

Additional Technical Information

Date : May 3rd, 2001

By : Sam Liu

0. Statement 15.21 added in the manual.
- 1.

[BS162 cover.pdf](#)

1. The following emission designator is listed: 25M0D7W. Please provide a justification for this designator. Is the 25M0 the calculated necessary bandwidth? If so, please provide the calculations. If it is the occupied bandwidth, then it should be the actual maximum measured value, which is 22M3. In addition, please justify the choice of D7W.

Necessary Bandwidth

$$\begin{aligned}\text{Necessary Bandwidth} &= (1 + \alpha) \times \text{symbol rate} \\ &= (1 + 0.25) \times 20 = \mathbf{25\text{MHz}}\end{aligned}$$

Emission Designator

Several application forms request the emissions of the transmitter. Emissions are designated according to their classification and the necessary bandwidth. Three symbols are used to describe the basic characteristics of radio waves. Emissions are classified and symbolized according to the following characteristics:

[First Symbol <first.html>](#) - type of modulation of the main carrier.

Emission in which the main carrier is amplitude and angle-modulated either simultaneously or in a pre-established sequence = **D**

We use 64QAM, 16QAM and QPSK which are all amplitude and angle modulated signals.

[Second Symbol <second.html>](#) - nature of signal(s) modulating the main carrier.

Two or more channels containing quantized or digital information = **7**

The signal modulating the carrier is a composite of many subscribers traffic. As such it represents 2 or more channels of digital information.

[Third Symbol <third.html>](#) - type of information to be transmitted.

No information transmitted **N**

Telegraphy - for aural reception A
Telegraphy - for automatic reception B
Facsimile C
Data transmission, telemetry, telecommand D **YES**
Telephony (including sound broadcasting) E **YES**
Television (video) F
Combination of the above = **W**
We support combination of above, therefore we use W

Conclusion: 25D7W

2. While Part 101 does not require spurious radiated emission measurements, Section 2.1053 does. Please test spurious radiated emissions (case radiation) for both configurations and submit the test data.

Page 16 & 17 on the Test Report.

3. Please perform frequency stability tests with the variations in the primary supply voltage required by Section 2.1055(d) and submit the data.

Page 19 & 20 on the Test Report.

4. FYI: while a nominal output power of 25 dBm (316 mW) is listed in the application, in accordance with FCC policy, the Grant will list a value supported by the actual test data: 200 mW.

No Action Required.

5. The FCC has requested conformance to the Automatic Transmitter Power Control (ATPC) Guidelines contained in TIA TSB 10. Please provide a statement of conformance with these guidelines.

Page 21 on the Test Report.

6. RF Exposure Guidelines from the FCC must be provided for this device. Please see the guidance from the table in FCC 1.1307, OET 65 and the following example from the Nortel application recently granted by the FCC (attached). Per FCC 1.1307, the following applies:

LMDS licensees are required to attach a label to subscriber transceiver antennas that:
(1) provides adequate notice regarding potential radiofrequency safety

hazards,
e.g., information regarding the safe minimum separation distance required
between users and transceiver antennas; and
(2) references the applicable FCC-adopted limits for radiofrequency exposure
specified in § 1.1310 of this chapter

Please provide the label to meet the above requirements.

The label can be found at 930-0021-001-1_LABEL_WARNING_RF Model (1).pdf

7. Please note, the following note will be listed on the Grant of Equipment Authorization:

Power output listed is measured at the antenna connector. The Base Station Antenna Gain is 21dBi. The Subscriber Antenna Gain is 35dBi. The antenna(s) used for this transmitter must be fixed-mounted on outdoor permanent structures. RF exposure compliance is addressed at the time of licensing, as required by the responsible FCC Bureau(s), including antenna co-location requirements of §1.1307(b)(3). An RF exposure label, as described for this filing, shall be placed on the antenna of subscriber units, visible to all persons in the vicinity of the transmitter exposed to the antenna, for satisfying RF exposure requirements.

No Action Required.

8. The Confidentiality letter contains reference to many documents by specific reference that seems to extend beyond what is required to be submitted (in some cases) and requests confidentiality on some documents

that the FCC historically has not allowed to be held confidential.

Please reference Section 0.459 of the FCC Rules for guidance as to what may be held confidential. In processing this application we have reorganized your submitted files. for example, we have extracted the first page of the schematics document and will use this to satisfy the FCC Requirement to provide a separate file for Block Diagram. We feel that the detail in the

Block Diagram is of sufficient technical detail as to allow for inclusion

into the confidentiality request. Please note that MET will be submitting

the following documents divided up into the types of attachments the FCC

Requires:

- a) Agent Authorization -can not be confidential

Agree

b) Block Diagram , can be justified as being confidential (first page of schematic W60272)

Need to be Confidential

b) Confidentiality Letter, can not be held confidential

Agree

d) Technical Description, MET will submit 4 documents, 2.56GHz Filter Assy Spec, Operational Description (141872.doc), Spurious Emissions (Suppression), and Transmission Amplifier Details documents, all of which can be held confidential.

Need to be Confidential

e) External Photos, can not be held confidential

Agree

f) Internal Photos, can be held confidential if end users are prevented for access inside unit.

Need to be Confidential

g) Label and Location, can not be held confidential

Agree

h) PARTS AND BILL OF MATERIALS WILL NOT BE SUBMITTED TO THE FCC

Agree

i) Schematics, FCC_mmwave.pdf and odu_if_e.pdf can be held confidential

Need to be Confidential

j) Test Report, can not be held confidential

Need to be Confidential. It contains our radio performance and confidential information.

k) Users Manual, typically is not held confidential unless specific situation warrants this need and can be justified.

Need to be Confidential. Please see the Letter of the justification (Letter.pdf)

Please revise the Confidentiality letter using the above guidance.

Continuation of the review of this application will commence upon receipt of all requested information. Please submit all information together to avoid additional effort in processing this application.