



TEST REPORT



Report No. : KES-RF240328-R1
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KES Co., Ltd.
#3002, #3503, #3701, 40, Simin-daero365beon-gil, Dongan-gu,
Anyang-si, Gyeonggi-do, 14057, Republic of Korea
Tel : +82-31-425-6200, Fax : +82-31-341-3838

■ FCC & IC TEST REPORT

1. Client

- Name : JTECH Global Enterprises Inc
- Address : 1965 Evergreen Blvd, Ste 300, Duluth, Georgia 30096, United States

2. Sample Description

- Product item : NoQ Transmitter
- Model name : NQTX
- Manufacturer etc. : Lee Technology Korea Co., Ltd.

3. Date of test : 2024.06.03 ~ 2024.06.10

4. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing

- Address : 473-21, Gayeo-ro, Yeosu-si, Gyeonggi-do, Korea

5. Test method used : Part 90 & RSS-119(Issue 12)

6. Test result : PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
This laboratory is not accredited for the test results marked *.
This test report is not related to KOLAS accreditation.

Affirmation	Tested by	Technical Manager
	Name : Gu-Bong, Kang (Signature)	Name : Yeong-Jun Cho (Signature)

2024 . 07. 25.

KES Co., Ltd.

Accredited by KOLAS, Republic of KOREA



REPORT REVISION HISTORY

Date	Test Report No.	Revision History
2024.06.17	KES-RF240328	Initial
2024.07.25	KES-RF240328-R1	1. Applicant company name changed : JTECH an HME Company -> JTECH Global Enterprises Inc 2. Applicant company address changed : 1400 Northbrook Parkway Suite #320 Suwanee , GA USA 30024 -> 1965 Evergreen Blvd, Ste 300, Duluth, Georgia 30096, United States 3. Applicant FCC ID & IC Number changed : FCC ID : WDC-NQTX -> 2BHHL-NQTX IC Number : 7752A-NQTX -> 32791-NQTX

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Use of uncertainty of measurement for decisions on conformity (decision rule):

- ☒ No decision rule is specified by the standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty("simple acceptance" decision rule, previously known as "accuracy method").
- ☐ Other (to be specified, for example when required by the standard or client)



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1. General information

Applicant: JTECH Global Enterprises Inc
Applicant address: 1965 Evergreen Blvd, Ste 300, Duluth, Georgia 30096, United States
Test site: KES Co., Ltd.
Test site address: ☐ #3002, #3503, #3701, 40, Simin-daero365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Republic of Korea
☒ 473-21, Gayeo-ro, Yeosu-si, Gyeonggi-do, Korea
Test Facility FCC Accreditation Designation No.: KR0100, Registration No.: 444148
ISED Registration No.: 23298
FCC Rule part(s) Part 90
IC Rule part(s) RSS-119(Issue 12), RSS-GEN(Issue 5)
FCC ID 2BHHL-NQTX
IC Number 32791-NQTX
Test device serial No.: ☒ Production ☐ Pre-production ☐ Engineering

1.1. EUT description

Equipment under test NoQ Transmitter
Frequency range 450.025 MHz ~ 469.975 MHz
Model NQTX
Type of emission 9K86F1D
Channel separation 12.5 kHz
Rated power 20.0 dBm
Antenna specification Spring Antenna // -18.55 dBi
Power source AC 120 V Adapter (Output : DC 5 V)
H/W Version 1.01
S/W Version V-03



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1.2. Test frequency

	Low channel	Middle channel	High channel
Frequency (MHz)	450.025	457.575	469.975

1.3. Information about derivative model

N/A

1.4. Accessory information

Equipment	Manufacturer	Model	Serial No.	Power source
-	-	-	-	-

1.5. Device modifications

N/A

1.6. Test configuration

The **JTECH Global Enterprises Inc // NoQ Transmitter // NQTX // FCC ID : 2BHHL-NQTX // IC : 32791-NQTX** was tested per the guidance of ANSI C63.4-2014, TIA-603.E-2016, FCC CFR 47 Part 90, RSS-119 Issue 12, RSS-Gen Issue 5 was used to reference the appropriate EUT setup for radiated spurious emissions testing

1.7. Measurement results explanation example

For all conducted test items :

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 0.76 + 20.00 = 20.76 \text{ (dB)}\end{aligned}$$

1.8. Measurement Uncertainty

Test Item		Uncertainty
Uncertainty for Conduction emission test		2.22 dB (SHIELD ROOM #6)
Uncertainty for Radiation emission test (include Fundamental emission)	Below 1 GHz	4.04 dB (SAC #6)
	Above 1 GHz	5.32 dB (SAC #5)
Note. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.		



2. Summary of tests

Section in FCC Part 90 & Part 15	Section in RSS-119 & Gen	Parameter	Test results
90.205	RSS-119 5.4	RF output power	Pass
90.209	RSS-Gen 4.6.1, 4.6.3	Bandwidth limitation	Pass
90.210(d)	RSS-119 5.8.3	Emission mask	Pass
90.210(d)	RSS-119 5.8.3	Conducted spurious emissions	Pass
90.213	RSS-119 5.8.3	Frequency stability	Pass
90.214	RSS-119 5.9	Transient frequency behavior	Pass
90.210(d)	RSS-119 5.8.3	Radiated spurious emissions	Pass
15.207(a)	RSS-Gen 8.8	AC Conducted emissions	Pass

***N/T** is **Not Tested**.

**3. Test results****3.1 RF output power****Test setup****Test procedure**

1. The transmitter output was connected to the spectrum analyzer through an attenuator
2. Use the following spectrum analyzer setting

Span = 2 MHz
 RBW = 100 kHz
 VBW = 100 kHz ($\geq$ RBW)
 Sweep = auto
 Detector function = peak
 Trace = max hold

Limit

According to FCC 90.205(h) 450 ~ 470 MHz. (1) The maximum allowable station effective radiated power (ERP) is dependent upon the station's antenna HAAT and required service area and will be authorized in accordance with table 2. Applicants requesting an ERP in excess of that listed in table 2 must submit an engineering analysis based upon generally accepted engineering practices and standards that includes coverage contours to demonstrate that the requested station parameters will not produce coverage in excess of that which the applicant requires.

Table 2. 450 ~ 470 MHz—Maximum ERP/Reference HAAT for a Specific Service Area Radius

	Service area radius (km)									
	3	8	13	16	24	32	40 ⁴	48 ⁴	64 ⁴	80 ⁴
Maximum ERP (W) ¹	2	100	² 500	² 500	² 500	² 500	² 500	² 500	² 500	² 500
Up to reference HAAT (m) ³	15	15	15	27	63	125	250	410	950	2700

¹Maximum ERP indicated provides for a 39 dBu signal strength at the edge of the service area per FCC Report R-6602, Fig. 29 (See §73.699, Fig. 10 b).

²Maximum ERP of 500 watts allowed. Signal strength at the service area contour may be less than 39 dBu.

³When the actual antenna HAAT is greater than the reference HAAT, the allowable ERP will be reduced in accordance with the following equation: $ERP_{allow} = ERP_{max} \times (HAAT_{ref}/HAAT_{actual})^2$.

⁴Applications for this service area radius may be granted upon specific request with justification and must include a technical demonstration that the signal strength at the edge of the service area does not exceed 39 dBu.

**RSS-119 5.4**

The output power shall be within ± 1 dB of the manufacturer's rated power listed in the equipment specifications.

The transmitter output power limits set forth in Table 2 will come into force upon the publication of Issue 12 of this standard and will apply to newly certified equipment.

Table 2 – Transmitter Output Power

Frequency Bands (MHz)	Transmitter Output Power (W)	
Base/Fixed Equipment	Mobile Equipment	
27.41-28 and 29.7-50	300	30
72-76	No limit	1
138-174	110	60
217-218 and 219-220	110	30*
220-222	See SRSP-512 for ERP limit	50
406.1-430 and 450-470	110	60
768-776 and 798-806	See SRSP-511 for ERP limit	30 3 W ERP for portable equipment
806-821/851-866 and 821-824/866-869	110	30
896-901/935-940	110	60
929-930/931-932	110	30
928-929/952-953 and 932-932.5/941-941.5	110	30
932.5-935/941.5-944	110	30

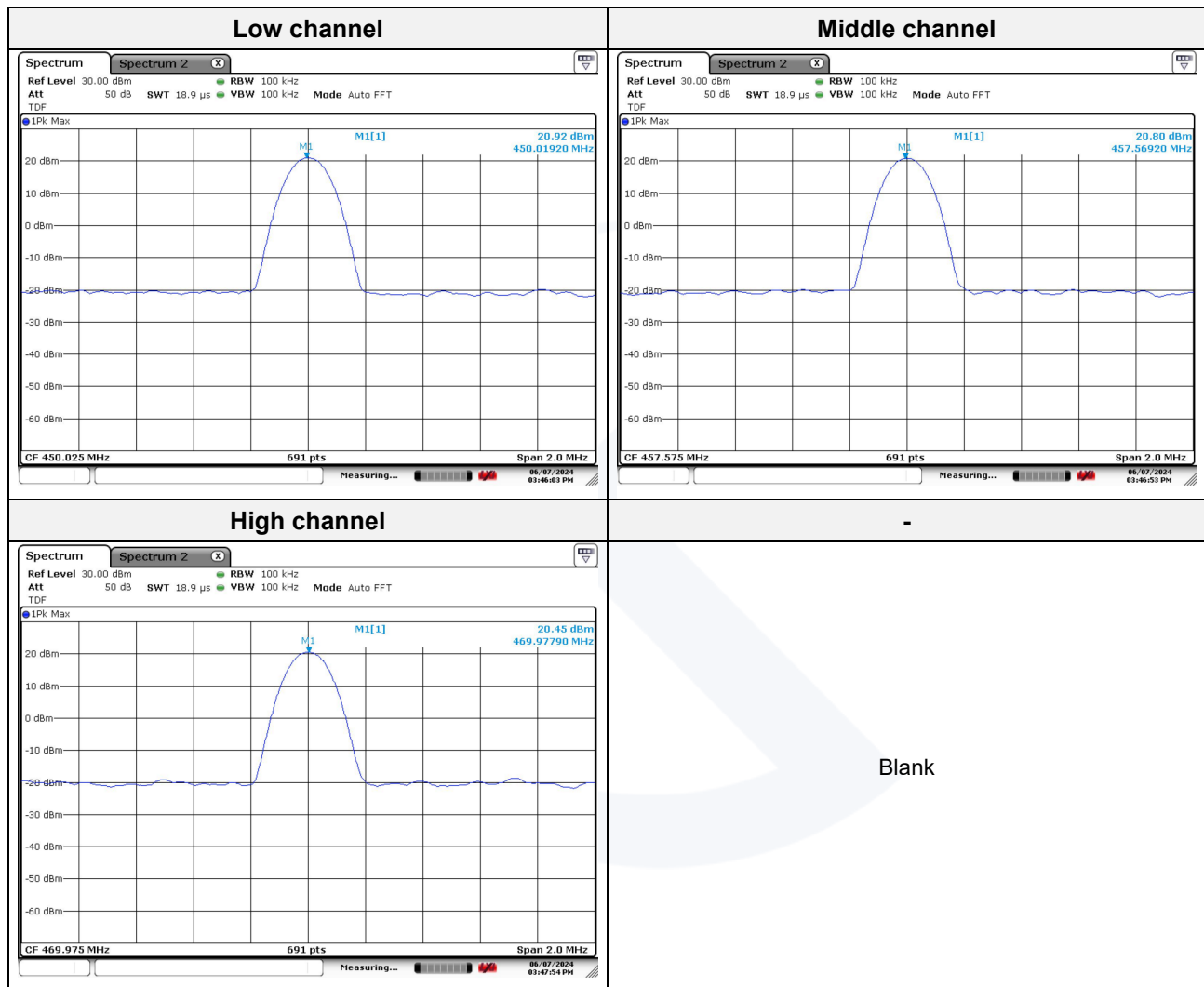
*Equipment is generally authorized for effective radiated power (ERP) of less than 5 W.



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Frequency (MHz)	Average Output power(dBm)	Peak Output power(dBm)	Peak Output power(W)	Rated power(dBm)
450.025	20.87	20.92	0.122	20.0
457.575	20.70	20.80	0.117	
469.975	20.39	20.45	0.109	

Test results





3.2 Bandwidth limitation

Test setup



Test procedure

1. The transmitter output was connected to the spectrum analyzer through an attenuator
2. Use the following spectrum analyzer setting
 - Span = 50 kHz
 - RBW = 300 Hz
 - VBW = 300 Hz ($\geq$ RBW)
 - Sweep = auto
 - Detector function = peak
 - Trace = max hold
3. Mark the peak frequency and -20 dB(upper and lower) frequency.

Limit

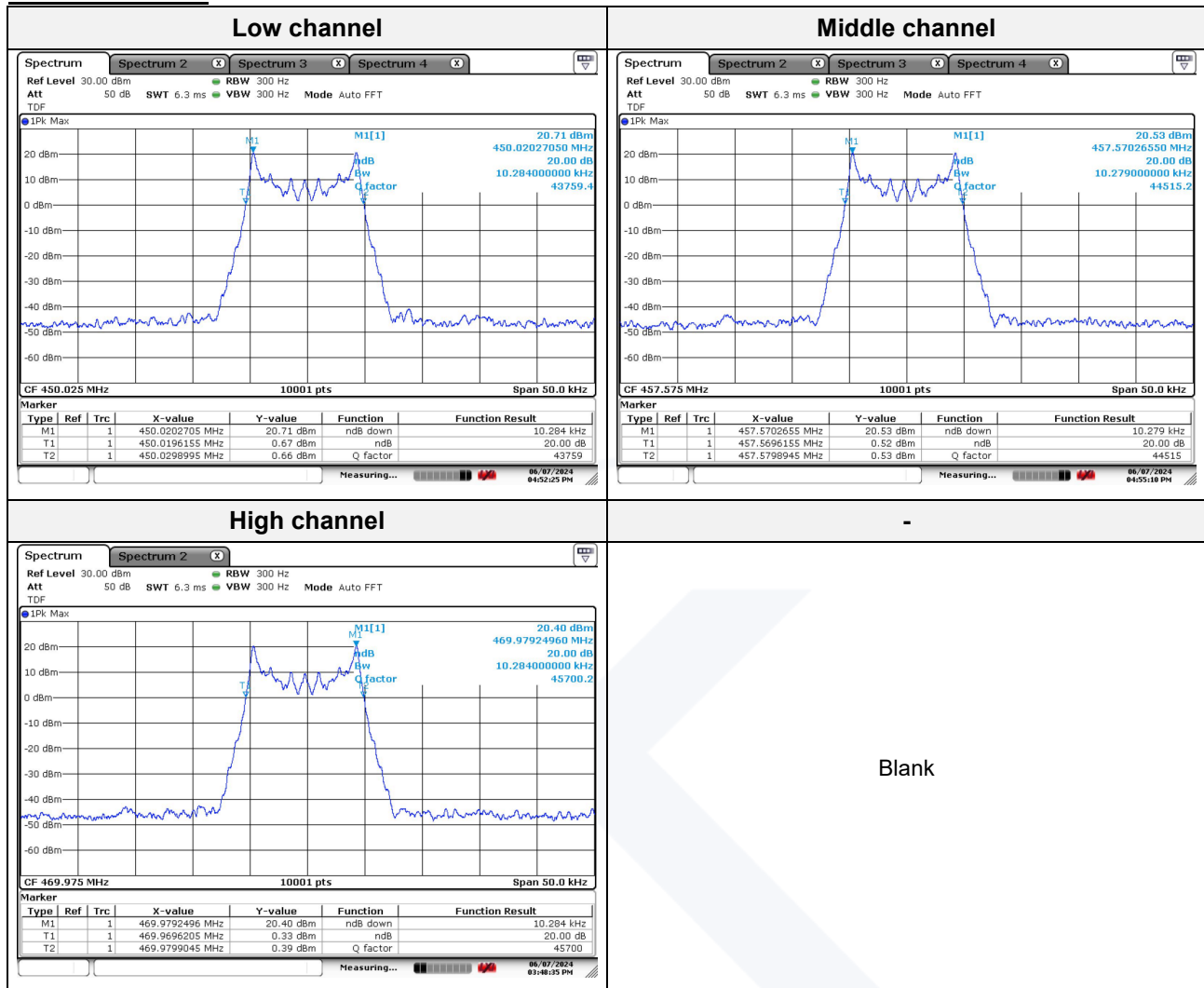
N/A



Test results

Frequency(MHz)	20 dB bandwidth (kHz)	OBW (kHz)
450.025	10.28	9.86
457.575	10.28	9.86
469.975	10.28	9.86



**20 dB bandwidth**



OBW

