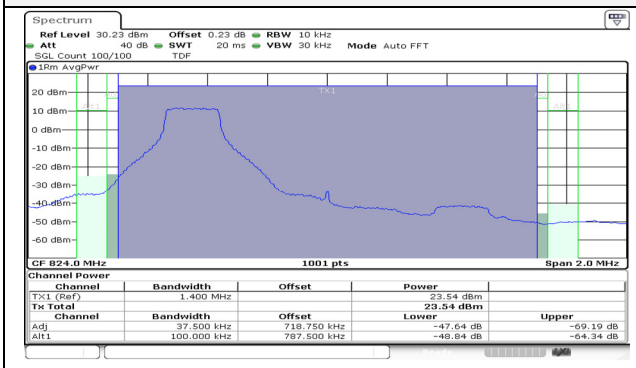
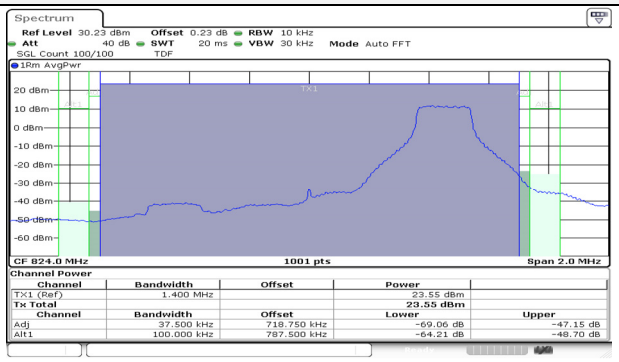
Straddle channel

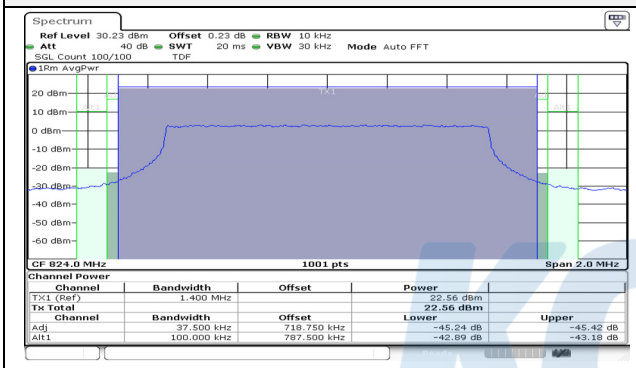
1.4M BW / QPSK / Low ch. / 1RB



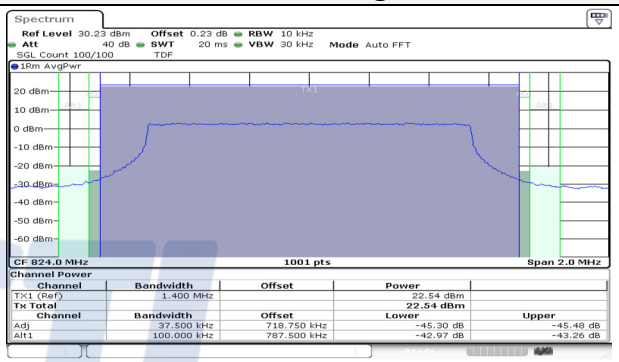
1.4M BW / QPSK / High ch. / 1RB



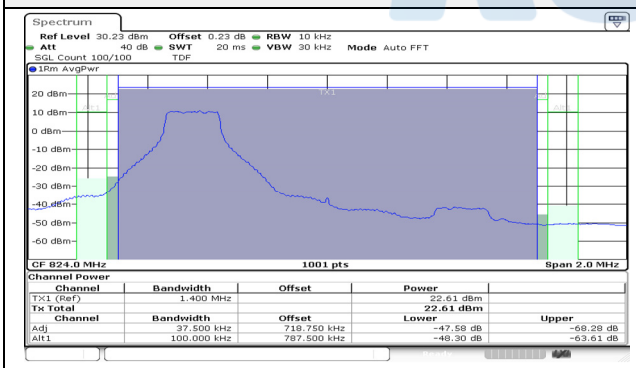
1.4M BW / QPSK / Low ch. / FRB



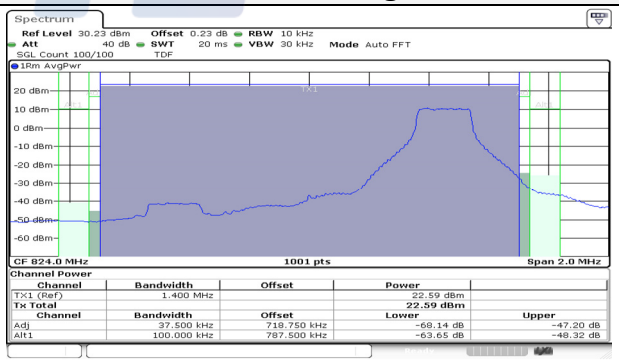
1.4M BW / QPSK / High ch. / FRB



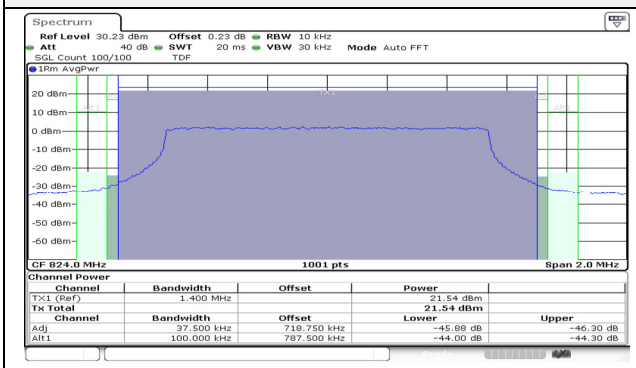
1.4M BW / 16QAM / Low ch. / 1RB



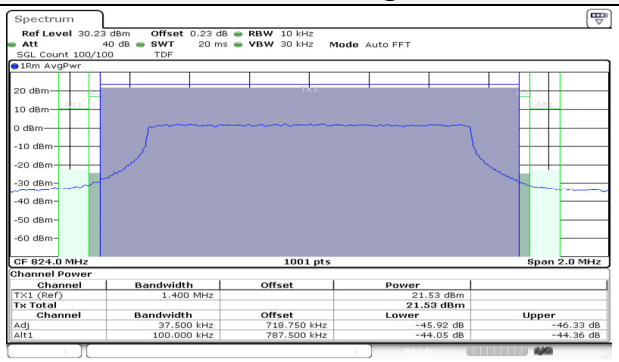
1.4M BW / 16QAM / High ch. / 1RB



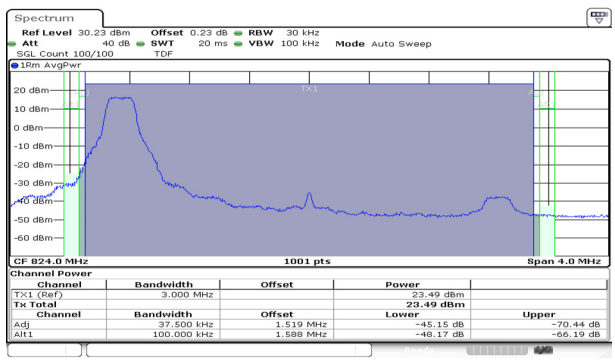
1.4M BW / 16QAM / Low ch. / FRB



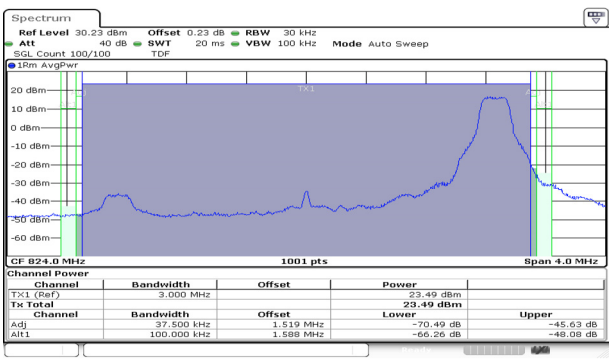
1.4M BW / 16QAM / High ch. / FRB



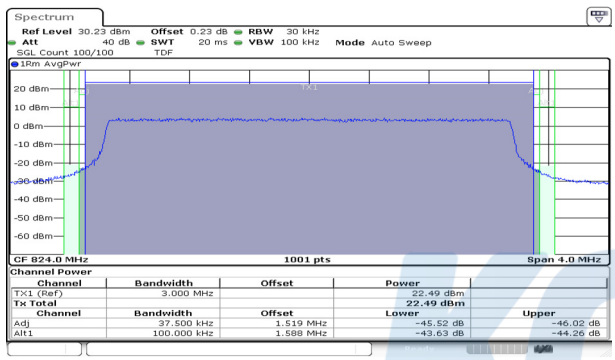
3M BW / QPSK / Low ch. / 1RB



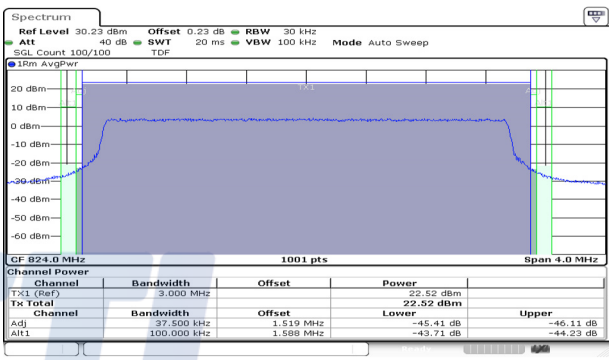
3M BW / QPSK / High ch. / 1RB



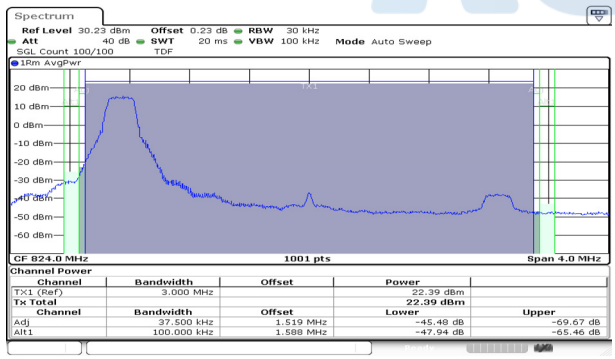
3M BW / QPSK / Low ch. / FRB



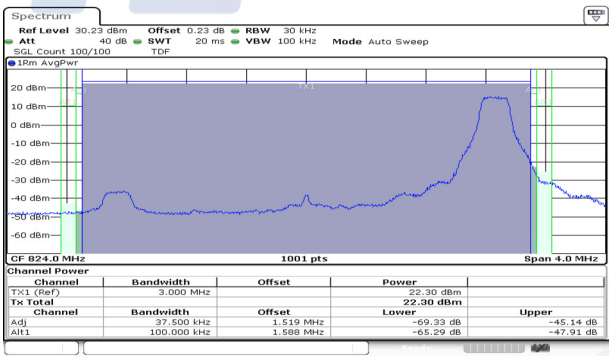
3M BW / QPSK / High ch. / FRB



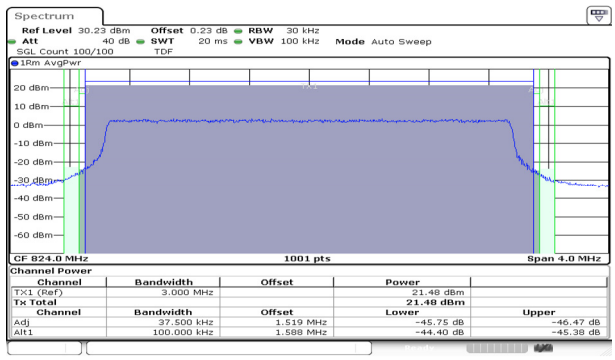
3M BW / 16QAM / Low ch. / 1RB



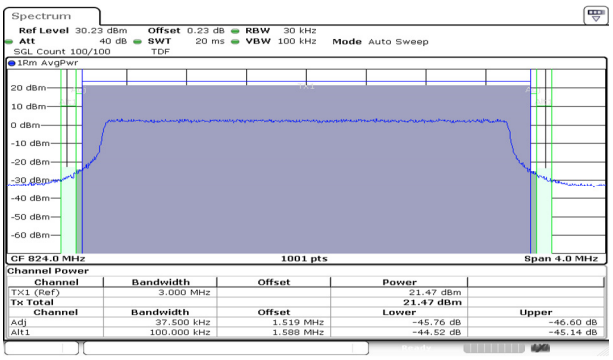
3M BW / 16QAM / High ch. / 1RB



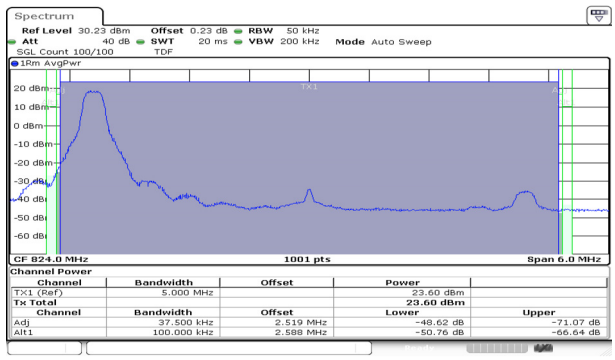
3M BW / 16QAM / Low ch. / FRB



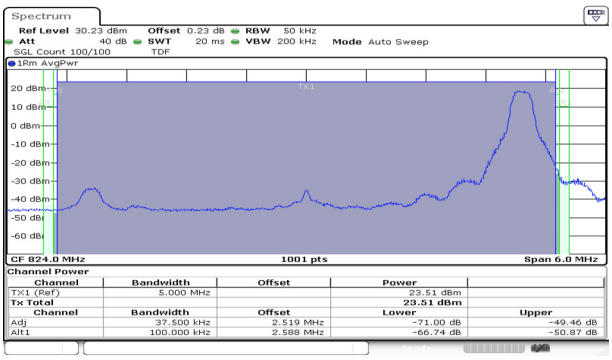
3M BW / 16QAM / High ch. / FRB



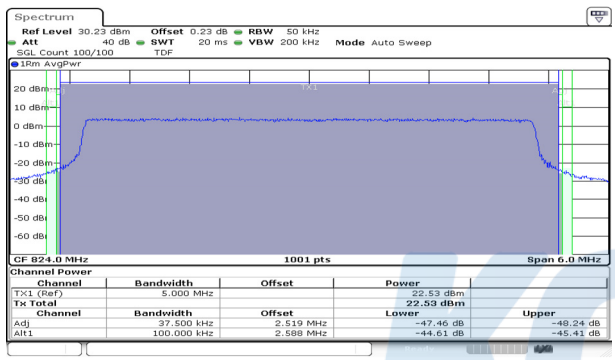
5M BW / QPSK / Low ch. / 1RB



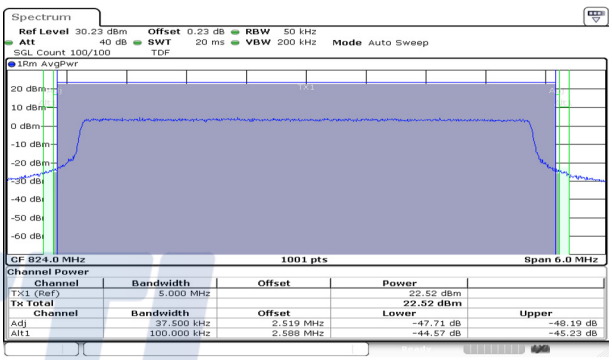
5M BW / QPSK / High ch. / 1RB



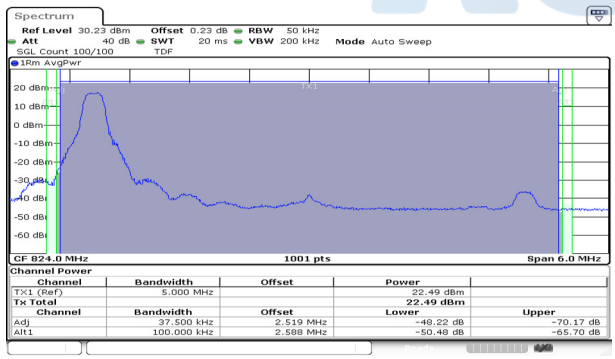
5M BW / QPSK / Low ch. / FRB



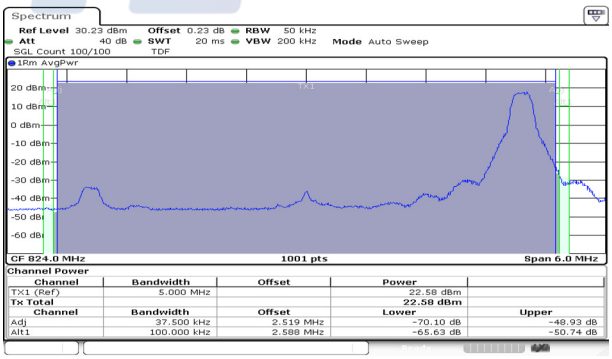
5M BW / QPSK / High ch. / FRB



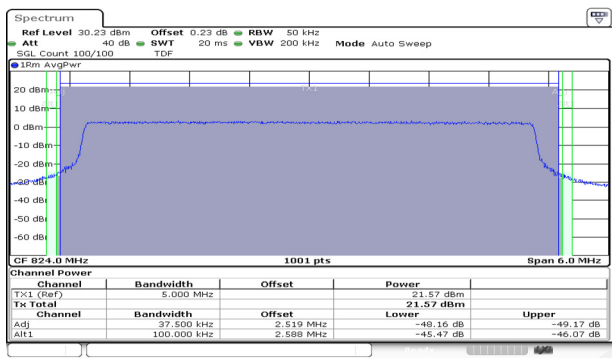
5M BW / 16QAM / Low ch. / 1RB



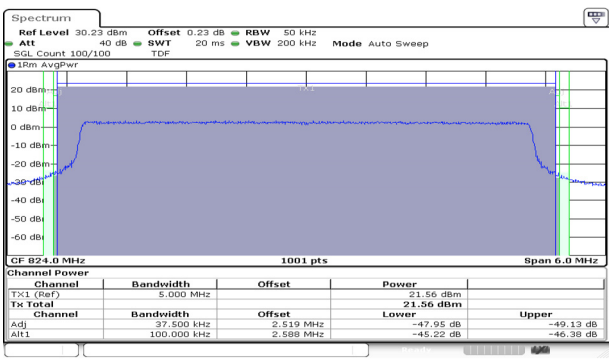
5M BW / 16QAM / High ch. / 1RB



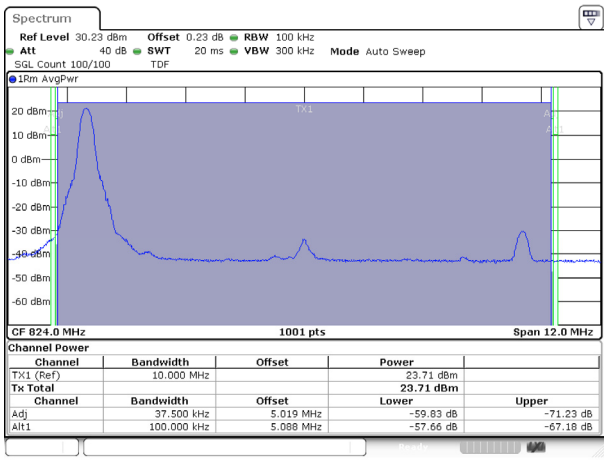
5M BW / 16QAM / Low ch. / FRB



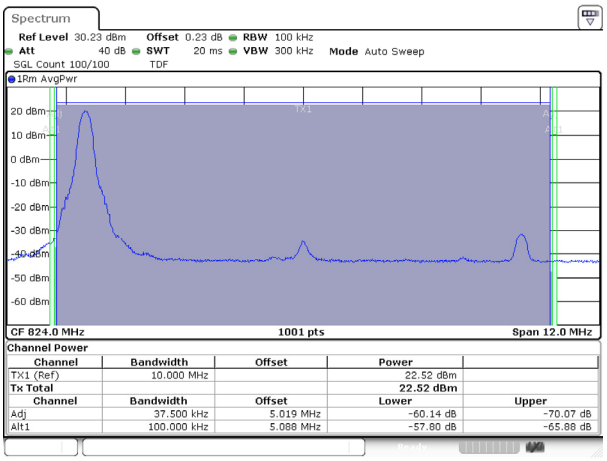
5M BW / 16QAM / High ch. / FRB



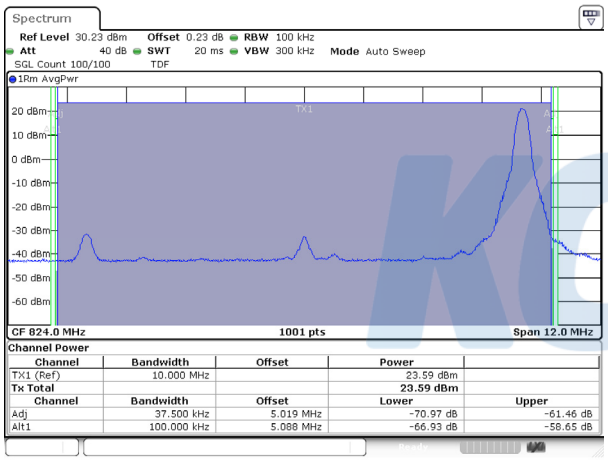
10M BW / QPSK / Mid ch. / Lower / 1RB



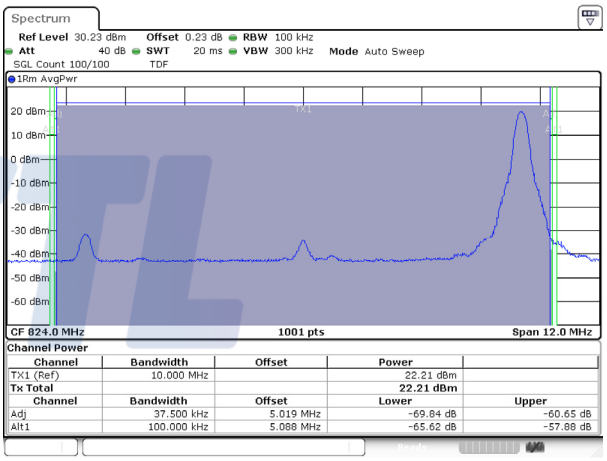
10M BW / 16QAM / Mid ch. / Lower / 1RB



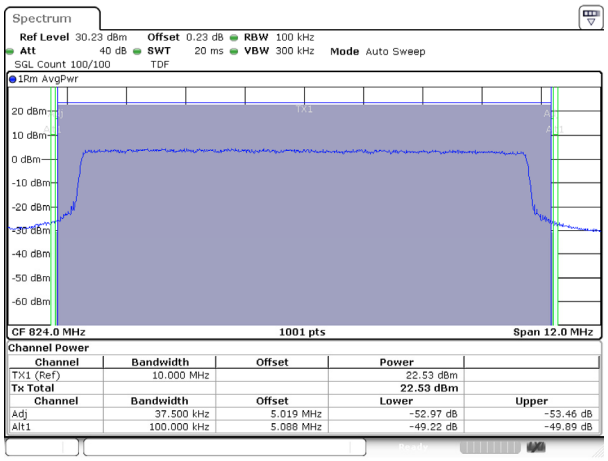
10M BW / QPSK / Mid ch. / Upper / 1RB



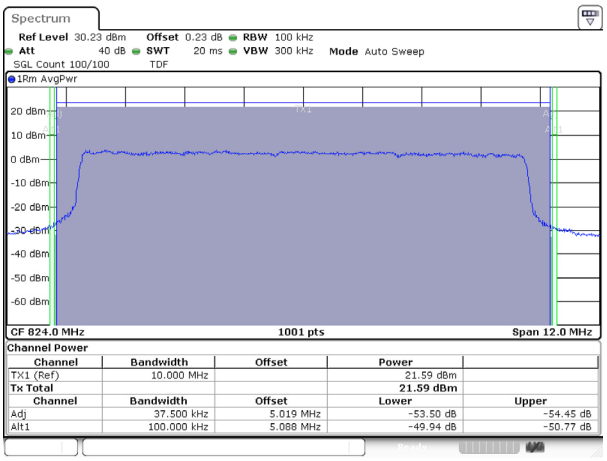
10M BW / 16QAM / Mid ch. / Upper / 1RB



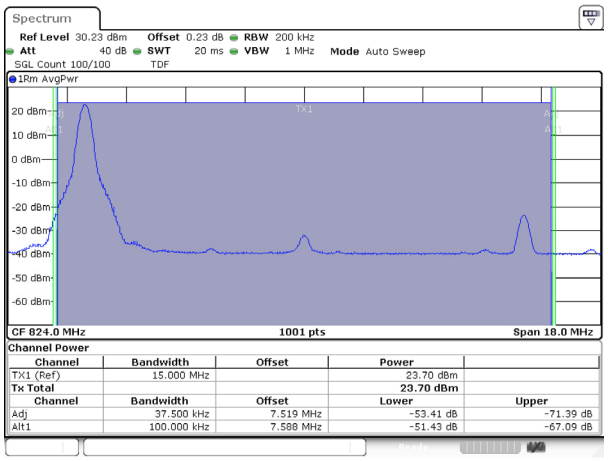
10M BW / QPSK / Mid ch. / FRB



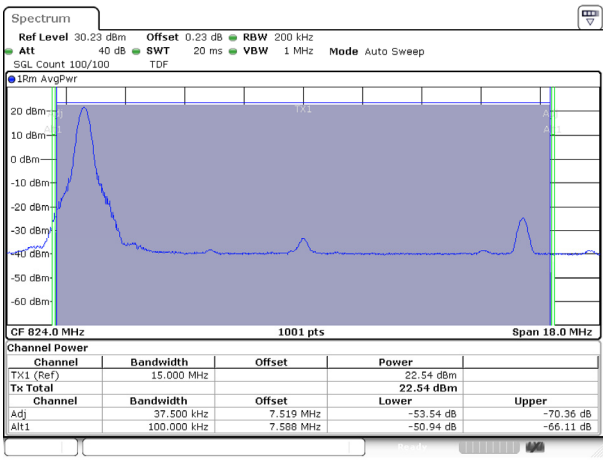
10M BW / 16QAM / Mid ch. / FRB



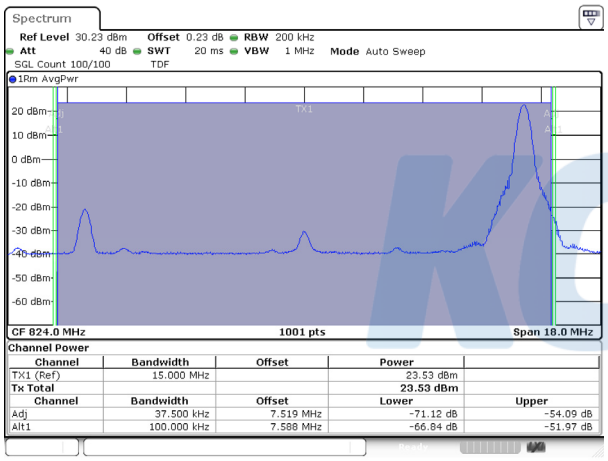
15M BW / QPSK / Mid ch. / Lower / 1RB



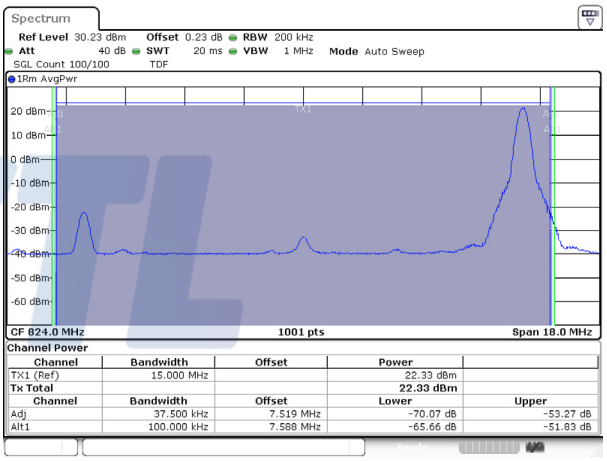
15M BW / 16QAM / Mid ch. / Lower / 1RB



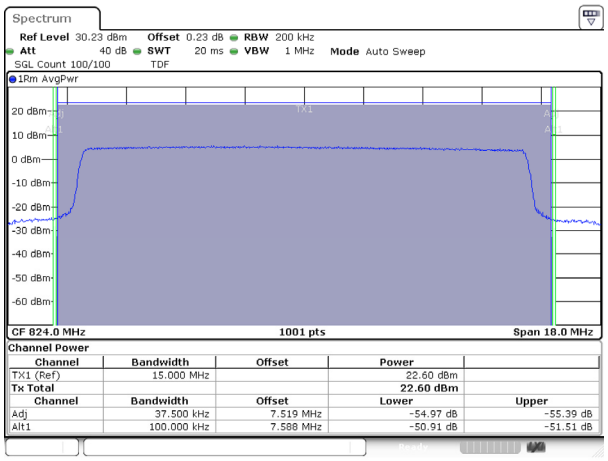
15M BW / QPSK / Mid ch. / Upper / 1RB



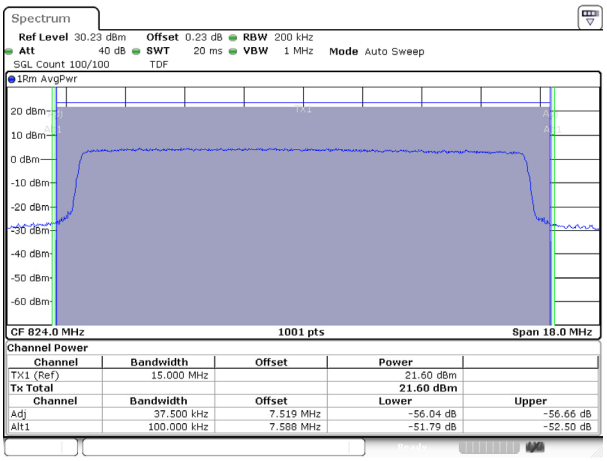
15M BW / 16QAM / Mid ch. / Upper / 1RB



15M BW / QPSK / Mid ch. / FRB

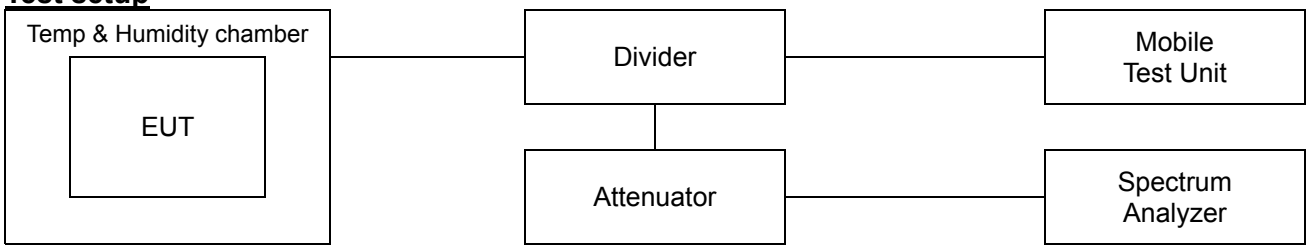


15M BW / 16QAM / Mid ch. / FRB



7.5. Frequency stability

Test setup



Limit

According to §2.1055(a),

The frequency stability shall be measured with variation of ambient temperature as follows:

1) From -30° to + 50° centigrade for all equipment except that specified in paragraphs (a) (2) and (3) of this section.
2) From -20° to + 50° centigrade for equipment to be licensed for use in the maritime services under part 80 of this chapter, except for class A, B, and S emergency position indicating Radiobeacons (EPIRBS), and equipment to be licensed for use above 952 ㎒ at operational fixed stations in all services, stations in the local television transmission service and point-to-point microwave radio service under part 21 of this chapter, equipment licensed for use aboard aircraft in the aviation services under part 87 of this chapter, and equipment authorized for use in the family radio service under part 95 of this chapter.
3) From 0° to + 50° centigrade for equipment to be licensed for use in the radio broadcast Services under part 73 of this chapter.

According to §2.1055(d),

The frequency stability shall be measured with variation of primary supply Voltage as follows:

1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating and point which shall be specified by the manufacturer.
3) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided. Effects on frequency of transmitter keying (except for broadcast transmitters) and any heating element cycling at the nominal supply voltage and at each extreme also shall be shown.

According to §22.355,

The carrier frequency of each transmitter in the public mobile services must be maintained within the tolerances given in Table of this section.

For mobile devices operating in the 824 to 849 ㎒ band at a power level than or equal to 3 Watts, the limit specified in Table C-1 is ±2.5 ppm.

According to §90.213

For mobile devices operating in the 809 to 824 ㎒ band at a power level 2 Watts or less, the limit specified in Table is ±2.5 ppm.

Test procedure

ANSI 63.26-2015 – Section 5.6

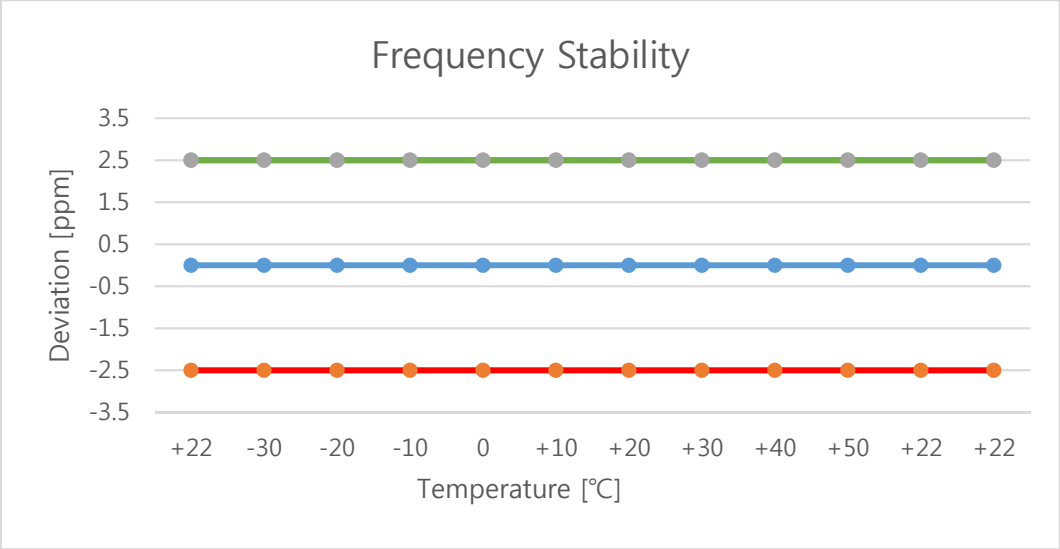
Test settings

1) The carrier frequency of the transmitter is measured at room temperature. (20°C to provide a reference)
2) The equipment is turned on in a “standby” condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3) Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each Temperature level.

Test results

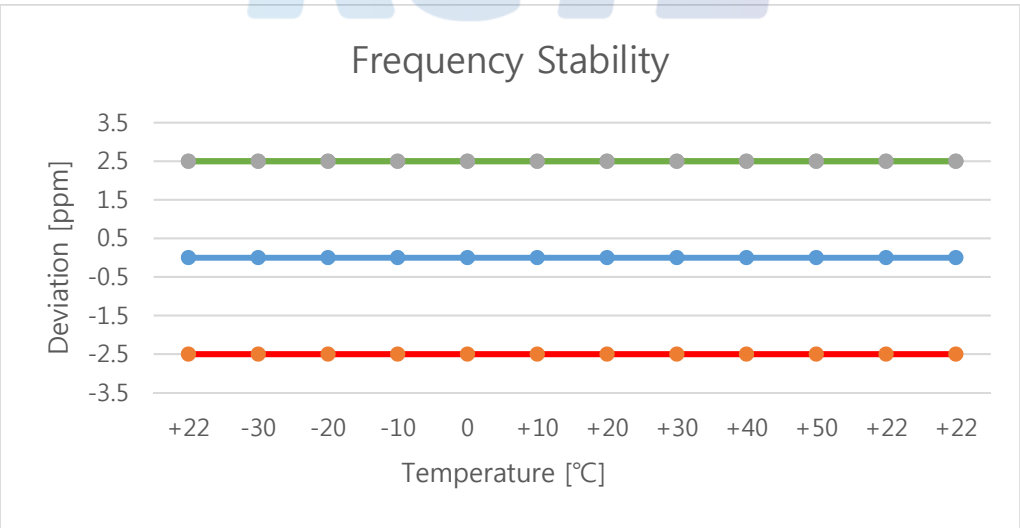
Test mode : LTE Band 26 (Part 90S)
Frequency (㎐) : 819 000 000
Channel : 26740
Deviation limit : ±0.00025% or 2.5ppm

Voltage (%)	Power (V)	Temp. (°C)	Frequency (㎐)	Frequency error (㎐)	Deviation	
					(ppm)	(%)
100%	3.85	+22(Ref)	819,000,000.57	0.57	0.0	0.000000
		-30	819,000,001.23	1.23	0.0	0.000000
		-20	819,000,000.90	0.90	0.0	0.000000
		-10	819,000,000.45	0.45	0.0	0.000000
		0	818,999,999.34	-0.66	0.0	0.000000
		+10	818,999,998.89	-1.11	0.0	0.000000
		+20	818,999,999.74	-0.26	0.0	0.000000
		+30	818,999,998.56	-1.44	0.0	0.000000
		+40	818,999,997.93	-2.07	0.0	0.000000
		+50	818,999,997.73	-2.27	0.0	0.000000
115%	4.43	+22	819,000,000.96	0.96	0.0	0.000000
End point	2.55	+22	819,000,000.90	0.90	0.0	0.000000



Test mode : LTE Band 26 (Part 22H)
Frequency (㎐) : 836 500 000
Channel : 26915
Deviation limit : ±0.00025% or 2.5ppm

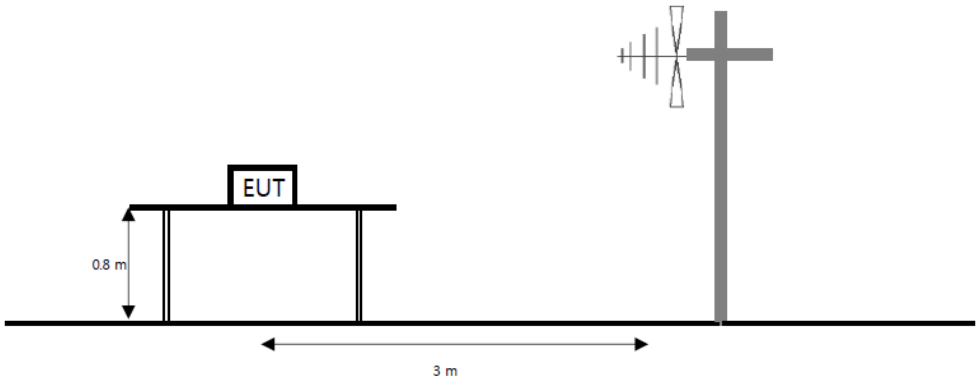
Voltage (%)	Power (V)	Temp. (°C)	Frequency (㎐)	Frequency error (㎐)	Deviation	
					(ppm)	(%)
100%	3.85	+22(Ref)	836,500,001.01	1.01	0.0	0.000000
		-30	836,499,998.21	-1.79	0.0	0.000000
		-20	836,499,997.38	-2.62	0.0	0.000000
		-10	836,499,998.19	-1.81	0.0	0.000000
		0	836,500,000.27	0.27	0.0	0.000000
		+10	836,500,001.34	1.34	0.0	0.000000
		+20	836,500,001.95	1.95	0.0	0.000000
		+30	836,499,999.09	-0.91	0.0	0.000000
		+40	836,499,998.15	-1.85	0.0	0.000000
		+50	836,499,998.54	-1.46	0.0	0.000000
115%	4.43	+22	836,500,001.68	1.68	0.0	0.000000
End point	2.55	+22	836,500,001.55	1.55	0.0	0.000000



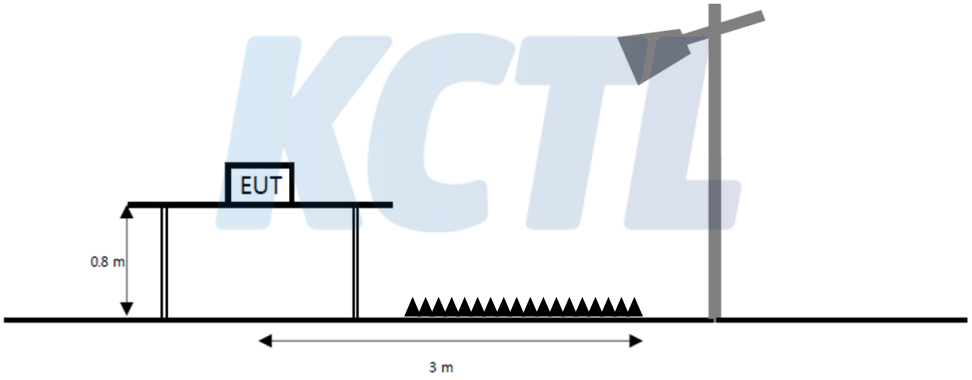
7.6. Radiated Power (ERP/EIRP)

Test setup

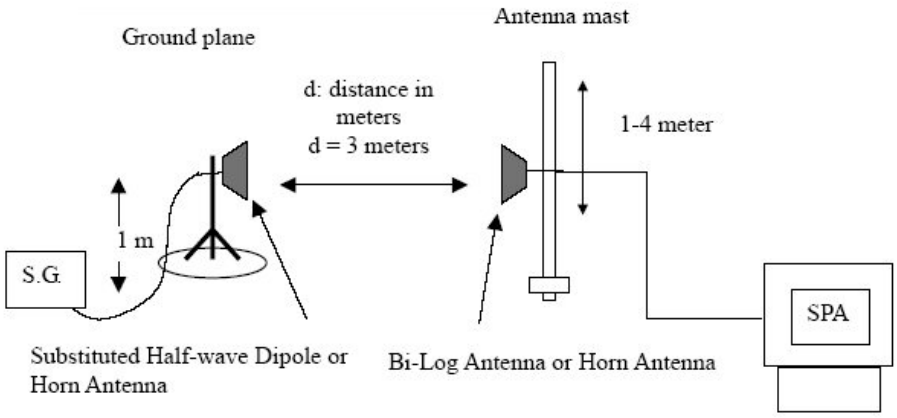
The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 ㎓ to the tenth harmonic of the highest fundamental frequency or to 40 ㎓ emissions, whichever is lower.



The diagram below shows the test setup for substituted method.



Limit

According to §22.913(a)(5), the ERP of transmitters in the cellular radiotelephone service must not exceed the limits in this section. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to §90.635(b), the maximum output power of the transmitter for mobile stations is 100 watts(20 dBw).

Test procedure

971168 D01 v03r01 - Section 5.2 and 5.8
ANSI 63.26-2015 – Section 5.2
ANSI/TIA-603-E-2016 - Section 2.2.17

Test settings

1) RBW = 1 % to 5 % of the OBW.
2) VBW ≥ 3 × RBW.
3) SPAN = 2 × to 3 × the OBW.
4) Number of measurement points in sweep ≥ 2 × span / RBW.
5) Sweep time :
   1) Auto couple, or
   2) ≥ [10 × (number of points in sweep) × (transmission period)] for single sweep (automation-compatible) measurement. Transmission period is the on and off time of the transmitter.
6) Detector = RMS
7) If the EUT can be configured to transmit continuously, then set the trigger to free run.
8) If the EUT cannot be configured to transmit continuously, then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Verify that the sweep time is less than or equal to the transmission burst duration. Time gating can also be used under similar constraints (i.e., configured such that measurement data is collected only during active full -power transmissions).
9) Trace mode = trace averaging (RMS) over 100 sweeps.
10) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function, with the band/channel limits set equal to the OBW band edges. If the instrument does not have a band or channel power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
11) Allow trace to fully stabilize.

Notes:

1. On a test site, the EUT shall be placed at 80 cm height on a turn table, and in the position close To normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to Correspond to the fundamental frequency of the transmitter.
3. The turntable is rotated through 360°, and the receiving antenna scans in order to determine the Level of the maximized emission.
4. The test antenna shall be raised and lowered again through the specified range of height until the maximum signal level is detected by the measuring receiver.
5. The maximum signal level detected by the measuring receiver shall be noted.
6. The EUT was replaced by half-wave dipole (1 ㎓ below) or horn antenna (1 ㎓ above) connected to a signal generator.
   The power is calculated by the following formula;
   Pd(㏈m) = Pg(㏈m) – Cable loss (㏈) + Antenna gain (㏈)
   Note. Pd is the dipole equivalent power and Pg is the generator output power into the substitution antenna.
7. The test antenna shall be raised and lowered through the specified range of height to ensure that The maximum signal is received.
8. The input signal to the substitution antenna shall be adjusted to the level that produces a level Detected by the measuring corrected for the change of input attenuator setting of the measuring Receiver.
9. The input level to the substitution antenna shall be recorded as power level in ㏈m, corrected for Any change of input attenuator setting of the measuring receiver.
10. The measurement shall be repeated with the test antenna and the substitution antenna Orientated for horizontal polarization.

Test results

Test mode: LTE Band 26 (Part 90S)

Bandwidth	Modulation	Frequency	Pol.	Antenna Gain	C.L	Substitute Level	ERP	
		[㎒]	[V/H]	[dBi]	[dB]	[dBm]	[dBm]	[W]
1.4 M	QPSK	814.7	H	-0.40	3.67	22.25	18.18	0.066
		823.3	H	-0.60	6.69	25.98	18.69	0.074
	16QAM	814.7	H	-0.40	3.67	21.06	16.99	0.050
		823.3	H	-0.60	6.69	24.70	17.41	0.055
3 M	QPSK	815.5	H	-0.40	3.68	22.40	18.32	0.068
		822.5	H	-0.60	3.69	22.79	18.50	0.071
	16QAM	815.5	H	-0.40	3.68	21.25	17.17	0.052
		822.5	H	-0.60	3.69	21.89	17.60	0.058
5 M	QPSK	816.5	H	-0.40	3.67	22.39	18.32	0.068
		821.5	H	-0.60	3.69	22.93	18.64	0.073
	16QAM	816.5	H	-0.40	3.67	21.43	17.36	0.054
		821.5	H	-0.60	3.69	22.01	17.72	0.059
10 M	QPSK	819.0	H	-0.40	3.68	22.51	18.43	0.070
	16QAM	819.0	H	-0.40	3.68	21.31	17.23	0.053
15 M	QPSK	821.5	H	-0.60	3.69	22.72	18.43	0.070
	16QAM	821.5	H	-0.60	3.69	21.69	17.40	0.055

Note.
1. E.R.P & E.I.R.P(dBm) = Substitute Level(dB) + Antenna gain(dBi) - C.L(Cable loss) (dB)

Test mode: LTE Band 26 (Part 22H)

Bandwidth	Modulation	Frequency	Pol.	Antenna Gain	C.L	Substitute Level	ERP	
		[㎒]	[V/H]	[dBi]	[dB]	[dBm]	[dBm]	[W]
1.4 M	QPSK	824.7	H	-0.60	3.69	23.04	18.75	0.075
		836.5	H	-0.50	3.72	22.32	18.10	0.065
		848.3	H	-0.50	3.74	22.62	18.38	0.069
	16QAM	824.7	H	-0.60	3.69	21.89	17.60	0.058
		836.5	H	-0.50	3.72	21.13	16.91	0.049
		848.3	H	-0.50	3.74	21.72	17.48	0.056
3 M	QPSK	825.5	H	-0.60	3.70	23.20	18.90	0.078
		836.5	H	-0.50	3.72	22.44	18.22	0.066
		847.5	H	-0.50	3.74	22.72	18.48	0.070
	16QAM	825.5	H	-0.60	3.70	21.98	17.68	0.059
		836.5	H	-0.50	3.72	21.56	17.34	0.054
		847.5	H	-0.50	3.74	21.46	17.22	0.053
5 M	QPSK	826.5	H	-0.60	3.71	21.53	17.22	0.053
		836.5	H	-0.50	3.72	21.97	17.75	0.060
		846.5	H	-0.50	3.73	22.18	17.95	0.062
	16QAM	826.5	H	-0.60	3.71	21.25	16.94	0.049
		836.5	H	-0.50	3.72	20.93	16.71	0.047
		846.5	H	-0.50	3.73	20.84	16.61	0.046
10 M	QPSK	829.0	H	-0.60	3.71	22.03	17.72	0.059
		836.5	H	-0.50	3.72	21.82	17.60	0.058
		844.0	H	-0.50	3.73	21.87	17.64	0.058
	16QAM	829.0	H	-0.60	3.71	20.82	16.51	0.045
		836.5	H	-0.50	3.72	21.10	16.88	0.049
		844.0	H	-0.50	3.73	20.64	16.41	0.044
15 M	QPSK	831.5	H	-0.50	3.71	21.90	17.69	0.059
		841.5	H	-0.50	3.73	21.83	17.60	0.058
	16QAM	831.5	H	-0.50	3.71	20.83	16.62	0.046
		841.5	H	-0.50	3.73	20.82	16.59	0.046

Note.
1. E.R.P & E.I.R.P(dBm) = Substitute Level(dB) + Antenna gain(dBi) - C.L(Cable loss) (dB)

Straddle channel

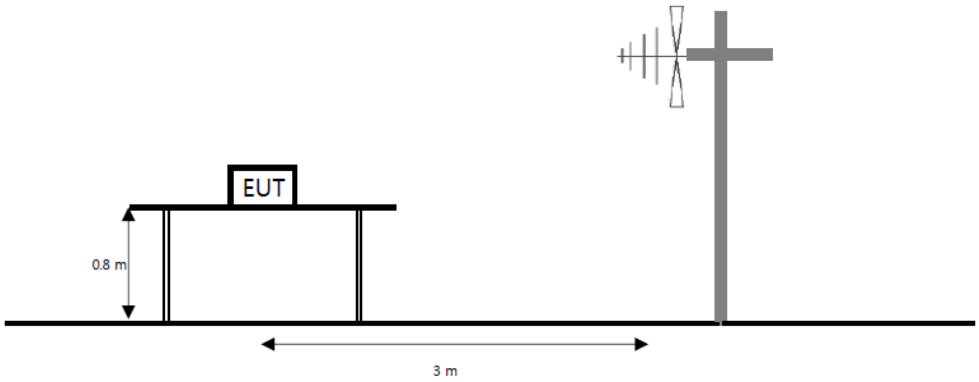
Bandwidth	Modulation	Frequency	Pol.	Antenna Gain	C.L	Substitute Level	ERP	
		[㎒]	[V/H]	[dBi]	[dB]	[dBm]	[dBm]	[W]
1.4 M	QPSK	824	H	-0.60	3.69	23.47	19.18	0.083
	16QAM		H	-0.60	3.69	22.38	18.09	0.064
3 M	QPSK		H	-0.60	3.69	23.64	19.35	0.086
	16QAM		H	-0.60	3.69	22.36	18.07	0.064
5 M	QPSK		H	-0.60	3.69	23.50	19.21	0.083
	16QAM		H	-0.60	3.69	23.38	19.09	0.081
10 M	QPSK		H	-0.60	3.69	23.48	19.19	0.083
	16QAM		H	-0.60	3.69	22.37	18.08	0.064
15 M	QPSK		H	-0.60	3.69	23.58	19.29	0.085
	16QAM		H	-0.60	3.69	22.40	18.11	0.065

Note.
1. E.R.P & E.I.R.P(dBm) = Substitute Level(dB) + Antenna gain(dBi) - C.L(Cable loss) (dB)

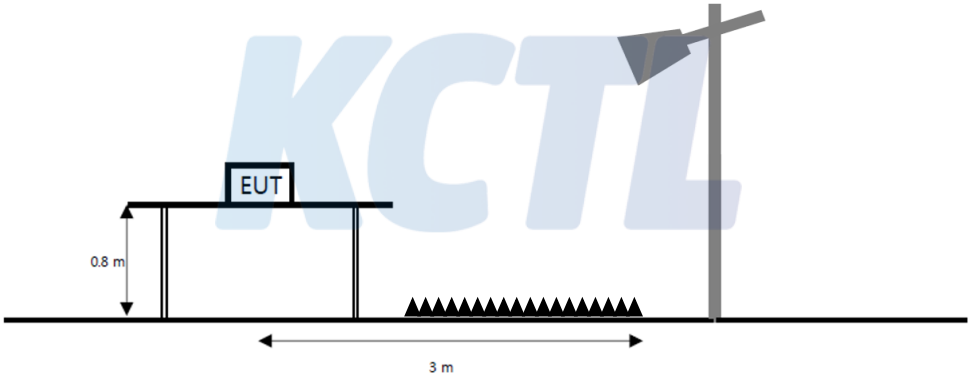
7.7. Radiated Spurious Emissions

Test setup

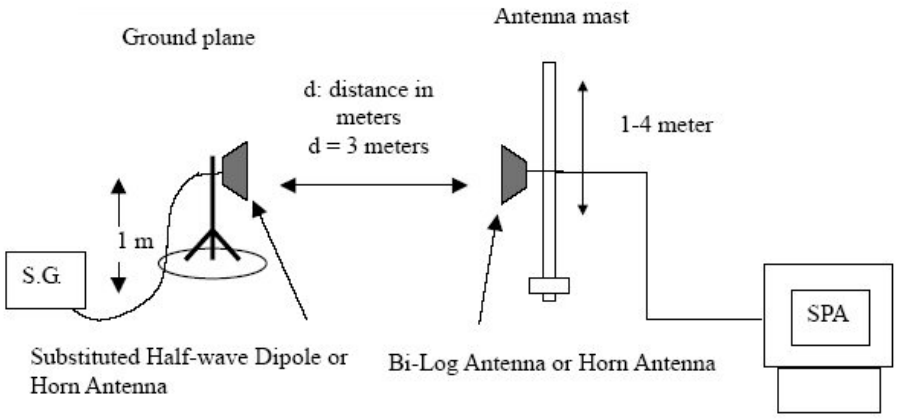
The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 ㎓ to the tenth harmonic of the highest fundamental frequency or to 40 ㎓ emissions, whichever is lower.



The diagram below shows the test setup for substituted method.



Limit

According to §22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log($P_{[Watts]}$) ㏈.

According to §90.691(a), Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee’s frequency block by up to and including 37.5 ㎑, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log_{10}(f/6.1) decibels or 50 + 10Log_{10}(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz where f is greater than 12.5 ㎑.

(2) For any frequency removed from the EA licensee’s frequency block greater than 37.5 ㎑, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log_{10}(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 ㎑.

Test procedure

971168 D01 v03r01 - Section 6.2
ANSI 63.26-2015 – Section 5.5
ANSI/TIA-603-E-2016 - Section 2.2.12

Test settings

1) RBW = 1 ㎑ for below 1 ㎓ and 1 ㎒ for above 1 ㎓.
2) VBW ≥ 3 × RBW.
3) Detector = RMS
4) Trace mode = Max hold
5) Sweep time = Auto couple
6) Number of sweep points ≥ 2 × span / RBW
7) Allow trace to fully stabilize.

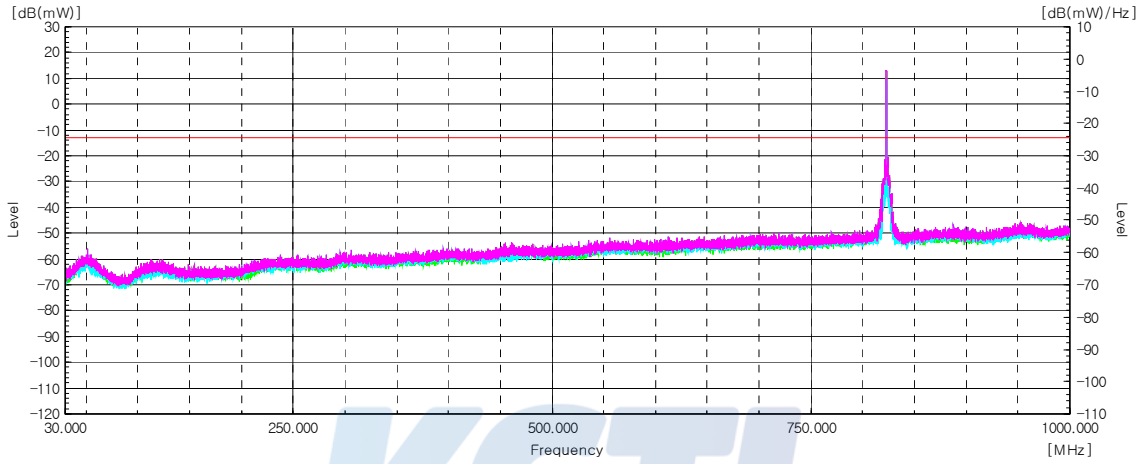
Notes:

1. On a test site, the EUT shall be placed at 80 ㎝ height on a turn table, and in the position close to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond to the fundamental frequency of the transmitter.
3. The turntable is rotated through 360°, and the receiving antenna scans in order to determine the level of the maximized emission.
4. The test antenna shall be raised and lowered again through the specified range of height until the maximum signal level is detected by the measuring receiver.
5. The maximum signal level detected by the measuring receiver shall be noted.
6. The EUT was replaced by half-wave dipole (1 ㎓ below) or horn antenna (1 ㎓ above) connected to a signal generator.
7. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
8. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring corrected for the change of input attenuator setting of the measuring receiver.
9. The input level to the substitution antenna shall be recorded as power level in ㏈m, corrected for any change of input attenuator setting of the measuring receiver.
10. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
11. This EUT was tested under all configurations and the highest power is reported in QPSK modulation.

Test results (Below 1 000 ㎒) – Worst case

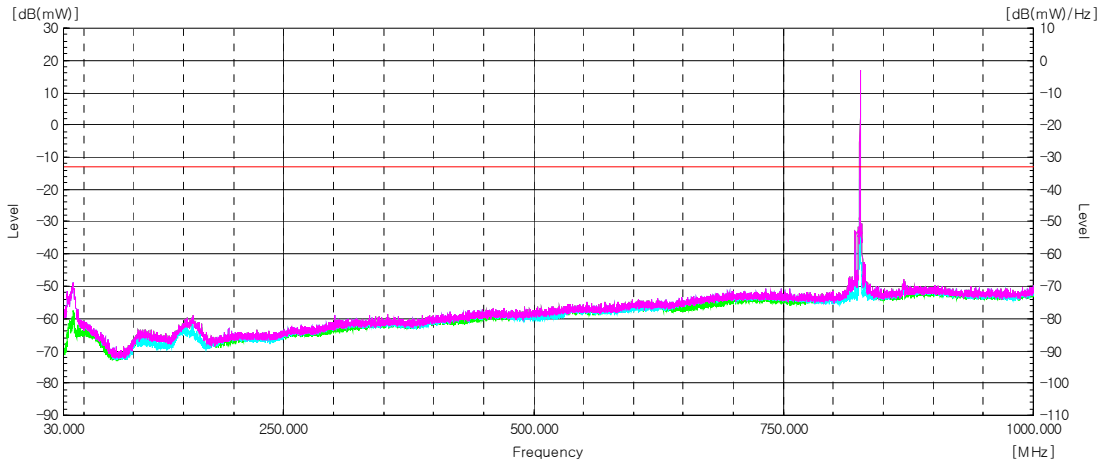
Test mode : LTE Band 26 (Part 90S)
Frequency (㎒) : 823.3
Channel : 26783
Bandwidth (㎒) : 1.4

Horizontal/Vertical



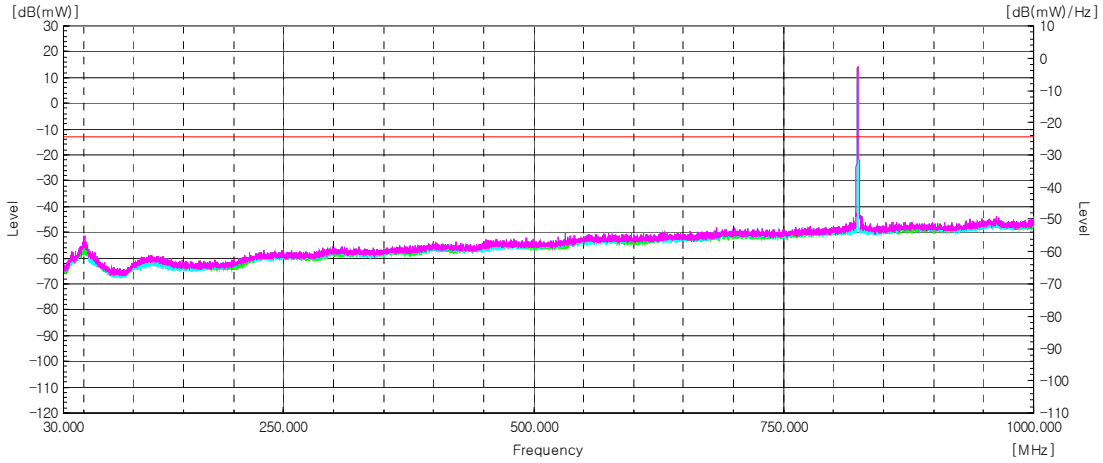
Test mode : LTE Band 26 (Part 22H)
Frequency (㎒) : 825.5
Channel : 26805
Bandwidth (㎒) : 3

Horizontal/Vertical



Test mode	:	LTE Band 26 (Straddle channel)
Frequency (㎒)	:	824.0
Channel	:	26790
Bandwidth (㎒)	:	3

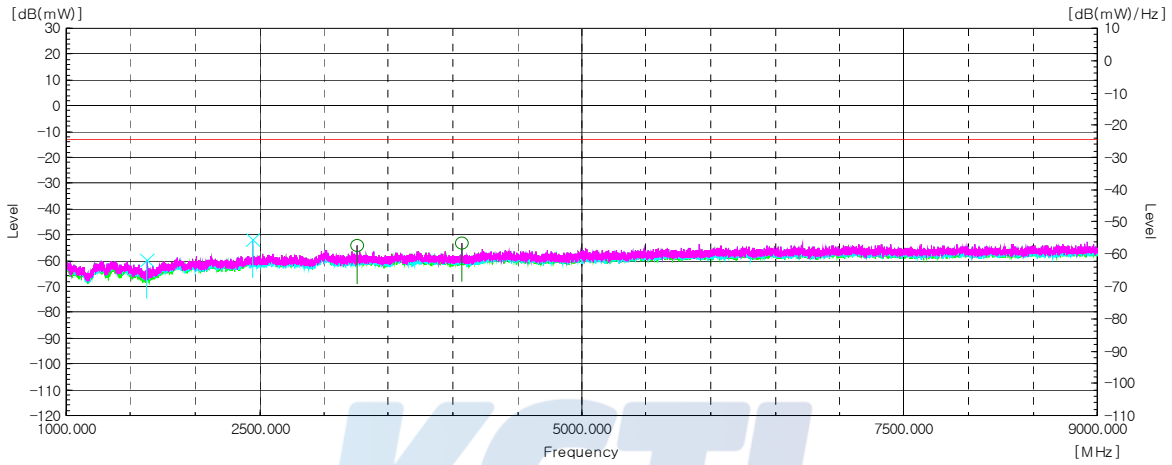
Horizontal/Vertical



Test results (Above 1 000 ㎒)

Test mode : LTE Band 26 (Part 90S)
Frequency(㎒) : 814.7
Channel : 26697
Bandwidth(㎒) : 1.4

Horizontal/Vertical

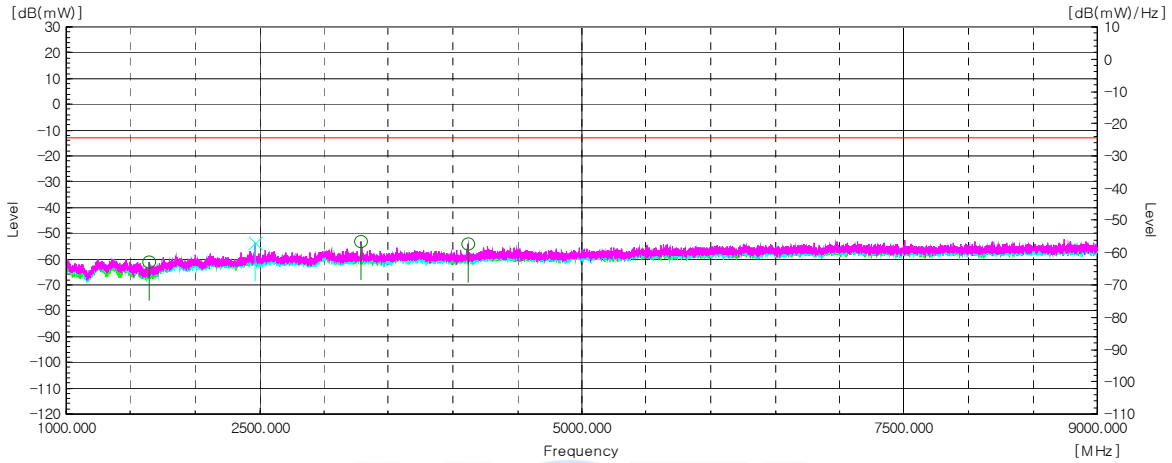


Mode	Frequency	Pol.	Antenna Gain	Cable loss	Substitute Level	Level	Limit	Margin
	[㎒]	[V/H]	[dBi]	[dB]	[dBm]	[dBm]	[dBm]	[dB]
QPSK	1 628.54	V	6.45	5.32	-61.03	-59.90	-13.00	46.90
	2 442.59	V	6.00	6.59	-51.21	-51.80	-13.00	38.80
	3 257.14	H	7.27	7.61	-53.66	-54.00	-13.00	41.00
	4 071.69	H	8.67	8.51	-53.46	-53.30	-13.00	40.30

Note.
1. Limit Calculation(dBm)= 43 + 10log($P_{[Watts]}$)
2. ERP & E.I.R.P(dBm)= Substitute Level(dB) + Antenna gain(dBi) – Cable Loss(dB)

Test mode : LTE Band 26 (Part 90S)
Frequency(㎒) : 823.3
Channel : 26783
Bandwidth(㎒) : 1.4

Horizontal/Vertical

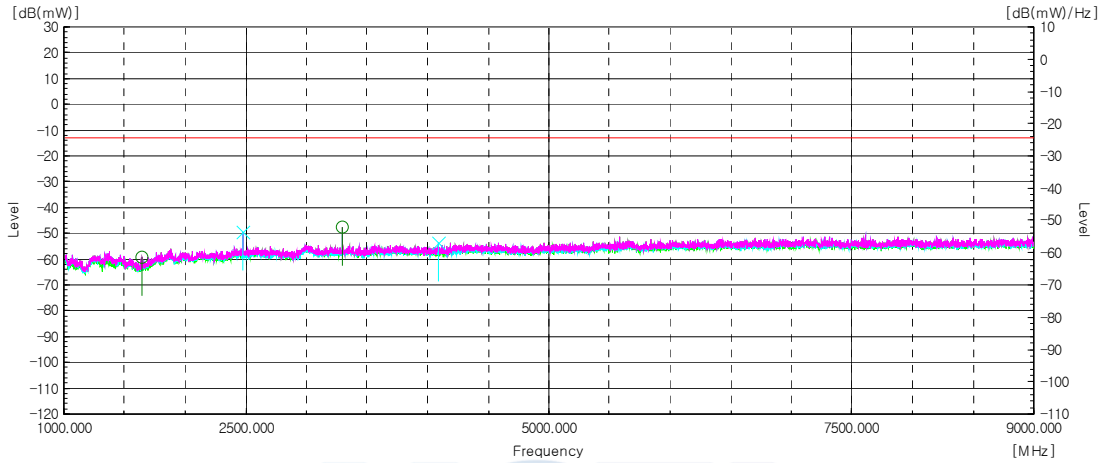


Mode	Frequency	Pol.	Antenna Gain	Cable loss	Substitute Level	Level	Limit	Margin
	[㎒]	[V/H]	[dBi]	[dB]	[dBm]	[dBm]	[dBm]	[dB]
QPSK	1 645.54	H	6.43	5.36	-62.37	-61.30	-13.00	48.30
	2 468.59	V	6.00	6.62	-52.98	-53.60	-13.00	40.60
	3 291.14	H	7.34	7.65	-53.09	-53.40	-13.00	40.40
	4 114.19	H	8.71	8.58	-54.03	-53.90	-13.00	40.90

Note.
1. Limit Calculation(dBm)= 43 + 10log($P_{[Watts]}$)
2. ERP & E.I.R.P(dBm)= Substitute Level(dB) + Antenna gain(dBi) – Cable Loss(dB)

Test mode : LTE Band 26 (Part 22H)
Frequency(㎒) : 825.5
Channel : 26805
Bandwidth(㎒) : 3

Horizontal/Vertical

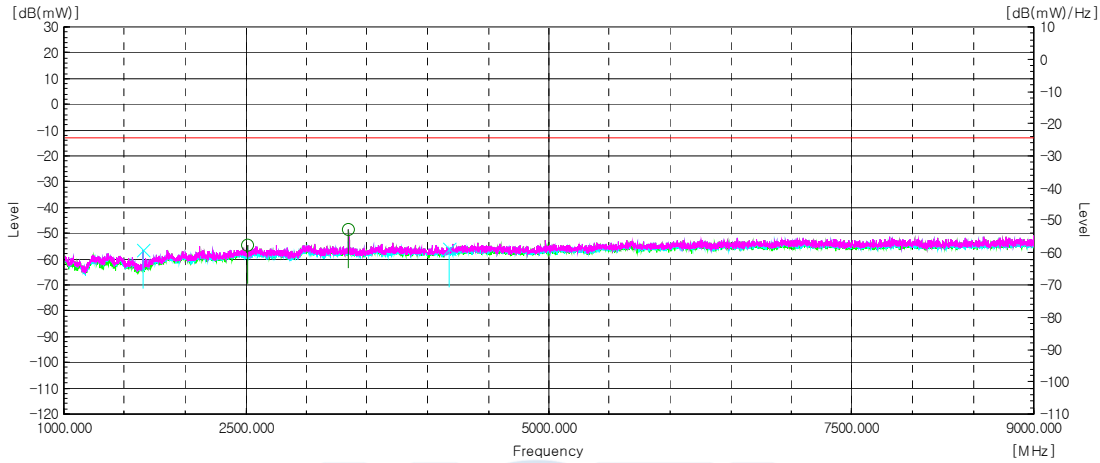


Mode	Frequency	Pol.	Antenna Gain	Cable loss	Substitute Level	Level	Limit	Margin
	[㎒]	[V/H]	[dBi]	[dB]	[dBm]	[dBm]	[dBm]	[dB]
QPSK	1 648.08	H	6.42	5.35	-60.47	-59.40	-13.00	46.40
	2 473.18	V	6.02	6.68	-48.84	-49.50	-13.00	36.50
	3 296.29	H	7.47	7.73	-47.14	-47.40	-13.00	34.40
	4 091.39	V	8.78	8.65	-53.93	-53.80	-13.00	40.80

Note.
1. Limit Calculation(dBm)= 43 + 10log($P_{[Watts]}$)
2. ERP & E.I.R.P(dB m)= Substitute Level(dB) + Antenna gain(dBi) – Cable Loss(dB)

Test mode : LTE Band 26 (Part 22H)
Frequency(㎒) : 836.5
Channel : 26915
Bandwidth(㎒) : 3

Horizontal/Vertical

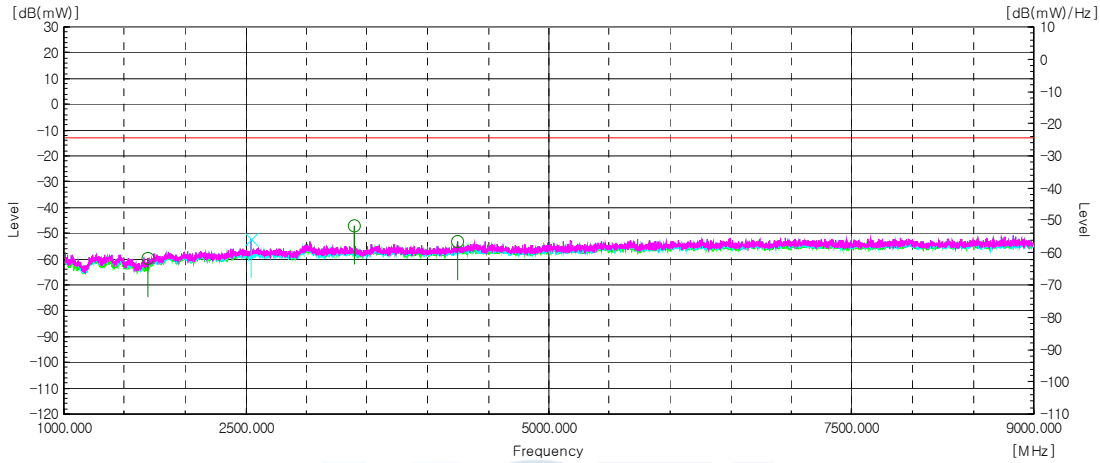


Mode	Frequency	Pol.	Antenna Gain	Cable loss	Substitute Level	Level	Limit	Margin
	[㎒]	[V/H]	[dBi]	[dB]	[dBm]	[dBm]	[dBm]	[dB]
QPSK	1 650.08	V	6.42	5.35	-57.57	-56.50	-13.00	43.50
	2 514.19	H	6.02	6.68	-53.84	-54.50	-13.00	41.50
	3 351.29	H	7.47	7.73	-48.24	-48.50	-13.00	35.50
	4 182.40	V	8.78	8.65	-56.13	-56.00	-13.00	43.00

Note.
1. Limit Calculation(㏈m)= 43 + 10log($P_{[Watts]}$)
2. ERP & E.I.R.P(㏈ m)= Substitute Level(㏈) + Antenna gain(㏈i) – Cable Loss(㏈)

Test mode : LTE Band 26 (Part 22H)
Frequency(㎒) : 847.5
Channel : 27025
Bandwidth(㎒) : 3

Horizontal/Vertical

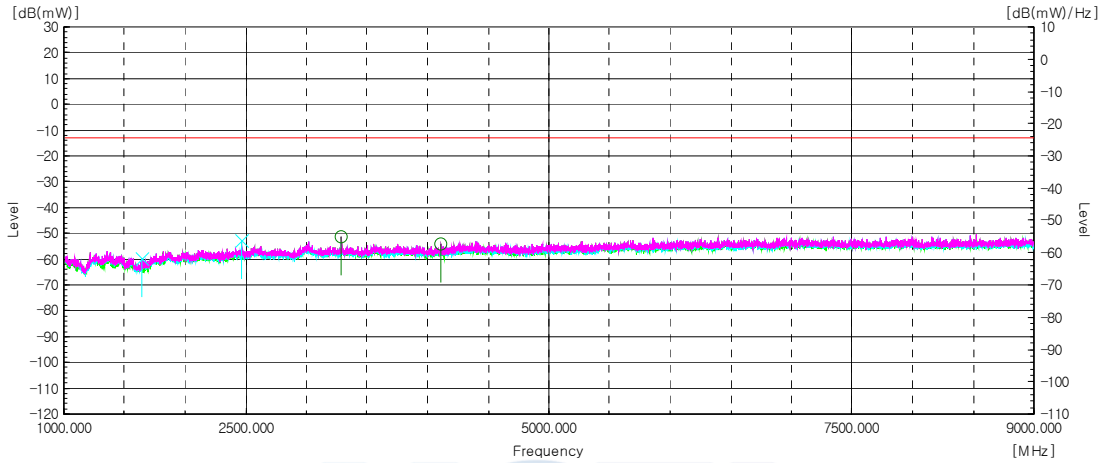


Mode	Frequency	Pol.	Antenna Gain	Cable loss	Substitute Level	Level	Limit	Margin
	[㎒]	[V/H]	[dBi]	[dB]	[dBm]	[dBm]	[dBm]	[dB]
QPSK	1 697.09	H	6.36	5.45	-60.41	-59.50	-13.00	46.50
	2 546.19	V	6.06	6.73	-51.53	-52.20	-13.00	39.20
	3 395.30	H	7.57	7.78	-46.79	-47.00	-13.00	34.00
	4 243.41	H	8.84	8.70	-53.24	-53.10	-13.00	40.10

Note.
1. Limit Calculation(㏈m)= 43 + 10log($P_{[Watts]}$)
2. ERP & E.I.R.P(㏈ m)= Substitute Level(㏈) + Antenna gain(㏈i) – Cable Loss(㏈)

Test mode : LTE Band 26 (Straddle channel)
Frequency(㎒) : 824.0
Channel : 26790
Bandwidth(㎒) : 3

Horizontal/Vertical



Mode	Frequency	Pol.	Antenna Gain	Cable loss	Substitute Level	Level	Limit	Margin
	[㎒]	[V/H]	[dBi]	[dB]	[dBm]	[dBm]	[dBm]	[dB]
QPSK	1 645.08	V	6.43	5.36	-60.97	-59.90	-13.00	46.90
	2 468.18	V	6.00	6.62	-51.98	-52.60	-13.00	39.60
	3 291.29	H	7.34	7.65	-51.19	-51.50	-13.00	38.50
	4 113.39	H	8.71	8.58	-54.03	-53.90	-13.00	40.90

Note.
1. Limit Calculation(㏈m)= 43 + 10log($P_{[Watts]}$)
2. ERP & E.I.R.P(㏈ m)= Substitute Level(㏈) + Antenna gain(㏈i) – Cable Loss(㏈)

8. Measurement equipment

Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
Spectrum Analyzer	R & S	FSV30	100914	20.10.14
Spectrum Analyzer	AGILENT	N9040B	MY57010132	20.07.31
Signal Generator	R&S	SMB100A	176206	20.01.25
Power Divider	Aeroflex /Weinschel, Inc.	1580-1	SC571	20.08.01
Attenuator	API Inmet	40AH2W-10	16	20.05.15
Attenuator	API Inmet	40AH2W-10	12	20.05.15
Attenuator	Weinschel ENGINEERING	10	AJ1239	20.05.14
DC Power Supply	Agilent	E3632A	KR94907664	20.05.13
Temp & Humid Chamber	ESPEC CORP.	SH-641	92004785	20.05.13
Wideband Radio Communication Tester	R & S	CMW500	132120	20.07.17
Wideband Radio Communication Tester	R & S	CMW500	141780	20.04.18
High pass Filter	Wainwright Instruments GmbH	WHKX3.0/18G-12SS	44	20.01.25
High pass Filter	Wainwright Instruments GmbH	WHKX1.0/1.5S-10SS	14	20.01.25
Biconical VHF-UHF Broadband Antenna	SCHWARZBECK	VUBA9117	275	20.04.13
Bilog Antenna	Teseq GmbH	CBL 6143A	35039	21.05.21
Horn Antenna	ETS.lindgren	3117	00161083	20.09.18
Horn Antenna	ETS.lindgren	3117	161225	20.05.22
Horn Antenna	ETS.lindgren	3116	00086632	20.02.15
Horn Antenna	ETS.lindgren	3116	00086635	20.05.09
Amplifier	SONOMA INSTRUMENT	310N	186402	20.01.04
Amplifier	L-3 Narda-MITEQ	AMF-7D-01001800-22-10P	2031196	20.02.21
Amplifier	L-3 Narda-MITEQ	JS44-18004000-33-8P	2000997	20.08.01
Antenna Mast	MATURO	EAS 1.5	042/8941211	N/A
Antenna Mast	MATURO	EAS 1.5	043/8941211	N/A
Turn Table	MATURO	TT 0.8 PF	041/8941211	N/A
Cable Assembly	Radiall	R286303620	1649.241	N/A
Cable Assembly	Radiall	TESTPRO 3	N/A	N/A

End of test report