

Maintenance Checklist

◆ Basic Information

Country	Gabon
Site	Agence Gabonaise d'Etude et d'Observation spatiales (AGEOS)
Classification	Regular Maintenance
Date	2022.06.15

◆ Maintenance Item

System	Category
Satellite System	Antenna System, ICT Equipment, Farearth Software

◆ Maintenance List Summary

Classification	Category
Antenna	Antenna Outdoor
	Antenna Interface
ICT Equipment	Server Status Check
	FAN Status Check
	Demodulator
	RF Converter Module Status Check
	USP Status Check
	Monitor & KVM Switch Status Check
Software	Farearth Acquisition-Controller
	Farearth Director
	Farearth Catalogue
	Farearth Observer

SOLETOP: Trewan *KIM*

AGEOS: *[Signature]* *U. M. PIGA*

1. Antenna

1.1. Antenna Subsystem – Outdoor

Item	Specification	Detailed Check List	Check Results		Etc.	
			Standard	Result		
Antenna Subsystem	Antenna System Outdoor	Antenna	Antenna Appearance Damage Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Feed Connection Status Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			RF Cable Connection Status Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Ground Connection Status Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Electrical Cabinet Status Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		ACU	Operation Status Check (ACU Front LED Check)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Mode Change Check #1 (Stop-Safe) (System Mode Control Adjust)	STOP	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Mode Change Check #2 (FreeWheel) (System Mode Control Adjust)	Free	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Mode Change Check #3 (Stow) (System Mode Control Adjust)	STOW	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Mode Change Check #4 (Run) (System Mode Control Adjust)	RUN	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Injection of dry air Check (Operation of the injection valve Check)	Injection	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Emergency Stop	Emergency Stop Button Push (ACU Front LCD Check)	STOP	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Emergency Stop Button Pull (ACU Front LCD Check)	Unstop	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Overspeed Control Check (Quick dish spin in FreeWheel mode)	STOP	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			STOW Pin Remove (Remove Stow Pin After Stow Mode)	STOP	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	

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Item	Specification	Detailed Check List	Check Results		Etc.
			Standard	Result	
		Emergency Stop Release (StopSafe → Other Mode)	Unstop	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
	Cable	RF Cable Connectors Check	Visual Check	<input checked="" type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	
		Optical Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Network Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
	Dehydrator	Power Status Check (Dehydrator Side LED Status Check)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Pressure Gauge Check	0.2~0.4 psi	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
Note					

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1.2. Antenna Subsystem – Interface

Item	Specification	Detailed Check List	Check Results		Etc.	
			Standard	Result		
Antenna Subsystem	Antenna System Indoor	ACU	System Status (Operational)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Mode Switch Status (Run, Stop-Safe, FreeWheel, Stow)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			ACU Status (IDLE)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Emergency Stop Status (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Azimuth Drive Status (Disables)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Elevation Drive Status (Disables)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Azimuth Brake Status (Engaged)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Elevation Brake Status (Engaged)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Azimuth Encoder Status (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Elevation Encoder Status (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Stow Pin Status (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		System Time (UTC)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal		
		Bus Status	Motor Drive Power Status (Ready)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Heater Status (On,Off)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
24V Supply(V) (23.79)	Green		<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal			
Heartbeat Status	CPU-2 (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal			

Tae-won KIM

Item	Specification	Detailed Check List	Check Results		Etc.
			Standard	Result	
		CPU-3 (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		PEM-1 (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Azimuth Encoder Limit Node (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Azimuth Motor Drive (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Elevation Encoder Limit Node (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Elevation Motor Drive (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
	Limit Status	Azimuth Overspeed (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Elevation Overspeed (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Elevation Low Limit (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Elevation Low Pre-Limit (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Elevation High Pre-Limit (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Elevation High Limit (OK)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
	Environ mental Status	Pressure(PSI)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Electrical Cabinet Temp (°C)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Electrical Cabinet Humidity (%)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
		Upper Enclosure Temp(°C)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	

TaeWan KZM

Item	Specification	Detailed Check List	Check Results		Etc.
			Standard	Result	
		Upper Enclosure Humidity (°C)	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
Note					

Tekun KIM



2. ICT Equipment

Item	Specification		Detailed Check List	Check Results		Etc.
				Standard	Result	
RF Subsystem	Satellite Data System	Server	Power Condition Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			FAN Operation Status Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Receiver Connection Status Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			CPU Utilization	Less Than 95%	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Memory Utilization	Less Than 95%	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			HDD Utilization	Less Than 95%	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			System Time Synchronization Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Network Status Check (Ping Test)	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
	Appearance Damage Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal			
	RACK Temperature Management System	FAN	FAN Operation Status Check	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			PROBE Value Check	90~100°F	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Setting Value Check	85°F	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			ALARM Value Check	110°F	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Power Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
Senser Cable Connection Check			Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal		
Appearance Damage Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal				

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Item	Specification		Detailed Check List	Check Results		Etc.
				Standard	Result	
	Demodulator	D300	RF Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Power Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			DATA to RF Converter LAN Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			M&C to RF Converter LAN Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			D300 to KVM Switch USB Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Demod Status Check	Green Blink	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Storage Status Check	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Signal Quality Status Check	Light	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			+12 VDC LED Status Check	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Demod Lock Status Check, when receiving satellite data	Green Blink	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Appearance Damage Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
	Network System	RF Converter Module	RF Converter Control Link Status Check	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			RF Converter Down Link A Status Check	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			RF Converter DC Power Status Check	Green	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Power Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			LAN Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	

Taeun KZM

Item	Specification	Detailed Check List	Check Results		Etc.	
			Standard	Result		
		Optical Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal		
		RF Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal		
		Appearance Damage Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal		
	Uninter ruptible System	UPS	Power Cable Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Battery Connection Check	Visual Check	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			UPS to PDU Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Input Volt Check	More Than 215V	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Output Volt Check	More Than 215V	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Operation Time Check	More Than 24 Hours	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Appearance Damage Check	Normal	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
	Monitor System	Monitor & KVM Switch	Monitor & KVM Power Connection Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			FAN Operation Status Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			KVM to Server Connection Status Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Monitoring System Operation Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
			Appearance Damage Check	Visual Check	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Abnormal	
Note	<p>The UPS is working well, but the battery warning has been emerged. Owing to that, SOLETOP has confirmed the issue to the person who is charge of SAWIRA project in AGEOS.</p>					

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3. Software

3.1. Farearth Software

Item	Specification	Detailed Check List	Check Results		Etc.	
			Standard	Result		
Software	Farearth	Aquisition- Control lor	WEB Connection Status Check	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Previous Acquisition Display Status Check [Farearth Acquisition Control -> Dash Bord]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Next Acquisition Display Status Check [Farearth Acquisition Control -> Dash Bord]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			System Diagram Status Check [Farearth Acquisition Control -> Dash Bord]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Today's Satellite Schedule Display Status Check [Farearth Acquisition Control -> Dash Bord]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Map Display Status Check [Farearth Acquisition Control -> Dash Bord]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Azimuth-Elevation Display Status Check [Farearth Acquisition Control -> Schedule]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Antenna Path Display Status Check [Farearth Acquisition Control -> Schedule]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Schedule Query Function Status Check [Farearth Acquisition Control -> Schedule]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Map Display Status Check [Farearth Acquisition Control -> Schedule]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Live Mission Display Status Check [Farearth Acquisition Control -> Live Contact]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Live Timeline Display Status Check [Farearth Acquisition Control -> Live Contact]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Signal Strength Display Status Check [Farearth Acquisition Control -> Live Contact]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
			Antenna angle Live Status Check [Farearth Acquisition Control -> Live Contact]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
Full Acquisition Display Status Check [Farearth Acquisition Control -> Acquisitions]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK			

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Item	Specification	Detailed Check List	Check Results		Etc.
			Standard	Result	
		WEB Connection Status Check [Farearth Director -> Director]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Director Status Check [Farearth Director -> Director]	Green	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Pickups Status Check [Farearth Director -> Director]	Green	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		localhost Status Check [Farearth Director -> Director]	Green	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Archive Status Check [Farearth Director -> Director]	Green	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Catalogue Status Check [Farearth Director -> Director]	Green	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Acquisition controller Status Check [Farearth Director -> Director]	Green	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Orders WEB Connection Status Check [Farearth Director -> Orders]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
	Director	Priority Display Status Check [Farearth Director -> Orders]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		History Display Status Check [Farearth Director -> Orders]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Dashboard WEB Connection Status Check [Farearth Director -> Dashboard]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Summary Display Status Check [Farearth Director -> Dashboard]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Processing Steps(Past 24 Hours) Display Status Check [Farearth Director -> Dashboard]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Processing Areas(Past 24 Hours) Display Status Check [Farearth Director -> Dashboard]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
		Order Status(Past 24 Hours) Display Status Check [Farearth Director -> Dashboard]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK

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Item	Specification	Detailed Check List	Check Results		Etc.
			Standard	Result	
		Backlog(Past 24 Hours) Display Status Check [Farearth Director -> Dashboard]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	Nok
		Logs WEB Connection Status Check [Farearth Director -> Logs]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Logs Display Status Check [Farearth Director -> Logs]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Log Query Function Status Check [Farearth Director -> Logs]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
	Cata logue	Catalogue WEB Connection Status Check	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Satellite Data View Function Check [Farearth Catalogue -> View]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Satellite Data Detail Function Check [Farearth Catalogue -> Detail]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Satellite Data Basket Function Check [Farearth Catalogue -> Basket]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Satellite Data Report Function Check [Farearth Catalogue -> Report]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Archive WEB Connection Status Check [Farearth Catalogue -> Archive]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Summary Display Status Check [Farearth Catalogue -> Archive]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Coverage by Year Display Status Check [Farearth Catalogue -> Archive]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Coverage by Maximum Cloudcover Display Status Check [Farearth Catalogue -> Archive]	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
		Obser ver	Observer WEB Connection Status Check	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal
	Satellite Full Path Display Status Check		Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-
	Satellite Historical Path Display Status Check		Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	-1-

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Item	Specification	Detailed Check List	Check Results		Etc.
			Standard	Result	
		Real-Time Receiving Data Display Status Check	Normal	<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Abnormal	NOK
Note	In order to install Farear-th S/W, Pinkmatter is still uploading it. The packages of farear-th is almost 150GB. Considering the AGEDS internet speed, it is estimated that takes 5 days.				

Tae-wan KIM

