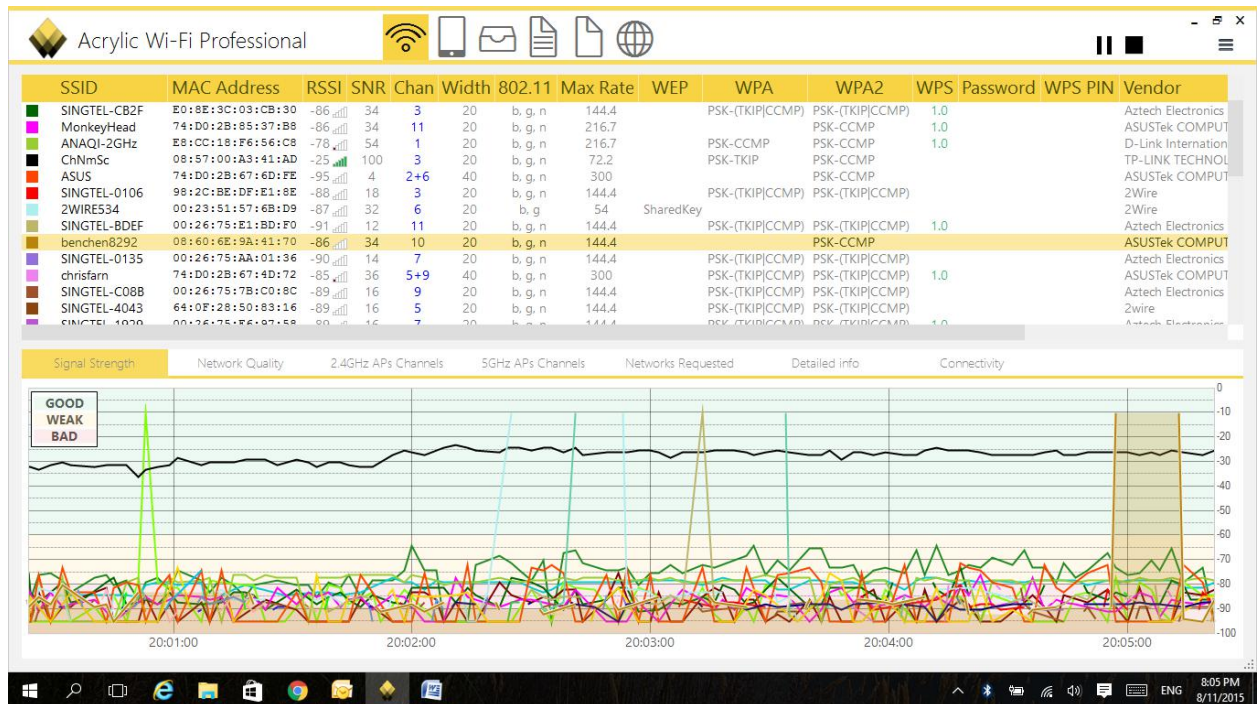
SSID : benchen8292 Power = -86 dBm ,SNR 34

- Picture of Wi-Fi after changes of power
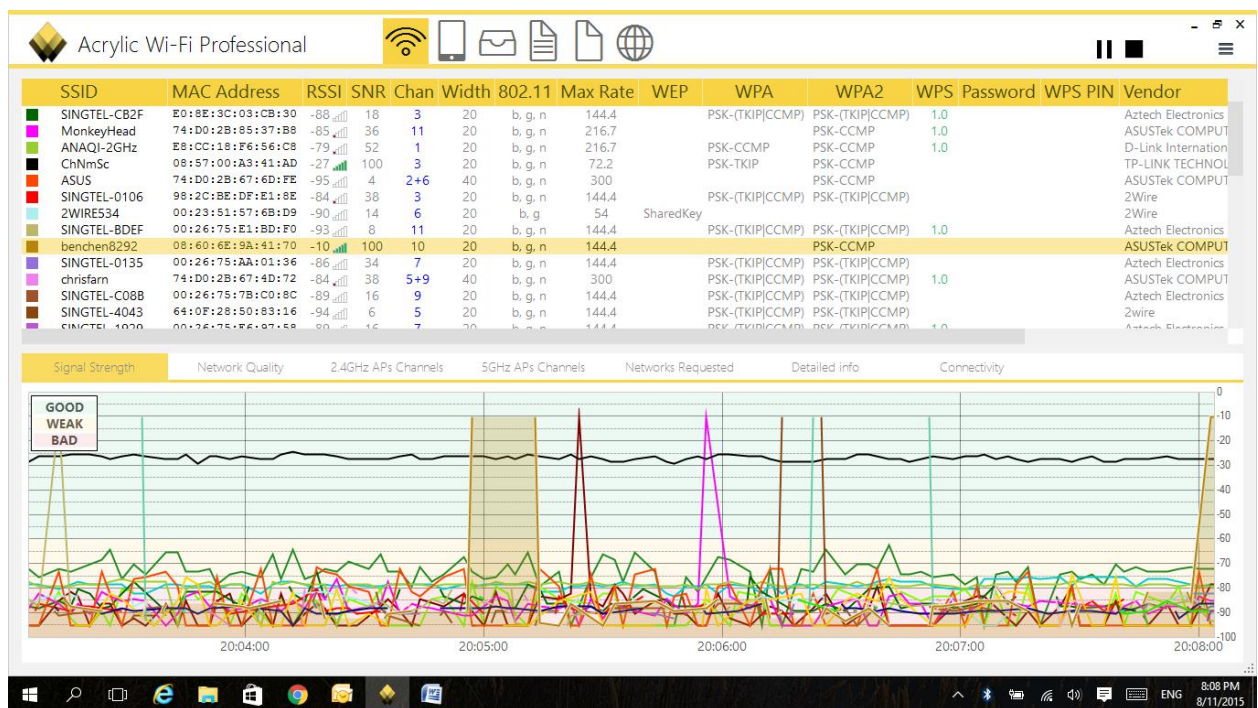
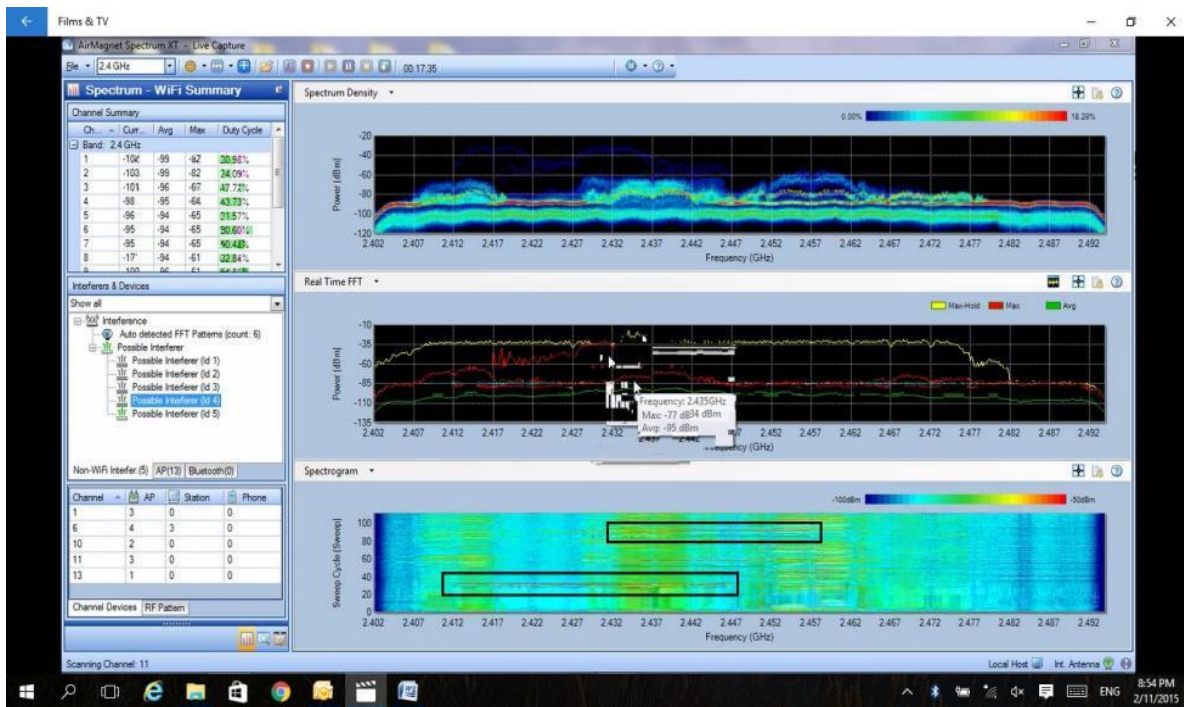**SSID : benchen8292 , Power = -10 dBm , SNR 100 (At this point, the source should near to me but I don't see the source)**

6. AirMagnet XT detected interference

Descriptions :

1. Affected Channel 4 to 14 (No Wi-Fi device that can affect nearly 10 Channels)
2. Center Frequency : 2462

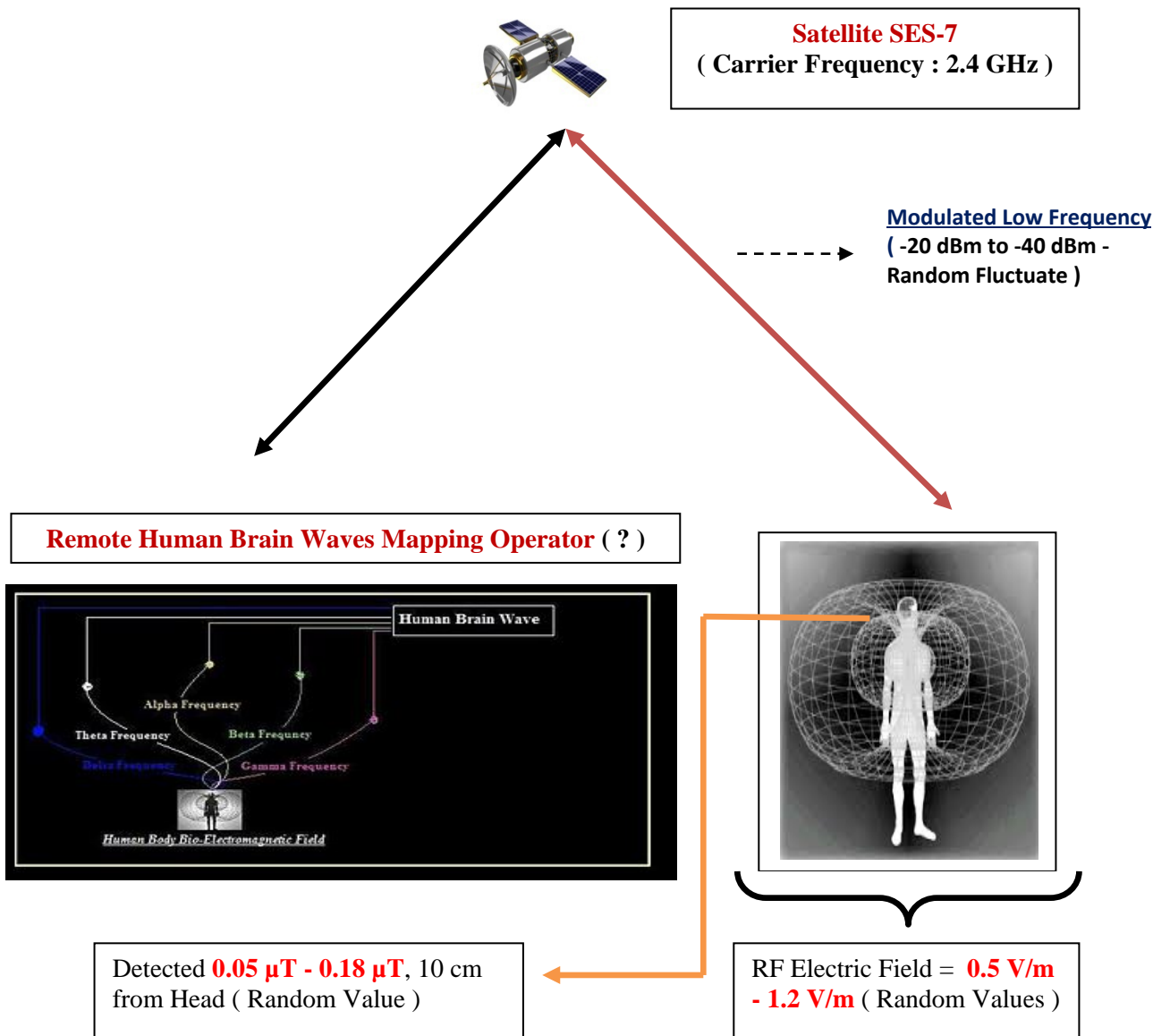## 7. AirMagnet XT - Interference details on Spectrogram

Please see black box on Spectrogram image. We can see red line which indicates interference which affected 8 channels and 6 channels. (There are other red lines as well)

❖ **Appendix G**

1. First Report : detected alpha rhythm at **10 Hz. (Malaysia)**

2. Second Report : detected alpha rhythm at **9 Hz**, **10 Hz**. **(Medan)**

3. Third Report : detected low voltage with alpha rhythm from **10-13 Hz.**
(Medan)

Overall Picture

Satellite SES-7
(Carrier Frequency : 2.4 GHz)

Modulated Low Frequency
(-20 dBm to -40 dBm -
Random Fluctuate)

Remote Human Brain Waves Mapping Operator (**?**)

Human Brain Wave

Alpha Frequency

Theta Frequency   Beta Frequency

Delta Frequency   Gamma Frequency

Human Body Bio-Electromagnetic Field

Detected **0.05 µT - 0.18 µT**, 10 cm
from Head (Random Value)

RF Electric Field = **0.5 V/m**
- 1.2 V/m (Random Values)

Legend :
µT = **microTesla** **V/m** = **Volt / Meter**

Note : Signal source may vary from time to time

Detecting Heat over Head

1. Using EEG Analyzer with output of the signal from NeuroSky.

2. Data plotted (various samples) :

   1. -200 to 200   **Y-Axis**   **: increase of brain voltage -200 (Y-Axis) and 200 (Y-Axis)**

   2. -100 to 300   **Y-Axis**

   3. -100 to 200   **Y-Axis**

   4. -2000 to 2000   **Y-Axis**   **: increase of brain voltage -2000 (Y-Axis) and 2000 µV (Y-Axis)**
                                           => This is really high at lower part and upper part and of course we have excessive heat

   5. -200 to 600   **Y-Axis**

   6. -200 to 200   **Y-Axis**

   7. 0 to 400   **Y-Axis**

Note : Increase of brain electricity will trigger Y-axis value in which graph will be plotted to upward and downward based on value. So at present, I take the value as Y-Axis value as per now.

2. The software that runs in device that attached to satellite will have look like image below   (impression only)
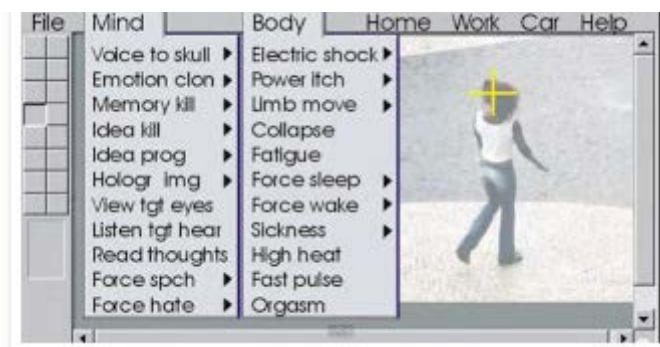
❖ **Appendix H**

Router Signal Analysis and fluctuation

1. General Home Wi-Fi router and Laptop Setup

distance (d)

Router

Laptop with Signal Analyzer (LSa)
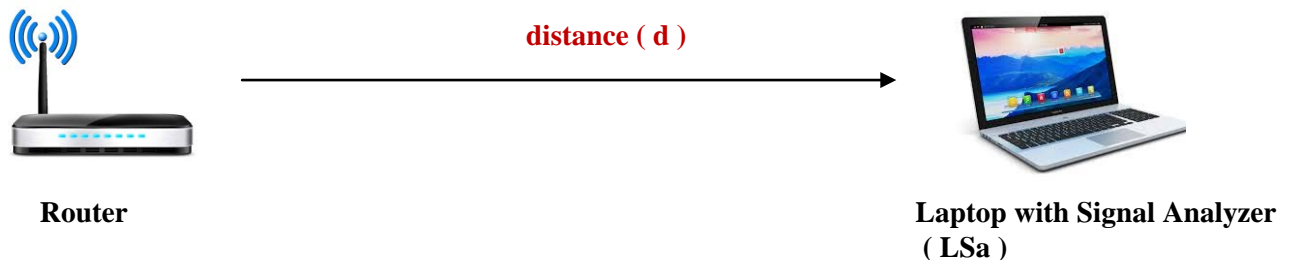
Explanation :
1. Home Wi-Fi router will **transmit power (Tp)** with constant power
2. Laptop will **receive power (Rp)** from Router based on **distance(d)**
3. **Rp is high** if we near to Router and **Rp is low** if we away from router

e.g. :
 Wi-Fi (2.4 GHz) network always fluctuate to **-10 dBm** and drop suddenly.
So, here is the detailed explanations :

1. Router Transmit Wi-Fi signal   at   **Frequency = a MHz** with **Rp = - 60 dBm**
2. External Signal transmit a signal at   **Frequency = a MHz** with **Rp = + 50 dBm**
                                                                                    ================
                                                        Total of Receive power (Rp)   = -10   dBm

So, the signal graph with **Frequency = a MHz** fluctuate to **-10 dBm** because of external radio
signal with **Frequency = a MHz** with **Rp = +50 dBm**. **(50 dBm = 100 watt)**

Note :
a = can be 4 digits number (e.g. : 2412 MHz = 2.412 GHz)

Overall Explanation :
1. Router will be located at static place, so transmit power always constant
2. The signal strength graph changes only occur if we move near or away from Router
3. The fluctuation to - 10 dBm because of external radio signal with positive receive power
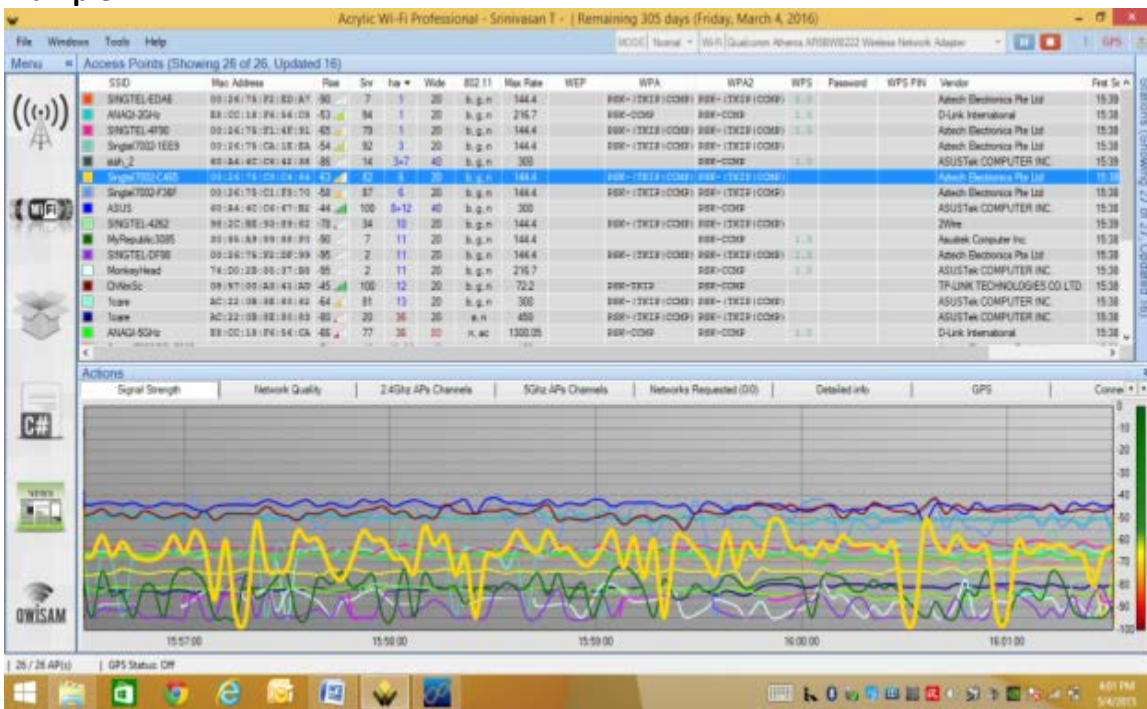   not because of Wi-Fi router

Conclusion :
Home or at different location Wi-Fi at 2.4 GHz networks to fluctuate because of external
signal with different positive receive power and with same frequency as 2.4 GHz networks.

Example 1:
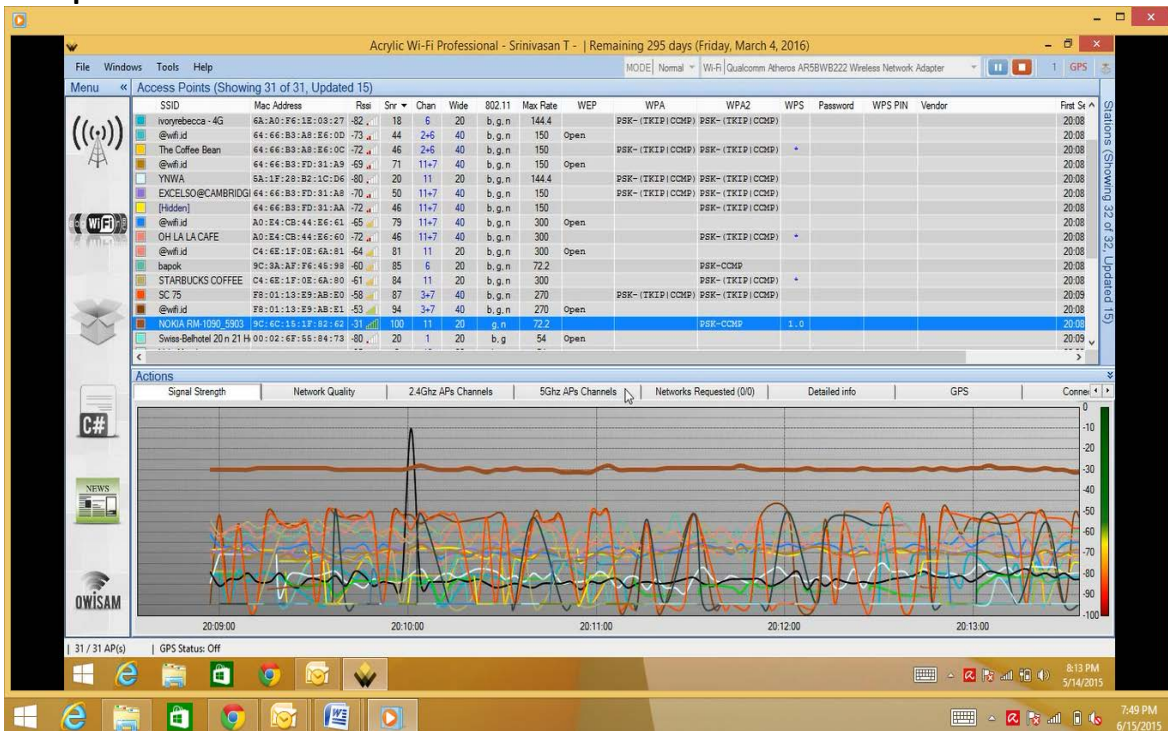
Signal Strength graph in black color is one of example that received positive received power from external radio signal.
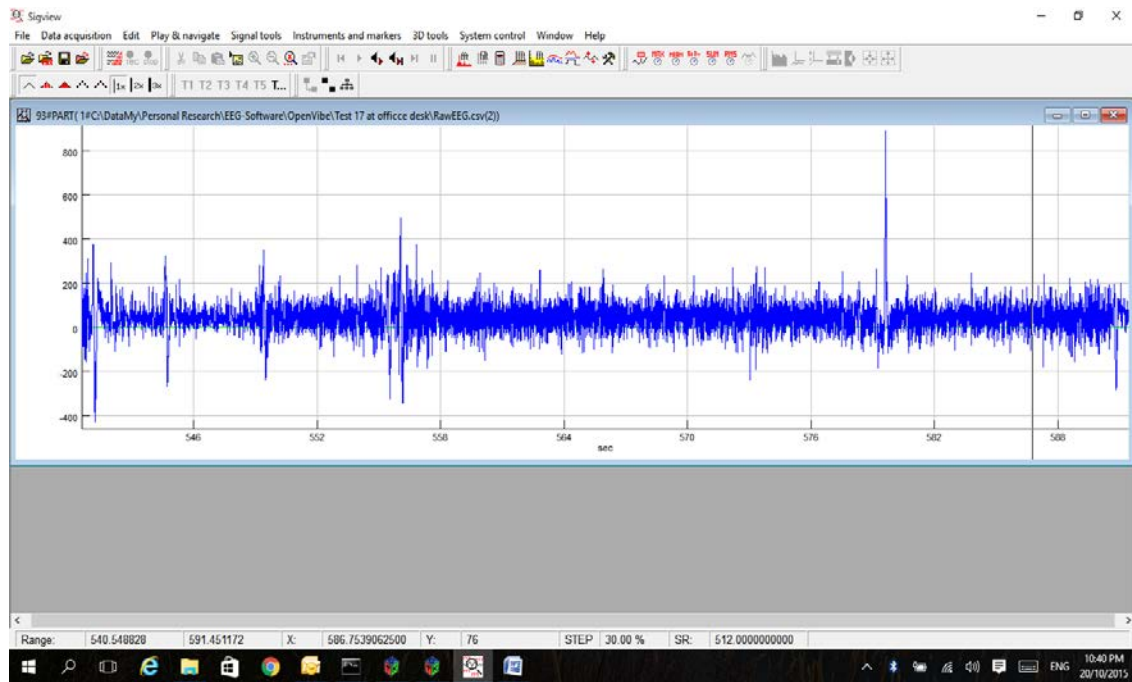
Example 2:

Signal Strength graph in yellow color is one of example that received negative received power from external radio signal.
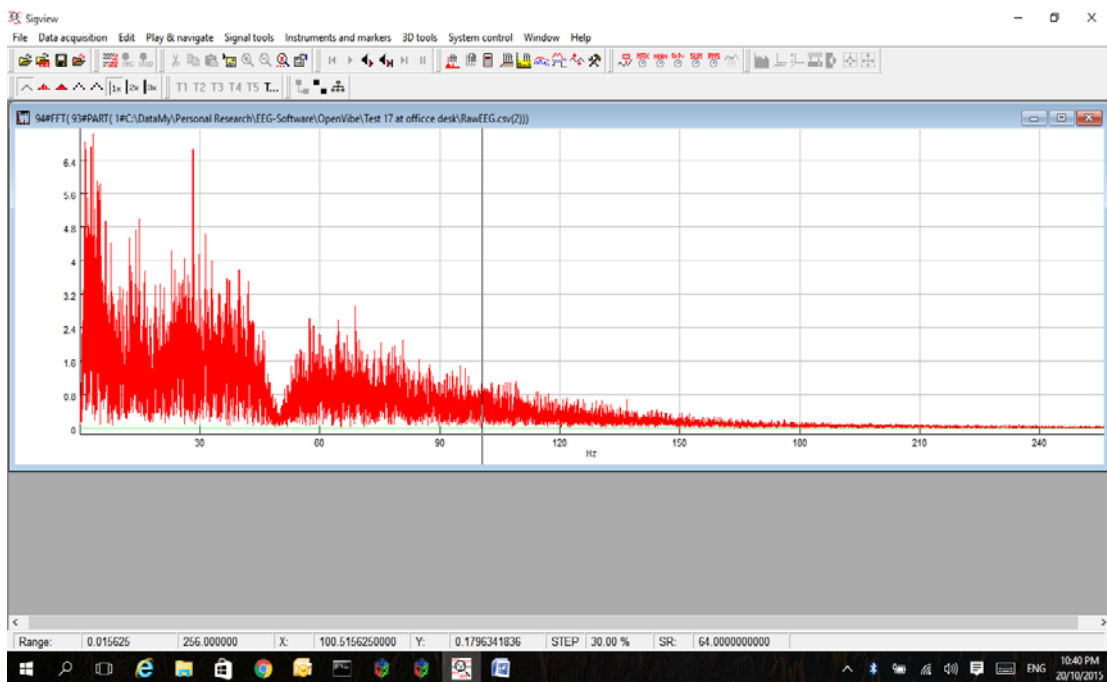
The External View illustration
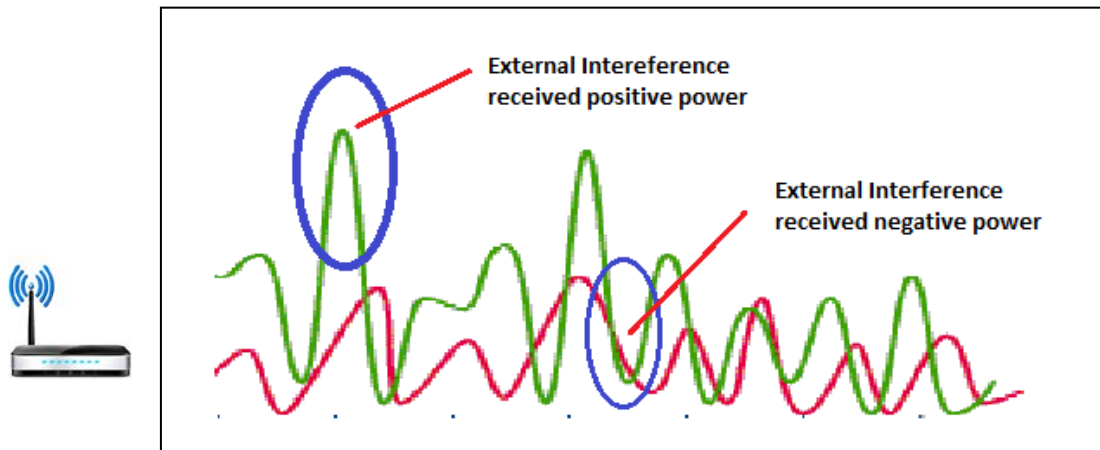
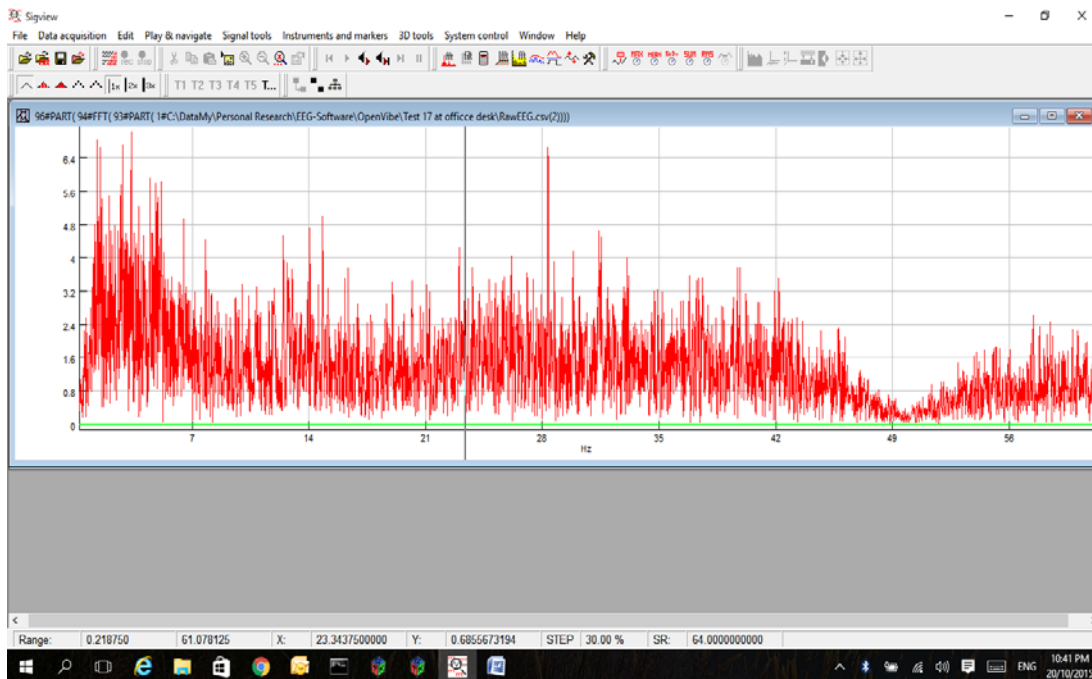Router always transmit at steady power so sudden power fluctuation at middle will come from external interference.

❖ **Appendix I - EEG with single channel**

Frequency domain of the above graph :

Zoom of Frequency domain of the above graph from 0 Hz - 60 Hz:

We can see all waves appeared from 0 - 50 Hz.

By right :

1. Delta Waves should not be there (0.5 to 3 Hz)

2. Theta Waves should not be there (3 - 8 Hz)

3. Alpha Waves should not be there (8 - 12 Hz)

4. Beta Waves (12-38 Hz) can be there but the amplitude is really high for situation in watching computer and Gamma Waves (38 - 42 Hz) can be there but still the amplitude is really high.

Conclusions : Because of external RF , it disturbed entire brain waves.

Pulse of Sound in EEG

When the brain is given a stimulus, through the ears, eyes or other senses, it emits an electrical charge in response, called a *Cortical Evoked Response* (shown below). These electrical responses travel throughout the brain to become what you "see and hear". This activity can be measured using sensitive electrodes attached to the scalp.
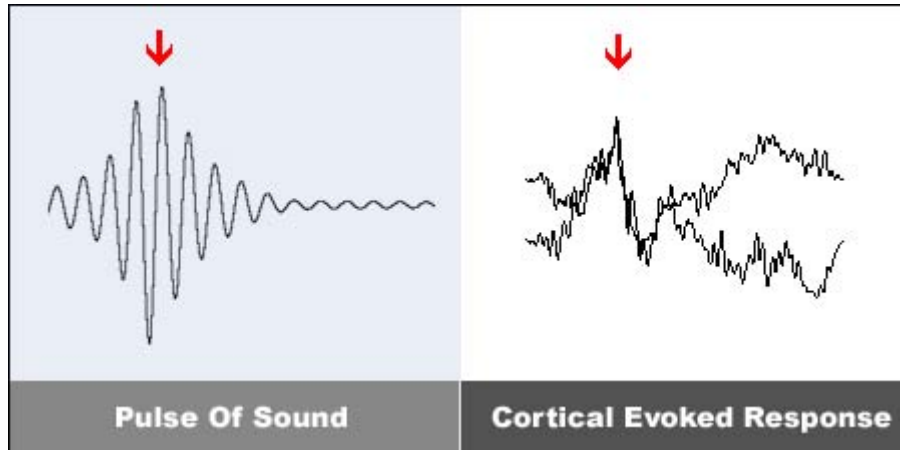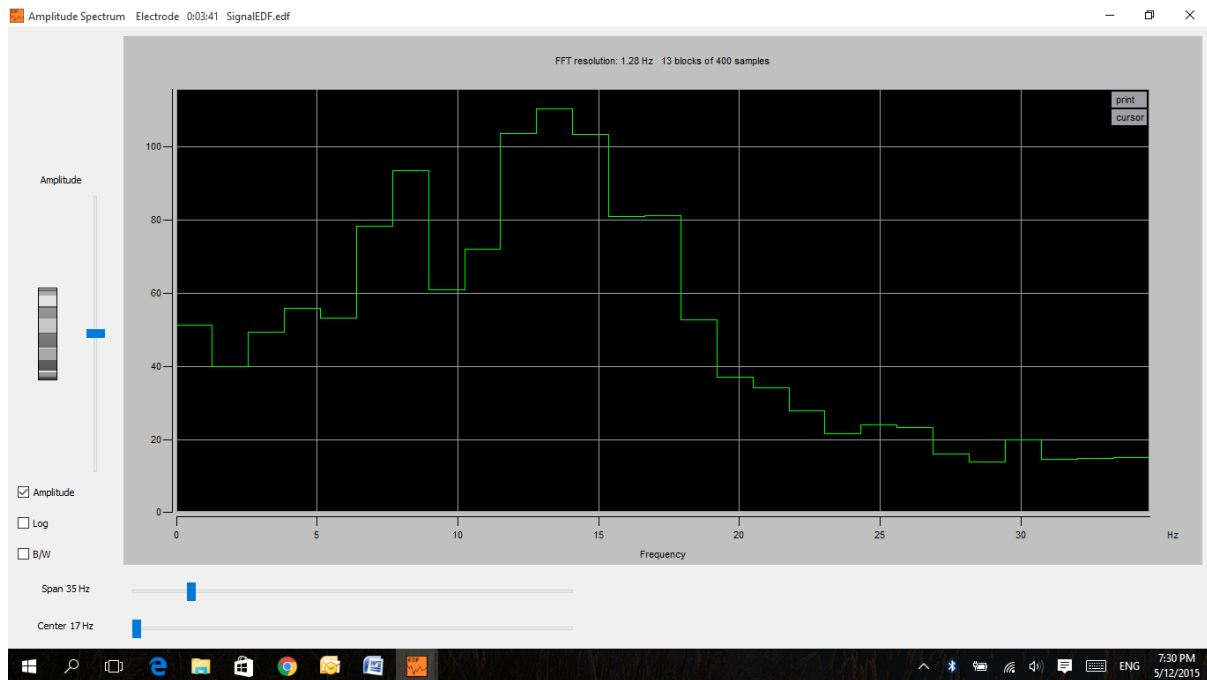

During EEG scanning, I detected pulse of Sound waves in which Brain not given by any stimulus. Below is the EEG pattern :

Note : Waiting for Experts input on pulse sound EEG.

Frequency of the above EEG :

The EEG - pulse sound in frequency domain (image above), is mapped at 15 Hz with high amplitude.

❖ **Appendix J**

(Note : Video Host service will have expire date which control by Video Host service provider)

▪ **FFT at 2.4 GHz (we can see sudden fluctuation and power in db is really high)** https://sendvid.com/33f5hpkg
Detail : On this video, we can see peak hold in green color that leave a trace something comes and go. Peak Hold line in green colors shows external signal interfered at 2.4 GHz

▪ **Spectrum Density of RF at 2.4 GHz**
http://sendvid.com/mu9m2jeg

Details : I have taken this video at place where there was no devices that operate at 2.4 GHz (near plantations). We can see noise floor in blue color comes and go. This external interference cause Wi-Fi at 2.4 GHz to fluctuate and sudden fluctuate at different power level will increase of SNR of Wi-Fi (signal to noise ratio)

▪ **AirMagnet XT**

https://sendvid.com/tkq3xz0s

Details : This software one of the best software available in the market for detection interference   Wi-Fi at 2.4 GHz with different options. We can see FFT picture at real time in leave suddenly max   hold around -10 dBm.

▪ **MetaGeek**

http://sendvid.com/lfrtg2n7

▪ **Wi-Fi Fluctuations at Siloam Hospital in Medan - Indonesia**
http://sendvid.com/2u2j34m7

▪ **Please see one of the video of Wi-Fi as Good comparison**
http://sendvid.com/ebcs29ke

▪ **Unknown RF at 2.4 GHz reaction with human body with EEG**
http://sendvid.com/dofuepqn
Details : This video shows the waterfall images. Each time we see set lines, the individual will feel the reaction to body which not able to show to any other people. Please EEG window at right side at time 6.20 - 6.25 , 6.30-6.40, 6.50 - 6.55. The spike on EEG is trigger by external factor and the individual can feel it.
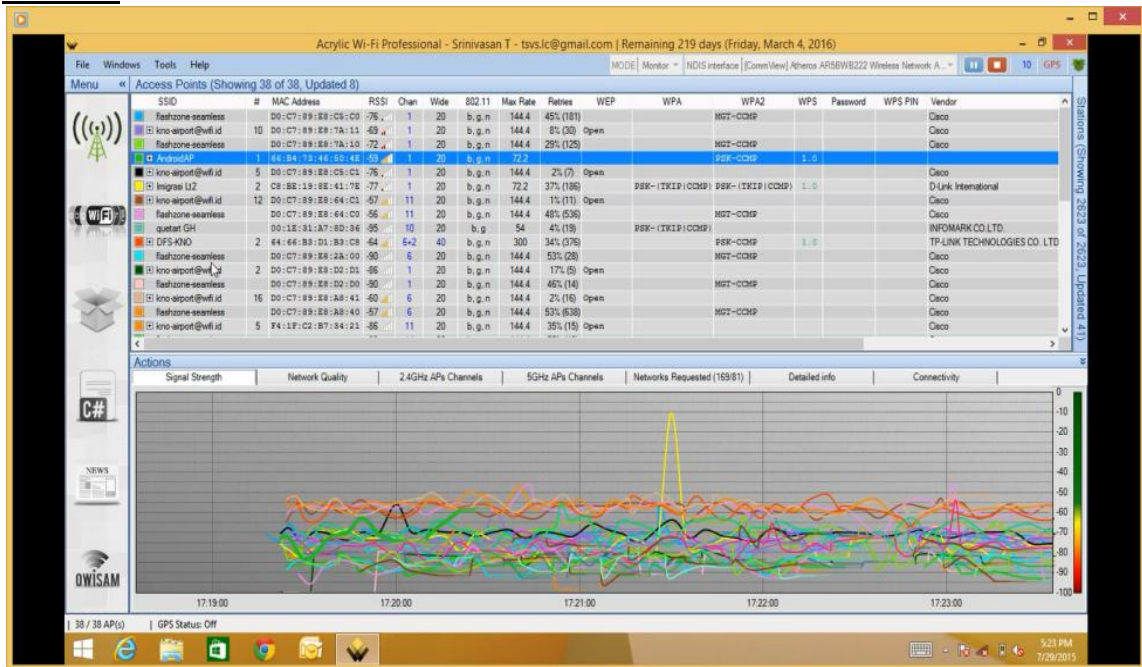
❖ **Appendix K**

Detection of unknown RF at 2.4 GHz in Medan - Kualanamu Airport and on the Flight from Medan - Singapore (Jetstar)

Date and Time : 29-7-2015 4.35 - 5.35 (Indonesia Time)
   5.35 - 6.35 (Singapore Time)
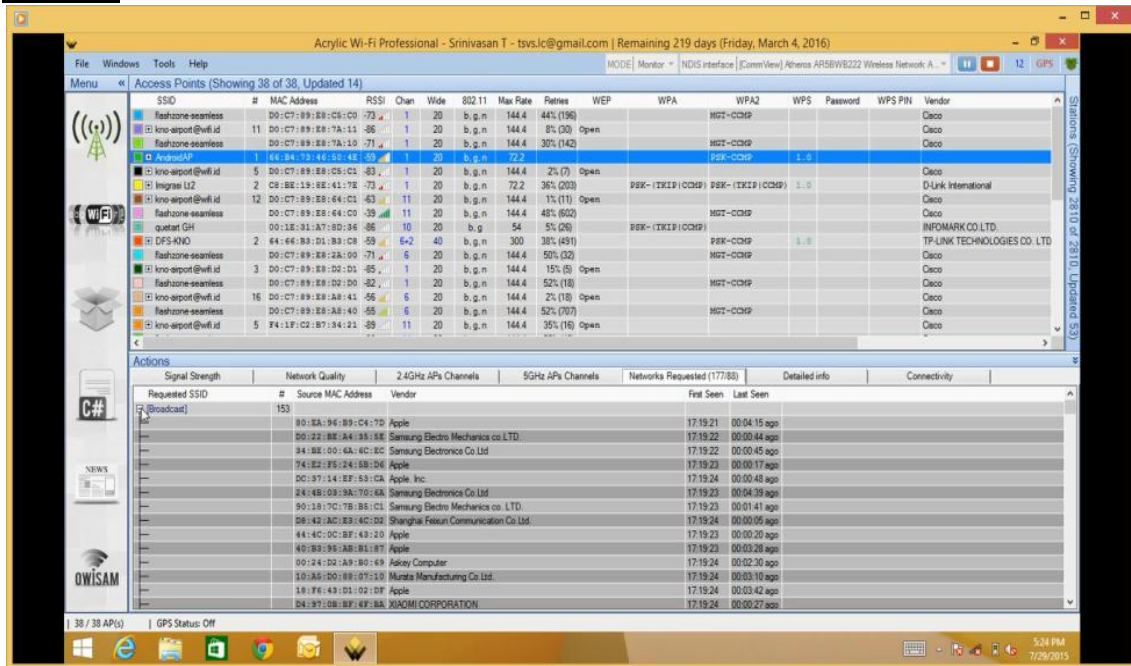   (**My laptop set to Singapore Time**)

❖ **Acrylic Scanning at Medan - Kualanamu Airport (SSID visible)**

Picture 1

Picture 1 shows that visible SSID and we can see fluctuation till -10 dBm and we can see also SSID : AndroidAP (I have reported this SSID , visible from Malaysia on the way back by Bus from KL to Singapore and I can see in Medan Airport today)

Picture 2

Picture 2 shows that we can see many probe request to SSID=Broadcast (Please see page 7 - Picture 2 for same SSID on the flight) .

❖ **Cornet Device with 2.4 GHz antenna and Acrylic Wi-Fi (Pictures takes during flight journey)**
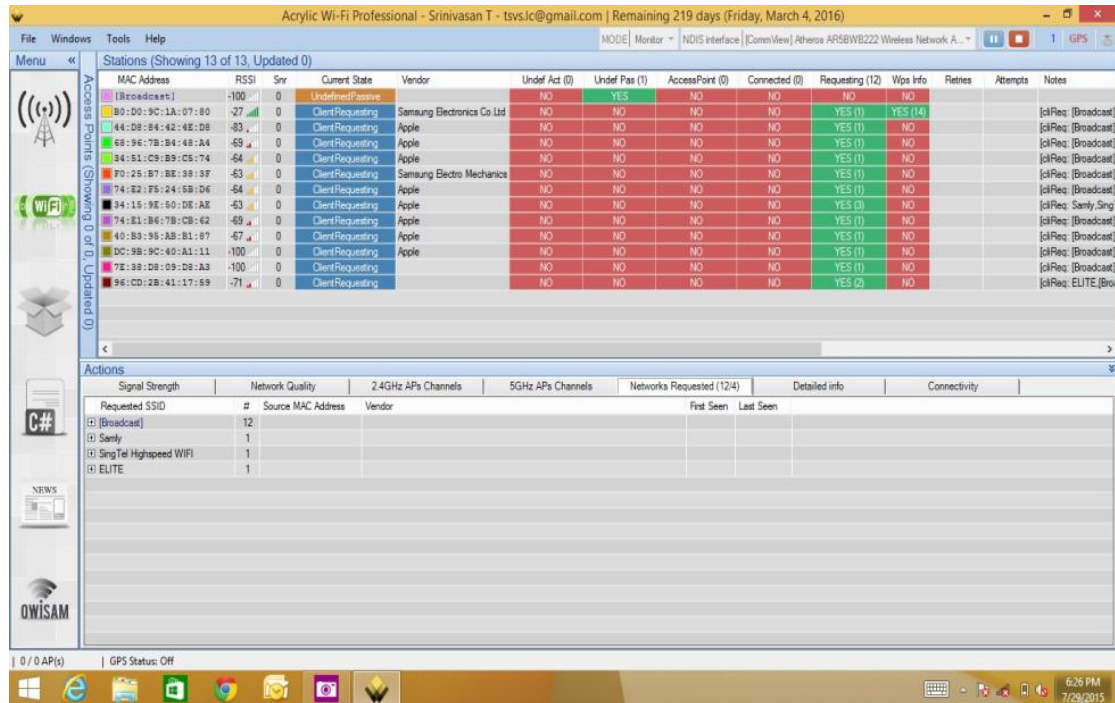
Picture 1

Picture 2
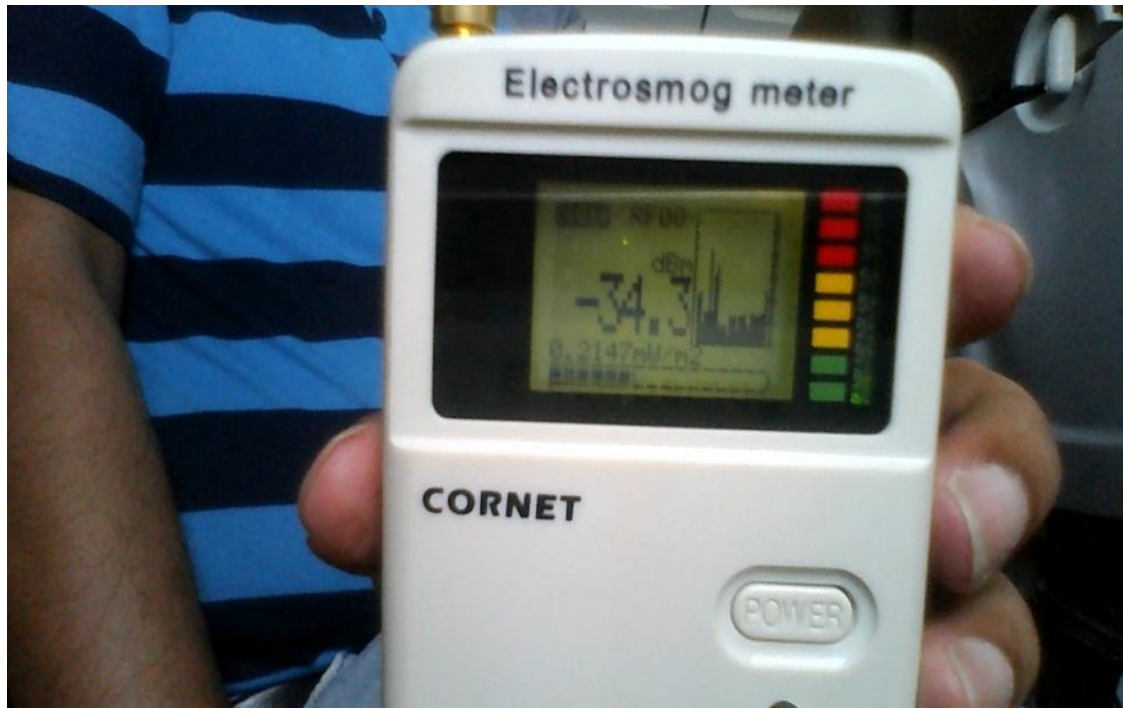
Picture 3

Picture 4

Density value :

1. 0.1004 mW / m^2 = 100.4 μW / m^2 = 0.01004 μW / cm^2
2. 0.2147 mW / m^2 = 214.7 μW / m^2 = 0.02147 μW / cm^2
3. **17.45   mW / m^2 = 17450 μW / m^2 = 1.74 μW / cm^2**
4. **26.42 mW / m^2 = 26420 μW / m^2 = 2.640 μW / cm^2**

- **Acrylic Wi-Fi Scanning on the flight journey**

Picture 1

Picture 1 shows that Acrylic software detected probe packets but not the actual Wi-Fi SSID signal details. Please make a note rssi value.
Please see picture below (Picture 2):

Picture 2
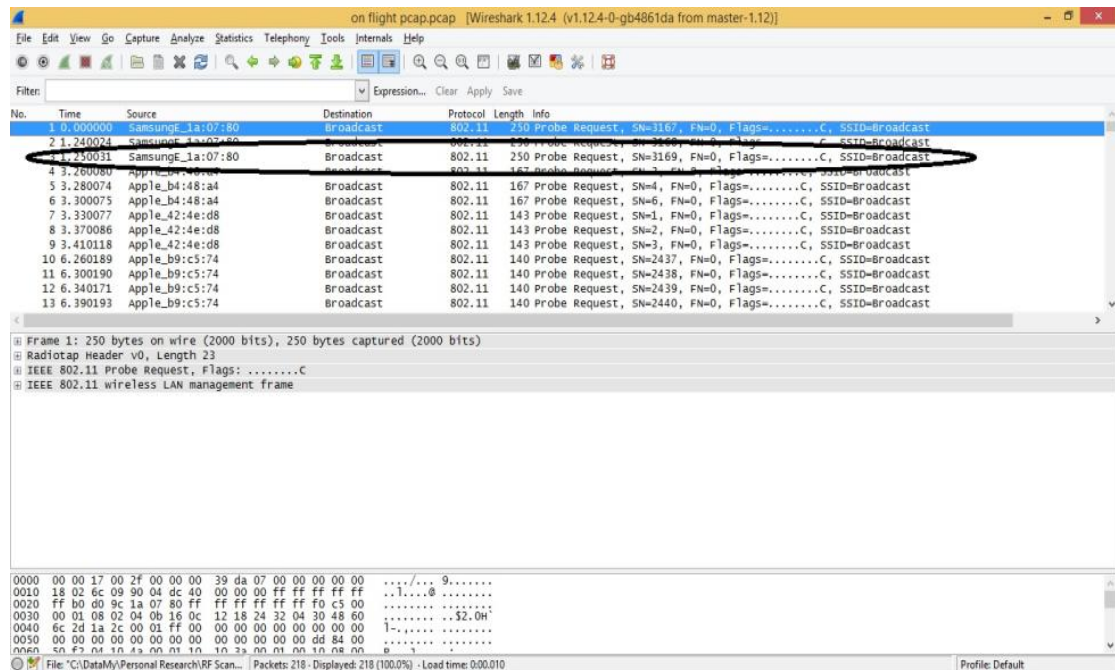
Please take a look circle line, a probe packets to SSID=Broadcast but where is the Access point , where all the devices on the flight journey from Medan - Singapore ? Other strange process, there were no probe response back from any Access point back to client.

Strange About this Wi-Fi Packets (SSID = Wi-Fi Access Point) :
1. Client (Devices) sent probe requests (Broadcast) but none of Access point send Probe Response.
2.There is specific probe request to SSID=Samly, but this SSID not visible on the flight. (where is the SSID ?) . By right, for SSID=Samly should be a Beacon Frames in which enable Laptop, Phone or other clients can see the Access Point but on our case we dont see Beacon Frames.
3. On this pcap file, we can see 14 devices to search for Access Point

Overall, the above Wi-Fi Packets are really strange and should not be there.

Impressions from above Data

1. Density values is too high for 2.4 GHz Networks

2. It is impossible to receive Wi-Fi packets on the flight journey from Medan to Singapore at   32808 ft (approximately) from the sea level.

3. All the SSID (probe requests) and others SSID , just to divert everyone attention it is Wi-Fi signal but it is not Wi-Fi Signal. It is modulated low frequency which carry different density values and of course different RF electric field.

Conclusions :

1. Cornet device always detects from (+/-) -20 dBm to (+/-) -40 dBm. This indicates there is transmission at 2.4 GHz around me

2. Laptop equipped with internal antenna received Wi-Fi packets at 2.4 GHz, indicated transmission comes from Satellite not from Cell Tower

3. The same radio sound detected on the flight as well.

❖ **Appendix L**

Detecting unknown Radio Frequency at 2.4 GHz at

Latitude   :   3.50423333333333
Longitude   :   98.6258966666667

View on Google Maps:
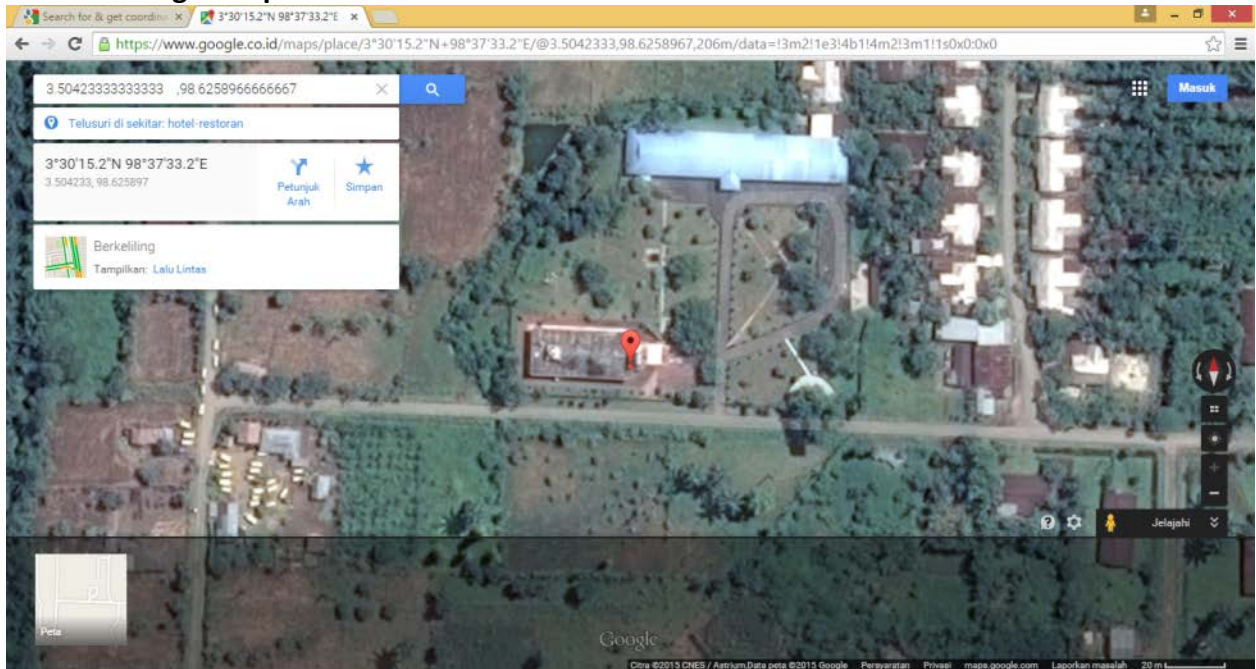
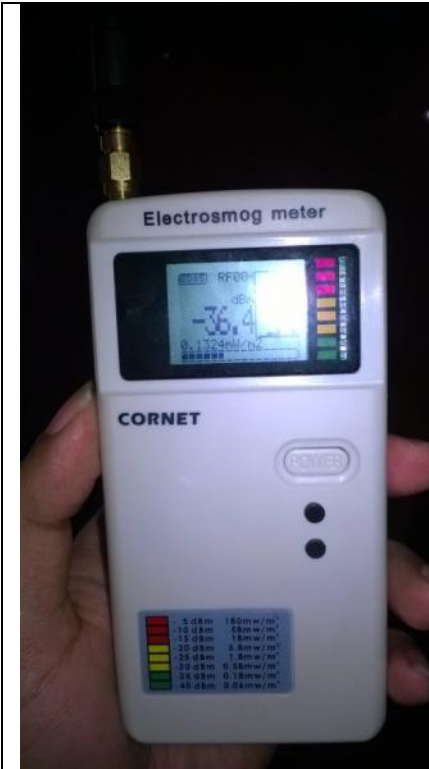This place located at remote place, near plantation and use home Wi-Fi networks not available.
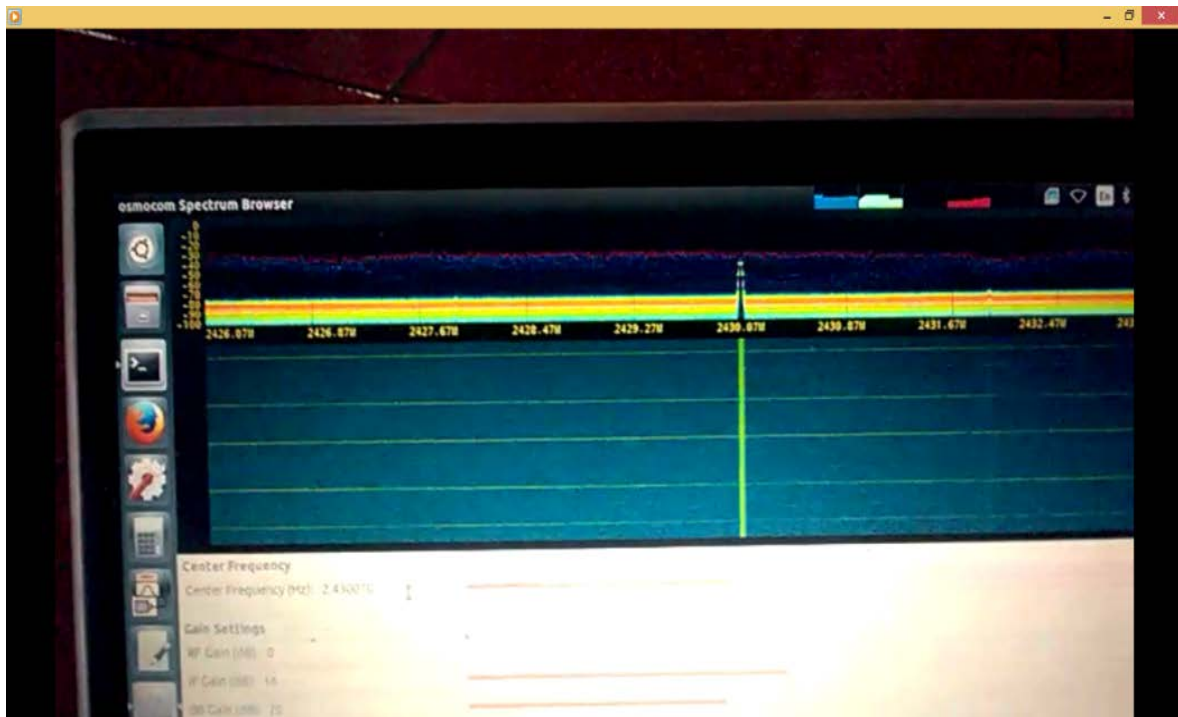
Acrylic view :
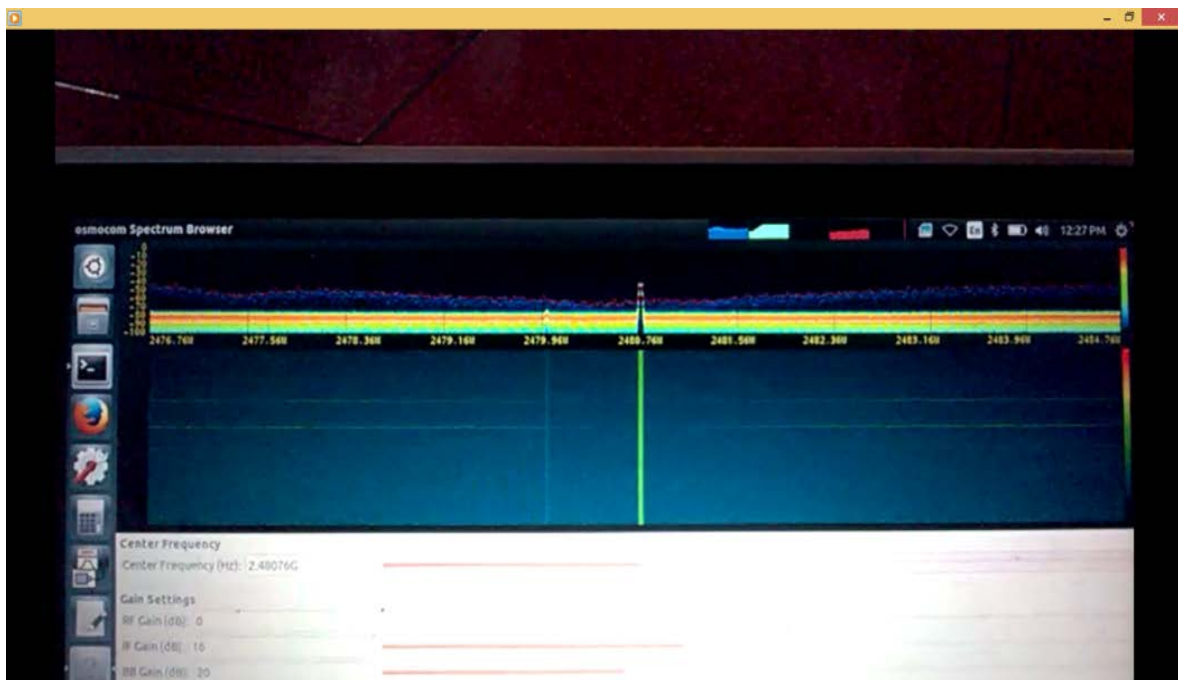

No Wi-Fi networks

Cornet Readings :

Spectrum Density :

Please see the strong noise floor that appeared suddenly. This external interference at 2.4 GHz cause home Wi-Fi networks to fluctuate (At different frequency). This external interference cause additional power at certain Wi-Fi channel and increase of SNR value

Please see the strong noise floor that appeared suddenly. This external interference at 2.4 GHz cause home Wi-Fi networks to fluctuate. (At different frequency). This external interference cause additional power at certain Wi-Fi channel and increase of SNR value
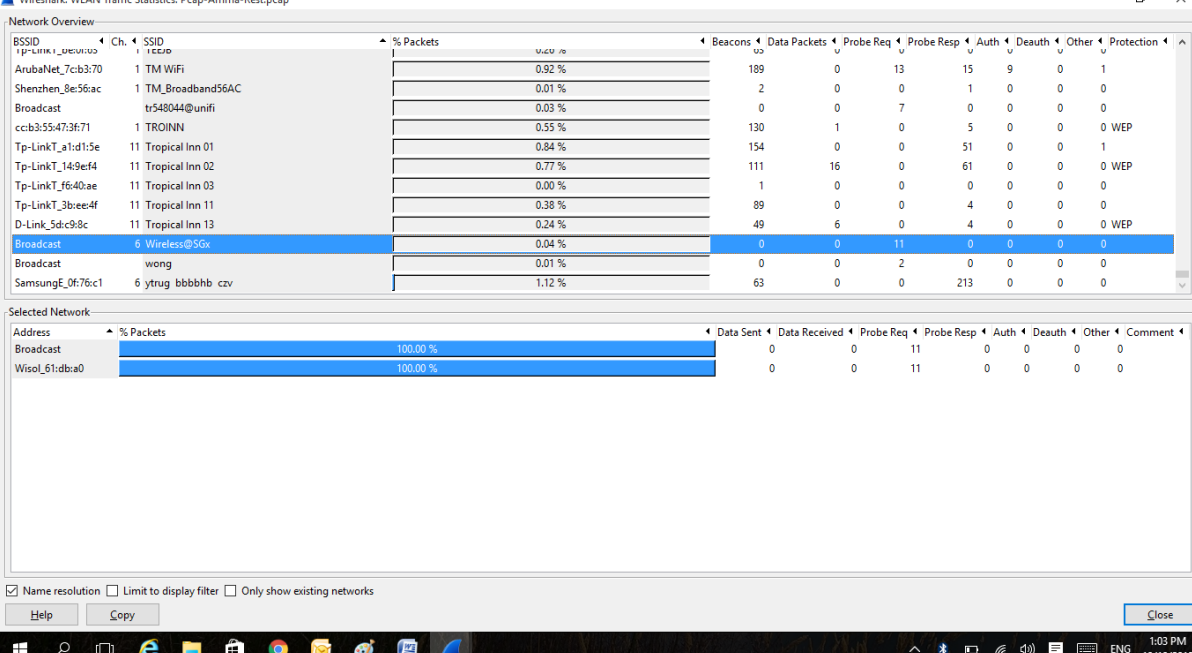
Conclusions :

There is **Unknown RF Transmission at 2.4 GHz** and this radio transmission is not a standard Wi-Fi networks but something else **(modulated at low frequency)**. This Radio Transmission works at 2.4 GHz which is source of fluctuation of home Wi-Fi networks which works at 2.4 GHz.

❖ Appendix M

Analysis of Wi-Fi Packets in JB

- Amma Restaurant :

1. Please see following screen for SSID = Wireless@SGx

The above Wi-Fi Packets, there was a request sent to Wireless@SGX.

2. Please see following SSID = AndroidAP

On this screen we can see SSID=AndroidAP as base stations

- Near to Barber Shop

1. Please see following SSID = AndroidAP

Wireshark: WLAN Traffic Statistics: Pcap-barber-kotaraya.pcap

Network Overview

BSSID	Ch.	SSID	% Packets	Beacons	Data Packets	Probe Req	Probe Resp	Auth	Deauth	Other	Protection
Broadcast		0E25AC	0.08 %	0	0	11	0	0	0	0	
Broadcast		0F260C	0.04 %	0	0	6	0	0	0	0	
GreenPac_3f:bd:8c	9	3FBD8C	4.82 %	235	332	0	95	0	0	0	WEP
GreenPac_3f:c2:30	9	3FC230	1.17 %	144	0	0	17	0	0	0	
SamsungE_d3:5d:e9	6	888888888	0.25 %	25	0	0	10	0	0	0	
Broadcast		9287E_MaxisBroadband	0.05 %	0	0	7	0	0	0	0	
Broadcast		AIU Wifi	0.06 %	0	0	8	0	0	0	0	
Broadcast		alhajcurryhouse	0.07 %	0	0	10	0	0	0	0	
Wisol_59:e3:ac	11	AndroidAP	0.28 %	16	0	2	21	0	0	0	
MurataMa_90:8b:94	6	AndroidAP	1.11 %	63	3	0	80	7	0	0	
Broadcast		AndroidHotspot5886	0.01 %	0	0	1	0	0	0	0	
D-Link_ff:97:04	11	AVISTA	0.98 %	116	0	8	11	0	0	0	
Broadcast		BeXtra-1	0.01 %	0	0	1	0	0	0	0	

Selected Network

Address	% Packets	Data Sent	Data Received	Probe Req	Probe Resp	Auth	Deauth	Other	Comment
Apple_14:a0:25	13.04 %	0	0	0	3	0	0	0	
BeijingX_73:fe:11	13.04 %	0	0	0	3	0	0	0	
Broadcast	8.70 %	0	0	2	0	0	0	0	
fe:71:ee:a0:1b:3f	26.09 %	0	0	0	6	0	0	0	
HuaweiTe_9b:57:8c	13.04 %	0	0	0	3	0	0	0	
SamsungE_5d:eb:25	4.35 %	0	0	0	1	0	0	0	
SamsungE_96:5c:23	8.70 %	0	0	0	2	0	0	0	
VivoMobi_e7:37:c6	13.04 %	0	0	0	3	0	0	0	
Wisol_1f:17:56	8.70 %	0	0	0	2	0	0	0	
Wisol_59:e3:ac	91.30 %	0	0	0	21	0	0	0	Base station

On this screen , we can see Access Point as AndroidAP as Base station.

2. Please see following SSID = Wireless@SGx

Wireshark: WLAN Traffic Statistics: Pcap-barber-kotaraya.pcap

Network Overview

BSSID	Ch.	SSID	% Packets	Beacons	Data Packets	Probe Req	Probe Resp	Auth	Deauth	Other	Protection
Broadcast		Switch Qb Customer WiFi	0.07 %	0	0	9	0	0	0	0	
GreenPac_65:b7:d0	9	T_VIRUS	0.87 %	78	15	0	27	0	0	0	WEP
Broadcast		TMCIQ 1ST FL	0.07 %	0	0	9	0	0	0	0	
Tp-LinkT_0b:42:f3	3	TP-LINK_M5250_0B42F3	0.45 %	40	2	0	20	0	0	0	Unknown
Broadcast		user\357\277\275\357\277\275\357\277\275s	0.03 %	0	0	4	0	0	0	0	
GreenPac_62:c5:94	10	Utune	9.84 %	824	240	12	275	0	0	0	WEP
Infomark_a8:3a:af	11	whatever	2.40 %	66	1	0	263	0	0	0	Unknown
Broadcast	1	Wireless@SGx	0.24 %	0	0	33	0	0	0	0	
06:19:be:00:07:88	7	WiZone_2	0.22 %	4	0	0	26	0	0	0	
Broadcast		wong	0.03 %	0	0	4	0	0	0	0	
AsustekC_46:05:b8	6	Wong Kok	8.07 %	382	76	0	590	1	0	60	Unknown
MurataMa_25:d7:ea	6	xXxArchenxXx	0.01 %	1	0	0	1	0	0	0	
Broadcast		Yu Earn	0.01 %	0	0	1	0	0	0	0	

Selected Network

Address	% Packets	Data Sent	Data Received	Probe Req	Probe Resp	Auth	Deauth	Other	Comment
Broadcast	100.00 %	0	0	33	0	0	0	0	
SamsungE_6c:f6:c0	15.15 %	0	0	5	0	0	0	0	
SamsungE_80:2e:21	18.18 %	0	0	6	0	0	0	0	
Wisol_7c:e9:d0	66.67 %	0	0	22	0	0	0	0	

On this screen , we can see there were probe request sent to get information about
SSID=Wireless@SGX

- Inside JB Train Station to Woodlands

1. Please see following SSID = AndroidAP

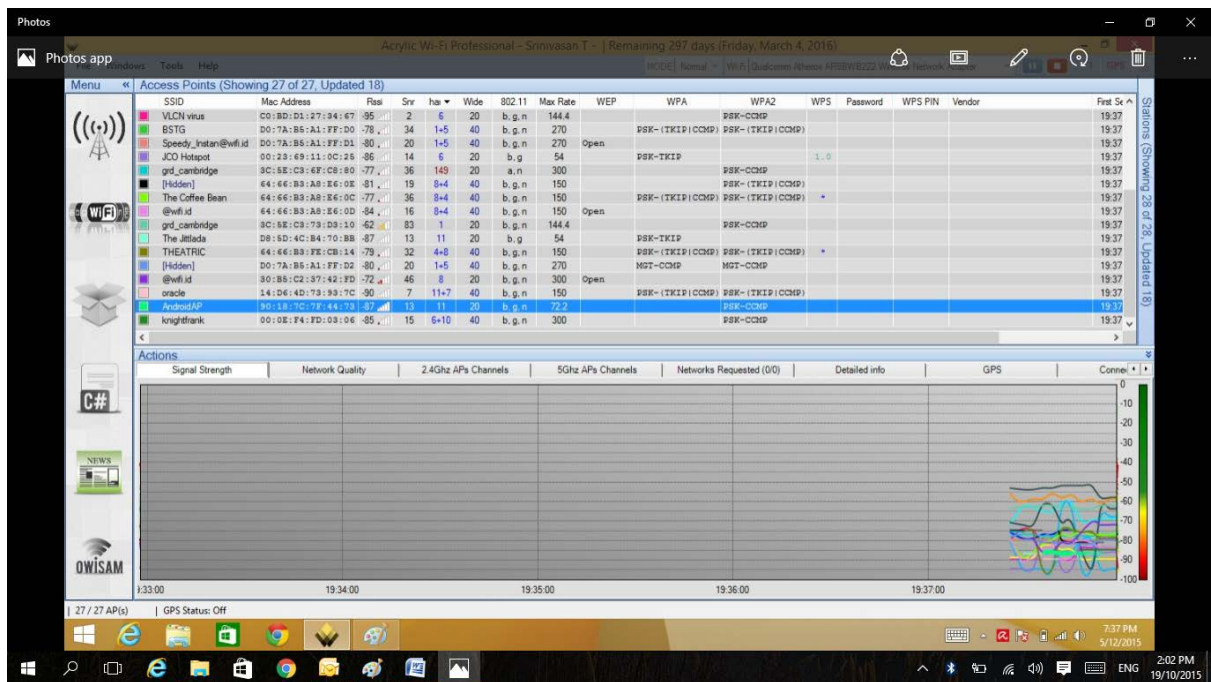## 2. Please see following SSID = Lenovo A328,A850,A889

- Please see following screen shot on the way from KL to Singapore by Bus (3/3/2015)
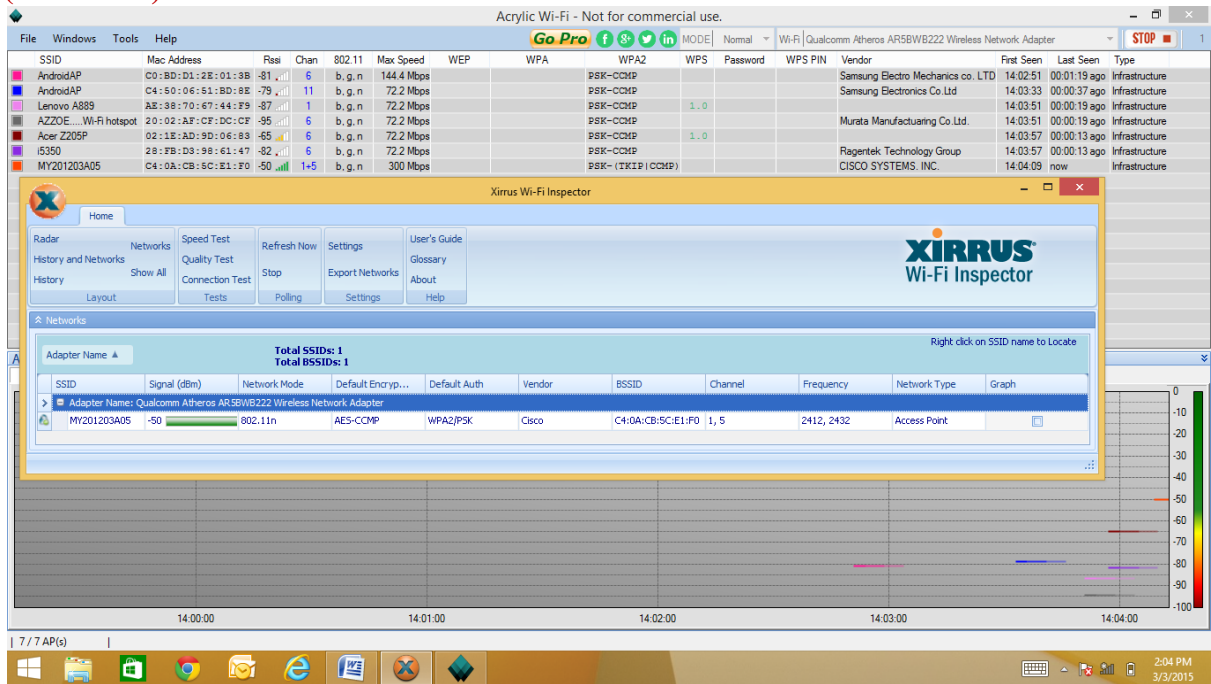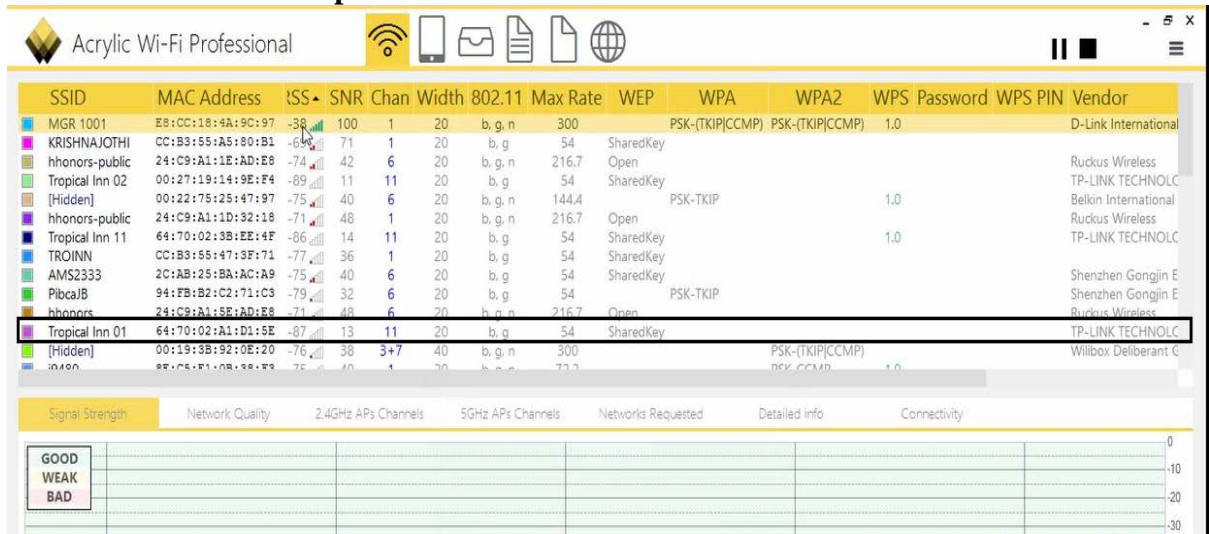

<u>You can see SSID : AndroidAP, Lenovo A889</u>

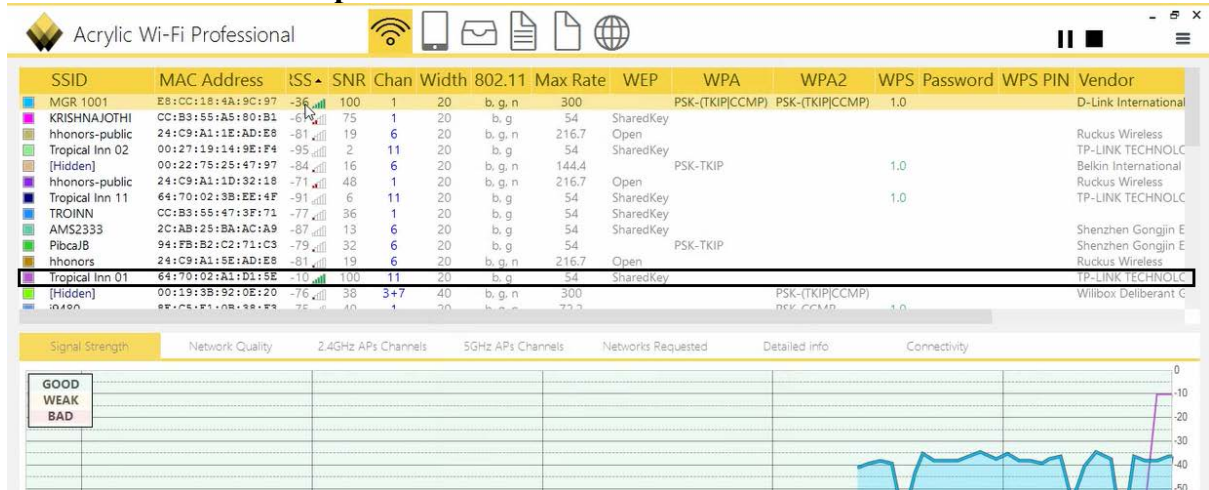**- Please see following SSID = AndroidAP in Medan - Indonesia**

- Wi-Fi Fluctuation at Amma Restaturant

1. Picture of SSID = Tropical Inn 01 with dBm = -87 SNR = 13

2. Picture of SSID = Tropical Inn 01 with dBm = -10 SNR = 100

Please see following calculations :
1. Wireless Power at -87 dBm with SNR 13
2. Changes Power to -10 dBm with SNR 100
===================================
Difference = 77 dBm (50118 watt) with SNR 87

We have to come to realization that there is no home based or office based Wi-Fi device can transmit such huge power and then drop immediately.

- Cornet Measuremant at JB Tran Station to Singapore

Conclusion :

1. <u>Wi-Fi at Amma Restaurant</u>
Directed probe packets SSID=Wireless@SGX.
We can see SSID=AndroiAP as base station of transmission at Amma Restaurant and Barber Shop as well.
In the probability rule, highly impossible to have two same SSID as base stations at two different locations.

2. <u>We can see SSID=AndroidAP as Access Point</u> , everyhere in JB (Amma restaurant , near Barber Shop, inside JB train to Singapore) , from KL-to-Singapore by bus and Medan - Indonesia.
What is the probability that we can see same SSID everywhere ? The probability is 0 which means not possible to occur. We can say for sure that there is transmission which send Wi-Fi Packets but in actual fact it is different signal and transmission using Satellite.

3. <u>We can see SSID = Lenovo A328,A850,A889 as Access Point</u> in JB and we can see same SSID=Lenovo A889 on 3/3/2015 (on the way from KL to Singapore by bus).
This clearly send a message :
- The Wi-Fi packets does not come from Land Based device but from Satellite
- It is highly impossible to detect the SSID on the way from KL-to-Singapore by
** bus**

4. <u>Wi-Fi power Difference = 77 dBm</u> (50118 watt) with SNR 87
We have to come to realization that there is no home based or office based Wi-Fi device can transmit such huge power and then drop immediately.
When the power reach to -10 dBm, we should see the device in front of us but in our case we dont see the device. This is universal rule that everyone knows about this.

5. <u>Cornet measured at around = -36.2 dBm</u> using 2.4 GHz antenna. This indicate there is transmission that has power -36.2 dBm and for sure not coming from Wi-Fi device. This device produced radio sound which not classified as standard radio sound that available and not matched with Wi-Fi sound

<u>Final Conclusion :</u>

There is Radio Signal that interfered at 2.4 GHz and the source comes from Satellite. This signal is modulated at low frequency (30 - 100 Hz) and it delivers Wi-Fi packets from time to time with wrong order to make people believe it is Wi-Fi Packets.