

FROM MQTT TO FTP - TECHNICAL NOTE





BEANAIR[®]

DOCUMENT						
Document ID TN_RF_022 Version V1.1						
External reference	Habib JOMAA	Date	28/08/2020			
Author	Seddik ATTIG, Application Enginee	r				
	Project Code					
Document's name						

VALIDATION					
Function	Destination	For validation	For info		
Writer	Seddik ATTIG	✓			
Reader	Shimon ABADI	✓			
Validation	Antje Jacob		✓		

DIFFUSION				
Function	Destination	For action	For info	
Reader n°1	Antje Jacob, Production Manager	✓		
Reader n°2	Shimon ABADI, Embedded software engineer	✓		

UPDATES					
Version	Date	Auteur	Evolution & Status		
1.0	23/07/2020	Seddik ATTIG	First version of the document		
1.1	28/08/2020	Seddik ATTIG	Configuration restrictionDAQ mode examples		

Disclaimer

The contents are confidential and any disclosure to persons other than the officers, employees, agents or subcontractors of the owner or licensee of this document, without the prior written consent of Beanair GmbH, is strictly prohibited.

Beanair makes every effort to ensure the quality of the information it makes available. Notwithstanding the foregoing, Beanair does not make any warranty as to the information contained herein, and does not accept any liability for any injury, loss or damage of any kind incurred by use of or reliance upon the information.

Beanair disclaims any and all responsibility for the application of the devices characterized in this document, and notes that the application of the device must comply with the safety standards of the applicable country, and where applicable, with the relevant wiring rules.

Beanair reserves the right to make modifications, additions and deletions to this document due to typographical errors, inaccurate information, or improvements to programs and/or equipment at any time and without notice.

Such changes will, nevertheless be incorporated into new editions of this document.

Copyright: Transmittal, reproduction, dissemination and/or editing of this document as well as utilization of its contents and communication thereof to others without express authorization are prohibited. Offenders will be held liable for payment of damages. All rights are reserved.

Copyright © Beanair GmbH 2018

Contents

1.	TECHNICAL SUPPORT	6
2.	VISUAL SYMBOLS DEFINITION	7
3.	ACRONYMS AND ABBREVIATIONS	8
4.	OVERVIEW	9
5.	THE FTP SERVER CONFIGURATION	. 10
6.	ROUTER CONFIGURATION	. 13
7.	BEANDEVICE® CONFIGURATION	. 19
	7.1 MQTT Configuration	. 19
	7.2 From MQTT to FTP	. 20

List of Figures

Figure 2: Connect to the Host	10
Figure 3: Create new user	10
Figure 4: Add new user	11
Figure 5: Add password	11
Figure 6: Add the folder path	11
Figure 7: FTP listen port	12
Figure 8: Router access page	13
Figure 9: MQTT option	13
Figure 10: Enable the MQTT service	14
Figure 11: Package Manager option	14
Figure 12: Package installation process	15
Figure 13: Installing the package	15
Figure 14: Installation notification message	15
Figure 15: Refresh tab	16
Figure 16: Beanair package Tab	16
Figure 17: Beanair menu	16
Figure 18: Enabling the feature	16
Figure 19: The FTP settings	17
Figure 20: the FTP settings description	17
Figure 21: Broker Configuration	18
Figure 22: FTP Server configuration	18
Figure 23: FTP User settings	18
Figure 24: Number of samples	18
Figure 25: Add BeanDevice [®]	18
Figure 26: MQTT feature	19
Figure 27: Broker configuration	19
Figure 28: Topic configuration	19
Figure 29: Start the MQTT server	20
Figure 30: Overview option	20
Figure 31: Beanair feature overview	20
Figure 32: LowDutyCycle DAQ mode	21
Figure 33: BeanDevice [®] status	21
Figure 34: FTP server logfile	22

1. TECHNICAL SUPPORT

For general contact, technical support, to report documentation errors and to order manuals, contact *Beanair Technical Support Center* (BTSC) at:

tech-support@Beanair.com

For detailed information about where you can buy the Beanair equipment/software or for recommendations on accessories and components visit:

www.Beanair.com

To register for product news and announcements or for product questions contact Beanair's Technical Support Center (BTSC).

Our aim is to make this user manual as helpful as possible. Keep us informed of your comments and suggestions for improvements.

Beanair appreciates feedback from the users of our information.

2. VISUAL SYMBOLS DEFINITION

Symbols	Definition
	<u>Caution or Warning</u> – Alerts the user with important information about Beanair wireless sensor networks (WSN), if this information is not followed, the equipment /software may fail or malfunction.
	<u>Danger</u> – This information MUST be followed if not you may damage the equipment permanently or bodily injury may occur.
1	<u>Tip or Information</u> – Provides advice and suggestions that may be useful when installing Beanair Wireless Sensor Networks.

3. ACRONYMS AND ABBREVIATIONS

AES	Advanced Encryption Standard
ССА	Clear Channel Assessment
CSMA/CA	Carrier Sense Multiple Access/Collision Avoidance
GTS	Guaranteed Time-Slot
kSps	Kilo samples per second
LLC	Logical Link Control
LQI	Link quality indicator
LDCDA	Low duty cycle data acquisition
МАС	Media Access Control
PAN	Personal Area Network
PER	Packet error rate
RF	Radio Frequency
SD	Secure Digital
WSN	Wireless sensor Network

4. OVERVIEW

The File Transfer Protocol (FTP) is a set of rules that computers on a network use to communicate with one another. Now users can transfer the data from the MQTT broker to an FTP server.

The following document explains how to use and transfer the data to the FTP Servers.



Figure 1: System Architecture using FTP server



5. THE FTP SERVER CONFIGURATION

For user who want to use a local FTP server, it's possible to use FileZilla and setup a Server configuration.

1. Download FileZilla Server from the web, follow the installation instructions then lunch the application by

double clicking on the application icon.

Choose the default settings and click on connect.

File Server Edit ?				
🗲 🟦 📡 🕰 💡 🛛 /c/ ci\ 📰 🗸				
FileZilla Server 0.9 60 beta Corport 2001-2010 by Tim Kosse @Mealla-project.org) https://filezilla-project.org/	Enter server to administrate - FileZilla Server X Please enter the address and port of the FileZilla Server Installation you want to administrate. Hostimus address and port of the FileZilla Server Installation you want to administrate. Host: Image: I			
ID / Account IP Transfer	Progress Speed			
l Ready		0 bytes received 0 B/s	0 bytes sent 0 B/s	@ @
	Figure 2: Connect to the Host			
2. Click on Edit tab and select Use	rs in order to create a user			



Figure 3: Create new user

Choose General, then click on Add and enter a user name

age:	Account settings		Users	
General Shared folders Speed Limits IP Filter	Croup membership:	~		
	Add user account	×		
	Places enter the name of the user account that also	44		
	Please enter the name of the user account that shou be added: Beanair	ld	Add	Remove
	Please enter the name of the user account that shou be added: Beanair User should be member of the following group:	ld	Add	Remove Copy
	Please enter the name of the user account that shou be added: Beanair User should be member of the following group: <none></none>		Add	Remove Copy
	Please enter the name of the user account that shou be added: Beanair User should be member of the following group: <none></none>		Add	Remove Copy

Figure 4: Add new user

Add a password to the account

Account settings		
Password:	•••••]
Group membership:	<none> ~</none>]

Figure 5: Add password

Go to Sharped folders to add the path where the data will be stored.

Click on add and choose the path then select all the available options.

Page:	Shared folders		Filee
General Shared folders Speed Limits IP Filter	Directories H C:\Users\Graphic	Aliases	Mead ✓ Read ✓ Write ✓ Delete ✓ Append
	<	>	Directories Create Delete List + Subdirs
	Add Remov	e Rename	Set as home dir





Beanair GmbH

1. Tap the router IP address in the browser search tap then enter the User name and password

(TEL	ΤΟΝΙΚΑ						
Authori	Authorization Required						
Please enter	your username and password.						
Username	admin						
Password	•••••						
	Login						

Figure 8: Router access page

2. Go to Services tab and click on MQTT then Enable the MQTT option.

TELTONIKA	Status -	Network -	Services -	System -
Profile in use: default			VRRP	
Overview			Web Filter	
Over view			MQTT	
System 1 0		9.3%	NTP	bile
System		0.070	VPN	obile
Router uptime	0d 5h 51m 28s(since	e 2020-04-09, 11:	Dynamic DN	NS _{ta con}
			SMS Utilitie	S
Local device time	2020-04-09, 17:21:2	16	SMS Gatew	ay ^{ite}

Figure 9: MQTT option

Check Enable MQTT service and also Enable the remote access option

Technical	Note Fr	om MO	FT to FTP
reenneu			

(TEL	ΤΟΝΙΚΑ	Status -	Network -	Services -	System -
Profile in use	e: default				
Broker	Publisher				
MQTT E	Broker				
		Ena	ible 🔽		
		Local F	Port 1883		
		Enable Remote Acc	ess 🗸		
		Figure 10: Enable t	he MQTT service	2	

3. Now, go to System and click on Package Manager

TELTONIKA	Status - Ne	twork -	Services -	System -	
Profile in use: default Broker Publisher				Setup Wizard Profiles Administration	
MQTT Broker				User Scripts Firmware	
	Enable Local Port	✓ 1883		Licenses Package Manager	
Enab	le Remote Access	~		Reboot	

Figure 11: Package Manager option

Switch to Upload tab, choose your file location then install the package.

TELTONIKA	Status - Network - Service:	s 🔹 System -			Logout
Profile in use: default					FW ver.: RUT2XX_R_00.01.12.1
Packages Upload					
Package Manager					
Package upload					
	Upload package: Choose File No file cl	nosen			
*Packages can only be upload	led for specified router and firmware version has	to be in packages fir	mware range		
Open 0					×
\leftarrow \rightarrow \checkmark \uparrow \blacksquare \Rightarrow This	s PC → Desktop →		~	< ن	Search Desktop
Organize 🔻 New folde	r				
Desktop 🖈 ^	Name	Date modified	Туре	Size	^ ·
🕹 Downloads 🖈	😽 SetupBeanScape2.4Ghz_MultiView200220	2/26/2020 11:10 AM	Application	110,808 KB	
🛱 Documents 🖈	BetupBeanScape2.4Ghz_TempScreening L	6/12/2020 5:44 PM	Application	75,351 KB	
Dicturer *	SetupWifiBeanScapeApr2020.zip	4/16/2020 10:10 AM	Archive WinRAR ZIP	44,393 KB	
	Skectch showing location of Gagues on	7/15/2020 2:06 PM	Adobe Acrobat D	161 KB	
log_beanscape 🗶	🔁 Sorang Project.pptx	7/20/2020 8:58 AM	Microsoft PowerP	1,778 KB	
Public 🖈	💼 SSL-Wilow.docx	3/31/2020 11:25 AM	Microsoft Word D	886 KB	
Camtasia	🛃 Tera Term	5/1/2019 9:30 AM	Shortcut	2 KB	
Room1(5C313E070	TEST REPORT.docx	5/26/2020 5:01 PM	Microsoft Word D	630 KB	
technical note upd	TEST REPORT-Beanair-Answers.docx	5/27/2020 4:48 PM	Microsoft Word D	631 KB	
Tx File	📄 tlt_custom_pkg_beanair_1.0.0_ar71xx.ipk	7/23/2020 10:41 AM	IPK File	37 KB	
	TN_RF_SSL-TLS-Encryption-MQTT (2).docx	3/31/2020 9:34 AM	Microsoft Word D	1,826 KB	
OneDrive	TN-RF-022-From MQTT to FTP.docx	7/23/2020 4:15 PM	Microsoft Word D	1,624 KB	
This PC	Transmit_Streaming_MacId_00158D00000	7/15/2020 10:34 AM	Text Document	617 KB	
<u>A</u>	Transmit_Streaminghouss.txt	7/20/2020 11:51 AM	Text Document	14,965 KB	
Network	UM-RF-07-BeanScape-Wilow-WIFI-Super	3/12/2020 8:56 AM	Microsoft Word D	4,729 KB	
Y	IIM-RE-YY-ENG-ReanScane-TempScreen	5/07/0000 A-56 DM	Microsoft Word D	16 206 KR	× .
File na	me: tlt_custom_pkg_beanair_1.0.0_ar71xx.ipk			∼ All F	Files (*.*) ~
					Open Cancel

Figure 12: Package installation process

TELTONIKA	Status -	Network -	Services -	System -		Logout 🗗
Profile in use: default						FW ver.: RUT2XX_R_00.01.12.1
Packages Upload						
Package Manager						
Package upload						
	Upload pack	(age: Choose F	File tlt_custom_p	ar71xx.ipk		
		Instal	l package			
*Packages can only be uploade	d for specified r	outer and firmwar	re version has to b	e in packages firmware	range	
		Figure	13: Instal	lling the pac	<u>kage</u>	

Once the installation is finished, a notification message will be displayed saying that the package was successfully

installed

Profile in use:	default			FW ver.: RUT2XX_R_00.01.1
Packages	Upload			
Package su	uccessfully in:	stalled		



Wilow[®] wireless sensors series

	tus - Networ	Services	System -	Beanair	Logout
Profile in use: default				FW ver.: RUT2XX	X_R_00.01.12.1
MQTT to FTP					
En	nable feature 🔽				
Broke	er ip address 127.0	.0.1]		
	Broker port 1883]		
MQT	T username]		
MQT	TT password		ø		
FTP ser	rver address]		
FTP	P server port 21				
FTI	P username				
FT	IP password		ø		
FTP destinati	ion directory /				
Enable "Number of samples per file" f	for Low Duty 🔽				
Number of sam	cycle mode nples per file 100				
List of B	BeanDevices		Ŧ		
				_	-
					Uare
	<u>Fi</u>	<u>gure 19: Th</u>	<u>e FTP sett</u>	<u>ings</u>	
EXAMPLE TONIKA Profile in use: default MQTT to FTP	Fit Status - N	<u>gure 19: Th</u> etwork - Ser	<u>e FTP sett</u> vices - Sy	<mark>ings</mark> stem ∽ Beanair ∽ FW ve	L ar.: RUT2XX_R_
Profile in use: default MQTT to FTP	Fid Status - N Enable feature	g <u>ure 19: Th</u> etwork ← Ser	<u>e FTP sett</u> vices - Sy	<mark>ings</mark> stem - Beanair - FW ve	L
CONTRACTORING	Fig. Status - N Enable feature Broker ip address	g <u>ure 19: Th</u> etwork → Ser e 127.0.0.1	<u>e FTP sett</u> vices - Sy	ings stem × Beanair × FW ve Enter your broker IP address	L er.: RUT2XX_R_
Profile in use: default MQTT to FTP	Fig Status - N Enable feature Broker ip address Broker por	etwork • Ser	<u>e FTP sett</u> vices - Sy	ings stem • Beanair • FW ve Enter your broker IP address	ar.: RUT2XX_R_
Profile in use: default MQTT to FTP	Fin Status - N Enable feature Broker ip address Broker por MQTT username	g <u>ure 19: Th</u> etwork → Ser a 127.0.0.1 t 1883 a	e FTP sett	ings stem - Beanair - FW ve Enter your broker IP address Enter your MQTT username	er.: RUT2XX_R_
Profile in use: default MQTT to FTP er your broker port number	Fin Status - N Enable feature Broker ip address Broker por MQTT username MQTT password	gure 19: Th etwork → Ser a 127.0.0.1 t 1883 a	e FTP sett vices - Sy:	ings stem · Beanair · FW ve Enter your broker IP address Enter your MQTT username	L er.: RUT2XX_R_
Profile in use: default MQTT to FTP er your broker port number ter your MQTT password	Fig. Status - N Enable feature Broker ip address Broker por MQTT username MQTT password FTP server address	gure 19: Th etwork → Ser a 127.0.0.1 t 1883 a a	e FTP sett vices - Sy	ings stem Beanair FW ve Enter your broker IP address Enter your MQTT username Enter the FTP server address	ar.: RUT2XX_R_
Profile in use: default MQTT to FTP er your broker port number ter your MQTT password	FTP server por	etwork → Ser	e FTP sett	ings stem · Beanair · FW ve Enter your broker IP address Enter your MQTT username Enter the FTP server address	er.: RUT2XX_R_
Profile in use: default MQTT to FTP er your broker port number ter your MQTT password ter your FTP Server port	Fin Status - N Enable feature Broker ip address Broker por MQTT username ->MQTT password FTP server address -> FTP server por FTP username	gure 19: Th etwork → Ser	e FTP sett vices - Sy:	ings stem · Beanair · FW ve Enter your broker IP address Enter your MQTT username Enter the FTP server address Enter your FTP username	L er.: RUT2XX_R_
Er your broker port number ter your MQTT password ter your FTP Server port	Find Status - N Enable feature Broker ip address Broker por MQTT username MQTT password FTP server address FTP server por FTP username FTP username	gure 19: Th etwork → Ser 2 2 4 127.0.0.1 4 1883 4	e FTP sett vices - Sy:	ings stem · Beanair · FW ve Enter your broker IP address Enter your MQTT username Enter the FTP server address Enter your FTP username	L ar.: RUT2XX_R_
Er your MQTT password ter your FTP Server port	Fin Status - N Enable feature Broker ip address Broker por MQTT username MQTT password FTP server address FTP server por FTP username FTP username FTP password FTP password FTP password	gure 19: Th etwork < Ser	e FTP sett	ings stem · Beanair · FW ve Enter your broker IP address Enter your MQTT username Enter the FTP server address Enter your FTP username Enter the FTP Directory	ar.: RUT2XX_R_
CONTROLOGIES CONTROLOGIES CONTROLOGIES CONTROLOGIES CONTROLOGIES CONTROL CONT	Fin Status - N Enable feature Broker ip address Broker por MQTT username MQTT password FTP server address FTP server por FTP username FTP username FTP password destination directory per file" for Low Duty	gure 19: Th etwork → Ser a b 127.0.0.1 t 1883 a c a c a c a c a c d c d c d d d d d d d d d d d d d d d d d d d d d d d d d d d d d d d d d d d<	e FTP sett vices - Sy:	ings stem · Beanair · FW ve Enter your broker IP address Enter your MQTT username Enter the FTP server address Enter your FTP username Enter the FTP Directory	L ar.: RUT2XX_R_
CERIADE "Number of samples p	Fin Status - N Enable feature Broker ip address Broker ip address Broker por MQTT username MQTT password FTP server address FTP server por FTP username FTP username FTP password destination directory per file" for Low Duty Cycle mode er of samples per file	gure 19: Th etwork ✓ Ser e 127.0.0.1 t 1883 a a b c a a a a a b c a c a c a c a c a c a c a c c c c c c c c c c c c c c c c c c c c c c c c c c<	e FTP sett	ings stem Beanair FW ve Enter your broker IP address Enter your MQTT username Enter the FTP server address Enter the FTP username Enter the FTP Directory Enter the samples number/file	er.: RUT2XX_R_
Profile in use: default Profile in use: default MQTT to FTP r your broker port number r your broker port number r your MQTT password rr your FTP Server port rer your FTP password FTP Enable "Number of samples p Number rer your BeanDevice's list	Fin Status - N Enable feature Broker ip address Broker ip address Broker por MQTT username MQTT password FTP server address FTP server address FTP server por FTP username FTP username FTP password destination directory per file" for Low Duty Cycle mode er of samples per file	gure 19: Th etwork ▼ Ser a 127.0.0.1 t 1883 a	e FTP sett	ings stem · Beanair · FW ve Enter your broker IP address Enter your MQTT username Enter the FTP server address Enter your FTP username Enter the FTP Directory Enter the samples number/file	L er.: RUT2XX_R_



7. BEANDEVICE® CONFIGURATION

7.1 MQTT CONFIGURATION

Technical Note From MQTT to FTP

1. Click on the BeanDevice® profile, go to Advanced func. And click on MQTT



Figure 26: MQTT feature

2. Enter Teltonika router IP address in the IP Broker config with the right port number

MQTT Module : MAC_ID : 0 x 5C313E07049A0000

Broker Port:	1883	1883	
DNS Status:	Disabled		
IP Broker:	192.168.1.210	192.168.1.210	
DNS:			
	[mport	Validate	

Figure 27: Broker configuration

3. Configure the static/dynamic measurement topic

Topio for statio measur	amant	
Publish Status:	Enabled	
ID Channel:	3 INC_X ~	
T. S. N		Default
Topic Name.	5C313E07049A0000/SENSOR/3	Derduit
		Validate
Topic for dynamic mea	surement	
MQTT Status:	Enabled	
Streaming Topic:	5C313E07049A0000/STREAMING	Default
		Validate
Subscription		
Subscription status:	Enabled	
Topic Name:	5C313E07049A0000/OTAC	Default
		Validate
K		
Interval :	60 60	
Version:	V3B1B1	
	V3RIRI V	
Auto.gen.ID Client:		
ID Client:	WIL09552621595499123894	
	Validate	

Figure 28: Topic configuration

Technical Note Fro	om MQTT to FTP		W	/ilow [®] wireless sensors series
4. Lunch the N	IQTT server			
	MQTT Status		Start V	Validate
	MQTT Ack:	cted	Start	Bastat
	Marr Ack.			Restart
	<u>Fig</u>	ure 29: Start the MQ	<u>TT server</u>	
7.2 FROIVI IV				
From Teltonika web	page, navigate to Bean	air tab then click on C)verview.	
	TELTONIKA State	ıs - Network - Servi	ces - System	- Beanair -
Profi	le in use: default			Overview
MG	TT to FTP			MQTT to FTP Alarm MQTT to
	Ena	ble feature 🔽		SMS
		Figure 30: Overview	option	
In the overview wir current data acquisi	ndow, you can find diffe tion mode etc	erent information rel	ated to the so	erver status, list of devices with the
Beanair	feature's overview			
MQTT to	FTPD D			
Status	F	Running		restart
Connection	to FTP server	Isername or password is not correct		
List of de	vices			
Label	Device mac Id	Data acquisition mode	Status	Note
Fir1	5C313E07049A0000	Stopped	-	
	<u>Figu</u>	r <mark>e 31: Beanair featur</mark>	<u>e overview</u>	
7.2.1 Example wi	th Low Duty Cycle			
1. Start LowDu	utyCycle data acquisition	n mode		

Wilow[®] wireless sensors series

Technical Note From MQTT to FTP

Display configuration Notes	Data Acq. config.	Online Dat	a Analysis	DataLogger	System c
Data acquisition mode conf	iguration				
Data Acq. mode :	owDutyCycle	\sim	Start		
Data Acq. cycle :	::_1 ddd, hh:r	nm:ss	Stop		
TX_Ratio: 1					
Math Notif. ratio 2					
Math Notif. cycle will be : Data acquisition mode op	<i>00:00:01 hh:mm:ss</i> tions				
Tx Only O Log 0	Only 🔿 Tx	& Log	⊖ sa		
- Streaming Packet Ontion	e				
Figure	32: LowDut	yCycle	DAQ m	ode	

2. Go to Beanair Overview and you can notice that the current DAQ mode status was updated

TELTONIKA	Status -	Network -	Services -	System -	Beanair -	Logout 🕒
Profile in use: default						FW ver.: RUT2XX_R_00.01.12.1
Beanair feature's ove	erview					
MQTT to FTP						
Status		Running				restart
Connection to FTP server		Connect	on available			
List of devices						
Label	Device mac	Id	Data acquisiti	ion mode	Status	Note
Flr1	5C313E0704	9A0000	LowDutyCycle		Running	Saving progress 56.00%

Figure 33: BeanDevice® status

At the End of the saving process the file will be transmitted to the FTP Server and allocated in the directory already configured before.

← → × ↑ 📙 > This PC > De	sktop > FTP > FIr1(5C313E07049A0000)		ٽ ~	
BSC_2.4Ghz_Release_FIN. * ^	Name	Date modified	Туре	Size
BSC_2.4Ghz_RELEASE_H(🖈	Allsensor_LowDutyCycle_Flr1_MacId_5C3	7/24/2020 4:13 PM	Text Document	3 KB
💻 BEANAIR_TUNISIA 🛛 🖈	Allsensor_LowDutyCycle_Flr1_MacId_5C3	7/24/2020 4:14 PM	Text Document	3 KB
 Desktip Downloads Documents Pictures log_beanscape Public Camtasia technical note updates Tx File Tx Folder OneDrive This PC Network 2 items 1 item selected 2.02 KB 	<pre>Allsensor_LowDutyCycle_Firl_MacId_50 File Edit Format View Help BeanDevice : HI-INC MAC_ID : 5C313E07049A0000 Label : FIrl Measure mode : LowDutyCycle Unit for accelerometer : g Unit for inclinometer : Deg Data acquisition cycle : 1 Tx Ratio : 1 DATE_FORMAT : dd/MM/yyyy HH:m Date : 24/07/2020 15:12:25 </pre>	<pre>313E07049A0000_24_07_2 m:ss Y(Deg) 851; 893; 867; 863; 843; 924; 8662; 844; 787; 871; 9902; 774; 845; 845; 846;</pre>	2020_15_12_25.txt - Note	:pad

7.2.2 Example with Alarm mode

Configure the BeanDevice[®] Alarm mode after configuring the 3 threshold levels.

- Current data acquisition m	ode		Display configuration	Notes	Data Acq. config.	Sensor Config	Online Data	Analysis	DataLo 🔸 🕨
DAQ Status :	Started		Data acquisition mo	de confi	guration				
Data Acq. mode :	Alarm		Data Acq. mod	e: Ala	am	~	Start		
Data Acq. cycle :	00:00:01	ddd, hh:mm:ss	Data Acq. cycl	e:	::_1 ddd, hh:r	nm:ss	Stop		
TX_Ratio:	1		TX_Ra	tio: 1					
Sampling Rate:	NA	Hz							
Data Acq. duration :	NA	ddd, hh:mm:ss	- Data acquisition n	ode opti	0.08				
			 Tx Only) Log O	nly ⊖Tx	& Log	SA		
	Tx O	Log O	Streaming Packet	Options	<u> </u>	~	A 4 4		
			Figure 35: Ala	rm m	ode				

Click on overview to see the BeanDevice® current status

Beanair feature's overview

MQTT to FTP 🖾 🛄							
Status	Running				restart		
	Connecti	an available					
Connection to FTP server	Connectio	on available					
List of devices							
Label	Device mac Id	Data acquisition mode	Status	Note			
Room1	5C313E06A9A70000	Alarm	Running	-			

Figure 36: BeanDevice® actual status

In this Case we have 3 possibilities

• There was no detected Alarm and all the measurements were OK

Here the file will be generated after reaching the file maximum seize which is 2Mo and it will contain all the measurement during the recording duration.

📙 🕑 📙 🖛 Room	n1(5C313E06A9A70000)	· · · · ·	_	
File Home S	hare View			~ 🕐
\leftarrow \rightarrow \checkmark \uparrow \square $>$	> This PC > Desktop > FTP > Room1(5C313E06A9A70000)	5 V	, Search Room	n1(5C313E06A9
	Name	Date modified	Туре	Size
> 📌 Quick access	Allsensor_Alarm_Room1_MacId_5C313E06A9A70000_25_08_2020_15_21_57.txt	8/26/2020 8:54 AM	Text Document	2,310 KB
> 🌰 OneDrive	Allsensor_Alarm_Room1_MacId_5C313E06A9A70000_26_08_2020_14_46_12.txt	8/27/2020 8:03 AM	Text Document	2,310 KB

Figure 37: Alarm log file

• There was an event occurred

You will receive an Alarm notification immediately with the current time and Alarm value, then the file will be generated automatically when reaches its maximum size 2Mo

Desktop > FIP > Room1(5C313E06A9A70000)	۵			
Name	Dat	e modified	Туре	
Allsensor_Streaming(One_shot)_Room1_MacId_5C313E06A9A70000_24_08_2020_10_26_49	. 8/24	4/2020 11:28 AM	Text Document	
Room1(AX-3D_5C313E06A9A70000)_AlarmNotification_Ch_X_25_08_2020_15_21_55.txt	8/2	5/2020 4:21 PM	Text Document	

Figure 38: Alarm notification file

Room1(AX-3D_5C313E06A9A70000)_AlarmNotification_Ch_X_25_08_2020_15_21_55.txt - Notepad

```
File Edit Format View Help
BeanDevice : AX-3D
Mac Id : 5C313E06A9A70000
Label : Room1
Measure mode : Alarm
Alarm level : Action
Unit for accelerometer : g
DATE_FORMAT : dd/MM/yyyy HH:mm:ss
Date : 25/08/2020 15:21:55
Channel : Ch_X
Measurement : -1.885
```

Figure 39: The Alarm notification content

There are successive events occurred

You will receive an immediate successive Alarm notification log files, then the log file which contains all the measurement will be generated automatically once the seize reach 2 Mo.

📙 🛛 🛃 🚽 🛛 Roor	n1(5C313E06A9A70000)		-	
File Home S	hare View			~ ?
← → * ↑	> This PC > Desktop > FTP > Room1(5C313E06A9A70000)	ٽ ~	🔎 Search Roon	n1(5C313E06A9
	Name	Date modified	Туре	Size
Quick access	Allsensor_Alarm_Room1_MacId_5C313E06A9A70000_25_08_2020_15_21_57.txt	8/26/2020 8:54 AM	Text Document	2,310 KB
len OneDrive	Allsensor_Alarm_Room1_MacId_5C313E06A9A70000_26_08_2020_14_46_12.txt	8/27/2020 8:03 AM	Text Document	2,310 KB
This PC	Allsensor_Streaming(One_shot)_Room1_MacId_5C313E06A9A70000_24_08_20	8/24/2020 11:28 AM	Text Document	3,170 KB
= 11131 C	Room1(AX-3D_5C313E06A9A70000)_AlarmNotification_Ch_X_25_08_2020_15	8/25/2020 4:21 PM	Text Document	1 KB
💣 Network	Room1(AX-3D_5C313E06A9A70000)_AlarmNotification_Ch_X_25_08_2020_15	8/25/2020 4:21 PM	Text Document	1 KB
	Room1(AX-3D_5C313E06A9A70000)_AlarmNotification_Ch_Y_25_08_2020_15	8/25/2020 4:21 PM	Text Document	1 KB
	Room1(AX-3D_5C313E06A9A70000)_AlarmNotification_Ch_Y_25_08_2020_15	8/25/2020 4:21 PM	Text Document	1 KB
	Room1(AX-3D_5C313E06A9A70000)_AlarmNotification_Ch_Z_25_08_2020_15	8/25/2020 4:21 PM	Text Document	1 KB
	Room1(AX-3D_5C313E06A9A70000)_AlarmNotification_Ch_Z_25_08_2020_15	8/25/2020 4:21 PM	Text Document	1 KB
	Room1(AX-3D_5C313E06A9A70000)_AlarmNotification_Ch_Z_26_08_2020_14	8/26/2020 3:46 PM	Text Document	1 KB

Figure 40: Alarm log files

7.2.3 Example with shock detection mode

Configure the BeanDevice[®] Alarm mode after configuring the 3 threshold levels.

Current data acquisition m	ode		Display configuration Notes Data Acq. config. Sensor Config Online Data Analysis Da	ata
DAQ Status :	Started		Data acquisition mode configuration	
Data Acq. mode :	Shock Detection		Data Acq. mode : Shock Detection V Start	
Monitoring cycle :	00:01:00	ddd,hh:mm:ss	Monitoring cycle : ddd, hh:mm:ss Stop	
TX_Ratio:	NA		Sampling Rate: 800 V	
Sampling Rate:	800	Hz	Event Acq. duration :::15 ddd, hh::mm:ss	
Event acq. duration :	00:00:15	ddd, hh:mm:ss	Math mode enabled	
			O Tx Only O Log Only	
	Tx Log		Streaming Packet Options No Survey cycle Survey One Shot	

Figure 41: Shock detection mode

Click on overview to see the BeanDevice® current status

Beanair feature's overview

MQTT to FTP						
Status	Running			re	estart	
Connection to FTP server	Connection available					
List of devices						
Label	Device mac Id	Data acquisition mode	Status	Note		
Room1	5C313E06A9A70000	Shock_Detection	Running	-		

Figure 42: BeanDevice current status

Once the data acquisition duration is finished, the file will be generated and transmitted directly through the FTP.

Beanair feature's overview

Running			restart		
Connection available					
Device mac Id	Data acquisition mode	Status	Note		
5C313E06A9A70000	Shock_Detection	Waiting	File uploaded successfully		
	Running Connection Device mac Id 5C313E06A9A70000	Running Connection available Device mac Id Data acquisition mode 5C313E06A9A70000 Shock_Detection	Running Connection available Device mac Id Data acquisition mode Status 5C313E06A9A70000 Shock_Detection Waiting		

Figure 43: File uploading process

The file will be saved in the folder location

🛃 🚽 Roon File Home S	n1(5C313E06A9A70000) hare View			-	- □ ×
$\leftarrow \rightarrow \cdot \cdot \uparrow \square$	This PC Desktop FTP Room1(5C313E06A9A70000)	~	ē	,O Search Roo	m1(5C313E06A9
• A Quick accord	Name	Date modified		Туре	Size
V AF QUICK access	Allsensor_Shock_Detection_Room1_MacId_5C313E06A9A70000_28_08_2020_1	8/28/2020 2:03 PM		Text Document	305 KB
> 🦰 OneDrive	Allsensor_Shock_Detection_Room1_MacId_5C313E06A9A70000_28_08_2020_1	8/28/2020 2:02 PM		Text Document	306 KB
> This PC	Allsensor_Shock_Detection_Room1_MacId_5C313E06A9A70000_28_08_2020_1	8/28/2020 1:59 PM		Text Document	306 KB
	Allsensor_Shock_Detection_Room1_MacId_5C313E06A9A70000_28_08_2020_1	8/28/2020 1:54 PM		Text Document	306 KB
> 💣 Network	Allsensor_Shock_Detection_Room1_MacId_5C313E06A9A70000_28_08_2020_1	8/28/2020 1:54 PM		Text Document	306 KB

Figure 44: Shock detection file

All the measurements are saved in the file

Allsensor_Shock_Detection_Room1_MacId_5C313E06A9A70000_28_08_2020_12_54_36.txt - Notepad

File Edit Format View Help BeanDevice : AX-3D Mac Id : 5C313E06A9A70000 Label : Room1 Measure mode : Shock Detection Unit for accelerometer : g Unit for inclinometer : Deg DATE_FORMAT : dd/MM/yyyy HH:mm:ss.fff Date : 28/08/2020 12:54:36.269 Sampling rate : 800 Data acquisition cycle : 60 Data acquisition duration : 15 TimeStamp;Measure Ch_Z(g);Ch_X(g);Ch_Y(g) 0;0,781;-0,005;-0,014; 1;0,780;-0,006;-0,014; 2;0,781;-0,004;-0,015; 3;0,783;-0,002;-0,013; 4;0,782;-0,004;-0,014; 5;0,782;-0,004;-0,012; 6;0,782;-0,004;-0,013; 7;0,782;-0,003;-0,011; 8;0,780;-0,004;-0,016; 9;0,780;-0,004;-0,015; 10;0,782;-0,004;-0,013; 11;0,780;-0,003;-0,015; 12;0,780;-0,003;-0,013; 13;0,780;-0,004;-0,014;

Figure 45: Shock detection measurement data

7.2.4 Example with streaming burst

Configure the Bean	Device [®] st	reaming	g mode afte	r with burst option	on.				
Current data acquisition m	ode			Display configuration	Notes	Data Acq. config.	Sensor Config	Online Data An	nalysis
DAQ Status :	Started)	Data acquisition mo	de conf	iguration			
Data Acq. mode :	Streaming B	urst]	Data Acq. mod	e: L	owDutyCycle	\sim	Start	
Data Acq. cycle :	00:01:00		ddd, hh:mm:ss	Data Acq. cyc	e:	:: ddd, hh:r	mm:ss	Stop	
TX_Ratio:	NA]	TX_Ra	tio:				
Sampling Rate:	100		Hz	Math Notif. ra	tio				
Data Acq. duration :	00:00:15		ddd,hh:mm:ss	Math Notif. cycle Data acquisition n	<i>will be :</i> node opi	N4 tions			
				Tx Only) Log (Dnly O Tx	a 🖁 Log 🛛 🔿	SA	
	Ŏ			Streaming Packet	Option:	n O Ruret	\cap	One Shot	

Figure 46: Streaming burst

Once the BeanDevice is started the current status will be updated

Beanair feature's overview

MQTT to FTP 🖾 🔟					
Status	Running				restart
Connection to FTP server	Connecti	on available			
List of devices					
Label	Device mac Id	Data acquisition mode	Status	Note	
Room1	5C313E06A9A70000	Streaming(Burst)	Running	-	

Figure 47: BeanDevice current status

The file will be generated and transmitted after the data acquisition duration

Beanair feature's overview

MQTT to FTP				
Status	Running			restart
Connection to FTP server	Connect	ion available		
List of devices				
Label	Device mac Id	Data acquisition mode	Status	Note
Room1	5C313E06A9A70000	Streaming(Burst)	Waiting	File uploaded successfully

Figure 48: Uploading process

Wilow[®] wireless sensors series

→ • ↑ <mark> </mark> :	This PC > Desktop > FTP > Room1(5C313E06A9A70000)	5 V	🔎 Search Roo	om1(5C313E06A9
Quick accord	Name	Date modified	Туре	Size
Quick access	Allsensor_Streaming(Burst)_Room1_MacId_5C313E06A9A70000_28_08_2020_1	8/28/2020 2:55 PM	Text Document	38 KB
OneDrive	Allsensor_Streaming(Burst)_Room1_MacId_5C313E06A9A70000_28_08_2020_1	8/28/2020 2:54 PM	Text Document	38 KB
	Figure 49: Streaming burst log	<u>ı file</u>		
	Allsensor_Streaming(Burst)_Room1_MacId_5C313E	06A9A70000_28_08_	2020_1	
	File Edit Format View Help			
	BeanDevice : AX-3D			
	Mac Id : 5C313E06A9A70000			
	Label : Room1			
	Measure mode : Streaming			
	Streaming Options : Burst			
	Unit for accelerometer : g			
	DATE CORMAT , dd/MM()anay HHymmics ff.	c .		
	Date · 28/08/2020 13:55:31 10	1		
	Sampling rate : 100			
	Data acquisition cycle : 60			
	Data acquisition duration : 15			
	Missing measurements : 0.00%			
	TimeStamp;Measure Ch_Z(g);Ch_X(g);Ch	_Y(g)		
	0;0,775;-0,007;-0,016;			
	1;0,779;-0,006;-0,012;			
	2;0,774;-0,005;-0,013;			
	3;0,780;-0,002;-0,013;			
	4;0,781;-0,004;-0,013;			
	5;0,780;-0,005;-0,013;			
	6;0,778;-0,006;-0,015;			
	7;0,782;-0,004;-0,015;			
	o;0,7/9;-0,004;-0,015;			
	9;0,701;-0,004;-0,014;			
	Figure 50: measurement da	ta		