Annex FREQUENCY STABILITY

9.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/-0.02% of the operating frequency over a temperature variation of -30 degrees to 50 degrees C at normal supply voltage,and for a variation in primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees.

9.2 TEST PROCEDURE

1.The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2.Turn the EUT on and couple its output to spectrum analyzer.
3.Turn the EUT off and set the chamber to the highest temperature specified.
4.Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize,turn the EUT on and measure the operating frequency after 2,5,and 10 minutes.
5.Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6.The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes.The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

9.3 Test Equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Temperature& Humidity test chamber	Safety test	GDS-250	171200018	2018.03.09	2019.03.08
DC power supply	Agilent	MY40002025	E3642A	2018/10/13	2019/10/12

9.4 TEST RESULT

Channel 36 (5180MHz)

Voltage vs. Frequency Stability

Voltage vs. Frequency Stability Voltage(V)	Measurement Frequency(MHz)
5.75	5180.0023
5	5180.0020
4.25	5180.0017
Max.Deviation(MHz)	0.0023
Max.Deviation(ppm)	0.44

Rated working voltage:DC 5V

Temperature vs. Frequency Stability

Temperature(℃)	Measurement Frequency(MHz)
-30	5180.0260
-20	5180.0258
-10	5180.0256
0	5180.0257
10	5180.0251
20	5180.0251
30	5180.0254
40	5180.0259
50	5180.0253
Max.Deviation(MHz)	0.0260
Max.Deviation(ppm)	5.02

Channel 157 (5785MHz)

Voltage vs. Frequency Stability

Voltage vs. Frequency Stability Voltage(V)	Measurement Frequency(MHz)
5.75	5785.0025
5	5785.0022
4.25	5785.0024
Max.Deviation(MHz)	0.0025
Max.Deviation(ppm)	0.43

Rated working voltage:DC 5V

Temperature vs. Frequency Stability

Temperature(℃)	Measurement Frequency(MHz)
-30	5785.0019
-20	5785.0015
-10	5785.0009
0	5785.0014
10	5785.0013
20	5785.0012
30	5785.0010
40	5785.0019
50	5785.0010
Max.Deviation(MHz)	0.0019
Max.Deviation(ppm)	0.33