Balai Besar Pengujian Perangkat Telekomunikasi dan Digital
Jalan Raya Tapos No. 46, Depok, Jawa Barat, Indonesia 16464
(+62 21) 77817999, (+62) 812-5000-0586
pelayanan.bbppt@komdigi.go.id
www.idth.id; www.komdigi.go.id

KOMDIGI — Direktorat Jenderal Infrastruktur Digital — IDTH Indonesia Digital Test House — KAN Komite Akreditasi Nasional LP-112-IDN

LEMBAR PENGESAHAN

LAPORAN HASIL UJI
Test Report

Nomor Aplikasi : UJI-0313-2026
Application Number

Nomor LHU : R-41/EMC/0057/2026
Test Report Number

DATA APLIKASI *Applicant's Data*		
Aplikan *Applicant's*	:	FARRA EKATAMA SOLUSI
Alamat Aplikan *Address of Applicant's*	:	GEDUNG NUCIRA LANTAI 1 JOFTER-KH, JALAN M.T. HARYONO KAV. 27

DATA PERANGKAT *Test Item's Data*		
Nama Perangkat *Equipment name*	:	AquaLink NB-IoT
Merek/Tipe *Brand name/Type*	:	AQUALINK / AQ-01
Nomor Seri/IMEI *Serian Number/IMEI*	:	6508280015
Buatan *Made In*	:	China

Tanggal Terima/Bayar *Date of Paid*	:	09 Maret 2026	**Jenis Pengujian** *Type of Testing*	:	Uji Reguler
Tanggal Mulai Uji *Date of Test*	:	11 Maret 2026	**Lokasi Pengujian** *Location of Testing*	:	Tapos - Depok
Tanggal Selesai Uji *Date of End*	:	11 Maret 2026			

Ketentuan Umum *General Statement*	
A.	**Laporan pengujian ini hanya berlaku untuk barang uji sebagaimana di atas** This the report is only valid the test item which is stated on the data above
B.	**Persyaratan Teknis** *Technical Specification* CISPR 32 / ITU-T K.116

Dokumen ini ditandatangani secara elektronik menggunakan Sertifikat Elektronik yang diterbitkan oleh Balai Besar Sertifikasi Elektronik (BSrE), Badan Siber dan Sandi Negara (BSSN)

Balai Besar Pengujian Perangkat Telekomunikasi dan Digital
Jalan Raya Tapos No. 46, Depok, Jawa Barat, Indonesia 16464
(+62 21) 77817999, (+62) 812-5000-0586
pelayanan.bbppt@komdigi.go.id
www.idth.id; www.komdigi.go.id

C.	**Fitur Pengujian** *Testing Feature* Radiated Emission

Kesimpulan *Conclusion*
BERDASARKAN PERSYARATAN TEKNIS PERANGKAT TERSEBUT DINYATAKAN *Base on technical specification the equipment is*
Sesuai (Comply)

Dalam upaya mencapai rencana pembangunan Zona Integritas (ZI) Wilayah Birokrasi Bersih dan Melayani (WBBM) serta mendukung penerapan ISO 37001 tentang Sistem Manajemen Anti Penyuapan, BP2 Komdigi berkomitmen untuk selalu profesional dan berintegritas dalam memberikan pelayanan yang berkualitas serta menolak segala bentuk penyuapan dan gratifikasi.

Depok, 12 Maret 2026
Disahkan Oleh
An. Kepala Balai Besar Pengujian Perangkat Telekomunikasi
Ketua Tim Kerja Laboratorium Pengujian Safety

Muhalmar

Dokumen ini ditandatangani secara elektronik menggunakan Sertifikat Elektronik yang diterbitkan oleh Balai Besar Sertifikasi Elektronik (BSrE), Badan Siber dan Sandi Negara (BSSN)

KOMDIGI
Direktorat Jenderal Infrastruktur Digital
IDTH Indonesia Digital Test House
KAN Komite Akreditasi Nasional
LP-112-IDN
LK-137-IDN

TEST REPORT

Application Number: UJI-0313-2026

AQUALINK/AQ-01

AquaLink NB-IoT

Balai Besar Pengujian Perangkat Telekomunikasi dan Digital

Jalan Raya Tapos No. 46, Depok, Jawa Barat, Indonesia 16464

(+62 21) 77817999, (+62) 812-5000-0586

pelayanan.bbppt@komdigi.go.id

www.idth.id; www.komdigi.go.id

TEST REPORT

Application Number	**UJI-0313-2026**
Product Name	**AquaLink NB-IoT**
Brand/Type	AQUALINK/AQ-01
S/N or IMEI	6508280015
Made in	China
Date of Paid	09/03/2026
Date of Test	11/03/2026 - 11/03/2026
Date of Issue	11/03/2026
Testing Type	Uji Laboratorium / Uji In-House / Uji Reguler
Test Location	Indonesian Digtal Test House
Standards	**CISPR 32 / ITU-T K.116**

In the configuration tested, the test item complied with the standards specified above.

Tested by:

Test Engineer



Halim Indrayanto

Supervisor



Rofi Yuliansyah

This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

Testing Laboratory information:	
Testing Laboratory Name .....:	Indonesia Digital Test House (IDTH).
Address .....:	Jl. Raya Tapos No, 46 Tapos, Depok
Testing location .....:	Same as above
Tel.....:	(021) 77817999
Fax.....:	-
E-mail.....:	pelayanan.bbppt@kominfo.go.id
Possible test case verdicts:	
- test case does not apply to the test object .	: N/A
- test object does meet the requirement	: PASS
- test object does not meet the requirement .	: FAIL
- test object does not Tested	: N/T
General remarks:	
The test results provided in this report pertain solely to the tested object. The outcomes listed in this report reflect the results for this specific model and serial number. It is the manufacturer's responsibility to ensure that all production models comply with the requirements outlined in this report. This report would be considered invalid without the signatures of both the testing technician and the approver. Reproduction of this report, either partially or in full, requires written consent from the issuing testing laboratory.	

This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

Test Summary Update

Electromagnetic Interference (EMI)				
Test Item	**Test Standard**	**Test Method**	**Class/ Severity**	**Result**
Radiated Emission up to 1 GHz	CISPR 32	CISPR 32	Class B	PASS
Radiated Emission Above 1 GHz	CISPR 32	CISPR 32	Class B	PASS

Test Location

Indonesia Digital Test House (IDTH) Depok, West Java, Indonesia.

Notes

-

ISO 17025
IDTH Indonesia Digital Test House

This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

Table of Contents

TEST REPORT 2
Test Summary Update 4
Test Location 4
Notes 4
Table of Contents 5
Section 1 General Information and Equipment Used 6
1.1. DUT General and Technician Description 6
1.2. DUT Operation 6
1.3. Equipment Used during Test 6
Section 2 Emission Test Results 7
2.1. Radiated Emission up to 1 GHz 7
2.1.1. D.U.T. Operation 7
2.1.2. Test Setup and Procedure 7
2.1.3. Measurement Data 8
2.2. Radiated Emission Above 1 GHz 10
2.2.1. D.U.T. Operation 10
2.2.2. Test Setup and Procedure 10
2.2.3. Measurement Data 11
Section 3 Photographs of Test Setup 13
3.1. Radiated Emission up to 1 GHz 13
3.2. Radiated Emission Above 1 GHz 13
Section 4 Photographs of DUT 14

This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

Section 1 General Information and Equipment Used

1.1. DUT General and Technician Description

DUT Name : AquaLink NB-IoT

DUT Model : AQ-01

DUT Serial Number : 6508280015

DUT Made : China

1.2. DUT Operation

Temperature: 21.4 °C Humidity: 63.5 %RH Pressure: 1005 mbar

1.3. Equipment Used during Test

Radiated Emission					
No.	**Test Equipment**	**Manufacturer**	**Model**	**Serial No.**	**Last Cal.**
1	Emi Receiver	Rohde & Schwarz	ESW44	103282	31/07/2025
1	Antenna	Rohde & Schwarz	HL562E	102208	-
1	Emi Receiver	Rohde & Schwarz	ESW44	103274	11/08/2025
1	Antenna	Rohde & Schwarz	HF907	103151	-

This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

Section 2 Emission Test Results

2.1. Radiated Emission up to 1 GHz

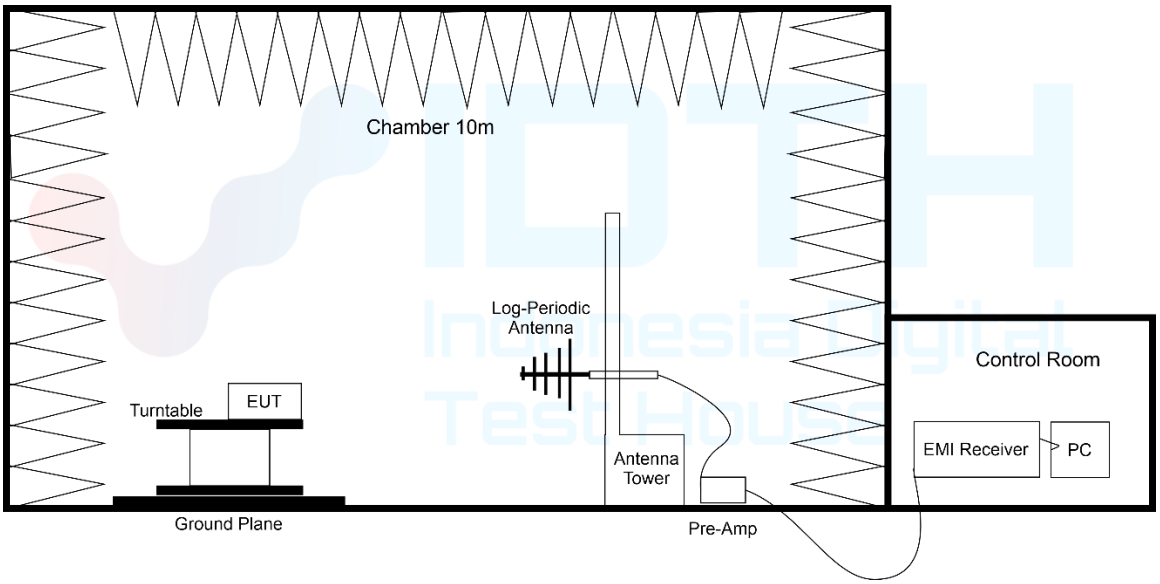
Test Requirement	:	CISPR 32
Test Method	:	CISPR 32
Test Voltage	:	Battery 3.6V / 8500mAh
Test Date	:	11/03/26
Frequency Range	:	30 MHz – 1 GHz
Detector	:	- Peak for Pre-scan - Quasi Peak for Final Measurement
Uncertainty	:	3.6 dB
Class / Limit	:	Class B

Frequency range MHz	Class B Limits dB (µV)/m
	Quasi-peak
30 to 230	30
230 to 1000	37

2.1.1. D.U.T. Operation

Temperature: 21.4 °C Humidity: 63.5 %RH Atmospheric Pressure: 1005 mbar

2.1.2. Test Setup and Procedure



- The test was conducted in a semi – anechoic Chamber
- Log Periodic antenna was used for the test in frequency range from 30 MHz – 1 GHz
- The EUT was placed on a non – metallic table with 80 cm height above the horizontal reference ground plane. If the EUT need floor-standing arrangement, the EUT was placed on the horizontal ground plane but separated by 10 cm insulation from ground plane
- The distance between EUT and Antenna's reference should be 10 m

This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

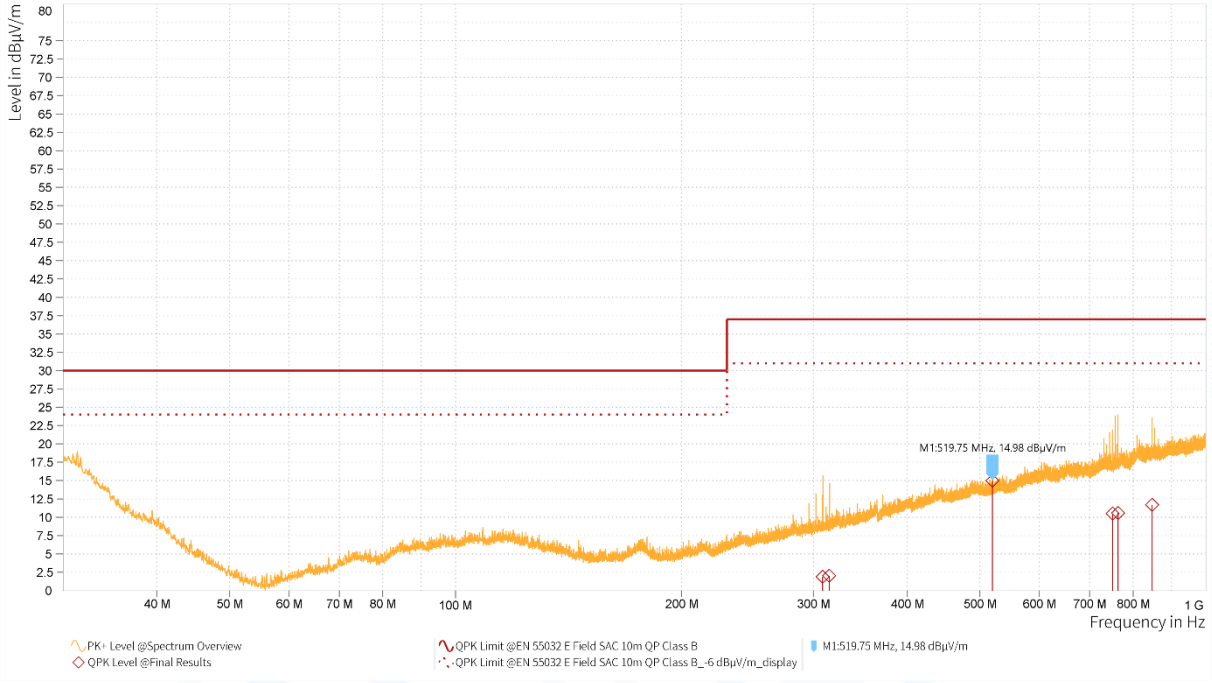
2.1.3. Measurement Data

- The EMI Receiver was connected to Antenna through Pre-Amp
- The EUT was rotated 360 with 15 stepped the antenna was raised and lowered from 1 to 4 meters, and measured for both horizontal and vertical antenna polarization
- Pre-scan was performed with peak detector
- Final measurement was performed with Quasi-peak detector at the frequencies which maximum peak level was detected

ISO 17025
IDTH Indonesia Digital Test House

This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

EMI Test Report



EMI Final Results (1/2)

Rg	Frequency [MHz]	QPK Level [dBµV/m]	QPK Limit [dBµV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Meas. Time [s]	Time of Meas.	Source
1	308.490	1.89	37.00	35.11	-17.99	H	158	3.85	120.000	1.000	11:14:22 am	Critical Points
1	314.910	2.03	37.00	34.97	-17.77	H	166	3.58	120.000	1.000	11:12:58 am	Critical Points
1	519.750	14.98	37.00	22.02	-12.30	V	-173	3.09	120.000	1.000	11:22:29 am	Critical Points
1	751.260	10.49	37.00	26.51	-8.57	H	34	3.26	120.000	1.000	11:16:23 am	Critical Points
1	764.340	10.58	37.00	26.42	-8.36	H	17	2.55	120.000	1.000	11:17:54 am	Critical Points
1	848.130	11.69	37.00	25.31	-7.16	H	158	2.85	120.000	1.000	11:19:56 am	Critical Points

EMI Final Results (2/2)

Rg	Frequency [MHz]	Attachments	Comment
1	308.490		
1	314.910		
1	519.750		
1	751.260		
1	764.340		
1	848.130		

This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

2.2. Radiated Emission Above 1 GHz

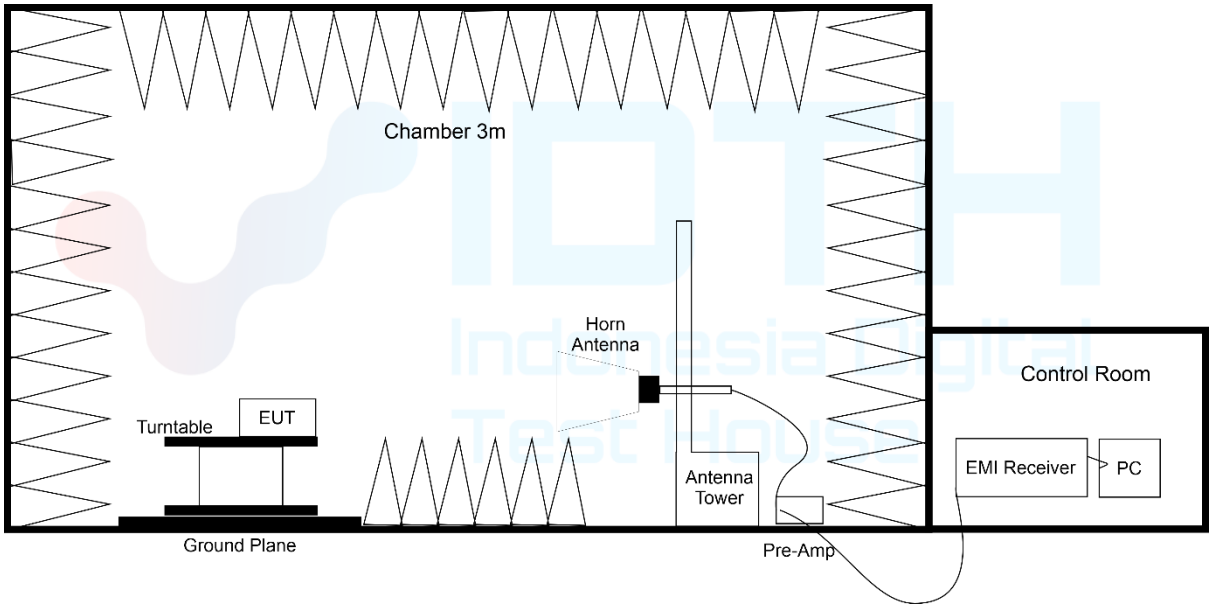
Test Requirement	:	CISPR 32
Test Method	:	CISPR 32
Test Voltage	:	Battery 3.6V / 8500mAh
Test Date	:	11/03/26
Frequency Range	:	1 GHz - 6GHz
Detector	:	- Peak for Pre-scan - Peak and Average for Final Measurement
Uncertainty	:	3.4 dB
Class / Limit	:	Class B

Frequency range MHz	Class B Limits dB (µV)/m	
	Peak	Average
1000 to 3000	70	50
3000 to 6000	74	54

2.2.1. D.U.T. Operation

Temperature: 22.8 °C Humidity: 57.1 %RH Atmospheric Pressure: 1005 mbar

2.2.2. Test Setup and Procedure



- The test was conducted in a full anechoic Chamber
- Horn antenna was used for the test in frequency range from 1 GHz – 6 GHz
- The EUT was placed on a non – metallic table with 80 cm height above the horizontal reference ground plane. If the EUT need floor-standing arrangement, the EUT was placed on the horizontal ground plane but separated by 10 cm insulation from ground plane
- The distance between EUT and Antenna's reference should be 3 m

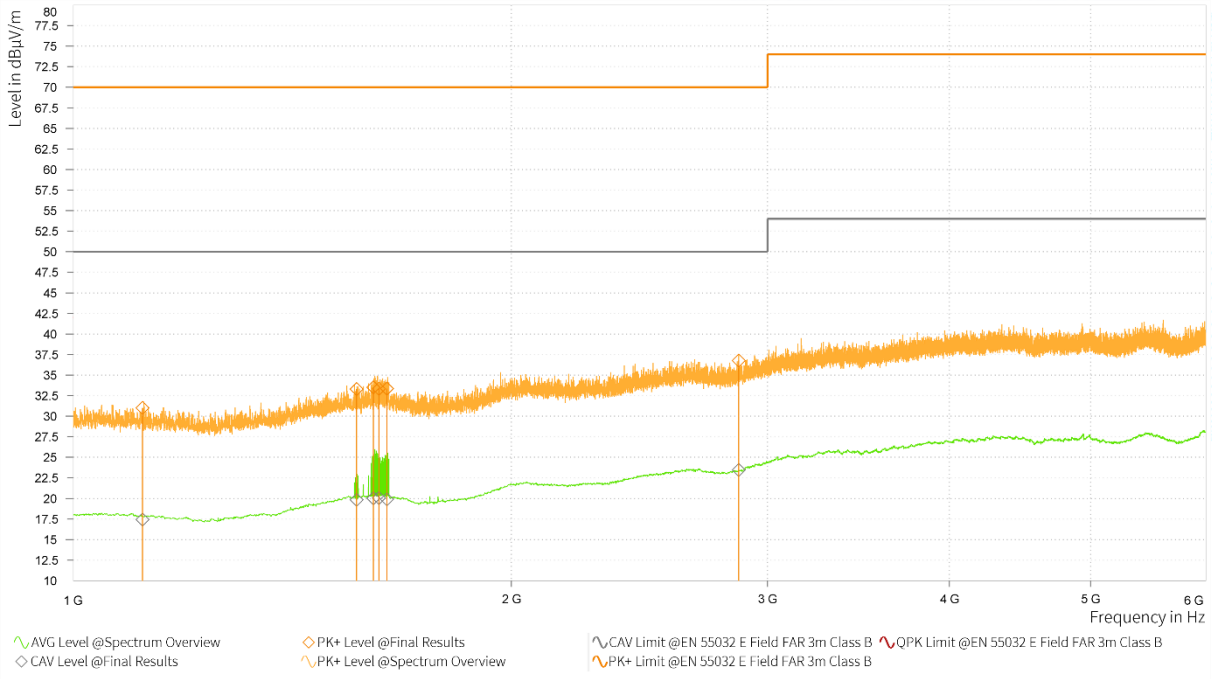
This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

2.2.3. Measurement Data

- The EMI Receiver was connected to Antenna through Pre-Amp
- The EUT was rotated 360 with 15 stepped the antenna was raised and lowered from 1 to 4 meters, and measured for both horizontal and vertical antenna polarization
- Pre-scan was performed with peak detector
- Final measurement was performed with Peak & Average detector at the frequencies which maximum peak level was detected

This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

EMI Test Report



EMI Final Results (1/2)

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	CAV Level [dBµV/m]	CAV Limit [dBµV/m]	CAV Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]
1	1.116,000	31,02	70,00	38,98	17,42	50,00	32,58	-12,18	V	-178,4678	1,04	1.000,000
1	1.565,750	33,30	70,00	36,70	19,84	50,00	30,16	-8,07	H	29	1,00	1.000,000
1	1.608,000	33,50	70,00	36,50	20,03	50,00	29,97	-7,93	V	112,1191	1,25	1.000,000
1	1.622,250	33,32	70,00	36,68	20,04	50,00	29,96	-7,93	V	127	1,08	1.000,000
1	1.642,750	33,34	70,00	36,66	19,89	50,00	30,11	-7,94	V	127	1,25	1.000,000
1	2.866,250	36,76	70,00	33,24	23,45	50,00	26,55	-2,09	H	-70,52674	2,16	1.000,000

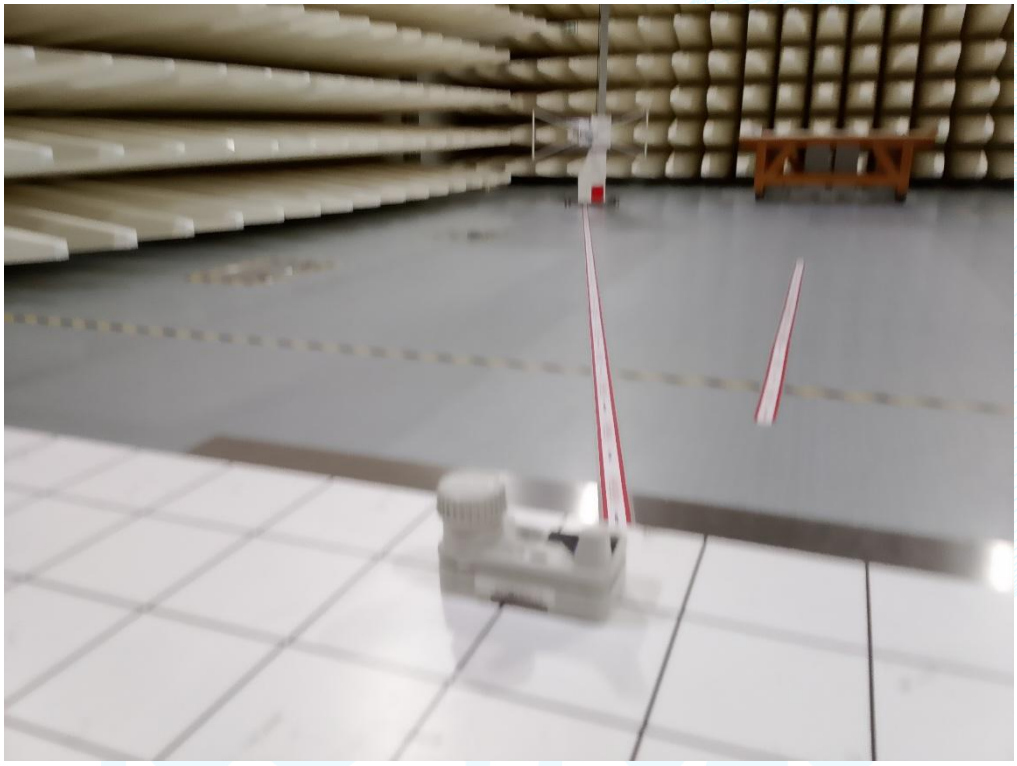
EMI Final Results (2/2)

Rg	Frequency [MHz]	Meas. Time [s]	Time of Meas.	Source	Attachments	Comment
1	1.116,000	1,000	10:42:01	Critical Points		
1	1.565,750	1,000	10:40:58	Critical Points		
1	1.608,000	1,000	10:44:15	Critical Points		
1	1.622,250	1,000	10:43:45	Critical Points		
1	1.642,750	1,000	10:43:12	Critical Points		
1	2.866,250	1,000	10:40:06	Critical Points		

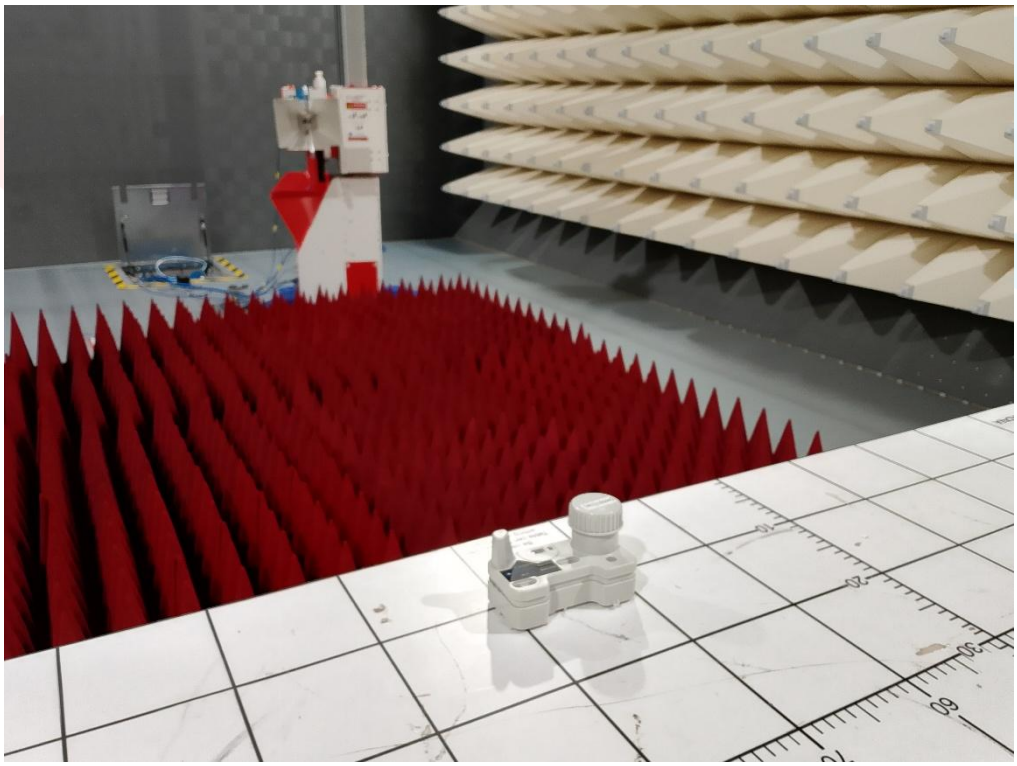
This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

Section 3 Photographs of Test Setup

3.1. Radiated Emission up to 1 GHz



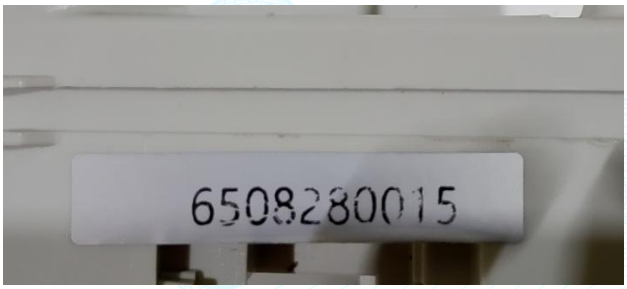
3.2. Radiated Emission Above 1 GHz



This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

Section 4 Photographs of DUT







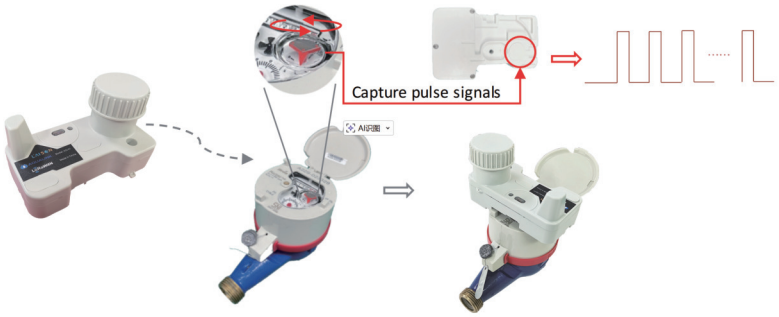




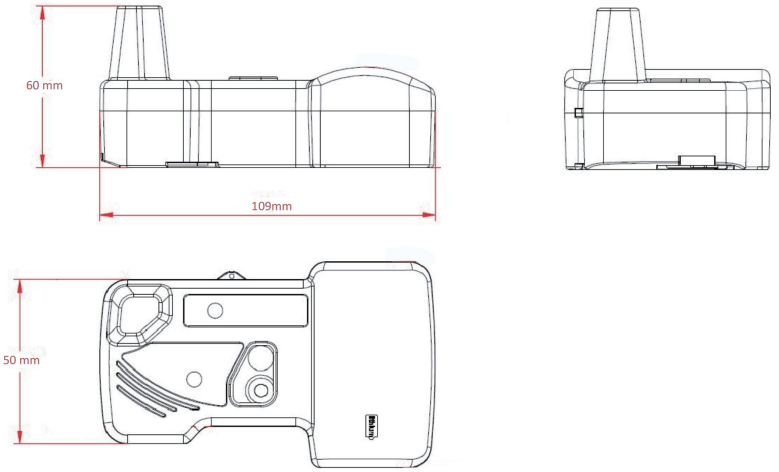


This document is confidential, which shall not be reproduced nor modified, except in full, without official written approval from Indonesia Digital Test House – BP2 Komdigi

Work Process



Shape and Installation Dimension



Technical Data

Wireless Comm. Parameters	
Communication Mode	NB-IoT
Power Supply	3.6V/8500mAH
Standby Current	≤80 μA
Operating Current	67mA
TX Current	330mA@23dBm
Frequency Band	Band 8
TX Power	Up to 23dBm
RX Sensitivities	Down to -116dBm
Data Transmission Speed	DL: Max. 127 kbps / UL: Max. 158.5 kbps
Transmission Method	Point-to-Point network
Non-Magnetic Sampling Module	
Sensing Distance	7mm Diameter of steel plate 14mm, 3.6V working voltage
Supports Maximum	2.2 turns/second

DT01

1. Radiated Emission

---

1. Catu Daya Perangkat *

☐ AC 110 - 127 V / 50 Hz

☐ AC 220 - 240 V / 50 Hz

☐ AC 3-Phase 380 - 415 V / 50 Hz

☐ AC 110 - 127 V / 60 Hz

☐ AC 220 - 240 V / 60 Hz

☐ AC 3-Phase 380 - 415 V / 60 Hz

☐ DC Adaptor

☐ DC Rectifier

☐ PoE

☑ Baterai

☐ USB

---

2. Jika disuplai daya DC, berapa nilai tegangannya?

-

---

3. Berapa konsumsi daya maksimal perangkat saat beroperasi? *

67mA

---

4. Apa tipe konstruksi perangkat? *

☐ Berdiri sendiri (standalone)

☐ Tergabung (combined)

☐ Terpisah (plug-in)

☑ Modul

---

5. Area penggunaan perangkat *

☑ Residential POSTEL

☑ Industrial POSTEL

☐ Residential KEMKES Group 1 (Non RF)

☐ Residential KEMKES Group 2 (RF)

☐ Industrial KEMKES Group 1 (Non RF)

☐ Industrial KEMKES Group 2 (RF)

6. Frekuensi kerja perangkat (jika beroperasi lebih dari 1 band, maka tulis dengan pemisah berupa tanda titik koma [;]) *

900Mhz (Band 8)

7. Pernyataan umum terkait perangkat yang diujikan *

☑ Alat/perangkat yang diujikan adalah alat/perangkat yang merupakan produk akhir

☑ Alat/perangkat yang diujikan tidak pernah mengalami modifikasi sebelumnya (hardware maupun software)

☑ Menyerahkan alat/perangkat lainnya yang tergabung dalam satu sistem dengan alat/perangkat yang diujikan sehingga dapat bekerja (kusus yang konstruksinya terpisah)

8. Pernyataan terkait catu daya alat/perangkat yang diujikan *

☐ VAC tegangan maksimum ialah 250 VAC, arus maksimum 16 A 1-phase

☐ VDC tegangan maksimum ialah 400 VDC, arus maksimum 16 A (menyertakan power supply sendiri untuk tegangan > 24 VDC)

☑ DC Adaptor: Merupakan bagian dari perangkat dan merupakan produk OEM

☐ PoE: Menyertakan adaptor yang merupakan produk OEM

9. Fitur telekomunikasi yang TIDAK ingin diujikan (jika lebih dari satu fitur, maka tulis dengan pemisah berupa tanda titik koma [;])

10. Informasi lainnya yang ingin disampaikan

11. Informasi lainnya yang ingin disampaikan

12. Informasi lainnya yang ingin disampaikan