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LAMPIRAN

A. Parameter Teknis Antena Satelit Indostar-2

B. Alokasi Frekuensi PT. MCI

C. Hasil Simulasi Zona Segmentasi

D. Hasil Simulasi Band Segmentasi

ANTENNA PERFORMANCE

Radiation pattern and gain measurements were conducted in the Labs' 75-foot farfield anechoic chamber. The results are shown in Table 1. Gain has been determined using two techniques:

1) Average of the 180° azimuth and elevation radiation pattern integration peak directivities, less an approximation of -0.75 dB for additional losses in the antenna including the following items:

Reflector:	-0.10
Feed:	-0.25
ABS plastic cover:	-0.25
Add'l. Spillover:	-0.10
Cross-pol:	-0.05
Total:	-0.75

2) Comparison of peak power level to that of a calibrated standard gain horn. An adjustment of +0.20 dB has been made to the gain values shown in Table 1. This is necessary to correct for the loss associated with a test adapter cable that was required during the measurement to attach to the feed.

Table 1: Swept Frequency On-Axis Gain

	Pattern Integration		Gain-by-Comparision	
Freq. (GHz)	V-pol (13 V)	H-pol (18 V)	V-pol (13 V)	H-pol (18 V)
2.520	24.14	24.19	23.93	23.99
2.535	—	—	24.02	24.10
2.550	—	—	24.06	24.09
2.565	—	—	24.16	24.13
2.580	—	—	24.21	24.12
2.595	24.65	24.12	24.26	24.10
2.610	—	—	24.39	24.15
2.625	—	—	24.38	24.06
2.640	—	—	24.49	24.10
2.655	—	—	24.53	24.05
2.670	24.72	24.34	24.60	24.08

Table 2 shows some of the various pattern quality measures as would pertain the the specifications of the INDOSTAR ODU.

Table 2: Radiation Pattern Characteristics at 2595 MHz

	Radiation Pattern			
Parameter	V-pol Az.	H-pol Az.	V-pol El.	H-pol El.
Max. Co-pol Sidelobe	-25	-19	-26	-20
First Sidelobes	-26, -29	-19, -25	-26, -27	-20, -20
On-Axis X-pol	-41	-44	-39	-50
Max. X-pol (±180°)	-39	-34	-20	-20
Max. X-pol (1 dB BW)	-40	-41	-23	-24

	0°C to 50 °C	
Phase noise @ 1 kHz	-60 dBc/Hz[1]	-50 dBc/Hz
@ 10 kHz	-100 dBc/Hz[1]	-75 dBc/Hz
@ 100 kHz	-110 dBc/Hz[1]	-95 dBc/Hz
@ 1 MHz	-112 dBc/Hz[1]	-110 dBc/Hz
DC Power		
LNB power supply	Via output connector	Via output connector
DC voltage/polarization	< 14.5 V /Vertical	13 V normal/Vertical
	> 15.7 V/Horizontal	18 V normal/Horizonal
DC current	Not tested	350 mA max
Transient Protection	Not tested	yes
Interface		
Input port	50 Ω, integrated with feed	50 Ω or TBD
Output port	75 Ω type F female	75 Ω type F female

Antenna Performance (80 cm Antenna)

Parameter	Measured Performance	Specification
Operation frequency	2520 MHz to 2670 MHz	2520 MHz to 2670 MHz
Polarization Type	Dual linear	Dual linear
Gain in frequency band	23.93 dBi[3]	24.2 dBi
First sidelobe	-19 dB max	-20 dB max
Cross polarization level	-39 dB max on-axis	-25 dB max on-axis
	-23 dB max in 1 dB beamwidth	-20 dB max in 1 dB beamwidth
Antenna G/T including LNB (ambient)	4.6 dB/K min in Zenith 5.0 dB/K min @ 60° elevation	4.1 dB/K min @ 80° elevation

Mechanical

Parameter	Measured Performance	Specification
Antenna type	Offset reflector antenna	Offset reflector or flat antenna
Mount type	Elevation over azimuth	Elevation over azimuth
Elevation adjustment range	11.4° to 105.9°	50° to 90°
Azimuth adjustment range	Wall mount: ±90°	±90°
Polarization adjustment	360°	±90°

Environment

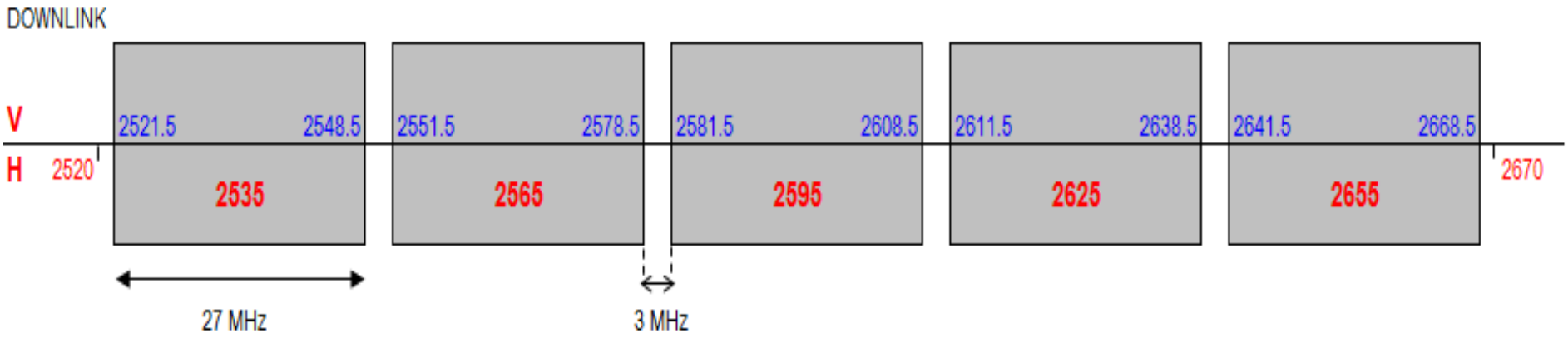
Wind: Operational Survival	Not tested Not tested	40 miles/hour 80 miles/hour
Temperature: Operational Survival	OK Not tested	0° C to 55° C 0° C to 70° C
Humidity	Not tested	Up to 100%

Note:

1) Image rejection, P_{1dB}, and phase noise test results are provided by RF-Link. The results are included in Attachment B.

PT. MEDIACITRA INDOSTAR

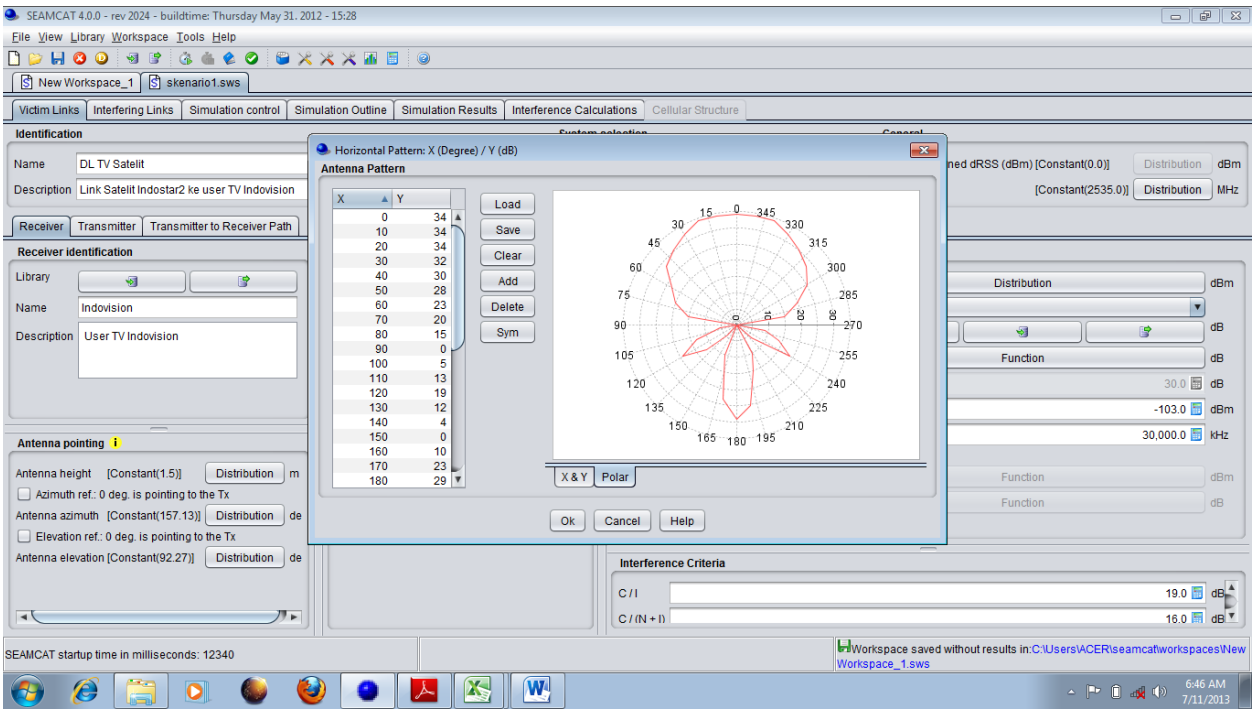
VIDEO TRANSPONDERS LAY OUT OF INDOSTAR-2 SATELLITE

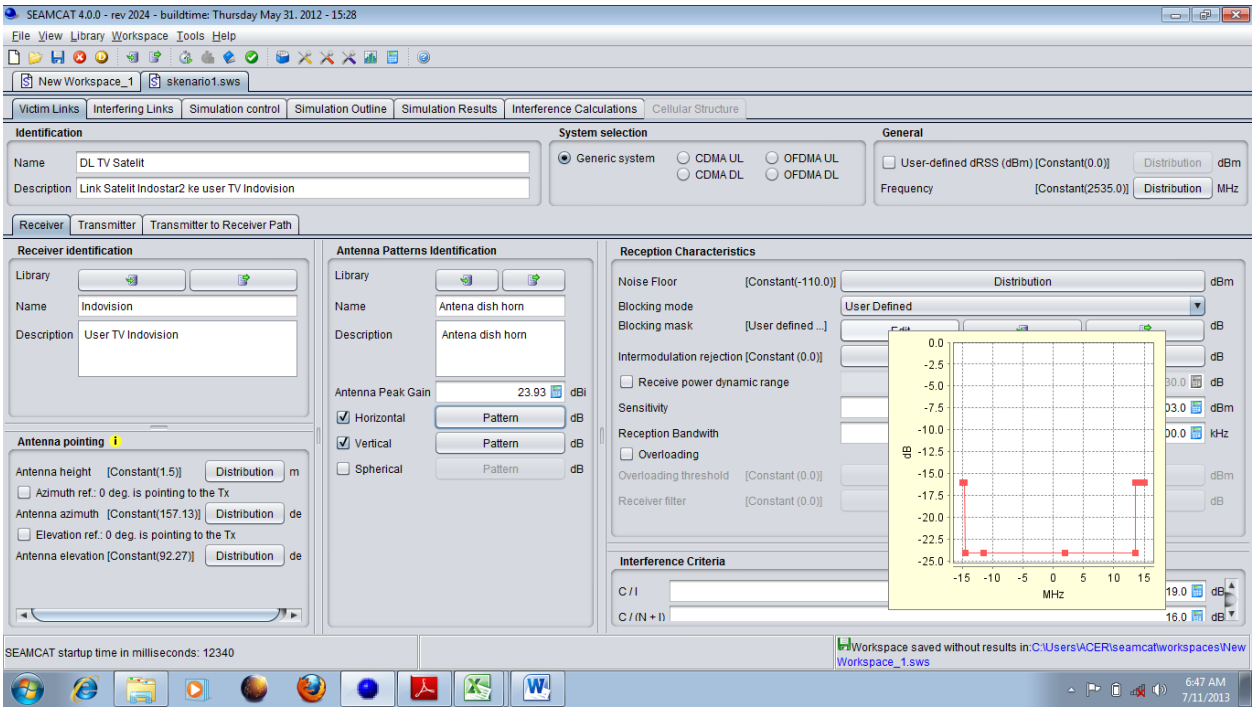


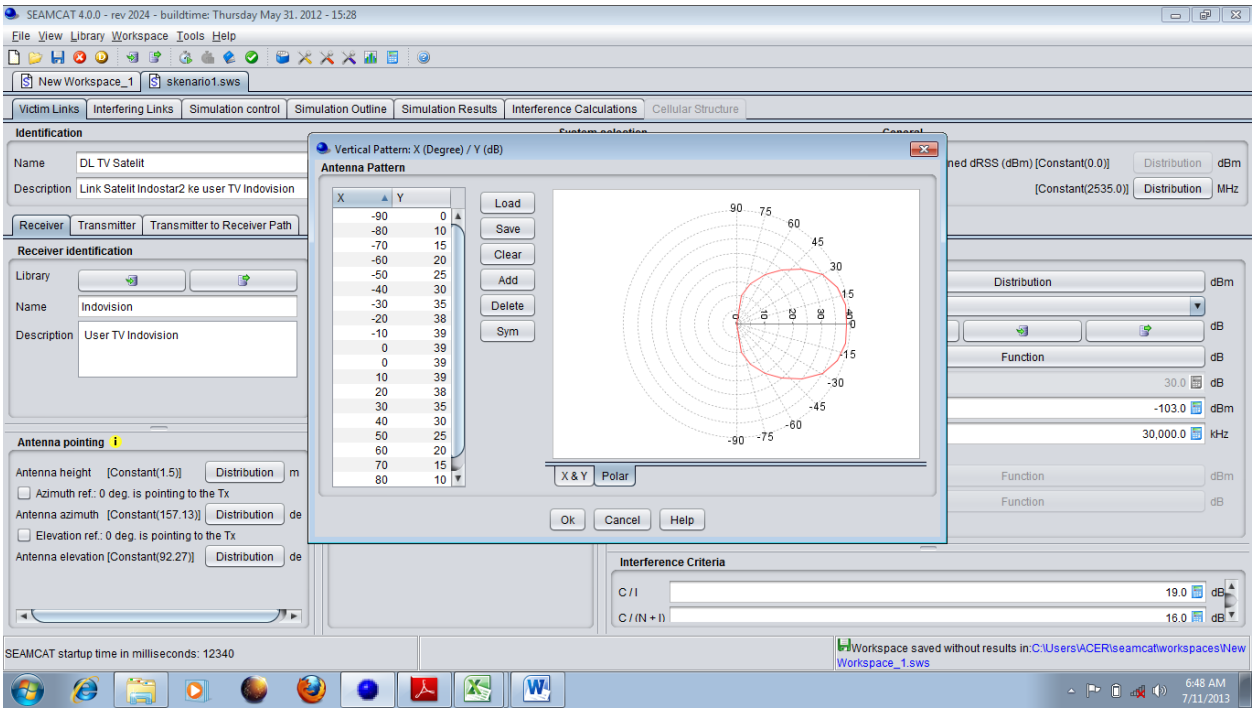
OPSI ZONA SEGMENTASI

SKENARIO 1

Parameter Yang diinput pada skenario 1 :



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File View Library Workspace Tools Help
New Workspace_1
skenario1.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
Identification
Name
DL TV Satelit
Description
Link Satelit Indostar2 ke user TV Indovision
Receiver
Transmitter
Transmitter to Receiver Path
Receiver identification
Library
Name
Indovision
Description
User TV Indovision
Antenna pointing
Antenna height [Constant(1.5)]
Distribution
Azimuth ref.: 0 deg. is pointing to the Tx
Antenna azimuth [Constant(157.13)]
Elevation ref.: 0 deg. is pointing to the Tx
Antenna elevation [Constant(92.27)]
Vertical Pattern: X (Degree) / Y (dB)
Antenna Pattern
X
Y
Load
Save
Clear
Add
Delete
Sym
X & Y
Polar
Ok
Cancel
Help
Interference Criteria
C / I
19.0
C / (N + I)
16.0
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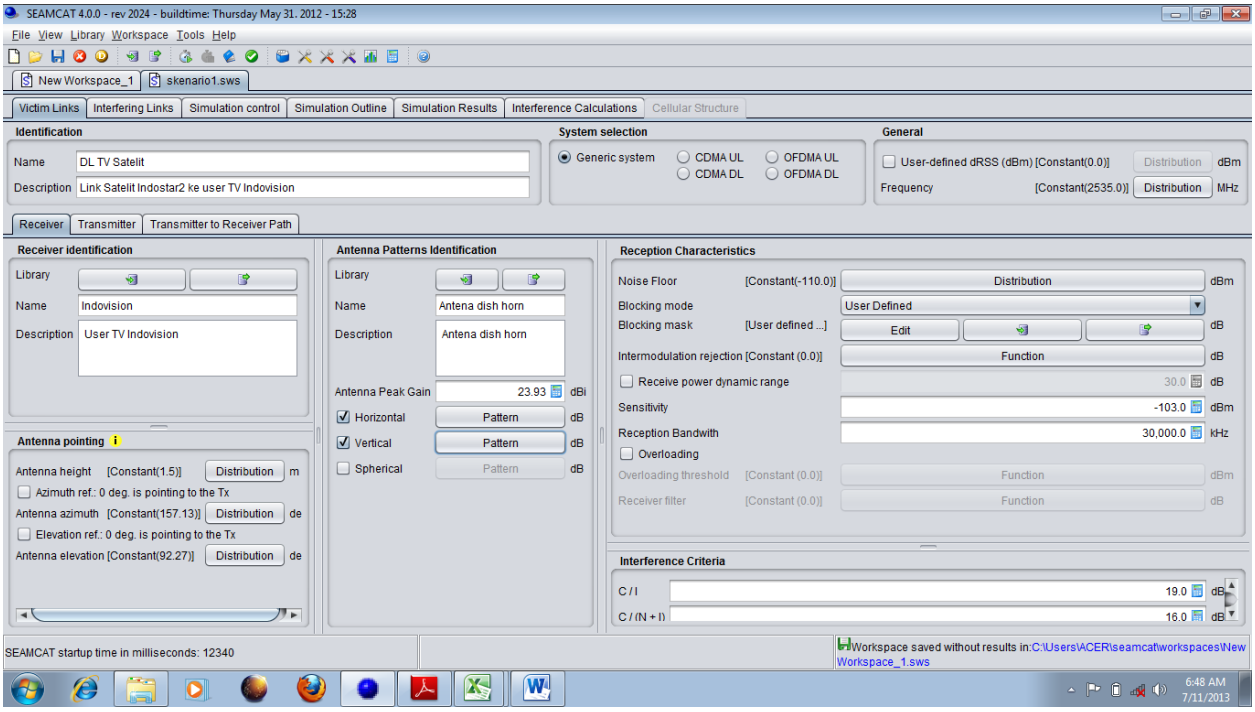
Workspace saved without results in:C:\Users\ACER\seamcat\workspaces\New Workspace_1.sws
6:48 AM
7/11/2013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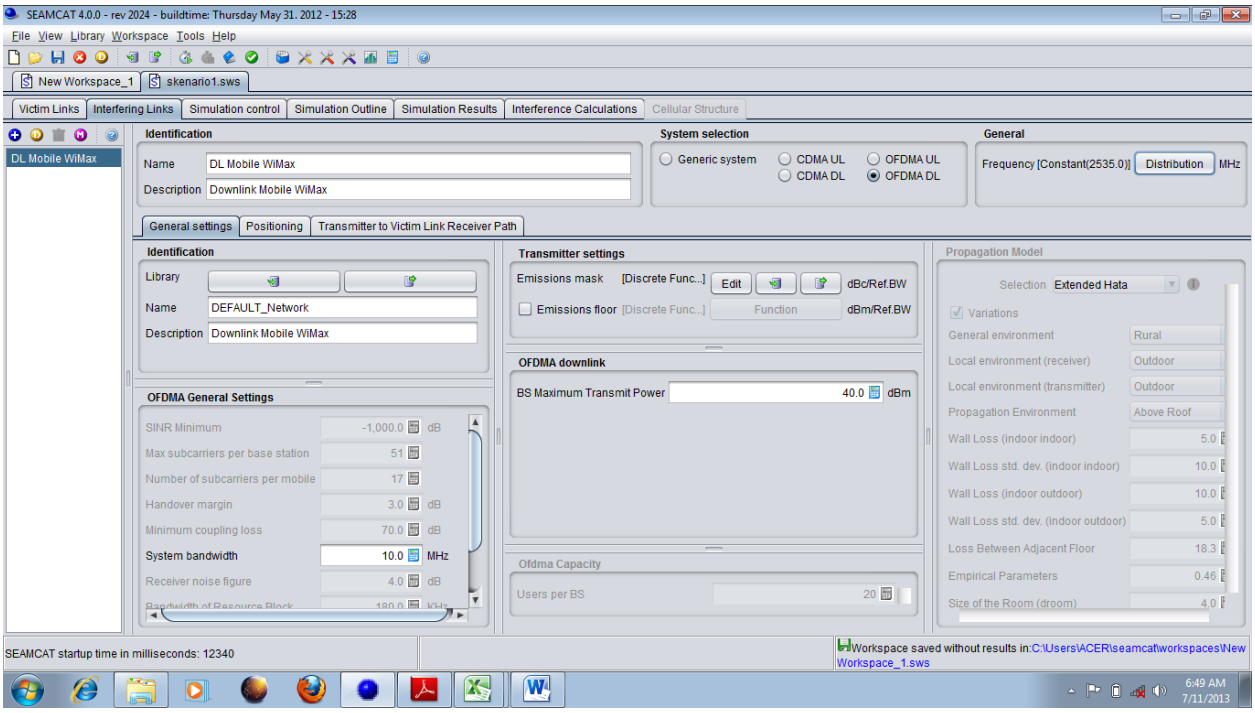
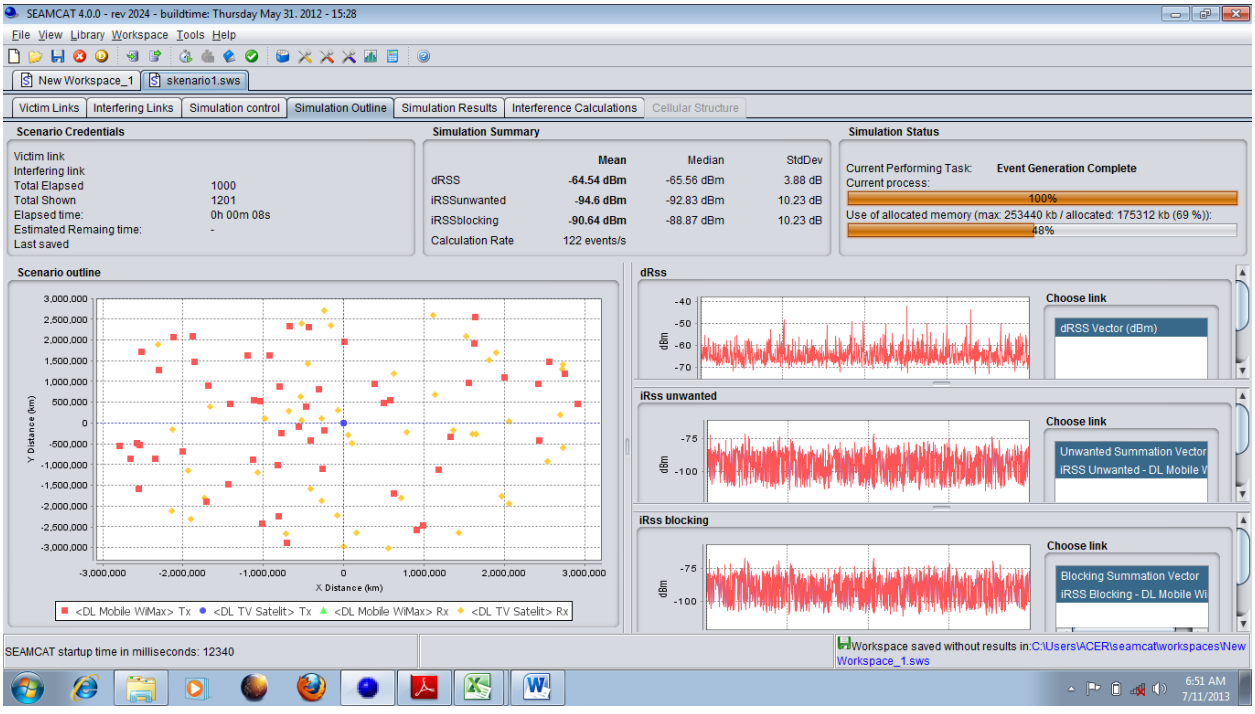
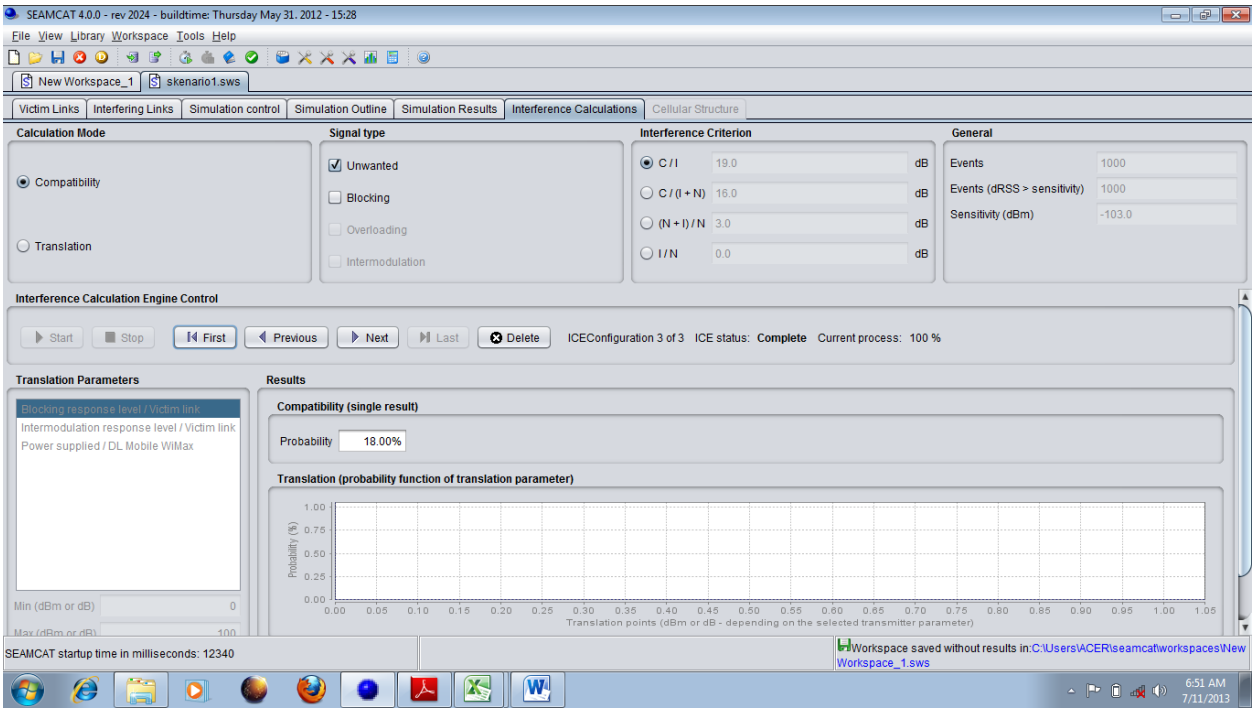
New Workspace_1
skenario1.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
Identification
Name
DL TV Satelit
Description
Link Satelit Indostar2 ke user TV Indovision
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
User-defined dRSS (dBm) [Constant(0.0)]
Distribution
Frequency
[Constant(2535.0)]
Receiver
Transmitter
Transmitter to Receiver Path
Receiver identification
Library
Name
Indovision
Description
User TV Indovision
Antenna pointing
Antenna height [Constant(1.5)]
Distribution
Azimuth ref.: 0 deg. is pointing to the Tx
Antenna azimuth [Constant(157.13)]
Elevation ref.: 0 deg. is pointing to the Tx
Antenna elevation [Constant(92.27)]
Antenna Patterns Identification
Library
Name
Antena dish horn
Description
Antena dish horn
Antenna Peak Gain
23.93
dBi
Horizontal
Pattern
Vertical
Spherical
Reception Characteristics
Noise Floor
[Constant(-110.0)]
Blocking mode
User Defined
Blocking mask
[User defined ...]
Edit
Intermodulation rejection [Constant (0.0)]
Function
Receive power dynamic range
Sensitivity
-103.0
Reception Bandwith
30,000.0
Overloading
Overloading threshold
[Constant (0.0)]
Receiver filter
Interference Criteria
C / I
19.0
C / (N + I)
16.0
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:C:\Users\ACER\seamcat\workspaces\New Workspace_1.sws
6:48 AM
7/11/2013



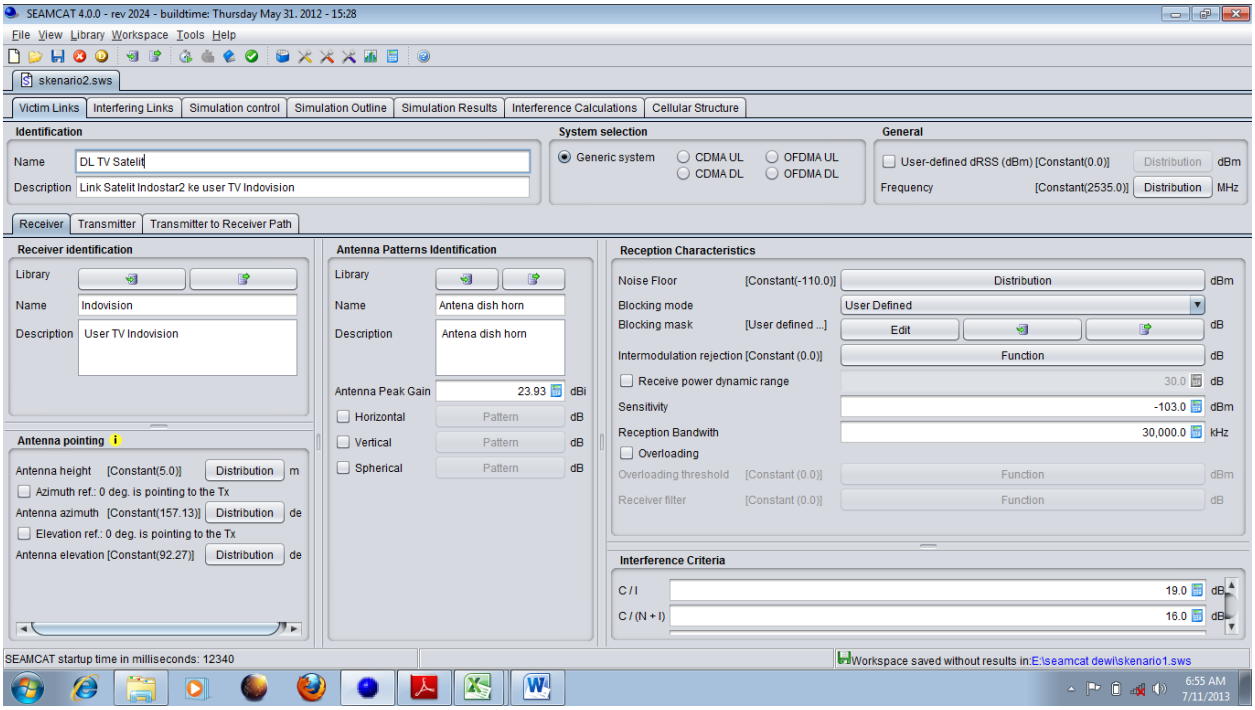
Hasil Simulasi skenario 1 pada Opsi Zona Segmentasi :

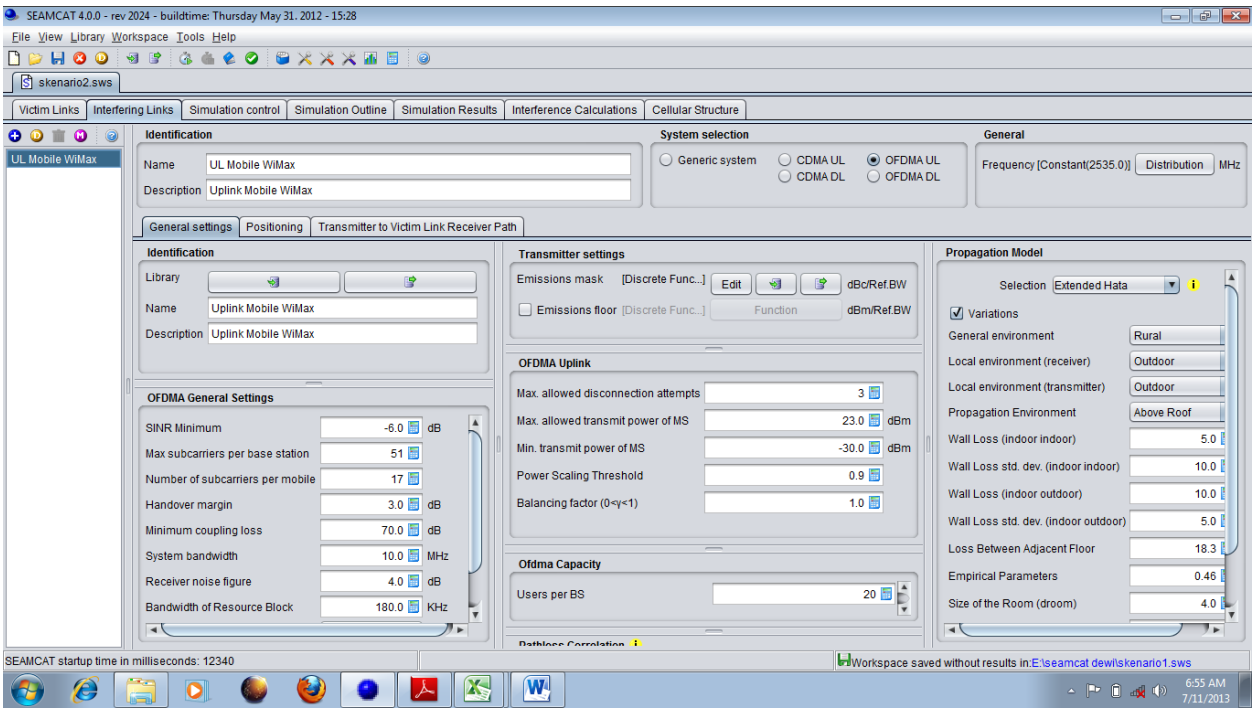


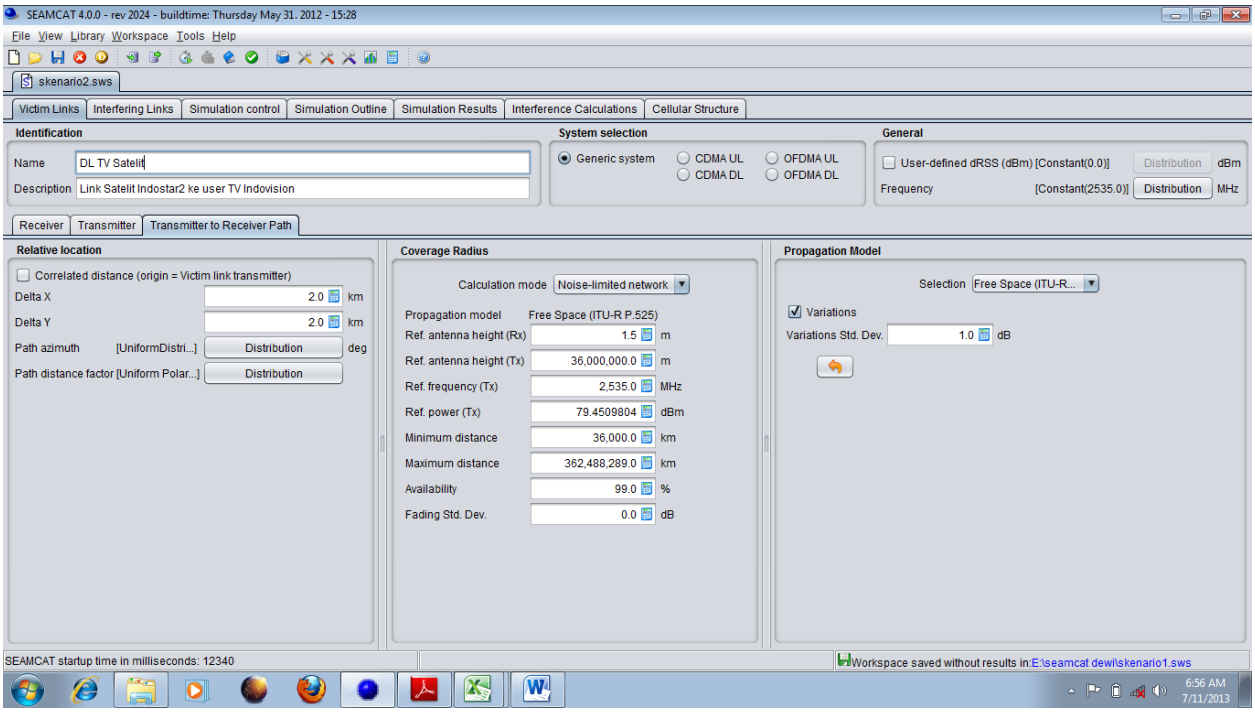

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
New Workspace_1
skenario1.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
Calculation Mode
Compatibility
Translation
Signal type
Unwanted
Blocking
Overloading
Intermodulation
Interference Criterion
C / I
C / (I + N)
(N + I) / N
I / N
dB
General
Events
Events (dRSS > sensitivity)
Sensitivity (dBm)
Interference Calculation Engine Control
Start
Stop
First
Previous
Next
Last
Delete
ICEConfiguration 3 of 3
ICE status: Complete
Current process: 100 %
Translation Parameters
Blocking response level / Victim link
Intermodulation response level / Victim link
Power supplied / DL Mobile WiMax
Min (dBm or dB)
Results
Compatibility (single result)
Probability
18.00%
Translation (probability function of translation parameter)
Probability (%)
Translation points (dBm or dB - depending on the selected transmitter parameter)
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:C:\Users\ACER\seamcatworkspaces\New Workspace_1.sws
6:51 AM
7/11/2013

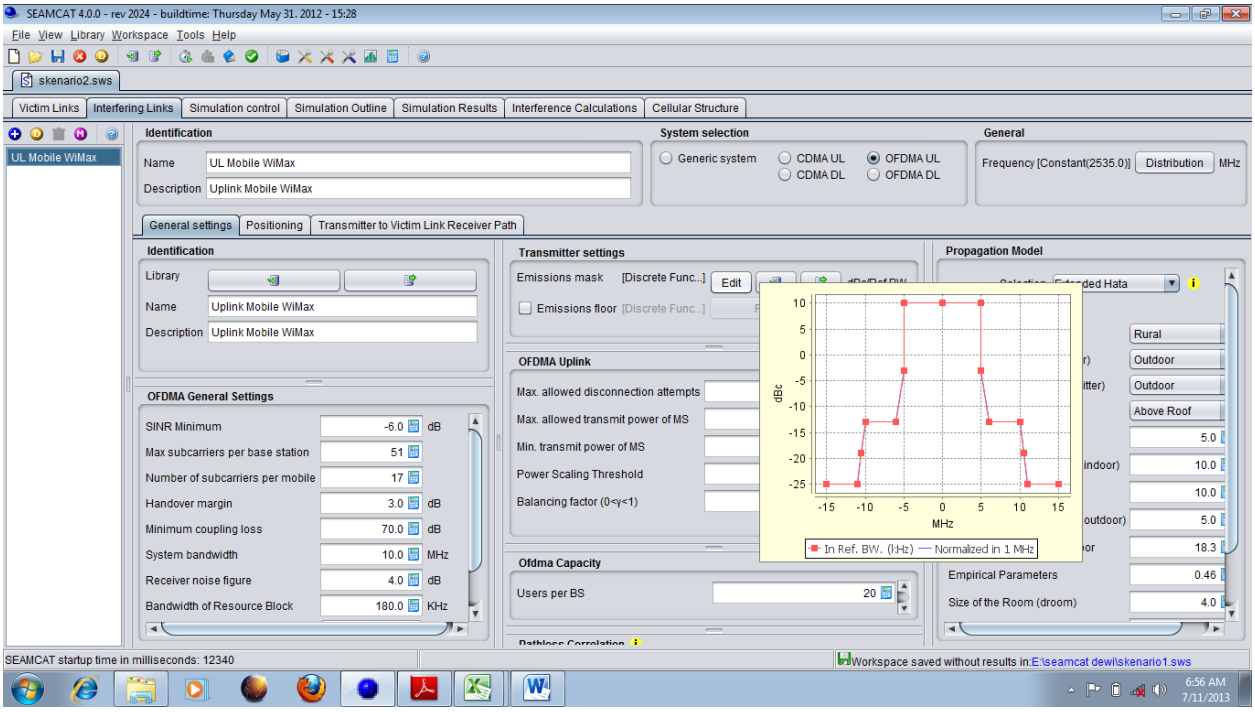
SKENARIO 2

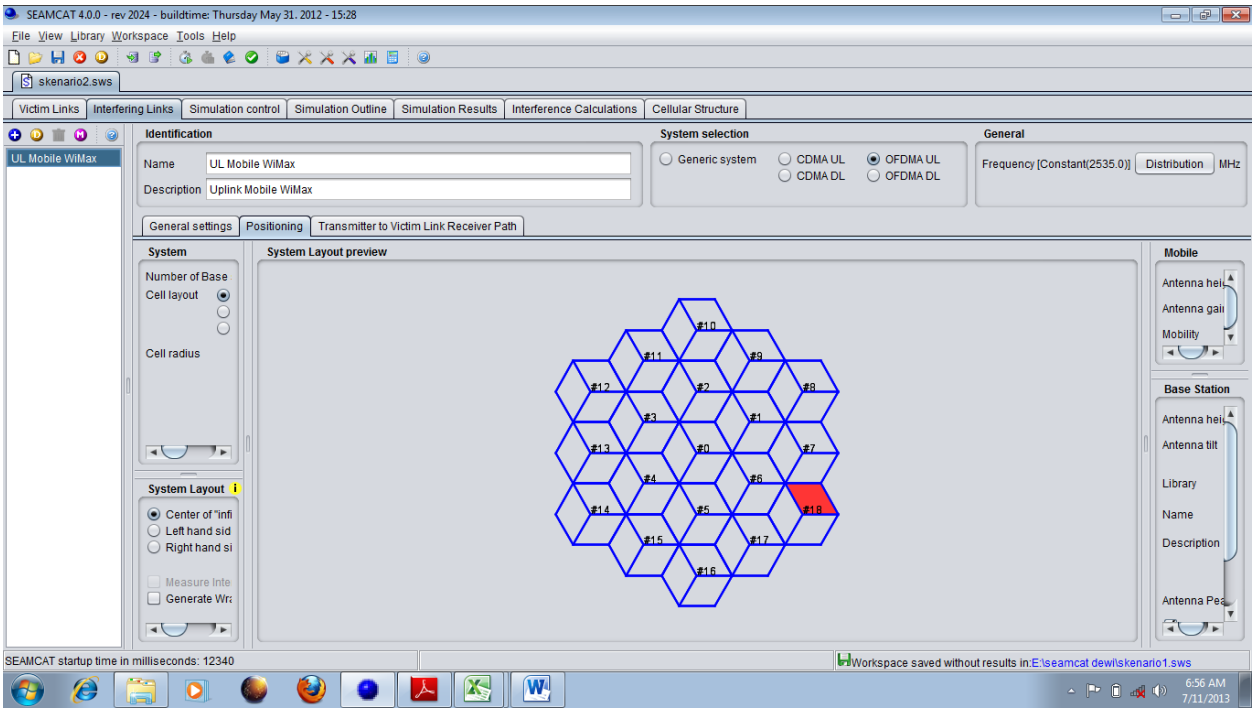
Parameter yang diinput pada Skenario 2 Opsi Zona Segmentasi :

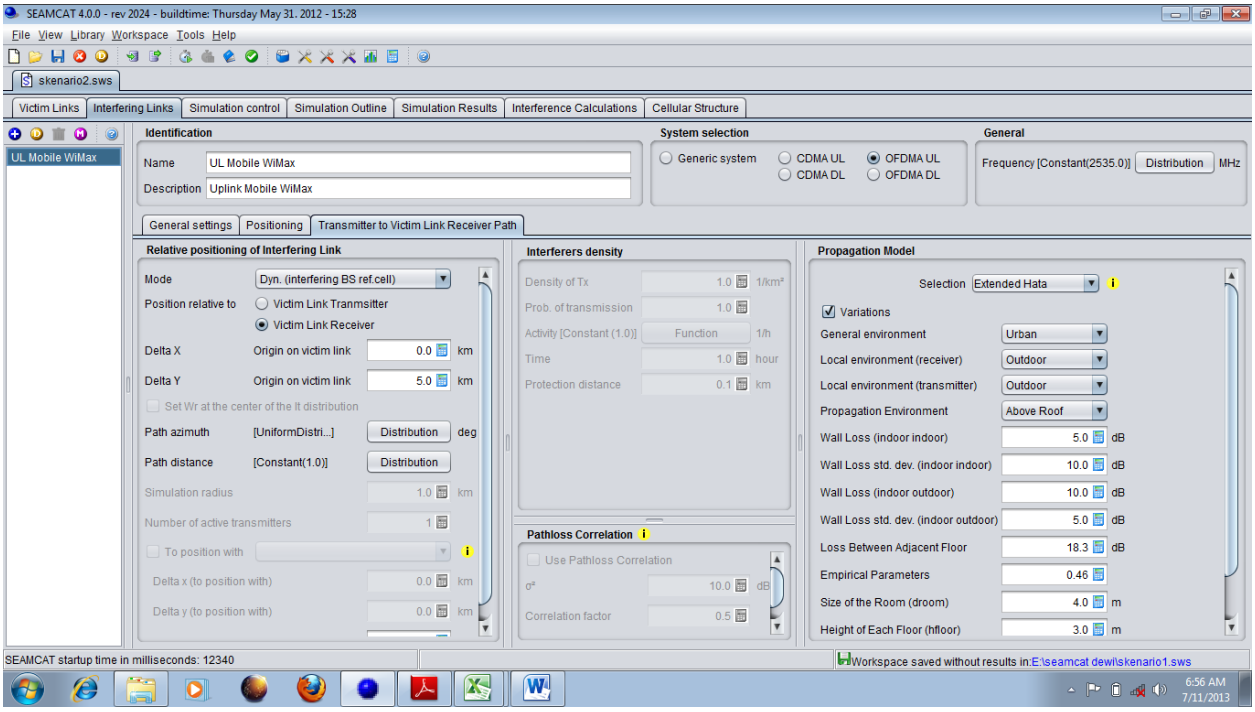




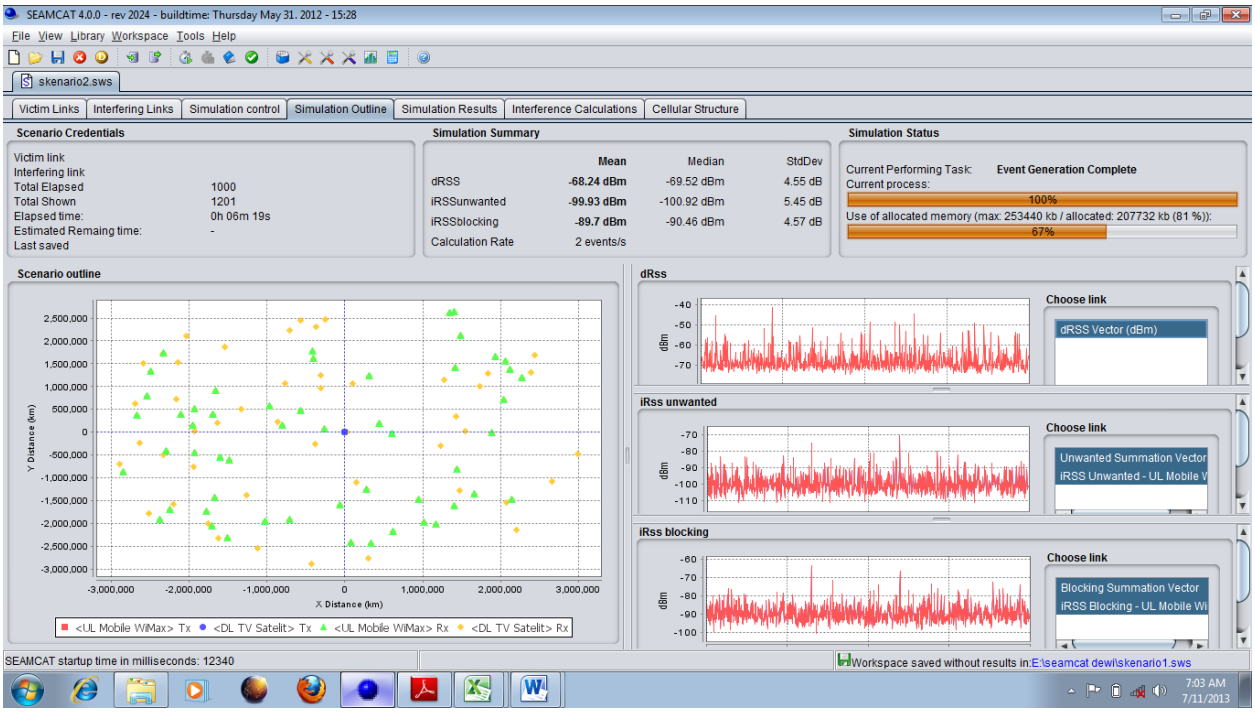

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links Interfering Links Simulation control Simulation Outline Simulation Results Interference Calculations Cellular Structure
Identification
Name DL TV Satelit
Description Link Satelit Indostar2 ke user TV Indovision
System selection
Generic system CDMA UL OFDMA UL CDMA DL OFDMA DL
General
User-defined dRSS (dBm) [Constant(0.0)] Distribution dBm
Frequency [Constant(2535.0)] Distribution MHz
Receiver Transmitter Transmitter to Receiver Path
Relative location
Correlated distance (origin = Victim link transmitter)
Delta X 2.0 km
Delta Y 2.0 km
Path azimuth [UniformDistri...] Distribution deg
Path distance factor [Uniform Polar...] Distribution
Coverage Radius
Calculation mode Noise-limited network
Propagation model Free Space (ITU-R P.525)
Ref. antenna height (Rx) 1.5 m
Ref. antenna height (Tx) 36,000,000.0 m
Ref. frequency (Tx) 2,535.0 MHz
Ref. power (Tx) 79.4509804 dBm
Minimum distance 36,000.0 km
Maximum distance 362,488,289.0 km
Availability 99.0 %
Fading Std. Dev. 0.0 dB
Propagation Model
Selection Free Space (ITU-R...
Variations
Variations Std. Dev. 1.0 dB
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
6:56 AM
7/11/2013

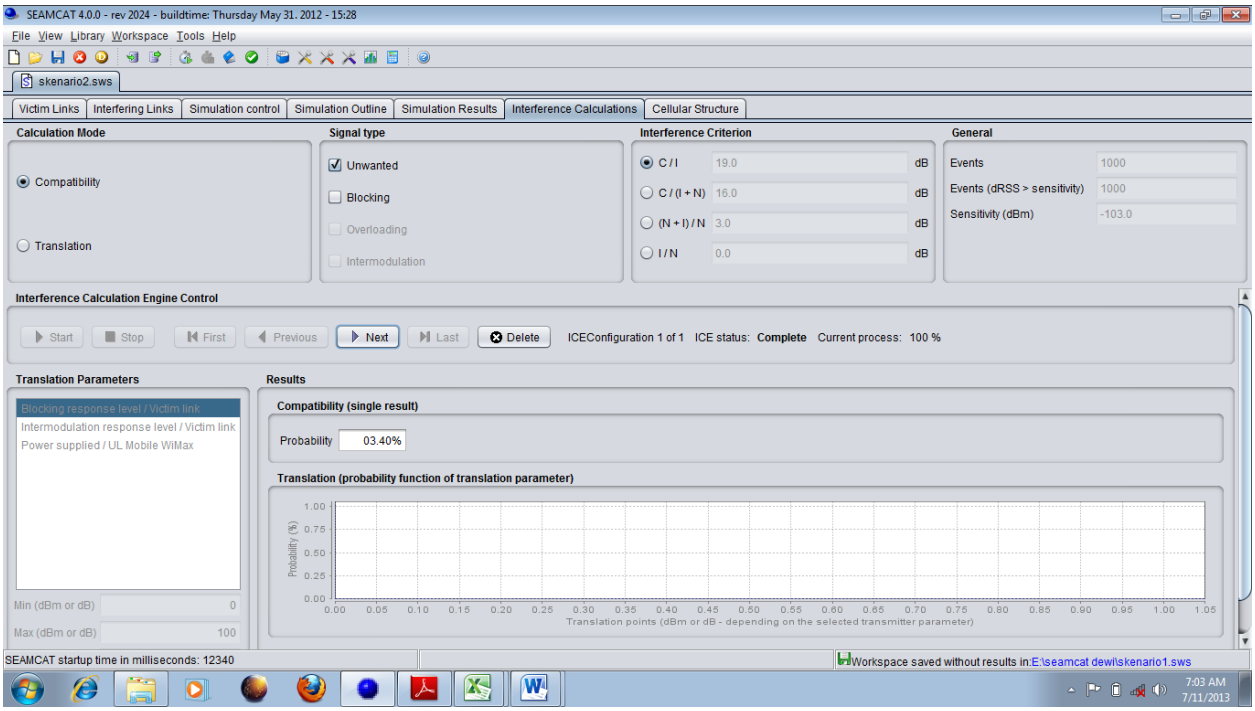

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links Interfering Links Simulation control Simulation Outline Simulation Results Interference Calculations Cellular Structure
UL Mobile WiMax
Identification
Name UL Mobile WiMax
Description Uplink Mobile WiMax
System selection
Generic system CDMA UL OFDMA UL CDMA DL OFDMA DL
General
Frequency [Constant(2535.0)] Distribution MHz
General settings Positioning Transmitter to Victim Link Receiver Path
Identification
Library
Name Uplink Mobile WiMax
Description Uplink Mobile WiMax
OFDMA General Settings
SINR Minimum -6.0 dB
Max subcarriers per base station 51
Number of subcarriers per mobile 17
Handover margin 3.0 dB
Minimum coupling loss 70.0 dB
System bandwidth 10.0 MHz
Receiver noise figure 4.0 dB
Bandwidth of Resource Block 180.0 KHz
Transmitter settings
Emissions mask [Discrete Func...] Edit
Emissions floor [Discrete Func...]
OFDMA Uplink
Max. allowed disconnection attempts
Max. allowed transmit power of MS
Min. transmit power of MS
Power Scaling Threshold
Balancing factor (0<γ<1)
Ofdma Capacity
Users per BS 20
Propagation Model
Rural
Outdoor
Outdoor
Above Roof
5.0
10.0
10.0
5.0
18.3
Empirical Parameters 0.46
Size of the Room (droom) 4.0
dBc
MHz
In Ref. BW. (I-Hz) Normalized in 1 MHz
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
6:56 AM
7/11/2013

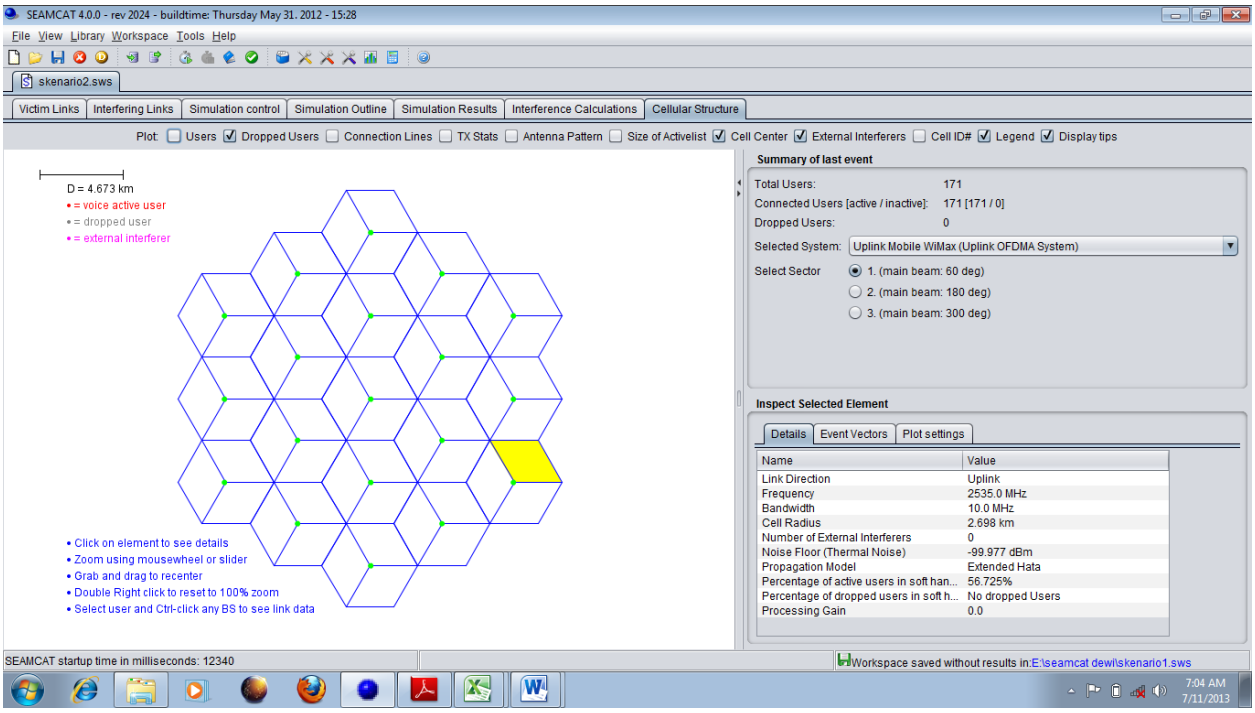

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
UL Mobile WiMax
Identification
Name
UL Mobile WiMax
Description
Uplink Mobile WiMax
System selection
Generic system
CDMA UL
CDMA DL
OFDMA UL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
General settings
Positioning
Transmitter to Victim Link Receiver Path
System
Number of Base
Cell layout
Cell radius
System Layout
Center of "infi
Left hand sid
Right hand si
Measure Inte
Generate Wr
System Layout preview
#10
#11
#9
#12
#2
#8
#3
#1
#13
#0
#7
#4
#6
#14
#5
#18
#15
#17
#16
Mobile
Antenna hei
Antenna gai
Mobility
Base Station
Antenna hei
Antenna tilt
Library
Name
Description
Antenna Pe
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
6:56 AM
7/11/2013


SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
UL Mobile WiMax
Identification
Name
UL Mobile WiMax
Description
Uplink Mobile WiMax
System selection
Generic system
CDMA UL
CDMA DL
OFDMA UL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
General settings
Positioning
Transmitter to Victim Link Receiver Path
Relative positioning of Interfering Link
Mode
Dyn. (interfering BS ref.cell)
Position relative to
Victim Link Tranmsitter
Victim Link Receiver
Delta X
Origin on victim link
0.0
km
Delta Y
Origin on victim link
5.0
km
Set Wr at the center of the It distribution
Path azimuth
[UniformDistri...]
Distribution
deg
Path distance
[Constant(1.0)]
Distribution
Simulation radius
1.0
km
Number of active transmitters
1
To position with
Delta x (to position with)
0.0
km
Delta y (to position with)
0.0
km
Interferers density
Density of Tx
1.0
1/km²
Prob. of transmission
1.0
Activity [Constant (1.0)]
Function
1/h
Time
1.0
hour
Protection distance
0.1
km
Pathloss Correlation
Use Pathloss Correlation
α²
10.0
dB
Correlation factor
0.5
Propagation Model
Selection
Extended Hata
Variations
General environment
Urban
Local environment (receiver)
Outdoor
Local environment (transmitter)
Outdoor
Propagation Environment
Above Roof
Wall Loss (indoor indoor)
5.0
dB
Wall Loss std. dev. (indoor indoor)
10.0
dB
Wall Loss (indoor outdoor)
10.0
dB
Wall Loss std. dev. (indoor outdoor)
5.0
dB
Loss Between Adjacent Floor
18.3
dB
Empirical Parameters
0.46
Size of the Room (droom)
4.0
m
Height of Each Floor (hfloor)
3.0
m
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
6:56 AM
7/11/2013

Hasil Simulasi Skenario 2 pada Opsi Zona Segmentasi :

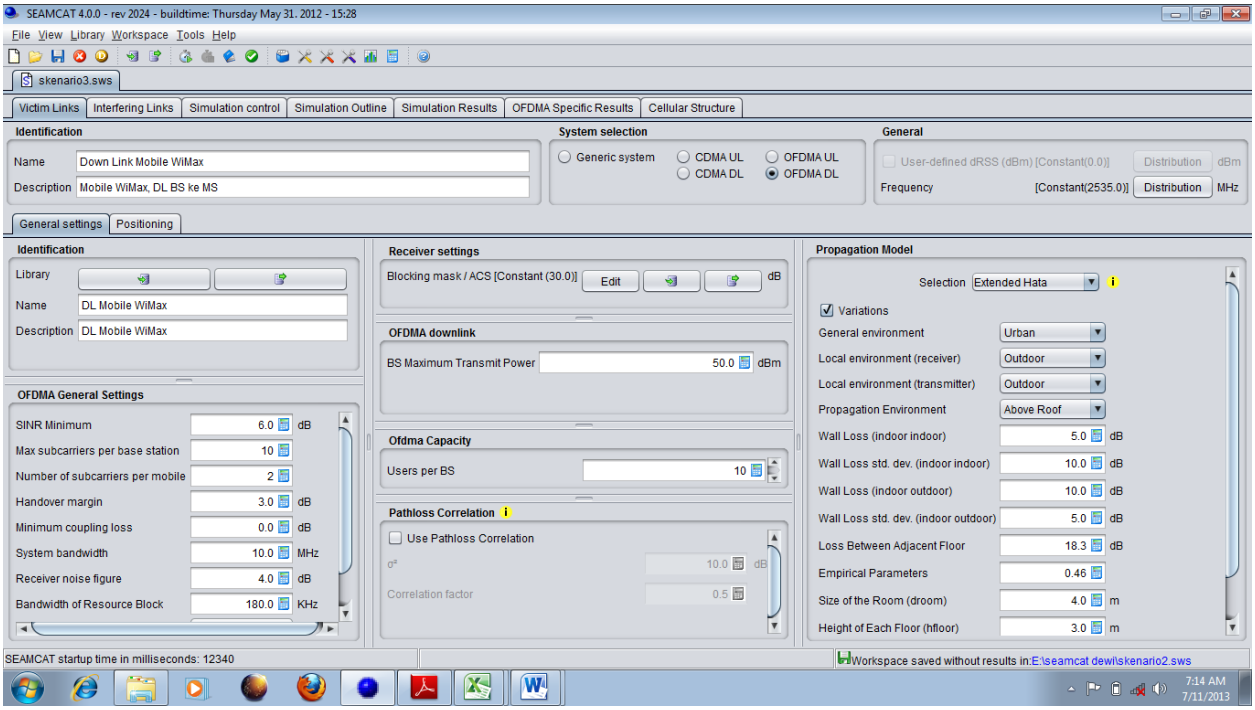


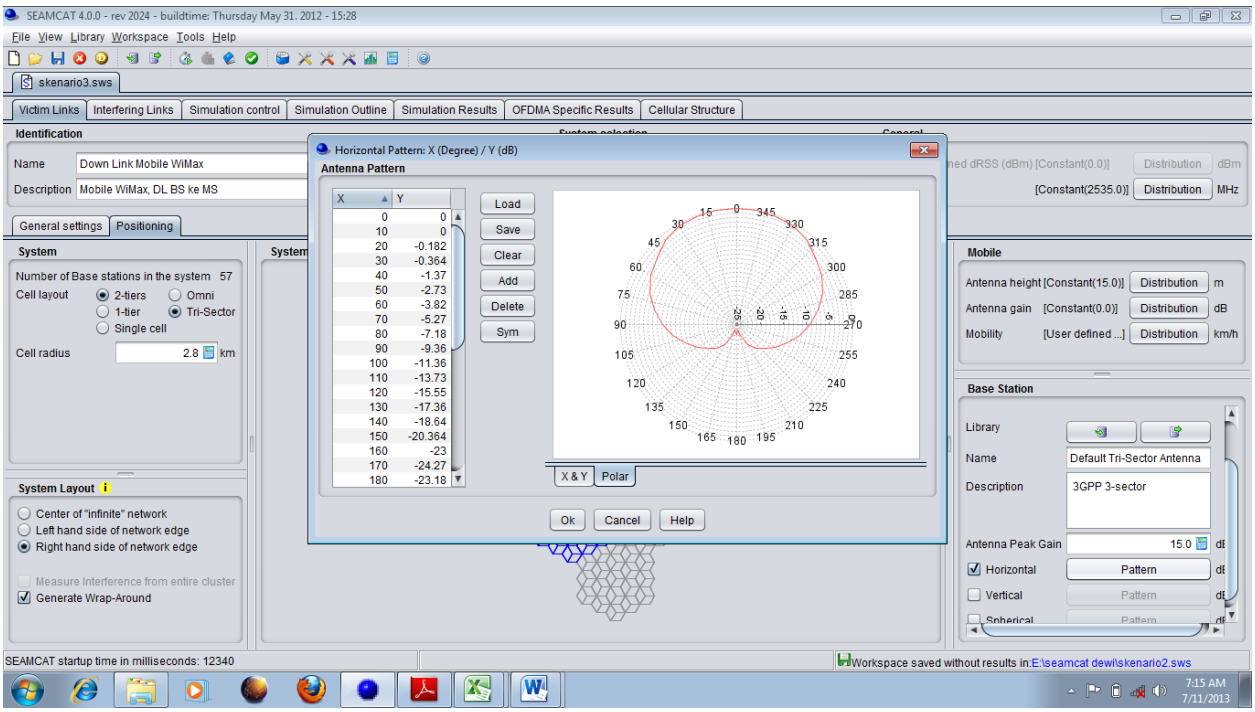


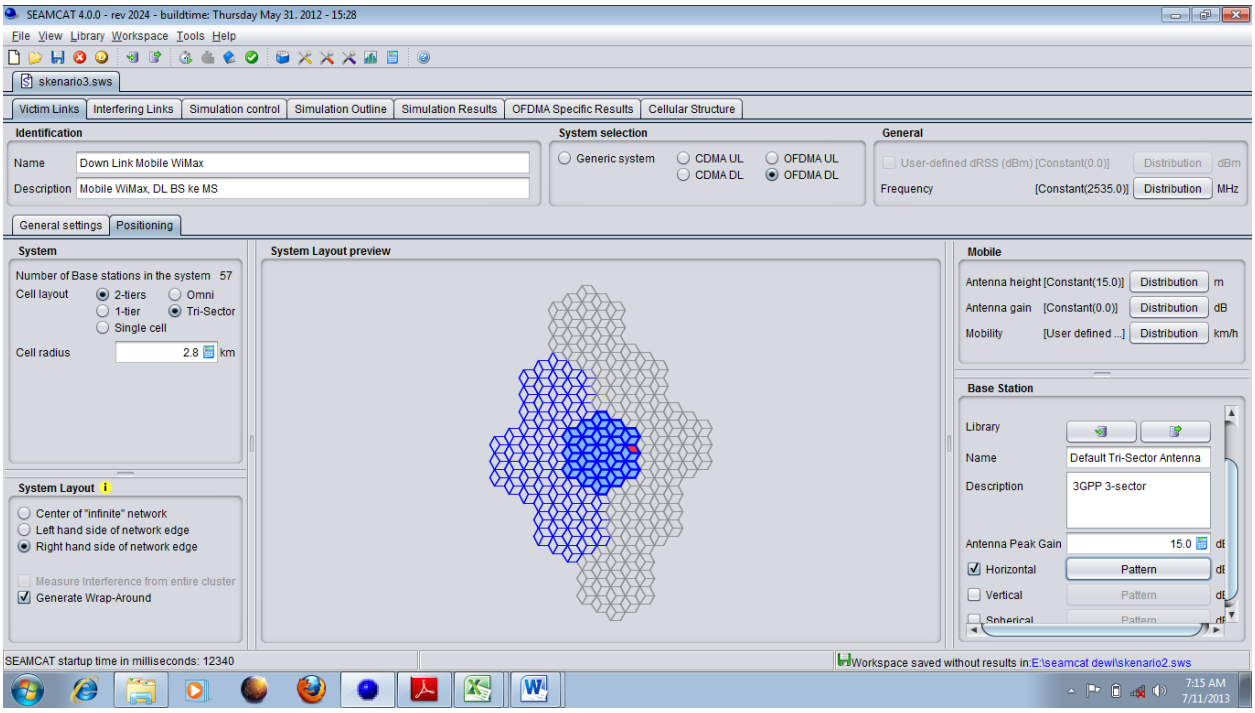

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
Plot: Users Dropped Users Connection Lines TX Stats Antenna Pattern Size of Activelist Cell Center External Interferers Cell ID# Legend Display tips
D = 4.673 km
• = voice active user
• = dropped user
• = external interferer
• Click on element to see details
• Zoom using mousewheel or slider
• Grab and drag to recenter
• Double Right click to reset to 100% zoom
• Select user and Ctrl-click any BS to see link data
Summary of last event
Total Users: 171
Connected Users [active / inactive]: 171 [171 / 0]
Dropped Users: 0
Selected System: Uplink Mobile WiMax (Uplink OFDMA System)
Select Sector
1. (main beam: 60 deg)
2. (main beam: 180 deg)
3. (main beam: 300 deg)
Inspect Selected Element
Details
Event Vectors
Plot settings
Name
Value
Link Direction
Uplink
Frequency
2535.0 MHz
Bandwidth
10.0 MHz
Cell Radius
2.698 km
Number of External Interferers
0
Noise Floor (Thermal Noise)
-99.977 dBm
Propagation Model
Extended Hata
Percentage of active users in soft han...
56.725%
Percentage of dropped users in soft h...
No dropped Users
Processing Gain
0.0
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
7:04 AM
7/11/2013

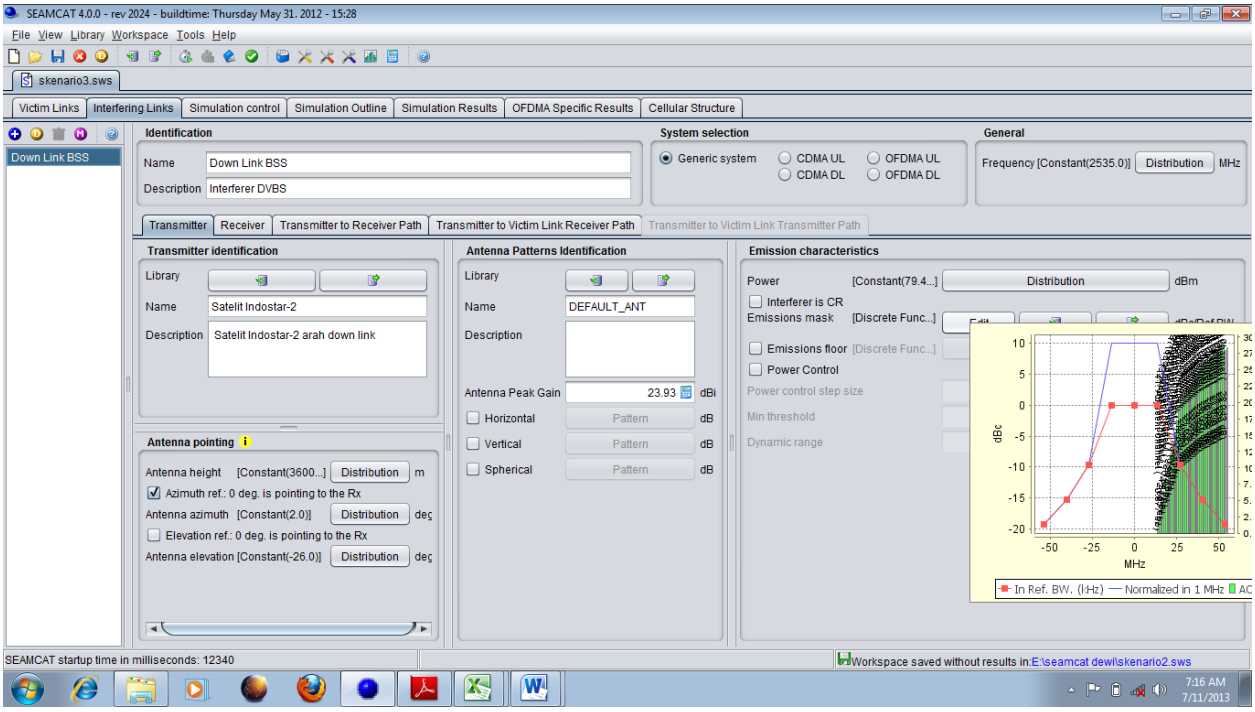
SKENARIO 3

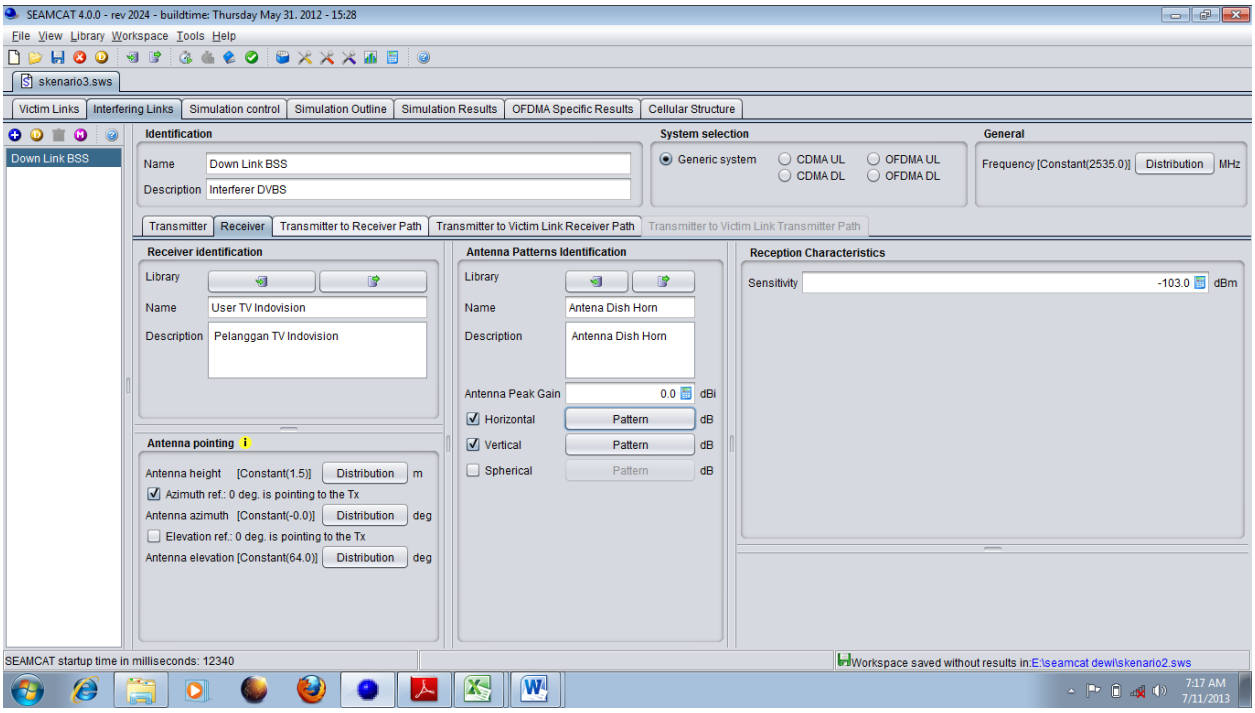
Parameter yang diinput pada skenario 3 :

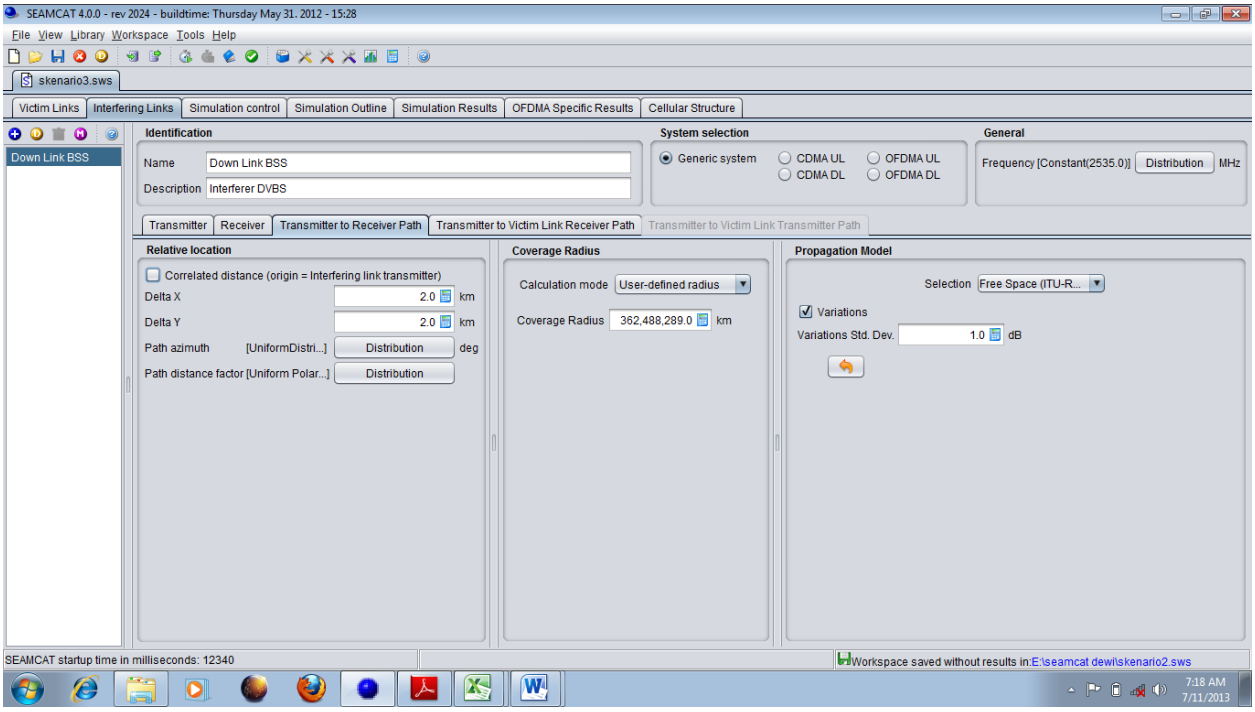


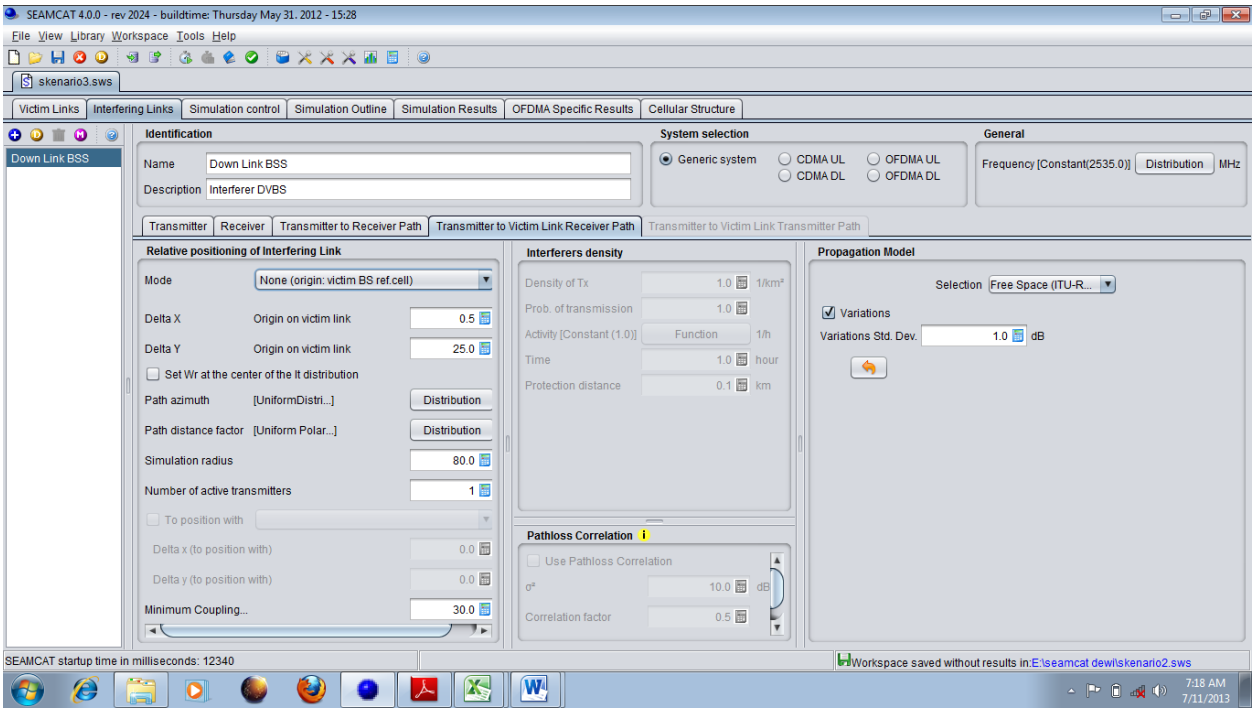



SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Identification
Name
Down Link Mobile WiMax
Description
Mobile WiMax, DL BS ke MS
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
Frequency
[Constant(2535.0)]
Distribution
MHz
General settings
Positioning
System
Number of Base stations in the system 57
Cell layout
2-tiers
Omni
1-tier
Tri-Sector
Single cell
Cell radius
2.8
km
System Layout preview
Mobile
Antenna height [Constant(15.0)]
Antenna gain [Constant(0.0)]
Mobility [User defined ...]
m
dB
km/h
Base Station
Library
Name
Default Tri-Sector Antenna
Description
3GPP 3-sector
Antenna Peak Gain
15.0
Horizontal
Vertical
Pattern
System Layout
Center of "infinite" network
Left hand side of network edge
Right hand side of network edge
Measure Interference from entire cluster
Generate Wrap-Around
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:15 AM
7/11/2013

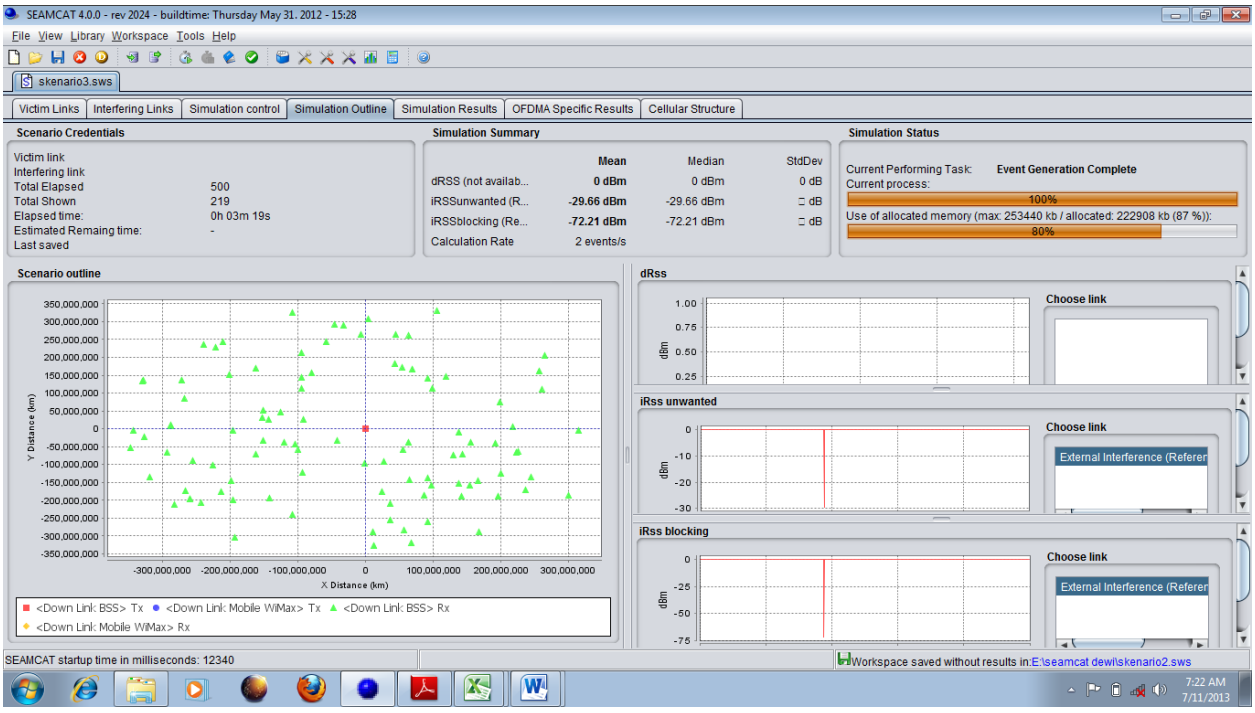

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Down Link BSS
Identification
Name
Down Link BSS
Description
Interferer DVBS
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
Transmitter
Receiver
Transmitter to Receiver Path
Transmitter to Victim Link Receiver Path
Transmitter to Victim Link Transmitter Path
Transmitter identification
Library
Name
Satelit Indostar-2
Description
Satelit Indostar-2 arah down link
Antenna Patterns Identification
Library
Name
DEFAULT_ANT
Description
Antenna Peak Gain
23.93
dBi
Horizontal
Vertical
Spherical
Pattern
dB
Emission characteristics
Power
[Constant(79.4...]
Distribution
dBm
Interferer is CR
Emissions mask
[Discrete Func...]
Emissions floor
[Discrete Func...]
Power Control
Power control step size
Min threshold
Dynamic range
Antenna pointing
Antenna height
[Constant(3600...]
Distribution
m
Azimuth ref.: 0 deg. is pointing to the Rx
Antenna azimuth
[Constant(2.0)]
deg
Elevation ref.: 0 deg. is pointing to the Rx
Antenna elevation [Constant(-26.0)]
dBc
MHz
In Ref. BW. (I-Hz)
Normalized in 1 MHz
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:16 AM
7/11/2013

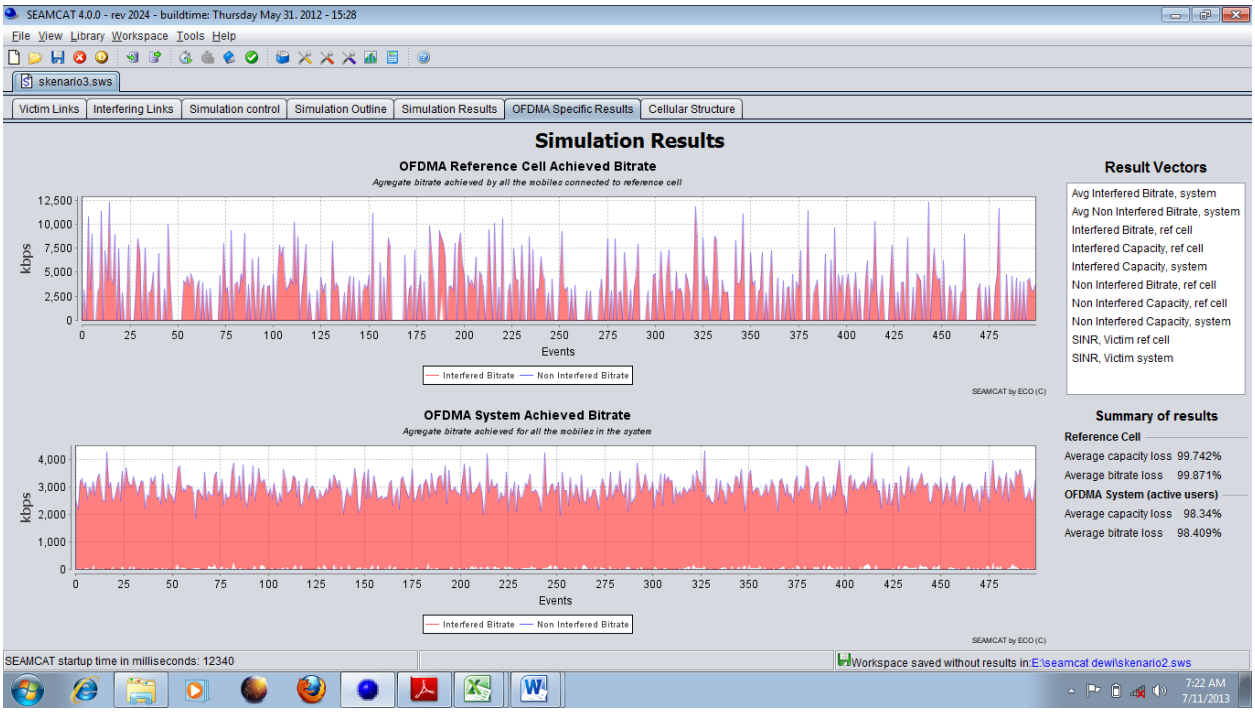

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Down Link BSS
Identification
Name
Down Link BSS
Description
Interferer DVBS
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
Transmitter
Receiver
Transmitter to Receiver Path
Transmitter to Victim Link Receiver Path
Transmitter to Victim Link Transmitter Path
Receiver identification
Library
Name
User TV Indovision
Description
Pelanggan TV Indovision
Antenna Patterns Identification
Library
Name
Antena Dish Horn
Description
Antenna Dish Horn
Antenna Peak Gain
0.0
dBi
Horizontal
Pattern
dB
Vertical
Pattern
dB
Spherical
Pattern
dB
Reception Characteristics
Sensitivity
-103.0
dBm
Antenna pointing
Antenna height
[Constant(1.5)]
Distribution
m
Azimuth ref.: 0 deg. is pointing to the Tx
Antenna azimuth
[Constant(-0.0)]
Distribution
deg
Elevation ref.: 0 deg. is pointing to the Tx
Antenna elevation [Constant(64.0)]
Distribution
deg
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:17 AM
7/11/2013

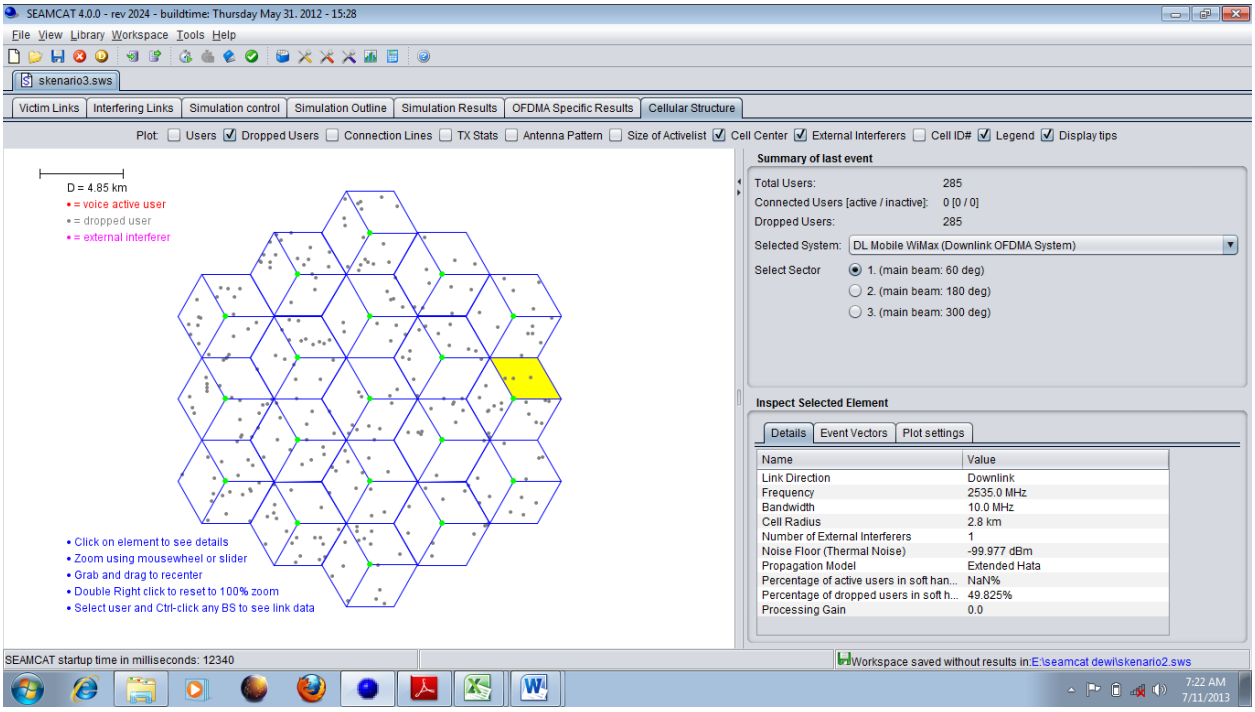

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Down Link BSS
Identification
Name
Down Link BSS
Description
Interferer DVBS
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
Transmitter
Receiver
Transmitter to Receiver Path
Transmitter to Victim Link Receiver Path
Transmitter to Victim Link Transmitter Path
Relative location
Correlated distance (origin = Interfering link transmitter)
Delta X
2.0
km
Delta Y
2.0
km
Path azimuth
[UniformDistri...]
Distribution
deg
Path distance factor [Uniform Polar...]
Distribution
Coverage Radius
Calculation mode
User-defined radius
Coverage Radius
362,488,289.0
km
Propagation Model
Selection
Free Space (ITU-R...
Variations
Variations Std. Dev.
1.0
dB
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:18 AM
7/11/2013



Hasil Simulasi Skenario 3 pada Opsi Zona Segmentasi :

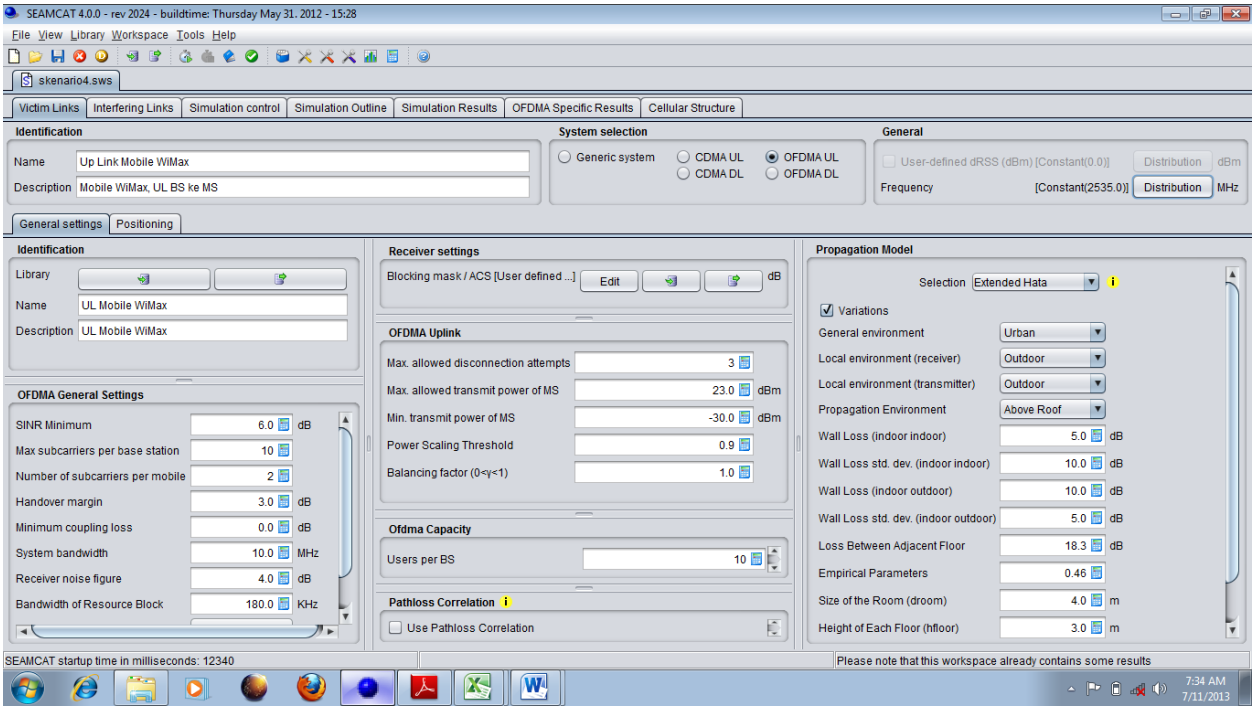


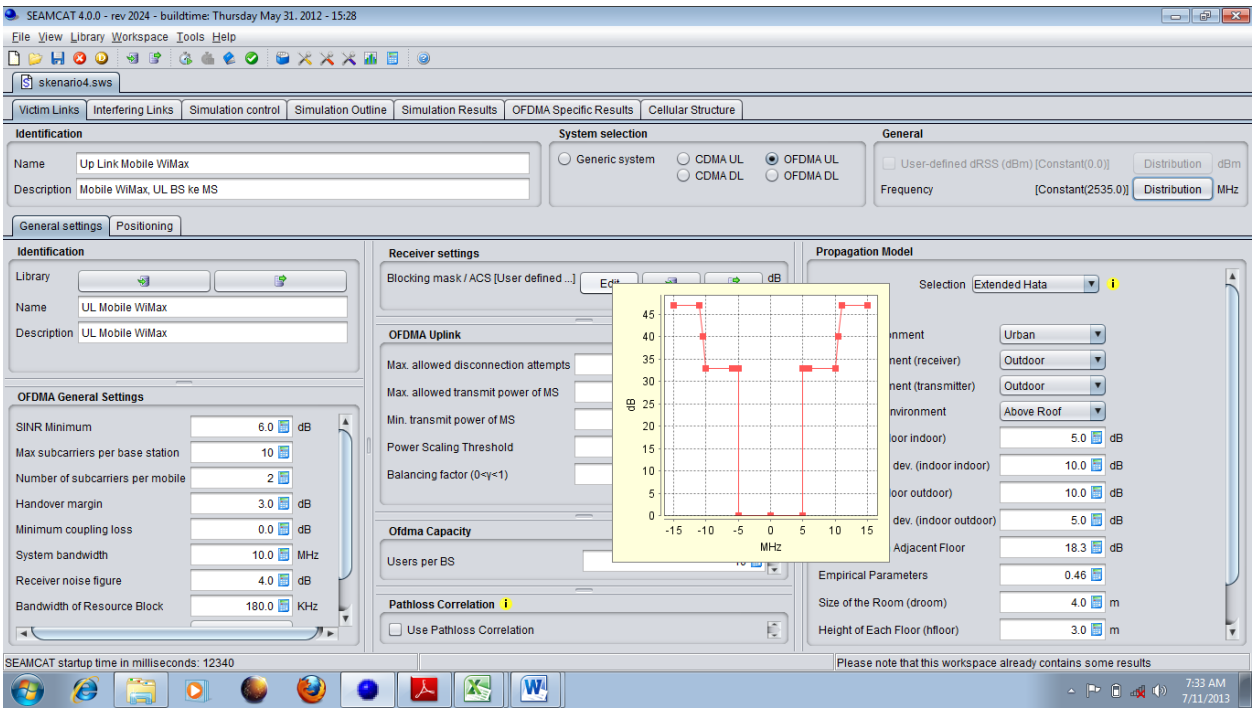

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Simulation Results
OFDMA Reference Cell Achieved Bitrate
Aggregate bitrate achieved by all the mobiles connected to reference cell
kbps
Events
Interfered Bitrate
Non Interfered Bitrate
SEAMCAT by ECO (C)
Result Vectors
Avg Interfered Bitrate, system
Avg Non Interfered Bitrate, system
Interfered Bitrate, ref cell
Interfered Capacity, ref cell
Interfered Capacity, system
Non Interfered Bitrate, ref cell
Non Interfered Capacity, ref cell
Non Interfered Capacity, system
SINR, Victim ref cell
SINR, Victim system
OFDMA System Achieved Bitrate
Aggregate bitrate achieved for all the mobiles in the system
Summary of results
Reference Cell
Average capacity loss 99.742%
Average bitrate loss 99.871%
OFDMA System (active users)
Average capacity loss 98.34%
Average bitrate loss 98.409%
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:22 AM
7/11/2013

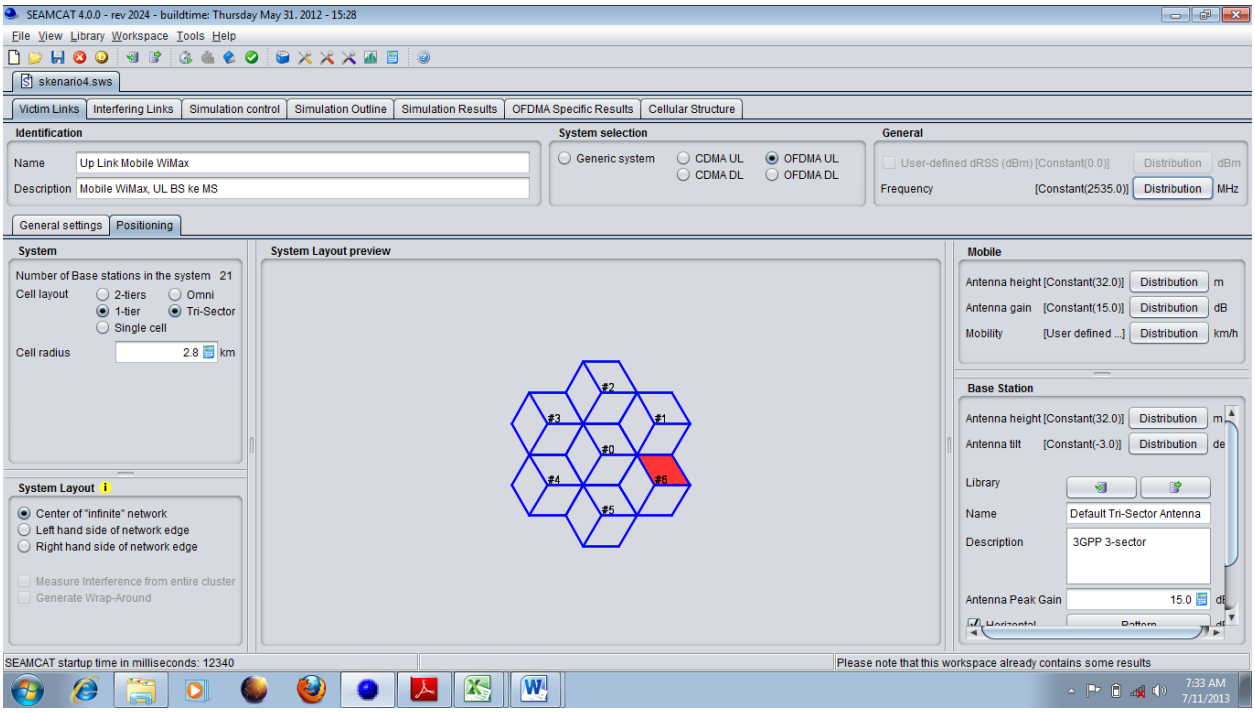

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Plot: Users Dropped Users Connection Lines TX Stats Antenna Pattern Size of Activelist Cell Center External Interferers Cell ID# Legend Display tips
D = 4.85 km
• = voice active user
• = dropped user
• = external interferer
• Click on element to see details
• Zoom using mousewheel or slider
• Grab and drag to recenter
• Double Right click to reset to 100% zoom
• Select user and Ctrl-click any BS to see link data
Summary of last event
Total Users: 285
Connected Users [active / inactive]: 0 [0 / 0]
Dropped Users: 285
Selected System: DL Mobile WiMax (Downlink OFDMA System)
Select Sector
1. (main beam: 60 deg)
2. (main beam: 180 deg)
3. (main beam: 300 deg)
Inspect Selected Element
Details
Event Vectors
Plot settings
Name
Value
Link Direction Downlink
Frequency 2535.0 MHz
Bandwidth 10.0 MHz
Cell Radius 2.8 km
Number of External Interferers 1
Noise Floor (Thermal Noise) -99.977 dBm
Propagation Model Extended Hata
Percentage of active users in soft han... NaN%
Percentage of dropped users in soft h... 49.825%
Processing Gain 0.0
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:22 AM
7/11/2013

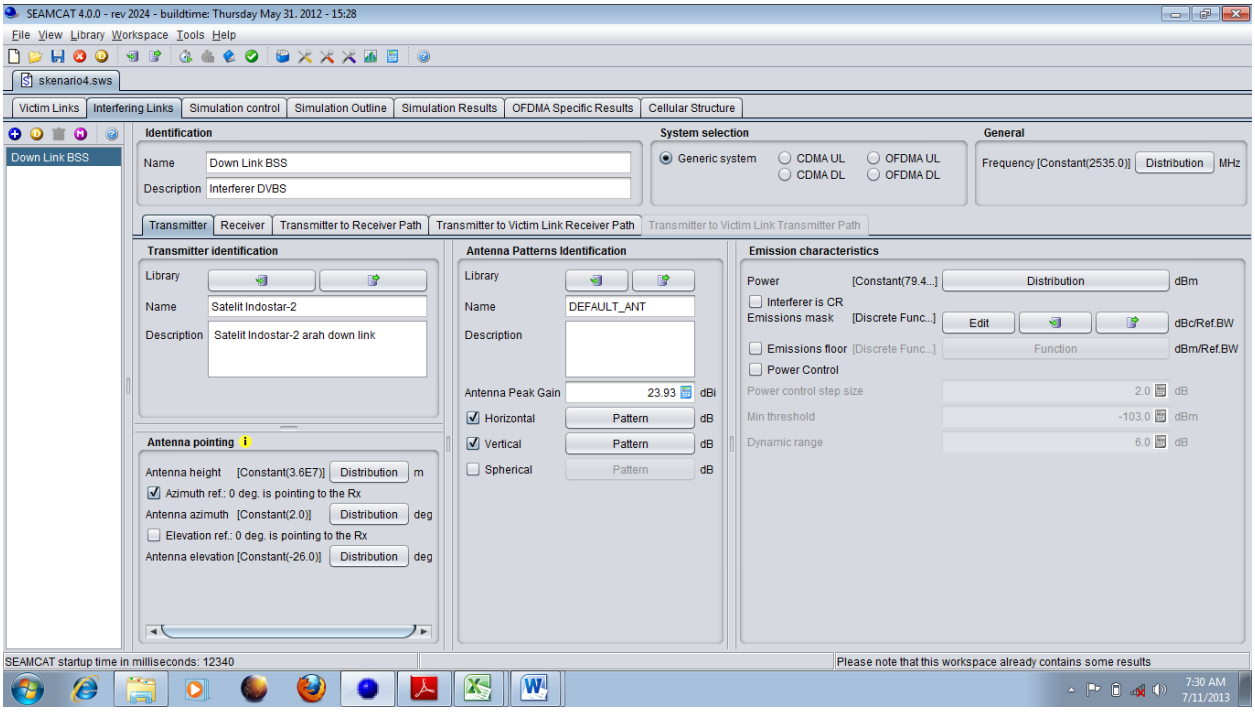
SKENARIO 4

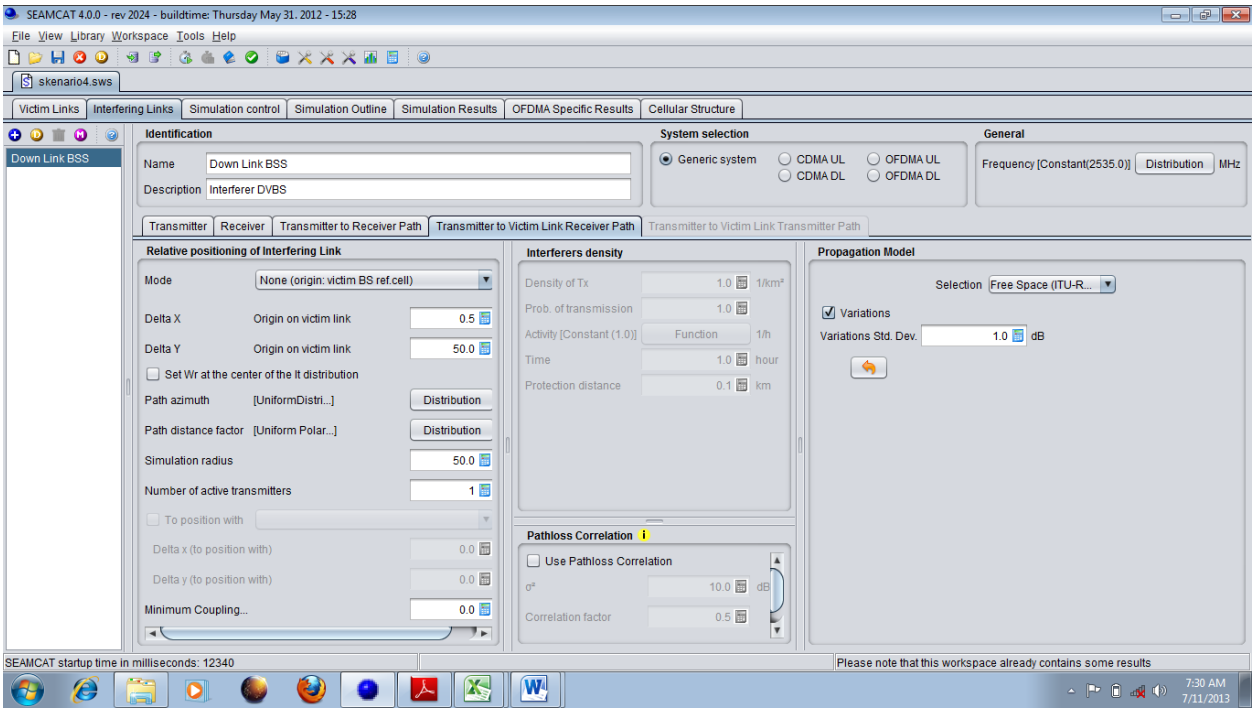
Parameter yang diinput pada skenario 4 :



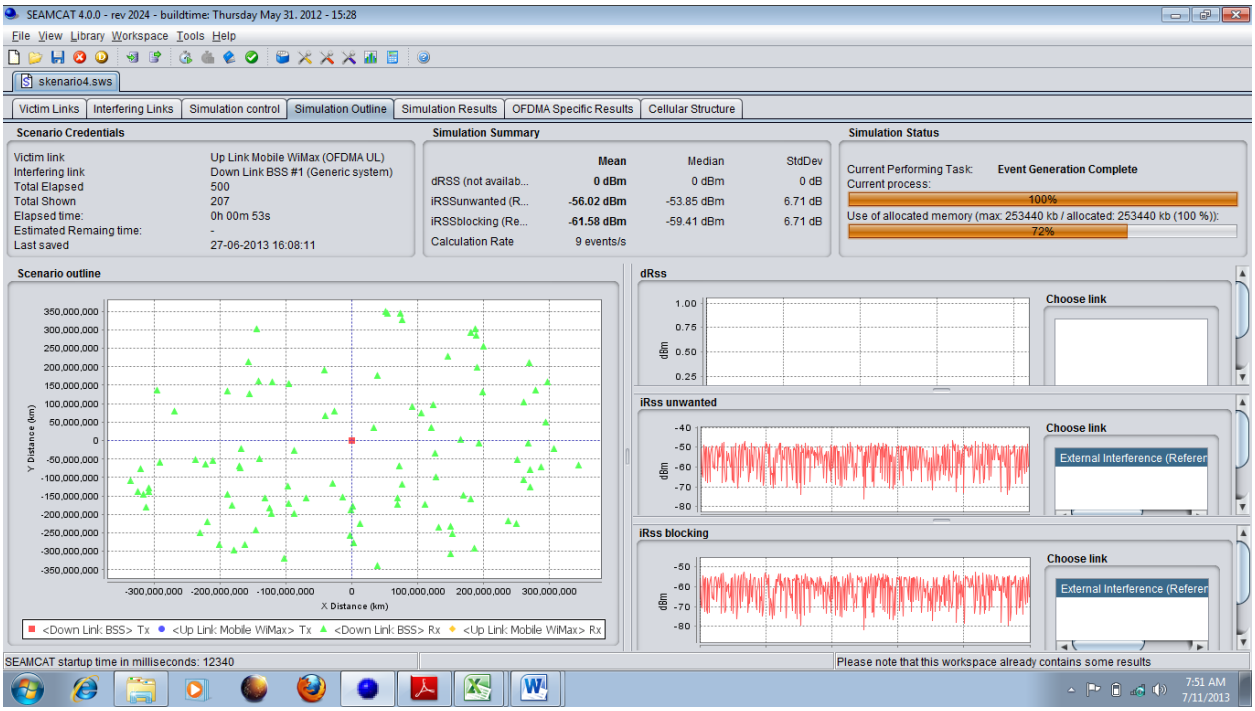


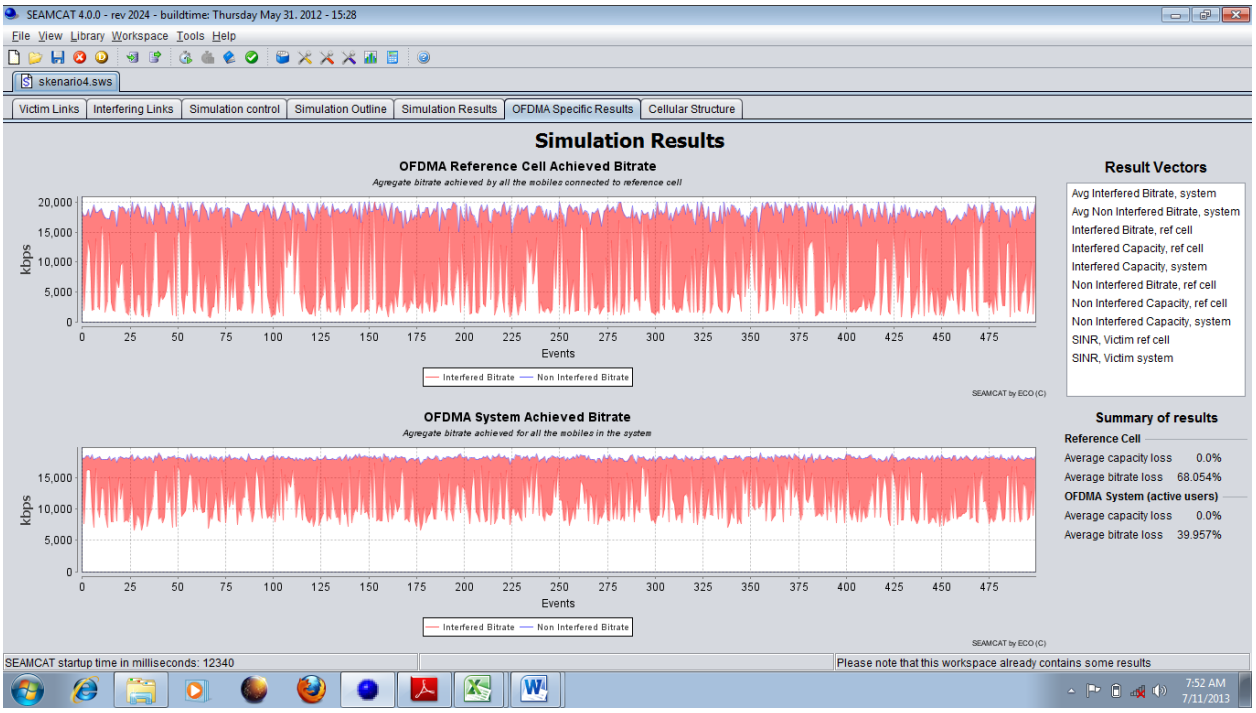

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario4.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Identification
Name
Up Link Mobile WiMax
Description
Mobile WiMax, UL BS ke MS
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
Frequency
[Constant(2535.0)]
Distribution
MHz
General settings
Positioning
System
Number of Base stations in the system 21
Cell layout
2-tiers
Omni
1-tier
Tri-Sector
Single cell
Cell radius
2.8
km
System Layout
Center of "infinite" network
Left hand side of network edge
Right hand side of network edge
Measure Interference from entire cluster
Generate Wrap-Around
System Layout preview
#0
#1
#2
#3
#4
#5
#6
Mobile
Antenna height [Constant(32.0)]
Antenna gain [Constant(15.0)]
Mobility [User defined ...]
Base Station
Antenna tilt [Constant(-3.0)]
Library
Name
Default Tri-Sector Antenna
Description
3GPP 3-sector
Antenna Peak Gain
15.0
SEAMCAT startup time in milliseconds: 12340
Please note that this workspace already contains some results
7:33 AM
7/11/2013

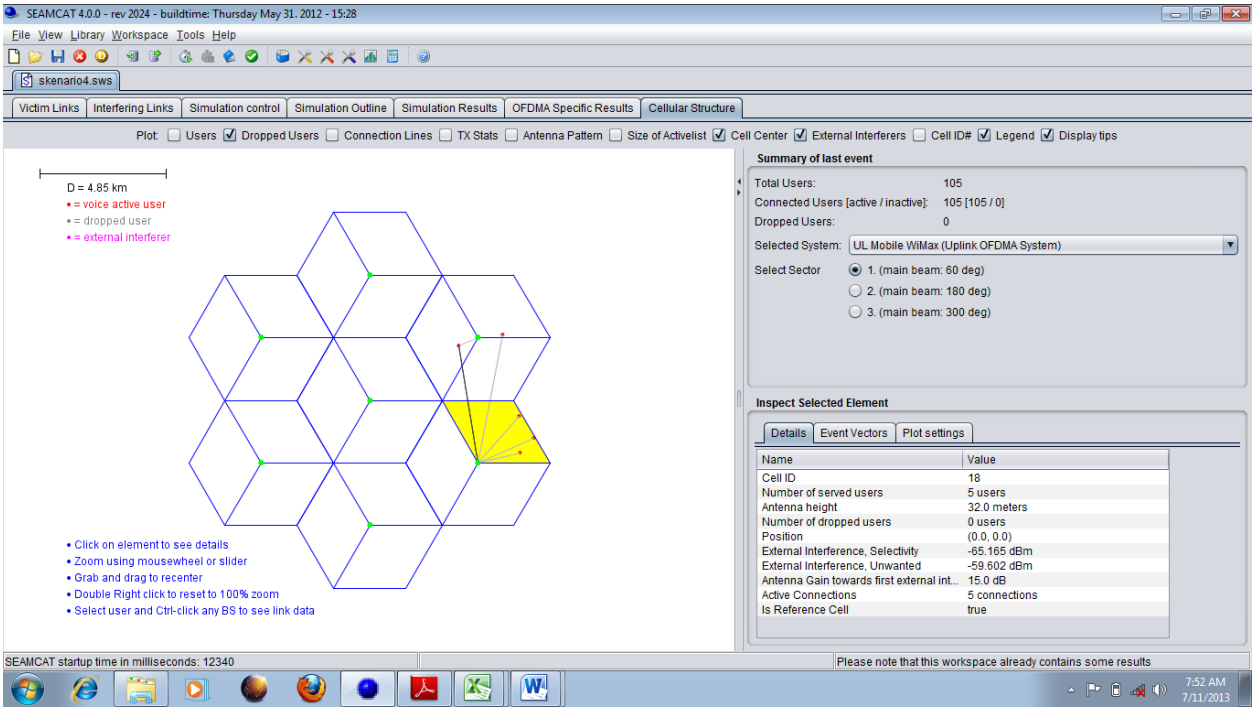

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario4.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Down Link BSS
Identification
Name
Down Link BSS
Description
Interferer DVBS
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
Transmitter
Receiver
Transmitter to Receiver Path
Transmitter to Victim Link Receiver Path
Transmitter to Victim Link Transmitter Path
Transmitter identification
Library
Name
Satelit Indostar-2
Description
Satelit Indostar-2 arah down link
Antenna Patterns Identification
Library
Name
DEFAULT_ANT
Description
Antenna Peak Gain
23.93
dBi
Horizontal
Pattern
dB
Vertical
Pattern
dB
Spherical
Pattern
dB
Emission characteristics
Power
[Constant(79.4...]
Distribution
dBm
Interferer is CR
Emissions mask
[Discrete Func...]
Edit
dBc/Ref.BW
Emissions floor
[Discrete Func...]
Function
dBm/Ref.BW
Power Control
Power control step size
2.0
dB
Min threshold
-103.0
dBm
Dynamic range
6.0
dB
Antenna pointing
Antenna height [Constant(3.6E7)]
Distribution
m
Azimuth ref.: 0 deg. is pointing to the Rx
Antenna azimuth [Constant(2.0)]
deg
Elevation ref.: 0 deg. is pointing to the Rx
Antenna elevation [Constant(-26.0)]
SEAMCAT startup time in milliseconds: 12340
Please note that this workspace already contains some results
7:30 AM
7/11/2013



Hasil Simulasi Skenario 4 pada opsi Zona Segmentasi :



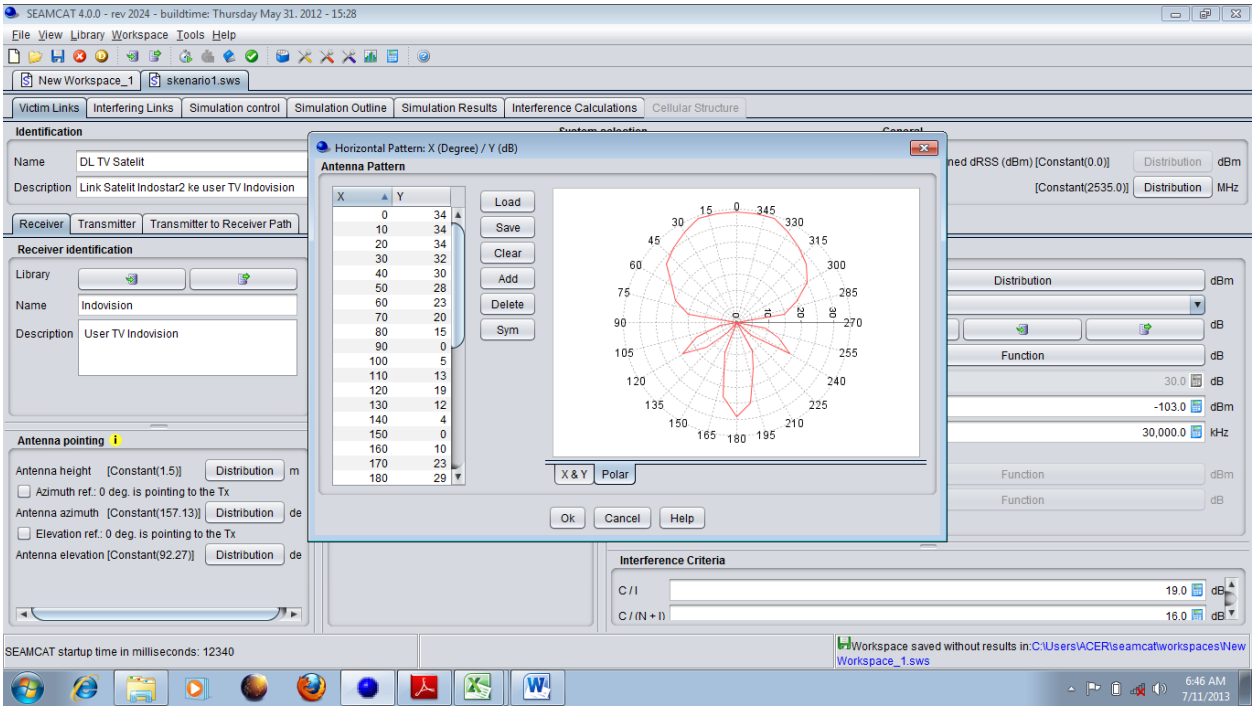

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario4.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Simulation Results
OFDMA Reference Cell Achieved Bitrate
Agregate bitrate achieved by all the mobiles connected to reference cell
kbps
Events
Interfered Bitrate
Non Interfered Bitrate
SEAMCAT by ECO (C)
Result Vectors
Avg Interfered Bitrate, system
Avg Non Interfered Bitrate, system
Interfered Bitrate, ref cell
Interfered Capacity, ref cell
Interfered Capacity, system
Non Interfered Bitrate, ref cell
Non Interfered Capacity, ref cell
Non Interfered Capacity, system
SINR, Victim ref cell
SINR, Victim system
OFDMA System Achieved Bitrate
Agregate bitrate achieved for all the mobiles in the system
Summary of results
Reference Cell
Average capacity loss 0.0%
Average bitrate loss 68.054%
OFDMA System (active users)
Average capacity loss 0.0%
Average bitrate loss 39.957%
SEAMCAT startup time in milliseconds: 12340
Please note that this workspace already contains some results
7:52 AM
7/11/2013

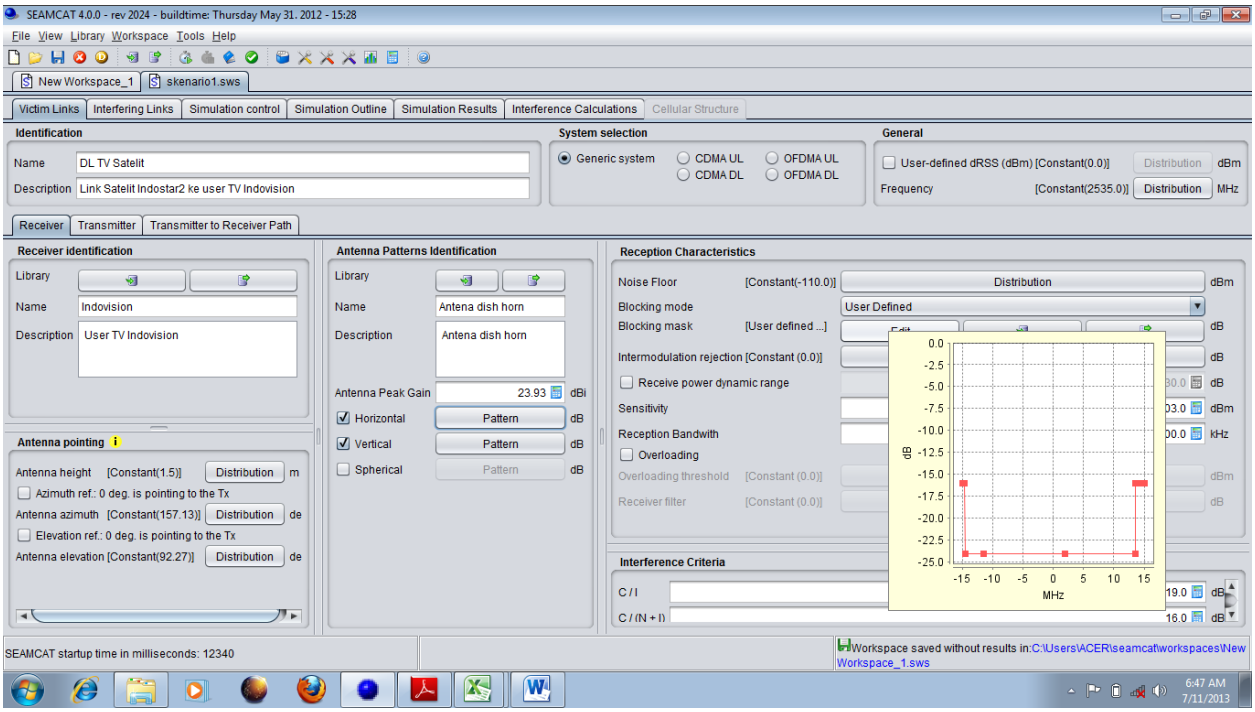

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario4.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Plot: Users Dropped Users Connection Lines TX Stats Antenna Pattern Size of Activelist Cell Center External Interferers Cell ID# Legend Display tips
D = 4.85 km
• = voice active user
• = dropped user
• = external interferer
• Click on element to see details
• Zoom using mousewheel or slider
• Grab and drag to recenter
• Double Right click to reset to 100% zoom
• Select user and Ctrl-click any BS to see link data
Summary of last event
Total Users: 105
Connected Users [active / inactive]: 105 [105 / 0]
Dropped Users: 0
Selected System: UL Mobile WiMax (Uplink OFDMA System)
Select Sector
1. (main beam: 60 deg)
2. (main beam: 180 deg)
3. (main beam: 300 deg)
Inspect Selected Element
Details
Event Vectors
Plot settings
Name
Value
Cell ID 18
Number of served users 5 users
Antenna height 32.0 meters
Number of dropped users 0 users
Position (0.0, 0.0)
External Interference, Selectivity -65.165 dBm
External Interference, Unwanted -59.602 dBm
Antenna Gain towards first external int... 15.0 dB
Active Connections 5 connections
Is Reference Cell true
SEAMCAT startup time in milliseconds: 12340
Please note that this workspace already contains some results
7:52 AM
7/11/2013

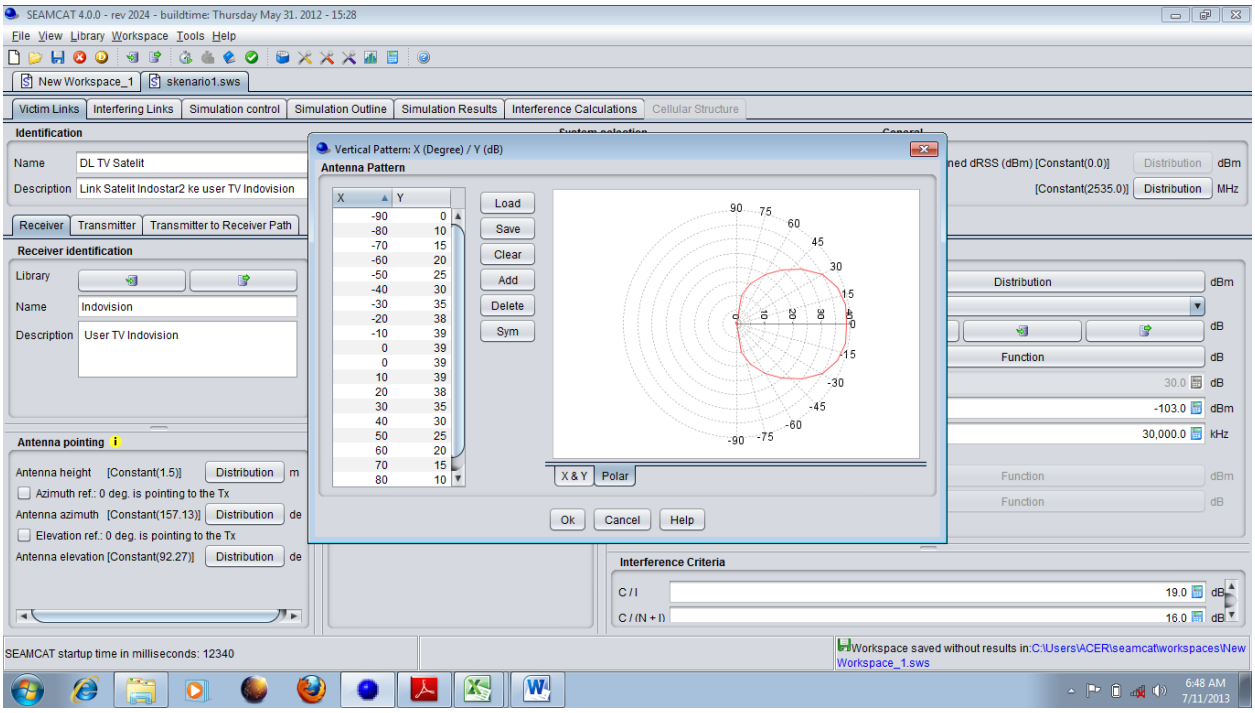
OPSI BAND SEGMENTASI

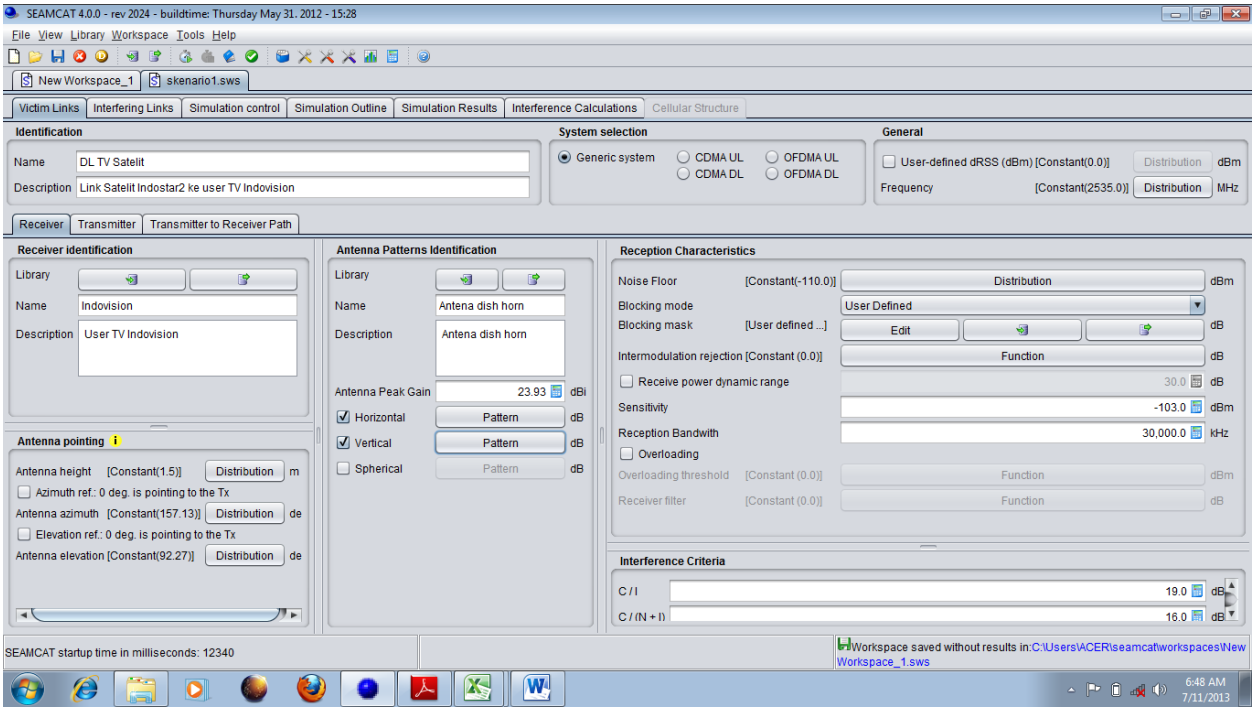
SKENARIO1

Parameter – parameter yang diinput :

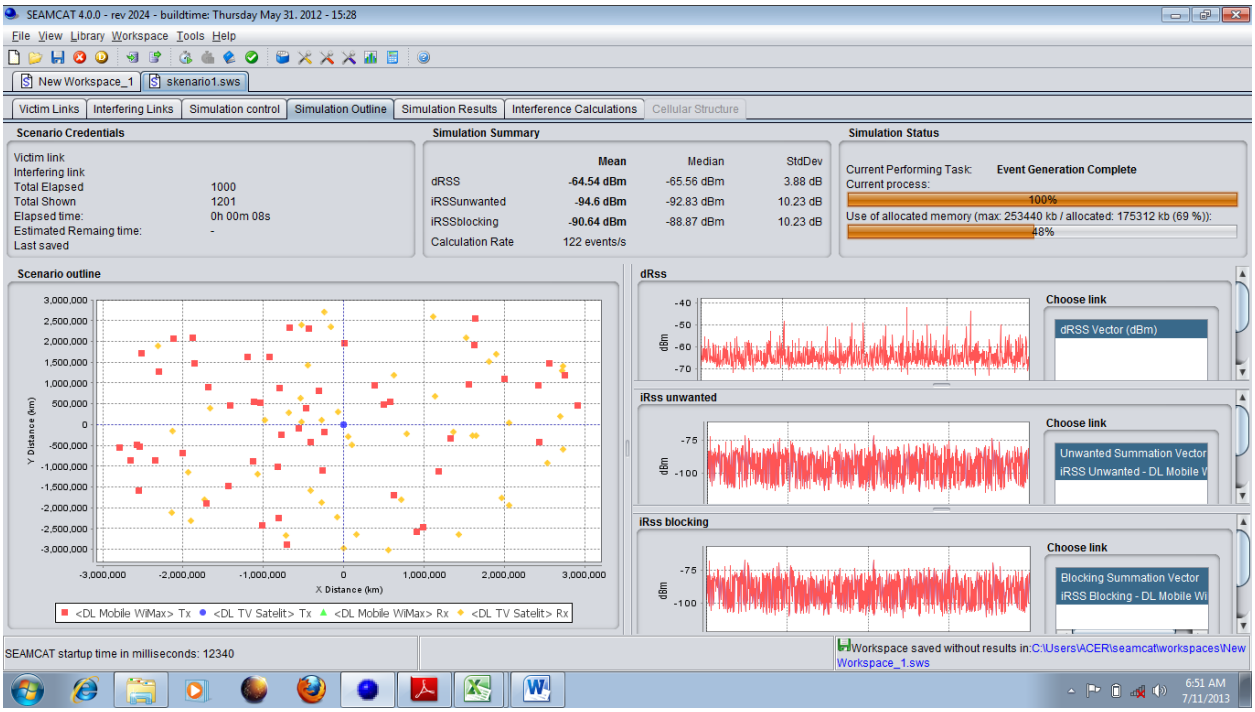


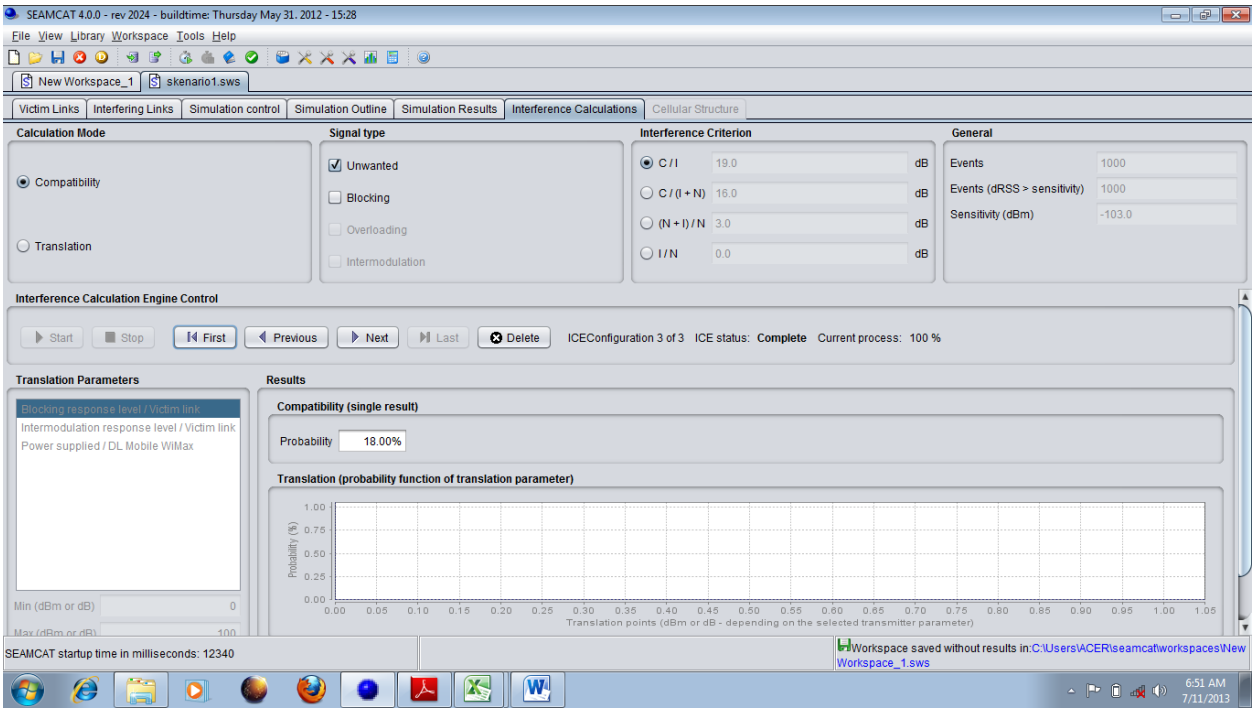



SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
New Workspace_1
skenario1.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
Identification
Name
DL TV Satelit
Description
Link Satelit Indostar2 ke user TV Indovision
Receiver
Transmitter
Transmitter to Receiver Path
Receiver identification
Library
Name
Indovision
Description
User TV Indovision
Antenna pointing
Antenna height [Constant(1.5)]
Distribution
Azimuth ref.: 0 deg. is pointing to the Tx
Antenna azimuth [Constant(157.13)]
Elevation ref.: 0 deg. is pointing to the Tx
Antenna elevation [Constant(92.27)]
Vertical Pattern: X (Degree) / Y (dB)
Antenna Pattern
X
Y
Load
Save
Clear
Add
Delete
Sym
X & Y
Polar
Ok
Cancel
Help
Interference Criteria
C / I
19.0
C / (N + I)
16.0
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:C:\Users\ACER\seamcat\workspaces\New Workspace_1.sws
6:48 AM
7/11/2013


SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
New Workspace_1
skenario1.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
Identification
Name
DL TV Satelit
Description
Link Satelit Indostar2 ke user TV Indovision
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
User-defined dRSS (dBm) [Constant(0.0)]
Distribution
Frequency
[Constant(2535.0)]
Receiver
Transmitter
Transmitter to Receiver Path
Receiver identification
Library
Name
Indovision
Description
User TV Indovision
Antenna pointing
Antenna height [Constant(1.5)]
Distribution
Azimuth ref.: 0 deg. is pointing to the Tx
Antenna azimuth [Constant(157.13)]
Elevation ref.: 0 deg. is pointing to the Tx
Antenna elevation [Constant(92.27)]
Antenna Patterns Identification
Library
Name
Antena dish horn
Description
Antena dish horn
Antenna Peak Gain
23.93
dBi
Horizontal
Pattern
Vertical
Spherical
Reception Characteristics
Noise Floor
[Constant(-110.0)]
Blocking mode
User Defined
Blocking mask
[User defined ...]
Edit
Intermodulation rejection [Constant (0.0)]
Function
Receive power dynamic range
Sensitivity
-103.0
Reception Bandwith
30,000.0
Overloading
Overloading threshold
[Constant (0.0)]
Receiver filter
Interference Criteria
C / I
19.0
C / (N + I)
16.0
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:C:\Users\ACER\seamcat\workspaces\New Workspace_1.sws
6:48 AM
7/11/2013

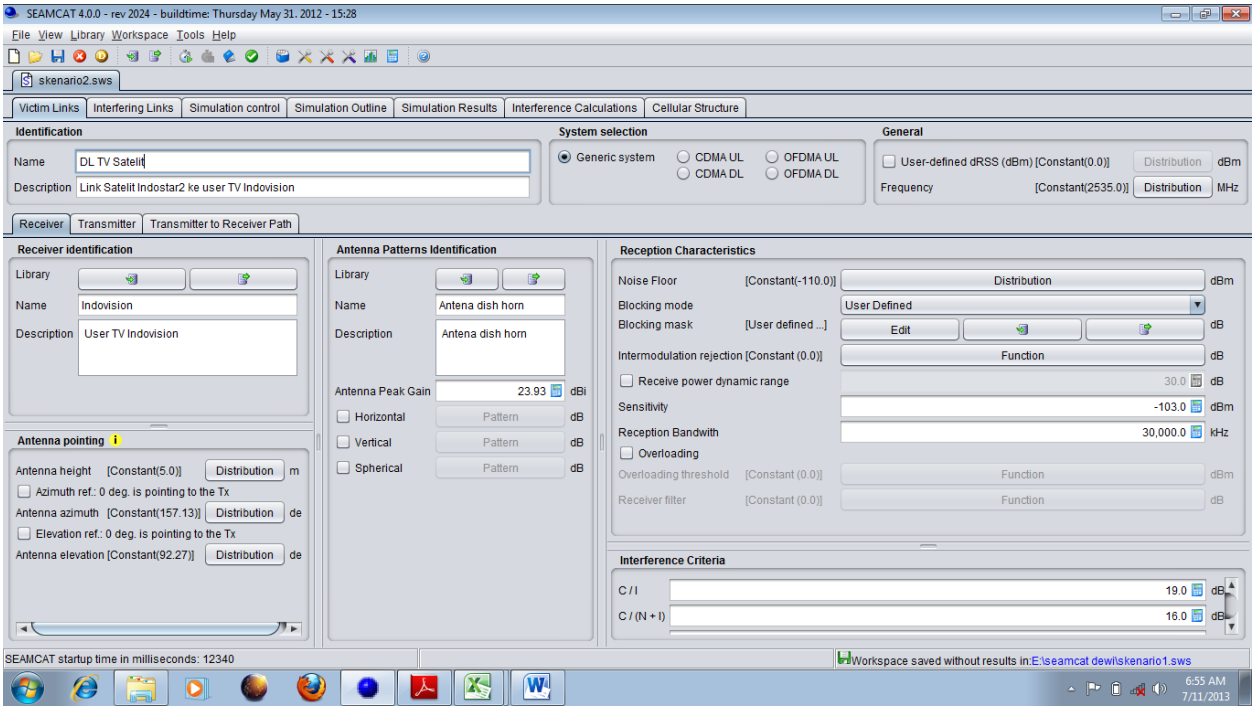
Hasil Simulasi Skenario 1 pada Band Segmentasi :

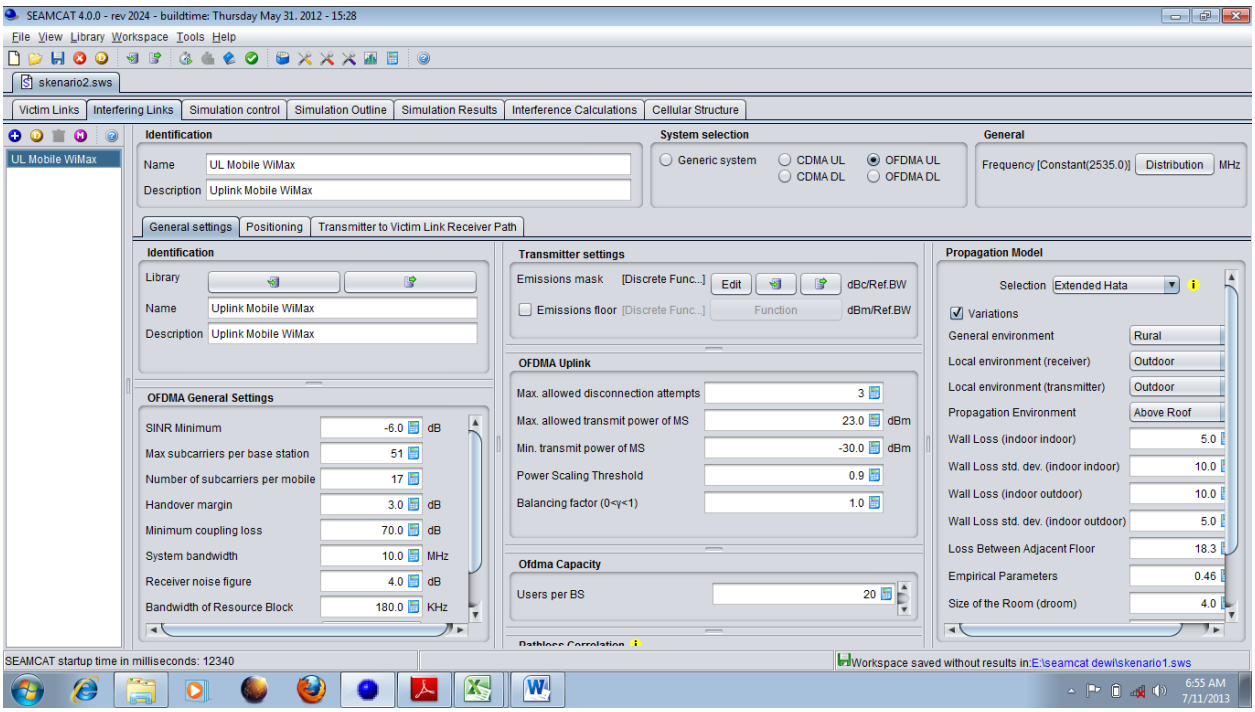


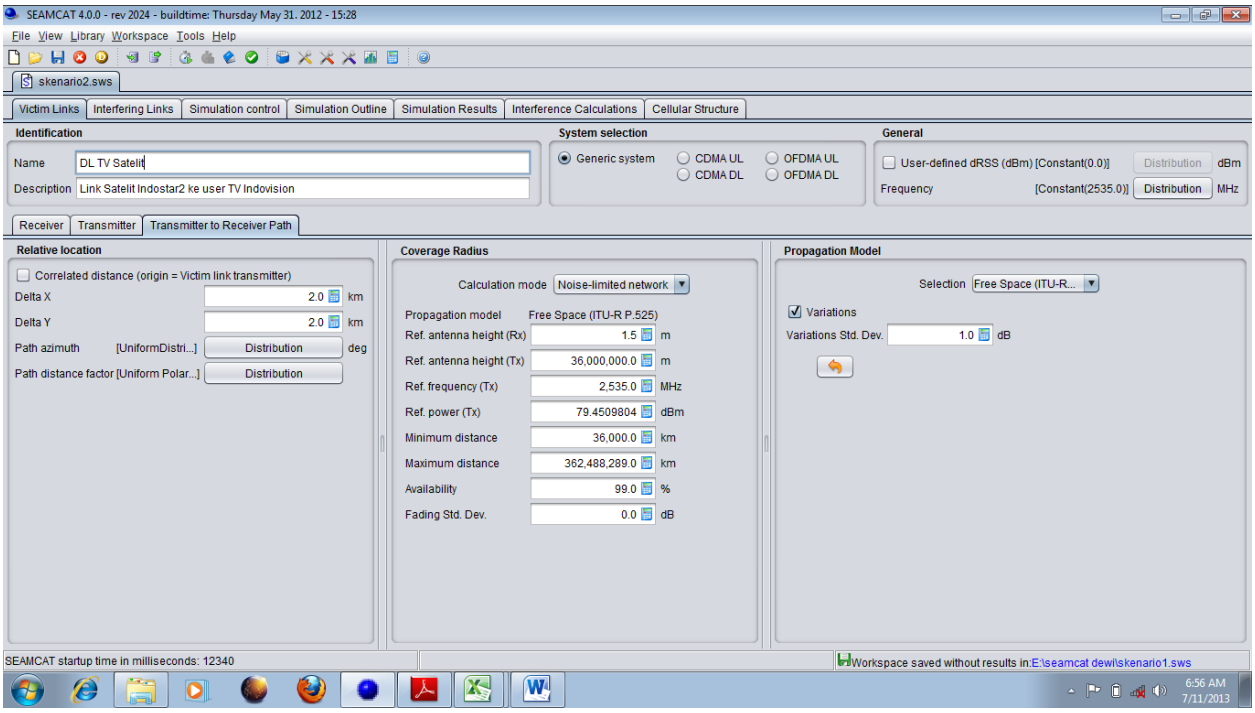


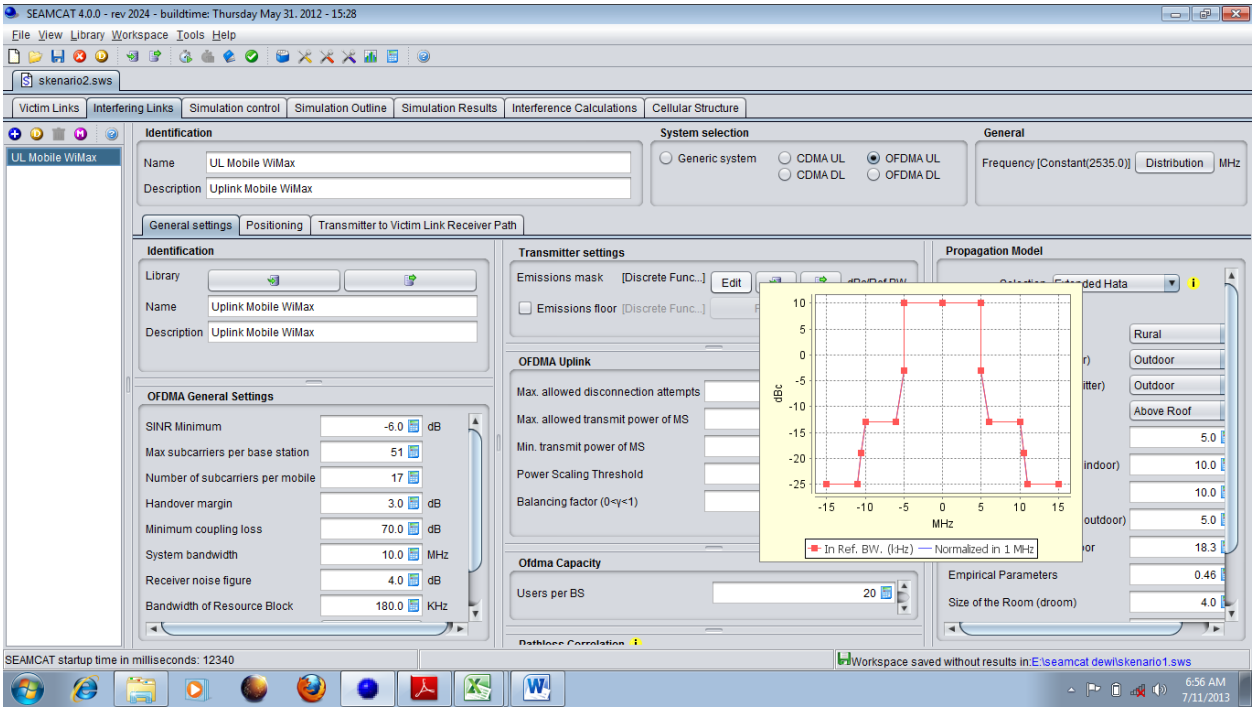
SKENARIO 2

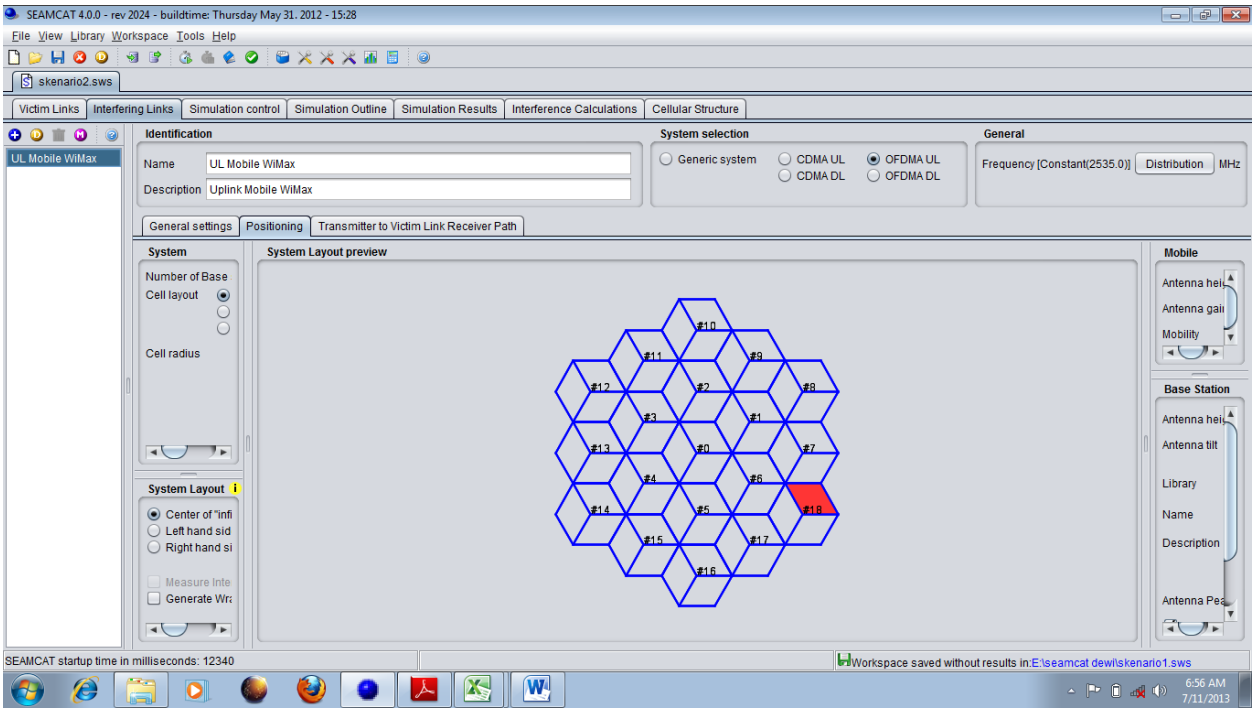
Parameter – parameter yang diinput :

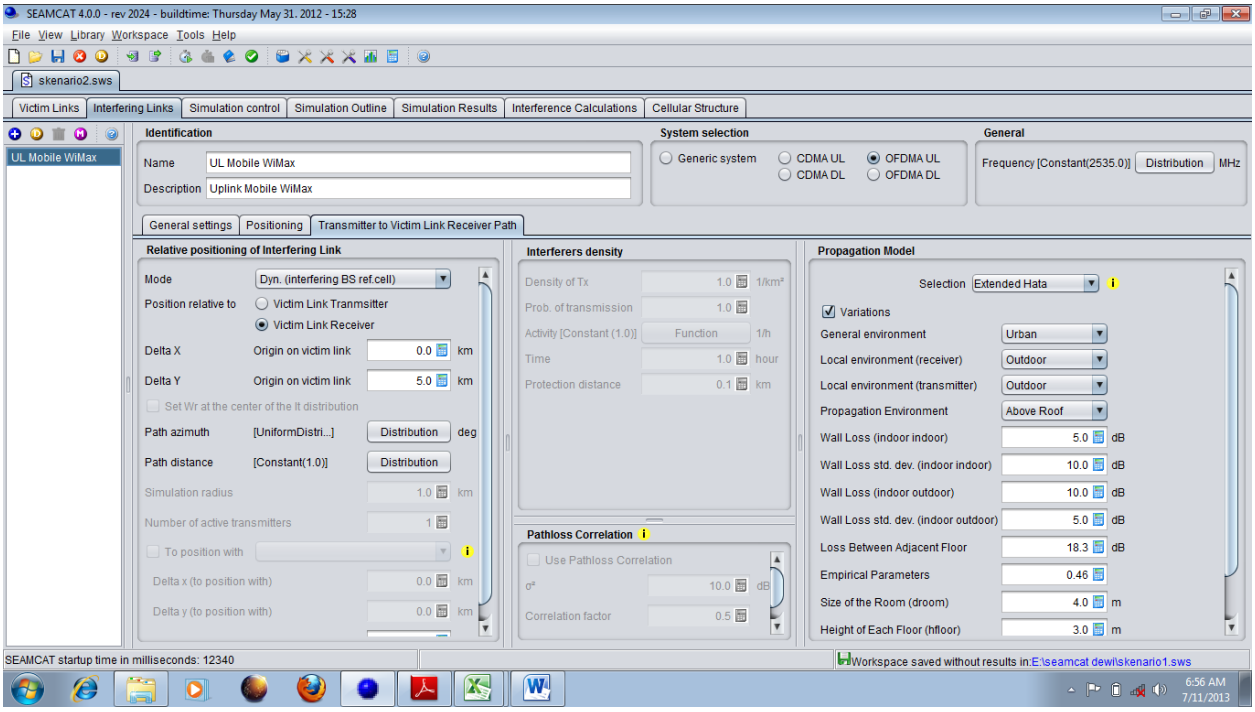


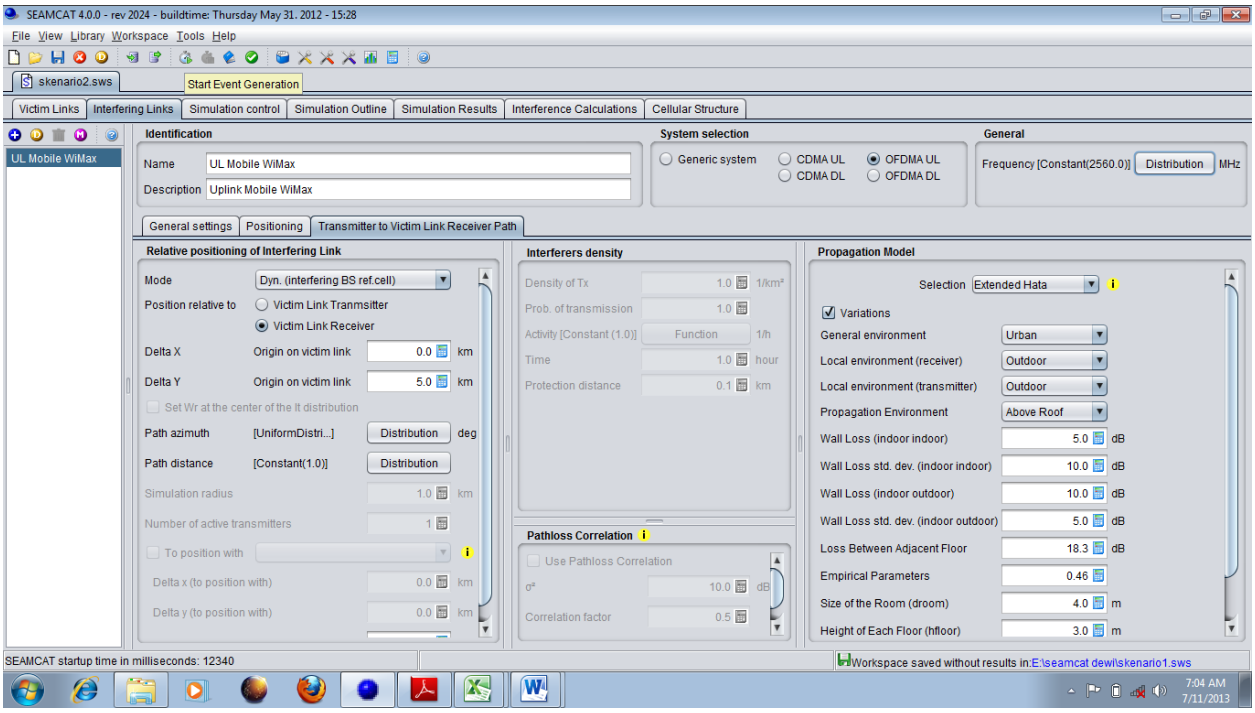



SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links Interfering Links Simulation control Simulation Outline Simulation Results Interference Calculations Cellular Structure
Identification
Name DL TV Satelit
Description Link Satelit Indostar2 ke user TV Indovision
System selection
Generic system CDMA UL OFDMA UL CDMA DL OFDMA DL
General
User-defined dRSS (dBm) [Constant(0.0)] Distribution dBm
Frequency [Constant(2535.0)] Distribution MHz
Receiver Transmitter Transmitter to Receiver Path
Relative location
Correlated distance (origin = Victim link transmitter)
Delta X 2.0 km
Delta Y 2.0 km
Path azimuth [UniformDistri...] Distribution deg
Path distance factor [Uniform Polar...] Distribution
Coverage Radius
Calculation mode Noise-limited network
Propagation model Free Space (ITU-R P.525)
Ref. antenna height (Rx) 1.5 m
Ref. antenna height (Tx) 36,000,000.0 m
Ref. frequency (Tx) 2,535.0 MHz
Ref. power (Tx) 79.4509804 dBm
Minimum distance 36,000.0 km
Maximum distance 362,488,289.0 km
Availability 99.0 %
Fading Std. Dev. 0.0 dB
Propagation Model
Selection Free Space (ITU-R...
Variations
Variations Std. Dev. 1.0 dB
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
6:56 AM
7/11/2013

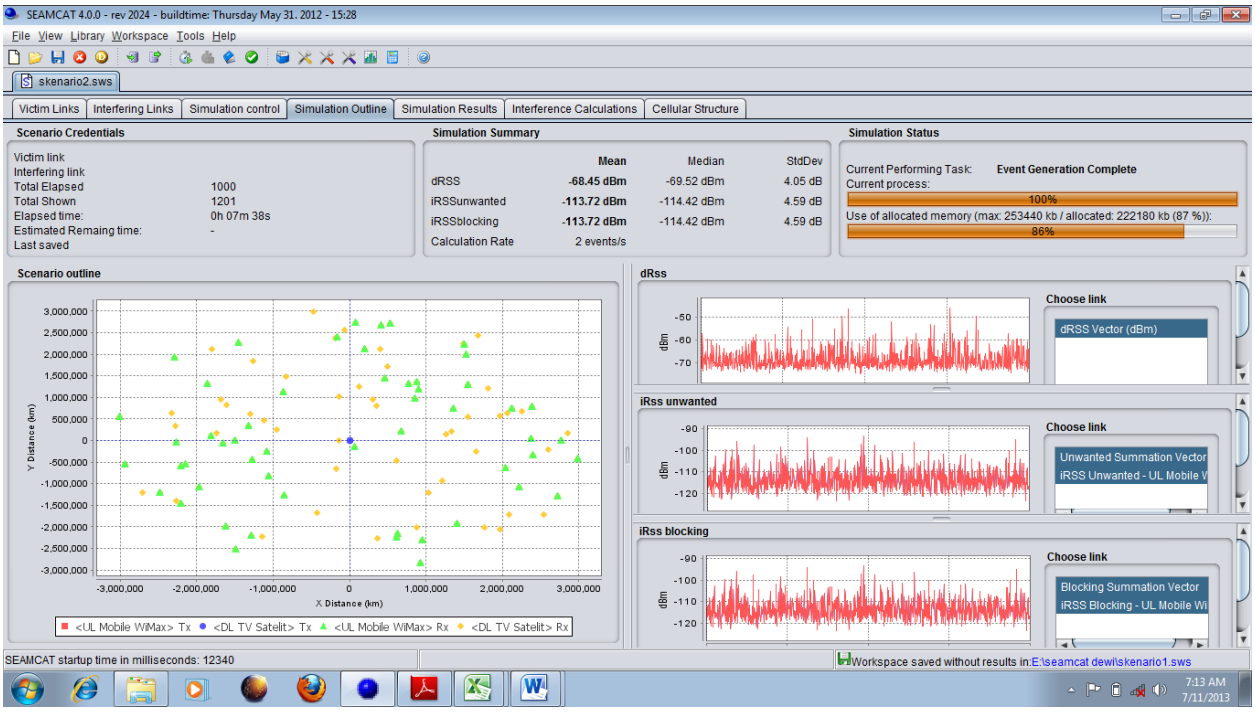

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links Interfering Links Simulation control Simulation Outline Simulation Results Interference Calculations Cellular Structure
UL Mobile WiMax
Identification
Name UL Mobile WiMax
Description Uplink Mobile WiMax
System selection
Generic system CDMA UL OFDMA UL CDMA DL OFDMA DL
General
Frequency [Constant(2535.0)] Distribution MHz
General settings Positioning Transmitter to Victim Link Receiver Path
Identification
Library
Name Uplink Mobile WiMax
Description Uplink Mobile WiMax
OFDMA General Settings
SINR Minimum -6.0 dB
Max subcarriers per base station 51
Number of subcarriers per mobile 17
Handover margin 3.0 dB
Minimum coupling loss 70.0 dB
System bandwidth 10.0 MHz
Receiver noise figure 4.0 dB
Bandwidth of Resource Block 180.0 KHz
Transmitter settings
Emissions mask [Discrete Func...] Edit
Emissions floor [Discrete Func...]
OFDMA Uplink
Max. allowed disconnection attempts
Max. allowed transmit power of MS
Min. transmit power of MS
Power Scaling Threshold
Balancing factor (0<γ<1)
Ofdma Capacity
Users per BS 20
Propagation Model
Rural
Outdoor
Outdoor
Above Roof
5.0
10.0
10.0
5.0
18.3
Empirical Parameters 0.46
Size of the Room (droom) 4.0
dBc
MHz
In Ref. BW. (I-Hz) Normalized in 1 MHz
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
6:56 AM
7/11/2013

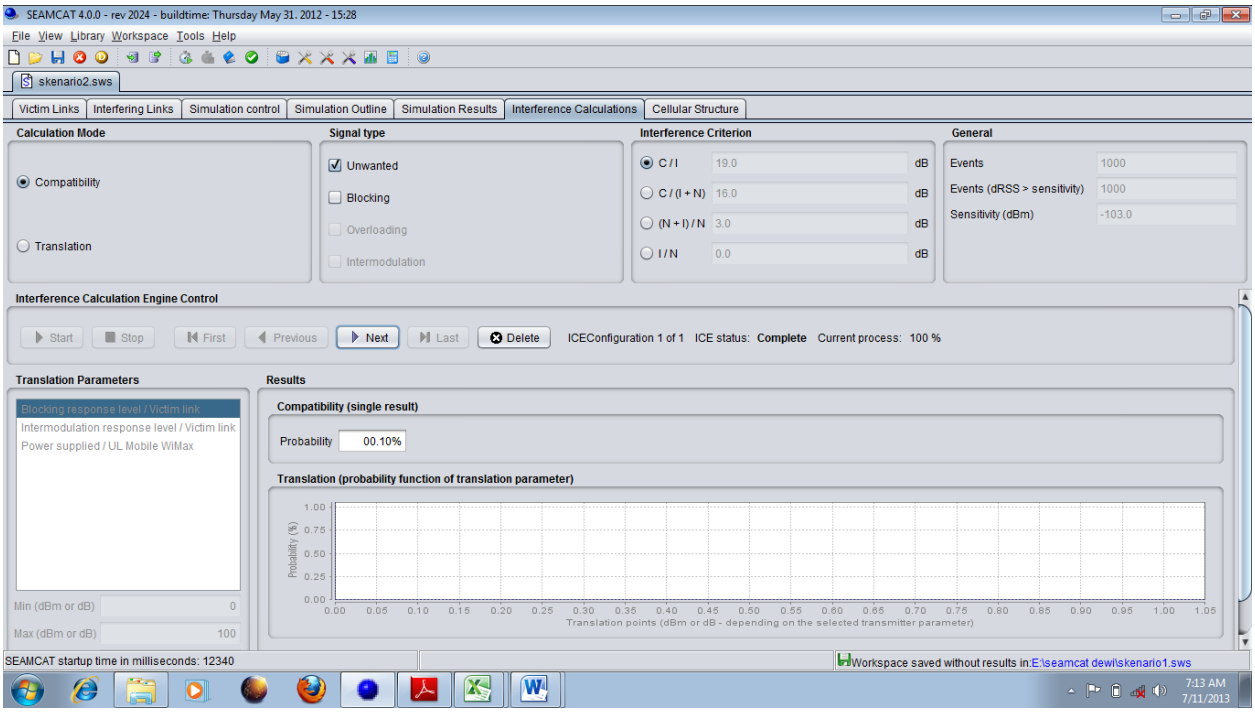

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
UL Mobile WiMax
Identification
Name
UL Mobile WiMax
Description
Uplink Mobile WiMax
System selection
Generic system
CDMA UL
CDMA DL
OFDMA UL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
General settings
Positioning
Transmitter to Victim Link Receiver Path
System
Number of Base
Cell layout
Cell radius
System Layout
Center of "infi
Left hand sid
Right hand si
Measure Inte
Generate Wr
System Layout preview
#10
#11
#9
#12
#2
#8
#3
#1
#13
#0
#7
#4
#6
#14
#5
#18
#15
#17
#16
Mobile
Antenna hei
Antenna gai
Mobility
Base Station
Antenna hei
Antenna tilt
Library
Name
Description
Antenna Pe
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
6:56 AM
7/11/2013

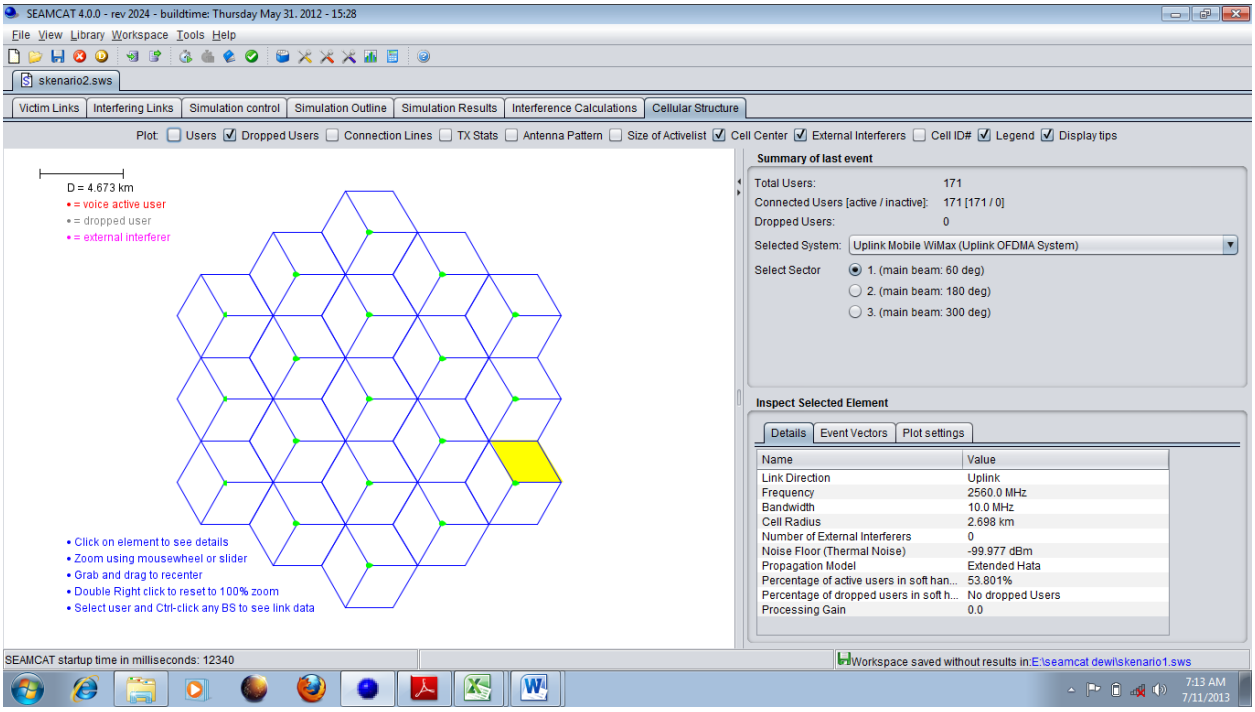

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
UL Mobile WiMax
Identification
Name
UL Mobile WiMax
Description
Uplink Mobile WiMax
System selection
Generic system
CDMA UL
CDMA DL
OFDMA UL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
General settings
Positioning
Transmitter to Victim Link Receiver Path
Relative positioning of Interfering Link
Mode
Dyn. (interfering BS ref.cell)
Position relative to
Victim Link Tranmsitter
Victim Link Receiver
Delta X
Origin on victim link
0.0
km
Delta Y
Origin on victim link
5.0
km
Set Wr at the center of the It distribution
Path azimuth
[UniformDistri...]
Distribution
deg
Path distance
[Constant(1.0)]
Distribution
Simulation radius
1.0
km
Number of active transmitters
1
To position with
Delta x (to position with)
0.0
km
Delta y (to position with)
0.0
km
Interferers density
Density of Tx
1.0
1/km²
Prob. of transmission
1.0
Activity [Constant (1.0)]
Function
1/h
Time
1.0
hour
Protection distance
0.1
km
Pathloss Correlation
Use Pathloss Correlation
α²
10.0
dB
Correlation factor
0.5
Propagation Model
Selection
Extended Hata
Variations
General environment
Urban
Local environment (receiver)
Outdoor
Local environment (transmitter)
Outdoor
Propagation Environment
Above Roof
Wall Loss (indoor indoor)
5.0
dB
Wall Loss std. dev. (indoor indoor)
10.0
dB
Wall Loss (indoor outdoor)
10.0
dB
Wall Loss std. dev. (indoor outdoor)
5.0
dB
Loss Between Adjacent Floor
18.3
dB
Empirical Parameters
0.46
Size of the Room (droom)
4.0
m
Height of Each Floor (hfloor)
3.0
m
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
6:56 AM
7/11/2013



Hasil Simulasi Skenario 2 pada Opsi Band Segmentasi :

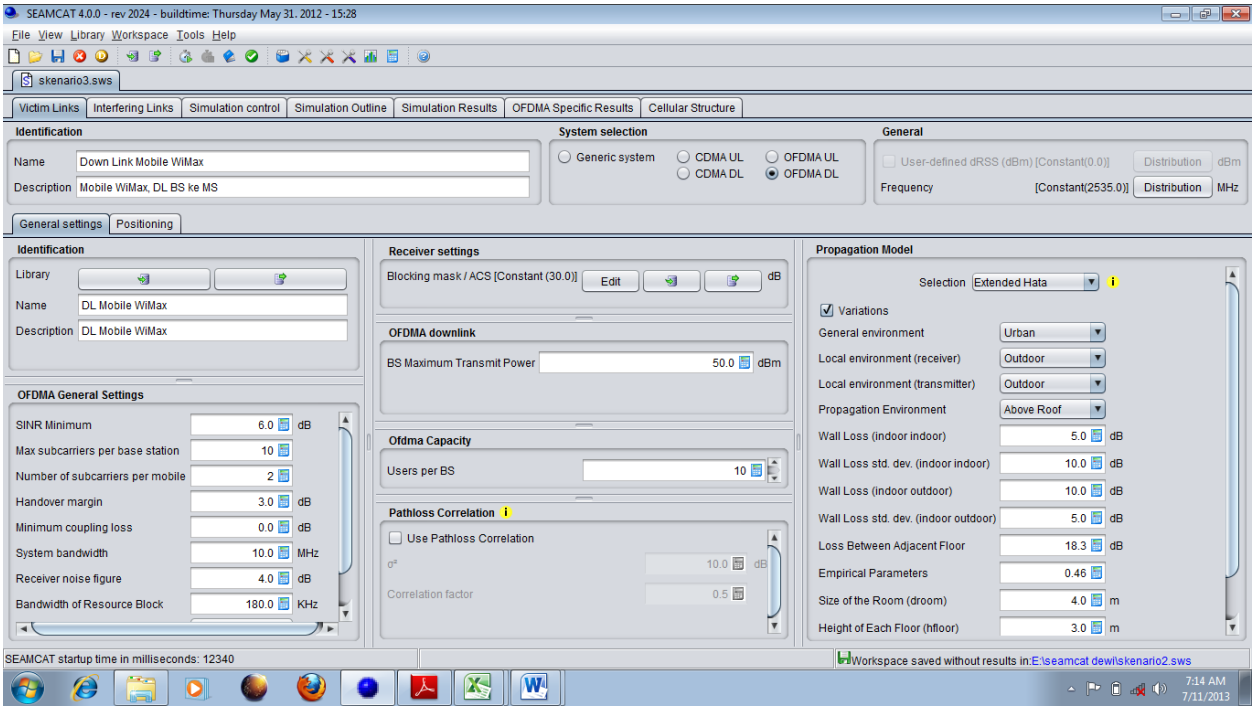


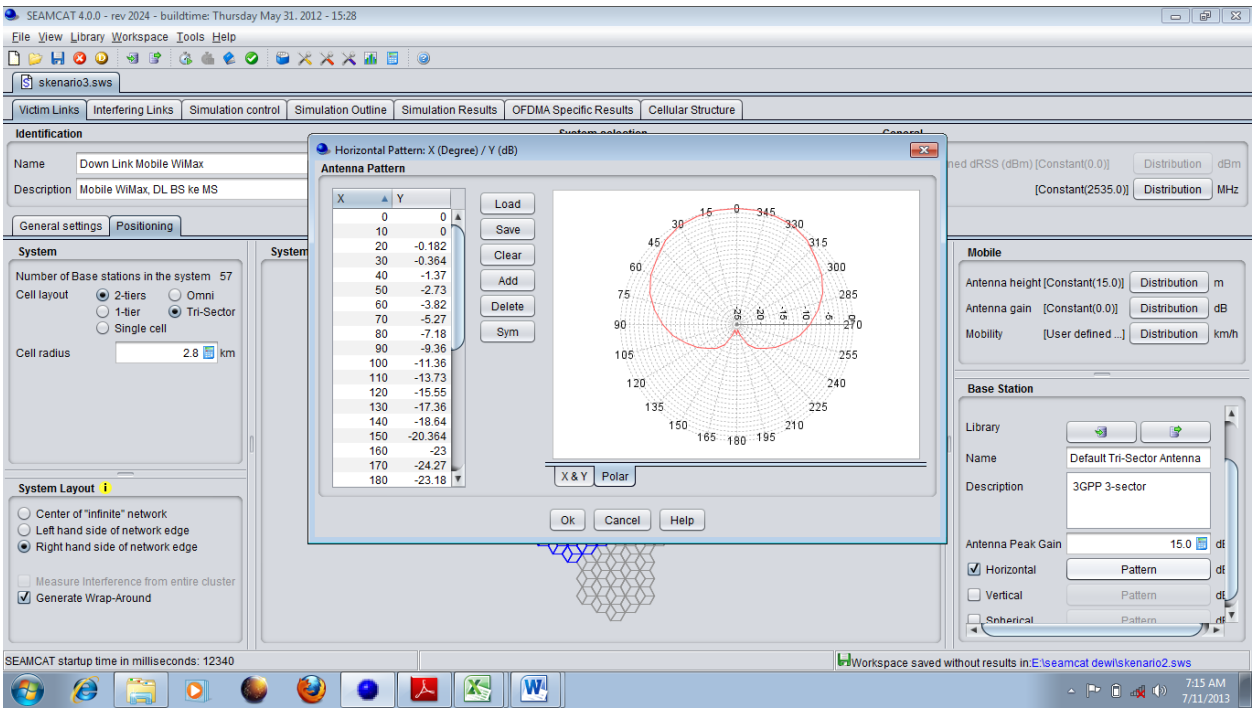

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
Calculation Mode
Compatibility
Translation
Signal type
Unwanted
Blocking
Overloading
Intermodulation
Interference Criterion
C / I
C / (I + N)
(N + I) / N
I / N
General
Events
Events (dRSS > sensitivity)
Sensitivity (dBm)
Interference Calculation Engine Control
Start
Stop
First
Previous
Next
Last
Delete
ICEConfiguration 1 of 1
ICE status: Complete
Current process: 100 %
Translation Parameters
Blocking response level / Victim link
Intermodulation response level / Victim link
Power supplied / UL Mobile WiMax
Min (dBm or dB)
Max (dBm or dB)
Results
Compatibility (single result)
Probability
Translation (probability function of translation parameter)
Probability (%)
Translation points (dBm or dB - depending on the selected transmitter parameter)
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
7:13 AM
7/11/2013

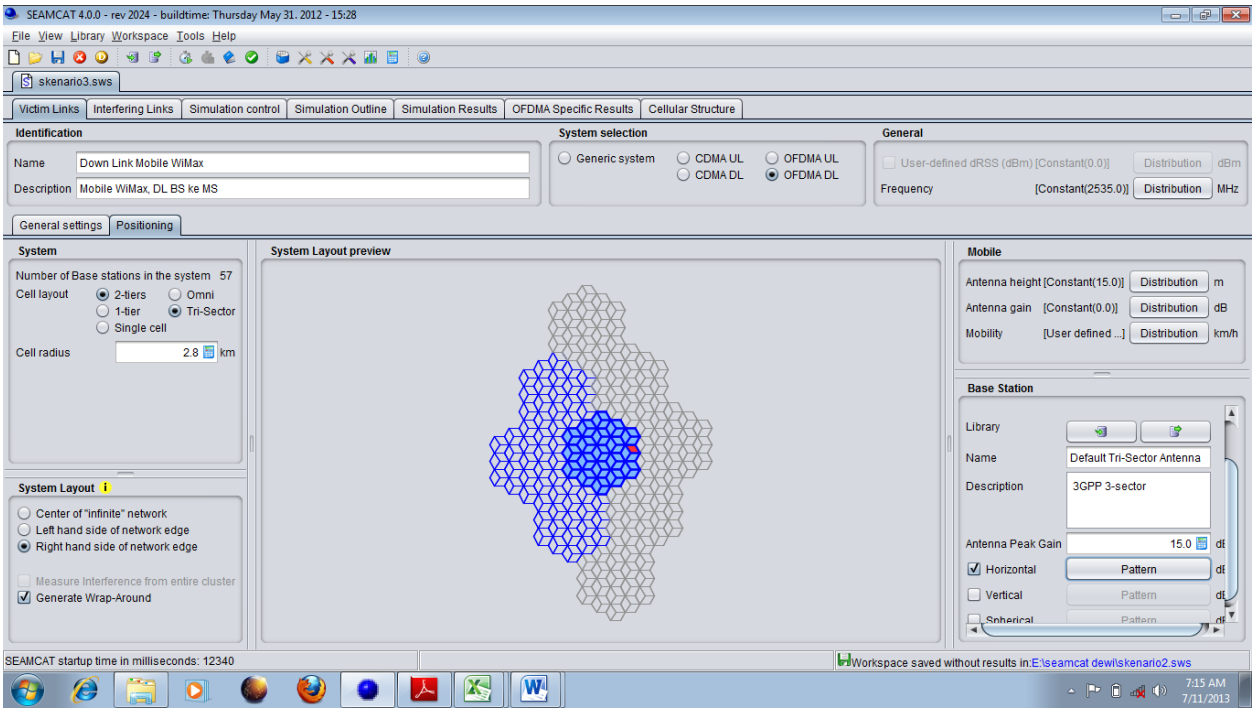

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario2.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
Interference Calculations
Cellular Structure
Plot: Users Dropped Users Connection Lines TX Stats Antenna Pattern Size of Activelist Cell Center External Interferers Cell ID# Legend Display tips
D = 4.673 km
• = voice active user
• = dropped user
• = external interferer
• Click on element to see details
• Zoom using mousewheel or slider
• Grab and drag to recenter
• Double Right click to reset to 100% zoom
• Select user and Ctrl-click any BS to see link data
Summary of last event
Total Users: 171
Connected Users [active / inactive]: 171 [171 / 0]
Dropped Users: 0
Selected System: Uplink Mobile WiMax (Uplink OFDMA System)
Select Sector
1. (main beam: 60 deg)
2. (main beam: 180 deg)
3. (main beam: 300 deg)
Inspect Selected Element
Details
Event Vectors
Plot settings
Name
Value
Link Direction Uplink
Frequency 2560.0 MHz
Bandwidth 10.0 MHz
Cell Radius 2.698 km
Number of External Interferers 0
Noise Floor (Thermal Noise) -99.977 dBm
Propagation Model Extended Hata
Percentage of active users in soft han... 53.801%
Percentage of dropped users in soft h... No dropped Users
Processing Gain 0.0
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario1.sws
7:13 AM
7/11/2013

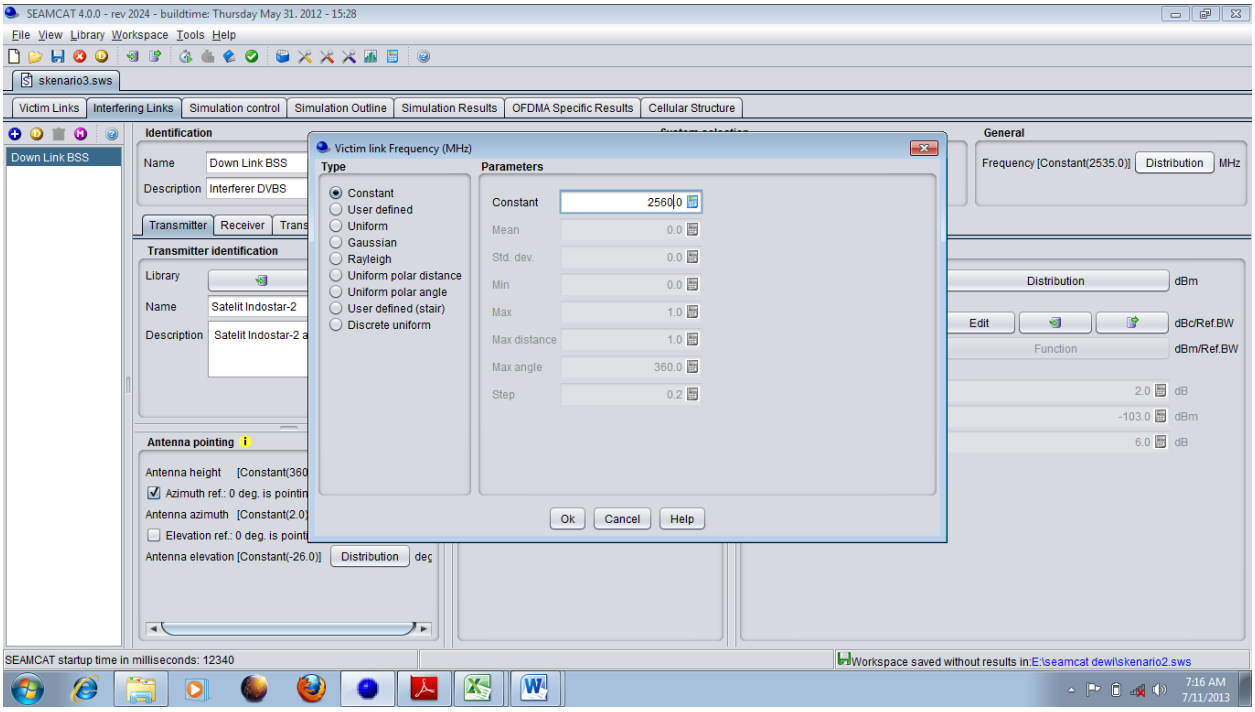
SKENARIO 3

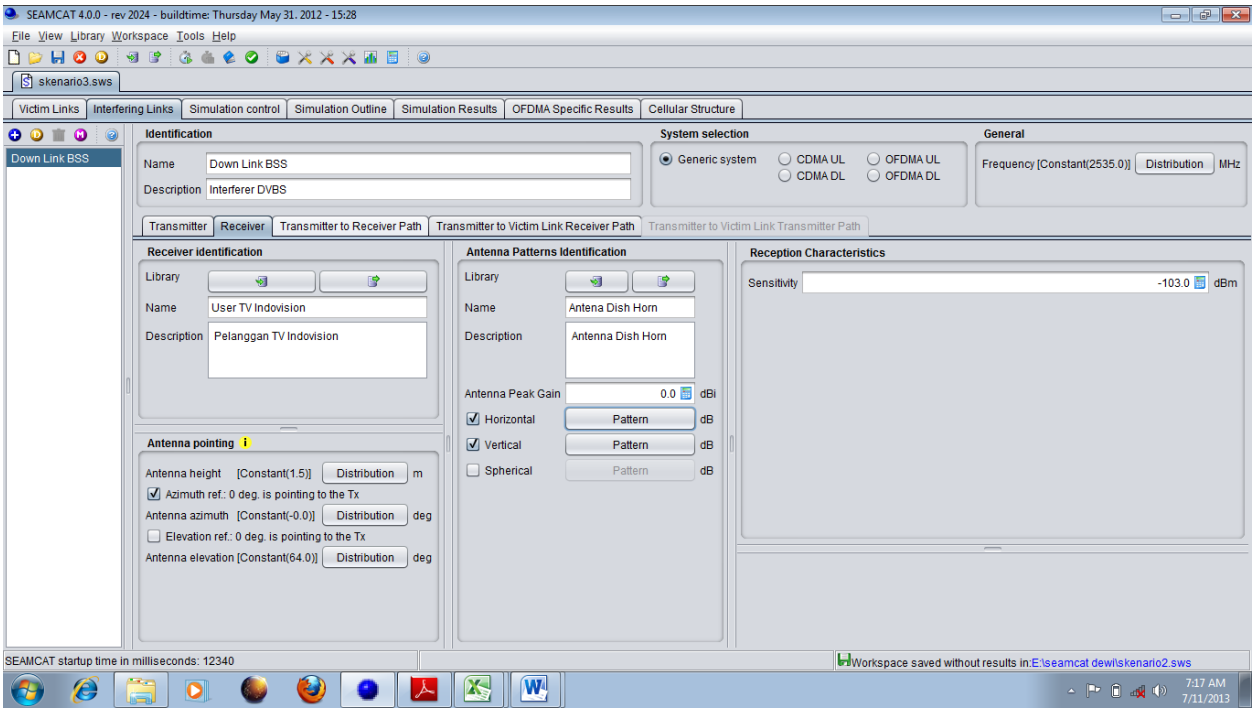
Parameter yang diinput pada skenario 3 :

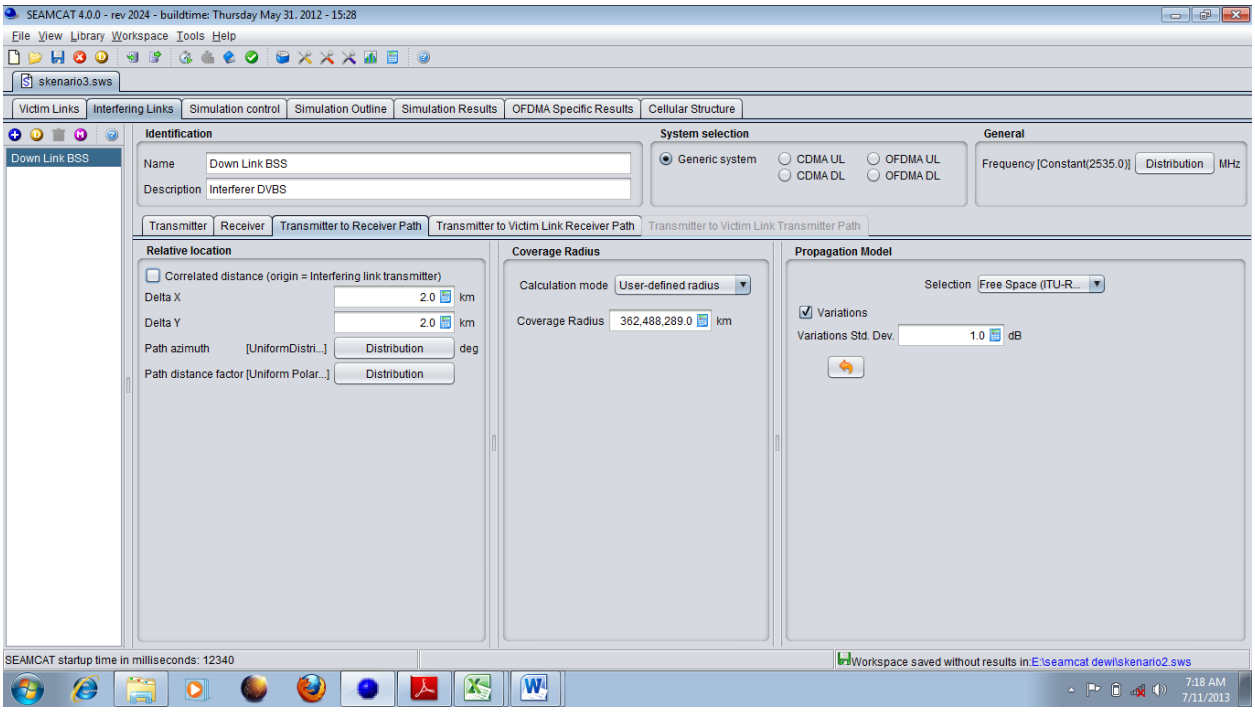


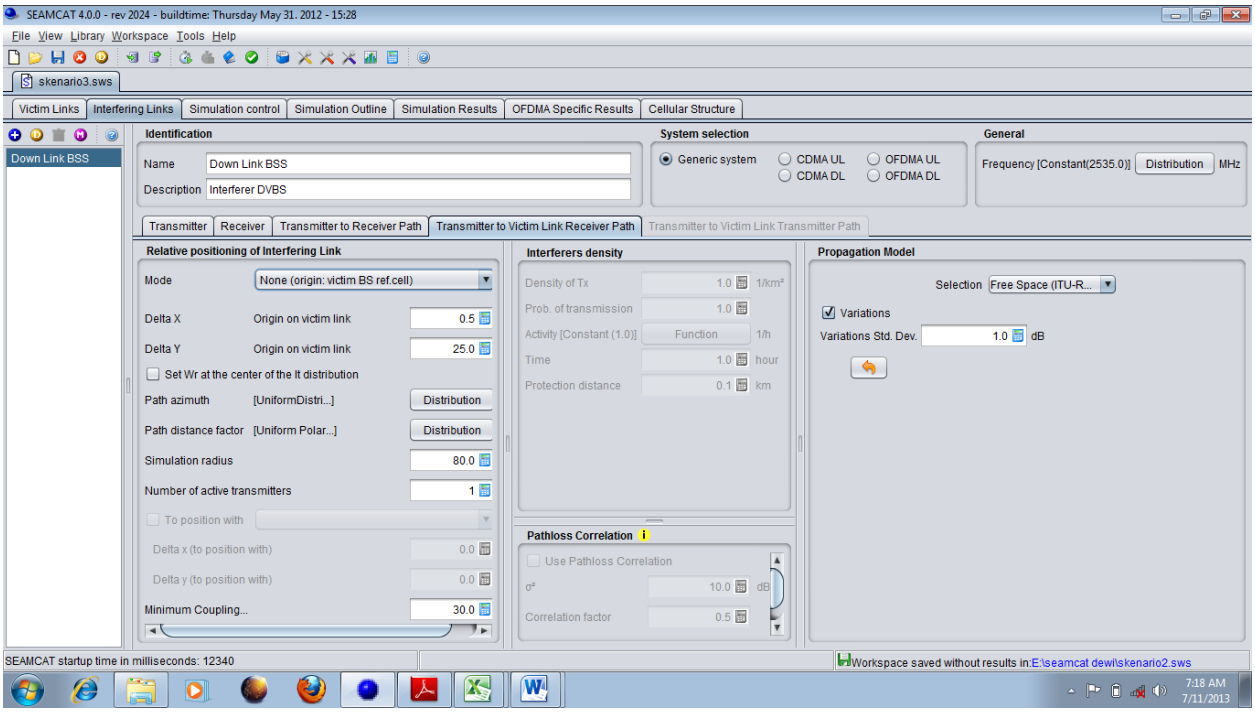



SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Identification
Name
Down Link Mobile WiMax
Description
Mobile WiMax, DL BS ke MS
System selection
Generic system
CDMA UL
CDMA DL
OFDMA UL
OFDMA DL
General
Frequency
[Constant(2535.0)]
Distribution
MHz
General settings
Positioning
System
Number of Base stations in the system 57
Cell layout
2-tiers
Omni
1-tier
Tri-Sector
Single cell
Cell radius
2.8
km
System Layout preview
Mobile
Antenna height [Constant(15.0)]
Antenna gain [Constant(0.0)]
Mobility [User defined ...]
m
dB
km/h
System Layout
Center of "infinite" network
Left hand side of network edge
Right hand side of network edge
Measure Interference from entire cluster
Generate Wrap-Around
Base Station
Library
Name
Default Tri-Sector Antenna
Description
3GPP 3-sector
Antenna Peak Gain
15.0
Horizontal
Pattern
Vertical
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:15 AM
7/11/2013

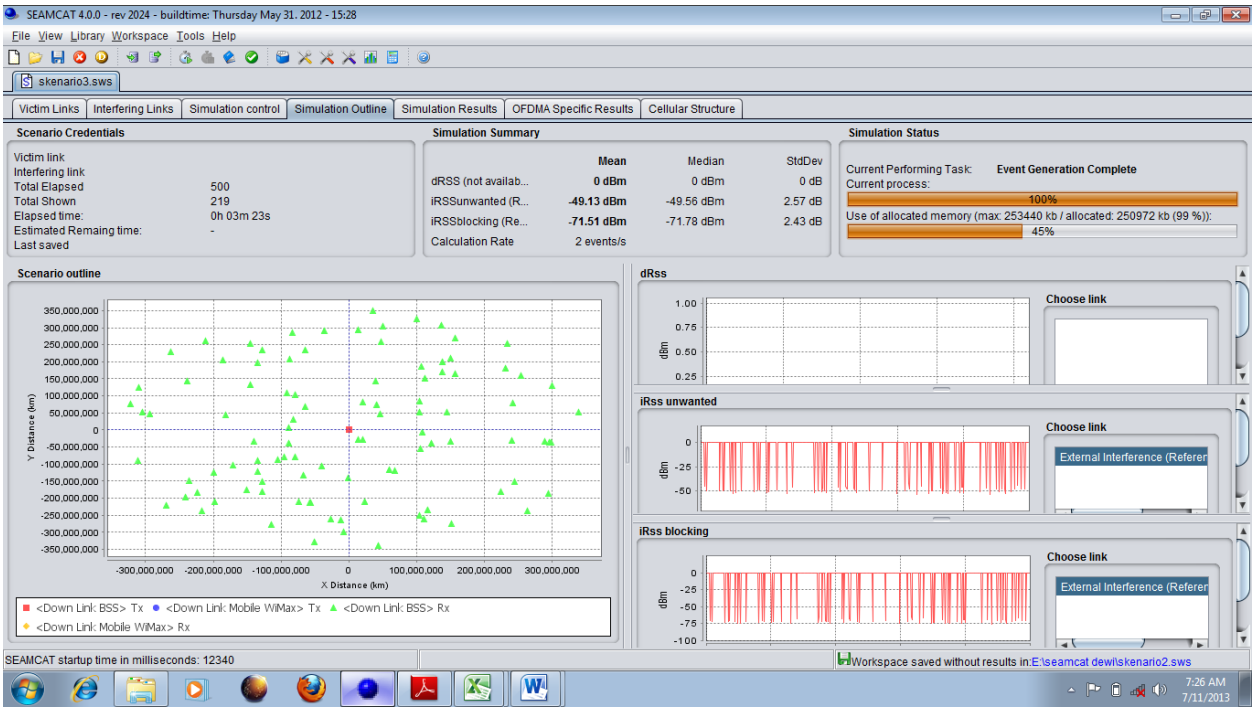

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Down Link BSS
Identification
Name
Down Link BSS
Description
Interferer DVBS
Transmitter
Receiver
Transmitter identification
Library
Name
Satelit Indostar-2
Description
Satelit Indostar-2 a
Antenna pointing
Antenna height [Constant(360
Azimuth ref.: 0 deg. is pointin
Antenna azimuth [Constant(2.0)
Elevation ref.: 0 deg. is point
Antenna elevation [Constant(-26.0)]
Distribution
deg
Victim link Frequency (MHz)
Type
Constant
User defined
Uniform
Gaussian
Rayleigh
Uniform polar distance
Uniform polar angle
User defined (stair)
Discrete uniform
Parameters
Constant
2560.0
Mean
Std. dev.
Min
Max
Max distance
Max angle
Step
0.0
1.0
360.0
0.2
Ok
Cancel
Help
General
Frequency [Constant(2535.0)]
Distribution
MHz
dBm
Edit
dBc/Ref.BW
Function
dBm/Ref.BW
2.0
dB
-103.0
dBm
6.0
dB
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:16 AM
7/11/2013

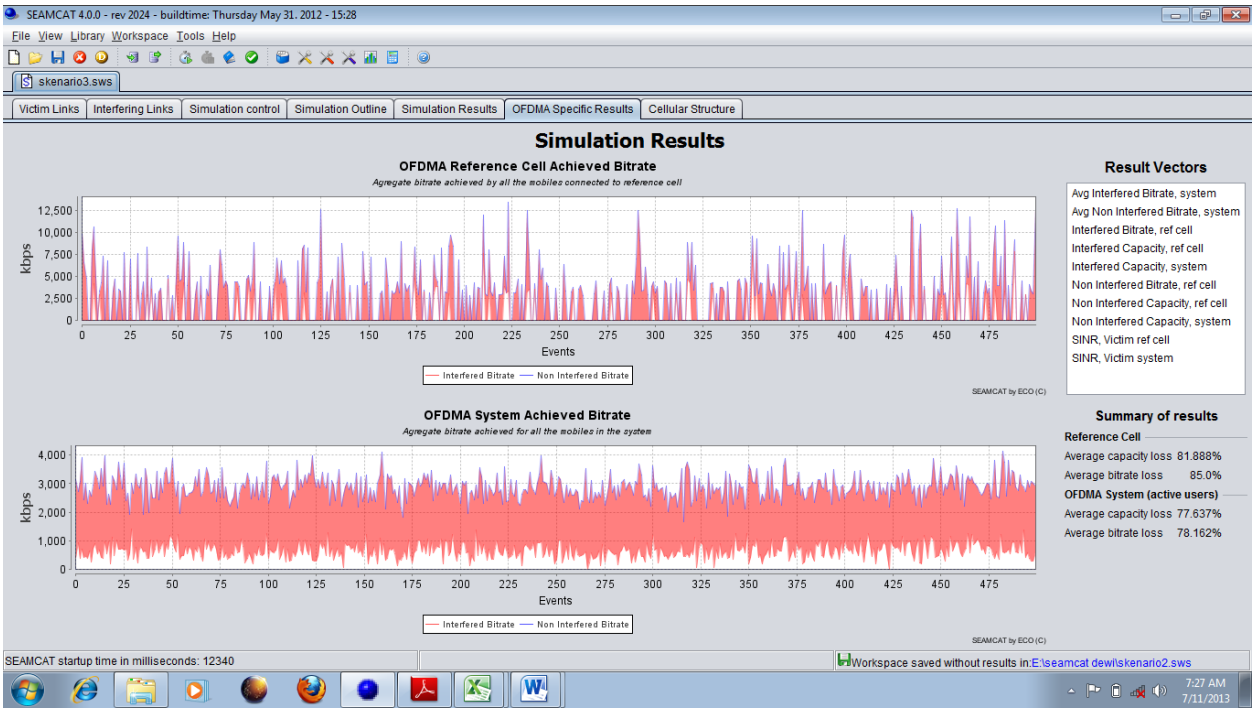

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Down Link BSS
Identification
Name
Down Link BSS
Description
Interferer DVBS
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
Transmitter
Receiver
Transmitter to Receiver Path
Transmitter to Victim Link Receiver Path
Transmitter to Victim Link Transmitter Path
Receiver identification
Library
Name
User TV Indovision
Description
Pelanggan TV Indovision
Antenna Patterns Identification
Library
Name
Antena Dish Horn
Description
Antenna Dish Horn
Antenna Peak Gain
0.0
dBi
Horizontal
Pattern
dB
Vertical
Pattern
dB
Spherical
Pattern
dB
Reception Characteristics
Sensitivity
-103.0
dBm
Antenna pointing
Antenna height
[Constant(1.5)]
Distribution
m
Azimuth ref.: 0 deg. is pointing to the Tx
Antenna azimuth
[Constant(-0.0)]
Distribution
deg
Elevation ref.: 0 deg. is pointing to the Tx
Antenna elevation [Constant(64.0)]
Distribution
deg
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:17 AM
7/11/2013

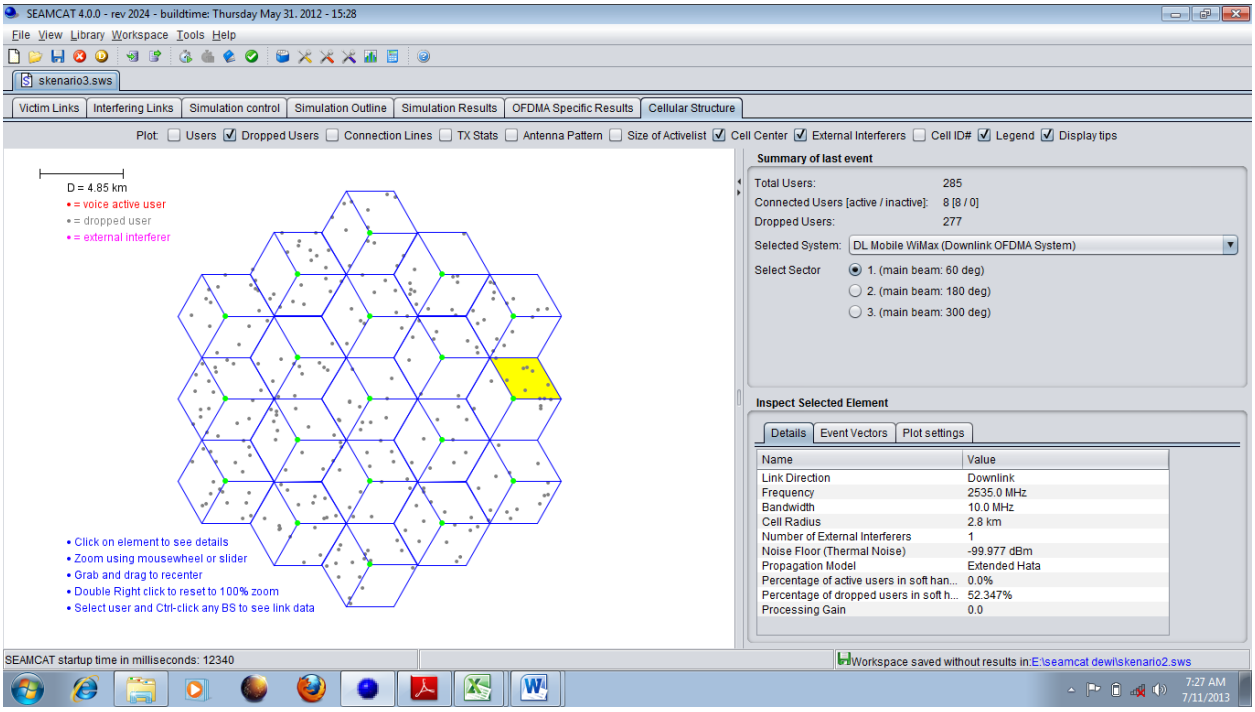

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Down Link BSS
Identification
Name
Down Link BSS
Description
Interferer DVBS
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
Transmitter
Receiver
Transmitter to Receiver Path
Transmitter to Victim Link Receiver Path
Transmitter to Victim Link Transmitter Path
Relative location
Correlated distance (origin = Interfering link transmitter)
Delta X
2.0
km
Delta Y
2.0
km
Path azimuth
[UniformDistri...]
Distribution
deg
Path distance factor [Uniform Polar...]
Distribution
Coverage Radius
Calculation mode
User-defined radius
Coverage Radius
362,488,289.0
km
Propagation Model
Selection
Free Space (ITU-R...
Variations
Variations Std. Dev.
1.0
dB
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:18 AM
7/11/2013



Hasil Simulasi pada skenario 3 Opsi Band Segmentasi :

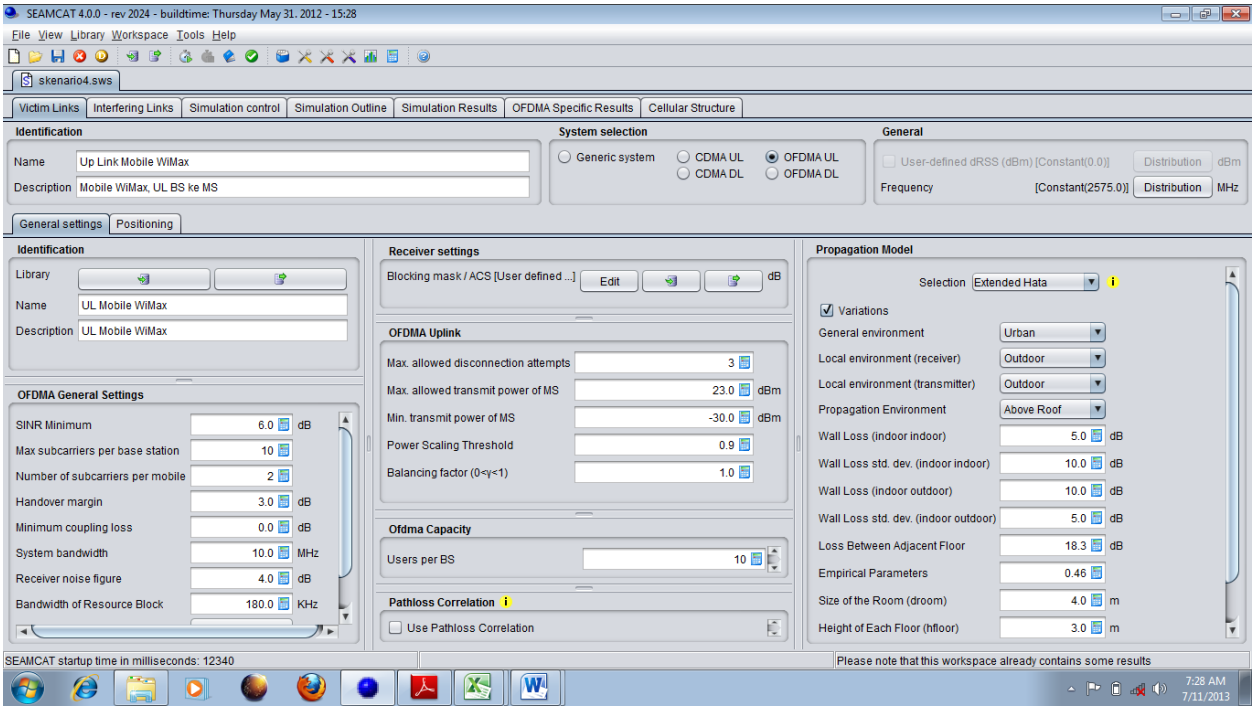


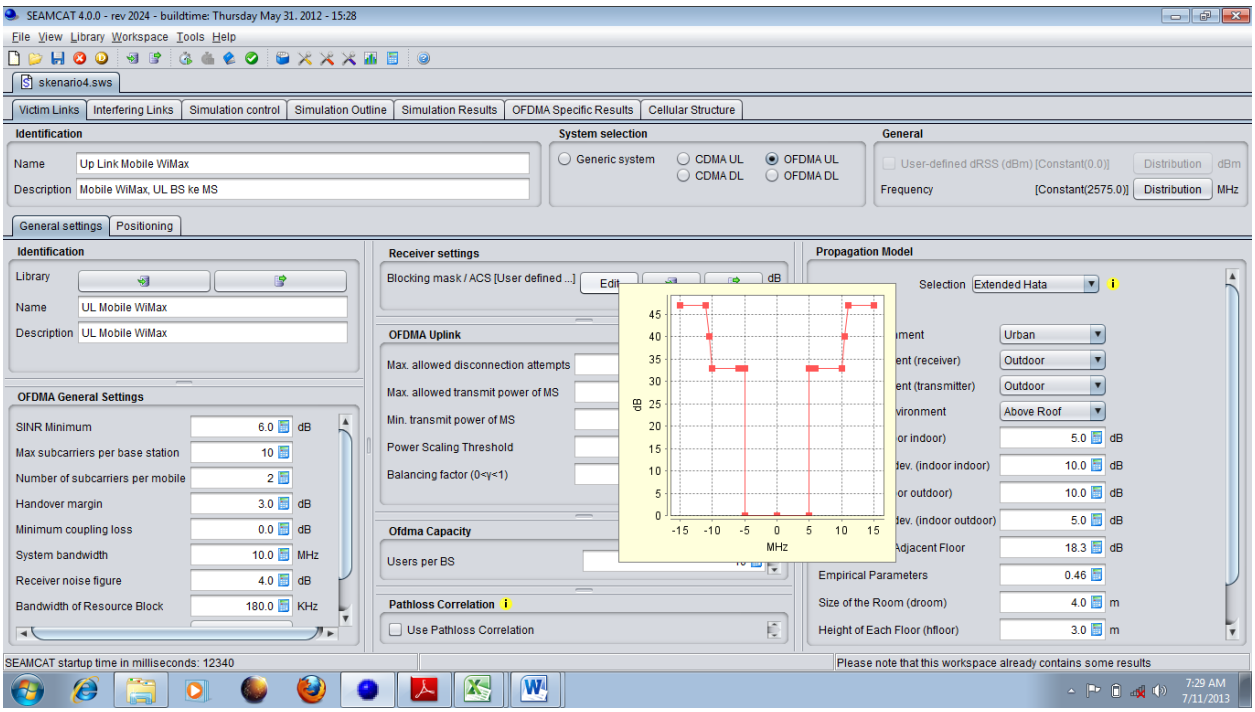

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Simulation Results
OFDMA Reference Cell Achieved Bitrate
Aggregate bitrate achieved by all the mobiles connected to reference cell
kbps
Events
Interfered Bitrate
Non Interfered Bitrate
SEAMCAT by ECO (C)
OFDMA System Achieved Bitrate
Aggregate bitrate achieved for all the mobiles in the system
Result Vectors
Avg Interfered Bitrate, system
Avg Non Interfered Bitrate, system
Interfered Bitrate, ref cell
Interfered Capacity, ref cell
Interfered Capacity, system
Non Interfered Bitrate, ref cell
Non Interfered Capacity, ref cell
Non Interfered Capacity, system
SINR, Victim ref cell
SINR, Victim system
Summary of results
Reference Cell
Average capacity loss 81.888%
Average bitrate loss 85.0%
OFDMA System (active users)
Average capacity loss 77.637%
Average bitrate loss 78.162%
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:27 AM
7/11/2013

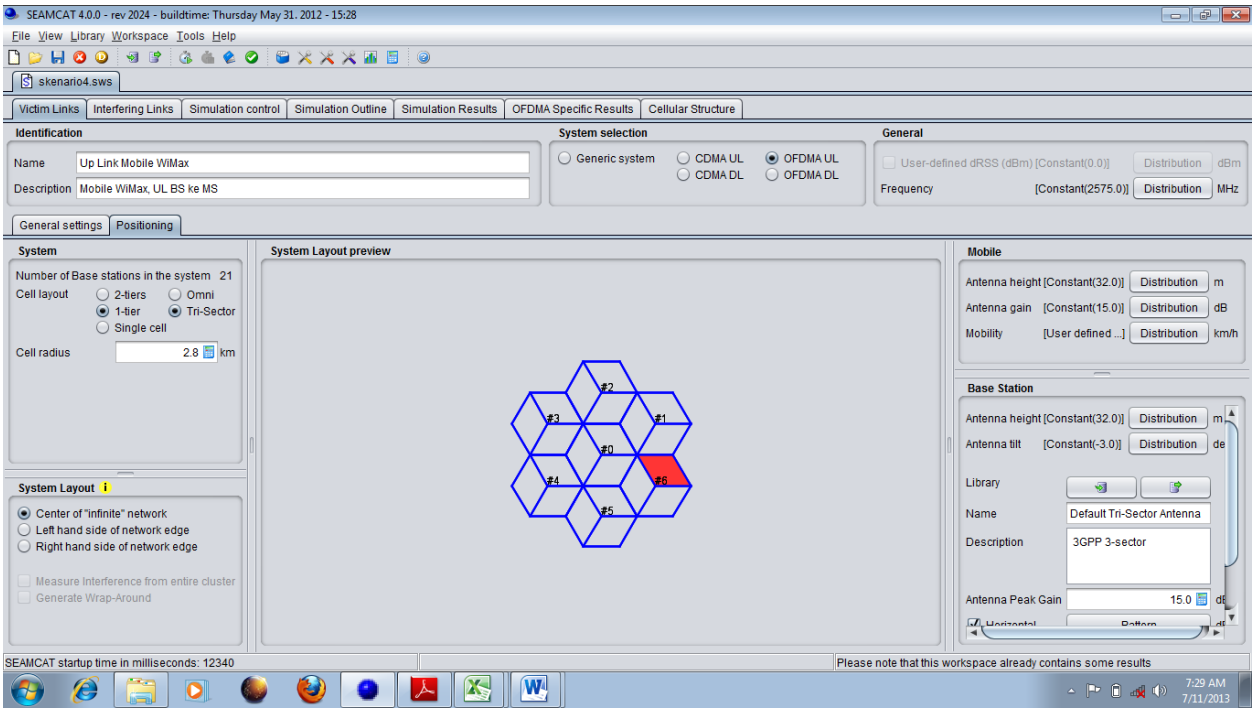

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario3.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Plot: Users Dropped Users Connection Lines TX Stats Antenna Pattern Size of Activelist Cell Center External Interferers Cell ID# Legend Display tips
D = 4.85 km
• = voice active user
• = dropped user
• = external interferer
• Click on element to see details
• Zoom using mousewheel or slider
• Grab and drag to recenter
• Double Right click to reset to 100% zoom
• Select user and Ctrl-click any BS to see link data
Summary of last event
Total Users: 285
Connected Users [active / inactive]: 8 [8 / 0]
Dropped Users: 277
Selected System: DL Mobile WiMax (Downlink OFDMA System)
Select Sector
1. (main beam: 60 deg)
2. (main beam: 180 deg)
3. (main beam: 300 deg)
Inspect Selected Element
Details
Event Vectors
Plot settings
Name
Value
Link Direction Downlink
Frequency 2535.0 MHz
Bandwidth 10.0 MHz
Cell Radius 2.8 km
Number of External Interferers 1
Noise Floor (Thermal Noise) -99.977 dBm
Propagation Model Extended Hata
Percentage of active users in soft han... 0.0%
Percentage of dropped users in soft h... 52.347%
Processing Gain 0.0
SEAMCAT startup time in milliseconds: 12340
Workspace saved without results in:E:\seamcat dewi\skenario2.sws
7:27 AM
7/11/2013

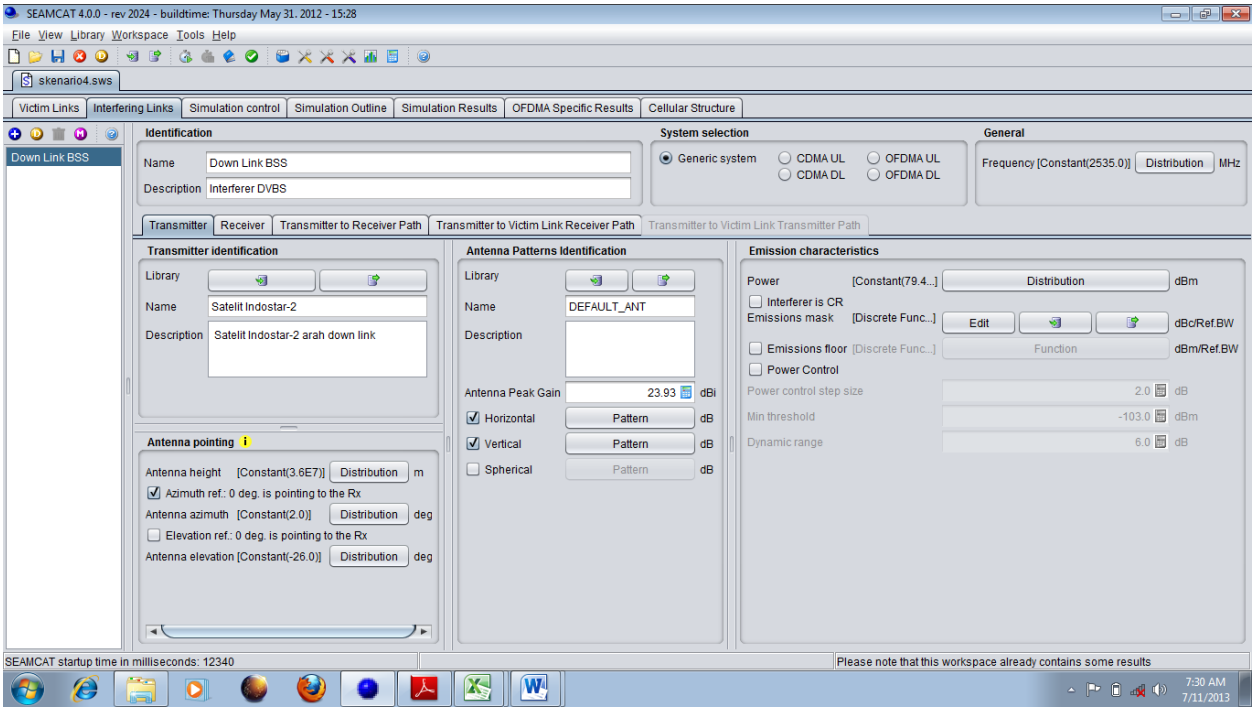
SKENARIO 4

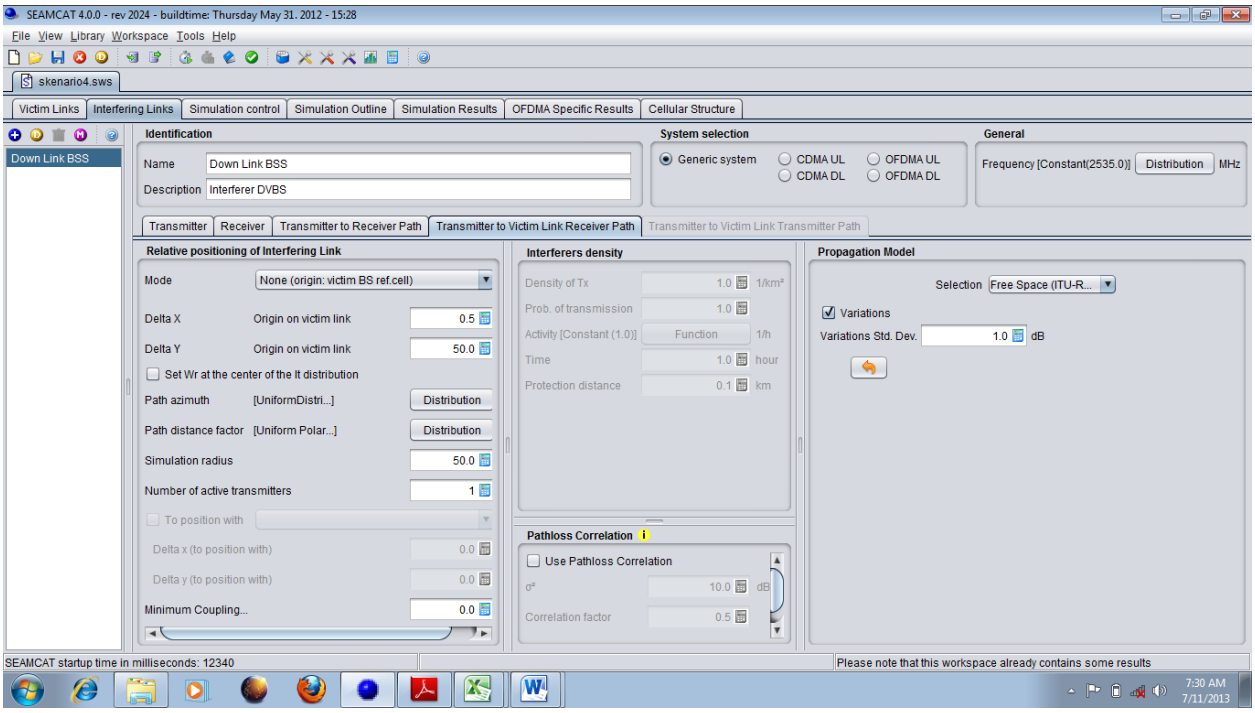
Parameter yang diinput pada skenario 4 :



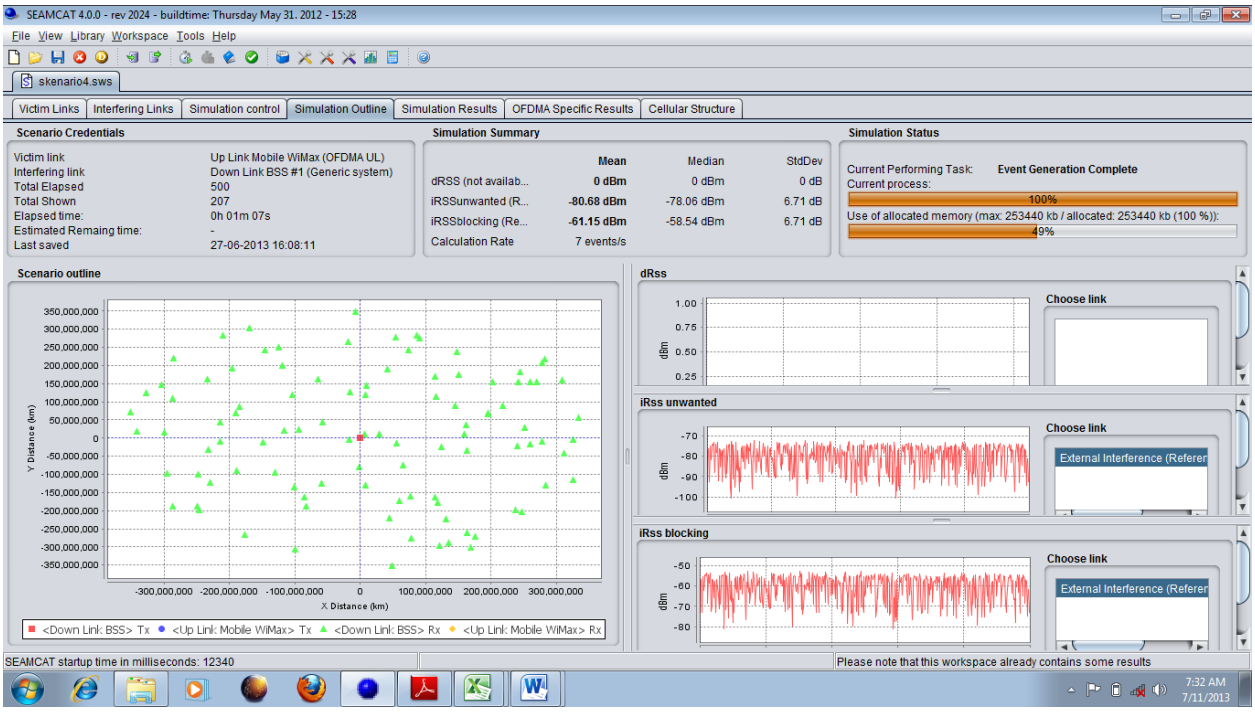


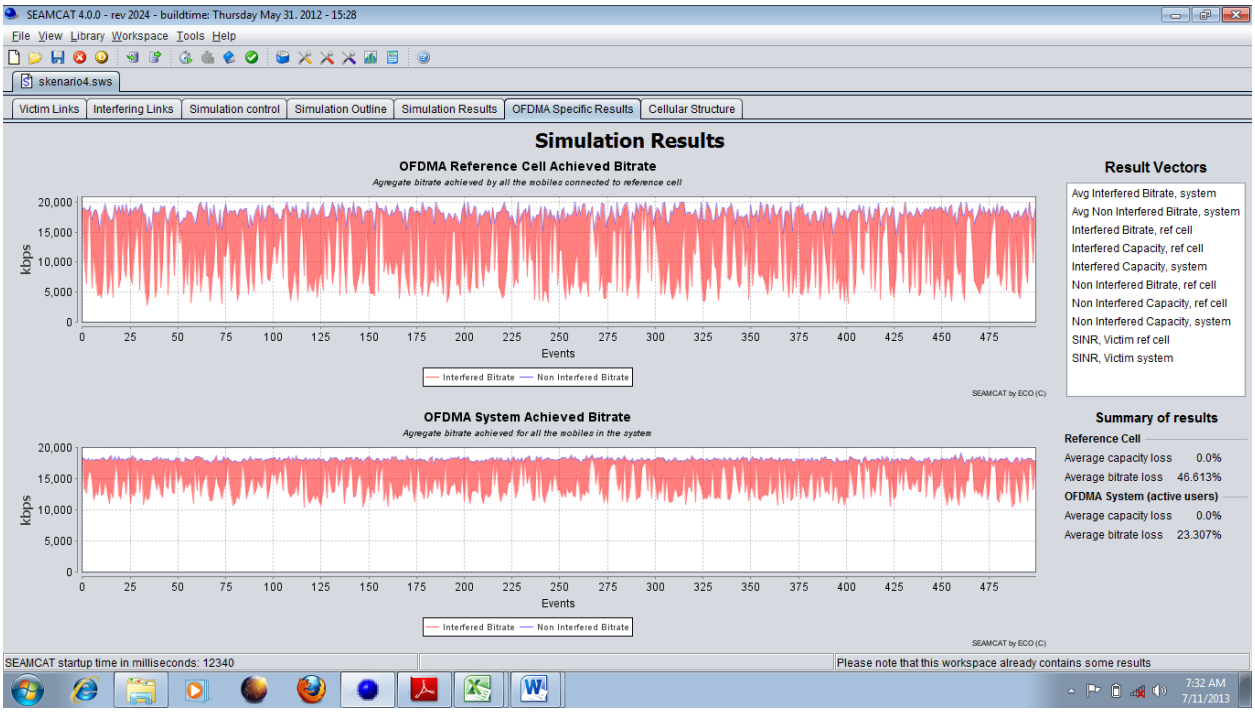

SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario4.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Identification
Name
Up Link Mobile WiMax
Description
Mobile WiMax, UL BS ke MS
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
Frequency
[Constant(2575.0)]
Distribution
MHz
General settings
Positioning
System
Number of Base stations in the system 21
Cell layout
2-tiers
Omni
1-tier
Tri-Sector
Single cell
Cell radius
2.8
km
System Layout preview
#0
#1
#2
#3
#4
#5
#6
Mobile
Antenna height [Constant(32.0)]
Antenna gain [Constant(15.0)]
Mobility [User defined ...]
Base Station
Antenna tilt [Constant(-3.0)]
System Layout
Center of "infinite" network
Left hand side of network edge
Right hand side of network edge
Measure Interference from entire cluster
Generate Wrap-Around
Library
Name
Default Tri-Sector Antenna
Description
3GPP 3-sector
Antenna Peak Gain
15.0
SEAMCAT startup time in milliseconds: 12340
Please note that this workspace already contains some results
7:29 AM
7/11/2013


SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
File View Library Workspace Tools Help
skenario4.sws
Victim Links
Interfering Links
Simulation control
Simulation Outline
Simulation Results
OFDMA Specific Results
Cellular Structure
Down Link BSS
Identification
Name
Down Link BSS
Description
Interferer DVBS
System selection
Generic system
CDMA UL
OFDMA UL
CDMA DL
OFDMA DL
General
Frequency [Constant(2535.0)]
Distribution
MHz
Transmitter
Receiver
Transmitter to Receiver Path
Transmitter to Victim Link Receiver Path
Transmitter to Victim Link Transmitter Path
Transmitter identification
Library
Name
Satelit Indostar-2
Description
Satelit Indostar-2 arah down link
Antenna Patterns Identification
Library
Name
DEFAULT_ANT
Description
Antenna Peak Gain
23.93
dBi
Horizontal
Pattern
dB
Vertical
Pattern
dB
Spherical
Pattern
dB
Emission characteristics
Power
[Constant(79.4...]
Distribution
dBm
Interferer is CR
Emissions mask
[Discrete Func...]
Edit
dBc/Ref.BW
Emissions floor
[Discrete Func...]
Function
dBm/Ref.BW
Power Control
Power control step size
2.0
dB
Min threshold
-103.0
dBm
Dynamic range
6.0
dB
Antenna pointing
Antenna height [Constant(3.6E7)]
m
Azimuth ref.: 0 deg. is pointing to the Rx
Antenna azimuth [Constant(2.0)]
deg
Elevation ref.: 0 deg. is pointing to the Rx
Antenna elevation [Constant(-26.0)]
deg
SEAMCAT startup time in milliseconds: 12340
Please note that this workspace already contains some results
7:30 AM
7/11/2013



Hasil Simulasi Skenario 4 pada Opsi Band Segmentasi :




SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
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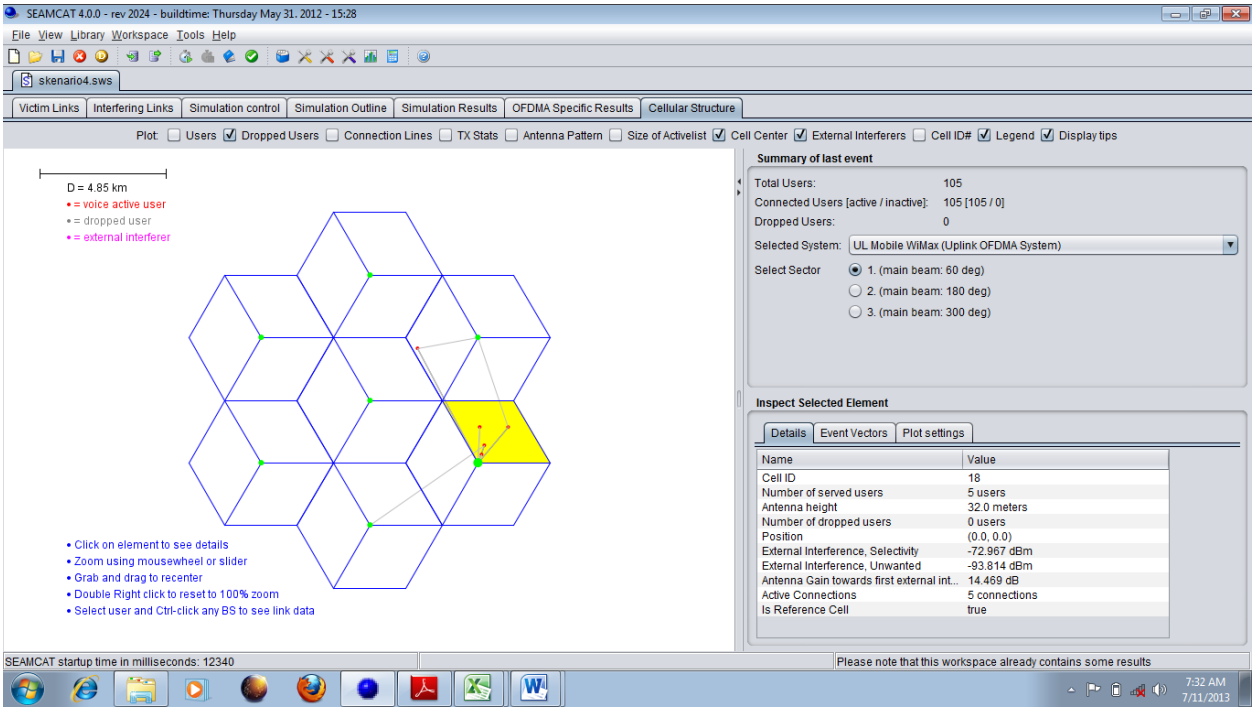
kbps
Events
Interfered Bitrate
Non Interfered Bitrate
SEAMCAT by ECO (C)
Result Vectors
Avg Interfered Bitrate, system
Avg Non Interfered Bitrate, system
Interfered Bitrate, ref cell
Interfered Capacity, ref cell
Interfered Capacity, system
Non Interfered Bitrate, ref cell
Non Interfered Capacity, ref cell
Non Interfered Capacity, system
SINR, Victim ref cell
SINR, Victim system
OFDMA System Achieved Bitrate
Agregate bitrate achieved for all the mobiles in the system
Summary of results
Reference Cell
Average capacity loss 0.0%
Average bitrate loss 46.613%
OFDMA System (active users)
Average capacity loss 0.0%
Average bitrate loss 23.307%
SEAMCAT startup time in milliseconds: 12340
Please note that this workspace already contains some results
7:32 AM
7/11/2013


SEAMCAT 4.0.0 - rev 2024 - buildtime: Thursday May 31. 2012 - 15:28
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D = 4.85 km
• = voice active user
• = dropped user
• = external interferer
• Click on element to see details
• Zoom using mousewheel or slider
• Grab and drag to recenter
• Double Right click to reset to 100% zoom
• Select user and Ctrl-click any BS to see link data
Summary of last event
Total Users: 105
Connected Users [active / inactive]: 105 [105 / 0]
Dropped Users: 0
Selected System: UL Mobile WiMax (Uplink OFDMA System)
Select Sector
1. (main beam: 60 deg)
2. (main beam: 180 deg)
3. (main beam: 300 deg)
Inspect Selected Element
Details
Event Vectors
Plot settings
Name
Value
Cell ID 18
Number of served users 5 users
Antenna height 32.0 meters
Number of dropped users 0 users
Position (0.0, 0.0)
External Interference, Selectivity -72.967 dBm
External Interference, Unwanted -93.814 dBm
Antenna Gain towards first external int... 14.469 dB
Active Connections 5 connections
Is Reference Cell true
SEAMCAT startup time in milliseconds: 12340
Please note that this workspace already contains some results
7:32 AM
7/11/2013