







π/4DQPSK_HCH_Graphs Key RL 25,201 Frequency #Avg Type: RMS Avg|Hold: 100/100 Center Freq 2.480000000 GHz Trig: Free Run #Atten: 10 dB PPPP PNO: Wide IFGain:Low Mkr1 2.479 902 125 GH -10.976 dB Auto Tun Ref Offset 19.77 dB Ref 19.77 dBm Center Free 2.48000000 GH Start Free 2,478500000 GH Stop Free Pref 2.481500000 GH CF Step 300.000 kHz Auto Ma Freq Offse 0 H: Center 2.480000 GHz #Res BW 100 kHz Span 3.000 MHz Sweep 1.067 ms (8001 pts) #VBW 300 kHz Center Freq 13.015000000 GHz PNO: Fast IFGain:Low ALIGN AU #Avg Type: RMS Avg|Hold: 4/100 v 25, 2019 1 2 3 4 5 6 M P P P P P P Trig: Free Run #Atten: 30 dB Auto Tune 1 25.584 GH -33.592 dBr Ref Offset 19.77 dB Ref 30.00 dBm Center Fred 13.015000000 GH Start Free 30.000000 MH Stop Free Puw 26.00000000 GH CF Step 2.597000000 G uto M Freq Offset 0 Hz Start 30 MHz #Res BW 100 kHz Stop 26.00 GHz Sweep 2.482 s (8001 pts) #VBW 300 kHz









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8DPSK_HCH_Graphs RI Frequency #Avg Type: RMS Avg|Hold: 100/100 Center Freq 2.480000000 GHz Trig: Free Run #Atten: 10 dB PPPP PNO: Wide +++ IFGain:Low Auto Tun Mkr1 2.479 903 625 GH -10.786 dB Ref Offset 19.77 dB Ref 19.77 dBm **Center Freq** 2.48000000 GHz Start Freq 2,478500000 GH MMM Stop Freq Pref 2.481500000 GH CF Step 300.000 kHz MAL Ma Auto MIT aballal when he Freq Offset 0 Hz Center 2.480000 GHz #Res BW 100 kHz Span 3.000 MHz Sweep 1.067 ms (8001 pts) #VBW 300 kHz Center Freq 13.015000000 GHz PNC: Fast IFGain:Low ALIGN AU #Avg Type: RMS Avg|Hold: 4/100 25,201 Frequency 1 2 3 4 5 (M Trig: Free Run #Atten: 30 dB TYP Auto Tune 1 25.591 GHz -33.764 dBm Ref Offset 19.77 dB Ref 30.00 dBm Center Freq 13.015000000 GHz Start Fred 30.000000 MH; Stop Freq Puw 26.00000000 GH CF Step 2.597000000 G uto M Freq Offset 0 Hz Stop 26.00 GHz Sweep 2.482 s (8001 pts) Start 30 MHz #Res BW 100 kHz #VBW 300 kHz











Appendix H) Pseudorandom Frequency Hopping Sequence

Test Requirement:

47 CFR Part 15C Section 15.247 (a)(1) requirement:

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively. Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channe carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom orderec list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

EUT Pseudorandom Frequency Hopping Sequence

The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

- Number of shift register stages: 9
- Length of pseudo-random sequence: 2⁹ -1 = 511 bits
- Longest sequence of zeros: 8 (non-inverted signal)



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:

| 20 0 2 40 77 | 7 64 8 73 | 3 16 75 1 |
|--------------|-----------|-----------|
| | | |
| | | |
| | | |
| | | |

Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their Corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

The device does not have the ability to be coordinated with other FHSS systems in an effort to avoid the simultaneous occupancy of individual hopping frequencies by multiple transmitters.





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Appendix I)Antenna Requirement

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 1.08443 dBi







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Appendix J) AC Power Line Conducted Emission

Test Procedure: Test frequency range :150KHz-30MHz 1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu$ H + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement. Limit: Limit (dBuV) Frequency range (MHz) Quasi-peak Average 66 to 56* 56 to 46* 0.15-0.5 0.5-5 46 56 60 50 5-30 * The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz. NOTE : The lower limit is applicable at the transition frequency





Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.



| 1 | No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Margin | | |
|---|-----|-----|--------|------------------|-------------------|------------------|-------|--------|----------|---------|
| _ | | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| | 1 | | 0.1524 | 43.26 | 9.98 | 53.24 | 65.87 | -12.63 | QP | |
| | 2 | | 0.2535 | 35.29 | 10.06 | 45.35 | 61.64 | -16.29 | QP | |
| | 3 | * | 0.2895 | 29.46 | 10.09 | 39.55 | 50.54 | -10.99 | AVG | |
| _ | 4 | | 0.3795 | 22.61 | 10.02 | 32.63 | 48.29 | -15.66 | AVG | |
| | 5 | | 0.4425 | 32.63 | 10.00 | 42.63 | 57.01 | -14.38 | QP | |
| 1 | 6 | | 0.8700 | 26.35 | 9.92 | 36.27 | 56.00 | -19.73 | QP | |
| | 7 | | 0.8700 | 24.31 | 9.92 | 34.23 | 46.00 | -11.77 | AVG | |
| - | 8 | | 1.3289 | 18.81 | 9.88 | 28.69 | 46.00 | -17.31 | AVG | |
| | 9 | | 1.3604 | 23.21 | 9.88 | 33.09 | 56.00 | -22.91 | QP | |
| | 10 | | 2.0039 | 15.19 | 9.83 | 25.02 | 46.00 | -20.98 | AVG | |
| - | 11 | | 8.2455 | 24.90 | 9.90 | 34.80 | 50.00 | -15.20 | AVG | |
| | 12 | | 9.2084 | 33.27 | 9.93 | 43.20 | 60.00 | -16.80 | QP | |

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| - | No. Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Margin | | |
|---|---------|--------|------------------|-------------------|------------------|-------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| | 1 | 0.2895 | 29.04 | 10.09 | 39.13 | 50.54 | -11.41 | AVG | |
| 8 | 2 | 0.2940 | 38.22 | 10.10 | 48.32 | 60.41 | -12.09 | QP | |
| | 3 | 0.4380 | 34.89 | 10.00 | 44.89 | 57.10 | -12.21 | QP | |
| | 4 | 0.4380 | 24.56 | 10.00 | 34.56 | 47.10 | -12.54 | AVG | |
| | 5 | 0.8745 | 24.26 | 9.92 | 34.18 | 46.00 | -11.82 | AVG | |
| - | 6 | 0.8790 | 29.03 | 9.92 | 38.95 | 56.00 | -17.05 | QP | |
| - | 7 | 1.2975 | 31.21 | 9.89 | 41.10 | 56.00 | -14.90 | QP | |
| | 8 * | 1.2975 | 27.29 | 9.89 | 37.18 | 46.00 | -8.82 | AVG | |
| - | 9 | 5.5770 | 26.57 | 9.84 | 36.41 | 60.00 | -23.59 | QP | |
| | 10 | 5.5770 | 16.84 | 9.84 | 26.68 | 50.00 | -23.32 | AVG | |
| 5 | 11 | 8.9340 | 26.41 | 9.92 | 36.33 | 50.00 | -13.67 | AVG | |
| 1 | 12 | 9.0285 | 31.98 | 9.92 | 41.90 | 60.00 | -18.10 | QP | |

Notes:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

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Appendix K) Restricted bands around fundamental frequency (Radiated)

| | Receiver Setup: | Frequency | Detector | RBW | VBW | Remark | |
|----|-----------------|--|---|--|--|---|---|
| | | 30MHz-1GHz | Quasi-peak | 120 kHz | 300kHz | Quasi-peak | - 2 - |
| 64 | | | Peak | 1MHz | 3MHz | Peak | |
| 6 | | Above IGHZ | Peak | 1MHz | 10Hz | Average | E) |
| 3 | Test Procedure: | Below 1GHz test procedure a. The EUT was placed or at a 3 meter semi-anect determine the position of b. The EUT was set 3 meter was mounted on the top c. The antenna height is v determine the maximum polarizations of the anten of the anter of the anter of the anten of the anter of the anten of the anter of the of th | re as below: In the top of a re- noic camber. To of the highest ra- ers away from of a variable- aried from one n value of the fi- enna are set to ission, the EU ⁻ to heights from degrees to 36 | otating table he table wa adiation. the interfer neight anter meter to fo eld strength make the n Γ was arran 1 meter to 0 degrees t | e 0.8 meter is rotated 3 ence-recei nna tower. ur meters n. Both hor neasureme ged to its 4 meters o find the | rs above the g 360 degrees to ving antenna, above the gro izontal and ve ent. worst case and and the rotatal maximum read | round which und to ertical d then ble ding. |
| | | e. The test-receiver syster Bandwidth with Maximu f. Place a marker at the e frequency to show com bands. Save the spectru for lowest and highest of | Function a losest to th emission for each po | nd Specified ne transmit s in the restric ower and mode | ted ulation | | |
| C | | Above 1GHz test procedu g. Different between above to fully Anechoic Chaml metre(Above 18GHz th h. b. Test the EUT in the le i. The radiation measuren Transmitting mode, and j. Repeat above procedur | re as below: e is the test site ber and change ie distance is 1 bwest channel nents are perfo found the X as res until all freq | e, change fi e form table meter and , the Highe prmed in X, kis positioni uencies me | rom Semi- 0.8 metre table is 1.5 st channel Y, Z axis p ng which i easured wa | Anechoic Cha to 1.5 metre). positioning for t is worse case as complete. | amber e. |
| ľ | Limit: | Frequency | Limit (dBuV | /m @3m) | Rei | mark | |
| | | 30MHz-88MHz | 40. |) 0 | Quasi-pe | eak Value | |
| | | 88MHz-216MHz | 43. | 5 | Quasi-pe | eak Value | |
| 13 | | 216MHz-960MHz | 46. | 0 | Quasi-pe | eak Value | |
| 6 | | 960MHz-1GHz | 54. | 0 (| Quasi-p | eak Value | |
| ~ | | | 54. | 0 | Averag | le Value | |
| | | Above 1GHz | 74. | 0 | Peak | Value | |
| | | | (2) | <u>}</u> | | (A) | |
| | | | | | | | |

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| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|------------|
| 1 | 2390.0000 | 32.25 | 13.37 | -42.44 | 49.00 | 52.18 | 74.00 | 21.82 | Pass | Horizontal |
| 2 | 2401.7897 | 32.26 | 13.31 | -42.43 | 84.58 | 87.72 | 74.00 | -13.72 | Pass | Horizontal |
| 5 |) | 6 | S) | | (A) | | (S) |) | | (3) |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|------|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|
| 1 | 2390.0000 | 32.25 | 13.37 | -42.44 | 49.22 | 52.40 | 74.00 | 21.60 | Pass | Vertical |
| 2 | 2402.0275 | 32.26 | 13.31 | -42.43 | 81.90 | 85.04 | 74.00 | -11.04 | Pass | Vertical |
| 1000 | | | | | | | | | | |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|-----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|------------|
| 1 | 2390.0000 | 32.25 | 13.37 | -42.44 | 38.15 | 41.33 | 54.00 | 12.67 | Pass | Horizontal |
| 2 | 2401.9086 | 32.26 | 13.31 | -42.43 | 73.35 | 76.49 | 54.00 | -22.49 | Pass | Horizontal |
| 1.0 | | | | | | | 1000 | | | 1 |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|
| 1 | 2390.0000 | 32.25 | 13.37 | -42.44 | 38.15 | 41.33 | 54.00 | 12.67 | Pass | Vertical |
| 2 | 2401.9086 | 32.26 | 13.31 | -42.43 | 71.73 | 74.87 | 54.00 | -20.87 | Pass | Vertical |
| 10 | | | | | | | 1000 | | | |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|------------|
| 1 | 2479.7046 | 32.37 | 13.39 | -42.39 | 88.85 | 92.22 | 74.00 | -18.22 | Pass | Horizontal |
| 2 | 2483.5000 | 32.38 | 13.38 | -42.40 | 48.83 | 52.19 | 74.00 | 21.81 | Pass | Horizontal |
| 1 | V | | | • | 1 | | | | | 1.0 |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|
| 1 | 2479.9424 | 32.37 | 13.39 | -42.39 | 85.96 | 89.33 | 74.00 | -15.33 | Pass | Vertical |
| 2 | 2483.5000 | 32.38 | 13.38 | -42.40 | 48.62 | 51.98 | 74.00 | 22.02 | Pass | Vertical |
| 1 | () | | | • | | | 120 | | • | 10 |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|------------|
| 1 | 2479.9424 | 32.37 | 13.39 | -42.39 | 76.52 | 79.89 | 54.00 | -25.89 | Pass | Horizontal |
| 2 | 2483.5000 | 32.38 | 13.38 | -42.40 | 36.49 | 39.85 | 54.00 | 14.15 | Pass | Horizontal |
| 1 | | | | • | 1 | | 120 | | | 1.0 |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|-----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|---------------------------|--------|----------|
| 1 | 2479.9900 | 32.37 | 13.39 | -42.39 | 76.29 | 79.66 | 54.00 | -25.66 | Pass | Vertical |
| 2 | 2483.5000 | 32.38 | 13.38 | -42.40 | 36.47 | 39.83 | 54.00 | 14.17 | Pass | Vertical |
| 1.0 | V | | | | | | 120 | 1. Contract (1. Contract) | | 1.0 |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|---------|---|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|------------|
| 1 | 2390.0000 | 32.25 | 13.37 | -42.44 | 49.42 | 52.60 | 74.00 | 21.40 | Pass | Horizontal |
| 2 | 2401.9086 | 32.26 | 13.31 | -42.43 | 83.58 | 86.72 | 74.00 | -12.72 | Pass | Horizontal |
| × ~ ~ ~ | 1. The second | | | | | | 10 m | | | |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|
| 1 | 2390.0000 | 32.25 | 13.37 | -42.44 | 49.05 | 52.23 | 74.00 | 21.77 | Pass | Vertical |
| 2 | 2401.9086 | 32.26 | 13.31 | -42.43 | 80.79 | 83.93 | 74.00 | -9.93 | Pass | Vertical |
| 1 | | | | | | | 1000 | | | |

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| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|-----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|------------|
| 1 | 2390.0000 | 32.25 | 13.37 | -42.44 | 38.15 | 41.33 | 54.00 | 12.67 | Pass | Horizontal |
| 2 | 2401.9086 | 32.26 | 13.31 | -42.43 | 71.16 | 74.30 | 54.00 | -20.30 | Pass | Horizontal |
| 1.0 | | | | • | | | 1000 | | • | |

 (\mathbf{A})

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|---------|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|
| 1 | 2390.0000 | 32.25 | 13.37 | -42.44 | 38.17 | 41.35 | 54.00 | 12.65 | Pass | Vertical |
| 2 | 2401.9086 | 32.26 | 13.31 | -42.43 | 69.40 | 72.54 | 54.00 | -18.54 | Pass | Vertical |
| × ~ ~ ~ | | | | | | | 100 m | | | 100 |

Mode:8DPSK TransmittingChannel:2480Remark:PK

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|-----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|------------|
| 1 | 2479.8949 | 32.37 | 13.39 | -42.39 | 87.78 | 91.15 | 74.00 | -17.15 | Pass | Horizontal |
| 2 | 2483.5000 | 32.38 | 13.38 | -42.40 | 49.05 | 52.41 | 74.00 | 21.59 | Pass | Horizontal |
| 1.0 | | | | | | • | 1000 | | • | 100 |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|-----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|
| 1 | 2479.8473 | 32.37 | 13.39 | -42.39 | 84.85 | 88.22 | 74.00 | -14.22 | Pass | Vertical |
| 2 | 2483.5000 | 32.38 | 13.38 | -42.40 | 48.80 | 52.16 | 74.00 | 21.84 | Pass | Vertical |
| 100 | V | | | • | | | 120 | (C) | | 1.0 |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|-----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|------------|
| 1 | 2479.9424 | 32.37 | 13.39 | -42.39 | 74.10 | 77.47 | 54.00 | -23.47 | Pass | Horizontal |
| 2 | 2483.5000 | 32.38 | 13.38 | -42.40 | 36.45 | 39.81 | 54.00 | 14.19 | Pass | Horizontal |
| 1.0 | V | | | | | | | | | 1.0. |

| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity |
|----|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|
| 1 | 2479.9424 | 32.37 | 13.39 | -42.39 | 73.86 | 77.23 | 54.00 | -23.23 | Pass | Vertical |
| 2 | 2483.5000 | 32.38 | 13.38 | -42.40 | 36.46 | 39.82 | 54.00 | 14.18 | Pass | Vertical |

Note:

1) Through Pre-scan Non-hopping transmitting mode and charge+transmitter mode with all kind of modulation and all kind of data type, find the DH5 of data type is the worse case of GFSK modulation type in charge + transmitter mode.

2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor – Antenna Factor – Cable Factor

| Receiver Setup: | | | | | ~ | |
|---|---|--|---|---|--|---|
| | Frequency | Detector | RBW | VBW | Remark | |
| | 0.009MHz-0.090MHz | z Peak | 10kHz | : 30kHz | Peak | |
| | 0.009MHz-0.090MHz | z Average | 10kHz | : 30kHz | Average | |
| | 0.090MHz-0.110MHz | z Quasi-peak | 10kHz | 30kHz | Quasi-peak | |
| | 0.110MHz-0.490MHz | z Peak | 10kHz | : 30kHz | Peak | |
| | 0.110MHz-0.490MHz | z Average | 10kHz | : 30kHz | Average | |
| | 0.490MHz -30MHz | Quasi-peak | 10kHz | : 30kHz | Quasi-peak | |
| | 30MHz-1GHz | Quasi-peak | 120 kH | z 300kHz | Quasi-peak | |
| | Above 1CHz | Peak | 1MHz | 3MHz | Peak | |
| | Above TGTI2 | Peak | 1MHz | 10Hz | Average | |
| Test Procedure: | | 1 | 57 | | 0 | |
| a. For each suspender heights from 1 r | neter to 4 meters (for the te | est frequency of be | elow 30MH | z, the antenna | a was tuned to h | ea to eights 1 |
| a. For each suspending the suspending to the suspending t | neter to 4 meters (for the terrotatable table was turned f er system was set to Peak I level of the EUT in peak mo e peak values of the EUT w e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre | est frequency of be from 0 degrees to Detect Function ar ode was 10dB lowe rould be reported. Ing peak, quasi-pea nange from Semi- A e(Above 18GHz t | Anechoic C | z, the antenna es to find the n d Bandwidth w limit specified the emissions ge method as hamber to full the is 1 meter a | a was tuned to h naximum readin vith Maximum H I, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 | ed to eights 1 g. old Moc uld be re 10dB en repc mber a metre). |
| a. For each suspending the suspending to the suspending t | neter to 4 meters (for the terrotatable table was turned f er system was set to Peak I level of the EUT in peak mo e peak values of the EUT w e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre the lowest channel ,the mi | est frequency of be from 0 degrees to 3 Detect Function ar ode was 10dB lowe ould be reported. Ing peak, quasi-pea nange from Semi- A e(Above 18GHz t iddle channel ,the | Anechoic C he distance ha Specified of Specified and Specified of the the otherwise he distance highest cha | z, the antenna es to find the n d Bandwidth w limit specified the emissions ge method as hamber to full the is 1 meter a annel | a was tuned to he naximum readin vith Maximum He I, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 h | ed to eights 1 g. old Moc uld be re 10dB en repo mber a metre). |
| a. For each suspending the suspending to the suspending t | neter to 4 meters (for the terrotatable table was turned f er system was set to Peak I level of the EUT in peak mode peak values of the EUT w e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre the lowest channel ,the mi leasurements are performe which it is worse case | est frequency of be from 0 degrees to a Detect Function ar ode was 10dB lowe rould be reported. Ing peak, quasi-pea hange from Semi- A e(Above 18GHz to iddle channel ,the d in X, Y, Z axis po | Anechoic C Highest chi | z, the antenna es to find the n d Bandwidth w limit specified the emissions ge method as hamber to full the is 1 meter a annel or Transmitting | a was tuned to he naximum readin vith Maximum He I, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 m g mode, and fou | ed to eights 1 g. old Moc uld be e 10dB en repo mber a metre). nd the |
| a. For each susper heights from 1 meter) and the end of the test-received f. If the emission is stopped and the margin would be in a data sheet. Above 1GHz test g. Different between change form ta h. Test the EUT in i. The radiation maxis positioning j. Repeat above position in the stope of the stope | neter to 4 meters (for the terrotatable table was turned f er system was set to Peak I level of the EUT in peak mo e peak values of the EUT w e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre the lowest channel ,the mi leasurements are performe which it is worse case. | est frequency of be from 0 degrees to 5 Detect Function ar ode was 10dB lowe rould be reported. Ing peak, quasi-pea hange from Semi- A e(Above 18GHz to iddle channel ,the d in X, Y, Z axis po cies measured was | Anechoic C Highest chaositioning for scorption of the chaositioning for scorption of the chaositioning for scorptete | z, the antenna es to find the n d Bandwidth w limit specified the emissions ge method as hamber to full the is 1 meter a annel for Transmitting | a was tuned to h naximum readin vith Maximum H I, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 g mode, and fou | ed to eights 1 g. old Moc uld be re 10dB en repo mber a metre). |
| a. For each susper heights from 1 meter) and the eights from 1 meter) and the e. The test-receiver f. If the emission is stopped and the margin would be in a data sheet. Above 1GHz test g. Different betwee change form ta h. Test the EUT in i. The radiation maxis positioning j. Repeat above p Limit: | neter to 4 meters (for the terrotatable table was turned f rotatable table was turned f er system was set to Peak I level of the EUT in peak mo e peak values of the EUT w e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre the lowest channel ,the mi easurements are performe which it is worse case. procedures until all frequence | est frequency of be from 0 degrees to 3 Detect Function ar ode was 10dB lowe ould be reported. Ing peak, quasi-pea hange from Semi- A e(Above 18GHz to iddle channel ,the d in X, Y, Z axis po cies measured was Field strength | Anechoic C Anechoic C Highest cha ositioning for s complete | the antenna so to find the n d Bandwidth w limit specified the emissions ge method as hamber to full se is 1 meter a annel or Transmitting | a was tuned to he naximum readin vith Maximum He I, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 g mode, and fou | ed to eights 1 g. old Moc uld be re 10dB en repc mber a metre). nd the |
| a. For each susper heights from 1 meter) and the eights from 1 meter) and the e. The test-receiver f. If the emission is stopped and the margin would b in a data sheet. Above 1GHz test g. Different betwee change form ta h. Test the EUT in i. The radiation maxis positioning j. Repeat above p Limit: | neter to 4 meters (for the terrotatable table was turned f rotatable table was turned f er system was set to Peak I level of the EUT in peak mode e peak values of the EUT w e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre the lowest channel ,the mi reasurements are performe which it is worse case. procedures until all frequence Frequency | est frequency of be from 0 degrees to 3 Detect Function ar ode was 10dB lowe ould be reported. Ing peak, quasi-pea hange from Semi- A e(Above 18GHz t iddle channel ,the d in X, Y, Z axis po cies measured was Field strength (microvolt/meter) | Anechoic C he distance when the otherwise and Specified of the distance he distance highest char ositioning for s complete Limit (dBuV/m) | z, the antenna es to find the n d Bandwidth w limit specified the emissions ge method as hamber to full the is 1 meter a annel for Transmitting | a was tuned to he naximum readin vith Maximum He I, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 f g mode, and fou Measuremer distance (m) | ed to eights 1 g. old Moc uld be re 10dB en repo mber a metre). nd the |
| a. For each suspending the start of the suspending the start of the suspending the store of the stor | neter to 4 meters (for the terrotatable table was turned f rotatable table was turned f er system was set to Peak I level of the EUT in peak mode e peak values of the EUT w e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre the lowest channel ,the mi reasurements are performe which it is worse case. procedures until all frequence Frequency 0.009MHz-0.490MHz | est frequency of be from 0 degrees to 2 Detect Function ar ode was 10dB lowe rould be reported. Ing peak, quasi-peat ange from Semi- A e(Above 18GHz t iddle channel ,the d in X, Y, Z axis po cies measured was Field strength (microvolt/meter) 2400/F(kHz) | Anechoic C Anechoic C Highest cha ositioning for Limit (dBuV/m) | z, the antenna es to find the n d Bandwidth v limit specified the emissions ge method as hamber to full e is 1 meter a annel or Transmitting Remark | a was tuned to he naximum readin vith Maximum He I, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 f g mode, and fou Measuremen distance (m) 300 | ed to eights 1 g. old Moc uld be re 10dB en repo mber a metre). nd the |
| a. For each suspending the start of the suspending the start of the suspending term of the stopped and the margin would be in a data sheet. Above 1GHz test g. Different betweet change form tails. The radiation maxis positioning j. Repeat above provide the store of the | rotation, the EOT was meter to 4 meters (for the terrotatable table was turned f er system was set to Peak I level of the EUT in peak model peak values of the EUT was e re-tested one by one usin procedure as below: en above is the test site, chable 0.8 metre to 1.5 metre the lowest channel ,the mile easurements are performe which it is worse case. procedures until all frequence Frequency 0.009MHz-0.490MHz 0.490MHz-1.705MHz | est frequency of be from 0 degrees to 2 Detect Function ar ode was 10dB lowe ould be reported. Ing peak, quasi-peat ange from Semi- A e(Above 18GHz t iddle channel ,the d in X, Y, Z axis po <u>cies measured was</u> Field strength (microvolt/meter) 2400/F(kHz) | Anechoic C Anechoic C the distanc Highest cha ositioning for s complete Limit (dBuV/m) - | c, the antenna es to find the n d Bandwidth v limit specified the emissions ge method as hamber to full the is 1 meter a annel for Transmitting Remark | A was tuned to he naximum readin vith Maximum He I, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 g mode, and fou Measuremen distance (m) 300 30 | ed to eights 1 g. old Moc uld be re 10dB en repo mber a metre). nd the |
| a. For each susper heights from 1 meter) and the eights from 1 meter) and the e. The test-receiver f. If the emission l stopped and the margin would b in a data sheet. Above 1GHz test g. Different betwee change form ta h. Test the EUT in i. The radiation maxis positioning j. Repeat above p Limit: | rotatable table was turned if rotatable table was turned if er system was set to Peak I level of the EUT in peak model e peak values of the EUT we e re-tested one by one usin procedure as below: en above is the test site, chable 0.8 metre to 1.5 metre the lowest channel ,the mile easurements are performe which it is worse case. procedures until all frequence Frequency 0.009MHz-0.490MHz 0.490MHz-1.705MHz 1.705MHz-30MHz | est frequency of be from 0 degrees to 5 Detect Function ar ode was 10dB lowe rould be reported. Ing peak, quasi-peat ange from Semi- A e(Above 18GHz t iddle channel ,the d in X, Y, Z axis po cies measured was Field strength (microvolt/meter) 2400/F(kHz) 30 | Anechoic C the distance Highest chao scomplete Limit (dBuV/m) | kan antenna s to find the n d Bandwidth w limit specified the emissions ge method as hamber to full the is 1 meter a annel for Transmitting Remark | A was tuned to he naximum readin vith Maximum He I, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 g mode, and fou Measuremer distance (m) 300 30 30 | ed to eights 1 g. old Moc uld be re 10dB en repo mber a metre). nd the |
| a. For each susper heights from 1 meter) and the eights from 1 meter) and the e. The test-receiver f. If the emission is stopped and the margin would be in a data sheet. Above 1GHz test g. Different betwee change form ta h. Test the EUT in i. The radiation maxis positioning j. Repeat above p Limit: | rotatable table was turned f rotatable table was turned f er system was set to Peak I level of the EUT in peak mo e peak values of the EUT w e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre the lowest channel ,the mi easurements are performe which it is worse case. procedures until all frequence Frequency 0.009MHz-0.490MHz 0.490MHz-1.705MHz 1.705MHz-30MHz 30MHz-88MHz | est frequency of be from 0 degrees to 5 Detect Function ar ode was 10dB lowe rould be reported. Ing peak, quasi-pea ange from Semi- <i>A</i> e(Above 18GHz t iddle channel ,the d in X, Y, Z axis po <u>cies measured was</u> Field strength (microvolt/meter) 2400/F(kHz) 30 100 | Anechoic C he distance Anechoic C he distance Highest cha ositioning for s complete Limit (dBuV/m) - - 40.0 | A constraints of the antenna es to find the m d Bandwidth w limit specified the emissions ge method as hamber to full the is 1 meter a annel for Transmitting | A was tuned to he naximum readin with Maximum He l, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 g mode, and fou Measuremer distance (m) 300 30 30 30 30 | ed to eights 1 g. old Moc uld be re 10dB en repc mber a metre). nd the |
| a. For each susper heights from 1 meter) and the eights from 1 meter) and the e. The test-receiver f. If the emission is stopped and the margin would b in a data sheet. Above 1GHz test g. Different betwee change form ta h. Test the EUT in i. The radiation maxis positioning j. Repeat above p Limit: | rotatable table was turned f rotatable table was turned f er system was set to Peak I level of the EUT in peak mode peak values of the EUT w e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre the lowest channel ,the mi reasurements are performe which it is worse case. procedures until all frequence Frequency 0.009MHz-0.490MHz 0.490MHz-1.705MHz 1.705MHz-30MHz 30MHz-88MHz 88MHz-216MHz | est frequency of be from 0 degrees to 3 Detect Function ar ode was 10dB lowe ould be reported. Ing peak, quasi-peat ange from Semi- A e(Above 18GHz t iddle channel ,the d in X, Y, Z axis po cies measured was Field strength (microvolt/meter) 2400/F(kHz) 24000/F(kHz) 30 100 150 | Anechoic C the distance Highest chao ositioning for s complete Limit (dBuV/m) - - 40.0 43.5 | z, the antenna es to find the n d Bandwidth v limit specified the emissions ge method as hamber to full e is 1 meter a annel or Transmitting | A was tuned to he naximum readin with Maximum He l, then testing co that did not hav specified and th ly Anechoic Cha and table is 1.5 f g mode, and fou Measuremer distance (m) 300 30 30 30 30 30 30 30 30 30 30 30 30 | ed to eights 1 g. old Moc uld be re 10dB en repo mber a metre). nd the : |
| a. For each suspending the each suspending the each suspending the end of the e | rotatable table was turned f rotatable table was turned f er system was set to Peak I level of the EUT in peak mode e peak values of the EUT w e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre the lowest channel ,the mi reasurements are performe which it is worse case. procedures until all frequence Frequency 0.009MHz-0.490MHz 1.705MHz-30MHz 30MHz-88MHz 88MHz-216MHz 216MHz-960MHz | est frequency of be from 0 degrees to 2 Detect Function ar ode was 10dB lowe rould be reported. Ing peak, quasi-peat ange from Semi- A et Above 18GHz t iddle channel ,the d in X, Y, Z axis po cies measured was Field strength (microvolt/meter) 2400/F(kHz) 30 100 150 200 | Anechoic C the distance Anechoic C the distance Highest chain ositioning for s complete Limit (dBuV/m) - - 40.0 43.5 46.0 | z, the antenna es to find the n d Bandwidth v limit specified the emissions ge method as hamber to full e is 1 meter a annel or Transmitting Remark - - Quasi-peak Quasi-peak | A was tuned to he naximum readin vith Maximum readin vith Maximum He to that did not hav specified and the specified and the specified and the specified and the specified and table is 1.5 mm of the specified and four the specified and four the specified and four the specified and four specified and four the specified an | ed to eights 1 g. old Moc uld be re 10dB en repo mber a metre). nd the . |
| a. For each suspending the each suspending the each suspending the end of the e | rotatable table was turned f rotatable table was turned f er system was set to Peak I level of the EUT in peak model e peak values of the EUT we e re-tested one by one usin procedure as below: en above is the test site, ch able 0.8 metre to 1.5 metre the lowest channel ,the mi reasurements are performe which it is worse case. procedures until all frequence Frequency 0.009MHz-0.490MHz 0.490MHz-1.705MHz 1.705MHz-30MHz 30MHz-88MHz 88MHz-216MHz 216MHz-960MHz 960MHz-1GHz | est frequency of be from 0 degrees to 2 Detect Function ar ode was 10dB lowe yould be reported. Ing peak, quasi-peat hange from Semi- / e(Above 18GHz to didle channel ,the d in X, Y, Z axis po cies measured was Field strength (microvolt/meter) 2400/F(kHz) 24000/F(kHz) 30 100 150 200 500 | Anechoic C che distance Highest cha ositioning for s complete Limit (dBuV/m) - - 40.0 43.5 46.0 54.0 | z, the antenna es to find the n d Bandwidth v limit specified the emissions ge method as hamber to full e is 1 meter a annel or Transmitting Remark - - Quasi-peak Quasi-peak Quasi-peak | A was tuned to he naximum readin vith Maximum readin vith Maximum He to that did not hav specified and the specified and the specified and the specified and the specified and table is 1.5 mg mode, and four Measuremer distance (m) 300 30 30 30 30 30 30 30 30 30 30 30 30 | ed to eights 1 g. old Moc uld be re 10dB en repo mber a metre). nd the |
| a. For each suspending the stopped and the e. The test-receive f. If the emission is stopped and the margin would be in a data sheet. Above 1GHz test g. Different betweet change form ta h. Test the EUT in a taxis positioning j. Repeat above per Limit: | rotatable table was turned if ar system was set to Peak I level of the EUT in peak model are peak values of the EUT we be peak values of the EUT we are re-tested one by one using procedure as below: en above is the test site, chable 0.8 metre to 1.5 metre the lowest channel ,the mile assurements are performe which it is worse case. procedures until all frequence Frequency 0.009MHz-0.490MHz 0.490MHz-1.705MHz 1.705MHz-30MHz 30MHz-88MHz 88MHz-216MHz 216MHz-960MHz 960MHz-1GHz Above 1GHz | est frequency of be from 0 degrees to 5 Detect Function ar ode was 10dB lowe rould be reported. Ing peak, quasi-peat ange from Semi- A e(Above 18GHz t iddle channel ,the d in X, Y, Z axis po cies measured was Field strength (microvolt/meter) 2400/F(kHz) 24000/F(kHz) 30 100 150 200 500 500 | Anechoic C the distance Highest chao complete Limit (dBuV/m) - - 40.0 43.5 46.0 54.0 54.0 | z, the antenna es to find the n d Bandwidth w limit specified the emissions ge method as hamber to full e is 1 meter a annel or Transmitting Remark | A was tuned to he naximum readin vith Maximum readin vith Maximum He to that did not hav specified and the specified and the specified and the specified and the specified and table is 1.5 mg mode, and four Measuremer distance (m) 300 30 30 30 30 30 30 30 30 30 30 30 30 | ed to eights 1 g. old Moc uld be re 10dB en repo mber a metre). nd the |

peak emission level radiated by the device.

Radiated Spurious Emissions test Data: Radiated Emission below 1GHz

| Mode |): | 8DPSK | Transmi | tting | | | Channel: | | 2441 | | |
|------|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|--------|
| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity | Remark |
| 1 | 83.7434 | 7.96 | 1.05 | -32.07 | 57.04 | 33.98 | 40.00 | 6.02 | Pass | Н | PK |
| 2 | 131.6662 | 7.62 | 1.34 | -32.02 | 46.63 | 23.57 | 43.50 | 19.93 | Pass | Н | PK |
| 3 | 261.2711 | 12.43 | 1.93 | -31.88 | 53.84 | 36.32 | 46.00 | 9.68 | Pass | Н | PK |
| 4 | 376.3246 | 14.88 | 2.31 | -31.88 | 52.03 | 37.34 | 46.00 | 8.66 | Pass | Н | PK |
| 5 | 480.0280 | 16.68 | 2.61 | -31.90 | 51.73 | 39.12 | 46.00 | 6.88 | Pass | Н | PK |
| 6 | 960.0320 | 22.46 | 3.71 | -31.09 | 34.49 | 29.57 | 54.00 | 24.43 | Pass | Н | PK |
| 7 | 83.2583 | 7.85 | 1.05 | -32.07 | 57.78 | 34.61 | 40.00 | 5.39 | Pass | V | PK |
| 8 | 145.0535 | 7.38 | 1.42 | -32.00 | 51.32 | 28.12 | 43.50 | 15.38 | Pass | V | PK |
| 9 | 201.8042 | 10.95 | 1.68 | -31.95 | 52.54 | 33.22 | 43.50 | 10.28 | Pass | V | PK |
| 10 | 368.0788 | 14.70 | 2.29 | -31.87 | 50.38 | 35.50 | 46.00 | 10.50 | Pass | V | PK |
| 11 | 480.0280 | 16.68 | 2.61 | -31.90 | 51.36 | 38.75 | 46.00 | 7.25 | Pass | V | PK |
| 12 | 836.7327 | 21.34 | 3.49 | -31.92 | 46.86 | 39.77 | 46.00 | 6.23 | Pass | V | PK |

Transmitter Emission above 1GHz

| Mode |): | GFSK T | ransmitt | ing | | | Channel: | | 2402 | | |
|------|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|--------|
| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity | Remark |
| 1 | 3946.0631 | 33.76 | 4.34 | -40.90 | 49.66 | 46.86 | 74.00 | 27.14 | Pass | Н | PK |
| 2 | 4804.0000 | 34.50 | 4.55 | -40.66 | 51.00 | 49.39 | 74.00 | 24.61 | Pass | Н | PK |
| 3 | 6357.2238 | 35.87 | 5.44 | -41.16 | 49.16 | 49.31 | 74.00 | 24.69 | Pass | Н | PK |
| 4 | 7206.0000 | 36.31 | 5.81 | -41.02 | 47.33 | 48.43 | 74.00 | 25.57 | Pass | Н | PK |
| 5 | 9608.0000 | 37.64 | 6.63 | -40.76 | 47.07 | 50.58 | 74.00 | 23.42 | Pass | Н | PK |
| 6 | 12010.0000 | 39.31 | 7.60 | -41.21 | 46.78 | 52.48 | 74.00 | 21.52 | Pass | Н | PK |
| 7 | 3877.0585 | 33.70 | 4.35 | -41.03 | 49.82 | 46.84 | 74.00 | 27.16 | Pass | V | PK |
| 8 | 4804.0000 | 34.50 | 4.55 | -40.66 | 52.24 | 50.63 | 74.00 | 23.37 | Pass | V | PK |
| 9 | 5997.1998 | 35.80 | 5.34 | -41.09 | 50.00 | 50.05 | 74.00 | 23.95 | Pass | V | PK |
| 10 | 7206.0000 | 36.31 | 5.81 | -41.02 | 46.87 | 47.97 | 74.00 | 26.03 | Pass | V | PK |
| 11 | 9608.0000 | 37.64 | 6.63 | -40.76 | 46.71 | 50.22 | 74.00 | 23.78 | Pass | V | PK |
| 12 | 12010.0000 | 39.31 | 7.60 | -41.21 | 46.32 | 52.02 | 74.00 | 21.98 | Pass | V | PK |

| | | | | | | | | | 1 | | |
|------|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|--------|
| Mode | e: | GFSK 1 | ransmitt | ing | | | Channel: | | 2441 | | |
| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity | Remark |
| 1 | 1998.0998 | 31.69 | 3.47 | -42.62 | 55.27 | 47.81 | 74.00 | 26.19 | Pass | Н | PK |
| 2 | 3929.0619 | 33.74 | 4.34 | -40.92 | 49.21 | 46.37 | 74.00 | 27.63 | Pass | Н | PK |
| 3 | 4882.0000 | 34.50 | 4.81 | -40.60 | 49.42 | 48.13 | 74.00 | 25.87 | Pass | Н | PK |
| 4 | 7323.0000 | 36.42 | 5.85 | -40.92 | 47.51 | 48.86 | 74.00 | 25.14 | Pass | Н | PK |
| 5 | 9764.0000 | 37.71 | 6.71 | -40.62 | 47.47 | 51.27 | 74.00 | 22.73 | Pass | Н | PK |
| 6 | 12205.0000 | 39.42 | 7.67 | -41.16 | 46.01 | 51.94 | 74.00 | 22.06 | Pass | Н | PK |
| 7 | 1327.8328 | 28.23 | 2.79 | -42.76 | 59.28 | 47.54 | 74.00 | 26.46 | Pass | V | PK |
| 8 | 3189.0126 | 33.28 | 4.63 | -42.01 | 49.99 | 45.89 | 74.00 | 28.11 | Pass | V | PK |
| 9 | 4882.0000 | 34.50 | 4.81 | -40.60 | 51.10 | 49.81 | 74.00 | 24.19 | Pass | V | PK |
| 10 | 7323.0000 | 36.42 | 5.85 | -40.92 | 47.08 | 48.43 | 74.00 | 25.57 | Pass | V | PK |
| 11 | 9764.0000 | 37.71 | 6.71 | -40.62 | 46.73 | 50.53 | 74.00 | 23.47 | Pass | V | PK |
| 12 | 12205.0000 | 39.42 | 7.67 | -41.16 | 46.63 | 52.56 | 74.00 | 21.44 | Pass | V | PK |

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| | | | | 1 | | | | | | | |
|------|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|--------|
| Mode | Mode: | | Fransmitt | ing | | | Channel: | | 2480 | | |
| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity | Remark |
| 1 | 1998.8999 | 31.69 | 3.47 | -42.61 | 56.11 | 48.66 | 74.00 | 25.34 | Pass | Н | PK |
| 2 | 3196.0131 | 33.28 | 4.64 | -42.00 | 49.78 | 45.70 | 74.00 | 28.30 | Pass | Н | PK |
| 3 | 4960.0000 | 34.50 | 4.82 | -40.53 | 50.31 | 49.10 | 74.00 | 24.90 | Pass | Н | PK |
| 4 | 7440.0000 | 36.54 | 5.85 | -40.82 | 47.09 | 48.66 | 74.00 | 25.34 | Pass | Н | PK |
| 5 | 9920.0000 | 37.77 | 6.79 | -40.48 | 46.73 | 50.81 | 74.00 | 23.19 | Pass | Н | PK |
| 6 | 12400.0000 | 39.54 | 7.86 | -41.12 | 46.01 | 52.29 | 74.00 | 21.71 | Pass | Н | PK |
| 7 | 1329.2329 | 28.23 | 2.79 | -42.75 | 60.21 | 48.48 | 74.00 | 25.52 | Pass | V | PK |
| 8 | 2996.3996 | 33.19 | 4.54 | -42.12 | 54.18 | 49.79 | 74.00 | 24.21 | Pass | V | PK |
| 9 | 4960.0000 | 34.50 | 4.82 | -40.53 | 52.36 | 51.15 | 74.00 | 22.85 | Pass | V | PK |
| 10 | 7440.0000 | 36.54 | 5.85 | -40.82 | 47.43 | 49.00 | 74.00 | 25.00 | Pass | V | PK |
| 11 | 9920.0000 | 37.77 | 6.79 | -40.48 | 46.26 | 50.34 | 74.00 | 23.66 | Pass | V | PK |
| 12 | 12400.0000 | 39.54 | 7.86 | -41.12 | 46.91 | 53.19 | 74.00 | 20.81 | Pass | V | PK |
| | 1 | | 1.1. | | | . J. | | 1.1. | | | 1 |

| Mode: | | 8DPSK | Transmi | tting | | | Channel: | | 2402 | | |
|-------|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|--------|
| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity | Remark |
| 1 | 1327.8328 | 28.23 | 2.79 | -42.76 | 55.79 | 44.05 | 74.00 | 29.95 | Pass | Н | PK |
| 2 | 3003.0002 | 33.20 | 4.92 | -42.11 | 50.59 | 46.60 | 74.00 | 27.40 | Pass | Н | PK |
| 3 | 4804.0000 | 34.50 | 4.55 | -40.66 | 50.58 | 48.97 | 74.00 | 25.03 | Pass | Н | PK |
| 4 | 7206.0000 | 36.31 | 5.81 | -41.02 | 46.57 | 47.67 | 74.00 | 26.33 | Pass | Н | PK |
| 5 | 9608.0000 | 37.64 | 6.63 | -40.76 | 45.99 | 49.50 | 74.00 | 24.50 | Pass | Н | PK |
| 6 | 12010.0000 | 39.31 | 7.60 | -41.21 | 46.32 | 52.02 | 74.00 | 21.98 | Pass | Н | PK |
| 7 | 1329.8330 | 28.23 | 2.79 | -42.75 | 58.30 | 46.57 | 74.00 | 27.43 | Pass | V | PK |
| 8 | 3000.0000 | 33.20 | 4.93 | -42.12 | 52.80 | 48.81 | 74.00 | 25.19 | Pass | V | PK |
| 9 | 4804.0000 | 34.50 | 4.55 | -40.66 | 51.75 | 50.14 | 74.00 | 23.86 | Pass | V | PK |
| 10 | 7206.0000 | 36.31 | 5.81 | -41.02 | 46.50 | 47.60 | 74.00 | 26.40 | Pass | V | PK |
| 11 | 9608.0000 | 37.64 | 6.63 | -40.76 | 46.95 | 50.46 | 74.00 | 23.54 | Pass | V | PK |
| 12 | 12010.0000 | 39.31 | 7.60 | -41.21 | 45.91 | 51.61 | 74.00 | 22.39 | Pass | V | PK |

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| Mode: | | 8DPSK | Transmi | tting | | | Channel: | | 2441 | | |
|-------|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|--------|
| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity | Remark |
| 1 | 1328.8329 | 28.23 | 2.79 | -42.76 | 54.02 | 42.28 | 74.00 | 31.72 | Pass | Н | PK |
| 2 | 1997.0997 | 31.68 | 3.47 | -42.61 | 57.36 | 49.90 | 74.00 | 24.10 | Pass | Н | PK |
| 3 | 4882.0000 | 34.50 | 4.81 | -40.60 | 50.74 | 49.45 | 74.00 | 24.55 | Pass | Н | PK |
| 4 | 7323.0000 | 36.42 | 5.85 | -40.92 | 46.46 | 47.81 | 74.00 | 26.19 | Pass | Н | PK |
| 5 | 9764.0000 | 37.71 | 6.71 | -40.62 | 48.19 | 51.99 | 74.00 | 22.01 | Pass | Н | PK |
| 6 | 12205.0000 | 39.42 | 7.67 | -41.16 | 45.64 | 51.57 | 74.00 | 22.43 | Pass | Н | PK |
| 7 | 1327.4327 | 28.23 | 2.79 | -42.76 | 60.02 | 48.28 | 74.00 | 25.72 | Pass | V | PK |
| 8 | 2998.9999 | 33.20 | 4.55 | -42.13 | 53.20 | 48.82 | 74.00 | 25.18 | Pass | V | PK |
| 9 | 4882.0000 | 34.50 | 4.81 | -40.60 | 51.93 | 50.64 | 74.00 | 23.36 | Pass | V | PK |
| 10 | 7323.0000 | 36.42 | 5.85 | -40.92 | 46.80 | 48.15 | 74.00 | 25.85 | Pass | V | PK |
| 11 | 9764.0000 | 37.71 | 6.71 | -40.62 | 46.26 | 50.06 | 74.00 | 23.94 | Pass | V | PK |
| 12 | 12205.0000 | 39.42 | 7.67 | -41.16 | 45.97 | 51.90 | 74.00 | 22.10 | Pass | V | PK |
| | / | | 1.1 | • | | 1 | | 1.1. | • | | 1 |

| Mode: | | 8DPSK | Transmi | tting | | | Channel: | | 2480 | | |
|-------|----------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|----------------|--------|----------|--------|
| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBµV] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Result | Polarity | Remark |
| 1 | 1333.0333 | 28.23 | 2.80 | -42.75 | 56.00 | 44.28 | 74.00 | 29.72 | Pass | Н | PK |
| 2 | 1998.4999 | 31.69 | 3.47 | -42.61 | 57.33 | 49.88 | 74.00 | 24.12 | Pass | Н | PK |
| 3 | 4988.1325 | 34.50 | 4.82 | -40.51 | 54.58 | 53.39 | 74.00 | 20.61 | Pass | Н | PK |
| 4 | 7440.0000 | 36.54 | 5.85 | -40.82 | 47.00 | 48.57 | 74.00 | 25.43 | Pass | Н | PK |
| 5 | 9920.0000 | 37.77 | 6.79 | -40.48 | 46.30 | 50.38 | 74.00 | 23.62 | Pass | Н | PK |
| 6 | 12400.0000 | 39.54 | 7.86 | -41.12 | 47.08 | 53.36 | 74.00 | 20.64 | Pass | Н | PK |
| 7 | 1332.0332 | 28.23 | 2.79 | -42.74 | 60.35 | 48.63 | 74.00 | 25.37 | Pass | V | PK |
| 8 | 4037.0691 | 33.85 | 4.33 | -40.79 | 50.17 | 47.56 | 74.00 | 26.44 | Pass | V | PK |
| 9 | 4960.0000 | 34.50 | 4.82 | -40.53 | 51.33 | 50.12 | 74.00 | 23.88 | Pass | V | PK |
| 10 | 7440.0000 | 36.54 | 5.85 | -40.82 | 47.53 | 49.10 | 74.00 | 24.90 | Pass | V | PK |
| 11 | 9920.0000 | 37.77 | 6.79 | -40.48 | 45.41 | 49.49 | 74.00 | 24.51 | Pass | V | PK |
| 12 | 12400.0000 | 39.54 | 7.86 | -41.12 | 46.41 | 52.69 | 74.00 | 21.31 | Pass | V | PK |

Note:

1) Through Pre-scan Non-hopping transmitting mode and charge+transmitter mode with all kind of modulation and all kind of data type, find the DH5 of data type is the worse case of GFSK modulation type in charge + transmitter mode.

2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor-Antenna Factor-Cable Factor

3) Scan from 9kHz to 25GHz, the disturbance above 17GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.