

# Case study of Tree Survey problem for KX-UDS/UDT

(KX-UDS/UDT series)

No. 44-009

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Ver.1.0

Panasonic Corporation

## Abstract about this document

This document describe about case study of Tree Survey problem for KX-UDS/UDT series.

## Revision history

Date	Version	Revision	Firmware version
Mar. 29, 2013	Ver. 1.0	Initial Release	All versions

# Before case study

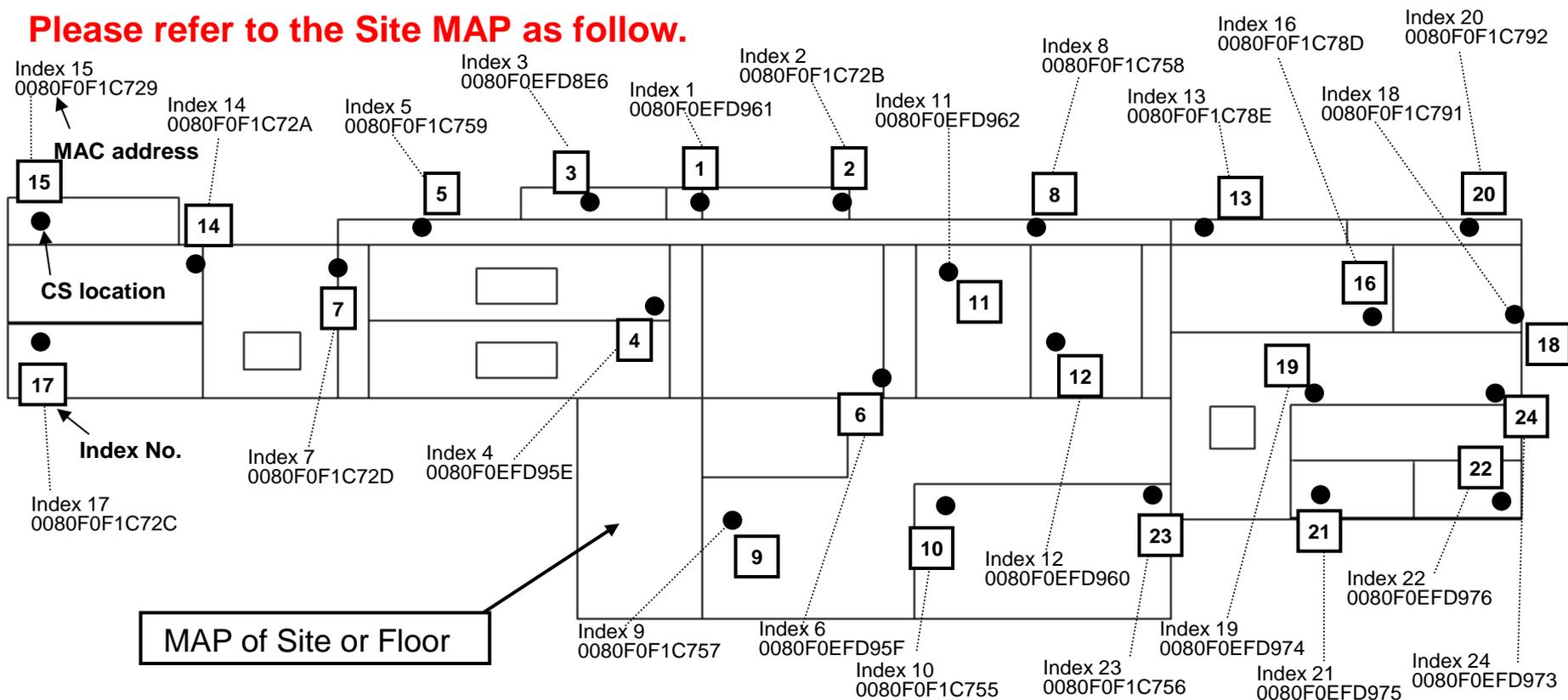
As advice, we recommend making of **Site MAP of CS.**

As a merit, the maintenance after the running system becomes easy.  
Such as confirmation of the call area or to solve radio signal trouble.

## Procedure of making Site MAP

1. To prepare the Site MAP.
2. To write down the location of CS.
3. To write down the CS Index No. and MAC address.  
(MAC address is written on the rear side of each CS.)

Please refer to the Site MAP as follow.



# Case study of Tree Survey Problem

## Overview

This document describes solutions using concrete example about the problem that occurred when you conduct Tree Survey.  
Please refer to case study as follow.

## Case Study

1. If error message is displayed “CS does not have Primary CS.”  
    ➡ **Error !!! CS does not have Primary CS.**
2. If you find a low radio signal level after successful of Tree Survey.  
    ➡ **Low radio signal level after successful of Tree Survey.**

# 1. Error!!! CS does not have Primary CS.

**1. If error message is displayed,  
Error !!! CS does not have Primary CS.**

## **Note:**

**Tree Survey has two procedures.**

- 1. CS Web**
- 2. CS Maintenance Tool**

**If the Tree Survey will be conducted for 10 or more CSs,  
please use the CS Maintenance Tool instead.**

# 1. Error!!! CS does not have Primary CS.

1.1) If error message "CS does not have Primary CS" was displayed, you should conduct Tree Survey by CS Maintenance Tool. (You cannot solve it by CS Web.)

The screenshot shows the Panasonic CS Maintenance Tool web interface for SIP CS KX-UDS124. The 'System' tab is selected. The 'Tree Survey' section is active, showing a 'Tree Survey Complete' message and a 'Click the Start Tree Survey' instruction. The 'Start Tree Survey' button is highlighted with a red box and labeled '1.'. Below it, the 'Result Application' section has 'Apply' and 'Cancel' buttons, with 'Cancel' highlighted and labeled '4.'. A 'Survey List' table is visible at the bottom.

Index	CS Name MAC Address	CS Class	Status	Primary CS Index	Secondary CS Index	Level
1	SIP-CS1 0080F0F06C78	Master	INS	-	-	-
2	SIP-CS2 0080F0E9763B	2nd Master	INS	1		1
3	SIP-CS3 0080F0E97633	Slave	INS	1	2	1
4	SIP-CS4 0080F0F06C79	Slave	INS	1	2	1

**Error!!! CS does not have Primary CS.  
CS9,CS22**

The screenshot shows the 'Results' page in a Windows Internet Explorer browser window. The page title is 'SIP CS KX-UDS124 - Windows Internet Explorer'. The main content area displays the 'EXECUTION RESULT:' and lists CS9 and CS22 as having no primary CS. A red box highlights the error message 'ERROR!!! CS does not have Primary CS. CS9 CS22' and is labeled '2.'. The 'OK' button is highlighted with a red box and labeled '3.'. A blue arrow points from the 'Cancel' button in the previous screenshot to the 'OK' button here.

1. Click [Start Tree Survey].
2. Please check the Error Result.
3. Click [OK].
4. Click [Cancel].
  - After clicking Cancel, all CSs will restart automatically.

You can find a ERROR  
CS does not have Primary CS.  
For example,  
CS9 and CS22 does not have Primary CS.

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## Supplement

- This is a rare case. But after Site Survey the Radio signal condition might be changed by environmental change. In case of a radio signal without a margin, it may happen.
- Even if CS registration is successful, it may happen. If it can receive the radio signal, CS registration can be successful. (It's even low radio signal such as less than -80dBm.) But Tree Survey need the radio signal level more than -80dBm.

# 1. Error!!! CS does not have Primary CS.

1.2) Please conduct Tree Survey by CS Maintenance Tool.  
You can find a ERROR "CS does not have Primary CS."

The screenshot shows the SIP-CS Maintenance Tool interface. The 'Tree Survey' button is highlighted with a red box and labeled '3.'. The 'Tree Survey Wizard' dialog is open, showing a list of CS (Call Station) entries. The 'Start' button is highlighted with a red box and labeled '3.'. The 'Finish' dialog is displayed, showing the error message: 'ERROR!!! CS does not have Primary CS. CS9,CS22'. The 'Finish' button is highlighted with a red box and labeled '4.'. A large red box highlights the error message in the 'Finish' dialog.

**Error!!! CS does not have Primary CS. CS9,CS22**

1. Start CS Maintenance Tool.

2. Enter following, and click [Next].

IP Address: IP address of Master CS  
User name: admin  
Password: adminpass

3. Click [Tree Survey], "Tree Survey Wizard" is displayed, then click [Start].

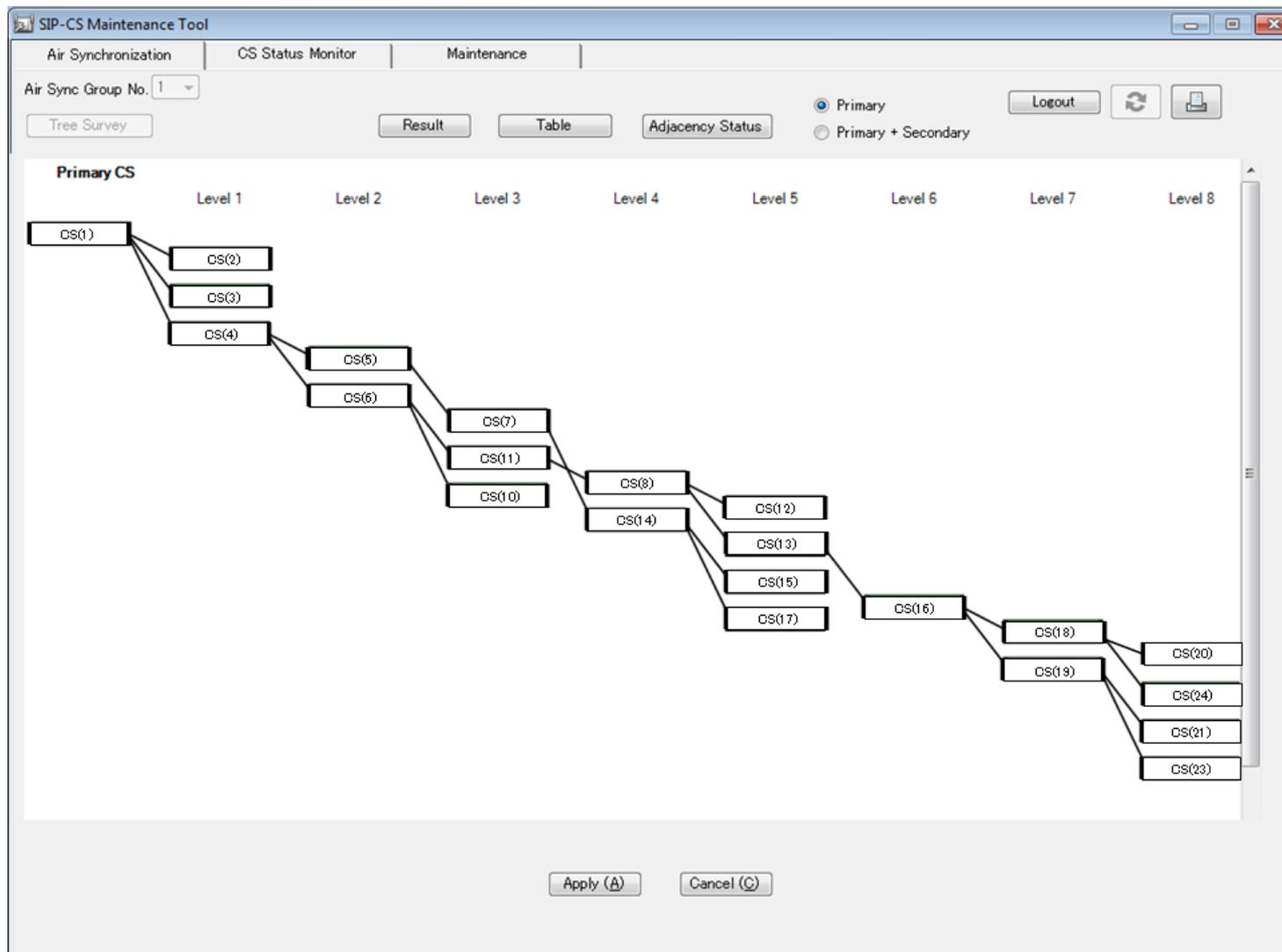
4. After "Finish" is displayed, you can find a Error. Then click [Finish] button.

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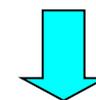
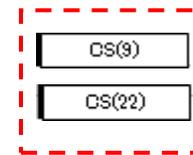
# 1. Error!!! CS does not have Primary CS.

## 1.3) From this page, you can check the concrete situation of CS.

- The page before one, The error message was displayed “CS does not have PrimaryCS.”(CS9,CS22)  
And you cannot find the CS9 and CS22 in this Tree Structure.



There are not CS9 and CS22 in this Tree structure.



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# 1. Error!!! CS does not have Primary CS.

## 1.4) This page describes how to complete Tree Survey.

- Please click Apply to complete the Tree Survey.

The screenshot shows the 'SIP-CS Maintenance Tool' window with the 'Tree Survey' tab selected. The interface displays a hierarchical tree structure of CS units across eight levels. A red circle labeled '1.' highlights the 'Apply (A)' button at the bottom. A red arrow points from the 'Apply (A)' button to a warning dialog box titled 'SIP-CS Maintenance Tool'. The dialog box contains the text: '9303 If Tree Survey has been started, system is reset. Do you want to apply the changes?'. The 'OK (O)' button in this dialog is highlighted with a red box and labeled '3.'. Another red arrow points from the 'OK (O)' button to a second dialog box titled 'SIP-CS Maintenance ...'. This dialog box shows a 'Finish' message with an information icon and an 'OK' button, which is also highlighted with a red box and labeled '3.'.

1. Tree Survey Results is displayed.

2. Click [Apply].

3. Click [OK] and click [OK].

- After clicking OK, all CSs will restart automatically.
- After restart, Tree Survey is completed.



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# 1. Error!!! CS does not have Primary CS.

## 1.5) This page describes how to check the radio signal condition by CS Status Monitor.

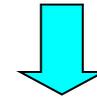
- You can confirm that CS9 and CS22 doesn't have radio signal because of out of synchronization.
- This is a cause of error "CS does not have Primary CS."

The screenshot shows the 'CS Status Monitor' window in the 'SIP-CS Maintenance Tool'. The window title is 'SIP-CS Maintenance Tool' and the active tab is 'CS Status Monitor[1]'. The interface includes a 'Maintenance' section with 'Air Synchronization' and 'Air Sync Group No.' (set to 1). There are buttons for 'Capture', 'Start', 'Stop', 'Tree Structure', 'Logout', and a refresh icon. A table displays the status of various CS units. The table has columns: Index, CS Name, [dBm], Error Rate, Wired LAN, Current Sync CS (CS Type, CS/ Repeater, CS Name, CS ID), and CS Class. Rows 22 and 9 are highlighted with red boxes. Callouts 1, 2, and 3 point to the 'CS Status Monitor[1]' tab, the refresh icon, and the 'Start' button respectively.

Index	CS Name	[dBm]	Error Rate	Wired LAN	Current Sync CS	CS Type	CS/ Repeater	CS Name	CS ID	CS Class
1	CS (1)	-	-	-	-	-	-	-	-	Sync Master ...
2	CS (2)	-62	0 %	OK	Primary	CS	CS (1)	0197310ED8	0197310ED8	Sync Master ...
18	CS (18)	-70	0 %	OK	Primary	CS	CS (16)	01973113C8	01973113C8	Sync Slave CS
19	CS (19)	-75	0 %	OK	Primary	CS	CS (16)	01973113C8	01973113C8	Sync Slave CS
17	CS (17)	-62	0 %	OK	Primary	CS	CS (14)	01973110B0	01973110B0	Sync Slave CS
15	CS (15)	-74	0 %	OK	Primary	CS	CS (14)	01973110B0	01973110B0	Sync Slave CS
16	CS (16)	-62	0 %	OK	Primary	CS	CS (13)	01973113D0	01973113D0	Sync Slave CS
20	CS (20)	-62	0 %	OK	Primary	CS	CS (18)	01973113E8	01973113E8	Sync Slave CS
12	CS (12)	-65	0 %	OK	Primary	CS	CS (8)	0197311220	0197311220	Sync Slave CS
24	CS (24)	-64	0 %	OK	Primary	CS	CS (18)	01973113E8	01973113E8	Sync Slave CS
23	CS (23)	-77	0 %	OK	Primary	CS	CS (19)	0197310F70	0197310F70	Sync Slave CS
21	CS (21)	-58	0 %	OK	Primary	CS	CS (19)	0197310F70	0197310F70	Sync Slave CS
22	CS (22)	-	-	-	-	-	-	-	-	Sync Slave CS
14	CS (14)	-60	0 %	OK	Primary	CS	CS (7)	01973110C8	01973110C8	Sync Slave CS
6	CS (6)	-77	0 %	OK	Primary	CS	CS (4)	0197310EC0	0197310EC0	Sync Slave CS
7	CS (7)	-70	0 %	OK	Primary	CS	CS (5)	0197311228	0197311228	Sync Slave CS
5	CS (5)	-77	0 %	OK	Primary	CS	CS (4)	0197310EC0	0197310EC0	Sync Slave CS
3	CS (3)	-67	0 %	OK	Primary	CS	CS (1)	0197310ED8	0197310ED8	Sync Slave CS
4	CS (4)	-62	0 %	OK	Primary	CS	CS (1)	0197310ED8	0197310ED8	Sync Slave CS
8	CS (8)	-60	0 %	OK	Primary	CS	CS (11)	0197310EE0	0197310EE0	Sync Slave CS
12	CS (12)	-62	0 %	OK	Secondary	CS	CS (13)	01973113D0	01973113D0	Sync Slave CS
13	CS (13)	-65	0 %	OK	Primary	CS	CS (8)	0197311220	0197311220	Sync Slave CS
11	CS (11)	-60	0 %	OK	Primary	CS	CS (6)	0197310EC8	0197310EC8	Sync Slave CS
9	CS (9)	-	-	-	-	-	-	-	-	Sync Slave CS
10	CS (10)	-68	0 %	OK	Primary	CS	CS (6)	0197310EC8	0197310EC8	Sync Slave CS

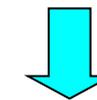
After restart the CS, you should click below.

- 1)CS Status Monitor.
- 2)Update.
- 3)Start ,then Stop.



• You can find that CS9、CS22 has no radio signal. Because It's out of Synchronization.

• This is a cause of error "CS9,CS22 does not have primary CS."

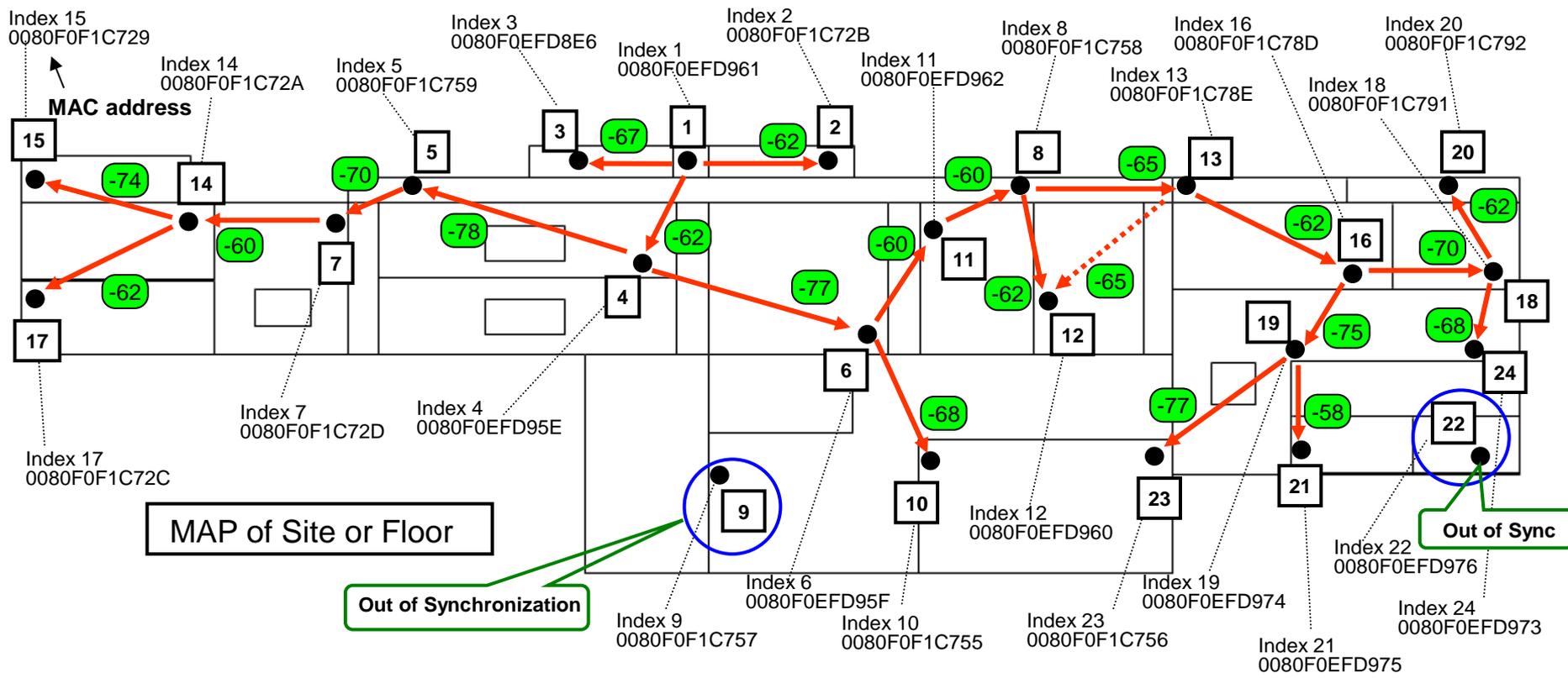


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# 1. Error!!! CS does not have Primary CS.

## 1.6) This page describes how to make the Site MAP.

- Please write down the each CS RSSI value and Primary or Secondary Path from CS Status Monitor.
- You can find where is a trouble layout such as out of synchronization. (CS9 and CS22)



**You need to adjust the tree structure to solve the out of synchronization of CS9 and CS22.**



**Next page**

# 1. Error!!! CS does not have Primary CS.

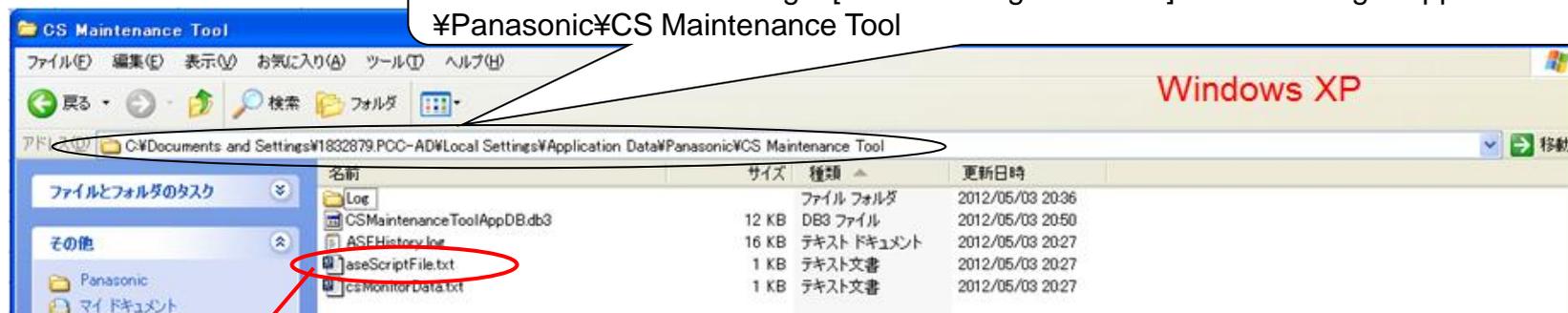
1.7) From this page, we describe how to find the primary CS for CS9 and CS22 by using the tool. (The tool need the data (aseScriptfile) of CS Maintenance Tool.)

- The tool (aseScriptAnalysis) can confirm all of the radio signal even it's out of synchronization.
- You can check which CS is the highest radio signal level for CS9 and CS22.

**1st step:** Please prepare to get the aseScriptFile from the folder of CS Maintenance Tool.

Under the Login Account (The case of Windows XP)

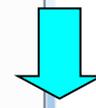
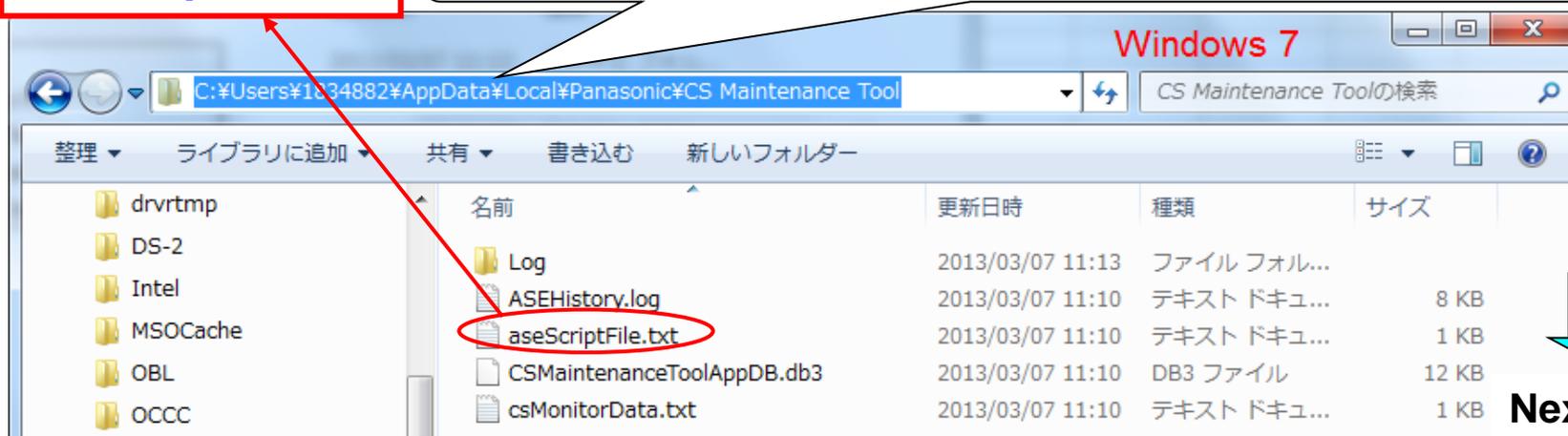
C:\Documents and Settings\¥[Windows Login Account]\Local Settings\Application Data\¥Panasonic¥CS Maintenance Tool



Under the Login Account (The case of Windows 7)

C:\User¥[Windows Login Account]\¥AppData¥Local¥Panasonic¥CS Maintenance Tool

**aseScriptFile.txt**

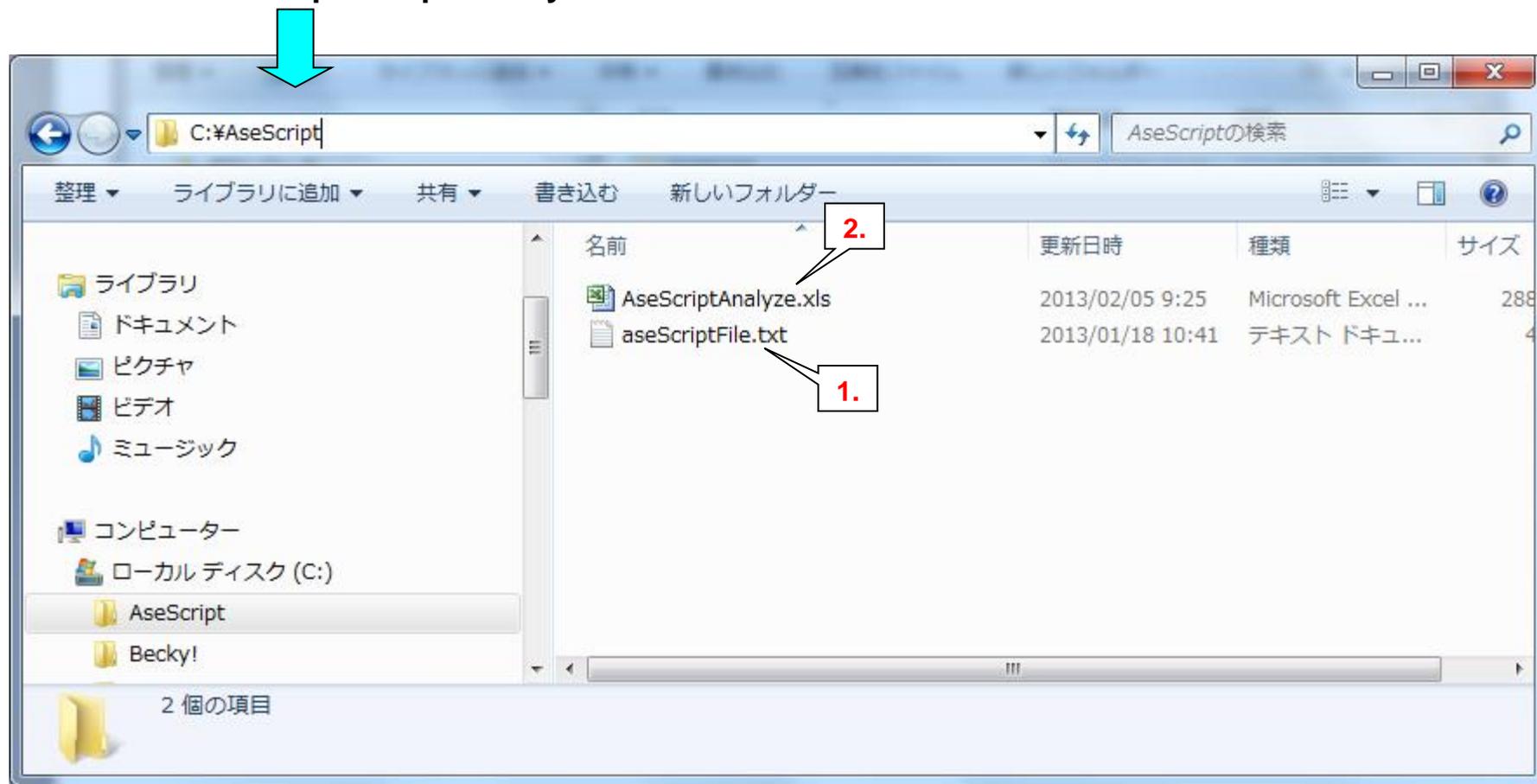


**Next page**

# 1. Error!!! CS does not have Primary CS.

**2nd step:** Please prepare to set the aseScriptFile and AseScriptAnalyze Macro.

- You can download the AseScriptAnalyze on the following web.  
<http://panasonic.net/pcc/support/sipphone/technic/UD/index.html>
- And please put it in you local PC.



1) Please copy and paste the aseScriptFile.txt from the CS Maintenance Tool folder.

2) Then click the AseScriptAnalyze.xls for analyzing the radio signal condition.

 Next page

# 1. Error!!! CS does not have Primary CS.

**3rd step:** Please input the radio signal condition data to AseScriptAnalyze.xls from aseScriptFile.

1) Please click the Input Data button.

2) Please select aseScriptFile.txt.  
3) then click open.

1) Please click the Input Data button.

Please push Input Data and select the aseScriptFile.txt for analyzing radio signal condition.  
If you want to change the data, you should push Input Data again and select the new data.

Index	CS Name
1	CS1
2	CS2
3	CS3
4	CS4
5	CS5
6	CS6
7	CS7
8	CS8
9	CS9
10	CS10
11	CS11

After click the open, radio signal data is indicated automatically.

Index	CS Name	Index	CS Name	RSSI	CSName 参照テーブル
1	CS1	0	CS2	-62	Index CS Name
		2	CS3	-67	1 CS1
		3	CS4	-62	2 CS2
		4	CS5	-77	3 CS3
		5	CS6	-78	4 CS4
		6	CS7	-79	5 CS5
		7	CS8	-78	6 CS6
		8	CS10	-85	7 CS7
		10	CS11	-83	8 CS8
		11	CS13	-97	9 CS9
		13			10 CS10
		0			11 CS11

Please push Input Data and select the aseScriptFile.txt for analyzing radio signal condition.  
If you want to change the data, you should push Input Data again and select the new data.

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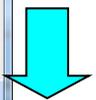
# 1. Error!!! CS does not have Primary CS.

**4th step:** Please confirm the radio signal condition by AseScripAnalyze.

Index	CS Name	RSSI
1	CS1	-62
2	CS2	-75
3	CS3	-74
4	CS4	-74
5	CS5	-76
6	CS6	-78
7	CS7	-77
8	CS8	-81
9	CS9	-83
10	CS10	-83
11	CS11	-80
12	CS12	-83
13	CS13	-87
14	CS14	-75
15	CS15	-80
16	CS16	-87
17	CS17	-90
18	CS18	-62
19	CS19	-75
20	CS20	-74
21	CS21	-74
22	CS22	-74
23	CS23	-76
24	CS24	-78
25	CS25	-77
26	CS26	-78
27	CS27	-81
28	CS28	-83
29	CS29	-80
30	CS30	-80
31	CS31	-90
32	CS32	-62
33	CS33	-75
34	CS34	-74
35	CS35	-74
36	CS36	-78
37	CS37	-77
38	CS38	-78
39	CS39	-81
40	CS40	-83
41	CS41	-80
42	CS42	-80

Radio signal condition

Condition	LED	RSSI Value	
Good	Green	-80	Less than
Not good	Yellow	-81	Between
Bad	Red	-86	More than



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# 1. Error!!! CS does not have Primary CS.

**5th step:** Please confirm the radio signal condition about the CS9 and CS22.

And confirm which is a primary CS that is the highest radio signal level.

86	lsa	1 0 0 0 16 -81			16	CS16	-81	The highest radio signal.
87	cs	1 0 0 0 9 1 0 0 0 0 1 0 0 0 0	9	CS9	0			
88	lsa	1 0 0 0 4 -83			4	CS4	-83	There are CSs that can receive a radio signal.
89	lsa	1 0 0 0 5 -93			5	CS5	-93	
90	lsa	1 0 0 0 6 -89			6	CS6	-89	
91	lsa	1 0 0 0 10 -90			10	CS10	-90	
92	cs	1 0 0 0 10 1 0 0 0 0 1 0 0 0 0	10	CS10	0			

The primary CS of CS9 is CS4 in order to the radio signal level.

156	lsa	1 0 0 0 18 -62			18	CS18	-62	The highest radio signal.
157	cs	1 0 0 0 21 1 0 0 0 0 1 0 0 0 0	21	CS21	0			
158	lsa	1 0 0 0 19 -58			19	CS19	-58	There are CSs that can receive a radio signal.
159	lsa	1 0 0 0 23 -83			23	CS23	-83	
160	cs	1 0 0 0 22 1 0 0 0 0 1 0 0 0 0	22	CS22	0			
161	lsa	1 0 0 0 19 -83			19	CS19	-83	
162	lsa	1 0 0 0 21 -89			21	CS21	-89	

The primary CS of C22 is CS19 in order to the radio signal level.

- It seems primary CS of CS9 is CS4. But you can confirm the radio signal sending from CS4 which is adjoining CS9 is **low level** (-83dBm).
- It seems primary CS of CS22 is CS19. But you can confirm the radio signal sending from CS19 which is adjoining CS22 is **low level** (-83dBm).

**The low radio signal from adjoined CS is a cause of error  
"CS does not have Primary CS."**

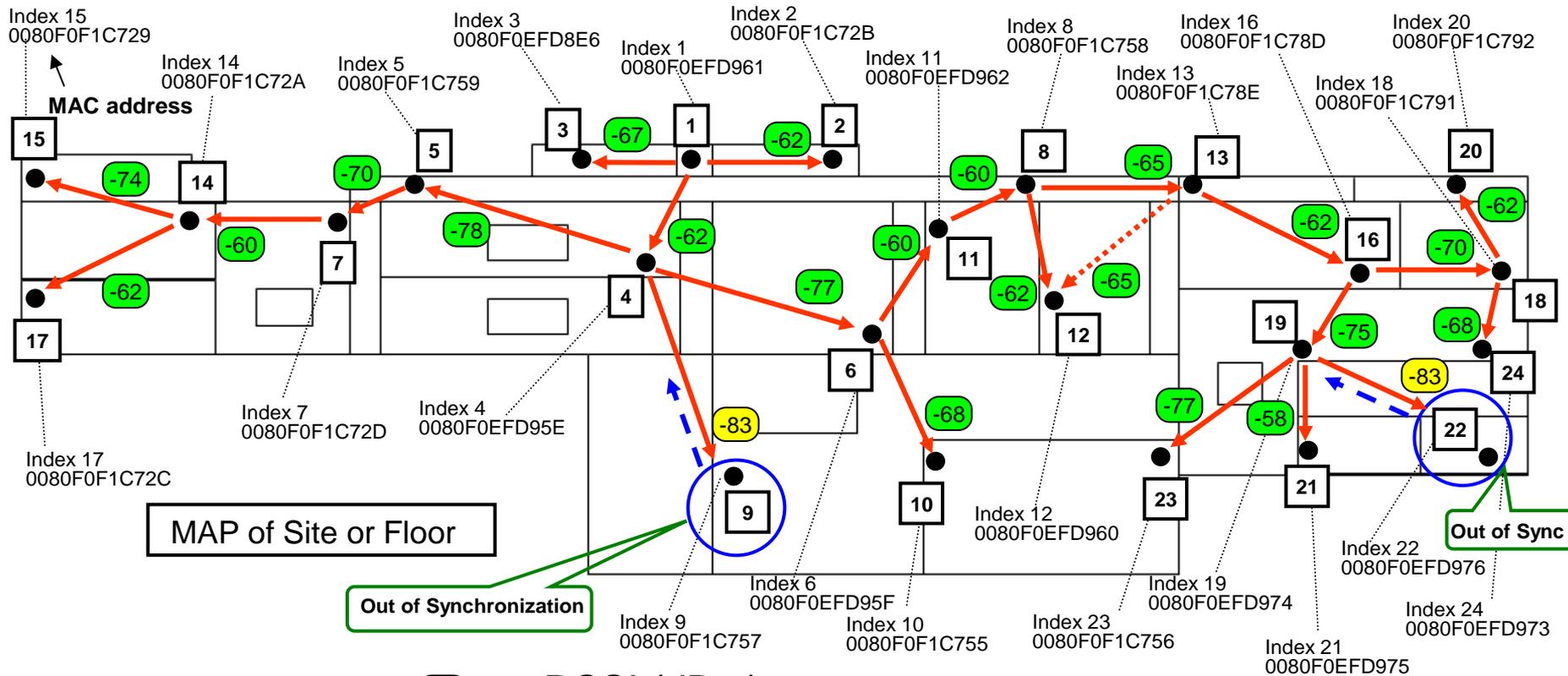


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# 1. Error!!! CS does not have Primary CS.

**6th step:** Please write down the RSSI value of CS9 and CS22.

And consider about how to move the CS9 and CS22.



Out of Synchronization

Out of Sync

-65

RSSI (dBm)



Primary Path



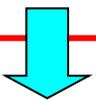
Secondary Path

1

CS Index

Please consider about how to move CS9 and CS22.  
Example) ← - - -

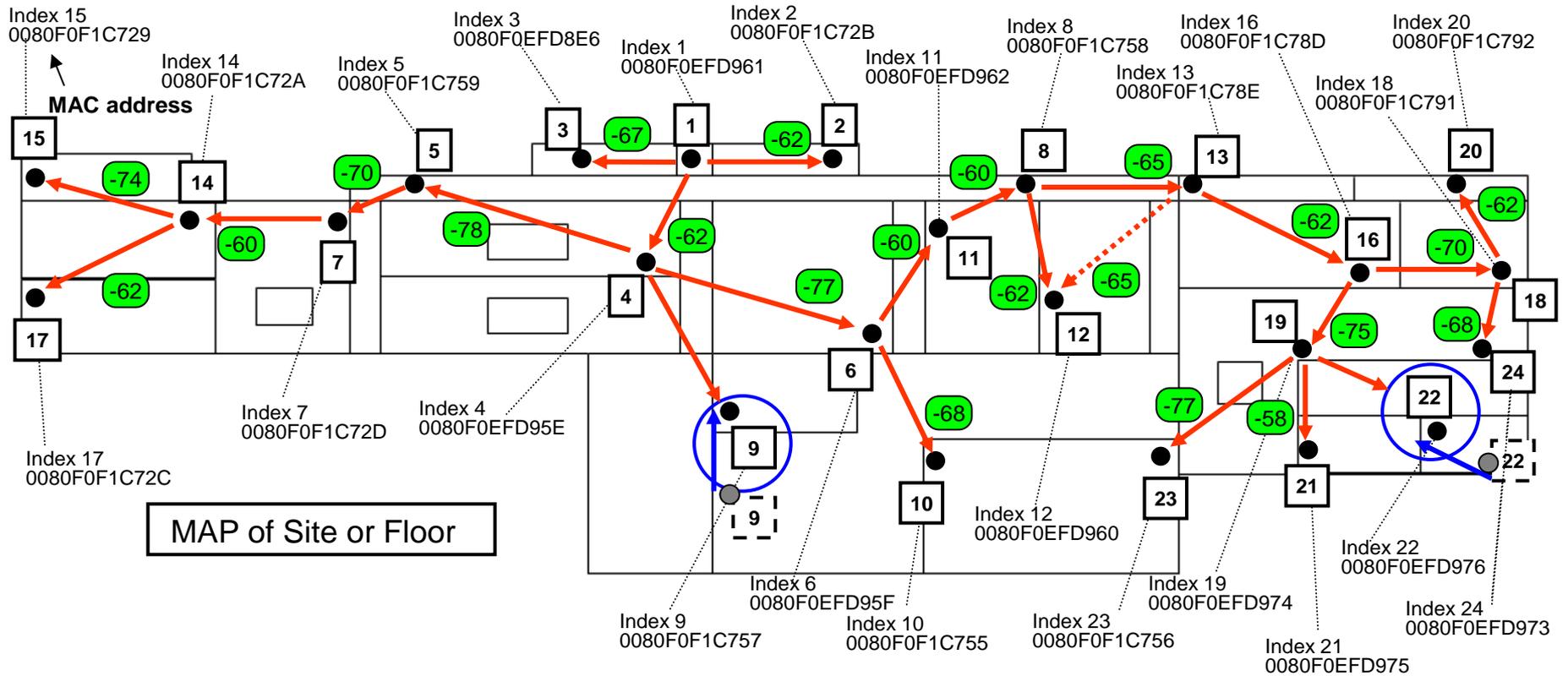
At this MAP, you can check the radio signal condition that both of CS9 and CS22 radio signals from adjoined CSs (CS4 and CS19) are low levels.



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# 1. Error!!! CS does not have Primary CS.

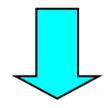
**7th step:** Please move the CS9 and CS22.



- 65 RSSI (dBm)
- ← Primary Path
- ⋯ Secondary Path
- 1 CS Index

**Please move the CS9 and CS22.**

**After moving these CSs, you need to conduct the Tree Survey again.**



**Next page**

# 1. Error!!! CS does not have Primary CS.

**8th step:** Please conduct Tree Survey again for adjusting tree structure.

**1.** Click [Air Synchronization].

**2.** Click [Tree Survey], "Tree Survey Wizard" is displayed, then click [Start].

**3.** After "Finish" is displayed, you can see a Execution OK. Then click [Finish] button.

**Execution OK.**

**Finish**

**EXECUTION RESULT:**  
Execution OK,  
Notice: CS does not have Secondary CS.  
CS5  
CS6  
CS7  
CS8  
CS10  
CS11

**3.**

**3.**

**2.**

**You can confirm a Execution OK. Tree Survey was successful. (All of CS has Primary CS.)**

1. Click [Air Synchronization].

2. Click [Tree Survey], "Tree Survey Wizard" is displayed, then click [Start].

3. After "Finish" is displayed, you can see a Execution OK. Then click [Finish] button.

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# 1. Error!!! CS does not have Primary CS.

**9th step:** You should click Apply to complete the Tree Survey.

The screenshot shows the 'SIP-CS Maintenance Tool' interface. The main window displays a tree diagram of CS (Control System) units across eight levels. A red circle highlights the 'Apply (A)' button at the bottom, with a callout '2.' pointing to it. A red arrow points from the 'Apply' button to a warning dialog box. The dialog box contains a yellow warning icon, the text '9303 If Tree Survey has been started, system is reset. Do you want to apply the changes?', and 'OK (O)' and 'Cancel (C)' buttons. A red circle highlights the 'OK (O)' button, with a callout '3.' pointing to it. Another red arrow points from the 'OK (O)' button to a 'Finish' dialog box. The 'Finish' dialog box has an information icon, the text 'Finish', and an 'OK' button. A red circle highlights the 'OK' button, with a callout '3.' pointing to it.

**1. Tree Survey Results is displayed.**

**2. Click [Apply].**

**3. Click [OK] and click [OK].**

- After clicking OK, all CSs will restart automatically.
- After restart, Tree Survey is completed.



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# 1. Error!!! CS does not have Primary CS.

**10th step:** You can confirm all of CS has a good radio signal condition (Green).

1. CS Status Monitor[1]

2. [Refresh]

3. Start

3. Stop

Tree Structure (After checking the CS Status Monitor ,please click Tree Structure.)

Index	CS Name	RSSI [dBm]	Error Rate	Wired LAN	Current Sync CS	CS Type	CS/ Repeater	CS Name	CS ID	CS Class
1	CS (1)	-	-	-	-	-	-	-	-	Sync Master ...
2	CS (2)	-62	0 %	OK	Primary	CS	CS (1)	0197310ED8	0197310ED8	Sync Master ...
18	CS (18)	-70	0 %	OK	Primary	CS	CS (16)	01973113C8	01973113C8	Sync Slave CS
19	CS (19)	-75	0 %	OK	Primary	CS	CS (16)	01973113C8	01973113C8	Sync Slave CS
17	CS (17)	-62	0 %	OK	Primary	CS	CS (14)	01973110B0	01973110B0	Sync Slave CS
15	CS (15)	-74	0 %	OK	Primary	CS	CS (14)	01973110B0	01973110B0	Sync Slave CS
16	CS (16)	-62	0 %	OK	Primary	CS	CS (13)	01973113D0	01973113D0	Sync Slave CS
20	CS (20)	-62	0 %	OK	Primary	CS	CS (18)	01973113E8	01973113E8	Sync Slave CS
24	CS (12)	-51	0 %	OK	Primary	CS	CS (8)	0197310F80	0197310F80	Sync Slave CS
25	CS (24)	-62	0 %	OK	Primary	CS	CS (18)	0197310F68	0197310F68	Sync Slave CS
23	CS (23)	-77	0 %	OK	Primary	CS	CS (19)	0197310F70	0197310F70	Sync Slave CS
21	CS (21)	-58	0 %	OK	Primary	CS	CS (19)	0197310F70	0197310F70	Sync Slave CS
22	CS (22)	-77	0 %	OK	Primary	CS	CS (19)	0197310F70	0197310F70	Sync Slave CS
14	CS (14)	-60	0 %	OK	Primary	CS	CS (7)	01973110C8	01973110C8	Sync Slave CS
6	CS (6)	-77	0 %	OK	Primary	CS	CS (4)	0197310EC0	0197310EC0	Sync Slave CS
7	CS (7)	-70	0 %	OK	Primary	CS	CS (5)	0197311228	0197311228	Sync Slave CS
5	CS (5)	-77	0 %	OK	Primary	CS	CS (4)	0197310EC0	0197310EC0	Sync Slave CS
3	CS (3)	-67	0 %	OK	Primary	CS	CS (1)	0197310ED8	0197310ED8	Sync Slave CS
4	CS (4)	-62	0 %	OK	Primary	CS	CS (1)	0197310ED8	0197310ED8	Sync Slave CS
8	CS (8)	-60	0 %	OK	Primary	CS	CS (11)	0197310EE0	0197310EE0	Sync Slave CS
12	CS (12)	-62	0 %	OK	Secondary	CS	CS (13)	01973113D0	01973113D0	Sync Slave CS
13	CS (13)	-65	0 %	OK	Primary	CS	CS (8)	0197311220	0197311220	Sync Slave CS
11	CS (11)	-60	0 %	OK	Primary	CS	CS (6)	0197310EC8	0197310EC8	Sync Slave CS
9	CS (9)	-74	0 %	OK	Primary	CS	CS (4)	0197310EC0	0197310EC0	Sync Slave CS
10	CS (10)	-68	0 %	OK	Primary	CS	CS (6)	0197310EC8	0197310EC8	Sync Slave CS

After restart the CS, you should click below.

- 1)CS Status Monitor.
- 2)Update.
- 3)Start ,then Stop.

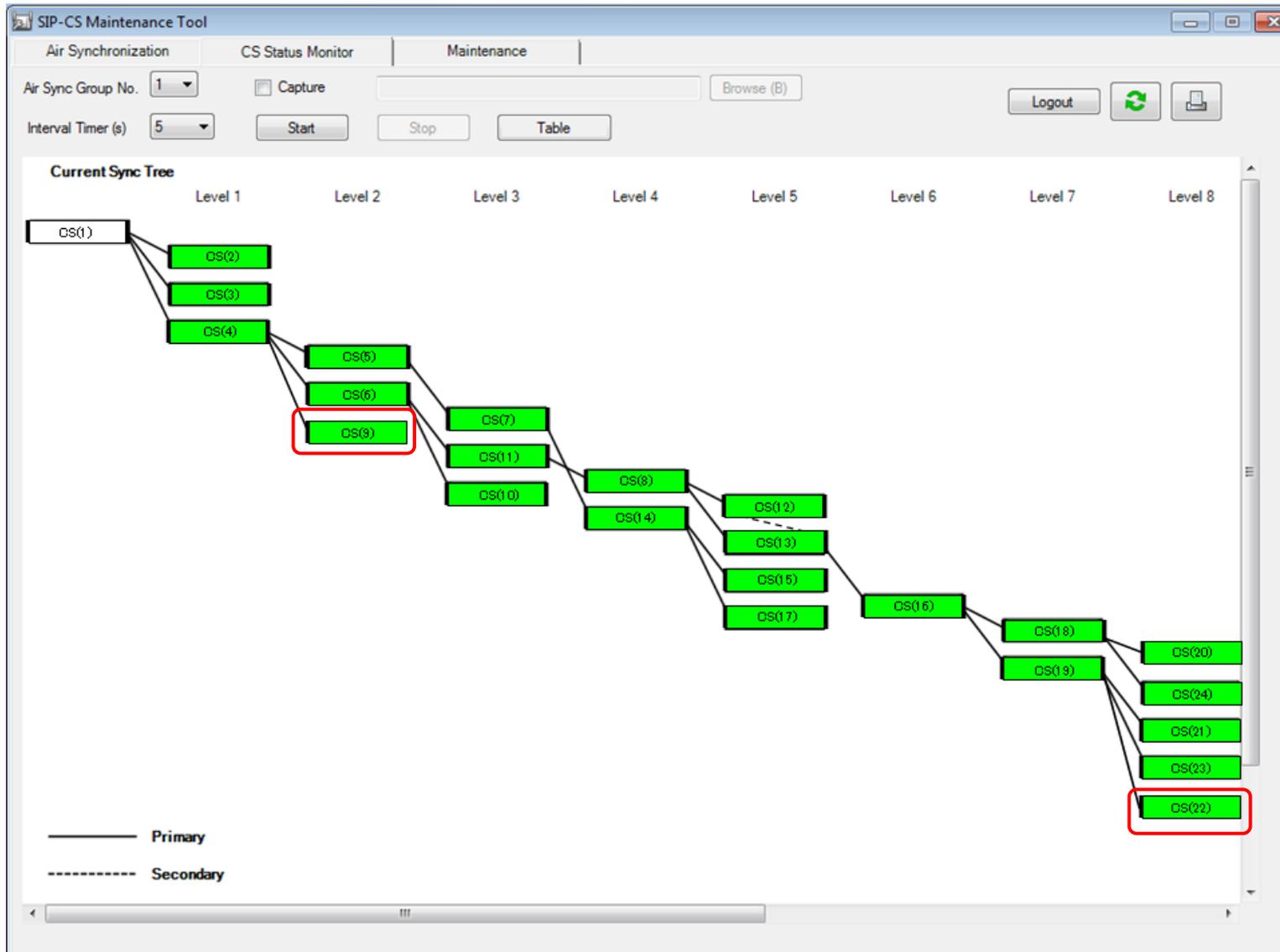
You can confirm these radio signal levels were improved to green. Green is more than -80dBm. (RSSI value)

And you can confirm the CS9 ,CS22 has Primary CS.

Next page

# 1. Error!!! CS does not have Primary CS.

**11th step:** You can confirm all of CS has a good radio signal condition in the Tree Structure.



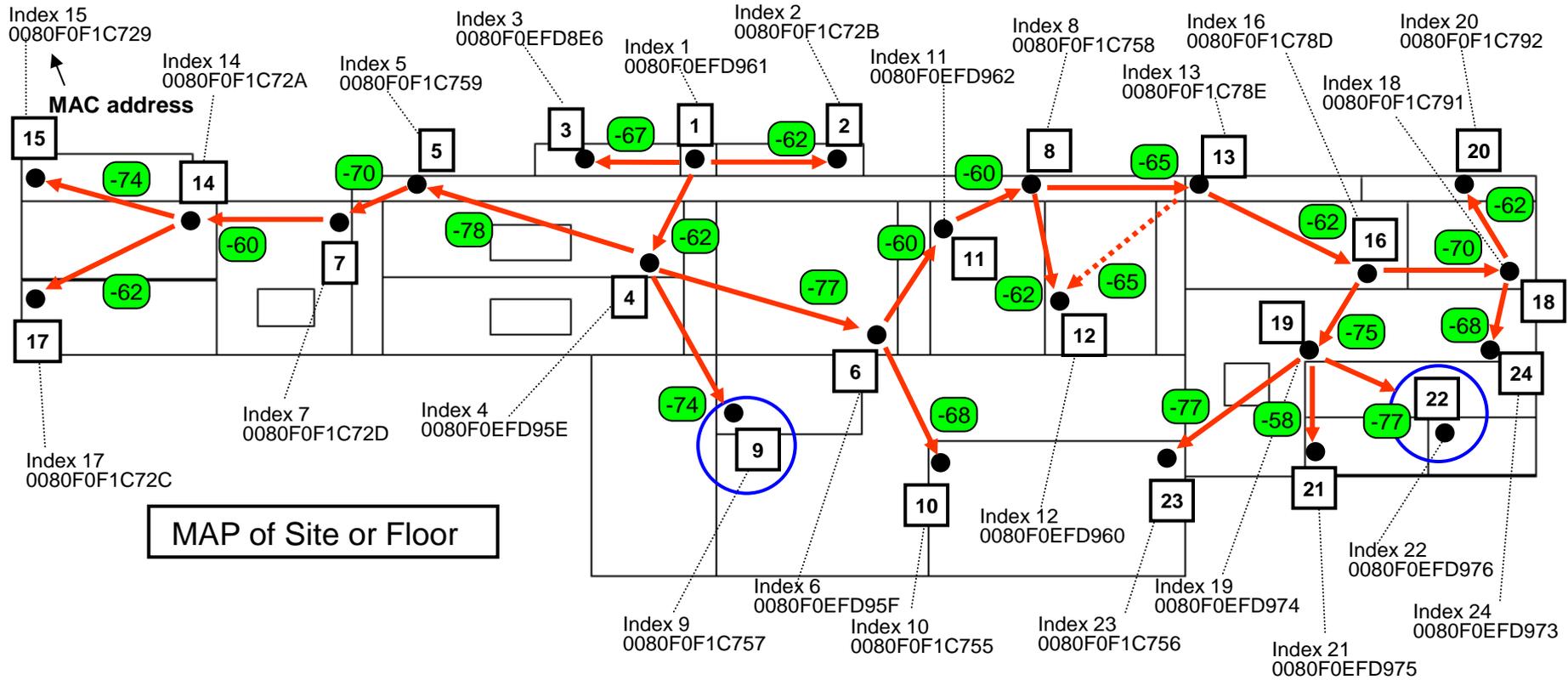
You can confirm the Tree Structure including CS9 and CS22.



Next page

# 1. Error!!! CS does not have Primary CS.

**12th step:** Please write down the final radio signal value (RSSI value).



You can confirm the radio signal level was improved after conducting the Tree Survey again.

**It's useful to update Site MAP when you need to check the radio signal condition.**

**Finish**

## 2. Low radio signal level after successful of Tree Survey.

**2. If you find a low radio signal level after successful of Tree Survey.**

## 2. Low radio signal level after successful of Tree Survey.

From this page, we describe the case of below.

- The Tree Survey was successful. (“Execution OK” was displayed.)
- But the low radio signal was found by CS Status Monitor.

**In this case, you need to relocate the CS.**

Click the Tree Survey button

Execution OK.

Index	CS Name	CS ID	MAC	CS Class	Connection	Primary CS	Secondary CS
1	CS (1)	0197310ED8	0080DEFDD961	Sync Master CS1	INS		
2	CS (2)						
18	CS (18)						
19	CS (19)						
17	CS (17)						
15	CS (15)						
16	CS (16)						
20	CS (20)						
24	CS (24)						
9	CS (9)						
23	CS (23)						
21	CS (21)						

You can confirm a **Execution OK.**

Tree Survey was successful.  
(All of CS has Primary CS.)

A few days later, you found low radio signal by CS Status Monitor.

This is a rare case. But after Tree Survey, the radio signal condition might be changed by environmental change. In case of a radio signal level without a margin, it may happen.

Click the CS Status Monitor and click Start.

Index	CS Name	RSSI [dBm]	Error Rate	Wired LAN	Current Sync CS	CS Type	CS/ Repeater	CS Name	CS ID	CS Class
1	CS (1)									Sync Master ...
2	CS (2)	-62	0 %	OK	Primary	CS		CS (1)	0197310ED8	Sync Master ...
18	CS (18)	-70	0 %	OK	Primary	CS		CS (16)	01973113C8	Sync Slave CS
19	CS (19)	-81	0 %	OK	Primary	CS		CS (16)	01973113C8	Sync Slave CS
17	CS (17)	-62	0 %	OK	Primary	CS		CS (14)	01973110B0	Sync Slave CS
15	CS (15)	-74	0 %	OK	Primary	CS		CS (14)	01973110B0	Sync Slave CS
16	CS (16)	-62	0 %	OK	Primary	CS		CS (13)	01973113D0	Sync Slave CS
20	CS (20)	-62	0 %	OK	Primary	CS		CS (18)	01973113E8	Sync Slave CS
24	CS (12)	-51	0 %	OK	Primary	CS		CS (8)	0197310F80	Sync Slave CS
25	CS (24)	-62	0 %	OK	Primary	CS		CS (18)	0197310F68	Sync Slave CS
23	CS (23)	-81	0 %	OK	Primary	CS		CS (19)	0197310F70	Sync Slave CS
21	CS (21)	-58	0 %	OK	Primary	CS		CS (19)	0197310F70	Sync Slave CS

Even if CS registration was successful, it may happen. If it can receive the Radio signal, CS registration can be successful. (It's even low radio signal such as less than -80dBm.) But Tree Survey need the radio signal level more than -80dBm.

## 2. Low radio signal level after successful of Tree Survey.

**1st step:** Please check which CS is a low radio signal (Yellow).

The screenshot shows the SIP-CS Maintenance Tool interface. The 'CS Status Monitor[1]' tab is active. The 'Start' button is circled in red, with an arrow pointing to it from the text 'Click the CS Status Monitor and click Start.' The 'Tree Structure' button is also circled in red, with an arrow pointing to it from the text '(After checking the CS Status Monitor, please click Tree Structure.)'. The table below shows the status of various CS (Cell Site) units. The 'RSSI [dBm]' column is highlighted in yellow for CS (19), CS (23), CS (6), and CS (5), indicating a low radio signal level. A red bracket groups these four rows, with an arrow pointing to the text 'You can find low radio signal level. such as Yellow: less than -80 dBm (RSSI value). - CS5,6,19,23'. A blue arrow points down from this text to another text box: 'If you confirm low radio signal condition such as Yellow, you should adjust the tree structure.' A second blue arrow points down from this text box to the text 'Next page'.

Index	CS Name	Current Sync CS							CS Class
		RSSI [dBm]	Error Rate	Wired LAN	CS Type	CS/ Repeater	CS Name	CS ID	
1	CS (1)	-	-	-	-	-	-	Sync Master ...	
2	CS (2)	-62	0 %	OK	Primary	CS	CS (1)	0197310ED8	Sync Master ...
18	CS (18)	-70	0 %	OK	Primary	CS	CS (16)	01973113C8	Sync Slave CS
19	CS (19)	-81	0 %	OK	Primary	CS	CS (16)	01973113C8	Sync Slave CS
17	CS (17)	-62	0 %	OK	Primary	CS	CS (14)	01973110B0	Sync Slave CS
15	CS (15)	-74	0 %	OK	Primary	CS	CS (14)	01973110B0	Sync Slave CS
16	CS (16)	-62	0 %	OK	Primary	CS	CS (13)	01973113D0	Sync Slave CS
20	CS (20)	-62	0 %	OK	Primary	CS	CS (18)	01973113E8	Sync Slave CS
24	CS (12)	-51	0 %	OK	Primary	CS	CS (8)	0197310F80	Sync Slave CS
25	CS (24)	-62	0 %	OK	Primary	CS	CS (18)	0197310F68	Sync Slave CS
23	CS (23)	-81	0 %	OK	Primary	CS	CS (19)	0197310F70	Sync Slave CS
21	CS (21)	-58	0 %	OK	Primary	CS	CS (19)	0197310F70	Sync Slave CS
22	CS (22)	-77	0 %	OK	Primary	CS	CS (19)	0197310F70	Sync Slave CS
14	CS (14)	-60	0 %	OK	Primary	CS	CS (7)	01973110C8	Sync Slave CS
6	CS (6)	-83	0 %	OK	Primary	CS	CS (4)	0197310EC0	Sync Slave CS
7	CS (7)	-70	0 %	OK	Primary	CS	CS (5)	0197311228	Sync Slave CS
5	CS (5)	-83	0 %	OK	Primary	CS	CS (4)	0197310EC0	Sync Slave CS
3	CS (3)	-67	0 %	OK	Primary	CS	CS (1)	0197310ED8	Sync Slave CS
4	CS (4)	-62	0 %	OK	Primary	CS	CS (1)	0197310ED8	Sync Slave CS
8	CS (8)	-60	0 %	OK	Primary	CS	CS (11)	0197310EE0	Sync Slave CS
12	CS (12)	-62	0 %	OK	Secondary	CS	CS (13)	01973113D0	Sync Slave CS
13	CS (13)	-65	0 %	OK	Primary	CS	CS (8)	0197311220	Sync Slave CS
11	CS (11)	-60	0 %	OK	Primary	CS	CS (6)	0197310EC8	Sync Slave CS
9	CS (9)	-74	0 %	OK	Primary	CS	CS (4)	0197310EC0	Sync Slave CS
10	CS (10)	-68	0 %	OK	Primary	CS	CS (6)	0197310EC8	Sync Slave CS

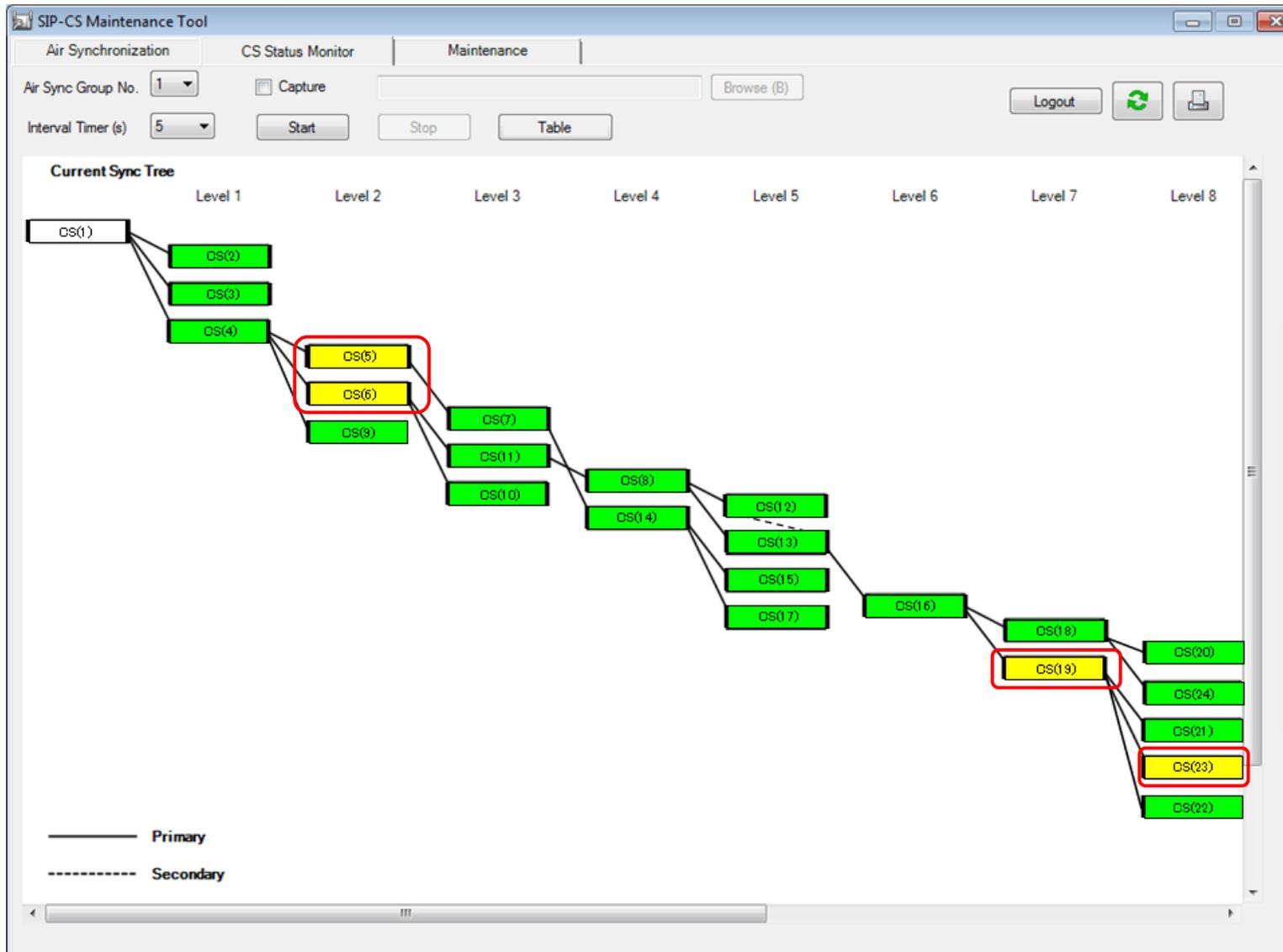
You can find low radio signal level. such as Yellow: less than -80 dBm (RSSI value).  
- CS5,6,19,23

If you confirm low radio signal condition such as Yellow, you should adjust the tree structure.

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## 2. Low radio signal level after successful of Tree Survey.

**2nd step:** Please confirm which CS is a trouble position in the Tree Structure.  
(The trouble CS position that has low radio signal (Yellow).)



You can find which is trouble position in the Tree.

The trouble position that indicate low radio signal such as Yellow: less than -80dBm (RSSI value ).

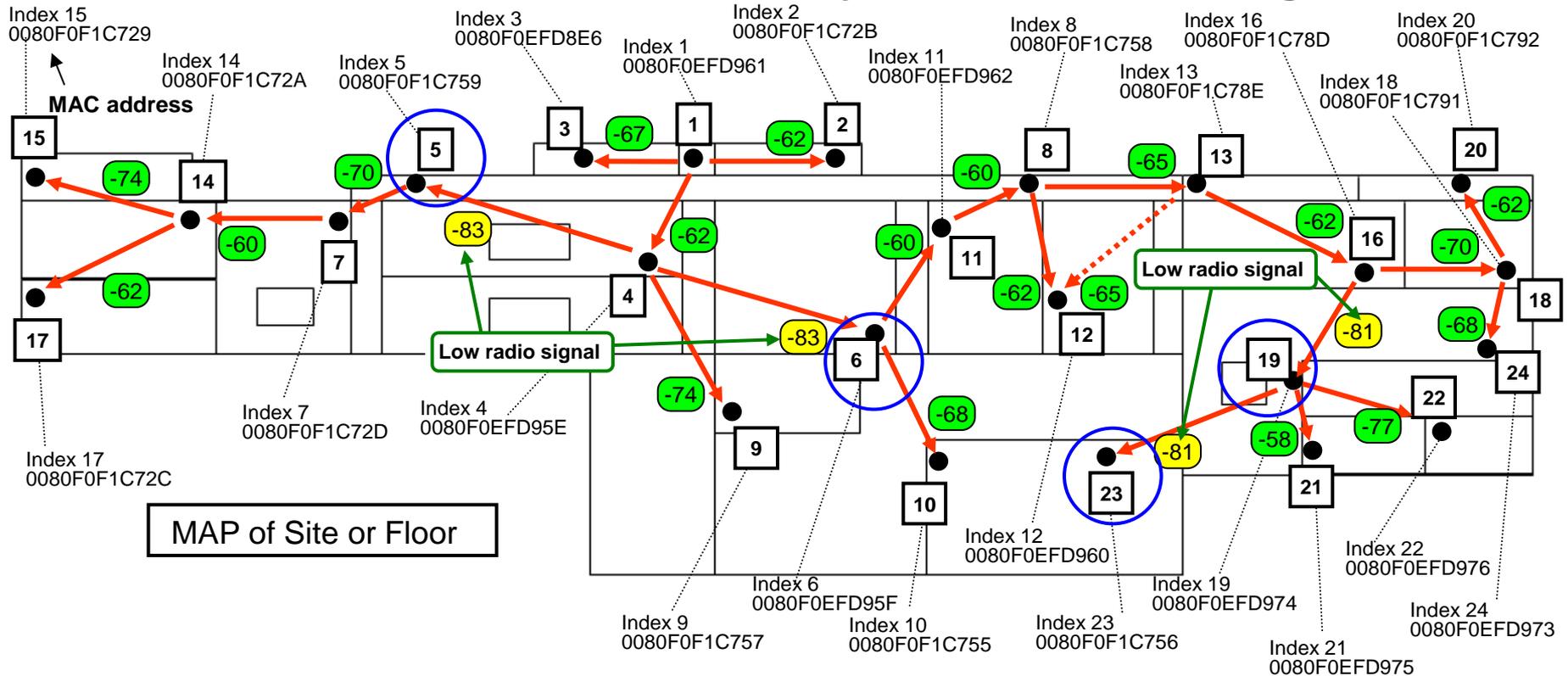
• CS5,6,19,23



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## 2. Low radio signal level after successful of Tree Survey.

**3rd step:** Please write down the each CS radio signal value (RSSI value) on the MAP.  
And confirm where is a trouble CS layout that has low radio signal level.



- 65 RSSI (dBm)
- ← Primary Path
- ⋯← Secondary Path
- 1 CS Index

**You need to adjust the Tree Structure.**

The low radio signal CS is below.

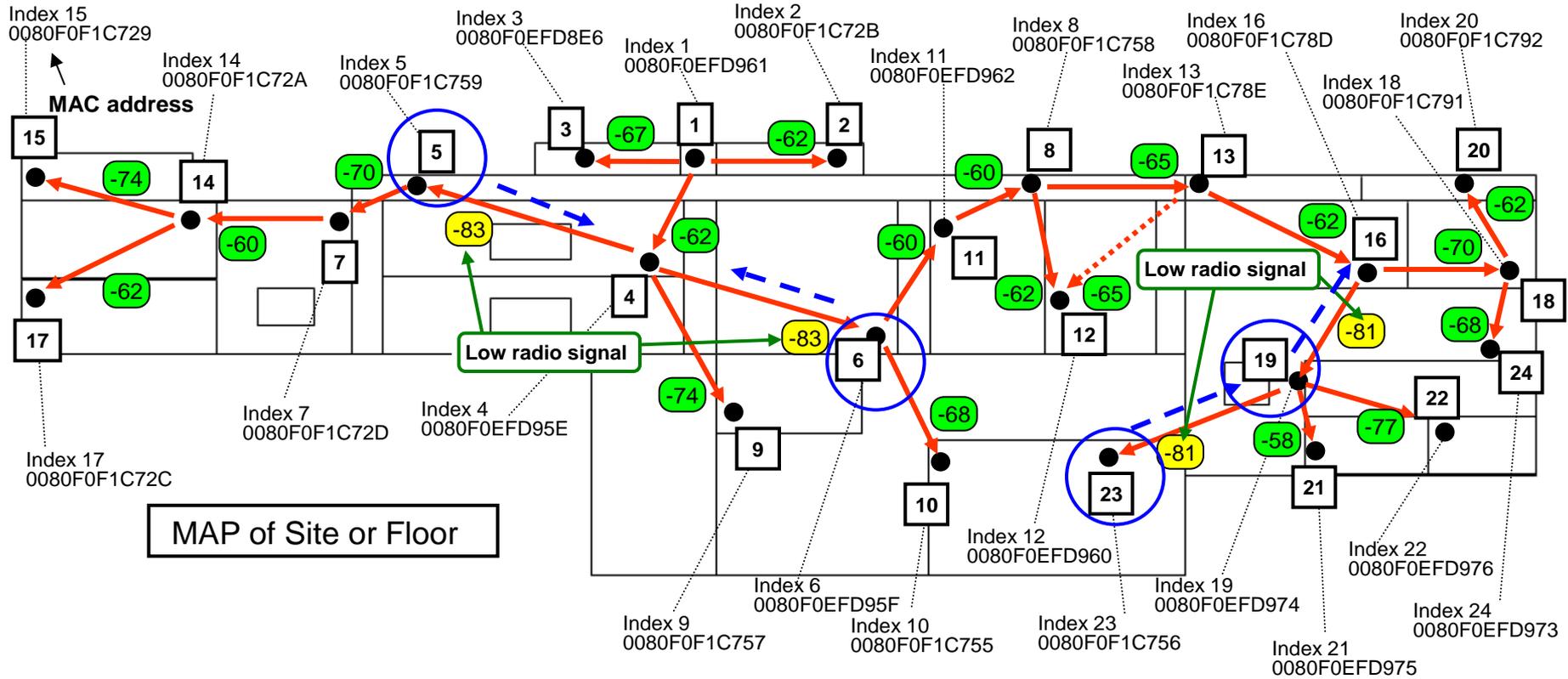
-CS5,6,19,23



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# 2. Low radio signal level after successful of Tree Survey.

**4th step:** Please consider about how to move the CS5,6,19,23.



- 65 RSSI (dBm)
- Primary Path
- ⋯→ Secondary Path
- 1 CS Index

**Please consider about how to move the CS5,6,19,23.**

**Example) ← - - -**

**If you move the CS5,6,19,23, please be careful the distance below.**

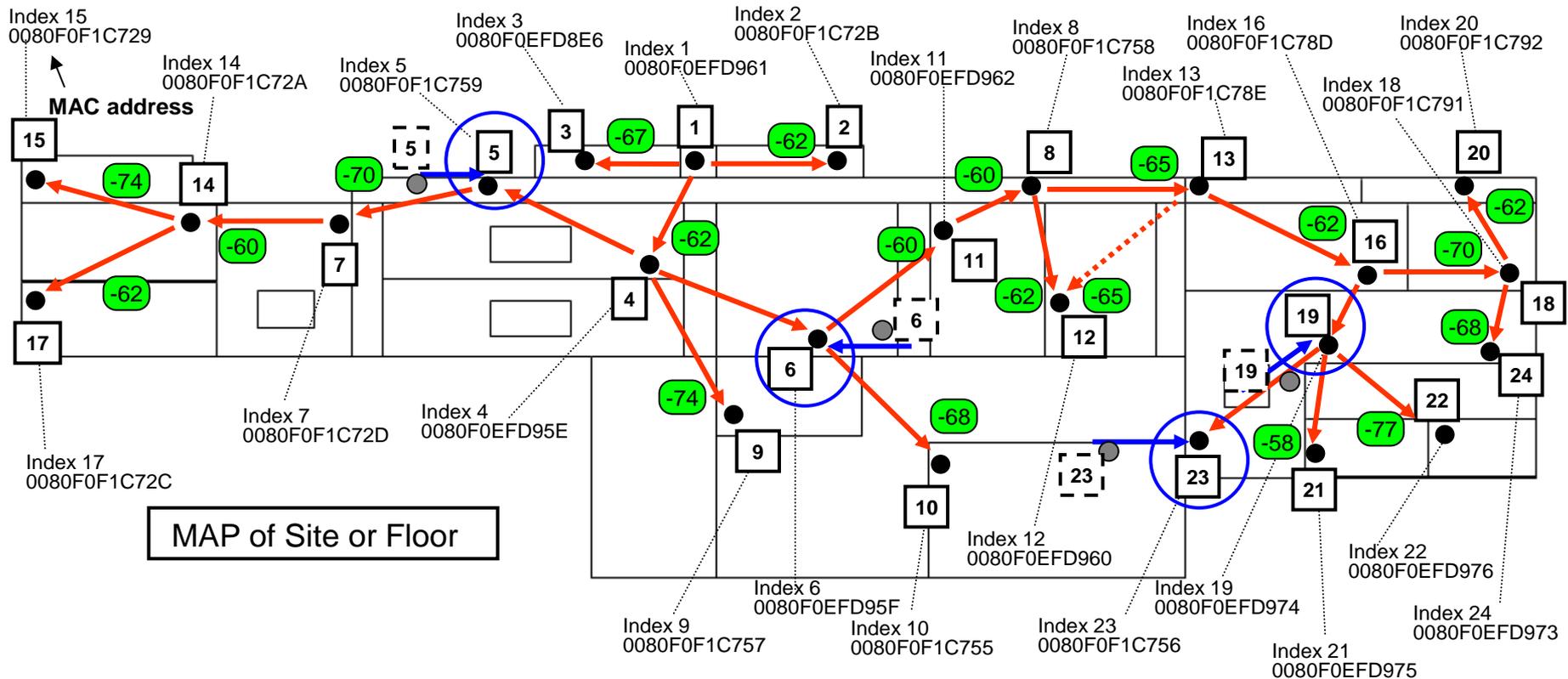
- CS5: from CS7
- CS6: from CS10,11
- CS19: from CS21,22



**Next page**

# 2. Low radio signal level after successful of Tree Survey.

**5th step:** Please move the CS5,6,19,23.



- 65 RSSI (dBm)
- ← Primary Path
- - - - - Secondary Path
- 1 CS Index



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## 2. Low radio signal level after successful of Tree Survey.

**6th step:** Please confirm the radio signal condition of CS5,6,19,23 was improved to green.

1. CS Status Monitor[1]

2. Update

3. Start

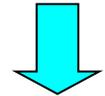
3. Stop

(After checking the CS Status Monitor ,please click Tree Structure.)

Index	CS Name	RSSI [dBm]	Error Rate	Wired LAN	Current Sync CS	CS Type	CS/ Repeater	CS Name	CS ID	CS Class
1	CS (1)	-	-	-	-	-	-	-	-	Sync Master ...
2	CS (2)	-62	0%	OK	Primary	CS	CS (1)	0197310ED8	0197310ED8	Sync Master ...
18	CS (18)	-70	0%	OK	Primary	CS	CS (16)	01973113C8	01973113C8	Sync Slave CS
19	CS (19)	-73	0%	OK	Primary	CS	CS (16)	01973113C8	01973113C8	Sync Slave CS
17	CS (17)	-62	0%	OK	Primary	CS	CS (14)	01973110B0	01973110B0	Sync Slave CS
15	CS (15)	-74	0%	OK	Primary	CS	CS (14)	01973110B0	01973110B0	Sync Slave CS
16	CS (16)	-62	0%	OK	Primary	CS	CS (13)	01973113D0	01973113D0	Sync Slave CS
20	CS (20)	-62	0%	OK	Primary	CS	CS (18)	01973113E8	01973113E8	Sync Slave CS
24	CS (12)	-51	0%	OK	Primary	CS	CS (8)	0197310F80	0197310F80	Sync Slave CS
25	CS (24)	-62	0%	OK	Primary	CS	CS (18)	0197310F68	0197310F68	Sync Slave CS
23	CS (23)	-75	0%	OK	Primary	CS	CS (19)	0197310F70	0197310F70	Sync Slave CS
21	CS (21)	-83	0%	OK	Primary	CS	CS (19)	0197310F70	0197310F70	Sync Slave CS
22	CS (22)	-77	0%	OK	Primary	CS	CS (19)	0197310F70	0197310F70	Sync Slave CS
14	CS (14)	-60	0%	OK	Primary	CS	CS (7)	01973110C8	01973110C8	Sync Slave CS
6	CS (6)	-74	0%	OK	Primary	CS	CS (4)	0197310EC0	0197310EC0	Sync Slave CS
7	CS (7)	-74	0%	OK	Primary	CS	CS (5)	0197311228	0197311228	Sync Slave CS
5	CS (5)	-75	0%	OK	Primary	CS	CS (4)	0197310EC0	0197310EC0	Sync Slave CS
3	CS (3)	-67	0%	OK	Primary	CS	CS (1)	0197310ED8	0197310ED8	Sync Slave CS
4	CS (4)	-62	0%	OK	Primary	CS	CS (1)	0197310ED8	0197310ED8	Sync Slave CS
8	CS (8)	-60	0%	OK	Primary	CS	CS (11)	0197310EE0	0197310EE0	Sync Slave CS
12	CS (12)	-62	0%	OK	Secondary	CS	CS (13)	01973113D0	01973113D0	Sync Slave CS
13	CS (13)	-65	0%	OK	Primary	CS	CS (8)	0197311220	0197311220	Sync Slave CS
11	CS (11)	-62	0%	OK	Primary	CS	CS (6)	0197310EC8	0197310EC8	Sync Slave CS
9	CS (9)	-74	0%	OK	Primary	CS	CS (4)	0197310EC0	0197310EC0	Sync Slave CS
10	CS (10)	-71	0%	OK	Primary	CS	CS (6)	0197310EC8	0197310EC8	Sync Slave CS

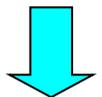
After move these CSs, you should click below.

- 1)CS Status Monitor.
- 2)Update.
- 3)Start ,then Stop.



You can confirm these radio signal levels were improved to green. (CS5,6,19,23)

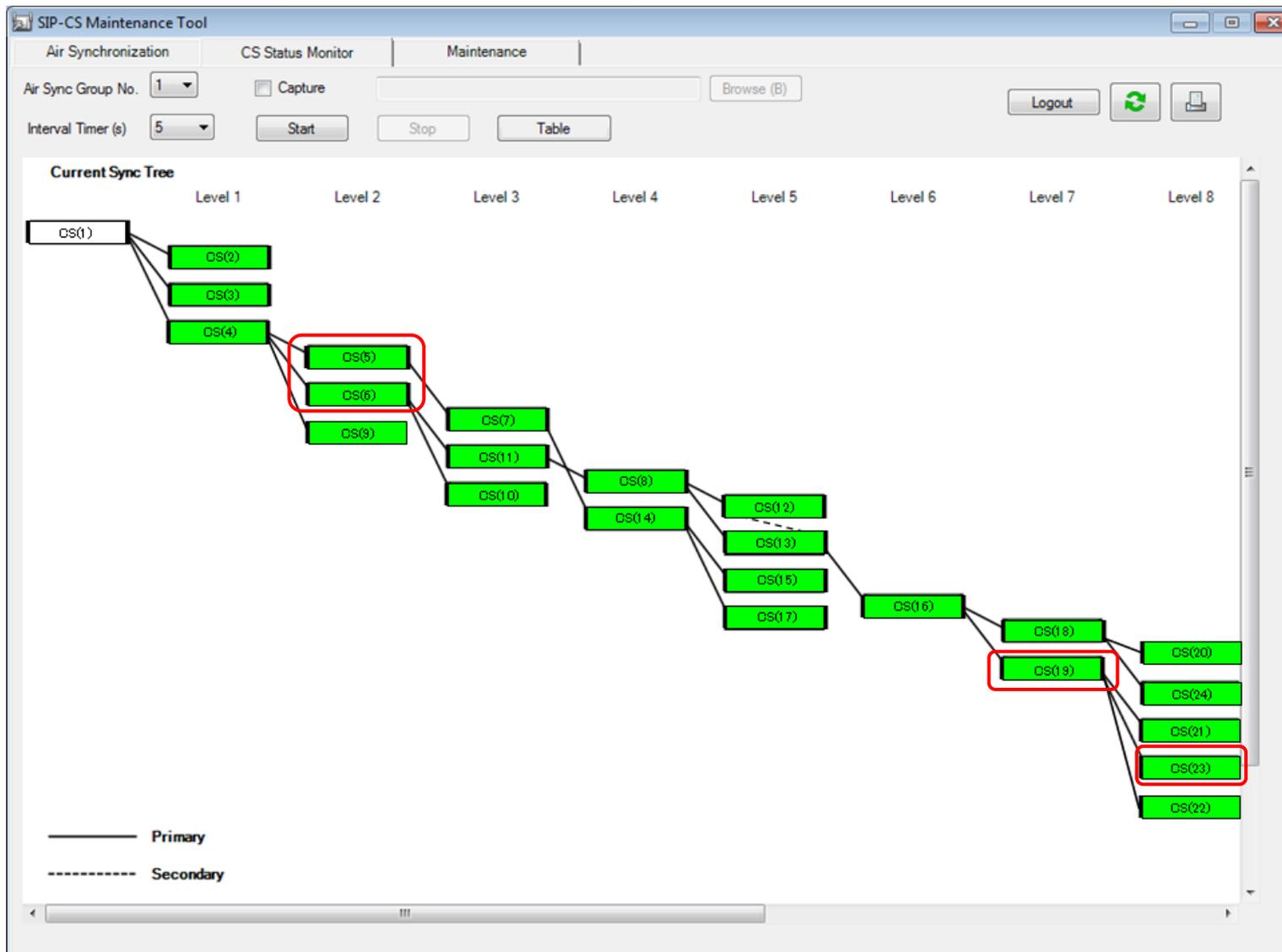
Green is more than -80 dBm (RSSI value).



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## 2. Low radio signal level after successful of Tree Survey.

**7th step:** Please confirm the radio signal condition of CS5,6,19,23 in the Tree Structure.



You can confirm these radio signal levels were improved to green. (CS5,6,19,23)

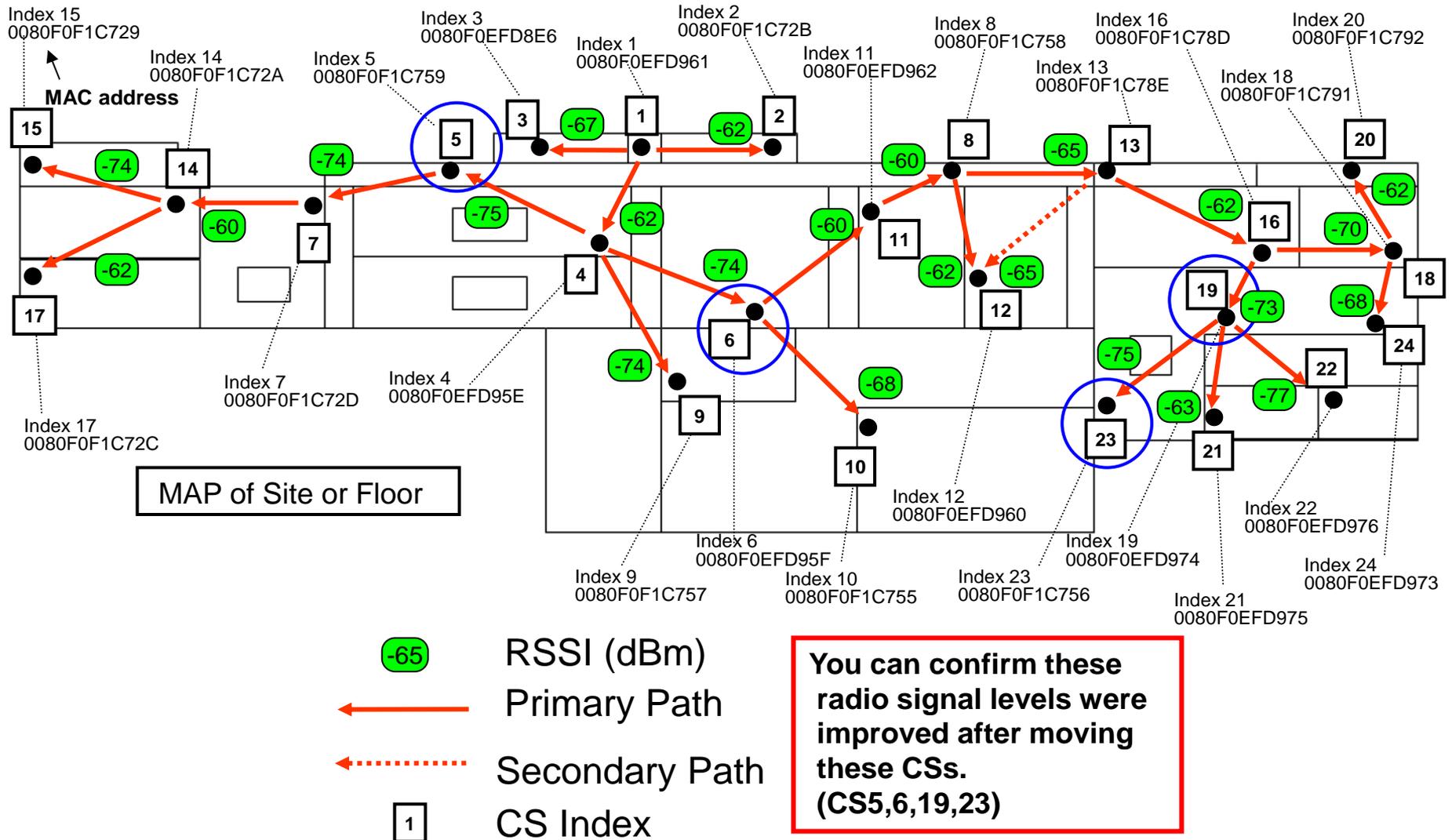
Green is more than -80dBm. (RSSI value)



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# 2. Low radio signal level after successful of Tree Survey.

**8th step:** Please write down the final radio signal value (RSSI value).



**It's useful to update Site MAP when you need to check the radio signal condition.**

**Finish**