

FCC REPORT

(CDMA)

Applicant: Shenzhen Coosea Group Company Limited

Address of Applicant: Room B, 18th Floor, Building A, Fintech Building, No.11 Keyuan Road, Yuehai Street, Nanshan District, Shenzhen, China.

Equipment Under Test (EUT)

Product Name: Mobile phone

Model No.: ZEEKER P10

Trade mark: ZEEKER

FCC ID: 2A2GN-P10

Applicable standards: FCC CFR Title 47 Part 22 Subpart H
FCC CFR Title 47 Part 24 Subpart E
FCC CFR Title 47 Part 90 Subpart S

Date of sample receipt: 27 Aug., 2021

Date of Test: 28 Aug., to 16 Sep., 2021

Date of report issued: 18 Sep., 2021

Test Result: PASS*

Authorized Signature:



Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

* In the configuration tested, the EUT complied with the standards specified above.

2. Version

Version No.	Date	Description
00	18 Sep., 2021	Original

Prepared by:

Mike Ou

Report Clerk

Date:

18 Sep., 2021

Reviewed by:

Winner Zhang

Project Engineer

Date:

18 Sep., 2021

3. Contents

Page

1.	COVER PAGE.....	1
2.	VERSION.....	2
3.	CONTENTS.....	3
4.	TEST SUMMARY.....	4
5.	GENERAL INFORMATION.....	5
5.1	CLIENT INFORMATION.....	5
5.2	GENERAL DESCRIPTION OF E.U.T.....	5
5.3	TEST ENVIRONMENT AND MODE, AND TEST SAMPLES PLANS.....	7
5.4	DESCRIPTION OF SUPPORT UNITS.....	7
5.5	MEASUREMENT UNCERTAINTY.....	7
5.6	ADDITIONS TO, DEVIATIONS, OR EXCLUSIONS FROM THE METHOD.....	7
5.7	LABORATORY FACILITY.....	8
5.8	LABORATORY LOCATION.....	8
5.9	TEST INSTRUMENTS LIST.....	8
6.	TEST RESULTS.....	9
6.1	CONDUCTED OUTPUT POWER, ERP AND EIRP.....	9
6.2	PEAK-TO-AVERAGE RATIO.....	11
6.3	OCCUPY BANDWIDTH.....	13
6.4	MODULATION CHARACTERISTIC.....	17
6.5	OUT OF BAND EMISSION AT ANTENNA TERMINALS.....	17
6.6	FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT.....	22
6.7	FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT.....	26
6.8	FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT.....	29
7	TEST SETUP PHOTO.....	31
8	EUT CONSTRUCTIONAL DETAILS.....	32

4. Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Passed* (Please refer to SAR Report)
RF Output Power	Part 2.1046 Part 22.913 (a)(5) Part 24.232 (c) Part 90.635(b)	Pass
Peak-to-Average Ratio	Part 24.232(d) Part 22.913 (d)	Pass
Modulation Characteristics	Part 2.1047	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917 Part 24.238	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 22.917 (a) Part 24.238 (a) Part 90.691(a)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 22.917 (a) Part 24.238 (a)	Pass
Out of band emission, Band Edge	Part 22.917 (a) Part 24.238 (a) Part 90.691(a)	Pass
Frequency stability vs. temperature	Part 22.355 Part 24.235 Part 90.213(a) Part 2.1055(a)(1)(b)	Pass
Frequency stability vs. voltage	Part 22.355 Part 24.235 Part 90.213(a) Part 2.1055(d) (2)	Pass
<p>Remark:</p> <ol style="list-style-type: none"> 1. Pass: The EUT complies with the essential requirements in the standard. 2. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer). 		
Test Method:	ANSI/TIA-603-E-2016 ANSI C63.26-2015	

5. General Information

5.1 Client Information

Applicant:	Shenzhen Coosea Group Company Limited
Address of Applicant:	Room B, 18th Floor, Building A, Fintech Building, No.11 Keyuan Road, Yuehai Street, Nanshan District, Shenzhen, China.
Manufacturer :	Sichuan Koobee Communication Equipment Co., Ltd.
Address of Manufacturer:	3 Floor, Building 2, 69 Gangyuan Road West Section, Lingang Development Zone, Yibin City, Sichuan Province
Factory:	Sichuan Koobee Communication Equipment Co., Ltd.
Address of Factory:	3 Floor, Building 2, 69 Gangyuan Road West Section, Lingang Development Zone, Yibin City, Sichuan Province

5.2 General Description of E.U.T.

Product Name:	Mobile phone
Model No.:	ZEEKER P10
Operation Frequency range:	BC 0: 824.70MHz-848.31MHz BC 1: 1851.25MHz-1908.75MHz BC 10: 817.90MHz-823.10MHz
Modulation type:	1×RTT: BPSK, QPSK, OQPSK, HPSK
Antenna type:	Internal Antenna
Antenna gain:	BC 0: -2.1 dBi BC 1: -1.7 dBi BC 10: -2.1 dBi
Power supply:	Rechargeable Li-ion Polymer Battery DC3.85V, 5900mAh
AC adapter:	Model: UF22P03 Input: AC100-240V, 50/60Hz, 0.5A Output: 5.0V \equiv 3.0A, or 9.0V \equiv 2.0A, or 12.0V \equiv 1.5A
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

Operation Frequency List: 9

BC 0		BC 1	
Channel:	Frequency (MHz)	Channel:	Frequency (MHz)
1013	824.70	25	1851.25
1014	824.73	26	1851.28
....
383	836.49	599	1879.97
384	836.52	600	1880
385	836.55	601	1880.03
...
776	848.28	1174	1908.72
777	848.31	1175	1908.75

BC 10	
Channel:	Frequency (MHz)
476	817.90
477	824.93
....
579	820.47
580	820.50
581	820.53
...	...
683	823.07
684	823.10

Regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

BC 0			BC 1		
Channel No.	Frequency(MHz)		Channel No.	Frequency(MHz)	
Lowest channel	1013	824.70	Lowest channel	25	1851.25
Middle channel	384	836.52	Middle channel	600	1880.00
Highest channel	777	848.31	Highest channel	1175	1908.75

BC 10		
Channel No.	Frequency(MHz)	
Lowest channel	476	817.90
Middle channel	580	820.50
Highest channel	684	823.10

5.3 Test environment and mode, and test samples plans

Operating Environment:	
Temperature:	Normal: 15°C ~ 35°C, Extreme: -30°C ~ +50°C
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1008 mbar
Voltage:	Nominal: 3.85Vdc, Extreme: Low 3.50 Vdc, High 4.40 Vdc
Test mode:	
Communicate mode (BC 0 1xRTT)	Keep the EUT in communicating mode on BC 0 (RC3~RC5).
Communicate mode (BC 1 1xRTT)	Keep the EUT in communicating mode on BC 1(RC3~RC5).
Communicate mode (BC 10 1xRTT)	Keep the EUT in communicating mode on BC 1(RC3~RC5).
Remark: 1. Pre-scan all test modes, and found the RC3, SO55 for Cell band, RC3 and SO2 for PCS band were the worst case. 2. The EUT has been tested under continuous transmitting mode. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing. The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for these modes with power adaptor, earphone and Data cable. Just the worst case position (H mode) shown in report.	

5.4 Description of Support Units

Test Equipment	Manufacturer	Model No.	Serial No.
Simulated Station	Anritsu	MT8820C	6201026545

5.5 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%)
Radiated Emission (30MHz ~ 1GHz) for 3m SAC	4.45 dB
Radiated Emission (1GHz ~ 18GHz) for 3m SAC	5.34 dB
Radiated Emission (18GHz ~ 40GHz) for 3m SAC	5.34 dB

5.6 Additions to, deviations, or exclusions from the method

No

5.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Designation No.: CN1211**
JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.
- **ISED – CAB identifier.: CN0021**
The 3m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.
- **A2LA - Registration No.: 4346.01**
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

5.8 Laboratory Location

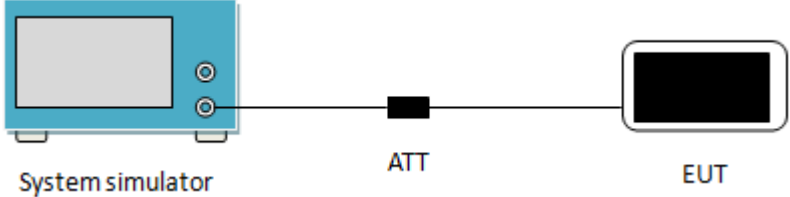
JianYan Testing Group Shenzhen Co., Ltd.
 Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.
 Tel: +86-755-23118282, Fax: +86-755-23116366
 Email: info-JYTee@lets.com, Website: <http://www.ccis-cb.com>

5.9 Test Instruments list

Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
3m SAC	ETS	RFD-100	Q1984	04-14-2021	04-13-2024
BiConiLog Antenna	SCHWARZBECK	VULB9163	9163-1246	03-07-2021	03-06-2022
Biconical Antenna	SCHWARZBECK	VUBA 9117	9117#359	06-17-2021	06-17-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	912D-916	03-07-2021	03-06-2022
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9170	1067	04-02-2021	04-01-2022
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9170	1068	04-02-2021	04-01-2022
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-03-2021	03-02-2022
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-03-2021	03-02-2022
Spectrum analyzer	Keysight	N9010B	MY60240202	11-27-2020	11-26-2021
Simulated Station	Rohde & Schwarz	CMW500	140493	07-16-2021	07-15-2022
Low Pre-amplifier	SCHWARZBECK	BBV9743B	00305	03-07-2021	03-06-2022
High Pre-amplifier	SKET	LNPA_0118G-50	MF280208233	03-07-2021	03-06-2022
Cable	Qualwave	JYT3M-1G-NN-8M	JYT3M-1	03-07-2021	03-06-2022
Cable	Qualwave	JYT3M-18G-NN-8M	JYT3M-2	03-07-2021	03-06-2022
Cable	Qualwave	JYT3M-1G-BB-5M	JYT3M-3	03-07-2021	03-06-2022
Cable	Bost	JYT3M-40G-SS-8M	JYT3M-4	04-02-2021	04-01-2022
Temperature Humidity Chamber	HengPu	HPGDS-500	20140828008	11-01-2020	10-31-2021
EMI Test Software	Tonscend	TS+	Version:3.0.0.1		

6. Test results

6.1 Conducted Output Power, ERP and EIRP

Test Requirement:	FCC part 22.913(a)(2), FCC part 24.232(c), FCC part 27.50(d)(4), FCC Part 90.635(b)
Limit:	BC 0: 7W BC 1: 2W BC 10: 100W
Test setup:	 <p>The diagram shows a blue 'System simulator' box on the left, connected by a line to a black 'ATT' (attenuator) block in the center, which is then connected to a black 'EUT' (Equipment Under Test) box on the right.</p>
Test Procedure:	The transmitter output was connected to a calibrated attenuator, the other end of which was connected to the simulated station. Transmitter output power was read off in dBm.
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

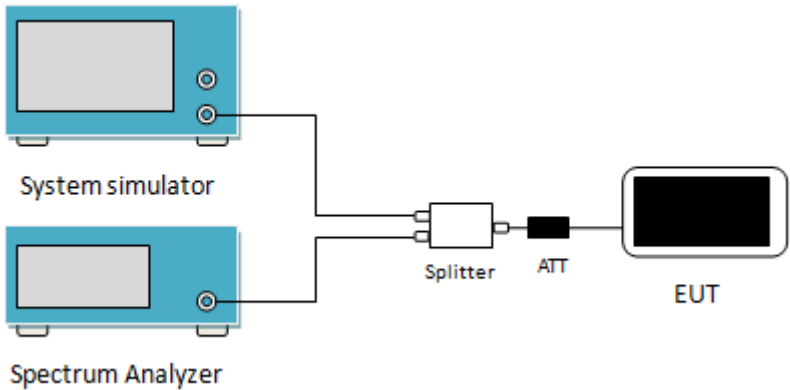
Measurement Data:

RF OUTPUT POWER FOR 1xRTT:

EUT Mode	Radio Configuration (RC)	Service Option (SO)	Conducted Output Power(dBm)			Antenna Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			Ch.1013	Ch.384	Ch.777			
			824.70MHz	836.52MHz	848.31MHz			
BC 0	RC1	2(Loopback)	23.24	23.37	24.77	-2.1	20.52	38.45
		55(Loopback)	23.22	23.27	24.58			
	RC2	9(Loopback)	23.16	23.05	23.51	-2.1	19.80	
		55(Loopback)	23.21	23.07	24.05			
	RC3	2(Loopback)	23.02	23.14	24.52	-2.1	20.33	
		55(Loopback)	23.05	23.16	24.26			
		32(+F-SCH)	23.20	23.34	24.58			
	RC3	32(+SCH)	22.98	23.04	24.16	-2.1	20.27	
		2(Loopback)	23.05	23.07	24.52			
		55(Loopback)	23.13	23.24	24.15			
	RC4	32(+F-SCH)	23.22	23.10	23.47	-2.1	19.79	
		32(+SCH)	22.89	23.14	23.98			
		9(Loopback)	23.11	23.07	23.89			
	RC5	55(Loopback)	23.02	23.21	24.04	-2.1	20.27	
		2(Loopback)	23.05	23.07	24.52			
EUT Mode	Radio Configuration (RC)	Service Option (SO)	Conducted Output Power(dBm)			Antenna Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			Ch.25	Ch.600	Ch.1175			
			1851.25MHz	1880MHz	1908.75MHz			
BC 1	RC1	2(Loopback)	26.27	26.99	27.14	-1.7	25.44	33.00
		55(Loopback)	25.89	26.41	26.92			
	RC2	9(Loopback)	26.03	23.58	26.88	-1.7	25.18	
		55(Loopback)	26.12	26.52	26.74			
	RC3	2(Loopback)	26.03	26.46	26.85	-1.7	25.38	
		55(Loopback)	26.14	26.55	26.79			
		32(+F-SCH)	26.08	26.84	27.08			
	RC3	32(+SCH)	26.16	26.84	27.02	-1.7	25.28	
		2(Loopback)	26.15	26.24	26.11			
		55(Loopback)	26.08	26.47	26.98			
	RC4	32(+F-SCH)	26.06	26.52	26.69	-1.7	25.27	
		32(+SCH)	26.21	26.47	26.85			
		9(Loopback)	26.06	26.88	26.97			
	RC5	55(Loopback)	26.11	26.74	26.93	-1.7	25.27	
		2(Loopback)	26.03	26.46	26.85			
EUT Mode	Radio Configuration (RC)	Service Option (SO)	Conducted Output Power(dBm)			Antenna Gain (dBi)	Max. ERP (dBm)	EIRP Limit (dBm)
			Ch.476	Ch.580	Ch.684			
			817.90MHz	820.50MHz	823.10MHz			
BC 10	RC1	2(Loopback)	24.64	25.29	25.70	-2.1	21.85	50.00
		55(Loopback)	24.52	25.10	25.54			
	RC2	9(Loopback)	24.43	25.13	25.41	-2.1	21.78	
		55(Loopback)	24.16	25.21	25.63			
	RC3	2(Loopback)	24.63	25.13	25.19	-2.1	21.76	
		55(Loopback)	24.41	25.09	25.51			
		32(+F-SCH)	24.32	25.23	25.44			
	RC3	32(+SCH)	24.11	25.11	25.61	-2.1	21.83	
		2(Loopback)	24.38	25.06	25.14			
		55(Loopback)	24.34	25.13	25.68			
	RC4	32(+F-SCH)	24.16	25.09	25.31	-2.1	21.64	
		32(+SCH)	24.22	25.07	25.22			
		9(Loopback)	24.18	25.16	25.49			
	RC5	55(Loopback)	24.30	25.07	25.48	-2.1	21.64	
		2(Loopback)	24.38	25.06	25.14			

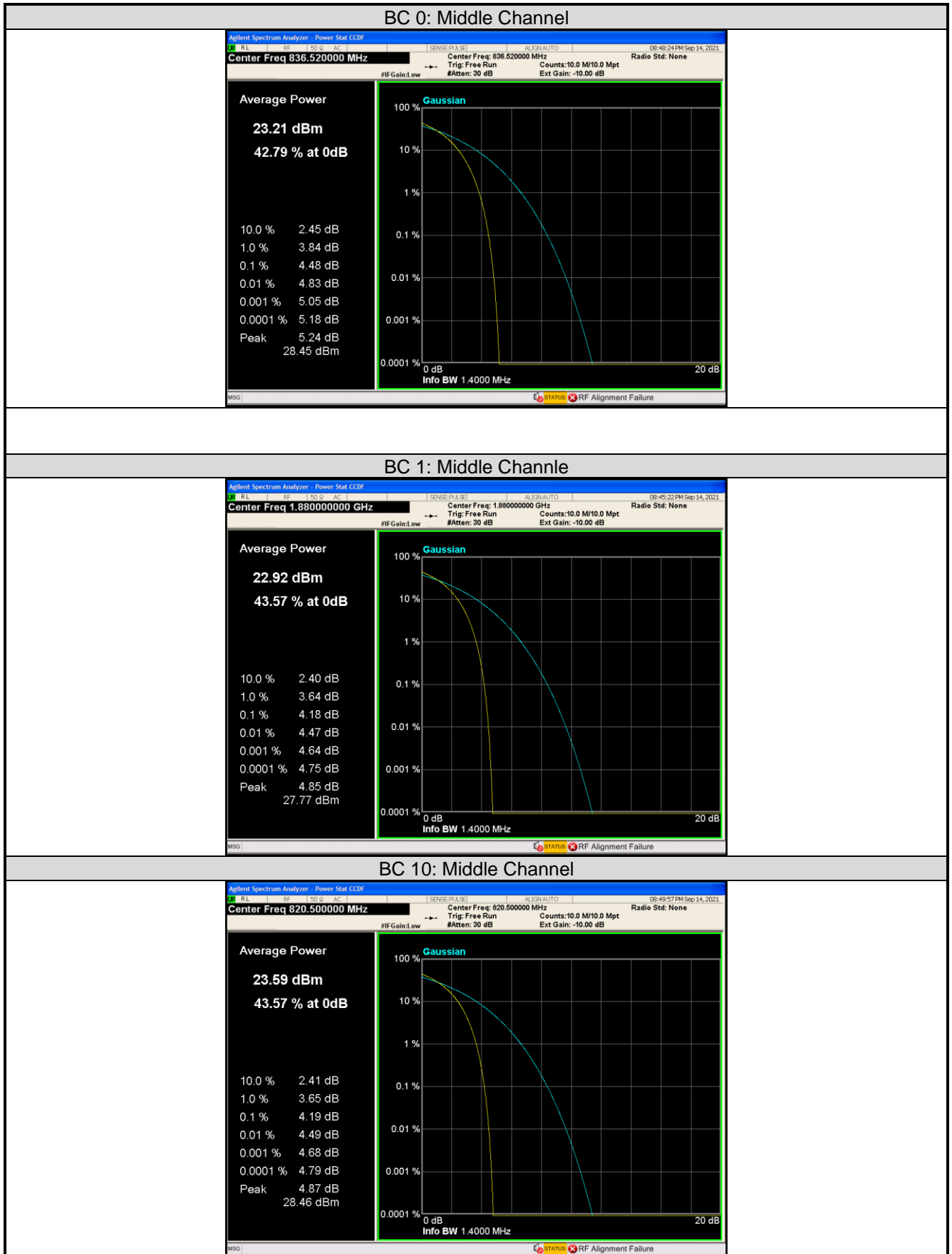
Note: EIRP (dBm) = Burst Average power (dBm) + Antenna Gain (dBi).
 ERP (dBm) = EIRP (dBm) - 2.15 (dB).

6.2 Peak-to-Average Ratio

Test Requirement:	FCC part 24.232(d), FCC part 22.913 (d)
Limit:	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
Test setup:	
Test Procedure:	<ol style="list-style-type: none"> 1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 Set the CCDF option in spectrum analyzer, $RBW \geq OBW$, 3 Set the EUT working in highest power level, measured and recorded the 0.1% as PAPR level. 4 Repeat step 1~3 at other frequency and modulations.
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Band Class	Test config.	Channel No.	PAPR	Result
Middle channel				
BC 0	1xRTT	384	4.48	Pass
Middle channel				
BC 1	1xRTT	600	4.18	Pass
Middle channel				
BC 10	1xRTT	580	4.19	Pass
<i>Note: Only the worst case mode was shown in report.</i>				

Test plots as below:



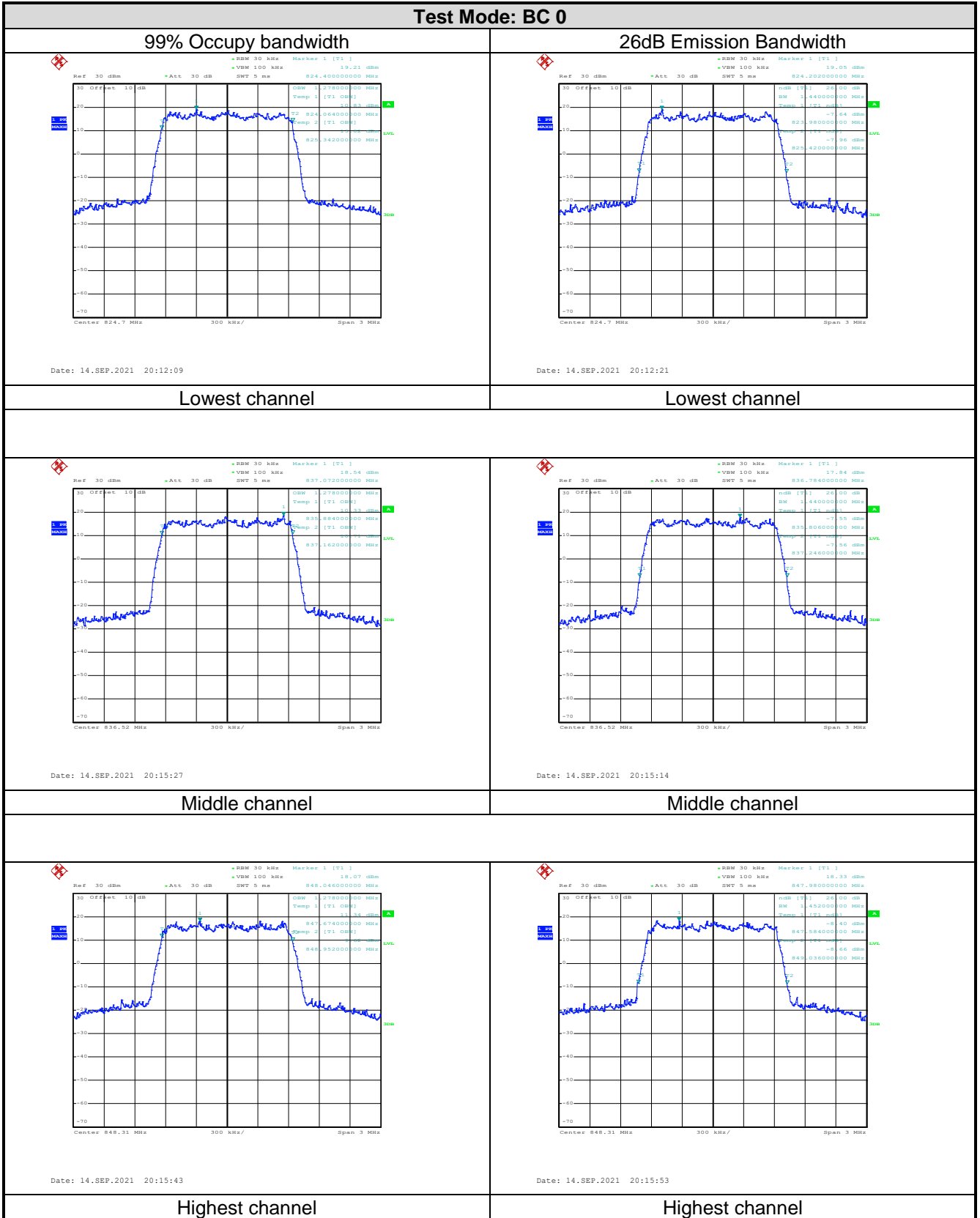
6.3 Occupy Bandwidth

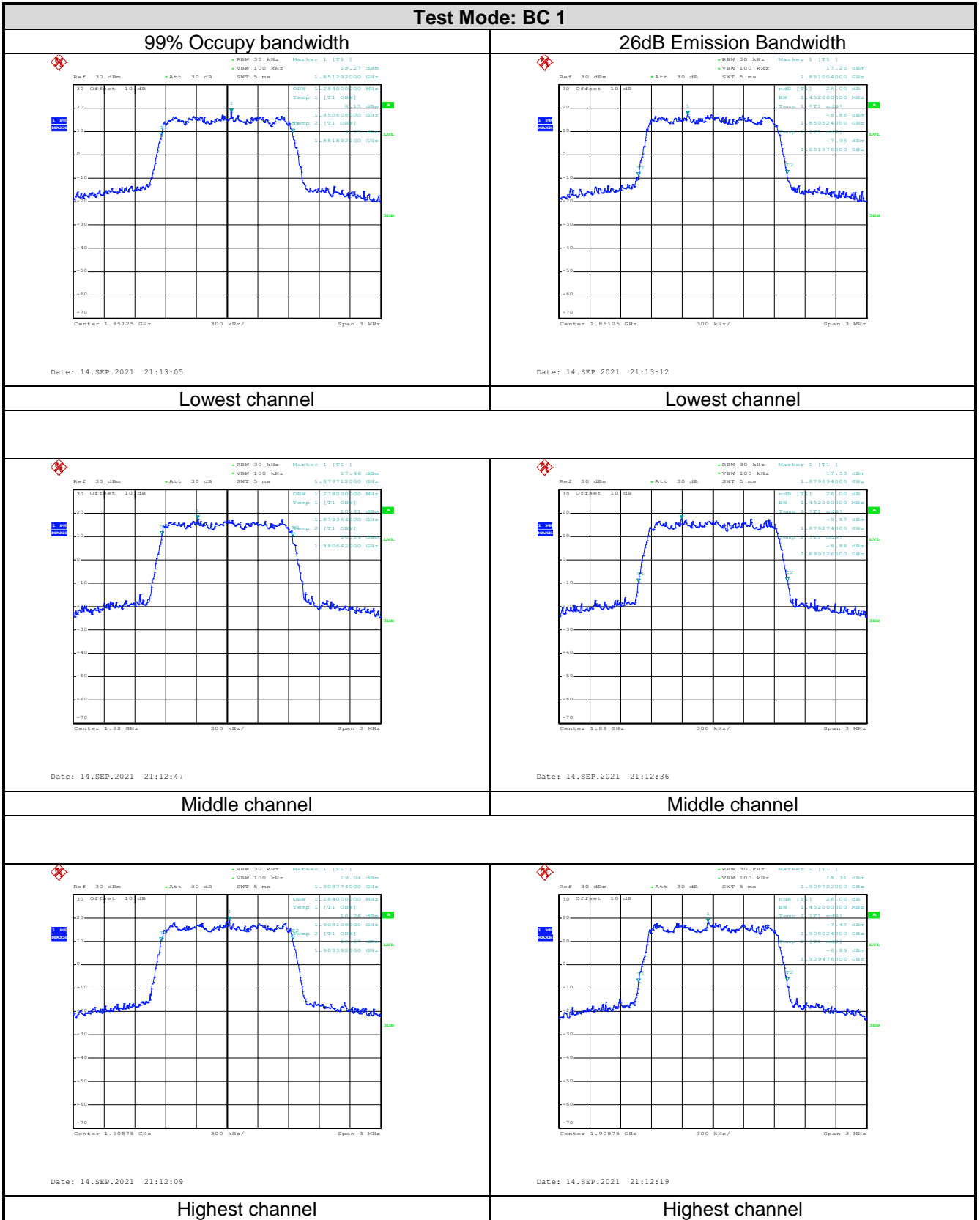
Test Requirement:	FCC part 22.917(b), FCC part 24.238(b)
Test setup:	<p>The diagram illustrates the test setup. A System simulator and a Spectrum Analyzer are connected to a Splitter. The Splitter is connected to an ATT (Attenuator), which is then connected to the EUT (Equipment Under Test).</p>
Test Procedure:	<ol style="list-style-type: none"> 1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer 2. RBW was set to about 1% of emission BW, VBW= 3 times RBW. 3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

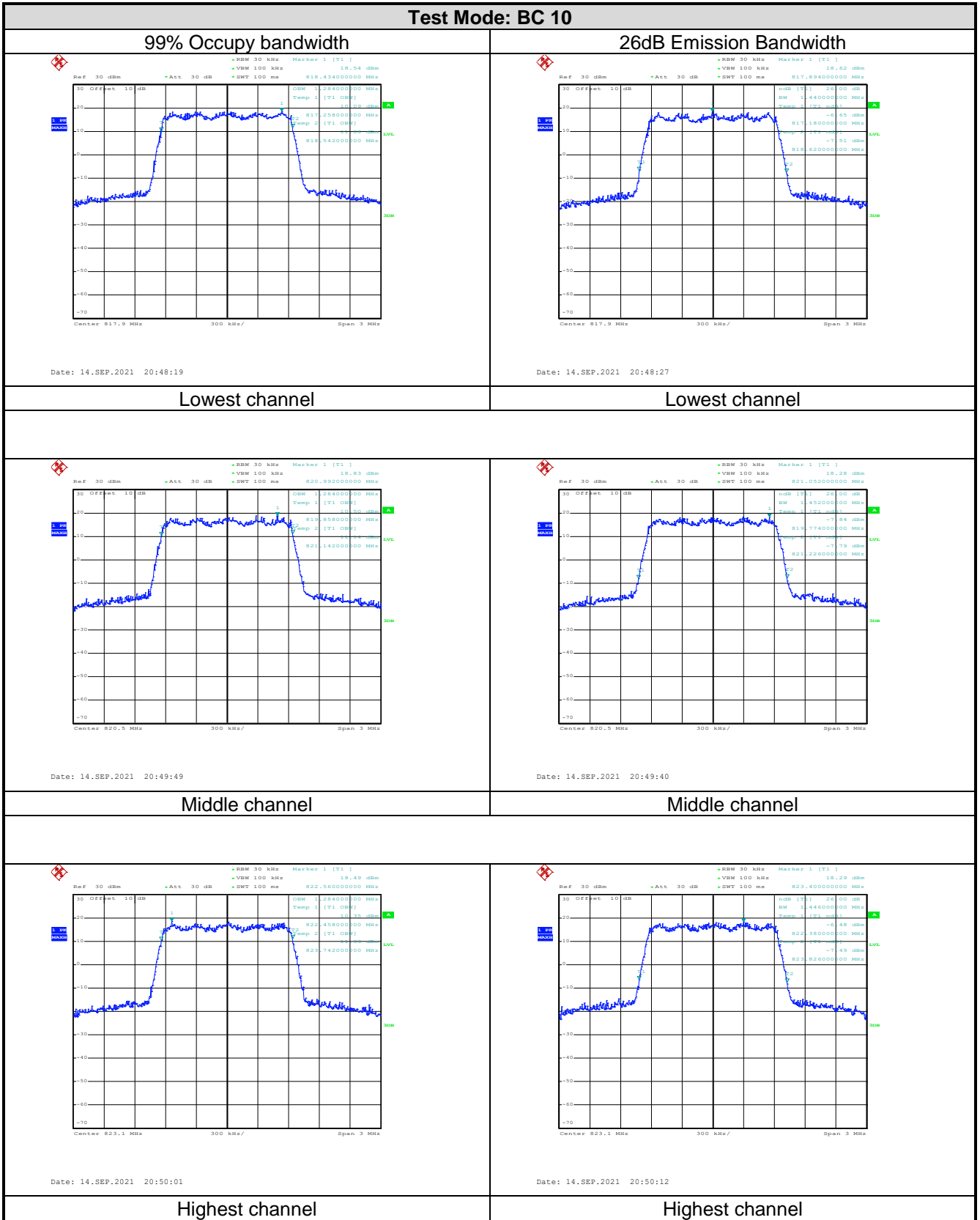
Measurement Data:

EUT Mode	Channel	Frequency (MHz)	99% Occupy bandwidth (kHz)	-26dB bandwidth (kHz)
BC 0	1013	824.70	1278	1440
	384	836.52	1278	1440
	777	848.31	1278	1452
BC 1	25	1851.25	1284	1452
	600	1880.00	1278	1452
	1175	1908.75	1284	1452
BC 10	476	817.90	1284	1440
	580	820.50	1284	1452
	684	823.10	1284	1446

Test plot as follows:



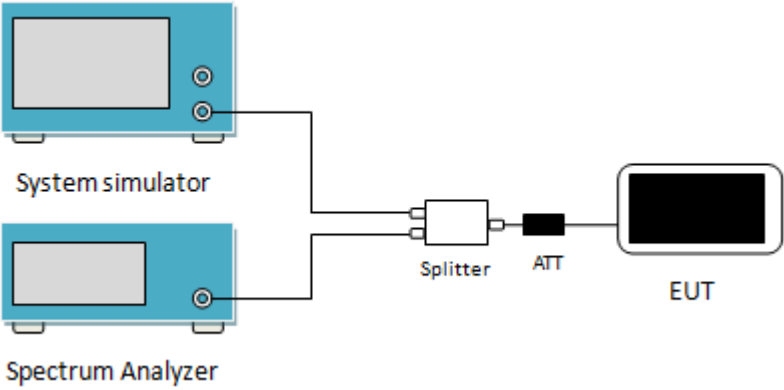




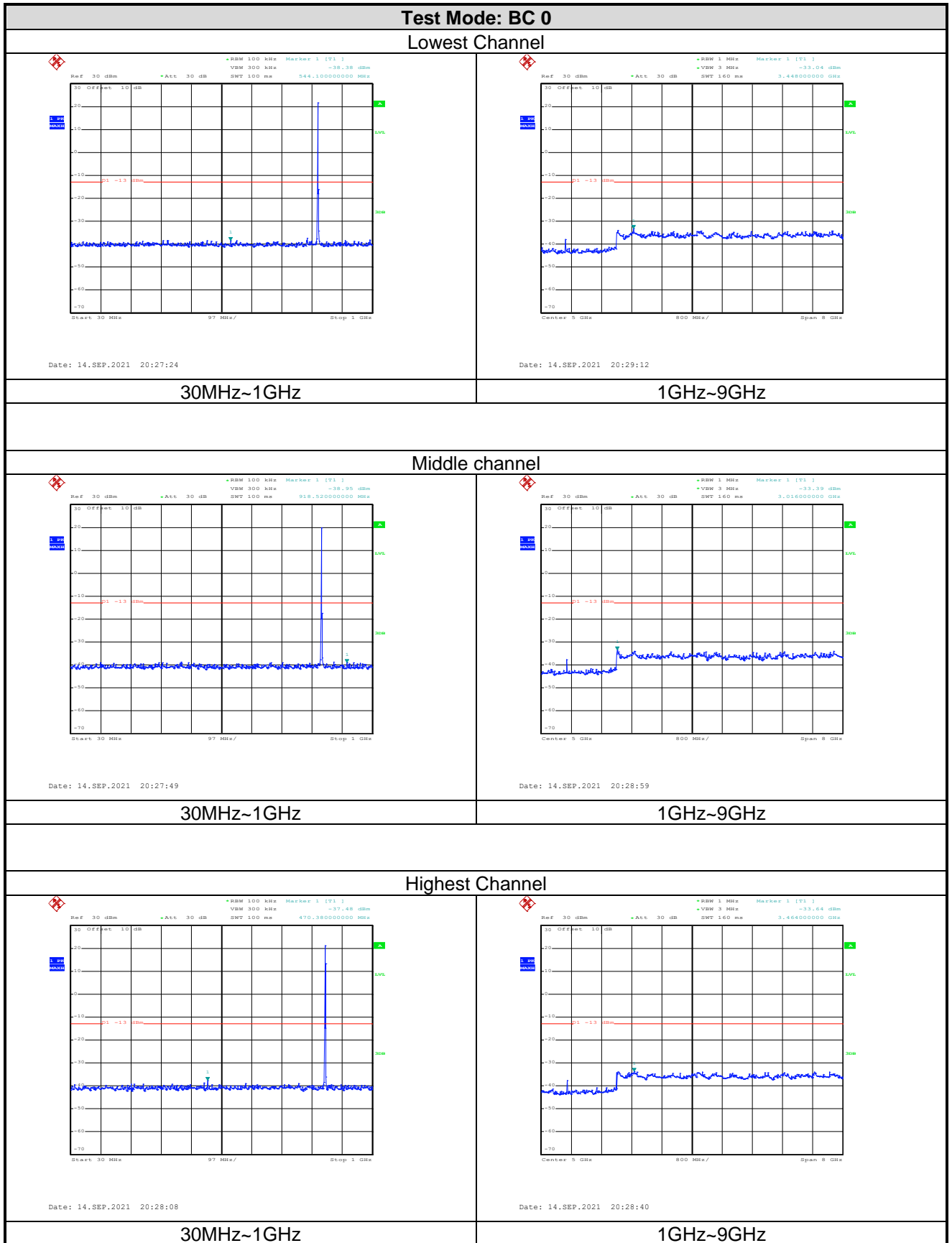
6.4 Modulation Characteristic

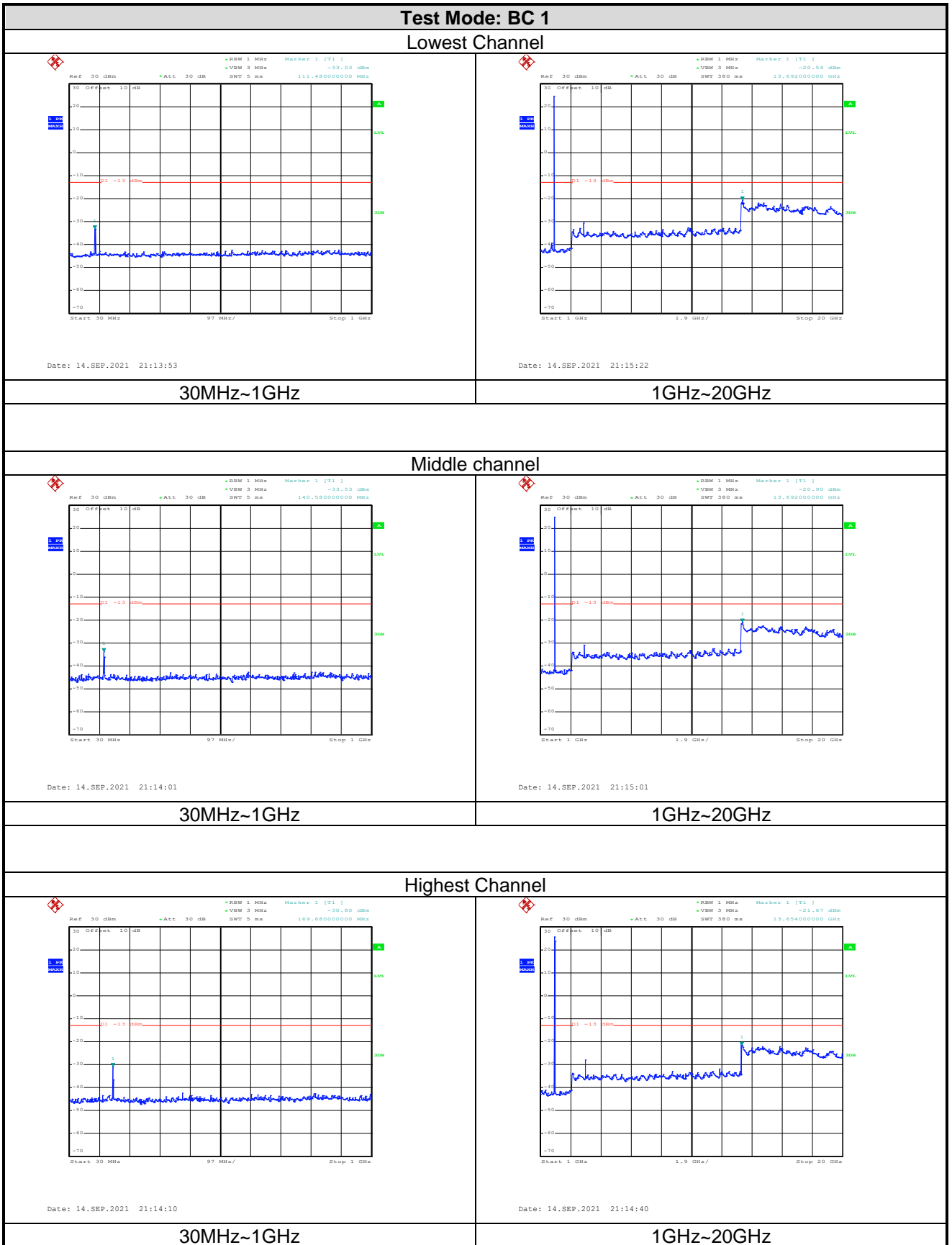
According to FCC § 2.1047(d), Part 22H & 24E & 27L there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

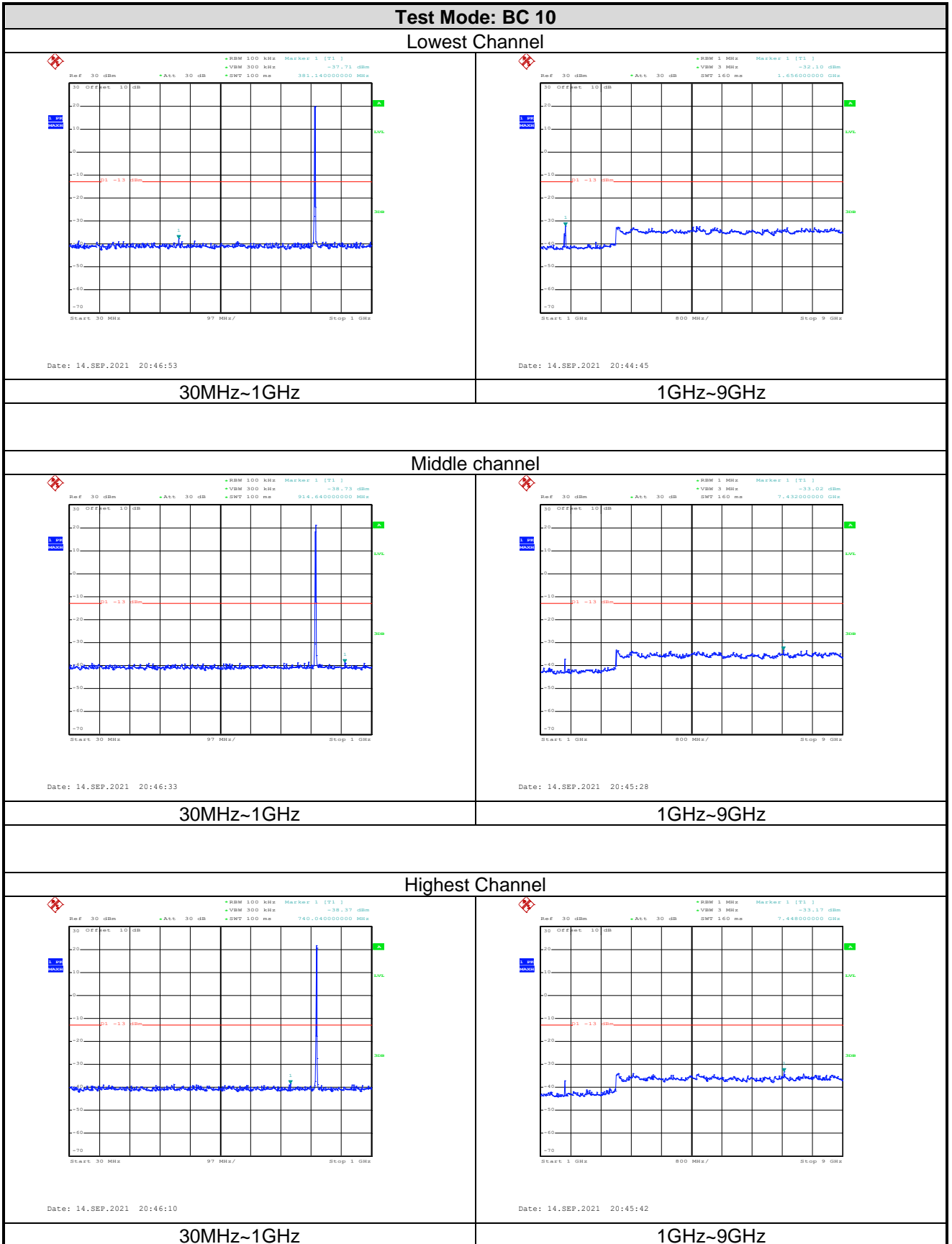
6.5 Out of band emission at antenna terminals

Test Requirement:	FCC part 22.917(a), FCC part 24.238(a), FCC part 90.691(a)
Limit:	-13dBm
Test setup:	 <p>The diagram illustrates the test setup for out-of-band emission measurement. It shows a 'System simulator' and a 'Spectrum Analyzer' connected to a 'Splitter'. The 'Splitter' is connected to an 'ATT' (attenuator), which is then connected to the 'EUT' (Equipment Under Test).</p>
Test Procedure:	<ol style="list-style-type: none"> 1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 The resolution bandwidth of the spectrum analyzer was set at 100 kHz when below 1GHz, 1MHz when above 1 GHz; sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic. 3 For the out of band: Set the RBW=100 kHz, VBW=300 kHz when below 1 GHz, RBW =1 MHz, VBW=3 MHz when above 1 GHz, Start=30MHz, Stop= 10th harmonic. 4 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

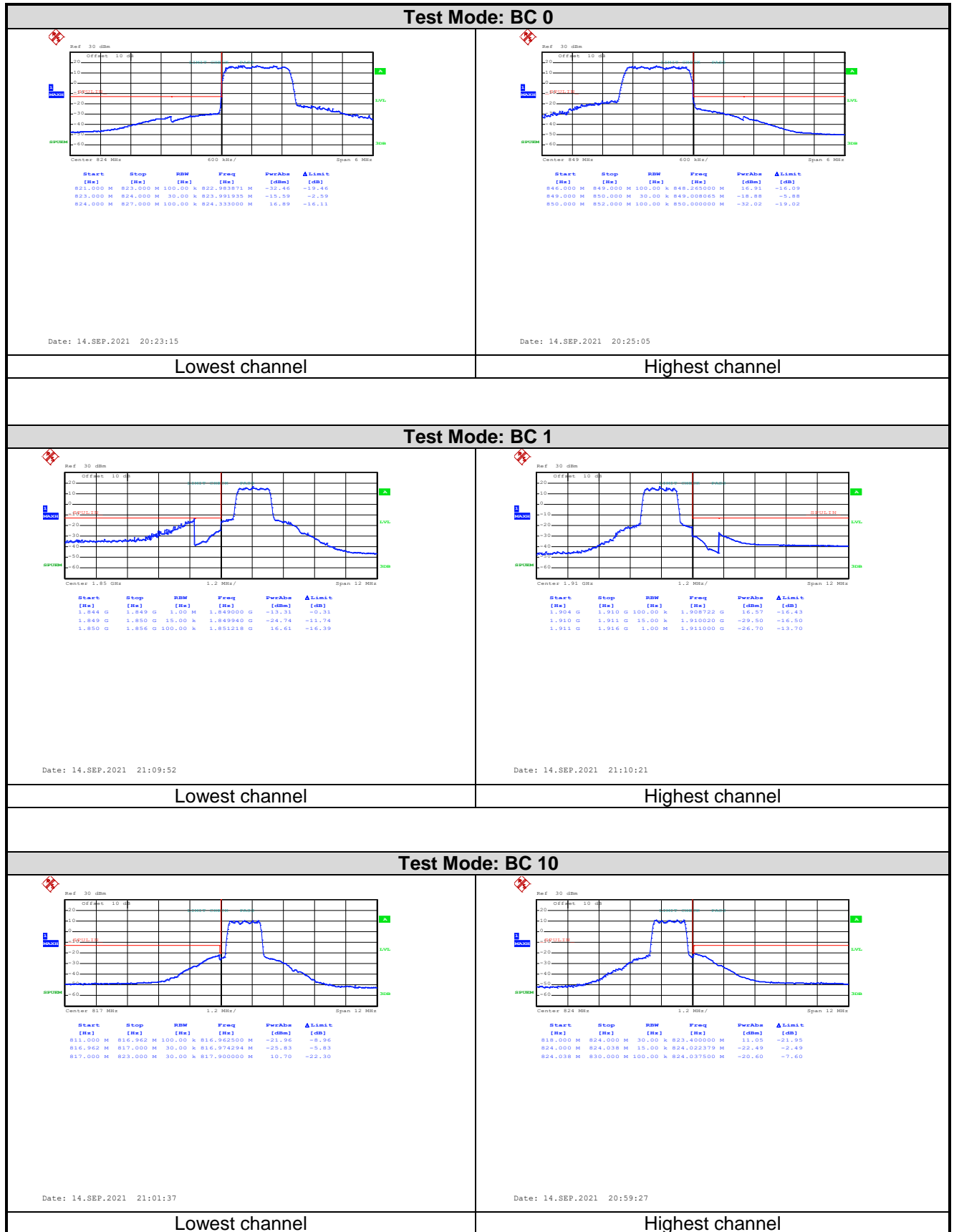
Test plots as follows (Spurious emission):







Band edge emission:



6.6 Field strength of spurious radiation measurement

Test Requirement:	FCC part 22.917(a), FCC part 24.238(a), FCC part 90.691(a)
Limit:	-13dBm
Test setup:	<p>Below 1GHz</p> <p>Above 1GHz</p>
Test Procedure:	<ol style="list-style-type: none"> 1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. $ERP / EIRP = S.G. \text{ output (dBm) + Antenna Gain(dB/dBi) - Cable Loss (dB)}$
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed

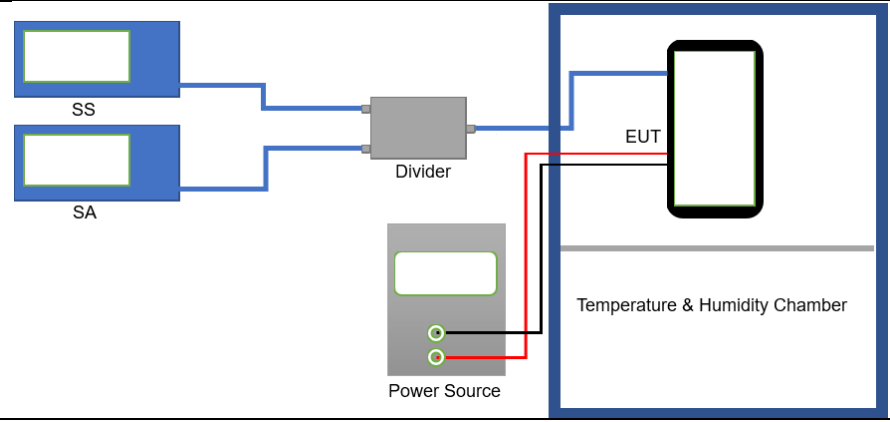
Measurement Data (worst case):

BC 0				
Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1649.40	Vertical	-28.87	-13.00	Pass
2474.10	V	-25.43		
3298.80	V	-51.08		
4123.50	V	-49.67		
1649.40	Horizontal	-29.96	-13.00	Pass
2474.10	H	-25.54		
3298.80	H	-50.64		
4123.50	H	-49.63		
Middle channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1673.04	Vertical	-29.45	-13.00	Pass
2509.56	V	-25.37		
3346.08	V	-50.37		
4182.60	V	-49.74		
1673.04	Horizontal	-29.50	-13.00	Pass
2509.56	H	-26.01		
3346.08	H	-50.60		
4182.60	H	-49.23		
Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1696.62	Vertical	-29.32	-13.00	Pass
2544.93	V	-25.21		
3393.24	V	-48.48		
4241.55	V	-48.64		
1696.62	Horizontal	-29.74	-13.00	Pass
2544.93	H	-25.42		
3393.24	H	-48.83		
4241.55	H	-49.98		
Remark:				
1. The emission levels of below 1 GHz are very lower than the limit and not show in test report.				

BC 1				
Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3702.50	Vertical	-49.86	-13.00	Pass
5553.75	V	-43.55		
7405.00	V	-39.25		
9256.25	V	-37.78		
3702.50	Horizontal	-49.90	-13.00	Pass
5553.75	H	-43.59		
7405.00	H	-40.20		
9256.25	H	-37.79		
Middle channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3760.00	Vertical	-51.18	-13.00	Pass
5640.00	V	-43.77		
7520.00	V	-42.28		
9400.00	V	-40.07		
3760.00	Horizontal	-51.17	-13.00	Pass
5640.00	H	-43.15		
7520.00	H	-41.97		
9400.00	H	-39.77		
Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3817.50	Vertical	-50.58	-13.00	Pass
5726.25	V	-42.51		
7635.00	V	-41.08		
9543.75	V	-38.97		
3817.50	Horizontal	-50.35	-13.00	Pass
5726.25	H	-43.18		
7635.00	H	-40.40		
9543.75	H	-38.19		
Remark:				
1. The emission levels of below 1 GHz are very lower than the limit and not show in test report.				

BC 10				
Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1635.80	Vertical	-57.53	-13.00	Pass
2453.70	V	-52.80		
3271.60	V	-49.86		
4089.50	V	-47.64		
1635.80	Horizontal	-56.64	-13.00	Pass
2453.70	H	-46.32		
3271.60	H	-49.74		
4089.50	H	-45.31		
Middle channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1641.00	Vertical	-57.28	-13.00	Pass
2461.50	V	-52.35		
3282.00	V	-49.63		
4102.50	V	-48.02		
1641.00	Horizontal	-56.20	-13.00	Pass
2461.50	H	-46.05		
3282.00	H	-49.93		
4102.50	H	-45.29		
Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1646.20	Vertical	-57.54	-13.00	Pass
2469.30	V	-52.70		
3292.40	V	-49.20		
4115.50	V	-48.18		
1646.20	Horizontal	-56.55	-13.00	Pass
2469.30	H	-45.58		
3292.40	H	-50.19		
4115.50	H	-45.34		
<i>Remark:</i>				
2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.				

6.7 Frequency stability V.S. Temperature measurement

Test Requirement:	FCC Part 22.355, FCC Part 24.235, FCC Part 90.213(a), FCC Part 2.1055(a)(1)(b)
Limit:	±2.5 ppm for BC0 and BC10 Within authorized band for BC1
Test setup:	
Test procedure:	<ol style="list-style-type: none"> 1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25 °C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to -30 °C . After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10 °C increased per stage until the highest temperature of +50 °C reached
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

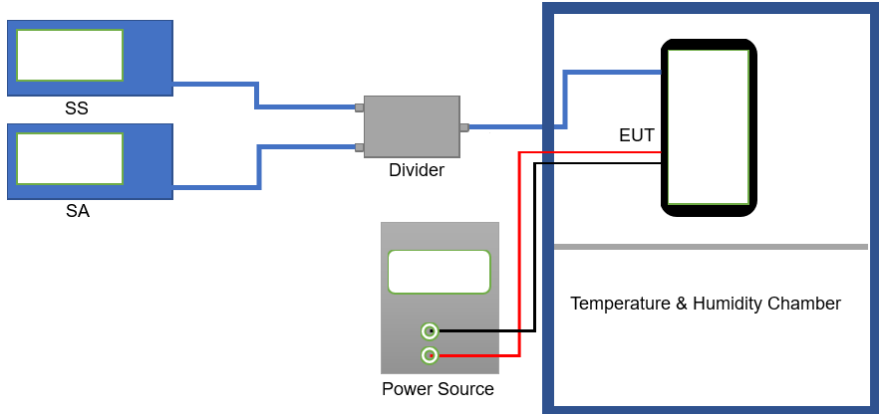
Measurement Data (the worst channel):

Reference Frequency: BC 0 Middle channel=384 channel=836.52MHz					
Power supplied (Vac)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
120	-30	168	0.200832	±2.5	Pass
	-20	159	0.189846		
	-10	146	0.174116		
	0	137	0.163188		
	10	123	0.146338		
	20	116	0.137846		
	30	107	0.127000		
	40	152	0.180197		
	50	130	0.153934		
Reference Frequency: BC1 Middle channel=600 channel=1880MHz					
Power supplied (Vac)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
120	-30	170	0.090426	±2.5	Pass
	-20	161	0.085638		
	-10	148	0.078723		
	0	136	0.072340		
	10	154	0.081915		
	20	128	0.068085		
	30	113	0.060106		
	40	142	0.075532		
	50	120	0.063830		
Reference Frequency: BC 10 Middle channel=384 channel=836.52MHz					
Power supplied (Vac)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
120	-30	168	0.200832	±2.5	Pass
	-20	159	0.189846		
	-10	146	0.174116		
	0	137	0.163188		
	10	123	0.146338		
	20	116	0.137846		
	30	107	0.127000		
	40	152	0.180197		
	50	130	0.153934		
Reference Frequency: BC1 Middle channel=580 channel=820.50MHz					
Power supplied (Vac)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
120	-30	171	0.208410	±2.5	Pass
	-20	149	0.181597		

	-10	163	0.198659		
	0	153	0.186472		
	10	131	0.159659		
	20	126	0.153565		
	30	140	0.170628		
	40	118	0.143815		
	50	107	0.130408		

Note: Only the worst case shown in the report.

6.8 Frequency stability V.S. Voltage measurement

Test Requirement:	FCC Part 22.355, FCC Part 24.235, FCC Part 90.213(a), FCC Part 2.1055(a)(1)(b)
Limit:	±2.5 ppm for BC0 and BC10 Within authorized band for BC1
Test setup:	
Test procedure:	<ol style="list-style-type: none"> 1. Set chamber temperature to 25 °C . Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (the worst channel):

Reference Frequency: BC 0 Middle channel=384 channel=836.52MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	80	0.095634	±2.5	Pass
	3.80	76	0.090744		
	3.55	50	0.059629		
Reference Frequency: BC 1 Middle channel=600 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	87	0.046277	±2.5	Pass
	3.80	73	0.038830		
	3.55	62	0.032979		
Reference Frequency: BC 10 Middle channel=580 channel=820.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	88	0.107252	±2.5	Pass
	3.80	77	0.093845		
	3.55	66	0.080439		
<i>Note: Only the worst case shown in the report.</i>					

8 EUT Constructional Details

Reference to the test report No. JYTSZB-R12-2101653.

-----End of report-----